TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

April 15, 2011

MACTEC Engineering and Consulting, Inc.
Attn: Mr. David Knaub
3200 Town Point Dr. NW
Suite 100
Kennesaw, GA 30144

Re: Olin McIntosh OU-2 6107090036

Dear Mr. Knaub:

Please consider this letter as a report addendum to SDG# 700-41726-3, 700-41707-1, 700-41709-1. The data provided was obtained from information collected using ASTM Method reference D2937 conducted in our Burlington, VT location for the samples identified below.

LAB ID	CLIENT SAMPLE ID	SAMPLE DATE
813705	SDCR10-CF-092609	09/26/09
813706	SDCR8-CL-092809	09/28/09
808502	SDCR2-CA-092409	09/24/09
808503	SDCR2-CB-092409	09/2409
808504	SDCR2-CD-092409	09/24/09
808505	SDCR2-CE-092409	09/24/09
808506	SDCR2-CF-092409	09/24/09
808507	SDCR2-CG-092409	09/24/09
808508	SDCR2-CH-092409	09/24/09
808509	SDCR2-CI-092409	09/24/09
808510	SDCR2-CJ-092409	09/24/09
808511	SDCR2-CK-092409	09/24/09
808446	SDCR12-CA-092509	09/25/09
808447	SDCR12-CB-092509	09/25/09
808448	SDCR12-CD-092509	09/25/09
808449	SDCR12-CE-092509	09/25/09
808450	SDCR12-CF-092509	09/25/09
808451	SDCR13-CA-092609	09/26/09
808452	SDCR13-CB-092609	09/26/09
808453	SDCR13-CC-092609	09/26/09
808454	SDCR13-CD-092609	09/26/09

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808455	SDCR13-CE-092609	09/26/09
808456	SDCR9-CA-092609	09/26/09
808457	SDCR9-CB-092609	09/26/09
808458	SDCR9-CC-092609	09/26/09
808459	SDCR9-CD-092609	09/26/09
808460	SDCR9-CE-092609	09/26/09
808461	SDCR10-CA-092609	09/26/09
808462	SDCR10-CB-092609	09/26/09
808463	SDCR10-CC-092609	09/26/09
808464	SDCR10-CD-092609	09/26/09
808465	SDCR10-CE-092609	09/26/09
808466	SDCR11-CA-092609	09/26/09
808467	SDCR11-CB-092609	09/26/09
808468	SDCR11-CD-092609	09/26/09
808469	SDCR11-CE-092609	09/26/09
808470	SDCR11-CF-092609	09/26/09
808471	SDCR12-CG-092509	09/25/09

If there are any additional questions or concerns, please do not hesitate to contact me here at the laboratory.

Sincerely,

Amanda Catrett

Amanda Catrett

Cc: Cynthia Draper
Heidi Fogell
Paul Braffield

Density of Soil

*Data obtained from analyses performed under ASTM D2937

Client Code: STLALM
ETR: 134700
SDG: 70041726

Start Date: 11/20/2009
Start Time: 2245
End Date: 11/23/2009
Analyst: MAP

Laboratory Number	Weight Of		Measurement of					
	Container (g)	Container + Sample (g)	Sample Recovery (cm)	Container Diameter (cm)	Area (cm^2)	Wet Sample (g)	Sample Volume (cm^3)	Density (g/cm^3)
813705	117.01	269.61	4.80	5.50	23.76	152.60	114.04	1.34
813706	118.81	299.04	4.97	5.50	23.76	180.23	118.08	1.53

Density of Soil

*Data obtained from analyses performed under ASTM D2937

Client Code: STLALM
ETR: 133908
SDG: 70041707

Start Date: 10/7/2009
Start Time: 1735
End Date: 10/8/2009
Analyst: MAP

Laboratory Number	Container (g)	Container + Sample (g)	Sample Recovery (cm)	Container Diameter (cm)	Area (cm^2)	Wet Sample (g)	Sample Volume (cm^3)	Density (g/cm^3)
808502	125.20	301.31	4.29	5.50	23.76	176.11	101.92	1.73
808503	124.69	291.23	4.59	5.50	23.76	166.54	109.05	1.53
808504	125.09	309.58	5.22	5.50	23.76	184.49	124.02	1.49
808505	124.98	280.97	4.50	5.50	23.76	155.99	106.91	1.46
808506	125.69	295.13	4.46	5.50	23.76	169.44	105.96	1.60
808507	125.44	303.45	5.30	5.50	23.76	178.01	125.92	1.41
808508	52.18	141.70	3.20	4.80	18.10	89.52	57.91	1.55
808509	124.91	273.96	4.55	5.50	23.76	149.05	108.10	1.38
808510	125.16	290.85	4.88	5.50	23.76	165.69	115.94	1.43
808511	124.53	286.44	4.80	5.50	23.76	161.91	114.04	1.42

Density of Soil

*Data obtained from analyses performed under ASTM D2937

Client Code:	STLALM	**Start Date:**	10/8/2009
ETR:	133905	**Start Time:**	2215
SDG:	70041709	**End Date:**	10/12/2009
		Analyst:	MAP

Laboratory Number	Weight Of		Measurement of					
	Container (g)	Container + Sample (g)	Sample Recovery (cm)	Container Diameter (cm)	Area (cm^2)	Wet Sample (g)	Sample Volume (cm^3)	Density (g/cm^3)
808446	125.07	279.68	5.13	5.50	23.76	154.61	121.88	1.27
808447	124.45	283.52	5.35	5.50	23.76	159.07	127.11	1.25
808448	125.68	267.04	5.01	5.50	23.76	141.36	119.03	1.19
808449	125.40	227.71	3.29	5.50	23.76	102.31	78.16	1.31
808450	124.77	284.83	5.26	5.50	23.76	160.06	124.97	1.28
808451	124.30	262.62	5.01	5.50	23.76	138.32	119.03	1.16
808452	124.11	256.07	4.59	5.50	23.76	131.96	109.05	1.21
808453	125.78	244.24	4.13	5.50	23.76	118.46	98.12	1.21
808454	125.63	270.76	4.71	5.50	23.76	145.13	111.90	1.30
808455	125.50	258.66	4.17	5.50	23.76	133.16	99.07	1.34
808456	125.73	269.44	5.22	5.50	23.76	143.71	124.02	1.16
808457	126.64	254.79	4.42	5.50	23.76	128.15	105.01	1.22
808458	124.97	256.04	4.34	5.50	23.76	131.07	103.11	1.27
808459	125.98	279.32	4.63	5.50	23.76	153.34	110.00	1.39
808460	125.73	259.94	4.08	5.50	23.76	134.21	96.93	1.38
808461	125.01	222.55	3.45	5.50	23.76	97.54	81.97	1.19
808462	125.82	279.68	5.09	5.50	23.76	153.86	120.93	1.27
808463	125.70	262.12	4.88	5.50	23.76	136.42	115.94	1.18
808464	125.63	279.20	5.30	5.50	23.76	153.57	125.92	1.22
808465	125.39	259.75	4.08	5.50	23.76	134.36	96.93	1.39
808466	126.72	289.17	5.13	5.50	23.76	162.45	121.88	1.33

Density of Soil

***Data obtained from analyses performed under ASTM D2937**

Client Code:	STLALM	**Start Date:**	10/9/2009
ETR:	133905	**Start Time:**	1925
SDG:	70041709	**End Date:**	10/12/2009
		Analyst:	MAP

Laboratory Number	Container (g)	Container + Sample (g)	Sample Recovery (cm)	Container Diameter (cm)	Area (cm^2)	Wet Sample (g)	Sample Volume (cm^3)	Density (g/cm^3)
808467	125.88	299.53	5.26	5.50	23.76	173.65	124.97	1.39
808468	125.57	301.78	4.80	5.50	23.76	176.21	114.04	1.55
808469	124.89	332.62	5.30	5.50	23.76	207.73	125.92	1.65
808470	126.09	319.78	5.05	5.50	23.76	193.69	119.98	1.61
808471	124.56	273.58	4.71	5.50	23.76	149.02	111.90	1.33

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

June 25, 2009

Cindy Olavesen
Pace Analytical New Orleans
1000 Riverbend Blvd
Suite F
St. Rose, LA 70087

RE: Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Dear Cindy Olavesen:
Enclosed are the analytical results for sample(s) received by the laboratory on June 16, 2009. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Steven Mleczko

steve.mleczko@pacelabs.com
Project Manager

Enclosures

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CERTIFICATIONS

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Green Bay Certification IDs

Wisconsin DATCP Certification #: 105-444
Wisconsin DATCP Certification #: 105-444
Wisconsin Certification #: 405132750
Wisconsin Certification #: 405132750
South Carolina Certification #: 83006001
South Carolina Certification #: 83006001
North Dakota Certification #: R-200
North Dakota Certification #: R-150
North Carolina Certification #: 503
North Carolina Certification #: 503
New York Certification #: 11887
New York Certification #: 11888
Minnesota Certification #: 055-999-334
Minnesota Certification #: 055-999-334
Louisiana Certification #: 04169
Louisiana Certification #: 04168
Kentucky Certification #: 83
Kentucky Certification #: 82
Illinois Certification #: 200051
Illinois Certification #: 200050
Florida/NELAP Certification #: E87951
Florida/NELAP Certification #: E87948

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SAMPLE SUMMARY

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2095808001	OU2B-SED-103DNE-09	Solid	06/06/09 11:01	06/16/09 09:35
2095808002	OU2B-SED-103DNW-09	Solid	06/06/09 11:05	06/16/09 09:35
2095808003	OU2B-SED-103DSE-09	Solid	06/06/09 11:03	06/16/09 09:35
2095808004	OU2B-SED-103DSW-09	Solid	06/06/09 11:07	06/16/09 09:35
2095808005	OU2B-SED-104DC-09	Solid	06/06/09 11:50	06/16/09 09:35
2095808006	OU2B-SED-104DNE-09	Solid	06/06/09 11:53	06/16/09 09:35
2095808007	OU2B-SED-104DNW-09	Solid	06/06/09 11:54	06/16/09 09:35
2095808008	OU2B-SED-104DSE-09	Solid	06/06/09 11:55	06/16/09 09:35
2095808009	OU2B-SED-104DSW-09	Solid	06/06/09 11:56	06/16/09 09:35
2095808010	OU2R-SED-101DSE-09	Solid	06/05/09 11:02	06/16/09 09:35
2095808011	OU2R-SED-101DSW-09	Solid	06/05/09 11:06	06/16/09 09:35
2095808012	OU2R-SED-101DSE-09	Solid	06/05/09 10:59	06/16/09 09:35
2095808013	OU2R-SED-101DNW-09	Solid	06/05/09 11:04	06/16/09 09:35
2095808014	OU2R-SED-102C-09	Solid	06/05/09 13:25	06/16/09 09:35
2095808015	OU2B-SED-102C-09	Solid	06/05/09 15:25	06/16/09 09:35
2095808016	OU2B-SED-202DNE-09	Solid	06/06/09 13:34	06/16/09 09:35
2095808017	OU2B-SED-202DNW-09	Solid	06/06/09 13:38	06/16/09 09:35
2095808018	OU2B-SED-202DSE-09	Solid	06/06/09 13:42	06/16/09 09:35
2095808019	OU2B-SED-202DSW-09	Solid	06/06/09 13:47	06/16/09 09:35
2095808020	OU2B-SED-105C-09	Solid	06/08/09 09:10	06/16/09 09:35
2095808021	OU2B-SED-205C-09	Solid	06/08/09 10:30	06/16/09 09:35
2095808022	OU2B-SED-303DNE-09	Solid	06/07/09 11:37	06/16/09 09:35
2095808023	OU2B-SED-303DNW-09	Solid	06/07/09 11:39	06/16/09 09:35
2095808024	OU2B-SED-303DSE-09	Solid	06/07/09 11:41	06/16/09 09:35
2095808025	OU2B-SED-303DSW-09	Solid	06/07/09 11:43	06/16/09 09:35
2095808026	OU2B-SED-203DNE-09	Solid	06/07/09 13:41	06/16/09 09:35
2095808027	OU2B-SED-203DNW-09	Solid	06/07/09 13:44	06/16/09 09:35
2095808028	OU2B-SED-203DSE-09	Solid	06/07/09 13:46	06/16/09 09:35
2095808029	OU2B-SED-203DSW-09	Solid	06/07/09 13:47	06/16/09 09:35
2095808030	OU2B-SED-106C-09	Solid	06/08/09 10:55	06/16/09 09:35
2095808031	OU2B-SED-501DC-09	Solid	06/07/09 09:42	06/16/09 09:35
2095808032	OU2B-SED-501DNE-09	Solid	06/07/09 09:45	06/16/09 09:35
2095808033	OU2B-SED-501DSE-09	Solid	06/07/09 09:58	06/16/09 09:35
2095808034	OU2B-SED-501DNW-09	Solid	06/07/09 09:48	06/16/09 09:35
2095808035	OU2B-SED-501DSW-09	Solid	06/07/09 09:59	06/16/09 09:35
2095808036	OU2B-SED-502DC-09	Solid	06/07/09 10:32	06/16/09 09:35
2095808037	OU2B-SED-502DNE-09	Solid	06/07/09 10:44	06/16/09 09:35

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SAMPLE SUMMARY

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2095808038	OU2B-SED-502DNW-09	Solid	06/07/09 10:46	06/16/09 09:35
2095808039	OU2B-SED-202DC-09	Solid	06/06/09 13:30	06/16/09 09:35
2095808040	OU2B-SED-004C-09	Solid	06/05/09 10:15	06/16/09 09:35
2095808041	OU2B-SED-DHC-09	Solid	06/05/09 14:35	06/16/09 09:35
2095808042	OU2B-SED-302C-09	Solid	06/08/09 11:20	06/16/09 09:35
2095808043	OU2B-SED-EB101-09	Water	06/06/09 09:45	06/16/09 09:35
2095808044	OU2B-SED-103DC-09	Solid	06/06/09 10:58	06/16/09 09:35
2095808045	OU2R-SED-101DC-09	Solid	06/05/09 10:57	06/16/09 09:35
2095808046	OU2B-SED-101C-09	Solid	06/05/09 13:55	06/16/09 09:35
2095808047	OU2B-SED-203DC-09	Solid	06/07/09 13:35	06/16/09 09:35
2095808048	OU2B-SED-303DC-09	Solid	06/07/09 11:34	06/16/09 09:35
2095808049	OU2B-SED-204C-09	Solid	06/07/09 14:38	06/16/09 09:35
2095808050	OU2B-SED-DUP05C-09	Solid	06/07/09 12:00	06/16/09 09:35
2095808051	OU2B-SED-DUP04C-09	Solid	06/07/09 12:00	06/16/09 09:35
2095808052	OU2B-SED-DUP06C-09	Solid	06/08/09 12:00	06/16/09 09:35
2095808053	OU2B-SED-DUP03C-09	Solid	06/08/09 12:00	06/16/09 09:35
2095808054	OU2B-SED-DUP01C-09	Solid	06/05/09 12:00	06/16/09 09:35
2095808055	OU2B-SED-502DSE-09	Solid	06/07/09 10:48	06/16/09 09:35
2095808056	OU2B-SED-502DSW-09	Solid	06/07/09 10:52	06/16/09 09:35

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SAMPLE ANALYTE COUNT

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
2095808001	OU2B-SED-103DNE-09	ASTM D2974-87	ARB	1	PASI-G
		EPA 9060 Modified	DJR	1	PASI-G
2095808002	OU2B-SED-103DNW-09	ASTM D2974-87	ARB	1	PASI-G
		EPA 9060 Modified	DJR	1	PASI-G
2095808003	OU2B-SED-103DSE-09	ASTM D2974-87	ARB	1	PASI-G
		EPA 9060 Modified	DJR	1	PASI-G
2095808004	OU2B-SED-103DSW-09	ASTM D2974-87	ARB	1	PASI-G
		EPA 9060 Modified	DJR	1	PASI-G
2095808005	OU2B-SED-104DC-09	ASTM D2974-87	ARB	1	PASI-G
		EPA 9060 Modified	DJR	1	PASI-G
2095808006	OU2B-SED-104DNE-09	ASTM D2974-87	ARB	1	PASI-G
		EPA 9060 Modified	DJR	1	PASI-G
2095808007	OU2B-SED-104DNW-09	ASTM D2974-87	ARB	1	PASI-G
		EPA 9060 Modified	DJR	1	PASI-G
2095808008	OU2B-SED-104DSE-09	ASTM D2974-87	ARB	1	PASI-G
		EPA 9060 Modified	DJR	1	PASI-G
2095808009	OU2B-SED-104DSW-09	ASTM D2974-87	ARB	1	PASI-G
		EPA 9060 Modified	DJR	1	PASI-G
2095808010	OU2R-SED-101DSE-09	ASTM D2974-87	ARB	1	PASI-G
		EPA 9060 Modified	DJR	1	PASI-G
2095808011	OU2R-SED-101DSW-09	ASTM D2974-87	ARB	1	PASI-G
		EPA 9060 Modified	DJR	1	PASI-G
2095808012	OU2R-SED-101DSE-09	ASTM D2974-87	ARB	1	PASI-G
		EPA 9060 Modified	DJR	1	PASI-G
2095808013	OU2R-SED-101DNW-09	ASTM D2974-87	ARB	1	PASI-G
		EPA 9060 Modified	DJR	1	PASI-G
2095808014	OU2R-SED-102C-09	ASTM D2974-87	ARB	1	PASI-G
		EPA 9060 Modified	DJR	1	PASI-G
2095808015	OU2B-SED-102C-09	ASTM D2974-87	ARB	1	PASI-G
		EPA 9060 Modified	DJR	1	PASI-G
2095808016	OU2B-SED-202DNE-09	ASTM D2974-87	ARB	1	PASI-G
		EPA 9060 Modified	DJR	1	PASI-G
2095808017	OU2B-SED-202DNW-09	ASTM D2974-87	ARB	1	PASI-G
		EPA 9060 Modified	DJR	1	PASI-G
2095808018	OU2B-SED-202DSE-09	ASTM D2974-87	ARB	1	PASI-G
		EPA 9060 Modified	DJR	1	PASI-G
2095808019	OU2B-SED-202DSW-09	ASTM D2974-87	ARB	1	PASI-G

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SAMPLE ANALYTE COUNT

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 9060 Modified	DJR	1	PASI-G
2095808020	OU2B-SED-105C-09	ASTM D2974-87	ARB	1	PASI-G
		EPA 9060 Modified	DJR	1	PASI-G
2095808021	OU2B-SED-205C-09	ASTM D2974-87	ARB	1	PASI-G
		EPA 9060 Modified	DJR	1	PASI-G
2095808022	OU2B-SED-303DNE-09	ASTM D2974-87	ARB	1	PASI-G
		EPA 9060 Modified	DJR	1	PASI-G
2095808023	OU2B-SED-303DNW-09	ASTM D2974-87	ARB	1	PASI-G
		EPA 9060 Modified	DJR	1	PASI-G
2095808024	OU2B-SED-303DSE-09	ASTM D2974-87	ARB	1	PASI-G
		EPA 9060 Modified	DJR	1	PASI-G
2095808025	OU2B-SED-303DSW-09	ASTM D2974-87	ARB	1	PASI-G
		EPA 9060 Modified	DJR	1	PASI-G
2095808026	OU2B-SED-203DNE-09	ASTM D2974-87	ARB	1	PASI-G
		EPA 9060 Modified	DJR	1	PASI-G
2095808027	OU2B-SED-203DNW-09	ASTM D2974-87	ARB	1	PASI-G
		EPA 9060 Modified	DJR	1	PASI-G
2095808028	OU2B-SED-203DSE-09	ASTM D2974-87	ARB	1	PASI-G
		EPA 9060 Modified	DJR	1	PASI-G
2095808029	OU2B-SED-203DSW-09	ASTM D2974-87	ARB	1	PASI-G
		EPA 9060 Modified	DJR	1	PASI-G
2095808030	OU2B-SED-106C-09	ASTM D2974-87	ARB	1	PASI-G
		EPA 9060 Modified	DJR	1	PASI-G
2095808031	OU2B-SED-501DC-09	ASTM D2974-87	ARB	1	PASI-G
		EPA 9060 Modified	DJR	1	PASI-G
2095808032	OU2B-SED-501DNE-09	ASTM D2974-87	ARB	1	PASI-G
		EPA 9060 Modified	DJR	1	PASI-G
2095808033	OU2B-SED-501DSE-09	ASTM D2974-87	ARB	1	PASI-G
		EPA 9060 Modified	DJR	1	PASI-G
2095808034	OU2B-SED-501DNW-09	ASTM D2974-87	ARB	1	PASI-G
		EPA 9060 Modified	DJR	1	PASI-G
2095808035	OU2B-SED-501DSW-09	ASTM D2974-87	ARB	1	PASI-G
		EPA 9060 Modified	DJR	1	PASI-G
2095808036	OU2B-SED-502DC-09	ASTM D2974-87	ARB	1	PASI-G
		EPA 9060 Modified	DJR	1	PASI-G
2095808037	OU2B-SED-502DNE-09	ASTM D2974-87	ARB	1	PASI-G
		EPA 9060 Modified	DJR	1	PASI-G

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SAMPLE ANALYTE COUNT

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
2095808038	OU2B-SED-502DNW-09	ASTM D2974-87	ARB	1	PASI-G
		EPA 9060 Modified	DJR	1	PASI-G
2095808039	OU2B-SED-202DC-09	ASTM D2974-87	ARB	1	PASI-G
		EPA 9060 Modified	DJR	1	PASI-G
2095808040	OU2B-SED-004C-09	ASTM D2974-87	ARB	1	PASI-G
		EPA 9060 Modified	DJR	1	PASI-G
2095808041	OU2B-SED-DHC-09	ASTM D2974-87	ARB	1	PASI-G
		EPA 9060 Modified	DJR	1	PASI-G
2095808042	OU2B-SED-302C-09	ASTM D2974-87	ARB	1	PASI-G
		EPA 8081	DMH	3	PASI-G
		EPA 9060 Modified	DJR	1	PASI-G
2095808043	OU2B-SED-EB101-09	EPA 8081	DMH	9	PASI-G
2095808044	OU2B-SED-103DC-09	ASTM D2974-87	ARB	1	PASI-G
		EPA 8081	DMH	8	PASI-G
		EPA 9060 Modified	DJR	1	PASI-G
2095808045	OU2R-SED-101DC-09	ASTM D2974-87	ARB	1	PASI-G
		EPA 8081	DMH	8	PASI-G
		EPA 9060 Modified	DJR	1	PASI-G
2095808046	OU2B-SED-101C-09	ASTM D2974-87	ARB	1	PASI-G
		EPA 9060 Modified	DJR	1	PASI-G
2095808047	OU2B-SED-203DC-09	ASTM D2974-87	ARB	1	PASI-G
		EPA 8081	DMH	9	PASI-G
		EPA 9060 Modified	DJR	1	PASI-G
2095808048	OU2B-SED-303DC-09	ASTM D2974-87	ARB	1	PASI-G
		EPA 8081	DMH	9	PASI-G
		EPA 9060 Modified	DJR	1	PASI-G
2095808049	OU2B-SED-204C-09	ASTM D2974-87	ARB	1	PASI-G
		EPA 8081	DMH	3	PASI-G
		EPA 9060 Modified	DJR	1	PASI-G
2095808050	OU2B-SED-DUP05C-09	ASTM D2974-87	ARB	1	PASI-G
		EPA 8081	DMH	9	PASI-G
		EPA 9060 Modified	DJR	1	PASI-G
2095808051	OU2B-SED-DUP04C-09	ASTM D2974-87	ARB	1	PASI-G
		EPA 9060 Modified	DJR	1	PASI-G
2095808052	OU2B-SED-DUP06C-09	ASTM D2974-87	ARB	1	PASI-G
		EPA 9060 Modified	DJR	1	PASI-G
2095808053	OU2B-SED-DUP03C-09	ASTM D2974-87	ARB	1	PASI-G

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SAMPLE ANALYTE COUNT

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 9060 Modified	DJR	1	PASI-G
2095808054	**OU2B-SED-DUP01C-09**	ASTM D2974-87	ARB	1	PASI-G
		EPA 9060 Modified	DJR	1	PASI-G
2095808055	**OU2B-SED-502DSE-09**	ASTM D2974-87	ARB	1	PASI-G
		EPA 9060 Modified	DJR	1	PASI-G
2095808056	**OU2B-SED-502DSW-09**	ASTM D2974-87	ARB	1	PASI-G
		EPA 9060 Modified	DJR	1	PASI-G

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ANALYTICAL RESULTS

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Sample: OU2B-SED-103DNE-09 **Lab ID: 2095808001** Collected: 06/06/09 11:01 Received: 06/16/09 09:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**71.8**	%	0.10	1		06/19/09 08:13		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**13300**	mg/kg	2040	1		06/20/09 07:07	7440-44-0	

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ANALYTICAL RESULTS

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Sample: OU2B-SED-103DNW-09 **Lab ID: 2095808002** Collected: 06/06/09 11:05 Received: 06/16/09 09:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**71.9**	%	0.10	1		06/19/09 08:13		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**16000**	mg/kg	2530	1		06/20/09 07:22	7440-44-0	

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ANALYTICAL RESULTS

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Sample: OU2B-SED-103DSE-09 **Lab ID: 2095808003** Collected: 06/06/09 11:03 Received: 06/16/09 09:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**72.0**	%	0.10	1		06/19/09 08:13		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**15400**	mg/kg	3230	1		06/20/09 07:37	7440-44-0	

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ANALYTICAL RESULTS

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Sample: OU2B-SED-103DSW-09 **Lab ID: 2095808004** Collected: 06/06/09 11:07 Received: 06/16/09 09:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**73.6**	%	0.10	1		06/19/09 08:13		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**13500**	mg/kg	3170	1		06/20/09 07:57	7440-44-0	

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ANALYTICAL RESULTS

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Sample: OU2B-SED-104DC-09 **Lab ID: 2095808005** Collected: 06/06/09 11:50 Received: 06/16/09 09:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**71.7**	%	0.10	1		06/19/09 08:13		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**14700**	mg/kg	3450	1		06/20/09 08:10	7440-44-0	

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ANALYTICAL RESULTS

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Sample: OU2B-SED-104DNE-09 **Lab ID: 2095808006** Collected: 06/06/09 11:53 Received: 06/16/09 09:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**71.0**	%	0.10	1		06/19/09 08:13		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**14200**	mg/kg	3170	1		06/20/09 08:32	7440-44-0	

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ANALYTICAL RESULTS

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Sample: OU2B-SED-104DNW-09 **Lab ID: 2095808007** Collected: 06/06/09 11:54 Received: 06/16/09 09:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**72.8**	%	0.10	1		06/19/09 08:13		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**14100**	mg/kg	2990	1		06/20/09 08:44	7440-44-0	

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ANALYTICAL RESULTS

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Sample: OU2B-SED-104DSE-09 **Lab ID: 2095808008** Collected: 06/06/09 11:55 Received: 06/16/09 09:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**70.6**	%	0.10	1		06/19/09 08:13		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**14800**	mg/kg	3450	1		06/20/09 08:56	7440-44-0	

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ANALYTICAL RESULTS

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Sample: OU2B-SED-104DSW-09 **Lab ID: 2095808009** Collected: 06/06/09 11:56 Received: 06/16/09 09:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**69.6**	%	0.10	1		06/19/09 08:13		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**12000**	mg/kg	3120	1		06/20/09 09:23	7440-44-0	

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ANALYTICAL RESULTS

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Sample: OU2R-SED-101DSE-09 **Lab ID: 2095808010** Collected: 06/05/09 11:02 Received: 06/16/09 09:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**79.8**	%	0.10	1		06/19/09 08:13		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**30100**	mg/kg	4550	1		06/20/09 09:38	7440-44-0	

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ANALYTICAL RESULTS

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Sample: OU2R-SED-101DSW-09 **Lab ID: 2095808011** Collected: 06/05/09 11:06 Received: 06/16/09 09:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**79.3**	%	0.10	1		06/19/09 08:14		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**30600**	mg/kg	6670	1		06/20/09 09:54	7440-44-0	

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ANALYTICAL RESULTS

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Sample: OU2R-SED-101DSE-09 **Lab ID: 2095808012** Collected: 06/05/09 10:59 Received: 06/16/09 09:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**79.6**	%	0.10	1		06/19/09 08:14		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**32800**	mg/kg	6450	1		06/20/09 10:04	7440-44-0	

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ANALYTICAL RESULTS

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Sample: OU2R-SED-101DNW-09 **Lab ID: 2095808013** Collected: 06/05/09 11:04 Received: 06/16/09 09:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**80.9**	%	0.10	1		06/19/09 08:14		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**29000**	mg/kg	6450	1		06/20/09 10:13	7440-44-0	

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ANALYTICAL RESULTS

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Sample: OU2R-SED-102C-09 **Lab ID: 2095808014** Collected: 06/05/09 13:25 Received: 06/16/09 09:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**76.5**	%	0.10	1		06/19/09 08:14		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**39000**	mg/kg	6450	1		06/20/09 10:23	7440-44-0	

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ANALYTICAL RESULTS

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Sample: OU2B-SED-102C-09 **Lab ID: 2095808015** Collected: 06/05/09 15:25 Received: 06/16/09 09:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**80.6**	%	0.10	1		06/19/09 08:14		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**16200**	mg/kg	6450	1		06/20/09 10:35	7440-44-0	

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ANALYTICAL RESULTS

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Sample: OU2B-SED-202DNE-09 **Lab ID: 2095808016** Collected: 06/06/09 13:34 Received: 06/16/09 09:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**34.2**	%	0.10	1		06/19/09 08:14		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**644**	mg/kg	344	1		06/20/09 10:51	7440-44-0	M0,R1

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ANALYTICAL RESULTS

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Sample: OU2B-SED-202DNW-09 **Lab ID: 2095808017** Collected: 06/06/09 13:38 Received: 06/16/09 09:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**27.2**	%	0.10	1		06/19/09 08:14		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**10500**	mg/kg	3640	1		06/20/09 11:54	7440-44-0	

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ANALYTICAL RESULTS

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Sample: OU2B-SED-202DSE-09 **Lab ID: 2095808018** Collected: 06/06/09 13:42 Received: 06/16/09 09:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**29.0**	%	0.10	1		06/19/09 08:14		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**2940**	mg/kg	971	1		06/20/09 12:14	7440-44-0	

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ANALYTICAL RESULTS

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Sample: OU2B-SED-202DSW-09 **Lab ID: 2095808019** Collected: 06/06/09 13:47 Received: 06/16/09 09:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**38.3**	%	0.10	1		06/19/09 08:14		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**2940**	mg/kg	1010	1		06/20/09 12:26	7440-44-0	

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ANALYTICAL RESULTS

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Sample: OU2B-SED-105C-09 **Lab ID: 2095808020** Collected: 06/08/09 09:10 Received: 06/16/09 09:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**73.0**	%	0.10	1		06/19/09 08:14		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**57700**	mg/kg	14300	1		06/20/09 13:02	7440-44-0	

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ANALYTICAL RESULTS

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Sample: OU2B-SED-205C-09 **Lab ID: 2095808021** Collected: 06/08/09 10:30 Received: 06/16/09 09:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**57.8**	%	0.10	1		06/19/09 08:15		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**7450**	mg/kg	1940	1		06/23/09 13:36	7440-44-0	

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ANALYTICAL RESULTS

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Sample: OU2B-SED-303DNE-09 **Lab ID: 2095808022** Collected: 06/07/09 11:37 Received: 06/16/09 09:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**39.2**	%	0.10	1		06/19/09 08:15		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**4440**	mg/kg	1870	1		06/23/09 13:49	7440-44-0	

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ANALYTICAL RESULTS

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Sample: OU2B-SED-303DNW-09 **Lab ID: 2095808023** Collected: 06/07/09 11:39 Received: 06/16/09 09:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**35.2**	%	0.10	1		06/19/09 08:15		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**3930**	mg/kg	976	1		06/23/09 14:03	7440-44-0	

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ANALYTICAL RESULTS

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Sample: OU2B-SED-303DSE-09 **Lab ID: 2095808024** Collected: 06/07/09 11:41 Received: 06/16/09 09:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**31.9**	%	0.10	1		06/19/09 08:15		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**4350**	mg/kg	976	1		06/23/09 14:27	7440-44-0	

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ANALYTICAL RESULTS

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Sample: OU2B-SED-303DSW-09 **Lab ID: 2095808025** Collected: 06/07/09 11:43 Received: 06/16/09 09:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**31.7**	%	0.10	1		06/19/09 08:16		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**4540**	mg/kg	962	1		06/23/09 14:44	7440-44-0	

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ANALYTICAL RESULTS

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Sample: OU2B-SED-203DNE-09 **Lab ID: 2095808026** Collected: 06/07/09 13:41 Received: 06/16/09 09:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**54.2**	%	0.10	1		06/19/09 08:16		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**5970**	mg/kg	980	1		06/23/09 15:04	7440-44-0	

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ANALYTICAL RESULTS

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Sample: OU2B-SED-203DNW-09 **Lab ID: 2095808027** Collected: 06/07/09 13:44 Received: 06/16/09 09:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**57.9**	%	0.10	1		06/19/09 08:16		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**5880**	mg/kg	1320	1		06/23/09 15:22	7440-44-0	M0

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ANALYTICAL RESULTS

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Sample: OU2B-SED-203DSE-09 **Lab ID: 2095808028** Collected: 06/07/09 13:46 Received: 06/16/09 09:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**53.0**	%	0.10	1		06/19/09 08:16		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**6520**	mg/kg	2000	1		06/23/09 16:39	7440-44-0	

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ANALYTICAL RESULTS

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Sample: OU2B-SED-203DSW-09 **Lab ID: 2095808029** Collected: 06/07/09 13:47 Received: 06/16/09 09:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**53.1**	%	0.10	1		06/19/09 08:16		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**6350**	mg/kg	2000	1		06/23/09 16:49	7440-44-0	

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ANALYTICAL RESULTS

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Sample: OU2B-SED-106C-09 **Lab ID: 2095808030** Collected: 06/08/09 10:55 Received: 06/16/09 09:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**70.4**	%	0.10	1		06/19/09 08:16		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**10700**	mg/kg	2080	1		06/23/09 16:59	7440-44-0	

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ANALYTICAL RESULTS

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Sample: OU2B-SED-501DC-09 **Lab ID: 2095808031** Collected: 06/07/09 09:42 Received: 06/16/09 09:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**80.2**	%	0.10	1		06/19/09 08:16		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**41600**	mg/kg	13300	1		06/23/09 17:09	7440-44-0	

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ANALYTICAL RESULTS

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Sample: OU2B-SED-501DNE-09 **Lab ID: 2095808032** Collected: 06/07/09 09:45 Received: 06/16/09 09:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**78.8**	%	0.10	1		06/19/09 08:16		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**13800**	mg/kg	2080	1		06/23/09 17:17	7440-44-0	

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ANALYTICAL RESULTS

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Sample: OU2B-SED-501DSE-09 **Lab ID: 2095808033** Collected: 06/07/09 09:58 Received: 06/16/09 09:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**79.6**	%	0.10	1		06/19/09 08:16		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**13800**	mg/kg	3080	1		06/23/09 17:28	7440-44-0	

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ANALYTICAL RESULTS

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Sample: OU2B-SED-501DNW-09 **Lab ID: 2095808034** Collected: 06/07/09 09:48 Received: 06/16/09 09:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**79.3**	%	0.10	1		06/19/09 08:16		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**14200**	mg/kg	2990	1		06/23/09 17:46	7440-44-0	

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ANALYTICAL RESULTS

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Sample: OU2B-SED-501DSW-09 **Lab ID: 2095808035** Collected: 06/07/09 09:59 Received: 06/16/09 09:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**79.4**	%	0.10	1		06/19/09 08:16		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**15200**	mg/kg	2900	1		06/23/09 17:57	7440-44-0	

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ANALYTICAL RESULTS

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Sample: OU2B-SED-502DC-09 **Lab ID: 2095808036** Collected: 06/07/09 10:32 Received: 06/16/09 09:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**75.5**	%	0.10	1		06/19/09 08:16		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**12600**	mg/kg	2990	1		06/23/09 18:14	7440-44-0	

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ANALYTICAL RESULTS

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Sample: OU2B-SED-502DNE-09 **Lab ID: 2095808037** Collected: 06/07/09 10:44 Received: 06/16/09 09:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**76.7**	%	0.10	1		06/19/09 08:16		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**53600**	mg/kg	13300	1		06/23/09 18:42	7440-44-0	

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ANALYTICAL RESULTS

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Sample: OU2B-SED-502DNW-09 **Lab ID: 2095808038** Collected: 06/07/09 10:46 Received: 06/16/09 09:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**73.6**	%	0.10	1		06/19/09 08:16		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**41700**	mg/kg	8330	1		06/23/09 18:56	7440-44-0	

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ANALYTICAL RESULTS

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Sample: OU2B-SED-202DC-09 **Lab ID: 2095808039** Collected: 06/06/09 13:30 Received: 06/16/09 09:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**37.7**	%	0.10	1		06/19/09 08:16		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**3210**	mg/kg	2060	1		06/23/09 19:09	7440-44-0	M0

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ANALYTICAL RESULTS

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Sample: OU2B-SED-004C-09 **Lab ID: 2095808040** Collected: 06/05/09 10:15 Received: 06/16/09 09:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**72.3**	%	0.10	1		06/19/09 08:17		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**16300**	mg/kg	2940	1		06/23/09 19:44	7440-44-0	

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ANALYTICAL RESULTS

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Sample: OU2B-SED-DHC-09 **Lab ID: 2095808041** Collected: 06/05/09 14:35 Received: 06/16/09 09:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**80.4**	%	0.10	1		06/19/09 08:17		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**14400**	mg/kg	2200	1		06/24/09 09:05	7440-44-0	

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ANALYTICAL RESULTS

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Sample: OU2B-SED-302C-09 **Lab ID: 2095808042** Collected: 06/08/09 11:20 Received: 06/16/09 09:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides	Analytical Method: EPA 8081 Preparation Method: EPA 3550							
Hexachlorobenzene	ND	ug/kg	6.9	3	06/17/09 10:51	06/18/09 19:39	118-74-1	D3
Tetrachloro-m-xylene (S)	75	%	34-130	3	06/17/09 10:51	06/18/09 19:39	877-09-8	
Decachlorobiphenyl (S)	93	%	30-130	3	06/17/09 10:51	06/18/09 19:39	2051-24-3	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**27.6**	%	0.10	1		06/19/09 08:18		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**1550**	mg/kg	491	1		06/24/09 09:35	7440-44-0	

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ANALYTICAL RESULTS

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Sample: OU2B-SED-EB101-09 **Lab ID: 2095808043** Collected: 06/06/09 09:45 Received: 06/16/09 09:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides	Analytical Method: EPA 8081 Preparation Method: EPA 3510							
2,4'-DDD	ND	ug/L	0.050	1	06/17/09 08:00	06/18/09 06:16	53-19-0	H3
4,4'-DDD	ND	ug/L	0.10	1	06/17/09 08:00	06/18/09 06:16	72-54-8	H3
2,4'-DDE	ND	ug/L	0.050	1	06/17/09 08:00	06/18/09 06:16	3424-82-6	H3
4,4'-DDE	ND	ug/L	0.10	1	06/17/09 08:00	06/18/09 06:16	72-55-9	H3
2,4'-DDT	ND	ug/L	0.050	1	06/17/09 08:00	06/18/09 06:16	789-02-6	H3
4,4'-DDT	ND	ug/L	0.10	1	06/17/09 08:00	06/18/09 06:16	50-29-3	H3
Hexachlorobenzene	ND	ug/L	0.050	1	06/17/09 08:00	06/18/09 06:16	118-74-1	H3
Tetrachloro-m-xylene (S)	73	%	52-130	1	06/17/09 08:00	06/18/09 06:16	877-09-8	
Decachlorobiphenyl (S)	71	%	43-130	1	06/17/09 08:00	06/18/09 06:16	2051-24-3	

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ANALYTICAL RESULTS

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Sample: OU2B-SED-103DC-09 **Lab ID: 2095808044** Collected: 06/06/09 10:58 Received: 06/16/09 09:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides	Analytical Method: EPA 8081 Preparation Method: EPA 3550							
2,4'-DDD	**39.4**	ug/kg	12.6	2	06/17/09 10:51	06/18/09 20:33	53-19-0	R1
4,4'-DDD	**54.1**	ug/kg	25.2	2	06/17/09 10:51	06/18/09 20:33	72-54-8	
2,4'-DDE	**128**	ug/kg	12.6	2	06/17/09 10:51	06/18/09 20:33	3424-82-6	
4,4'-DDE	**83.9**	ug/kg	25.2	2	06/17/09 10:51	06/18/09 20:33	72-55-9	
2,4'-DDT	ND	ug/kg	12.6	2	06/17/09 10:51	06/18/09 20:33	789-02-6	
4,4'-DDT	ND	ug/kg	25.2	2	06/17/09 10:51	06/18/09 20:33	50-29-3	
Tetrachloro-m-xylene (S)	78	%	34-130	2	06/17/09 10:51	06/18/09 20:33	877-09-8	
Decachlorobiphenyl (S)	230	%	30-130	2	06/17/09 10:51	06/18/09 20:33	2051-24-3	S0
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**73.5**	%	0.10	1		06/19/09 08:18		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**10900**	mg/kg	1800	1		06/24/09 09:49	7440-44-0	

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ANALYTICAL RESULTS

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Sample: OU2R-SED-101DC-09 **Lab ID: 2095808045** Collected: 06/05/09 10:57 Received: 06/16/09 09:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides	Analytical Method: EPA 8081 Preparation Method: EPA 3550							
2,4'-DDD	**32.5**	ug/kg	8.5	1	06/17/09 10:51	06/19/09 02:48	53-19-0	
4,4'-DDD	**43.8**	ug/kg	16.9	1	06/17/09 10:51	06/19/09 02:48	72-54-8	
2,4'-DDE	**65.2**	ug/kg	8.5	1	06/17/09 10:51	06/19/09 02:48	3424-82-6	
4,4'-DDE	**50.9**	ug/kg	16.9	1	06/17/09 10:51	06/19/09 02:48	72-55-9	
2,4'-DDT	ND	ug/kg	8.5	1	06/17/09 10:51	06/19/09 02:48	789-02-6	
4,4'-DDT	**29.2**	ug/kg	16.9	1	06/17/09 10:51	06/19/09 02:48	50-29-3	
Tetrachloro-m-xylene (S)	79	%	34-130	1	06/17/09 10:51	06/19/09 02:48	877-09-8	
Decachlorobiphenyl (S)	176	%	30-130	1	06/17/09 10:51	06/19/09 02:48	2051-24-3	S0
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**80.3**	%	0.10	1		06/19/09 08:18		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**30400**	mg/kg	4170	1		06/24/09 10:05	7440-44-0	

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ANALYTICAL RESULTS

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Sample: OU2B-SED-101C-09 **Lab ID: 2095808046** Collected: 06/05/09 13:55 Received: 06/16/09 09:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**75.0**	%	0.10	1		06/19/09 08:18		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**12900**	mg/kg	3030	1		06/24/09 10:21	7440-44-0	

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ANALYTICAL RESULTS

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Sample: OU2B-SED-203DC-09 **Lab ID: 2095808047** Collected: 06/07/09 13:35 Received: 06/16/09 09:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides	Analytical Method: EPA 8081 Preparation Method: EPA 3550							
2,4'-DDD	**233**	ug/kg	67.1	20	06/17/09 10:51	06/19/09 04:35	53-19-0	
4,4'-DDD	**172**	ug/kg	13.4	2	06/17/09 10:51	06/19/09 04:09	72-54-8	
2,4'-DDE	**507**	ug/kg	67.1	20	06/17/09 10:51	06/19/09 04:35	3424-82-6	
4,4'-DDE	**191**	ug/kg	13.4	2	06/17/09 10:51	06/19/09 04:09	72-55-9	
2,4'-DDT	ND	ug/kg	6.7	2	06/17/09 10:51	06/19/09 04:09	789-02-6	C2
4,4'-DDT	**36.8**	ug/kg	13.4	2	06/17/09 10:51	06/19/09 04:09	50-29-3	
Hexachlorobenzene	**867**	ug/kg	67.1	20	06/17/09 10:51	06/19/09 04:35	118-74-1	
Tetrachloro-m-xylene (S)	85	%	34-130	2	06/17/09 10:51	06/19/09 04:09	877-09-8	
Decachlorobiphenyl (S)	677	%	30-130	2	06/17/09 10:51	06/19/09 04:09	2051-24-3	S0
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**50.3**	%	0.10	1		06/19/09 08:18		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**5740**	mg/kg	1960	1		06/24/09 10:35	7440-44-0	M0

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ANALYTICAL RESULTS

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Sample: OU2B-SED-303DC-09 **Lab ID: 2095808048** Collected: 06/07/09 11:34 Received: 06/16/09 09:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides	Analytical Method: EPA 8081 Preparation Method: EPA 3550							
2,4'-DDD	**336**	ug/kg	28.4	10	06/17/09 10:51	06/19/09 05:29	53-19-0	
4,4'-DDD	**259**	ug/kg	56.9	10	06/17/09 10:51	06/19/09 05:29	72-54-8	
2,4'-DDE	**1600**	ug/kg	142	50	06/17/09 10:51	06/19/09 05:56	3424-82-6	
4,4'-DDE	**480**	ug/kg	56.9	10	06/17/09 10:51	06/19/09 05:29	72-55-9	
2,4'-DDT	ND	ug/kg	28.4	10	06/17/09 10:51	06/19/09 05:29	789-02-6	C2
4,4'-DDT	ND	ug/kg	56.9	10	06/17/09 10:51	06/19/09 05:29	50-29-3	
Hexachlorobenzene	**8900**	ug/kg	1420	500	06/17/09 10:51	06/19/09 06:23	118-74-1	
Tetrachloro-m-xylene (S)	99	%	34-130	10	06/17/09 10:51	06/19/09 05:29	877-09-8	
Decachlorobiphenyl (S)	738	%	30-130	10	06/17/09 10:51	06/19/09 05:29	2051-24-3	S0
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**41.4**	%	0.10	1		06/19/09 08:18		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**7240**	mg/kg	1850	1		06/24/09 11:46	7440-44-0	

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ANALYTICAL RESULTS

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Sample: OU2B-SED-204C-09 **Lab ID: 2095808049** Collected: 06/07/09 14:38 Received: 06/16/09 09:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides	Analytical Method: EPA 8081 Preparation Method: EPA 3550							
Hexachlorobenzene	**628**	ug/kg	59.7	10	06/17/09 10:51	06/19/09 07:16	118-74-1	
Tetrachloro-m-xylene (S)	86	%	34-130	10	06/17/09 10:51	06/19/09 07:16	877-09-8	
Decachlorobiphenyl (S)	255	%	30-130	10	06/17/09 10:51	06/19/09 07:16	2051-24-3	S0
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**72.1**	%	0.10	1		06/19/09 08:18		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**10600**	mg/kg	1920	1		06/24/09 11:58	7440-44-0	

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ANALYTICAL RESULTS

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Sample: OU2B-SED-DUP05C-09 **Lab ID: 2095808050** Collected: 06/07/09 12:00 Received: 06/16/09 09:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides	Analytical Method: EPA 8081 Preparation Method: EPA 3550							
2,4'-DDD	**109**	ug/kg	9.1	2	06/17/09 10:51	06/19/09 08:10	53-19-0	
4,4'-DDD	**128**	ug/kg	18.2	2	06/17/09 10:51	06/19/09 08:10	72-54-8	
2,4'-DDE	**453**	ug/kg	90.8	20	06/17/09 10:51	06/19/09 08:37	3424-82-6	
4,4'-DDE	**171**	ug/kg	18.2	2	06/17/09 10:51	06/19/09 08:10	72-55-9	
2,4'-DDT	ND	ug/kg	9.1	2	06/17/09 10:51	06/19/09 08:10	789-02-6	C2
4,4'-DDT	**21.9**	ug/kg	18.2	2	06/17/09 10:51	06/19/09 08:10	50-29-3	
Hexachlorobenzene	**1160**	ug/kg	90.8	20	06/17/09 10:51	06/19/09 08:37	118-74-1	
Tetrachloro-m-xylene (S)	74	%	34-130	2	06/17/09 10:51	06/19/09 08:10	877-09-8	
Decachlorobiphenyl (S)	529	%	30-130	2	06/17/09 10:51	06/19/09 08:10	2051-24-3	S0
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**63.3**	%	0.10	1		06/19/09 08:19		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**5430**	mg/kg	2000	1		06/24/09 12:11	7440-44-0	

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ANALYTICAL RESULTS

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Sample: OU2B-SED-DUP04C-09 **Lab ID: 2095808051** Collected: 06/07/09 12:00 Received: 06/16/09 09:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**80.3**	%	0.10	1		06/19/09 08:19		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**10900**	mg/kg	1960	1		06/24/09 12:23	7440-44-0	

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ANALYTICAL RESULTS

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Sample: OU2B-SED-DUP06C-09 **Lab ID: 2095808052** Collected: 06/08/09 12:00 Received: 06/16/09 09:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**71.3**	%	0.10	1		06/19/09 08:19		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**11100**	mg/kg	2020	1		06/24/09 12:43	7440-44-0	

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ANALYTICAL RESULTS

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Sample: OU2B-SED-DUP03C-09 **Lab ID: 2095808053** Collected: 06/08/09 12:00 Received: 06/16/09 09:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**25.8**	%	0.10	1		06/19/09 08:19		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**1450**	mg/kg	489	1		06/24/09 13:00	7440-44-0	

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ANALYTICAL RESULTS

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Sample: OU2B-SED-DUP01C-09 **Lab ID: 2095808054** Collected: 06/05/09 12:00 Received: 06/16/09 09:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**80.2**	%	0.10	1		06/19/09 08:19		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**12800**	mg/kg	1830	1		06/24/09 13:10	7440-44-0	

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ANALYTICAL RESULTS

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Sample: OU2B-SED-502DSE-09 **Lab ID: 2095808055** Collected: 06/07/09 10:48 Received: 06/16/09 09:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**74.0**	%	0.10	1		06/19/09 08:19		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**38800**	mg/kg	10000	1		06/24/09 13:34	7440-44-0	

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ANALYTICAL RESULTS

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Sample: OU2B-SED-502DSW-09 **Lab ID: 2095808056** Collected: 06/07/09 10:52 Received: 06/16/09 09:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**74.2**	%	0.10	1		06/19/09 08:19		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**45100**	mg/kg	9520	1		06/24/09 13:44	7440-44-0	

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QUALITY CONTROL DATA

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

QC Batch: OEXT/4496 Analysis Method: EPA 8081
QC Batch Method: EPA 3550 Analysis Description: 8081 GCS Pesticides
Associated Lab Samples: 2095808042, 2095808044, 2095808045, 2095808047, 2095808048, 2095808049, 2095808050

METHOD BLANK: 170796 Matrix: Solid
Associated Lab Samples: 2095808042, 2095808044, 2095808045, 2095808047, 2095808048, 2095808049, 2095808050

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
2,4'-DDD	ug/kg	ND	1.7	06/18/09 17:52	
2,4'-DDE	ug/kg	ND	1.7	06/18/09 17:52	
2,4'-DDT	ug/kg	ND	1.7	06/18/09 17:52	
4,4'-DDD	ug/kg	ND	3.3	06/18/09 17:52	
4,4'-DDE	ug/kg	ND	3.3	06/18/09 17:52	
4,4'-DDT	ug/kg	ND	3.3	06/18/09 17:52	
Hexachlorobenzene	ug/kg	ND	1.7	06/18/09 17:52	
Decachlorobiphenyl (S)	%	79	30-130	06/18/09 17:52	
Tetrachloro-m-xylene (S)	%	77	34-130	06/18/09 17:52	

LABORATORY CONTROL SAMPLE: 170797

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,4'-DDD	ug/kg		ND			
2,4'-DDE	ug/kg		ND			
2,4'-DDT	ug/kg		.65J			
4,4'-DDD	ug/kg	26.7	24.9	93	49-130	
4,4'-DDE	ug/kg	26.7	25.1	94	55-130	
4,4'-DDT	ug/kg	26.7	23.3	87	55-130	
Hexachlorobenzene	ug/kg		ND			
Decachlorobiphenyl (S)	%			79	30-130	
Tetrachloro-m-xylene (S)	%			78	34-130	

LABORATORY CONTROL SAMPLE & LCSD: 170798 170799

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
2,4'-DDD	ug/kg	13.3	13.3	12.9	100	97	60-140	3	20	
2,4'-DDE	ug/kg	13.3	12.9	12.6	97	94	60-140	3	20	
2,4'-DDT	ug/kg	13.3	13.4	13.0	101	98	60-140	3	20	
Hexachlorobenzene	ug/kg	13.3	11.6	11.2	87	84	60-140	4	20	
Decachlorobiphenyl (S)	%				82	79	30-130			
Tetrachloro-m-xylene (S)	%				81	78	34-130			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 170823 170824

Parameter	Units	2095808044 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
2,4'-DDD	ug/kg	39.4			50.2	37.4				29	20	R1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 170823 170824

Parameter	Units	2095808044 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
2,4'-DDE	ug/kg	128			ND	184					20	
2,4'-DDT	ug/kg	ND			8.8J	ND					20	C2
4,4'-DDD	ug/kg	54.1	101	101	152	133	98	78	17-142	14	26	
4,4'-DDE	ug/kg	83.9	101	101	193	164	108	80	22-135	16	20	
4,4'-DDT	ug/kg	ND	101	101	91.2	89.3	91	89	10-145	2	22	
Hexachlorobenzene	ug/kg	354			696	128				138	20	R1
Decachlorobiphenyl (S)	%						269	211	30-130			S0
Tetrachloro-m-xylene (S)	%						76	73	34-130			

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QUALITY CONTROL DATA

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

QC Batch: OEXT/4497
QC Batch Method: EPA 3510
Analysis Method: EPA 8081
Analysis Description: 8081 GCS Pesticides
Associated Lab Samples: 2095808043

METHOD BLANK: 170802 Matrix: Water
Associated Lab Samples: 2095808043

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
2,4'-DDD	ug/L	ND	0.050	06/18/09 04:56	
2,4'-DDE	ug/L	ND	0.050	06/18/09 04:56	
2,4'-DDT	ug/L	ND	0.050	06/18/09 04:56	
4,4'-DDD	ug/L	ND	0.10	06/18/09 04:56	
4,4'-DDE	ug/L	ND	0.10	06/18/09 04:56	
4,4'-DDT	ug/L	ND	0.10	06/18/09 04:56	
Hexachlorobenzene	ug/L	ND	0.050	06/18/09 04:56	
Decachlorobiphenyl (S)	%	89	43-130	06/18/09 04:56	
Tetrachloro-m-xylene (S)	%	53	52-130	06/18/09 04:56	

LABORATORY CONTROL SAMPLE & LCSD: 170803 170804

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
2,4'-DDD	ug/L		.014J	.012J					20	
2,4'-DDE	ug/L		ND	ND					20	
2,4'-DDT	ug/L		.018J	.018J					20	
4,4'-DDD	ug/L	.8	0.77	0.76	97	95	64-132	2	20	
4,4'-DDE	ug/L	.8	0.77	0.75	96	94	64-130	2	26	
4,4'-DDT	ug/L	.8	0.68	0.67	85	83	60-130	2	25	
Hexachlorobenzene	ug/L		ND	ND					20	
Decachlorobiphenyl (S)	%				65	74	43-130			
Tetrachloro-m-xylene (S)	%				65	57	52-130			

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QUALITY CONTROL DATA

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

QC Batch: PMST/2599
Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87
Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 2095808001, 2095808002, 2095808003, 2095808004, 2095808005, 2095808006, 2095808007, 2095808008, 2095808009, 2095808010, 2095808011, 2095808012, 2095808013, 2095808014, 2095808015, 2095808016, 2095808017, 2095808018, 2095808019, 2095808020

SAMPLE DUPLICATE: 171892

Parameter	Units	2095808001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	71.8	71.0	1	10	

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QUALITY CONTROL DATA

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

QC Batch: PMST/2600 Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 2095808021, 2095808022, 2095808023, 2095808024, 2095808025, 2095808026, 2095808027, 2095808028, 2095808029, 2095808030, 2095808031, 2095808032, 2095808033, 2095808034, 2095808035, 2095808036, 2095808037, 2095808038, 2095808039, 2095808040

SAMPLE DUPLICATE: 171954

Parameter	Units	2095808021 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	57.8	56.2	3	10	

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QUALITY CONTROL DATA

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

QC Batch: PMST/2601 Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 2095808041, 2095808042, 2095808044, 2095808045, 2095808046, 2095808047, 2095808048, 2095808049, 2095808050, 2095808051, 2095808052, 2095808053, 2095808054, 2095808055, 2095808056

SAMPLE DUPLICATE: 171990

Parameter	Units	2095808041 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	80.4	82.8	3	10	

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QUALITY CONTROL DATA

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

QC Batch: WETA/4085 Analysis Method: EPA 9060 Modified
QC Batch Method: EPA 9060 Modified Analysis Description: 9060 TOC Average
Associated Lab Samples: 2095808001, 2095808002, 2095808003, 2095808004, 2095808005, 2095808006, 2095808007, 2095808008, 2095808009, 2095808010, 2095808011, 2095808012, 2095808013, 2095808014, 2095808015, 2095808016, 2095808017, 2095808018, 2095808019, 2095808020

METHOD BLANK: 172328 Matrix: Solid
Associated Lab Samples: 2095808001, 2095808002, 2095808003, 2095808004, 2095808005, 2095808006, 2095808007, 2095808008, 2095808009, 2095808010, 2095808011, 2095808012, 2095808013, 2095808014, 2095808015, 2095808016, 2095808017, 2095808018, 2095808019, 2095808020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/kg	ND	250	06/20/09 06:29	

LABORATORY CONTROL SAMPLE: 172329

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/kg	1000	1020	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 172330 172331

Parameter	Units	2095808016 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mean Total Organic Carbon	mg/kg	644	3850	3880	6460	9540	151	229	50-150	38	30	M0, R1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 172332 172333

Parameter	Units	2095808019 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mean Total Organic Carbon	mg/kg	2940	1970	1990	4340	5480	71	128	50-150	23	30	

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(920)469-2436

QUALITY CONTROL DATA

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

QC Batch: WETA/4095 Analysis Method: EPA 9060 Modified
QC Batch Method: EPA 9060 Modified Analysis Description: 9060 TOC Average
Associated Lab Samples: 2095808021, 2095808022, 2095808023, 2095808024, 2095808025, 2095808026, 2095808027, 2095808028, 2095808029, 2095808030, 2095808031, 2095808032, 2095808033, 2095808034, 2095808035, 2095808036, 2095808037, 2095808038, 2095808039, 2095808040

METHOD BLANK: 172754 Matrix: Solid
Associated Lab Samples: 2095808021, 2095808022, 2095808023, 2095808024, 2095808025, 2095808026, 2095808027, 2095808028, 2095808029, 2095808030, 2095808031, 2095808032, 2095808033, 2095808034, 2095808035, 2095808036, 2095808037, 2095808038, 2095808039, 2095808040

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/kg	ND	250	06/23/09 13:17	

LABORATORY CONTROL SAMPLE: 172755

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/kg	1000	957	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 172756 172757

Parameter	Units	2095808027 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mean Total Organic Carbon	mg/kg	5880	4000	4000	10400	13100	114	180	50-150	23	30	M0

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 172758 172759

Parameter	Units	2095808039 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mean Total Organic Carbon	mg/kg	3210	4040	3880	7090	9320	96	157	50-150	27	30	M0

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QUALITY CONTROL DATA

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

QC Batch: WETA/4098 Analysis Method: EPA 9060 Modified
QC Batch Method: EPA 9060 Modified Analysis Description: 9060 TOC Average
Associated Lab Samples: 2095808041, 2095808042, 2095808044, 2095808045, 2095808046, 2095808047, 2095808048, 2095808049, 2095808050, 2095808051, 2095808052, 2095808053, 2095808054, 2095808055, 2095808056

METHOD BLANK: 172763 Matrix: Solid
Associated Lab Samples: 2095808041, 2095808042, 2095808044, 2095808045, 2095808046, 2095808047, 2095808048, 2095808049, 2095808050, 2095808051, 2095808052, 2095808053, 2095808054, 2095808055, 2095808056

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/kg	ND	250	06/24/09 08:20	

LABORATORY CONTROL SAMPLE: 172764

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/kg	1000	927	93	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 172765 172766

Parameter	Units	2095808047 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mean Total Organic Carbon	mg/kg	5740	4210	3700	9520	11900	90	168	50-150	23	30	M0

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 172767 172768

Parameter	Units	2095862002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mean Total Organic Carbon	mg/kg	2630	7550	7550	24500	28500	290	343	50-150	15	30	M0

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QUALIFIERS

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

U - Indicates the compound was analyzed for, but not detected.

LABORATORIES

PASI-G	Pace Analytical Services - Green Bay

BATCH QUALIFIERS

Batch: GCSV/2874

[M5]	A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

C2	Relative percent difference between results from each column was greater than 40%. The lower of the two results was reported.
D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
H3	Sample was received outside the recognized method holding time.
M0	Matrix spike recovery was outside laboratory control limits.
R1	RPD value was outside control limits.
S0	Surrogate recovery outside laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2095808042	OU2B-SED-302C-09	EPA 3550	OEXT/4496	EPA 8081	GCSV/2872
2095808044	OU2B-SED-103DC-09	EPA 3550	OEXT/4496	EPA 8081	GCSV/2872
2095808045	OU2R-SED-101DC-09	EPA 3550	OEXT/4496	EPA 8081	GCSV/2872
2095808047	OU2B-SED-203DC-09	EPA 3550	OEXT/4496	EPA 8081	GCSV/2872
2095808048	OU2B-SED-303DC-09	EPA 3550	OEXT/4496	EPA 8081	GCSV/2872
2095808049	OU2B-SED-204C-09	EPA 3550	OEXT/4496	EPA 8081	GCSV/2872
2095808050	OU2B-SED-DUP05C-09	EPA 3550	OEXT/4496	EPA 8081	GCSV/2872
2095808043	OU2B-SED-EB101-09	EPA 3510	OEXT/4497	EPA 8081	GCSV/2874
2095808001	OU2B-SED-103DNE-09	ASTM D2974-87	PMST/2599		
2095808002	OU2B-SED-103DNW-09	ASTM D2974-87	PMST/2599		
2095808003	OU2B-SED-103DSE-09	ASTM D2974-87	PMST/2599		
2095808004	OU2B-SED-103DSW-09	ASTM D2974-87	PMST/2599		
2095808005	OU2B-SED-104DC-09	ASTM D2974-87	PMST/2599		
2095808006	OU2B-SED-104DNE-09	ASTM D2974-87	PMST/2599		
2095808007	OU2B-SED-104DNW-09	ASTM D2974-87	PMST/2599		
2095808008	OU2B-SED-104DSE-09	ASTM D2974-87	PMST/2599		
2095808009	*OU2B-SED-104DSW-09*	*ASTM D2974-87*	*PMST/2599*		
2095808010	OU2R-SED-101DSE-09	ASTM D2974-87	PMST/2599		
2095808011	OU2R-SED-101DSW-09	ASTM D2974-87	PMST/2599		
2095808012	OU2R-SED-101DSE-09	ASTM D2974-87	PMST/2599		
2095808013	OU2R-SED-101DNW-09	ASTM D2974-87	PMST/2599		
2095808014	OU2R-SED-102C-09	ASTM D2974-87	PMST/2599		
2095808015	OU2B-SED-102C-09	ASTM D2974-87	PMST/2599		
2095808016	OU2B-SED-202DNE-09	ASTM D2974-87	PMST/2599		
2095808017	OU2B-SED-202DNW-09	ASTM D2974-87	PMST/2599		
2095808018	OU2B-SED-202DSE-09	ASTM D2974-87	PMST/2599		
2095808019	OU2B-SED-202DSW-09	ASTM D2974-87	PMST/2599		
2095808020	OU2B-SED-105C-09	ASTM D2974-87	PMST/2599		
2095808021	OU2B-SED-205C-09	ASTM D2974-87	PMST/2600		
2095808022	OU2B-SED-303DNE-09	ASTM D2974-87	PMST/2600		
2095808023	OU2B-SED-303DNW-09	ASTM D2974-87	PMST/2600		
2095808024	OU2B-SED-303DSE-09	ASTM D2974-87	PMST/2600		
2095808025	OU2B-SED-303DSW-09	ASTM D2974-87	PMST/2600		
2095808026	OU2B-SED-203DNE-09	ASTM D2974-87	PMST/2600		
2095808027	OU2B-SED-203DNW-09	ASTM D2974-87	PMST/2600		
2095808028	OU2B-SED-203DSE-09	ASTM D2974-87	PMST/2600		
2095808029	OU2B-SED-203DSW-09	ASTM D2974-87	PMST/2600		
2095808030	OU2B-SED-106C-09	ASTM D2974-87	PMST/2600		
2095808031	OU2B-SED-501DC-09	ASTM D2974-87	PMST/2600		
2095808032	OU2B-SED-501DNE-09	ASTM D2974-87	PMST/2600		
2095808033	OU2B-SED-501DSE-09	ASTM D2974-87	PMST/2600		
2095808034	OU2B-SED-501DNW-09	ASTM D2974-87	PMST/2600		
2095808035	OU2B-SED-501DSW-09	ASTM D2974-87	PMST/2600		
2095808036	OU2B-SED-502DC-09	ASTM D2974-87	PMST/2600		
2095808037	OU2B-SED-502DNE-09	ASTM D2974-87	PMST/2600		
2095808038	OU2B-SED-502DNW-09	ASTM D2974-87	PMST/2600		
2095808039	OU2B-SED-202DC-09	ASTM D2974-87	PMST/2600		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2095808040	OU2B-SED-004C-09	ASTM D2974-87	PMST/2600		
2095808041	OU2B-SED-DHC-09	ASTM D2974-87	PMST/2601		
2095808042	OU2B-SED-302C-09	ASTM D2974-87	PMST/2601		
2095808044	OU2B-SED-103DC-09	ASTM D2974-87	PMST/2601		
2095808045	OU2R-SED-101DC-09	ASTM D2974-87	PMST/2601		
2095808046	OU2B-SED-101C-09	ASTM D2974-87	PMST/2601		
2095808047	OU2B-SED-203DC-09	ASTM D2974-87	PMST/2601		
2095808048	OU2B-SED-303DC-09	ASTM D2974-87	PMST/2601		
2095808049	OU2B-SED-204C-09	ASTM D2974-87	PMST/2601		
2095808050	OU2B-SED-DUP05C-09	ASTM D2974-87	PMST/2601		
2095808051	OU2B-SED-DUP04C-09	ASTM D2974-87	PMST/2601		
2095808052	OU2B-SED-DUP06C-09	ASTM D2974-87	PMST/2601		
2095808053	OU2B-SED-DUP03C-09	ASTM D2974-87	PMST/2601		
2095808054	OU2B-SED-DUP01C-09	ASTM D2974-87	PMST/2601		
2095808055	OU2B-SED-502DSE-09	ASTM D2974-87	PMST/2601		
2095808056	OU2B-SED-502DSW-09	ASTM D2974-87	PMST/2601		
2095808001	OU2B-SED-103DNE-09	EPA 9060 Modified	WETA/4085		
2095808002	OU2B-SED-103DNW-09	EPA 9060 Modified	WETA/4085		
2095808003	OU2B-SED-103DSE-09	EPA 9060 Modified	WETA/4085		
2095808004	OU2B-SED-103DSW-09	EPA 9060 Modified	WETA/4085		
2095808005	OU2B-SED-104DC-09	EPA 9060 Modified	WETA/4085		
2095808006	OU2B-SED-104DNE-09	EPA 9060 Modified	WETA/4085		
2095808007	OU2B-SED-104DNW-09	EPA 9060 Modified	WETA/4085		
2095808008	OU2B-SED-104DSE-09	EPA 9060 Modified	WETA/4085		
2095808009	OU2B-SED-104DSW-09	EPA 9060 Modified	WETA/4085		
2095808010	OU2R-SED-101DSE-09	EPA 9060 Modified	WETA/4085		
2095808011	OU2R-SED-101DSW-09	EPA 9060 Modified	WETA/4085		
2095808012	OU2R-SED-101DSE-09	EPA 9060 Modified	WETA/4085		
2095808013	OU2R-SED-101DNW-09	EPA 9060 Modified	WETA/4085		
2095808014	OU2R-SED-102C-09	EPA 9060 Modified	WETA/4085		
2095808015	OU2B-SED-102C-09	EPA 9060 Modified	WETA/4085		
2095808016	OU2B-SED-202DNE-09	EPA 9060 Modified	WETA/4085		
2095808017	OU2B-SED-202DNW-09	EPA 9060 Modified	WETA/4085		
2095808018	OU2B-SED-202DSE-09	EPA 9060 Modified	WETA/4085		
2095808019	OU2B-SED-202DSW-09	EPA 9060 Modified	WETA/4085		
2095808020	OU2B-SED-105C-09	EPA 9060 Modified	WETA/4085		
2095808021	OU2B-SED-205C-09	EPA 9060 Modified	WETA/4095		
2095808022	OU2B-SED-303DNE-09	EPA 9060 Modified	WETA/4095		
2095808023	OU2B-SED-303DNW-09	EPA 9060 Modified	WETA/4095		
2095808024	OU2B-SED-303DSE-09	EPA 9060 Modified	WETA/4095		
2095808025	OU2B-SED-303DSW-09	EPA 9060 Modified	WETA/4095		
2095808026	OU2B-SED-203DNE-09	EPA 9060 Modified	WETA/4095		
2095808027	OU2B-SED-203DNW-09	EPA 9060 Modified	WETA/4095		
2095808028	OU2B-SED-203DSE-09	EPA 9060 Modified	WETA/4095		
2095808029	OU2B-SED-203DSW-09	EPA 9060 Modified	WETA/4095		
2095808030	OU2B-SED-106C-09	EPA 9060 Modified	WETA/4095		
2095808031	OU2B-SED-501DC-09	EPA 9060 Modified	WETA/4095		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2095808032	OU2B-SED-501DNE-09	EPA 9060 Modified	WETA/4095		
2095808033	OU2B-SED-501DSE-09	EPA 9060 Modified	WETA/4095		
2095808034	OU2B-SED-501DNW-09	EPA 9060 Modified	WETA/4095		
2095808035	OU2B-SED-501DSW-09	EPA 9060 Modified	WETA/4095		
2095808036	OU2B-SED-502DC-09	EPA 9060 Modified	WETA/4095		
2095808037	OU2B-SED-502DNE-09	EPA 9060 Modified	WETA/4095		
2095808038	OU2B-SED-502DNW-09	EPA 9060 Modified	WETA/4095		
2095808039	OU2B-SED-202DC-09	EPA 9060 Modified	WETA/4095		
2095808040	OU2B-SED-004C-09	EPA 9060 Modified	WETA/4095		
2095808001	OU2B-SED-103DNE-09	EPA 9060 Modified	WETA/4096		
2095808002	OU2B-SED-103DNW-09	EPA 9060 Modified	WETA/4096		
2095808003	OU2B-SED-103DSE-09	EPA 9060 Modified	WETA/4096		
2095808004	OU2B-SED-103DSW-09	EPA 9060 Modified	WETA/4096		
2095808005	OU2B-SED-104DC-09	EPA 9060 Modified	WETA/4096		
2095808006	OU2B-SED-104DNE-09	EPA 9060 Modified	WETA/4096		
2095808007	OU2B-SED-104DNW-09	EPA 9060 Modified	WETA/4096		
2095808008	OU2B-SED-104DSE-09	EPA 9060 Modified	WETA/4096		
2095808009	OU2B-SED-104DSW-09	EPA 9060 Modified	WETA/4096		
2095808010	OU2R-SED-101DSE-09	EPA 9060 Modified	WETA/4096		
2095808011	OU2R-SED-101DSW-09	EPA 9060 Modified	WETA/4096		
2095808012	OU2R-SED-101DSE-09	EPA 9060 Modified	WETA/4096		
2095808013	OU2R-SED-101DNW-09	EPA 9060 Modified	WETA/4096		
2095808014	OU2R-SED-102C-09	EPA 9060 Modified	WETA/4096		
2095808015	OU2B-SED-102C-09	EPA 9060 Modified	WETA/4096		
2095808016	OU2B-SED-202DNE-09	EPA 9060 Modified	WETA/4096		
2095808017	OU2B-SED-202DNW-09	EPA 9060 Modified	WETA/4096		
2095808018	OU2B-SED-202DSE-09	EPA 9060 Modified	WETA/4096		
2095808019	OU2B-SED-202DSW-09	EPA 9060 Modified	WETA/4096		
2095808020	OU2B-SED-105C-09	EPA 9060 Modified	WETA/4096		
2095808021	OU2B-SED-205C-09	EPA 9060 Modified	WETA/4097		
2095808022	OU2B-SED-303DNE-09	EPA 9060 Modified	WETA/4097		
2095808023	OU2B-SED-303DNW-09	EPA 9060 Modified	WETA/4097		
2095808024	OU2B-SED-303DSE-09	EPA 9060 Modified	WETA/4097		
2095808025	OU2B-SED-303DSW-09	EPA 9060 Modified	WETA/4097		
2095808026	OU2B-SED-203DNE-09	EPA 9060 Modified	WETA/4097		
2095808027	OU2B-SED-203DNW-09	EPA 9060 Modified	WETA/4097		
2095808028	OU2B-SED-203DSE-09	EPA 9060 Modified	WETA/4097		
2095808029	OU2B-SED-203DSW-09	EPA 9060 Modified	WETA/4097		
2095808030	OU2B-SED-106C-09	EPA 9060 Modified	WETA/4097		
2095808031	OU2B-SED-501DC-09	EPA 9060 Modified	WETA/4097		
2095808032	OU2B-SED-501DNE-09	EPA 9060 Modified	WETA/4097		
2095808033	OU2B-SED-501DSE-09	EPA 9060 Modified	WETA/4097		
2095808034	OU2B-SED-501DNW-09	EPA 9060 Modified	WETA/4097		
2095808035	OU2B-SED-501DSW-09	EPA 9060 Modified	WETA/4097		
2095808036	OU2B-SED-502DC-09	EPA 9060 Modified	WETA/4097		
2095808037	OU2B-SED-502DNE-09	EPA 9060 Modified	WETA/4097		
2095808038	OU2B-SED-502DNW-09	EPA 9060 Modified	WETA/4097		
2095808039	OU2B-SED-202DC-09	EPA 9060 Modified	WETA/4097		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 2095808 OLIN MCINTOSH-ESPP
Pace Project No.: 4018621

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2095808040	OU2B-SED-004C-09	EPA 9060 Modified	WETA/4097		
2095808041	OU2B-SED-DHC-09	EPA 9060 Modified	WETA/4098		
2095808042	OU2B-SED-302C-09	EPA 9060 Modified	WETA/4098		
2095808044	OU2B-SED-103DC-09	EPA 9060 Modified	WETA/4098		
2095808045	OU2R-SED-101DC-09	EPA 9060 Modified	WETA/4098		
2095808046	OU2B-SED-101C-09	EPA 9060 Modified	WETA/4098		
2095808047	OU2B-SED-203DC-09	EPA 9060 Modified	WETA/4098		
2095808048	OU2B-SED-303DC-09	EPA 9060 Modified	WETA/4098		
2095808049	OU2B-SED-204C-09	EPA 9060 Modified	WETA/4098		
2095808050	OU2B-SED-DUP05C-09	EPA 9060 Modified	WETA/4098		
2095808051	OU2B-SED-DUP04C-09	EPA 9060 Modified	WETA/4098		
2095808052	OU2B-SED-DUP06C-09	EPA 9060 Modified	WETA/4098		
2095808053	OU2B-SED-DUP03C-09	EPA 9060 Modified	WETA/4098		
2095808054	OU2B-SED-DUP01C-09	EPA 9060 Modified	WETA/4098		
2095808055	OU2B-SED-502DSE-09	EPA 9060 Modified	WETA/4098		
2095808056	OU2B-SED-502DSW-09	EPA 9060 Modified	WETA/4098		
2095808041	OU2B-SED-DHC-09	EPA 9060 Modified	WETA/4099		
2095808042	OU2B-SED-302C-09	EPA 9060 Modified	WETA/4099		
2095808044	OU2B-SED-103DC-09	EPA 9060 Modified	WETA/4099		
2095808045	OU2R-SED-101DC-09	EPA 9060 Modified	WETA/4099		
2095808046	OU2B-SED-101C-09	EPA 9060 Modified	WETA/4099		
2095808047	OU2B-SED-203DC-09	EPA 9060 Modified	WETA/4099		
2095808048	OU2B-SED-303DC-09	EPA 9060 Modified	WETA/4099		
2095808049	OU2B-SED-204C-09	EPA 9060 Modified	WETA/4099		
2095808050	OU2B-SED-DUP05C-09	EPA 9060 Modified	WETA/4099		
2095808051	OU2B-SED-DUP04C-09	EPA 9060 Modified	WETA/4099		
2095808052	OU2B-SED-DUP06C-09	EPA 9060 Modified	WETA/4099		
2095808053	OU2B-SED-DUP03C-09	EPA 9060 Modified	WETA/4099		
2095808054	OU2B-SED-DUP01C-09	EPA 9060 Modified	WETA/4099		
2095808055	OU2B-SED-502DSE-09	EPA 9060 Modified	WETA/4099		
2095808056	OU2B-SED-502DSW-09	EPA 9060 Modified	WETA/4099		

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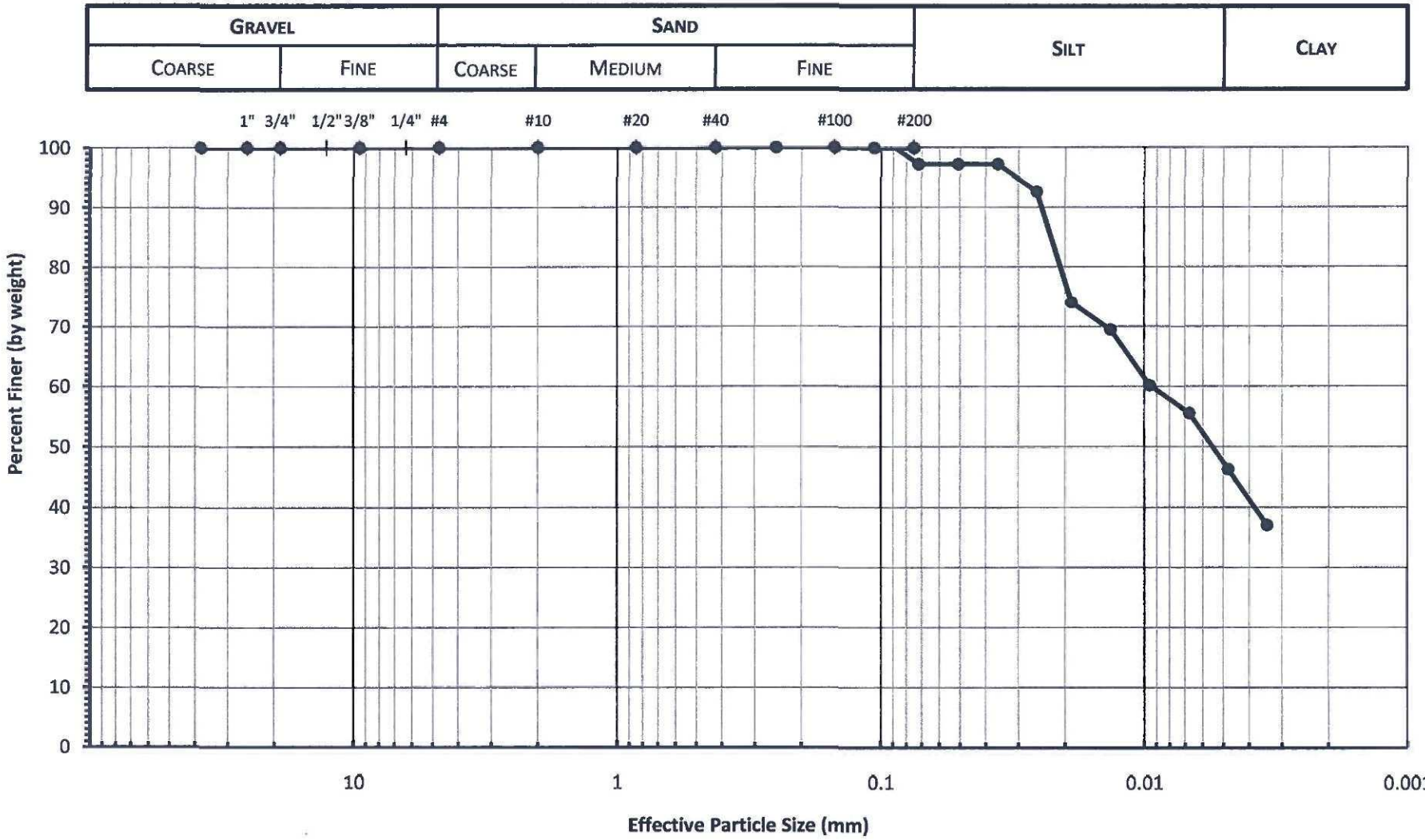
Client: PACE
Project: 2095808
AAI Project No.09-L2570

PARTICLE SIZE ANALYSIS
(ASTM D422)



SAMPLE IDENTIFICATION		VISUAL IDENTIFICATION	% GRAVEL	% SAND	% SILT	% CLAY
BORING	DEPTH (FT)					
OU2B-SED-501DSE-09		Gray silty clay w/mica and roots	0.0	0.1	47.3	52.6

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Project: 2095808
AAI Project No.09-L2570

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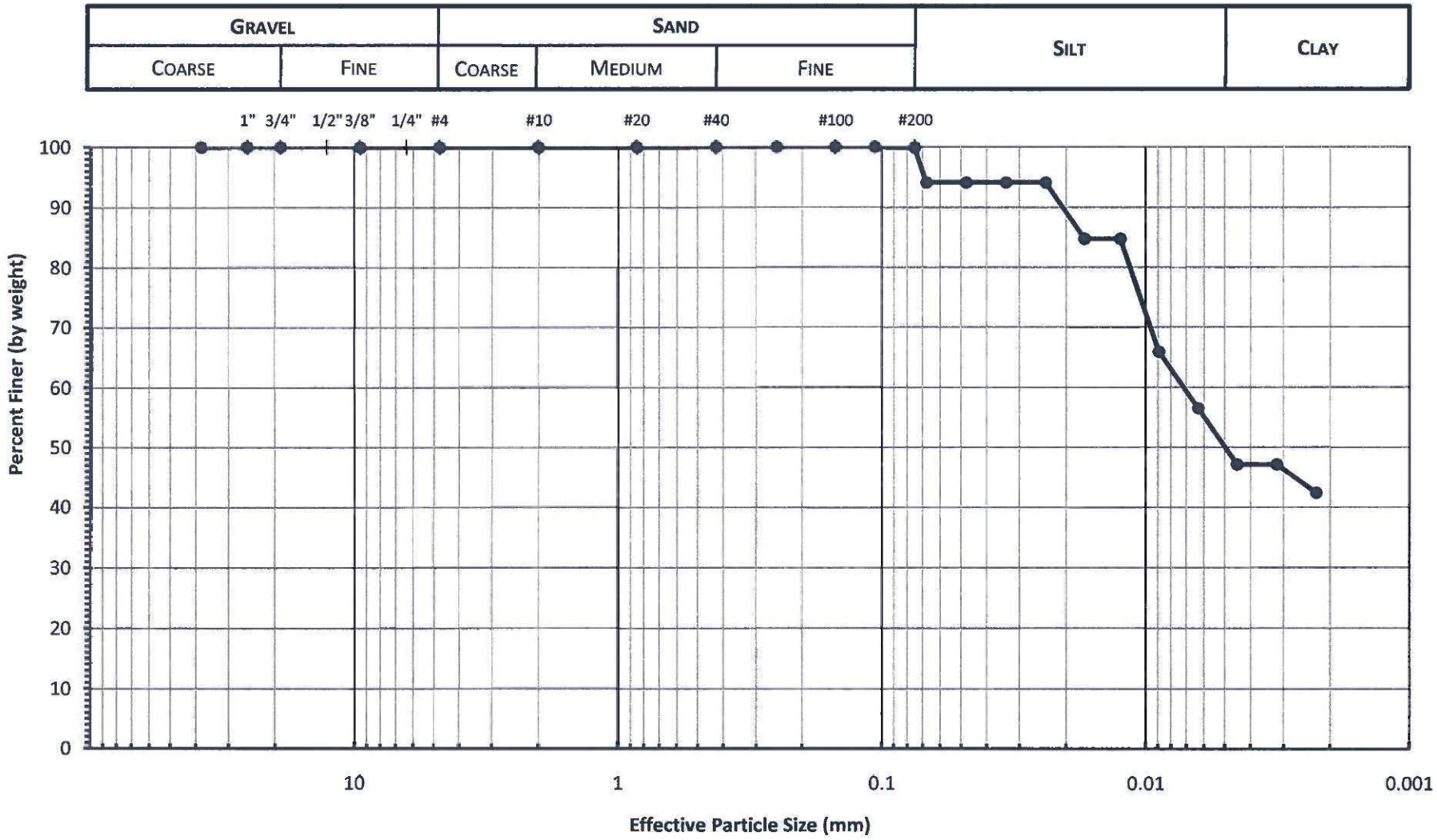

SAMPLE IDENTIFICATION		VISUAL IDENTIFICATION	% GRAVEL	% SAND	% SILT	% CLAY
BORING OU2B-SED-501DNW-09	DEPTH (FT)	Gray clayey silt w/mica	0.0	0.1	50.2	49.7

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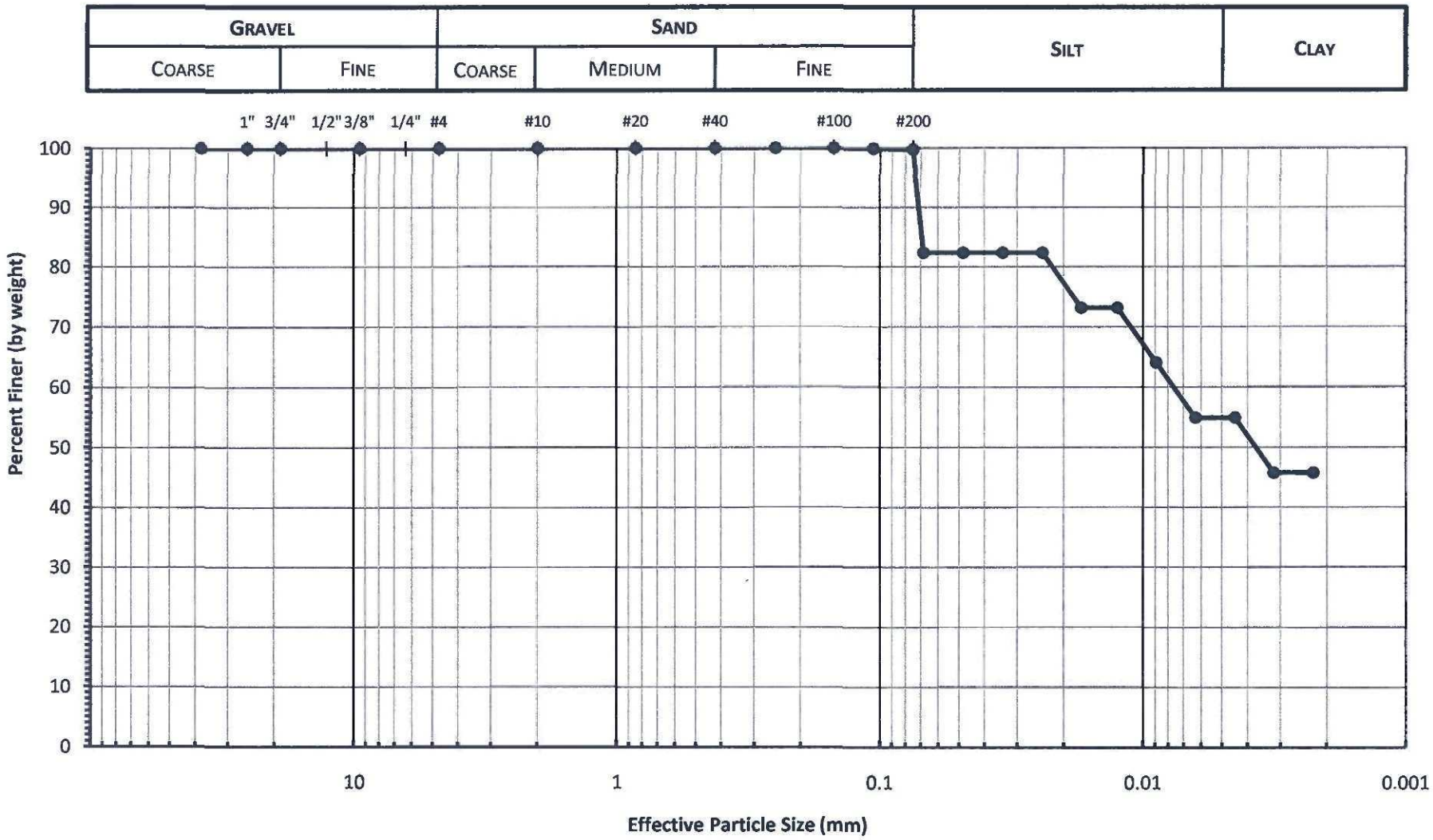

SAMPLE IDENTIFICATION		VISUAL IDENTIFICATION	% GRAVEL	% SAND	% SILT	% CLAY
BORING	DEPTH (FT)					
OU2B-SED-501DSW-09		Gray silty clay w/mica and roots	0.0	0.3	44.8	54.9

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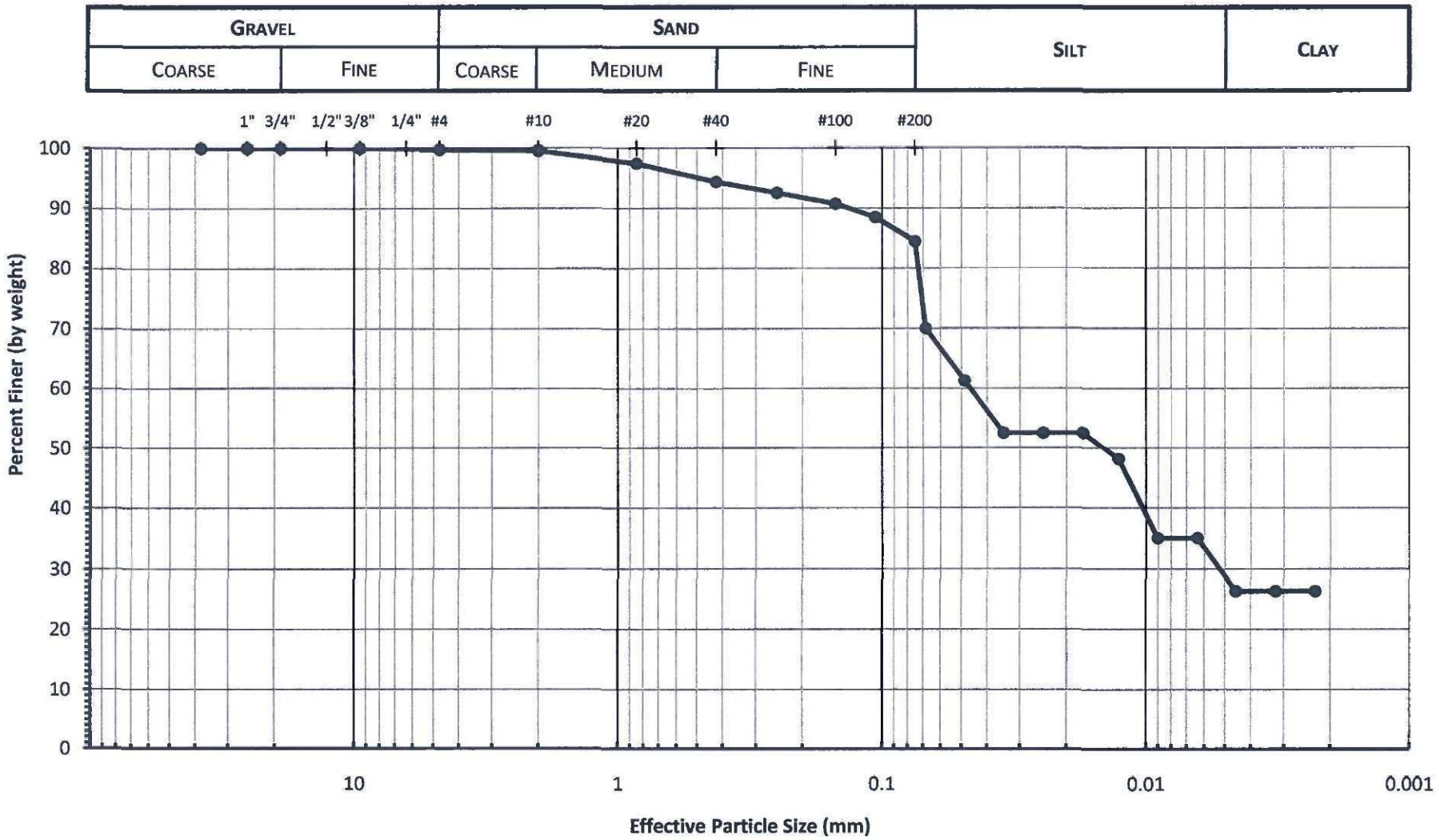

SAMPLE IDENTIFICATION		VISUAL IDENTIFICATION	% GRAVEL	% SAND	% SILT	% CLAY
BORING	DEPTH (FT)					
OU2B-SED-502DC-09		Gray clayey silt w/trace sand	0.3	15.2	56.1	28.4

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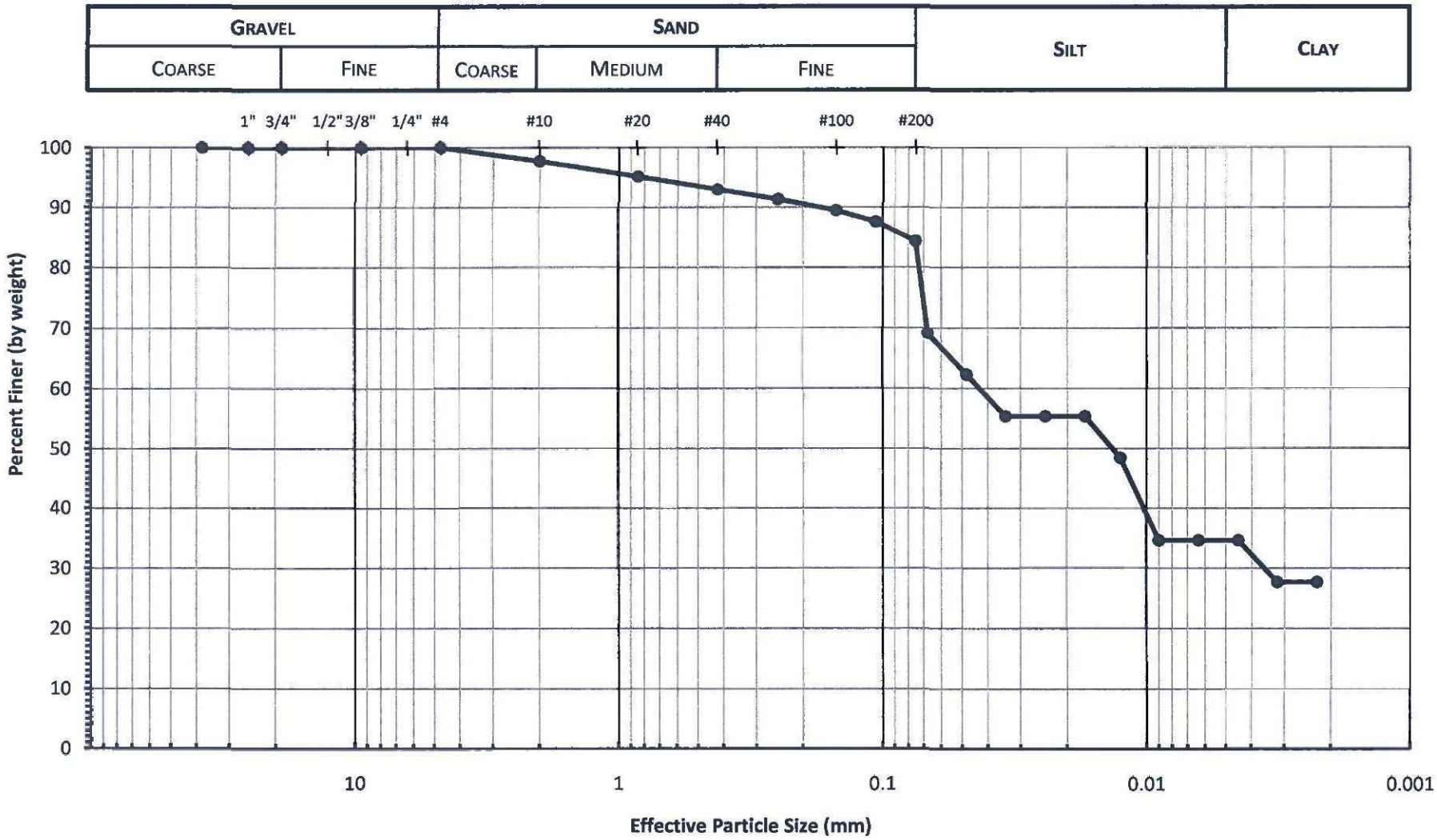

SAMPLE IDENTIFICATION		VISUAL IDENTIFICATION	% GRAVEL	% SAND	% SILT	% CLAY
BORING	DEPTH (FT)					
OU2B-SED-502DNE-09		Light brown clayey silt w/trace sand, organics and roots	0.0	15.6	49.8	34.6

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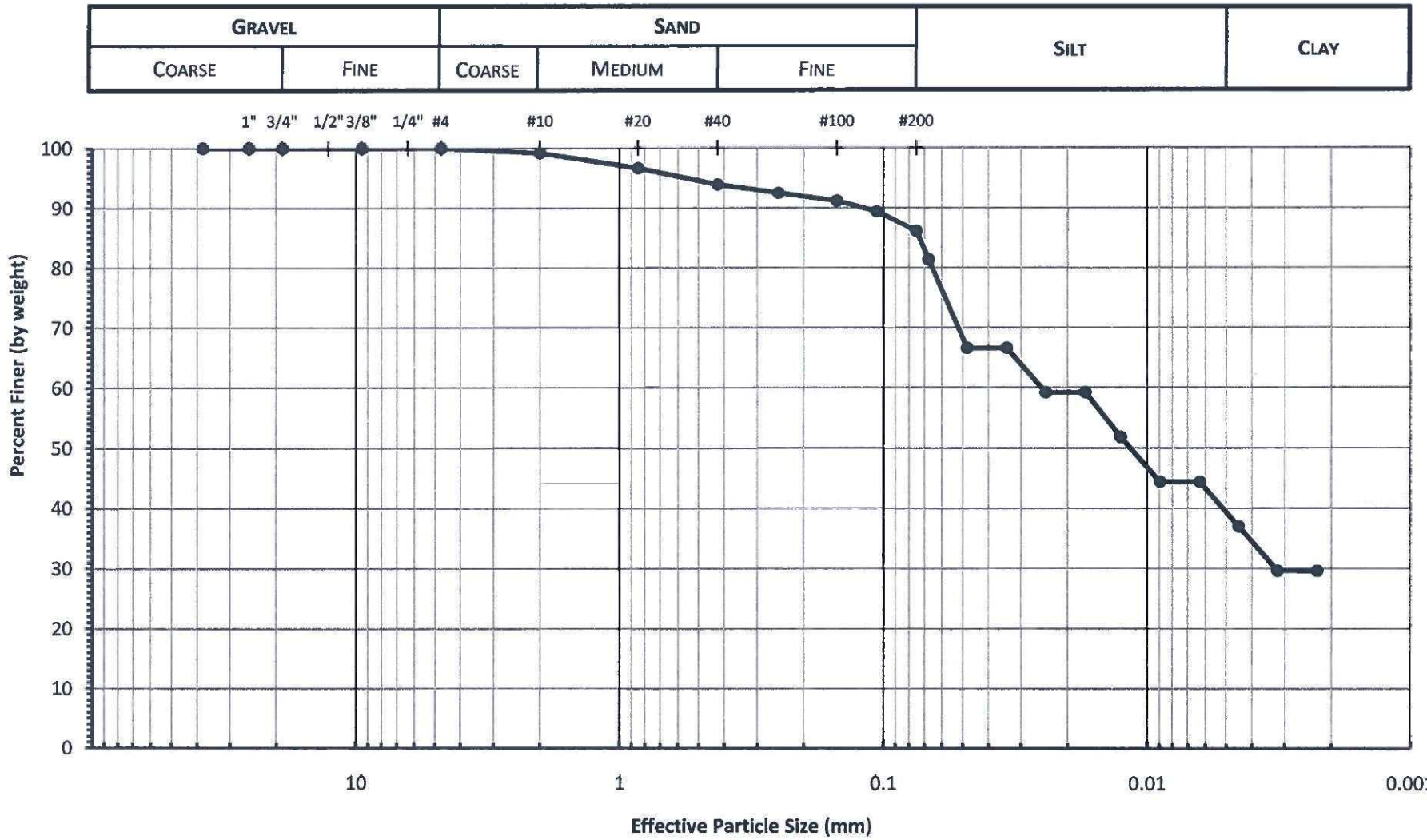

SAMPLE IDENTIFICATION		VISUAL IDENTIFICATION	% GRAVEL	% SAND	% SILT	% CLAY
BORING OU2B-SED-502DNW-09	DEPTH (FT)	Gray and brown silty clay w/trace sand and w/organics and red worms	0.0	13.8	47.2	39.0

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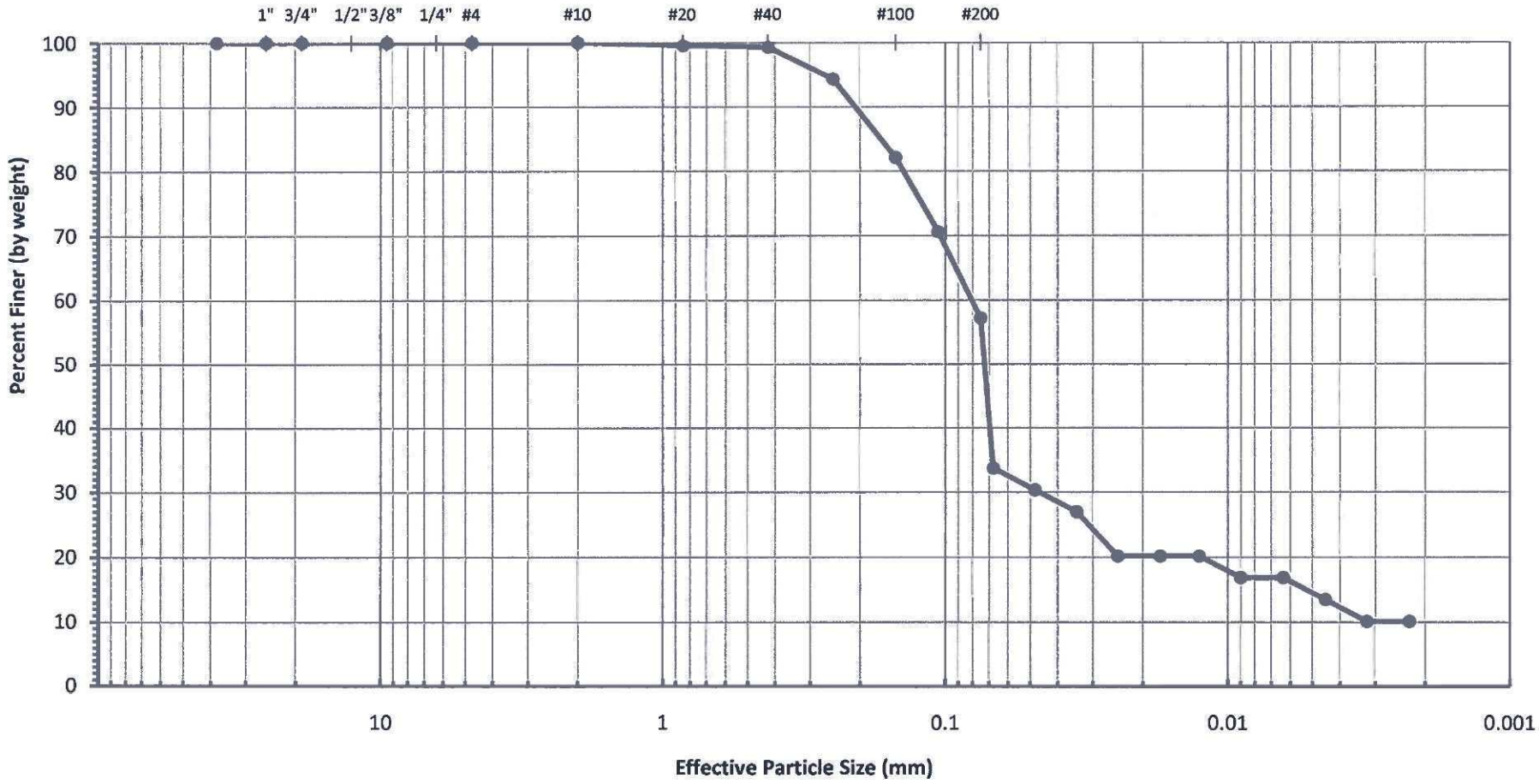
PARTICLE SIZE ANALYSIS
(ASTM D422)

GRAVEL		SAND			SILT	CLAY
COARSE	FINE	COARSE	MEDIUM	FINE		



SAMPLE IDENTIFICATION		VISUAL IDENTIFICATION	% GRAVEL	% SAND	% SILT	% CLAY
BORING	DEPTH (FT)					
OU2B-SED-202DC-09		Brown sandy silt w/clay and organics	0.0	42.8	42.9	14.3

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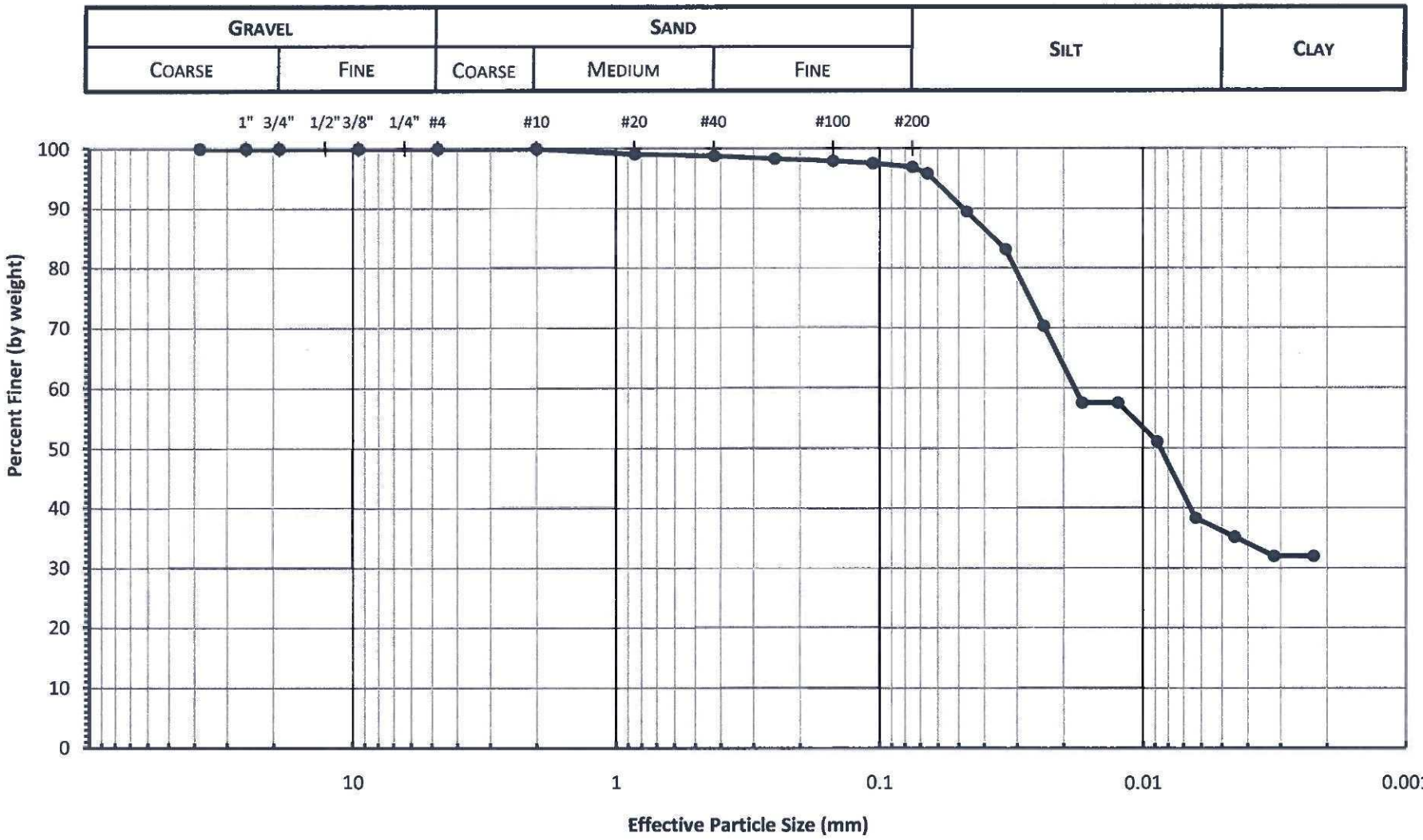

SAMPLE IDENTIFICATION		VISUAL IDENTIFICATION	% GRAVEL	% SAND	% SILT	% CLAY
BORING	DEPTH (FT)					
OU2B-SED-004C-09		Gray clayey silt w/roots	0.0	3.1	60.9	36.0

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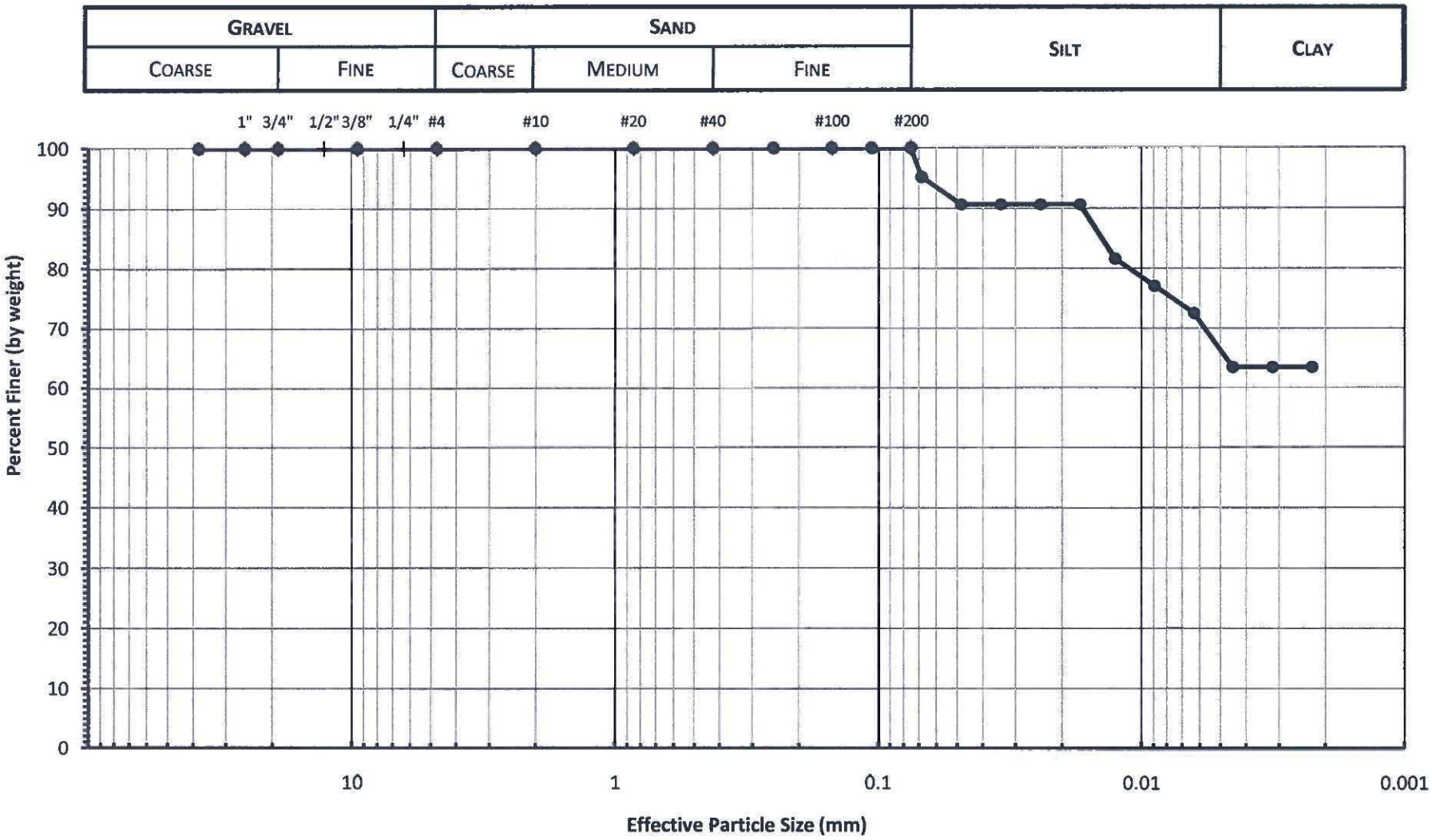

SAMPLE IDENTIFICATION		VISUAL IDENTIFICATION	% GRAVEL	% SAND	% SILT	% CLAY
BORING	DEPTH (FT)					
OU2B-SED-DHC-09		Black silty clay w/organics	0.0	0.0	34.0	66.0

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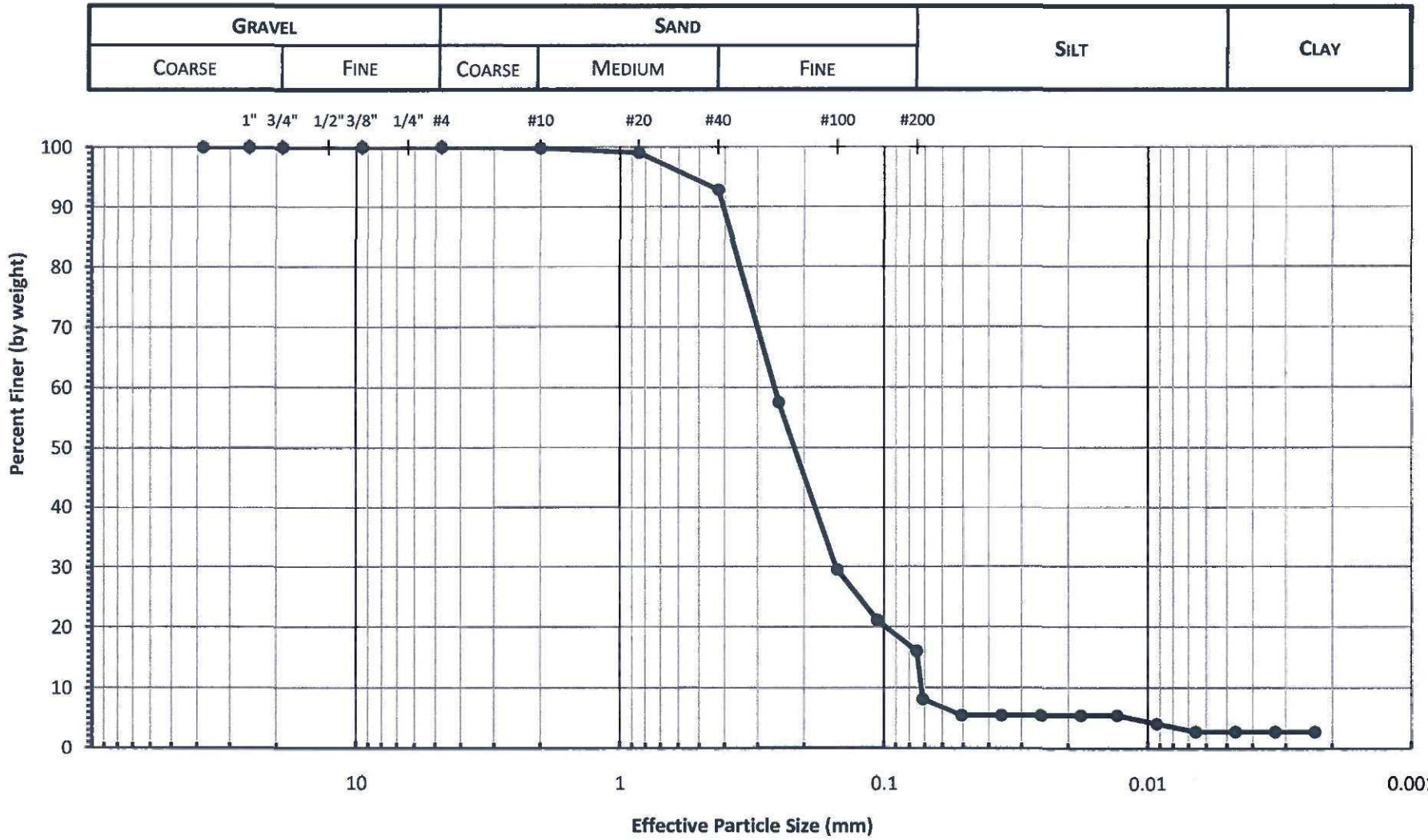

SAMPLE IDENTIFICATION		VISUAL IDENTIFICATION	% GRAVEL	% SAND	% SILT	% CLAY
BORING	DEPTH (FT)					
OU2B-SED-302C-09		Brown sand w/organics and shells	0.0	84.1	13.2	2.7

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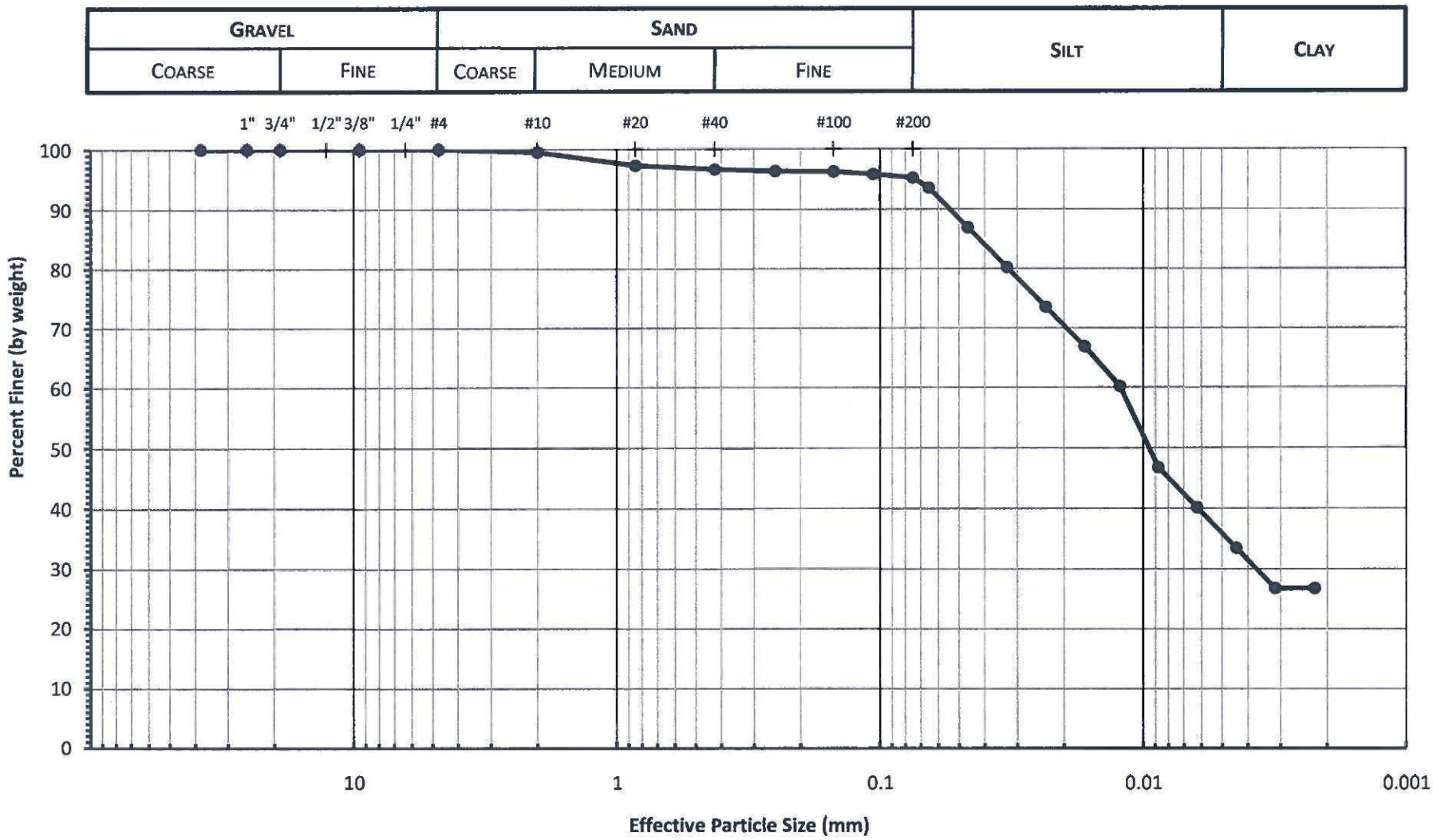

SAMPLE IDENTIFICATION		VISUAL IDENTIFICATION	% GRAVEL	% SAND	% SILT	% CLAY
BORING	DEPTH (FT)					
OU2B-SED-103DC-09		Gray and brown clayey silt w/organics and ferrous nodules	0.0	4.7	59.7	35.5

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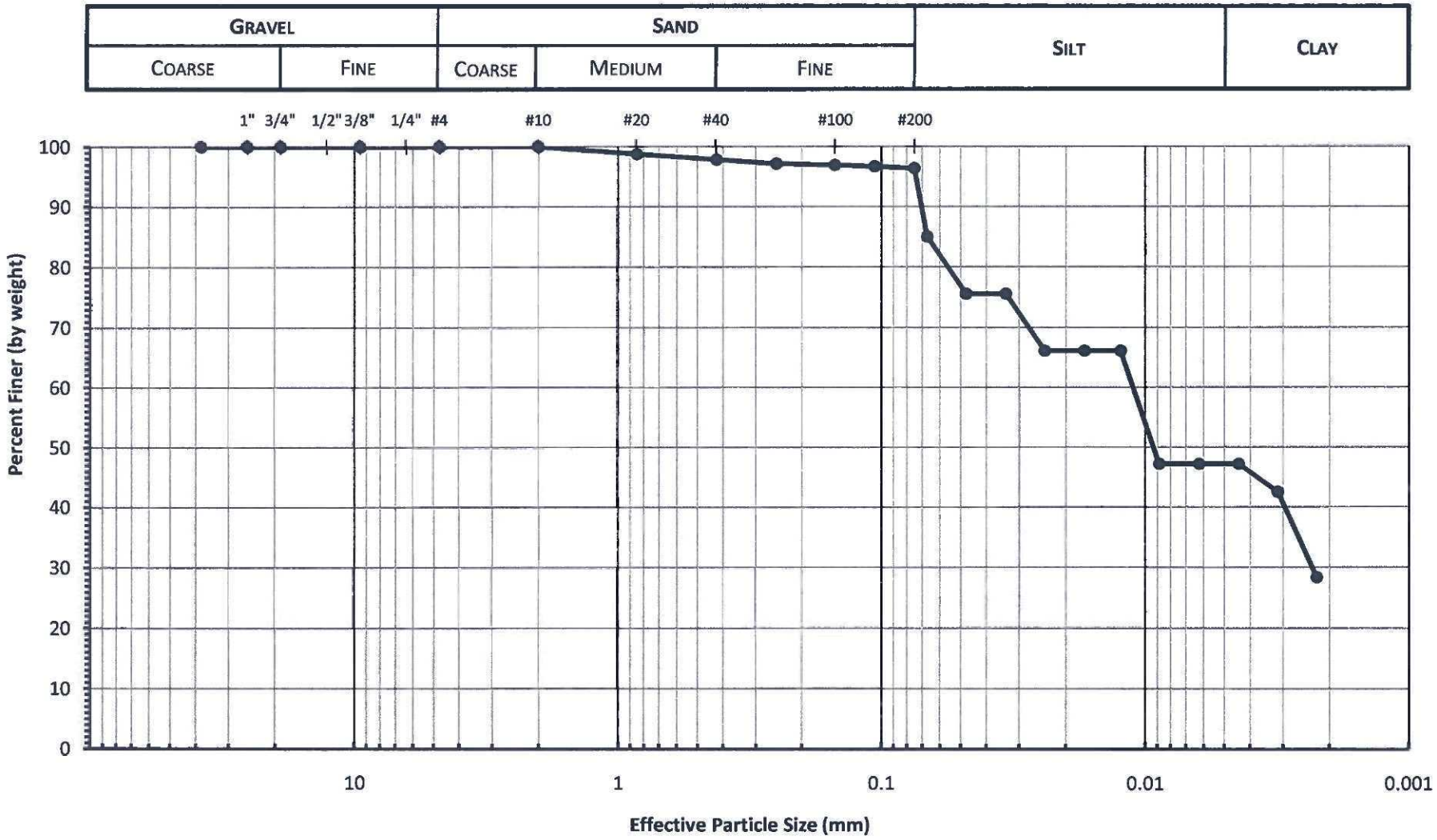

SAMPLE IDENTIFICATION		VISUAL IDENTIFICATION	% GRAVEL	% SAND	% SILT	% CLAY
BORING	DEPTH (FT)					
OU2R-SED-101DC-09		Gray silty clay w/mica & organics	0.0	3.6	49.1	47.2

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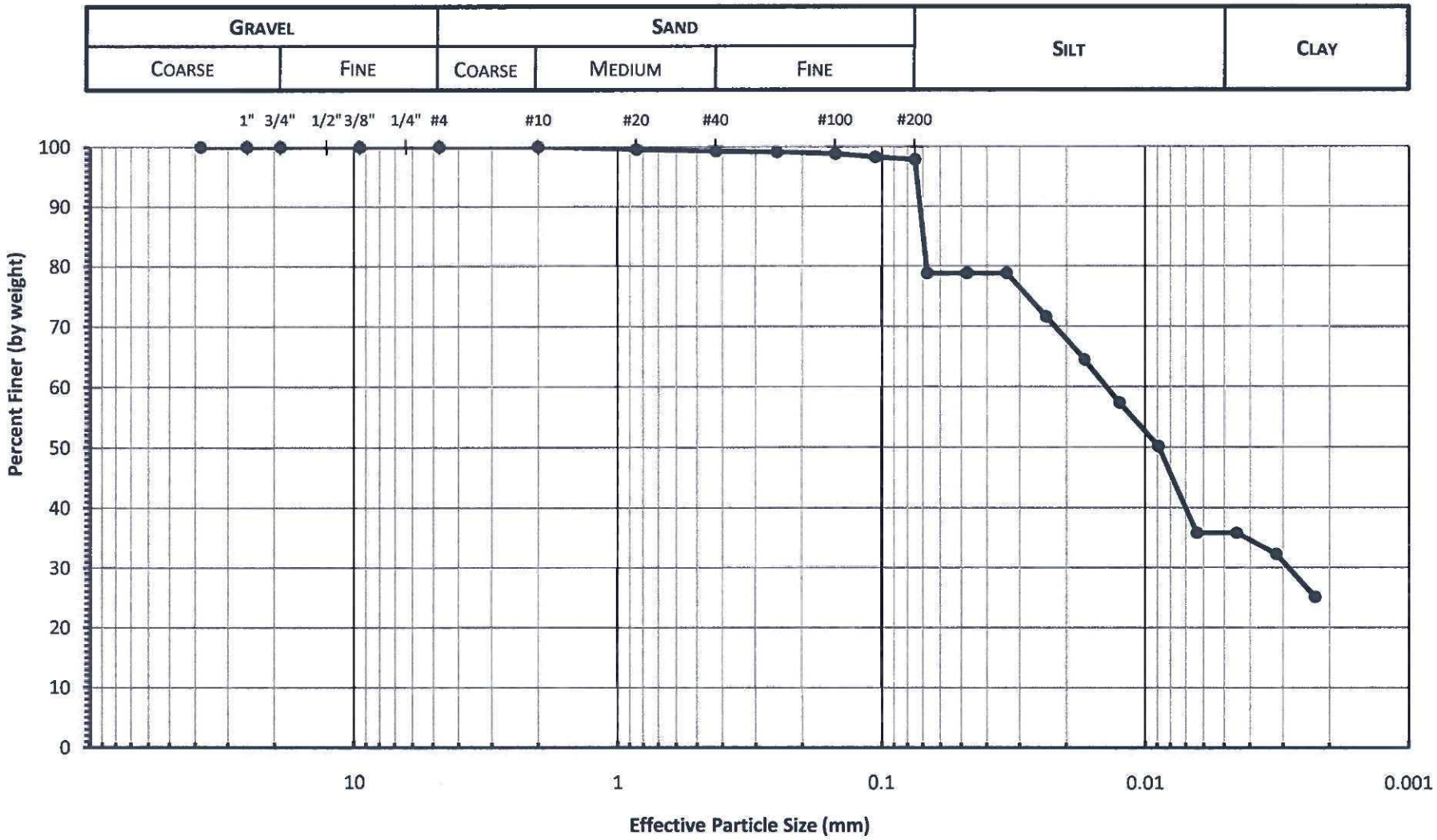

SAMPLE IDENTIFICATION		VISUAL IDENTIFICATION	% GRAVEL	% SAND	% SILT	% CLAY
BORING	DEPTH (FT)					
OU2B-SED-101C-09		Gray clayey silt w/mica and organics	0.0	2.1	62.0	35.8

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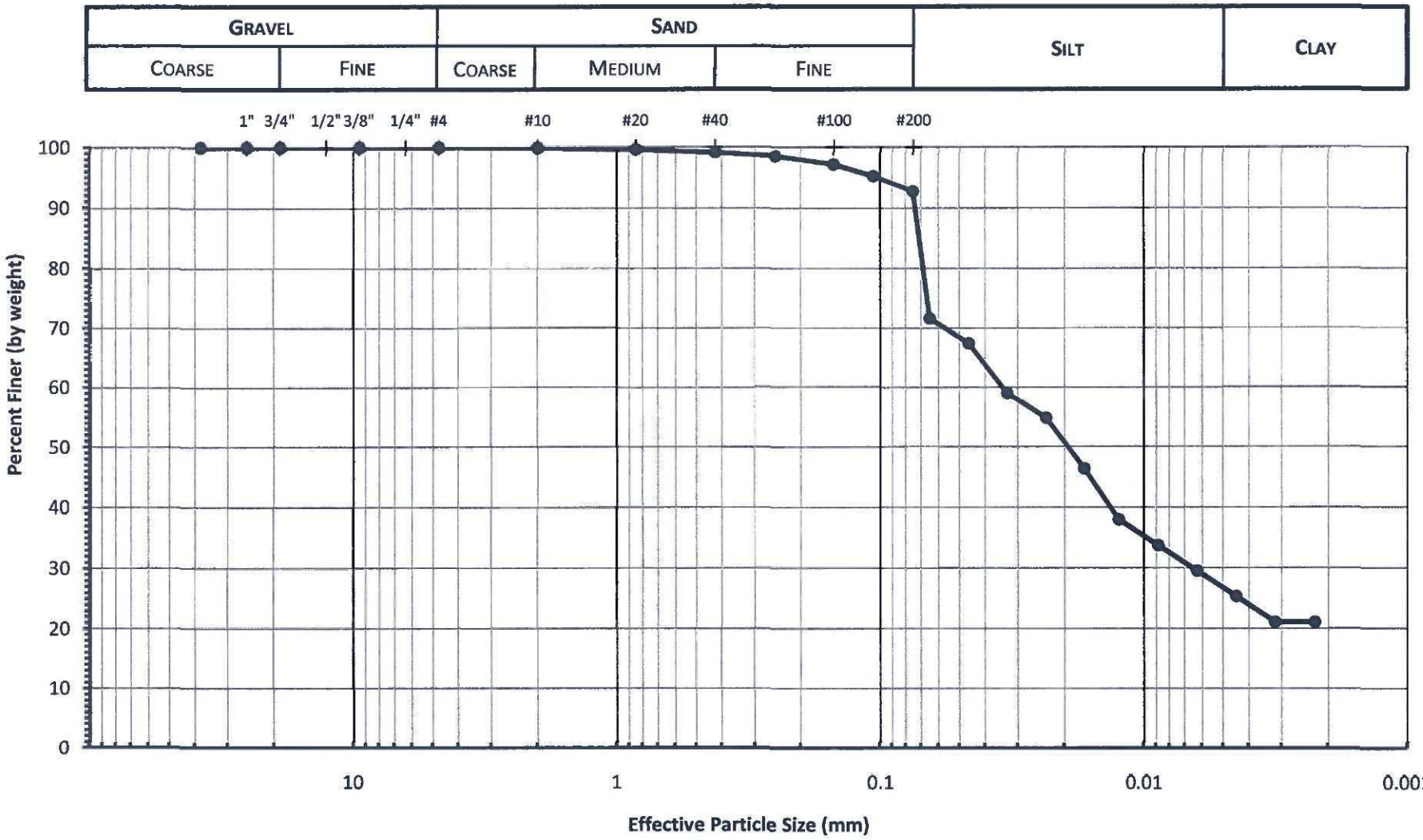

SAMPLE IDENTIFICATION		VISUAL IDENTIFICATION	% GRAVEL	% SAND	% SILT	% CLAY
BORING	DEPTH (FT)					
OU2B-SED-203DC-09		Light gray clayey silt w/ferrous nodules and organics	0.0	7.2	66.3	26.5

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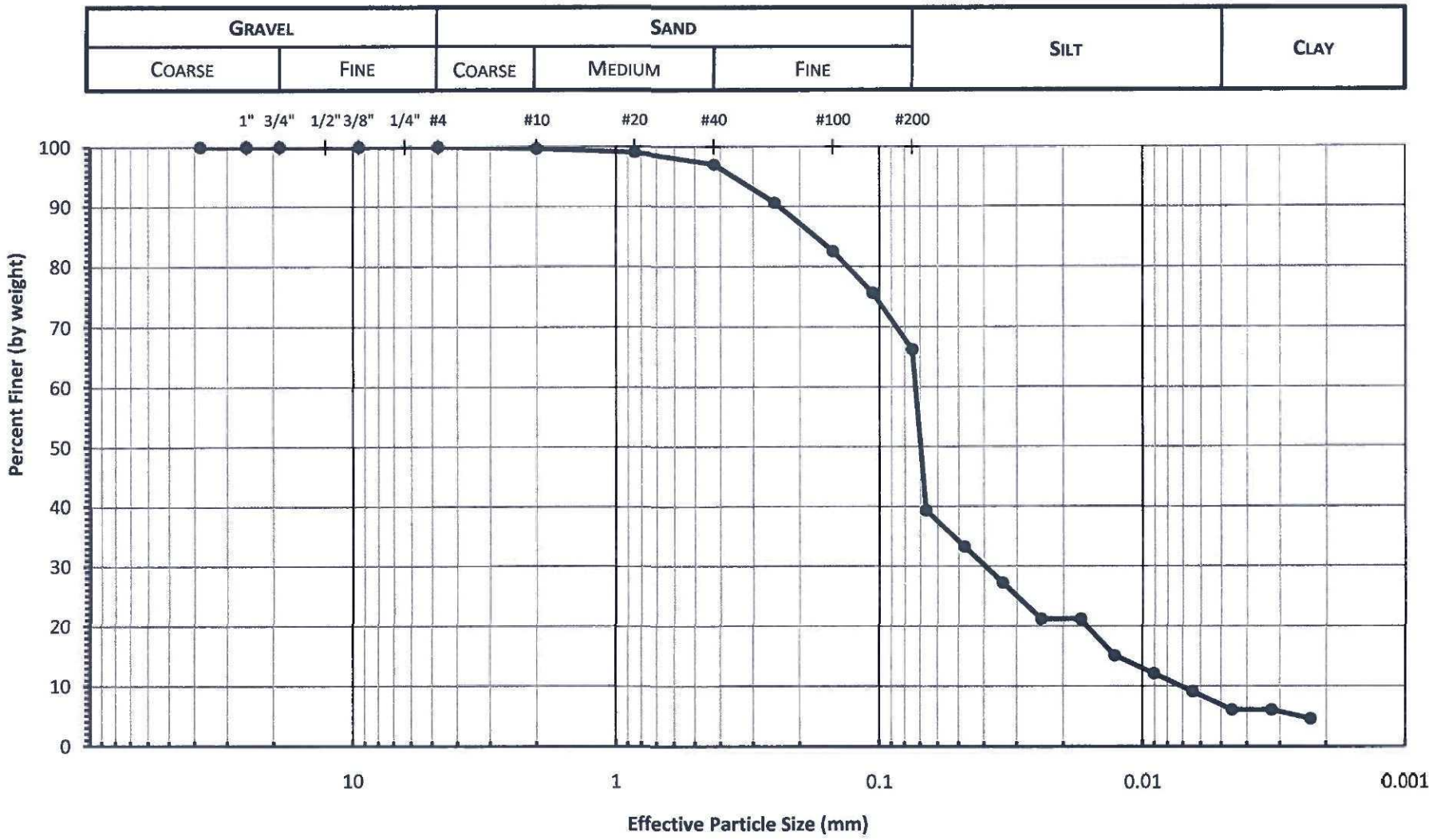

SAMPLE IDENTIFICATION		VISUAL IDENTIFICATION	% GRAVEL	% SAND	% SILT	% CLAY
BORING	DEPTH (FT)					
OU2B-SED-303DC-09		Light gray and brown sandy silt w/organics	0.0	33.8	59.5	6.7

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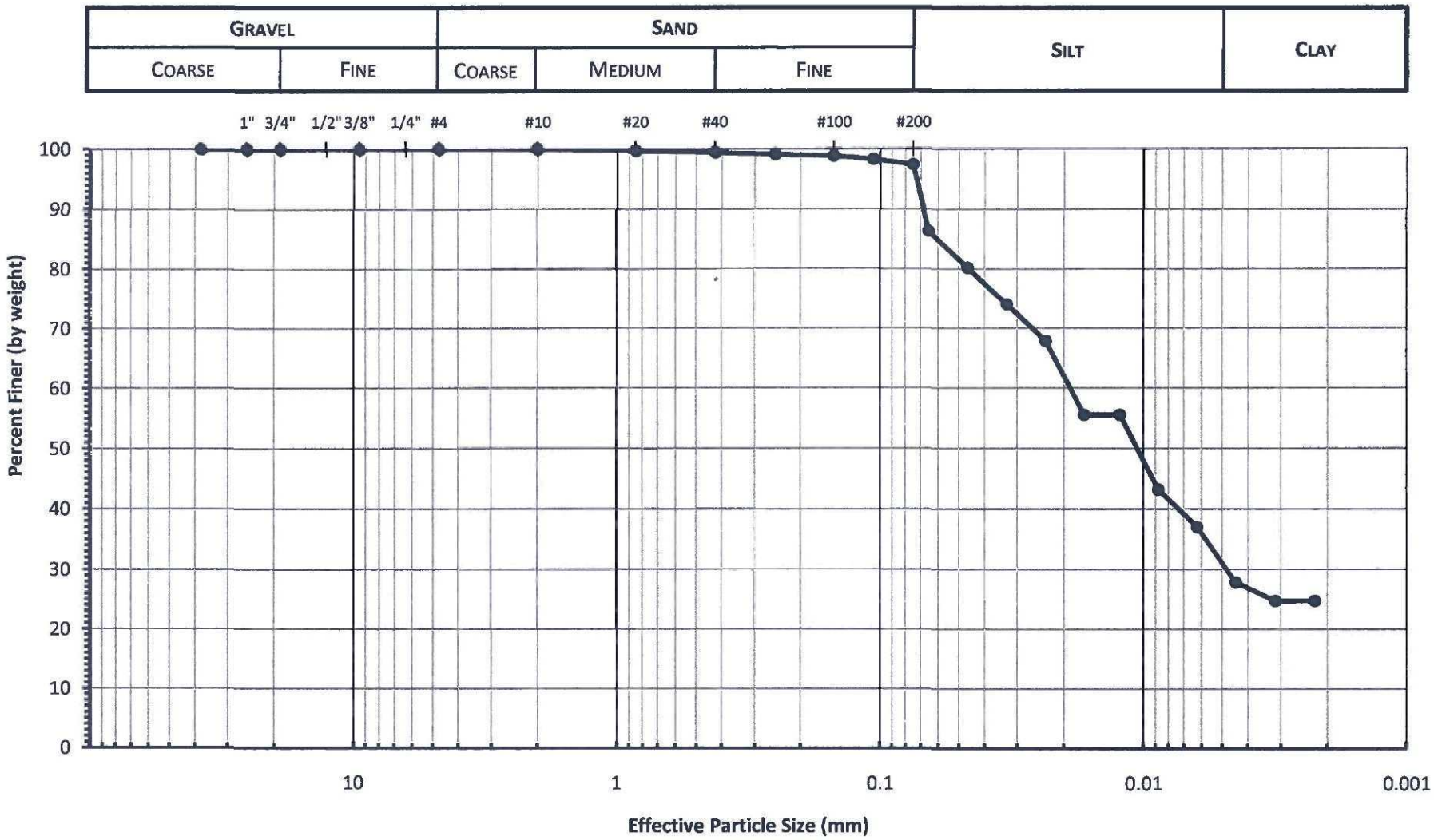

SAMPLE IDENTIFICATION		VISUAL IDENTIFICATION	% GRAVEL	% SAND	% SILT	% CLAY
BORING	DEPTH (FT)					
OU2B-SED-204C-09		Gray clayey silt w/roots & ferrous nodules	0.0	2.6	66.8	30.6

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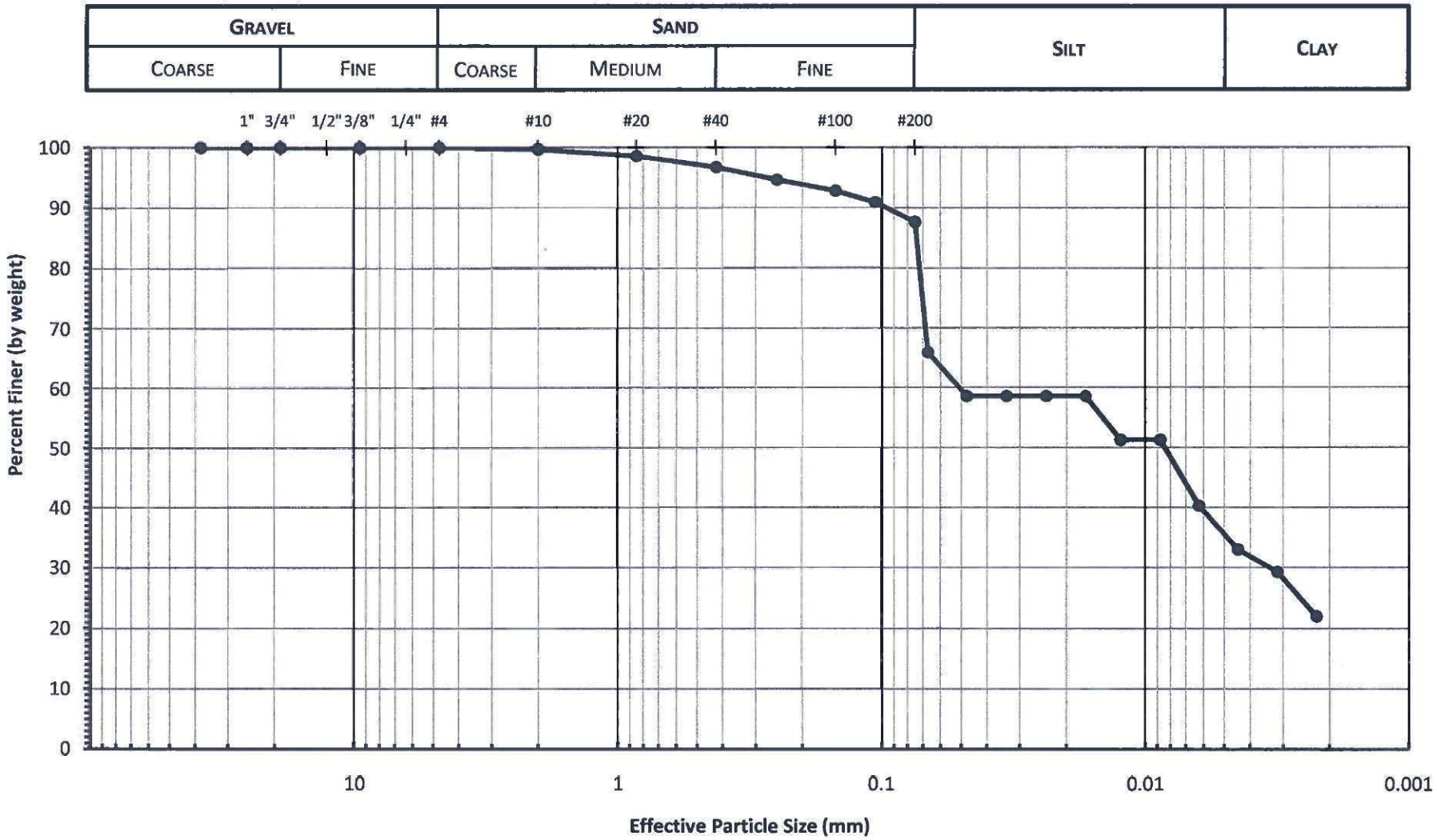

SAMPLE IDENTIFICATION		VISUAL IDENTIFICATION	% GRAVEL	% SAND	% SILT	% CLAY
BORING OU2B-SED-502DSE-09	DEPTH (FT)	Gray clayey silt w/trace sand, organics and mica	0.0	12.4	52.4	35.2

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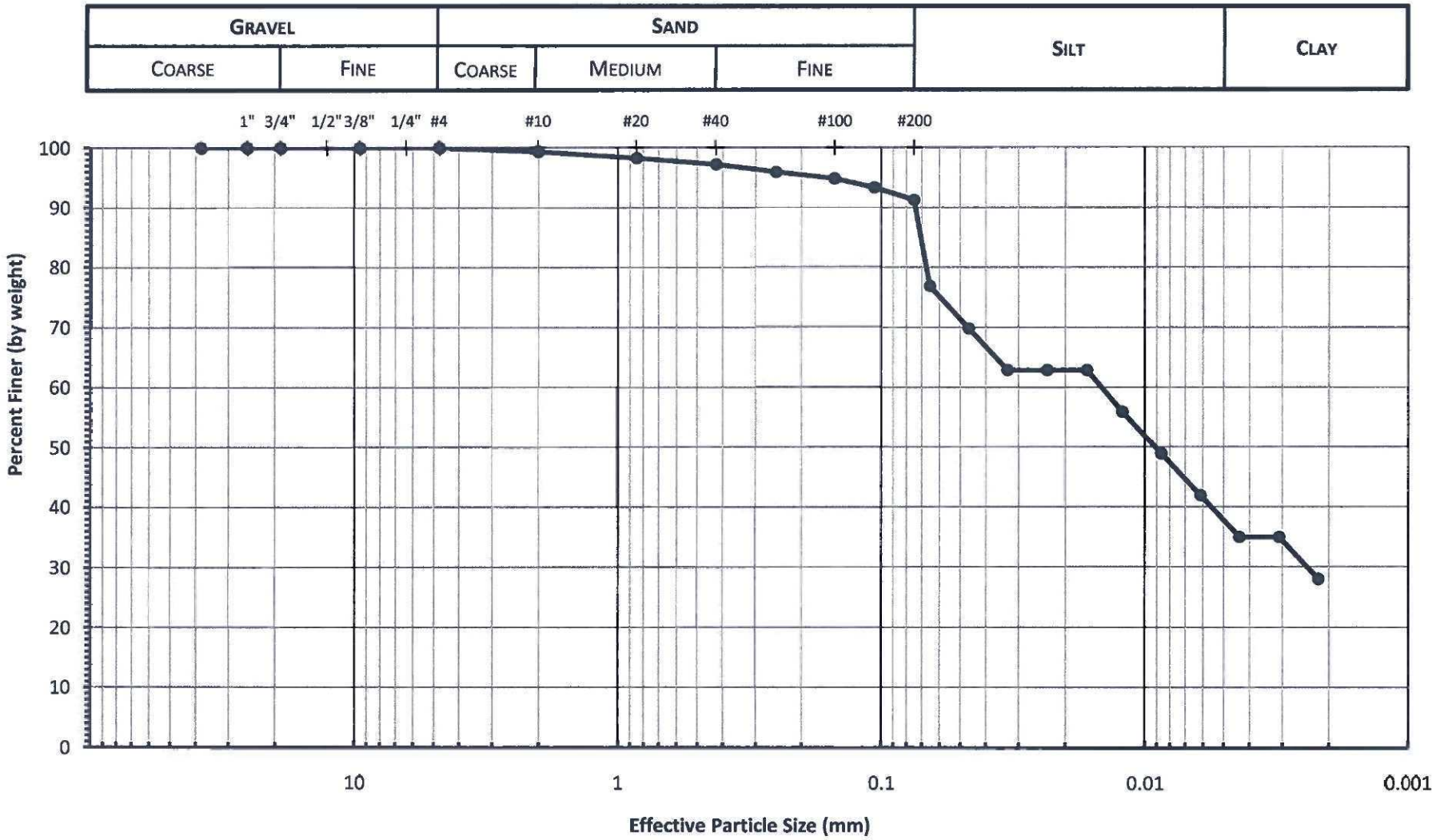

SAMPLE IDENTIFICATION		VISUAL IDENTIFICATION	% GRAVEL	% SAND	% SILT	% CLAY
BORING	DEPTH (FT)					
OU2B-SED-502DSW-09		Gray and brown clayey silt w/organics	0.0	8.7	53.9	37.4

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SUBCONTRACTING CHAIN-OF-CUSTODY

09-2570

Pace Analytical Services
1000 Riverbend Blvd.,
St. Rose, LA
Phone: 504.46
Fax: 504.46

Due Date: 7/11/09 **Freight Carrier:** Pace **Custody Seals:** (Intact) / Broken / Missing

Subcontractor: Adaman **Airbill #:** _____ **Samples:** (Intact) / Broken / Missing

Contact: Megan **EPN #:** 2095808 **Cooler Temperature (°C):** _____

PACE SAMPLE ID	CLIENT SAMPLE ID	SAMPLE DATE/TIME	MATRIX	SAMPLE #	ANALYTE/ METHOD	SAMPLE COMMENTS
20697626	042B-SED-103DC-09	6/6/09 1058	S	1		Grain Size
7655	-101DC-09	6/5/09 1057	S	1		
7657	101C-09 ~~-101C-09~~	6/5/09 1353	S	1		
7660	-103DC-09	6/7/09 1335	S	1		
7661	-303DC-09	6/7/09 1134	S	1		
7664	-204C-09	6/7/09 1438	S	1		
7674	-502DSE-09	6/7/09 1048	S	1		
7675	-502DSW-09	6/7/09 1052	S	1		

Relinquished by:	Date/Time	Received by:	Project Comments/Remarks:
Mara Orlando Pace	6-12-09 0815	Courtney Dey	See attached report format
Relinquished by:	Date/Time	Received by:	
Relinquished by:	Date/Time	Received for subcontractor by:	

REPORT RESULTS TO THE ADDRESS ABOVE TO THE ATTENTION OF ~~KAREN BROWN~~. If the hardcopy results cannot be delivered by the above due date, please contact ~~Karen Brown~~ at the above number.

CINDY OLAVESEN

CINDY OLAVESEN
504-305-3626
CINDY.OLAVESEN@PACELABS.COM

FNO-SM-003:1

Pace Analytical
www.pacelabs.com

SUBCONTRACTING CHAIN-OF-CUSTODY

09-L2570

Pace Analytical Services
1000 Riverbend Blvd.,
St. Rose, LA
Phone: 504.46
Fax: 504.46

Due Date: 7/11/09 **Freight Carrier:** Pace **Custody Seals:** (Intact) / Broken / Missing

Subcontractor: Ardaman **Airbill #:** _____ **Samples:** (Intact) / Broken / Missing

Contact: Megan **EPN #:** 2095808 **Cooler Temperature (°C):** _____

PACE SAMPLE ID	CLIENT SAMPLE ID	SAMPLE DATE/TIME	MATRIX	SAMPLE #	ANALYTE/ METHOD	SAMPLE COMMENTS
20697539	OU2B-SED-203DSW-09	6/7/09 1347	S	1		Grain Size
7540	-106C-09	6/8/09 1055				
7545	-501DC-09	6/7/09 0942				
7546	-501DNE09	0945				
7576	-501DSE-09	0958				
7585	-501DNW-09	0948				
7586	-501DSW-09	0959				
7587	-502DC-09	1032				
7588	-502DNE-09	1044				
7591	-502DNW-09	1046				
7592	-202DC-09	6/6/09 1330				
7593	-004C-09	6/5/09 1015				
7594	-DHC-09	1435				
7595	-302C-09	6/8/09 1120				

Relinquished by: Mark Van Pate	Date/Time 6-12-09 0815	Received by: Courtney Sams
Relinquished by:	Date/Time	Received by:
Relinquished by:	Date/Time	Received for subcontractor by:

Project Comments/Remarks: See attached report format

REPORT RESULTS TO THE ADDRESS ABOVE TO THE ATTENTION OF ~~KAREN BROWN~~. If the hardcopy results cannot be delivered by the above due date, please contact ~~Karen Brown~~ at the above number.

CINDY OLAVESEN

CINDY OLAVESEN
504-305-3626
CINDY.OLAVESEN@PACELABS.COM

FNO-SM-003:1

Pace Analytical™
www.pacelabs.com

SUBCONTRACTING CHAIN-OF-CUSTODY

09-L2570

Pace Analytical Services
1000 Riverbend Blvd.,
St. Rose, LA
Phone: 504.46
Fax: 504.46

Due Date: 7/11 **Freight Carrier:** Pace **Custody Seals:** Intact / Broken / Missing

Subcontractor: Adama **Airbill #:** **Samples:** Intact / Broken / Missing

Contact: Megan **EPN #:** 2095808 **Cooler Temperature (°C):**

PACE SAMPLE ID	CLIENT SAMPLE ID	SAMPLE DATE/TIME	MATRIX	SAMPLE #	ANALYTE/ METHOD	SAMPLE COMMENTS
20697523	042B-SED-102C-09	6/5/09 15:25	S	1		Grain Size
7524	-202DNE-09	6/6/09 1334				
7525	-202DNW-09	1338				
7526	-202DSE-09	1342				
7527	-202DSW-09	1347				
7530	-105C-09	6/8/09 0910				
7531	-205C-09	1030				
7532	-303DNE-09	6/7/09 1137				
7534	-303DSE-09	1141				
7533	-303DNW-09	1139				
7535	-303DSW-09	1143				
7536	-203DNE-09	1341				
7537	-203DNW-09	1344				
7538	-203DSE-09	1346				

Relinquished by:	Date/Time	Received by:	Project Comments/Remarks:
Pace Mark Gibson	6-12-09 0815	Courtney Dor	See attached report format
Relinquished by:	Date/Time	Received by:	
Relinquished by:	Date/Time	Received for subcontractor by:	

REPORT RESULTS TO THE ADDRESS ABOVE TO THE ATTENTION OF ~~KAREN BROWN~~. If the hardcopy results cannot be delivered by the above due date, please contact ~~Karen Brown~~ at the above number.

CINDY OLAVESEN

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FNO-SM-003:1

Pace Analytical™
www.pacelabs.com

SUBCONTRACTING CHAIN-OF-CUSTODY

09-L2570

Pace Analytical Service
1000 Riverbend Blvd.,
St. Rose, LA
Phone: 504.4
Fax: 504.4

Due Date: 7/11/09 **Freight Carrier:** Pace **Custody Seals:** Intact / Broken / Missing

Subcontractor: Ardena **Airbill #:** **Samples:** Intact / Broken / Missing

Contact: Megan **EPN #:** 2095808 **Cooler Temperature (°C):**

PACE SAMPLE ID	CLIENT SAMPLE ID	SAMPLE DATE/TIME	MATRIX	SAMPLE #	ANALYTE/ METHOD	SAMPLE COMMENTS
20697503	042B-SED-103DNE-09	6/6/09 11:01	S	1		Grain Size
7504	-103DNW-09	11:05				
7505	-103DSE-09	11:03				
7506	-103DSW-09	11:07				
7513	-104DC-09	11:50				
7514	-104DNE-09	11:53				
7515	-104DNW-09	11:54				
7516	-104DSE-09	11:55				
7517	-104DSW-09	11:56				
7518	042R-SED-101DSE-09	6/5/09 11:02				
7519	-101DSW-09	11:06				
7520	-101DNE-09	10:59				
7521	-101DNW-09	11:04				
7522	-102C-09	13:25				

Relinquished by:	Date/Time	Received by:	Project Comments/Remarks:
Pace	6-12-09 0815	Courier	See attached report format
Relinquished by:	Date/Time	Received by:	
Relinquished by:	Date/Time	Received for subcontractor by:	

REPORT RESULTS TO THE ADDRESS ABOVE TO THE ATTENTION OF ~~KAREN BROWN~~. If the hardcopy results cannot be delivered by the above due date, please contact ~~Karen Brown~~ at the above number.

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FNO-SM-003:1

Pace Analytical™

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Inorganics Quality Control

Project: 2095808

Parameter	Batch	Blank	Units	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	RPD	QC Limits LCS	QC Limits MS/MSD	Max RPD	Qu
Sulfate	120079	< 1.00	mg/L	18.2	17.2	95	10.0		8.60		125		0	90-110	75-125	20	
Total Organic Carbon	120097	< 1.00	mg/L	32.9	32.8	100	20.0	29.1	47.8		94		2	90-110	75-125	20	
Percent Moisture	120121	< 1.00	%														
Percent Moisture	120122	< 1.00	%														
Density	120126	<	g/cm3	1.00	0.998	100							0	97-103		20	
Density	120127	<	g/cm3	1.00	0.998	100							5	97-103		20	
Sulfate	120130	< 50.0	mg/kg	182.	172.	94	7440	1110	7050		80		24 *	90-110	75-125	20	D2
Sulfide	120192	< 25.0	mg/kg	500.	440.	88	3730	2540	3290		20 *		0	80-120	75-125	20	Q1
Percent Moisture	120211	< 1.00	%														
Sulfide	120286	< 0.0200	mg/L	0.200	0.180	90	5.00	3.00	6.75		75		0	80-120	75-125	20	
Percent Moisture	1462	< 0.100	%										0			10	
Percent Moisture	26782	< 0.100	%										1			10	
Percent Moisture	26789	< 0.100	%										3			10	
Percent Moisture	26793	< 0.100	%										3			10	
Mean Total Organic C	26853	<	mg/kg				1970		4340	5480	71	128	23		50-150	30	
Mean Total Organic C	26853	< 250.	mg/kg	1000	1020	102	3850		6460	9540	151 *	229 *	38 *	80-120	50-150	30	
Mean Total Organic C	26872	<	mg/kg				4040		7090	9320	96	157 *	27		50-150	30	
Mean Total Organic C	26872	< 250.	mg/kg	1000	957.	96	4000		10400	13100	114	180 *	23	80-120	50-150	30	
Mean Total Organic C	26875	< 250.	mg/kg	1000	927.	93	4210		9520	11900	90	168 *	23	80-120	50-150	30	
Mean Total Organic C	26875	<	mg/kg				7550		24500	28500	290 *	343 *	15		50-150	30	

* denotes recovery outside of QC limits.
ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MS/MSD RPD is calculated via SW-846 rules on the basis of spiked sample concentrations rather than spike recoveries.

8/24/2009 11:48:57

Southeast ACCUTEST Laboratories

IT'S ALL IN THE CHEMISTRY

Reissue #1
04/19/10

Technical Report for

Olin Corporation

OUN McIntosh

6107100035

Accutest Job Number: F71601

Sampling Date: 02/23/10

Report to:

Olin Corporation
3855 N Ocoee St Suite 200
Cleveland, TN 37312
kdroberts@olin.com; cedraper@mactec.com;
hefogell@mactec.com; dwknaub@mactec.com
ATTN: Mike Bellotti

Total number of pages in report: 45

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Harry Behzadi, Ph.D.
Laboratory Director

Client Service contact: Andrea Colby 407-425-6700

ACCUTEST LABORATORIES 50 YEARS 1956-2006

Certifications: FL (DOH E83510), NC (573), NJ (FL002), MA (FL946), IA (366), LA (03051), KS (E-10327), SC, AK

This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories.
Test results relate only to samples analyzed.

Accutest Laboratories is the sole authority for authorizing edits or modifications to this document. Unauthorized modification of this report is strictly prohibited.

ACCUTEST Laboratories

April 19, 2010

Mr. Mike Bellotti
Olin Corporation
3855 N Ocoee St
Suite 200
Cleveland, TN 37312

RE: Accutest job F71601 Reissue

Dear Mr. Bellotti,

The final report for job number F71601 has been edited to reflect requested corrections. These edits have been incorporated into the revised report.

TSS results for sediment samples have been re-calculated as waters.

Accutest apologies for any inconvenience this may have caused. Please feel free to contact us if we can be of further assistance.

Sincerely,

Accutest Laboratories, SE

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Sample Summary

Olin Corporation

Job No: F71601

OUN McIntosh
Project No: 6107100035

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
F71601-1	02/23/10	10:37	MR	02/24/10	SO	Sediment	OU2B-SED-ST23-0210
F71601-1A	02/23/10	10:37	MR	02/24/10	AQ	Water	OU2B-SED-ST23-0210
F71601-2	02/23/10	11:03	MR	02/24/10	SO	Sediment	OU2B-SED-ST24-0210
F71601-2A	02/23/10	11:03	MR	02/24/10	AQ	Water	OU2B-SED-ST24-0210
F71601-3	02/23/10	11:55	MR	02/24/10	SO	Sediment	OU2B-SED-ST19-0210
F71601-3A	02/23/10	11:55	MR	02/24/10	AQ	Water	OU2B-SED-ST19-0210
F71601-4	02/23/10	14:27	MR	02/24/10	SO	Sediment	OU2B-SED-ST14-0210
F71601-5	02/23/10	15:25	MR	02/24/10	SO	Sediment	OU2B-SED-ST13-0210

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Olin Corporation **Job No:** F71601

Site: OUN McIntosh **Report Date:** 3/23/2010 1:50:48 PM

5 Samples were collected on 02/23/2010 and were received at Accutest SE on 02/24/2010 properly preserved, at 3.4 Deg. C and intact. These Samples received an Accutest job number of F71601. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Metals by Method SW846 7471A

Matrix: SO **Batch ID:** MP17802

All samples were digested within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Samples F71601-1DUP, F71601-1MS, F71601-1MSD, F71601-1SDL were used as the QC samples for metals.

Wet Chemistry by Method ASTM D2937-94 M

Matrix: SO **Batch ID:** GN38702

Sample F71682-11DUP was used as the QC sample for Bulk Density (Dry Basis).

Wet Chemistry by Method SM19 2540B M

Matrix: SO **Batch ID:** GN38593

Sample F71566-1DUP was used as the QC sample for Solids, Percent.

Wet Chemistry by Method SM20 2540D M

Matrix: AQ **Batch ID:** GN39339

All method blanks for this batch meet method specific criteria.

Sample F71601-1ADUP was used as the QC sample for Solids, Total Suspended.

Samples were originally analyzed as soils and not subject to hold time. Per client's request, the results were re-calculated as waters. As waters, the samples were analyzed beyond hold time.

Wet Chemistry by Method SW846 9060A MOD

Matrix: SO **Batch ID:** GP14476

All samples were prepped within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Samples F71601-1DUP, F71601-1MS were used as the QC samples for Total Organic Carbon.

Accutest Laboratories Southeast (ALSE) certifies that this report meets the project requirements for analytical data produced for the samples as received at ALSE and as stated on the COC. ALSE certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the ALSE Quality Manual except as noted above. This report is to be used in its entirety. ALSE is not responsible for any assumptions of data quality if partial data packages are used.

Narrative prepared by:

Date: March 23, 2010

Ellen Pampel, Inorganic QA (signature on file)

Tuesday, March 23, 2010

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	OU2B-SED-ST23-0210		
Lab Sample ID:	F71601-1	**Date Sampled:**	02/23/10
Matrix:	SO - Sediment	**Date Received:**	02/24/10
		Percent Solids:	16.5
Project:	OUN McIntosh		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Mercury	2.5	0.47	mg/kg	1	02/26/10	02/26/10	LM	SW846 7471A [1]	SW846 7471A [2]

(1) Instrument QC Batch: MA7901
(2) Prep QC Batch: MP17802

RL = Reporting Limit

Report of Analysis

Client Sample ID:	OU2B-SED-ST23-0210		
Lab Sample ID:	F71601-1	**Date Sampled:**	02/23/10
Matrix:	SO - Sediment	**Date Received:**	02/24/10
		Percent Solids:	16.5
Project:	OUN McIntosh		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Bulk Density (Dry Basis)	0.18		g/ml	1	03/06/10	LE	ASTM D2937-94 M
Moisture, Percent	83.5		%	1	02/25/10 08:51	CC	SM19 2540B M
Solids, Percent	16.5		%	1	02/25/10 08:51	CC	SM19 2540B M
Total Organic Carbon	51200	6100	mg/kg	1	03/13/10 10:24	SD	SW846 9060A MOD

RL = Reporting Limit

Report of Analysis

Client Sample ID:	OU2B-SED-ST23-0210		
Lab Sample ID:	F71601-1A	**Date Sampled:**	02/23/10
Matrix:	AQ - Water	**Date Received:**	02/24/10
		Percent Solids:	n/a
Project:	OUN McIntosh		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended	180000	2000	mg/l	200	03/06/10 11:00	SJL	SM19 2540D

RL = Reporting Limit

Report of Analysis

Client Sample ID:	OU2B-SED-ST24-0210		
Lab Sample ID:	F71601-2	**Date Sampled:**	02/23/10
Matrix:	SO - Sediment	**Date Received:**	02/24/10
		Percent Solids:	13.9
Project:	OUN McIntosh		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Mercury	2.1	0.55	mg/kg	1	02/26/10	02/26/10	LM	SW846 7471A [1]	SW846 7471A [2]

(1) Instrument QC Batch: MA7901
(2) Prep QC Batch: MP17802

RL = Reporting Limit

Report of Analysis

Client Sample ID:	OU2B-SED-ST24-0210		
Lab Sample ID:	F71601-2	**Date Sampled:**	02/23/10
Matrix:	SO - Sediment	**Date Received:**	02/24/10
		Percent Solids:	13.9
Project:	OUN McIntosh		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Bulk Density (Dry Basis)	0.15		g/ml	1	03/06/10	LE	ASTM D2937-94 M
Moisture, Percent	86.1		%	1	02/25/10 08:51	CC	SM19 2540B M
Solids, Percent	13.9		%	1	02/25/10 08:51	CC	SM19 2540B M
Total Organic Carbon	56400	7200	mg/kg	1	03/13/10 11:10	SD	SW846 9060A MOD

RL = Reporting Limit

Report of Analysis

Client Sample ID:	OU2B-SED-ST24-0210		
Lab Sample ID:	F71601-2A	**Date Sampled:**	02/23/10
Matrix:	AQ - Water	**Date Received:**	02/24/10
		Percent Solids:	n/a
Project:	OUN McIntosh		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended	152000	2000	mg/l	200	03/06/10 11:00	SJL	SM19 2540D

RL = Reporting Limit

Report of Analysis

Client Sample ID:	OU2B-SED-ST19-0210		
Lab Sample ID:	F71601-3	**Date Sampled:**	02/23/10
Matrix:	SO - Sediment	**Date Received:**	02/24/10
		Percent Solids:	17.2
Project:	OUN McIntosh		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Mercury	3.5	0.84	mg/kg	2	02/26/10	02/26/10	LM	SW846 7471A [1]	SW846 7471A [2]

(1) Instrument QC Batch: MA7901
(2) Prep QC Batch: MP17802

RL = Reporting Limit

Report of Analysis

Client Sample ID:	OU2B-SED-ST19-0210		
Lab Sample ID:	F71601-3	**Date Sampled:**	02/23/10
Matrix:	SO - Sediment	**Date Received:**	02/24/10
		Percent Solids:	17.2
Project:	OUN McIntosh		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Bulk Density (Dry Basis)	0.18		g/ml	1	03/06/10	LE	ASTM D2937-94 M
Moisture, Percent	82.8		%	1	02/25/10 08:51	CC	SM19 2540B M
Solids, Percent	17.2		%	1	02/25/10 08:51	CC	SM19 2540B M
Total Organic Carbon	43300	5800	mg/kg	1	03/13/10 11:30	SD	SW846 9060A MOD

RL = Reporting Limit

Report of Analysis

Client Sample ID:	OU2B-SED-ST19-0210		
Lab Sample ID:	F71601-3A	**Date Sampled:**	02/23/10
Matrix:	AQ - Water	**Date Received:**	02/24/10
		Percent Solids:	n/a
Project:	OUN McIntosh		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended	210000	2000	mg/l	200	03/06/10 11:00	SJL	SM19 2540D

RL = Reporting Limit

Report of Analysis

Client Sample ID:	OU2B-SED-ST14-0210		
Lab Sample ID:	F71601-4	**Date Sampled:**	02/23/10
Matrix:	SO - Sediment	**Date Received:**	02/24/10
		Percent Solids:	12.2
Project:	OUN McIntosh		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Mercury	12.1	6.8	mg/kg	10	02/26/10	02/26/10	LM	SW846 7471A [1]	SW846 7471A [2]

(1) Instrument QC Batch: MA7901
(2) Prep QC Batch: MP17802

RL = Reporting Limit

Report of Analysis

Client Sample ID:	OU2B-SED-ST14-0210		
Lab Sample ID:	F71601-4	**Date Sampled:**	02/23/10
Matrix:	SO - Sediment	**Date Received:**	02/24/10
		Percent Solids:	12.2
Project:	OUN McIntosh		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Bulk Density (Dry Basis)	0.13		g/ml	1	03/06/10	LE	ASTM D2937-94 M
Moisture, Percent	87.8		%	1	02/25/10 08:51	CC	SM19 2540B M
Solids, Percent	12.2		%	1	02/25/10 08:51	CC	SM19 2540B M

RL = Reporting Limit

Report of Analysis

Client Sample ID:	OU2B-SED-ST13-0210		
Lab Sample ID:	F71601-5	**Date Sampled:**	02/23/10
Matrix:	SO - Sediment	**Date Received:**	02/24/10
		Percent Solids:	8.5
Project:	OUN McIntosh		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Mercury	6.1	2.0	mg/kg	2	02/26/10	02/26/10	LM	SW846 7471A [1]	SW846 7471A [2]

(1) Instrument QC Batch: MA7901
(2) Prep QC Batch: MP17802

RL = Reporting Limit

Report of Analysis

Client Sample ID:	OU2B-SED-ST13-0210		
Lab Sample ID:	F71601-5	**Date Sampled:**	02/23/10
Matrix:	SO - Sediment	**Date Received:**	02/24/10
		Percent Solids:	8.5
Project:	OUN McIntosh		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Bulk Density (Dry Basis)	0.089		g/ml	1	03/06/10	LE	ASTM D2937-94 M
Moisture, Percent	91.5		%	1	02/25/10 08:51	CC	SM19 2540B M
Solids, Percent	8.5		%	1	02/25/10 08:51	CC	SM19 2540B M

RL = Reporting Limit

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Certification Exceptions
- Chain of Custody

Pace Analytical® www.pacelabs.com

Accutest

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

F71601

Page: 1 of 1

1192419

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: MACTEC	Report To: kdroberts@olin.com	Attention: DTurner
Address: 3200 Town Pt Dr NW Ste 100 Kennesaw GA 30144	Copy To:	Company Name: Olin Corp. Address: 555 N Ocee St Cleveland TN
Email To: cdraper@mactec.com	Purchase Order No.: ER-OE-9822	Pace Quote Reference:
Phone: 7704213400 Fax: 7704213486	Project Name: Olin McIntosh	Pace Project Manager: Heather
Requested Due Date/TAT: Standard	Project Number: 110710DD35	Pace Profile #:

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: AL

Section D Required Client Information

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

ITEM #	SAMPLE ID (A-Z, 0-9 / ,) Sample IDs MUST BE UNIQUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other (WCT (CE)	Y/N	Analysis Test: Total Hg (SW 7471A)	Solubility (ASTM D2216)	Density (SM 2710F mod.)	TSS (EPA 160.2)	TOC (SW9060A mod.)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	OU2B-SED-ST23-0210		C	2/23/10	1037				5								X		X	X	X	X	X		
2	OU2B-SED-ST24-0210		C	2/23/10	1103				5								X		X	X	X	X	X		
3	OU2B-SED-ST19-0210		C	2/23/10	1155				5								X		X	X	X	X	X		
4	OU2B-SED-ST14-0210		C	2/23/10	1427				3								X		X	X	X				
5	~~OU2B-SED-ST8-0210~~		C	2/23/10																					
6																									
7	OU2B-SED-ST13-0210		C	2/23/10	1525				3								X		X	X	X				
8																									
9																									
10																									
11																									
12																									

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
temp blank included	Mellie Rotty / MACTEC	2/23/10	1620	fx			
FedEx truck	fx	2/24/10	930	CLR / Accutest	2/24/10	930	
871805828562							

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: MRotenberg

SIGNATURE of SAMPLER: Mellie Rotty

DATE Signed (MM/DD/YY): 2/23/10

Temp in °C: 3.4

Received on Ice (Y/N)

Custody Sealed Cooler (Y/N)

Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

F71601: Chain of Custody

Page 1 of 3

ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: F71601 CLIENT: MACTEC PROJECT: Dun Mc Intosh

DATE/TIME RECEIVED: 2/24/10 930 {MM/DD/YY 24:00} NUMBER OF COOLERS RECEIVED: 1

METHOD OF DELIVERY: (FEDEX) UPS ACCUTEST COURIER GREYHOUND DELIVERY OTHER

AIRBILL NUMBERS: 8718 0582 8562

COOLER INFORMATION

- [ ] CUSTODY SEAL NOT PRESENT OR NOT INTACT
- [ ] CHAIN OF CUSTODY NOT RECEIVED (COC)
- [ ] ANALYSIS REQUESTED IS UNCLEAR OR MISSING
- [ ] SAMPLE DATES OR TIMES UNCLEAR OR MISSING
- [ ] TEMPERATURE CRITERIA NOT MET
- [ ] WET ICE PRESENT

TRIP BLANK INFORMATION

- [ ] TRIP BLANK PROVIDED
- [X] TRIP BLANK NOT PROVIDED
- [X] TRIP BLANK NOT ON COC
- [ ] TRIP BLANK INTACT
- [ ] TRIP BLANK NOT INTACT
- [ ] RECEIVED WATER TRIP BLANK
- [ ] RECEIVED SOIL TRIP BLANK

MISC. INFORMATION

NUMBER OF ENCORES ? 0

NUMBER OF 5035 FIELD KITS ? 0

NUMBER OR LAB FILTERED METALS ? 0

TEMPERATURE INFORMATION

- [ ] IR THERM ID IR3 CORR. FACTOR +0
- [ ] OBSERVED TEMPS: 3.4
- [ ] CORRECTED TEMPS: 3.4

SAMPLE INFORMATION

- [ ] SAMPLE LABELS PRESENT ON ALL BOTTLES
- [ ] INCORRECT NUMBER OF CONTAINERS USED
- [ ] SAMPLE RECEIVED IMPROPERLY PRESERVED
- [ ] INSUFFICIENT VOLUME FOR ANALYSIS
- [ ] DATES/TIMES ON COC DO NOT MATCH SAMPLE LABEL
- [ ] ID'S ON COC DO NOT MATCH LABEL
- [ ] VOC VIALS HAVE HEADSPACE (MACRO BUBBLES)
- [ ] BOTTLES RECEIVED BUT ANALYSIS NOT REQUESTED
- [ ] NO BOTTLES RECEIVED FOR ANALYSIS REQUESTED
- [ ] UNCLEAR FILTERING OR COMPOSITING INSTRUCTIONS
- [ ] SAMPLE CONTAINER(S) RECEIVED BROKEN
- [ ] % SOLIDS JAR NOT RECEIVED
- [ ] 5035 FIELD KIT FROZEN WITHIN 48 HOUR'S
- [ ] RESIDUAL CHLORINE PRESENT

{APPICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS}

SUMMARY OF COMMENTS:

TECHNICIAN SIGNATURE/DATE CLR 2/24/10 REVIEWER SIGNATURE/DATE JC 02.24-10

NF 10/09 RECEIPT CONFIRMATION 100609 (2).xls

4.1 4

F71601: Chain of Custody
Page 2 of 3

Job Change Order: F71601_4/16/2010

Requested Date:	4/16/2010	**Received Date:**	2/24/2010
Account Name:	Olin Corporation	**Due Date:**	3/10/2010
Project Description:	OUN McIntosh	**Deliverable:**	REDT1
CSR:	AC	**TAT (Days):**	1

Sample #:
F71601-

Change: Change units on TSS from mg/kg to mg/L per David Knaub/Mactec.

Above Changes David Knaub/Mactec **Date:** 4/16/2010

To Client: This Change Order is confirmation of the revisions, previously discussed with the Accutest Client Service Representative.

Page 1 of 1

F71601: Chain of Custody
Page 3 of 3

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Instrument Runlogs
- Initial and Continuing Calibration Blanks
- Initial and Continuing Calibration Checks
- High and Low Check Standards
- Interfering Element Check Standards
- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F71601
Account: OLINTNC - Olin Corporation
Project: OUN McIntosh

File ID: H20226S2.PRN Date Analyzed: 02/26/10 Methods: SW846 7471A
Analyst: LM Run ID: MA7901
Parameters: Hg

Time	Sample Description	Dilution Factor	PS Recov	Comments
10:20	MA7901-STD1	1		STD01REP1
10:23	MA7901-STD2	1		STD02REP1
10:25	MA7901-STD3	1		STD03REP1
10:28	MA7901-STD4	1		STD04REP1
10:31	MA7901-STD5	1		STD05REP1
10:33	MA7901-STD6	1		STD06REP1
10:40	MA7901-HSTD1	1		
10:43	MA7901-ICV1	1		
10:45	MA7901-ICB1	1		
10:47	MA7901-CRI1	1		
10:52	MA7901-CCV1	1		
10:54	MA7901-CCB1	1		
10:56	MP17802-MB1	1		
11:00	MP17802-B1	1		
11:02	F71601-1	1		
11:05	MP17802-D1	1		
11:07	MP17802-SD1	5		
11:27	F71601-2	1		
11:33	MA7901-CCV2	1		
11:36	MA7901-CCB2	1		
11:41	ZZZZZZ	1		
11:45	ZZZZZZ	1		
11:47	ZZZZZZ	1		
11:52	ZZZZZZ	1		
11:54	ZZZZZZ	1		
11:59	ZZZZZZ	1		
12:01	MA7901-CCV3	1		
12:03	MA7901-CCB3	1		
12:06	ZZZZZZ	1		
12:09	ZZZZZZ	1		
12:11	ZZZZZZ	1		
12:14	ZZZZZZ	1		
12:22	MP17802-S1	2		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F71601
Account: OLINTNC - Olin Corporation
Project: OUN McIntosh

File ID: H20226S2.PRN Date Analyzed: 02/26/10 Methods: SW846 7471A
Analyst: LM Run ID: MA7901
Parameters: Hg

Time	Sample Description	Dilution Factor	PS Recov	Comments
12:24	MP17802-S2	2		
12:27	F71601-3	2		
12:29	F71601-4	10		
12:32	F71601-5	2		
---------->	Last reportable sample/prep for job F71601			
12:34	MA7901-CCV4	1		
12:36	MA7901-CCB4	1		
12:38	ZZZZZZ	2		
12:41	ZZZZZZ	5		
12:44	ZZZZZZ	2		
12:51	ZZZZZZ	50		
12:54	MA7901-CRI2	1		
12:57	MA7901-CCV5	1		
13:00	MA7901-CCB5	1		
---------->	Last reportable CCB for job F71601			
	Refer to raw data for calibration curve and standards.			

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F71601
Account: OLINTNC - Olin Corporation
Project: OUN McIntosh

File ID: H20226S2.PRN Date Analyzed: 02/26/10 Methods: SW846 7471A
QC Limits: result < RL Run ID: MA7901 Units: ug/l

Time: / Sample ID:			10:45 ICB1		10:54 CCB1		11:36 CCB2		12:03 CCB3	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Mercury	1.0	.071	-0.059	<1.0	-0.064	<1.0	-0.0050	<1.0	-0.0050	<1.0

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F71601
Account: OLINTNC - Olin Corporation
Project: OUN McIntosh

File ID: H20226S2.PRN Date Analyzed: 02/26/10 Methods: SW846 7471A
QC Limits: result < RL Run ID: MA7901 Units: ug/l

Time:			12:36		13:00	
Sample ID:			CCB4		CCB5	
Metal	RL	IDL	raw	final	raw	final
Mercury	1.0	.071	0.0020	<1.0	0.0020	<1.0

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F71601
Account: OLINTNC - Olin Corporation
Project: OUN McIntosh

File ID: H20226S2.PRN Date Analyzed: 02/26/10 Methods: SW846 7471A
QC Limits: 90 to 110 % Recovery Run ID: MA7901 Units: ug/l

Time:		10:43			10:52			11:33	
Sample ID:	ICV	ICV1		CCV	CCV1		CCV	CCV2	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Mercury	3	2.9	96.7	3.0	3.0	100.0	3.0	3.0	100.0

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F71601
Account: OLINTNC - Olin Corporation
Project: OUN McIntosh

File ID: H20226S2.PRN Date Analyzed: 02/26/10 Methods: SW846 7471A
QC Limits: 90 to 110 % Recovery Run ID: MA7901 Units: ug/l

Time:		12:01			12:34			12:57	
Sample ID:	CCV	CCV3		CCV	CCV4		CCV	CCV5	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Mercury	3.0	3.0	100.0	3	3.1	103.3	3.0	3.0	100.0

(*) Outside of QC limits
(anr) Analyte not requested

HIGH STANDARD CHECK SUMMARY

Login Number: F71601
Account: OLINTNC - Olin Corporation
Project: OUN McIntosh

File ID: H20226S2.PRN Date Analyzed: 02/26/10 Methods: SW846 7471A
QC Limits: 95 to 105 % Recovery Run ID: MA7901 Units: ug/l

Time:		10:40	
Sample ID:	HSTD	HSTD1	
Metal	True	Results	% Rec
Mercury	6	5.9	98.3

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: F71601
Account: OLINTNC - Olin Corporation
Project: OUN McIntosh

File ID: H20226S2.PRN Date Analyzed: 02/26/10 Methods: SW846 7471A
QC Limits: 80 to 120 % Recovery Run ID: MA7901 Units: ug/l

Time:			10:47		12:54	
Sample ID:	CRI	CRIA	CRI1		CRI2	
Metal	True	True	Results	% Rec	Results	% Rec
Mercury	0.20		0.18	90.0	0.22	110.0

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: F71601
Account: OLINTNC - Olin Corporation
Project: OUN McIntosh

QC Batch ID: MP17802 Methods: SW846 7471A
Matrix Type: SOLID Units: mg/kg

Prep Date: 02/26/10

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.083	.0059	.01	-0.0018	<0.083

Associated samples MP17802: F71601-1, F71601-2, F71601-3, F71601-4, F71601-5

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F71601
Account: OLINTNC - Olin Corporation
Project: OUN McIntosh

QC Batch ID: MP17802
Matrix Type: SOLID

Methods: SW846 7471A
Units: mg/kg

Prep Date: 02/26/10 02/26/10

Metal	F71601-1 Original	DUP	RPD	QC Limits	F71601-1 Original	MS	Spikelot HGFLWS1	% Rec	QC Limits
Mercury	2.5	2.3	8.3	0-20	2.5	4.1	1.34	119.7	80-120

Associated samples MP17802: F71601-1, F71601-2, F71601-3, F71601-4, F71601-5

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F71601
Account: OLINTNC - Olin Corporation
Project: OUN McIntosh

QC Batch ID: MP17802 Methods: SW846 7471A
Matrix Type: SOLID Units: mg/kg

Prep Date: 02/26/10

Metal	F71601-1 Original	MSD	Spikelot HGFLWS1	% Rec	MSD RPD	QC Limit
Mercury	2.5	4.0	1.42	105.6	2.5	20

Associated samples MP17802: F71601-1, F71601-2, F71601-3, F71601-4, F71601-5

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: F71601
Account: OLINTNC - Olin Corporation
Project: OUN McIntosh

QC Batch ID: MP17802
Matrix Type: SOLID

Methods: SW846 7471A
Units: mg/kg

Prep Date: 02/26/10

Metal	BSP Result	Spikelot HGFLWS1	% Rec	QC Limits
Mercury	0.25	0.25	100.0	80-120

Associated samples MP17802: F71601-1, F71601-2, F71601-3, F71601-4, F71601-5

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: F71601
Account: OLINTNC - Olin Corporation
Project: OUN McIntosh

QC Batch ID: MP17802
Matrix Type: SOLID

Methods: SW846 7471A
Units: ug/l

Prep Date: 02/26/10

Metal	F71601-1 Original	SDL 1:5	%DIF	QC Limits
Mercury	5.33	5.58	4.7	0-10

Associated samples MP17802: F71601-1, F71601-2, F71601-3, F71601-4, F71601-5

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries
- Instrument Runlogs/QC
- Percent Solids Raw Data Summary

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: F71601
Account: OLINTNC - Olin Corporation
Project: OUN McIntosh

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Solids, Total Suspended	GN39339	10	0.0	mg/l				
Total Organic Carbon	GP14476/GN38820	1000	0.0	mg/kg	20000	21400	107.0	88-114%

Associated Samples:
Batch GN39339: F71601-1A, F71601-2A, F71601-3A
Batch GP14476: F71601-1, F71601-2, F71601-3
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: F71601
Account: OLINTNC - Olin Corporation
Project: OUN McIntosh

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Bulk Density (Dry Basis)	GN38702	F71682-11	g/ml	1.4	1.4	1.3	0-20%
Solids, Percent	GN38593	F71566-1	%	89.2	89.7	0.6	0-10%
Solids, Total Suspended	GN39339	F71601-1A	mg/l	180000	174000	3.4	0-5%
Total Organic Carbon	GP14476/GN38820	F71601-1	mg/kg	51200	47800	6.9	0-36%

Associated Samples:
Batch GN38593: F71601-1, F71601-2, F71601-3, F71601-4, F71601-5
Batch GN38702: F71601-1, F71601-2, F71601-3, F71601-4, F71601-5
Batch GN39339: F71601-1A, F71601-2A, F71601-3A
Batch GP14476: F71601-1, F71601-2, F71601-3
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: F71601
Account: OLINTNC - Olin Corporation
Project: OUN McIntosh

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Total Organic Carbon	GP14476/GN38820	F71601-1	mg/kg	51200	121000	169000	97.2	88-114%

Associated Samples:
Batch GP14476: F71601-1, F71601-2, F71601-3
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F71601
Account: OLINTNC - Olin Corporation
Project: OUN McIntosh

File ID: TOC031310S1.TXT Date Analyzed: 03/13/10 Methods: SW846 9060A MOD
Analyst: SD Run ID: GN38820
Parameters: Total Organic Carbon

Time	Sample Description	Dilution Factor	PS Recov	Comments
07:44	GN38820-CCV1	1		
08:00	GN38820-CCB1	1		
08:10	GN38820-ICV1	1		
08:19	GN38820-ICB1	1		
08:42	GP14476-MB1	1		
09:12	GP14476-B1	1		
09:31	GP14476-D1	1		
09:55	GP14476-S1	1		
10:24	F71601-1	1		
11:10	F71601-2	1		
11:30	F71601-3	1		
11:50	GN38820-CCV2	1		
11:59	GN38820-CCB2	1		
12:09	ZZZZZZ	1		
12:38	ZZZZZZ	1		
13:12	ZZZZZZ	1		
13:33	GN38820-CCV3	1		
13:46	GN38820-CCB3	1		

Refer to raw data for calibration curve and standards.

Instrument QC Summary
Inorganics Analyses

Login Number: F71601
Account: OLINTNC - Olin Corporation
Project: OUN McIntosh

File ID: TOC031310S1.TXT Date Analyzed: 03/13/10 Methods: SW846 9060A MOD
Run ID: GN38820 Units: mg/l

Sample Number	Parameter	Result	RL	IDL/MDL	True Value	% Recov.	QC Limits
GN38820-CCV1	Total Organic Carbon	21400	1000	500	20000	107.0	90-110
GN38820-CCB1	Total Organic Carbon	500 U	1000	500			
GN38820-ICV1	Total Organic Carbon	21900	1000	500	20000	109.5	90-110
GN38820-ICB1	Total Organic Carbon	500 U	1000	500			
GN38820-CCV2	Total Organic Carbon	20200	1000	500	20000	101.0	90-110
GN38820-CCB2	Total Organic Carbon	500 U	1000	500			
GN38820-CCV3	Total Organic Carbon	20100	1000	500	20000	100.5	90-110
GN38820-CCB3	Total Organic Carbon	500 U	1000	500			

(!) Outside of QC limits

Percent Solids Raw Data Summary

Job Number: F71601
Account: OLINTNC Olin Corporation
Project: OUN McIntosh

Sample: F71601-1 **Analyzed:** 25-FEB-10 by CC **Method:** SM19 2540B M
ClientID: OU2B-SED-ST23-0210

Wet Weight (Total)	6.45	g
Tare Weight	1.01	g
Dry Weight (Total)	1.91	g
Solids, Percent	16.5	%
Moisture, Percent	83.5	%

Sample: F71601-1 **Analyzed:** 25-FEB-10 by CC **Method:** SM19 2540B M
ClientID: OU2B-SED-ST23-0210

Wet Weight (Total)	6.45	g
Tare Weight	1.01	g
Dry Weight (Total)	1.91	g
Solids, Percent	16.5	%
Moisture, Percent	83.5	%

Sample: F71601-2 **Analyzed:** 25-FEB-10 by CC **Method:** SM19 2540B M
ClientID: OU2B-SED-ST24-0210

Wet Weight (Total)	4.69	g
Tare Weight	.96	g
Dry Weight (Total)	1.48	g
Solids, Percent	13.9	%
Moisture, Percent	86.1	%

Sample: F71601-2 **Analyzed:** 25-FEB-10 by CC **Method:** SM19 2540B M
ClientID: OU2B-SED-ST24-0210

Wet Weight (Total)	4.69	g
Tare Weight	.96	g
Dry Weight (Total)	1.48	g
Solids, Percent	13.9	%
Moisture, Percent	86.1	%

Sample: F71601-3 **Analyzed:** 25-FEB-10 by CC **Method:** SM19 2540B M
ClientID: OU2B-SED-ST19-0210

Wet Weight (Total)	7.97	g
Tare Weight	.98	g
Dry Weight (Total)	2.18	g
Solids, Percent	17.2	%
Moisture, Percent	82.8	%

Percent Solids Raw Data Summary

Job Number: F71601
Account: OLINTNC Olin Corporation
Project: OUN McIntosh

Sample: F71601-3 **Analyzed:** 25-FEB-10 by CC **Method:** SM19 2540B M
ClientID: OU2B-SED-ST19-0210

Wet Weight (Total)	7.97	g
Tare Weight	.98	g
Dry Weight (Total)	2.18	g
Solids, Percent	17.2	%
Moisture, Percent	82.8	%

Sample: F71601-4 **Analyzed:** 25-FEB-10 by CC **Method:** SM19 2540B M
ClientID: OU2B-SED-ST14-0210

Wet Weight (Total)	5.35	g
Tare Weight	1	g
Dry Weight (Total)	1.53	g
Solids, Percent	12.2	%
Moisture, Percent	87.8	%

Sample: F71601-4 **Analyzed:** 25-FEB-10 by CC **Method:** SM19 2540B M
ClientID: OU2B-SED-ST14-0210

Wet Weight (Total)	5.35	g
Tare Weight	1	g
Dry Weight (Total)	1.53	g
Solids, Percent	12.2	%
Moisture, Percent	87.8	%

Sample: F71601-5 **Analyzed:** 25-FEB-10 by CC **Method:** SM19 2540B M
ClientID: OU2B-SED-ST13-0210

Wet Weight (Total)	8.34	g
Tare Weight	.95	g
Dry Weight (Total)	1.58	g
Solids, Percent	8.5	%
Moisture, Percent	91.5	%

Sample: F71601-5 **Analyzed:** 25-FEB-10 by CC **Method:** SM19 2540B M
ClientID: OU2B-SED-ST13-0210

Wet Weight (Total)	8.34	g
Tare Weight	.95	g
Dry Weight (Total)	1.58	g
Solids, Percent	8.5	%
Moisture, Percent	91.5	%

Southeast ACCUTEST Laboratories

IT'S ALL IN THE CHEMISTRY

Reissue #1
04/19/10

Technical Report for

Olin Corporation

OUN McIntosh

6107100035

Accutest Job Number: F71634

Sampling Date: 02/24/10

Report to:

Olin Corporation
3855 N Ocoee St Suite 200
Cleveland, TN 37312
kdroberts@olin.com; cedraper@mactec.com;
hefogell@mactec.com; dwknaub@mactec.com
ATTN: Mike Bellotti

Total number of pages in report: **49**

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Harry Behzadi, Ph.D.
Laboratory Director

Client Service contact: Andrea Colby 407-425-6700

ACCUTEST LABORATORIES 50 YEARS 1956-2006

Certifications: FL (DOH E83510), NC (573), NJ (FL002), MA (FL946), IA (366), LA (03051), KS (E-10327), SC, AK

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Test results relate only to samples analyzed.

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ACCUTEST Laboratories

April 19, 2010

Mr. Mike Bellotti
Olin Corporation
3855 N Ocoee St
Suite 200
Cleveland, TN 37312

RE: Accutest job F71634 Reissue

Dear Mr. Bellotti,

The final report for job number F71634 has been edited to reflect requested corrections. These edits have been incorporated into the revised report.

TSS results for sediment samples have been re-calculated as waters.

Accutest apologies for any inconvenience this may have caused. Please feel free to contact us if we can be of further assistance.

Sincerely,

Accutest Laboratories, SE

Sections: 1 2 3 4 5 6

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Sample Summary

Olin Corporation

Job No: F71634

OUN McIntosh
Project No: 6107100035

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
F71634-1	02/24/10	09:36	MR	02/25/10	SO	Sediment	OU2B-SED-ST29-0210
F71634-1A	02/24/10	09:36	MR	02/25/10	AQ	Water	OU2B-SED-ST29-0210
F71634-2	02/24/10	10:15	MR	02/25/10	SO	Sediment	OU2B-SED-ST31-0210
F71634-3	02/24/10	10:56	MR	02/25/10	SO	Sediment	OU2B-SED-ST15-0210
F71634-3A	02/24/10	10:56	MR	02/25/10	AQ	Water	OU2B-SED-ST15-0210
F71634-4	02/24/10	12:58	MR	02/25/10	SO	Sediment	OU2B-SED-ST32-0210
F71634-4A	02/24/10	12:58	MR	02/25/10	AQ	Water	OU2B-SED-ST32-0210
F71634-5	02/24/10	14:21	MR	02/25/10	SO	Sediment	OU2B-SED-ST17-0210
F71634-5A	02/24/10	14:21	MR	02/25/10	AQ	Water	OU2B-SED-ST17-0210

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Olin Corporation **Job No:** F71634

Site: OUN McIntosh **Report Date:** 3/23/2010 1:56:29 PM

5 Samples were collected on 02/24/2010 and were received at Accutest SE on 02/25/2010 properly preserved, at 3.6 Deg. C and intact. These Samples received an Accutest job number of F71634. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Metals by Method SW846 7471A

Matrix: SO **Batch ID:** MP17802

All samples were digested within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Samples F71601-1DUP, F71601-1MS, F71601-1MSD, F71601-1SDL were used as the QC samples for metals.

Wet Chemistry by Method ASTM D2937-94 M

Matrix: SO **Batch ID:** GN38702

Sample F71682-11DUP was used as the QC sample for Bulk Density (Dry Basis).

Wet Chemistry by Method SM19 2540B M

Matrix: SO **Batch ID:** GN38624

Sample F71641-1DUP was used as the QC sample for Solids, Percent.

Wet Chemistry by Method SM20 2540D M

Matrix: AQ **Batch ID:** GN39339

All method blanks for this batch meet method specific criteria.

Sample F71601-1ADUP was used as the QC sample for Solids, Total Suspended.

Samples were originally analyzed as soils and not subject to hold time. Per client's request, the results were re-calculated as waters. As waters, the samples were analyzed beyond hold time.

Wet Chemistry by Method SW846 9060A MOD

Matrix: SO **Batch ID:** GP14476

All samples were prepped within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Samples F71601-1DUP, F71601-1MS were used as the QC samples for Total Organic Carbon.

Matrix: SO **Batch ID:** GP14481

All samples were prepped within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Samples F71708-14DUP, F71708-14MS were used as the QC samples for Total Organic Carbon.

Accutest Laboratories Southeast (ALSE) certifies that this report meets the project requirements for analytical data produced for the samples as received at ALSE and as stated on the COC. ALSE certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the ALSE Quality Manual except as noted above. This report is to be used in its entirety. ALSE is not responsible for any assumptions of data quality if partial data packages are used.

Narrative prepared by:

Date: March 23, 2010

Ellen Pampel, Inorganic QA (signature on file)

Tuesday, March 23, 2010

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	OU2B-SED-ST29-0210		
Lab Sample ID:	F71634-1	**Date Sampled:**	02/24/10
Matrix:	SO - Sediment	**Date Received:**	02/25/10
		Percent Solids:	18.4
Project:	OUN McIntosh		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Mercury	2.0	0.45	mg/kg	1	02/26/10	02/26/10	LM	SW846 7471A [1]	SW846 7471A [2]

(1) Instrument QC Batch: MA7901
(2) Prep QC Batch: MP17802

RL = Reporting Limit

Report of Analysis

Client Sample ID:	OU2B-SED-ST29-0210		
Lab Sample ID:	F71634-1	**Date Sampled:**	02/24/10
Matrix:	SO - Sediment	**Date Received:**	02/25/10
		Percent Solids:	18.4
Project:	OUN McIntosh		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Bulk Density (Dry Basis)	0.20		g/ml	1	03/06/10	LE	ASTM D2937-94 M
Moisture, Percent	81.6		%	1	03/01/10	LE	SM19 2540B M
Solids, Percent	18.4		%	1	03/01/10	LE	SM19 2540B M

RL = Reporting Limit

Report of Analysis

Client Sample ID:	OU2B-SED-ST29-0210		
Lab Sample ID:	F71634-1A	**Date Sampled:**	02/24/10
Matrix:	AQ - Water	**Date Received:**	02/25/10
		Percent Solids:	n/a
Project:	OUN McIntosh		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended	162000	2000	mg/l	200	03/06/10 11:00	SJL	SM19 2540D

RL = Reporting Limit

Report of Analysis

Client Sample ID:	OU2B-SED-ST31-0210		
Lab Sample ID:	F71634-2	**Date Sampled:**	02/24/10
Matrix:	SO - Sediment	**Date Received:**	02/25/10
		Percent Solids:	9.4
Project:	OUN McIntosh		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Mercury	11.2	4.4	mg/kg	5	02/26/10	02/26/10	LM	SW846 7471A [1]	SW846 7471A [2]

(1) Instrument QC Batch: MA7901
(2) Prep QC Batch: MP17802

RL = Reporting Limit

Report of Analysis

Client Sample ID:	OU2B-SED-ST31-0210		
Lab Sample ID:	F71634-2	**Date Sampled:**	02/24/10
Matrix:	SO - Sediment	**Date Received:**	02/25/10
		Percent Solids:	9.4
Project:	OUN McIntosh		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Bulk Density (Dry Basis)	0.096		g/ml	1	03/06/10	LE	ASTM D2937-94 M
Moisture, Percent	90.6		%	1	03/01/10	LE	SM19 2540B M
Solids, Percent	9.4		%	1	03/01/10	LE	SM19 2540B M

RL = Reporting Limit

Report of Analysis

Client Sample ID:	OU2B-SED-ST15-0210		
Lab Sample ID:	F71634-3	**Date Sampled:**	02/24/10
Matrix:	SO - Sediment	**Date Received:**	02/25/10
		Percent Solids:	7.4
Project:	OUN McIntosh		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Mercury	3.5	1.1	mg/kg	1	02/26/10	02/26/10	LM	SW846 7471A [1]	SW846 7471A [2]

(1) Instrument QC Batch: MA7901
(2) Prep QC Batch: MP17802

RL = Reporting Limit

Report of Analysis

Client Sample ID:	OU2B-SED-ST15-0210		
Lab Sample ID:	F71634-3	**Date Sampled:**	02/24/10
Matrix:	SO - Sediment	**Date Received:**	02/25/10
		Percent Solids:	7.4
Project:	OUN McIntosh		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Bulk Density (Dry Basis)	0.077		g/ml	1	03/06/10	LE	ASTM D2937-94 M
Moisture, Percent	92.6		%	1	03/01/10	LE	SM19 2540B M
Solids, Percent	7.4		%	1	03/01/10	LE	SM19 2540B M

RL = Reporting Limit

Report of Analysis

Client Sample ID:	OU2B-SED-ST15-0210		
Lab Sample ID:	F71634-3A	**Date Sampled:**	02/24/10
Matrix:	AQ - Water	**Date Received:**	02/25/10
		Percent Solids:	n/a
Project:	OUN McIntosh		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended	95000	2000	mg/l	200	03/06/10 11:00	SJL	SM19 2540D

RL = Reporting Limit

Report of Analysis

Client Sample ID:	OU2B-SED-ST32-0210		
Lab Sample ID:	F71634-4	**Date Sampled:**	02/24/10
Matrix:	SO - Sediment	**Date Received:**	02/25/10
		Percent Solids:	18.9
Project:	OUN McIntosh		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Mercury	1.3	0.40	mg/kg	1	02/26/10	02/26/10	LM	SW846 7471A [1]	SW846 7471A [2]

(1) Instrument QC Batch: MA7901
(2) Prep QC Batch: MP17802

RL = Reporting Limit

Report of Analysis

Client Sample ID:	OU2B-SED-ST32-0210		
Lab Sample ID:	F71634-4	**Date Sampled:**	02/24/10
Matrix:	SO - Sediment	**Date Received:**	02/25/10
		Percent Solids:	18.9
Project:	OUN McIntosh		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Bulk Density (Dry Basis)	0.21		g/ml	1	03/06/10	LE	ASTM D2937-94 M
Moisture, Percent	81.1		%	1	03/01/10	LE	SM19 2540B M
Solids, Percent	18.9		%	1	03/01/10	LE	SM19 2540B M
Total Organic Carbon	41700	5300	mg/kg	1	03/13/10 13:12	SD	SW846 9060A MOD

RL = Reporting Limit

Report of Analysis

Client Sample ID:	OU2B-SED-ST32-0210		
Lab Sample ID:	F71634-4A	**Date Sampled:**	02/24/10
Matrix:	AQ - Water	**Date Received:**	02/25/10
		Percent Solids:	n/a
Project:	OUN McIntosh		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended	170000	2000	mg/l	200	03/06/10 11:00	SJL	SM19 2540D

RL = Reporting Limit

Report of Analysis

Client Sample ID:	OU2B-SED-ST17-0210		
Lab Sample ID:	F71634-5	**Date Sampled:**	02/24/10
Matrix:	SO - Sediment	**Date Received:**	02/25/10
		Percent Solids:	15.3
Project:	OUN McIntosh		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Mercury	3.8	1.0	mg/kg	2	02/26/10	02/26/10	LM	SW846 7471A [1]	SW846 7471A [2]

(1) Instrument QC Batch: MA7901
(2) Prep QC Batch: MP17802

RL = Reporting Limit

Report of Analysis

Client Sample ID:	OU2B-SED-ST17-0210		
Lab Sample ID:	F71634-5	**Date Sampled:**	02/24/10
Matrix:	SO - Sediment	**Date Received:**	02/25/10
		Percent Solids:	15.3
Project:	OUN McIntosh		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Bulk Density (Dry Basis)	0.16		g/ml	1	03/06/10	LE	ASTM D2937-94 M
Moisture, Percent	84.7		%	1	03/01/10	LE	SM19 2540B M
Solids, Percent	15.3		%	1	03/01/10	LE	SM19 2540B M
Total Organic Carbon	52200	6500	mg/kg	1	03/15/10 17:46	SD	SW846 9060A MOD

RL = Reporting Limit

Report of Analysis

Client Sample ID:	OU2B-SED-ST17-0210		
Lab Sample ID:	F71634-5A	**Date Sampled:**	02/24/10
Matrix:	AQ - Water	**Date Received:**	02/25/10
		Percent Solids:	n/a
Project:	OUN McIntosh		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended	126000	2000	mg/l	200	03/06/10 11:00	SJL	SM19 2540D

RL = Reporting Limit

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Certification Exceptions
- Chain of Custody

Pace Analytical www.pacelabs.com ACCUTEST

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

F71634

FedEx 871805828551

Page: 1 of 1

1192555

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: MACTEC	Report To: Kdroberts@olin.com	Attention: D Turner
Address: 3200 Town Pt Dr NW Ste 100 Kennesaw Ga. 30144	Copy To:	Company Name: OLIN CORP
Email To: Cdraper@Mactec.com	Purchase Order No.: FR-DE-9822	Address: 8855 N DORE ST
Phone: 770 421 3400 Fax: 770 421 3486	Project Name: Olin McIntosh	Pace Quote Reference: Cleveland TN
Requested Due Date/TAT: Standard	Project Number: 161071000 35	Pace Project Manager: Heather Wandrey
		Pace Profile #:

REGULATORY AGENCY: NPDES GROUND WATER DRINKING WATER UST RCRA OTHER

STATE: AL

ITEM #	Section D Required Client Information / SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE	Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analyses Test: Metal Hg (SW 7471A)	Pb Mn Ni Zn (SW 6010B)	Dissolved (SW 3005A)	TSS (EPA 160.2)	TDC (SW 9060 mod)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	OU2B-SED-ST29-0210			C	2/24/10	0930				4								X	X	X	X				
2	OU2B-SED-ST31-0210			C	2/24/10	1015				3								X	X	X					
3	OU2B-SED-ST15-0210			C	2/24/10	1056				4								X	X	X	X				
4	OU2B-SED-ST32-0210			C	2/24/10	1258				5								X	X	X	X	X			
5	OU2B-SED-ST17-0210			C	2/24/10	1421				5								X	X	X	X	X			
6																									
7																									
8																									
9																									
10																									
11																									
12																									

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
temp blank included	Nellie Rose / MACTEC	2/24/10	1607	FX			
Fedex track —	FX	2/25/10	9:00	CLP / Accutest	2/25/10	9:00	
~~871805828552 Nbr~~							
See top of COC							

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: N Rottenberg

SIGNATURE of SAMPLER: [signature]

DATE Signed (MM/DD/YY): 2/24/10

Temp in °C: 3.6

Received on Ice (Y/N)

Custody Sealed Cooler (Y/N)

Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

4.1 4

F71634: Chain of Custody
Page 1 of 3

ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: F71634 CLIENT: NMCERC PROJECT: Don McIntosh

DATE/TIME RECEIVED: 2/25/10 9:00 (MM/DD/YY 24:00) NUMBER OF COOLERS RECEIVED: 1

METHOD OF DELIVERY: FEDEX UPS ACCUTEST COURIER GREYHOUND DELIVERY OTHER

AIRBILL NUMBERS: 8718 0582 8551

COOLER INFORMATION

- [ ] CUSTODY SEAL NOT PRESENT OR NOT INTACT
- [ ] CHAIN OF CUSTODY NOT RECEIVED (COC)
- [ ] ANALYSIS REQUESTED IS UNCLEAR OR MISSING
- [ ] SAMPLE DATES OR TIMES UNCLEAR OR MISSING
- [ ] TEMPERATURE CRITERIA NOT MET
- [ ] WET ICE PRESENT

TRIP BLANK INFORMATION

- [ ] TRIP BLANK PROVIDED
- [X] TRIP BLANK NOT PROVIDED
- [X] TRIP BLANK NOT ON COC
- [ ] TRIP BLANK INTACT
- [ ] TRIP BLANK NOT INTACT
- [ ] RECEIVED WATER TRIP BLANK
- [ ] RECEIVED SOIL TRIP BLANK

MISC. INFORMATION

NUMBER OF ENCORES ? 0

NUMBER OF 5035 FIELD KITS ? 0

NUMBER OF LAB FILTERED METALS ? 0

TEMPERATURE INFORMATION

- [ ] IR THERM ID: IR3 CORR. FACTOR +0
- [ ] OBSERVED TEMPS: 3.6
- [ ] CORRECTED TEMPS: 3.6

SAMPLE INFORMATION

- [ ] SAMPLE LABELS PRESENT ON ALL BOTTLES
- [ ] INCORRECT NUMBER OF CONTAINERS USED
- [ ] SAMPLE RECEIVED IMPROPERLY PRESERVED
- [ ] INSUFFICIENT VOLUME FOR ANALYSIS
- [ ] DATES/TIMES ON COC DO NOT MATCH SAMPLE LABEL
- [ ] ID'S ON COC DO NOT MATCH LABEL
- [ ] VOC VIALS HAVE HEADSPACE (MACRO BUBBLES)
- [ ] BOTTLES RECEIVED BUT ANALYSIS NOT REQUESTED
- [ ] NO BOTTLES RECEIVED FOR ANALYSIS REQUESTED
- [ ] UNCLEAR FILTERING OR COMPOSITING INSTRUCTIONS
- [ ] SAMPLE CONTAINER(S) RECEIVED BROKEN
- [ ] % SOLIDS JAR NOT RECEIVED
- [ ] 5035 FIELD KIT FROZEN WITHIN 48 HOURS
- [ ] RESIDUAL CHLORINE PRESENT

(APPLICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS)

SUMMARY OF COMMENTS:

TECHNICIAN SIGNATURE/DATE: 2/25/10 REVIEWER SIGNATURE/DATE: 02.25.10

NF 10/09 RECEIPT CONFIRMATION 100609 (2).xls

4.1 4

F71634: Chain of Custody
Page 2 of 3

Job Change Order: F71634_4/16/2010

Requested Date:	4/16/2010	**Received Date:**	2/25/2010
Account Name:	Olin Corporation	**Due Date:**	3/11/2010
Project Description:	OUN McIntosh	**Deliverable:**	REDT1
CSR:	AC	**TAT (Days):**	1

Sample #:
F71634-

Change: Change TSS units from mg/kg to mg/L per David Knaub/Mactec.

Above Changes David Knaub/Mactec **Date:** 4/16/2010

To Client: This Change Order is confirmation of the revisions, previously discussed with the Accutest Client Service Representative.

Page 1 of 1

F71634: Chain of Custody
Page 3 of 3

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Instrument Runlogs
- Initial and Continuing Calibration Blanks
- Initial and Continuing Calibration Checks
- High and Low Check Standards
- Interfering Element Check Standards
- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F71634
Account: OLINTNC - Olin Corporation
Project: OUN McIntosh

File ID: H20226S2.PRN Date Analyzed: 02/26/10 Methods: SW846 7471A
Analyst: LM *Run ID: MA7901*
Parameters: Hg

Time	Sample Description	Dilution Factor	PS Recov	Comments
10:20	MA7901-STD1	1		STD01REP1
10:23	MA7901-STD2	1		STD02REP1
10:25	MA7901-STD3	1		STD03REP1
10:28	MA7901-STD4	1		STD04REP1
10:31	MA7901-STD5	1		STD05REP1
10:33	MA7901-STD6	1		STD06REP1
10:40	MA7901-HSTD1	1		
10:43	MA7901-ICV1	1		
10:45	MA7901-ICB1	1		
10:47	MA7901-CRI1	1		
10:52	MA7901-CCV1	1		
10:54	MA7901-CCB1	1		
10:56	MP17802-MB1	1		
11:00	MP17802-B1	1		
11:02	F71601-1	1		(sample used for QC only; not part of login F71634)
11:05	MP17802-D1	1		
11:07	MP17802-SD1	5		
11:27	ZZZZZZ	1		
11:33	MA7901-CCV2	1		
11:36	MA7901-CCB2	1		
11:41	ZZZZZZ	1		
11:45	ZZZZZZ	1		
11:47	F71634-1	1		
11:52	F71634-3	1		
11:54	F71634-4	1		
11:59	ZZZZZZ	1		
12:01	MA7901-CCV3	1		
12:03	MA7901-CCB3	1		
12:06	ZZZZZZ	1		
12:09	ZZZZZZ	1		
12:11	ZZZZZZ	1		
12:14	ZZZZZZ	1		
12:22	MP17802-S1	2		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F71634
Account: OLINTNC - Olin Corporation
Project: OUN McIntosh

File ID: H20226S2.PRN Date Analyzed: 02/26/10 Methods: SW846 7471A
Analyst: LM Run ID: MA7901
Parameters: Hg

Time	Sample Description	Dilution Factor	PS Recov	Comments
12:24	MP17802-S2	2		
12:27	ZZZZZZ	2		
12:29	ZZZZZZ	10		
12:32	ZZZZZZ	2		
12:34	MA7901-CCV4	1		
12:36	MA7901-CCB4	1		
12:38	ZZZZZZ	2		
12:41	F71634-2	5		
12:44	F71634-5	2		
---------->	Last reportable sample/prep for job F71634			
12:51	ZZZZZZ	50		
12:54	MA7901-CRI2	1		
12:57	MA7901-CCV5	1		
13:00	MA7901-CCB5	1		
---------->	Last reportable CCB for job F71634			
	Refer to raw data for calibration curve and standards.			

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F71634
Account: OLINTNC - Olin Corporation
Project: OUN McIntosh

File ID: H20226S2.PRN Date Analyzed: 02/26/10 Methods: SW846 7471A
QC Limits: result < RL Run ID: MA7901 Units: ug/l

Time: / Sample ID:			10:45 ICB1		10:54 CCB1		11:36 CCB2		12:03 CCB3	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Mercury	1.0	.071	-0.059	<1.0	-0.064	<1.0	-0.0050	<1.0	-0.0050	<1.0

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F71634
Account: OLINTNC - Olin Corporation
Project: OUN McIntosh

File ID: H20226S2.PRN Date Analyzed: 02/26/10 Methods: SW846 7471A
QC Limits: result < RL Run ID: MA7901 Units: ug/l

Time:			12:36		13:00	
Sample ID:			CCB4		CCB5	
Metal	RL	IDL	raw	final	raw	final
Mercury	1.0	.071	0.0020	<1.0	0.0020	<1.0

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F71634
Account: OLINTNC - Olin Corporation
Project: OUN McIntosh

File ID: H20226S2.PRN Date Analyzed: 02/26/10 Methods: SW846 7471A
QC Limits: 90 to 110 % Recovery Run ID: MA7901 Units: ug/l

Time:		10:43			10:52			11:33	
Sample ID:	ICV	ICV1		CCV	CCV1		CCV	CCV2	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Mercury	3	2.9	96.7	3.0	3.0	100.0	3.0	3.0	100.0

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F71634
Account: OLINTNC - Olin Corporation
Project: OUN McIntosh

File ID: H20226S2.PRN Date Analyzed: 02/26/10 Methods: SW846 7471A
QC Limits: 90 to 110 % Recovery Run ID: MA7901 Units: ug/l

Time:		12:01			12:34			12:57	
Sample ID:	CCV	CCV3		CCV	CCV4		CCV	CCV5	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Mercury	3.0	3.0	100.0	3	3.1	103.3	3.0	3.0	100.0

(*) Outside of QC limits
(anr) Analyte not requested

HIGH STANDARD CHECK SUMMARY

Login Number: F71634
Account: OLINTNC - Olin Corporation
Project: OUN McIntosh

File ID: H20226S2.PRN Date Analyzed: 02/26/10 Methods: SW846 7471A
QC Limits: 95 to 105 % Recovery Run ID: MA7901 Units: ug/l

Time:		10:40	
Sample ID:	HSTD	HSTD1	
Metal	True	Results	% Rec
Mercury	6	5.9	98.3

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: F71634
Account: OLINTNC - Olin Corporation
Project: OUN McIntosh

File ID: H20226S2.PRN Date Analyzed: 02/26/10 Methods: SW846 7471A
QC Limits: 80 to 120 % Recovery Run ID: MA7901 Units: ug/l

Time:			10:47		12:54	
Sample ID:	CRI	CRIA	CRI1		CRI2	
Metal	True	True	Results	% Rec	Results	% Rec
Mercury	0.20		0.18	90.0	0.22	110.0

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: F71634
Account: OLINTNC - Olin Corporation
Project: OUN McIntosh

QC Batch ID: MP17802 Methods: SW846 7471A
Matrix Type: SOLID Units: mg/kg

Prep Date: 02/26/10

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.083	.0059	.01	-0.0018	<0.083

Associated samples MP17802: F71634-1, F71634-2, F71634-3, F71634-4, F71634-5

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F71634
Account: OLINTNC - Olin Corporation
Project: OUN McIntosh

QC Batch ID: MP17802
Matrix Type: SOLID

Methods: SW846 7471A
Units: mg/kg

Prep Date: 02/26/10 02/26/10

Metal	F71601-1 Original	DUP	RPD	QC Limits	F71601-1 Original	MS	Spikelot HGFLWS1	% Rec	QC Limits
Mercury	2.5	2.3	8.3	0-20	2.5	4.1	1.34	119.7	80-120

Associated samples MP17802: F71634-1, F71634-2, F71634-3, F71634-4, F71634-5

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F71634
Account: OLINTNC - Olin Corporation
Project: OUN McIntosh

QC Batch ID: MP17802 Methods: SW846 7471A
Matrix Type: SOLID Units: mg/kg

Prep Date: 02/26/10

Metal	F71601-1 Original	MSD	Spikelot HGFLWS1	% Rec	MSD RPD	QC Limit
Mercury	2.5	4.0	1.42	105.6	2.5	20

Associated samples MP17802: F71634-1, F71634-2, F71634-3, F71634-4, F71634-5

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: F71634
Account: OLINTNC - Olin Corporation
Project: OUN McIntosh

QC Batch ID: MP17802
Matrix Type: SOLID

Methods: SW846 7471A
Units: mg/kg

Prep Date: 02/26/10

Metal	BSP Result	Spikelot HGFLWS1	% Rec	QC Limits
Mercury	0.25	0.25	100.0	80-120

Associated samples MP17802: F71634-1, F71634-2, F71634-3, F71634-4, F71634-5

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: F71634
Account: OLINTNC - Olin Corporation
Project: OUN McIntosh

QC Batch ID: MP17802
Matrix Type: SOLID

Methods: SW846 7471A
Units: ug/l

Prep Date: 02/26/10

Metal	F71601-1 Original	SDL 1:5	%DIF	QC Limits
Mercury	5.33	5.58	4.7	0-10

Associated samples MP17802: F71634-1, F71634-2, F71634-3, F71634-4, F71634-5

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries
- Instrument Runlogs/QC
- Percent Solids Raw Data Summary

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: F71634
Account: OLINTNC - Olin Corporation
Project: OUN McIntosh

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Solids, Total Suspended	GN39339	10	0.0	mg/l				
Total Organic Carbon	GP14476/GN38820	1000	0.0	mg/kg	20000	21400	107.0	88-114%
Total Organic Carbon	GP14481/GN38846	1000	0.0	mg/kg	20000	21300	106.5	88-114%

Associated Samples:
Batch GN39339: F71634-1A, F71634-3A, F71634-4A, F71634-5A
Batch GP14476: F71634-4
Batch GP14481: F71634-5
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: F71634
Account: OLINTNC - Olin Corporation
Project: OUN McIntosh

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Bulk Density (Dry Basis)	GN38702	F71682-11	g/ml	1.4	1.4	1.3	0-20%
Solids, Percent	GN38624	F71641-1	%	94.8	95.1	0.3	0-10%
Solids, Total Suspended	GN39339	F71601-1A	mg/l	180000	174000	3.4	0-5%
Total Organic Carbon	GP14476/GN38820	F71601-1	mg/kg	51200	47800	6.9	0-36%
Total Organic Carbon	GP14481/GN38846	F71708-14	mg/kg	9000	9280	3.1	0-36%

Associated Samples:
Batch GN38624: F71634-1, F71634-2, F71634-3, F71634-4, F71634-5
Batch GN38702: F71634-1, F71634-2, F71634-3, F71634-4, F71634-5
Batch GN39339: F71634-1A, F71634-3A, F71634-4A, F71634-5A
Batch GP14476: F71634-4
Batch GP14481: F71634-5
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: F71634
Account: OLINTNC - Olin Corporation
Project: OUN McIntosh

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Total Organic Carbon	GP14476/GN38820	F71601-1	mg/kg	51200	121000	169000	97.2	88-114%
Total Organic Carbon	GP14481/GN38846	F71708-14	mg/kg	9000	25800	35100	101.0	88-114%

Associated Samples:
Batch GP14476: F71634-4
Batch GP14481: F71634-5
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F71634
Account: OLINTNC - Olin Corporation
Project: OUN McIntosh

File ID: TOC031310S1.TXT Date Analyzed: 03/13/10 Methods: SW846 9060A MOD
Analyst: SD Run ID: GN38820
Parameters: Total Organic Carbon

Time	Sample Description	Dilution Factor	PS Recov	Comments
07:44	GN38820-CCV1	1		
08:00	GN38820-CCB1	1		
08:10	GN38820-ICV1	1		
08:19	GN38820-ICB1	1		
08:42	GP14476-MB1	1		
09:12	GP14476-B1	1		
09:31	GP14476-D1	1		
09:55	GP14476-S1	1		
10:24	F71601-1	1		(sample used for QC only; not part of login F71634)
11:10	ZZZZZZ	1		
11:30	ZZZZZZ	1		
11:50	GN38820-CCV2	1		
11:59	GN38820-CCB2	1		
12:09	ZZZZZZ	1		
12:38	ZZZZZZ	1		
13:12	F71634-4	1		
13:33	GN38820-CCV3	1		
13:46	GN38820-CCB3	1		

Refer to raw data for calibration curve and standards.

Instrument QC Summary
Inorganics Analyses

Login Number: F71634
Account: OLINTNC - Olin Corporation
Project: OUN McIntosh

File ID: TOC031310S1.TXT Date Analyzed: 03/13/10 Methods: SW846 9060A MOD
Run ID: GN38820 Units: mg/l

Sample Number	Parameter	Result	RL	IDL/MDL	True Value	% Recov.	QC Limits
GN38820-CCV1	Total Organic Carbon	21400	1000	500	20000	107.0	90-110
GN38820-CCB1	Total Organic Carbon	500 U	1000	500			
GN38820-ICV1	Total Organic Carbon	21900	1000	500	20000	109.5	90-110
GN38820-ICB1	Total Organic Carbon	500 U	1000	500			
GN38820-CCV2	Total Organic Carbon	20200	1000	500	20000	101.0	90-110
GN38820-CCB2	Total Organic Carbon	500 U	1000	500			
GN38820-CCV3	Total Organic Carbon	20100	1000	500	20000	100.5	90-110
GN38820-CCB3	Total Organic Carbon	500 U	1000	500			

(!) Outside of QC limits

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F71634
Account: OLINTNC - Olin Corporation
Project: OUN McIntosh

File ID: TOC031510S1.TXT Date Analyzed: 03/15/10 Methods: SW846 9060A MOD
Analyst: SD *Run ID: GN38846*
Parameters: Total Organic Carbon

Time	Sample Description	Dilution Factor	PS Recov	Comments
10:15	GN38846-CCV1	1		
10:25	GN38846-CCB1	1		
10:36	GN38846-ICV1	1		
10:45	GN38846-ICB1	1		
11:02	GP14481-MB1	1		
11:35	GP14481-B1	1		
12:04	GP14481-D1	1		
13:02	GP14481-S1	1		
13:39	F71708-14	1		(sample used for QC only; not part of login F71634)
14:41	GN38846-CCV2	1		
14:49	GN38846-CCB2	1		
15:08	ZZZZZZ	1		
16:19	ZZZZZZ	1		
16:44	ZZZZZZ	1		
17:06	ZZZZZZ	1		
17:25	ZZZZZZ	1		
17:46	F71634-5	1		
18:08	ZZZZZZ	1		
19:06	GN38846-CCV3	1		
19:15	GN38846-CCB3	1		

Refer to raw data for calibration curve and standards.

Instrument QC Summary
Inorganics Analyses

Login Number: F71634
Account: OLINTNC - Olin Corporation
Project: OUN McIntosh

File ID: TOC031510S1.TXT Date Analyzed: 03/15/10 Methods: SW846 9060A MOD
Run ID: GN38846 Units: mg/l

Sample Number	Parameter	Result	RL	IDL/MDL	True Value	% Recov.	QC Limits
GN38846-CCV1	Total Organic Carbon	21200	1000	500	20000	106.0	90-110
GN38846-CCB1	Total Organic Carbon	500 U	1000	500			
GN38846-ICV1	Total Organic Carbon	21500	1000	500	20000	107.5	90-110
GN38846-ICB1	Total Organic Carbon	500 U	1000	500			
GN38846-CCV2	Total Organic Carbon	20500	1000	500	20000	102.5	90-110
GN38846-CCB2	Total Organic Carbon	500 U	1000	500			
GN38846-CCV3	Total Organic Carbon	21900	1000	500	20000	109.5	90-110
GN38846-CCB3	Total Organic Carbon	500 U	1000	500			

(!) Outside of QC limits

Percent Solids Raw Data Summary

Job Number: F71634
Account: OLINTNC Olin Corporation
Project: OUN McIntosh

Sample: F71634-1 **Analyzed:** 01-MAR-10 by LE **Method:** SM19 2540B M
ClientID: OU2B-SED-ST29-0210

Wet Weight (Total)	7.32	g
Tare Weight	1	g
Dry Weight (Total)	2.16	g
Solids, Percent	18.4	%
Moisture, Percent	81.6	%

Sample: F71634-1 **Analyzed:** 01-MAR-10 by LE **Method:** SM19 2540B M
ClientID: OU2B-SED-ST29-0210

Wet Weight (Total)	7.32	g
Tare Weight	1	g
Dry Weight (Total)	2.16	g
Solids, Percent	18.4	%
Moisture, Percent	81.6	%

Sample: F71634-2 **Analyzed:** 01-MAR-10 by LE **Method:** SM19 2540B M
ClientID: OU2B-SED-ST31-0210

Wet Weight (Total)	9.09	g
Tare Weight	1	g
Dry Weight (Total)	1.76	g
Solids, Percent	9.4	%
Moisture, Percent	90.6	%

Sample: F71634-2 **Analyzed:** 01-MAR-10 by LE **Method:** SM19 2540B M
ClientID: OU2B-SED-ST31-0210

Wet Weight (Total)	9.09	g
Tare Weight	1	g
Dry Weight (Total)	1.76	g
Solids, Percent	9.4	%
Moisture, Percent	90.6	%

Sample: F71634-3 **Analyzed:** 01-MAR-10 by LE **Method:** SM19 2540B M
ClientID: OU2B-SED-ST15-0210

Wet Weight (Total)	10.01	g
Tare Weight	.98	g
Dry Weight (Total)	1.65	g
Solids, Percent	7.4	%
Moisture, Percent	92.6	%

Percent Solids Raw Data Summary

Job Number: F71634
Account: OLINTNC Olin Corporation
Project: OUN McIntosh

Sample: F71634-3 **Analyzed:** 01-MAR-10 by LE **Method:** SM19 2540B M
ClientID: OU2B-SED-ST15-0210

Wet Weight (Total)	10.01	g
Tare Weight	.98	g
Dry Weight (Total)	1.65	g
Solids, Percent	7.4	%
Moisture, Percent	92.6	%

Sample: F71634-4 **Analyzed:** 01-MAR-10 by LE **Method:** SM19 2540B M
ClientID: OU2B-SED-ST32-0210

Wet Weight (Total)	7.68	g
Tare Weight	.96	g
Dry Weight (Total)	2.23	g
Solids, Percent	18.9	%
Moisture, Percent	81.1	%

Sample: F71634-4 **Analyzed:** 01-MAR-10 by LE **Method:** SM19 2540B M
ClientID: OU2B-SED-ST32-0210

Wet Weight (Total)	7.68	g
Tare Weight	.96	g
Dry Weight (Total)	2.23	g
Solids, Percent	18.9	%
Moisture, Percent	81.1	%

Sample: F71634-5 **Analyzed:** 01-MAR-10 by LE **Method:** SM19 2540B M
ClientID: OU2B-SED-ST17-0210

Wet Weight (Total)	6.17	g
Tare Weight	1.01	g
Dry Weight (Total)	1.8	g
Solids, Percent	15.3	%
Moisture, Percent	84.7	%

Sample: F71634-5 **Analyzed:** 01-MAR-10 by LE **Method:** SM19 2540B M
ClientID: OU2B-SED-ST17-0210

Wet Weight (Total)	6.17	g
Tare Weight	1.01	g
Dry Weight (Total)	1.8	g
Solids, Percent	15.3	%
Moisture, Percent	84.7	%

Southeast ACCUTEST Laboratories

IT'S ALL IN THE CHEMISTRY

03/26/10

Technical Report for

Olin Corporation

OUN McIntosh

6107100035

Accutest Job Number: F72038

Sampling Date: 03/09/10

Report to:

Olin Corporation
3855 N Ocoee St Suite 200
Cleveland, TN 37312
kdroberts@olin.com; cedraper@mactec.com;
hefogell@mactec.com; dwknaub@mactec.com
ATTN: Mike Bellotti

Total number of pages in report: **12**

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Harry Behzadi, Ph.D.
Laboratory Director

Client Service contact: Andrea Colby 407-425-6700

ACCUTEST LABORATORIES 50 YEARS 1956-2006

Certifications: FL (DOH E83510), NC (573), NJ (FL002), MA (FL946), IA (366), LA (03051), KS (E-10327), SC, AK

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Sample Summary

Olin Corporation

Job No: F72038

OUN McIntosh
Project No: 6107100035

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
F72038-1	03/09/10	10:45	OH	03/12/10	AQ	Surface Water	OU2B-SW-GATE2-030910

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Olin Corporation **Job No:** F72038

Site: OUN McIntosh **Report Date** 3/26/2010 9:58:23 AM

1 Sample was collected on 03/09/2010 and was received at Accutest SE on 03/12/2010 properly preserved, at 2.8 Deg. C and intact. The Sample received an Accutest job number of F72038. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Wet Chemistry by Method SM19 2540C

Matrix: AQ **Batch ID:** GN38813

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample F71991-1DUP was used as the QC sample for Solids, Total Dissolved.

Wet Chemistry by Method SM19 2540D

Matrix: AQ **Batch ID:** GN38814

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample F71991-1DUP was used as the QC sample for Solids, Total Suspended.

Accutest Laboratories Southeast (ALSE) certifies that this report meets the project requirements for analytical data produced for the samples as received at ALSE and as stated on the COC. ALSE certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the ALSE Quality Manual except as noted above. This report is to be used in its entirety. ALSE is not responsible for any assumptions of data quality if partial data packages are used.

Narrative prepared by:

Date: March 26, 2010

Ellen Pampel, Inorganic QA (signature on file)

Friday, March 26, 2010

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	OU2B-SW-GATE2-030910		
Lab Sample ID:	F72038-1	**Date Sampled:**	03/09/10
Matrix:	AQ - Surface Water	**Date Received:**	03/12/10
		Percent Solids:	n/a
Project:	OUN McIntosh		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Dissolved	110	100	mg/l	1	03/13/10 07:35	LE	SM19 2540C
Solids, Total Suspended	12.0	10	mg/l	1	03/13/10 09:40	LE	SM19 2540D

RL = Reporting Limit

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Certification Exceptions
- Chain of Custody

Pace Analytical® www.pacelabs.com Accutest

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Fedex Tracking# 8693 9494 2773

F72038

Page: 1 of 1

1192556

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: MACTEC	Report To: karobertse olin.com	Attention: DTurner
Address: 3200 Town Pt Dr Kennesaw GA	Copy To: mbarker@mactec.com cedraper@mactec.com	Company Name: Olin
Email To: CedRaper@Mactec.com	Purchase Order No.: ~~SF-08-9822~~ REMC0026	Address: 3855 N. Ocoee St Cleveland TN
Phone: 770 421 3400 Fax: 770 421 3462	Project Name: Olin McIntosh	Pace Quote Reference:
Requested Due Date/TAT: Standard	Project Number: 6107100035	Pace Project Manager: Heather Wandrey
		Pace Profile #:

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☐ OTHER CERCLA

Site Location STATE: AL

Requested Analysis Filtered (Y/N)

ITEM #	Section D Required Client Information — SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE	Matrix Codes MATRIX / CODE (Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test ↓ Y/N	TSS	TDS	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	OU28-SW-GATE 2X-030910	WT	G				3/9/10	1045		1									X				
2	OU28-SW-GATE 2X-030910	WT	G				3/9/10	1045		1										X			
3																							
4	~~OU2A-SW-GATE 3 -031110~~	~~WT~~	~~G~~				~~3/11/10~~			~~1~~			~~FM~~						~~X~~	~~FM~~			
5	~~OU28-SW-GATE 3 - 031110~~	~~WT~~	~~G~~				~~3/11/10~~			~~1~~			~~FM~~						~~X~~	~~FM~~			
6																							
7																							
8																							
9																							
10																							
11																							
12																							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Fabiana Mayla FX	3/11/10	1230	FX			
	FX			J Cooper (ACCUTEST)	03-12-10	09:00	

ORIGINAL

SAMPLER NAME AND SIGNATURE: O. HOWARD / David Howard

PRINT Name of SAMPLER: F. MAYLA

SIGNATURE of SAMPLER: Fabiana Mayla. DATE Signed (MM/DD/YY): 3/11/10

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

9-R

4.1 4

F72038: Chain of Custody
Page 1 of 2

ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: F72038 CLIENT: MACTEC PROJECT: 6107100035

DATE/TIME RECEIVED: 03-12-10 09:10 {MM/DD/YY 24:00} NUMBER OF COOLERS RECEIVED: 1

METHOD OF DELIVERY: (FEDEX) UPS ACCUTEST COURIER GREYHOUND DELIVERY OTHER

AIRBILL NUMBERS: 8693 9494 2773

COOLER INFORMATION

- [ ] CUSTODY SEAL NOT PRESENT OR NOT INTACT
- [ ] CHAIN OF CUSTODY NOT RECEIVED (COC)
- [ ] ANALYSIS REQUESTED IS UNCLEAR OR MISSING
- [ ] SAMPLE DATES OR TIMES UNCLEAR OR MISSING
- [ ] TEMPERATURE CRITERIA NOT MET
- [ ] WET ICE PRESENT

TRIP BLANK INFORMATION

- [ ] TRIP BLANK PROVIDED
- [X] TRIP BLANK NOT PROVIDED
- [X] TRIP BLANK NOT ON COC
- [ ] TRIP BLANK INTACT
- [ ] TRIP BLANK NOT INTACT
- [ ] RECEIVED WATER TRIP BLANK
- [ ] RECEIVED SOIL TRIP BLANK

MISC. INFORMATION

NUMBER OF ENCORES ? _____

NUMBER OF 5035 FIELD KITS ? _____

NUMBER OR LAB FILTERED METALS ? _____

TEMPERATURE INFORMATION

- [ ] IR THERM ID 3 CORR. FACTOR 0
- [ ] OBSERVED TEMPS: 2.8
- [ ] CORRECTED TEMPS: 2.8

SAMPLE INFORMATION

- [ ] SAMPLE LABELS PRESENT ON ALL BOTTLES
- [ ] INCORRECT NUMBER OF CONTAINERS USED
- [ ] SAMPLE RECEIVED IMPROPERLY PRESERVED
- [ ] INSUFFICIENT VOLUME FOR ANALYSIS
- [ ] DATES/TIMES ON COC DO NOT MATCH SAMPLE LABEL
- [ ] ID'S ON COC DO NOT MATCH LABEL
- [ ] VOC VIALS HAVE HEADSPACE (MACRO BUBBLES)
- [ ] BOTTLES RECEIVED BUT ANALYSIS NOT REQUESTED
- [ ] NO BOTTLES RECEIVED FOR ANALYSIS REQUESTED
- [ ] UNCLEAR FILTERING OR COMPOSITING INSTRUCTIONS
- [ ] SAMPLE CONTAINER(S) RECEIVED BROKEN
- [ ] % SOLIDS JAR NOT RECEIVED
- [ ] 5035 FIELD KIT FROZEN WITHIN 48 HOUR'S
- [ ] RESIDUAL CHLORINE PRESENT

{APPICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS}

SUMMARY OF COMMENTS: _____

TECHNICIAN SIGNATURE/DATE JC 03-12-10 REVIEWER SIGNATURE/DATE F.T. 03.12.10

NF 10/09 RECEIPT CONFIRMATION 100609 (2).xls

4.1 4

F72038: Chain of Custody
Page 2 of 2

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries
- Instrument Runlogs/QC

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: F72038
Account: OLINTNC - Olin Corporation
Project: OUN McIntosh

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Solids, Total Dissolved	GN38813	100	0.0	mg/l				
Solids, Total Suspended	GN38814	10	0.0	mg/l				

Associated Samples:
Batch GN38813: F72038-1
Batch GN38814: F72038-1
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: F72038
Account: OLINTNC - Olin Corporation
Project: OUN McIntosh

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Solids, Total Dissolved	GN38813	F71991-1	mg/l	83000	80400	3.2	0-5%
Solids, Total Suspended	GN38814	F71991-1	mg/l	29.0	30.0	3.4	0-5%

Associated Samples:
Batch GN38813: F72038-1
Batch GN38814: F72038-1
(*) Outside of QC limits

TABLE I-1
SAMPLE SUMMARY SHEET

Baseline ESPP
Olin McIntosh OU-2

Sample ID	Sample Date	QA/QC Sample	Acid Volatile Sulfide Allen et. al, 1991 EPA Cool to 4° C unpreserved 14 days	Cesium-137 SOP MSL-I-013 Cool to 4° C unpreserved 28 days	Density ASTM D2937 Cool to 4° C unpreserved none established	Density Standard Methods 2710F-Modified Cool to 4° C unpreserved none established	Dissolved Organic Carbon Standard Methods 5310B Cool to 4° C H_2,SO_4 28 days	Grain Size ASTM D422 Cool to 4° C unpreserved none established	Lead-210 SOP MSL-I-012 Cool to 4° C unpreserved 28 days	Mercury, Total EPA 245.6 Cool to 4° C Wet Ice/Dry Ice 28 days	Mercury, Total SW846 Method 7470A SPLP Cool to 4° C unpreserved 28 days	Mercury, Total SW846 Method 7471 Cool to 4° C unpreserved 28 days	Mercury, Total SW846 Method 7471A Cool to 4° C unpreserved 28 days	Mercury, Dissolved EPA 1631E Cool to 4° C HNO_3 to pH <2 48 hrs. prior to preservation and 90 days after	Mercury, Total EPA 1631, 1631E Cool to 4° C HNO_3 to pH <2 28 days for Sediment 48 hrs. prior to preservation and 90 days after for Surface Water
Analysis:															
Analytic Method:															
Preservation:															
Hold Time:															
BKGD-060909	6/9/2009														X
BKGD-060909	6/9/2009	MS, MSD													X
OU2B-FPSB1-10-0-1	7/11/2010											X			
OU2B-FPSB1-10-1-2	7/11/2010											X			
OU2B-FPSB1-10-2-6	7/11/2010											X			
OU2B-FPSB1-10-6-12	7/11/2010											X			
OU2B-FPSB2-10-0-1	7/11/2010											X			
OU2B-FPSB2-10-1-2	7/11/2010											X			
OU2B-FPSB2-10-2-6	7/11/2010											X			
OU2B-FPSB2-10-6-12	7/11/2010											X			
OU2B-FPSB3/4-10-0-12	7/10/2010							X							
OU2B-FPSB3-10-0-1	7/10/2010											X			
OU2B-FPSB3-10-1-2	7/10/2010											X			
OU2B-FPSB3-10-2-6	7/10/2010											X			
OU2B-FPSB3-10-6-12	7/10/2010											X			
OU2B-FPSB4-10-0-1	7/10/2010											X			
OU2B-FPSB4-10-1-2	7/10/2010											X			
OU2B-FPSB4-10-2-6	7/10/2010											X			
OU2B-FPSB4-10-6-12	7/10/2010											X			
OU2B-FPSB5/6-10-0-12	7/10/2010							X							
OU2B-FPSB5-10-0-1	7/9/2010											X			
OU2B-FPSB5-10-1-2	7/9/2010											X			
OU2B-FPSB5-10-2-6	7/9/2010											X			
OU2B-FPSB5-10-6-12	7/9/2010											X			
OU2B-FPSB6-10-0-1	7/10/2010											X			
OU2B-FPSB6-10-0-1	7/10/2010	MS													
OU2B-FPSB6-10-1-2	7/10/2010											X			
OU2B-FPSB6-10-2-6	7/10/2010											X			
OU2B-FPSB6-10-2-6	7/10/2010	MS, MSD										X			
OU2B-FPSB6-10-6-12	7/10/2010											X			
OU2B-FPSBDUP01-10	7/11/2010	DUP										X			
OU2B-FPSBDUP02-10	7/10/2010	DUP										X			
OU2B-FPSBDUP03-10	7/9/2010	DUP										X			
OU2B-FPSS10-10	7/9/2010											X			
OU2B-FPSS1-10	7/9/2010											X			
OU2B-FPSS11-10	7/9/2010											X			
OU2B-FPSS11-10	7/9/2010	MS, MSD										X			
OU2B-FPSS12-10	7/12/2010											X			
OU2B-FPSS13/14-10	7/8/2010							X							
OU2B-FPSS13-10	7/8/2010											X			
OU2B-FPSS14-10	7/8/2010											X			
OU2B-FPSS15-10	7/12/2010											X			
OU2B-FPSS2-10	7/11/2010											X			
OU2B-FPSS3-10	7/11/2010											X			
OU2B-FPSS4-10	7/9/2010											X			
OU2B-FPSS5-10	7/11/2010											X			
OU2B-FPSS6-10	7/9/2010											X			
OU2B-FPSS7-10	7/9/2010											X			
OU2B-FPSS7-10	7/9/2010	MS, MSD										X			
OU2B-FPSS8-10	7/9/2010											X			
OU2B-FPSS9-10	7/11/2010											X			
OU2B-FPSSDUP01-10	7/9/2010	DUP										X			
OU2B-FPSSDUP02-10	7/8/2010	DUP										X			
OU2B-FPSSDUP02-10	7/8/2010	MS													
OU2B-FPVSB1-10	7/7/2010									X					
OU2B-FPVSB3-10	7/8/2010									X					
OU2B-FPVSB4-10	7/8/2010									X					
OU2B-FPVSB5-10	7/7/2010									X					
OU2B-FPVSS10-10	7/8/2010									X					
OU2B-FPVSS10-10	7/8/2010	MS, MSD													
OU2B-FPVSS1-10	7/7/2010									X					

TABLE I-1
SAMPLE SUMMARY SHEET

Baseline ESPP
Olin McIntosh OU-2

Sample ID	Sample Date	QA/QC Sample	Acid Volatile Sulfide Allen et. al, 1991 EPA Cool to 4° C unpreserved 14 days	Cesium-137 SOP MSL-I-013 Cool to 4° C unpreserved 28 days	Density ASTM D2937 Cool to 4° C unpreserved none established	Density Standard Methods 2710F-Modified Cool to 4° C unpreserved none established	Dissolved Organic Carbon Standard Methods 5310B Cool to 4° C H_2,SO_4 28 days	Grain Size ASTM D422 Cool to 4° C unpreserved none established	Lead-210 SOP MSL-I-012 Cool to 4° C unpreserved 28 days	Mercury, Total EPA 245.6 Cool to 4° C Wet Ice/Dry Ice 28 days	Mercury, Total SW846 Method 7470A SPLP Cool to 4° C unpreserved 28 days	Mercury, Total SW846 Method 7471 Cool to 4° C unpreserved 28 days	Mercury, Total SW846 Method 7471A Cool to 4° C unpreserved 28 days	Mercury, Dissolved EPA 1631E Cool to 4° C HNO_3 to pH <2 48 hrs. prior to preservation and 90 days after	Mercury, Total EPA 1631, 1631E Cool to 4° C HNO_3 to pH <2 28 days for Sediment 48 hrs. prior to preservation and 90 days after for Surface Water
OU2B-FPVSS11-10	7/7/2010									X					
OU2B-FPVSS12-10	7/7/2010									X					
OU2B-FPVSS14-10	7/7/2010									X					
OU2B-FPVSS4-10	7/7/2010									X					
OU2B-FPVSS4-10	7/7/2010	MS, MSD													
OU2B-FPVSSDUP01-10	7/7/2010	DUP								X					
OU2B-FPVSSDUP02-10	7/7/2010	DUP													
OU2B-INS1B-10	7/12/2010									X					
OU2B-INS2C-10	7/12/2010									X					
OU2B-INS3B-10	7/12/2010									X					
OU2B-INS4B-10	7/9/2010									X					
OU2B-INS4C-10	7/12/2010									X					
OU2B-INS5B-10	7/13/2010									X					
OU2B-INS5C-10	7/13/2010									X					
OU2B-INS6A-10	7/9/2010									X					
OU2B-INS6B-10	7/9/2010									X					
OU2B-INS6C-10	7/9/2010									X					
OU2B-INSNEA-10	7/12/2010									X					
OU2B-INSNEC-10	7/12/2010									X					
OU2B-INSSEA-10	7/12/2010									X					
OU2B-SED-004C-09	6/5/2009		X			X		X				X			
OU2B-SED-101C-09	6/5/2009		X			X		X				X			
OU2B-SED-101C-09	6/19/2009	MS, MSD													X
OU2B-SED-102C-09	6/5/2009		X			X		X				X			
OU2B-SED-103DC-09	6/6/2009		X			X		X				X			
OU2B-SED-103DNE-09	6/6/2009		X			X		X				X			
OU2B-SED-103DNE-09	6/19/2009	MS, MSD													X
OU2B-SED-103DNW-09	6/6/2009		X			X		X				X			
OU2B-SED-103DSE-09	6/6/2009		X			X		X				X			
OU2B-SED-103DSE-09	6/19/2009	MS, MSD													
OU2B-SED-103DSW-09	6/6/2009		X			X		X				X			
OU2B-SED-104DC-09	6/6/2009		X			X		X				X			
OU2B-SED-104DNE-09	6/6/2009		X			X		X				X			
OU2B-SED-104DNW-09	6/6/2009		X			X		X				X			
OU2B-SED-104DSE-09	6/6/2009		X			X		X				X			
OU2B-SED-104DSW-09	6/6/2009		X			X		X				X			
OU2B-SED-105C-09	6/8/2009		X			X		X				X			
OU2B-SED-105C-09	6/18/2009	MS, MSD													
OU2B-SED-106C-09	6/8/2009							X				X			
OU2B-SED-201C-09	6/8/2009		X			X		X				X			
OU2B-SED-202DC-09	6/6/2009		X			X		X				X			
OU2B-SED-202DNE-09	6/6/2009		X			X		X				X			
OU2B-SED-202DNW-09	6/6/2009		X			X		X				X			
OU2B-SED-202DSE-09	6/6/2009		X			X		X				X			
OU2B-SED-202DSW-09	6/6/2009		X			X		X				X			
OU2B-SED-203DC-09	6/7/2009		X			X		X				X			
OU2B-SED-203DNE-09	6/7/2009		X			X		X				X			
OU2B-SED-203DNE-09	6/18/2009	MS, MSD													X
OU2B-SED-203DNW-09	6/7/2009		X			X		X				X			
OU2B-SED-203DSE-09	6/7/2009		X			X		X				X			
OU2B-SED-203DSW-09	6/7/2009		X			X		X				X			
OU2B-SED-204C-09	6/7/2009		X			X		X				X			
OU2B-SED-205C-09	6/8/2009		X			X		X				X			
OU2B-SED-301C-09	6/3/2009		X			X		X				X			
OU2B-SED-301C-09	6/10/2009	MS, MSD													X
OU2B-SED-302C-09	6/8/2009		X			X		X				X			
OU2B-SED-302C-09	6/17/2009	MS, MSD													X
OU2B-SED-303DC-09	6/7/2009		X			X		X				X			
OU2B-SED-303DNE-09	6/7/2009		X			X		X				X			
OU2B-SED-303DNE-09	6/7/2009	MS, MSD													
OU2B-SED-303DNW-09	6/7/2009		X			X		X				X			

TABLE I-1
SAMPLE SUMMARY SHEET

Baseline ESPP
Olin McIntosh OU-2

Sample ID	Sample Date	QA/QC Sample	Analysis: / Analytic Method: / Preservation: / Hold Time: Acid Volatile Sulfide — Allen et. al, 1991 EPA — Cool to 4° C — unpreserved — 14 days	Cesium-137 — SOP MSL-I-013 — Cool to 4° C — unpreserved — 28 days	Density — ASTM D2937 — Cool to 4° C — unpreserved — none established	Density — Standard Methods 2710F-Modified — Cool to 4° C — unpreserved — none established	Dissolved Organic Carbon — Standard Methods 5310B — Cool to 4° C — H_2,SO_4 — 28 days	Grain Size — ASTM D422 — Cool to 4° C — unpreserved — none established	Lead-210 — SOP MSL-I-012 — Cool to 4° C — unpreserved — 28 days	Mercury, Total — EPA 245.6 — Cool to 4° C — Wet Ice/Dry Ice — 28 days	Mercury, Total — SW846 Method 7470A SPLP — Cool to 4° C — unpreserved — 28 days	Mercury, Total — SW846 Method 7471 — Cool to 4° C — unpreserved — 28 days	Mercury, Total — SW846 Method 7471A — Cool to 4° C — unpreserved — 28 days	Mercury, Dissolved — EPA 1631E — Cool to 4° C — HNO_3 to pH <2 — 48 hrs. prior to preservation and 90 days after	Mercury, Total — EPA 1631, 1631E — Cool to 4° C — HNO_3 to pH <2 — 28 days for Sediment 48 hrs. prior to preservation and 90 days after for Surface Water
OU2B-SED-303DSE-09	6/7/2009		X			X		X				X			
OU2B-SED-303DSE-09	6/7/2009	MS, MSD													
OU2B-SED-303DSW-09	6/7/2009		X			X		X				X			
OU2B-SED-303DSW-09	6/18/2009	MS, MSD													
OU2B-SED-304C-09	6/9/2009		X			X		X				X			
OU2B-SED-401C-09	6/9/2009							X				X			
OU2B-SED-402C-09	6/7/2009							X				X			
OU2B-SED-402C-09	6/9/2009	MS, MSD													
OU2B-SED-403C-09	6/9/2009		X			X		X				X			
OU2B-SED-404C-09	6/9/2009							X				X			
OU2B-SED-501DC-09	6/7/2009							X				X			
OU2B-SED-501DNE-09	6/7/2009							X				X			
OU2B-SED-501DNW-09	6/7/2009							X				X			
OU2B-SED-501DSE-09	6/7/2009							X				X			
OU2B-SED-501DSW-09	6/7/2009							X				X			
OU2B-SED-502DC-09	6/7/2009							X				X			
OU2B-SED-502DNE-09	6/7/2009							X				X			
OU2B-SED-502DNW-09	6/7/2009							X				X			
OU2B-SED-502DSE-09	6/7/2009							X				X			
OU2B-SED-502DSW-09	6/7/2009							X				X			
OU2B-SED-DHC-09	6/5/2009		X			X		X				X			
OU2B-SED-DHC-09	6/19/2009	MS, MSD													X
OU2B-SED-DUP01C-09	6/5/2009	DUP	X									X			
OU2B-SED-DUP02C-09	6/8/2009	DUP	X									X			
OU2B-SED-DUP03C-09	6/8/2009	DUP	X									X			
OU2B-SED-DUP04C-09	6/7/2009	DUP	X									X			
OU2B-SED-DUP05C-09	6/7/2009	MS, MSD													
OU2B-SED-DUP05C-09	6/7/2009	DUP	X									X			
OU2B-SED-DUP06C-09	6/8/2009	DUP										X			
OU2B-SED-ST13-02/09	2/18/2009					X						X			
OU2B-SED-ST13-0509	5/28/2009					X						X			
OU2B-SED-ST13-0809	8/11/2009					X		X				X			
OU2B-SED-ST13-1109	11/11/2009					X		X				X			
OU2B-SED-ST13-0210	2/23/2010				X							X			
OU2B-SED-ST14-1109	11/11/2009											X			
OU2B-SED-ST14-0210	2/23/2010				X							X			
OU2B-SED-ST15-02/09	2/18/2009					X		X				X			
OU2B-SED-ST15-0509	5/28/2009					X		X				X			
OU2B-SED-ST15-0809	8/11/2009					X		X				X			
OU2B-SED-ST15-1109	11/11/2009					X		X				X			
OU2B-SED-ST15-0210	2/24/2010				X							X			
OU2B-SED-ST17-1109	11/11/2009											X			
OU2B-SED-ST17-0210	2/24/2010				X							X			
OU2B-SED-ST19-02/09	2/19/2009					X		X				X			
OU2B-SED-ST19-1109	11/11/2009											X			
OU2B-SED-ST19-0210	2/23/2010				X							X			
OU2B-SED-ST23-02/09	2/19/2009					X						X			
OU2B-SED-ST23-0509	5/28/2009					X		X				X			
OU2B-SED-ST23-0809	8/11/2009					X		X				X			
OU2B-SED-ST23-1109	11/11/2009					X		X				X			
OU2B-SED-ST23-0210	2/23/2010				X							X			
OU2B-SED-ST23-0210	2/23/2010	MS										X			
OU2B-SED-ST24-02/09	2/19/2009					X		X				X			
OU2B-SED-ST24-0509	5/28/2009					X		X				X			
OU2B-SED-ST24-0809	8/11/2009					X		X				X			
OU2B-SED-ST24-1109	11/11/2009					X		X				X			
OU2B-SED-ST24-0210	2/23/2010				X							X			
OU2B-SED-ST26-02/09	2/19/2009					X		X				X			
OU2B-SED-ST27-02/09	2/19/2009					X						X			
OU2B-SED-ST28-02/09	2/19/2009					X						X			
OU2B-SED-ST29-0809	8/11/2009					X		X				X			

TABLE I-1
SAMPLE SUMMARY SHEET

Baseline ESPP
Olin McIntosh OU-2

Sample ID	Sample Date	QA/QC Sample	Acid Volatile Sulfide Allen et. al, 1991 EPA Cool to 4° C unpreserved 14 days	Cesium-137 SOP MSL-I-013 Cool to 4° C unpreserved 28 days	Density ASTM D2937 Cool to 4° C unpreserved none established	Density Standard Methods 2710F-Modified Cool to 4° C unpreserved none established	Dissolved Organic Carbon Standard Methods 5310B Cool to 4° C H_2,SO_4 28 days	Grain Size ASTM D422 Cool to 4° C unpreserved none established	Lead-210 SOP MSL-I-012 Cool to 4° C unpreserved 28 days	Mercury, Total EPA 245.6 Cool to 4° C Wet Ice/Dry Ice 28 days	Mercury, Total SW846 Method 7470A SPLP Cool to 4° C unpreserved 28 days	Mercury, Total SW846 Method 7471 Cool to 4° C unpreserved 28 days	Mercury, Total SW846 Method 7471A Cool to 4° C unpreserved 28 days	Mercury, Dissolved EPA 1631E Cool to 4° C HNO_3 to pH <2 48 hrs. prior to preservation and 90 days after	Mercury, Total EPA 1631, 1631E Cool to 4° C HNO_3 to pH <2 28 days for Sediment 48 hrs. prior to preservation and 90 days after for Surface Water
OU2B-SED-ST29-1109	11/11/2009					X		X				X			
OU2B-SED-ST29-0210	2/24/2010				X							X			
OU2B-SED-ST30-02/09	2/19/2009					X						X			
OU2B-SED-ST30-0809	8/11/2009					X		X				X			
OU2B-SED-ST30-1109	11/11/2009					X		X				X			
OU2B-SED-ST31-0809	8/12/2009					X		X				X			
OU2B-SED-ST31-1109	11/11/2009					X		X				X			
OU2B-SED-ST31-0210	2/24/2010				X							X			
OU2B-SED-ST32-1109	11/11/2009											X			
OU2B-SED-ST32-0210	2/24/2010				X							X			
OU2B-SED-ST33-0809	8/12/2009					X		X				X			
OU2B-SED-ST33-1109	11/11/2009					X		X				X			
OU2B-SED-WT14-0709	7/9/2009											X			
OU2B-SED-WT17-0709	7/9/2009											X			
OU2B-SED-WT19-0709	7/9/2009											X			
OU2B-SED-WT32-0709	7/9/2009											X			
OU2B-SW-101DD-09	6/4/2009						X							X	X
OU2B-SW-101DS-09	6/4/2009						X							X	X
OU2B-SW-103DD-09	6/4/2009						X							X	X
OU2B-SW-103DD-09	6/4/2009	MS, MSD												X	
OU2B-SW-103DS-09	6/4/2009						X							X	X
OU2B-SW-103DS-09	6/4/2009	MS, MSD													X
OU2B-SW-105DD-09	6/8/2009						X							X	X
OU2B-SW-105DS-09	6/8/2009						X							X	X
OU2B-SW-105DS-09	6/8/2009	MS, MSD												X	
OU2B-SW-105DD-09	6/8/2009						X							X	X
OU2B-SW-105DS-09	6/8/2009						X							X	X
OU2B-SW-105DS-09	6/8/2009	MS, MSD												X	
OU2B-SW-201DD-09	6/3/2009						X							X	X
OU2B-SW-201DS-09	6/3/2009						X							X	X
OU2B-SW-203DD-09	6/4/2009						X							X	X
OU2B-SW-203DS-09	6/4/2009						X							X	X
OU2B-SW-205DD-09	6/8/2009						X							X	X
OU2B-SW-205DS-09	6/8/2009						X							X	X
OU2B-SW-301DD-09	6/3/2009						X							X	X
OU2B-SW-301DS-09	6/3/2009						X							X	X
OU2B-SW-303DD-09	6/3/2009						X							X	X
OU2B-SW-303DS-09	6/3/2009						X							X	X
OU2B-SW-304DD-09	6/3/2009						X							X	X
OU2B-SW-304DS-09	6/3/2009						X							X	X
OU2B-SW-DHDD-09	6/4/2009						X							X	X
OU2B-SW-DHDS-09	6/4/2009						X							X	X
OU2B-SW-DUP01DD-09	6/3/2009	DUP					X							X	X
OU2B-SW-DUP01DS-09	6/8/2009	DUP					X							X	X
OU2B-SW-DUP01DS-09	6/8/2009	MS, MSD													X
OU2B-SW-FB1-113009	11/30/2009													X	X
OU2B-SW-GATE-1-110209	11/2/2009													X	X
OU2B-SW-GATE-1-110209	11/2/2009	MS, MSD												X	
OU2B-SW-GATE-1-110209B	11/2/2009													X	X
OU2B-SW-GATE-1-113009	11/30/2009														
OU2B-SW-GATE1-011210	1/12/2010														
OU2B-SW-GATE-1A-113009	11/30/2009													X	X
OU2B-SW-GATE-1A-011210	1/12/2010													X	X
OU2B-SW-GATE-1A-011210	1/12/2010	MS, MSD												X	
OU2B-SW-GATE-1A-060210	6/2/2010													X	X
OU2B-SW-GATE-1B-113009	11/30/2009													X	X
OU2B-SW-GATE-1B-113009	11/30/2009	MS, MSD												X	
OU2B-SW-GATE-1B-011210	1/12/2010													X	X
OU2B-SW-GATE-1B-060210	6/2/2010													X	X
OU2B-SW-GATE-1C-011210	1/12/2010													X	X
OU2B-SW-GATE-1C-060210	6/2/2010													X	X
OU2B-SW-GATE-2-120209	12/2/2009														
OU2B-SW-GATE2-011410	1/14/2010														
OU2B-SW-GATE-2A-120209	12/2/2009													X	X

TABLE I-1
SAMPLE SUMMARY SHEET

Baseline ESPP
Olin McIntosh OU-2

Sample ID	Sample Date	QA/QC Sample	Analysis: / Analytic Method: / Preservation: / Hold Time: Acid Volatile Sulfide — Allen et. al, 1991 EPA — Cool to 4° C — unpreserved — 14 days	Cesium-137 — SOP MSL-I-013 — Cool to 4° C — unpreserved — 28 days	Density — ASTM D2937 — Cool to 4° C — unpreserved — none established	Density — Standard Methods 2710F-Modified — Cool to 4° C — unpreserved — none established	Dissolved Organic Carbon — Standard Methods 5310B — Cool to 4° C — H_2,SO_4 — 28 days	Grain Size — ASTM D422 — Cool to 4° C — unpreserved — none established	Lead-210 — SOP MSL-I-012 — Cool to 4° C — unpreserved — 28 days	Mercury, Total — EPA 245.6 — Cool to 4° C — Wet Ice/Dry Ice — 28 days	Mercury, Total — SW846 Method 7470A SPLP — Cool to 4° C — unpreserved — 28 days	Mercury, Total — SW846 Method 7471 — Cool to 4° C — unpreserved — 28 days	Mercury, Total — SW846 Method 7471A — Cool to 4° C — unpreserved — 28 days	Mercury, Dissolved — EPA 1631E — Cool to 4° C — HNO_3 to pH <2 — 48 hrs. prior to preservation and 90 days after	Mercury, Total — EPA 1631, 1631E — Cool to 4° C — HNO_3 to pH <2 — 28 days for Sediment 48 hrs. prior to preservation and 90 days after for Surface Water
OU2B-SW-GATE-2A-011410	1/14/2010													X	X
OU2B-SW-GATE-2A-030910	3/9/2010													X	X
OU2B-SW-GATE-2A-060410	6/4/2010													X	X
OU2B-SW-GATE-2B-120209	12/2/2009													X	X
OU2B-SW-GATE-2B-011410	1/14/2010													X	X
OU2B-SW-GATE-2B-011410	1/14/2010	MS, MSD												X	
OU2B-SW-GATE-2B-030910	3/9/2010													X	X
OU2B-SW-GATE-2B-060410	6/4/2010													X	X
OU2B-SW-GATE-2C-120209	12/2/2009													X	X
OU2B-SW-GATE-2C-120209	12/2/2009	MS, MSD												X	
OU2B-SW-GATE-2C-011410	1/14/2010													X	X
OU2B-SW-GATE-2C-030910	3/9/2010													X	X
OU2B-SW-GATE-2C-060410	6/4/2010													X	X
OU2B-SW-GATE3-011810	1/18/2010														
OU2B-SW-GATE-3A-011810	1/18/2010													X	X
OU2B-SW-GATE-3A-011810	1/18/2010	MS, MSD												X	
OU2B-SW-GATE-3A-060710	6/7/2010													X	X
OU2B-SW-GATE-3B-011810	1/18/2010													X	X
OU2B-SW-GATE-3B-060710	6/7/2010													X	X
OU2B-SW-GATE-3C-011810	1/18/2010													X	X
OU2B-SW-GATE-3C-060710	6/7/2010													X	X
OU2B-SW-TBR-1-110209	11/2/2009													X	X
OU2B-SW-TBR-1-110209B	11/2/2009														X
OU2R-SED-101DC-09	6/5/2009		X			X		X			X				
OU2R-SED-101DNE-09	6/5/2009		X			X		X			X				
OU2R-SED-101DNW-09	6/5/2009		X			X		X			X				
OU2R-SED-101DSE-09	6/5/2009		X			X		X			X				
OU2R-SED-101DSW-09	6/5/2009		X			X		X			X				
OU2R-SED-102C-09	6/5/2009							X			X				
OU2R-SW-101DD-09	6/3/2009						X							X	X
OU2R-SW-101DS-09	6/3/2009						X							X	X
OU2R-SW-101DS-09	6/3/2009	MS, MSD												X	X
OU2-TSS-A1B-12009	1/20/2009							X							
OU2-TSS-A1B-101509	10/15/2009														
OU2-TSS-A1B-101609	10/16/2009														
OU2-TSS-A1B-101709	10/17/2009														
OU2-TSS-A1B-101809	10/18/2009														
OU2-TSS-A1B-101909	10/19/2009														
OU2-TSS-A1B-102009	10/20/2009														
OU2-TSS-A1B-102109	10/21/2009														
OU2-TSS-A1T-12009	1/20/2009							X							
OU2-TSS-A1T-101509	10/15/2009							X							
OU2-TSS-A1T-101609	10/16/2009														
OU2-TSS-A1T-101709	10/17/2009														
OU2-TSS-A1T-101809	10/18/2009														
OU2-TSS-A1T-101909	10/19/2009														
OU2-TSS-A1T-102009	10/20/2009							X							
OU2-TSS-A1T-102109	10/21/2009							X							
OU2-TSS-B1B-12009	1/20/2009														
OU2-TSS-B1B-101509	10/15/2009														
OU2-TSS-B1B-101609	10/16/2009														
OU2-TSS-B1B-101709	10/17/2009														
OU2-TSS-B1B-101809	10/18/2009														
OU2-TSS-B1B-101909	10/19/2009														
OU2-TSS-B1B-102009	10/20/2009														
OU2-TSS-B1B-102109	10/21/2009														
OU2-TSS-B1T-12009	1/20/2009														
OU2-TSS-B1T-101509	10/15/2009														
OU2-TSS-B1T-101609	10/16/2009														
OU2-TSS-B1T-101709	10/17/2009														
OU2-TSS-B1T-101809	10/18/2009														

TABLE I-1
SAMPLE SUMMARY SHEET

Baseline ESPP
Olin McIntosh OU-2

Sample ID	Sample Date	QA/QC Sample	Acid Volatile Sulfide Allen et. al, 1991 EPA Cool to 4° C unpreserved 14 days	Cesium-137 SOP MSL-I-013 Cool to 4° C unpreserved 28 days	Density ASTM D2937 Cool to 4° C unpreserved none established	Density Standard Methods 2710F-Modified Cool to 4° C unpreserved none established	Dissolved Organic Carbon Standard Methods 5310B Cool to 4° C H_2,SO_4 28 days	Grain Size ASTM D422 Cool to 4° C unpreserved none established	Lead-210 SOP MSL-I-012 Cool to 4° C unpreserved 28 days	Mercury, Total EPA 245.6 Cool to 4° C Wet Ice/Dry Ice 28 days	Mercury, Total SW846 Method 7470A SPLP Cool to 4° C unpreserved 28 days	Mercury, Total SW846 Method 7471 Cool to 4° C unpreserved 28 days	Mercury, Total SW846 Method 7471A Cool to 4° C unpreserved 28 days	Mercury, Dissolved EPA 1631E Cool to 4° C HNO_3 to pH <2 48 hrs. prior to preservation and 90 days after	Mercury, Total EPA 1631, 1631E Cool to 4° C HNO_3 to pH <2 28 days for Sediment 48 hrs. prior to preservation and 90 days after for Surface Water
OU2-TSS-B1T-101909	10/19/2009														
OU2-TSS-B1T-102009	10/20/2009														
OU2-TSS-B1T-102109	10/21/2009														
OU2-TSS-B2B-12009	1/20/2009														
OU2-TSS-B2B-101509	10/15/2009														
OU2-TSS-B2B-101609	10/16/2009														
OU2-TSS-B2B-101709	10/17/2009														
OU2-TSS-B2B-101809	10/18/2009														
OU2-TSS-B2B-101909	10/19/2009														
OU2-TSS-B2B-102009	10/20/2009														
OU2-TSS-B2B-102109	10/21/2009														
OU2-TSS-B2T-12009	1/20/2009														
OU2-TSS-B2T-101509	10/15/2009							X							
OU2-TSS-B2T-101609	10/16/2009														
OU2-TSS-B2T-101709	10/17/2009														
OU2-TSS-B2T-101809	10/18/2009														
OU2-TSS-B2T-101909	10/19/2009														
OU2-TSS-B2T-102009	10/20/2009							X							
OU2-TSS-B2T-102109	10/21/2009							X							
OU2-TSS-B3B-12009	1/20/2009														
OU2-TSS-B3B-101509	10/15/2009														
OU2-TSS-B3B-101609	10/16/2009														
OU2-TSS-B3B-101709	10/17/2009														
OU2-TSS-B3B-101809	10/18/2009														
OU2-TSS-B3B-101909	10/19/2009														
OU2-TSS-B3B-102009	10/20/2009														
OU2-TSS-B3B-102109	10/21/2009														
OU2-TSS-B3T-12009	1/20/2009														
OU2-TSS-B3T-101509	10/15/2009														
OU2-TSS-B3T-101609	10/16/2009														
OU2-TSS-B3T-101709	10/17/2009														
OU2-TSS-B3T-101809	10/18/2009														
OU2-TSS-B3T-101909	10/19/2009														
OU2-TSS-B3T-102009	10/20/2009														
OU2-TSS-B3T-102109	10/21/2009														
OU2-TSS-C1B-12009	1/20/2009														
OU2-TSS-C1B-101509	10/15/2009														
OU2-TSS-C1B-101609	10/16/2009														
OU2-TSS-C1B-101709	10/17/2009														
OU2-TSS-C1B-101809	10/18/2009														
OU2-TSS-C1B-101909	10/19/2009														
OU2-TSS-C1B-102009	10/20/2009														
OU2-TSS-C1B-102109	10/21/2009														
OU2-TSS-C1T-12009	1/20/2009														
OU2-TSS-C1T-101509	10/15/2009														
OU2-TSS-C1T-101609	10/16/2009														
OU2-TSS-C1T-101709	10/17/2009														
OU2-TSS-C1T-101809	10/18/2009														
OU2-TSS-C1T-101909	10/19/2009														
OU2-TSS-C1T-102009	10/20/2009														
OU2-TSS-C1T-102109	10/21/2009														
OU2-TSS-C2B-12009	1/20/2009							X							
OU2-TSS-C2B-101509	10/15/2009														
OU2-TSS-C2B-101609	10/16/2009														
OU2-TSS-C2B-101709	10/17/2009														
OU2-TSS-C2B-101809	10/18/2009														
OU2-TSS-C2B-101909	10/19/2009														
OU2-TSS-C2B-102009	10/20/2009														
OU2-TSS-C2B-102109	10/21/2009														
OU2-TSS-C2T-12009	1/20/2009							X							
OU2-TSS-C2T-101509	10/15/2009							X							

TABLE I-1
SAMPLE SUMMARY SHEET

Baseline ESPP
Olin McIntosh OU-2

Sample ID	Sample Date	QA/QC Sample	Acid Volatile Sulfide Allen et. al, 1991 EPA	Cesium-137 SOP MSL-I-013	Density ASTM D2937	Density Standard Methods 2710F-Modified	Dissolved Organic Carbon Standard Methods 5310B	Grain Size ASTM D422	Lead-210 SOP MSL-I-012	Mercury, Total EPA 245.6	Mercury, Total SW846 Method 7470A SPLP	Mercury, Total SW846 Method 7471	Mercury, Total SW846 Method 7471A	Mercury, Dissolved EPA 1631E	Mercury, Total EPA 1631, 1631E
Analysis:															
Analytic Method:															
Preservation:			Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C H_2,SO_4	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C Wet Ice/Dry Ice	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C HNO_3 to pH <2	Cool to 4° C HNO_3 to pH <2
Hold Time:			14 days	28 days	none established	none established	28 days	none established	28 days	28 days	28 days	28 days	28 days	48 hrs. prior to preservation and 90 days after	28 days for Sediment 48 hrs. prior to preservation and 90 days after for Surface Water
OU2-TSS-C2T-101609	10/16/2009														
OU2-TSS-C2T-101709	10/17/2009														
OU2-TSS-C2T-101809	10/18/2009														
OU2-TSS-C2T-101909	10/19/2009														
OU2-TSS-C2T-102009	10/20/2009							X							
OU2-TSS-C2T-102109	10/21/2009							X							
OU2-TSS-C3B-12009	1/20/2009														
OU2-TSS-C3B-101509	10/15/2009														
OU2-TSS-C3B-101609	10/16/2009														
OU2-TSS-C3B-101709	10/17/2009														
OU2-TSS-C3B-101809	10/18/2009														
OU2-TSS-C3B-101909	10/19/2009														
OU2-TSS-C3B-102009	10/20/2009														
OU2-TSS-C3B-102109	10/21/2009														
OU2-TSS-C3T-12009	1/20/2009														
OU2-TSS-C3T-101509	10/15/2009														
OU2-TSS-C3T-101609	10/16/2009														
OU2-TSS-C3T-101709	10/17/2009														
OU2-TSS-C3T-101809	10/18/2009														
OU2-TSS-C3T-101909	10/19/2009														
OU2-TSS-C3T-102009	10/20/2009														
OU2-TSS-C3T-102109	10/21/2009														
OU2-TSS-C4B-12009	1/20/2009														
OU2-TSS-C4B-101509	10/15/2009														
OU2-TSS-C4B-101609	10/16/2009														
OU2-TSS-C4B-101709	10/17/2009														
OU2-TSS-C4B-101809	10/18/2009														
OU2-TSS-C4B-101909	10/19/2009														
OU2-TSS-C4B-102009	10/20/2009														
OU2-TSS-C4B-102109	10/21/2009														
OU2-TSS-C4T-12009	1/20/2009														
OU2-TSS-C4T-101509	10/15/2009														
OU2-TSS-C4T-101609	10/16/2009														
OU2-TSS-C4T-101709	10/17/2009														
OU2-TSS-C4T-101809	10/18/2009														
OU2-TSS-C4T-101909	10/19/2009														
OU2-TSS-C4T-102009	10/20/2009														
OU2-TSS-C4T-102109	10/21/2009														
OU2-TSS-C5B-12009	1/20/2009							X							
OU2-TSS-C5B-101509	10/15/2009														
OU2-TSS-C5B-101609	10/16/2009														
OU2-TSS-C5B-101709	10/17/2009														
OU2-TSS-C5B-101809	10/18/2009														
OU2-TSS-C5B-101909	10/19/2009														
OU2-TSS-C5B-102009	10/20/2009														
OU2-TSS-C5B-102109	10/21/2009														
OU2-TSS-C5T-12009	1/20/2009							X							
OU2-TSS-C5T-101509	10/15/2009							X							
OU2-TSS-C5T-101609	10/16/2009														
OU2-TSS-C5T-101709	10/17/2009														
OU2-TSS-C5T-101809	10/18/2009														
OU2-TSS-C5T-101909	10/19/2009														
OU2-TSS-C5T-102009	10/20/2009							X							
OU2-TSS-C5T-102109	10/21/2009							X							
OU2-TSS-C6B-12009	1/20/2009														
OU2-TSS-C6B-101509	10/15/2009														
OU2-TSS-C6B-101609	10/16/2009														
OU2-TSS-C6B-101709	10/17/2009														
OU2-TSS-C6B-101809	10/18/2009														
OU2-TSS-C6B-101909	10/19/2009														
OU2-TSS-C6B-102009	10/20/2009														

TABLE I-1
SAMPLE SUMMARY SHEET

Baseline ESPP
Olin McIntosh OU-2

Sample ID	Sample Date	QA/QC Sample	Acid Volatile Sulfide Allen et. al, 1991 EPA Cool to 4° C unpreserved 14 days	Cesium-137 SOP MSL-I-013 Cool to 4° C unpreserved 28 days	Density ASTM D2937 Cool to 4° C unpreserved none established	Density Standard Methods 2710F-Modified Cool to 4° C unpreserved none established	Dissolved Organic Carbon Standard Methods 5310B Cool to 4° C H_2,SO_4 28 days	Grain Size ASTM D422 Cool to 4° C unpreserved none established	Lead-210 SOP MSL-I-012 Cool to 4° C unpreserved 28 days	Mercury, Total EPA 245.6 Cool to 4° C Wet Ice/Dry Ice 28 days	Mercury, Total SW846 Method 7470A SPLP Cool to 4° C unpreserved 28 days	Mercury, Total SW846 Method 7471 Cool to 4° C unpreserved 28 days	Mercury, Total SW846 Method 7471A Cool to 4° C unpreserved 28 days	Mercury, Dissolved EPA 1631E Cool to 4° C HNO_3 to pH <2 48 hrs. prior to preservation and 90 days after	Mercury, Total EPA 1631, 1631E Cool to 4° C HNO_3 to pH <2 28 days for Sediment 48 hrs. prior to preservation and 90 days after for Surface Water
OU2-TSS-C6B-102109	10/21/2009														
OU2-TSS-C6T-12009	1/20/2009														
OU2-TSS-C6T-101509	10/15/2009														
OU2-TSS-C6T-101609	10/16/2009														
OU2-TSS-C6T-101709	10/17/2009														
OU2-TSS-C6T-101809	10/18/2009														
OU2-TSS-C6T-101909	10/19/2009														
OU2-TSS-C6T-102009	10/20/2009														
OU2-TSS-C6T-102109	10/21/2009														
OU2-TSS-D1B-012009	1/20/2009														
OU2-TSS-D1B-101509	10/15/2009														
OU2-TSS-D1B-101609	10/16/2009														
OU2-TSS-D1B-101709	10/17/2009														
OU2-TSS-D1B-101809	10/18/2009														
OU2-TSS-D1B-101909	10/19/2009														
OU2-TSS-D1B-102009	10/20/2009														
OU2-TSS-D1B-102109	10/21/2009							X							
OU2-TSS-D1T-12009	1/20/2009							X							
OU2-TSS-D1T-101509	10/15/2009							X							
OU2-TSS-D1T-101609	10/16/2009														
OU2-TSS-D1T-101709	10/17/2009														
OU2-TSS-D1T-101809	10/18/2009														
OU2-TSS-D1T-101909	10/19/2009														
OU2-TSS-D1T-102009	10/20/2009							X							
OU2-TSS-D1T-102109	10/21/2009							X							
OU2-TSS-DUP01-101509	10/15/2009	DUP													
OU2-TSS-DUP01-101609	10/16/2009	DUP													
OU2-TSS-DUP01-101709	10/17/2009	DUP													
OU2-TSS-DUP01-101809	10/18/2009	DUP													
OU2-TSS-DUP01-101909	10/19/2009	DUP													
OU2-TSS-DUP01-102009	10/20/2009	DUP													
OU2-TSS-DUP01-102109	10/21/2009	DUP													
OU2-TSS-DUP02-101509	10/15/2009	DUP													
OU2-TSS-DUP02-101609	10/16/2009	DUP													
OU2-TSS-DUP02-101709	10/17/2009	DUP													
OU2-TSS-DUP02-101809	10/18/2009	DUP													
OU2-TSS-DUP02-101909	10/19/2009	DUP													
OU2-TSS-DUP02-102009	10/20/2009	DUP													
OU2-TSS-DUP02-102109	10/21/2009	DUP													
OU2-TSS-DUP03-101509	10/15/2009	DUP													
OU2-TSS-DUP03-101609	10/16/2009	DUP													
OU2-TSS-DUP03-101709	10/17/2009	DUP													
OU2-TSS-DUP03-101809	10/18/2009	DUP													
OU2-TSS-DUP03-101909	10/19/2009	DUP													
OU2-TSS-DUP03-102009	10/20/2009	DUP													
OU2-TSS-DUP03-102109	10/21/2009	DUP													
SDCR-1-CA-060309	6/3/2009					X		X							X
SDCR-1-CB-060309	6/3/2009					X		X							X
SDCR-1-CC-060309	6/3/2009					X		X							X
SDCR-1-CC-060309	6/3/2009	MS, MSD													X
SDCR-1-CD-060309	6/3/2009					X		X							X
SDCR-1-CE-060309	6/3/2009					X		X							X
SDCR-1-CF-060309	6/3/2009					X		X							X
SDCR1-C-FD-060309	6/3/2009	DUP													X
SDCR-1-FA-060309	6/3/2009														X
SDCR-1-FB-060309	6/3/2009														X
SDCR-1-FC-060309	6/3/2009														X
SDCR-1-FD-060309	6/3/2009														X
SDCR-1-FDUP-060309	6/3/2009	DUP													X
SDCR-1-FE-060309	6/3/2009														X
SDCR-1-FE-060309	6/3/2009	MS, MSD													X

TABLE I-1
SAMPLE SUMMARY SHEET

Baseline ESPP
Olin McIntosh OU-2

Sample ID	Sample Date	QA/QC Sample	Acid Volatile Sulfide Allen et. al, 1991 EPA Cool to 4° C unpreserved 14 days	Cesium-137 SOP MSL-I-013 Cool to 4° C unpreserved 28 days	Density ASTM D2937 Cool to 4° C unpreserved none established	Density Standard Methods 2710F-Modified Cool to 4° C unpreserved none established	Dissolved Organic Carbon Standard Methods 5310B Cool to 4° C H_2,SO_4 28 days	Grain Size ASTM D422 Cool to 4° C unpreserved none established	Lead-210 SOP MSL-I-012 Cool to 4° C unpreserved 28 days	Mercury, Total EPA 245.6 Cool to 4° C Wet Ice/Dry Ice 28 days	Mercury, Total SW846 Method 7470A SPLP Cool to 4° C unpreserved 28 days	Mercury, Total SW846 Method 7471 Cool to 4° C unpreserved 28 days	Mercury, Total SW846 Method 7471A Cool to 4° C unpreserved 28 days	Mercury, Dissolved EPA 1631E Cool to 4° C HNO_3 to pH <2 48 hrs. prior to preservation and 90 days after	Mercury, Total EPA 1631, 1631E Cool to 4° C HNO_3 to pH <2 28 days for Sediment 48 hrs. prior to preservation and 90 days after for Surface Water
Analysis: **Analytic Method:** **Preservation:** **Hold Time:**															
SDCR2-092809-0-2.6	9/28/2009								X						
SDCR2-092809-10.4-13.1	9/28/2009								X						
SDCR2-092809-104-110.4	9/28/2009								X						
SDCR2-092809-110.4-116.9	9/28/2009								X						
SDCR2-092809-116.9-123.3	9/28/2009								X						
SDCR2-092809-123.3-129.8	9/28/2009								X						
SDCR2-092809-129.8-136.2	9/28/2009								X						
SDCR2-092809-136.2-142.7	9/28/2009								X						
SDCR2-092809-142.7-149.1	9/28/2009								X						
SDCR2-092809-149.1-155.6	9/28/2009								X						
SDCR2-092809-15.7-18.3	9/28/2009								X						
SDCR2-092809-155.6-168.4	9/28/2009								X						
SDCR2-092809-168.4-181.3	9/28/2009								X						
SDCR2-092809-181.3-194.1	9/28/2009								X						
SDCR2-092809-194.1-207	9/28/2009								X						
SDCR2-092809-20.9-23.5	9/28/2009								X						
SDCR2-092809-207-219.8	9/28/2009								X						
SDCR2-092809-219.8-232.7	9/28/2009								X						
SDCR2-092809-232.7-245.5	9/28/2009								X						
SDCR2-092809-245.5-258.4	9/28/2009								X						
SDCR2-092809-258.4-271.2	9/28/2009								X						
SDCR2-092809-26.1-28.7	9/28/2009								X						
SDCR2-092809-271.2-284.1	9/28/2009								X						
SDCR2-092809-284.1-296.9	9/28/2009								X						
SDCR2-092809-31.3-33.9	9/28/2009								X						
SDCR2-092809-36.5-39.2	9/28/2009								X						
SDCR2-092809-39.2-41.8	9/28/2009								X						
SDCR2-092809-44.4-47	9/28/2009								X						
SDCR2-092809-49.6-52.2	9/28/2009								X						
SDCR2-092809-5.2-7.8	9/28/2009								X						
SDCR2-092809-54.8-57.4	9/28/2009								X						
SDCR2-092809-60-62.6	9/28/2009								X						
SDCR2-092809-65.3-71.7	9/28/2009								X						
SDCR2-092809-71.7-78.2	9/28/2009								X						
SDCR2-092809-78.2-84.6	9/28/2009								X						
SDCR2-092809-84.6-91.1	9/28/2009								X						
SDCR2-092809-91.1-97.5	9/28/2009								X						
SDCR2-092809-97.5-104	9/28/2009								X						
SDCR2-CA-092409	9/24/2009				X			X							
SDCR2-CB-092409	9/24/2009				X			X							
SDCR2-CC-092409	9/24/2009												X		
SDCR2-CD-092409	9/24/2009				X			X					X		
SDCR2-CE-092409	9/24/2009				X			X					X		
SDCR2-CF-092409	9/24/2009				X			X					X		
SDCR2-CG-092409	9/24/2009				X			X					X		
SDCR2-CH-092409	9/24/2009				X			X					X		
SDCR2-CI-092409	9/24/2009				X			X					X		
SDCR2-CJ-092409	9/24/2009				X			X					X		
SDCR2-CK-092409	9/24/2009				X			X					X		
SDCR2-FSA-092309	9/23/2009												X		
SDCR2-FSB-092309	9/23/2009												X		
SDCR2-FSC-092309	9/23/2009												X		
SDCR2-FSD-092309	9/23/2009												X		
SDCR2-FSE-092309	9/23/2009												X		
SDCR3-CA-092709	9/27/2009				X			X			X		X		
SDCR3-CB-092709	9/27/2009				X			X							
SDCR3-CC-092709	9/27/2009												X		
SDCR3-CD-092709	9/27/2009				X			X					X		
SDCR3-CE-092709	9/27/2009				X			X					X		
SDCR3-CF-092709	9/27/2009				X			X					X		
SDCR3-CG-092709	9/27/2009				X			X					X		

TABLE I-1
SAMPLE SUMMARY SHEET

Baseline ESPP
Olin McIntosh OU-2

Sample ID	Sample Date	QA/QC Sample	Analysis: / Analytic Method: / Preservation: / Hold Time: Acid Volatile Sulfide — Allen et. al, 1991 EPA — Cool to 4° C — unpreserved — 14 days	Cesium-137 — SOP MSL-I-013 — Cool to 4° C — unpreserved — 28 days	Density — ASTM D2937 — Cool to 4° C — unpreserved — none established	Density — Standard Methods 2710F-Modified — Cool to 4° C — unpreserved — none established	Dissolved Organic Carbon — Standard Methods 5310B — Cool to 4° C — H_2,SO_4 — 28 days	Grain Size — ASTM D422 — Cool to 4° C — unpreserved — none established	Lead-210 — SOP MSL-I-012 — Cool to 4° C — unpreserved — 28 days	Mercury, Total — EPA 245.6 — Cool to 4° C — Wet Ice/Dry Ice — 28 days	Mercury, Total — SW846 Method 7470A SPLP — Cool to 4° C — unpreserved — 28 days	Mercury, Total — SW846 Method 7471 — Cool to 4° C — unpreserved — 28 days	Mercury, Total — SW846 Method 7471A — Cool to 4° C — unpreserved — 28 days	Mercury, Dissolved — EPA 1631E — Cool to 4° C — HNO_3 to pH <2 — 48 hrs. prior to preservation and 90 days after	Mercury, Total — EPA 1631, 1631E — Cool to 4° C — HNO_3 to pH <2 — 28 days for Sediment 48 hrs. prior to preservation and 90 days after for Surface Water
SDCR3-CH-092709	9/27/2009				X			X					X		
SDCR3-CI-092709	9/27/2009				X			X					X		
SDCR3-CJ-092709	9/27/2009				X			X					X		
SDCR3-CJ-092709	9/27/2009	MS, MSD											X		
SDCR3-CK-092709	9/27/2009				X			X					X		
SDCR3-FSA-092309	9/23/2009												X		
SDCR3-FSB-092309	9/23/2009												X		
SDCR3-FSC-092309	9/23/2009												X		
SDCR3-FSD-092309	9/23/2009												X		
SDCR3-FSE-092309	9/23/2009												X		
SDCR4-CA-092709	9/27/2009				X			X					X		
SDCR4-CB-092709	9/27/2009				X			X					X		
SDCR4-CC-092709	9/27/2009				X			X					X		
SDCR4-CD-092709	9/27/2009				X			X					X		
SDCR4-CE-092709	9/27/2009				X			X					X		
SDCR4-CF-092709	9/27/2009				X			X					X		
SDCR4-CF-092709	9/27/2009	MS, MSD											X		
SDCR4-CG-092709	9/27/2009				X			X					X		
SDCR4-CH-092709	9/27/2009				X			X					X		
SDCR4-CI-092709	9/27/2009												X		
SDCR5-CA-092709	9/27/2009				X			X					X		
SDCR5-CB-092709	9/27/2009				X			X					X		
SDCR5-CC-092709	9/27/2009				X			X					X		
SDCR5-CD-092709	9/27/2009				X			X					X		
SDCR5-CE-092709	9/27/2009				X			X					X		
SDCR5-CF-092709	9/27/2009				X			X					X		
SDCR5-CG-092709	9/27/2009				X			X					X		
SDCR5-CH-092709	9/27/2009				X			X					X		
SDCR5-CI-092709	9/27/2009												X		
SDCR6-CA-092709	9/27/2009				X			X					X		
SDCR6-CB-092709	9/27/2009				X			X					X		
SDCR6-CC-092709	9/27/2009				X			X					X		
SDCR6-CD-092709	9/27/2009				X			X					X		
SDCR6-CE-092709	9/27/2009				X			X					X		
SDCR6-CF-092709	9/27/2009				X			X					X		
SDCR6-CG-092709	9/27/2009				X			X					X		
SDCR6-CH-092709	9/27/2009				X			X					X		
SDCR7-CA-092709	9/27/2009				X			X					X		
SDCR7-CB-092709	9/27/2009				X			X					X		
SDCR7-CC-092709	9/27/2009				X			X					X		
SDCR7-CD-092709	9/27/2009				X			X					X		
SDCR7-CE-092709	9/27/2009				X			X					X		
SDCR7-CF-092709	9/27/2009				X			X					X		
SDCR7-CG-092709	9/27/2009				X			X					X		
SDCR7-CH-092709	9/27/2009				X			X					X		
SDCR8-092809-0-2.2	9/28/2009								X						
SDCR8-092809-103.6-109.6	9/28/2009			X					X						
SDCR8-092809-109.6-115.6	9/28/2009			X					X						
SDCR8-092809-115.6-121.5	9/28/2009			X					X						
SDCR8-092809-121.5-127.5	9/28/2009			X					X						
SDCR8-092809-127.5-133.5	9/28/2009			X					X						
SDCR8-092809-13.4-15.6	9/28/2009								X						
SDCR8-092809-133.5-139.5	9/28/2009			X					X						
SDCR8-092809-139.5-151.7	9/28/2009			X					X						
SDCR8-092809-151.7-163.9	9/28/2009			X					X						
SDCR8-092809-163.9-176.2	9/28/2009			X					X						
SDCR8-092809-17.8-20.1	9/28/2009								X						
SDCR8-092809-176.2-188.4	9/28/2009			X					X						
SDCR8-092809-188.4-200.6	9/28/2009			X					X						
SDCR8-092809-200.6-212.9	9/28/2009								X						
SDCR8-092809-212.9-225.1	9/28/2009								X						

TABLE I-1
SAMPLE SUMMARY SHEET

Baseline ESPP
Olin McIntosh OU-2

Sample ID	Sample Date	QA/QC Sample	Analysis: / Analytic Method: / Preservation: / Hold Time: Acid Volatile Sulfide — Allen et. al, 1991 EPA — Cool to 4° C — unpreserved — 14 days	Cesium-137 — SOP MSL-I-013 — Cool to 4° C — unpresered — 28 days	Density — ASTM D2937 — Cool to 4° C — unpresered — none established	Density — Standard Methods 2710F-Modified — Cool to 4° C — unpresered — none established	Dissolved Organic Carbon — Standard Methods 5310B — Cool to 4° C — H_2,SO_4 — 28 days	Grain Size — ASTM D422 — Cool to 4° C — unpresered — none established	Lead-210 — SOP MSL-I-012 — Cool to 4° C — unpresered — 28 days	Mercury, Total — EPA 245.6 — Cool to 4° C — Wet Ice/Dry Ice — 28 days	Mercury, Total — SW846 Method 7470A SPLP — Cool to 4° C — unpresered — 28 days	Mercury, Total — SW846 Method 7471 — Cool to 4° C — unpresered — 28 days	Mercury, Total — SW846 Method 7471A — Cool to 4° C — unpresered — 28 days	Mercury, Dissolved — EPA 1631E — Cool to 4° C — HNO_3 to pH <2 — 48 hrs. prior to preservation and 90 days after	Mercury, Total — EPA 1631, 1631E — Cool to 4° C — HNO_3 to pH <2 — 28 days for Sediment 48 hrs. prior to preservation and 90 days after for Surface Water
SDCR8-092809-22.3-24.5	9/28/2009								X						
SDCR8-092809-225.1-237.3	9/28/2009								X						
SDCR8-092809-237.3-249.5	9/28/2009								X						
SDCR8-092809-249.5-261.8	9/28/2009								X						
SDCR8-092809-26.8-29	9/28/2009								X						
SDCR8-092809-261.8-274	9/28/2009								X						
SDCR8-092809-274-286.2	9/28/2009								X						
SDCR8-092809-286.2-298.5	9/28/2009								X						
SDCR8-092809-31.2-33.5	9/28/2009								X						
SDCR8-092809-35.7-37.9	9/28/2009								X						
SDCR8-092809-4.5-6.7	9/28/2009								X						
SDCR8-092809-40.1-42.4	9/28/2009								X						
SDCR8-092809-44.6-46.8	9/28/2009								X						
SDCR8-092809-469.1-51.3	9/28/2009								X						
SDCR8-092809-55.8-61.7	9/28/2009								X						
SDCR8-092809-61.7-67.7	9/28/2009								X						
SDCR8-092809-67.7-73.7	9/28/2009								X						
SDCR8-092809-73.7-79.7	9/28/2009								X						
SDCR8-092809-79.7-85.7	9/28/2009								X						
SDCR8-092809-8.9-11.2	9/28/2009								X						
SDCR8-092809-85.7-91.6	9/28/2009			X					X						
SDCR8-092809-91.6-97.6	9/28/2009			X					X						
SDCR8-092809-97.6-103.6	9/28/2009			X					X						
SDCR8-CA-092809	9/28/2009				X			X							
SDCR8-CB-092809	9/28/2009				X			X							
SDCR8-CC-092809	9/28/2009												X		
SDCR8-CD-092809	9/28/2009				X			X					X		
SDCR8-CE-092809	9/28/2009				X			X					X		
SDCR8-CF-092809	9/28/2009				X			X					X		
SDCR8-CG-092809	9/28/2009				X			X					X		
SDCR8-CH-092809	9/28/2009				X			X					X		
SDCR8-CH-092809	9/28/2009	MS, MSD											X		
SDCR8-CI-092809	9/28/2009				X			X					X		
SDCR8-CJ-092809	9/28/2009				X			X					X		
SDCR8-CK-092809	9/28/2009				X			X					X		
SDCR8-CL-092809	9/28/2009				X			X					X		
SDCR8-FSA-092409	9/24/2009												X		
SDCR8-FSB-092409	9/24/2009												X		
SDCR8-FSC-092409	9/24/2009												X		
SDCR8-FSD-092409	9/24/2009												X		
SDCR8-FSE-092409	9/24/2009												X		
SDCR8-FSE-092409	9/24/2009	MS, MSD											X		
SDCR9-092809-0-2.4	9/28/2009								X						
SDCR9-092809-100.6-106.4	9/28/2009			X					X						
SDCR9-092809-106.4-112.2	9/28/2009			X					X						
SDCR9-092809-112.2-118	9/28/2009			X					X						
SDCR9-092809-118-123.7	9/28/2009			X					X						
SDCR9-092809-123.7-129.5	9/28/2009								X						
SDCR9-092809-129.5-135.3	9/28/2009								X						
SDCR9-092809-135.3-141	9/28/2009								X						
SDCR9-092809-14.5-16.9	9/28/2009								X						
SDCR9-092809-141-152.4	9/28/2009			X					X						
SDCR9-092809-152.4-163.8	9/28/2009			X					X						
SDCR9-092809-163.8-175.1	9/28/2009								X						
SDCR9-092809-175.1-186.5	9/28/2009								X						
SDCR9-092809-186.5-198.1	9/28/2009								X						
SDCR9-092809-19.3-21.7	9/28/2009								X						
SDCR9-092809-24.1-26.5	9/28/2009								X						
SDCR9-092809-28.9-31.3	9/28/2009								X						
SDCR9-092809-33.7-36.2	9/28/2009								X						
SDCR9-092809-38.6-41.0	9/28/2009								X						

TABLE I-1
SAMPLE SUMMARY SHEET

Baseline ESPP
Olin McIntosh OU-2

Sample ID	Sample Date	QA/QC Sample	Analysis: / Analytic Method: / Preservation: / Hold Time:	Acid Volatile Sulfide Allen et. al, 1991 EPA Cool to 4° C unpreserved 14 days	Cesium-137 SOP MSL-I-013 Cool to 4° C unpreserved 28 days	Density ASTM D2937 Cool to 4° C unpreserved none established	Density Standard Methods 2710F-Modified Cool to 4° C unpreserved none established	Dissolved Organic Carbon Standard Methods 5310B Cool to 4° C H_2,SO_4 28 days	Grain Size ASTM D422 Cool to 4° C unpreserved none established	Lead-210 SOP MSL-I-012 Cool to 4° C unpreserved 28 days	Mercury, Total EPA 245.6 Cool to 4° C Wet Ice/Dry Ice 28 days	Mercury, Total SW846 Method 7470A SPLP Cool to 4° C unpreserved 28 days	Mercury, Total SW846 Method 7471 Cool to 4° C unpreserved 28 days	Mercury, Total SW846 Method 7471A Cool to 4° C unpreserved 28 days	Mercury, Dissolved EPA 1631E Cool to 4° C HNO_3 to pH <2 48 hrs. prior to preservation and 90 days after	Mercury, Total EPA 1631, 1631E Cool to 4° C HNO_3 to pH <2 28 days for Sediment 48 hrs. prior to preservation and 90 days after for Surface Water
SDCR9-092809-4.8-7.2	9/28/2009									X							
SDCR9-092809-43.4-45.8	9/28/2009									X							
SDCR9-092809-48.2-50.6	9/28/2009									X							
SDCR9-092809-53-55.4	9/28/2009									X							
SDCR9-092809-55.4-57.8	9/28/2009									X							
SDCR9-092809-57.8-60.3	9/28/2009									X							
SDCR9-092809-60.3-66.0	9/28/2009									X							
SDCR9-092809-66.0-71.8	9/28/2009									X							
SDCR9-092809-71.8-77.6	9/28/2009									X							
SDCR9-092809-77.6-83.3	9/28/2009				X					X							
SDCR9-092809-83.3-89.1	9/28/2009				X					X							
SDCR9-092809-89.1-94.9	9/28/2009				X					X							
SDCR9-092809-9.6-12.1	9/28/2009									X							
SDCR9-092809-94.9-100.6	9/28/2009				X					X							
SDCR9-CA-092609	9/26/2009					X			X			X		X			
SDCR9-CA-092609	9/26/2009	MS, MSD										X					
SDCR9-CB-092609	9/26/2009					X			X					X			
SDCR9-CC-092609	9/26/2009					X			X					X			
SDCR9-CD-092609	9/26/2009					X			X					X			
SDCR9-CE-092609	9/26/2009					X			X					X			
SDCR9-CF-092609	9/26/2009													X			
SDCR10-CA-092609	9/26/2009					X			X					X			
SDCR10-CA-092609	9/26/2009	MS, MSD												X			
SDCR10-CB-092609	9/26/2009					X			X					X			
SDCR10-CC-092609	9/26/2009					X			X					X			
SDCR10-CD-092609	9/26/2009					X			X					X			
SDCR10-CE-092609	9/26/2009					X			X					X			
SDCR10-CE-092609	9/26/2009	MS, MSD												X			
SDCR10-CF-092609	9/26/2009					X			X					X			
SDCR11-CA-092609	9/26/2009					X			X								
SDCR11-CB-092609	9/26/2009					X			X								
SDCR11-CC-092609	9/26/2009													X			
SDCR11-CD-092609	9/26/2009					X			X					X			
SDCR11-CE-092609	9/26/2009					X			X					X			
SDCR11-CF-092609	9/26/2009					X			X					X			
SDCR11-FSA-092509	9/25/2009													X			
SDCR11-FSB-092509	9/25/2009													X			
SDCR11-FSC-092509	9/25/2009													X			
SDCR11-FSD-092509	9/25/2009													X			
SDCR11-FSE-092509	9/25/2009													X			
SDCR12-CA-092509	9/25/2009					X			X								
SDCR12-CB-092509	9/25/2009					X			X								
SDCR12-CC-092509	9/25/2009													X			
SDCR12-CD-092509	9/25/2009					X			X					X			
SDCR12-CE-092509	9/25/2009					X			X					X			
SDCR12-CE-092509	9/25/2009	MS, MSD												X			
SDCR12-CF-092509	9/25/2009					X			X					X			
SDCR12-CG-092509	9/25/2009					X			X					X			
SDCR12-FSA-092509	9/25/2009													X			
SDCR12-FSB-092509	9/25/2009													X			
SDCR12-FSC-092509	9/25/2009													X			
SDCR12-FSD-092509	9/25/2009													X			
SDCR12-FSE-092509	9/25/2009													X			
SDCR12-FSE-092509	9/25/2009	MS, MSD												X			
SDCR13-CA-092609	9/26/2009					X			X					X			
SDCR13-CB-092609	9/26/2009					X			X					X			
SDCR13-CC-092609	9/26/2009					X			X					X			
SDCR13-CD-092609	9/26/2009					X			X					X			
SDCR13-CE-092609	9/26/2009					X			X					X			
SDCR-CDUP01-092409	9/24/2009	DUP															
SDCR-CDUP03-092709	9/27/2009	DUP												X			

TABLE I-1
SAMPLE SUMMARY SHEET

Baseline ESPP
Olin McIntosh OU-2

Sample ID	Sample Date	QA/QC Sample	Acid Volatile Sulfide Allen et. al, 1991 EPA	Cesium-137 SOP MSL-I-013	Density ASTM D2937	Density Standard Methods 2710F-Modified	Dissolved Organic Carbon Standard Methods 5310B	Grain Size ASTM D422	Lead-210 SOP MSL-I-012	Mercury, Total EPA 245.6	Mercury, Total SW846 Method 7470A SPLP	Mercury, Total SW846 Method 7471	Mercury, Total SW846 Method 7471A	Mercury, Dissolved EPA 1631E	Mercury, Total EPA 1631, 1631E
Analysis:															
Analytic Method:															
Preservation:			Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C H_2,SO_4	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C Wet Ice/Dry Ice	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C HNO_3 to pH <2	Cool to 4° C HNO_3 to pH <2
Hold Time:			14 days	28 days	none established	none established	28 days	none established	28 days	28 days	28 days	28 days	28 days	48 hrs. prior to preservation and 90 days after	28 days for Sediment 48 hrs. prior to preservation and 90 days after for Surface Water
SDCRCDUP04-092709	9/27/2009	DUP											X		
SDCRCDUP05-092709	9/27/2009	DUP											X		
SDCRCDUP06-092809	9/28/2009	DUP													
SDCR-CDUP07-092609	9/26/2009	DUP											X		
SDCR-CDUP08-092609	9/26/2009	DUP											X		
SDCR-CDUP09-092609	9/26/2009	DUP											X		
SDCR-CDUP10-092609	9/26/2009	DUP											X		
SDCRDUP02-092709	9/27/2009	DUP													
SDCR-FSDUP01-092309	9/23/2009												X		
SDCR-FSDUP01-092309	9/23/2009	MS, MSD													
SDCR-FSDUP02-092309	9/23/2009												X		
SDCR-FSDUP03-092509	9/25/2009	DUP											X		
SDPW1-0-2-0909	9/23/2009														X
SDPW1-0-4-0909	10/26/2009														
SDPW1-2-4-0909	9/23/2009														X
SDPW1-4-8-0909	9/23/2009														X
SDPW1-8-12-0909	9/23/2009														X
SDPW1-8-18-0909	10/26/2009														
SDPW1-12-18-0909	9/23/2009														X
SDPW2-0-2-0909	9/23/2009														X
SDPW2-0-4-0909	10/26/2009														
SDPW2-2-4-0909	9/23/2009														X
SDPW2-4-8-0909	9/23/2009														X
SDPW2-8-12-0909	9/23/2009														X
SDPW2-8-18-0909	10/26/2009														
SDPW2-12-18-0909	9/23/2009														X
SDPW3-0-2-0909	9/23/2009														X
SDPW3-0-4-0909	10/26/2009														
SDPW3-0-4-0909	10/26/2009	MS, MSD													
SDPW3-2-4-0909	9/23/2009														X
SDPW3-4-8-0909	9/23/2009														X
SDPW3-4-8-0909	10/26/2009	MS, MSD													
SDPW3-8-12-0909	9/23/2009														X
SDPW3-8-18-0909	10/26/2009														
SDPW3-8-18-0909	10/26/2009	MS, MSD													
SDPW3-12-18-0909	9/23/2009														X
SDPW8-0-2-0909	9/24/2009														X
SDPW8-0-4-0909	10/26/2009														
SDPW8-2-4-0909	9/24/2009														X
SDPW8-4-8-0909	9/24/2009														X
SDPW8-8-12-0909	9/24/2009														X
SDPW8-8-18-0909	10/26/2009														
SDPW8-12-18-0909	9/24/2009														X
SDPW11-0-2-0909	9/25/2009														X
SDPW11-0-4-0909	10/26/2009														
SDPW11-2-4-0909	9/25/2009														X
SDPW11-4-8-0909	9/25/2009														X
SDPW11-8-12-0909	9/25/2009														X
SDPW11-8-18-0909	10/26/2009														
SDPW11-12-18-0909	9/25/2009														X
SDPW12-0-2-0909	9/25/2009														X
SDPW12-0-4-0909	10/26/2009														
SDPW12-2-4-0909	9/25/2009														X
SDPW12-4-8-0909	9/25/2009														X
SDPW12-8-12-0909	9/25/2009														X
SDPW12-8-18-0909	10/26/2009														
SDPW12-12-18-0909	9/25/2009														X
SDPWDUP01-0-2-0909	9/25/2009	DUP													X
SDPWDUP01-0-4-0909	10/26/2009	DUP													
SDPWDUP01-12-18-0909	9/25/2009	DUP													X
SDPWDUP01-2-4-0909	9/25/2009	DUP													X

TABLE I-1
SAMPLE SUMMARY SHEET

Baseline ESPP
Olin McIntosh OU-2

		Analysis:	Acid Volatile Sulfide	Cesium-137	Density	Density	Dissolved Organic Carbon	Grain Size	Lead-210	Mercury, Total	Mercury, Total	Mercury, Total	Mercury, Total	Mercury, Dissolved	Mercury, Total
		Analytic Method:	Allen et. al, 1991 EPA	SOP MSL-I-013	ASTM D2937	Standard Methods 2710F-Modified	Standard Methods 5310B	ASTM D422	SOP MSL-I-012	EPA 245.6	SW846 Method 7470A SPLP	SW846 Method 7471	SW846 Method 7471A	EPA 1631E	EPA 1631, 1631E
		Preservation:	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C H_2,SO_4	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C Wet Ice/Dry Ice	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C HNO_3 to pH <2	Cool to 4° C HNO_3 to pH <2
		Hold Time:	14 days	28 days	none established	none established	28 days	none established	28 days	28 days	28 days	28 days	28 days	48 hrs. prior to preservation and 90 days after	28 days for Sediment 48 hrs. prior to preservation and 90 days after for Surface Water
Sample ID	**Sample Date**	**QA/QC Sample**													
SDPWDUP01-4-8-0909	9/25/2009	DUP													X
SDPWDUP01-8-12-0909	9/25/2009	DUP													X
SDPWDUP01-8-18-0909	10/26/2009	DUP													
SDPWDUP03-0-2-0909	9/25/2009	DUP													X
SDPWDUP03-12-18-0909	9/25/2009	DUP													X
SDPWDUP03-2-4-0909	9/25/2009	DUP													X
SDPWDUP03-4-8-0909	9/25/2009	DUP													X
SDPWDUP03-8-12-0909	9/25/2009	DUP													X
SDPWDUP2-0-4-0909	10/26/2009	DUP													
SDPWDUP2-4-8-0909	10/26/2009	DUP													
SDPWDUP2-8-18-0909	10/26/2009	DUP													
SW-01-30-01	3/1/2009														
SW-01-30-04	3/2/2009														
SW-01-30-05	3/3/2009														
SW-01-30-07	3/5/2009														
SW-01-30-12	3/15/2009														
SW-01-30-15	3/6/2009														
SW-01-30-16	3/10/2009														
SW-01-30-18	3/11/2009														
SW-01-30-19	3/12/2009														
SW-01-30-20	3/13/2009														
SW-01-30-21	3/14/2009														
SW-01-30-23	3/17/2009														
SW-01-31-01	10/24/2009														
SW-01-31-02	10/24/2009														
SW-01-31-03	10/25/2009														
SW-01-31-13	10/24/2009														
SW-01-31-14	10/24/2009														
SW-01-31-15	10/25/2009														

TABLE I-1
SAMPLE SUMMARY SHEET

Baseline ESPP
Olin McIntosh OU-2

Sample ID	Sample Date	QA/QC Sample	Mercury, Total SM 8080(M)/EPA 1631E Simultaneously Extracted	Metals, Total EPA 1638M Simultaneously Extracted Cd, Cu, Pb, Ni, Zn	Methylmercury, Dissolved EPA 1630 draft	Methylmercury, Total EPA 1630 draft	Percent Lipids Standard Methods	Percent Moisture Standard Methods D2216	Percent Moisture Standard Methods 2540G	Percent Solids Standard Methods 2540G	Pesticides SW846 Method 8081	Pesticides SW846 Method 8081A	Sulfide SW846 Method 9030A	Sulfate SW846 Method 9038	Total Alkalinity Standard Methods 2320B
Analysis:															
Analytic Method:			SM 8080(M)/EPA 1631E Simultaneously Extracted	EPA 1638M Simultaneously Extracted Cd, Cu, Pb, Ni, Zn	EPA 1630 draft	EPA 1630 draft	Standard Methods	Standard Methods D2216	Standard Methods 2540G	Standard Methods 2540G	SW846 Method 8081	SW846 Method 8081A	SW846 Method 9030A	SW846 Method 9038	Standard Methods 2320B
Preservation:			Cool to 4° C unpreserved	Cool to 4° C unpreserved	4° C during shipping, 0.5% HCl within 48 hrs.	4° C during shipping, 0.5% HCl within 48 hrs.	Cool to 4° C Wet ice/Dry Ice	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved
Hold Time:			28 days for Sediment 48 hrs. prior to preservation and 90 days after for Surface Water	180 days	180 days	28 days for Sediment 180 days for Surface Water	14 days	none established	none established	none established	14 days	14 days	7 days	14 days	14 days
BKGD-060909	6/9/2009														
BKGD-060909	6/9/2009	MS, MSD													
OU2B-FPSB1-10-0-1	7/11/2010					X				X	X				
OU2B-FPSB1-10-1-2	7/11/2010					X				X					
OU2B-FPSB1-10-2-6	7/11/2010									X					
OU2B-FPSB1-10-6-12	7/11/2010									X					
OU2B-FPSB2-10-0-1	7/11/2010					X				X	X				
OU2B-FPSB2-10-1-2	7/11/2010					X				X					
OU2B-FPSB2-10-2-6	7/11/2010									X					
OU2B-FPSB2-10-6-12	7/11/2010									X					
OU2B-FPSB3/4-10-0-12	7/10/2010														
OU2B-FPSB3-10-0-1	7/10/2010					X				X	X				
OU2B-FPSB3-10-1-2	7/10/2010					X				X					
OU2B-FPSB3-10-2-6	7/10/2010									X					
OU2B-FPSB3-10-6-12	7/10/2010									X					
OU2B-FPSB4-10-0-1	7/10/2010					X				X	X				
OU2B-FPSB4-10-1-2	7/10/2010					X				X					
OU2B-FPSB4-10-2-6	7/10/2010									X					
OU2B-FPSB4-10-6-12	7/10/2010									X					
OU2B-FPSB5/6-10-0-12	7/10/2010														
OU2B-FPSB5-10-0-1	7/9/2010					X				X	X				
OU2B-FPSB5-10-1-2	7/9/2010					X				X					
OU2B-FPSB5-10-2-6	7/9/2010									X					
OU2B-FPSB5-10-6-12	7/9/2010									X					
OU2B-FPSB6-10-0-1	7/10/2010					X				X	X				
OU2B-FPSB6-10-0-1	7/10/2010	MS													
OU2B-FPSB6-10-1-2	7/10/2010					X				X					
OU2B-FPSB6-10-2-6	7/10/2010									X					
OU2B-FPSB6-10-2-6	7/10/2010	MS, MSD													
OU2B-FPSB6-10-6-12	7/10/2010									X					
OU2B-FPSBDUP01-10	7/11/2010	DUP				X				X					
OU2B-FPSBDUP02-10	7/10/2010	DUP				X				X	X				
OU2B-FPSBDUP03-10	7/9/2010	DUP				X				X	X				
OU2B-FPSS10-10	7/9/2010									X	X				
OU2B-FPSS1-10	7/9/2010									X	X				
OU2B-FPSS11-10	7/9/2010									X	X				
OU2B-FPSS11-10	7/9/2010	MS, MSD													
OU2B-FPSS12-10	7/12/2010									X	X				
OU2B-FPSS13/14-10	7/8/2010														
OU2B-FPSS13-10	7/8/2010									X					
OU2B-FPSS14-10	7/8/2010									X	X				
OU2B-FPSS15-10	7/12/2010									X	X				
OU2B-FPSS2-10	7/11/2010									X					
OU2B-FPSS3-10	7/11/2010									X	X				
OU2B-FPSS4-10	7/9/2010									X	X				
OU2B-FPSS5-10	7/11/2010									X					
OU2B-FPSS6-10	7/9/2010									X	X				
OU2B-FPSS7-10	7/9/2010									X	X				
OU2B-FPSS7-10	7/9/2010	MS, MSD													
OU2B-FPSS8-10	7/9/2010									X	X				
OU2B-FPSS9-10	7/11/2010									X	X				
OU2B-FPSSDUP01-10	7/9/2010	DUP								X	X				
OU2B-FPSSDUP02-10	7/8/2010	DUP								X	X				
OU2B-FPSSDUP02-10	7/8/2010	MS													
OU2B-FPVSB1-10	7/7/2010					X	X				X				
OU2B-FPVSB3-10	7/8/2010					X	X				X				
OU2B-FPVSB4-10	7/8/2010					X	X				X				
OU2B-FPVSB5-10	7/7/2010					X	X				X				
OU2B-FPVSS10-10	7/8/2010					X	X				X				
OU2B-FPVSS10-10	7/8/2010	MS, MSD				X									
OU2B-FPVSS1-10	7/7/2010					X	X				X				

TABLE I-1
SAMPLE SUMMARY SHEET

Baseline ESPP
Olin McIntosh OU-2

Sample ID	Sample Date	QA/QC Sample	Analysis: / Analytic Method: / Preservation: / Hold Time: Mercury, Total SM 8080(M)/EPA 1631E Simultaneously Extracted; Cool to 4° C unpreserved; 28 days for Sediment 48 hrs. prior to preservation and 90 days after for Surface Water	Metals, Total EPA 1638M Simultaneously Extracted Cd, Cu, Pb, Ni, Zn; Cool to 4° C unpreserved; 180 days	Methylmercury, Dissolved EPA 1630 draft; 4° C during shipping, 0.5% HCl within 48 hrs.; 180 days	Methylmercury, Total EPA 1630 draft; 4° C during shipping, 0.5% HCl within 48 hrs. 28 days for Sediment 180 days for Surface Water	Percent Lipids Standard Methods; Cool to 4° C Wet ice/Dry Ice; 14 days	Percent Moisture Standard Methods D2216; Cool to 4° C unpreserved; none established	Percent Moisture Standard Methods 2540G; Cool to 4° C unpreserved; none established	Percent Solids Standard Methods 2540G; Cool to 4° C unpreserved; none established	Pesticides SW846 Method 8081; Cool to 4° C unpreserved; 14 days	Pesticides SW846 Method 8081A; Cool to 4° C unpreserved; 14 days	Sulfide SW846 Method 9030A; Cool to 4° C unpreserved; 7 days	Sulfate SW846 Method 9038; Cool to 4° C unpreserved; 14 days	Total Alkalinity Standard Methods 2320B; Cool to 4° C unpreserved; 14 days
OU2B-FPVSS11-10	7/7/2010					X	X				X				
OU2B-FPVSS12-10	7/7/2010					X	X				X				
OU2B-FPVSS14-10	7/7/2010					X	X				X				
OU2B-FPVSS4-10	7/7/2010					X	X				X				
OU2B-FPVSS4-10	7/7/2010	MS, MSD				X									
OU2B-FPVSSDUP01-10	7/7/2010	DUP				X	X				X				
OU2B-FPVSSDUP02-10	7/7/2010	DUP				X	X				X				
OU2B-INS1B-10	7/12/2010						X				X				
OU2B-INS2C-10	7/12/2010						X				X				
OU2B-INS3B-10	7/12/2010						X				X				
OU2B-INS4B-10	7/9/2010						X				X				
OU2B-INS4C-10	7/12/2010						X				X				
OU2B-INS5B-10	7/13/2010						X				X				
OU2B-INS5C-10	7/13/2010						X				X				
OU2B-INS6A-10	7/9/2010						X				X				
OU2B-INS6B-10	7/9/2010						X				X				
OU2B-INS6C-10	7/9/2010						X				X				
OU2B-INSNEA-10	7/12/2010						X				X				
OU2B-INSNEC-10	7/12/2010						X				X				
OU2B-INSSEA-10	7/12/2010						X				X				
OU2B-SED-004C-09	6/5/2009		X	X		X		X					X	X	
OU2B-SED-101C-09	6/5/2009		X	X		X		X					X	X	
OU2B-SED-101C-09	6/19/2009	MS, MSD		X		X									
OU2B-SED-102C-09	6/5/2009		X	X		X		X							
OU2B-SED-103DC-09	6/6/2009		X	X		X		X			X				
OU2B-SED-103DNE-09	6/6/2009		X	X		X		X							
OU2B-SED-103DNE-09	6/19/2009	MS, MSD				X									
OU2B-SED-103DNW-09	6/6/2009		X	X		X		X							
OU2B-SED-103DSE-09	6/6/2009		X	X		X		X							
OU2B-SED-103DSE-09	6/19/2009	MS, MSD		X											
OU2B-SED-103DSW-09	6/6/2009		X	X		X		X							
OU2B-SED-104DC-09	6/6/2009		X	X		X		X							
OU2B-SED-104DNE-09	6/6/2009		X	X		X		X							
OU2B-SED-104DNW-09	6/6/2009		X	X		X		X							
OU2B-SED-104DSE-09	6/6/2009		X	X		X		X							
OU2B-SED-104DSW-09	6/6/2009		X	X		X		X							
OU2B-SED-105C-09	6/8/2009		X	X		X		X							
OU2B-SED-105C-09	6/18/2009	MS, MSD		X											
OU2B-SED-106C-09	6/8/2009					X		X							
OU2B-SED-201C-09	6/8/2009		X	X		X		X			X				
OU2B-SED-202DC-09	6/6/2009		X	X		X		X					X	X	
OU2B-SED-202DNE-09	6/6/2009		X	X		X		X							
OU2B-SED-202DNW-09	6/6/2009		X	X		X		X							
OU2B-SED-202DSE-09	6/6/2009		X	X		X		X							
OU2B-SED-202DSW-09	6/6/2009		X	X		X		X							
OU2B-SED-203DC-09	6/7/2009		X	X		X		X			X				
OU2B-SED-203DNE-09	6/7/2009		X	X		X		X							
OU2B-SED-203DNE-09	6/18/2009	MS, MSD													
OU2B-SED-203DNW-09	6/7/2009		X	X		X		X							
OU2B-SED-203DSE-09	6/7/2009		X	X		X		X							
OU2B-SED-203DSW-09	6/7/2009		X	X		X		X							
OU2B-SED-204C-09	6/7/2009		X	X		X		X			X		X	X	
OU2B-SED-205C-09	6/8/2009		X	X		X		X							
OU2B-SED-301C-09	6/3/2009		X	X		X		X							
OU2B-SED-301C-09	6/10/2009	MS, MSD		X		X									
OU2B-SED-302C-09	6/8/2009		X	X		X		X			X				
OU2B-SED-302C-09	6/17/2009	MS, MSD		X		X									
OU2B-SED-303DC-09	6/7/2009		X	X		X		X			X				
OU2B-SED-303DNE-09	6/7/2009		X	X		X		X							
OU2B-SED-303DNE-09	6/7/2009	MS, MSD				X									
OU2B-SED-303DNW-09	6/7/2009		X	X		X		X							

TABLE I-1
SAMPLE SUMMARY SHEET

Baseline ESPP
Olin McIntosh OU-2

Sample ID	Sample Date	QA/QC Sample	Analysis: / Analytic Method: / Preservation: / Hold Time: Mercury, Total SM 8080(M)/EPA 1631E Simultaneously Extracted; Cool to 4° C unpreserved; 28 days for Sediment 48 hrs. prior to preservation and 90 days after for Surface Water	Metals, Total EPA 1638M Simultaneously Extracted Cd, Cu, Pb, Ni, Zn; Cool to 4° C unpreserved; 180 days	Methylmercury, Dissolved EPA 1630 draft; 4° C during shipping, 0.5% HCI within 48 hrs.; 180 days	Methylmercury, Total EPA 1630 draft; 4° C during shipping, 0.5% HCI within 48 hrs.; 28 days for Sediment 180 days for Surface Water	Percent Lipids Standard Methods; Cool to 4° C Wet ice/Dry Ice; 14 days	Percent Moisture Standard Methods D2216; Cool to 4° C unpreserved; none established	Percent Moisture Standard Methods 2540G; Cool to 4° C unpreserved; none established	Percent Solids Standard Methods 2540G; Cool to 4° C unpreserved; none established	Pesticides SW846 Method 8081; Cool to 4° C unpreserved; 14 days	Pesticides SW846 Method 8081A; Cool to 4° C unpreserved; 14 days	Sulfide SW846 Method 9030A; Cool to 4° C unpreserved; 7 days	Sulfate SW846 Method 9038; Cool to 4° C unpreserved; 14 days	Total Alkalinity Standard Methods 2320B; Cool to 4° C unpreserved; 14 days
OU2B-SED-303DSE-09	6/7/2009		X	X		X		X							
OU2B-SED-303DSE-09	6/7/2009	MS, MSD				X									
OU2B-SED-303DSW-09	6/7/2009		X	X		X		X							
OU2B-SED-303DSW-09	6/18/2009	MS, MSD		X											
OU2B-SED-304C-09	6/9/2009		X	X		X		X							
OU2B-SED-401C-09	6/9/2009					X		X							
OU2B-SED-402C-09	6/7/2009					X		X			X				
OU2B-SED-402C-09	6/9/2009	MS, MSD				X									
OU2B-SED-403C-09	6/9/2009		X	X		X		X			X				
OU2B-SED-404C-09	6/9/2009					X		X							
OU2B-SED-501DC-09	6/7/2009					X		X							
OU2B-SED-501DNE-09	6/7/2009					X		X							
OU2B-SED-501DNW-09	6/7/2009					X		X							
OU2B-SED-501DSE-09	6/7/2009					X		X							
OU2B-SED-501DSW-09	6/7/2009					X		X							
OU2B-SED-502DC-09	6/7/2009					X		X							
OU2B-SED-502DNE-09	6/7/2009					X		X							
OU2B-SED-502DNW-09	6/7/2009					X		X							
OU2B-SED-502DSE-09	6/7/2009					X		X							
OU2B-SED-502DSW-09	6/7/2009					X		X							
OU2B-SED-DHC-09	6/5/2009		X	X		X		X					X	X	
OU2B-SED-DHC-09	6/19/2009	MS, MSD													
OU2B-SED-DUP01C-09	6/5/2009	DUP	X	X		X		X							
OU2B-SED-DUP02C-09	6/8/2009	DUP	X	X		X		X							
OU2B-SED-DUP03C-09	6/8/2009	DUP	X	X		X		X							
OU2B-SED-DUP04C-09	6/7/2009	DUP	X	X		X		X					X	X	
OU2B-SED-DUP05C-09	6/7/2009	MS, MSD				X									
OU2B-SED-DUP05C-09	6/7/2009	DUP	X	X		X		X			X				
OU2B-SED-DUP06C-09	6/8/2009	DUP				X		X							
OU2B-SED-ST13-02/09	2/18/2009							X							
OU2B-SED-ST13-0509	5/28/2009							X							
OU2B-SED-ST13-0809	8/11/2009								X						
OU2B-SED-ST13-1109	11/11/2009							X							
OU2B-SED-ST13-0210	2/23/2010														
OU2B-SED-ST14-1109	11/11/2009							X							
OU2B-SED-ST14-0210	2/23/2010														
OU2B-SED-ST15-02/09	2/18/2009							X							
OU2B-SED-ST15-0509	5/28/2009							X							
OU2B-SED-ST15-0809	8/11/2009								X						
OU2B-SED-ST15-1109	11/11/2009							X							
OU2B-SED-ST15-0210	2/24/2010														
OU2B-SED-ST17-1109	11/11/2009							X							
OU2B-SED-ST17-0210	2/24/2010														
OU2B-SED-ST19-02/09	2/19/2009							X							
OU2B-SED-ST19-1109	11/11/2009							X							
OU2B-SED-ST19-0210	2/23/2010														
OU2B-SED-ST23-02/09	2/19/2009							X							
OU2B-SED-ST23-0509	5/28/2009							X							
OU2B-SED-ST23-0809	8/11/2009								X						
OU2B-SED-ST23-1109	11/11/2009							X							
OU2B-SED-ST23-0210	2/23/2010														
OU2B-SED-ST23-0210	2/23/2010	MS													
OU2B-SED-ST24-02/09	2/19/2009							X							
OU2B-SED-ST24-0509	5/28/2009							X							
OU2B-SED-ST24-0809	8/11/2009								X						
OU2B-SED-ST24-1109	11/11/2009							X							
OU2B-SED-ST24-0210	2/23/2010														
OU2B-SED-ST26-02/09	2/19/2009							X							
OU2B-SED-ST27-02/09	2/19/2009							X							
OU2B-SED-ST28-02/09	2/19/2009							X							
OU2B-SED-ST29-0809	8/11/2009								X						

TABLE I-1
SAMPLE SUMMARY SHEET

Baseline ESPP
Olin McIntosh OU-2

Sample ID	Sample Date	QA/QC Sample	Mercury, Total SM 8080(M)/EPA 1631E Simultaneously Extracted	Metals, Total EPA 1638M Simultaneously Extracted Cd, Cu, Pb, Ni, Zn	Methylmercury, Dissolved EPA 1630 draft	Methylmercury, Total EPA 1630 draft	Percent Lipids Standard Methods	Percent Moisture Standard Methods D2216	Percent Moisture Standard Methods 2540G	Percent Solids Standard Methods 2540G	Pesticides SW846 Method 8081	Pesticides SW846 Method 8081A	Sulfide SW846 Method 9030A	Sulfate SW846 Method 9038	Total Alkalinity Standard Methods 2320B
Analysis:															
Analytic Method:			SM 8080(M)/EPA 1631E Simultaneously Extracted	EPA 1638M Simultaneously Extracted Cd, Cu, Pb, Ni, Zn	EPA 1630 draft	EPA 1630 draft	Standard Methods	Standard Methods D2216	Standard Methods 2540G	Standard Methods 2540G	SW846 Method 8081	SW846 Method 8081A	SW846 Method 9030A	SW846 Method 9038	Standard Methods 2320B
Preservation:			Cool to 4° C unpreserved	Cool to 4° C unpreserved	4° C during shipping, 0.5% HCl within 48 hrs.	4° C during shipping, 0.5% HCl within 48 hrs.	Cool to 4° C Wet ice/Dry Ice	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved
Hold Time:			28 days for Sediment 48 hrs. prior to preservation and 90 days after for Surface Water	180 days	180 days	28 days for Sediment 180 days for Surface Water	14 days	none established	none established	none established	14 days	14 days	7 days	14 days	14 days
OU2B-SED-ST29-1109	11/11/2009							X							
OU2B-SED-ST29-0210	2/24/2010														
OU2B-SED-ST30-02/09	2/19/2009							X							
OU2B-SED-ST30-0809	8/11/2009								X						
OU2B-SED-ST30-1109	11/11/2009							X							
OU2B-SED-ST31-0809	8/12/2009								X						
OU2B-SED-ST31-1109	11/11/2009							X							
OU2B-SED-ST31-0210	2/24/2010														
OU2B-SED-ST32-1109	11/11/2009							X							
OU2B-SED-ST32-0210	2/24/2010														
OU2B-SED-ST33-0809	8/12/2009								X						
OU2B-SED-ST33-1109	11/11/2009							X							
OU2B-SED-WT14-0709	7/9/2009							X							
OU2B-SED-WT17-0709	7/9/2009							X							
OU2B-SED-WT19-0709	7/9/2009							X							
OU2B-SED-WT32-0709	7/9/2009							X							
OU2B-SW-101DD-09	6/4/2009				X	X									X
OU2B-SW-101DS-09	6/4/2009				X	X									X
OU2B-SW-103DD-09	6/4/2009				X	X									X
OU2B-SW-103DD-09	6/4/2009	MS, MSD			X										
OU2B-SW-103DS-09	6/4/2009				X	X									X
OU2B-SW-103DS-09	6/4/2009	MS, MSD				X									
OU2B-SW-105DD-09	6/8/2009				X	X									X
OU2B-SW-105DS-09	6/8/2009				X	X									X
OU2B-SW-105DS-09	6/8/2009	MS, MSD			X										
OU2B-SW-105DD-09	6/8/2009				X	X									X
OU2B-SW-105DS-09	6/8/2009	MS, MSD			X										
OU2B-SW-201DD-09	6/3/2009				X	X									X
OU2B-SW-201DS-09	6/3/2009				X	X									X
OU2B-SW-203DD-09	6/4/2009				X	X									X
OU2B-SW-203DS-09	6/4/2009				X	X									X
OU2B-SW-205DD-09	6/8/2009				X	X									X
OU2B-SW-205DS-09	6/8/2009				X	X									X
OU2B-SW-301DD-09	6/3/2009				X	X									X
OU2B-SW-301DS-09	6/3/2009				X	X									X
OU2B-SW-303DD-09	6/3/2009				X	X									X
OU2B-SW-303DS-09	6/3/2009				X	X									X
OU2B-SW-304DD-09	6/3/2009				X	X									X
OU2B-SW-304DS-09	6/3/2009				X	X									X
OU2B-SW-DHDD-09	6/4/2009				X	X									X
OU2B-SW-DHDS-09	6/4/2009				X	X									X
OU2B-SW-DUP01DD-09	6/3/2009	DUP			X	X									X
OU2B-SW-DUP01DS-09	6/8/2009	DUP			X	X									X
OU2B-SW-DUP01DS-09	6/8/2009	MS, MSD				X									
OU2B-SW-FB1-113009	11/30/2009														
OU2B-SW-GATE-1-110209	11/2/2009														
OU2B-SW-GATE-1-110209	11/2/2009	MS, MSD													
OU2B-SW-GATE-1-110209B	11/2/2009														
OU2B-SW-GATE-1-113009	11/30/2009														
OU2B-SW-GATE1-011210	1/12/2010														
OU2B-SW-GATE-1A-113009	11/30/2009				X	X									
OU2B-SW-GATE-1A-011210	1/12/2010				X	X									
OU2B-SW-GATE-1A-011210	1/12/2010	MS, MSD			X										
OU2B-SW-GATE-1A-060210	6/2/2010				X	X									
OU2B-SW-GATE-1B-113009	11/30/2009				X	X									
OU2B-SW-GATE-1B-113009	11/30/2009	MS, MSD			X										
OU2B-SW-GATE-1B-011210	1/12/2010				X	X									
OU2B-SW-GATE-1B-060210	6/2/2010				X	X									
OU2B-SW-GATE-1C-011210	1/12/2010				X	X									
OU2B-SW-GATE-1C-060210	6/2/2010				X	X									
OU2B-SW-GATE-2-120209	12/2/2009														
OU2B-SW-GATE2-011410	1/14/2010														
OU2B-SW-GATE-2A-120209	12/2/2009				X	X									

TABLE I-1
SAMPLE SUMMARY SHEET

Baseline ESPP
Olin McIntosh OU-2

Sample ID	Sample Date	QA/QC Sample	Analysis: / Analytic Method: / Preservation: / Hold Time: Mercury, Total SM 8080(M)/EPA 1631E Simultaneously Extracted; Cool to 4° C unpreserved; 28 days for Sediment 48 hrs. prior to preservation and 90 days after for Surface Water	Metals, Total EPA 1638M Simultaneously Extracted Cd, Cu, Pb, Ni, Zn; Cool to 4° C unpreserved; 180 days	Methylmercury, Dissolved EPA 1630 draft; 4° C during shipping, 0.5% HCl within 48 hrs.; 180 days	Methylmercury, Total EPA 1630 draft; 4° C during shipping, 0.5% HCl within 48 hrs.; 28 days for Sediment 180 days for Surface Water	Percent Lipids Standard Methods; Cool to 4° C Wet ice/Dry Ice; 14 days	Percent Moisture Standard Methods D2216; Cool to 4° C unpreserved; none established	Percent Moisture Standard Methods 2540G; Cool to 4° C unpreserved; none established	Percent Solids Standard Methods 2540G; Cool to 4° C unpreserved; none established	Pesticides SW846 Method 8081; Cool to 4° C unpreserved; 14 days	Pesticides SW846 Method 8081A; Cool to 4° C unpreserved; 14 days	Sulfide SW846 Method 9030A; Cool to 4° C unpreserved; 7 days	Sulfate SW846 Method 9038; Cool to 4° C unpreserved; 14 days	Total Alkalinity Standard Methods 2320B; Cool to 4° C unpreserved; 14 days
OU2B-SW-GATE-2A-011410	1/14/2010				X	X									
OU2B-SW-GATE-2A-030910	3/9/2010				X	X									
OU2B-SW-GATE-2A-060410	6/4/2010				X	X									
OU2B-SW-GATE-2B-120209	12/2/2009				X	X									
OU2B-SW-GATE-2B-011410	1/14/2010				X	X									
OU2B-SW-GATE-2B-011410	1/14/2010	MS, MSD													
OU2B-SW-GATE-2B-030910	3/9/2010				X	X									
OU2B-SW-GATE-2B-060410	6/4/2010				X	X									
OU2B-SW-GATE-2C-120209	12/2/2009				X	X									
OU2B-SW-GATE-2C-120209	12/2/2009	MS, MSD			X										
OU2B-SW-GATE-2C-011410	1/14/2010				X	X									
OU2B-SW-GATE-2C-030910	3/9/2010				X	X									
OU2B-SW-GATE-2C-060410	6/4/2010				X	X									
OU2B-SW-GATE3-011810	1/18/2010														
OU2B-SW-GATE-3A-011810	1/18/2010				X	X									
OU2B-SW-GATE-3A-011810	1/18/2010	MS, MSD													
OU2B-SW-GATE-3A-060710	6/7/2010				X	X									
OU2B-SW-GATE-3B-011810	1/18/2010				X	X									
OU2B-SW-GATE-3B-060710	6/7/2010				X	X									
OU2B-SW-GATE-3C-011810	1/18/2010				X	X									
OU2B-SW-GATE-3C-060710	6/7/2010				X	X									
OU2B-SW-TBR-1-110209	11/2/2009														
OU2B-SW-TBR-1-110209B	11/2/2009														
OU2R-SED-101DC-09	6/5/2009		X	X		X		X			X		X	X	
OU2R-SED-101DNE-09	6/5/2009		X	X		X		X							
OU2R-SED-101DNW-09	6/5/2009		X	X		X		X							
OU2R-SED-101DSE-09	6/5/2009		X	X		X		X							
OU2R-SED-101DSW-09	6/5/2009		X	X		X		X							
OU2R-SED-102C-09	6/5/2009					X		X							
OU2R-SW-101DD-09	6/3/2009				X	X									X
OU2R-SW-101DS-09	6/3/2009				X	X									X
OU2R-SW-101DS-09	6/3/2009	MS, MSD			X	X									
OU2-TSS-A1B-12009	1/20/2009														
OU2-TSS-A1B-101509	10/15/2009														
OU2-TSS-A1B-101609	10/16/2009														
OU2-TSS-A1B-101709	10/17/2009														
OU2-TSS-A1B-101809	10/18/2009														
OU2-TSS-A1B-101909	10/19/2009														
OU2-TSS-A1B-102009	10/20/2009														
OU2-TSS-A1B-102109	10/21/2009														
OU2-TSS-A1T-12009	1/20/2009														
OU2-TSS-A1T-101509	10/15/2009														
OU2-TSS-A1T-101609	10/16/2009														
OU2-TSS-A1T-101709	10/17/2009														
OU2-TSS-A1T-101809	10/18/2009														
OU2-TSS-A1T-101909	10/19/2009														
OU2-TSS-A1T-102009	10/20/2009														
OU2-TSS-A1T-102109	10/21/2009														
OU2-TSS-B1B-12009	1/20/2009														
OU2-TSS-B1B-101509	10/15/2009														
OU2-TSS-B1B-101609	10/16/2009														
OU2-TSS-B1B-101709	10/17/2009														
OU2-TSS-B1B-101809	10/18/2009														
OU2-TSS-B1B-101909	10/19/2009														
OU2-TSS-B1B-102009	10/20/2009														
OU2-TSS-B1B-102109	10/21/2009														
OU2-TSS-B1T-12009	1/20/2009														
OU2-TSS-B1T-101509	10/15/2009														
OU2-TSS-B1T-101609	10/16/2009														
OU2-TSS-B1T-101709	10/17/2009														
OU2-TSS-B1T-101809	10/18/2009														

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SAMPLE SUMMARY SHEET

Baseline ESPP
Olin McIntosh OU-2

		Analysis:	Mercury, Total	Metals, Total	Methylmercury, Dissolved	Methylmercury, Total	Percent Lipids	Percent Moisture	Percent Moisture	Percent Solids	Pesticides	Pesticides	Sulfide	Sulfate	Total Alkalinity
		Analytic Method:	SM 8080(M)/EPA 1631E Simultaneously Extracted	EPA 1638M Simultaneously Extracted Cd, Cu, Pb, Ni, Zn	EPA 1630 draft	EPA 1630 draft	Standard Methods	Standard Methods D2216	Standard Methods 2540G	Standard Methods 2540G	SW846 Method 8081	SW846 Method 8081A	SW846 Method 9030A	SW846 Method 9038	Standard Methods 2320B
		Preservation:	Cool to 4° C unpreserved	Cool to 4° C unpreserved	4° C during shipping, 0.5% HCI within 48 hrs.	4° C during shipping, 0.5% HCI within 48 hrs.	Cool to 4° C Wet ice/Dry Ice	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved
		Hold Time:	28 days for Sediment 48 hrs. prior to preservation and 90 days after for Surface Water	180 days	180 days	28 days for Sediment 180 days for Surface Water	14 days	none established	none established	none established	14 days	14 days	7 days	14 days	14 days
Sample ID	**Sample Date**	**QA/QC Sample**													
OU2-TSS-B1T-101909	10/19/2009														
OU2-TSS-B1T-102009	10/20/2009														
OU2-TSS-B1T-102109	10/21/2009														
OU2-TSS-B2B-12009	1/20/2009														
OU2-TSS-B2B-101509	10/15/2009														
OU2-TSS-B2B-101609	10/16/2009														
OU2-TSS-B2B-101709	10/17/2009														
OU2-TSS-B2B-101809	10/18/2009														
OU2-TSS-B2B-101909	10/19/2009														
OU2-TSS-B2B-102009	10/20/2009														
OU2-TSS-B2B-102109	10/21/2009														
OU2-TSS-B2T-12009	1/20/2009														
OU2-TSS-B2T-101509	10/15/2009														
OU2-TSS-B2T-101609	10/16/2009														
OU2-TSS-B2T-101709	10/17/2009														
OU2-TSS-B2T-101809	10/18/2009														
OU2-TSS-B2T-101909	10/19/2009														
OU2-TSS-B2T-102009	10/20/2009														
OU2-TSS-B2T-102109	10/21/2009														
OU2-TSS-B3B-12009	1/20/2009														
OU2-TSS-B3B-101509	10/15/2009														
OU2-TSS-B3B-101609	10/16/2009														
OU2-TSS-B3B-101709	10/17/2009														
OU2-TSS-B3B-101809	10/18/2009														
OU2-TSS-B3B-101909	10/19/2009														
OU2-TSS-B3B-102009	10/20/2009														
OU2-TSS-B3B-102109	10/21/2009														
OU2-TSS-B3T-12009	1/20/2009														
OU2-TSS-B3T-101509	10/15/2009														
OU2-TSS-B3T-101609	10/16/2009														
OU2-TSS-B3T-101709	10/17/2009														
OU2-TSS-B3T-101809	10/18/2009														
OU2-TSS-B3T-101909	10/19/2009														
OU2-TSS-B3T-102009	10/20/2009														
OU2-TSS-B3T-102109	10/21/2009														
OU2-TSS-C1B-12009	1/20/2009														
OU2-TSS-C1B-101509	10/15/2009														
OU2-TSS-C1B-101609	10/16/2009														
OU2-TSS-C1B-101709	10/17/2009														
OU2-TSS-C1B-101809	10/18/2009														
OU2-TSS-C1B-101909	10/19/2009														
OU2-TSS-C1B-102009	10/20/2009														
OU2-TSS-C1B-102109	10/21/2009														
OU2-TSS-C1T-12009	1/20/2009														
OU2-TSS-C1T-101509	10/15/2009														
OU2-TSS-C1T-101609	10/16/2009														
OU2-TSS-C1T-101709	10/17/2009														
OU2-TSS-C1T-101809	10/18/2009														
OU2-TSS-C1T-101909	10/19/2009														
OU2-TSS-C1T-102009	10/20/2009														
OU2-TSS-C1T-102109	10/21/2009														
OU2-TSS-C2B-12009	1/20/2009														
OU2-TSS-C2B-101509	10/15/2009														
OU2-TSS-C2B-101609	10/16/2009														
OU2-TSS-C2B-101709	10/17/2009														
OU2-TSS-C2B-101809	10/18/2009														
OU2-TSS-C2B-101909	10/19/2009														
OU2-TSS-C2B-102009	10/20/2009														
OU2-TSS-C2B-102109	10/21/2009														
OU2-TSS-C2T-12009	1/20/2009														
OU2-TSS-C2T-101509	10/15/2009														

TABLE I-1
SAMPLE SUMMARY SHEET

Baseline ESPP
Olin McIntosh OU-2

Sample ID	Sample Date	QA/QC Sample	Analysis: / Analytic Method: / Preservation: / Hold Time: Mercury, Total SM 8080(M)/EPA 1631E Simultaneously Extracted — Cool to 4° C unpreserved — 28 days for Sediment 48 hrs. prior to preservation and 90 days after for Surface Water	Metals, Total EPA 1638M Simultaneously Extracted Cd, Cu, Pb, Ni, Zn — Cool to 4° C unpreserved — 180 days	Methylmercury, Dissolved EPA 1630 draft — 4° C during shipping, 0.5% HCI within 48 hrs. — 180 days	Methylmercury, Total EPA 1630 draft — 4° C during shipping, 0.5% HCI within 48 hrs. — 28 days for Sediment 180 days for Surface Water	Percent Lipids Standard Methods — Cool to 4° C Wet ice/Dry Ice — 14 days	Percent Moisture Standard Methods D2216 — Cool to 4° C unpreserved — none established	Percent Moisture Standard Methods 2540G — Cool to 4° C unpreserved — none established	Percent Solids Standard Methods 2540G — Cool to 4° C unpreserved — none established	Pesticides SW846 Method 8081 — Cool to 4° C unpreserved — 14 days	Pesticides SW846 Method 8081A — Cool to 4° C unpreserved — 14 days	Sulfide SW846 Method 9030A — Cool to 4° C unpreserved — 7 days	Sulfate SW846 Method 9038 — Cool to 4° C unpreserved — 14 days	Total Alkalinity Standard Methods 2320B — Cool to 4° C unpreserved — 14 days
OU2-TSS-C2T-101609	10/16/2009														
OU2-TSS-C2T-101709	10/17/2009														
OU2-TSS-C2T-101809	10/18/2009														
OU2-TSS-C2T-101909	10/19/2009														
OU2-TSS-C2T-102009	10/20/2009														
OU2-TSS-C2T-102109	10/21/2009														
OU2-TSS-C3B-12009	1/20/2009														
OU2-TSS-C3B-101509	10/15/2009														
OU2-TSS-C3B-101609	10/16/2009														
OU2-TSS-C3B-101709	10/17/2009														
OU2-TSS-C3B-101809	10/18/2009														
OU2-TSS-C3B-101909	10/19/2009														
OU2-TSS-C3B-102009	10/20/2009														
OU2-TSS-C3B-102109	10/21/2009														
OU2-TSS-C3T-12009	1/20/2009														
OU2-TSS-C3T-101509	10/15/2009														
OU2-TSS-C3T-101609	10/16/2009														
OU2-TSS-C3T-101709	10/17/2009														
OU2-TSS-C3T-101809	10/18/2009														
OU2-TSS-C3T-101909	10/19/2009														
OU2-TSS-C3T-102009	10/20/2009														
OU2-TSS-C3T-102109	10/21/2009														
OU2-TSS-C4B-12009	1/20/2009														
OU2-TSS-C4B-101509	10/15/2009														
OU2-TSS-C4B-101609	10/16/2009														
OU2-TSS-C4B-101709	10/17/2009														
OU2-TSS-C4B-101809	10/18/2009														
OU2-TSS-C4B-101909	10/19/2009														
OU2-TSS-C4B-102009	10/20/2009														
OU2-TSS-C4B-102109	10/21/2009														
OU2-TSS-C4T-12009	1/20/2009														
OU2-TSS-C4T-101509	10/15/2009														
OU2-TSS-C4T-101609	10/16/2009														
OU2-TSS-C4T-101709	10/17/2009														
OU2-TSS-C4T-101809	10/18/2009														
OU2-TSS-C4T-101909	10/19/2009														
OU2-TSS-C4T-102009	10/20/2009														
OU2-TSS-C4T-102109	10/21/2009														
OU2-TSS-C5B-12009	1/20/2009														
OU2-TSS-C5B-101509	10/15/2009														
OU2-TSS-C5B-101609	10/16/2009														
OU2-TSS-C5B-101709	10/17/2009														
OU2-TSS-C5B-101809	10/18/2009														
OU2-TSS-C5B-101909	10/19/2009														
OU2-TSS-C5B-102009	10/20/2009														
OU2-TSS-C5B-102109	10/21/2009														
OU2-TSS-C5T-12009	1/20/2009														
OU2-TSS-C5T-101509	10/15/2009														
OU2-TSS-C5T-101609	10/16/2009														
OU2-TSS-C5T-101709	10/17/2009														
OU2-TSS-C5T-101809	10/18/2009														
OU2-TSS-C5T-101909	10/19/2009														
OU2-TSS-C5T-102009	10/20/2009														
OU2-TSS-C5T-102109	10/21/2009														
OU2-TSS-C6B-12009	1/20/2009														
OU2-TSS-C6B-101509	10/15/2009														
OU2-TSS-C6B-101609	10/16/2009														
OU2-TSS-C6B-101709	10/17/2009														
OU2-TSS-C6B-101809	10/18/2009														
OU2-TSS-C6B-101909	10/19/2009														
OU2-TSS-C6B-102009	10/20/2009														

TABLE I-1
SAMPLE SUMMARY SHEET

Baseline ESPP
Olin McIntosh OU-2

Sample ID	Sample Date	QA/QC Sample	Mercury, Total SM 8080(M)/EPA 1631E Simultaneously Extracted Cool to 4° C unpreserved 28 days for Sediment 48 hrs. prior to preservation and 90 days after for Surface Water	Metals, Total EPA 1638M Simultaneously Extracted Cd, Cu, Pb, Ni, Zn Cool to 4° C unpreserved 180 days	Methylmercury, Dissolved EPA 1630 draft 4° C during shipping, 0.5% HCl within 48 hrs. 180 days	Methylmercury, Total EPA 1630 draft 4° C during shipping, 0.5% HCl within 48 hrs. 28 days for Sediment 180 days for Surface Water	Percent Lipids Standard Methods Cool to 4° C Wet ice/Dry Ice 14 days	Percent Moisture Standard Methods D2216 Cool to 4° C unpreserved none established	Percent Moisture Standard Methods 2540G Cool to 4° C unpreserved none established	Percent Solids Standard Methods 2540G Cool to 4° C unpreserved none established	Pesticides SW846 Method 8081 Cool to 4° C unpreserved 14 days	Pesticides SW846 Method 8081A Cool to 4° C unpreserved 14 days	Sulfide SW846 Method 9030A Cool to 4° C unpreserved 7 days	Sulfate SW846 Method 9038 Cool to 4° C unpreserved 14 days	Total Alkalinity Standard Methods 2320B Cool to 4° C unpreserved 14 days
Analysis:															
Analytic Method:															
Preservation:															
Hold Time:															
OU2-TSS-C6B-102109	10/21/2009														
OU2-TSS-C6T-12009	1/20/2009														
OU2-TSS-C6T-101509	10/15/2009														
OU2-TSS-C6T-101609	10/16/2009														
OU2-TSS-C6T-101709	10/17/2009														
OU2-TSS-C6T-101809	10/18/2009														
OU2-TSS-C6T-101909	10/19/2009														
OU2-TSS-C6T-102009	10/20/2009														
OU2-TSS-C6T-102109	10/21/2009														
OU2-TSS-D1B-012009	1/20/2009														
OU2-TSS-D1B-101509	10/15/2009														
OU2-TSS-D1B-101609	10/16/2009														
OU2-TSS-D1B-101709	10/17/2009														
OU2-TSS-D1B-101809	10/18/2009														
OU2-TSS-D1B-101909	10/19/2009														
OU2-TSS-D1B-102009	10/20/2009														
OU2-TSS-D1B-102109	10/21/2009														
OU2-TSS-D1T-12009	1/20/2009														
OU2-TSS-D1T-101509	10/15/2009														
OU2-TSS-D1T-101609	10/16/2009														
OU2-TSS-D1T-101709	10/17/2009														
OU2-TSS-D1T-101809	10/18/2009														
OU2-TSS-D1T-101909	10/19/2009														
OU2-TSS-D1T-102009	10/20/2009														
OU2-TSS-D1T-102109	10/21/2009														
OU2-TSS-DUP01-101509	10/15/2009	DUP													
OU2-TSS-DUP01-101609	10/16/2009	DUP													
OU2-TSS-DUP01-101709	10/17/2009	DUP													
OU2-TSS-DUP01-101809	10/18/2009	DUP													
OU2-TSS-DUP01-101909	10/19/2009	DUP													
OU2-TSS-DUP01-102009	10/20/2009	DUP													
OU2-TSS-DUP01-102109	10/21/2009	DUP													
OU2-TSS-DUP02-101509	10/15/2009	DUP													
OU2-TSS-DUP02-101609	10/16/2009	DUP													
OU2-TSS-DUP02-101709	10/17/2009	DUP													
OU2-TSS-DUP02-101809	10/18/2009	DUP													
OU2-TSS-DUP02-101909	10/19/2009	DUP													
OU2-TSS-DUP02-102009	10/20/2009	DUP													
OU2-TSS-DUP02-102109	10/21/2009	DUP													
OU2-TSS-DUP03-101509	10/15/2009	DUP													
OU2-TSS-DUP03-101609	10/16/2009	DUP													
OU2-TSS-DUP03-101709	10/17/2009	DUP													
OU2-TSS-DUP03-101809	10/18/2009	DUP													
OU2-TSS-DUP03-101909	10/19/2009	DUP													
OU2-TSS-DUP03-102009	10/20/2009	DUP													
OU2-TSS-DUP03-102109	10/21/2009	DUP													
SDCR-1-CA-060309	6/3/2009							X			X				
SDCR-1-CB-060309	6/3/2009							X			X				
SDCR-1-CC-060309	6/3/2009							X			X				
SDCR-1-CC-060309	6/3/2009	MS, MSD													
SDCR-1-CD-060309	6/3/2009							X			X				
SDCR-1-CE-060309	6/3/2009							X			X				
SDCR-1-CF-060309	6/3/2009							X			X				
SDCR1-C-FD-060309	6/3/2009	DUP						X			X				
SDCR-1-FA-060309	6/3/2009					X									
SDCR-1-FB-060309	6/3/2009					X									
SDCR-1-FC-060309	6/3/2009					X									
SDCR-1-FD-060309	6/3/2009					X									
SDCR-1-FDUP-060309	6/3/2009	DUP				X									
SDCR-1-FE-060309	6/3/2009					X									
SDCR-1-FE-060309	6/3/2009	MS, MSD				X									

TABLE I-1
SAMPLE SUMMARY SHEET

Baseline ESPP
Olin McIntosh OU-2

Sample ID	Sample Date	QA/QC Sample	Mercury, Total SM 8080(M)/EPA 1631E Simultaneously Extracted Cool to 4° C unpreserved 28 days for Sediment 48 hrs. prior to preservation and 90 days after for Surface Water	Metals, Total EPA 1638M Simultaneously Extracted Cd, Cu, Pb, Ni, Zn Cool to 4° C unpreserved 180 days	Methylmercury, Dissolved EPA 1630 draft 4° C during shipping, 0.5% HCl within 48 hrs. 180 days	Methylmercury, Total EPA 1630 draft 4° C during shipping, 0.5% HCl within 48 hrs. 28 days for Sediment 180 days for Surface Water	Percent Lipids Standard Methods Cool to 4° C Wet ice/Dry Ice 14 days	Percent Moisture Standard Methods D2216 Cool to 4° C unpreserved none established	Percent Moisture Standard Methods 2540G Cool to 4° C unpreserved none established	Percent Solids Standard Methods 2540G Cool to 4° C unpreserved none established	Pesticides SW846 Method 8081 Cool to 4° C unpreserved 14 days	Pesticides SW846 Method 8081A Cool to 4° C unpreserved 14 days	Sulfide SW846 Method 9030A Cool to 4° C unpreserved 7 days	Sulfate SW846 Method 9038 Cool to 4° C unpreserved 14 days	Total Alkalinity Standard Methods 2320B Cool to 4° C unpreserved 14 days
Analysis:															
Analytic Method:															
Preservation:															
Hold Time:															
SDCR2-092809-0-2.6	9/28/2009														
SDCR2-092809-10.4-13.1	9/28/2009														
SDCR2-092809-104-110.4	9/28/2009														
SDCR2-092809-110.4-116.9	9/28/2009														
SDCR2-092809-116.9-123.3	9/28/2009														
SDCR2-092809-123.3-129.8	9/28/2009														
SDCR2-092809-129.8-136.2	9/28/2009														
SDCR2-092809-136.2-142.7	9/28/2009														
SDCR2-092809-142.7-149.1	9/28/2009														
SDCR2-092809-149.1-155.6	9/28/2009														
SDCR2-092809-15.7-18.3	9/28/2009														
SDCR2-092809-155.6-168.4	9/28/2009														
SDCR2-092809-168.4-181.3	9/28/2009														
SDCR2-092809-181.3-194.1	9/28/2009														
SDCR2-092809-194.1-207	9/28/2009														
SDCR2-092809-20.9-23.5	9/28/2009														
SDCR2-092809-207-219.8	9/28/2009														
SDCR2-092809-219.8-232.7	9/28/2009														
SDCR2-092809-232.7-245.5	9/28/2009														
SDCR2-092809-245.5-258.4	9/28/2009														
SDCR2-092809-258.4-271.2	9/28/2009														
SDCR2-092809-26.1-28.7	9/28/2009														
SDCR2-092809-271.2-284.1	9/28/2009														
SDCR2-092809-284.1-296.9	9/28/2009														
SDCR2-092809-31.3-33.9	9/28/2009														
SDCR2-092809-36.5-39.2	9/28/2009														
SDCR2-092809-39.2-41.8	9/28/2009														
SDCR2-092809-44.4-47	9/28/2009														
SDCR2-092809-49.6-52.2	9/28/2009														
SDCR2-092809-5.2-7.8	9/28/2009														
SDCR2-092809-54.8-57.4	9/28/2009														
SDCR2-092809-60-62.6	9/28/2009														
SDCR2-092809-65.3-71.7	9/28/2009														
SDCR2-092809-71.7-78.2	9/28/2009														
SDCR2-092809-78.2-84.6	9/28/2009														
SDCR2-092809-84.6-91.1	9/28/2009														
SDCR2-092809-91.1-97.5	9/28/2009														
SDCR2-092809-97.5-104	9/28/2009														
SDCR2-CA-092409	9/24/2009							X				X			
SDCR2-CB-092409	9/24/2009							X				X			
SDCR2-CC-092409	9/24/2009							X							
SDCR2-CD-092409	9/24/2009							X				X			
SDCR2-CE-092409	9/24/2009							X				X			
SDCR2-CF-092409	9/24/2009							X				X			
SDCR2-CG-092409	9/24/2009							X				X			
SDCR2-CH-092409	9/24/2009							X				X			
SDCR2-CI-092409	9/24/2009							X				X			
SDCR2-CJ-092409	9/24/2009							X				X			
SDCR2-CK-092409	9/24/2009							X				X			
SDCR2-FSA-092309	9/23/2009					X		X							
SDCR2-FSB-092309	9/23/2009					X		X							
SDCR2-FSC-092309	9/23/2009					X		X							
SDCR2-FSD-092309	9/23/2009					X		X							
SDCR2-FSE-092309	9/23/2009					X		X							
SDCR3-CA-092709	9/27/2009							X				X			
SDCR3-CB-092709	9/27/2009							X				X			
SDCR3-CC-092709	9/27/2009							X							
SDCR3-CD-092709	9/27/2009							X				X			
SDCR3-CE-092709	9/27/2009							X				X			
SDCR3-CF-092709	9/27/2009							X				X			
SDCR3-CG-092709	9/27/2009							X				X			

TABLE I-1
SAMPLE SUMMARY SHEET

Baseline ESPP
Olin McIntosh OU-2

Sample ID	Sample Date	QA/QC Sample	Analysis: / Analytic Method: / Preservation: / Hold Time: Mercury, Total SM 8080(M)/EPA 1631E Simultaneously Extracted; Cool to 4° C unpreserved; 28 days for Sediment 48 hrs. prior to preservation and 90 days after for Surface Water	Metals, Total EPA 1638M Simultaneously Extracted Cd, Cu, Pb, Ni, Zn; Cool to 4° C unpreserved; 180 days	Methylmercury, Dissolved EPA 1630 draft; 4° C during shipping, 0.5% HCl within 48 hrs.; 180 days	Methylmercury, Total EPA 1630 draft; 4° C during shipping, 0.5% HCl within 48 hrs.; 28 days for Sediment 180 days for Surface Water	Percent Lipids Standard Methods; Cool to 4° C Wet ice/Dry Ice; 14 days	Percent Moisture Standard Methods D2216; Cool to 4° C unpreserved; none established	Percent Moisture Standard Methods 2540G; Cool to 4° C unpreserved; none established	Percent Solids Standard Methods 2540G; Cool to 4° C unpreserved; none established	Pesticides SW846 Method 8081; Cool to 4° C unpreserved; 14 days	Pesticides SW846 Method 8081A; Cool to 4° C unpreserved; 14 days	Sulfide SW846 Method 9030A; Cool to 4° C unpreserved; 7 days	Sulfate SW846 Method 9038; Cool to 4° C unpreserved; 14 days	Total Alkalinity Standard Methods 2320B; Cool to 4° C unpreserved; 14 days
SDCR3-CH-092709	9/27/2009							X				X			
SDCR3-CI-092709	9/27/2009							X				X			
SDCR3-CJ-092709	9/27/2009							X				X			
SDCR3-CJ-092709	9/27/2009	MS, MSD										X			
SDCR3-CK-092709	9/27/2009							X				X			
SDCR3-FSA-092309	9/23/2009					X		X							
SDCR3-FSB-092309	9/23/2009					X		X							
SDCR3-FSC-092309	9/23/2009					X		X							
SDCR3-FSD-092309	9/23/2009					X		X							
SDCR3-FSE-092309	9/23/2009					X		X							
SDCR4-CA-092709	9/27/2009							X							
SDCR4-CB-092709	9/27/2009							X							
SDCR4-CC-092709	9/27/2009							X							
SDCR4-CD-092709	9/27/2009							X							
SDCR4-CE-092709	9/27/2009							X							
SDCR4-CF-092709	9/27/2009							X							
SDCR4-CF-092709	9/27/2009	MS, MSD													
SDCR4-CG-092709	9/27/2009							X							
SDCR4-CH-092709	9/27/2009							X							
SDCR4-CI-092709	9/27/2009							X							
SDCR5-CA-092709	9/27/2009							X							
SDCR5-CB-092709	9/27/2009							X							
SDCR5-CC-092709	9/27/2009							X							
SDCR5-CD-092709	9/27/2009							X							
SDCR5-CE-092709	9/27/2009							X							
SDCR5-CF-092709	9/27/2009							X							
SDCR5-CG-092709	9/27/2009							X							
SDCR5-CH-092709	9/27/2009							X							
SDCR5-CI-092709	9/27/2009							X							
SDCR6-CA-092709	9/27/2009							X							
SDCR6-CB-092709	9/27/2009							X							
SDCR6-CC-092709	9/27/2009							X							
SDCR6-CD-092709	9/27/2009							X							
SDCR6-CE-092709	9/27/2009							X							
SDCR6-CF-092709	9/27/2009							X							
SDCR6-CG-092709	9/27/2009							X							
SDCR6-CH-092709	9/27/2009							X							
SDCR7-CA-092709	9/27/2009							X							
SDCR7-CB-092709	9/27/2009							X							
SDCR7-CC-092709	9/27/2009							X							
SDCR7-CD-092709	9/27/2009							X							
SDCR7-CE-092709	9/27/2009							X							
SDCR7-CF-092709	9/27/2009							X							
SDCR7-CG-092709	9/27/2009							X							
SDCR7-CH-092709	9/27/2009							X							
SDCR8-092809-0-2.2	9/28/2009														
SDCR8-092809-103.6-109.6	9/28/2009														
SDCR8-092809-109.6-115.6	9/28/2009														
SDCR8-092809-115.6-121.5	9/28/2009														
SDCR8-092809-121.5-127.5	9/28/2009														
SDCR8-092809-127.5-133.5	9/28/2009														
SDCR8-092809-13.4-15.6	9/28/2009														
SDCR8-092809-133.5-139.5	9/28/2009														
SDCR8-092809-139.5-151.7	9/28/2009														
SDCR8-092809-151.7-163.9	9/28/2009														
SDCR8-092809-163.9-176.2	9/28/2009														
SDCR8-092809-17.8-20.1	9/28/2009														
SDCR8-092809-176.2-188.4	9/28/2009														
SDCR8-092809-188.4-200.6	9/28/2009														
SDCR8-092809-200.6-212.9	9/28/2009														
SDCR8-092809-212.9-225.1	9/28/2009														

TABLE I-1
SAMPLE SUMMARY SHEET

Baseline ESPP
Olin McIntosh OU-2

Sample ID	Sample Date	QA/QC Sample	Analysis: / Analytic Method: / Preservation: / Hold Time: Mercury, Total — SM 8080(M)/EPA 1631E Simultaneously Extracted — Cool to 4° C unpreserved — 28 days for Sediment 48 hrs. prior to preservation and 90 days after for Surface Water	Metals, Total — EPA 1638M Simultaneously Extracted Cd, Cu, Pb, Ni, Zn — Cool to 4° C unpreserved — 180 days	Methylmercury, Dissolved — EPA 1630 draft — 4° C during shipping, 0.5% HCI within 48 hrs. — 180 days	Methylmercury, Total — EPA 1630 draft — 4° C during shipping, 0.5% HCI within 48 hrs. — 28 days for Sediment 180 days for Surface Water	Percent Lipids — Standard Methods — Cool to 4° C Wet ice/Dry Ice — 14 days	Percent Moisture — Standard Methods D2216 — Cool to 4° C unpreserved — none established	Percent Moisture — Standard Methods 2540G — Cool to 4° C unpreserved — none established	Percent Solids — Standard Methods 2540G — Cool to 4° C unpreserved — none established	Pesticides — SW846 Method 8081 — Cool to 4° C unpreserved — 14 days	Pesticides — SW846 Method 8081A — Cool to 4° C unpreserved — 14 days	Sulfide — SW846 Method 9030A — Cool to 4° C unpreserved — 7 days	Sulfate — SW846 Method 9038 — Cool to 4° C unpreserved — 14 days	Total Alkalinity — Standard Methods 2320B — Cool to 4° C unpreserved — 14 days
SDCR8-092809-22.3-24.5	9/28/2009														
SDCR8-092809-225.1-237.3	9/28/2009														
SDCR8-092809-237.3-249.5	9/28/2009														
SDCR8-092809-249.5-261.8	9/28/2009														
SDCR8-092809-26.8-29	9/28/2009														
SDCR8-092809-261.8-274	9/28/2009														
SDCR8-092809-274-286.2	9/28/2009														
SDCR8-092809-286.2-298.5	9/28/2009														
SDCR8-092809-31.2-33.5	9/28/2009														
SDCR8-092809-35.7-37.9	9/28/2009														
SDCR8-092809-4.5-6.7	9/28/2009														
SDCR8-092809-40.1-42.4	9/28/2009														
SDCR8-092809-44.6-46.8	9/28/2009														
SDCR8-092809-469.1-51.3	9/28/2009														
SDCR8-092809-55.8-61.7	9/28/2009														
SDCR8-092809-61.7-67.7	9/28/2009														
SDCR8-092809-67.7-73.7	9/28/2009														
SDCR8-092809-73.7-79.7	9/28/2009														
SDCR8-092809-79.7-85.7	9/28/2009														
SDCR8-092809-8.9-11.2	9/28/2009														
SDCR8-092809-85.7-91.6	9/28/2009														
SDCR8-092809-91.6-97.6	9/28/2009														
SDCR8-092809-97.6-103.6	9/28/2009														
SDCR8-CA-092809	9/28/2009								X				X		
SDCR8-CB-092809	9/28/2009								X				X		
SDCR8-CC-092809	9/28/2009								X						
SDCR8-CD-092809	9/28/2009								X				X		
SDCR8-CE-092809	9/28/2009								X				X		
SDCR8-CF-092809	9/28/2009								X				X		
SDCR8-CG-092809	9/28/2009								X				X		
SDCR8-CH-092809	9/28/2009								X				X		
SDCR8-CH-092809	9/28/2009	MS, MSD											X		
SDCR8-CI-092809	9/28/2009								X				X		
SDCR8-CJ-092809	9/28/2009								X				X		
SDCR8-CK-092809	9/28/2009								X				X		
SDCR8-CL-092809	9/28/2009								X				X		
SDCR8-FSA-092409	9/24/2009					X			X						
SDCR8-FSB-092409	9/24/2009					X			X						
SDCR8-FSC-092409	9/24/2009					X			X						
SDCR8-FSD-092409	9/24/2009					X			X						
SDCR8-FSE-092409	9/24/2009					X			X						
SDCR8-FSE-092409	9/24/2009	MS, MSD				X									
SDCR9-092809-0-2.4	9/28/2009														
SDCR9-092809-100.6-106.4	9/28/2009														
SDCR9-092809-106.4-112.2	9/28/2009														
SDCR9-092809-112.2-118	9/28/2009														
SDCR9-092809-118-123.7	9/28/2009														
SDCR9-092809-123.7-129.5	9/28/2009														
SDCR9-092809-129.5-135.3	9/28/2009														
SDCR9-092809-135.3-141	9/28/2009														
SDCR9-092809-14.5-16.9	9/28/2009														
SDCR9-092809-141-152.4	9/28/2009														
SDCR9-092809-152.4-163.8	9/28/2009														
SDCR9-092809-163.8-175.1	9/28/2009														
SDCR9-092809-175.1-186.5	9/28/2009														
SDCR9-092809-186.5-198.1	9/28/2009														
SDCR9-092809-19.3-21.7	9/28/2009														
SDCR9-092809-24.1-26.5	9/28/2009														
SDCR9-092809-28.9-31.3	9/28/2009														
SDCR9-092809-33.7-36.2	9/28/2009														
SDCR9-092809-38.6-41.0	9/28/2009														

TABLE I-1
SAMPLE SUMMARY SHEET

Baseline ESPP
Olin McIntosh OU-2

			Analysis:	Mercury, Total	Metals, Total	Methylmercury, Dissolved	Methylmercury, Total	Percent Lipids	Percent Moisture	Percent Moisture	Percent Solids	Pesticides	Pesticides	Sulfide	Sulfate	Total Alkalinity
			Analytic Method:	SM 8080(M)/EPA 1631E Simultaneously Extracted	EPA 1638M Simultaneously Extracted Cd, Cu, Pb, Ni, Zn	EPA 1630 draft	EPA 1630 draft	Standard Methods	Standard Methods D2216	Standard Methods 2540G	Standard Methods 2540G	SW846 Method 8081	SW846 Method 8081A	SW846 Method 9030A	SW846 Method 9038	Standard Methods 2320B
			Preservation:	Cool to 4° C unpreserved	Cool to 4° C unpreserved	4° C during shipping, 0.5% HCI within 48 hrs.	4° C during shipping, 0.5% HCI within 48 hrs.	Cool to 4° C Wet ice/Dry Ice	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved
			Hold Time:	28 days for Sediment 48 hrs. prior to preservation and 90 days after for	180 days	180 days	28 days for Sediment 180 days for Surface Water	14 days	none established	none established	none established	14 days	14 days	7 days	14 days	14 days
Sample ID	**Sample Date**	**QA/QC Sample**		Surface Water												
SDCR9-092809-4.8-7.2	9/28/2009															
SDCR9-092809-43.4-45.8	9/28/2009															
SDCR9-092809-48.2-50.6	9/28/2009															
SDCR9-092809-53-55.4	9/28/2009															
SDCR9-092809-55.4-57.8	9/28/2009															
SDCR9-092809-57.8-60.3	9/28/2009															
SDCR9-092809-60.3-66.0	9/28/2009															
SDCR9-092809-66.0-71.8	9/28/2009															
SDCR9-092809-71.8-77.6	9/28/2009															
SDCR9-092809-77.6-83.3	9/28/2009															
SDCR9-092809-83.3-89.1	9/28/2009															
SDCR9-092809-89.1-94.9	9/28/2009															
SDCR9-092809-9.6-12.1	9/28/2009															
SDCR9-092809-94.9-100.6	9/28/2009															
SDCR9-CA-092609	9/26/2009								X				X			
SDCR9-CA-092609	9/26/2009	MS, MSD														
SDCR9-CB-092609	9/26/2009								X				X			
SDCR9-CC-092609	9/26/2009								X				X			
SDCR9-CD-092609	9/26/2009								X				X			
SDCR9-CE-092609	9/26/2009								X				X			
SDCR9-CF-092609	9/26/2009								X				X			
SDCR10-CA-092609	9/26/2009								X							
SDCR10-CA-092609	9/26/2009	MS, MSD														
SDCR10-CB-092609	9/26/2009								X							
SDCR10-CC-092609	9/26/2009								X							
SDCR10-CD-092609	9/26/2009								X							
SDCR10-CE-092609	9/26/2009								X							
SDCR10-CE-092609	9/26/2009	MS, MSD														
SDCR10-CF-092609	9/26/2009								X							
SDCR11-CA-092609	9/26/2009															
SDCR11-CB-092609	9/26/2009															
SDCR11-CC-092609	9/26/2009								X							
SDCR11-CD-092609	9/26/2009								X							
SDCR11-CE-092609	9/26/2009								X							
SDCR11-CF-092609	9/26/2009								X							
SDCR11-FSA-092509	9/25/2009				X				X							
SDCR11-FSB-092509	9/25/2009				X				X							
SDCR11-FSC-092509	9/25/2009				X				X							
SDCR11-FSD-092509	9/25/2009				X				X							
SDCR11-FSE-092509	9/25/2009				X				X							
SDCR12-CA-092509	9/25/2009															
SDCR12-CB-092509	9/25/2009															
SDCR12-CC-092509	9/25/2009								X							
SDCR12-CD-092509	9/25/2009								X							
SDCR12-CE-092509	9/25/2009								X							
SDCR12-CE-092509	9/25/2009	MS, MSD														
SDCR12-CF-092509	9/25/2009								X							
SDCR12-CG-092509	9/25/2009								X							
SDCR12-FSA-092509	9/25/2009				X				X							
SDCR12-FSB-092509	9/25/2009				X				X							
SDCR12-FSC-092509	9/25/2009				X				X							
SDCR12-FSD-092509	9/25/2009				X				X							
SDCR12-FSE-092509	9/25/2009				X				X							
SDCR12-FSE-092509	9/25/2009	MS, MSD			X											
SDCR13-CA-092609	9/26/2009								X				X			
SDCR13-CB-092609	9/26/2009								X				X			
SDCR13-CC-092609	9/26/2009								X				X			
SDCR13-CD-092609	9/26/2009								X				X			
SDCR13-CE-092609	9/26/2009								X				X			
SDCR-CDUP01-092409	9/24/2009	DUP							X				X			
SDCR-CDUP03-092709	9/27/2009	DUP							X							

TABLE I-1
SAMPLE SUMMARY SHEET

Baseline ESPP
Olin McIntosh OU-2

		Analysis:	Mercury, Total	Metals, Total	Methylmercury, Dissolved	Methylmercury, Total	Percent Lipids	Percent Moisture	Percent Moisture	Percent Solids	Pesticides	Pesticides	Sulfide	Sulfate	Total Alkalinity
		Analytic Method:	SM 8080(M)/EPA 1631E Simultaneously Extracted	EPA 1638M Simultaneously Extracted Cd, Cu, Pb, Ni, Zn	EPA 1630 draft	EPA 1630 draft	Standard Methods	Standard Methods D2216	Standard Methods 2540G	Standard Methods 2540G	SW846 Method 8081	SW846 Method 8081A	SW846 Method 9030A	SW846 Method 9038	Standard Methods 2320B
		Preservation:	Cool to 4° C unpreserved	Cool to 4° C unpreserved	4° C during shipping, 0.5% HCl within 48 hrs.	4° C during shipping, 0.5% HCl within 48 hrs.	Cool to 4° C Wet ice/Dry Ice	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved
		Hold Time:	28 days for Sediment 48 hrs. prior to preservation and 90 days after for Surface Water	180 days	180 days	28 days for Sediment 180 days for Surface Water	14 days	none established	none established	none established	14 days	14 days	7 days	14 days	14 days
Sample ID	**Sample Date**	**QA/QC Sample**													
SDCRCDUP04-092709	9/27/2009	DUP						X							
SDCRCDUP05-092709	9/27/2009	DUP						X							
SDCRCDUP06-092809	9/28/2009	DUP						X				X			
SDCR-CDUP07-092609	9/26/2009	DUP						X				X			
SDCR-CDUP08-092609	9/26/2009	DUP						X							
SDCR-CDUP09-092609	9/26/2009	DUP						X							
SDCR-CDUP10-092609	9/26/2009	DUP						X				X			
SDCRDUP02-092709	9/27/2009	DUP						X				X			
SDCR-FSDUP01-092309	9/23/2009					X		X							
SDCR-FSDUP01-092309	9/23/2009	MS, MSD				X									
SDCR-FSDUP02-092309	9/23/2009					X		X							
SDCR-FSDUP03-092509	9/25/2009	DUP				X		X							
SDPW1-0-2-0909	9/23/2009					X									
SDPW1-0-4-0909	10/26/2009														
SDPW1-2-4-0909	9/23/2009					X									
SDPW1-4-8-0909	9/23/2009					X									
SDPW1-8-12-0909	9/23/2009					X									
SDPW1-8-18-0909	10/26/2009														
SDPW1-12-18-0909	9/23/2009					X									
SDPW2-0-2-0909	9/23/2009					X									
SDPW2-0-4-0909	10/26/2009														
SDPW2-2-4-0909	9/23/2009					X									
SDPW2-4-8-0909	9/23/2009					X									
SDPW2-8-12-0909	9/23/2009					X									
SDPW2-8-18-0909	10/26/2009														
SDPW2-12-18-0909	9/23/2009					X									
SDPW3-0-2-0909	9/23/2009					X									
SDPW3-0-4-0909	10/26/2009														
SDPW3-0-4-0909	10/26/2009	MS, MSD													
SDPW3-2-4-0909	9/23/2009					X									
SDPW3-4-8-0909	9/23/2009					X									
SDPW3-4-8-0909	10/26/2009	MS, MSD													
SDPW3-8-12-0909	9/23/2009					X									
SDPW3-8-18-0909	10/26/2009														
SDPW3-8-18-0909	10/26/2009	MS, MSD													
SDPW3-12-18-0909	9/23/2009					X									
SDPW8-0-2-0909	9/24/2009					X									
SDPW8-0-4-0909	10/26/2009														
SDPW8-2-4-0909	9/24/2009					X									
SDPW8-4-8-0909	9/24/2009					X									
SDPW8-8-12-0909	9/24/2009					X									
SDPW8-8-18-0909	10/26/2009														
SDPW8-12-18-0909	9/24/2009					X									
SDPW11-0-2-0909	9/25/2009					X									
SDPW11-0-4-0909	10/26/2009														
SDPW11-2-4-0909	9/25/2009					X									
SDPW11-4-8-0909	9/25/2009					X									
SDPW11-8-12-0909	9/25/2009					X									
SDPW11-8-18-0909	10/26/2009														
SDPW11-12-18-0909	9/25/2009					X									
SDPW12-0-2-0909	9/25/2009					X									
SDPW12-0-4-0909	10/26/2009														
SDPW12-2-4-0909	9/25/2009					X									
SDPW12-4-8-0909	9/25/2009					X									
SDPW12-8-12-0909	9/25/2009					X									
SDPW12-8-18-0909	10/26/2009														
SDPW12-12-18-0909	9/25/2009					X									
SDPWDUP01-0-2-0909	9/25/2009	DUP				X									
SDPWDUP01-0-4-0909	10/26/2009	DUP													
SDPWDUP01-12-18-0909	9/25/2009	DUP				X									
SDPWDUP01-2-4-0909	9/25/2009	DUP				X									

TABLE I-1
SAMPLE SUMMARY SHEET

Baseline ESPP
Olin McIntosh OU-2

		Analysis:	Mercury, Total	Metals, Total	Methylmercury, Dissolved	Methylmercury, Total	Percent Lipids	Percent Moisture	Percent Moisture	Percent Solids	Pesticides	Pesticides	Sulfide	Sulfate	Total Alkalinity
		Analytic Method:	SM 8080(M)/EPA 1631E Simultaneously Extracted	EPA 1638M Simultaneously Extracted Cd, Cu, Pb, Ni, Zn	EPA 1630 draft	EPA 1630 draft	Standard Methods	Standard Methods D2216	Standard Methods 2540G	Standard Methods 2540G	SW846 Method 8081	SW846 Method 8081A	SW846 Method 9030A	SW846 Method 9038	Standard Methods 2320B
		Preservation:	Cool to 4° C unpreserved	Cool to 4° C unpreserved	4° C during shipping, 0.5% HCl within 48 hrs.	4° C during shipping, 0.5% HCl within 48 hrs.	Cool to 4° C Wet ice/Dry Ice	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved
		Hold Time:	28 days for Sediment 48 hrs. prior to preservation and 90 days after for Surface Water	180 days	180 days	28 days for Sediment 180 days for Surface Water	14 days	none established	none established	none established	14 days	14 days	7 days	14 days	14 days
Sample ID	**Sample Date**	**QA/QC Sample**													
SDPWDUP01-4-8-0909	9/25/2009	DUP				X									
SDPWDUP01-8-12-0909	9/25/2009	DUP				X									
SDPWDUP01-8-18-0909	10/26/2009	DUP													
SDPWDUP03-0-2-0909	9/25/2009	DUP				X									
SDPWDUP03-12-18-0909	9/25/2009	DUP				X									
SDPWDUP03-2-4-0909	9/25/2009	DUP				X									
SDPWDUP03-4-8-0909	9/25/2009	DUP				X									
SDPWDUP03-8-12-0909	9/25/2009	DUP				X									
SDPWDUP2-0-4-0909	10/26/2009	DUP													
SDPWDUP2-4-8-0909	10/26/2009	DUP													
SDPWDUP2-8-18-0909	10/26/2009	DUP													
SW-01-30-01	3/1/2009														
SW-01-30-04	3/2/2009														
SW-01-30-05	3/3/2009														
SW-01-30-07	3/5/2009														
SW-01-30-12	3/15/2009														
SW-01-30-15	3/6/2009														
SW-01-30-16	3/10/2009														
SW-01-30-18	3/11/2009														
SW-01-30-19	3/12/2009														
SW-01-30-20	3/13/2009														
SW-01-30-21	3/14/2009														
SW-01-30-23	3/17/2009														
SW-01-31-01	10/24/2009														
SW-01-31-02	10/24/2009														
SW-01-31-03	10/25/2009														
SW-01-31-13	10/24/2009														
SW-01-31-14	10/24/2009														
SW-01-31-15	10/25/2009														

TABLE I-1
SAMPLE SUMMARY SHEET

Baseline ESPP
Olin McIntosh OU-2

		Analysis:	Total Dissolved Solids	Total Dissolved Solids	Total Hardness	Total Organic Carbon	Total Organic Carbon	Total Suspended Solids	Total Suspended Solids	Total Volatile Solids
		Analytic Method:	Standard Methods 2540B-Modified	Standard Methods 2540C	Standard Methods 2340C	SW846 Method 9060	SW846 Method 9060-Modified	Standard Methods 2540D	USEPA Method 160.2	Standard Methods 2540G
		Preservation:	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved
		Hold Time:	7 days	7 days	180 days	28 days	28 days	7 days	7 days	7 days
Sample ID	**Sample Date**	**QA/QC Sample**								
BKGD-060909	6/9/2009									
BKGD-060909	6/9/2009	MS, MSD								
OU2B-FPSB1-10-0-1	7/11/2010						X			
OU2B-FPSB1-10-1-2	7/11/2010						X			
OU2B-FPSB1-10-2-6	7/11/2010						X			
OU2B-FPSB1-10-6-12	7/11/2010						X			
OU2B-FPSB2-10-0-1	7/11/2010						X			
OU2B-FPSB2-10-1-2	7/11/2010						X			
OU2B-FPSB2-10-2-6	7/11/2010						X			
OU2B-FPSB2-10-6-12	7/11/2010						X			
OU2B-FPSB3/4-10-0-12	7/10/2010									
OU2B-FPSB3-10-0-1	7/10/2010						X			
OU2B-FPSB3-10-1-2	7/10/2010						X			
OU2B-FPSB3-10-2-6	7/10/2010						X			
OU2B-FPSB3-10-6-12	7/10/2010						X			
OU2B-FPSB4-10-0-1	7/10/2010						X			
OU2B-FPSB4-10-1-2	7/10/2010						X			
OU2B-FPSB4-10-2-6	7/10/2010						X			
OU2B-FPSB4-10-6-12	7/10/2010						X			
OU2B-FPSB5/6-10-0-12	7/10/2010									
OU2B-FPSB5-10-0-1	7/9/2010						X			
OU2B-FPSB5-10-1-2	7/9/2010						X			
OU2B-FPSB5-10-2-6	7/9/2010						X			
OU2B-FPSB5-10-6-12	7/9/2010						X			
OU2B-FPSB6-10-0-1	7/10/2010						X			
OU2B-FPSB6-10-0-1	7/10/2010	MS					X			
OU2B-FPSB6-10-1-2	7/10/2010						X			
OU2B-FPSB6-10-2-6	7/10/2010						X			
OU2B-FPSB6-10-2-6	7/10/2010	MS, MSD								
OU2B-FPSB6-10-6-12	7/10/2010						X			
OU2B-FPSBDUP01-10	7/11/2010	DUP					X			
OU2B-FPSBDUP02-10	7/10/2010	DUP					X			
OU2B-FPSBDUP03-10	7/9/2010	DUP					X			
OU2B-FPSS10-10	7/9/2010						X			
OU2B-FPSS1-10	7/9/2010						X			
OU2B-FPSS11-10	7/9/2010						X			
OU2B-FPSS11-10	7/9/2010	MS, MSD								
OU2B-FPSS12-10	7/12/2010						X			
OU2B-FPSS13/14-10	7/8/2010									
OU2B-FPSS13-10	7/8/2010						X			
OU2B-FPSS14-10	7/8/2010						X			
OU2B-FPSS15-10	7/12/2010						X			
OU2B-FPSS2-10	7/11/2010						X			
OU2B-FPSS3-10	7/11/2010						X			
OU2B-FPSS4-10	7/9/2010						X			
OU2B-FPSS5-10	7/11/2010						X			
OU2B-FPSS6-10	7/9/2010						X			
OU2B-FPSS7-10	7/9/2010						X			
OU2B-FPSS7-10	7/9/2010	MS, MSD								
OU2B-FPSS8-10	7/9/2010						X			
OU2B-FPSS9-10	7/11/2010						X			
OU2B-FPSSDUP01-10	7/9/2010	DUP					X			
OU2B-FPSSDUP02-10	7/8/2010	DUP					X			
OU2B-FPSSDUP02-10	7/8/2010	MS					X			
OU2B-FPVSB1-10	7/7/2010									
OU2B-FPVSB3-10	7/8/2010									
OU2B-FPVSB4-10	7/8/2010									
OU2B-FPVSB5-10	7/7/2010									
OU2B-FPVSS10-10	7/8/2010									
OU2B-FPVSS10-10	7/8/2010	MS, MSD								
OU2B-FPVSS1-10	7/7/2010									

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SAMPLE SUMMARY SHEET

Baseline ESPP
Olin McIntosh OU-2

		Analysis:	Total Dissolved Solids	Total Dissolved Solids	Total Hardness	Total Organic Carbon	Total Organic Carbon	Total Suspended Solids	Total Suspended Solids	Total Volatile Solids
		Analytic Method:	Standard Methods 2540B-Modified	Standard Methods 2540C	Standard Methods 2340C	SW846 Method 9060	SW846 Method 9060-Modified	Standard Methods 2540D	USEPA Method 160.2	Standard Methods 2540G
		Preservation:	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved
		Hold Time:	7 days	7 days	180 days	28 days	28 days	7 days	7 days	7 days
Sample ID	**Sample Date**	**QA/QC Sample**								
OU2B-FPVSS11-10	7/7/2010									
OU2B-FPVSS12-10	7/7/2010									
OU2B-FPVSS14-10	7/7/2010									
OU2B-FPVSS4-10	7/7/2010									
OU2B-FPVSS4-10	7/7/2010	MS, MSD								
OU2B-FPVSSDUP01-10	7/7/2010	DUP								
OU2B-FPVSSDUP02-10	7/7/2010	DUP								
OU2B-INS1B-10	7/12/2010									
OU2B-INS2C-10	7/12/2010									
OU2B-INS3B-10	7/12/2010									
OU2B-INS4B-10	7/9/2010									
OU2B-INS4C-10	7/12/2010									
OU2B-INS5B-10	7/13/2010									
OU2B-INS5C-10	7/13/2010									
OU2B-INS6A-10	7/9/2010									
OU2B-INS6B-10	7/9/2010									
OU2B-INS6C-10	7/9/2010									
OU2B-INSNEA-10	7/12/2010									
OU2B-INSNEC-10	7/12/2010									
OU2B-INSSEA-10	7/12/2010									
OU2B-SED-004C-09	6/5/2009						X			
OU2B-SED-101C-09	6/5/2009						X			
OU2B-SED-101C-09	6/19/2009	MS, MSD								
OU2B-SED-102C-09	6/5/2009						X			
OU2B-SED-103DC-09	6/6/2009						X			
OU2B-SED-103DNE-09	6/6/2009						X			
OU2B-SED-103DNE-09	6/19/2009	MS, MSD								
OU2B-SED-103DNW-09	6/6/2009						X			
OU2B-SED-103DSE-09	6/6/2009						X			
OU2B-SED-103DSE-09	6/19/2009	MS, MSD								
OU2B-SED-103DSW-09	6/6/2009						X			
OU2B-SED-104DC-09	6/6/2009						X			
OU2B-SED-104DNE-09	6/6/2009						X			
OU2B-SED-104DNW-09	6/6/2009						X			
OU2B-SED-104DSE-09	6/6/2009						X			
OU2B-SED-104DSW-09	6/6/2009						X			
OU2B-SED-105C-09	6/8/2009						X			
OU2B-SED-105C-09	6/18/2009	MS, MSD								
OU2B-SED-106C-09	6/8/2009						X			
OU2B-SED-201C-09	6/8/2009						X			
OU2B-SED-202DC-09	6/6/2009						X			
OU2B-SED-202DNE-09	6/6/2009						X			
OU2B-SED-202DNW-09	6/6/2009						X			
OU2B-SED-202DSE-09	6/6/2009						X			
OU2B-SED-202DSW-09	6/6/2009						X			
OU2B-SED-203DC-09	6/7/2009						X			
OU2B-SED-203DNE-09	6/7/2009						X			
OU2B-SED-203DNE-09	6/18/2009	MS, MSD								
OU2B-SED-203DNW-09	6/7/2009						X			
OU2B-SED-203DSE-09	6/7/2009						X			
OU2B-SED-203DSW-09	6/7/2009						X			
OU2B-SED-204C-09	6/7/2009						X			
OU2B-SED-205C-09	6/8/2009						X			
OU2B-SED-301C-09	6/3/2009						X			
OU2B-SED-301C-09	6/10/2009	MS, MSD								
OU2B-SED-302C-09	6/8/2009						X			
OU2B-SED-302C-09	6/17/2009	MS, MSD								
OU2B-SED-303DC-09	6/7/2009						X			
OU2B-SED-303DNE-09	6/7/2009						X			
OU2B-SED-303DNE-09	6/7/2009	MS, MSD								
OU2B-SED-303DNW-09	6/7/2009						X			

TABLE I-1
SAMPLE SUMMARY SHEET

Baseline ESPP
Olin McIntosh OU-2

		Analysis:	Total Dissolved Solids	Total Dissolved Solids	Total Hardness	Total Organic Carbon	Total Organic Carbon	Total Suspended Solids	Total Suspended Solids	Total Volatile Solids
		Analytic Method:	Standard Methods 2540B-Modified	Standard Methods 2540C	Standard Methods 2340C	SW846 Method 9060	SW846 Method 9060-Modified	Standard Methods 2540D	USEPA Method 160.2	Standard Methods 2540G
		Preservation:	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved
		Hold Time:	7 days	7 days	180 days	28 days	28 days	7 days	7 days	7 days
Sample ID	**Sample Date**	**QA/QC Sample**								
OU2B-SED-303DSE-09	6/7/2009						X			
OU2B-SED-303DSE-09	6/7/2009	MS, MSD								
OU2B-SED-303DSW-09	6/7/2009						X			
OU2B-SED-303DSW-09	6/18/2009	MS, MSD								
OU2B-SED-304C-09	6/9/2009						X			
OU2B-SED-401C-09	6/9/2009						X			
OU2B-SED-402C-09	6/7/2009						X			
OU2B-SED-402C-09	6/9/2009	MS, MSD								
OU2B-SED-403C-09	6/9/2009						X			
OU2B-SED-404C-09	6/9/2009						X			
OU2B-SED-501DC-09	6/7/2009						X			
OU2B-SED-501DNE-09	6/7/2009						X			
OU2B-SED-501DNW-09	6/7/2009						X			
OU2B-SED-501DSE-09	6/7/2009						X			
OU2B-SED-501DSW-09	6/7/2009						X			
OU2B-SED-502DC-09	6/7/2009						X			
OU2B-SED-502DNE-09	6/7/2009						X			
OU2B-SED-502DNW-09	6/7/2009						X			
OU2B-SED-502DSE-09	6/7/2009						X			
OU2B-SED-502DSW-09	6/7/2009						X			
OU2B-SED-DHC-09	6/5/2009						X			
OU2B-SED-DHC-09	6/19/2009	MS, MSD								
OU2B-SED-DUP01C-09	6/5/2009	DUP					X			
OU2B-SED-DUP02C-09	6/8/2009	DUP					X			
OU2B-SED-DUP03C-09	6/8/2009	DUP					X			
OU2B-SED-DUP04C-09	6/7/2009	DUP					X			
OU2B-SED-DUP05C-09	6/7/2009	MS, MSD								
OU2B-SED-DUP05C-09	6/7/2009	DUP					X			
OU2B-SED-DUP06C-09	6/8/2009	DUP					X			
OU2B-SED-ST13-02/09	2/18/2009						X	X		
OU2B-SED-ST13-0509	5/28/2009						X	X		X
OU2B-SED-ST13-0809	8/11/2009						X	X		X
OU2B-SED-ST13-1109	11/11/2009					X		X		
OU2B-SED-ST13-0210	2/23/2010		X							
OU2B-SED-ST14-1109	11/11/2009					X				
OU2B-SED-ST14-0210	2/23/2010		X							
OU2B-SED-ST15-02/09	2/18/2009						X	X		
OU2B-SED-ST15-0509	5/28/2009						X	X		X
OU2B-SED-ST15-0809	8/11/2009						X	X		X
OU2B-SED-ST15-1109	11/11/2009					X		X		
OU2B-SED-ST15-0210	2/24/2010		X					X		
OU2B-SED-ST17-1109	11/11/2009					X				
OU2B-SED-ST17-0210	2/24/2010		X			X		X		
OU2B-SED-ST19-02/09	2/19/2009						X	X		
OU2B-SED-ST19-1109	11/11/2009					X				
OU2B-SED-ST19-0210	2/23/2010		X			X		X		
OU2B-SED-ST23-02/09	2/19/2009						X	X		
OU2B-SED-ST23-0509	5/28/2009						X	X		X
OU2B-SED-ST23-0809	8/11/2009						X	X		X
OU2B-SED-ST23-1109	11/11/2009					X		X		
OU2B-SED-ST23-0210	2/23/2010		X			X		X		
OU2B-SED-ST23-0210	2/23/2010	MS				X				
OU2B-SED-ST24-02/09	2/19/2009						X	X		
OU2B-SED-ST24-0509	5/28/2009						X	X		X
OU2B-SED-ST24-0809	8/11/2009						X	X		X
OU2B-SED-ST24-1109	11/11/2009					X		X		
OU2B-SED-ST24-0210	2/23/2010		X			X		X		
OU2B-SED-ST26-02/09	2/19/2009						X	X		
OU2B-SED-ST27-02/09	2/19/2009						X	X		
OU2B-SED-ST28-02/09	2/19/2009						X	X		
OU2B-SED-ST29-0809	8/11/2009						X	X		X

TABLE I-1
SAMPLE SUMMARY SHEET

Baseline ESPP
Olin McIntosh OU-2

		Analysis:	Total Dissolved Solids	Total Dissolved Solids	Total Hardness	Total Organic Carbon	Total Organic Carbon	Total Suspended Solids	Total Suspended Solids	Total Volatile Solids
		Analytic Method:	Standard Methods 2540B-Modified	Standard Methods 2540C	Standard Methods 2340C	SW846 Method 9060	SW846 Method 9060-Modified	Standard Methods 2540D	USEPA Method 160.2	Standard Methods 2540G
		Preservation:	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved
		Hold Time:	7 days	7 days	180 days	28 days	28 days	7 days	7 days	7 days
Sample ID	**Sample Date**	**QA/QC Sample**								
OU2B-SED-ST29-1109	11/11/2009					X		X		
OU2B-SED-ST29-0210	2/24/2010		X					X		
OU2B-SED-ST30-02/09	2/19/2009						X	X		
OU2B-SED-ST30-0809	8/11/2009						X	X		X
OU2B-SED-ST30-1109	11/11/2009					X		X		
OU2B-SED-ST31-0809	8/12/2009						X	X		X
OU2B-SED-ST31-1109	11/11/2009					X		X		
OU2B-SED-ST31-0210	2/24/2010		X							
OU2B-SED-ST32-1109	11/11/2009					X				
OU2B-SED-ST32-0210	2/24/2010		X			X		X		
OU2B-SED-ST33-0809	8/12/2009						X	X		X
OU2B-SED-ST33-1109	11/11/2009					X		X		
OU2B-SED-WT14-0709	7/9/2009						X			
OU2B-SED-WT17-0709	7/9/2009						X			
OU2B-SED-WT19-0709	7/9/2009						X			
OU2B-SED-WT32-0709	7/9/2009						X			
OU2B-SW-101DD-09	6/4/2009			X	X			X		
OU2B-SW-101DS-09	6/4/2009			X	X			X		
OU2B-SW-103DD-09	6/4/2009			X	X			X		
OU2B-SW-103DD-09	6/4/2009	MS, MSD								
OU2B-SW-103DS-09	6/4/2009			X	X			X		
OU2B-SW-103DS-09	6/4/2009	MS, MSD								
OU2B-SW-105DD-09	6/8/2009			X	X			X		
OU2B-SW-105DS-09	6/8/2009			X	X			X		
OU2B-SW-105DS-09	6/8/2009	MS, MSD								
OU2B-SW-105DD-09	6/8/2009			X	X			X		
OU2B-SW-105DS-09	6/8/2009			X	X			X		
OU2B-SW-105DS-09	6/8/2009	MS, MSD								
OU2B-SW-201DD-09	6/3/2009			X	X			X		
OU2B-SW-201DS-09	6/3/2009			X	X			X		
OU2B-SW-203DD-09	6/4/2009			X	X			X		
OU2B-SW-203DS-09	6/4/2009			X	X			X		
OU2B-SW-205DD-09	6/8/2009			X	X			X		
OU2B-SW-205DS-09	6/8/2009			X	X			X		
OU2B-SW-301DD-09	6/3/2009			X	X			X		
OU2B-SW-301DS-09	6/3/2009			X	X			X		
OU2B-SW-303DD-09	6/3/2009			X	X			X		
OU2B-SW-303DS-09	6/3/2009			X	X			X		
OU2B-SW-304DD-09	6/3/2009			X	X			X		
OU2B-SW-304DS-09	6/3/2009			X	X			X		
OU2B-SW-DHDD-09	6/4/2009			X	X			X		
OU2B-SW-DHDS-09	6/4/2009			X	X			X		
OU2B-SW-DUP01DD-09	6/3/2009	DUP		X	X			X		
OU2B-SW-DUP01DS-09	6/8/2009	DUP		X	X			X		
OU2B-SW-DUP01DS-09	6/8/2009	MS, MSD								
OU2B-SW-FB1-113009	11/30/2009									
OU2B-SW-GATE-1-110209	11/2/2009			X				X		
OU2B-SW-GATE-1-110209	11/2/2009	MS, MSD								
OU2B-SW-GATE-1-110209B	11/2/2009									
OU2B-SW-GATE-1-113009	11/30/2009			X				X		
OU2B-SW-GATE1-011210	1/12/2010			X				X		
OU2B-SW-GATE-1A-113009	11/30/2009									
OU2B-SW-GATE-1A-011210	1/12/2010									
OU2B-SW-GATE-1A-011210	1/12/2010	MS, MSD								
OU2B-SW-GATE-1A-060210	6/2/2010			X				X		
OU2B-SW-GATE-1B-113009	11/30/2009									
OU2B-SW-GATE-1B-113009	11/30/2009	MS, MSD								
OU2B-SW-GATE-1B-011210	1/12/2010									
OU2B-SW-GATE-1B-060210	6/2/2010									
OU2B-SW-GATE-1C-011210	1/12/2010									
OU2B-SW-GATE-1C-060210	6/2/2010									
OU2B-SW-GATE-2-120209	12/2/2009			X				X		
OU2B-SW-GATE2-011410	1/14/2010			X				X		
OU2B-SW-GATE-2A-120209	12/2/2009									

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SAMPLE SUMMARY SHEET

Baseline ESPP
Olin McIntosh OU-2

		Analysis:	Total Dissolved Solids	Total Dissolved Solids	Total Hardness	Total Organic Carbon	Total Organic Carbon	Total Suspended Solids	Total Suspended Solids	Total Volatile Solids
		Analytic Method:	Standard Methods 2540B-Modified	Standard Methods 2540C	Standard Methods 2340C	SW846 Method 9060	SW846 Method 9060-Modified	Standard Methods 2540D	USEPA Method 160.2	Standard Methods 2540G
		Preservation:	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved
		Hold Time:	7 days	7 days	180 days	28 days	28 days	7 days	7 days	7 days
Sample ID	**Sample Date**	**QA/QC Sample**								
OU2B-SW-GATE-2A-011410	1/14/2010									
OU2B-SW-GATE-2A-030910	3/9/2010			X				X		
OU2B-SW-GATE-2A-060410	6/4/2010			X				X		
OU2B-SW-GATE-2B-120209	12/2/2009									
OU2B-SW-GATE-2B-011410	1/14/2010									
OU2B-SW-GATE-2B-011410	1/14/2010	MS, MSD								
OU2B-SW-GATE-2B-030910	3/9/2010									
OU2B-SW-GATE-2B-060410	6/4/2010									
OU2B-SW-GATE-2C-120209	12/2/2009									
OU2B-SW-GATE-2C-120209	12/2/2009	MS, MSD								
OU2B-SW-GATE-2C-011410	1/14/2010									
OU2B-SW-GATE-2C-030910	3/9/2010									
OU2B-SW-GATE-2C-060410	6/4/2010									
OU2B-SW-GATE3-011810	1/18/2010			X				X		
OU2B-SW-GATE-3A-011810	1/18/2010									
OU2B-SW-GATE-3A-011810	1/18/2010	MS, MSD								
OU2B-SW-GATE-3A-060710	6/7/2010			X				X		
OU2B-SW-GATE-3B-011810	1/18/2010									
OU2B-SW-GATE-3B-060710	6/7/2010									
OU2B-SW-GATE-3C-011810	1/18/2010									
OU2B-SW-GATE-3C-060710	6/7/2010									
OU2B-SW-TBR-1-110209	11/2/2009			X				X		
OU2B-SW-TBR-1-110209B	11/2/2009									
OU2R-SED-101DC-09	6/5/2009						X			
OU2R-SED-101DNE-09	6/5/2009						X			
OU2R-SED-101DNW-09	6/5/2009						X			
OU2R-SED-101DSE-09	6/5/2009						X			
OU2R-SED-101DSW-09	6/5/2009						X			
OU2R-SED-102C-09	6/5/2009						X			
OU2R-SW-101DD-09	6/3/2009			X	X			X		
OU2R-SW-101DS-09	6/3/2009			X	X			X		
OU2R-SW-101DS-09	6/3/2009	MS, MSD								
OU2-TSS-A1B-12009	1/20/2009							X		
OU2-TSS-A1B-101509	10/15/2009							X		
OU2-TSS-A1B-101609	10/16/2009							X		
OU2-TSS-A1B-101709	10/17/2009							X		
OU2-TSS-A1B-101809	10/18/2009							X		
OU2-TSS-A1B-101909	10/19/2009							X		
OU2-TSS-A1B-102009	10/20/2009							X		
OU2-TSS-A1B-102109	10/21/2009							X		
OU2-TSS-A1T-12009	1/20/2009							X		
OU2-TSS-A1T-101509	10/15/2009							X		
OU2-TSS-A1T-101609	10/16/2009							X		
OU2-TSS-A1T-101709	10/17/2009							X		
OU2-TSS-A1T-101809	10/18/2009							X		
OU2-TSS-A1T-101909	10/19/2009							X		
OU2-TSS-A1T-102009	10/20/2009							X		
OU2-TSS-A1T-102109	10/21/2009							X		
OU2-TSS-B1B-12009	1/20/2009							X		
OU2-TSS-B1B-101509	10/15/2009							X		
OU2-TSS-B1B-101609	10/16/2009							X		
OU2-TSS-B1B-101709	10/17/2009							X		
OU2-TSS-B1B-101809	10/18/2009							X		
OU2-TSS-B1B-101909	10/19/2009							X		
OU2-TSS-B1B-102009	10/20/2009							X		
OU2-TSS-B1B-102109	10/21/2009							X		
OU2-TSS-B1T-12009	1/20/2009							X		
OU2-TSS-B1T-101509	10/15/2009							X		
OU2-TSS-B1T-101609	10/16/2009							X		
OU2-TSS-B1T-101709	10/17/2009							X		
OU2-TSS-B1T-101809	10/18/2009							X		

TABLE I-1
SAMPLE SUMMARY SHEET

Baseline ESPP
Olin McIntosh OU-2

		Analysis:	Total Dissolved Solids	Total Dissolved Solids	Total Hardness	Total Organic Carbon	Total Organic Carbon	Total Suspended Solids	Total Suspended Solids	Total Volatile Solids
		Analytic Method:	Standard Methods 2540B-Modified	Standard Methods 2540C	Standard Methods 2340C	SW846 Method 9060	SW846 Method 9060-Modified	Standard Methods 2540D	USEPA Method 160.2	Standard Methods 2540G
		Preservation:	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved
		Hold Time:	7 days	7 days	180 days	28 days	28 days	7 days	7 days	7 days
Sample ID	**Sample Date**	**QA/QC Sample**								
OU2-TSS-B1T-101909	10/19/2009							X		
OU2-TSS-B1T-102009	10/20/2009							X		
OU2-TSS-B1T-102109	10/21/2009							X		
OU2-TSS-B2B-12009	1/20/2009							X		
OU2-TSS-B2B-101509	10/15/2009							X		
OU2-TSS-B2B-101609	10/16/2009							X		
OU2-TSS-B2B-101709	10/17/2009							X		
OU2-TSS-B2B-101809	10/18/2009							X		
OU2-TSS-B2B-101909	10/19/2009							X		
OU2-TSS-B2B-102009	10/20/2009							X		
OU2-TSS-B2B-102109	10/21/2009							X		
OU2-TSS-B2T-12009	1/20/2009							X		
OU2-TSS-B2T-101509	10/15/2009							X		
OU2-TSS-B2T-101609	10/16/2009							X		
OU2-TSS-B2T-101709	10/17/2009							X		
OU2-TSS-B2T-101809	10/18/2009							X		
OU2-TSS-B2T-101909	10/19/2009							X		
OU2-TSS-B2T-102009	10/20/2009							X		
OU2-TSS-B2T-102109	10/21/2009							X		
OU2-TSS-B3B-12009	1/20/2009							X		
OU2-TSS-B3B-101509	10/15/2009							X		
OU2-TSS-B3B-101609	10/16/2009							X		
OU2-TSS-B3B-101709	10/17/2009							X		
OU2-TSS-B3B-101809	10/18/2009							X		
OU2-TSS-B3B-101909	10/19/2009							X		
OU2-TSS-B3B-102009	10/20/2009							X		
OU2-TSS-B3B-102109	10/21/2009							X		
OU2-TSS-B3T-12009	1/20/2009							X		
OU2-TSS-B3T-101509	10/15/2009							X		
OU2-TSS-B3T-101609	10/16/2009							X		
OU2-TSS-B3T-101709	10/17/2009							X		
OU2-TSS-B3T-101809	10/18/2009							X		
OU2-TSS-B3T-101909	10/19/2009							X		
OU2-TSS-B3T-102009	10/20/2009							X		
OU2-TSS-B3T-102109	10/21/2009							X		
OU2-TSS-C1B-12009	1/20/2009							X		
OU2-TSS-C1B-101509	10/15/2009							X		
OU2-TSS-C1B-101609	10/16/2009							X		
OU2-TSS-C1B-101709	10/17/2009							X		
OU2-TSS-C1B-101809	10/18/2009							X		
OU2-TSS-C1B-101909	10/19/2009							X		
OU2-TSS-C1B-102009	10/20/2009							X		
OU2-TSS-C1B-102109	10/21/2009							X		
OU2-TSS-C1T-12009	1/20/2009							X		
OU2-TSS-C1T-101509	10/15/2009							X		
OU2-TSS-C1T-101609	10/16/2009							X		
OU2-TSS-C1T-101709	10/17/2009							X		
OU2-TSS-C1T-101809	10/18/2009							X		
OU2-TSS-C1T-101909	10/19/2009							X		
OU2-TSS-C1T-102009	10/20/2009							X		
OU2-TSS-C1T-102109	10/21/2009							X		
OU2-TSS-C2B-12009	1/20/2009							X		
OU2-TSS-C2B-101509	10/15/2009							X		
OU2-TSS-C2B-101609	10/16/2009							X		
OU2-TSS-C2B-101709	10/17/2009							X		
OU2-TSS-C2B-101809	10/18/2009							X		
OU2-TSS-C2B-101909	10/19/2009							X		
OU2-TSS-C2B-102009	10/20/2009							X		
OU2-TSS-C2B-102109	10/21/2009							X		
OU2-TSS-C2T-12009	1/20/2009							X		
OU2-TSS-C2T-101509	10/15/2009							X		

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SAMPLE SUMMARY SHEET

Baseline ESPP
Olin McIntosh OU-2

		Analysis:	Total Dissolved Solids	Total Dissolved Solids	Total Hardness	Total Organic Carbon	Total Organic Carbon	Total Suspended Solids	Total Suspended Solids	Total Volatile Solids
		Analytic Method:	Standard Methods 2540B-Modified	Standard Methods 2540C	Standard Methods 2340C	SW846 Method 9060	SW846 Method 9060-Modified	Standard Methods 2540D	USEPA Method 160.2	Standard Methods 2540G
		Preservation:	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved
		Hold Time:	7 days	7 days	180 days	28 days	28 days	7 days	7 days	7 days
Sample ID	**Sample Date**	**QA/QC Sample**								
OU2-TSS-C2T-101609	10/16/2009							X		
OU2-TSS-C2T-101709	10/17/2009							X		
OU2-TSS-C2T-101809	10/18/2009							X		
OU2-TSS-C2T-101909	10/19/2009							X		
OU2-TSS-C2T-102009	10/20/2009							X		
OU2-TSS-C2T-102109	10/21/2009							X		
OU2-TSS-C3B-12009	1/20/2009							X		
OU2-TSS-C3B-101509	10/15/2009							X		
OU2-TSS-C3B-101609	10/16/2009							X		
OU2-TSS-C3B-101709	10/17/2009							X		
OU2-TSS-C3B-101809	10/18/2009							X		
OU2-TSS-C3B-101909	10/19/2009							X		
OU2-TSS-C3B-102009	10/20/2009							X		
OU2-TSS-C3B-102109	10/21/2009							X		
OU2-TSS-C3T-12009	1/20/2009							X		
OU2-TSS-C3T-101509	10/15/2009							X		
OU2-TSS-C3T-101609	10/16/2009							X		
OU2-TSS-C3T-101709	10/17/2009							X		
OU2-TSS-C3T-101809	10/18/2009							X		
OU2-TSS-C3T-101909	10/19/2009							X		
OU2-TSS-C3T-102009	10/20/2009							X		
OU2-TSS-C3T-102109	10/21/2009							X		
OU2-TSS-C4B-12009	1/20/2009							X		
OU2-TSS-C4B-101509	10/15/2009							X		
OU2-TSS-C4B-101609	10/16/2009							X		
OU2-TSS-C4B-101709	10/17/2009							X		
OU2-TSS-C4B-101809	10/18/2009							X		
OU2-TSS-C4B-101909	10/19/2009							X		
OU2-TSS-C4B-102009	10/20/2009							X		
OU2-TSS-C4B-102109	10/21/2009							X		
OU2-TSS-C4T-12009	1/20/2009							X		
OU2-TSS-C4T-101509	10/15/2009							X		
OU2-TSS-C4T-101609	10/16/2009							X		
OU2-TSS-C4T-101709	10/17/2009							X		
OU2-TSS-C4T-101809	10/18/2009							X		
OU2-TSS-C4T-101909	10/19/2009							X		
OU2-TSS-C4T-102009	10/20/2009							X		
OU2-TSS-C4T-102109	10/21/2009							X		
OU2-TSS-C5B-12009	1/20/2009							X		
OU2-TSS-C5B-101509	10/15/2009							X		
OU2-TSS-C5B-101609	10/16/2009							X		
OU2-TSS-C5B-101709	10/17/2009							X		
OU2-TSS-C5B-101809	10/18/2009							X		
OU2-TSS-C5B-101909	10/19/2009							X		
OU2-TSS-C5B-102009	10/20/2009							X		
OU2-TSS-C5B-102109	10/21/2009							X		
OU2-TSS-C5T-12009	1/20/2009							X		
OU2-TSS-C5T-101509	10/15/2009							X		
OU2-TSS-C5T-101609	10/16/2009							X		
OU2-TSS-C5T-101709	10/17/2009							X		
OU2-TSS-C5T-101809	10/18/2009							X		
OU2-TSS-C5T-101909	10/19/2009							X		
OU2-TSS-C5T-102009	10/20/2009							X		
OU2-TSS-C5T-102109	10/21/2009							X		
OU2-TSS-C6B-12009	1/20/2009							X		
OU2-TSS-C6B-101509	10/15/2009							X		
OU2-TSS-C6B-101609	10/16/2009							X		
OU2-TSS-C6B-101709	10/17/2009							X		
OU2-TSS-C6B-101809	10/18/2009							X		
OU2-TSS-C6B-101909	10/19/2009							X		
OU2-TSS-C6B-102009	10/20/2009							X		

TABLE I-1
SAMPLE SUMMARY SHEET

Baseline ESPP
Olin McIntosh OU-2

		Analysis:	Total Dissolved Solids	Total Dissolved Solids	Total Hardness	Total Organic Carbon	Total Organic Carbon	Total Suspended Solids	Total Suspended Solids	Total Volatile Solids
		Analytic Method:	Standard Methods 2540B-Modified	Standard Methods 2540C	Standard Methods 2340C	SW846 Method 9060	SW846 Method 9060-Modified	Standard Methods 2540D	USEPA Method 160.2	Standard Methods 2540G
		Preservation:	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved
		Hold Time:	7 days	7 days	180 days	28 days	28 days	7 days	7 days	7 days
Sample ID	**Sample Date**	**QA/QC Sample**								
OU2-TSS-C6B-102109	10/21/2009							X		
OU2-TSS-C6T-12009	1/20/2009							X		
OU2-TSS-C6T-101509	10/15/2009							X		
OU2-TSS-C6T-101609	10/16/2009							X		
OU2-TSS-C6T-101709	10/17/2009							X		
OU2-TSS-C6T-101809	10/18/2009							X		
OU2-TSS-C6T-101909	10/19/2009							X		
OU2-TSS-C6T-102009	10/20/2009							X		
OU2-TSS-C6T-102109	10/21/2009							X		
OU2-TSS-D1B-012009	1/20/2009							X		
OU2-TSS-D1B-101509	10/15/2009							X		
OU2-TSS-D1B-101609	10/16/2009							X		
OU2-TSS-D1B-101709	10/17/2009							X		
OU2-TSS-D1B-101809	10/18/2009							X		
OU2-TSS-D1B-101909	10/19/2009							X		
OU2-TSS-D1B-102009	10/20/2009							X		
OU2-TSS-D1B-102109	10/21/2009							X		
OU2-TSS-D1T-12009	1/20/2009							X		
OU2-TSS-D1T-101509	10/15/2009							X		
OU2-TSS-D1T-101609	10/16/2009							X		
OU2-TSS-D1T-101709	10/17/2009							X		
OU2-TSS-D1T-101809	10/18/2009							X		
OU2-TSS-D1T-101909	10/19/2009							X		
OU2-TSS-D1T-102009	10/20/2009							X		
OU2-TSS-D1T-102109	10/21/2009							X		
OU2-TSS-DUP01-101509	10/15/2009	DUP						X		
OU2-TSS-DUP01-101609	10/16/2009	DUP						X		
OU2-TSS-DUP01-101709	10/17/2009	DUP						X		
OU2-TSS-DUP01-101809	10/18/2009	DUP						X		
OU2-TSS-DUP01-101909	10/19/2009	DUP						X		
OU2-TSS-DUP01-102009	10/20/2009	DUP						X		
OU2-TSS-DUP01-102109	10/21/2009	DUP						X		
OU2-TSS-DUP02-101509	10/15/2009	DUP						X		
OU2-TSS-DUP02-101609	10/16/2009	DUP						X		
OU2-TSS-DUP02-101709	10/17/2009	DUP						X		
OU2-TSS-DUP02-101809	10/18/2009	DUP						X		
OU2-TSS-DUP02-101909	10/19/2009	DUP						X		
OU2-TSS-DUP02-102009	10/20/2009	DUP						X		
OU2-TSS-DUP02-102109	10/21/2009	DUP						X		
OU2-TSS-DUP03-101509	10/15/2009	DUP						X		
OU2-TSS-DUP03-101609	10/16/2009	DUP						X		
OU2-TSS-DUP03-101709	10/17/2009	DUP						X		
OU2-TSS-DUP03-101809	10/18/2009	DUP						X		
OU2-TSS-DUP03-101909	10/19/2009	DUP						X		
OU2-TSS-DUP03-102009	10/20/2009	DUP						X		
OU2-TSS-DUP03-102109	10/21/2009	DUP						X		
SDCR-1-CA-060309	6/3/2009									
SDCR-1-CB-060309	6/3/2009									
SDCR-1-CC-060309	6/3/2009									
SDCR-1-CC-060309	6/3/2009	MS, MSD								
SDCR-1-CD-060309	6/3/2009									
SDCR-1-CE-060309	6/3/2009									
SDCR-1-CF-060309	6/3/2009									
SDCR1-C-FD-060309	6/3/2009	DUP								
SDCR-1-FA-060309	6/3/2009						X			
SDCR-1-FB-060309	6/3/2009						X			
SDCR-1-FC-060309	6/3/2009						X			
SDCR-1-FD-060309	6/3/2009						X			
SDCR-1-FDUP-060309	6/3/2009	DUP					X			
SDCR-1-FE-060309	6/3/2009						X			
SDCR-1-FE-060309	6/3/2009	MS, MSD								

TABLE I-1
SAMPLE SUMMARY SHEET

Baseline ESPP
Olin McIntosh OU-2

		Analysis:	Total Dissolved Solids	Total Dissolved Solids	Total Hardness	Total Organic Carbon	Total Organic Carbon	Total Suspended Solids	Total Suspended Solids	Total Volatile Solids
		Analytic Method:	Standard Methods 2540B-Modified	Standard Methods 2540C	Standard Methods 2340C	SW846 Method 9060	SW846 Method 9060-Modified	Standard Methods 2540D	USEPA Method 160.2	Standard Methods 2540G
		Preservation:	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved
		Hold Time:	7 days	7 days	180 days	28 days	28 days	7 days	7 days	7 days
Sample ID	**Sample Date**	**QA/QC Sample**								
SDCR2-092809-0-2.6	9/28/2009									
SDCR2-092809-10.4-13.1	9/28/2009									
SDCR2-092809-104-110.4	9/28/2009									
SDCR2-092809-110.4-116.9	9/28/2009									
SDCR2-092809-116.9-123.3	9/28/2009									
SDCR2-092809-123.3-129.8	9/28/2009									
SDCR2-092809-129.8-136.2	9/28/2009									
SDCR2-092809-136.2-142.7	9/28/2009									
SDCR2-092809-142.7-149.1	9/28/2009									
SDCR2-092809-149.1-155.6	9/28/2009									
SDCR2-092809-15.7-18.3	9/28/2009									
SDCR2-092809-155.6-168.4	9/28/2009									
SDCR2-092809-168.4-181.3	9/28/2009									
SDCR2-092809-181.3-194.1	9/28/2009									
SDCR2-092809-194.1-207	9/28/2009									
SDCR2-092809-20.9-23.5	9/28/2009									
SDCR2-092809-207-219.8	9/28/2009									
SDCR2-092809-219.8-232.7	9/28/2009									
SDCR2-092809-232.7-245.5	9/28/2009									
SDCR2-092809-245.5-258.4	9/28/2009									
SDCR2-092809-258.4-271.2	9/28/2009									
SDCR2-092809-26.1-28.7	9/28/2009									
SDCR2-092809-271.2-284.1	9/28/2009									
SDCR2-092809-284.1-296.9	9/28/2009									
SDCR2-092809-31.3-33.9	9/28/2009									
SDCR2-092809-36.5-39.2	9/28/2009									
SDCR2-092809-39.2-41.8	9/28/2009									
SDCR2-092809-44.4-47	9/28/2009									
SDCR2-092809-49.6-52.2	9/28/2009									
SDCR2-092809-5.2-7.8	9/28/2009									
SDCR2-092809-54.8-57.4	9/28/2009									
SDCR2-092809-60-62.6	9/28/2009									
SDCR2-092809-65.3-71.7	9/28/2009									
SDCR2-092809-71.7-78.2	9/28/2009									
SDCR2-092809-78.2-84.6	9/28/2009									
SDCR2-092809-84.6-91.1	9/28/2009									
SDCR2-092809-91.1-97.5	9/28/2009									
SDCR2-092809-97.5-104	9/28/2009									
SDCR2-CA-092409	9/24/2009									
SDCR2-CB-092409	9/24/2009									
SDCR2-CC-092409	9/24/2009									
SDCR2-CD-092409	9/24/2009									
SDCR2-CE-092409	9/24/2009									
SDCR2-CF-092409	9/24/2009									
SDCR2-CG-092409	9/24/2009									
SDCR2-CH-092409	9/24/2009									
SDCR2-CI-092409	9/24/2009									
SDCR2-CJ-092409	9/24/2009									
SDCR2-CK-092409	9/24/2009									
SDCR2-FSA-092309	9/23/2009					X				
SDCR2-FSB-092309	9/23/2009					X				
SDCR2-FSC-092309	9/23/2009					X				
SDCR2-FSD-092309	9/23/2009					X				
SDCR2-FSE-092309	9/23/2009					X				
SDCR3-CA-092709	9/27/2009									
SDCR3-CB-092709	9/27/2009									
SDCR3-CC-092709	9/27/2009									
SDCR3-CD-092709	9/27/2009									
SDCR3-CE-092709	9/27/2009									
SDCR3-CF-092709	9/27/2009									
SDCR3-CG-092709	9/27/2009									

TABLE I-1
SAMPLE SUMMARY SHEET

Baseline ESPP
Olin McIntosh OU-2

		Analysis:	Total Dissolved Solids	Total Dissolved Solids	Total Hardness	Total Organic Carbon	Total Organic Carbon	Total Suspended Solids	Total Suspended Solids	Total Volatile Solids
		Analytic Method:	Standard Methods 2540B-Modified	Standard Methods 2540C	Standard Methods 2340C	SW846 Method 9060	SW846 Method 9060-Modified	Standard Methods 2540D	USEPA Method 160.2	Standard Methods 2540G
		Preservation:	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved
		Hold Time:	7 days	7 days	180 days	28 days	28 days	7 days	7 days	7 days
Sample ID	**Sample Date**	**QA/QC Sample**								
SDCR3-CH-092709	9/27/2009									
SDCR3-CI-092709	9/27/2009									
SDCR3-CJ-092709	9/27/2009									
SDCR3-CJ-092709	9/27/2009	MS, MSD								
SDCR3-CK-092709	9/27/2009									
SDCR3-FSA-092309	9/23/2009					X				
SDCR3-FSB-092309	9/23/2009					X				
SDCR3-FSC-092309	9/23/2009					X				
SDCR3-FSD-092309	9/23/2009					X				
SDCR3-FSE-092309	9/23/2009					X				
SDCR4-CA-092709	9/27/2009									
SDCR4-CB-092709	9/27/2009									
SDCR4-CC-092709	9/27/2009									
SDCR4-CD-092709	9/27/2009									
SDCR4-CE-092709	9/27/2009									
SDCR4-CF-092709	9/27/2009									
SDCR4-CF-092709	9/27/2009	MS, MSD								
SDCR4-CG-092709	9/27/2009									
SDCR4-CH-092709	9/27/2009									
SDCR4-CI-092709	9/27/2009									
SDCR5-CA-092709	9/27/2009									
SDCR5-CB-092709	9/27/2009									
SDCR5-CC-092709	9/27/2009									
SDCR5-CD-092709	9/27/2009									
SDCR5-CE-092709	9/27/2009									
SDCR5-CF-092709	9/27/2009									
SDCR5-CG-092709	9/27/2009									
SDCR5-CH-092709	9/27/2009									
SDCR5-CI-092709	9/27/2009									
SDCR6-CA-092709	9/27/2009									
SDCR6-CB-092709	9/27/2009									
SDCR6-CC-092709	9/27/2009									
SDCR6-CD-092709	9/27/2009									
SDCR6-CE-092709	9/27/2009									
SDCR6-CF-092709	9/27/2009									
SDCR6-CG-092709	9/27/2009									
SDCR6-CH-092709	9/27/2009									
SDCR7-CA-092709	9/27/2009									
SDCR7-CB-092709	9/27/2009									
SDCR7-CC-092709	9/27/2009									
SDCR7-CD-092709	9/27/2009									
SDCR7-CE-092709	9/27/2009									
SDCR7-CF-092709	9/27/2009									
SDCR7-CG-092709	9/27/2009									
SDCR7-CH-092709	9/27/2009									
SDCR8-092809-0-2.2	9/28/2009									
SDCR8-092809-103.6-109.6	9/28/2009									
SDCR8-092809-109.6-115.6	9/28/2009									
SDCR8-092809-115.6-121.5	9/28/2009									
SDCR8-092809-121.5-127.5	9/28/2009									
SDCR8-092809-127.5-133.5	9/28/2009									
SDCR8-092809-13.4-15.6	9/28/2009									
SDCR8-092809-133.5-139.5	9/28/2009									
SDCR8-092809-139.5-151.7	9/28/2009									
SDCR8-092809-151.7-163.9	9/28/2009									
SDCR8-092809-163.9-176.2	9/28/2009									
SDCR8-092809-17.8-20.1	9/28/2009									
SDCR8-092809-176.2-188.4	9/28/2009									
SDCR8-092809-188.4-200.6	9/28/2009									
SDCR8-092809-200.6-212.9	9/28/2009									
SDCR8-092809-212.9-225.1	9/28/2009									

TABLE I-1
SAMPLE SUMMARY SHEET

Baseline ESPP
Olin McIntosh OU-2

		Analysis:	Total Dissolved Solids	Total Dissolved Solids	Total Hardness	Total Organic Carbon	Total Organic Carbon	Total Suspended Solids	Total Suspended Solids	Total Volatile Solids
		Analytic Method:	Standard Methods 2540B-Modified	Standard Methods 2540C	Standard Methods 2340C	SW846 Method 9060	SW846 Method 9060-Modified	Standard Methods 2540D	USEPA Method 160.2	Standard Methods 2540G
		Preservation:	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved
		Hold Time:	7 days	7 days	180 days	28 days	28 days	7 days	7 days	7 days
Sample ID	**Sample Date**	**QA/QC Sample**								
SDCR8-092809-22.3-24.5	9/28/2009									
SDCR8-092809-225.1-237.3	9/28/2009									
SDCR8-092809-237.3-249.5	9/28/2009									
SDCR8-092809-249.5-261.8	9/28/2009									
SDCR8-092809-26.8-29	9/28/2009									
SDCR8-092809-261.8-274	9/28/2009									
SDCR8-092809-274-286.2	9/28/2009									
SDCR8-092809-286.2-298.5	9/28/2009									
SDCR8-092809-31.2-33.5	9/28/2009									
SDCR8-092809-35.7-37.9	9/28/2009									
SDCR8-092809-4.5-6.7	9/28/2009									
SDCR8-092809-40.1-42.4	9/28/2009									
SDCR8-092809-44.6-46.8	9/28/2009									
SDCR8-092809-469.1-51.3	9/28/2009									
SDCR8-092809-55.8-61.7	9/28/2009									
SDCR8-092809-61.7-67.7	9/28/2009									
SDCR8-092809-67.7-73.7	9/28/2009									
SDCR8-092809-73.7-79.7	9/28/2009									
SDCR8-092809-79.7-85.7	9/28/2009									
SDCR8-092809-8.9-11.2	9/28/2009									
SDCR8-092809-85.7-91.6	9/28/2009									
SDCR8-092809-91.6-97.6	9/28/2009									
SDCR8-092809-97.6-103.6	9/28/2009									
SDCR8-CA-092809	9/28/2009									
SDCR8-CB-092809	9/28/2009									
SDCR8-CC-092809	9/28/2009									
SDCR8-CD-092809	9/28/2009									
SDCR8-CE-092809	9/28/2009									
SDCR8-CF-092809	9/28/2009									
SDCR8-CG-092809	9/28/2009									
SDCR8-CH-092809	9/28/2009									
SDCR8-CH-092809	9/28/2009	MS, MSD								
SDCR8-CI-092809	9/28/2009									
SDCR8-CJ-092809	9/28/2009									
SDCR8-CK-092809	9/28/2009									
SDCR8-CL-092809	9/28/2009									
SDCR8-FSA-092409	9/24/2009					X				
SDCR8-FSB-092409	9/24/2009					X				
SDCR8-FSC-092409	9/24/2009					X				
SDCR8-FSD-092409	9/24/2009					X				
SDCR8-FSE-092409	9/24/2009					X				
SDCR8-FSE-092409	9/24/2009	MS, MSD								
SDCR9-092809-0-2.4	9/28/2009									
SDCR9-092809-100.6-106.4	9/28/2009									
SDCR9-092809-106.4-112.2	9/28/2009									
SDCR9-092809-112.2-118	9/28/2009									
SDCR9-092809-118-123.7	9/28/2009									
SDCR9-092809-123.7-129.5	9/28/2009									
SDCR9-092809-129.5-135.3	9/28/2009									
SDCR9-092809-135.3-141	9/28/2009									
SDCR9-092809-14.5-16.9	9/28/2009									
SDCR9-092809-141-152.4	9/28/2009									
SDCR9-092809-152.4-163.8	9/28/2009									
SDCR9-092809-163.8-175.1	9/28/2009									
SDCR9-092809-175.1-186.5	9/28/2009									
SDCR9-092809-186.5-198.1	9/28/2009									
SDCR9-092809-19.3-21.7	9/28/2009									
SDCR9-092809-24.1-26.5	9/28/2009									
SDCR9-092809-28.9-31.3	9/28/2009									
SDCR9-092809-33.7-36.2	9/28/2009									
SDCR9-092809-38.6-41.0	9/28/2009									

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SAMPLE SUMMARY SHEET

Baseline ESPP
Olin McIntosh OU-2

Sample ID	Sample Date	QA/QC Sample	Total Dissolved Solids Standard Methods 2540B-Modified	Total Dissolved Solids Standard Methods 2540C	Total Hardness Standard Methods 2340C	Total Organic Carbon SW846 Method 9060	Total Organic Carbon SW846 Method 9060-Modified	Total Suspended Solids Standard Methods 2540D	Total Suspended Solids USEPA Method 160.2	Total Volatile Solids Standard Methods 2540G
Analytic Method:										
Preservation:			Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved
Hold Time:			7 days	7 days	180 days	28 days	28 days	7 days	7 days	7 days
SDCR9-092809-4.8-7.2	9/28/2009									
SDCR9-092809-43.4-45.8	9/28/2009									
SDCR9-092809-48.2-50.6	9/28/2009									
SDCR9-092809-53-55.4	9/28/2009									
SDCR9-092809-55.4-57.8	9/28/2009									
SDCR9-092809-57.8-60.3	9/28/2009									
SDCR9-092809-60.3-66.0	9/28/2009									
SDCR9-092809-66.0-71.8	9/28/2009									
SDCR9-092809-71.8-77.6	9/28/2009									
SDCR9-092809-77.6-83.3	9/28/2009									
SDCR9-092809-83.3-89.1	9/28/2009									
SDCR9-092809-89.1-94.9	9/28/2009									
SDCR9-092809-9.6-12.1	9/28/2009									
SDCR9-092809-94.9-100.6	9/28/2009									
SDCR9-CA-092609	9/26/2009									
SDCR9-CA-092609	9/26/2009	MS, MSD								
SDCR9-CB-092609	9/26/2009									
SDCR9-CC-092609	9/26/2009									
SDCR9-CD-092609	9/26/2009									
SDCR9-CE-092609	9/26/2009									
SDCR9-CF-092609	9/26/2009									
SDCR10-CA-092609	9/26/2009									
SDCR10-CA-092609	9/26/2009	MS, MSD								
SDCR10-CB-092609	9/26/2009									
SDCR10-CC-092609	9/26/2009									
SDCR10-CD-092609	9/26/2009									
SDCR10-CE-092609	9/26/2009									
SDCR10-CE-092609	9/26/2009	MS, MSD								
SDCR10-CF-092609	9/26/2009									
SDCR11-CA-092609	9/26/2009									
SDCR11-CB-092609	9/26/2009									
SDCR11-CC-092609	9/26/2009									
SDCR11-CD-092609	9/26/2009									
SDCR11-CE-092609	9/26/2009									
SDCR11-CF-092609	9/26/2009									
SDCR11-FSA-092509	9/25/2009					X				
SDCR11-FSB-092509	9/25/2009					X				
SDCR11-FSC-092509	9/25/2009					X				
SDCR11-FSD-092509	9/25/2009					X				
SDCR11-FSE-092509	9/25/2009					X				
SDCR12-CA-092509	9/25/2009									
SDCR12-CB-092509	9/25/2009									
SDCR12-CC-092509	9/25/2009									
SDCR12-CD-092509	9/25/2009									
SDCR12-CE-092509	9/25/2009									
SDCR12-CE-092509	9/25/2009	MS, MSD								
SDCR12-CF-092509	9/25/2009									
SDCR12-CG-092509	9/25/2009									
SDCR12-FSA-092509	9/25/2009					X				
SDCR12-FSB-092509	9/25/2009					X				
SDCR12-FSC-092509	9/25/2009					X				
SDCR12-FSD-092509	9/25/2009					X				
SDCR12-FSE-092509	9/25/2009					X				
SDCR12-FSE-092509	9/25/2009	MS, MSD								
SDCR13-CA-092609	9/26/2009									
SDCR13-CB-092609	9/26/2009									
SDCR13-CC-092609	9/26/2009									
SDCR13-CD-092609	9/26/2009									
SDCR13-CE-092609	9/26/2009									
SDCR-CDUP01-092409	9/24/2009	DUP								
SDCR-CDUP03-092709	9/27/2009	DUP								

TABLE I-1
SAMPLE SUMMARY SHEET

Baseline ESPP
Olin McIntosh OU-2

Sample ID	Sample Date	QA/QC Sample	Total Dissolved Solids Standard Methods 2540B-Modified	Total Dissolved Solids Standard Methods 2540C	Total Hardness Standard Methods 2340C	Total Organic Carbon SW846 Method 9060	Total Organic Carbon SW846 Method 9060-Modified	Total Suspended Solids Standard Methods 2540D	Total Suspended Solids USEPA Method 160.2	Total Volatile Solids Standard Methods 2540G
Analysis:			Total Dissolved Solids	Total Dissolved Solids	Total Hardness	Total Organic Carbon	Total Organic Carbon	Total Suspended Solids	Total Suspended Solids	Total Volatile Solids
Analytic Method:			Standard Methods 2540B-Modified	Standard Methods 2540C	Standard Methods 2340C	SW846 Method 9060	SW846 Method 9060-Modified	Standard Methods 2540D	USEPA Method 160.2	Standard Methods 2540G
Preservation:			Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved
Hold Time:			7 days	7 days	180 days	28 days	28 days	7 days	7 days	7 days
SDCRCDUP04-092709	9/27/2009	DUP								
SDCRCDUP05-092709	9/27/2009	DUP								
SDCRCDUP06-092809	9/28/2009	DUP								
SDCR-CDUP07-092609	9/26/2009	DUP								
SDCR-CDUP08-092609	9/26/2009	DUP								
SDCR-CDUP09-092609	9/26/2009	DUP								
SDCR-CDUP10-092609	9/26/2009	DUP								
SDCRDUP02-092709	9/27/2009	DUP								
SDCR-FSDUP01-092309	9/23/2009					X				
SDCR-FSDUP01-092309	9/23/2009	MS, MSD								
SDCR-FSDUP02-092309	9/23/2009					X				
SDCR-FSDUP03-092509	9/25/2009	DUP				X				
SDPW1-0-2-0909	9/23/2009									
SDPW1-0-4-0909	10/26/2009					X				
SDPW1-2-4-0909	9/23/2009									
SDPW1-4-8-0909	9/23/2009					X				
SDPW1-8-12-0909	9/23/2009									
SDPW1-8-18-0909	10/26/2009					X				
SDPW1-12-18-0909	9/23/2009									
SDPW2-0-2-0909	9/23/2009									
SDPW2-0-4-0909	10/26/2009					X				
SDPW2-2-4-0909	9/23/2009									
SDPW2-4-8-0909	9/23/2009					X				
SDPW2-8-12-0909	9/23/2009									
SDPW2-8-18-0909	10/26/2009					X				
SDPW2-12-18-0909	9/23/2009									
SDPW3-0-2-0909	9/23/2009									
SDPW3-0-4-0909	10/26/2009					X				
SDPW3-0-4-0909	10/26/2009	MS, MSD				X				
SDPW3-2-4-0909	9/23/2009									
SDPW3-4-8-0909	9/23/2009					X				
SDPW3-4-8-0909	10/26/2009	MS, MSD				X				
SDPW3-8-12-0909	9/23/2009									
SDPW3-8-18-0909	10/26/2009					X				
SDPW3-8-18-0909	10/26/2009	MS, MSD				X				
SDPW3-12-18-0909	9/23/2009									
SDPW8-0-2-0909	9/24/2009									
SDPW8-0-4-0909	10/26/2009					X				
SDPW8-2-4-0909	9/24/2009									
SDPW8-4-8-0909	9/24/2009					X				
SDPW8-8-12-0909	9/24/2009									
SDPW8-8-18-0909	10/26/2009					X				
SDPW8-12-18-0909	9/24/2009									
SDPW11-0-2-0909	9/25/2009									
SDPW11-0-4-0909	10/26/2009					X				
SDPW11-2-4-0909	9/25/2009									
SDPW11-4-8-0909	9/25/2009					X				
SDPW11-8-12-0909	9/25/2009									
SDPW11-8-18-0909	10/26/2009					X				
SDPW11-12-18-0909	9/25/2009									
SDPW12-0-2-0909	9/25/2009									
SDPW12-0-4-0909	10/26/2009					X				
SDPW12-2-4-0909	9/25/2009									
SDPW12-4-8-0909	9/25/2009					X				
SDPW12-8-12-0909	9/25/2009									
SDPW12-8-18-0909	10/26/2009					X				
SDPW12-12-18-0909	9/25/2009									
SDPWDUP01-0-2-0909	9/25/2009	DUP								
SDPWDUP01-0-4-0909	10/26/2009	DUP				X				
SDPWDUP01-12-18-0909	9/25/2009	DUP								
SDPWDUP01-2-4-0909	9/25/2009	DUP								

TABLE I-1
SAMPLE SUMMARY SHEET

Baseline ESPP
Olin McIntosh OU-2

		Analysis:	Total Dissolved Solids	Total Dissolved Solids	Total Hardness	Total Organic Carbon	Total Organic Carbon	Total Suspended Solids	Total Suspended Solids	Total Volatile Solids
		Analytic Method:	Standard Methods 2540B-Modified	Standard Methods 2540C	Standard Methods 2340C	SW846 Method 9060	SW846 Method 9060-Modified	Standard Methods 2540D	USEPA Method 160.2	Standard Methods 2540G
		Preservation:	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved	Cool to 4° C unpreserved
		Hold Time:	7 days	7 days	180 days	28 days	28 days	7 days	7 days	7 days
Sample ID	**Sample Date**	**QA/QC Sample**								
SDPWDUP01-4-8-0909	9/25/2009	DUP				X				
SDPWDUP01-8-12-0909	9/25/2009	DUP								
SDPWDUP01-8-18-0909	10/26/2009	DUP				X				
SDPWDUP03-0-2-0909	9/25/2009	DUP								
SDPWDUP03-12-18-0909	9/25/2009	DUP								
SDPWDUP03-2-4-0909	9/25/2009	DUP								
SDPWDUP03-4-8-0909	9/25/2009	DUP								
SDPWDUP03-8-12-0909	9/25/2009	DUP								
SDPWDUP2-0-4-0909	10/26/2009	DUP				X				
SDPWDUP2-4-8-0909	10/26/2009	DUP				X				
SDPWDUP2-8-18-0909	10/26/2009	DUP				X				
SW-01-30-01	3/1/2009								X	
SW-01-30-04	3/2/2009								X	
SW-01-30-05	3/3/2009								X	
SW-01-30-07	3/5/2009								X	
SW-01-30-12	3/15/2009								X	
SW-01-30-15	3/6/2009								X	
SW-01-30-16	3/10/2009								X	
SW-01-30-18	3/11/2009								X	
SW-01-30-19	3/12/2009								X	
SW-01-30-20	3/13/2009								X	
SW-01-30-21	3/14/2009								X	
SW-01-30-23	3/17/2009								X	
SW-01-31-01	10/24/2009								X	
SW-01-31-02	10/24/2009								X	
SW-01-31-03	10/25/2009								X	
SW-01-31-13	10/24/2009								X	
SW-01-31-14	10/24/2009								X	
SW-01-31-15	10/25/2009								X	

BATTELLE MARINE SCIENCES LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382
(360) 681-3650

OLIN CHEMICAL
TOTAL MERCURY IN SEDIMENT
Core Samples received 6/4/09 - 6/6/09)
EDD ID: 3026_1-16

MSL Code	Sponsor ID	Sample Collection Date	Sample Receipt Date	Percent Solids	Analytical Batch ID - MeHg	MeHg ng/g dry wt	Analytical Batch ID - Total Hg	Total Hg µg/g dry wt
3026-1	SDCR-1-CA-060309	06/03/09	06/04/09	59.7	NA	NA	061909HGA	121
3026-2	SDCR-1-CB-060309	06/03/09	06/04/09	63.4	NA	NA	061909HGA	29.6
3026-3	SDCR-1-CC-060309	06/03/09	06/04/09	63.7	NA	NA	061909HGA	51.6
3026-4	SDCR-1-CD-060309	06/03/09	06/04/09	61.3	NA	NA	061909HGA	115
3026-5	SDCR-1-CE-060309	06/03/09	06/04/09	57.2	NA	NA	061909HGA	22.2
3026-6	SDCR-1-CF-060309	06/03/09	06/04/09	54.9	NA	NA	061909HGA	0.166
3026-9	SDCR1-C-FD-060309	06/03/09	06/04/09	63.7	NA	NA	061909HGA	53.7
3026-10	SDCR-1-FA-060309	06/03/09	06/06/09	44.3	061809MEA	6.72	061909HGA	46.7
3026-11	SDCR-1-FB-060309	06/03/09	06/06/09	63.9	061809MEA	6.75	061909HGA	128
3026-12	SDCR-1-FC-060309	06/03/09	06/06/09	63.0	061809MEA	2.54	061909HGA	96.6
3026-13 r1	SDCR-1-FD-060309	06/03/09	06/06/09	64.3	061809MEA	4.82	061909HGA	36.6
3026-13 r2	SDCR-1-FD-060309	06/03/09	06/06/09	64.3	061809MEA	4.88	061909HGA	35.4
3026-14	SDCR-1-FE-060309	06/03/09	06/06/09	69.7	061809MEA	1.48	061909HGA	17.6
3026-16	SDCR-1-FDUP-060309**	06/03/09	06/06/09	69.9	061809MEA	1.35	061909HGA	17.2

** Bottle says SCDR-1-FD-060309

Detection Limits

Achieved Method Detection Limit		0.0275		0.000434
Quantitation Limit (3.18 x MDL, rounded)		0.1		0.001
QAPP MDL (see Table 1-3)		0.1		0.02

Method Blanks

Blank r1	061809MEA	0.0275 U	061909HGA	0.000434 U
Blank r2	061809MEA	0.0275 U	NA	NA
Blank r3	061809MEA	0.0275 U	NA	NA

STANDARD REFERENCE MATERIAL

IAEA-405 r1	061809MEA	3.98	061909HGA	0.806
IAEA-405 r2	061809MEA	4.28	NA	NA
certified value		5.49		0.81
range		±0.53		±0.04
percent recovery	061809MEA	72%	061909HGA	100%
	061809MEA	78%	NA	NA

BLANK SPIKE (OPR) RESULTS

Amount Spiked			0.437
Blank mean		061909HGA	0.000434 U
Blank SpikeR1		061909HGA	0.437
Amount Recovered			0.437
Percent Recovery			100%
Amount Spiked			0.437
Blank mean		061909HGA	0.000434 U
Blank SpikeR2		061909HGA	0.451
Amount Recovered			0.451
Percent Recovery			103%

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1529 West Sequim Bay Road
Sequim, Washington 98382
(360) 681-3650

OLIN CHEMICAL
TOTAL MERCURY IN SEDIMENT
Core Samples received 6/4/09 - 6/6/09)
EDD ID: 3026_1-16

MSL Code	Sponsor ID	Sample Collection Date	Sample Receipt Date	Percent Solids	Analytical Batch ID - MeHg	MeHg ng/g dry wt	Analytical Batch ID - Total Hg	Total Hg µg/g dry wt
MATRIX SPIKE RESULTS								
Amount Spiked						NA		69.8
3026-3	SDCR-1-CC-060309	06/03/09	06/04/09	63.7	NA	NA	061909HGA	51.6
3026-3MS	SDCR-1-CC-060309MS	06/03/09	06/04/09	63.7		NA	061909HGA	133
Amount Recovered						NA		81.4
Percent Recovery						NA		117%
Amount Spiked						NA		71.4
3026-3	SDCR-1-CC-060309	06/03/09	06/04/09	63.7	NA	NA	061909HGA	51.6
3026-3MSD	SDCR-1-CC-060309MSD	06/03/09	06/04/09	63.7		NA	061909HGA	127
Amount Recovered						NA		74.9
Percent Recovery						NA		105%
RPD						NA		**11%**
Amount Spiked						56.4		62.3
3026-14	SDCR-1-FE-060309	06/03/09	06/06/09	69.7	061809MEA	1.48	061909HGA	17.6
3026-14MS	SDCR-1-FE-060309MS	06/03/09	06/06/09	69.7	061809MEA	43.8	061909HGA	83.2
Amount Recovered						42.3		65.6
Percent Recovery						75%		105%
Amount Spiked						59.0		63.3
3026-14	SDCR-1-FE-060309	06/03/09	06/06/09	69.7	061809MEA	1.48	061909HGA	17.6
3026-14MSD	SDCR-1-FE-060309MSD	06/03/09	06/06/09	69.7	061809MEA	43.0	061909HGA	82.3
Amount Recovered						41.5		64.7
Percent Recovery						70%		102%
RPD						**6%**		**3%**
REPLICATE ANALYSIS RESULTS								
3026-13 r1	SDCR-1-FD-060309	06/03/09	06/06/09	64.3	061809MEA	4.82	061909HGA	36.6
3026-13 r2	SDCR-1-FD-060309DUP	06/03/09	06/06/09	64.3	061809MEA	4.88	061909HGA	35.4
			Mean			4.85		36.0
			RPD			**1%**		**3%**

U Not detected at or above DL shown
NA Not applicable/available
NS Not spiked
RPD Relative percent difference
* Outside method DQOs

QA/QC SUMMARY

PROJECT: Olin Chemical (EDD ID: 3026_1-16)
PARAMETER: Methylmercury and Total Mercury
LABORATORY: Battelle/Marine Sciences Laboratory, Sequim, Washington
MATRIX: Sediment (EDD ID 3026_1-16)

SAMPLE CUSTODY: Sixteen sediment samples were received between 6/4/09 and 6/67/09 as follows:

Date Received	Number of Samples	Cooler Temperature
6/4/09	9	-5.2°C
6/7/09	7	-17.0°C

All containers for were received in good condition. Cooler temperatures upon arrival at Battelle MSL were all within appropriate limits (<0°C for sediment samples). Three of the samples were extra mass for MS/MSD samples which were not needed.

QA/QC DATA QUALITY OBJECTIVES:

Analyte	Analytical Method	Range of Recovery	Relative Precision	Achieved Detection Limit
Total Mercury	CVAF (EPA 1631e mod)	70-130%	±30%	0.000434 µg/g
Methylmercury	CVAF (EPA 1630)	67-133%	±35%	0.0275 ng/g

HOLDING TIMES: No target holding time has been established by the EPA for the analysis of methylmercury. All analyses were conducted within target holding time of 1 year for total mercury.

DETECTION LIMITS: Achieved detection limits for metals were determined by a previously conducted MDL study where replicates were analyzed and the standard deviation was multiplied by the Student's-t value for the number of replicates.

BLANKS Three analytical blanks were analyzed with each analytical batch for methylmercury. Methylmercury was not detected in any of the blanks at a concentration greater than the achieved detection limit. One analytical blank was analyzed with each analytical batch for total mercury. Total mercury was not detected in any of the blanks at a concentration greater than the achieved detection limit. No data are blank corrected.

MATRIX SPIKES: Matrix spikes were prepared with the samples. All recoveries were within the data quality objectives of 65-135% for MeHg and 70-130% for Total Hg. RPDs for the MS/MSD pairs were within the data quality objectives of ±35% for MeHg and ±30% for Total Hg.

DUPLICATES: Analytical duplicates were analyzed in each analytical batch. Precision of duplicate analyses is reported by calculating the relative percent difference (RPD) of replicate results. All RPDs were within the data quality criteria for precision of ≤35% for MeHg and ≤30% for Total Hg.

QA/QC SUMMARY

LCS/SRM SAMPLES: A standard reference material (SRM) sample, IAEA-405 was analyzed in each analytical batch for Total Hg in duplicate in each analytical batch for MeHg. Recoveries were 72% to 78% of the known value for MeHg, which meets the data quality criteria for accuracy of 67%-133%. The recovery was 100% of the known value for Total Hg, which meets the data quality criteria for accuracy of 70%-130%.

ANALYTICAL NOTES: All analyses were performed on wet sediment. Results have been mathematically converted to dry weight basis using the % moisture value reported.

Approvals

Project Manager	Date	QA Reviewer	Date
	6/26/09		6/26/09

Battelle

The Business of Innovation

Checklist for Olin Deliverables

SDG/EDD ID: **3026_1-16**

- [x] All samples for one Sample Delivery Group (SDG) were included in once Electronic Data Deliverable (EDD) 2 deliveries 6/4/09, 6/6/09
- [x] EDD file name is the same as the associated SDG name or number 3026_1-16
- [x] EDD format specifications were followed and information included for all required fields Method should be E1631E (added E) ES
- [x] Client was informed if the EDD requirement could not be met *prior* to EDD creation COC does not provide Matrix Code for 1 sample (email note)
- [x] Sample I.D. No. and Descriptions exactly match the Chain of Custody (COC) -or- written authorization was received from Client if change was necessary Yes, match COC (one bottle did not match COC-See note)
- [x] Verify that all laboratory applied data quality evaluation flags have been included in both the EDD and hard copy reports Only used "U" flag = 0 result in EDD
- [x] Verify that the hard copy report matches data presented in the EDD

Comments:

See Em for Resolution of Matrix Codes (SL vs. SO...) ES — SD for all SDGR Samples ~~PAGES~~ ES

Data Quality Evaluation Flags

- J Concentration detected above the laboratory DL but below the PQL
- U Concentration not detected at or above laboratory DL; reported as "0" in the EDD and DL value in the hard copy data table
- * Outside data quality objectives as noted in the QA/QC Narrative

Initialed above — 7/9/09

Project Manager's signature verifies that all of the above has been confirmed with a 10% review. — *Date*

cc: Project Manager/Central File
Login File 3026

SAMPLE LOGIN

(SOP# MSL-A-001)

Project Manager: Lasorsa
Date Received: 06/04/09
Batch: 1

PROJECT: Olin Sediment Cores

SPONSOR CODE	Site Description	BATTELLE CODE	MATRIX	STORAGE LOCATION	PARAMETERS REQUESTED	COLLECTION DATE	INITIALS
SDCR-1-CA-060309	na	3026-1	sediment	Freezer in Hg Lab	Total Hg	06/03/09	MLFM
SDCR-1-CB-060309	na	3026-2	sediment	Freezer in Hg Lab	Total Hg	06/03/09	MLFM
SDCR-1-CC-060309	na	3026-3	sediment	Freezer in Hg Lab	Total Hg, MS/MSD	06/03/09	MLFM
SDCR-1-CD-060309	na	3026-4	sediment	Freezer in Hg Lab	Total Hg	06/03/09	MLFM
SDCR-1-CE-060309	na	3026-5	sediment	Freezer in Hg Lab	Total Hg	06/03/09	MLFM
SDCR-1-CF-060309	na	3026-6	sediment	Freezer in Hg Lab	Total Hg	06/03/09	MLFM
SDCR1-CC-MS-060309	na	3026-7	sediment	Freezer in Hg Lab	Total Hg	06/03/09	MLFM
SDCR1-CC-MSD-060309	na	3026-8	sediment	Freezer in Hg Lab	Total Hg	06/03/09	MLFM
SDCR1-CC-FD-060309	na	3026-9	sediment	Freezer in Hg Lab	Total Hg	06/03/09	MLFM

cc: Project Manager/Central File
Login File 3026

SAMPLE LOGIN

(SOP# MSL-A-001)

Project Manager: Lasorsa
Date Received: 06/08/09
Batch: 2

PROJECT: Olin Sediment Cores

Received at Lab 6/6/09

SPONSOR CODE		Site Description	BATTELLE CODE	MATRIX	STORAGE LOCATION	PARAMETERS REQUESTED	COLLECTION DATE	INITIALS
SDCR-1-FA-060309		na	3026-10	sediment	Freezer in Hg Lab	Total Hg & Methyl Hg	06/03/09	MLFM
SDCR-1-FB-060309		na	3026-11	sediment	Freezer in Hg Lab	Total Hg & Methyl Hg	06/03/09	MLFM
SDCR-1-FC-060309		na	3026-12	sediment	Freezer in Hg Lab	Total Hg & Methyl Hg	06/03/09	MLFM
SDCR-1-FD-060309		na	3026-13	sediment	Freezer in Hg Lab	Total Hg & Methyl Hg	06/03/09	MLFM
SDCR-1-FE-060309		na	3026-14	sediment	Freezer in Hg Lab	Total Hg & Methyl Hg	06/03/09	MLFM
SDCR-1-FMS/MSD-060309	*	na	3026-15	sediment	Freezer in Hg Lab	Total Hg & Methyl Hg	06/03/09	MLFM
SDCR-1-FDUP-060309	**	na	3026-16	sediment	Freezer in Hg Lab	Total Hg & Methyl Hg	06/03/09	MLFM

*Bottle says SCDR-1-FMS/MSD-060309

** Bottle says SCDR-1-FD-060309

cc: Project Manager/Central File
Login File 3026

SAMPLE LOGIN
(SOP# MSL-A-001)

Project Manager: Lasorsa
Date Received: 06/04/09
Batch: 1

PROJECT: Olin Sediment Cores

SPONSOR CODE	Site Description	BATTELLE CODE	MATRIX	STORAGE LOCATION	PARAMETERS REQUESTED	COLLECTION DATE	INITIALS
SDCR-1-CA-060309	na	3026-1	sediment	Freezer in Hg Lab	Total Hg	06/03/09	MLFM
SDCR-1-CB-060309	na	3026-2	sediment	Freezer in Hg Lab	Total Hg	06/03/09	MLFM
SDCR-1-CC-060309	na	3026-3	sediment	Freezer in Hg Lab	Total Hg	06/03/09	MLFM
SDCR-1-CD-060309	na	3026-4	sediment	Freezer in Hg Lab	Total Hg	06/03/09	MLFM
SDCR-1-CE-060309	na	3026-5	sediment	Freezer in Hg Lab	Total Hg	06/03/09	MLFM
SDCR-1-CF-060309	na	3026-6	sediment	Freezer in Hg Lab	Total Hg	06/03/09	MLFM
SDCR1-C-MS-060309	na	~~3026-7~~ Dead	sediment	Freezer in Hg Lab	Total Hg	06/03/09	MLFM
SDCR1-C-MSD-060309	na	~~3026-8~~	sediment	Freezer in Hg Lab	Total Hg	06/03/09	MLFM
SDCR1-C-FD-060309	na	3026-9	sediment	Freezer in Hg Lab	Total Hg	06/03/09	MLFM

cc: Project Manager/Central File
Login File

3026

SAMPLE LOGIN

(SOP# MSL-A-001)

Project Manager: Lasorsa
Date Received: 06/07/09
Batch: 2

PROJECT: Olin Sediment Cores

Recd @ Lab 6/11/09 SF

SPONSOR CODE	Site Description	BATTELLE CODE	MATRIX	STORAGE LOCATION	PARAMETERS REQUESTED	COLLECTION DATE	INITIALS
SDCR-1-FA-060309 ✓	na	3026-10	sediment	Freezer in Hg Lab	Total Hg & Methyl Hg	06/03/09	MLFM
SDCR-1-FB-060309 ✓	na	3026-11	sediment	Freezer in Hg Lab	Total Hg & Methyl Hg	06/03/09	MLFM
SDCR-1-FC-060309 ✓	na	3026-12	sediment	Freezer in Hg Lab	Total Hg & Methyl Hg	06/03/09	MLFM
SDCR-1-FD-060309 ✓	na	3026-13	sediment	Freezer in Hg Lab	Total Hg & Methyl Hg	06/03/09	MLFM
SDCR-1-FE-060309 ✓ no MS/MSD	na	3026-14	sediment	Freezer in Hg Lab	Total Hg & Methyl Hg	06/03/09	MLFM
~~SDCR-1-FMS/MSD-060309~~	na	~~3026-15~~	sediment	Freezer in Hg Lab	Total Hg & Methyl Hg	06/03/09	MLFM
SDCR-1-FDUP-060309*	na	3026-16	sediment	Freezer in Hg Lab	Total Hg & Methyl Hg	06/03/09	MLFM

* Bottle says SDCR-1-FD-060309

3026-15 Bottle says "SCDR..."
-16 " " " " SF

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CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 1 of 2

1192553

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: MACTEC E&C	Report To: Cynthia Draper	Attention: Dennis Turner
Address: 3200 Town Point Dr NW Ste 100 Kennesaw GA 30144	Copy To: mbarker@mactec.com	Company Name: Olin Corporation
Email To: cdraper@mactec.com	Purchase Order No.: OEMC0013-79	Address: 3855 Noccee St Ste 200
Phone: 7704213365 Fax: 7704213486	Project Name: Olin McIntosh Qu 2	Pace Quote Reference:
Requested Due Date/TAT: Standard	Project Number: 6107090036 Task 2009.02	Pace Project Manager: B. Lasorsa
		Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☒ OTHER CERCLA

Site Location STATE: AL

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes MATRIX / CODE

Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Tissue	TS
Other	OT

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Total Hg	Meth Hg	Temp	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	SDCR-1-CA-060309	SL	C	6/3/09	16:15				1	X									X			30266			1
2	SDCR-1-CB-060309	SL	C		16:20				1	X									X						2
3	SDCR-1-CC-060309	SL	C		16:25				1	X									X						3
4	SDCR-1-CD-060309	SL	C		16:30				1	X									X						4
5	SDCR-1-CE-060309	SL	C		16:35				1	X									X						5
6	SDCR-1-CF-060309	SL	C		16:40				1	X									X			30266			6
7	~~SDCR-1-EA-060309~~	~~SL~~	~~C~~		~~17:30~~				~~1~~									~~X~~	X	X					RMR
8	~~SDCR-1-FB-060309~~	~~SL~~	~~C~~		~~17:35~~				~~1~~									~~X~~	X	X					RMR
9	~~SDCR-1-FC-060309~~	~~SL~~	~~C~~		~~17:40~~				~~1~~									~~X~~	X	X					RMR
10	~~SDCR-1-FD-060309~~	~~SL~~	~~C~~		~~17:45~~				~~1~~									~~X~~	X	X					RMR
11	~~SDCR-1-FE-060309~~	~~SL~~	~~C~~		~~17:50~~				~~1~~									~~X~~	X	X					RMR
12	Temp Blank	W	C	↓	↓				1											X		30266			7

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	RM Reece / MACTEC	6/3/09	1830		06/04/09	1350	

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Rani Reece

SIGNATURE of SAMPLER: RReece

DATE Signed (MM/DD/YY): 6/3/09

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

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1192551

Section A Required Client Information:

Company: MACTEC
Address: 3200 Town Point Dr NW Ste 100
Kennesaw GA 30144
Email To: cedraper@mactec.com
Phone: 770 421 3565 Fax: 770 421 3486
Requested Due Date/TAT: Standard

Section B Required Project Information:

Report To: Cynthia Draper, MACTEC
Copy To: mbarker@mactec.com
Purchase Order No.: OEMC08713-80
Project Name: Olin McIntosh 04-2
Project Number: 6109090035 2009.02

Section C Invoice Information:

Attention: Dennis Turner
Company Name: Olin Corporation
Address: 3855 N Ocoee St Ste 200
Pace Quote Reference:
Pace Project Manager: C. Olavesen
Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☒ OTHER Circle

Site Location STATE: AL

Requested Analysis Filtered (Y/N)

ITEM #	Section D Required Client Information — SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Total Hg MeHg							Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	SDCR1-C-MS-060309					6/3/09	16:25	1										X	X		30	26	8	7				
2	SDCR1-C-MSD-060309					6/3/09	16:25	1										X	X		30	26		8				
3	SDCR1-C-FD-060309					6/3/09	1200	1										X	X		30	26		9				
4																												
5																												
6																												
7																												
8																												
9																												
10																												
11																												
12																												

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	RRReece/MACTEC	6/3/09	1830	[signature]	06/04/09	1350	
							3.2 / dry ice / N / N

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Ran Reece

SIGNATURE of SAMPLER: RRReece DATE Signed (MM/DD/YY): 6/3/09

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

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Page: 1 of 1

1145346

Section A Required Client Information:

Company: MACTEC E3C
Address: 3200 Town Pt Dr NW Ste 140
Kennesaw GA 30144
Email To: cdraper@mactec.com
Phone: 7704213565 Fax:
Requested Due Date/TAT: Standard

Section B Required Project Information:

Report To: Cynthia Draper
Copy To: mbarker@mactec.com
Purchase Order No.: DELC0013-79
Project Name: OLIN McIntosh OU2
Project Number: 6107809036 TSK 2009.02

Section C Invoice Information:

Attention: Dennis Turner
Company Name: Olin Corporation
Address: 3855 N Ocoee St Ste 200
Pace Quote Reference:
Pace Project Manager: Brandalasorsa
Pace Profile #:

REGULATORY AGENCY

NPDES GROUND WATER DRINKING WATER
UST RCRA X OTHER CERCLA

Site Location STATE: AL

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes — MATRIX / CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	TCL Hg	Methy	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	SDCR-1-FA-060309	SL	C	6/3/09	17:30				1								X		X	X			3026-10
2	SDCR-1-FB-060309	SL	C	6/3/09	17:35				1								X		X	X			11
3	SDCR-1-FC-060309	SL	C	6/3/09	17:40				1								X		X	X			12
4	SDCR-1-FD-060309	SL	C	6/3/09	17:45				1								X		X	X			13
5	SDCR-1-FE-060309	SL	C	6/3/09	17:50				1								X		X	X			14
6	SDCR-1-FMS/MSD	SL	C	6/3/09	17:50				1								X		X	X			15
7	SDCR-1 FDUP *	SL	C	6/3/09	12:00				1								X		X	X			3026-16
8																							
9	* Bottle Says SDCR-1-FD060309																						
10																							
11																							
12																							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
Dry ice	Heidi Fogell MACTEC	6/4/09	1500	Battelle	6/6/09	1600	-17°	dry	yes	yes
				Shaw MSL	06/05/09	0800				

SAMPLER NAME AND SIGNATURE: Heidi Fogell
PRINT Name of SAMPLER: Heidi Fogell
SIGNATURE of SAMPLER: Heidi Fogell
DATE Signed (MM/DD/YY): 6/4/09

ORIGINAL

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Central File #: 3026 Sample No(s): 1-9 Project Manager: Jasorsa

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: _____ WP# _____

Yes	No	
☐	☐	Navy-type Project (requires high-level sample tracking procedures)
☐	☐	Filter Samples: *Amount:* Entire sample Half of sample
☐	☐	Freeze dry sample(s) - samples will be weighed and placed in ultralow temp freezer (Lab# 130)
☐	☐	Special instructions: _____

Sample Preservation Instructions: _____

Date To Archive: _____ Date To Dispose: _____

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box
☐	☒	☐	Was a custody seal present?
☐	☐	☒	Was the custody seal intact?
☒	☐	☐	Was cooler(s) temperature(s) within acceptable range of 4±2°C or frozen? (if multiple coolers, note temp. of each) -5.2 °C _____ °C
☐	☐	☒	Was Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc)? Comment/Remedy: _____
☒	☐	☐	Were all chain of custody forms signed and dated?
☐	☒	☐	Were samples filtered at MSL?

Sample condition(s): (Acceptable) Other (explain):

Container type: Teflon Poly (Glass) Spex Other:

Notes: _____

Completed By: _____ Date/Time: 06/04/09 1330

SAMPLE PRESERVATION

☒ Sample(s) were preserved at MSL

☐ Sample(s) were preserved prior to arrival at MSL (noted on CoC / Sample / per PM Instruction)

☐ Random pH checked for ~10% of samples (use dip paper) Sample IDs: _____

☐ Complete pH check required for project (use pH meter and record on pH Record form)

If preservation necessary, record Acid Lot#

Type:			
	☐	0.2% HNO3	Notes: _____
	☐	0.5% HCl (Hg samples)	Notes: _____
	☒	Refrigerate/(Freeze)	Notes: Freezer in Hg lab
	☐	Other	Notes: _____

Completed By: _____ Date/Time: 06/04/09 1350

Revsed 033006

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 3026 Sample No(s): 10-16 Project Manager: Lasorso

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: _____ WP# _____

Yes	No	
☐	☐	Navy-type Project (requires high-level sample tracking procedures)
☐	☐	Filter Samples: *Amount:* Entire sample Half of sample
☐	☐	Freeze dry sample(s) - samples will be weighed and placed in ultralow temp freezer (Login Lab)
☐	☐	Special instructions: _____

Sample Preservation Instructions: _____

Date To Archive: _____ Date To Dispose: _____

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Recd 6/6/09 (Saturday) · placed in deep freeze 6/6/09 1600 BK
Logged in 6/8/09 (Monday) S

Yes	No	N/A	Indicate in Appropriate Box
☒	☐	☐	Was a custody seal present?
☒	☐	☐	Was the custody seal intact?
☒	☐	☐	Was cooler(s) temperature(s) within acceptable range of 4±2°C or frozen? (if multiple coolers, note temp. of each) -17 °C (6/6/09 temp on receipt) S ____ °C
☐	☐	☒	Was Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc)? Comment/Remedy: _____
☒	☐	☐	Were **all** chain of custody forms signed and dated?
☐	☒	☐	Were samples filtered at MSL?

Sample condition(s): (Acceptable) Other (explain):

Container type: Teflon Poly (Glass) Cap. Vial Other: _____

Notes: _____

Completed By: [signature] Date/Time: 06/08/09 0800 (Login date) S

SAMPLE PRESERVATION

☒ Sample(s) were preserved at MSL

☐ Sample(s) were preserved prior to arrival at MSL (noted on CoC / Sample / per PM Instruction)

☐ Random pH checked for ~10% of samples (use dip paper) Sample IDs: _____

☐ Complete pH check required for project (use pH meter and record on pH Record form)

If preservation necessary, record Acid Lot#

Type: ☐	0.2% HNO3	Notes: _____
☐	0.5% HCl (Hg samples)	Notes: _____
☒	Refrigerate/Freeze	Notes: Freezer Hg lab
☐	Other	Notes: _____

Completed By: [signature] Date/Time: 06/08/09 0830

Storage Shelf: Freezer in Hg lab

Revsed 121608

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Checklist for Olin Deliverables

SDG/EDD ID: **3025_22-89s**

- ☑ All samples for one Sample Delivery Group (SDG) were included in once Electronic Data Deliverable (EDD)
- ☑ EDD file name is the same as the associated SDG name or number
- ☑ EDD format specifications were followed and information included for all required fields
- N/A Client was informed if the EDD requirement could not be met *prior* to EDD creation
- ☑ Sample I.D. No. and Descriptions exactly match the Chain of Custody (COC) -or- written authorization was received from Client if change was necessary
- ☑ Verify that all laboratory applied data quality evaluation flags have been included in both the EDD and hard copy reports
- ☑ Verify that the hard copy report matches data presented in the EDD

Comments: 3025_22-89S Includes Sediment/Soil THg & MeHg results for Samples rec'd @ MSL 6/10/09 JB

7/30/09: Re-issued data tables & Login Sheets in data pkg pdf. Errors in Olin Sample IDs discovered (See em from M. Barker dtd 7/30/09. (B→R) JB 7/30/09

Data Quality Evaluation Flags

- J Concentration detected above the laboratory DL but below the PQL
- U Concentration not detected at or above laboratory DL; reported as "0" in the EDD and DL value in the hard copy data table
- N Outside data quality objectives as noted in the QA/QC Narrative

(above initials) Sent 7/29/09

Project Manager's signature verifies that all of the above has been confirmed with a 10% review. *Date*

QA/QC SUMMARY

PROJECT: Olin McIntosh SDG: 3025_22-89s
PARAMETER: Total Mercury
LABORATORY: Battelle/Marine Sciences Laboratory, Sequim, Washington
MATRIX: Sediment

SAMPLE CUSTODY: One sediment sample was received on 6/10/09. The container was received in good condition at -14.5°C. The sample was stored frozen and thawed immediately prior to analysis.

QA/QC DATA QUALITY OBJECTIVES:

Analyte	Analytical Method	Range of Recovery	Relative Precision	Achieved Detection Limit (µg/g dry)
Total Mercury	CVAF (EPA 1631e)	75-125% (MS/MSD) 80-120% (LCS/SRM)	±20%	0.000434

HOLDING TIMES: All analyses were conducted within target holding times: 28 days for total mercury.

DETECTION LIMITS: Achieved detection limits were determined by a previously conducted MDL study where replicates were analyzed and the standard deviation was multiplied by the Student's-t value for the number of replicates. All sample concentrations were detected well above the achieved detection limits.

BLANKS One analytical blank was analyzed for total Hg with the analytical batch. Hg was detected in the blank at a concentration less than 2x the achieved detection limit. No data are blank corrected.

BLANK SPIKE (LCS): One blank spike was prepared and analyzed in duplicate with the sample. All recoveries were within the data quality objectives of 80-120% for total Hg.

MATRIX SPIKES: One matrix spike/matrix spike duplicate pair was prepared with the sample. All recoveries were within the data quality objectives of 75-125% for total Hg.

REPLICATES: No analytical replicate was prepared for this sample.

LCS/SRM SAMPLES: One sample of the standard reference material (SRM) IAEA-405 was analyzed with the analytical batch. The recovery was within the data quality criteria for accuracy of 80%-120% for MeHg.

ANALYTICAL NOTES All analyses were performed on wet sediment or soil. Results have been mathematically converted to dry weight basis using the percent moisture value reported.

Approvals

Project Manager	Date	QA Reviewer	Date
	7/28/09		7/28/09

BATTELLE MARINE SCIENCES LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382
(360) 681-3650

OLIN CHEMICAL
TOTAL MERCURY IN SEDIMENT
EDD ID: 3025_22-89s
concentrations are in dry wt - not blank corrected

MSL Code	Sponsor ID	Sample Collection Date	Sample Receipt Date	Percent Solids	Analytical Batch ID - THg	THg (µg/g dry)
3025-89	BKGD-060909	06/09/09	06/10/09	90.7	070609HGA	0.0142
Method Blanks						
Blank 1				*90.7*	070609HGA	0.000521 J
Detection Limits						
Achieved MDL						0.000434
Required MDL (QAPP Table 1-3)						0.002
Achieved MRL (3.18*MDL)						0.001
Required MRL (QAPP Table 1-3)						0.02
STANDARD REFERENCE MATERIAL						
IAEA-405	IAEA-405 070609HGA			100	070609HGA	0.667
	certified value					0.81
	range					±0.04
	percent recovery				070609HGA	82%
BLANK SPIKE (OPR) RESULTS						
Amount Spiked						0.0500
Blank 1	Blank 1 070609HGA			*90.7*	070609HGA	0.000521 J
Blank 1 MS	Blank 1 070609HGA MS			*90.7*	070609HGA	0.0549
Amount Recovered						0.0544
Percent Recovery						109%
Amount Spiked						0.0500
Blank 1	Blank 1 070609HGA			*90.7*	070609HGA	0.000521 J
Blank 1 MSD	Blank 1 070609HGA SD			*90.7*	070609HGA	0.0488
Amount Recovered						0.0483
Percent Recovery						97%
RPD						**12%**
MATRIX SPIKE RESULTS						
Amount Spiked						5.41
3025-89	BKGD-060909	06/09/09	06/10/09	90.7	070609HGA	0.0142
3025-89 MS	BKGD-060909MS	06/09/09	06/10/09	90.7	070609HGA	4.94
Amount Recovered						4.93
Percent Recovery						91%
Amount Spiked						5.48
3025-89	BKGD-060909	06/09/09	06/10/09	90.7	070609HGA	0.0142
3025-89 MSD	BKGD-060909SD	06/09/09	06/10/09	90.7	070609HGA	5.25
Amount Recovered						5.24
Percent Recovery						96%
RPD						**5%**

U Not detected at or above DL shown
J Result is <MRL and >Acheived MDL
N Outside method DQOs
NA Not applicable/available
NS Not spiked
RPD Relative percent difference

QA/QC SUMMARY

PROJECT: Olin McIntosh SDG: 3025_22-89s
PARAMETER: Methylmercury
LABORATORY: Battelle/Marine Sciences Laboratory, Sequim, Washington
MATRIX: Sediment

SAMPLE CUSTODY: Sixty-three sediment samples and one blank water sample were received on 6/10/09. The containers were received in good condition at -7.5°C and -14.5°C. The samples were stored frozen and thawed immediately prior to analysis.

QA/QC DATA QUALITY OBJECTIVES:

Analyte	Analytical Method	Range of Recovery	Relative Precision	Achieved Detection Limit (ng/g dry)
Methylmercury	CVAF (EPA 1630)	65-135%	±35%	0.0275

HOLDING TIMES: All analyses were conducted within target holding times: 28 days for methylmercury.

DETECTION LIMITS: Achieved detection limits were determined by a previously conducted MDL study where replicates were analyzed and the standard deviation was multiplied by the Student's-t value for the number of replicates. All sample concentrations were detected well above the achieved detection limits.

BLANKS Three analytical blanks were analyzed for MeHg with each analytical batch. MeHg was detected in one of the blanks at a concentration less than 2x the achieved detection limit. No data are blank corrected.

MATRIX SPIKES: Two matrix spike/matrix spike duplicate pairs were prepared with each analytical batch. All recoveries were within the data quality objectives of 65-135% for MeHg.

REPLICATES: One analytical replicate was prepared and analyzed with each analytical batch. Precision of duplicate analyses is reported by calculating the relative percent difference (RPD) of replicate results. All RPDs were within the data quality criteria for precision of ≤35% for MeHg.

LCS/SRM SAMPLES: Two samples of the standard reference material (SRM) IAEA-405 were analyzed with each analytical batch. All recoveries were within the data quality criteria for accuracy of 65%-135% for MeHg.

ANALYTICAL NOTES All analyses were performed on wet sediment or soil. Results have been mathematically converted to dry weight basis using the percent moisture value reported. The blank sample was analyzed with a water batch in which all QA/QC results were within acceptable ranges.

Approvals

Project Manager	Date	QA Reviewer	Date
	7/28/09		7/20/09

BATTELLE MARINE SCIENCES LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382
(360) 681-3650

OLIN CHEMICAL
METHYLMERCURY IN SEDIMENT
EDD ID: 3025_22-89s
concentrations are in dry wt - not blank corrected

MSL Code	Sponsor ID	Sample Collection Date	Sample Receipt Date	Percent Solids	Analytical Batch ID - MeHg	MeHg (ng/g dry)
3025-22	OU2B-SED-301C-09	06/03/09	06/10/09	68.8	061909MEA	3.37
3025-24	OU2B-SED-201C-09	06/03/09	06/10/09	65.6	061909MEA	5.24
3025-25	OU2B-SED-DUP02C-09	06/03/09	06/10/09	66.1	061909MEA	5.72
3025-26	OU2B-SED-202DC-09	06/06/09	06/10/09	67.3	061909MEA	4.32
3025-27 r1	OU2B-SED-202DSE-09	06/06/09	06/10/09	74.4	061909MEA	4.45
3025-27 r2	OU2B-SED-202DSE-09DUP	06/06/09	06/10/09	74.4	061909MEA	4.45
3025-28	OU2B-SED-202DNW-09	06/06/09	06/10/09	75.0	061909MEA	2.19
3025-29	OU2B-SED-202DNE-09	06/06/09	06/10/09	70.7	061909MEA	3.40
3025-30	OU2B-SED-202DSW-09	06/06/09	06/10/09	73.9	061909MEA	4.87
3025-31	OU2B-SED-501DC-09	06/07/09	06/10/09	38.5	061909MEA	3.10
3025-32	OU2B-SED-501DNE-09	06/07/09	06/10/09	36.9	061909MEA	3.29
3025-33	OU2B-SED-106C-09	06/08/09	06/10/09	43.9	061909MEA	5.69
3025-34	OU2B-SED-DUP06C-09	06/08/09	06/10/09	48.1	061909MEA	4.82
3025-35	OU2B-SED-302C-09	06/08/09	06/10/09	75.9	061909MEA	1.42
3025-36	OU2B-SED-DUP03C-09	06/08/09	06/10/09	77.5	061909MEA	1.17
3025-37	OU2B-SED-304C-09	06/09/09	06/10/09	55.1	061909MEA	3.59
3025-38	OU2B-SED-401C-09	06/09/09	06/10/09	38.3	062309MEA	2.86
3025-39	OU2B-SED-402C-09	06/09/09	06/10/09	33.7	062309MEA	3.81
3025-41	OU2B-SED-403C-09	06/09/09	06/10/09	44.6	062309MEA	5.38
3025-42	OU2B-SED-404C-09	06/09/09	06/10/09	30.2	062309MEA	25.7
3025-43	OU2B-SED-501DNW-09	06/07/09	06/10/09	41.8	062309MEA	3.52
3025-44	OU2B-SED-501DSE-09	06/07/09	06/10/09	40.0	062309MEA	3.78
3025-45	OU2B-SED-501DSW-09	06/07/09	06/10/09	33.5	062309MEA	19.5
3025-46	OU2B-SED-502DSE-09	06/07/09	06/10/09	33.7	062309MEA	21.4
3025-47	OU2B-SED-502DC-09	06/07/09	06/10/09	33.8	062309MEA	18.6
3025-48	OU2B-SED-502DNE-09	06/07/09	06/10/09	33.3	062309MEA	23.8
3025-49	OU2B-SED-502DNW-09	06/07/09	06/10/09	33.8	062309MEA	14.7
3025-50	OU2B-SED-502DSW-09	06/07/09	06/10/09	39.0	062309MEA	3.78
3025-51 r1	OU2B-SED-303DC-09	06/07/09	06/10/09	67.4	062309MEA	4.45
3025-51 r2	OU2B-SED-303DC-09DUP	06/07/09	06/10/09	67.4	062309MEA	6.20
3025-52	OU2B-SED-303DNE-09	06/07/09	06/10/09	66.2	062309MEA	7.56
3025-53	OU2B-SED-303DNW-09	06/07/09	06/10/09	68.2	062309MEA	6.34
3025-54	OU2B-SED-303DSE-09	06/07/09	06/10/09	66.7	062509MEA	6.69
3025-55	OU2B-SED-303DSW-09	06/07/09	06/10/09	68.0	062509MEA	3.77
3025-56	OU2B-SED-203DC-09	06/07/09	06/10/09	55.6	062509MEA	11.5
3025-57	OU2B-SED-203DNE-09	06/07/09	06/10/09	51.1	062509MEA	12.8
3025-58	OU2B-SED-203DNW-09	06/07/09	06/10/09	45.5	062509MEA	11.9
3025-59	OU2B-SED-203DSE-09	06/07/09	06/10/09	54.0	062509MEA	12.7
3025-60	OU2B-SED-203DSW-09	06/07/09	06/10/09	58.0	062509MEA	12.7
3025-61	OU2B-SED-DUP05C-09	06/07/09	06/10/09	56.7	062509MEA	11.1
3025-62 r1	OU2B-SED-204C-09	06/07/09	06/10/09	43.9	062509MEA	4.69
3025-62 r2	OU2B-SED-204C-09DUP	06/07/09	06/10/09	43.9	062509MEA	4.03
3025-63	OU2B-SED-DUP04C-09	06/07/09	06/10/09	45.4	062509MEA	4.37
3025-64	OU2B-SED-105C-09	06/08/09	06/10/09	36.0	062509MEA	21.2
3025-65	OU2B-SED-205C-09	06/08/09	06/10/09	53.7	062509MEA	3.02
3025-66	OU2B-SED-004C-09	06/05/09	06/10/09	48.1	062509MEA	4.87
3025-67	OU2R-SED-101DC-09	06/05/09	06/10/09	36.4	062509MEA	5.99
3025-68	OU2R-SED-101DSE-09	06/05/09	06/10/09	36.9	062509MEA	6.40
3025-69	OU2R-SED-101DSW-09	06/05/09	06/10/09	36.8	063009MEA	4.51
3025-70	OU2R-SED-101DNE-09	06/05/09	06/10/09	35.8	063009MEA	5.84
3025-71	OU2R-SED-101DNW-09	06/05/09	06/10/09	38.5	063009MEA	5.65
3025-72	OU2R-SED-102C-09	06/05/09	06/10/09	32.2	063009MEA	5.35
3025-73	OU2B-SED-101C-09	06/05/09	06/10/09	46.0	063009MEA	2.65
3025-75	OU2B-SED-DHC-09	06/05/09	06/10/09	38.3	063009MEA	4.31
3025-76 r1	OU2B-SED-102C-09	06/05/09	06/10/09	40.7	063009MEA	4.62
3025-76 r2	OU2B-SED-102C-09DUP	06/05/09	06/10/09	40.7	063009MEA	4.01
3025-77	OU2B-SED-DUP01C-09	06/05/09	06/10/09	39.0	063009MEA	4.61

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MSL Code	Sponsor ID	Sample Collection Date	Sample Receipt Date	Percent Solids	Analytical Batch ID - MeHg	MeHg (ng/g dry)
3025-79	OU2B-SED-103DC-09	06/06/09	06/10/09	44.1	063009MEA	3.90
3025-80	OU2B-SED-103DNW-09	06/06/09	06/10/09	30.5	063009MEA	5.12
3025-81	OU2B-SED-103DNE-09	06/06/09	06/10/09	47.4	063009MEA	3.93
3025-82	OU2B-SED-103DSW-09	06/06/09	06/10/09	47.1	063009MEA	3.79
3025-83	OU2B-SED-103DSE-09	06/06/09	06/10/09	45.5	063009MEA	3.74
3025-84	OU2B-SED-104DC-09	06/06/09	06/10/09	46.4	063009MEA	5.92
3025-85	OU2B-SED-104DNE-09	06/06/09	06/10/09	45.8	063009MEA	6.67
3025-86	OU2B-SED-104DNW-09	06/06/09	06/10/09	46.7	063009MEA	5.99
3025-87	OU2B-SED-104DSE-09	06/06/09	06/10/09	48.0	063009MEA	6.13
3025-88	OU2B-SED-104DSW-09	06/06/09	06/10/09	48.1	063009MEA	6.80
3025-78 (units=ng/L)	OU2B-SED-EB101-09	06/06/09	06/10/09	NA	062609MEA	0.0360 J
Method Blanks						
Blank 1	Blk1 061809				061909MEA	0.0275 U
Blank 2	Blk2 061809				061909MEA	0.0275 U
Blank 3	Blk3 061809				061909MEA	0.0275 U
Blank 1	Blk1 062209				062309MEA	0.0275 U
Blank 2	Blk2 062209				062309MEA	0.0275 U
Blank 3	Blk3 062209				062309MEA	0.0321 J
Blank 1	Blk1 062409				062509MEA	0.0275 U
Blank 2	Blk2 062409				062509MEA	0.0275 U
Blank 3	Blk3 062409				062509MEA	0.0275 U
Blank 1	Blk1 062909				063009MEA	0.0275 U
Blank 2	Blk2 062909				063009MEA	0.0275 U
Blank 3	Blk3 062909				063009MEA	0.0275 U
Detection Limits						
Achieved MDL						0.0275
Required MDL (QAPP Table 1-3)						0.03
Achieved MRL (3.18*MDL)						0.1
Required MRL (QAPP Table 1-3)						0.1
STANDARD REFERENCE MATERIAL (cont.)						
IAEA-405	IAEA405R1 061809				061909MEA	4.67
	IAEA405R2 061809				061909MEA	4.41
	IAEA405R1 062209				062309MEA	4.33
	IAEA405R2 062209				062309MEA	4.75
	IAEA405R1 062409				062509MEA	4.54
	IAEA405R2 062409				062509MEA	5.28
	IAEA405R1 062909				063009MEA	4.33
	IAEA405R2 062909				063009MEA	5.05
	certified value					5.49
	range					±0.53
	percent recovery				061909MEA	85%
					061909MEA	80%
					062309MEA	79%
					062309MEA	87%
					062509MEA	83%
					062509MEA	96%
					063009MEA	79%
					063009MEA	92%

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MSL Code	Sponsor ID	Sample Collection Date	Sample Receipt Date	Percent Solids	Analytical Batch ID - MeHg	MeHg (ng/g dry)
MATRIX SPIKE RESULTS						
Amount Spiked						22.6
3025-22	OU2B-SED-301C-09	06/03/09	06/10/09	68.8	061909MEA	3.37
3025-22 MS	OU2B-SED-301C-09MS	06/03/09	06/10/09	68.8	061909MEA	23.7
Amount Recovered						20.3
Percent Recovery						90%
Amount Spiked						20.8
3025-22	OU2B-SED-301C-09	06/03/09	06/10/09	68.8	061909MEA	3.37
3025-22 MSD	OU2B-SED-301C-09SD	06/03/09	06/10/09	68.8	061909MEA	23.5
Amount Recovered						20.1
Percent Recovery						97%
RPD						**7%**
Amount Spiked						16.6
3025-35	OU2B-SED-302C-09	06/08/09	06/10/09	75.9	061909MEA	1.42
3025-35 MS	OU2B-SED-302C-09MS	06/08/09	06/10/09	75.9	061909MEA	16.3
Amount Recovered						14.9
Percent Recovery						90%
Amount Spiked						16.8
3025-35	OU2B-SED-302C-09	06/08/09	06/10/09	75.9	061909MEA	1.42
3025-35 MSD	OU2B-SED-302C-09SD	06/08/09	06/10/09	75.9	061909MEA	15.2
Amount Recovered						13.8
Percent Recovery						82%
RPD						**9%**
Amount Spiked						59.8
3025-39	OU2B-SED-402C-09	06/09/09	06/10/09	33.7	062309MEA	3.81
3025-39 MS	OU2B-SED-402C-09MS	06/09/09	06/10/09	33.7	062309MEA	51.0
Amount Recovered						47.2
Percent Recovery						79%
Amount Spiked						53.3
3025-39	OU2B-SED-402C-09	06/09/09	06/10/09	33.7	062309MEA	3.81
3025-39 MSD	OU2B-SED-402C-09SD	06/09/09	06/10/09	33.7	062309MEA	46.4
Amount Recovered						42.6
Percent Recovery						80%
RPD						**1%**
Amount Spiked						32.1
3025-52	OU2B-SED-303DNE-09	06/07/09	06/10/09	66.2	062309MEA	7.56
3025-52 MS	OU2B-SED-303DNE-09MS	06/07/09	06/10/09	66.2	062309MEA	31.5
Amount Recovered						23.9
Percent Recovery						75%
Amount Spiked						32.8
3025-52	OU2B-SED-303DNE-09	06/07/09	06/10/09	66.2	062309MEA	7.56
3025-52 MSD	OU2B-SED-303DNE-09SD	06/07/09	06/10/09	66.2	062309MEA	35.2
Amount Recovered						27.6
Percent Recovery						84%
RPD						**12%**

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MSL Code	Sponsor ID	Sample Collection Date	Sample Receipt Date	Percent Solids	Analytical Batch ID - MeHg	MeHg (ng/g dry)
MATRIX SPIKE RESULTS (cont)						
Amount Spiked						24.0
3025-54	OU2B-SED-303DSE-09	06/07/09	06/10/09	66.7	062509MEA	6.69
3025-54 MS	OU2B-SED-303DSE-09MS	06/07/09	06/10/09	66.7	062509MEA	27.1
Amount Recovered						20.4
Percent Recovery						85%
Amount Spiked						23.8
3025-54	OU2B-SED-303DSE-09	06/07/09	06/10/09	66.7	062509MEA	6.69
3025-54 MSD	OU2B-SED-303DSE-09SD	06/07/09	06/10/09	66.7	062509MEA	24.8
Amount Recovered						18.1
Percent Recovery						76%
RPD						**11%**
Amount Spiked						28.0
3025-61	OU2B-SED-DUP05C-09	06/07/09	06/10/09	56.7	062509MEA	11.1
3025-61 MS	OU2B-SED-DUP05C-09MS	06/07/09	06/10/09	56.7	062509MEA	38.2
Amount Recovered						27.1
Percent Recovery						97%
Amount Spiked						25.8
3025-61	OU2B-SED-DUP05C-09	06/07/09	06/10/09	56.7	062509MEA	11.1
3025-61 MSD	OU2B-SED-DUP05C-09SD	06/07/09	06/10/09	56.7	062509MEA	34.5
Amount Recovered						23.4
Percent Recovery						91%
RPD						**6%**
Amount Spiked						34.6
3025-73	OU2B-SED-101C-09	06/05/09	06/10/09	46.0	063009MEA	2.65
3025-73 MS	OU2B-SED-101C-09MS	06/05/09	06/10/09	46.0	063009MEA	31.7
Amount Recovered						29.1
Percent Recovery						84%
Amount Spiked						32.5
3025-73	OU2B-SED-101C-09	06/05/09	06/10/09	46.0	063009MEA	2.65
3025-73 MSD	OU2B-SED-101C-09SD	06/05/09	06/10/09	46.0	063009MEA	32.7
Amount Recovered						30.1
Percent Recovery						92%
RPD						**10%**
Amount Spiked						35.1
3025-81	OU2B-SED-103DNE-09	06/06/09	06/10/09	47.4	063009MEA	3.93
3025-81 MS	OU2B-SED-103DNE-09MS	06/06/09	06/10/09	47.4	063009MEA	35.0
Amount Recovered						31.1
Percent Recovery						89%
Amount Spiked						35.8
3025-81	OU2B-SED-103DNE-09	06/06/09	06/10/09	47.4	063009MEA	3.93
3025-81 MSD	OU2B-SED-103DNE-09SD	06/06/09	06/10/09	47.4	063009MEA	32.2
Amount Recovered						28.3
Percent Recovery						79%
RPD						**11%**

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MSL Code	Sponsor ID	Sample Collection Date	Sample Receipt Date	Percent Solids	Analytical Batch ID - MeHg	MeHg (ng/g dry)
REPLICATE ANALYSIS RESULTS						
3025-27 r1	OU2B-SED-202DSE-09	06/06/09	06/10/09	74.4	061909MEA	4.45
3025-27 r2	OU2B-SED-202DSE-09DUP	06/06/09	06/10/09	74.4	061909MEA	4.45
			Mean			4.45
			RPD			**0%**
3025-51 r1	OU2B-SED-303DC-09	06/07/09	06/10/09	67.4	062309MEA	4.45
3025-51 r2	OU2B-SED-303DC-09DUP	06/07/09	06/10/09	67.4	062309MEA	6.20
			Mean			5.33
			RPD			**33%**
3025-62 r1	OU2B-SED-204C-09	06/07/09	06/10/09	43.9	062509MEA	4.69
3025-62 r2	OU2B-SED-204C-09DUP	06/07/09	06/10/09	43.9	062509MEA	4.03
			Mean			4.36
			RPD			**15%**
3025-76 r1	OU2B-SED-102C-09	06/05/09	06/10/09	40.7	063009MEA	4.62
3025-76 r2	OU2B-SED-102C-09DUP	06/05/09	06/10/09	40.7	063009MEA	4.01
			Mean			4.32
			RPD			**14%**

U Not detected at or above DL shown
J Result is <MRL and >Acheived MDL
N Outside method DQOs
NA Not applicable/available
NS Not spiked
RPD Relative percent difference

cc: Project Manager/Central File
Login File

3025

SAMPLE LOGIN

(SOP# MSL-A-001)

Project Manager: Lasorsa
Date Received: 06/10/09
Batch: 3

PROJECT: Olin-ESPP

SPONSOR CODE	Site Description	BATTELLE CODE	MATRIX	STORAGE LOCATION	PARAMETERS REQUESTED	COLLECTION DATE	INITIALS
OU2B-SED-301C-09	na	3025-22a & b	sediment	Outside Freezer	Methyl Hg, % moisture, AVS/SEM	06/03/09	MLFM
OU2B-SED-301C-09 MS/MSD	na	3025-23a & b	sediment	Outside Freezer	Methyl Hg, % moisture	06/03/09	MLFM
OU2B-SED-201C-09	na	3025-24	sediment	Outside Freezer	Methyl Hg, % moisture, AVS/SEM	06/03/09	MLFM
OU2B-SED-DUP02C-09	na	3025-25	sediment	Outside Freezer	Methyl Hg, % moisture, AVS/SEM	06/03/09	MLFM
OU2B-SED-202DC-09	na	3025-26	sediment	Outside Freezer	Methyl Hg, % moisture, AVS/SEM	06/06/09	MLFM
OU2B-SED-202DSE09 5/13/09	na	3025-27	sediment	Outside Freezer	Methyl Hg, % moisture, AVS/SEM	06/06/09	MLFM
OU2B-SED-202DNW-09	na	3025-28	sediment	Outside Freezer	Methyl Hg, % moisture, AVS/SEM	06/06/09	MLFM
OU2B-SED-202DNE-09	na	3025-29	sediment	Outside Freezer	Methyl Hg, % moisture, AVS/SEM	06/06/09	MLFM
OU2B-SED-202DSW-09	na	3025-30	sediment	Outside Freezer	Methyl Hg, % moisture, AVS/SEM	06/06/09	MLFM
OU2B-SED-501DC-09	na	3025-31	sediment	Outside Freezer	Methyl Hg, % moisture	06/07/09	MLFM
OU2B-SED-501DNE-09	na	3025-32	sediment	Outside Freezer	Methyl Hg, % moisture	06/07/09	MLFM
OU2B-SED-106C-09	na	3025-33	sediment	Outside Freezer	Methyl Hg, % moisture	06/08/09	MLFM
OU2B-SED-DUP06C-09	na	3025-34	sediment	Outside Freezer	Methyl Hg, % moisture	06/08/09	MLFM
OU2B-SED-302C-09	na	3025-35	sediment	Outside Freezer	Methyl Hg, % moisture, AVS/SEM	06/08/09	MLFM
OU2B-SED-DUP03C-09	na	3025-36	sediment	Outside Freezer	Methyl Hg, % moisture, AVS/SEM	06/08/09	MLFM
OU2B-SED-304C-09	na	3025-37	sediment	Outside Freezer	Methyl Hg, % moisture, AVS/SEM	06/09/09	MLFM
OU2B-SED-401C-09	na	3025-38	sediment	Outside Freezer	Methyl Hg, % moisture	06/09/09	MLFM
OU2B-SED-402C-09	na	3025-39	sediment	Outside Freezer	Methyl Hg, % moisture	06/09/09	MLFM
OU2B-SED-402C-09(MS/MSD)	na	3025-40	sediment	Outside Freezer	Methyl Hg, % moisture	06/09/09	MLFM
OU2B-SED-403C-09	na	3025-41	sediment	Outside Freezer	Methyl Hg, % moisture, AVS/SEM	06/09/09	MLFM

cc: Project Manager/Central File
Login File 3025

SAMPLE LOGIN
(SOP# MSL-A-001)

Project Manager: Lasorsa
Date Received: 06/10/09
Batch: 3

PROJECT: Olin-ESPP

SPONSOR CODE	Site Description	BATTELLE CODE	MATRIX	STORAGE LOCATION	PARAMETERS REQUESTED	COLLECTION DATE	INITIALS
OU2B-SED-404C-09	na	3025-42	sediment	Outside Freezer	Methyl Hg, % moisture	06/09/09	MLFM
OU2B-SED-501DNW-09	na	3025-43	sediment	Outside Freezer	Methyl Hg, % moisture	06/07/09	MLFM
OU2B-SED-501DSE-09	na	3025-44	sediment	Outside Freezer	Methyl Hg, % moisture	06/07/09	MLFM
OU2B-SED-501DSW-09	na	3025-45	sediment	Outside Freezer	Methyl Hg, % moisture	06/07/09	MLFM
OU2B-SED-502DSE-09	na	3025-46	sediment	Outside Freezer	Methyl Hg, % moisture	06/07/09	MLFM
OU2B-SED-502DC-09	na	3025-47	sediment	Outside Freezer	Methyl Hg, % moisture	06/07/09	MLFM
OU2B-SED-502DNE-09	na	3025-48	sediment	Outside Freezer	Methyl Hg, % moisture	06/07/09	MLFM
OU2B-SED-502DNW-09	na	3025-49	sediment	Outside Freezer	Methyl Hg, % moisture	06/07/09	MLFM
OU2B-SED-502DSW-09	na	3025-50	sediment	Outside Freezer	Methyl Hg, % moisture	06/07/09	MLFM
OU2B-SED-303DC-09	na	3025-51	sediment	Outside Freezer	Methyl Hg, % moisture, AVS/SEM	06/07/09	MLFM
OU2B-SED-303DNE-09	na	3025-52	sediment	Outside Freezer	Methyl Hg, % moisture, AVS/SEM	06/07/09	MLFM
OU2B-SED-303DNW-09	na	3025-53	sediment	Outside Freezer	Methyl Hg, % moisture, AVS/SEM	06/07/09	MLFM
OU2B-SED-303DSE-09	na	3025-54	sediment	Outside Freezer	Methyl Hg, % moisture, AVS/SEM	06/07/09	MLFM
OU2B-SED-303DSW-09	na	3025-55	sediment	Outside Freezer	Methyl Hg, % moisture, AVS/SEM	06/07/09	MLFM
OU2B-SED-203DC-09	na	3025-56	sediment	Outside Freezer	Methyl Hg, % moisture, AVS/SEM	06/07/09	MLFM
OU2B-SED-203DNE-09	na	3025-57	sediment	Outside Freezer	Methyl Hg, % moisture, AVS/SEM	06/07/09	MLFM
OU2B-SED-203DNW-09	na	3025-58	sediment	Outside Freezer	Methyl Hg, % moisture, AVS/SEM	06/07/09	MLFM
OU2B-SED-203DSE-09	na	3025-59	sediment	Outside Freezer	Methyl Hg, % moisture, AVS/SEM	06/07/09	MLFM
OU2B-SED-203DSW-09	na	3025-60	sediment	Outside Freezer	Methyl Hg, % moisture, AVS/SEM	06/07/09	MLFM
OU2B-SED-DUP05C-09	na	3025-61	sediment	Outside Freezer	Methyl Hg, % moisture, AVS/SEM	06/07/09	MLFM

cc: Project Manager/Central File
Login File

3025

SAMPLE LOGIN

(SOP# MSL-A-001)

Project Manager: Lasorsa
Date Received: 06/10/09
Batch: 3

PROJECT: Olin-ESPP

SPONSOR CODE	Site Description	BATTELLE CODE	MATRIX	STORAGE LOCATION	PARAMETERS REQUESTED	COLLECTION DATE	INITIALS
OU2B-SED-204C-09	na	3025-62	sediment	Outside Freezer	Methyl Hg, % moisture, AVS/SEM	06/07/09	MLFM
OU2B-SED-DUP04C-09	na	3025-63	sediment	Outside Freezer	Methyl Hg, % moisture, AVS/SEM	06/07/09	MLFM
OU2B-SED-105C-09	na	3025-64	sediment	Outside Freezer	Methyl Hg, % moisture, AVS/SEM	06/08/09	MLFM
OU2B-SED-205C-09	na	3025-65	sediment	Outside Freezer	Methyl Hg, % moisture, AVS/SEM	06/08/09	MLFM
OU2B-SED-004C-09	na	3025-66	sediment	Outside Freezer	Methyl Hg, % moisture, AVS/SEM	06/05/09	MLFM
OU2B-SED-101DC-09	na	3025-67	sediment	Outside Freezer	Methyl Hg, % moisture, AVS/SEM	06/05/09	MLFM
OU2B-SED-101DSE-09	na	3025-68	sediment	Outside Freezer	Methyl Hg, % moisture, AVS/SEM	06/05/09	MLFM
OU2B-SED-101DSW-09	na	3025-69	sediment	Outside Freezer	Methyl Hg, % moisture, AVS/SEM	06/05/09	MLFM
OU2B-SED-101DNE-09	na	3025-70	sediment	Outside Freezer	Methyl Hg, % moisture, AVS/SEM	06/05/09	MLFM
OU2B-SED-101DNW-09	na	3025-71	sediment	Outside Freezer	Methyl Hg, % moisture, AVS/SEM	06/05/09	MLFM
OU2B-SED-102C-09	na	3025-72	sediment	Outside Freezer	Methyl Hg, % moisture	06/05/09	MLFM
OU2B-SED-101C-09	na	3025-73	sediment	Outside Freezer	Methyl Hg, % moisture, AVS/SEM	06/05/09	MLFM
OU2B-SED-101C-09(MS/MSD)	na	3025-74	sediment	Outside Freezer	Methyl Hg, % moisture	06/05/09	MLFM
OU2B-SED-DHC-09	na	3025-75	sediment	Outside Freezer	Methyl Hg, % moisture, AVS/SEM	06/05/09	MLFM
OU2B-SED-102C-09	na	3025-76	sediment	Outside Freezer	Methyl Hg, % moisture, AVS/SEM	06/05/09	MLFM
OU2B-SED-DUO01C-09	na	3025-77	sediment	Outside Freezer	Methyl Hg, % moisture, AVS/SEM	06/05/09	MLFM
OU2B-SED-EB101-09	na	3025-78	water (EB)	Hg Lab	Methyl Hg, % moisture	06/06/09	MLFM
OU2B-SED-103DC-09	na	3025-79	sediment	Outside Freezer	Methyl Hg, % moisture, AVS/SEM	06/06/09	MLFM
OU2B-SED-103DNW-09	na	3025-80	sediment	Outside Freezer	Methyl Hg, % moisture, AVS/SEM	06/06/09	MLFM
OU2B-SED-103DNE-09	na	3025-81	sediment	Outside Freezer	Methyl Hg, % moisture, AVS/SEM	06/06/09	MLFM

cc: Project Manager/Central File
Login File 3025

SAMPLE LOGIN

(SOP# MSL-A-001)

Project Manager: Lasorsa
Date Received: 06/10/09
Batch: 3

PROJECT: Olin-ESPP

SPONSOR CODE	Site Description	BATTELLE CODE	MATRIX	STORAGE LOCATION	PARAMETERS REQUESTED	COLLECTION DATE	INITIALS
OU2B-SED-103DSW-09	na	3025-82	sediment	Outside Freezer	Methyl Hg, % moisture, AVS/SEM	06/06/09	MLFM
OU2B-SED-103DSE-09	na	3025-83	sediment	Outside Freezer	Methyl Hg, % moisture, AVS/SEM	06/06/09	MLFM
OU2B-SED-104DC-09	na	3025-84	sediment	Outside Freezer	Methyl Hg, % moisture, AVS/SEM	06/06/09	MLFM
OU2B-SED-104DNE-09	na	3025-85	sediment	Outside Freezer	Methyl Hg, % moisture, AVS/SEM	06/06/09	MLFM
OU2B-SED-104DNW-09	na	3025-86	sediment	Outside Freezer	Methyl Hg, % moisture, AVS/SEM	06/06/09	MLFM
OU2B-SED-104DSE-09	na	3025-87	sediment	Outside Freezer	Methyl Hg, % moisture, AVS/SEM	06/06/09	MLFM
OU2B-SED-104DSW-09	na	3025-88	sediment	Outside Freezer	Methyl Hg, % moisture, AVS/SEM	06/06/09	MLFM
BKGD-060909	na	3025-89	sediment	Outside Freezer	Total Hg 1631E	06/09/09	MLFM

Battelle Sediment

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 7

1145358

Section A Required Client Information:

Company: MACTEC
Address: 320 Town Point Dr NW Ste 100, Kennesaw, GA 30144
Email To: cedraper@mactec.com
Phone: 770 421 3565 Fax: 770 421 3486
Requested Due Date/TAT: Standard

Section B Required Project Information:

Report To: Cynthia Draper, MACTEC
Copy To: Keith Roberts, Olin, kwroberts@mactec.com, ubarker@mactec.com
Purchase Order No.: OEMC0014-30
Project Name: Olin McIntosh OU2 ESPP
Project Number: 610709.0035.2009.02

Section C Invoice Information:

Attention: Dennis Turner
Company Name: Olin Corp
Address: Cleveland, TN
Pace Quote Reference:
Pace Project Manager: Battelle B. Lasorsa
Pace Profile #:

REGULATORY AGENCY: NPDES, GROUND WATER, DRINKING WATER, UST, RCRA, X OTHER Cercla

Site Location STATE: AL

Requested Analysis Filtered (Y/N)

ITEM #	Section D Required Client Information — SAMPLE ID (A-Z, 0-9 / , -) Sample IDs MUST BE UNIQUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test: MeHg	%Moisture	AVS/SEM	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	OU2B-SED-301C-09	OT	C			6/3/09	1030		2	2								X	X	X		3025.22A&B
2	OU2B-SED-301C-09 MS/MSD	OT	C			6/3/09	1030		2	2								X	X			23A&B
3	OU2B-SED-201C-09	OT	C			6/3/09	1120		1	1								X	X	X		24
4	OU2B-SED-DUP02C-09	OT	C			6/3/09	1200		1	1								X	X	X		25
5	OU2B-SED-202DC-09	OT	C			6/4/09	1330		1	1								X	X	X		26
6	~~OU2B-SED-202DNE-09~~	~~OT~~	~~C~~			~~6/4/09~~			1	1								X	X	X		RR
7	OU2B-SED-202DSE-09	OT	C			6/4/09	1342		1	1								X	X	X		~~26~~ 27
8	OU2B-SED-202DNW-09	OT	C			6/4/09	1338		1	1								X	X	X		~~27~~ 28
9	OU2B-SED-202DNE-09	OT	C			6/4/09	1334		1	1								X	X	X		~~28~~ 29
10	OU2B-SED-202DSW-09	OT	C			6/4/09	1347		1	1								X	X	X		~~29~~ 30
11	OU2B-SED-501DC-09	OT	G			6/7/09	0942		1	1								X	X			~~30~~ 31
12	OU2B-SED-501DNE-09	OT	G			6/7/09	0945		1	1								X	X			3025.~~31~~ 32

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
OT=Sediment	RMReece/MACTEC	6/9/09	1400	[signature]	06/10/09	1130	

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Rani Reece

SIGNATURE of SAMPLER: RMReece DATE Signed (MM/DD/YY): 06/09/09

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

ORIGINAL

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

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Battelle Sediment

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

1145365

Section A Required Client Information:

Company:	MACTEC
Address:	3200 Town Point Dr NW Ste 100 Kennesaw, GA 30144
Email To:	cdraper@mactec.com
Phone: / Fax:	7704213565 / 7704434826
Requested Due Date/TAT:	Standard

Section B Required Project Information:

Report To:	Cynthia Draper, MACTEC
Copy To:	Keith Roberts, Olin, mbarker@mactec.com, KPWatson@mactec.com
Purchase Order No.:	OEMC0014-38
Project Name:	Olin McIntosh OU2 ESPP
Project Number:	6107096035 2009.02

Section C Invoice Information:

Attention:	Dennis Turner
Company Name:	Olin Corp
Address:	Cleveland, TN
Pace Quote Reference:	
Pace Project Manager:	Battelle B. Lasorsa
Pace Profile #:	

REGULATORY AGENCY

NPDES GROUND WATER DRINKING WATER
UST RCRA X OTHER Cercla

Site Location STATE: AL

Section D Required Client Information

Matrix Codes (MATRIX / CODE)

Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Tissue	TS
Other	OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Hg	% Moisture	AVS/SEM	Contamination Study	Filtration Study	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	OU2B-SED-106C-09	OT	C			6/8/09	1055		1	1									X	X					3025-33
2	OU2B-SED-DUP06C-09	OT	C			6/8/09	1200		1	1									X	X					34
3	OU2B-SED-302C-09	OT	C			6/8/09	1120		1	1									X	X	X				35
4	OU2B-SED-DUP03C-09	OT	C			6/8/09	1200		1	1									X	X	X				36
5	OU2B-SED-304C-09	OT	C			6/9/09	0910		1	1									X	X	X				37
6	OU2B-SED-404C-09	OT	C			6/9/09	0938		1	1									X	X					38
7	OU2B-SED-402C-09	OT	C			6/9/09	1010		1	1									X	X					39
8	OU2B-SED-402C-09 (MS/MSD)	OT	C			6/9/09	1010		1	1									X	X					40
9	OU2B-SED-403C-09	OT	C			6/9/09	1035		1	1									X	X	X				41
10	OU2B-SED-404C-09	OT	C			6/9/09	1100		1	1									X	X					3025-42
11	SDCR1-A	OT	G			6/9/09	0830		1	1												X			3026-17
12	SDCR1-B	OT	G			6/9/09	0830		1	1													X		3026-18

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
OT=Sediment	RMReece/MACTEC	6/9/09	1400	/MSL	06/10/09	1130	

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Rani Reece

SIGNATURE of SAMPLER: RMReece DATE Signed (MM/DD/YY): 06/09/09

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Pace Analytical
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Battelle Sediment

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

1145361

Section A Required Client Information:

Company:	MACTEC
Address:	3200 Town Point Dr NW Ste 100 Kennesaw, GA 30144
Email To:	cedraper@mactec.com
Phone: 7704213515	Fax: 7704213486
Requested Due Date/TAT:	standard

Section B Required Project Information:

Report To:	Cynthia Draper, MACTEC
Copy To:	Keith Roberts, Olin; mbarker@mactec.com
Purchase Order No.:	OEMC08814-30
Project Name:	Olin McIntosh OU2 ESPP
Project Number:	6107690035 2009.02

Section C Invoice Information:

Attention:	Dennis Turner
Company Name:	Olin Corp
Address:	Cleveland, TN
Pace Quote Reference:	
Pace Project Manager:	Battelle B. Lasorsa
Pace Profile #:	

REGULATORY AGENCY

NPDES | GROUND WATER | DRINKING WATER | UST | RCRA | X OTHER Cercla

Site Location STATE: AL

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Requested Analysis Filtered (Y/N): Mutts	% Moisture	AVS/SEM	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	OU2B-SED-~~DNW-09~~ 501DNW-09 (MS)	OT	G			6/7/09	0943		1	1									X	X			3025-43
2	OU2B-SED-~~DSE-09~~ 501DSE-09 (MSD)	OT	G			6/7/09	0956		1	1									X	X			44
3	OU2B-SED-~~DSW-09~~ 501DSW-09	OT	G			6/7/09	0959		1	1									X	X			45
4	OU2B-SED-502DSE-09	OT	G			6/7/09	1048		1	1									X	X			46
5	OU2B-SED-502DC-09	OT	G			6/7/09	1032		1	1									X	X			47
6	OU2B-SED-502DNE-09	OT	G			6/7/09	1044		1	1									X	X			48
7	OU2B-SED-502DNW-09	OT	G			6/7/09	1046		1	1									X	X			49
8	OU2B-SED-502DSW-09	OT	G			6/7/09	1052		1	1									X	X			50
9	OU2B-SED-303DC-09	OT	G			6/7/09	1134		1	1									X	X	X		51
10	OU2B-SED-303DSE-09	OT	G			6/7/09	1137		1	1									X	X	X		52
11	OU2B-SED-303DNW-09	OT	G			6/7/09	1139		1	1									X	X	X		53
12	OU2B-SED-303DSE-09	OT	G			6/7/09	1141		1	1									X	X	X		3025-54

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
OT=Sediment	RMReece/MACTEC	6/9/09	1400	[signature]/MSL	6/10/09	1138	

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Rani Reece

SIGNATURE of SAMPLER: RMReece DATE Signed (MM/DD/YY): 06/09/09

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

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Battelle Sediment

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

1145363

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: MACTEC	Report To: Cynthia Draper, MACTEC	Attention: Dennis Turner
Address: 3200 TOWN PT DR NW STE 100 Kennesaw Ga 30144	Copy To: Keith Roberts, Olin mbarker@mactec.com	Company Name: Olin Corp
Email To: cedraper@mactec.com	Purchase Order No.: CEMC0014-30	Address: Cleveland, TN
Phone: 7704213565 Fax: 7704213481	Project Name: Olin McIntosh OU2 ESPP	Pace Quote Reference:
Requested Due Date/TAT:	Project Number: 1110070035 2009.02	Pace Project Manager: Battelle B. Lasorsa
		Pace Profile #:

REGULATORY AGENCY

NPDES GROUND WATER DRINKING WATER
UST RCRA X OTHER Cercla

Site Location STATE: AL

Requested Analysis Filtered (Y/N)

ITEM #	Section D Required Client Information — SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE	Matrix Codes (see valid codes to left) MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Hg/Hg % Moisture	AVS/SEM	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	OU2B SED-203DSW-09	OT	G			6/7/09	1143		1	1									X	X		3025.55
2	OU2B-SED-203DC-09	OT	G			6/7/09	1335		1	1									X	X		56
3	OU2B SED-203DNE-09	OT	G			6/7/09	1341		1	1									X	X		57
4	OU2B SED-203DNW-09	OT	G			6/7/09	1344		1	1									X	X		58
5	OU2B SED-203DSE-09	OT	G			6/7/09	1346		1	1									X	X		59
6	OU2B-SED-203DSW-09	OT	G			6/7/09	1347		1	1									X	X		60
7	OU2B-SED-DUP05C-09	OT	G			6/7/09	1200		1	1									X	X		61
8	OU2B-SED-204C-09	OT	C			6/7/09	1438		1	1									X	X (Hg)		Analyze for AVS/SEM 62
9	OU2B-SED-DUP04C-09	OT	C			6/7/09	1200		1	1									X	X		63
10	OU2B-SED-105C-09	OT	C			6/8/09	0910		1	1									X	X		64
11	OU2B-SED-205C-09	OT	C			6/8/09	1030		1	1									X	X		3025.65 64 65
12	~~OU2B-SED-106C-09~~	~~OT~~	~~C~~			~~6/8/09~~	~~1055~~		~~1~~	~~1~~									X	X		RR

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
OT = Sediment	RRReece/MACTEC	6/9/09	1400	/MSL	6/10/09	1130	

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Ram. Reece

SIGNATURE of SAMPLER: RReece DATE Signed (MM/DD/YY): 06/09/09

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Pace Analytical
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Battelle Sediment

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 5 of 7

1145360

Section A Required Client Information:

Company: MACTEC
Address: 5200 Town Point Dr NW Ste 100 Kennesaw GA 30144
Email To: cedraper@mactec.com
Phone: 770421 3565 Fax: 770421 3486
Requested Due Date/TAT: standard

Section B Required Project Information:

Report To: Cynthia Draper, MACTEC
Copy To: Keith Roberts, Olin; mparker@mactec.com; kpwatson@mactec.com
Purchase Order No.: OEMC0014-30
Project Name: Olin McIntosh
Project Number: 610709 0035 2009.02

Section C Invoice Information:

Attention: Dennis Turner
Company Name: Olin Corp
Address: Cleveland TN
Pace Quote Reference:
Pace Project Manager: Battelle B. Lasorsa
Pace Profile #:

REGULATORY AGENCY

NPDES GROUND WATER DRINKING WATER
UST RCRA X OTHER Georgia

Site Location STATE: AL

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Meth	% Moisture	AVS/SEM	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	OU2B-SED-004C-09	OT	C			6/5/09	~~1115~~ 1025		1	1									X	X	X		3025 ~~66~~ ~~65~~ 66
2	~~OU2B-SED-101 OU2R-SED-101B~~																						RR
3	OU2R-SED-101DC-09	OT	G			6/5/09	1057		1	1									X	X	X		3025 66 67
4	OU2R-SED-101DSE-09	OT	G			6/5/09	~~1102~~ 1102 RR		1	1									X	X	X		67 68
5	OU2R-SED-101DSW-09	OT	G			6/5/09	1106		1	1									X	X	X		68 69
6	OU2R-SED-101DNE-09	OT	G			6/5/09	1059		1	1									X	X	X		69 70
7	OU2R-SED-101DNW-09	OT	G			6/5/09	1104		1	1									X	X	X		70 71
8	OU2R-SED-102C-09	OT	C			6/5/09	1325		1	1									X	X			71 72
9	OU2B-SED-101C-09	OT	C			6/5/09	1355		1	1									X	X	X		72 73
10	OU2B-SED-101C-09(MS/MSD)	OT	C			6/5/09	1355		1	1									X	X			73 74
11	OU2B-SED-DUP-09	OT	C			6/5/09	1435		1	1									X	X	X		74 75
12	OU2B-SED-102C-09	OT	C			6/5/09	1525		1	1									X	X	X		3025 ~~75~~ 76

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
OT = Sediment	RRReece/MACTEC	6/9/09	1400	[illegible]/MSL	06/10/09	1130	

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Rani Reece

SIGNATURE of SAMPLER: RRReece DATE Signed (MM/DD/YY): 06/09/09

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Pace Analytical
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Battelle Sediment

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

1145359

Section A Required Client Information:

Company: MACTEC
Address: 320 Town Point Dr NW Ste 100
Kennesaw GA 30144
Email To: cdraper@mactec.com
Phone: ~~770~~ 421 3565 Fax: ~~770~~ 421 3486
Requested Due Date/TAT: Standard

Section B Required Project Information:

Report To: Cynthia Draper, MACTEC
Copy To: Keith Roberts, Olin; mbarker@mactec.com
kewatson@mactec.com
Purchase Order No.: OEMC0014-30
Project Name: Olin McIntosh OU2 ESPP
Project Number: 6167090035 2009.52

Section C Invoice Information:

Attention: Dennis Turner
Company Name: Olin Corp
Address: Cleveland, TN
Pace Quote Reference:
~~Pace~~ Project Manager: Battelle B. Lasorsa
Pace Profile #:

REGULATORY AGENCY

NPDES GROUND WATER DRINKING WATER
UST RCRA X OTHER Cerclia

Site Location STATE: AL

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Methy	% Moisture	AVS/SEM	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	OU2B-SED-DUP01C-09	OT	C			6/5/09	1200		1	1									X	X	X		30257 76 77
2	OU2B-SED-EB101-09	WT	G			6/6/09	0945		1	1									X	X			77 78
3	OU2B-SED-103DC-09	OT	G				1058		1	1									X	X	X		78 79
4	OU2B-SED-103DNW-09	OT	G				1105		1	1									X	X	X		79 80
5	OU2B-SED-103DNE-09	OT	G				1101		1	1									X	X	X		80 81
6	OU2B-SED-103DSW-09	OT	G				1107		1	1									X	X	X		81 82
7	OU2B-SED-103DSE-09	OT	G				1103		1	1									X	X	X		82 83
8	OU2B-SED-104DC-09	OT	G				1150		1	1									X	X	X		83 84
9	OU2B-SED-104DNE-09	OT	G				1153		1	1									X	X	X		84 85
10	OU2B-SED-104DNW-09	OT	G				1154		1	1									X	X	X		85 86
11	OU2B-SED-104DSE-09	OT	G				1155		1	1									X	X	X		86 87
12	OU2B-SED-104DSW-09	OT	G			↓	1156		1	1									X	X	X		30257 87 88

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
OT = Sediment	RMReece MACTEC	6/9/09	1400	/MSL	06/10/09	1130	

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Rani Reece

SIGNATURE of SAMPLER: RMReece DATE Signed (MM/DD/YY): 06/09/09

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Battelle Sediment RR

Pace Analytical
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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

1145366

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: MACTEC	Report To: Cynthia Draper, MACTEC	Attention: Dennis Turner
Address: 3200 Town Point Dr NW Ste 100 Kennesaw GA 30144	Copy To: Keith Roberts, Olin	Company Name: Olin Corp
Email To: cedraper@mactec.com	Purchase Order No.: OEMC-2014-30	Address: Cleveland, TN
Phone: 770 421 3551 Fax: 770 421 3486	Project Name: Olin McIntosh 042 ESPP	Pace Quote Reference:
Requested Due Date/TAT: Standard	Project Number: 6107090035 2009.02	Pace Project Manager: Battelle B.Lasorsa
		Pace Profile #:

REGULATORY AGENCY

NPDES | GROUND WATER | DRINKING WATER | UST | RCRA | X OTHER Cercla

Site Location STATE: AL

Requested Analysis Filtered (Y/N)

ITEM #	Section D Required Client Information: SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE	Matrix Codes MATRIX / CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Analysis Test: Total Hg 1631E	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	BKGD-060909		SL	C			6/9/09	0955		1	1									X		3025-8859
2																						
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	RMReece/MACTEC	6/9/09	1400	[signature]/MKL	6/10/09	1130	

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Rani Reece

SIGNATURE of SAMPLER: RMReece

DATE Signed (MM/DD/YY): 06/09/09

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Central File #: 3025 Sample No(s): 22-96 Project Manager: Lasorsa

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: _____ WP# _____

Yes	No	
☐	☐	Navy-type Project (requires high-level sample tracking procedures)
☐	☐	Filter Samples: *Amount:* Entire sample Half of sample
☐	☐	Freeze dry sample(s) - samples will be weighed and placed in ultralow temp freezer (Lab# 130)
☐	☐	Special instructions: _____

Sample Preservation Instructions: _____

Date To Archive: _____ Date To Dispose: _____

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box
☒	☐	☐	Was a custody seal present?
☒	☐	☐	Was the custody seal intact?
☒	☐	☐	Was cooler(s) temperature(s) within acceptable range of 4±2°C or frozen? (if multiple coolers, note temp. of each) sed -7.5 °C sed -14.5 °C I 3 = 5.1 water
☐	☐	☒	Was Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc)? Comment/Remedy: _____
☒	☐	☐	Were all chain of custody forms signed and dated?
☒	☐	☐	Were samples filtered at MSL?

Sample condition(s): (Acceptable) Other (explain):

Container type: (Teflon) Poly (Glass) Spex Other: _____

Notes: _____

Completed By: _____ Date/Time: 06/10/09 1200

SAMPLE PRESERVATION

- ☒ Sample(s) were preserved at MSL
- ☐ Sample(s) were preserved prior to arrival at MSL (noted on CoC / Sample / per PM Instruction)
- ☐ Random pH checked for ~10% of samples (use dip paper) Sample IDs: _____
- ☐ Complete pH check required for project (use pH meter and record on pH Record form)

If preservation necessary, record Acid Lot#

Type:		Notes:
☐	0.2% HNO3	Notes: _____
☒	0.5% HCl (Hg samples)	Notes: Baker Lot# G4803D
☒	Refrigerate/Freeze	Notes: # 22-89 sets in outside freezer
☐	Other	Notes: _____

All "F" samples filtered @ 0.45µm prior to preservation

Completed By: B. Lasorsa Date/Time: 6/10/09 1500

Battelle

The Business of Innovation

Checklist for Olin Deliverables

SDG/EDD ID: **3025_1-96M**

- [x] All samples for one Sample Delivery Group (SDG) were included in once Electronic Data Deliverable (EDD) Waters for Mercury, Titr
- [x] EDD file name is the same as the associated SDG name or number
- [x] EDD format specifications were followed and information included for all required fields
- [x] Client was informed if the EDD requirement could not be met *prior* to EDD creation
- [x] Sample I.D. No. and Descriptions exactly match the Chain of Custody (COC) -or- written authorization was received from Client if change was necessary removed 7/30/09 based on Em from M. Barker "Rivs "B" S
- [x] Verify that all laboratory applied data quality evaluation flags have been included in both the EDD and hard copy reports
- [x] Verify that the hard copy report matches data presented in the EDD ✓ fix ; in time ✓ collect date for QA = prep date

Comments:

Data Quality Evaluation Flags

- J Concentration detected above the laboratory DL but below the PQL
- U Concentration not detected at or above laboratory DL; reported as "0" in the EDD and DL value in the hard copy data table
- N Outside data quality objectives as noted in the QA/QC Narrative

See above 7/30/09

Project Manager's signature verifies that all of the above has been confirmed with a 10% review. *Date*

QA/QC SUMMARY

PROJECT: Olin Corporation EDD ID: 3025_1-96M
PARAMETER: Mercury Speciation
LABORATORY: Battelle/Marine Sciences Laboratory, Sequim, Washington
MATRIX: Water

SAMPLE CUSTODY: Fifty-six water samples for methylmercury (MeHg) and total mercury (THg) analysis were received at Battelle MSL between 6/4/09 and 6/10/09. The containers were received in good condition. Cooler temperatures upon arrival were within the optimal temperature range of 4±2°C for all samples. Upon arrival, each sample designated as a "dissolved" was filtered at 0.45 µm. All samples were then acidified to pH<2 with 0.5% HCl and stored in the dark prior to analysis.

QA/QC DATA QUALITY OBJECTIVES:

Analyte	Analytical Method	Range of Recovery MS-MSD / OPR	Relative Precision	Achieved Detection Limit
Mercury	CVAF (EPA 1631e)	71-125% / 77-123%	±24%	0.100 ng/L
Methylmercury	CVAF (EPA 1630)	65-135% / 67-133%	±35%	0.0207 ng/L

HOLDING TIMES: All were conducted within target holding time of 90 days for THg and 6 months for MeHg.

DETECTION LIMITS: Achieved detection limits were determined by a previously conducted MDL study where replicates were analyzed and the standard deviation was multiplied by the Student's-t value for the number of replicates.

BLANKS Analytical blanks were determined for all analytes. No THg was detected in the blanks. A trace amount of MeHg (averaging <2x the MDL) was detected in four of the nine blanks. Data are not blank corrected.

BLANK SPIKES (OPR): Blanks were spiked for THg and MeHg to create an ongoing precision and recovery (OPR) sample. Blank spike recoveries were within the target range of 77-123% and 67% to 133%, respectively.

MATRIX SPIKES: Two matrix spike/matrix spike duplicate pairs were prepared for mercury and methylmercury with each analytical batch. All recoveries were within the target range of 71-125% and 65% to 135%, respectively.

REPLICATES: One duplicate pair was prepared for mercury and methylmercury with each analytical batch. All RPDs were within the target range of ±24% and ±35%, respectively.

QA/QC SUMMARY

LCS/SRM SAMPLES: A laboratory control sample (LCS) or standard reference material (SRM) was analyzed for each analyte. Because no SRM for MeHg in water exists, a heavy dilution of DORM-3, a tissue SRM, was analyzed. The recoveries were 97% to 101% of the known value, which meets the data quality criteria for accuracy of 67-133%. NIST 1641d, a water SRM sample, was analyzed THg. The recoveries were 98% to 106% of the known value, which meets the data quality criteria for accuracy of 77%-123%.

Approvals

[signature] 7/31/09		[signature]	7/31/09
Project Manager	Date	QA Reviewer	Date

BATTELLE MARINE SCIENCES LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382
(360) 681-3650

OLIN CHEMICAL
MERCURY SPECIATION IN WATER
EDD ID: 3025_1-96M

MSL Code	Sample ID		Sample Collection Date	Sample Receipt Date	Analytical Batch ID - THg	Analytical Batch ID - MeHg	THg ng/L	MeHg ng/L
3025-1U	OU2B-SW-FB01-09	U	06/03/09	06/04/09	060909HGA	NA	0.107 J	NA
3025-1F	OU2B-SW-FB01-09	F	06/03/09	06/04/09	060909HGA	NA	0.179 J	NA
3025-2U	OU2B-SW-301DS-09	U	06/03/09	06/04/09	060909HGA	060909MEA	9.61 D	0.786
3025-2F	OU2B-SW-301DS-09	F	06/03/09	06/04/09	060909HGA	060909MEA	3.58 D	0.420
3025-3U	OU2B-SW-301DD-09	U	06/03/09	06/04/09	060909HGA	060909MEA	14.2 D	0.714
3025-3F	OU2B-SW-301DD-09	F	06/03/09	06/04/09	060909HGA	060909MEA	4.44 D	0.460
3025-4U	OU2B-SW-201DD-09	U	06/03/09	06/04/09	060909HGA	060909MEA	95.7 D	0.756
3025-4F	OU2B-SW-201DD-09	F	06/03/09	06/04/09	060909HGA	060909MEA	12.7 D	0.468
3025-5U	OU2B-SW-201DS-09	U	06/03/09	06/04/09	060909HGA	060909MEA	8.70 D	0.748
3025-5F	OU2B-SW-201DS-09	F	06/03/09	06/04/09	060909HGA	060909MEA	5.30 D	0.422
3025-6U	OU2R-SW-101DS-09	U	06/03/09	06/04/09	060909HGA	060909MEA	7.31 D	0.825
3025-6F	OU2R-SW-101DS-09	F	06/03/09	06/04/09	060909HGA	060909MEA	3.57 D	0.532
3025-7U r1	OU2R-SW-101DD-09	U	06/03/09	06/04/09	060909HGA	060909MEA	13.9 D	0.788
3025-7U r2	OU2R-SW-101DD-09DUP	U	06/03/09	06/04/09	060909HGA	060909MEA	14.5 D	0.876
3025-7F	OU2R-SW-101DD-09	F	06/03/09	06/04/09	060909HGA	060909MEA	4.63 D	0.556
3025-8U	OU2B-SW-303DS-09	U	06/03/09	06/04/09	060909HGA	060909MEA	11.4 D	0.918
3025-8F	OU2B-SW-303DS-09	F	06/03/09	06/04/09	060909HGA	060909MEA	4.05 D	0.413
3025-9U	OU2B-SW-303DD-09	U	06/03/09	06/04/09	060909HGA	060909MEA	60.8 D	0.652
3025-9F	OU2B-SW-303DD-09	F	06/03/09	06/04/09	060909HGA	060909MEA	6.93 D	0.476
3025-10U	OU2B-SW-304DS-09	U	06/03/09	06/04/09	060909HGA	060909MEA	12.1 D	0.791
3025-10F	OU2B-SW-304DS-09	F	06/03/09	06/04/09	060909HGA	060909MEA	4.16 D	0.476
3025-11U	OU2B-SW-304DD-09	U	06/03/09	06/04/09	061009HGA	061009MEA	22.3 D	0.833
3025-11F	OU2B-SW-304DD-09	F	06/03/09	06/04/09	061009HGA	061009MEA	5.79 D	0.491
3025-12U	OU2B-SW-DUP01DD-09	U	06/03/09	06/04/09	061009HGA	061009MEA	32.3 D	0.845
3025-12F	OU2B-SW-DUP01DD-09	F	06/03/09	06/04/09	061009HGA	061009MEA	6.54 D	0.533
3025-13U	OU2B-SW-DHDS-09	U	06/04/09	06/05/09	061009HGA	061009MEA	34.7 D	0.735
3025-13F	OU2B-SW-DHDS-09	F	06/04/09	06/05/09	061009HGA	061009MEA	5.88 D	0.470
3025-14U	OU2B-SW-DHDD-09	U	06/04/09	06/05/09	061009HGA	061009MEA	110 D	1.08
3025-14F	OU2B-SW-DHDD-09	F	06/04/09	06/05/09	061009HGA	061009MEA	11.7 D	0.638
3025-15U	OU2B-SW-103DS-09	U	06/04/09	06/05/09	061009HGA	061009MEA	12.8 D	0.734
3025-15F	OU2B-SW-103DS-09	F	06/04/09	06/05/09	061009HGA	061009MEA	4.27 D	0.426
3025-16U	OU2B-SW-103DD-09	U	06/04/09	06/05/09	061009HGA	061009MEA	95.0 D	0.613
3025-16F	OU2B-SW-103DD-09	F	06/04/09	06/05/09	061009HGA	061009MEA	12.4 D	0.452
3025-17U r1	OU2B-SW-101DS-09	U	06/04/09	06/05/09	061009HGA	061009MEA	10.6 D	0.782
3025-17U r2	OU2B-SW-101DS-09DUP	U	06/04/09	06/05/09	061009HGA	061009MEA	11.2 D	1.00
3025-17F	OU2B-SW-101DS-09	F	06/04/09	06/05/09	061009HGA	061009MEA	4.57 D	0.461
3025-18U	OU2B-SW-101DD-09	U	06/04/09	06/05/09	061009HGA	061009MEA	54.7 D	0.693
3025-18F	OU2B-SW-101DD-09	F	06/04/09	06/05/09	061009HGA	061009MEA	14.2 D	0.480
3025-19U	OU2B-SW-203DS-09	U	06/04/09	06/05/09	061009HGA	061009MEA	11.9 D	0.767
3025-19F	OU2B-SW-203DS-09	F	06/04/09	06/05/09	061009HGA	061009MEA	4.58 D	0.468
3025-20U	OU2B-SW-203DD-09	U	06/04/09	06/05/09	061009HGA	061009MEA	92.5 D	0.702
3025-20F	OU2B-SW-203DD-09	F	06/04/09	06/05/09	061009HGA	061009MEA	14.7 D	0.506
3025-21U	OU2B-SW-FB102-09	U	06/04/09	06/05/09	061509HGA	NA	0.100 U	NA
3025-21F	OU2B-SW-FB102-09	F	06/04/09	06/05/09	061509HGA	NA	0.100 U	NA
3025-90U	OU2B-SW-105DS-09	U	06/08/09	06/10/09	061509HGA	061609MEA	87.9 D	1.19
3025-90F	OU2B-SW-105DS-09	F	06/08/09	06/10/09	061509HGA	061609MEA	11.6 D	0.419
3025-91U	OU2B-SW-105DD-09	U	06/08/09	06/10/09	061509HGA	061609MEA	155 D	1.71
3025-91F	OU2B-SW-105DD-09	F	06/08/09	06/10/09	061509HGA	061609MEA	12.9 D	0.649
3025-92U r1	OU2B-SW-205DS-09	U	06/08/09	06/10/09	061509HGA	061609MEA	56.3 D	0.870
3025-92U r2	OU2B-SW-205DS-09DUP	U	06/08/09	06/10/09	061509HGA	061609MEA	58.7 D	0.912
3025-92F	OU2B-SW-205DS-09	F	06/08/09	06/10/09	061509HGA	061609MEA	11.6 D	0.468
3025-93U	OU2B-SW-205DD-09	U	06/08/09	06/10/09	061509HGA	061609MEA	62.3 D	1.06
3025-93F	OU2B-SW-205DD-09	F	06/08/09	06/10/09	061509HGA	061609MEA	8.24 D	0.413
3025-94U	OU2B-SW-DUP01DS-09	U	06/08/09	06/10/09	061509HGA	061609MEA	59.9 D	0.925
3025-94F	OU2B-SW-DUP01DS-09	F	06/08/09	06/10/09	061509HGA	061609MEA	8.10 D	0.408
3025-95U	OU2B-SW-EB101-09	U	06/08/09	06/10/09	061509HGA	061609MEA	0.176 J	0.0273 J
3025-95F	OU2B-SW-EB101-09	F	06/08/09	06/10/09	061509HGA	061609MEA	0.166 J	0.0369 J
3025-96U	OU2B-SW-FB103-09	U	06/08/09	06/10/09	061509HGA	061609MEA	0.100 U	0.0207 U
3025-96F	OU2B-SW-FB103-09	F	06/08/09	06/10/09	061509HGA	061609MEA	0.127 J	0.0377 J

BATTELLE MARINE SCIENCES LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382
(360) 681-3650

OLIN CHEMICAL
MERCURY SPECIATION IN WATER
EDD ID: 3025_1-96M

MSL Code	Sample ID	Sample Collection Date	Sample Receipt Date	Analytical Batch ID - THg	Analytical Batch ID - MeHg	THg ng/L	MeHg ng/L
Detection Limits							
Achieved MDL						0.1	0.0207
Required MDL (QAPP Table 1-3)						0.1	0.0200
Achieved MRL (3.18*MDL)						0.5	0.0500
Required MRL (QAPP Table 1-3)						11	0.0500
Method Blanks							
Blank 1	BLK1060909			060909HGA	060909MEA	0.100 U	0.0243 J
Blank 2	BLK2060909			060909HGA	060909MEA	0.100 U	0.0224 J
Blank 3	BLK3060909			060909HGA	060909MEA	0.100 U	0.0245 J
Blank 1	BLK1061009			061009HGA	061009MEA	0.100 U	0.0207 U
Blank 2	BLK2061009			061009HGA	061009MEA	0.100 U	0.0207 U
Blank 3	BLK3061009			061009HGA	061009MEA	0.100 U	0.0207 U
Blank 1	BLK1061509			061509HGA		0.100 U	
Blank 2	BLK2061509			061509HGA		0.100 U	
Blank 3	BLK3061509			061509HGA		0.100 U	
Blank 1	BLK1061609				061609MEA		0.0231 J
Blank 2	BLK2061609				061609MEA		0.0207 U
Blank 3	BLK3061609				061609MEA		0.0207 U
STANDARD REFERENCE MATERIAL							
DORM-3_060909				NA	060909MEA	NA	4.33
DORM-3_061009				NA	061009MEA	NA	4.43
DORM-3_061609				NA	061609MEA	NA	4.51
	reference value						4.47
							±0.32
	percent recovery			NA	060909MEA	NA	97%
				NA	061009MEA	NA	99%
				NA	061609MEA	NA	101%
1641d_060909				060909HGA	NA	1560000	NA
1641d_061009				061009HGA	NA	1630000	NA
1641d_061509				061509HGA	NA	1690000	NA
	certified value					1590000	NC
	range					±18000	NC
	percent recovery			060909HGA	NA	98%	NA
				061009HGA	NA	103%	NA
				061509HGA	NA	106%	NA
BLANK SPIKE (OPR) RESULTS							
Amount Spiked						4.96	0.500
Blank (mean)				060909HGA	060909MEA	0.100 U	0.0237 J
Blank (mean) + Spike				060909HGA	060909MEA	5.03	0.395
Amount Recovered						5.03	0.371
Percent Recovery						101%	74%
Amount Spiked						4.96	0.500
Blank (mean)				060909HGA	060909MEA	0.100 U	0.0237 J
Blank (mean) + Spike Duplicate				060909HGA	060909MEA	5.36	0.509
Amount Recovered						5.36	0.485
Percent Recovery						108%	97%
RPD						**7%**	**27%**

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1529 West Sequim Bay Road
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(360) 681-3650

OLIN CHEMICAL
MERCURY SPECIATION IN WATER
EDD ID: 3025_1-96M

MSL Code	Sample ID		Sample Collection Date	Sample Receipt Date	Analytical Batch ID - THg	Analytical Batch ID - MeHg	THg ng/L	MeHg ng/L
BLANK SPIKE (OPR) RESULTS								
Amount Spiked							4.96	0.500
Blank (mean)					061009HGA	061009MEA	0.16	0.0207 U
Blank (mean) + Spike					061009HGA	061009MEA	5.15	0.495
Amount Recovered							4.99	0.495
Percent Recovery							101%	99%
Amount Spiked							4.96	0.500
Blank (mean)					061009HGA	061009MEA	0.16	0.0207 U
Blank (mean) + Spike Duplicate					061009HGA	061009MEA	5.69	0.468
Amount Recovered							5.53	0.468
Percent Recovery							111%	94%
RPD							**9%**	**5%**
Amount Spiked							4.96	
Blank (mean)					061509HGA		0.100 U	
Blank (mean) + Spike					061509HGA		5.26	
Amount Recovered							5.26	
Percent Recovery							106%	
Amount Spiked							4.96	
Blank (mean)					061509HGA		0.100 U	
Blank (mean) + Spike Duplicate					061509HGA		5.72	
Amount Recovered							5.72	
Percent Recovery							115%	
RPD							**8%**	
Amount Spiked								0.500
Blank (mean)						061609MEA		0.0207 U
Blank (mean) + Spike						061609MEA		0.513
Amount Recovered								0.513
Percent Recovery								103%
Amount Spiked								0.500
Blank (mean)						061609MEA		0.0207 U
Blank (mean) + Spike Duplicate						061609MEA		0.475
Amount Recovered								0.475
Percent Recovery								95%
RPD								**8%**
MATRIX SPIKE (MS/MSD) RESULTS								
Amount Spiked							199 D	14.9
3025-6U	OU2R-SW-101DS-09	U	06/03/09	06/04/09	060909HGA	060909MEA	7.31 D	0.825
3025-6U MS	OU2R-SW-101DS-09MS	U	06/03/09	06/04/09	060909HGA	060909MEA	216 D	12.0
Amount Recovered							209	11.2
Percent Recovery							105%	75%
Amount Spiked							199 D	14.9
3025-6U	OU2R-SW-101DS-09	U	06/03/09	06/04/09	060909HGA	060909MEA	7.31 D	0.825
3025-6U MSD	OU2R-SW-101DS-09MSD	U	06/03/09	06/04/09	060909HGA	060909MEA	214 D	12.8
Amount Recovered							207	12.0
Percent Recovery							104%	81%
RPD							**1%**	**8%**

BATTELLE MARINE SCIENCES LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382
(360) 681-3650

OLIN CHEMICAL
MERCURY SPECIATION IN WATER
EDD ID: 3025_1-96M

MSL Code	Sample ID		Sample Collection Date	Sample Receipt Date	Analytical Batch ID - THg	Analytical Batch ID - MeHg	THg ng/L	MeHg ng/L
MATRIX SPIKE (MS/MSD) RESULTS								
Amount Spiked							199 D	10.1
3025-6F	OU2R-SW-101DS-09	F	06/03/09	06/04/09	060909HGA	060909MEA	3.57 D	0.532
3025-6F MS	OU2R-SW-101DS-09MS	F	06/03/09	06/04/09	060909HGA	060909MEA	214 D	9.25
Amount Recovered							210	8.72
Percent Recovery							106%	86%
Amount Spiked							199 D	9.93
3025-6F	OU2R-SW-101DS-09	F	06/03/09	06/04/09	060909HGA	060909MEA	3.57 D	0.532
3025-6FMS	OU2R-SW-101DS-09MSD	F	06/03/09	06/04/09	060909HGA	060909MEA	217 D	8.54
Amount Recovered							213	8.01
Percent Recovery							107%	81%
RPD							**1%**	**6%**
Amount Spiked							199 D	9.84
3025-15U	OU2B-SW-103DS-09	U	06/04/09	06/05/09	061009HGA	061009MEA	12.8 D	0.734
3025-15U MS	OU2B-SW-103DS-09MS	U	06/04/09	06/05/09	061009HGA	061009MEA	225 D	9.30
Amount Recovered							212	8.57
Percent Recovery							107%	87%
Amount Spiked							199 D	9.97
3025-15U	OU2B-SW-103DS-09	U	06/04/09	06/05/09	061009HGA	061009MEA	12.8 D	0.734
3025-15U MSD	OU2B-SW-103DS-09MSD	U	06/04/09	06/05/09	061009HGA	061009MEA	236 D	9.66
Amount Recovered							223	8.93
Percent Recovery							112%	90%
RPD							**5%**	**3%**
Amount Spiked							99.4 D	9.96
3025-16F	OU2B-SW-103DD-09	F	06/04/09	06/05/09	061009HGA	061009MEA	12.4 D	0.452
3025-16F MS	OU2B-SW-103DD-09MS	F	06/04/09	06/05/09	061009HGA	061009MEA	125 D	9.30
Amount Recovered							113	8.85
Percent Recovery							114%	89%
Amount Spiked							99.4 D	9.91
3025-16F	OU2B-SW-103DD-09	F	06/04/09	06/05/09	061009HGA	061009MEA	12.4 D	0.452
3025-16F MS	OU2B-SW-103DD-09MSD	F	06/04/09	06/05/09	061009HGA	061009MEA	123 D	8.85
Amount Recovered							111	8.40
Percent Recovery							112%	85%
RPD							**2%**	**5%**
Amount Spiked							79.5 D	1.98
3025-90F	OU2B-SW-105DS-09	F	06/08/09	06/10/09	061509HGA	061609MEA	11.6 D	0.419
3025-90F MS	OU2B-SW-105DS-09MS	F	06/08/09	06/10/09	061509HGA	061609MEA	102 D	2.29
Amount Recovered							90.4	1.87
Percent Recovery							114%	94%
Amount Spiked							79.5 D	1.98
3025-90F	OU2B-SW-105DS-09	F	06/08/09	06/10/09	061509HGA	061609MEA	11.6 D	0.419
3025-90F MSD	OU2B-SW-105DS-09MSD	F	06/08/09	06/10/09	061509HGA	061609MEA	103 D	2.33
Amount Recovered							91.4	1.91
Percent Recovery							115%	96%
RPD							**1%**	**2%**

BATTELLE MARINE SCIENCES LABORATORIES
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(360) 681-3650

OLIN CHEMICAL
MERCURY SPECIATION IN WATER
EDD ID: 3025_1-96M

MSL Code	Sample ID		Sample Collection Date	Sample Receipt Date	Analytical Batch ID - THg	Analytical Batch ID - MeHg	THg ng/L	MeHg ng/L
MATRIX SPIKE (MS/MSD) RESULTS								
Amount Spiked							119 D	1.99
3025-94U	OU2B-SW-DUP01DS-09	U	06/08/09	06/10/09	061509HGA	061609MEA	59.9 D	0.925
3025-94U MS	OU2B-SW-DUP01DS-09 MS	U	06/08/09	06/10/09	061509HGA	061609MEA	201 D	2.74
Amount Recovered							141	1.82
Percent Recovery							118%	91%
Amount Spiked							119 D	1.98
3025-94U	OU2B-SW-DUP01DS-09	U	06/08/09	06/10/09	061509HGA	061609MEA	59.9 D	0.925
3025-94U MSD	OU2B-SW-DUP01DS-09 MS	U	06/08/09	06/10/09	061509HGA	061609MEA	201 D	2.90
Amount Recovered							141	1.98
Percent Recovery							118%	100%
RPD							**0%**	**9%**
REPLICATE ANALYSIS RESULTS								
3025-7U r1	OU2R-SW-101DD-09	U	06/03/09	06/04/09	060909HGA	060909MEA	13.9 D	0.788
3025-7U r2	OU2R-SW-101DD-09DUP	U	06/03/09	06/04/09	060909HGA	060909MEA	14.5 D	0.876
Mean							14.2	0.832
RPD							**4%**	**11%**
3025-17U r1	OU2B-SW-101DS-09	U	06/04/09	06/05/09	061009HGA	061009MEA	10.6 D	0.782
3025-17U r2	OU2B-SW-101DS-09DUP	U	06/04/09	06/05/09	061009HGA	061009MEA	11.2 D	1.00
Mean							10.9	0.891
RPD							**6%**	**24%**
3025-92U r1	OU2B-SW-205DS-09	U	06/08/09	06/10/09	061509HGA	061609MEA	56.3 D	0.870
3025-92U r2	OU2B-SW-205DS-09DUP	U	06/08/09	06/10/09	061509HGA	061609MEA	58.7 D	0.912
Mean							57.5	0.891
RPD							**4%**	**5%**

U Not detected at or above DL shown
J Result is <MRL and >Acheived MDL
NA Not applicable/available
NS Not spiked
RPD Relative percent difference
D Sample analyzed at 1:5 to 1:10 dilution

cc: Project Manager/Central File
Login File

3025

SAMPLE LOGIN

(SOP# MSL-A-001)

Project Manager: Lasorsa
Date Received: 06/04/09
Batch: 1

PROJECT: Olin-ESPP

SPONSOR CODE	Site Description	BATTELLE CODE	MATRIX	STORAGE LOCATION	PARAMETERS REQUESTED	COLLECTION DATE	INITIALS
OU2B-SW-FB01-09	na	3025-1U	raw water	Hg Lab	Total Hg,-low level	06/03/09	MLFM
OU2B-SW-FB01-09	na	3025-1F	filt. water	Hg Lab	Total Hg,-low level	06/03/09	MLFM
OU2B-SW-301DS-09	na	3025-2U	raw water	Hg Lab	Total Hg,-low level, Methyl Hg	06/03/09	MLFM
OU2B-SW-301DS-09	na	3025-2F	filt. water	Hg Lab	Total Hg,-low level, Methyl Hg	06/03/09	MLFM
OU2B-SW-301DD-09	na	3025-3U	raw water	Hg Lab	Total Hg,-low level, Methyl Hg	06/03/09	MLFM
OU2B-SW-301DD-09	na	3025-3F	filt. water	Hg Lab	Total Hg,-low level, Methyl Hg	06/03/09	MLFM
OU2B-SW-201DD-09	na	3025-4U	raw water	Hg Lab	Total Hg,-low level, Methyl Hg	06/03/09	MLFM
OU2B-SW-201DD-09	na	3025-4F	filt. water	Hg Lab	Total Hg,-low level, Methyl Hg	06/03/09	MLFM
OU2B-SW-201DS-09	na	3025-5U	raw water	Hg Lab	Total Hg,-low level, Methyl Hg	06/03/09	MLFM
OU2B-SW-201DS-09	na	3025-5F	filt. water	Hg Lab	Total Hg,-low level, Methyl Hg	06/03/09	MLFM
OU2B-SW-101DS-09	na	3025-6U	raw water	Hg Lab	Total Hg,-low level, Methyl Hg-MS/MSD	06/03/09	MLFM
OU2B-SW-101DS-09	na	3025-6F	filt. water	Hg Lab	Total Hg,-low level, Methyl Hg-MS/MSD	06/03/09	MLFM
OU2B-SW-101DD-09	na	3025-7U	raw water	Hg Lab	Total Hg,-low level, Methyl Hg	06/03/09	MLFM
OU2B-SW-101DD-09	na	3025-7F	filt. water	Hg Lab	Total Hg,-low level, Methyl Hg	06/03/09	MLFM
OU2B-SW-303DS-09	na	3025-8U	raw water	Hg Lab	Total Hg,-low level, Methyl Hg	06/03/09	MLFM
OU2B-SW-303DS-09	na	3025-8F	filt. water	Hg Lab	Total Hg,-low level, Methyl Hg	06/03/09	MLFM
OU2B-SW-303DD-09	na	3025-9U	raw water	Hg Lab	Total Hg,-low level, Methyl Hg	06/03/09	MLFM
OU2B-SW-303DD-09	na	3025-9F	filt. water	Hg Lab	Total Hg,-low level, Methyl Hg	06/03/09	MLFM
OU2B-SW-304DS-09	na	3025-10U	raw water	Hg Lab	Total Hg,-low level, Methyl Hg	06/03/09	MLFM
OU2B-SW-304DS-09	na	3025-10F	filt. water	Hg Lab	Total Hg,-low level, Methyl Hg	06/03/09	MLFM
OU2B-SW-304DD-09	na	3025-11U	raw water	Hg Lab	Total Hg,-low level, Methyl Hg	06/03/09	MLFM

cc: Project Manager/Central File
Login File 3025

SAMPLE LOGIN
(SOP# MSL-A-001)

Project Manager: Lasorsa
Date Received: 06/04/09
Batch: 1

PROJECT: Olin-ESPP

SPONSOR CODE	Site Description	BATTELLE CODE	MATRIX	STORAGE LOCATION	PARAMETERS REQUESTED	COLLECTION DATE	INITIALS
OU2B-SW-304DD-09	na	3025-11F	filt. water	Hg Lab	Total Hg,-low level, Methyl Hg	06/03/09	MLFM
OU2B-SW-DUP01DD-09	na	3025-12U	raw water	Hg Lab	Total Hg,-low level, Methyl Hg	06/03/09	MLFM
OU2B-SW-DUP01DD-09	na	3025-12F	filt. water	Hg Lab	Total Hg,-low level, Methyl Hg	06/03/09	MLFM

cc: Project Manager/Central File
Login File

3025

SAMPLE LOGIN

(SOP# MSL-A-001)

Project Manager: Lasorsa
Date Received: 06/05/09
Batch: 2

PROJECT: Olin-ESPP

SPONSOR CODE	Site Description	BATTELLE CODE	MATRIX	STORAGE LOCATION	PARAMETERS REQUESTED	COLLECTION DATE	INITIALS
OU2B-SW-DHDS-09	na	3025-13U	raw water	Hg Lab	Total Hg,-low level, Methyl Hg	06/04/09	MLFM
OU2B-SW-DHDS-09	na	3025-13F	filt. water	Hg Lab	Total Hg,-low level, Methyl Hg	06/04/09	MLFM
OU2B-SW-DHDD-09	na	3025-14U	raw water	Hg Lab	Total Hg,-low level, Methyl Hg	06/04/09	MLFM
OU2B-SW-DHDD-09	na	3025-14F	filt. water	Hg Lab	Total Hg,-low level, Methyl Hg	06/04/09	MLFM
OU2B-SW-103DS-09	na	3025-15U	raw water	Hg Lab	Total Hg,-low level, Methyl Hg	06/04/09	MLFM
OU2B-SW-103DS-09	na	3025-15F	filt. water	Hg Lab	Total Hg,-low level, Methyl Hg	06/04/09	MLFM
OU2B-SW-103DD-09	na	3025-16U	raw water	Hg Lab	Total Hg,-low level, Methyl Hg	06/04/09	MLFM
OU2B-SW-103DD-09	na	3025-16F	filt. water	Hg Lab	Total Hg,-low level, Methyl Hg	06/04/09	MLFM
OU2B-SW-101DS-09	na	3025-17U	raw water	Hg Lab	Total Hg,-low level, Methyl Hg	06/04/09	MLFM
OU2B-SW-101DS-09	na	3025-17F	filt. water	Hg Lab	Total Hg,-low level, Methyl Hg	06/04/09	MLFM
OU2B-SW-101DD-09	na	3025-18U	raw water	Hg Lab	Total Hg,-low level, Methyl Hg	06/04/09	MLFM
OU2B-SW-101DD-09	na	3025-18F	filt. water	Hg Lab	Total Hg,-low level, Methyl Hg	06/04/09	MLFM
OU2B-SW-203DS-09	na	3025-19U	raw water	Hg Lab	Total Hg,-low level, Methyl Hg	06/04/09	MLFM
OU2B-SW-203DS-09	na	3025-19F	filt. water	Hg Lab	Total Hg,-low level, Methyl Hg	06/04/09	MLFM
OU2B-SW-203DD-09	na	3025-20U	raw water	Hg Lab	Total Hg,-low level, Methyl Hg	06/04/09	MLFM
OU2B-SW-203DD-09	na	3025-20F	filt. water	Hg Lab	Total Hg,-low level, Methyl Hg	06/04/09	MLFM
OU2B-SW-FB102-09	na	3025-21U	raw water	Hg Lab	Total Hg,-low level	06/04/09	MLFM
OU2B-SW-FB102-09	na	3025-21F	filt. water	Hg Lab	Total Hg,-low level	06/04/09	MLFM

6/5/09

Pace Analytical®
www.pacelabs.com

Battelle Surface Water

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

1145357

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: MACTEC	Report To: Cynthia Draper, MACTEC	Attention: Dennis Turner
Address: 3200 Town Point Dr NW Ste 100 Kennesaw, GA 30144	Copy To: Keith Roberts, Olin; Mbarker@mactec.com	Company Name: Olin Corp
Email To: Cdraper@mactec.com	Purchase Order No.: OEMC0014-30	Address: Cleveland, TN
Phone: 770 421 3565 Fax: 770 421 3484	Project Name: Olin McIntosh OU2 ESPP	Pace Quote Reference:
Requested Due Date/TAT: Standard	Project Number: Cal0709035 2009.02	Pace Project Manager: Battelle B. Iasorsa
		Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☒ OTHER Cercla

Site Location STATE: AL

ITEM #	Section D Required Client Information — SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE	Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test ↓ Y/N	Total Hg low level	MeHg	Total Hg, low level	MeHg	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																				Requested Analysis Filtered (Y/N)	N	N	Y	Y		
1	OU2B-SW-DHDS-09	WT	G				6/4/09	0915		2	2										X	X	X	X		3025.13 UEJ
2	OU2B-SW-DHDD-09	WT	G				6/4/09	0950													X	X	X	X		14
3	OU2B-SW-103DS-09	WT	G				6/4/09	1025													X	X	X	X		15
4	OU2B-SW-103DD-09	WT	G				6/4/09	1035													X	X	X	X		16
5	OU2B-SW-101DS-09	WT	G				6/4/09	1110													X	X	X	X		17
6	OU2B-SW-101DD-09	WT	G				6/4/09	1116													X	X	X	X		18
7	OU2B-SW-203DS-09	WT	G				6/4/09	1150													X	X	X	X		19
8	OU2B-SW-203DD-09	WT	G				6/4/09	1200													X	X	X	X		20
9	OU2B-SW-FB102-09	WT	G				6/4/09	1320		↓	↓										X		X			3025.21
10	TEMPBLANK	WT	G				6/4/09	—																		
11																										
12																										

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	RMReece/MACTEC	6/4/09	1500	[signature]/MSL	06/05/09	1130	2.1	Y	Y	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Rani Reece
SIGNATURE of SAMPLER: RMReece
DATE Signed (MM/DD/YY): 6/4/09

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Battelle Surface Water

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 2

1145356

Section A Required Client Information:

Company: MACTEC
Address: 3200 Town Point Dr NW Ste 100
Kennesaw, GA 30144
Email To: cedraper@mactec.com
Phone: 770 421 3545 Fax: 770 421 3486
Requested Due Date/TAT: Standard

Section B Required Project Information:

Report To: Cynthia Draper, MACTEC
Copy To: Keith Roberts, Olin
mbarker@mactec.com
Purchase Order No.: OEMC0014-30
Project Name: Olin McIntosh OU2 ESPP
Project Number: 6107090035 2009.02

Section C Invoice Information:

Attention: Dennis Turner
Company Name: Olin Corp
Address: Cleveland, TN
Pace Quote Reference:
Pace Project Manager: Battelle B. Lasorsa
Pace Profile #: Battelle ~~OEMC0014-30~~

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☒ OTHER Cercla

Site Location STATE: AL

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes — MATRIX / CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N: total Hg low level	MeHg	total Hg low level	MeHg								Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		N	N	Y	Y								
1	OU2B-SW-FB01-09	WT	G	~~6/3/09~~	~~0840~~	6/3/09	0840		2	2								X		X		3025.						1	1	3025.1 1
2	OU2B-SW-301DS-09	WT	G			6/3/09	1005		2	2								X	X	X	X							3	2	2 2
3	OU2B-SW-301DD-09	WT	G			6/3/09	1015		2	2								X	X	X	X							5	3	6 3
4	OU2B-SW-201DD-09	WT	G			6/3/09	1115		2	2								X	X	X	X							7	4	8 4
5	OU2B-SW-201DS-09	WT	G			6/3/09	1100		2	2								X	X	X	X							9	5	10 5
6	OU2B-SW-101DS-09	WT	G			6/3/09	1215		2	2								X	X	X	X							11	6	12 6
7	OU2B-SW-101DD-09	WT	G			6/3/09	1220		2	2								X	X	X	X							13	7	14 7
8	OU2B-SW-101DS-09 MS/MSD	WT	G			6/3/09	1215		2	2								X	X	X	X	not rcvd						—	—	from sample OU2B-SW-101DD
9	OU2B-SW-303DS-09	WT	G			6/3/09	1300		2	2								X	X	X	X							15	8	16 8
10	OU2B-SW-303DD-09	WT	G			6/3/09	1310		2	2								X	X	X	X							17	9	18 9
11	OU2B-SW-304DS-09	WT	G			6/3/09	1500		2	2								X	X	X	X							19	10	20 10
12	OU2B-SW-304DD-09	WT	G			6/3/09	1510		2	2								X	X	X	X	3025.						21	11	3025.22 11

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	RMReece/MACTEC	6/3/09	1830	[signature]	06/04/09	1350	3.8	Y	Y	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Rani Reece

SIGNATURE of SAMPLER: RReece DATE Signed (MM/DD/YY): 6/3/09

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

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Battelle Surface Water

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

1145368

Section A Required Client Information:

Company: MACTEC
Address: 3200 Town Point Dr NW Ste 100
Kennesaw, GA 30144
Email To: cdraper@mactec.com
Phone: 770 421 3565 Fax: 770 421 3486
Requested Due Date/TAT: Standard

Section B Required Project Information:

Report To: Cynthia Draper, MACTEC
Copy To: Keith Roberts, Olin; mbarker@mactec.com, kpwatson@mactec.com
Purchase Order No.: OEMC0814-30
Project Name: Olin McIntosh OU2 ESPP
Project Number: 6107090035 2009-02

Section C Invoice Information:

Attention: Dennis Turner
Company Name: Olin Corp Cleveland
Address: Charleston, TN
Pace Quote Reference:
Pace Project Manager: Battelle B. Lasorsa
Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☒ OTHER Cercla

Site Location STATE: AL

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test ↓ Y/N	Requested Analysis Filtered (Y/N): Y	Y	N	N	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																			Total Hg, low level	Methy Hg	total Hg, low level	Methy Hg			
1	OU2B-SW-DUP01DD-09	WT	G			6/3/09	1200		2	2									X	X	X	X		3025-23 126	2025-24 126
2					AES 6/3/09																				
3																									
4																									
5																									
6																									
7																									
8																									
9																									
10																									
11																									
12																									

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	RRReece/MACTEC	6/3/09	1830	Hale/MSL	06/04/09	1350	

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Rami Reece

SIGNATURE of SAMPLER: RReece DATE Signed (MM/DD/YY): 6/3/09

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Central File #: 3025 Sample No(s): 1-2/4/2° Project Manager: Lasorsa

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: _____ WP# _____

Yes	No	
☐	☐	Navy-type Project (requires high-level sample tracking procedures)
☑	☐	Filter Samples: *Amount:* Entire sample Half of sample — all F samples
☐	☐	Freeze dry sample(s) - samples will be weighed and placed in ultralow temp freezer (Lab# 130)
☐	☐	Special instructions: _____

Sample Preservation Instructions: _____

Date To Archive: _____ Date To Dispose: _____

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box	
☑	☒	☐	Was a custody seal present?	
☑	☐	☒	Was the custody seal intact?	
☒	☐	☐	Was cooler(s) temperature(s) within acceptable range of 4±2°C or frozen? (if multiple coolers, note temp. of each)	3.8 °C °C
☐	☐	☒	Was Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc)? Comment/Remedy: _____	
☒	☐	☐	Were all chain of custody forms signed and dated?	
☒	☐	☐	Were samples filtered at MSL?	

Sample condition(s): ~~Acceptable~~ Other (explain):

Container type: ~~Teflon~~ Poly Glass Spex Other:

Notes: The MS/MSD Label was on orig field Sample (we did not receive a seperate Bottle. SS 6/5/09

Completed By: _____ Date/Time: 06/04/09 1245

SAMPLE PRESERVATION

- ☐ Sample(s) were preserved at MSL
- ☐ Sample(s) were preserved prior to arrival at MSL (noted on CoC / Sample / per PM Instruction)
- ☐ Random pH checked for ~10% of samples (use dip paper) Sample IDs: _____
- ☐ Complete pH check required for project (use pH meter and record on pH Record form)

If preservation necessary, record Acid Lot#

Type:		Notes:
	0.2% HNO3	_____
☒	0.5% HCl (Hg samples)	G48030
☐	Refrigerate/Freeze	_____
☐	Other	_____

All "F" samples filtered at 0.45µ prior to preservation DT 6/4/09

Completed By: _____ Date/Time: 06/04/09 1410

Stored in Hg Lab SS

Revsed 033006

Central File #: 3025 Sample No(s): 13-21 Project Manager: Lasorsa

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: water WP#

Yes	No	
	✓	Navy-type Project (requires high-level sample tracking procedures)
✓		Filter Samples: Amount: (Entire sample) Half of sample — of 9 samples
	✓	Freeze dry sample(s) - samples will be weighed and placed in ultralow temp freezer (Lab# 130)
	✓	Special instructions:

Sample Preservation Instructions: 0.5% HCl

Date To Archive: Date To Dispose:

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box
✓			Was a custody seal present?
✓			Was the custody seal intact?
✓			Was cooler(s) temperature(s) within acceptable range of 4±2°C or frozen? (if multiple coolers, note temp. of each) 2.7 °C ___ °C
		✓	Was Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc)? Comment/Remedy:
✓			Were all chain of custody forms signed and dated?
✓			Were samples filtered at MSL?

Sample condition(s): (Acceptable) Other (explain):

Container type: (Teflon) Poly Glass Spex Other:

Notes:

Completed By: B. Lasorsa Date/Time: 6/5/09 1230

SAMPLE PRESERVATION

- ✓ Sample(s) were preserved at MSL
- ☐ Sample(s) were preserved prior to arrival at MSL (noted on CoC / Sample / per PM Instruction)
- ☐ Random pH checked for ~10% of samples (use dip paper) Sample IDs:
- ☐ Complete pH check required for project (use pH meter and record on pH Record form)

If preservation necessary, record Acid Lot#

Type:			
	☐	0.2% HNO3	Notes:
	✓	0.5% HCl (Hg samples)	Notes: Baker Lot# G48030
	☐	Refrigerate/Freeze	Notes:
	☐	Other	Notes:

All "F" samples filtered to 0.45µm prior to preservation Bottles

Completed By: B. Lasorsa Date/Time: 6/5/09 1400

Revsed 033006

cc: Project Manager/Central File
Login File 3025

SAMPLE LOGIN
(SOP# MSL-A-001)

Project Manager: Lasorsa
Date Received: 06/10/09
Batch: 3

PROJECT: Olin-ESPP

SPONSOR CODE	Site Description	BATTELLE CODE	MATRIX	STORAGE LOCATION	PARAMETERS REQUESTED	COLLECTION DATE	INITIALS
OU2B-SW-105DS-09	na	3025-90U	raw water	Hg Lab	Total Hg,-low level, Methyl Hg	06/08/09	MLFM
OU2B-SW-105DS-09	na	3025-90F	filt. water	Hg Lab	Total Hg,-low level, Methyl Hg	06/08/09	MLFM
OU2B-SW-105DD-09	na	3025-91U	raw water	Hg Lab	Total Hg,-low level, Methyl Hg	06/08/09	MLFM
OU2B-SW-105DD-09	na	3025-91F	filt. water	Hg Lab	Total Hg,-low level, Methyl Hg	06/08/09	MLFM
OU2B-SW-205DS-09	na	3025-92U	raw water	Hg Lab	Total Hg,-low level, Methyl Hg	06/08/09	MLFM
OU2B-SW-205DS-09	na	3025-92F	filt. water	Hg Lab	Total Hg,-low level, Methyl Hg	06/08/09	MLFM
OU2B-SW-205DD-09	na	3025-93U	raw water	Hg Lab	Total Hg,-low level, Methyl Hg	06/08/09	MLFM
OU2B-SW-205DD-09	na	3025-93F	filt. water	Hg Lab	Total Hg,-low level, Methyl Hg	06/08/09	MLFM
OU2B-SW-DUP01DS-09	na	3025-94U	raw water	Hg Lab	Total Hg,-low level, Methyl Hg	06/08/09	MLFM
OU2B-SW-DUP01DS-09	na	3025-94F	filt. water	Hg Lab	Total Hg,-low level, Methyl Hg	06/08/09	MLFM
OU2B-SW-EB101-09	na	3025-95U	raw water	Hg Lab	Total Hg,-low level, Methyl Hg	06/08/09	MLFM
OU2B-SW-EB101-09	na	3025-95F	filt. water	Hg Lab	Total Hg,-low level, Methyl Hg	06/08/09	MLFM
OU2B-SW-FB103-09	na	3025-96U	raw water	Hg Lab	Total Hg,-low level, Methyl Hg	06/08/09	MLFM
OU2B-SW-FB103-09	na	3025-96F	filt. water	Hg Lab	Total Hg,-low level, Methyl Hg	06/08/09	MLFM

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

1145362

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: MACTEC	Report To: Cynthia Draper, MACTEC	Attention: Dennis Turner
Address: 3200 Town Point Dr NW Ste 100	Copy To: Keith Roberts, Olin Mbarker@mactec.com	Company Name: Olin Corp
Kennesaw GA 30144	kpwatson@mactec.com	Address: Cleveland, TN
Email To: cedraper@mactec.com	Purchase Order No.: OEMC0014-30	Pace Quote Reference:
Phone: 770 421 3565 Fax: 770 421 3486	Project Name: Olin McIntosh	Pace Project Manager: Battelle B. Lasorsa
Requested Due Date/TAT: Standard	Project Number: 6107090035 2009.02	Pace Profile #:

REGULATORY AGENCY: NPDES, GROUND WATER, DRINKING WATER, UST, RCRA, X OTHER Cercla

Site Location STATE: AL

Requested Analysis Filtered (Y/N)

ITEM #	Section D Required Client Information — SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N: N	N	Y	Y	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
~~1~~	~~OU2B-SED-501DNW-09~~	~~OT~~				6/7/09			1	1								X	X				
~~2~~	~~OU2B-SED-503DSW-09~~	~~OT~~				6/7/09																	
3	OU2B-SW-105DS-09	WT	G			6/8/09	0915		2	2								X	X	X	X		90	90
4	OU2B-SW-105DD-09	WT	G			6/8/09	0920		2	2								X	X	X	X		91	91
5	OU2B-SW-205DS-09	WT	G			6/8/09	1009		2	2								X	X	X	X		92	92
6	OU2B-SW-205DD-09	WT	G			6/8/09	1020		2	2								X	X	X	X		93	93
7	OU2B-SW-DUP01DS-09	WT	G			6/8/09	1200		2	2								X	X	X	X		94	94
8	OU2B-SW-EB101-09	WT	G			6/8/09	0950		2	2								X	X	X	X		95	95
9	OU2B-SW-FB103-09	WT	G			6/8/09	0948		2	2								X	X	X	X		96	96
10	Temp Blank																							
11																								
12																								

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	RMReece/MACTEC	6/8/09	1406	[signature] MSL	06/10/09	1130	

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Rani Reece

SIGNATURE of SAMPLER: RMReece DATE Signed (MM/DD/YY): 06/08/09

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

Central File #: 3025 Sample No(s): 22-96 Project Manager: Lasorsa

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: _____ WP# _____

Yes	No	
☐	☐	Navy-type Project (requires high-level sample tracking procedures)
☐	☐	Filter Samples: *Amount:* Entire sample Half of sample
☐	☐	Freeze dry sample(s) - samples will be weighed and placed in ultralow temp freezer (Lab# 130)
☐	☐	Special instructions: _____

Sample Preservation Instructions: _____

Date To Archive: _____ Date To Dispose: _____

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box
☒	☐	☐	Was a custody seal present?
☒	☐	☐	Was the custody seal intact?
☒	☐	☐	Was cooler(s) temperature(s) within acceptable range of 4±2°C or frozen? (if multiple coolers, note temp. of each) sed -7.5 °C sed -14.5 °C #3=5.1 cooler
☐	☐	☒	Was Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc)? Comment/Remedy: _____
☒	☐	☐	Were all chain of custody forms signed and dated?
☒	☐	☐	Were samples filtered at MSL?

Sample condition(s): (Acceptable) Other (explain):

Container type: (Teflon) Poly (Glass) Spex Other: _____

Notes: _____

Completed By: _____ Date/Time: 06/10/09 1200

SAMPLE PRESERVATION

- ☒ Sample(s) were preserved at MSL
- ☐ Sample(s) were preserved prior to arrival at MSL (noted on CoC / Sample / per PM Instruction)
- ☐ Random pH checked for ~10% of samples (use dip paper) Sample IDs: _____
- ☐ Complete pH check required for project (use pH meter and record on pH Record form)

If preservation necessary, record Acid Lot#

Type:			
☐	0.2% HNO3	Notes:	
☒	0.5% HCl (Hg samples)	Notes:	Baker Lot# G48030
☒	Refrigerate/Freeze	Notes:	#22-89 seds in outside freezer
☐	Other	Notes:	

All "F" samples filtered @ 0.45µm prior to preservation

Completed By: _____ Date/Time: 6/10/09 1500

Revsed 033006

Battelle
The Business of Innovation
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Telephone: 360-681-3650
Facsimile: 360-681-3699

April 14, 2010

Cynthia Draper
Mactec Engineering
3200 Town Point Drive NW Suite 100
Kennesaw, Georgia 30144

Dear Cynthia:

Enclosed you will find the following:

- The data package for total mercury and methylmercury analysis on the water samples submitted to Battelle Marine Sciences Laboratory on 3/10/10. This data was submitted as an EDD and in Excel format on 4/1/10.

Please don't hesitate to give me a call if you have any questions.

Sincerely,

Brenda Lasorsa
Senior Research Scientist

Enclosure

BATTELLE MARINE SCIENCES LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382
(360) 681-3650

OLIN CHEMICAL
MERCURY SPECIATION IN WATER
EDD ID: 3091_43-47M

MSL Code	Sample ID		Sample Collection Date	Sample Receipt Date	Analytical Batch ID - THg	THg ng/L	Analytical Batch ID - MeHg	MeHg ng/L
3091-43U r1	OU2B-SW-GATE-2A-030910	total	03/09/10	03/10/10	032310HGA	67.9	032310MEB	0.391
3091-43U r2	OU2B-SW-GATE-2A-030910DUP	total	03/09/10	03/10/10	032310HGA	66.4	032310MEB	0.403
3091-43F	OU2B-SW-GATE-2A-030910	dissolved	03/09/10	03/10/10	032310HGA	7.95	032310MEB	0.198
3091-44U	OU2B-SW-GATE-2B-030910	total	03/09/10	03/10/10	032310HGA	70.0	032310MEB	0.362
3091-44F	OU2B-SW-GATE-2B-030910	dissolved	03/09/10	03/10/10	032310HGA	8.54	032310MEB	0.187
3091-45U	OU2B-SW-GATE-2C-030910	total	03/09/10	03/10/10	032310HGA	73.4	032310MEB	0.387
3091-45F	OU2B-SW-GATE-2C-030910	dissolved	03/09/10	03/10/10	032310HGA	9.38	032310MEB	0.162
3091-46U	OU2B-SW-FB2-030910	total	03/09/10	03/10/10	032310HGA	0.176 J		NA
3091-46F	OU2B-SW-FB2-030910	dissolved	03/09/10	03/10/10	032310HGA	0.110 J		NA
3091-47U	OU2B-SW-EB-030910	total	03/09/10	03/10/10	032310HGA	0.208 J	032310MEB	0.0207 U
3091-47F	OU2B-SW-EB-030910	dissolved	03/09/10	03/10/10	032310HGA	0.185 J	032310MEB	0.0207 U
Detection Limits								
Achieved MDL						0.1		0.0207
Required MDL (QAPP Table 1-3)						0.1		0.0200
Achieved MRL (3.18*MDL)						0.5		0.0500
Required MRL (QAPP Table 1-3)						11		0.0500
Method Blanks								
Blank 1	BLK032310 r1				032310HGA	0.100 U	032310MEB	0.0207 U
Blank 2	BLK032310 r2				032310HGA	0.100 U	032310MEB	0.0207 U
Blank 3	BLK032310 r3				032310HGA	0.100 U	032310MEB	0.0207 U
STANDARD REFERENCE MATERIAL								
1641d_032310					032310HGA	1590000		
		certified value				1590000		
		range				±18000		
		percent recovery			032310HGA	100%		
DORM-3_032310							032310MEB	4.64
	reference value							4.47 ±0.32
	percent recovery						032310MEB	104%

BATTELLE MARINE SCIENCES LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382
(360) 681-3650

OLIN CHEMICAL
MERCURY SPECIATION IN WATER
EDD ID: 3091_43-47M

MSL Code	Sample ID		Sample Collection Date	Sample Receipt Date	Analytical Batch ID - THg	THg ng/L	Analytical Batch ID - MeHg	MeHg ng/L
BLANK SPIKE (OPR) RESULTS								
Amount Spiked						4.96		0.500
OPR Blank 032310					032310HGA	0.117 J	032310MEB	0.0207 U
OPR Blank 032310 + Spike					032310HGA	4.93	032310MEB	0.530
Amount Recovered						4.81		0.530
Percent Recovery						97%		106%
Amount Spiked						4.96		0.500
OPR Blank 032310					032310HGA	0.117 J	032310MEB	0.0207
OPR Blank 032310 + Spike Duplicate					032310HGA	5.08	032310MEB	0.454
Amount Recovered						4.96		0.454
Percent Recovery						100%		91%
RPD						**3%**		**15%**
MATRIX SPIKE (MS/MSD) RESULTS								
Amount Spiked						19.5		2.01
3091-44F	OU2B-SW-GATE-2B-030910	dissolved	03/09/10	03/10/10	032310HGA	8.54	032310MEB	0.187
3091-44F MS	OU2B-SW-GATE-2B-030910 MS	dissolved	03/09/10	03/10/10	032310HGA	28.5	032310MEB	2.24
Amount Recovered						20.0		2.05
Percent Recovery						102%		102%
Amount Spiked						20.0		1.99
3091-44F	OU2B-SW-GATE-2B-030910	dissolved	03/09/10	03/10/10	032310HGA	8.54	032310MEB	0.187
3091-44F MSD	OU2B-SW-GATE-2B-030910 MSD	dissolved	03/09/10	03/10/10	032310HGA	28.4	032310MEB	2.16
Amount Recovered						19.9		1.98
Percent Recovery						99%		99%
RPD						**3%**		**3%**

BATTELLE MARINE SCIENCES LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382
(360) 681-3650

OLIN CHEMICAL
MERCURY SPECIATION IN WATER
EDD ID: 3091_43-47M

MSL Code	Sample ID		Sample Collection Date	Sample Receipt Date	Analytical Batch ID - THg	THg ng/L	Analytical Batch ID - MeHg	MeHg ng/L
REPLICATE ANALYSIS RESULTS								
3091-43U r1	OU2B-SW-GATE-2A-030910	total	03/09/10	03/10/10	032310HGA	67.9	032310MEB	0.391
3091-43U r2	OU2B-SW-GATE-2A-030910	total	03/09/10	03/10/10	032310HGA	66.4	032310MEB	0.403
Mean						67.2		0.397
RPD						**2%**		**3%**

U Not detected at or above DL shown
J Result is <Achieved MRL and >Achieved MDL
NA Not applicable/available
NS Not spiked
RPD Relative percent difference

QA/QC SUMMARY

PROJECT: Olin Corporation EDD ID: 3091_43-47M
PARAMETER: Mercury Speciation
LABORATORY: Battelle/Marine Sciences Laboratory, Sequim, Washington
MATRIX: Water

SAMPLE CUSTODY: Ten water samples for methylmercury (MeHg) and total mercury (THg) analysis were received at Battelle MSL on 3/10/10. The containers were received in good condition. Cooler temperatures upon arrival were within the optimal temperature range of 4±2°C for all samples. Upon arrival, each sample designated as a "dissolved" was filtered at 0.45 µm. All samples were then acidified to pH<2 with 0.5% HCl and stored in the dark prior to analysis.

QA/QC DATA QUALITY OBJECTIVES:

Analyte	Analytical Method	Range of Recovery MS-MSD / OPR	Relative Precision	Achieved Detection Limit
Mercury	CVAF (EPA 1631e)	71-125% / 77-123%	±24%	0.100 ng/L
Methylmercury	CVAF (EPA 1630)	65-135% / 67-133%	±35%	0.0207 ng/L

HOLDING TIMES: All were conducted within target holding time of 90 days for THg and 6 months for MeHg.

DETECTION LIMITS: Achieved detection limits were determined by a previously conducted MDL study where replicates were analyzed and the standard deviation was multiplied by the Student's-t value for the number of replicates.

BLANKS Analytical blanks were determined for all analytes. No THg or MeHg was detected in the blanks. Data are not blank corrected.

BLANK SPIKES (OPR): Blanks were spiked for THg and MeHg to create an ongoing precision and recovery (OPR) sample. Blank spike recoveries were within the target range of 77-123% and 67% to 133%, respectively.

MATRIX SPIKES: One matrix spike/matrix spike duplicate pair was prepared for mercury and methylmercury with the analytical batch. All recoveries were within the target range of 71-125% and 65% to 135%, respectively.

REPLICATES: One duplicate pair was prepared for mercury and methylmercury with the analytical batch. The RPD was within the target range of ±24% and ±35%, respectively.

QA/QC SUMMARY

LCS/SRM SAMPLES: A laboratory control sample (LCS) or standard reference material (SRM) was analyzed for each analyte. Because no SRM for MeHg in water exists, a heavy dilution of DORM-3, a tissue SRM, was analyzed. The recovery was 104% of the known value, which meets the data quality criteria for accuracy of 67-133%. NIST 1641d, a water SRM sample, was analyzed for THg. The recovery was 100% of the known value, which meets the data quality criteria for accuracy of 77%-123%.

Approvals

Project Manager	Date	QA Reviewer	Date

SAMPLE LOGIN

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Project Manager: Lasorsa
Date Received: 3/10/2010
Batch: 8
Login Designee: Mcgahan

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **Olin McIntosh**

Sponsor ID	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
OU2B-SW-GATE-2A-030910	na	3091-43U	raw water	Hg Lab	LL Total Hg, Meth Hg	03/09/10
OU2B-SW-GATE-2A-030910	na	3091-43F	filt. water	Hg Lab	LL Total Hg, Meth Hg	03/09/10
OU2B-SW-GATE-2B-030910	na	3091-44U	raw water	Hg Lab	LL Total Hg, Meth Hg	03/09/10
OU2B-SW-GATE-2B-030910	na	3091-44F	filt. water	Hg Lab	LL Total Hg, Meth Hg	03/09/10
OU2B-SW-GATE-2C-030910	na	3091-45U	raw water	Hg Lab	LL Total Hg, Meth Hg	03/09/10
OU2B-SW-GATE-2C-030910	na	3091-45F	filt. water	Hg Lab	LL Total Hg, Meth Hg	03/09/10
OU2B-SW-FB2-030910	na	3091-46U	raw water	Hg Lab	LL Total Hg	03/09/10
OU2B-SW-FB2-030910	na	3091-46F	filt. water	Hg Lab	LL Total Hg	03/09/10
OU2B-SW-EB-030910	na	3091-47U	raw water	Hg Lab	LL Total Hg, Meth Hg	03/09/10
OU2B-SW-EB-030910	na	3091-47F	filt. water	Hg Lab	LL Total Hg, Meth Hg	03/09/10

vd 3/11/10

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

FedEx No 856513171986

Page: 1 of 1

1192562

Section A Required Client Information:

Company: Olin / MACTEC, Ste100
Address: 3200 Town Point Dr
Kennesaw, GA 30144
Email To: eldraper@mactec.com
Phone: 7704213400 Fax:
Requested Due Date/TAT: Standard

Section B Required Project Information:

Report To: kdroberts@olin.com
Copy To: ~~hefogell@mactec.com~~ mbarker@mactec.com
Purchase Order No.: REMC 0024
Project Name: Olin McIntosh
Project Number: 6107100035

Section C Invoice Information:

Attention: Dennis Turner
Company Name: Olin Corporation
Address: Cleveland, TN
Pace Quote Reference:
Pace Project Manager: Brenda LaSorsa
Pace Profile #:

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☒ OTHER CERCLA

Site Location STATE: AL

Requested Analysis Filtered (Y/N)

ITEM #	Section D Required Client Information — SAMPLE ID (A-Z, 0-9 / , -) Sample IDs MUST BE UNIQUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N: Methyl Hg Filtered	Methyl Hg - Unfiltered	Hg-total Filtered	Hg-total Unfiltered	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	OU2B-SW-GATE 2A-030910	WTG				03/09/10	1045		1	X								X	X	X	X		3091 · 43 (illegible)
2	OU2B-SW-GATE 2B-030910	WTG				03/09/10	1045		1	X								X	X	X	X		44
3	OU2B-SW-GATE 2C-030910	WTG				03/09/10	1045		1	X								X	X	X	X		45
4	OU2B-SW-FB2-030910	WTG				03/09/10	1100		1	X										X	X		46
5	OU2B-SW-EB-030910	WTG				03/09/10	1030		1	X								X	X	X	X		3091 · 47 (illegible)
6																							
7																							
8																							
9																							
10																							
11																							
12																							

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
				MSL	03/10/10	1230	

ORIGINAL

SAMPLER NAME AND SIGNATURE: D. HOWARD
PRINT Name of SAMPLER: F. MAYILA
SIGNATURE of SAMPLER: F. Mayila
DATE Signed (MM/DD/YY): 03/09/10

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 3091 / Sample No(s): 43-47 Batch: 8

Project Name: Olin/MacIntosh Project Manager: Lasorsa

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: _____ WP# _____

Yes	No	
	☒	Navy-type Project (requires high-level sample tracking procedures)
	☒	USDA Samples (see Compliance Agreement Checklist)

PM Verification:

☒		Filter Samples:	Amount: Entire sample / Half of sample
	☒	Freeze dry sample(s) - samples will be weighed and placed in ultralow ~~temp freezer~~ (Login Lab)	
	☒	Special instructions:	

Sample Preservation Instructions: 0.5% HCl

See LIMS for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box	
☒			Custody seal present	Seal intact? (YES) NO
☒			Cooler temperature (acceptable range: 4±2°C or solids:frozen) (if multiple coolers, note temp. of each)	2.3 °C ____ °C
		☒	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc) Comment/Remedy:	
☒			Were all chain of custody forms signed and dated?	
☒			Were samples filtered at MSL?	

Sample condition(s): (Acceptable) Other (explain):

Container type: Teflon Poly Glass Cap. Vial Other:

Notes: _____

Completed By: _____ Date/Time: 03/10/10 1245

SAMPLE PRESERVATION

☐	Sample(s) were preserved prior to arrival at MSL (noted on CoC / Sample / per PM Instruction)
☐	Random pH checked for ~10% of samples (use dip paper) Sample IDs:
☐	Complete pH check required for project (use pH meter and record on pH Record form)
☑	Sample(s) were preserved at MSL

(All samples filtered (1/2) prior to preservation) BX

Type: ☐	0.2% HNO3	Notes:	Lot#
☒	0.5% HCl (Hg samples)	Notes: Baker ✓	Lot# H0404D
☐	Refrigerate/Freeze	Notes:	
☐	Other	Notes:	

Completed By: B. Lasorsa Date/Time: 3/10/10 1310

Storage Shelf: Hg Lab

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Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Telephone: 360-681-3650
Facsimile: 360-681-3699

December 2, 2009

Cynthia Draper
Mactec Engineering
3200 Town Point Drive NW Suite 100
Kennesaw, Georgia 30144

Dear Cynthia:

Enclosed you will find the following:

- The data package for total mercury analysis on water samples submitted to Battelle Marine Sciences Laboratory on 11/3/09. This data was submitted as an EDD on 12/2/09 and in Excel format on 12/2/09. Note that methylmercury analysis was requested on the original COC but was cancelled once a problem with the sample labeling was discovered (see documentation attached to the COCs).

Please don't hesitate to give me a call if you have any questions.

Sincerely,

Brenda Lasorsa
Senior Research Scientist

Enclosure

Battelle
The Business of Innovation

Checklist for Olin Deliverables

SDG/EDD ID: **3091_1-4THg**

- [X] All samples for one Sample Delivery Group (SDG) were included in once Electronic Data Deliverable (EDD)
- [X] EDD file name is the same as the associated SDG name or number (NOTE: "g" was dropped from EDD name in EDD files — truncated?)
- [X] EDD format specifications were followed and information included for all required fields
- [X] Client was informed if the EDD requirement could not be met *prior* to EDD creation
- [X] Sample I.D. No. and Descriptions exactly match the Chain of Custody (COC) -or- written authorization was received from Client if change was necessary (See below)
- [X] Verify that all laboratory applied data quality evaluation flags have been included in both the EDD and hard copy reports
- [X] Verify that the hard copy report matches data presented in the EDD

Comments:

* Written permission to alter the sample ids from Heidi Fugell prior to EDD creation/submission. See email dtd 12/02/09 included in the pdf file.

Samples involved:

3091-1U-A	OU2B-SW-TBR-1-110209
3091-1U-B	OU2B-SW-TBR-1-110209B (added B at Battelle MSL)
3091-4U-A	OU2B-SW-GATE-1-110209
3091-4U-B r1	OU2B-SW-GATE-1-110209B (added B at Battelle MSL)
3091-4U-B r2	OU2B-SW-GATE-1-110209BDUP (added B at Battelle MSL)
3091-4F-A	OU2B-SW-GATE-1-110209
3091-4F-B	OU2B-SW-GATE-1-110209B (added B at Battelle MSL)

* A and B used in EDD (see container_id in the TEST file) to indicate when multiple containers were received for the same site, same analysis per client instruction.
U = Total, F = Dissolved

12/2/09

Data Quality Evaluation Flags

J	Concentration detected above the laboratory DL but below the PQL
U	Concentration not detected at or above laboratory DL; reported as "0" in the EDD and DL value in the hard copy data table
N	Outside data quality objectives as noted in the QA/QC Narrative

Project Manager's signature verifies that all of the above has been confirmed with a 10% review. *Date*

BATTELLE MARINE SCIENCES LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382
(360) 681-3650

OLIN CHEMICAL
MERCURY SPECIATION IN WATER
EDD ID: 3091_1-4THg

MSL Code	Sample ID		Sample Collection Date	Sample Receipt Date	Analytical Batch ID - THg	THg ng/L
3091-1U-A	OU2B-SW-TBR-1-110209	U	11/02/09	11/03/09	111009HGA	5.07
3091-1U-B	OU2B-SW-TBR-1-110209B	U	11/02/09	11/03/09	111009HGA	6.21
3091-1F	OU2B-SW-TBR-1-110209	F	11/02/09	11/03/09	111009HGA	1.39
3091-2U	OU2B-SW-EB1-110209	U	11/02/09	11/03/09	111009HGA	0.161 J
3091-2F	OU2B-SW-EB1-110209	F	11/02/09	11/03/09	111009HGA	0.164 J
3091-3U	OU2B-SW-FB1-110209	U	11/02/09	11/03/09	111009HGA	0.243 J
3091-3F	OU2B-SW-FB1-110209	F	11/02/09	11/03/09	111009HGA	0.232 J
3091-4U-A	OU2B-SW-GATE-1-110209	U	11/02/09	11/03/09	111009HGA	35.8
3091-4U-B r1	OU2B-SW-GATE-1-110209B	U	11/02/09	11/03/09	111009HGA	38.4
3091-4U-B r2	OU2B-SW-GATE-1-110209BDUP	U	11/02/09	11/03/09	111009HGA	36.8
3091-4F-A	OU2B-SW-GATE-1-110209	F	11/02/09	11/03/09	111009HGA	5.08
3091-4F-B	OU2B-SW-GATE-1-110209B	F	11/02/09	11/03/09	111009HGA	5.74

Detection Limits

Achieved MDL	0.1
Required MDL (QAPP Table 1-3)	0.1
Achieved MRL (3.18*MDL)	0.5
Required MRL (QAPP Table 1-3)	11

Method Blanks

Blank 1	BLK110909 r1	111009HGA	0.100 U
Blank 2	BLK110909 r2	111009HGA	0.100 U
Blank 3	BLK110909 r3	111009HGA	0.100 U

STANDARD REFERENCE MATERIAL

1641d_110909		111009HGA	1600000
	certified value		1590000
	range		±18000
	percent recovery	111009HGA	101%

BLANK SPIKE (OPR) RESULTS

Amount Spiked			4.96
OPR Blank 110909		111009HGA	0.216 J
OPR Blank 110909 + Spike		111009HGA	5.32
Amount Recovered			5.10
Percent Recovery			103%
Amount Spiked			4.96
OPR Blank 110909		111009HGA	0.216 J
OPR Blank 110909 + Spike Duplicate		111009HGA	5.38
Amount Recovered			5.16
Percent Recovery			104%
RPD			**1%**

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1529 West Sequim Bay Road
Sequim, Washington 98382
(360) 681-3650

OLIN CHEMICAL
MERCURY SPECIATION IN WATER
EDD ID: 3091_1-4THg

MSL Code	Sample ID		Sample Collection Date	Sample Receipt Date	Analytical Batch ID - THg	THg ng/L
MATRIX SPIKE (MS/MSD) RESULTS						
Amount Spiked						75.4
3091-4F-A	OU2B-SW-GATE-1-110209	F	11/02/09	11/03/09	111009HGA	5.08
3091-4F-A MS	OU2B-SW-GATE-1-110209 MS	F	11/02/09	11/03/09	111009HGA	82.6
Amount Recovered						77.5
Percent Recovery						103%
Amount Spiked						74.5
3091-4F-A	OU2B-SW-GATE-1-110209	F	11/02/09	11/03/09	111009HGA	5.08
3091-4F-A MSD	OU2B-SW-GATE-1-110209 MSD	F	11/02/09	11/03/09	111009HGA	79.8
Amount Recovered						74.7
Percent Recovery						100%
RPD						**2%**
REPLICATE ANALYSIS RESULTS						
3091-4U-B r1	OU2B-SW-GATE-1-110209B	U	11/02/09	11/03/09	111009HGA	38.4
3091-4U-B r2	OU2B-SW-GATE-1-110209BDUP	U	11/02/09	11/03/09	111009HGA	36.8
Mean						37.6
RPD						**4%**

U Not detected at or above DL shown
J Result is <Achieved MRL and >Achieved MDL
NA Not applicable/available
NS Not spiked
RPD Relative percent difference

QA/QC SUMMARY

PROJECT: Olin Corporation EDD ID: 3091_1-4THg
PARAMETER: Mercury
LABORATORY: Battelle/Marine Sciences Laboratory, Sequim, Washington
MATRIX: Water

SAMPLE CUSTODY: Four water samples for methylmercury (MeHg) and total mercury (THg) analysis were received at Battelle MSL on 11/3/09. The containers were received in good condition. Cooler temperatures upon arrival were within the optimal temperature range of 4±2°C for all samples. Upon arrival, each sample designated as a "dissolved" was filtered at 0.45 µm. All samples were then acidified to pH<2 with 0.5% HCl and stored in the dark prior to analysis. It was noted, however, that the bottle labels and COC paperwork did not indicate triplicate analyses were required as had been communicated verbally by the project manager. Unfortunately, by the time the discrepancy was noted, filtration and preservation were already underway and, due to time zone differences, it was too late in the day to contact the Mactec project manager for clarification. We were able to produce filtered and unfiltered duplicate samples, but not triplicate samples. Once total mercury analyses were completed, the project manager elected to suspend the methylmercury analyses and re-collect the samples. Only THg results are reported here.

QA/QC DATA QUALITY OBJECTIVES:

Analyte	Analytical Method	Range of Recovery MS-MSD / OPR	Relative Precision	Achieved Detection Limit
Mercury	CVAF (EPA 1631e)	71-125% / 77-123%	±24%	0.100 ng/L

HOLDING TIMES: All were conducted within target holding time of 90 days for THg.

DETECTION LIMITS: Achieved detection limits were determined by a previously conducted MDL study where replicates were analyzed and the standard deviation was multiplied by the Student's-t value for the number of replicates.

BLANKS Analytical blanks were determined for all analytes. No THg was detected in the blanks. Data are not blank corrected.

BLANK SPIKES (OPR): Blanks were spiked for THg to create an ongoing precision and recovery (OPR) sample. Blank spike recoveries were within the target range of 77-123%.

MATRIX SPIKES: One matrix spike/matrix spike duplicate pair was prepared for mercury with each analytical batch. All recoveries were within the target range of 71-125%.

REPLICATES: One duplicate pair was prepared for mercury with each analytical batch.

QA/QC SUMMARY

All RPDs were within the target range of ±24%.

LCS/SRM SAMPLES: A laboratory control sample (LCS) or standard reference material (SRM) was analyzed for each analyte. NIST 1641d, a water SRM sample, was analyzed THg. The recovery was 101% of the known value, which meets the data quality criteria for accuracy of 77%-123%.

Approvals

Project Manager	Date	QA Reviewer	Date
	12/2/09		12/2/09

SAMPLE LOGIN

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project Manager: Lasorsa
Date Received: 11/3/2009
Batch: 1
Login Designee: Mcgahan
Project: **Olin McIntosh OV2**

Sponsor ID	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
OU2B-SW-TBR-1-110209	na	3091-1U-A	raw water	Hg Lab	LL Hg-1631, Meth Hg-1630	11/02/09
OU2B-SW-TBR-1-110209	na	3091-1U-B	raw water	Hg Lab	LL Hg-1631, Meth Hg-1630	11/02/09
OU2B-SW-TBR-1-110209	na	3091-1F	filt. water	Hg Lab	LL Hg-1631, Meth Hg-1630	11/02/09
OU2B-SW-EB1-110209	na	3091-2U	raw water	Hg Lab	LL Hg-1631, Meth Hg-1630	11/02/09
OU2B-SW-EB1-110209	na	3091-2F	filt. water	Hg Lab	LL Hg-1631, Meth Hg-1630	11/02/09
OU2B-SW-FB1-110209	na	3091-3U	raw water	Hg Lab	LL Hg-1631	11/02/09
OU2B-SW-FB1-110209	na	3091-3F	filt. water	Hg Lab	LL Hg-1631	11/02/09
OU2B-SW-GATE-1-110209	na	3091-4U-A	raw water	Hg Lab	LL Hg-1631, Meth Hg-1630	11/02/09
OU2B-SW-GATE-1-110209	na	3091-4U-B	raw water	Hg Lab	LL Hg-1631, Meth Hg-1630	11/02/09
OU2B-SW-GATE-1-110209	na	3091-4F-A	filt. water	Hg Lab	LL Hg-1631, Meth Hg-1630	11/02/09
OU2B-SW-GATE-1-110209	na	3091-4F-B	filt. water	Hg Lab	LL Hg-1631, Meth Hg-1630	11/02/09

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

1191744

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: MACTEC	Report To: kdroberts@olin.com	Attention: Dennis Turner
Address: 3200 Town Pt Dr NW	Copy To: cedraper@Mactec.com	Company Name: Olin Corporation
Ste 100 Kennesaw 30144	hefoselle@mactec.com	Address: 3855 N Ocoee St. Suite 200
Email To: cedraper@mactec.com	Purchase Order No.:	Pace Quote Reference: Cleveland TN
Phone: 7704213400 Fax: 7704213486	Project Name: Olin McIntosh OU2	Pace Project Manager: Brenda Lasnsa
Requested Due Date/TAT:	Project Number: 6105091035	Pace Profile #:

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: AL

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

Requested Analysis Filtered (Y/N): Y/N: N N Y Y

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test: LL Hg 1631	MeHg 1630	LL Hg 1631	MeHg 1630	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	OU2B-SW-TBR-1-110209	WT	G	~~11/2/09~~	~~1350~~	11/2/09	1350		3	X								X	X	X	X		3091-1u-a, u-b, f
2	OU2B-SW-EB1-110209	WT	G			11/2/09	1540		1	X								X	X	X	X		2u, f
3	OU2B-SW-FB1-110209	WT	G			11/2/09	1600		1	X								X		X			3u, f
4	OU2B-SW-Gate-1-110209	WT	G			11/2/09	1545		3	X								X	X	X	X		391-4u, f-a, f-b 4u
5																							
6																							
7																							
8																							
9																							
10																							
11																							
12																							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Filter dissolved samples upon receipt. Returning tubing (2) & bottle # 165 empty.	MRottenberg / MACTEC	11/4/09	1800		11/03/09	1135	

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: MRottenberg

SIGNATURE of SAMPLER: Melin b Rott DATE Signed (MM/DD/YY): 11/2/09

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

ORIGINAL

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 3091 Sample No(s): 1 - 4 Batch: 1

Project Name: Olin McIntosh OV2 Project Manager: Lasorsa

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: _____ WP# _____

Yes	No	
☐	☐	Navy-type Project (requires high-level sample tracking procedures)
☐	☐	USDA Samples (see Compliance Agreement Checklist)

PM Verification:

☒	☐	Filter Samples: Amount: Entire sample Half of sample
☐	☐	Freeze dry sample(s) - samples will be weighed and placed in ultralow temp freezer (Login Lab)
☐	☐	Special instructions:

Sample Preservation Instructions:

See LIMS for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box
☒	☐	☐	Custody seal present — Seal intact? (YES) NO
☒	☐	☐	Cooler temperature (acceptable range: 4±2°C or solids:frozen) (if multiple coolers, note temp. of each) — 4.8 °C; °C
☐	☐	☒	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc) Comment/Remedy:
☒	☐	☐	Were all chain of custody forms signed and dated?
☒	☐	☐	Were samples filtered at MSL? as noted on Login Sheet

Sample condition(s): (Acceptable) Other (explain):

Container type: (Teflon) Poly Glass Cap. Vial Other:

Notes:

Completed By: _____ Date/Time: 11/03/09 1135

SAMPLE PRESERVATION

☐	Sample(s) were preserved prior to arrival at MSL (noted on CoC / Sample / per PM Instruction)
☐	Random pH checked for ~10% of samples (use dip paper) Sample IDs:
☐	Complete pH check required for project (use pH meter and record on pH Record form)
☒	Sample(s) were preserved at MSL

Type: ☐	0.2% HNO3	Notes:	Lot#
☒	0.5% HCl (Hg samples)	Notes:	Lot# 926084
☐	Refrigerate/Freeze	Notes:	
☐	Other	Notes:	

Completed By: _____ Date/Time: 11309 1410

Storage Shelf: Hg Lab

Suslick, Carolynn R

From: Fogell, Heidi [HEFOGELL@mactec.com]
Sent: Wednesday, December 02, 2009 5:37 AM
To: Suslick, Carolynn R
Cc: Barker, Michelle
Subject: RE: Olin McIntosh - Water mercury samples

Carolynn,

Go ahead and add A and B to the end of the sample IDs.

Thanks!
Heidi

From: Suslick, Carolynn R [mailto:carolyn.suslick@pnl.gov]
Sent: Tuesday, December 01, 2009 5:23 PM
To: Fogell, Heidi
Cc: Barker, Michelle
Subject: FW: Olin McIntosh - Water mercury samples

Hi Heidi –
One more item to think about in reference to the stream noted below! ...we will need clarification on how to report these results to the EDD. As it stands now, we will have two results for the same sample ID. These are not lab dups, so I hesitate to add "DUP" to the end and treat them as such in the EDD. According to our instructions, any alterations to the sample ID will require written permission/instruction from your end. Here at MSL, we added "A" and "B" to the end of the sample ID to indicate multiple containers of the same sample.

Any advice?
Thanks!

The sample IDs involved are:

OU2B-SW-TBR-1-110209 (Unfiltered)
OU2B-SW-GATE-1-110209 (Filtered)

From: Lasorsa, Brenda K
Sent: Tuesday, December 01, 2009 2:02 PM
To: Suslick, Carolynn R
Subject: FW: Olin McIntosh - Water mercury samples

Brenda Lasorsa
Senior Research Scientist
Battelle Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, WA 98382

360-681-3650 (phone)
360-681-3699 (fax)
brenda.lasorsa@pnl.gov

From: Fogell, Heidi [mailto:HEFOGELL@mactec.com]
Sent: Tuesday, December 01, 2009 10:17 AM
To: Lasorsa, Brenda K
Subject: RE: Olin McIntosh - Water mercury samples

Yes, please

From: Lasorsa, Brenda K [mailto:brenda.lasorsa@pnl.gov]
Sent: Tuesday, December 01, 2009 12:32 PM
To: Fogell, Heidi
Subject: RE: Olin McIntosh - Water mercury samples

Okey dokey...I have completed the report and submitted it for data validation. Do you want this one submitted to the database?

Brenda Lasorsa
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brenda.lasorsa@pnl.gov

From: Fogell, Heidi [mailto:HEFOGELL@mactec.com]
Sent: Tuesday, December 01, 2009 5:27 AM
To: Lasorsa, Brenda K
Subject: RE: Olin McIntosh - Water mercury samples

Yes, cancel those analyses. Thank you!

From: Lasorsa, Brenda K [mailto:brenda.lasorsa@pnl.gov]
Sent: Monday, November 30, 2009 6:02 PM
To: Fogell, Heidi
Subject: RE: Olin McIntosh - Water mercury samples

Hi Heidi,

Were you ever able to verify whether MeHg should be cancelled on this first set of samples that had the labelling issues? When we talked on the phone you suspected that might be the case, but you wanted to verify that before I finished up the report for total Hg only. Let me know which way they want to go. Thanks!

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brenda.lasorsa@pnl.gov

From: Fogell, Heidi [mailto:HEFOGELL@mactec.com]
Sent: Friday, November 13, 2009 6:15 AM
To: Lasorsa, Brenda K
Subject: RE: Olin McIntosh - Water mercury samples

Good morning, Brenda –

Is there a time today that Cynthia and I can discuss this with you?

Thanks,
Heidi

From: Lasorsa, Brenda K [mailto:brenda.lasorsa@pnl.gov]
Sent: Tuesday, November 10, 2009 7:22 PM
To: Fogell, Heidi
Subject: RE: Olin McIntosh - Water mercury samples

Hi Heidi,

Here is a draft table with the total Hg data filled in. I'm a little concerned that we may not have interpreted your COC correctly. You sent three bottles of each of samples 1 and 4, but two of sample 1 were labeled "unfiltered" and one was labeled "filtered" and vice versa on sample 4. We filtered the one labeled "filtered" (the whole sample) on sample 1. As we were about to filter the second one labeled "filtered" on sample 4, it occurred to me that you had mentioned that you were trying to figure out whether you needed to do triplicates on these samples, and that maybe what you really wanted was triplicates of both filtered and unfiltered? Unfortunately, by that point, I was only able to save enough samples to get you duplicates on the two unfiltered and one of the filtered. Let me know if that was the intent...maybe we need to do this over, or do duplicates tell you enough about how well the samples repeat?...or maybe I'm completely off base here...Help!

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From: Fogell, Heidi [mailto:HEFOGELL@mactec.com]
Sent: Monday, November 09, 2009 10:23 AM
To: Lasorsa, Brenda K
Subject: RE: Olin McIntosh - Water mercury samples

Brenda,

Great thanks! THg will suffice at this point, thank you!

Heidi

From: Lasorsa, Brenda K [mailto:brenda.lasorsa@pnl.gov]
Sent: Monday, November 09, 2009 1:14 PM
To: Fogell, Heidi
Subject: RE: Olin McIntosh - Water mercury samples

Hi Heidi,

They had to sit 48 hours after preservation, so we plan to digest them for total Hg today and run them tomorrow. Do you need the MeHg soon, too, or will the total Hg data suffice?

Brenda Lasorsa
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brenda.lasorsa@pnl.gov

From: Fogell, Heidi [mailto:HEFOGELL@mactec.com]
Sent: Monday, November 09, 2009 10:08 AM
To: Lasorsa, Brenda K
Subject: Olin McIntosh - Water mercury samples

Hi Brenda,

I was wondering when we might see results for the TBR samples collected from Olin McIntosh last week. We will likely have to collect follow up soon, and I need to know if we need to collect triplicate samples from the river.

Thanks!

Heidi E. Fogell, FP-C| Senior Scientist/Resource Manager | Natural Resources

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3200 Town Point Drive NW, Ste. 100 | Kennesaw, GA 30144
Office (770) 421-3387 | **Fax** (770) 421-3486
Email hefogell@mactec.com | **Web** www.mactec.com

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Telephone: 360-681-3650
Facsimile: 360-681-3699

January 20, 2010

Cynthia Draper
Mactec Engineering
3200 Town Point Drive NW Suite 100
Kennesaw, Georgia 30144

Dear Cynthia:

Enclosed you will find the following:

- The data package for total mercury and methylmercury analysis on the water samples submitted to Battelle Marine Sciences Laboratory between 12/1/09 and 12/3/09. This data will be submitted as an EDD and in Excel format on 1/20/10.

Please don't hesitate to give me a call if you have any questions.

Sincerely,

Brenda Lasorsa
Senior Research Scientist

Enclosure

Battelle

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Checklist for Olin Deliverables

SDG/EDD ID: **3091_5-20M**

- [x] All samples for one Sample Delivery Group (SDG) were included in one Electronic Data Deliverable (EDD)
- [x] EDD file name is the same as the associated SDG name or number
- [x] EDD format specifications were followed and information included for all required fields
- [N/A] Client was informed if the EDD requirement could not be met *prior* to EDD creation
- [x] Sample I.D. No. and Descriptions exactly match the Chain of Custody (COC) -or- written authorization was received from Client if change was necessary
- [x] Verify that all laboratory applied data quality evaluation flags have been included in both the EDD and hard copy reports — See below – "V" flag used
- [x] Verify that the hard copy report matches data presented in the EDD

Comments:

Data Quality Evaluation Flags

J	Concentration detected above the laboratory DL but below the PQL
U	Concentration not detected at or above laboratory DL; reported as "0" in the EDD and DL value in the hard copy data table
*	Outside data quality objectives as noted in the QA/QC Narrative
V	Reported result was verified by second analysis; original value reported

Project Manager's signature verifies that all of the above has been confirmed with a 10% review. *Date*

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✓ MWK 1-28-10

OLIN CHEMICAL
MERCURY SPECIATION IN WATER
EDD ID: 3091_5-20M

MSL Code	Sample ID		Sample Collection Date	Sample Receipt Date	Analytical Batch ID - THg	THg ng/L	Analytical Batch ID - MeHg	MeHg ng/L
3091-5U r1	OU2B-SW-Gate-1A-113009	total	11/30/09	12/01/09	121709HGA	55.1	121809MEA	0.947
3091-5U r2	OU2B-SW-Gate-1A-113009DUP	total	11/30/09	12/01/09	121709HGA	55.2	121809MEA	0.880
3091-5F	OU2B-SW-Gate-1A-113009	dissolved	11/30/09	12/01/09	121709HGA	6.51	121809MEA	0.613
3091-6U	OU2B-SW-Gate-1B-113009	total	11/30/09	12/01/09	121709HGA	57.4	121809MEA	0.838
3091-6F	OU2B-SW-Gate-1B-113009	dissolved	11/30/09	12/01/09	121709HGA	5.89	121809MEA	0.693
3091-7U	OU2B-SW-Gate-1C-113009	total	11/30/09	12/01/09	121709HGA	57.4	121809MEA	0.872
3091-7F	OU2B-SW-Gate-1C-113009	dissolved	11/30/09	12/01/09	121709HGA	5.76	121809MEA	0.664
3091-8U	OU2B-SW-FB1-113009	total	11/30/09	12/01/09	121709HGA	0.319 JB	NA	NA
3091-8F	OU2B-SW-FB1-113009	dissolved	11/30/09	12/01/09	121709HGA	0.113 JB	NA	NA
3091-9U	OU2B-SW-TBR-1B-120109	total	12/01/09	12/02/09	121709HGA	7.10	121809MEA	0.257
3091-9F	OU2B-SW-TBR-1B-120109	dissolved	12/01/09	12/02/09	121709HGA	1.09	121809MEA	0.179
3091-10U	OU2B-SW-TBR-1A-120109	total	12/01/09	12/02/09	121809HGA	5.69	121809MEA	0.227
3091-10F	OU2B-SW-TBR-1A-120109	dissolved	12/01/09	12/02/09	121809HGA	1.05	121809MEA	0.168
3091-11U	OU2B-SW-TBR-1C-120109	total	12/01/09	12/02/09	121809HGA	5.29	121809MEA	0.211
3091-11F	OU2B-SW-TBR-1C-120109	dissolved	12/01/09	12/02/09	121809HGA	1.16	121809MEA	0.146 JB ✓
3091-12U	OU2B-SW-FB2-120109	total	12/01/09	12/02/09	121809HGA	0.120 JB	NA	NA
3091-12F	OU2B-SW-FB2-120109	dissolved	12/01/09	12/02/09	121809HGA	0.374 JB	NA	NA
3091-13U	OU2B-SW-EB1-120209	total	12/02/09	12/03/09	121809HGA	0.202 JB	121809MEA	0.0282 JB ✓
3091-13F	OU2B-SW-EB1-120209	dissolved	12/02/09	12/03/09	121809HGA	0.119 JB	123009MEA	0.0302 JQ ✓
3091-14U	OU2B-SW-FB3-120209	total	12/02/09	12/03/09	121809HGA	0.135 JB	NA	NA
3091-14F	OU2B-SW-FB3-120209	dissolved	12/02/09	12/03/09	121809HGA	0.193 JB	NA	NA
3091-15U	OU2B-SW-Gate-2A-120209	total	12/02/09	12/03/09	121809HGA	87.3	121809MEA	0.837
3091-15F	OU2B-SW-Gate-2A-120209	dissolved	12/02/09	12/03/09	121809HGA	7.11	121809MEA	0.581
3091-16U	OU2B-SW-Gate-2B-120209	total	12/02/09	12/03/09	121809HGA	80.0	121809MEA	0.880
3091-16F	OU2B-SW-Gate-2B-120209	dissolved	12/02/09	12/03/09	121809HGA	7.46	121809MEA	0.687
3091-17U r1	OU2B-SW-Gate-2C-120209	total	12/02/09	12/03/09	121809HGA	83.5	123009MEA	0.765
3091-17U r2	OU2B-SW-Gate-2C-120209DUP	total	12/02/09	12/03/09	121809HGA	83.1	010710MEA	0.684
3091-17F	OU2B-SW-Gate-2C-120209	dissolved	12/02/09	12/03/09	121809HGA	7.65	123009MEA	0.486
3091-18U	OU2B-SW-TBR-2A-120209	total	12/02/09	12/03/09	122209HGA	149	123009MEA	1.15
3091-18F	OU2B-SW-TBR-2A-120209	dissolved	12/02/09	12/03/09	122209HGA	5.89	123009MEA	0.453
3091-19U r1	OU2B-SW-TBR-2B-120209	total	12/02/09	12/03/09	122209HGA	146	123009MEA	0.904
3091-19U r2	OU2B-SW-TBR-2B-120209DUP	total	12/02/09	12/03/09	122209HGA	149	123009MEA	1.04
3091-19F	OU2B-SW-TBR-2B-120209	dissolved	12/02/09	12/03/09	122209HGA	4.76	123009MEA	0.374
3091-20U	OU2B-SW-TBR-2C-120209	total	12/02/09	12/03/09	122209HGA	73.5 J	123009MEA	0.481 J
3091-20F	OU2B-SW-TBR-2C-120209	dissolved	12/02/09	12/03/09	122209HGA	4.52	123009MEA	0.333
Blank Water Sent 11/5/09					122209HGA	0.137 JQ	NA	NA

BATTELLE MARINE SCIENCES LABORATORIES
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OLIN CHEMICAL
MERCURY SPECIATION IN WATER
EDD ID: 3091_5-20M

MSL Code	Sample ID	Sample Collection Date	Sample Receipt Date	Analytical Batch ID - THg	THg ng/L	Analytical Batch ID - MeHg	MeHg ng/L
Detection Limits							
Achieved MDL					0.1		0.0207
Required MDL (QAPP Table 1-3)					0.1		0.0200
Achieved MRL (3.18*MDL)					0.5		0.0500
Required MRL (QAPP Table 1-3)					11		0.0500
Method Blanks							
Blank 1	BLK121609 r1			121709HGA	0.100 U		
Blank 2	BLK121609 r2			121709HGA	0.100 U		
Blank 3	BLK121609 r3			121709HGA	0.100 U		
Blank 1	BLK121709 r1			121809HGA	0.100 U		
Blank 2	BLK121709 r2			121809HGA	0.100 U		
Blank 3	BLK121709 r3			121809HGA	0.100 U		
Blank 1	BLK122109 r1			122209HGA	0.100 U		
Blank 2	BLK122109 r2			122209HGA	0.100 U		
Blank 3	BLK122109 r3			122209HGA	0.100 U		
Blank 1	BLK121709 r1					121809MEA	0.0207 U
Blank 2	BLK121709 r2					121809MEA	0.0236 J
Blank 3	BLK121709 r3					121809MEA	0.0207 U
Blank 1	BLK122909 r1					123009MEA	0.0207 U
Blank 2	BLK122909 r2					123009MEA	0.0207 U
Blank 3	BLK122909 r3					123009MEA	0.0207 U
Blank 1	BLK010610 r1					010710MEA	0.0207 U
Blank 2	BLK010610 r2					010710MEA	0.0207 U
Blank 3	BLK010610 r3					010710MEA	0.0207 U

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OLIN CHEMICAL
MERCURY SPECIATION IN WATER
EDD ID: 3091_5-20M

MSL Code	Sample ID	Sample Collection Date	Sample Receipt Date	Analytical Batch ID - THg	THg ng/L	Analytical Batch ID - MeHg	MeHg ng/L
STANDARD REFERENCE MATERIAL							
1641d_121609				121709HGA	1600000		
1641d_121709				121809HGA	1610000		
1641d_122109				122209HGA	1560000		
	certified value				1590000		
	range				±18000		
	percent recovery			121709HGA	101%		
	percent recovery			121809HGA	101%		
	percent recovery			122209HGA	98%		
DORM-3_121709						121809MEA	4.83
DORM-3_122909						123009MEA	4.15
DORM-3_010610						010710MEA	4.60
	reference value						4.47 ±0.32
	percent recovery					121809MEA	108%
	percent recovery					123009MEA	93%
	percent recovery					010710MEA	103%
BLANK SPIKE (OPR) RESULTS							
Amount Spiked					4.96		
OPR Blank 121609				121709HGA	0.100 U		
OPR Blank 121609 + Spike				121709HGA	5.27		
Amount Recovered					5.27		
Percent Recovery					106%		
Amount Spiked					4.96		
OPR Blank 121609				121709HGA	0.100 U		
OPR Blank 121609 + Spike Duplicate				121709HGA	5.37		
Amount Recovered					5.37		
Percent Recovery					108%		
RPD					**2%**		

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OLIN CHEMICAL
MERCURY SPECIATION IN WATER
EDD ID: 3091_5-20M

MSL Code	Sample ID	Sample Collection Date	Sample Receipt Date	Analytical Batch ID - THg	THg ng/L	Analytical Batch ID - MeHg	MeHg ng/L
BLANK SPIKE (OPR) RESULTS							
	Amount Spiked				4.96		
	OPR Blank 121709			121809HGA	0.100 U		
	OPR Blank 121709 + Spike			121809HGA	5.34		
	Amount Recovered				5.34		
	Percent Recovery				108%		
	Amount Spiked				4.96		
	OPR Blank 121709			121809HGA	0.100 U		
	OPR Blank 121709 + Spike Duplicate			121809HGA	5.21		
	Amount Recovered				5.21		
	Percent Recovery				105%		
	RPD				**2%**		
	Amount Spiked				4.96		
	OPR Blank 122109			122209HGA	0.100 J		
	OPR Blank 122109 + Spike			122209HGA	5.31		
	Amount Recovered				5.21		
	Percent Recovery				105%		
	Amount Spiked				4.96		
	OPR Blank 122109			122209HGA	0.100 J		
	OPR Blank 122109 + Spike Duplicate			122209HGA	5.55		
	Amount Recovered				5.45		
	Percent Recovery				110%		
	RPD				**5%**		

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OLIN CHEMICAL
MERCURY SPECIATION IN WATER
EDD ID: 3091_5-20M

MSL Code	Sample ID	Sample Collection Date	Sample Receipt Date	Analytical Batch ID - THg	THg ng/L	Analytical Batch ID - MeHg	MeHg ng/L
BLANK SPIKE (OPR) RESULTS							
	Amount Spiked						0.500
	OPR Blank 121709					121809MEA	0.0207 U
	OPR Blank 121709 + Spike					121809MEA	0.509
	Amount Recovered						0.509
	Percent Recovery						102%
	Amount Spiked						0.500
	OPR Blank 121709					121809MEA	0.0207 U
	OPR Blank 121709 + Spike Duplicate					121809MEA	0.499
	Amount Recovered						0.499
	Percent Recovery						100%
	RPD						**2%**
	Amount Spiked						0.500
	OPR Blank 122909					123009MEA	0.0207 U
	OPR Blank 122909 + Spike					123009MEA	0.589
	Amount Recovered						0.589
	Percent Recovery						118%
	Amount Spiked						0.500
	OPR Blank 122909					123009MEA	0.0207 U
	OPR Blank 122909 + Spike Duplicate					123009MEA	0.528
	Amount Recovered						0.528
	Percent Recovery						106%
	RPD						**11%**

BATTELLE MARINE SCIENCES LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382
(360) 681-3650

OLIN CHEMICAL
MERCURY SPECIATION IN WATER
EDD ID: 3091_5-20M

MSL Code	Sample ID		Sample Collection Date	Sample Receipt Date	Analytical Batch ID - THg	THg ng/L	Analytical Batch ID - MeHg	MeHg ng/L
BLANK SPIKE (OPR) RESULTS								
Amount Spiked								0.500
OPR Blank 122909							010710MEA	0.0207 U
OPR Blank 122909 + Spike							010710MEA	0.430
Amount Recovered								*0.430*
Percent Recovery								86%
Amount Spiked								0.500
OPR Blank 122909							010710MEA	0.0207 U
OPR Blank 122909 + Spike Duplicate							010710MEA	0.413
Amount Recovered								0.413
Percent Recovery								83%
RPD								**4%**
MATRIX SPIKE (MS/MSD) RESULTS								
Amount Spiked						31.2		1.99
3091-6F	OU2B-SW-Gate-1B-113009	dissolved	11/30/09	12/01/09	121709HGA	5.89	121809MEA	0.693
3091-6F MS	OU2B-SW-Gate-1B-113009 MS	dissolved	11/30/09	12/01/09	121709HGA	37.1	121809MEA	2.73
Amount Recovered						31.2		2.04
Percent Recovery						100%		102%
Amount Spiked						31.3		2.01
3091-6F	OU2B-SW-Gate-1B-113009	dissolved	11/30/09	12/01/09	121709HGA	5.89	121809MEA	0.693
3091-6F MSD	OU2B-SW-Gate-1B-113009 MSD	dissolved	11/30/09	12/01/09	121709HGA	37.8	121809MEA	2.58
Amount Recovered						31.9		1.89
Percent Recovery						102%		94%
RPD						**2%**		**9%**

BATTELLE MARINE SCIENCES LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382
(360) 681-3650

OLIN CHEMICAL
MERCURY SPECIATION IN WATER
EDD ID: 3091_5-20M

MSL Code	Sample ID		Sample Collection Date	Sample Receipt Date	Analytical Batch ID - THg	THg ng/L	Analytical Batch ID - MeHg	MeHg ng/L
MATRIX SPIKE (MS/MSD) RESULTS								
Amount Spiked						18.9		1.98
3091-11U	OU2B-SW-TBR-1C-120109	total	12/01/09	12/02/09	121809HGA	5.29	121809MEA	0.211
3091-11U MS	OU2B-SW-TBR-1C-120109 MS	total	12/01/09	12/02/09	121809HGA	24.7	121809MEA	2.43
Amount Recovered						19.4		2.22
Percent Recovery						103%		112%
Amount Spiked						19.4		2.00
3091-11U	OU2B-SW-TBR-1C-120109	total	12/01/09	12/02/09	121809HGA	5.29	121809MEA	0.211
3091-11U MSD	OU2B-SW-TBR-1C-120109 MSD	total	12/01/09	12/02/09	121809HGA	25.0	121809MEA	2.28
Amount Recovered						19.7		2.07
Percent Recovery						102%		103%
RPD						**1%**		**8%**
Amount Spiked						19.9		1.97
3091-17F	OU2B-SW-Gate-2C-120209	dissolved	12/02/09	12/03/09	121809HGA	7.65	123009MEA	0.486
3091-17F MS	OU2B-SW-Gate-2C-120209 MS	dissolved	12/02/09	12/03/09	121809HGA	27.8	123009MEA	2.28
Amount Recovered						20.1		1.79
Percent Recovery						101%		91%
Amount Spiked						19.1		2.00
3091-17F	OU2B-SW-Gate-2C-120209	dissolved	12/02/09	12/03/09	121809HGA	7.65	123009MEA	0.486
3091-17F MSD	OU2B-SW-Gate-2C-120209 MSD	dissolved	12/02/09	12/03/09	121809HGA	27.5	123009MEA	2.43
Amount Recovered						19.8		1.94
Percent Recovery						104%		97%
RPD						**3%**		**7%**

BATTELLE MARINE SCIENCES LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382
(360) 681-3650

OLIN CHEMICAL
MERCURY SPECIATION IN WATER
EDD ID: 3091_5-20M

MSL Code	Sample ID		Sample Collection Date	Sample Receipt Date	Analytical Batch ID - THg	THg ng/L	Analytical Batch ID - MeHg	MeHg ng/L
MATRIX SPIKE (MS/MSD) RESULTS								
Amount Spiked						23.2		
3091-19F	OU2B-SW-TBR-2B-120209	dissolved	12/02/09	12/03/09	122209HGA	4.76		
3091-19F MS	OU2B-SW-TBR-2B-120209 MS	dissolved	12/02/09	12/03/09	122209HGA	26.0		
Amount Recovered						21.2		
Percent Recovery						92%		
Amount Spiked						23.2		
3091-19F	OU2B-SW-TBR-2B-120209	dissolved	12/02/09	12/03/09	122209HGA	4.76		
3091-19F MSD	OU2B-SW-TBR-2B-120209 MSD	dissolved	12/02/09	12/03/09	122209HGA	29.7		
Amount Recovered						24.9		
Percent Recovery						108%		
RPD						**16%**		
REPLICATE ANALYSIS RESULTS								
3091-5U r1	OU2B-SW-Gate-1A-113009	total	11/30/09	12/01/09	121709HGA	55.1	121809MEA	0.947
3091-5U r2	OU2B-SW-Gate-1A-113009DUP	total	11/30/09	12/01/09	121709HGA	55.2	121809MEA	0.880
Mean						55.1		0.914
RPD						**0%**		**7%**
3091-17U r1	OU2B-SW-Gate-2C-120209	total	12/02/09	12/03/09	121809HGA	83.5	123009MEA	0.765
3091-17U r2	OU2B-SW-Gate-2C-120209DUP	total	12/02/09	12/03/09	121809HGA	83.1	010710MEA	0.684
Mean						83.3		0.725
RPD						**1%**		**11%**
3091-19U r1	OU2B-SW-TBR-2B-120209	total	12/02/09	12/03/09	122209HGA	146	123009MEA	0.904
3091-19U r2	OU2B-SW-TBR-2B-120209DUP	total	12/02/09	12/03/09	122209HGA	149	123009MEA	1.04
Mean						147		0.972
RPD						**2%**		**14%**

BATTELLE MARINE SCIENCES LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382
(360) 681-3650

OLIN CHEMICAL
MERCURY SPECIATION IN WATER
EDD ID: 3091_5-20M

MSL Code	Sample ID	Sample Collection Date	Sample Receipt Date	Analytical Batch ID - THg	THg ng/L	Analytical Batch ID - MeHg	MeHg ng/L

U Not detected at or above DL shown
J Result is <Achieved MRL and >Achieved MDL
NA Not applicable/available
NS Not spiked
RPD Relative percent difference
V Reported result was verified by second analysis; original value reported

QA/QC SUMMARY

PROJECT: Olin Corporation EDD ID: 3091_5-20M
PARAMETER: Mercury Speciation
LABORATORY: Battelle/Marine Sciences Laboratory, Sequim, Washington
MATRIX: Water

SAMPLE CUSTODY: Thirty-two water samples for methylmercury (MeHg) and total mercury (THg) analysis were received at Battelle MSL between 12/1/09 and 12/3/09. The containers were received in good condition. Cooler temperatures upon arrival were within the optimal temperature range of 4±2°C for all samples. Upon arrival, each sample designated as a "dissolved" was filtered at 0.45 µm. All samples were then acidified to pH<2 with 0.5% HCl and stored in the dark prior to analysis.

QA/QC DATA QUALITY OBJECTIVES:

Analyte	Analytical Method	Range of Recovery MS-MSD / OPR	Relative Precision	Achieved Detection Limit
Mercury	CVAF (EPA 1631e)	71-125% / 77-123%	±24%	0.100 ng/L
Methylmercury	CVAF (EPA 1630)	65-135% / 67-133%	±35%	0.0207 ng/L

HOLDING TIMES: All were conducted within target holding time of 90 days for THg and 6 months for MeHg.

DETECTION LIMITS: Achieved detection limits were determined by a previously conducted MDL study where replicates were analyzed and the standard deviation was multiplied by the Student's-t value for the number of replicates.

BLANKS Analytical blanks were determined for all analytes. No THg was detected in the blanks. A trace amount of MeHg (<2x the MDL) was detected in one of the nine blanks. Data are not blank corrected.

BLANK SPIKES (OPR): Blanks were spiked for THg and MeHg to create an ongoing precision and recovery (OPR) sample. Blank spike recoveries were within the target range of 77-123% and 67% to 133%, respectively.

MATRIX SPIKES: Two matrix spike/matrix spike duplicate pairs were prepared for mercury and methylmercury with each analytical batch. All recoveries were within the target range of 71-125% and 65% to 135%, respectively.

REPLICATES: One duplicate pair was prepared for mercury and methylmercury with each analytical batch. All RPDs were within the target range of ±24% and ±35%, respectively.

LCS/SRM SAMPLES: A laboratory control sample (LCS) or standard reference material

QA/QC SUMMARY

(SRM) was analyzed for each analyte. Because no SRM for MeHg in water exists, a heavy dilution of DORM-3, a tissue SRM, was analyzed. The recoveries were 98% to 101% of the known value, which meets the data quality criteria for accuracy of 67-133%. NIST 1641d, a water SRM sample, was analyzed THg. The recoveries were 93% to 108% of the known value, which meets the data quality criteria for accuracy of 77%-123%.

Approvals

Project Manager	1/20/10 Date	QA Reviewer	1/20/10 Date

SAMPLE LOGIN

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Project Manager: Lasorsa
Date Received: 12/1/2009
Batch: 2
Login Designee: Mcgahan
Project: **Olin McIntosh**

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Sponsor ID	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
OU2B-SW-Gate-1A-113009	na	3091-5U	raw water	Hg Lab	LL Hg, Meth Hg	11/30/09
OU2B-SW-Gate-1A-113009	na	3091-5F	filt. water	Hg Lab	LL Hg, Meth Hg	11/30/09
OU2B-SW-Gate-1B-113009	na	3091-6U	raw water	Hg Lab	LL Hg, Meth Hg	11/30/09
OU2B-SW-Gate-1B-113009	na	3091-6F	filt. water	Hg Lab	LL Hg, Meth Hg	11/30/09
OU2B-SW-Gate-1C-113009	na	3091-7U	raw water	Hg Lab	LL Hg, Meth Hg	11/30/09
OU2B-SW-Gate-1C-113009	na	3091-7F	filt. water	Hg Lab	LL Hg, Meth Hg	11/30/09
OU2B-SW-FB1-113009	na	3091-8U	raw water	Hg Lab	LL Hg	11/30/09
OU2B-SW-FB1-113009	na	3091-8F	filt. water	Hg Lab	LL Hg	11/30/09

Battelle

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

1191753

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: Olin / MACTEC ste 100	Report To: kdroberts@olin.com	Attention: Dennis Turner
Address: 3200 Town Pt Dr NW	Copy To: hefogell@olin.com	Company Name: Olin Corp.
Kennesaw GA 30144		Address: 355 N Ocoee St. Suite 200
Email To: Cedraper@dlactec.com	Purchase Order No.:	Pace Quote Reference: Cleveland TN
Phone: 770 421 3400 Fax:	Project Name: Olin McIntosh	Pace Project Manager: Brenda LaSorsa
Requested Due Date/TAT: Standard	Project Number: 6107090035	Pace Profile #:

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☒ OTHER CERCLA

Site Location STATE: AL

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes — MATRIX / CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	LL Hg - dis & filtered	MeHg & filtered	LL Hg - unfiltered	MeHg - unfiltered	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	OU2B-SW-Gate-1A-113009	WT	G			11/30/09	1715		1	X	3091.5								X	X	X	X		
2	OU2B-SW-Gate-1B-113009	WT	G			11/30/09	1715		1	X				6					X	X	X	X		
3	OU2B-SW-Gate-1C-113009	WT	G			11/30/09	1715		1	X				7					X	X	X	X		
4	OU2B-SW-FB1-113009	WT	G			11/30/09	1800		1	X				8					X		X			
5	Empty bottle to return to Battelle								1															
6																								
7																								
8																								
9																								
10																								
11																								
12																								

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Melissa / MACTEC	11/30/09	1900		12/01/09	11:45	

SAMPLER NAME AND SIGNATURE: A Stell

PRINT Name of SAMPLER: MRotenberg

SIGNATURE of SAMPLER: Melissa Rotenberg

DATE Signed (MM/DD/YY): 11/30/09

ORIGINAL

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 3091 Sample No(s): 5-8 U & J Batch: 2

Project Name: Olin McIntosh QV2 Project Manager: Jasonsa

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: _____ WP# _____

Yes	No		
☐	☐		Navy-type Project (requires high-level sample tracking procedures)
☐	☐		USDA Samples (see Compliance Agreement Checklist)
☐	☐		Filter Samples: Amount: Entire sample Half of sample
☐	☐		Freeze dry sample(s) - samples will be weighed and placed in ultralow temp freezer (Login Lab)
☐	☐		Special instructions:

PM Verification:

Sample Preservation Instructions: _____

See LIMS for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box	
☐	☒	☐	Custody seal present	Seal intact? YES NO
☐	☐	☒	Cooler temperature (acceptable range: 4±2°C or solids:frozen) (if multiple coolers, note temp. of each)	2.1 °C °C
☒	☐	☐	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc) Comment/Remedy: Samples filtered upon arrivle	
☒	☐	☐	Were all chain of custody forms signed and dated?	
☒	☐	☐	Were samples filtered at MSL?	

Sample condition(s): Acceptable Other (explain):

Container type: Teflon Poly Glass Cap. Vial Other:

Notes: _____

Completed By: [signature] Date/Time: 12/01/09 1208

SAMPLE PRESERVATION

☐ Sample(s) were preserved prior to arrival at MSL (noted on CoC / Sample / per PM Instruction)

☐ Random pH checked for ~10% of samples (use dip paper) Sample IDs: _____

☐ Complete pH check required for project (use pH meter and record on pH Record form)

☒ Sample(s) were preserved at MSL

Type:			
☐	0.2% HNO3	Notes:	Lot#
☒	0.5% HCl (Hg samples)	Notes: Baker Lot	Lot# H040 40
☐	Refrigerate/Freeze	Notes:	
☐	Other	Notes:	

All samples filtered @ 0.45 µm prior to preservation BK 12/1/09 1330

Completed By: B. Yasuna Date/Time: 12/1/09 1330

Storage Shelf: Hg Lab

SAMPLE LOGIN

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Project Manager: Lasorsa
Date Received: 12/02/09
Batch: 3
Login Designee: Mcgahan
Project: **Olin McIntosh**

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Sponsor ID	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
OU2B-SW-TBR-1B-120109	na	3091-9U	raw water	Hg Lab	LL Hg, Meth Hg	12/01/09
OU2B-SW-TBR-1B-120109	na	3091-9F	filt. water	Hg Lab	LL Hg, Meth Hg	12/01/09
OU2B-SW-TBR-1A-120109	na	3091-10U	raw water	Hg Lab	LL Hg, Meth Hg	12/01/09
OU2B-SW-TBR-1A-120109	na	3091-10F	filt. water	Hg Lab	LL Hg, Meth Hg	12/01/09
OU2B-SW-TBR-1C-120109	na	3091-11U	raw water	Hg Lab	LL Hg, Meth Hg	12/01/09
OU2B-SW-TBR-1C-120109	na	3091-11F	filt. water	Hg Lab	LL Hg, Meth Hg	12/01/09
OU2B-SW-FB2-120109	na	3091-12U	raw water	Hg Lab	LL Hg	12/01/09
OU2B-SW-FB2-120109	na	3091-12F	filt. water	Hg Lab	LL Hg	12/01/09

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

1144878

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: MACTEC	Report To: kdrobertse olin.com	Attention: Dennis Turner
Address: 3200 Town Pt Dr NW Kennesaw GA 30144	Copy To: hefogell@mactec.com	Company Name: Olin Corporation Cleveland, TN
Email To: cedraper@mactec.com	Purchase Order No.:	Pace Quote Reference:
Phone: 7704234100 Fax: 7704233486	Project Name: Olin McIntosh OU2	Pace Project Manager: Brenda LaSorsa
Requested Due Date/TAT: Standard	Project Number: 610209035	Pace Profile #:

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☒ OTHER CERCLA

Site Location STATE: AL

Requested Analysis Filtered (Y/N)

ITEM #	Section D Required Client Information — SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE	Matrix Codes (see valid codes to left)	Sample Type (G=GRAB C=COMP)	COLLECTED Composite Start Date	Composite Start Time	Composite End/Grab Date	Composite End/Grab Time	Sample Temp at Collection	# of Containers	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Filtered Hg (LL)	Filtered Me-Hg (LL)	Unfiltered Hg (LL)	Unfiltered Me-Hg (LL)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	OU2B - SW-TBR-1B-120109	WT	G			12/1/09	1130		2	X									X	X	X	X		3091.9 LEF
2	~~OU2B-SW-TBR~~	~~WT~~	G			12/1/09			~~2~~	~~X~~														— —
3	OU2B-SW-TBR-1A-120109	WT	G			12/1/09	1130		2	X									X	X	X	X		10 LEF
4	OU2B-SW-TBR-1C-120109	WT	G			12/1/09	1130		2	X									X	X	X	X		11 LEF
5	OU2B-SW-FB2-120109	WT	G			12/1/09	1148		1	X									X		X			3091.12 LEF
6	Empty teflon bottle for return																							
7																								
8																								
9																								
10																								
11																								
12																								

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Melissa Rottenberg / MACTEC	12/1/09	1400	[signature] / Battelle MA	12/02/09	1300	

ORIGINAL

SAMPLER NAME AND SIGNATURE: ASTell [signature]

PRINT Name of SAMPLER: M Rottenberg

SIGNATURE of SAMPLER: Melissa Rottenberg

DATE Signed (MM/DD/YY): 12/1/09

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 3091 Sample No(s): 9-12 Batch: 3

Project Name: Olin McIntosh Project Manager: Lasorsa

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: WP#

Yes	No	
☐	☐	Navy-type Project (requires high-level sample tracking procedures)
☐	☐	USDA Samples (see Compliance Agreement Checklist)

PM Verification:

☐	☐	Filter Samples: Amount: Entire sample Half of sample
☐	☐	Freeze dry sample(s) - samples will be weighed and placed in ultralow temp freezer (Login Lab)
☐	☐	Special instructions:

Sample Preservation Instructions:

See LIMS for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box
☒	☐	☐	Custody seal present Seal intact? (YES) NO
☒	☐	☐	Cooler temperature (acceptable range: 4±2°C or solids:frozen) (if multiple coolers, note temp. of each) 2.0 °C ____ °C
☐	☐	☒	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc) Comment/Remedy:
☒	☐	☐	Were all chain of custody forms signed and dated?
☒	☐	☐	Were samples filtered at MSL?

Sample condition(s): (Acceptable) Other (explain):

Container type: (Teflon) Poly Glass Cap. Vial Other:

Notes:

Completed By: [signature] Date/Time: 12/02/09 1340

SAMPLE PRESERVATION

☐		*Sample(s) were preserved prior to arrival at MSL (noted on CoC / Sample / per PM Instruction)*	
☐		Random pH checked for ~10% of samples (use dip paper)	Sample IDs:
☐		Complete pH check required for project (use pH meter and record on pH Record form)	
☒		Sample(s) were preserved at MSL	
Type:	☐	0.2% HNO3	Notes: Lot#
	☒	0.5% HCl (Hg samples)	Notes: Baker Lot# W040D
	☐	Refrigerate/Freeze	Notes:
	☐	Other	Notes:

All "F" samples filtered prior to preservation BA

Completed By: B. Lasorsa Date/Time: 12/2/09 1410

Storage Shelf: Hg Lab

SAMPLE LOGIN

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Project Manager: Lasorsa
Date Received: 12/3/2009
Batch: 5
Login Designee: Mcgahan
Project: **Olin McIntosh**

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Sponsor ID	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
OU2B-SW-EB1-120209	na	3091-13U	raw water	Hg Lab	LL Hg, Meth Hg	12/02/09
OU2B-SW-EB1-120209	na	3091-13F	filt. water	Hg Lab	LL Hg, Meth Hg	12/02/09
OU2B-SW-FB3-120209	na	3091-14U	raw water	Hg Lab	LL Hg	12/02/09
OU2B-SW-FB3-120209	na	3091-14F	filt. water	Hg Lab	LL Hg	12/02/09
OU2B-SW-Gate-2A-120209	na	3091-15U	raw water	Hg Lab	LL Hg, Meth Hg	12/02/09
OU2B-SW-Gate-2A-120209	na	3091-15F	filt. water	Hg Lab	LL Hg, Meth Hg	12/02/09
OU2B-SW-Gate-2B-120209	na	3091-16U	raw water	Hg Lab	LL Hg, Meth Hg	12/02/09
OU2B-SW-Gate-2B-120209	na	3091-16F	filt. water	Hg Lab	LL Hg, Meth Hg	12/02/09
OU2B-SW-Gate-2C-120209	na	3091-17U	raw water	Hg Lab	LL Hg, Meth Hg	12/02/09
OU2B-SW-Gate-2C-120209	na	3091-17F	filt. water	Hg Lab	LL Hg, Meth Hg	12/02/09
OU2B-SW-TBR-2A-120209	na	3091-18U	raw water	Hg Lab	LL Hg, Meth Hg	12/02/09
OU2B-SW-TBR-2A-120209	na	3091-18F	filt. water	Hg Lab	LL Hg, Meth Hg	12/02/09
OU2B-SW-TBR-2B-120209	na	3091-19U	raw water	Hg Lab	LL Hg, Meth Hg	12/02/09
OU2B-SW-TBR-2B-120209	na	3091-19F	filt. water	Hg Lab	LL Hg, Meth Hg	12/02/09
OU2B-SW-TBR-2C-120209	na	3091-20U	raw water	Hg Lab	LL Hg, Meth Hg	12/02/09
OU2B-SW-TBR-2C-120209	na	3091-20F	filt. water	Hg Lab	LL Hg, Meth Hg	12/02/09

Pace Analytical
www.pacelabs.com

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

2 coolers

Page: 1 of 2

1267888

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: MACTEC	Report To: kdroberts@olin.com	Attention: Dennis Tomer
Address: 3200 Town Pt Dr NW Suite 100 Kennesaw GA 30144	Copy To: mfogel@mactec.com	Company Name: Olin Corporation
Email To: cdraper@mactec.com	Purchase Order No.: ~~5004600 mbr~~	Address: Cleveland TN
Phone: 7042133505 Fax: 7042133186	Project Name: Olin McIntosh	Pace Quote Reference:
Requested Due Date/TAT: Standard	Project Number: 6107090035	Pace Project Manager: Brenda Lasasa
		Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER

☐ UST ☐ RCRA ☒ OTHER CERCLA

Site Location STATE: AL

Section D Required Client Information

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test ↓ Y/N	LL Hg filtered	Me Hg filtered	LL Hg unfiltered	Me Hg unfiltered	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	OU2B-SW-EB1-120209	WT	G			12/2/09	1004		2	X									X	X	X	X		30913.13 U E J
2	OU2B-SW-FB3-120209	WT	G			12/2/09	1024		2	X									X		X			14
3	OU2B-SW-Gate-2A-120209	WT	G			12/2/09	1013		2	X									X	X	X	X		15
4	OU2B-SW-Gate-2B-120209	WT	G			12/2/09	1013		2	X									X	X	X	X		16
5	OU2B-SW-Gate-2C-120209	WT	G			12/2/09	1013		2	X									X	X	X	X		30913.17 U E J
6	Returning bottles + tubing:																							
7	1-L teflon								2															
8	3-500mL teflon preserved HCL								3															
9	temp. blank																							
10	used tubing																							
11																								
12																								

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	MRobertberg/MACTEC	12/2/09	1750		12/03/09	1220	

ORIGINAL

SAMPLER NAME AND SIGNATURE: ASTell

PRINT Name of SAMPLER: MRobertberg

SIGNATURE of SAMPLER: MRobertberg

DATE Signed (MM/DD/YY): 12/2/09

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Chain of Custody Record

Battelle

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TAL-4142 (0408)

Client	Project Manager – MACTEC	Date	Chain of Custody Number
MACTEC / Olin Corporation	Cynthia Draper cedraper@mactec.com	12/2/09	000355
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page 2 of 2**
3200 Town Point Dr NW Ste 100	kdroberts@mactec.com		
City	**State**	**Zip Code**	**Site Contact**	**Lab Contact**
Kennesaw	GA	30144		
Project Name and Location (State)	**Carrier/Waybill Number**
Olin McIntosh – AL	FedEx
Contract/~~Purchase Order/Quote No.~~	
Brenda LaSorsa	

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H_2SO_4	HNO_3	HCl	NaOH	ZnAc/NaOH	Analysis (Attach list if more space is needed): Lt Hg filtered	Me Hg filtered	Lt Hg filtered	Me Hg unfiltered	Special Instructions/ Conditions of Receipt
OU2B-SW-TBR2A-120209	12/2/09	1335		X			X						X	X	X	X	2 3091.18 WEF
OU2B-SW-TBR2B-120209	12/2/09	1335		X			X						X	X	X	X	2 WA 19 MS
OU2B-SW-TBR2C-120209	12/2/09	1335		X			X						X	X	X	X	2 3091.20 WEF

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
(A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required
☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☒ Other Standard

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By: [signature] – MACTEC	12/4/09	1750	1. Received By: [signature] Battelle MSL	12/03/09	1220
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 3091 Sample No(s): 13UEJ-20UEJ Batch: 4

Project Name: Olin McIntosh Project Manager: Lasorsa

TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)

Matrix: _____ WP# _____

Yes	No		
☐	☐	Navy-type Project (requires high-level sample tracking procedures)	
☐	☐	USDA Samples (see Compliance Agreement Checklist)	PM Verification:
☐	☐	Filter Samples:	Amount: Entire sample Half of sample
☐	☐	Freeze dry sample(s) - samples will be weighed and placed in ultralow temp freezer (Login Lab)	
☐	☐	Special instructions:	

Sample Preservation Instructions: _____

See LIMS for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box	
☑	☐	☐	Custody seal present	Seal intact? YES NO
☑	☐	☐	Cooler temperature (acceptable range: 4±2°C or solids:frozen) (if multiple coolers, note temp. of each)	#1 - 9.5 °C; #2 - 5.9 °C
☐	☐	☑	Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc)	Comment/Remedy: cooler #1 thats out of temp contains just used equip.
☑	☐	☐	Were all chain of custody forms signed and dated?	
☑	☐	☐	Were samples filtered at MSL?	

Sample condition(s): (Acceptable) Other (explain):

Container type: (Teflon) Poly Glass Cap. Vial Other:

Notes: _____

Completed By: _____ Date/Time: 12/03/09 1220

SAMPLE PRESERVATION

☐	Sample(s) were preserved prior to arrival at MSL (noted on CoC / Sample / per PM Instruction)		
☐	Random pH checked for ~10% of samples (use dip paper)	Sample IDs:	
☐	Complete pH check required for project (use pH meter and record on pH Record form)		
☑	Sample(s) were preserved at MSL		
Type: ☐	0.2% HNO3	Notes:	Lot#
☑	0.5% HCl (Hg samples)	Notes: Baker	Lot# HC04DE
☐	Refrigerate/Freeze	Notes:	
☐	Other	Notes:	

All "F" samples filtered ~0.45µm prior to preservation BA

Completed By: B. Lasorsa Date/Time: 12/3/09 1315

Storage Shelf: Hg lab

Battelle
The Business of Innovation
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

Telephone: 360-681-3650
Facsimile: 360-681-3699

May 21, 2010

Cynthia Draper
Mactec Engineering
3200 Town Point Drive NW Suite 100
Kennesaw, Georgia 30144

Dear Cynthia:

Enclosed you will find the following:

- The data reports for total mercury and methylmercury analysis on the water samples submitted to Battelle Marine Sciences Laboratory between 12/1/09 and 1/19/10. These reports are revised to report the Gate and Blank samples only. This data was submitted as an EDD and in Excel format on 2/4/10.

Please don't hesitate to give me a call if you have any questions.

Sincerely,

Brenda Lasorsa
Senior Research Scientist

Enclosure

BATTELLE MARINE SCIENCES LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382
(360) 681-3650

OLIN CHEMICAL
MERCURY SPECIATION IN WATER
EDD ID: 3091_5-20M

MSL Code	Sample ID		Sample Collection Date	Sample Receipt Date	Analytical Batch ID - THg	THg ng/L	Analytical Batch ID - MeHg	MeHg ng/L
3091-5U r1	OU2B-SW-Gate-1A-113009	total	11/30/09	12/01/09	121709HGA	55.1	121809MEA	0.947
3091-5U r2	OU2B-SW-Gate-1A-113009DUP	total	11/30/09	12/01/09	121709HGA	55.2	121809MEA	0.880
3091-5F	OU2B-SW-Gate-1A-113009	dissolved	11/30/09	12/01/09	121709HGA	6.51	121809MEA	0.613
3091-6U	OU2B-SW-Gate-1B-113009	total	11/30/09	12/01/09	121709HGA	57.4	121809MEA	0.838
3091-6F	OU2B-SW-Gate-1B-113009	dissolved	11/30/09	12/01/09	121709HGA	5.89	121809MEA	0.693
3091-7U	OU2B-SW-Gate-1C-113009	total	11/30/09	12/01/09	121709HGA	57.4	121809MEA	0.872
3091-7F	OU2B-SW-Gate-1C-113009	dissolved	11/30/09	12/01/09	121709HGA	5.76	121809MEA	0.664
3091-8U	OU2B-SW-FB1-113009	total	11/30/09	12/01/09	121709HGA	0.319 J	NA	NA
3091-8F	OU2B-SW-FB1-113009	dissolved	11/30/09	12/01/09	121709HGA	0.113 J	NA	NA
3091-12U	OU2B-SW-FB2-120109	total	12/01/09	12/02/09	121809HGA	0.120 J	NA	NA
3091-12F	OU2B-SW-FB2-120109	dissolved	12/01/09	12/02/09	121809HGA	0.374 J	NA	NA
3091-13U	OU2B-SW-EB1-120209	total	12/02/09	12/03/09	121809HGA	0.202 J	121809MEA	0.0282 J
3091-13F	OU2B-SW-EB1-120209	dissolved	12/02/09	12/03/09	121809HGA	0.119 J	123009MEA	0.0302 J
3091-14U	OU2B-SW-FB3-120209	total	12/02/09	12/03/09	121809HGA	0.135 J	NA	NA
3091-14F	OU2B-SW-FB3-120209	dissolved	12/02/09	12/03/09	121809HGA	0.193 J	NA	NA
3091-15U	OU2B-SW-Gate-2A-120209	total	12/02/09	12/03/09	121809HGA	87.3	121809MEA	0.837
3091-15F	OU2B-SW-Gate-2A-120209	dissolved	12/02/09	12/03/09	121809HGA	7.11	121809MEA	0.581
3091-16U	OU2B-SW-Gate-2B-120209	total	12/02/09	12/03/09	121809HGA	80.0	121809MEA	0.880
3091-16F	OU2B-SW-Gate-2B-120209	dissolved	12/02/09	12/03/09	121809HGA	7.46	121809MEA	0.687
3091-17U r1	OU2B-SW-Gate-2C-120209	total	12/02/09	12/03/09	121809HGA	83.5	123009MEA	0.765
3091-17U r2	OU2B-SW-Gate-2C-120209DUP	total	12/02/09	12/03/09	121809HGA	83.1	010710MEA	0.684
3091-17F	OU2B-SW-Gate-2C-120209	dissolved	12/02/09	12/03/09	121809HGA	7.65	123009MEA	0.486
Blank Water Sent 11/5/09					122209HGA	0.137 J	NA	NA

Detection Limits

Achieved MDL	0.1	0.0207
Required MDL (QAPP Table 1-3)	0.1	0.0200
Achieved MRL (3.18*MDL)	0.5	0.0500
Required MRL (QAPP Table 1-3)	11	0.0500

BATTELLE MARINE SCIENCES LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382
(360) 681-3650

OLIN CHEMICAL
MERCURY SPECIATION IN WATER
EDD ID: 3091_5-20M

MSL Code	Sample ID	Sample Collection Date	Sample Receipt Date	Analytical Batch ID - THg	THg ng/L	Analytical Batch ID - MeHg	MeHg ng/L
Method Blanks							
Blank 1	BLK121609 r1			121709HGA	0.100 U		
Blank 2	BLK121609 r2			121709HGA	0.100 U		
Blank 3	BLK121609 r3			121709HGA	0.100 U		
Blank 1	BLK121709 r1			121809HGA	0.100 U		
Blank 2	BLK121709 r2			121809HGA	0.100 U		
Blank 3	BLK121709 r3			121809HGA	0.100 U		
Blank 1	BLK122109 r1			122209HGA	0.100 U		
Blank 2	BLK122109 r2			122209HGA	0.100 U		
Blank 3	BLK122109 r3			122209HGA	0.100 U		
Blank 1	BLK121709 r1					121809MEA	0.0207 U
Blank 2	BLK121709 r2					121809MEA	0.0236 J
Blank 3	BLK121709 r3					121809MEA	0.0207 U
Blank 1	BLK122909 r1					123009MEA	0.0207 U
Blank 2	BLK122909 r2					123009MEA	0.0207 U
Blank 3	BLK122909 r3					123009MEA	0.0207 U
Blank 1	BLK010610 r1					010710MEA	0.0207 U
Blank 2	BLK010610 r2					010710MEA	0.0207 U
Blank 3	BLK010610 r3					010710MEA	0.0207 U

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OLIN CHEMICAL
MERCURY SPECIATION IN WATER
EDD ID: 3091_5-20M

MSL Code	Sample ID	Sample Collection Date	Sample Receipt Date	Analytical Batch ID - THg	THg ng/L	Analytical Batch ID - MeHg	MeHg ng/L
STANDARD REFERENCE MATERIAL							
1641d_121609				121709HGA	1600000		
1641d_121709				121809HGA	1610000		
1641d_122109				122209HGA	1560000		
	certified value				1590000		
	range				±18000		
	percent recovery			121709HGA	101%		
	percent recovery			121809HGA	101%		
	percent recovery			122209HGA	98%		
DORM-3_121709						121809MEA	4.83
DORM-3_122909						123009MEA	4.15
DORM-3_010610						010710MEA	4.60
	reference value						4.47 ±0.32
	percent recovery					121809MEA	108%
	percent recovery					123009MEA	93%
	percent recovery					010710MEA	103%
BLANK SPIKE (OPR) RESULTS							
Amount Spiked					4.96		
OPR Blank 121609				121709HGA	0.100 U		
OPR Blank 121609 + Spike				121709HGA	5.27		
Amount Recovered					5.27		
Percent Recovery					106%		
Amount Spiked					4.96		
OPR Blank 121609				121709HGA	0.100 U		
OPR Blank 121609 + Spike Duplicate				121709HGA	5.37		
Amount Recovered					5.37		
Percent Recovery					108%		
RPD					**2%**		

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MSL Code	Sample ID	Sample Collection Date	Sample Receipt Date	Analytical Batch ID - THg	THg ng/L	Analytical Batch ID - MeHg	MeHg ng/L
BLANK SPIKE (OPR) RESULTS							
	Amount Spiked				4.96		
	OPR Blank 121709			121809HGA	0.100 U		
	OPR Blank 121709 + Spike			121809HGA	5.34		
	Amount Recovered				5.34		
	Percent Recovery				108%		
	Amount Spiked				4.96		
	OPR Blank 121709			121809HGA	0.100 U		
	OPR Blank 121709 + Spike Duplicate			121809HGA	5.21		
	Amount Recovered				5.21		
	Percent Recovery				105%		
	RPD				**2%**		
	Amount Spiked				4.96		
	OPR Blank 122109			122209HGA	0.100 J		
	OPR Blank 122109 + Spike			122209HGA	5.31		
	Amount Recovered				5.21		
	Percent Recovery				105%		
	Amount Spiked				4.96		
	OPR Blank 122109			122209HGA	0.100 J		
	OPR Blank 122109 + Spike Duplicate			122209HGA	5.55		
	Amount Recovered				5.45		
	Percent Recovery				110%		
	RPD				**5%**		

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MERCURY SPECIATION IN WATER
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MSL Code	Sample ID	Sample Collection Date	Sample Receipt Date	Analytical Batch ID - THg	THg ng/L	Analytical Batch ID - MeHg	MeHg ng/L
BLANK SPIKE (OPR) RESULTS							
Amount Spiked							0.500
OPR Blank 121709						121809MEA	0.0207 U
OPR Blank 121709 + Spike						121809MEA	0.509
Amount Recovered							0.509
Percent Recovery							102%
Amount Spiked							0.500
OPR Blank 121709						121809MEA	0.0207 U
OPR Blank 121709 + Spike Duplicate						121809MEA	0.499
Amount Recovered							0.499
Percent Recovery							100%
RPD							**2%**
Amount Spiked							0.500
OPR Blank 122909						123009MEA	0.0207 U
OPR Blank 122909 + Spike						123009MEA	0.589
Amount Recovered							0.589
Percent Recovery							118%
Amount Spiked							0.500
OPR Blank 122909						123009MEA	0.0207 U
OPR Blank 122909 + Spike Duplicate						123009MEA	0.528
Amount Recovered							0.528
Percent Recovery							106%
RPD							**11%**

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OLIN CHEMICAL
MERCURY SPECIATION IN WATER
EDD ID: 3091_5-20M

MSL Code	Sample ID		Sample Collection Date	Sample Receipt Date	Analytical Batch ID - THg	THg ng/L	Analytical Batch ID - MeHg	MeHg ng/L
BLANK SPIKE (OPR) RESULTS								
Amount Spiked								0.500
OPR Blank 122909							010710MEA	0.0207 U
OPR Blank 122909 + Spike							010710MEA	0.430
Amount Recovered								0.430
Percent Recovery								86%
Amount Spiked								0.500
OPR Blank 122909							010710MEA	0.0207 U
OPR Blank 122909 + Spike Duplicate							010710MEA	0.413
Amount Recovered								0.413
Percent Recovery								83%
RPD								**4%**
MATRIX SPIKE (MS/MSD) RESULTS								
Amount Spiked						31.2		1.99
3091-6F	OU2B-SW-Gate-1B-113009	dissolved	11/30/09	12/01/09	121709HGA	5.89	121809MEA	0.693
3091-6F MS	OU2B-SW-Gate-1B-113009 MS	dissolved	11/30/09	12/01/09	121709HGA	37.1	121809MEA	2.73
Amount Recovered						31.2		2.04
Percent Recovery						100%		102%
Amount Spiked						31.3		2.01
3091-6F	OU2B-SW-Gate-1B-113009	dissolved	11/30/09	12/01/09	121709HGA	5.89	121809MEA	0.693
3091-6F MSD	OU2B-SW-Gate-1B-113009 MSD	dissolved	11/30/09	12/01/09	121709HGA	37.8	121809MEA	2.58
Amount Recovered						31.9		1.89
Percent Recovery						102%		94%
RPD						**2%**		**9%**

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OLIN CHEMICAL
MERCURY SPECIATION IN WATER
EDD ID: 3091_5-20M

MSL Code	Sample ID		Sample Collection Date	Sample Receipt Date	Analytical Batch ID - THg	THg ng/L	Analytical Batch ID - MeHg	MeHg ng/L
MATRIX SPIKE (MS/MSD) RESULTS								
Amount Spiked						19.9		1.97
3091-17F	OU2B-SW-Gate-2C-120209	dissolved	12/02/09	12/03/09	121809HGA	7.65	123009MEA	0.486
3091-17F MS	OU2B-SW-Gate-2C-120209 MS	dissolved	12/02/09	12/03/09	121809HGA	27.8	123009MEA	2.28
Amount Recovered						20.2		1.79
Percent Recovery						101%		91%
Amount Spiked						19.1		2.00
3091-17F	OU2B-SW-Gate-2C-120209	dissolved	12/02/09	12/03/09	121809HGA	7.65	123009MEA	0.486
3091-17F MSD	OU2B-SW-Gate-2C-120209 MSD	dissolved	12/02/09	12/03/09	121809HGA	27.5	123009MEA	2.43
Amount Recovered						19.9		1.94
Percent Recovery						104%		97%
RPD						**3%**		**7%**
REPLICATE ANALYSIS RESULTS								
3091-5U r1	OU2B-SW-Gate-1A-113009	total	11/30/09	12/01/09	121709HGA	55.1	121809MEA	0.947
3091-5U r2	OU2B-SW-Gate-1A-113009DUP	total	11/30/09	12/01/09	121709HGA	55.2	121809MEA	0.880
Mean						55.2		0.914
RPD						**0%**		**7%**
3091-17U r1	OU2B-SW-Gate-2C-120209	total	12/02/09	12/03/09	121809HGA	83.5	123009MEA	0.765
3091-17U r2	OU2B-SW-Gate-2C-120209DUP	total	12/02/09	12/03/09	121809HGA	83.1	010710MEA	0.684
Mean						83.3		0.725
RPD						**0%**		**11%**

U Not detected at or above DL shown
J Result is <Achieved MRL and >Achieved MDL
NA Not applicable/available
NS Not spiked
RPD Relative percent difference

BATTELLE MARINE SCIENCES LABORATORIES
1529 West Sequim Bay Road
Sequim, Washington 98382
(360) 681-3650

OLIN CHEMICAL
MERCURY SPECIATION IN WATER
EDD ID: 3091_21-39M

MSL Code	Sample ID		Sample Collection Date	Sample Receipt Date	Analytical Batch ID - THg	THg ng/L	Analytical Batch ID - MeHg	MeHg ng/L
3091-21U	OU2B-SW-FB1-011210	total	01/12/10	01/13/10	012010HGA	0.100 U	NA	NA
3091-21F	OU2B-SW-FB1-011210	dissolved	01/12/10	01/13/10	012010HGA	0.136 J	NA	NA
3091-22U	OU2B-SW-EB1-011210	total	01/12/10	01/13/10	012010HGA	0.177 J	012610MEA	0.0213 J
3091-22F	OU2B-SW-EB1-011210	dissolved	01/12/10	01/13/10	012010HGA	0.100 U	012610MEA	0.0207 U
3091-23U	OU2B-SW-GATE-1A-011210	total	01/12/10	01/13/10	012010HGA	18.3	012610MEA	0.246
3091-23F	OU2B-SW-GATE-1A-011210	dissolved	01/12/10	01/13/10	012010HGA	3.04	012610MEA	0.166
3091-24U	OU2B-SW-GATE-1B-011210	total	01/12/10	01/13/10	012010HGA	18.5	012610MEA	0.299
3091-24F	OU2B-SW-GATE-1B-011210	dissolved	01/12/10	01/13/10	012010HGA	3.46	012610MEA	0.251
3091-25U	OU2B-SW-GATE-1C-011210	total	01/12/10	01/13/10	012010HGA	17.9	012610MEA	0.348
3091-25F	OU2B-SW-GATE-1C-011210	dissolved	01/12/10	01/13/10	012010HGA	3.24	012610MEA	0.206
3091-29U	OU2B-SW-GATE-2A-011410	total	01/14/10	01/15/10	012210HGA	19.4	012610MEA	0.294
3091-29F	OU2B-SW-GATE-2A-011410	dissolved	01/14/10	01/15/10	012210HGA	3.68	012610MEA	0.177
3091-30U r1	OU2B-SW-GATE-2B-011410	total	01/14/10	01/15/10	012210HGA	18.0	012610MEA	0.284
3091-30U r2	OU2B-SW-GATE-2B-011410DUP	total	01/14/10	01/15/10	012210HGA	18.4	NA	NA
3091-30F	OU2B-SW-GATE-2B-011410	dissolved	01/14/10	01/15/10	012210HGA	3.68	012610MEA	0.246
3091-31U	OU2B-SW-GATE-2C-011410	total	01/14/10	01/15/10	012210HGA	18.3	012610MEA	0.302
3091-31F	OU2B-SW-GATE-2C-011410	dissolved	01/14/10	01/15/10	012210HGA	3.61	012610MEA	0.207
3091-32U	OU2B-SW-FB2-011410	total	01/14/10	01/15/10	012210HGA	0.100 U	NA	NA
3091-32F	OU2B-SW-FB2-011410	dissolved	01/14/10	01/15/10	012210HGA	0.100 U	NA	NA
3091-36U	OU2B-SW-GATE-3A-011810	total	01/18/10	01/19/10	012710HGA	29.6	012710MEA	0.343
3091-36F	OU2B-SW-GATE-3A-011810	dissolved	01/18/10	01/19/10	012710HGA	4.61	012710MEA	0.234
3091-37U r1	OU2B-SW-GATE-3B-011810	total	01/18/10	01/19/10	012710HGA	32.4	012710MEA	0.297
3091-37U r2	OU2B-SW-GATE-3B-011810DUP	total	01/18/10	01/19/10	012710HGA	31.4	012710MEA	0.334
3091-37F	OU2B-SW-GATE-3B-011810	dissolved	01/18/10	01/19/10	012710HGA	4.64	012710MEA	0.204
3091-38U	OU2B-SW-GATE-3C-011810	total	01/18/10	01/19/10	012710HGA	31.4	012710MEA	0.334
3091-38F	OU2B-SW-GATE-3C-011810	dissolved	01/18/10	01/19/10	012710HGA	5.71	012710MEA	0.213
3091-39U	OU2B-SW-FB3-011810	total	01/18/10	01/19/10	012710HGA	0.100 U	NA	NA
3091-39F	OU2B-SW-FB3-011810	dissolved	01/18/10	01/19/10	012710HGA	0.100 U	NA	NA
Blank Water Sent to Field 12/8/09						0.100 U	NA	NA

Detection Limits

Achieved MDL	0.1	0.0207
Required MDL (QAPP Table 1-3)	0.1	0.0200
Achieved MRL (3.18*MDL)	0.5	0.0500
Required MRL (QAPP Table 1-3)	11	0.0500

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OLIN CHEMICAL
MERCURY SPECIATION IN WATER
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MSL Code	Sample ID	Sample Collection Date	Sample Receipt Date	Analytical Batch ID - THg	THg ng/L	Analytical Batch ID - MeHg	MeHg ng/L
Method Blanks							
Blank 1	BLK011910 r1			012010HGA	0.100 U		
Blank 2	BLK011910 r2			012010HGA	0.100 U		
Blank 3	BLK011910 r3			012010HGA	0.100 U		
Blank 1	BLK012110 r1			012210HGA	0.100 U		
Blank 2	BLK012110 r2			012210HGA	0.100 U		
Blank 3	BLK012110 r3			012210HGA	0.100 U		
Blank 1	BLK012610 r1			012710HGA	0.100 U		
Blank 2	BLK012610 r2			012710HGA	0.100 U		
Blank 3	BLK012610 r3			012710HGA	0.100 U		
Blank 1	BLK012510 r1					012610MEA	0.0300 J
Blank 2	BLK012510 r2					012610MEA	0.0212 J
Blank 3	BLK012510 r3					012610MEA	0.0211 J
Blank 1	BLK012610 r1					012710MEA	0.0207 U
Blank 2	BLK012610 r2					012710MEA	0.0207 U
Blank 3	BLK012610 r3					012710MEA	0.0207 U
STANDARD REFERENCE MATERIAL							
1641d_011910				012010HGA	1550000		
1641d_012110				012210HGA	1620000		
1641d_012610				012710HGA	1580000		
	certified value				1590000		
	range				±18000		
	percent recovery			012010HGA	97%		
	percent recovery			012210HGA	102%		
	percent recovery			012710HGA	99%		
DORM-3_012510						012610MEA	4.07
DORM-3_012610						012710MEA	4.26
	reference value						4.47 ±0.32
	percent recovery					012610MEA	91%
	percent recovery					012710MEA	95%

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MSL Code	Sample ID	Sample Collection Date	Sample Receipt Date	Analytical Batch ID - THg	THg ng/L	Analytical Batch ID - MeHg	MeHg ng/L
BLANK SPIKE (OPR) RESULTS							
	Amount Spiked				4.96		
	OPR Blank 011910			012010HGA	0.100 U		
	OPR Blank 011910 + Spike			012010HGA	4.95		
	Amount Recovered				4.95		
	Percent Recovery				100%		
	Amount Spiked				4.96		
	OPR Blank 011910			012010HGA	0.100 U		
	OPR Blank 011910 + Spike Duplicate			012010HGA	4.80		
	Amount Recovered				4.80		
	Percent Recovery				97%		
	RPD				**3%**		
	Amount Spiked				4.96		
	OPR Blank 012110			012210HGA	0.100 U		
	OPR Blank 012110 + Spike			012210HGA	5.31		
	Amount Recovered				5.31		
	Percent Recovery				107%		
	Amount Spiked				4.96		
	OPR Blank 012110			012210HGA	0.100 U		
	OPR Blank 012110 + Spike Duplicate			012210HGA	5.36		
	Amount Recovered				5.36		
	Percent Recovery				108%		
	RPD				**1%**		

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MSL Code	Sample ID	Sample Collection Date	Sample Receipt Date	Analytical Batch ID - THg	THg ng/L	Analytical Batch ID - MeHg	MeHg ng/L
BLANK SPIKE (OPR) RESULTS							
Amount Spiked					4.96		
OPR Blank 012610				012710HGA	0.107 J		
OPR Blank 012610 + Spike				012710HGA	5.08		
Amount Recovered					4.97		
Percent Recovery					100%		
Amount Spiked					4.96		
OPR Blank 012610				012710HGA	0.107 J		
OPR Blank 012610 + Spike Duplicate				012710HGA	4.88		
Amount Recovered					4.77		
Percent Recovery					96%		
RPD					**4%**		
Amount Spiked							0.500
Mean Blank 012510						012610MEA	0.0241 J
Mean Blank 012510 + Spike						012610MEA	0.536
Amount Recovered							0.512
Percent Recovery							102%
Amount Spiked							0.500
Mean Blank 012510						012610MEA	0.0241 J
Mean Blank 012510 + Spike Duplicate						012610MEA	0.623
Amount Recovered							0.599
Percent Recovery							120%
RPD							**16%**

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MSL Code	Sample ID		Sample Collection Date	Sample Receipt Date	Analytical Batch ID - THg	THg ng/L	Analytical Batch ID - MeHg	MeHg ng/L
BLANK SPIKE (OPR) RESULTS								
Amount Spiked								0.500
Mean Blank 012610							012710MEA	0.0207 U
Mean Blank 012610 + Spike							012710MEA	0.501
Amount Recovered								0.501
Percent Recovery								100%
Amount Spiked								0.500
Mean Blank 012610							012710MEA	0.0207 U
Mean Blank 012610 + Spike Duplicate							012710MEA	0.488
Amount Recovered								0.488
Percent Recovery								98%
RPD								**3%**
MATRIX SPIKE (MS/MSD) RESULTS								
Amount Spiked						19.9		1.01
3091-23F	OU2B-SW-GATE-1A-011210	dissolved	01/12/10	01/13/10	012010HGA	3.04	012610MEA	0.166
3091-23F MS	OU2B-SW-GATE-1A-011210 MS	dissolved	01/12/10	01/13/10	012010HGA	22.7	012610MEA	1.08
Amount Recovered						19.7		0.914
Percent Recovery						99%		90%
Amount Spiked						19.6		0.984
3091-23F	OU2B-SW-GATE-1A-011210	dissolved	01/12/10	01/13/10	012010HGA	3.04	012610MEA	0.166
3091-23F MSD	OU2B-SW-GATE-1A-011210 MSD	dissolved	01/12/10	01/13/10	012010HGA	22.2	012610MEA	1.01
Amount Recovered						19.2		0.844
Percent Recovery						98%		86%
RPD						**1%**		**5%**

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MSL Code	Sample ID		Sample Collection Date	Sample Receipt Date	Analytical Batch ID - THg	THg ng/L	Analytical Batch ID - MeHg	MeHg ng/L
MATRIX SPIKE (MS/MSD) RESULTS								
Amount Spiked						15.7		
3091-30F	OU2B-SW-GATE-2B-011410	dissolved	01/14/10	01/15/10	012210HGA	3.68		
3091-30F MS	OU2B-SW-GATE-2B-011410 MS	dissolved	01/14/10	01/15/10	012210HGA	19.6		
Amount Recovered						15.9		
Percent Recovery						101%		
Amount Spiked						15.6		
3091-30F	OU2B-SW-GATE-2B-011410	dissolved	01/14/10	01/15/10	012210HGA	3.68		
3091-30F MSD	OU2B-SW-GATE-2B-011410 MSD	dissolved	01/14/10	01/15/10	012210HGA	19.4		
Amount Recovered						15.7		
Percent Recovery						101%		
RPD						**1%**		
Amount Spiked						19.7		
3091-36F	OU2B-SW-GATE-3A-011810	dissolved	01/18/10	01/19/10	012710HGA	4.61		
3091-36F MS	OU2B-SW-GATE-3A-011810 MS	dissolved	01/18/10	01/19/10	012710HGA	23.3		
Amount Recovered						18.7		
Percent Recovery						95%		
Amount Spiked						19.5		
3091-36F	OU2B-SW-GATE-3A-011810	dissolved	01/18/10	01/19/10	012710HGA	4.61		
3091-36F MSD	OU2B-SW-GATE-3A-011810 MSD	dissolved	01/18/10	01/19/10	012710HGA	23.5		
Amount Recovered						18.9		
Percent Recovery						97%		
RPD						**2%**		

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MSL Code	Sample ID		Sample Collection Date	Sample Receipt Date	Analytical Batch ID - THg	THg ng/L	Analytical Batch ID - MeHg	MeHg ng/L
REPLICATE ANALYSIS RESULTS								
3091-30U r1	OU2B-SW-GATE-2B-011410	total	01/14/10	01/15/10	012210HGA	18.0	012610MEA	0.284
3091-30U r2	OU2B-SW-GATE-2B-011410DUP	total	01/14/10	01/15/10	012210HGA	18.4	NA	NA
Mean						18.2		NA
RPD						**2%**		NA
3091-37U r1	OU2B-SW-GATE-3B-011810	total	01/18/10	01/19/10	012710HGA	32.4	012710MEA	0.297
3091-37U r2	OU2B-SW-GATE-3B-011810DUP	total	01/18/10	01/19/10	012710HGA	31.4	012710MEA	0.334
Mean						31.9		0.315
RPD						**3%**		**12%**

U Not detected at or above DL shown
J Result is <Achieved MRL and >Achieved MDL
NA Not applicable/available
NS Not spiked
RPD Relative percent difference

Olin Cores
Narrative prepared by Linda Moats 1/07/10

Sections from three cores were received in good condition, frozen, freeze-dried and analyzed for ^{137}Cs and ^{210}Pb according to mutual agreement with Mactec personnel. Porosity values were calculated from the percent dry weight.

Core SDCR8 (MSL sample numbers 3078 1-52)
The percent dry weight varied between 21.4 and 56.6. Generally, the percent dry weight increased with depth indicating a decrease of the organic fraction, except an apparent demarcation at 176.2 cm where the density changes from 0.451 to 0.729 g/cm^3. Radioactive isotopes of interest in this study are normally associated with the organic fraction of the sediments. The mixed layer, deduced from the ^{210}Pb data, appears to occur from 0 to 97.6 cm depth. Peak activity for ^{137}Cs was found between 151.7 and 163.9 cm. The calculated sedimentation rate for this core is 0.95 $g/cm^2/yr$ based on supported lead activity of 1.06 dpm/g. The date corresponding to the ^{137}Cs peak is 1964 and is in agreement with the documented source of ^{137}Cs from nuclear testing between 1957 and 1965. Dates could not be provided for depths from 176.2 to 298.5 cm due to the distinct change in sediment density mentioned above that clearly indicates an event occurrence that may have changed the sedimentation rate.

SDCR2 (MSL sample numbers 3078 56-105)
The percent dry weight ranged from 50.8 to 70.3. The percent dry weight was similar with depth, except a "layer" of possible sand from 10.4 to 62.6 cm depth. The mixed layer appears to occur from 0 to 23.5 cm depth. Percent dry weight showing well mixed sediment throughout the core in combination with increasing ^{210}Pb activity with depth indicate significant sediment disturbance at this site. Gamma activity was not measured for this core nor were sedimentation rates calculated due to evidence from the ^{210}Pb data of extreme disturbance at this site.

SDCR9 (MSL sample numbers 3078 109-152)
The percent dry weight increased with depth ranging from a low of 22.8 at 4.8-7.2 cm to 40.8 in the deepest section analyzed. The mixed layer appears to occur from 0 to 28.9 cm depth. The ^{210}Pb results indicate that the background level of excess lead was not found in this core. Because the model used to calculate sedimentation rates requires supported lead activity for accuracy, dates were not provided for this core.

QA/QC NARRATIVE

PROJECT: OLIN Cores SDCR8-092809, SDCR2-092809, SDCR9-092809
PARAMETER: Radionuclide Analysis: ^{210}Pb
LABORATORY: Battelle Marine Sciences Laboratory, Sequim, Washington
MATRIX: Sediment
Includes samples 3078-1,3,5,7,9,11,13,15,17,19,21,23,26-52,56,58,60,62,64, 66,68,70,71,73,75,77,79,81-105,109,111,113,115,117,119,121,123,125,127,129,131-152

SAMPLE CUSTODY AND PROCESSING: Pre-sectioned samples were received in good condition. The Chain of Custody received from the client listed three cores, but none of the core sections were listed individually. The MSL Sample Custodian worked with the project manager to prepare Chain of Custody forms that listed each sample individually with the sample code: SDCRX-092809-x-x. Section intervals were corrected for core compression by the client and received 10/6/09. The section intervals were written on the jars and verified with electronic information received from Cynthia Draper (Mactec). The samples were weighed, frozen and freeze-dried. An aliquot of dried sample was digested and counted by alpha spectroscopy for ^{210}Pb.

DATA QUALITY OBJECTIVES:

^{210}Pb Check Standard Accuracy:	≤ 30% PD
Replicate Precision (Duplicate):	≤ 30% RPD

METHOD: Analysis of sediment samples for ^{210}Pb was conducted according to Battelle SOP MSL-C-012, *^{210}Pb Dating Digestion and Analysis*. An approximate 3-g aliquot of each dry sediment sample was removed for acid digestion and plated onto a small metal disk. Polonium-208 was added to each sample during processing as an internal standard to ratio with ^{210}Po for calculation of ^{210}Pb in disintegrations per minute per gram (dpm/g). A recovery is not calculated for the internal standard since it is not used to determine accuracy. The plated disks were counted individually using a Tennelec TC 256 Si (Li) alpha particle spectrometer, Model 7401. Samples were counted for approximately 24 hours each. Sample results are reported as ^{210}Pb activity in units of dpm/g dry weight.

CHECK STANDARD ACCURACY: A ^{210}Pb check standard was analyzed with each core and each analytical batch. The results of the check standard analyses were 10, 21, 1, 0, 20, 4 and 4 percent difference (PD) and were within the QC acceptance criteria of 30% PD.

REPLICATE PRECISION: One sample was analyzed in duplicate with each core and each analytical batch. Precision of duplicate analyses, expressed as the relative percent difference (RPD) of replicate results were 8, 6, 3, 10, 4 and 8% and were within the QC acceptance criteria of 30% RPD.

QA/QC NARRATIVE

PROJECT:	OLIN Cores SDCR8-092809, SDCR2-092809, SDCR9-092809
PARAMETER:	Radionuclide Analysis: ^{137}Cs
LABORATORY:	Battelle Marine Sciences Laboratory, Sequim, Washington
MATRIX:	Sediment Includes samples 3078*31-44, 137-144, 148, 149
SAMPLE CUSTODY AND PROCESSING:	Pre-sectioned samples were received in good condition. The Chain of Custody received from the client listed three cores, but none of the core sections were listed individually. The MSL Sample Custodian worked with the project manager to prepare Chain of Custody forms that listed each sample individually with the sample code: SDCRX-092809-x-x. Section intervals were corrected for core compression by the client and received 10/6/09. The section intervals were written on the jars and verified with electronic information received from Cynthia Draper (Mactec). The samples were weighed, frozen and freeze-dried. Selected samples were counted by gamma spectroscopy for ^{137}Cs.
DATA QUALITY OBJECTIVES:	^{137}Cs Check Standard Accuracy: ≤ 30% PD Replicate Precision (Duplicate): ≤ 30% RPD
METHOD:	Analysis of sediment samples for ^{137}Cs was conducted according to Battelle SOP MSL-C-013, *Analyses of ^{137}Cs and other Gamma Emitting Isotopes by Gamma Counting*. Samples were counted using a Canberra Series 40 MCA gamma counter for 8-24 hours each. Sample results are reported as ^{137}Cs activity in units of disintegrations per minute per gram dry weight.
DETECTION LIMIT:	The detection limit is defined as three times the square root of the background counts and is calculated for each sample based on activity and mass.
STANDARD DISK COUNTS:	A ^{137}Cs standard disk was counted to set the instrument channels for the region of interest around the ^{137}Cs peak. Counts from the ^{137}Cs standard disk were also used in the calculation of the ^{137}Cs decay rate.
CHECK STANDARD ACCURACY:	Check standard IAEA 135 was with each analytical batch of samples: initially, and following the completion of 20 sample analyses. Results of check standard analyses were 15, 23, 16, and 2 percent difference (PD) and were within the QC acceptance criteria of 30% PD.
REPLICATE PRECISION:	One (1) replicate sample was analyzed with each core. Relative percent difference (RPD) was calculated for the replicate pair and determined to be 7 and 9%. These results were within the acceptance criteria of 30%.

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1/8/2010

SEDIMENTATION RATE (g/cm2/yr)
FOR
Olin Core SDC R8

Supported Pb210 (dpm/g)=		1.06						Time	SEDIMENT		Sediment
		Segment	Mean Depth	Begin Depth	End Depth	% Dry	Dry wt. Density	Corrected Pb 210	AGE (years)	YEAR	Accumulation Rate (cm/yr)
Sample #	Sponsor code	Depth (cm	(cm)	(cm)	(cm)		(g/cm3)	(dpm/g)	S = **0.95**		
3078-1	SDCR8-092809-0-2.2	0-2.2	1.1	0	2.2	22.8	0.234	5.51	0.272	2009	4.05
		2.2-4.5	3.4	2.2	4.5	23.1	0.239	5.35	0.794	2008	4.22
3078-3	SDCR8-092809-4.5-6.7	4.5-6.7	5.6	4.5	6.7	23.3	0.241	5.18	1.37	2008	4.08
		6.7-8.9	7.8	6.7	8.9	24.4	0.257	5.42	1.95	2007	4.00
3078-5	SDCR8-092809-8.9-11.2	8.9-11.2	10.1	8.9	11.2	25.5	0.273	5.65	2.56	2006	3.92
		11.2-13.4	12.3	11.2	13.4	26.2	0.283	5.44	3.23	2006	3.81
3078-7	SDCR8-092809-13.4-15.	13.4-15.6	14.5	13.4	15.6	26.8	0.292	5.23	3.90	2005	3.72
		15.6-17.8	16.7	15.6	17.8	28.9	0.323	5.36	4.60	2004	3.63
3078-9	SDCR8-092809-17.8-20.	17.8-20.1	19.0	17.8	20.1	30.9	0.355	5.48	5.38	2004	3.52
		20.1-22.3	21.2	20.1	22.3	29.6	0.334	5.66	6.22	2003	3.41
3078-11	SDCR8-092809-22.3-24.	22.3-24.5	23.4	22.3	24.5	28.3	0.314	5.83	6.98	2002	3.35
		24.5-26.8	25.7	24.5	26.8	28.0	0.310	5.98	7.70	2001	3.33
3078-13	SDCR8-092809-26.8-29	26.8-29	27.9	26.8	29	27.7	0.305	6.13	8.44	2001	3.30
		29-31.2	30.1	29	31.2	24.9	0.264	5.85	9.11	2000	3.31
3078-15	SDCR8-092809-31.2-33.	31.2-33.5	32.4	31.2	33.5	22.0	0.223	5.57	9.68	1999	3.34
		33.5-35.7	34.6	33.5	35.7	21.7	0.219	5.82	10.2	1999	3.39
3078-17	SDCR8-092809-35.7-37.	35.7-37.9	36.8	35.7	37.9	21.4	0.215	6.06	10.7	1998	3.43
		37.9-40.1	39.0	37.9	40.1	23.1	0.239	5.81	11.2	1998	3.47
3078-19	SDCR8-092809-40.1-42.	40.1-42.4	41.3	40.1	42.4	24.7	0.261	5.56	11.8	1997	3.49
		42.4-44.6	43.5	42.4	44.6	23.6	0.246	5.73	12.4	1997	3.50
3078-21	SDCR8-092809-44.6-46.	44.6-46.8	45.7	44.6	46.8	22.5	0.230	5.89	13.0	1996	3.52
		46.8-49.1	48.0	46.8	49.1	24.8	0.263	5.51	13.5	1995	3.54
3078-23	SDCR8-092809-49.1-51.	49.1-51.3	50.2	49.1	51.3	27.0	0.295	5.13	14.2	1995	3.53
		51.3-55.8	58.2	51.3	65.0	25.0	0.265	5.16	14.9	1994	3.91
3078-26	SDCR8-092809-55.8-61.	55.8-61.7	58.8	55.8	61.7	22.9	0.236	5.19	18.3	1991	3.22
3078-27	SDCR8-092809-61.7-67.	61.7-67.7	64.7	61.7	67.7	24.0	0.251	5.48	19.1	1990	3.38
3078-28	SDCR8-092809-67.7-73.	67.7-73.7	70.7	67.7	73.7	23.1	0.239	5.92	20.7	1988	3.41
3078-29	SDCR8-092809-73.7-79.	73.7-79.7	76.7	73.7	79.7	25.0	0.265	5.23	22.2	1987	3.45
3078-30	SDCR8-092809-79.7-85.	79.7-85.7	82.7	79.7	85.7	23.4	0.243	5.52	23.9	1985	3.46
3078-31	SDCR8-092809-85.7-91.	85.7-91.6	88.7	85.7	91.6	25.3	0.270	5.04	25.5	1984	3.48
3078-32	SDCR8-092809-91.6-97.	91.6-97.6	94.6	91.6	97.6	25.8	0.277	5.01	27.1	1982	3.49
3078-33	DCR8-092809-97.6-103	97.6-103.6	100.6	97.6	103.6	25.3	0.270	5.47	28.9	1980	3.48
3078-34	CR8-092809-103.6-109	03.6-109.	106.6	103.6	109.6	23.8	0.248	4.56	30.6	1978	3.49
3078-35	CR8-092809-109.6-115	09.6-115.	112.6	109.6	115.6	25.7	0.276	4.57	32.2	1977	3.50

Battelle Marine Sciences Laboratory
1529 West Sequim Bay Rd.
Sequim, WA 98382
(360) 683-4151

1/8/2010

SEDIMENTATION RATE (g/cm2/yr)
FOR
Olin Core SDC R8

Supported Pb210 (dpm/g)= 1.06												
Sample #	Sponsor code	Segment Depth (cm	Mean Depth (cm)	Begin Depth (cm)	End Depth (cm)	% Dry	Dry wt. Density (g/cm3)	Time Corrected Pb 210 (dpm/g)	SEDIMENT AGE (years) S = **0.95**	YEAR	Sediment Accumulation Rate (cm/yr)
3078-36	DCR8-092809-115.6-121	115.6-121.	118.6	115.6	121.5	25.5	0.273	3.27	33.9	1975	3.50
3078-37	DCR8-092809-121.5-127	121.5-127.	124.5	121.5	127.5	25.7	0.276	3.46	35.6	1973	3.50
3078-38	DCR8-092809-127.5-133	127.5-133.	130.5	127.5	133.5	24.1	0.253	3.39	37.3	1972	3.50
3078-39	DCR8-092809-133.5-139	133.5-139.	136.5	133.5	139.5	28.0	0.310	3.15	39.0	1970	3.50
3078-40	DCR8-092809-139.5-151	139.5-151.	145.6	139.5	151.7	29.4	0.331	2.96	41.0	1968	3.56
3078-41	DCR8-092809-151.7-163	151.7-163.	157.8	151.7	163.9	33.5	0.397	3.08	45.3	1964	3.49
3078-42	DCR8-092809-163.9-176	163.9-176.	170.1	163.9	176.2	36.7	0.451	2.17	50.4	1959	3.37
3078-43	DCR8-092809-176.2-188	176.2-188.	182.3	176.2	188.4	50.8	0.729	1.29	NA	NA	NA
3078-44	DCR8-092809-188.4-200	188.4-200.	194.5	188.4	200.6	54.4	0.811	1.33	NA	NA	NA
3078-45	DCR8-092809-200.6-212	200.6-212.	206.8	200.6	212.9	54.9	0.823	1.15	NA	NA	NA
3078-46	DCR8-092809-121.9-225	121.9-225.	219.0	212.9	225.1	56.6	0.864	1.07	NA	NA	NA
3078-47	DCR8-092809-225.1-237	225.1-237.	231.2	225.1	237.3	51.2	0.738	1.41	NA	NA	NA
3078-48	DCR8-092809-237.3-249	237.3-249.	243.4	237.3	249.5	52.8	0.774	1.35	NA	NA	NA
3078-49	DCR8-092809-249.5-261	249.5-261.	255.7	249.5	261.8	45.4	0.615	1.55	NA	NA	NA
3078-50	DCR8-092809-261.8-27	261.8-274	267.9	261.8	274	50.8	0.729	1.47	NA	NA	NA
3078-51	DCR8-092809-274-286.	274-286.2	280.1	274	286.2	53.3	0.786	1.44	NA	NA	NA
3078-52	DCR8-092809-286.2-298	286.2-298.	292.4	286.2	298.5	53.0	0.779	1.35	NA	NA	NA

S = sedimentation rate in $g/cm^2/year$

Vacuum Filter Test for Olin McIntosh

Test performed by: Ray Brakebill

Date: 2/26/09 Time: _____ 1 mL Aliquots

Sample Name: OU2B-SED-ST24-02/09 2/26/09

Filter Size	Weigh Boat #	"Before" Weight (g)	"After" Weight (g)	Difference (g)
0.5 µm	1A	1.10149	1.10224	0.00075
2 µm	1B	1.22091	1.22094	0.00003
25 µm	1C	~~1.13519~~ A.	1.31505	0.18025

OVEN IN: 2/26/09 1800 Out: 3/1/09 1725

Sample Name: OU2B-SED-ST19-02/09 2/27/09

Filter Size	Weigh Boat #	"Before" Weight (g)	"After" Weight (g)	Difference (g)
0.5 µm	2A	1.12339	1.12369	0.00030
2 µm	2B	1.24886	1.24600	0.00014
25 µm	2C	1.14377	1.25523	0.11146

oven IN; 2/27/09 1345 out: 3/1/09 1725

Sample Name: OU2B-SED-ST26-02/09

Filter Size	Weigh Boat #	"Before" Weight (g)	"After" Weight (g)	Difference (g)
0.5 µm	3A	1.09270	1.09310	0.00040
2 µm	3B	1.25166	1.25169	0.00003
25 µm	3C	1.11888	1.25365	0.13477

Oven In: 2/27/09 1345 Out: 3/1/09 1725

Sample Name: OU2B-SED-ST15-02/09

Filter Size	Weigh Boat #	"Before" Weight (g)	"After" Weight (g)	Difference (g)
0.5 µm	4A	1.09946	1.10000	0.00054
2 µm	4B	1.24452	1.24459	0.00007
25 µm	4C	1.13367	1.25127	0.11760

A. 1.13480 RBM 2/26/09

oven In: 2/27/09 1345 out: 3/1/09 1725

Vacuum Filter Test for Olin McIntosh

Test performed by: Ray Brakebill

Date: 3/1/09 Time: _____

Oven In: 3/1/09 1900 Oven Out: 3/3/09 0900

Sample Name: OU2B-SED-ST24-02/09

Filter Size	Weigh Boat #	"Before" Weight (g)	"After" Weight (g)	Difference (g)
0.5 µm	5A	1.10438	1.10487	0.00049
2 µm	5B	1.25094	1.25096	0.00002
25 µm	5C	1.14291	1.30995	0.16704

Sample Name: OU2B-SED-ST19-02/09

Filter Size	Weigh Boat #	"Before" Weight (g)	"After" Weight (g)	Difference (g)
0.5 µm	6A	1.07851	1.07876	0.00025
2 µm	6B	1.22837	1.22838	0.00001
25 µm	6C	1.13208	1.23546	0.10338

Sample Name: OU2B-SED-ST26-02/09

Filter Size	Weigh Boat #	"Before" Weight (g)	"After" Weight (g)	Difference (g)
0.5 µm	7A	1.08197	1.08230	0.00033
2 µm	7B	1.23366	1.23369	0.00003
25 µm	7C	1.14142	1.30549	0.16407

Sample Name: OU2B-SED-ST15-02/09

Filter Size	Weigh Boat #	"Before" Weight (g)	"After" Weight (g)	Difference (g)
0.5 µm	8A	1.10844	1.10881	0.00037
2 µm	8B	1.23702	1.23712	0.00010
25 µm	8C	1.13205	1.22678	0.09473

Sample Name: OU2-TSS-A1T-012009

Filter Size	Weigh Boat #	"Before" Weight (g)	"After" Weight (g)	Difference (g)
0.5 µm	5A	1.11289	1.11386	0.00097
2 µm	5B	1.25363	1.25429	0.00066
25 µm	5C	1.14037	1.14164	0.00127

Sample Name: OU2-TSS-C5B-012009

Filter Size	Weigh Boat #	"Before" Weight (g)	"After" Weight (g)	Difference (g)
0.5 µm	6A	1.11435	1.11545	0.00118
2 µm	6B	1.24714	1.24779	0.00065
25 µm	6C	1.15143	1.15258	0.00115

Sample Name: OU2-TSS-C5T-012009

Filter Size	Weigh Boat #	"Before" Weight (g)	"After" Weight (g)	Difference (g)
0.5 µm	7A	1.10763	1.10859	0.00096
2 µm	7B	1.25708	1.25776	0.00068
25 µm	7C	1.16616	1.16713	0.00097

Sample Name: OU2-TSS-C2B-012009

Filter Size	Weigh Boat #	"Before" Weight (g)	"After" Weight (g)	Difference (g)
0.5 µm	8A	1.11855	1.11977	0.00122
2 µm	8B	1.25728	1.25805	0.00077
25 µm	8C	1.14391	~~1.14456~~ A. 1.14469	0.00078

RBM 3/17/09

Trial 1
100mL Aliquot

Vacuum Filter Test for Olin McIntosh

Test performed by: Ray Brakebill

Date: 3/15/09 Time: 2000

JN
OVEN: 3/15/09 2130
Out
3/17/09 1100

Sample Name: OU2-TSS-A1B-012009

Filter Size	Weigh Boat #	"Before" Weight (g)	"After" Weight (g)	Difference (g)
0.5 µm	1A	1.10346	1.10468	0.00122
2 µm	1B	1.24739	1.24811	0.00072
25 µm	1C	1.13842	1.14092	0.00250

Sample Name: : OU2-TSS-C2T-012009

Filter Size	Weigh Boat #	"Before" Weight (g)	"After" Weight (g)	Difference (g)
0.5 µm	2A	1.12822	1.12938	0.00116
2 µm	2B	1.24704	1.24781	0.00077
25 µm	2C	1.13651	1.13825	0.00174

Sample Name: : OU2-TSS-D1T-012009

Filter Size	Weigh Boat #	"Before" Weight (g)	"After" Weight (g)	Difference (g)
0.5 µm	3A	1.10125	1.10235	0.00110
2 µm	3B	1.26547	1.26630	0.00083
25 µm	3C	1.14917	1.15063	0.00146

Sample Name: OU2-TSS-D1B-012009

Filter Size	Weigh Boat #	"Before" Weight (g)	"After" Weight (g)	Difference (g)
0.5 µm	4A	1.11214	1.11334	0.00120
2 µm	4B	1.26329	1.26404	0.00075
25 µm	4C	1.13503	1.13629	0.00126

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www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

1147722

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: MACTEC	Report To:	Attention:
Address:	Copy To:	Company Name:
		Address:
Email To:	Purchase Order No.:	Pace Quote Reference:
Phone: Fax:	Project Name:	Pace Project Manager:
Requested Due Date/TAT:	Project Number:	Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER

☐ UST ☐ RCRA ☑ OTHER

Site Location STATE: AL

Requested Analysis Filtered (Y/N)

ITEM #	Section D Required Client Information — SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE	Matrix Codes MATRIX / CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test ↓ Y/N	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1																				
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
		2/23/09	1530	MACTEC	2/23/09	1530	
	MACTEC	2/23/09	1628	Paul Bradford	2/24/09	1628	
	Paul Bradford	2/24/09	1628				10°C / No / Y / Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY):

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

4

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Vacuum Filter Test for Olin McIntosh

Test performed by: Ray Brakebill

10 mL RBm 6/3/09

Date: 6/03/2009 Time: 0900 Aliquot Size: ~~100~~ ml (1 mL sample/~~100~~ mL Meq)

10 mL RBm 6/3/09

Sample Name: **OU2B-SED-ST24-0509**

Filter Size	Weigh Boat #	"Before" Weight (g)	"After" Weight (g)	Difference (g)
0.5 µm	1A	~~1.10137~~ A.	1.10187	0.00050
2 µm	1B	1.24489	1.24503	0.00014
25 µm	1C	1.13795	1.33554	0.19759

Sample Name: : **OU2B-SED-ST15-0509**

Filter Size	Weigh Boat #	"Before" Weight (g)	"After" Weight (g)	Difference (g)
0.5 µm	2A	1.10100	1.10173	0.00073 RBm 6/8/09 ~~0.00073~~
2 µm	2B	1.25321	1.25605	0.00084
25 µm	2C	1.15326	1.36936	0.21611

Sample Name: : **OU2B-SED-ST23-0509**

Filter Size	Weigh Boat #	"Before" Weight (g)	"After" Weight (g)	Difference (g)
0.5 µm	3A	1.11354	1.11456	0.00102
2 µm	3B	1.25122	1.25192	0.00070
25 µm	3C	1.14083	1.35235	0.21152

A. ~~1.13571~~ RBm 6/8/09
1.10137

Oven: In 6/3/09 1630
Out

Watson, Kate

From: McPherson, Dale
Sent: Monday, June 29, 2009 10:05 AM
To: Watson, Kate
Subject: RE: Olin McIntosh May 2009 Filtrations

Kate,

1 mL of sample was brought to 10 mL with Milli-Q for these filtrations.

Thanks,

Dale

R. Dale McPherson | Project Scientist/BioTox Lab Manager
MACTEC Engineering and Consulting, Inc.
3200 Town Point Drive NW, Ste. 100 | Kennesaw, GA 30144
Office (770) 421-3312 | **Fax** (770) 421-3486
Email rdmcpherson@mactec.com | **Web** www.mactec.com

MACTEC
engineering and constructing a better tomorrow

From: Watson, Kate
Sent: Monday, June 29, 2009 9:55 AM
To: McPherson, Dale
Subject: RE: Olin McIntosh May 2009 Filtrations

Hi Dale,
I have a question regarding the filtrations of the may McIntosh samples, performed on 6/3. The bench sheet says the aliquot size is 10 mL (1 mL sample/10 mL mill-eq) does that mean that the total volume to go through the filter was 11 mL, or did you put 1 mL of sample in and then fill to a total volume of 10 mL? Thanks!

Kate

Kate Watson
770-421-3345

From: McPherson, Dale
Sent: Wednesday, June 03, 2009 2:59 PM
To: Watson, Kate
Cc: Draper, Cynthia; Brafford, Paul; Fogell, Heidi
Subject: Olin McIntosh May 2009 Filtrations

Kate,

Attached is the May filtration data. I will bring you the data sheets and sample COC or leave them at your desk if you are not in the office.

UPPER MIDWEST REGION
MN: 612-607-1700 WI: 920-469-2436

Pace Analytical® www.pacelabs.com MACTEC Bio

CHAIN OF CUSTODY

COC No. 014798

*Preservation Codes
A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

(Please Print Clearly)	
Company Name:	MACTEC
Branch/Location:	Town Point
Project Contact:	C Draper
Phone:	
Project Number:	6107090035 / 2109.06
Project Name:	Olin McIntosh
Project State:	AL
Sampled By (Print):	M Rottenberg / R Reece
Sampled By (Sign):	M Rottenberg /
PO #:	Regulatory Program:

FILTERED? (YES/NO): (NO)
PRESERVATION (CODE)*: A

Quote #:	
Mail To Contact:	Kate Watson
Mail To Company:	
Mail To Address:	
Invoice To Contact:	
Invoice To Company:	
Invoice To Address:	
Invoice To Phone:	

Data Package Options (billable)
☐ EPA Level III
☐ EPA Level IV

MS/MSD
☐ On your sample (billable)
☐ NOT needed on your sample

Matrix Codes
A = Air SED W = Water
B = Biota DW = Drinking Water
C = Charcoal GW = Ground Water
O = Oil SW = Surface Water
S = Soil WW = Waste Water
SI = Sludge WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	Analyses Requested: Y/N	Pick Letter	Grain Size Analysis	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
	OU2B-SED-ST24-0509	5/28/09	1345	SED		X				
	OU2B-SED-ST15-0509	5/28/09	1125	SED		X				
	OU2B-SED-ST23-0509	5/28/09	1145	SED		X				

MRB

Rush Turnaround Time Requested - Prelims
(Rush TAT subject to approval/surcharge)
Date Needed:

Transmit Prelim Rush Results by (complete what you want):
Email #1:
Email #2:
Telephone:
Fax:

Samples on HOLD are subject to special pricing and release of liability

Relinquished By:	Date/Time:	Received By:	Date/Time:
MRottenberg	6/1/09 1023		6/1/09 1023
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:

PACE Project No.

Receipt Temp = °C
Sample Receipt pH OK / Adjusted
Cooler Custody Seal Present / Not Present
Intact / Not Intact

Version 6.0 06/14/06

ORIGINAL

Olin McIntosh OU-2 **Vacuum Filter Test Olin McIntosh Oprable Unit #2 Site**

Project # 6107-09-0035 2009.06

Trap ID (sample waypoint)	Lab ID	Weigh Boat #	Filter Size	Before Weight (	After Weight (	Difference (g)
	OU2B-SED-ST13-0809	1A	0.5 µm	1.13151	1.13220	0.00069
		1B	2 µm	1.26015	1.26118	0.00103
		1C	25 µm	1.15460	1.24274	0.08814
	OU2B-SED-ST15-0809	2A	0.5 µm	1.13519	1.13567	0.00048
		2B	2 µm	1.24881	1.24995	0.00114
		2C	25 µm	1.14112	1.25324	0.11212
	OU2B-SED-ST23-0809	3A	0.5 µm	1.12372	1.12458	0.00086
		3B	2 µm	1.27021	1.27168	0.00147
		3C	25 µm	1.15382	1.23194	0.07812
	OU2B-SED-ST24-0809	4A	0.5 µm	1.10206	1.10273	0.00067
		4B	2 µm	1.25403	1.25538	0.00135
		4C	25 µm	1.15304	1.23079	0.07775
	OU2B-SED-ST29-0809	5A	0.5 µm	1.10900	1.10925	0.00025
		5B	2 µm	1.23865	1.23876	0.00011
		5C	25 µm	1.14400	1.23901	0.09501
	OU2B-SED-ST30-0809	6A	0.5 µm	1.12257	1.12308	0.00051
		6B	2 µm	1.25083	1.25165	0.00082
		6C	25 µm	1.13999	1.25958	0.11959
	OU2B-SED-ST31-0809	7A	0.5 µm	1.12371	1.12427	0.00056
		7B	2 µm	1.24796	1.24920	0.00124
		7C	25 µm	1.15823	1.32144	0.16321
	OU2B-SED-ST33-0809	8A	0.5 µm	1.10479	1.10533	0.00054
		8B	2 µm	1.24447	1.24529	0.00082
		8C	25 µm	1.14685	1.26865	0.12180

1ml aliquot brought up to 10 with Milli-Q.

Prepared by: RBM 10/30/09

Reviewed by: RDM 11/12/09

Vacuum Filter Test for Olin McIntosh

Test performed by: Ray Brakebill

Date: 8/20/09 Time: 1300 Aliquot Size: 1 ml sample brought up to 10 mL w/ MEQ

Sample Name: **OU2B-SED-ST13-0809**

Filter Size	Weigh Boat #	"Before" Weight (g)	"After" Weight (g)	Difference (g)
0.5 µm	1A	1.13151	1.13220	0.00069
2 µm	1B	1.26015	1.26118	0.00103
20µm	1C	1.15460	1.24274	~~0.00103~~ B.

Sample Name: : **OU2B-SED-ST15-0809**

Filter Size	Weigh Boat #	"Before" Weight (g)	"After" Weight (g)	Difference (g)
0.5 µm	2A	~~1.13591~~ A.	1.13567	0.00048
2 µm	2B	1.24881	1.24995	0.00114
20 µm	2C	1.14112	1.25324	0.11212

Sample Name: : **OU2B-SED-ST23-0809**

Filter Size	Weigh Boat #	"Before" Weight (g)	"After" Weight (g)	Difference (g)
0.5 µm	3A	1.12372	1.12458	0.00086
2 µm	3B	1.27021	1.27168	0.00147
20 µm	3C	1.15382	1.23194	0.07812

Sample Name: **OU2B-SED-ST24-0809**

Filter Size	Weigh Boat #	"Before" Weight (g)	"After" Weight (g)	Difference (g)
0.5 µm	4A	1.10206	1.10273	0.00067
2 µm	4B	1.25403	1.25538	0.00135
20µm	4C	1.15304	1.23079	0.07775

A. 1.13519 g 8/20/09 RM
In: 1530 Out: 8/21/09 1530
Oven

B. 2.08814 g 8/24/09 RM

Vacuum Filter Test for Olin McIntosh

Test performed by: Ray Brakebill

Date: 8/20/09 Time: _ Aliquot Size: 1 ml sample brought up to 10mL w/ MEQ

Sample Name: **OU2B-SED-ST29-0809**

Filter Size	Weigh Boat #	"Before" Weight (g)	"After" Weight (g)	Difference (g)
0.5 µm	5A	1.10900	1.10925	0.00025
2 µm	5B	1.23865	1.23876	0.00011
20 µm	5C	1.14400	1.23901	0.09501

Sample Name: : **OU2B-SED-ST30-0809**

Filter Size	Weigh Boat #	"Before" Weight (g)	"After" Weight (g)	Difference (g)
0.5 µm	6A	1.12257	1.12308	0.00051
2 µm	6B	1.25083	1.25165	0.00082
20µm	6C	1.13999	1.25958	0.11959

Sample Name: : **OU2B-SED-ST31-0809**

Filter Size	Weigh Boat #	"Before" Weight (g)	"After" Weight (g)	Difference (g)
0.5 µm	7A	1.12371	1.12427	0.00056
2 µm	7B	1.24796	1.24920	0.00124
20 µm	7C	1.15823	1.32144	~~0.0~~ 0.16321

RM 8/24/09

Sample Name: **OU2B-SED-ST33-0809**

Filter Size	Weigh Boat #	"Before" Weight (g)	"After" Weight (g)	Difference (g)
0.5 µm	8A	1.10479	1.10533	0.00054
2 µm	8B	1.24447	1.24529	0.00082
20 µm	8C	1.14685	1.26865	0.12180

Oven: In 1530 Out 8/21/09 1530

Olin McIntosh OU-2
Project # 6107-09-0035

Vacuum Filter Test Olin McIntosh Oprable Unit #2 Site

Trap ID (sample waypoint)	Lab ID	Weigh Boat #	Filter Size	Before Weight (g)	After Weight (g)	Difference (g)
1	OU2-TSS-D1T-101509	1A	0.5 µm	1.07569	1.07605	0.00036
		1B	2 µm	1.24497	1.24505	8.0E-05
		1C	25 µm	1.12559	1.12741	0.00182
2	OU2-TSS-A1T-101509	2A	0.5 µm	1.08136	1.08153	0.00017
		2B	2 µm	1.23282	1.23295	0.00013
		2C	25 µm	1.13181	1.13204	0.00023
3	OU2-TSS-B2T-101509	3A	0.5 µm	1.09055	1.09076	0.00021
		3B	2 µm	1.24218	1.24225	7.0E-05
		3C	25 µm	1.14210	1.14305	0.00095
4	OU2-TSS-C5T-101509	4A	0.5 µm	1.08416	1.08449	0.00033
		4B	2 µm	1.23504	1.23512	8.0E-05
		4C	25 µm	1.15481	1.15566	0.00085
5	OU2-TSS-C2T-101509	5A	0.5 µm	1.09029	1.09055	0.00026
		5B	2 µm	1.24131	1.24138	7.0E-05
		5C	25 µm	1.15413	1.15472	0.00059
6	OU2-TSS-D1T-102009	6A	0.5 µm	1.07987	1.08049	0.00062
		6B	2 µm	1.24085	1.24108	0.00023
		6C	25 µm	1.13716	1.13815	0.00099
7	OU2-TSS-A1T-102009	7A	0.5 µm	1.08433	1.08469	0.00036
		7B	2 µm	1.24731	1.24779	0.00048
		7C	25 µm	1.15359	1.15385	0.00026
8	OU2-TSS-B2T-102009	8A	0.5 µm	1.09544	1.09598	0.00054
		8B	2 µm	1.22227	1.22261	0.00034
		8C	25 µm	1.13285	1.13361	0.00076
9	OU2-TSS-C5T-102009	9A	0.5 µm	1.07586	1.07611	0.00025
		9B	2 µm	1.21752	1.21793	0.00041
		9C	25 µm	1.14689	1.14752	0.00063
10	OU2-TSS-C2T-102009	10A	0.5 µm	1.08102	1.08153	0.00051
		10B	2 µm	1.22235	1.22293	0.00058
		10C	25 µm	1.14673	1.14729	0.00056

Prepared by: RBM 10/30/09
Reviewed by: RDM 11/6/09

Olin McIntosh OU-2
Project # 6107-09-0035

Vacuum Filter Test Olin McIntosh Oprable Unit #2 Site

Trap ID (sample waypoint)	Lab ID	Weigh Boat #	Filter Size	Before Weight (g)	After Weight (g)	Difference (g)
11	OU2-TSS-D1T-102109	11A	0.5 µm	1.08798	1.08850	0.00052
		11B	2 µm	1.22071	1.22134	0.00063
		11C	25 µm	1.13508	1.13585	0.00077
12	OU2-TSS-A1T-102109	12A	0.5 µm	1.08244	1.08276	0.00032
		12B	2 µm	1.25796	1.25833	0.00037
		12C	25 µm	1.13141	1.13210	0.00069
13	OU2-TSS-B2T-102109	13A	0.5 µm	1.10283	1.10379	0.00096
		13B	2 µm	1.23993	1.24060	0.00067
		13C	25 µm	1.13950	1.14023	0.00073
14	OU2-TSS-C5T-102109	14A	0.5 µm	1.09720	1.09760	0.00040
		14B	2 µm	1.22547	1.22602	0.00055
		14C	25 µm	1.13015	1.13081	0.00066
15	OU2-TSS-C2T-102109	15A	0.5 µm	1.06786	1.06806	0.00020
		15B	2 µm	1.22362	1.22450	0.00088
		15C	25 µm	1.13995	1.14061	0.00066

Prepared by: RBM 10/30/09
Reviewed by: RDM 11/6/09

GERAGHTY & MILLER, INC.
Environmental Services
A Heidemij Company

Laboratory Task Order No. _____

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Project Number 6107090035

Project Location OLIN McIntosh

Laboratory MACTEC

Sampler(s)/Affiliation Jeff Moore/MACTEC

	SAMPLE IDENTITY	Code	Date/Time Sampled	Lab ID	GRAIN SIZE	SAMPLE BOTTLE / CONTAINER DESCRIPTION: .5µm A Initial Boat Weight	2µm B	20µm C	.5µm A Final Boat Weight	2µm B	20µm C	Total A	B	C TOTAL
1	OU2-TSS-01T-101509	L	10-15-09 1025		1	1.07569	1.24497	1.12559	1.07605	1.24505	1.12741			
2	OU2-TSS-A1T-101509		1025		1	~~1.07917~~ B	1.23282	~~1.12489~~ D	1.08153	1.23295	1.13204			
3	OU2-TSS-B2T-101509		1050		1	1.09055	1.24218	1.14210	1.09076	1.24225	1.14305			
4	OU2-TSS-C5T-101509		1140		1	1.08416	1.23504	1.15481	1.08449	1.23512	1.15566			
5	OU2-TSS-C2T-101509		1243		1	1.09029	1.24131	1.18413	1.09055	1.24138	1.15472			
6	OU2-TSS-01T-102009		10-20-09 1017		1	1.07987	1.24085	1.13716	1.08049	1.24108	1.13815			
7	OU2-TSS-A1T-102009		1036		1	~~1.08465~~ B	1.24731	~~1.15312~~ C	1.08469	1.24779	1.15385			
8	OU2-TSS-B2T-102009		1046		1	1.09544	1.22227	1.13280	1.09598	1.22261	1.13361			
9	OU2-TSS-C5T-102009		1110		1	1.07586	1.21752	1.14689	1.07611	1.21793	1.14752			
10	OU2-TSS-C2T-102009		1122		1	1.08102	1.22235	1.14673	1.08153	1.22293	1.14729			
11	OU2-TSS-01T-102109		10-21-09 1357		1	1.08798	1.22071	1.13508	1.08850	1.22134	1.13585			
12	OU2-TSS-A1T-102109		1407		1	1.08244	1.25796	1.13141	1.08276	1.25833	1.13210			
13	OU2-TSS-B2T-102109		1415		1	1.10283	1.23993	1.13950	1.10379	1.24060	1.14023			
14	OU2-TSS-C5T-102109		1432		1	1.09720	1.22547	1.13015	1.09760	1.22602	1.13081			
15	OU2-TSS-C2T-102109		1444		1	1.06786	1.22362	1.13995	1.06806	1.22450	1.14061			

Sample Code: L = Liquid; S = Solid; A = Air

A - 1.13181 C. 1.15359
B. 1.08136 D. 1.08433

Total No. of Bottles/ Containers: 15

Relinquished by: _____	Organization: _____	Date / /	Time _____	Seal Intact? Yes No N/A
Received by: _____	Organization: _____	Date / /	Time _____	
Relinquished by: _____	Organization: _____	Date / /	Time _____	Seal Intact? Yes No N/A
Received by: [signature]	Organization: MA	Date / /	Time _____	

Special Instructions/Remarks: _____

Delivery Method: ☒ In Person ☐ Common Carrier _____ (SPECIFY) ☐ Lab Courier ☐ Other _____ (SPECIFY)

G&M Form 09-9-91

Southprint 94-1469

Vacuum Filter Test for Olin McIntosh

Test performed by: Ray Brakebill

Date: 5/15/2009 Time: 0900 Aliquot Size: 100 ml

oven In: 5/15/09 1000
out: 5/17/09 1000

Sample Name: **OU2-TSS-D1T-050609-1058**

Filter Size	Weigh Boat #	"Before" Weight (g)	"After" Weight (g)	Difference (g)
0.5 µm	1A	1.10437	1.10560	0.00123
2 µm	1B	1.25517	1.25651	0.00134
25 µm	1C	1.14583	1.14735	0.00152

Sample Name: : **OU2-TSS-A1B-050609-0820**

Filter Size	Weigh Boat #	"Before" Weight (g)	"After" Weight (g)	Difference (g)
0.5 µm	2A	1.12161	1.12249	0.00088
2 µm	2B	1.25076	1.25134	0.00058
25 µm	2C	1.11576	1.11700	0.00124

Sample Name: : **OU2-TSS-E1T-050609-1158**

Filter Size	Weigh Boat #	"Before" Weight (g)	"After" Weight (g)	Difference (g)
0.5 µm	3A	1.11755	1.11847	0.00092
2 µm	3B	1.26047	1.26101	0.00054
25 µm	3C	1.14287	1.14313	0.00026

Sample Name: **OU2-TSS-C5B-050609-0947**

Filter Size	Weigh Boat #	"Before" Weight (g)	"After" Weight (g)	Difference (g)
0.5 µm	4A	1.11968	1.11979	0.00011
2 µm	4B	1.26721	1.26739	0.00018
25 µm	4C	1.14324	1.14418	0.00094

Sample Name: **OU2-TSS-C2T-050609-1005**

Filter Size	Weigh Boat #	"Before" Weight (g)	"After" Weight (g)	Difference (g)
0.5 µm	5A	1.11851	1.11910	0.00059
2 µm	5B	1.24218	1.24288	0.00070
25 µm	5C	1.15140	1.15196	0.00056

Sample Name: **OU2-TSS-A1T-050609-0815**

Filter Size	Weigh Boat #	"Before" Weight (g)	"After" Weight (g)	Difference (g)
0.5 µm	6A	1.11507	1.11572	0.00065
2 µm	6B	1.23556	1.23648	0.00092
25 µm	6C	1.14935	1.15044	0.00109

Sample Name: **OU2-TSS-B2T-050609-0835**

Filter Size	Weigh Boat #	"Before" Weight (g)	"After" Weight (g)	Difference (g)
0.5 µm	7A	1.10107	1.10186	0.00079
2 µm	7B	1.25721	1.25789	0.00068
25 µm	7C	1.14422	1.14518	0.00096

Sample Name: **OU2-TSS-B2B-050609-0846**

Filter Size	Weigh Boat #	"Before" Weight (g)	"After" Weight (g)	Difference (g)
0.5 µm	8A	1.11132	1.11226	0.00094
2 µm	8B	1.25058	1.25132	0.00074
25 µm	8C	1.15434	1.15518	0.00084

Sample Name: **OU2-TSS-D1B-050609-1103**

Filter Size	Weigh Boat #	"Before" Weight (g)	"After" Weight (g)	Difference (g)
0.5 µm	9A	1.12380	1.12496	0.00116
2 µm	9B	1.25814	1.25964	0.00150
25 µm	9C	1.14003	1.14160	0.00157

Sample Name: **OU2-TSS-C5T-050609-0945**

Filter Size	Weigh Boat #	"Before" Weight (g)	"After" Weight (g)	Difference (g)
0.5 µm	10A	1.10694	1.10767	0.00073
2 µm	10B	1.25205	1.25291	0.00086
25 µm	10C	1.15480	1.15530	0.00050

Sample Name: **OU2-TSS-C2B-050609-1010**

Filter Size	Weigh Boat #	"Before" Weight (g)	"After" Weight (g)	Difference (g)
0.5 µm	11A	1.11217	1.11273	0.00056
2 µm	11B	1.26709	1.26770	0.00061
25 µm	11C	1.14656	1.14721	0.00065

A. 1.11544
B. 1.26020
C. 1.15094

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

1118967

Section A Required Client Information:

Company: MACTEC
Address: 3200 Town Point Dr NW Ste 100
Kennesaw, GA 30144
Email To: cedraper@mactec.com
Phone: 7704213400 Fax: 7704213486
Requested Due Date/TAT: Standard

Section B Required Project Information:

Report To: Cedraper@Mactec.com
Copy To: Kpwatson@Mactec.com
Mbarker@Mactec.com
Purchase Order No.:
Project Name: Olin McIntosh OU2
Project Number: 6107090035 2009.16

Section C Invoice Information:

Attention: Dennis Turner
Company Name: Olin Corporation
Address: Charleston, TN
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☒ OTHER Cercla

Site Location STATE: AL

Section D Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Matrix Codes (MATRIX / -CODE)

Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Tissue	TS
Other	OT

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	GrainSize	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	OU2-TSS-D1T-050609-1058	NT	G	5/6/09	1058				1										X		
2	OU2-TSS-A1B-050609-0820			5/6/09	0820																
3	OU2-TSS-E1T-050609-1158			5/6/09	1158																
4	OU2-TSS-C5B-050609-0947			5/6/09	0947																
5	OU2-TSS-C2T-050609-1005			5/6/09	1005																
6	OU2-TSS-A1T-050609-0815			5/6/09	0815																
7	OU2-TSS-B2T-050609-0835			5/6/09	0835																
8	OU2-TSS-B2B-050609-0840			5/6/09	0840																
9	OU2-TSS-D1B-050609-1103			5/6/09	1103																
10	OU2-TSS-C5T-050609-0945			5/6/09	0945																
11	OU2-TSS-C2B-050609-1010	↓	↓	5/6/09	1010				↓										↓		
12																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	RRReece/MACTEC	5/12/09	1620 ~~0420~~		5/14/09	1620	

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Rani Reece

SIGNATURE of SAMPLER: RReece DATE Signed (MM/DD/YY): 5/12/09

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

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Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

February 10, 2009

Keith Roberts
Olin Corporation
3855 North Ocoee Street
Suite 200
Cleveland, TN 37312

RE: Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Dear Keith Roberts:
Enclosed are the analytical results for sample(s) received by the laboratory on December 18, 2008. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Tod Noltemeyer

Tod Noltemeyer

tod.noltemeyer@pacelabs.com
Project Manager

Enclosures

cc: EMMET CURTIS, MACTEC
JAMES YOUNG, OLIN CORPORATION

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ACCREDITED IN ACCORDANCE WITH nelac

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

CERTIFICATIONS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Green Bay Certification IDs

Wisconsin DATCP Certification #: 105-444
Wisconsin DATCP Certification #: 105-444
Wisconsin Certification #: 405132750
Wisconsin Certification #: 405132750
South Carolina Certification #: 83006001
South Carolina Certification #: 83006001
North Dakota Certification #: R-200
North Dakota Certification #: R-150
North Carolina Certification #: 503
North Carolina Certification #: 503
New York Certification #: 11888
New York Certification #: 11887
Minnesota Certification #: 055-999-334
Minnesota Certification #: 055-999-334
Louisiana Certification #: 04169
Louisiana Certification #: 04168
Kentucky Certification #: 83
Kentucky Certification #: 82
Illinois Certification #: 200051
Illinois Certification #: 200050
Florida/NELAP Certification #: E87951
Florida/NELAP Certification #: E87948

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Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SAMPLE SUMMARY

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Lab ID	Sample ID	Matrix	Date Collected	Date Received
4012642001	Mcl-0001-08F-SW	Tissue	10/15/08 00:00	12/18/08 12:45
4012642002	Mcl-0002-08F-SW	Tissue	10/15/08 00:00	12/18/08 12:45
4012642003	Mcl-0003-08F-SW	Tissue	10/15/08 00:00	12/18/08 12:45
4012642004	Mcl-0004-08F-SW	Tissue	10/15/08 00:00	12/18/08 12:45
4012642005	Mcl-0005-08F-SW	Tissue	10/15/08 00:00	12/18/08 12:45
4012642006	Mcl-0006-08F-SE	Tissue	10/15/08 00:00	12/18/08 12:45
4012642007	Mcl-0007-08F-SE	Tissue	10/15/08 00:00	12/18/08 12:45
4012642008	Mcl-0008-08F-SE	Tissue	10/15/08 00:00	12/18/08 12:45
4012642009	Mcl-0009-08F-SE	Tissue	10/15/08 00:00	12/18/08 12:45
4012642010	Mcl-0010-08F-SE	Tissue	10/15/08 00:00	12/18/08 12:45
4012642011	Mcl-0011-08F-NW	Tissue	10/15/08 00:00	12/18/08 12:45
4012642012	Mcl-0012-08F-NW	Tissue	10/15/08 00:00	12/18/08 12:45
4012642013	Mcl-0013-08F-NW	Tissue	10/15/08 00:00	12/18/08 12:45
4012642014	Mcl-0014-08F-NW	Tissue	10/15/08 00:00	12/18/08 12:45
4012642015	Mcl-0015-08F-NW	Tissue	10/15/08 00:00	12/18/08 12:45
4012642016	Mcl-0016-08F-NE	Tissue	10/15/08 00:00	12/18/08 12:45
4012642017	Mcl-0017-08F-NE	Tissue	10/15/08 00:00	12/18/08 12:45
4012642018	Mcl-0018-08F-NE	Tissue	10/15/08 00:00	12/18/08 12:45
4012642019	Mcl-0019-08F-NE	Tissue	10/15/08 00:00	12/18/08 12:45
4012642020	Mcl-0020-08F-NE	Tissue	10/15/08 00:00	12/18/08 12:45
4012642021	Mcl-0021-08WB-NE	Tissue	10/15/08 00:00	12/18/08 12:45
4012642022	Mcl-0022-08WB-NE	Tissue	10/15/08 00:00	12/18/08 12:45
4012642023	Mcl-0023-08WB-NE	Tissue	10/15/08 00:00	12/18/08 12:45
4012642024	Mcl-0024-08WB-NE	Tissue	10/15/08 00:00	12/18/08 12:45
4012642025	Mcl-0025-08WB-NW	Tissue	10/15/08 00:00	12/18/08 12:45
4012642026	Mcl-0026-08WB-NW	Tissue	10/15/08 00:00	12/18/08 12:45
4012642027	Mcl-0027-08WB-NW	Tissue	10/15/08 00:00	12/18/08 12:45
4012642028	Mcl-0028-08WB-NW	Tissue	10/15/08 00:00	12/18/08 12:45
4012642029	Mcl-0029-08WB-NW	Tissue	10/15/08 00:00	12/18/08 12:45
4012642030	Mcl-0030-08WB-SW	Tissue	10/15/08 00:00	12/18/08 12:45
4012642031	Mcl-0031-08WB-SW	Tissue	10/15/08 00:00	12/18/08 12:45
4012642032	Mcl-0032-08WB-SW	Tissue	10/15/08 00:00	12/18/08 12:45
4012642033	Mcl-0033-08WB-SW	Tissue	10/15/08 00:00	12/18/08 12:45
4012642034	Mcl-0034-08WB-SW	Tissue	10/15/08 00:00	12/18/08 12:45
4012642035	Mcl-0035-08WB-SE	Tissue	10/15/08 00:00	12/18/08 12:45
4012642036	Mcl-0036-08WB-SE	Tissue	10/15/08 00:00	12/18/08 12:45
4012642037	Mcl-0037-08WB-SE	Tissue	10/15/08 00:00	12/18/08 12:45

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SAMPLE SUMMARY

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Lab ID	Sample ID	Matrix	Date Collected	Date Received
4012642038	Mcl-0038-08WB-SE	Tissue	10/15/08 00:00	12/18/08 12:45
4012642039	Mcl-0039-08WB-SE	Tissue	10/15/08 00:00	12/18/08 12:45
4012642040	Mcl-0040-08WB-SE	Tissue	10/15/08 00:00	12/18/08 12:45
4012642041	Mcl-0041-08WB-SE	Tissue	10/15/08 00:00	12/18/08 12:45
4012642042	Mcl-0042-08WB-SE	Tissue	10/15/08 00:00	12/18/08 12:45
4012642043	Mcl-0043-08WB-NE	Tissue	10/15/08 00:00	12/18/08 12:45
4012642044	Mcl-0044-08WB-NW	Tissue	10/15/08 00:00	12/18/08 12:45
4012642045	Mcl-0045-08WB-NW	Tissue	10/15/08 00:00	12/18/08 12:45
4012642046	Mcl-0046-08WB-NW	Tissue	10/15/08 00:00	12/18/08 12:45
4012642047	Mcl-0047-08WB-NW	Tissue	10/15/08 00:00	12/18/08 12:45
4012642048	Mcl-0048-08WB-NW	Tissue	10/15/08 00:00	12/18/08 12:45
4012642049	Mcl-0049-08WB-SW	Tissue	10/15/08 00:00	12/18/08 12:45
4012642050	Mcl-0050-08WB-SW	Tissue	10/15/08 00:00	12/18/08 12:45
4012642051	Mcl-0051-08WB-SW	Tissue	10/15/08 00:00	12/18/08 12:45
4012642052	Mcl-0052-08WB-SW	Tissue	10/15/08 00:00	12/18/08 12:45
4012642053	Mcl-0053-08WB-SW	Tissue	10/15/08 00:00	12/18/08 12:45
4012642054	Mcl-0054-08WB-NE	Tissue	10/15/08 00:00	12/18/08 12:45
4012642055	Mcl-0055-08WB-NE	Tissue	10/15/08 00:00	12/18/08 12:45
4012642056	Mcl-0056-08WB-NE	Tissue	10/15/08 00:00	12/18/08 12:45
4012642057	Mcl-0057-08WB-NE	Tissue	10/15/08 00:00	12/18/08 12:45
4012642058	Mcl-0058-08WB-NE	Tissue	10/15/08 00:00	12/18/08 12:45
4012642059	Mcl-0059-08WB-SE	Tissue	10/15/08 00:00	12/18/08 12:45
4012642060	Mcl-0060-08WB-SE	Tissue	10/15/08 00:00	12/18/08 12:45
4012642061	Mcl-0061-08WB-NE	Tissue	10/15/08 00:00	12/18/08 12:45
4012642062	Mcl-0062-08WB-NE	Tissue	10/15/08 00:00	12/18/08 12:45
4012642063	Mcl-0063-08WB-NE	Tissue	10/15/08 00:00	12/18/08 12:45
4012642064	Mcl-0064-08WB-NE	Tissue	10/15/08 00:00	12/18/08 12:45
4012642065	Mcl-0065-08WB-NE	Tissue	10/15/08 00:00	12/18/08 12:45
4012642066	Mcl-0066-08WB-NW	Tissue	10/15/08 00:00	12/18/08 12:45
4012642067	Mcl-0067-08WB-NW	Tissue	10/15/08 00:00	12/18/08 12:45
4012642068	Mcl-0068-08WB-NW	Tissue	10/15/08 00:00	12/18/08 12:45
4012642069	Mcl-0069-08WB-NW	Tissue	10/15/08 00:00	12/18/08 12:45
4012642070	Mcl-0070-08WB-NW	Tissue	10/15/08 00:00	12/18/08 12:45
4012642071	Mcl-0071-08WB-SE	Tissue	10/15/08 00:00	12/18/08 12:45
4012642072	Mcl-0072-08WB-SE	Tissue	10/15/08 00:00	12/18/08 12:45
4012642073	Mcl-0073-08WB-SE	Tissue	10/15/08 00:00	12/18/08 12:45
4012642074	Mcl-0074-08WB-SE	Tissue	10/15/08 00:00	12/18/08 12:45

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SAMPLE SUMMARY

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Lab ID	Sample ID	Matrix	Date Collected	Date Received
4012642075	McI-0075-08WB-SE	Tissue	10/15/08 00:00	12/18/08 12:45
4012642076	McI-0076-08WB-SW	Tissue	10/15/08 00:00	12/18/08 12:45
4012642077	McI-0077-08WB-SW	Tissue	10/15/08 00:00	12/18/08 12:45
4012642078	McI-0078-08WB-SW	Tissue	10/15/08 00:00	12/18/08 12:45
4012642079	McI-0079-08WB-SW	Tissue	10/15/08 00:00	12/18/08 12:45
4012642080	McI-0080-08WB-SW	Tissue	10/15/08 00:00	12/18/08 12:45
4012642081	McI-0081-08WB-NE	Tissue	10/15/08 00:00	12/18/08 12:45
4012642082	McI-0082-08WB-NE	Tissue	10/15/08 00:00	12/18/08 12:45
4012642083	McI-0083-08WB-SE	Tissue	10/15/08 00:00	12/18/08 12:45
4012642084	McI-0084-08WB-SW	Tissue	10/15/08 00:00	12/18/08 12:45
4012642085	McI-0085-08WB-NW	Tissue	10/15/08 00:00	12/18/08 12:45

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SAMPLE ANALYTE COUNT

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
4012642001	McI-0001-08F-SW	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642002	McI-0002-08F-SW	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642003	McI-0003-08F-SW	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642004	McI-0004-08F-SW	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642005	McI-0005-08F-SW	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642006	McI-0006-08F-SE	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642007	McI-0007-08F-SE	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642008	McI-0008-08F-SE	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642009	McI-0009-08F-SE	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642010	McI-0010-08F-SE	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642011	McI-0011-08F-NW	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642012	McI-0012-08F-NW	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642013	McI-0013-08F-NW	EPA 245.6	LMS	1	PASI-G

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SAMPLE ANALYTE COUNT

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642014	McI-0014-08F-NW	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642015	McI-0015-08F-NW	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642016	McI-0016-08F-NE	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642017	McI-0017-08F-NE	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642018	McI-0018-08F-NE	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642019	McI-0019-08F-NE	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642020	McI-0020-08F-NE	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642021	McI-0021-08WB-NE	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642022	McI-0022-08WB-NE	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642023	McI-0023-08WB-NE	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642024	McI-0024-08WB-NE	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642025	McI-0025-08WB-NW	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G

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SAMPLE ANALYTE COUNT

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		Pace Lipid	KPH	1	PASI-G
4012642026	McI-0026-08WB-NW	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642027	McI-0027-08WB-NW	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642028	McI-0028-08WB-NW	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642029	McI-0029-08WB-NW	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642030	McI-0030-08WB-SW	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642031	McI-0031-08WB-SW	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642032	McI-0032-08WB-SW	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642033	McI-0033-08WB-SW	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642034	McI-0034-08WB-SW	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642035	McI-0035-08WB-SE	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642036	McI-0036-08WB-SE	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642037	McI-0037-08WB-SE	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G

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SAMPLE ANALYTE COUNT

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
4012642038	McI-0038-08WB-SE	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642039	McI-0039-08WB-SE	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642040	McI-0040-08WB-SE	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642041	McI-0041-08WB-SE	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642042	McI-0042-08WB-SE	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642043	McI-0043-08WB-NE	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642044	McI-0044-08WB-NW	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642045	McI-0045-08WB-NW	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642046	McI-0046-08WB-NW	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642047	McI-0047-08WB-NW	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642048	McI-0048-08WB-NW	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642049	McI-0049-08WB-SW	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642050	McI-0050-08WB-SW	EPA 245.6	LMS	1	PASI-G

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SAMPLE ANALYTE COUNT

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642051	McI-0051-08WB-SW	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642052	McI-0052-08WB-SW	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642053	McI-0053-08WB-SW	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642054	McI-0054-08WB-NE	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642055	McI-0055-08WB-NE	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642056	McI-0056-08WB-NE	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642057	McI-0057-08WB-NE	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642058	McI-0058-08WB-NE	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642059	McI-0059-08WB-SE	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642060	McI-0060-08WB-SE	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642061	McI-0061-08WB-NE	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642062	McI-0062-08WB-NE	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G

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SAMPLE ANALYTE COUNT

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		Pace Lipid	KPH	1	PASI-G
4012642063	McI-0063-08WB-NE	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642064	McI-0064-08WB-NE	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642065	McI-0065-08WB-NE	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642066	McI-0066-08WB-NW	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642067	McI-0067-08WB-NW	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642068	McI-0068-08WB-NW	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642069	McI-0069-08WB-NW	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642070	McI-0070-08WB-NW	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642071	McI-0071-08WB-SE	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642072	McI-0072-08WB-SE	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642073	McI-0073-08WB-SE	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642074	McI-0074-08WB-SE	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G

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SAMPLE ANALYTE COUNT

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
4012642075	McI-0075-08WB-SE	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642076	McI-0076-08WB-SW	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642077	McI-0077-08WB-SW	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642078	McI-0078-08WB-SW	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642079	McI-0079-08WB-SW	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642080	McI-0080-08WB-SW	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642081	McI-0081-08WB-NE	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642082	McI-0082-08WB-NE	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642083	McI-0083-08WB-SE	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642084	McI-0084-08WB-SW	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G
4012642085	McI-0085-08WB-NW	EPA 245.6	LMS	1	PASI-G
		EPA 8081	BDS	3	PASI-G
		Pace Lipid	KPH	1	PASI-G

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PROJECT NARRATIVE

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Method: **EPA 8081**
Description: 8081 GCS Pesticides, Tissue
Client: OLIN CORPORATION
Date: February 10, 2009

General Information:
85 samples were analyzed for EPA 8081. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3540 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

QC Batch: OEXT/3596

S4: Surrogate recovery not evaluated against control limits due to sample dilution.

- Mcl-0021-08WB-NE (Lab ID: 4012642021)
  - Decachlorobiphenyl (S)
  - Tetrachloro-m-xylene (S)
- Mcl-0022-08WB-NE (Lab ID: 4012642022)
  - Decachlorobiphenyl (S)
  - Tetrachloro-m-xylene (S)
- Mcl-0023-08WB-NE (Lab ID: 4012642023)
  - Decachlorobiphenyl (S)
  - Tetrachloro-m-xylene (S)
- Mcl-0024-08WB-NE (Lab ID: 4012642024)
  - Decachlorobiphenyl (S)
  - Tetrachloro-m-xylene (S)
- Mcl-0025-08WB-NW (Lab ID: 4012642025)
  - Decachlorobiphenyl (S)
  - Tetrachloro-m-xylene (S)
- Mcl-0026-08WB-NW (Lab ID: 4012642026)
  - Decachlorobiphenyl (S)
  - Tetrachloro-m-xylene (S)
- Mcl-0027-08WB-NW (Lab ID: 4012642027)
  - Decachlorobiphenyl (S)
  - Tetrachloro-m-xylene (S)
- Mcl-0028-08WB-NW (Lab ID: 4012642028)
  - Decachlorobiphenyl (S)
  - Tetrachloro-m-xylene (S)
- Mcl-0029-08WB-NW (Lab ID: 4012642029)

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PROJECT NARRATIVE

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Method: **EPA 8081**
Description: 8081 GCS Pesticides, Tissue
Client: OLIN CORPORATION
Date: February 10, 2009

QC Batch: OEXT/3596

S4: Surrogate recovery not evaluated against control limits due to sample dilution.

- Decachlorobiphenyl (S)
- Tetrachloro-m-xylene (S)
- Mcl-0030-08WB-SW (Lab ID: 4012642030)
  - Decachlorobiphenyl (S)
  - Tetrachloro-m-xylene (S)
- Mcl-0031-08WB-SW (Lab ID: 4012642031)
  - Decachlorobiphenyl (S)
  - Tetrachloro-m-xylene (S)
- Mcl-0032-08WB-SW (Lab ID: 4012642032)
  - Decachlorobiphenyl (S)
  - Tetrachloro-m-xylene (S)
- Mcl-0033-08WB-SW (Lab ID: 4012642033)
  - Decachlorobiphenyl (S)
  - Tetrachloro-m-xylene (S)
- Mcl-0034-08WB-SW (Lab ID: 4012642034)
  - Decachlorobiphenyl (S)
  - Tetrachloro-m-xylene (S)

QC Batch: OEXT/3597

S0: Surrogate recovery outside laboratory control limits.

- Mcl-0040-08WB-SE (Lab ID: 4012642040)
  - Decachlorobiphenyl (S)
- Mcl-0046-08WB-NW (Lab ID: 4012642046)
  - Decachlorobiphenyl (S)
- Mcl-0049-08WB-SW (Lab ID: 4012642049)
  - Decachlorobiphenyl (S)
- Mcl-0050-08WB-SW (Lab ID: 4012642050)
  - Decachlorobiphenyl (S)

S4: Surrogate recovery not evaluated against control limits due to sample dilution.

- Mcl-0035-08WB-SE (Lab ID: 4012642035)
  - Decachlorobiphenyl (S)
  - Tetrachloro-m-xylene (S)
- Mcl-0036-08WB-SE (Lab ID: 4012642036)
  - Decachlorobiphenyl (S)
  - Tetrachloro-m-xylene (S)
- Mcl-0037-08WB-SE (Lab ID: 4012642037)
  - Decachlorobiphenyl (S)
  - Tetrachloro-m-xylene (S)
- Mcl-0038-08WB-SE (Lab ID: 4012642038)
  - Decachlorobiphenyl (S)
  - Tetrachloro-m-xylene (S)
- Mcl-0039-08WB-SE (Lab ID: 4012642039)
  - Decachlorobiphenyl (S)
  - Tetrachloro-m-xylene (S)

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PROJECT NARRATIVE

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Method: **EPA 8081**
Description: 8081 GCS Pesticides, Tissue
Client: OLIN CORPORATION
Date: February 10, 2009

QC Batch: OEXT/3597

S4: Surrogate recovery not evaluated against control limits due to sample dilution.

- Mcl-0041-08WB-SE (Lab ID: 4012642041)
  - Decachlorobiphenyl (S)
  - Tetrachloro-m-xylene (S)
- Mcl-0042-08WB-SE (Lab ID: 4012642042)
  - Decachlorobiphenyl (S)
  - Tetrachloro-m-xylene (S)
- Mcl-0043-08WB-NE (Lab ID: 4012642043)
  - Decachlorobiphenyl (S)
  - Tetrachloro-m-xylene (S)
- Mcl-0044-08WB-NW (Lab ID: 4012642044)
  - Decachlorobiphenyl (S)
  - Tetrachloro-m-xylene (S)
- Mcl-0045-08WB-NW (Lab ID: 4012642045)
  - Decachlorobiphenyl (S)
  - Tetrachloro-m-xylene (S)

QC Batch: OEXT/3607

S0: Surrogate recovery outside laboratory control limits.

- Mcl-0055-08WB-NE (Lab ID: 4012642055)
  - Decachlorobiphenyl (S)
- Mcl-0056-08WB-NE (Lab ID: 4012642056)
  - Decachlorobiphenyl (S)
- Mcl-0059-08WB-SE (Lab ID: 4012642059)
  - Decachlorobiphenyl (S)
- Mcl-0061-08WB-NE (Lab ID: 4012642061)
  - Decachlorobiphenyl (S)
- Mcl-0062-08WB-NE (Lab ID: 4012642062)
  - Decachlorobiphenyl (S)
- Mcl-0063-08WB-NE (Lab ID: 4012642063)
  - Decachlorobiphenyl (S)
- Mcl-0066-08WB-NW (Lab ID: 4012642066)
  - Decachlorobiphenyl (S)

S4: Surrogate recovery not evaluated against control limits due to sample dilution.

- Mcl-0054-08WB-NE (Lab ID: 4012642054)
  - Decachlorobiphenyl (S)
  - Tetrachloro-m-xylene (S)
- Mcl-0068-08WB-NW (Lab ID: 4012642068)
  - Decachlorobiphenyl (S)
  - Tetrachloro-m-xylene (S)

QC Batch: OEXT/3608

S0: Surrogate recovery outside laboratory control limits.

- Mcl-0069-08WB-NW (Lab ID: 4012642069)
  - Decachlorobiphenyl (S)

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PROJECT NARRATIVE

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Method: **EPA 8081**
Description: 8081 GCS Pesticides, Tissue
Client: OLIN CORPORATION
Date: February 10, 2009

QC Batch: OEXT/3608

S0: Surrogate recovery outside laboratory control limits.

- Mcl-0071-08WB-SE (Lab ID: 4012642071)
  - Decachlorobiphenyl (S)
- Mcl-0073-08WB-SE (Lab ID: 4012642073)
  - Decachlorobiphenyl (S)
- Mcl-0074-08WB-SE (Lab ID: 4012642074)
  - Decachlorobiphenyl (S)
- Mcl-0079-08WB-SW (Lab ID: 4012642079)
  - Decachlorobiphenyl (S)
- Mcl-0083-08WB-SE (Lab ID: 4012642083)
  - Decachlorobiphenyl (S)
- Mcl-0084-08WB-SW (Lab ID: 4012642084)
  - Decachlorobiphenyl (S)

S4: Surrogate recovery not evaluated against control limits due to sample dilution.

- Mcl-0072-08WB-SE (Lab ID: 4012642072)
  - Decachlorobiphenyl (S)
  - Tetrachloro-m-xylene (S)
- Mcl-0076-08WB-SW (Lab ID: 4012642076)
  - Decachlorobiphenyl (S)
  - Tetrachloro-m-xylene (S)
- Mcl-0077-08WB-SW (Lab ID: 4012642077)
  - Decachlorobiphenyl (S)
  - Tetrachloro-m-xylene (S)
- Mcl-0078-08WB-SW (Lab ID: 4012642078)
  - Decachlorobiphenyl (S)
  - Tetrachloro-m-xylene (S)

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: OEXT/3608

L0: Analyte recovery in the laboratory control sample (LCS) was outside QC limits.

- LCS (Lab ID: 117714)
  - Hexachlorobenzene

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: GCSV/2352

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

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PROJECT NARRATIVE

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Method: **EPA 8081**
Description: 8081 GCS Pesticides, Tissue
Client: OLIN CORPORATION
Date: February 10, 2009

QC Batch: GCSV/2354

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: GCSV/2355

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: GCSV/2357

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: GCSV/2358

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Batch Comments:

Analyte recovery in the laboratory control sample (LCS) was below QC limits. Samples could not be re-extracted/re-analyzed due to insufficient sample volume. Results were reported and flagged accordingly.

- QC Batch: GCSV / 2358

Analyte Comments:

QC Batch: OEXT/3608

1j: Surrogate recovery was below QC limits. Sample could not be re-extracted/re-analyzed due to insufficient sample volume. Results were reported and flagged accordingly.

- McI-0082-08WB-NE (Lab ID: 4012642082)
  - Decachlorobiphenyl (S)
  - Tetrachloro-m-xylene (S)

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PROJECT NARRATIVE

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Method: **EPA 245.6**
Description: 245.6 Mercury
Client: OLIN CORPORATION
Date: February 10, 2009

General Information:
85 samples were analyzed for EPA 245.6. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 245.6 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MERP/1387

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 4012642021,4012642031

R1: RPD value was outside control limits.

- MS (Lab ID: 114936)
  - Mercury
- MSD (Lab ID: 114937)
  - Mercury

QC Batch: MERP/1390

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 4012642041,4012642051

M0: Matrix spike recovery was outside laboratory control limits.

- MS (Lab ID: 116009)
  - Mercury

QC Batch: MERP/1391

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 4012642061,4012642071

M0: Matrix spike recovery was outside laboratory control limits.

- MS (Lab ID: 116084)
  - Mercury
- MS (Lab ID: 116086)

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PROJECT NARRATIVE

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Method: **EPA 245.6**
Description: 245.6 Mercury
Client: OLIN CORPORATION
Date: February 10, 2009

QC Batch: MERP/1391

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 4012642061,4012642071

M0: Matrix spike recovery was outside laboratory control limits.

- Mercury
- MSD (Lab ID: 116085)
  - Mercury

R1: RPD value was outside control limits.

- MS (Lab ID: 116086)
  - Mercury
- MSD (Lab ID: 116087)
  - Mercury

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Method: **Pace Lipid**
Description: Lipid
Client: OLIN CORPORATION
Date: February 10, 2009

General Information:
85 samples were analyzed for Pace Lipid. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0001-08F-SW **Lab ID: 4012642001** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**59.8**	ug/kg	5.0	4.2	2	01/05/09 07:10	01/20/09 00:39	118-74-1	
Decachlorobiphenyl (S)	119	%	47-145		2	01/05/09 07:10	01/20/09 00:39	2051-24-3	
Tetrachloro-m-xylene (S)	73	%	40-136		2	01/05/09 07:10	01/20/09 00:39	877-09-8	
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**2.0**	mg/kg	0.083	0.012	5	12/23/08 09:39	12/24/08 12:24	7439-97-6	P6
Lipid	Analytical Method: Pace Lipid								
Lipid	**0.33**	%		0.10	1		01/07/09 07:59		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0002-08F-SW **Lab ID: 4012642002** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**103**	ug/kg	10.0	8.5	4	01/05/09 07:10	01/20/09 01:06	118-74-1	
Decachlorobiphenyl (S)	131	%	47-145		4	01/05/09 07:10	01/20/09 01:06	2051-24-3	
Tetrachloro-m-xylene (S)	81	%	40-136		4	01/05/09 07:10	01/20/09 01:06	877-09-8	
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**2.5**	mg/kg	0.083	0.012	5	12/23/08 09:39	12/24/08 12:42	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**0.44**	%		0.10	1		01/07/09 07:59		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0003-08F-SW **Lab ID: 4012642003** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**92.4**	ug/kg	7.5	6.4	3	01/05/09 07:10	01/20/09 01:32	118-74-1	
Decachlorobiphenyl (S)	123	%	47-145		3	01/05/09 07:10	01/20/09 01:32	2051-24-3	
Tetrachloro-m-xylene (S)	75	%	40-136		3	01/05/09 07:10	01/20/09 01:32	877-09-8	
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**3.0**	mg/kg	0.083	0.012	5	12/23/08 09:39	12/24/08 12:43	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**0.36**	%		0.10	1		01/07/09 07:59		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0004-08F-SW **Lab ID: 4012642004** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**73.6**	ug/kg	7.5	6.4	3	01/05/09 07:10	01/20/09 01:59	118-74-1	
Decachlorobiphenyl (S)	117	%	47-145		3	01/05/09 07:10	01/20/09 01:59	2051-24-3	
Tetrachloro-m-xylene (S)	73	%	40-136		3	01/05/09 07:10	01/20/09 01:59	877-09-8	
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**2.7**	mg/kg	0.083	0.012	5	12/23/08 09:39	12/24/08 12:44	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**0.46**	%		0.10	1		01/07/09 08:00		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0005-08F-SW **Lab ID: 4012642005** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**72.4**	ug/kg	7.5	6.4	3	01/05/09 07:10	01/20/09 02:25	118-74-1	
Decachlorobiphenyl (S)	92	%	47-145		3	01/05/09 07:10	01/20/09 02:25	2051-24-3	
Tetrachloro-m-xylene (S)	68	%	40-136		3	01/05/09 07:10	01/20/09 02:25	877-09-8	
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**2.0**	mg/kg	0.083	0.012	5	12/23/08 09:39	12/24/08 12:46	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**0.34**	%		0.10	1		01/07/09 08:00		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0006-08F-SE **Lab ID: 4012642006** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**54.8**	ug/kg	5.0	4.2	2	01/05/09 07:10	01/20/09 02:52	118-74-1	
Decachlorobiphenyl (S)	98	%	47-145		2	01/05/09 07:10	01/20/09 02:52	2051-24-3	
Tetrachloro-m-xylene (S)	67	%	40-136		2	01/05/09 07:10	01/20/09 02:52	877-09-8	
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**2.3**	mg/kg	0.083	0.012	5	12/23/08 09:39	12/24/08 12:47	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**0.33**	%		0.10	1		01/07/09 08:00		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0007-08F-SE **Lab ID: 4012642007** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**135**	ug/kg	10.0	8.5	4	01/05/09 07:10	01/20/09 03:18	118-74-1	
Decachlorobiphenyl (S)	111	%	47-145		4	01/05/09 07:10	01/20/09 03:18	2051-24-3	
Tetrachloro-m-xylene (S)	71	%	40-136		4	01/05/09 07:10	01/20/09 03:18	877-09-8	
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**1.6**	mg/kg	0.083	0.012	5	12/23/08 09:39	12/24/08 12:48	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**0.86**	%		0.10	1		01/07/09 08:01		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0008-08F-SE **Lab ID: 4012642008** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**66.2**	ug/kg	7.5	6.4	3	01/05/09 07:10	01/20/09 03:45	118-74-1	
Decachlorobiphenyl (S)	99	%	47-145		3	01/05/09 07:10	01/20/09 03:45	2051-24-3	
Tetrachloro-m-xylene (S)	68	%	40-136		3	01/05/09 07:10	01/20/09 03:45	877-09-8	
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**2.0**	mg/kg	0.083	0.012	5	12/23/08 09:39	12/24/08 12:50	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**0.37**	%		0.10	1		01/07/09 08:01		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0009-08F-SE **Lab ID: 4012642009** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**65.2**	ug/kg	7.5	6.4	3	01/05/09 07:10	01/20/09 04:12	118-74-1	
Decachlorobiphenyl (S)	93	%	47-145		3	01/05/09 07:10	01/20/09 04:12	2051-24-3	
Tetrachloro-m-xylene (S)	73	%	40-136		3	01/05/09 07:10	01/20/09 04:12	877-09-8	
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**2.1**	mg/kg	0.083	0.012	5	12/23/08 09:39	12/24/08 12:51	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**0.20**	%		0.10	1		01/07/09 08:01		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0010-08F-SE **Lab ID: 4012642010** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**36.2**	ug/kg	5.0	4.2	2	01/05/09 07:10	01/20/09 04:38	118-74-1	
Decachlorobiphenyl (S)	88	%	47-145		2	01/05/09 07:10	01/20/09 04:38	2051-24-3	
Tetrachloro-m-xylene (S)	73	%	40-136		2	01/05/09 07:10	01/20/09 04:38	877-09-8	
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**2.2**	mg/kg	0.083	0.012	5	12/23/08 09:39	12/24/08 12:52	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**0.14**	%		0.10	1		01/07/09 08:02		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0011-08F-NW **Lab ID: 4012642011** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**52.6**	ug/kg	5.0	4.2	2	01/05/09 07:10	01/20/09 05:05	118-74-1	
Decachlorobiphenyl (S)	90	%	47-145		2	01/05/09 07:10	01/20/09 05:05	2051-24-3	
Tetrachloro-m-xylene (S)	62	%	40-136		2	01/05/09 07:10	01/20/09 05:05	877-09-8	
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**2.4**	mg/kg	0.083	0.012	5	12/23/08 09:39	12/24/08 12:54	7439-97-6	P6
Lipid	Analytical Method: Pace Lipid								
Lipid	**0.50**	%		0.10	1		01/07/09 08:02		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0012-08F-NW **Lab ID: 4012642012** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**66.3**	ug/kg	7.5	6.4	3	01/05/09 07:10	01/20/09 05:31	118-74-1	
Decachlorobiphenyl (S)	114	%	47-145		3	01/05/09 07:10	01/20/09 05:31	2051-24-3	
Tetrachloro-m-xylene (S)	72	%	40-136		3	01/05/09 07:10	01/20/09 05:31	877-09-8	
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**2.5**	mg/kg	0.083	0.012	5	12/23/08 09:39	12/24/08 13:00	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**0.53**	%		0.10	1		01/07/09 08:02		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0013-08F-NW **Lab ID: 4012642013** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**44.5**	ug/kg	5.0	4.2	2	01/05/09 07:10	01/20/09 05:58	118-74-1	
Decachlorobiphenyl (S)	101	%	47-145		2	01/05/09 07:10	01/20/09 05:58	2051-24-3	
Tetrachloro-m-xylene (S)	68	%	40-136		2	01/05/09 07:10	01/20/09 05:58	877-09-8	
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**2.7**	mg/kg	0.083	0.012	5	12/23/08 09:39	12/24/08 13:01	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**0.38**	%		0.10	1		01/07/09 08:03		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0014-08F-NW **Lab ID: 4012642014** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**53.9**	ug/kg	7.5	6.4	3	01/05/09 07:10	01/20/09 06:25	118-74-1	
Decachlorobiphenyl (S)	102	%	47-145		3	01/05/09 07:10	01/20/09 06:25	2051-24-3	
Tetrachloro-m-xylene (S)	73	%	40-136		3	01/05/09 07:10	01/20/09 06:25	877-09-8	
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**2.2**	mg/kg	0.083	0.012	5	12/23/08 09:39	12/24/08 13:03	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**0.24**	%		0.10	1		01/07/09 08:03		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0015-08F-NW **Lab ID: 4012642015** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**57.2**	ug/kg	7.5	6.4	3	01/05/09 07:10	01/20/09 06:51	118-74-1	
Decachlorobiphenyl (S)	113	%	47-145		3	01/05/09 07:10	01/20/09 06:51	2051-24-3	
Tetrachloro-m-xylene (S)	74	%	40-136		3	01/05/09 07:10	01/20/09 06:51	877-09-8	
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**2.9**	mg/kg	0.083	0.012	5	12/23/08 09:39	12/24/08 13:04	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**0.36**	%		0.10	1		01/07/09 08:04		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0016-08F-NE **Lab ID: 4012642016** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**49.6**	ug/kg	5.0	4.2	2	01/05/09 07:10	01/20/09 07:18	118-74-1	
Decachlorobiphenyl (S)	109	%	47-145		2	01/05/09 07:10	01/20/09 07:18	2051-24-3	
Tetrachloro-m-xylene (S)	72	%	40-136		2	01/05/09 07:10	01/20/09 07:18	877-09-8	
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**2.1**	mg/kg	0.083	0.012	5	12/23/08 09:39	12/24/08 13:05	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**0.53**	%		0.10	1		01/07/09 08:04		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0017-08F-NE **Lab ID: 4012642017** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**37.0**	ug/kg	5.0	4.2	2	01/05/09 07:10	01/20/09 07:45	118-74-1	
Decachlorobiphenyl (S)	93	%	47-145		2	01/05/09 07:10	01/20/09 07:45	2051-24-3	
Tetrachloro-m-xylene (S)	65	%	40-136		2	01/05/09 07:10	01/20/09 07:45	877-09-8	
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**2.5**	mg/kg	0.083	0.012	5	12/23/08 09:39	12/24/08 13:07	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**0.30**	%		0.10	1		01/07/09 08:04		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0018-08F-NE **Lab ID: 4012642018** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**65.0**	ug/kg	7.5	6.4	3	01/06/09 07:19	01/20/09 10:51	118-74-1	
Decachlorobiphenyl (S)	110	%	47-145		3	01/06/09 07:19	01/20/09 10:51	2051-24-3	
Tetrachloro-m-xylene (S)	69	%	40-136		3	01/06/09 07:19	01/20/09 10:51	877-09-8	
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**2.5**	mg/kg	0.083	0.012	5	12/23/08 09:39	12/24/08 13:08	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**0.72**	%		0.10	1		01/09/09 13:57		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0019-08F-NE **Lab ID: 4012642019** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**107**	ug/kg	10.0	8.5	4	01/06/09 07:19	01/20/09 11:17	118-74-1	
Decachlorobiphenyl (S)	136	%	47-145		4	01/06/09 07:19	01/20/09 11:17	2051-24-3	
Tetrachloro-m-xylene (S)	74	%	40-136		4	01/06/09 07:19	01/20/09 11:17	877-09-8	
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**2.2**	mg/kg	0.083	0.012	5	12/23/08 09:39	12/24/08 13:09	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**1.1**	%		0.10	1		01/09/09 13:58		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0020-08F-NE **Lab ID: 4012642020** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**48.0**	ug/kg	5.0	4.2	2	01/06/09 07:19	01/20/09 11:44	118-74-1	
Decachlorobiphenyl (S)	91	%	47-145		2	01/06/09 07:19	01/20/09 11:44	2051-24-3	
Tetrachloro-m-xylene (S)	70	%	40-136		2	01/06/09 07:19	01/20/09 11:44	877-09-8	
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**2.4**	mg/kg	0.083	0.012	5	12/23/08 09:39	12/24/08 13:19	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**0.36**	%		0.10	1		01/09/09 13:58		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0021-08WB-NE **Lab ID: 4012642021** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**597**	ug/kg	75.0	63.5	30	01/06/09 07:19	01/20/09 12:11	118-74-1	
Decachlorobiphenyl (S)	0	%	47-145		30	01/06/09 07:19	01/20/09 12:11	2051-24-3	S4
Tetrachloro-m-xylene (S)	0	%	40-136		30	01/06/09 07:19	01/20/09 12:11	877-09-8	S4
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**1.8**	mg/kg	0.083	0.012	5	12/23/08 12:48	12/24/08 13:23	7439-97-6	P6,R1
Lipid	Analytical Method: Pace Lipid								
Lipid	**5.8**	%		0.10	1		01/09/09 13:58		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0022-08WB-NE **Lab ID: 4012642022** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**878**	ug/kg	125	106	50	01/06/09 07:19	01/20/09 12:37	118-74-1	
Decachlorobiphenyl (S)	0	%	47-145		50	01/06/09 07:19	01/20/09 12:37	2051-24-3	S4
Tetrachloro-m-xylene (S)	0	%	40-136		50	01/06/09 07:19	01/20/09 12:37	877-09-8	S4
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**1.4**	mg/kg	0.083	0.012	5	12/23/08 12:48	12/24/08 13:29	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**6.2**	%		0.10	1		01/09/09 13:59		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0023-08WB-NE **Lab ID: 4012642023** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**506**	ug/kg	75.0	63.5	30	01/06/09 07:19	01/20/09 13:04	118-74-1	
Decachlorobiphenyl (S)	0	%	47-145		30	01/06/09 07:19	01/20/09 13:04	2051-24-3	S4
Tetrachloro-m-xylene (S)	0	%	40-136		30	01/06/09 07:19	01/20/09 13:04	877-09-8	S4
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**1.4**	mg/kg	0.083	0.012	5	12/23/08 12:48	12/24/08 13:31	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**4.5**	%		0.10	1		01/09/09 13:59		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0024-08WB-NE **Lab ID: 4012642024** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**275**	ug/kg	50.0	42.3	20	01/06/09 07:19	01/20/09 13:31	118-74-1	
Decachlorobiphenyl (S)	0	%	47-145		20	01/06/09 07:19	01/20/09 13:31	2051-24-3	S4
Tetrachloro-m-xylene (S)	0	%	40-136		20	01/06/09 07:19	01/20/09 13:31	877-09-8	S4
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**1.8**	mg/kg	0.083	0.012	5	12/23/08 12:48	12/24/08 13:37	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**2.1**	%		0.10	1		01/09/09 13:59		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0025-08WB-NW **Lab ID: 4012642025** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**867**	ug/kg	125	106	50	01/06/09 07:19	01/20/09 13:57	118-74-1	
Decachlorobiphenyl (S)	0	%	47-145		50	01/06/09 07:19	01/20/09 13:57	2051-24-3	S4
Tetrachloro-m-xylene (S)	0	%	40-136		50	01/06/09 07:19	01/20/09 13:57	877-09-8	S4
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**1.8**	mg/kg	0.083	0.012	5	12/23/08 12:48	12/24/08 13:38	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**7.3**	%		0.10	1		01/09/09 13:59		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0026-08WB-NW **Lab ID: 4012642026** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**853**	ug/kg	125	106	50	01/06/09 07:19	01/20/09 14:24	118-74-1	
Decachlorobiphenyl (S)	0	%	47-145		50	01/06/09 07:19	01/20/09 14:24	2051-24-3	S4
Tetrachloro-m-xylene (S)	0	%	40-136		50	01/06/09 07:19	01/20/09 14:24	877-09-8	S4
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**1.7**	mg/kg	0.083	0.012	5	12/23/08 12:48	12/24/08 13:40	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**6.9**	%		0.10	1		01/09/09 14:00		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0027-08WB-NW **Lab ID: 4012642027** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**711**	ug/kg	75.0	63.5	30	01/06/09 07:19	01/20/09 14:50	118-74-1	
Decachlorobiphenyl (S)	0	%	47-145		30	01/06/09 07:19	01/20/09 14:50	2051-24-3	S4
Tetrachloro-m-xylene (S)	0	%	40-136		30	01/06/09 07:19	01/20/09 14:50	877-09-8	S4
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**1.2**	mg/kg	0.083	0.012	5	12/23/08 12:48	12/24/08 13:41	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**2.7**	%		0.10	1		01/09/09 14:00		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0028-08WB-NW **Lab ID: 4012642028** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**481**	ug/kg	75.0	63.5	30	01/06/09 07:19	01/20/09 15:17	118-74-1	
Decachlorobiphenyl (S)	0	%	47-145		30	01/06/09 07:19	01/20/09 15:17	2051-24-3	S4
Tetrachloro-m-xylene (S)	0	%	40-136		30	01/06/09 07:19	01/20/09 15:17	877-09-8	S4
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**1.4**	mg/kg	0.083	0.012	5	12/23/08 12:48	12/24/08 13:42	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**2.1**	%		0.10	1		01/09/09 14:00		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0029-08WB-NW **Lab ID: 4012642029** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**490**	ug/kg	75.0	63.5	30	01/06/09 07:19	01/20/09 15:44	118-74-1	
Decachlorobiphenyl (S)	0	%	47-145		30	01/06/09 07:19	01/20/09 15:44	2051-24-3	S4
Tetrachloro-m-xylene (S)	0	%	40-136		30	01/06/09 07:19	01/20/09 15:44	877-09-8	S4
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**1.9**	mg/kg	0.083	0.012	5	12/23/08 12:48	12/24/08 13:44	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**3.2**	%		0.10	1		01/09/09 14:01		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0030-08WB-SW **Lab ID: 4012642030** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**1030**	ug/kg	125	106	50	01/06/09 07:19	01/20/09 16:10	118-74-1	
Decachlorobiphenyl (S)	0	%	47-145		50	01/06/09 07:19	01/20/09 16:10	2051-24-3	S4
Tetrachloro-m-xylene (S)	0	%	40-136		50	01/06/09 07:19	01/20/09 16:10	877-09-8	S4
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**2.0**	mg/kg	0.083	0.012	5	12/23/08 12:48	12/24/08 13:45	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**4.2**	%		0.10	1		01/09/09 14:01		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0031-08WB-SW **Lab ID: 4012642031** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**754**	ug/kg	125	106	50	01/06/09 07:19	01/20/09 16:37	118-74-1	
Decachlorobiphenyl (S)	0	%	47-145		50	01/06/09 07:19	01/20/09 16:37	2051-24-3	S4
Tetrachloro-m-xylene (S)	0	%	40-136		50	01/06/09 07:19	01/20/09 16:37	877-09-8	S4
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**1.6**	mg/kg	0.083	0.012	5	12/23/08 12:48	12/24/08 13:46	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**2.8**	%		0.10	1		01/09/09 14:01		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0032-08WB-SW **Lab ID: 4012642032** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**740**	ug/kg	125	106	50	01/06/09 07:19	01/20/09 17:04	118-74-1	
Decachlorobiphenyl (S)	0	%	47-145		50	01/06/09 07:19	01/20/09 17:04	2051-24-3	S4
Tetrachloro-m-xylene (S)	0	%	40-136		50	01/06/09 07:19	01/20/09 17:04	877-09-8	S4
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**1.8**	mg/kg	0.083	0.012	5	12/23/08 12:48	12/24/08 13:53	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**3.2**	%		0.10	1		01/09/09 14:02		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0033-08WB-SW **Lab ID: 4012642033** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**808**	ug/kg	125	106	50	01/06/09 07:19	01/20/09 17:30	118-74-1	
Decachlorobiphenyl (S)	0	%	47-145		50	01/06/09 07:19	01/20/09 17:30	2051-24-3	S4
Tetrachloro-m-xylene (S)	0	%	40-136		50	01/06/09 07:19	01/20/09 17:30	877-09-8	S4
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**1.9**	mg/kg	0.083	0.012	5	12/23/08 12:48	12/24/08 13:54	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**3.1**	%		0.10	1		01/09/09 14:02		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0034-08WB-SW **Lab ID: 4012642034** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**510**	ug/kg	75.0	63.5	30	01/06/09 07:19	01/20/09 17:57	118-74-1	
Decachlorobiphenyl (S)	0	%	47-145		30	01/06/09 07:19	01/20/09 17:57	2051-24-3	S4
Tetrachloro-m-xylene (S)	0	%	40-136		30	01/06/09 07:19	01/20/09 17:57	877-09-8	S4
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**1.6**	mg/kg	0.083	0.012	5	12/23/08 12:48	12/24/08 13:55	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**2.4**	%		0.10	1		01/09/09 14:02		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0035-08WB-SE **Lab ID: 4012642035** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**773**	ug/kg	75.0	63.5	30	01/06/09 07:24	01/21/09 00:47	118-74-1	
Decachlorobiphenyl (S)	0	%	47-145		30	01/06/09 07:24	01/21/09 00:47	2051-24-3	S4
Tetrachloro-m-xylene (S)	0	%	40-136		30	01/06/09 07:24	01/21/09 00:47	877-09-8	S4
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**1.4**	mg/kg	0.083	0.012	5	12/23/08 12:48	12/24/08 13:57	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**5.9**	%		0.10	1		01/08/09 08:04		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0036-08WB-SE **Lab ID: 4012642036** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**1030**	ug/kg	125	106	50	01/06/09 07:24	01/21/09 01:14	118-74-1	
Decachlorobiphenyl (S)	0	%	47-145		50	01/06/09 07:24	01/21/09 01:14	2051-24-3	S4
Tetrachloro-m-xylene (S)	0	%	40-136		50	01/06/09 07:24	01/21/09 01:14	877-09-8	S4
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**1.4**	mg/kg	0.083	0.012	5	12/23/08 12:48	12/24/08 13:58	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**7.6**	%		0.10	1		01/08/09 08:05		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0037-08WB-SE **Lab ID: 4012642037** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**742**	ug/kg	75.0	63.5	30	01/06/09 07:24	01/21/09 01:41	118-74-1	
Decachlorobiphenyl (S)	0	%	47-145		30	01/06/09 07:24	01/21/09 01:41	2051-24-3	S4
Tetrachloro-m-xylene (S)	0	%	40-136		30	01/06/09 07:24	01/21/09 01:41	877-09-8	S4
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**1.2**	mg/kg	0.083	0.012	5	12/23/08 12:48	12/24/08 13:59	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**5.9**	%		0.10	1		01/08/09 08:05		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0038-08WB-SE **Lab ID: 4012642038** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**640**	ug/kg	75.0	63.5	30	01/06/09 07:24	01/21/09 02:07	118-74-1	
Decachlorobiphenyl (S)	0	%	47-145		30	01/06/09 07:24	01/21/09 02:07	2051-24-3	S4
Tetrachloro-m-xylene (S)	0	%	40-136		30	01/06/09 07:24	01/21/09 02:07	877-09-8	S4
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**1.8**	mg/kg	0.083	0.012	5	12/23/08 12:48	12/24/08 14:01	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**3.5**	%		0.10	1		01/08/09 08:06		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0039-08WB-SE **Lab ID: 4012642039** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**560**	ug/kg	75.0	63.5	30	01/06/09 07:24	01/21/09 02:34	118-74-1	
Decachlorobiphenyl (S)	0	%	47-145		30	01/06/09 07:24	01/21/09 02:34	2051-24-3	S4
Tetrachloro-m-xylene (S)	0	%	40-136		30	01/06/09 07:24	01/21/09 02:34	877-09-8	S4
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**1.5**	mg/kg	0.083	0.012	5	12/23/08 12:48	12/24/08 14:02	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**2.4**	%		0.10	1		01/08/09 08:06		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0040-08WB-SE **Lab ID: 4012642040** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**215**	ug/kg	25.0	21.2	10	01/06/09 07:24	01/21/09 03:01	118-74-1	
Decachlorobiphenyl (S)	208	%	47-145		10	01/06/09 07:24	01/21/09 03:01	2051-24-3	S0
Tetrachloro-m-xylene (S)	52	%	40-136		10	01/06/09 07:24	01/21/09 03:01	877-09-8	
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**1.5**	mg/kg	0.083	0.012	5	12/23/08 12:48	12/24/08 14:03	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**1.1**	%		0.10	1		01/08/09 08:06		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0041-08WB-SE **Lab ID: 4012642041** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**554**	ug/kg	75.0	63.5	30	01/06/09 07:24	01/21/09 03:28	118-74-1	
Decachlorobiphenyl (S)	0	%	47-145		30	01/06/09 07:24	01/21/09 03:28	2051-24-3	S4
Tetrachloro-m-xylene (S)	0	%	40-136		30	01/06/09 07:24	01/21/09 03:28	877-09-8	S4
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**1.4**	mg/kg	0.083	0.012	5	12/29/08 11:46	12/30/08 11:21	7439-97-6	M0
Lipid	Analytical Method: Pace Lipid								
Lipid	**2.8**	%		0.10	1		01/08/09 08:07		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0042-08WB-SE **Lab ID: 4012642042** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**452**	ug/kg	50.0	42.3	20	01/06/09 07:24	01/21/09 03:54	118-74-1	
Decachlorobiphenyl (S)	0	%	47-145		20	01/06/09 07:24	01/21/09 03:54	2051-24-3	S4
Tetrachloro-m-xylene (S)	0	%	40-136		20	01/06/09 07:24	01/21/09 03:54	877-09-8	S4
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**1.6**	mg/kg	0.083	0.012	5	12/29/08 11:46	12/30/08 11:27	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**2.2**	%		0.10	1		01/08/09 08:07		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0043-08WB-NE **Lab ID: 4012642043** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**352**	ug/kg	50.0	42.3	20	01/06/09 07:24	01/21/09 04:21	118-74-1	
Decachlorobiphenyl (S)	0	%	47-145		20	01/06/09 07:24	01/21/09 04:21	2051-24-3	S4
Tetrachloro-m-xylene (S)	0	%	40-136		20	01/06/09 07:24	01/21/09 04:21	877-09-8	S4
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**1.7**	mg/kg	0.083	0.012	5	12/29/08 11:46	12/30/08 11:29	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**2.4**	%		0.10	1		01/08/09 08:07		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0044-08WB-NW **Lab ID: 4012642044** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**327**	ug/kg	50.0	42.3	20	01/06/09 07:24	01/21/09 04:48	118-74-1	
Decachlorobiphenyl (S)	0	%	47-145		20	01/06/09 07:24	01/21/09 04:48	2051-24-3	S4
Tetrachloro-m-xylene (S)	0	%	40-136		20	01/06/09 07:24	01/21/09 04:48	877-09-8	S4
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**1.3**	mg/kg	0.083	0.012	5	12/29/08 11:46	12/30/08 11:30	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**2.1**	%		0.10	1		01/08/09 08:08		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0045-08WB-NW **Lab ID: 4012642045** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**329**	ug/kg	50.0	42.3	20	01/06/09 07:24	01/21/09 05:14	118-74-1	
Decachlorobiphenyl (S)	0	%	47-145		20	01/06/09 07:24	01/21/09 05:14	2051-24-3	S4
Tetrachloro-m-xylene (S)	0	%	40-136		20	01/06/09 07:24	01/21/09 05:14	877-09-8	S4
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**1.2**	mg/kg	0.083	0.012	5	12/29/08 11:46	12/30/08 11:37	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**2.1**	%		0.10	1		01/08/09 08:08		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0046-08WB-NW **Lab ID: 4012642046** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**113**	ug/kg	15.5	13.1	3	01/06/09 07:24	01/21/09 05:41	118-74-1	
Decachlorobiphenyl (S)	174	%	47-145		3	01/06/09 07:24	01/21/09 05:41	2051-24-3	S0
Tetrachloro-m-xylene (S)	75	%	40-136		3	01/06/09 07:24	01/21/09 05:41	877-09-8	
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**1.5**	mg/kg	0.083	0.012	5	12/29/08 11:46	12/30/08 11:38	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**0.91**	%		0.10	1		01/08/09 08:09		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0047-08WB-NW **Lab ID: 4012642047** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**79.8**	ug/kg	10.4	8.8	2	01/06/09 07:24	01/21/09 06:08	118-74-1	
Decachlorobiphenyl (S)	98	%	47-145		2	01/06/09 07:24	01/21/09 06:08	2051-24-3	
Tetrachloro-m-xylene (S)	73	%	40-136		2	01/06/09 07:24	01/21/09 06:08	877-09-8	
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**1.7**	mg/kg	0.083	0.012	5	12/29/08 11:46	12/30/08 11:39	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**1.1**	%		0.10	1		01/08/09 08:09		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0048-08WB-NW **Lab ID: 4012642048** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**126**	ug/kg	23.8	20.2	2	01/06/09 07:24	01/21/09 06:35	118-74-1	
Decachlorobiphenyl (S)	98	%	47-145		2	01/06/09 07:24	01/21/09 06:35	2051-24-3	
Tetrachloro-m-xylene (S)	72	%	40-136		2	01/06/09 07:24	01/21/09 06:35	877-09-8	
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**1.4**	mg/kg	0.083	0.012	5	12/29/08 11:46	12/30/08 11:41	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**1.6**	%		0.10	1		01/08/09 08:10		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0049-08WB-SW **Lab ID: 4012642049** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**356**	ug/kg	54.3	46.0	10	01/06/09 07:24	01/21/09 07:01	118-74-1	
Decachlorobiphenyl (S)	215	%	47-145		10	01/06/09 07:24	01/21/09 07:01	2051-24-3	S0
Tetrachloro-m-xylene (S)	78	%	40-136		10	01/06/09 07:24	01/21/09 07:01	877-09-8	
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**1.5**	mg/kg	0.083	0.012	5	12/29/08 11:46	12/30/08 11:42	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**2.3**	%		0.10	1		01/08/09 08:10		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0050-08WB-SW **Lab ID: 4012642050** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**268**	ug/kg	28.4	24.1	10	01/06/09 07:24	01/21/09 07:28	118-74-1	
Decachlorobiphenyl (S)	333	%	47-145		10	01/06/09 07:24	01/21/09 07:28	2051-24-3	S0
Tetrachloro-m-xylene (S)	82	%	40-136		10	01/06/09 07:24	01/21/09 07:28	877-09-8	
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**1.6**	mg/kg	0.083	0.012	5	12/29/08 11:46	12/30/08 11:43	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**1.7**	%		0.10	1		01/08/09 08:10		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0051-08WB-SW **Lab ID: 4012642051** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**34.0**	ug/kg	6.1	5.2	1	01/06/09 07:24	01/21/09 07:55	118-74-1	
Decachlorobiphenyl (S)	121	%	47-145		1	01/06/09 07:24	01/21/09 07:55	2051-24-3	
Tetrachloro-m-xylene (S)	70	%	40-136		1	01/06/09 07:24	01/21/09 07:55	877-09-8	
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**1.8**	mg/kg	0.083	0.012	5	12/29/08 11:46	12/30/08 11:44	7439-97-6	P6
Lipid	Analytical Method: Pace Lipid								
Lipid	**0.74**	%		0.10	1		01/08/09 08:11		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0052-08WB-SW **Lab ID: 4012642052** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**106**	ug/kg	13.5	11.4	2	01/07/09 14:05	01/20/09 21:04	118-74-1	
Decachlorobiphenyl (S)	135	%	47-145		2	01/07/09 14:05	01/20/09 21:04	2051-24-3	
Tetrachloro-m-xylene (S)	73	%	40-136		2	01/07/09 14:05	01/20/09 21:04	877-09-8	
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**1.6**	mg/kg	0.083	0.012	5	12/29/08 11:46	12/30/08 11:51	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**1.2**	%		0.10	1		01/13/09 09:01		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0053-08WB-SW **Lab ID: 4012642053** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**100**	ug/kg	22.6	19.2	2	01/07/09 14:05	01/20/09 21:30	118-74-1	
Decachlorobiphenyl (S)	120	%	47-145		2	01/07/09 14:05	01/20/09 21:30	2051-24-3	
Tetrachloro-m-xylene (S)	69	%	40-136		2	01/07/09 14:05	01/20/09 21:30	877-09-8	
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**1.5**	mg/kg	0.083	0.012	5	12/29/08 11:46	12/30/08 11:52	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**0.84**	%		0.10	1		01/13/09 09:01		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0054-08WB-NE **Lab ID: 4012642054** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**288**	ug/kg	50.0	42.3	20	01/07/09 14:05	01/20/09 21:57	118-74-1	
Decachlorobiphenyl (S)	0	%	47-145		20	01/07/09 14:05	01/20/09 21:57	2051-24-3	S4
Tetrachloro-m-xylene (S)	0	%	40-136		20	01/07/09 14:05	01/20/09 21:57	877-09-8	S4
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**1.5**	mg/kg	0.083	0.012	5	12/29/08 11:46	12/30/08 11:54	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**1.7**	%		0.10	1		01/13/09 09:01		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0055-08WB-NE **Lab ID: 4012642055** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**188**	ug/kg	25.0	21.2	10	01/07/09 14:05	01/20/09 22:24	118-74-1	
Decachlorobiphenyl (S)	262	%	47-145		10	01/07/09 14:05	01/20/09 22:24	2051-24-3	S0
Tetrachloro-m-xylene (S)	81	%	40-136		10	01/07/09 14:05	01/20/09 22:24	877-09-8	
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**1.3**	mg/kg	0.083	0.012	5	12/29/08 11:46	12/30/08 11:55	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**1.3**	%		0.10	1		01/13/09 09:02		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0056-08WB-NE **Lab ID: 4012642056** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**153**	ug/kg	26.2	22.2	10	01/07/09 14:05	01/20/09 22:50	118-74-1	
Decachlorobiphenyl (S)	202	%	47-145		10	01/07/09 14:05	01/20/09 22:50	2051-24-3	S0
Tetrachloro-m-xylene (S)	83	%	40-136		10	01/07/09 14:05	01/20/09 22:50	877-09-8	
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**1.3**	mg/kg	0.083	0.012	5	12/29/08 11:46	12/30/08 11:56	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**1.1**	%		0.10	1		01/13/09 09:02		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0057-08WB-NE **Lab ID: 4012642057** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**42.2**	ug/kg	5.5	4.6	1	01/07/09 14:05	01/20/09 23:17	118-74-1	
Decachlorobiphenyl (S)	104	%	47-145		1	01/07/09 14:05	01/20/09 23:17	2051-24-3	
Tetrachloro-m-xylene (S)	67	%	40-136		1	01/07/09 14:05	01/20/09 23:17	877-09-8	
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**1.3**	mg/kg	0.083	0.012	5	12/29/08 11:46	12/30/08 11:58	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**0.67**	%		0.10	1		01/13/09 09:02		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0058-08WB-NE **Lab ID: 4012642058** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**49.3**	ug/kg	7.3	6.2	1	01/07/09 14:05	01/20/09 23:44	118-74-1	
Decachlorobiphenyl (S)	94	%	47-145		1	01/07/09 14:05	01/20/09 23:44	2051-24-3	
Tetrachloro-m-xylene (S)	72	%	40-136		1	01/07/09 14:05	01/20/09 23:44	877-09-8	
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**1.4**	mg/kg	0.083	0.012	5	12/29/08 11:46	12/30/08 11:59	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**0.77**	%		0.10	1		01/13/09 09:03		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0059-08WB-SE **Lab ID: 4012642059** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**143**	ug/kg	32.5	27.5	10	01/07/09 14:05	01/21/09 00:11	118-74-1	
Decachlorobiphenyl (S)	158	%	47-145		10	01/07/09 14:05	01/21/09 00:11	2051-24-3	S0
Tetrachloro-m-xylene (S)	78	%	40-136		10	01/07/09 14:05	01/21/09 00:11	877-09-8	
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**1.1**	mg/kg	0.083	0.012	5	12/29/08 11:46	12/30/08 12:00	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**1.1**	%		0.10	1		01/13/09 09:03		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0060-08WB-SE **Lab ID: 4012642060** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**51.9**	ug/kg	7.6	6.4	1	01/07/09 14:05	01/21/09 00:37	118-74-1	
Decachlorobiphenyl (S)	97	%	47-145		1	01/07/09 14:05	01/21/09 00:37	2051-24-3	
Tetrachloro-m-xylene (S)	71	%	40-136		1	01/07/09 14:05	01/21/09 00:37	877-09-8	
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**1.6**	mg/kg	0.083	0.012	5	12/29/08 11:46	12/30/08 12:02	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**0.85**	%		0.10	1		01/13/09 09:03		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0061-08WB-NE **Lab ID: 4012642061** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**231**	ug/kg	25.0	21.2	10	01/07/09 14:05	01/21/09 01:04	118-74-1	
Decachlorobiphenyl (S)	195	%	47-145		10	01/07/09 14:05	01/21/09 01:04	2051-24-3	S0
Tetrachloro-m-xylene (S)	89	%	40-136		10	01/07/09 14:05	01/21/09 01:04	877-09-8	
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**0.63**	mg/kg	0.083	0.012	5	12/29/08 13:44	12/30/08 12:34	7439-97-6	M0
Lipid	Analytical Method: Pace Lipid								
Lipid	**2.5**	%		0.10	1		01/13/09 09:04		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0062-08WB-NE **Lab ID: 4012642062** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**190**	ug/kg	25.0	21.2	10	01/07/09 14:05	01/21/09 01:31	118-74-1	
Decachlorobiphenyl (S)	239	%	47-145		10	01/07/09 14:05	01/21/09 01:31	2051-24-3	S0
Tetrachloro-m-xylene (S)	88	%	40-136		10	01/07/09 14:05	01/21/09 01:31	877-09-8	
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**0.54**	mg/kg	0.083	0.012	5	12/29/08 13:44	12/30/08 12:41	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**1.8**	%		0.10	1		01/13/09 09:04		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0063-08WB-NE **Lab ID: 4012642063** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**171**	ug/kg	25.0	21.2	10	01/07/09 14:05	01/21/09 01:58	118-74-1	
Decachlorobiphenyl (S)	192	%	47-145		10	01/07/09 14:05	01/21/09 01:58	2051-24-3	S0
Tetrachloro-m-xylene (S)	74	%	40-136		10	01/07/09 14:05	01/21/09 01:58	877-09-8	
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**0.84**	mg/kg	0.083	0.012	5	12/29/08 13:44	12/30/08 12:42	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**2.4**	%		0.10	1		01/13/09 09:04		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0064-08WB-NE **Lab ID: 4012642064** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**140**	ug/kg	15.6	13.2	3	01/07/09 14:05	01/21/09 02:24	118-74-1	
Decachlorobiphenyl (S)	135	%	47-145		3	01/07/09 14:05	01/21/09 02:24	2051-24-3	
Tetrachloro-m-xylene (S)	78	%	40-136		3	01/07/09 14:05	01/21/09 02:24	877-09-8	
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**0.70**	mg/kg	0.083	0.012	5	12/29/08 13:44	12/30/08 12:43	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**1.8**	%		0.10	1		01/13/09 09:05		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0065-08WB-NE **Lab ID: 4012642065** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**163**	ug/kg	42.4	35.9	2	01/07/09 14:05	01/21/09 02:51	118-74-1	
Decachlorobiphenyl (S)	92	%	47-145		2	01/07/09 14:05	01/21/09 02:51	2051-24-3	
Tetrachloro-m-xylene (S)	77	%	40-136		2	01/07/09 14:05	01/21/09 02:51	877-09-8	
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**0.80**	mg/kg	0.083	0.012	5	12/29/08 13:44	12/30/08 12:48	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**2.0**	%		0.10	1		01/13/09 09:05		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0066-08WB-NW **Lab ID: 4012642066** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**118**	ug/kg	15.4	13.0	5	01/07/09 14:05	01/21/09 03:18	118-74-1	
Decachlorobiphenyl (S)	221	%	47-145		5	01/07/09 14:05	01/21/09 03:18	2051-24-3	S0
Tetrachloro-m-xylene (S)	83	%	40-136		5	01/07/09 14:05	01/21/09 03:18	877-09-8	
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**0.85**	mg/kg	0.083	0.012	5	12/29/08 13:44	12/30/08 12:49	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**1.0**	%		0.10	1		01/13/09 09:05		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0067-08WB-NW **Lab ID: 4012642067** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**281**	ug/kg	26.3	22.2	10	01/07/09 14:05	01/21/09 03:44	118-74-1	
Decachlorobiphenyl (S)	133	%	47-145		10	01/07/09 14:05	01/21/09 03:44	2051-24-3	
Tetrachloro-m-xylene (S)	78	%	40-136		10	01/07/09 14:05	01/21/09 03:44	877-09-8	
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**0.57**	mg/kg	0.083	0.012	5	12/29/08 13:44	12/30/08 12:50	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**3.6**	%		0.10	1		01/13/09 09:06		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0068-08WB-NW **Lab ID: 4012642068** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**364**	ug/kg	54.8	46.4	20	01/07/09 14:05	01/21/09 04:11	118-74-1	
Decachlorobiphenyl (S)	0	%	47-145		20	01/07/09 14:05	01/21/09 04:11	2051-24-3	S4
Tetrachloro-m-xylene (S)	0	%	40-136		20	01/07/09 14:05	01/21/09 04:11	877-09-8	S4
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**0.63**	mg/kg	0.083	0.012	5	12/29/08 13:44	12/30/08 12:51	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**3.5**	%		0.10	1		01/13/09 09:06		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0069-08WB-NW **Lab ID: 4012642069** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**239**	ug/kg	37.3	31.6	10	01/07/09 14:10	01/21/09 07:18	118-74-1	L2
Decachlorobiphenyl (S)	161	%	47-145		10	01/07/09 14:10	01/21/09 07:18	2051-24-3	S0
Tetrachloro-m-xylene (S)	74	%	40-136		10	01/07/09 14:10	01/21/09 07:18	877-09-8	
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**0.58**	mg/kg	0.083	0.012	5	12/29/08 13:44	12/30/08 12:53	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**3.5**	%		0.10	1		01/09/09 14:12		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0070-08WB-NW **Lab ID: 4012642070** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**223**	ug/kg	27.6	23.4	2	01/07/09 14:10	01/21/09 07:44	118-74-1	L2
Decachlorobiphenyl (S)	92	%	47-145		2	01/07/09 14:10	01/21/09 07:44	2051-24-3	
Tetrachloro-m-xylene (S)	66	%	40-136		2	01/07/09 14:10	01/21/09 07:44	877-09-8	
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**0.79**	mg/kg	0.083	0.012	5	12/29/08 13:44	12/30/08 12:54	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**3.5**	%		0.10	1		01/09/09 14:12		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0071-08WB-SE **Lab ID: 4012642071** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**54.3**	ug/kg	7.5	6.4	3	01/07/09 14:10	01/21/09 08:11	118-74-1	L2
Decachlorobiphenyl (S)	290	%	47-145		3	01/07/09 14:10	01/21/09 08:11	2051-24-3	S0
Tetrachloro-m-xylene (S)	63	%	40-136		3	01/07/09 14:10	01/21/09 08:11	877-09-8	
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**0.66**	mg/kg	0.083	0.012	5	12/29/08 13:44	12/30/08 12:55	7439-97-6	M0,R1
Lipid	Analytical Method: Pace Lipid								
Lipid	**0.66**	%		0.10	1		01/09/09 14:13		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0072-08WB-SE **Lab ID: 4012642072** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**353**	ug/kg	55.8	47.3	20	01/07/09 14:10	01/21/09 08:38	118-74-1	L2
Decachlorobiphenyl (S)	0	%	47-145		20	01/07/09 14:10	01/21/09 08:38	2051-24-3	S4
Tetrachloro-m-xylene (S)	0	%	40-136		20	01/07/09 14:10	01/21/09 08:38	877-09-8	S4
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**0.59**	mg/kg	0.083	0.012	5	12/29/08 13:44	12/30/08 12:59	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**4.3**	%		0.10	1		01/09/09 14:13		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0073-08WB-SE **Lab ID: 4012642073** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**319**	ug/kg	35.9	30.4	10	01/07/09 14:10	01/21/09 09:05	118-74-1	L2
Decachlorobiphenyl (S)	201	%	47-145		10	01/07/09 14:10	01/21/09 09:05	2051-24-3	S0
Tetrachloro-m-xylene (S)	82	%	40-136		10	01/07/09 14:10	01/21/09 09:05	877-09-8	
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**0.83**	mg/kg	0.083	0.012	5	12/29/08 13:44	12/30/08 13:03	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**3.0**	%		0.10	1		01/13/09 09:08		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0074-08WB-SE **Lab ID: 4012642074** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**440**	ug/kg	46.5	39.4	10	01/07/09 14:10	01/21/09 09:31	118-74-1	L2
Decachlorobiphenyl (S)	185	%	47-145		10	01/07/09 14:10	01/21/09 09:31	2051-24-3	S0
Tetrachloro-m-xylene (S)	88	%	40-136		10	01/07/09 14:10	01/21/09 09:31	877-09-8	
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**0.61**	mg/kg	0.083	0.012	5	12/29/08 13:44	12/30/08 13:05	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**2.3**	%		0.10	1		01/13/09 09:08		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0075-08WB-SE **Lab ID: 4012642075** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**473**	ug/kg	54.9	46.5	3	01/07/09 14:10	01/21/09 09:58	118-74-1	L2
Decachlorobiphenyl (S)	108	%	47-145		3	01/07/09 14:10	01/21/09 09:58	2051-24-3	
Tetrachloro-m-xylene (S)	78	%	40-136		3	01/07/09 14:10	01/21/09 09:58	877-09-8	
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**0.59**	mg/kg	0.083	0.012	5	12/29/08 13:44	12/30/08 13:06	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**3.3**	%		0.10	1		01/13/09 09:09		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0076-08WB-SW **Lab ID: 4012642076** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**456**	ug/kg	50.0	42.3	20	01/07/09 14:10	01/21/09 10:25	118-74-1	L2
Decachlorobiphenyl (S)	0	%	47-145		20	01/07/09 14:10	01/21/09 10:25	2051-24-3	S4
Tetrachloro-m-xylene (S)	0	%	40-136		20	01/07/09 14:10	01/21/09 10:25	877-09-8	S4
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**0.59**	mg/kg	0.083	0.012	5	12/29/08 13:44	12/30/08 13:07	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**3.7**	%		0.10	1		01/13/09 09:09		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0077-08WB-SW **Lab ID: 4012642077** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**509**	ug/kg	50.0	42.3	20	01/07/09 14:10	01/21/09 10:51	118-74-1	L2
Decachlorobiphenyl (S)	0	%	47-145		20	01/07/09 14:10	01/21/09 10:51	2051-24-3	S4
Tetrachloro-m-xylene (S)	0	%	40-136		20	01/07/09 14:10	01/21/09 10:51	877-09-8	S4
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**0.57**	mg/kg	0.083	0.012	5	12/29/08 13:44	12/30/08 13:09	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**4.6**	%		0.10	1		01/13/09 09:10		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0078-08WB-SW **Lab ID: 4012642078** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**484**	ug/kg	71.5	60.6	20	01/07/09 14:10	01/21/09 11:18	118-74-1	L2
Decachlorobiphenyl (S)	0	%	47-145		20	01/07/09 14:10	01/21/09 11:18	2051-24-3	S4
Tetrachloro-m-xylene (S)	0	%	40-136		20	01/07/09 14:10	01/21/09 11:18	877-09-8	S4
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**0.59**	mg/kg	0.083	0.012	5	12/29/08 13:44	12/30/08 13:10	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**3.2**	%		0.10	1		01/13/09 09:10		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0079-08WB-SW **Lab ID: 4012642079** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**360**	ug/kg	43.0	36.4	5	01/07/09 14:10	01/21/09 11:45	118-74-1	L2
Decachlorobiphenyl (S)	170	%	47-145		5	01/07/09 14:10	01/21/09 11:45	2051-24-3	S0
Tetrachloro-m-xylene (S)	78	%	40-136		5	01/07/09 14:10	01/21/09 11:45	877-09-8	
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**0.94**	mg/kg	0.083	0.012	5	12/29/08 13:44	12/30/08 13:11	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**2.7**	%		0.10	1		01/13/09 09:10		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0080-08WB-SW **Lab ID: 4012642080** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**637**	ug/kg	113	95.4	5	01/07/09 14:10	01/21/09 12:11	118-74-1	L2
Decachlorobiphenyl (S)	126	%	47-145		5	01/07/09 14:10	01/21/09 12:11	2051-24-3	
Tetrachloro-m-xylene (S)	82	%	40-136		5	01/07/09 14:10	01/21/09 12:11	877-09-8	
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**1.2**	mg/kg	0.083	0.012	5	12/29/08 13:44	12/30/08 13:13	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**2.3**	%		0.10	1		01/13/09 09:11		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0081-08WB-NE **Lab ID: 4012642081** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**1990**	ug/kg	1390	1180	1	01/07/09 14:10	01/21/09 12:38	118-74-1	L2
Decachlorobiphenyl (S)	82	%	47-145		1	01/07/09 14:10	01/21/09 12:38	2051-24-3	
Tetrachloro-m-xylene (S)	75	%	40-136		1	01/07/09 14:10	01/21/09 12:38	877-09-8	
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**0.60**	mg/kg	0.083	0.012	5	12/29/08 14:45	12/30/08 13:19	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**5.6**	%		0.10	1		01/13/09 09:11		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0082-08WB-NE **Lab ID: 4012642082** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**86.8**	ug/kg	17.9	15.2	2	01/07/09 14:10	01/21/09 13:05	118-74-1	L2
Decachlorobiphenyl (S)	973	%	47-145		2	01/07/09 14:10	01/21/09 13:05	2051-24-3	1j
Tetrachloro-m-xylene (S)	663	%	40-136		2	01/07/09 14:10	01/21/09 13:05	877-09-8	1j
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**1.2**	mg/kg	0.083	0.012	5	12/29/08 14:45	12/30/08 13:26	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**1.6**	%		0.10	1		01/13/09 09:12		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0083-08WB-SE **Lab ID: 4012642083** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**183**	ug/kg	30.1	25.5	5	01/07/09 14:10	01/21/09 13:31	118-74-1	L2
Decachlorobiphenyl (S)	162	%	47-145		5	01/07/09 14:10	01/21/09 13:31	2051-24-3	S0
Tetrachloro-m-xylene (S)	76	%	40-136		5	01/07/09 14:10	01/21/09 13:31	877-09-8	
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**0.82**	mg/kg	0.083	0.012	5	12/29/08 14:45	12/30/08 13:27	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**1.5**	%		0.10	1		01/13/09 09:12		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0084-08WB-SW **Lab ID: 4012642084** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**291**	ug/kg	47.7	40.4	10	01/07/09 14:10	01/21/09 13:58	118-74-1	L2
Decachlorobiphenyl (S)	208	%	47-145		10	01/07/09 14:10	01/21/09 13:58	2051-24-3	S0
Tetrachloro-m-xylene (S)	93	%	40-136		10	01/07/09 14:10	01/21/09 13:58	877-09-8	
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**0.74**	mg/kg	0.083	0.012	5	12/29/08 14:45	12/30/08 13:29	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**2.1**	%		0.10	1		01/13/09 09:12		

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ANALYTICAL RESULTS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Sample: Mcl-0085-08WB-NW **Lab ID: 4012642085** Collected: 10/15/08 00:00 Received: 12/18/08 12:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, Tissue	Analytical Method: EPA 8081 Preparation Method: EPA 3540								
Hexachlorobenzene	**199**	ug/kg	30.0	25.4	4	01/07/09 14:10	01/21/09 14:25	118-74-1	L2
Decachlorobiphenyl (S)	128	%	47-145		4	01/07/09 14:10	01/21/09 14:25	2051-24-3	
Tetrachloro-m-xylene (S)	85	%	40-136		4	01/07/09 14:10	01/21/09 14:25	877-09-8	
245.6 Mercury	Analytical Method: EPA 245.6 Preparation Method: EPA 245.6								
Mercury	**0.82**	mg/kg	0.083	0.012	5	12/29/08 14:45	12/30/08 13:30	7439-97-6	
Lipid	Analytical Method: Pace Lipid								
Lipid	**2.0**	%		0.10	1		01/13/09 09:13		

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QUALITY CONTROL DATA

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

QC Batch: MERP/1386 Analysis Method: EPA 245.6
QC Batch Method: EPA 245.6 Analysis Description: 2456 Mercury
Associated Lab Samples: 4012642001, 4012642002, 4012642003, 4012642004, 4012642005, 4012642006, 4012642007, 4012642008, 4012642009, 4012642010, 4012642011, 4012642012, 4012642013, 4012642014, 4012642015, 4012642016, 4012642017, 4012642018, 4012642019, 4012642020

METHOD BLANK: 114903 Matrix: Tissue
Associated Lab Samples: 4012642001, 4012642002, 4012642003, 4012642004, 4012642005, 4012642006, 4012642007, 4012642008, 4012642009, 4012642010, 4012642011, 4012642012, 4012642013, 4012642014, 4012642015, 4012642016, 4012642017, 4012642018, 4012642019, 4012642020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	mg/kg	<0.0024	0.017	12/24/08 12:15	

LABORATORY CONTROL SAMPLE: 114904

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/kg	.42	0.41	97	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 114905 114906

Parameter	Units	4012642001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/kg	2.0	.41	.42	2.2	2.3	66	85	70-130	3	10	P6

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 114907 114908

Parameter	Units	4012642011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/kg	2.4	.42	.41	2.5	2.6	30	48	70-130	3	10	P6

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QUALITY CONTROL DATA

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

QC Batch: MERP/1387 Analysis Method: EPA 245.6
QC Batch Method: EPA 245.6 Analysis Description: 2456 Mercury
Associated Lab Samples: 4012642021, 4012642022, 4012642023, 4012642024, 4012642025, 4012642026, 4012642027, 4012642028, 4012642029, 4012642030, 4012642031, 4012642032, 4012642033, 4012642034, 4012642035, 4012642036, 4012642037, 4012642038, 4012642039, 4012642040

METHOD BLANK: 114934 Matrix: Tissue
Associated Lab Samples: 4012642021, 4012642022, 4012642023, 4012642024, 4012642025, 4012642026, 4012642027, 4012642028, 4012642029, 4012642030, 4012642031, 4012642032, 4012642033, 4012642034, 4012642035, 4012642036, 4012642037, 4012642038, 4012642039, 4012642040

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	mg/kg	<0.0024	0.017	12/24/08 13:20	

LABORATORY CONTROL SAMPLE: 114935

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/kg	.42	0.41	97	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 114936 114937

Parameter	Units	4012642021 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/kg	1.8	.42	.42	2.1	1.9	85	25	70-130	13	10	P6,R1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 114938 114939

Parameter	Units	4012642031 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/kg	1.6	.42	.42	1.9	1.9	86	82	70-130	.8	10	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

QC Batch: MERP/1390 Analysis Method: EPA 245.6
QC Batch Method: EPA 245.6 Analysis Description: 2456 Mercury
Associated Lab Samples: 4012642041, 4012642042, 4012642043, 4012642044, 4012642045, 4012642046, 4012642047, 4012642048, 4012642049, 4012642050, 4012642051, 4012642052, 4012642053, 4012642054, 4012642055, 4012642056, 4012642057, 4012642058, 4012642059, 4012642060

METHOD BLANK: 116007 Matrix: Tissue
Associated Lab Samples: 4012642041, 4012642042, 4012642043, 4012642044, 4012642045, 4012642046, 4012642047, 4012642048, 4012642049, 4012642050, 4012642051, 4012642052, 4012642053, 4012642054, 4012642055, 4012642056, 4012642057, 4012642058, 4012642059, 4012642060

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	mg/kg	<0.0024	0.017	12/30/08 11:18	

LABORATORY CONTROL SAMPLE: 116008

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/kg	.42	0.38	90	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 116009 116010

Parameter	Units	4012642041 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/kg	1.4	.42	.42	1.7	1.8	65	93	70-130	7	10	M0

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 116011 116012

Parameter	Units	4012642051 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/kg	1.8	.42	.42	1.9	2.0	13	52	70-130	8	10	P6

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QUALITY CONTROL DATA

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

QC Batch: MERP/1391 Analysis Method: EPA 245.6
QC Batch Method: EPA 245.6 Analysis Description: 2456 Mercury
Associated Lab Samples: 4012642061, 4012642062, 4012642063, 4012642064, 4012642065, 4012642066, 4012642067, 4012642068, 4012642069, 4012642070, 4012642071, 4012642072, 4012642073, 4012642074, 4012642075, 4012642076, 4012642077, 4012642078, 4012642079, 4012642080

METHOD BLANK: 116082 Matrix: Tissue
Associated Lab Samples: 4012642061, 4012642062, 4012642063, 4012642064, 4012642065, 4012642066, 4012642067, 4012642068, 4012642069, 4012642070, 4012642071, 4012642072, 4012642073, 4012642074, 4012642075, 4012642076, 4012642077, 4012642078, 4012642079, 4012642080

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	mg/kg	<0.0024	0.017	12/30/08 12:32	

LABORATORY CONTROL SAMPLE: 116083

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/kg	.42	0.38	90	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 116084 116085

Parameter	Units	4012642061 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/kg	0.63	.42	.42	0.87	0.87	58	58	70-130	.3	10	M0

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 116086 116087

Parameter	Units	4012642071 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/kg	0.66	.41	.42	0.92	1.0	63	92	70-130	13	10	M0,R1

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QUALITY CONTROL DATA

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

QC Batch: MERP/1392 Analysis Method: EPA 245.6
QC Batch Method: EPA 245.6 Analysis Description: 2456 Mercury
Associated Lab Samples: 4012642081, 4012642082, 4012642083, 4012642084, 4012642085

METHOD BLANK: 116105 Matrix: Tissue
Associated Lab Samples: 4012642081, 4012642082, 4012642083, 4012642084, 4012642085

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	mg/kg	<0.0024	0.017	12/30/08 13:14	

LABORATORY CONTROL SAMPLE: 116106

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/kg	.42	0.37	90	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 116107 116108

Parameter	Units	4012642081 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/kg	0.60	.41	.42	1.0	1.1	106	130	70-130	10	10	

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QUALITY CONTROL DATA

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

QC Batch: OEXT/3592 Analysis Method: EPA 8081
QC Batch Method: EPA 3540 Analysis Description: 8081 GCS Tissue Pesticides
Associated Lab Samples: 4012642001, 4012642002, 4012642003, 4012642004, 4012642005, 4012642006, 4012642007, 4012642008, 4012642009, 4012642010, 4012642011, 4012642012, 4012642013, 4012642014, 4012642015, 4012642016, 4012642017

METHOD BLANK: 117242 Matrix: Tissue
Associated Lab Samples: 4012642001, 4012642002, 4012642003, 4012642004, 4012642005, 4012642006, 4012642007, 4012642008, 4012642009, 4012642010, 4012642011, 4012642012, 4012642013, 4012642014, 4012642015, 4012642016, 4012642017

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Hexachlorobenzene	ug/kg	<2.1	2.5	01/19/09 23:19	
Decachlorobiphenyl (S)	%	78	47-145	01/19/09 23:19	
Tetrachloro-m-xylene (S)	%	77	40-136	01/19/09 23:19	

LABORATORY CONTROL SAMPLE & LCSD: 117243 117244

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Hexachlorobenzene	ug/kg	20	15.3	15.4	76	77	50-150	.9	40	
Decachlorobiphenyl (S)	%				79	78	47-145			
Tetrachloro-m-xylene (S)	%				73	73	40-136			

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QUALITY CONTROL DATA

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

QC Batch: OEXT/3596 Analysis Method: EPA 8081
QC Batch Method: EPA 3540 Analysis Description: 8081 GCS Tissue Pesticides
Associated Lab Samples: 4012642018, 4012642019, 4012642020, 4012642021, 4012642022, 4012642023, 4012642024, 4012642025, 4012642026, 4012642027, 4012642028, 4012642029, 4012642030, 4012642031, 4012642032, 4012642033, 4012642034

METHOD BLANK: 117363 Matrix: Tissue
Associated Lab Samples: 4012642018, 4012642019, 4012642020, 4012642021, 4012642022, 4012642023, 4012642024, 4012642025, 4012642026, 4012642027, 4012642028, 4012642029, 4012642030, 4012642031, 4012642032, 4012642033, 4012642034

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Hexachlorobenzene	ug/kg	<2.1	2.5	01/20/09 09:31	
Decachlorobiphenyl (S)	%	72	47-145	01/20/09 09:31	
Tetrachloro-m-xylene (S)	%	70	40-136	01/20/09 09:31	

LABORATORY CONTROL SAMPLE & LCSD: 117364 117365

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Hexachlorobenzene	ug/kg	20	14.3	14.0	72	70	50-150	2	40	
Decachlorobiphenyl (S)	%				73	75	47-145			
Tetrachloro-m-xylene (S)	%				65	67	40-136			

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QUALITY CONTROL DATA

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

QC Batch: OEXT/3597 Analysis Method: EPA 8081
QC Batch Method: EPA 3540 Analysis Description: 8081 GCS Tissue Pesticides
Associated Lab Samples: 4012642035, 4012642036, 4012642037, 4012642038, 4012642039, 4012642040, 4012642041, 4012642042, 4012642043, 4012642044, 4012642045, 4012642046, 4012642047, 4012642048, 4012642049, 4012642050, 4012642051

METHOD BLANK: 117366 Matrix: Tissue
Associated Lab Samples: 4012642035, 4012642036, 4012642037, 4012642038, 4012642039, 4012642040, 4012642041, 4012642042, 4012642043, 4012642044, 4012642045, 4012642046, 4012642047, 4012642048, 4012642049, 4012642050, 4012642051

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Hexachlorobenzene	ug/kg	<2.1	2.5	01/20/09 23:27	
Decachlorobiphenyl (S)	%	80	47-145	01/20/09 23:27	
Tetrachloro-m-xylene (S)	%	80	40-136	01/20/09 23:27	

LABORATORY CONTROL SAMPLE & LCSD: 117367 117368

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Hexachlorobenzene	ug/kg	20	14.2	15.6	71	78	50-150	10	40	
Decachlorobiphenyl (S)	%				81	79	47-145			
Tetrachloro-m-xylene (S)	%				74	70	40-136			

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QUALITY CONTROL DATA

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

QC Batch: OEXT/3601 Analysis Method: Pace Lipid
QC Batch Method: Pace Lipid Analysis Description: LIPID
Associated Lab Samples: 4012642001, 4012642002, 4012642003, 4012642004, 4012642005, 4012642006, 4012642007, 4012642008, 4012642009, 4012642010, 4012642011, 4012642012, 4012642013, 4012642014, 4012642015, 4012642016, 4012642017

METHOD BLANK: 117419 Matrix: Tissue
Associated Lab Samples: 4012642001, 4012642002, 4012642003, 4012642004, 4012642005, 4012642006, 4012642007, 4012642008, 4012642009, 4012642010, 4012642011, 4012642012, 4012642013, 4012642014, 4012642015, 4012642016, 4012642017

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lipid	%	<0.10		01/07/09 07:58	

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QUALITY CONTROL DATA

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

QC Batch: OEXT/3607 Analysis Method: EPA 8081
QC Batch Method: EPA 3540 Analysis Description: 8081 GCS Tissue Pesticides
Associated Lab Samples: 4012642052, 4012642053, 4012642054, 4012642055, 4012642056, 4012642057, 4012642058, 4012642059, 4012642060, 4012642061, 4012642062, 4012642063, 4012642064, 4012642065, 4012642066, 4012642067, 4012642068

METHOD BLANK: 117710 Matrix: Tissue
Associated Lab Samples: 4012642052, 4012642053, 4012642054, 4012642055, 4012642056, 4012642057, 4012642058, 4012642059, 4012642060, 4012642061, 4012642062, 4012642063, 4012642064, 4012642065, 4012642066, 4012642067, 4012642068

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Hexachlorobenzene	ug/kg	<2.1	2.5	01/20/09 19:44	
Decachlorobiphenyl (S)	%	75	47-145	01/20/09 19:44	
Tetrachloro-m-xylene (S)	%	70	40-136	01/20/09 19:44	

LABORATORY CONTROL SAMPLE & LCSD: 117711 117712

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Hexachlorobenzene	ug/kg	20	10.4	10.6	52	53	50-150	2	40	
Decachlorobiphenyl (S)	%				76	78	47-145			
Tetrachloro-m-xylene (S)	%				65	68	40-136			

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QUALITY CONTROL DATA

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

QC Batch: OEXT/3608 Analysis Method: EPA 8081
QC Batch Method: EPA 3540 Analysis Description: 8081 GCS Tissue Pesticides
Associated Lab Samples: 4012642069, 4012642070, 4012642071, 4012642072, 4012642073, 4012642074, 4012642075, 4012642076, 4012642077, 4012642078, 4012642079, 4012642080, 4012642081, 4012642082, 4012642083, 4012642084, 4012642085

METHOD BLANK: 117713 Matrix: Tissue
Associated Lab Samples: 4012642069, 4012642070, 4012642071, 4012642072, 4012642073, 4012642074, 4012642075, 4012642076, 4012642077, 4012642078, 4012642079, 4012642080, 4012642081, 4012642082, 4012642083, 4012642084, 4012642085

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Hexachlorobenzene	ug/kg	<2.1	2.5	01/21/09 05:58	
Decachlorobiphenyl (S)	%	80	47-145	01/21/09 05:58	
Tetrachloro-m-xylene (S)	%	77	40-136	01/21/09 05:58	

LABORATORY CONTROL SAMPLE & LCSD: 117714 117715

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Hexachlorobenzene	ug/kg	20	8.2	10.6	41	53	50-150	25	40	L0
Decachlorobiphenyl (S)	%				68	71	47-145			
Tetrachloro-m-xylene (S)	%				63	64	40-136			

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QUALITY CONTROL DATA

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

QC Batch: OEXT/3609 Analysis Method: Pace Lipid
QC Batch Method: Pace Lipid Analysis Description: LIPID
Associated Lab Samples: 4012642018, 4012642019, 4012642020, 4012642021, 4012642022, 4012642023, 4012642024, 4012642025, 4012642026, 4012642027, 4012642028, 4012642029, 4012642030, 4012642031, 4012642032, 4012642033, 4012642034

METHOD BLANK: 117716 Matrix: Tissue
Associated Lab Samples: 4012642018, 4012642019, 4012642020, 4012642021, 4012642022, 4012642023, 4012642024, 4012642025, 4012642026, 4012642027, 4012642028, 4012642029, 4012642030, 4012642031, 4012642032, 4012642033, 4012642034

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lipid	%	<0.10		01/09/09 13:57	

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QUALITY CONTROL DATA

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

QC Batch: OEXT/3610 Analysis Method: Pace Lipid
QC Batch Method: Pace Lipid Analysis Description: LIPID
Associated Lab Samples: 4012642035, 4012642036, 4012642037, 4012642038, 4012642039, 4012642040, 4012642041, 4012642042, 4012642043, 4012642044, 4012642045, 4012642046, 4012642047, 4012642048, 4012642049, 4012642050, 4012642051

METHOD BLANK: 117723 Matrix: Tissue
Associated Lab Samples: 4012642035, 4012642036, 4012642037, 4012642038, 4012642039, 4012642040, 4012642041, 4012642042, 4012642043, 4012642044, 4012642045, 4012642046, 4012642047, 4012642048, 4012642049, 4012642050, 4012642051

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lipid	%	<0.10		01/08/09 08:04	

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QUALITY CONTROL DATA

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

QC Batch: OEXT/3615 Analysis Method: Pace Lipid
QC Batch Method: Pace Lipid Analysis Description: LIPID
Associated Lab Samples: 4012642052, 4012642053, 4012642054, 4012642055, 4012642056, 4012642057, 4012642058, 4012642059, 4012642060, 4012642061, 4012642062, 4012642063, 4012642064, 4012642065, 4012642066, 4012642067, 4012642068

METHOD BLANK: 118054 Matrix: Tissue
Associated Lab Samples: 4012642052, 4012642053, 4012642054, 4012642055, 4012642056, 4012642057, 4012642058, 4012642059, 4012642060, 4012642061, 4012642062, 4012642063, 4012642064, 4012642065, 4012642066, 4012642067, 4012642068

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lipid	%	<0.10		01/13/09 09:00	

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QUALITY CONTROL DATA

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

QC Batch: OEXT/3616 Analysis Method: Pace Lipid
QC Batch Method: Pace Lipid Analysis Description: LIPID
Associated Lab Samples: 4012642069, 4012642070, 4012642071, 4012642072, 4012642073, 4012642074, 4012642075, 4012642076, 4012642077, 4012642078, 4012642079, 4012642080, 4012642081, 4012642082, 4012642083, 4012642084, 4012642085

METHOD BLANK: 118055 Matrix: Tissue
Associated Lab Samples: 4012642069, 4012642070, 4012642071, 4012642072, 4012642073, 4012642074, 4012642075, 4012642076, 4012642077, 4012642078, 4012642079, 4012642080, 4012642081, 4012642082, 4012642083, 4012642084, 4012642085

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lipid	%	<0.10		01/09/09 14:12	

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QUALIFIERS

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

U - Indicates the compound was analyzed for, but not detected.

LABORATORIES

PASI-G	Pace Analytical Services - Green Bay

BATCH QUALIFIERS

Batch: GCSV/2352

[1] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: GCSV/2354

[1] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: GCSV/2355

[1] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: GCSV/2357

[1] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: GCSV/2358

[1] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

[2] Analyte recovery in the laboratory control sample (LCS) was below QC limits. Samples could not be re-extracted/re-analyzed due to insufficient sample volume. Results were reported and flagged accordingly.

ANALYTE QUALIFIERS

1j	Surrogate recovery was below QC limits. Sample could not be re-extracted/re-analyzed due to insufficient sample volume. Results were reported and flagged accordingly.
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L2	Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results may be biased low.
M0	Matrix spike recovery was outside laboratory control limits.
P6	Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.
R1	RPD value was outside control limits.
S0	Surrogate recovery outside laboratory control limits.
S4	Surrogate recovery not evaluated against control limits due to sample dilution.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
4012642001	McI-0001-08F-SW	EPA 245.6	MERP/1386	EPA 245.6	MERC/1383
4012642002	McI-0002-08F-SW	EPA 245.6	MERP/1386	EPA 245.6	MERC/1383
4012642003	McI-0003-08F-SW	EPA 245.6	MERP/1386	EPA 245.6	MERC/1383
4012642004	McI-0004-08F-SW	EPA 245.6	MERP/1386	EPA 245.6	MERC/1383
4012642005	McI-0005-08F-SW	EPA 245.6	MERP/1386	EPA 245.6	MERC/1383
4012642006	McI-0006-08F-SE	EPA 245.6	MERP/1386	EPA 245.6	MERC/1383
4012642007	McI-0007-08F-SE	EPA 245.6	MERP/1386	EPA 245.6	MERC/1383
4012642008	McI-0008-08F-SE	EPA 245.6	MERP/1386	EPA 245.6	MERC/1383
4012642009	McI-0009-08F-SE	EPA 245.6	MERP/1386	EPA 245.6	MERC/1383
4012642010	McI-0010-08F-SE	EPA 245.6	MERP/1386	EPA 245.6	MERC/1383
4012642011	McI-0011-08F-NW	EPA 245.6	MERP/1386	EPA 245.6	MERC/1383
4012642012	McI-0012-08F-NW	EPA 245.6	MERP/1386	EPA 245.6	MERC/1383
4012642013	McI-0013-08F-NW	EPA 245.6	MERP/1386	EPA 245.6	MERC/1383
4012642014	McI-0014-08F-NW	EPA 245.6	MERP/1386	EPA 245.6	MERC/1383
4012642015	McI-0015-08F-NW	EPA 245.6	MERP/1386	EPA 245.6	MERC/1383
4012642016	McI-0016-08F-NE	EPA 245.6	MERP/1386	EPA 245.6	MERC/1383
4012642017	McI-0017-08F-NE	EPA 245.6	MERP/1386	EPA 245.6	MERC/1383
4012642018	*McI-0018-08F-NE*	*EPA 245.6*	*MERP/1386*	*EPA 245.6*	*MERC/1383*
4012642019	McI-0019-08F-NE	EPA 245.6	MERP/1386	EPA 245.6	MERC/1383
4012642020	McI-0020-08F-NE	EPA 245.6	MERP/1386	EPA 245.6	MERC/1383
4012642021	McI-0021-08WB-NE	EPA 245.6	MERP/1387	EPA 245.6	MERC/1384
4012642022	McI-0022-08WB-NE	EPA 245.6	MERP/1387	EPA 245.6	MERC/1384
4012642023	McI-0023-08WB-NE	EPA 245.6	MERP/1387	EPA 245.6	MERC/1384
4012642024	McI-0024-08WB-NE	EPA 245.6	MERP/1387	EPA 245.6	MERC/1384
4012642025	McI-0025-08WB-NW	EPA 245.6	MERP/1387	EPA 245.6	MERC/1384
4012642026	McI-0026-08WB-NW	EPA 245.6	MERP/1387	EPA 245.6	MERC/1384
4012642027	McI-0027-08WB-NW	EPA 245.6	MERP/1387	EPA 245.6	MERC/1384
4012642028	McI-0028-08WB-NW	EPA 245.6	MERP/1387	EPA 245.6	MERC/1384
4012642029	McI-0029-08WB-NW	EPA 245.6	MERP/1387	EPA 245.6	MERC/1384
4012642030	McI-0030-08WB-SW	EPA 245.6	MERP/1387	EPA 245.6	MERC/1384
4012642031	McI-0031-08WB-SW	EPA 245.6	MERP/1387	EPA 245.6	MERC/1384
4012642032	McI-0032-08WB-SW	EPA 245.6	MERP/1387	EPA 245.6	MERC/1384
4012642033	McI-0033-08WB-SW	EPA 245.6	MERP/1387	EPA 245.6	MERC/1384
4012642034	McI-0034-08WB-SW	EPA 245.6	MERP/1387	EPA 245.6	MERC/1384
4012642035	McI-0035-08WB-SE	EPA 245.6	MERP/1387	EPA 245.6	MERC/1384
4012642036	McI-0036-08WB-SE	EPA 245.6	MERP/1387	EPA 245.6	MERC/1384
4012642037	McI-0037-08WB-SE	EPA 245.6	MERP/1387	EPA 245.6	MERC/1384
4012642038	McI-0038-08WB-SE	EPA 245.6	MERP/1387	EPA 245.6	MERC/1384
4012642039	McI-0039-08WB-SE	EPA 245.6	MERP/1387	EPA 245.6	MERC/1384
4012642040	McI-0040-08WB-SE	EPA 245.6	MERP/1387	EPA 245.6	MERC/1384
4012642041	McI-0041-08WB-SE	EPA 245.6	MERP/1390	EPA 245.6	MERC/1387
4012642042	McI-0042-08WB-SE	EPA 245.6	MERP/1390	EPA 245.6	MERC/1387
4012642043	McI-0043-08WB-NE	EPA 245.6	MERP/1390	EPA 245.6	MERC/1387
4012642044	McI-0044-08WB-NW	EPA 245.6	MERP/1390	EPA 245.6	MERC/1387
4012642045	McI-0045-08WB-NW	EPA 245.6	MERP/1390	EPA 245.6	MERC/1387
4012642046	McI-0046-08WB-NW	EPA 245.6	MERP/1390	EPA 245.6	MERC/1387
4012642047	McI-0047-08WB-NW	EPA 245.6	MERP/1390	EPA 245.6	MERC/1387
4012642048	McI-0048-08WB-NW	EPA 245.6	MERP/1390	EPA 245.6	MERC/1387

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
4012642049	Mcl-0049-08WB-SW	EPA 245.6	MERP/1390	EPA 245.6	MERC/1387
4012642050	Mcl-0050-08WB-SW	EPA 245.6	MERP/1390	EPA 245.6	MERC/1387
4012642051	Mcl-0051-08WB-SW	EPA 245.6	MERP/1390	EPA 245.6	MERC/1387
4012642052	Mcl-0052-08WB-SW	EPA 245.6	MERP/1390	EPA 245.6	MERC/1387
4012642053	Mcl-0053-08WB-SW	EPA 245.6	MERP/1390	EPA 245.6	MERC/1387
4012642054	Mcl-0054-08WB-NE	EPA 245.6	MERP/1390	EPA 245.6	MERC/1387
4012642055	Mcl-0055-08WB-NE	EPA 245.6	MERP/1390	EPA 245.6	MERC/1387
4012642056	Mcl-0056-08WB-NE	EPA 245.6	MERP/1390	EPA 245.6	MERC/1387
4012642057	Mcl-0057-08WB-NE	EPA 245.6	MERP/1390	EPA 245.6	MERC/1387
4012642058	Mcl-0058-08WB-NE	EPA 245.6	MERP/1390	EPA 245.6	MERC/1387
4012642059	Mcl-0059-08WB-SE	EPA 245.6	MERP/1390	EPA 245.6	MERC/1387
4012642060	Mcl-0060-08WB-SE	EPA 245.6	MERP/1390	EPA 245.6	MERC/1387
4012642061	Mcl-0061-08WB-NE	EPA 245.6	MERP/1391	EPA 245.6	MERC/1388
4012642062	Mcl-0062-08WB-NE	EPA 245.6	MERP/1391	EPA 245.6	MERC/1388
4012642063	Mcl-0063-08WB-NE	EPA 245.6	MERP/1391	EPA 245.6	MERC/1388
4012642064	Mcl-0064-08WB-NE	EPA 245.6	MERP/1391	EPA 245.6	MERC/1388
4012642065	Mcl-0065-08WB-NE	EPA 245.6	MERP/1391	EPA 245.6	MERC/1388
4012642066	Mcl-0066-08WB-NW	EPA 245.6	MERP/1391	EPA 245.6	MERC/1388
4012642067	Mcl-0067-08WB-NW	EPA 245.6	MERP/1391	EPA 245.6	MERC/1388
4012642068	Mcl-0068-08WB-NW	EPA 245.6	MERP/1391	EPA 245.6	MERC/1388
4012642069	Mcl-0069-08WB-NW	EPA 245.6	MERP/1391	EPA 245.6	MERC/1388
4012642070	Mcl-0070-08WB-NW	EPA 245.6	MERP/1391	EPA 245.6	MERC/1388
4012642071	Mcl-0071-08WB-SE	EPA 245.6	MERP/1391	EPA 245.6	MERC/1388
4012642072	Mcl-0072-08WB-SE	EPA 245.6	MERP/1391	EPA 245.6	MERC/1388
4012642073	Mcl-0073-08WB-SE	EPA 245.6	MERP/1391	EPA 245.6	MERC/1388
4012642074	Mcl-0074-08WB-SE	EPA 245.6	MERP/1391	EPA 245.6	MERC/1388
4012642075	Mcl-0075-08WB-SE	EPA 245.6	MERP/1391	EPA 245.6	MERC/1388
4012642076	Mcl-0076-08WB-SW	EPA 245.6	MERP/1391	EPA 245.6	MERC/1388
4012642077	Mcl-0077-08WB-SW	EPA 245.6	MERP/1391	EPA 245.6	MERC/1388
4012642078	Mcl-0078-08WB-SW	EPA 245.6	MERP/1391	EPA 245.6	MERC/1388
4012642079	Mcl-0079-08WB-SW	EPA 245.6	MERP/1391	EPA 245.6	MERC/1388
4012642080	Mcl-0080-08WB-SW	EPA 245.6	MERP/1391	EPA 245.6	MERC/1388
4012642081	Mcl-0081-08WB-NE	EPA 245.6	MERP/1392	EPA 245.6	MERC/1389
4012642082	Mcl-0082-08WB-NE	EPA 245.6	MERP/1392	EPA 245.6	MERC/1389
4012642083	Mcl-0083-08WB-SE	EPA 245.6	MERP/1392	EPA 245.6	MERC/1389
4012642084	Mcl-0084-08WB-SW	EPA 245.6	MERP/1392	EPA 245.6	MERC/1389
4012642085	Mcl-0085-08WB-NW	EPA 245.6	MERP/1392	EPA 245.6	MERC/1389
4012642001	Mcl-0001-08F-SW	EPA 3540	OEXT/3592	EPA 8081	GCSV/2352
4012642002	Mcl-0002-08F-SW	EPA 3540	OEXT/3592	EPA 8081	GCSV/2352
4012642003	Mcl-0003-08F-SW	EPA 3540	OEXT/3592	EPA 8081	GCSV/2352
4012642004	Mcl-0004-08F-SW	EPA 3540	OEXT/3592	EPA 8081	GCSV/2352
4012642005	Mcl-0005-08F-SW	EPA 3540	OEXT/3592	EPA 8081	GCSV/2352
4012642006	Mcl-0006-08F-SE	EPA 3540	OEXT/3592	EPA 8081	GCSV/2352
4012642007	Mcl-0007-08F-SE	EPA 3540	OEXT/3592	EPA 8081	GCSV/2352
4012642008	Mcl-0008-08F-SE	EPA 3540	OEXT/3592	EPA 8081	GCSV/2352
4012642009	Mcl-0009-08F-SE	EPA 3540	OEXT/3592	EPA 8081	GCSV/2352
4012642010	Mcl-0010-08F-SE	EPA 3540	OEXT/3592	EPA 8081	GCSV/2352

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Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
4012642011	McI-0011-08F-NW	EPA 3540	OEXT/3592	EPA 8081	GCSV/2352
4012642012	McI-0012-08F-NW	EPA 3540	OEXT/3592	EPA 8081	GCSV/2352
4012642013	McI-0013-08F-NW	EPA 3540	OEXT/3592	EPA 8081	GCSV/2352
4012642014	McI-0014-08F-NW	EPA 3540	OEXT/3592	EPA 8081	GCSV/2352
4012642015	McI-0015-08F-NW	EPA 3540	OEXT/3592	EPA 8081	GCSV/2352
4012642016	McI-0016-08F-NE	EPA 3540	OEXT/3592	EPA 8081	GCSV/2352
4012642017	McI-0017-08F-NE	EPA 3540	OEXT/3592	EPA 8081	GCSV/2352
4012642018	McI-0018-08F-NE	EPA 3540	OEXT/3596	EPA 8081	GCSV/2354
4012642019	McI-0019-08F-NE	EPA 3540	OEXT/3596	EPA 8081	GCSV/2354
4012642020	McI-0020-08F-NE	EPA 3540	OEXT/3596	EPA 8081	GCSV/2354
4012642021	McI-0021-08WB-NE	EPA 3540	OEXT/3596	EPA 8081	GCSV/2354
4012642022	McI-0022-08WB-NE	EPA 3540	OEXT/3596	EPA 8081	GCSV/2354
4012642023	McI-0023-08WB-NE	EPA 3540	OEXT/3596	EPA 8081	GCSV/2354
4012642024	McI-0024-08WB-NE	EPA 3540	OEXT/3596	EPA 8081	GCSV/2354
4012642025	McI-0025-08WB-NW	EPA 3540	OEXT/3596	EPA 8081	GCSV/2354
4012642026	McI-0026-08WB-NW	EPA 3540	OEXT/3596	EPA 8081	GCSV/2354
4012642027	McI-0027-08WB-NW	EPA 3540	OEXT/3596	EPA 8081	GCSV/2354
4012642028	McI-0028-08WB-NW	EPA 3540	OEXT/3596	EPA 8081	GCSV/2354
4012642029	McI-0029-08WB-NW	EPA 3540	OEXT/3596	EPA 8081	GCSV/2354
4012642030	McI-0030-08WB-SW	EPA 3540	OEXT/3596	EPA 8081	GCSV/2354
4012642031	McI-0031-08WB-SW	EPA 3540	OEXT/3596	EPA 8081	GCSV/2354
4012642032	McI-0032-08WB-SW	EPA 3540	OEXT/3596	EPA 8081	GCSV/2354
4012642033	McI-0033-08WB-SW	EPA 3540	OEXT/3596	EPA 8081	GCSV/2354
4012642034	McI-0034-08WB-SW	EPA 3540	OEXT/3596	EPA 8081	GCSV/2354
4012642035	McI-0035-08WB-SE	EPA 3540	OEXT/3597	EPA 8081	GCSV/2355
4012642036	McI-0036-08WB-SE	EPA 3540	OEXT/3597	EPA 8081	GCSV/2355
4012642037	McI-0037-08WB-SE	EPA 3540	OEXT/3597	EPA 8081	GCSV/2355
4012642038	McI-0038-08WB-SE	EPA 3540	OEXT/3597	EPA 8081	GCSV/2355
4012642039	McI-0039-08WB-SE	EPA 3540	OEXT/3597	EPA 8081	GCSV/2355
4012642040	McI-0040-08WB-SE	EPA 3540	OEXT/3597	EPA 8081	GCSV/2355
4012642041	McI-0041-08WB-SE	EPA 3540	OEXT/3597	EPA 8081	GCSV/2355
4012642042	McI-0042-08WB-SE	EPA 3540	OEXT/3597	EPA 8081	GCSV/2355
4012642043	McI-0043-08WB-NE	EPA 3540	OEXT/3597	EPA 8081	GCSV/2355
4012642044	McI-0044-08WB-NW	EPA 3540	OEXT/3597	EPA 8081	GCSV/2355
4012642045	McI-0045-08WB-NW	EPA 3540	OEXT/3597	EPA 8081	GCSV/2355
4012642046	McI-0046-08WB-NW	EPA 3540	OEXT/3597	EPA 8081	GCSV/2355
4012642047	McI-0047-08WB-NW	EPA 3540	OEXT/3597	EPA 8081	GCSV/2355
4012642048	McI-0048-08WB-NW	EPA 3540	OEXT/3597	EPA 8081	GCSV/2355
4012642049	McI-0049-08WB-SW	EPA 3540	OEXT/3597	EPA 8081	GCSV/2355
4012642050	McI-0050-08WB-SW	EPA 3540	OEXT/3597	EPA 8081	GCSV/2355
4012642051	McI-0051-08WB-SW	EPA 3540	OEXT/3597	EPA 8081	GCSV/2355
4012642001	McI-0001-08F-SW	Pace Lipid	OEXT/3601		
4012642002	McI-0002-08F-SW	Pace Lipid	OEXT/3601		
4012642003	McI-0003-08F-SW	Pace Lipid	OEXT/3601		
4012642004	McI-0004-08F-SW	Pace Lipid	OEXT/3601		
4012642005	McI-0005-08F-SW	Pace Lipid	OEXT/3601		
4012642006	McI-0006-08F-SE	Pace Lipid	OEXT/3601		

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Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
4012642007	Mcl-0007-08F-SE	Pace Lipid	OEXT/3601		
4012642008	Mcl-0008-08F-SE	Pace Lipid	OEXT/3601		
4012642009	Mcl-0009-08F-SE	Pace Lipid	OEXT/3601		
4012642010	Mcl-0010-08F-SE	Pace Lipid	OEXT/3601		
4012642011	Mcl-0011-08F-NW	Pace Lipid	OEXT/3601		
4012642012	Mcl-0012-08F-NW	Pace Lipid	OEXT/3601		
4012642013	Mcl-0013-08F-NW	Pace Lipid	OEXT/3601		
4012642014	Mcl-0014-08F-NW	Pace Lipid	OEXT/3601		
4012642015	Mcl-0015-08F-NW	Pace Lipid	OEXT/3601		
4012642016	Mcl-0016-08F-NE	Pace Lipid	OEXT/3601		
4012642017	Mcl-0017-08F-NE	Pace Lipid	OEXT/3601		
4012642052	Mcl-0052-08WB-SW	EPA 3540	OEXT/3607	EPA 8081	GCSV/2357
4012642053	Mcl-0053-08WB-SW	EPA 3540	OEXT/3607	EPA 8081	GCSV/2357
4012642054	Mcl-0054-08WB-NE	EPA 3540	OEXT/3607	EPA 8081	GCSV/2357
4012642055	Mcl-0055-08WB-NE	EPA 3540	OEXT/3607	EPA 8081	GCSV/2357
4012642056	Mcl-0056-08WB-NE	EPA 3540	OEXT/3607	EPA 8081	GCSV/2357
4012642057	Mcl-0057-08WB-NE	EPA 3540	OEXT/3607	EPA 8081	GCSV/2357
4012642058	Mcl-0058-08WB-NE	EPA 3540	OEXT/3607	EPA 8081	GCSV/2357
4012642059	Mcl-0059-08WB-SE	EPA 3540	OEXT/3607	EPA 8081	GCSV/2357
4012642060	Mcl-0060-08WB-SE	EPA 3540	OEXT/3607	EPA 8081	GCSV/2357
4012642061	Mcl-0061-08WB-NE	EPA 3540	OEXT/3607	EPA 8081	GCSV/2357
4012642062	Mcl-0062-08WB-NE	EPA 3540	OEXT/3607	EPA 8081	GCSV/2357
4012642063	Mcl-0063-08WB-NE	EPA 3540	OEXT/3607	EPA 8081	GCSV/2357
4012642064	Mcl-0064-08WB-NE	EPA 3540	OEXT/3607	EPA 8081	GCSV/2357
4012642065	Mcl-0065-08WB-NE	EPA 3540	OEXT/3607	EPA 8081	GCSV/2357
4012642066	Mcl-0066-08WB-NW	EPA 3540	OEXT/3607	EPA 8081	GCSV/2357
4012642067	Mcl-0067-08WB-NW	EPA 3540	OEXT/3607	EPA 8081	GCSV/2357
4012642068	Mcl-0068-08WB-NW	EPA 3540	OEXT/3607	EPA 8081	GCSV/2357
4012642069	Mcl-0069-08WB-NW	EPA 3540	OEXT/3608	EPA 8081	GCSV/2358
4012642070	Mcl-0070-08WB-NW	EPA 3540	OEXT/3608	EPA 8081	GCSV/2358
4012642071	Mcl-0071-08WB-SE	EPA 3540	OEXT/3608	EPA 8081	GCSV/2358
4012642072	Mcl-0072-08WB-SE	EPA 3540	OEXT/3608	EPA 8081	GCSV/2358
4012642073	Mcl-0073-08WB-SE	EPA 3540	OEXT/3608	EPA 8081	GCSV/2358
4012642074	Mcl-0074-08WB-SE	EPA 3540	OEXT/3608	EPA 8081	GCSV/2358
4012642075	Mcl-0075-08WB-SE	EPA 3540	OEXT/3608	EPA 8081	GCSV/2358
4012642076	Mcl-0076-08WB-SW	EPA 3540	OEXT/3608	EPA 8081	GCSV/2358
4012642077	Mcl-0077-08WB-SW	EPA 3540	OEXT/3608	EPA 8081	GCSV/2358
4012642078	Mcl-0078-08WB-SW	EPA 3540	OEXT/3608	EPA 8081	GCSV/2358
4012642079	Mcl-0079-08WB-SW	EPA 3540	OEXT/3608	EPA 8081	GCSV/2358
4012642080	Mcl-0080-08WB-SW	EPA 3540	OEXT/3608	EPA 8081	GCSV/2358
4012642081	Mcl-0081-08WB-NE	EPA 3540	OEXT/3608	EPA 8081	GCSV/2358
4012642082	Mcl-0082-08WB-NE	EPA 3540	OEXT/3608	EPA 8081	GCSV/2358
4012642083	Mcl-0083-08WB-SE	EPA 3540	OEXT/3608	EPA 8081	GCSV/2358
4012642084	Mcl-0084-08WB-SW	EPA 3540	OEXT/3608	EPA 8081	GCSV/2358
4012642085	Mcl-0085-08WB-NW	EPA 3540	OEXT/3608	EPA 8081	GCSV/2358
4012642018	Mcl-0018-08F-NE	Pace Lipid	OEXT/3609		
4012642019	Mcl-0019-08F-NE	Pace Lipid	OEXT/3609		

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Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
4012642020	Mcl-0020-08F-NE	Pace Lipid	OEXT/3609		
4012642021	Mcl-0021-08WB-NE	Pace Lipid	OEXT/3609		
4012642022	Mcl-0022-08WB-NE	Pace Lipid	OEXT/3609		
4012642023	Mcl-0023-08WB-NE	Pace Lipid	OEXT/3609		
4012642024	Mcl-0024-08WB-NE	Pace Lipid	OEXT/3609		
4012642025	Mcl-0025-08WB-NW	Pace Lipid	OEXT/3609		
4012642026	Mcl-0026-08WB-NW	Pace Lipid	OEXT/3609		
4012642027	Mcl-0027-08WB-NW	Pace Lipid	OEXT/3609		
4012642028	Mcl-0028-08WB-NW	Pace Lipid	OEXT/3609		
4012642029	Mcl-0029-08WB-NW	Pace Lipid	OEXT/3609		
4012642030	Mcl-0030-08WB-SW	Pace Lipid	OEXT/3609		
4012642031	Mcl-0031-08WB-SW	Pace Lipid	OEXT/3609		
4012642032	Mcl-0032-08WB-SW	Pace Lipid	OEXT/3609		
4012642033	Mcl-0033-08WB-SW	Pace Lipid	OEXT/3609		
4012642034	Mcl-0034-08WB-SW	Pace Lipid	OEXT/3609		
4012642035	Mcl-0035-08WB-SE	Pace Lipid	OEXT/3610		
4012642036	Mcl-0036-08WB-SE	Pace Lipid	OEXT/3610		
4012642037	Mcl-0037-08WB-SE	Pace Lipid	OEXT/3610		
4012642038	Mcl-0038-08WB-SE	Pace Lipid	OEXT/3610		
4012642039	Mcl-0039-08WB-SE	Pace Lipid	OEXT/3610		
4012642040	Mcl-0040-08WB-SE	Pace Lipid	OEXT/3610		
4012642041	Mcl-0041-08WB-SE	Pace Lipid	OEXT/3610		
4012642042	Mcl-0042-08WB-SE	Pace Lipid	OEXT/3610		
4012642043	Mcl-0043-08WB-NE	Pace Lipid	OEXT/3610		
4012642044	Mcl-0044-08WB-NW	Pace Lipid	OEXT/3610		
4012642045	Mcl-0045-08WB-NW	Pace Lipid	OEXT/3610		
4012642046	Mcl-0046-08WB-NW	Pace Lipid	OEXT/3610		
4012642047	Mcl-0047-08WB-NW	Pace Lipid	OEXT/3610		
4012642048	Mcl-0048-08WB-NW	Pace Lipid	OEXT/3610		
4012642049	Mcl-0049-08WB-SW	Pace Lipid	OEXT/3610		
4012642050	Mcl-0050-08WB-SW	Pace Lipid	OEXT/3610		
4012642051	Mcl-0051-08WB-SW	Pace Lipid	OEXT/3610		
4012642052	Mcl-0052-08WB-SW	Pace Lipid	OEXT/3615		
4012642053	Mcl-0053-08WB-SW	Pace Lipid	OEXT/3615		
4012642054	Mcl-0054-08WB-NE	Pace Lipid	OEXT/3615		
4012642055	Mcl-0055-08WB-NE	Pace Lipid	OEXT/3615		
4012642056	Mcl-0056-08WB-NE	Pace Lipid	OEXT/3615		
4012642057	Mcl-0057-08WB-NE	Pace Lipid	OEXT/3615		
4012642058	Mcl-0058-08WB-NE	Pace Lipid	OEXT/3615		
4012642059	Mcl-0059-08WB-SE	Pace Lipid	OEXT/3615		
4012642060	Mcl-0060-08WB-SE	Pace Lipid	OEXT/3615		
4012642061	Mcl-0061-08WB-NE	Pace Lipid	OEXT/3615		
4012642062	Mcl-0062-08WB-NE	Pace Lipid	OEXT/3615		
4012642063	Mcl-0063-08WB-NE	Pace Lipid	OEXT/3615		
4012642064	Mcl-0064-08WB-NE	Pace Lipid	OEXT/3615		
4012642065	Mcl-0065-08WB-NE	Pace Lipid	OEXT/3615		
4012642066	Mcl-0066-08WB-NW	Pace Lipid	OEXT/3615		
4012642067	Mcl-0067-08WB-NW	Pace Lipid	OEXT/3615		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: McINTOSH BASIN FISH 2008
Pace Project No.: 4012642

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
4012642068	Mcl-0068-08WB-NW	Pace Lipid	OEXT/3615		
4012642069	Mcl-0069-08WB-NW	Pace Lipid	OEXT/3616		
4012642070	Mcl-0070-08WB-NW	Pace Lipid	OEXT/3616		
4012642071	Mcl-0071-08WB-SE	Pace Lipid	OEXT/3616		
4012642072	Mcl-0072-08WB-SE	Pace Lipid	OEXT/3616		
4012642073	Mcl-0073-08WB-SE	Pace Lipid	OEXT/3616		
4012642074	Mcl-0074-08WB-SE	Pace Lipid	OEXT/3616		
4012642075	Mcl-0075-08WB-SE	Pace Lipid	OEXT/3616		
4012642076	Mcl-0076-08WB-SW	Pace Lipid	OEXT/3616		
4012642077	Mcl-0077-08WB-SW	Pace Lipid	OEXT/3616		
4012642078	Mcl-0078-08WB-SW	Pace Lipid	OEXT/3616		
4012642079	Mcl-0079-08WB-SW	Pace Lipid	OEXT/3616		
4012642080	Mcl-0080-08WB-SW	Pace Lipid	OEXT/3616		
4012642081	Mcl-0081-08WB-NE	Pace Lipid	OEXT/3616		
4012642082	Mcl-0082-08WB-NE	Pace Lipid	OEXT/3616		
4012642083	Mcl-0083-08WB-SE	Pace Lipid	OEXT/3616		
4012642084	Mcl-0084-08WB-SW	Pace Lipid	OEXT/3616		
4012642085	Mcl-0085-08WB-NW	Pace Lipid	OEXT/3616		

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August 18, 2009

Keith Roberts
Olin Enviromental Management
Charleston Plant
1186 Lower river Road
Charleston, TN 37310

RE: Project 2098384
Project ID: OU2/6107090035/2009.06

Dear Keith Roberts:

Enclosed are the analytical results for sample(s) received by the laboratory on August 13, 2009. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerly,

Cindy Olavesen

Cindy Olavesen
cindy.olavesen@pacelabs.com

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REPORT OF LABORATORY ANALYSIS

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Laboratory Certifications

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Project: 2098384

Client: Olin Enviromental Management

Project ID: OU2/6107090035/2009.06

U.S. Dept. of Agriculture Foreign Soil Import S-47270

Pennsylviania Dept. of Env Protection (NELAC) 68-04202

Texas Commission on Env. Quality (NELAC) T104704405-08-TX

Kansas Department of Health and Environment (NELAC) E-10266

Florida Department of Health (NELAC) E87595

Louisiana Dept. of Health and Hospitals (NELAC) LA080013

Louisiana Dept. of Environmental Quality (NELAC/LELAP) 02006

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Sample Cross Reference

Project: 2098384

Client: Olin Enviromental Management

Project ID: OU2/6107090035/2009.06

Client Sample ID	Lab ID	Matrix	Collection Date/Time	Received Date/Time
OU2B-SED-ST13-0809	20716686	Water	11-Aug-09 09:35	13-Aug-09 09:40
OU2B-SED-ST15-0809	20716687	Water	11-Aug-09 10:40	13-Aug-09 09:40
OU2B-SED-ST23-0809	20716688	Water	11-Aug-09 11:20	13-Aug-09 09:40
OU2B-SED-ST24-0809	20716689	Water	11-Aug-09 14:10	13-Aug-09 09:40
OU2B-SED-ST29-0809	20716690	Water	11-Aug-09 15:05	13-Aug-09 09:40
OU2B-SED-ST30-0809	20716691	Water	11-Aug-09 15:35	13-Aug-09 09:40
OU2B-SED-ST31-0809	20716692	Water	12-Aug-09 09:05	13-Aug-09 09:40
OU2B-SED-ST33-0809	20716693	Water	12-Aug-09 09:45	13-Aug-09 09:40

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Project: 2098384

Sample Receipt Condition:

All samples were received in accordance with EPA protocol.

Holding Times:

All holding times were met.

Blanks:

All blank results were below reporting limits.

Laboratory Control Samples:

All LCS recoveries were within QC limits.

Matrix Spikes and Duplicates:

All MS/MSD recoveries or duplicate RPDs were within QC limits.

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Project: 2098384

Analytical Method	Batch	Sample used for QC
SM 2540D	124180	Project sample OU2B-SED-ST13-0809

For the sample used as the original for the DUP or MS/MSD for the batch:

Project sample means a sample from this project was used.
Client sample means a sample from the same client but in a different project was used.
Batch sample means a sample from the a different client was used.

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Client: Olin Enviromental Management

Client ID: OU2B-SED-ST13-0809
Project: 2098384
Project ID: OU2/6107090035/2009.06
Site: None
Lab ID: 20716686
Matrix: Water
%Moisture: n/a
Description: None
Collected: 11-Aug-09
Received: 13-Aug-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Limit
Total Suspended Solids	SM 2540D	124180	1	5270		mg/L	4.00	17-Aug-09	17-Aug-09 13:23	TAE	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Client: Olin Enviromental Management

Client ID: OU2B-SED-ST15-0809
Project: 2098384
Project ID: OU2/6107090035/2009.06
Site: None
Lab ID: 20716687
Matrix: Water
%Moisture: n/a
Description: None
Collected: 11-Aug-09
Received: 13-Aug-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Limit
Total Suspended Solids	SM 2540D	124180	1	820.		mg/L	4.00	17-Aug-09	17-Aug-09	13:23 TAE	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

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Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SED-ST23-0809
Project: 2098384
Project ID: OU2/6107090035/2009.06
Site: None
Lab ID: 20716688
Matrix: Water
%Moisture: n/a
Description: None
Collected: 11-Aug-09
Received: 13-Aug-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Limit
Total Suspended Solids	SM 2540D	124180	1	1110		mg/L	4.00	17-Aug-09	17-Aug-09 13:24	TAE	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
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Client: Olin Enviromental Management

Client ID: OU2B-SED-ST24-0809
Project: 2098384
Project ID: OU2/6107090035/2009.06
Site: None
Lab ID: 20716689
Matrix: Water
%Moisture: n/a
Description: None
Collected: 11-Aug-09
Received: 13-Aug-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Limit
Total Suspended Solids	SM 2540D	124180	1	870.		mg/L	4.00	17-Aug-09	17-Aug-09 13:24	TAE	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Client: Olin Enviromental Management

Client ID: OU2B-SED-ST29-0809
Project: 2098384
Project ID: OU2/6107090035/2009.06
Site: None
Lab ID: 20716690
Matrix: Water
%Moisture: n/a
Description: None
Collected: 11-Aug-09
Received: 13-Aug-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Limit
Total Suspended Solids	SM 2540D	124180	1	720.		mg/L	4.00	17-Aug-09	17-Aug-09	13:24 TAE	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Client: Olin Enviromental Management

Client ID: OU2B-SED-ST30-0809
Project: 2098384
Project ID: OU2/6107090035/2009.06
Site: None
Lab ID: 20716691
Matrix: Water
%Moisture: n/a
Description: None
Collected: 11-Aug-09
Received: 13-Aug-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Limit
Total Suspended Solids	SM 2540D	124180	1	3760		mg/L	4.00	17-Aug-09	17-Aug-09 13:24	TAE	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Client: Olin Enviromental Management

Client ID: OU2B-SED-ST31-0809
Project: 2098384
Project ID: OU2/6107090035/2009.06
Site: None
Lab ID: 20716692
Matrix: Water
%Moisture: n/a
Description: None
Collected: 12-Aug-09
Received: 13-Aug-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Limit
Total Suspended Solids	SM 2540D	124180	1	23600		mg/L	4.00	17-Aug-09	17-Aug-09 13:25	TAE	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Client: Olin Enviromental Management

Client ID: OU2B-SED-ST33-0809
Project: 2098384
Project ID: OU2/6107090035/2009.06
Site: None
Lab ID: 20716693
Matrix: Water
%Moisture: n/a
Description: None
Collected: 12-Aug-09
Received: 13-Aug-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Limit
Total Suspended Solids	SM 2540D	124180	1	6910		mg/L	4.00	17-Aug-09	17-Aug-09 13:25	TAE	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Inorganics Quality Control

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Project: 2098384

Parameter	Batch	Blank	Units	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	RPD	QC Limits LCS	QC Limits MS/MSD	Max RPD	Qu
Total Suspended Solid	124180	< 4.00	mg/L	100.	93.0	93							18	80-120		20	

8/18/2009 15:44:47

*** denotes recovery outside of QC limits.**
ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MS/MSD RPD is calculated via SW-846 rules on the basis of spiked sample concentrations rather than spike recoveries.

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Project: 2098384

Value	Description
J	This estimated value for the analyte is below the adjusted reporting limit but above the instrument reporting limit.
U	The analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.
B	This analyte was detected in the method blank.
E	The sample concentration is above the linear calibrated range of the analysis.
ND	The analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.
MDL	The adjusted method detection limit.
LCS(D)	Laboratory Control Sample (Duplicate).
MS(D)	Matrix Spike (Duplicate).
DUP	Sample Duplicate.
RPD	Relative Percent Difference.

N-OF-CUSTODY / Analytical Request Document

of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

2098389

Page: 1 of 1

1145377

Section A Required Client Information:

Company: MACTEC

Address: 230 Peachtree Point Dr NW Ste 100, Kennesaw GA 30144

Email To: cedra.orr@mactec.com

Phone: 7704213400 Fax: 7704213441

Requested Due Date/TAT: Standard

Section B Required Project Information: abrasier@mailtrust.com

Report To: Kayci.Lyn@clin.com

Copy To: KyleSmith.Nork@clin.com, mark.kershner@mactec.com

Purchase Order No.: DEMC013-RD

Project Name: EU2

Project Number: CERCLA035 17289.006

Section C Invoice Information:

Attention: DENNIS Turner

Company Name: CLIN

Address: 2655 Nicker St Cleveland

Pace Quote Reference:

Pace Project Manager: Corrin Chiverton

Pace Profile #:

REGULATORY AGENCY

NPDES GROUND WATER DRINKING WATER

UST RCRA X OTHER Cercla

Site Location STATE: AL

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / , -) Sample IDs MUST BE UNIQUE

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

Sediment

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	OU2B-SED-ST13-0809	SL	G			8/12/09	0955	5.5	5	X										207686
2	OU2B-SED-ST15-0809	SL	G			8/12/09	1040	5.5	5	X										687
3	OU2B-SED-ST23-0809	SL	G			8/12/09	1120	5.5	5	X										688
4	OU2B-SED-ST24-0809	SL	G			8/12/09	1410	5.5	5	X										689
5	OU2B-SED-ST29-0809	SL	G			8/12/09	1415	5.5	5	X										690
6	OU2B-SED-ST30-0809	SL	G			8/12/09	1535	5.5	5	X										691
7	OU2B-SED-ST31-0809	SL	G			8/12/09	1545	5.5	5	X										692
8	OU2B-SED-ST32-0809	SL	G			8/12/09	1545	5.5	5	X										693
9	Temp Blank																			
10	(*) Return end product to MACTEC for archive																			
11	Size analysis: Sieve ASTM																			
12	Jar is grab sample																			

ADDITIONAL COMMENTS

OT=Sediment

Analyze as sample size permits

In the order: Total Hg, %o

Moisture, density, TSS, TOC

Jar from Samples OU2B SED ST31-0809, OU2B-SED-ST24-0809, OU2B SED ST23-0809, OU2B-SED-ST15-0809 - to be analyzed SMCERCLA (Sample ID's - total 5 samples)

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Ron Stellmacher Jed Cr	8/12/09	1645	Ken Reece	8/13/09	0840	2.8 Y Y Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Ron Stellmacher / Ken Reece

SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY):

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Page 10 of 11

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St. Rose, LA 70087

Sample Co

Courier: ☐ Pace Courier ☐ Hackbarth ☑ Fed X ☐ UPS ☐ DHL ☐ USPS ☐ Customer ☐ Other

Custody Seal on Cooler/Box Present: [see COC] Custody Seals Intact: ☑Yes ☐No

Therometer Used: ☐ Therm Fisher IR 1 ☐ Therm Fisher IR 2 ☐ Therm Fisher IR 3

Type of Ice: (Wet) Blue None Samples on Ice: [see COC]

Cooler Temperature: [see COC] Temp should be above freezing to 6°C

Date and Initials of person examining contents: 8-13 09

Temp must be measured from Temperature blank when present

				Comments:
Temperature Blank Present"?	☐Yes	☑No	☐N/A	1
Chain of Custody Present:	☑Yes	☐No	☐N/A	2
Chain of Custody Complete:	☑Yes	☐No	☐N/A	3
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	4
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	5
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	6
Sufficient Volume:	☑Yes	☐No	☐N/A	7
Correct Containers Used:	☑Yes	☐No	☐N/A	8
Filtered vol. Rec. for Diss. tests	☐Yes	☐No	☑N/A	9
Sample Labels match COC:	☑Yes	☐No	☐N/A	10
All containers received within manafacture's precautionary and/or expiration dates.	☑Yes	☐No	☐N/A	11
All containers needing preservation have been checked (except VOA, coliform, & O&G).	☐Yes	☐No	☑N/A	12
All containers preservation checked found to be in compliance with EPA recommendation.	☐Yes	☐No	☑N/A	13 If No, was preserative added? ☐Yes ☐No If added record lot no.: HNO3 _____ H2SO4 _____
Samples checked for dechlorination:	☐Yes	☐No	☑N/A	14
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☑N/A	14
Trip Blank Present:	☐Yes	☐No	☑N/A	16
Trip Blank Custody Seals Present	☐Yes	☐No	☑N/A	17
Pace Trip Blank Lot # (if purchased): N/A				18

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

ALLC003rev.05, 12Jun2009 - mod

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

August 28, 2009

Keith Roberts
Olin Enviromental Management
Charleston Plant
1186 Lower river Road
Charleston, TN 37310

RE: Project 2098385
Project ID: OU2/6107090035/2009.06

Dear Keith Roberts:

Enclosed are the analytical results for sample(s) received by the laboratory on August 13, 2009. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerly,

Cindy Olavesen

Cindy Olavesen
cindy.olavesen@pacelabs.com

ACCREDITED IN ACCORDANCE WITH nelac

REPORT OF LABORATORY ANALYSIS

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Project: 2098385

Client: Olin Enviromental Management

Project ID: OU2/6107090035/2009.06

U.S. Dept. of Agriculture Foreign Soil Import S-47270
Pennsylviania Dept. of Env Protection (NELAC) 68-04202
Texas Commission on Env. Quality (NELAC) T104704405-08-TX
Kansas Department of Health and Environment (NELAC) E-10266
Florida Department of Health (NELAC) E87595
Louisiana Dept. of Health and Hospitals (NELAC) LA080013
Louisiana Dept. of Environmental Quality (NELAC/LELAP) 02006

40 Green Bay Volatiles Certification IDs
40 Green Bay Certification IDs
40 California Certification #: 06247CA
40 Florida (NELAP) Certification #: E87951
40 Illinois Certification #: 200051
40 Kentucky Certification #: 83
40 Louisiana Certification #: 04169
40 Minnesota Certification #: 055-999-334
40 New York Certification #: 11887
40 North Carolina Certification #: 503
40 North Dakota Certification #: R-200
40 South Carolina Certification #: 83006001
40 Wisconsin Certification #: 405132750
40 Wisconsin DATCP Certification #: 105-444
40 California Certification #: 06246CA
40 Florida (NELAP) Certification #: E87948
40 Illinois Certification #: 200050
40 Kentucky Certification #: 82
40 Louisiana Certification #: 04168
40 Minnesota Certification #: 055-999-334
40 New York Certification #: 11888
40 North Carolina Certification #: 503
40 North Dakota Certification #: R-150
40 South Carolina Certification #: 83006001
40 Wisconsin Certification #: 405132750
40 Wisconsin DATCP Certification #: 105-444

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REPORT OF LABORATORY ANALYSIS

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St. Rose, LA 70087
(504) 469-0333

Sample Cross Reference

Project: 2098385

Client: Olin Enviromental Management

Project ID: OU2/6107090035/2009.06

Client Sample ID	Lab ID	Matrix	Collection Date/Time	Received Date/Time
OU2B-SED-ST13-0809	20716694	Soil	11-Aug-09 09:35	13-Aug-09 09:40
OU2B-SED-ST15-0809	20716695	Soil	11-Aug-09 10:40	13-Aug-09 09:40
OU2B-SED-ST23-0809	20716696	Soil	11-Aug-09 11:20	13-Aug-09 09:40
OU2B-SED-ST24-0809	20716697	Soil	11-Aug-09 14:10	13-Aug-09 09:40
OU2B-SED-ST29-0809	20716698	Soil	11-Aug-09 15:05	13-Aug-09 09:40
OU2B-SED-ST30-0809	20716699	Soil	11-Aug-09 15:35	13-Aug-09 09:40
OU2B-SED-ST31-0809	20716700	Soil	12-Aug-09 09:05	13-Aug-09 09:40
OU2B-SED-ST33-0809	20716701	Soil	12-Aug-09 09:45	13-Aug-09 09:40

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Project: 2098385

Sample Receipt Condition:

All samples were received in accordance with EPA protocol.

Holding Times:

All holding times were met.

Blanks:

All blank results were below reporting limits.

Laboratory Control Samples:

All LCS recoveries were within QC limits.

Matrix Spikes and Duplicates:

All MS/MSD recoveries or duplicate RPDs were within QC limits.

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Project: 2098385

Analytical Method	Batch	Sample used for QC
EPA 7471	124804	Batch sample from another client
Dry Weight Moisture	124091	Batch sample from another client
SM 2710F-Mod	124222	Batch sample from another client

For the sample used as the original for the DUP or MS/MSD for the batch:

Project sample means a sample from this project was used.
Client sample means a sample from the same client but in a different project was used.
Batch sample means a sample from the a different client was used.

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Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SED-ST13-0809
Project: 2098385
Project ID: OU2/6107090035/2009.06
Site: None
Lab ID: 20716694
Matrix: Soil
%Moisture: 87.4 Corrected
Description: AL
Collected: 11-Aug-09
Received: 13-Aug-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Limit
Mercury	EPA 7471	124804	10	29.6	D1	mg/kg	6.42	28-Aug-09	28-Aug-09	13:24 KJR	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SED-ST15-0809
Project: 2098385
Project ID: OU2/6107090035/2009.06
Site: None
Lab ID: 20716695
Matrix: Soil
%Moisture: 86.3 Corrected
Description: AL
Collected: 11-Aug-09
Received: 13-Aug-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Limit
Mercury	EPA 7471	124804	10	18.5	D1	mg/kg	6.66	28-Aug-09	28-Aug-09	13:26 KJR	

1 parameter(s) reported

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Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SED-ST23-0809
Project: 2098385
Project ID: OU2/6107090035/2009.06
Site: None
Lab ID: 20716696
Matrix: Soil
%Moisture: 89.1 Corrected
Description: AL
Collected: 11-Aug-09
Received: 13-Aug-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Limit
Mercury	EPA 7471	124804	10	24.2	D1	mg/kg	9.21	28-Aug-09	28-Aug-09	13:28 KJR	

1 parameter(s) reported

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Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SED-ST24-0809
Project: 2098385
Project ID: OU2/6107090035/2009.06
Site: None
Lab ID: 20716697
Matrix: Soil
%Moisture: 88.5 Corrected
Description: AL
Collected: 11-Aug-09
Received: 13-Aug-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Limit
Mercury	EPA 7471	124804	10	22.4	D1	mg/kg	7.03	28-Aug-09	28-Aug-09	13:29 KJR	

1 parameter(s) reported

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Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SED-ST29-0809
Project: 2098385
Project ID: OU2/6107090035/2009.06
Site: None
Lab ID: 20716698
Matrix: Soil
%Moisture: 88.6 Corrected
Description: AL
Collected: 11-Aug-09
Received: 13-Aug-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Limit
Mercury	EPA 7471	124804	10	26.4	D1	mg/kg	7.55	28-Aug-09	28-Aug-09	13:31 KJR	

1 parameter(s) reported

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Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SED-ST30-0809
Project: 2098385
Project ID: OU2/6107090035/2009.06
Site: None
Lab ID: 20716699
Matrix: Soil
%Moisture: 87.5 Corrected
Description: AL
Collected: 11-Aug-09
Received: 13-Aug-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Limit
Mercury	EPA 7471	124804	10	27.9	D1	mg/kg	6.68	28-Aug-09	28-Aug-09	13:33 KJR	

1 parameter(s) reported

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Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SED-ST31-0809
Project: 2098385
Project ID: OU2/6107090035/2009.06
Site: None
Lab ID: 20716700
Matrix: Soil
%Moisture: 85 Corrected
Description: AL
Collected: 12-Aug-09
Received: 13-Aug-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Limit
Mercury	EPA 7471	124804	10	32.9	D1	mg/kg	6.08	28-Aug-09	28-Aug-09	13:34 KJR	

1 parameter(s) reported

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Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SED-ST33-0809
Project: 2098385
Project ID: OU2/6107090035/2009.06
Site: None
Lab ID: 20716701
Matrix: Soil
%Moisture: 89.3 Corrected
Description: AL
Collected: 12-Aug-09
Received: 13-Aug-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Limit
Mercury	EPA 7471	124804	10	43.3	D1	mg/kg	9.07	28-Aug-09	28-Aug-09	13:36 KJR	

1 parameter(s) reported

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(504) 469-0333

Client: Olin Enviromental Management

Client ID: OU2B-SED-ST13-0809
Project: 2098385
Project ID: OU2/6107090035/2009.06
Site: None
Lab ID: 20716694
Matrix: Soil
%Moisture: 87.4 Not Corrected
Description: AL
Collected: 11-Aug-09
Received: 13-Aug-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Density	SM 2710F-Mo	124222	1	1.03		g/cm3	0.500	18-Aug-09	18-Aug-09 09:30 SMS2	
Mean Total Organic Carb	EPA 9060 Mod	31042	1	19100		mg/kg	4080	20-Aug-09	20-Aug-09 11:51 DJR40	
Percent Moisture	Dry Weight Mo	124091	1	87.4		%	0.100	14-Aug-09	14-Aug-09 10:49 KNH	

3 parameter(s) reported

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Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SED-ST15-0809
Project: 2098385
Project ID: OU2/6107090035/2009.06
Site: None
Lab ID: 20716695
Matrix: Soil
%Moisture: 86.3 Not Corrected
Description: AL
Collected: 11-Aug-09
Received: 13-Aug-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Density	SM 2710F-Mo	124222	1	0.960		g/cm3	0.500	18-Aug-09	18-Aug-09 09:30 SMS2	
Mean Total Organic Carb	EPA 9060 Mod	31042	1	24500		mg/kg	4000	20-Aug-09	20-Aug-09 12:03 DJR40	
Percent Moisture	Dry Weight Mo	124091	1	86.3		%	0.100	14-Aug-09	14-Aug-09 10:49 KNH	

3 parameter(s) reported

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Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SED-ST23-0809
Project: 2098385
Project ID: OU2/6107090035/2009.06
Site: None
Lab ID: 20716696
Matrix: Soil
%Moisture: 89.1 Not Corrected
Description: AL
Collected: 11-Aug-09
Received: 13-Aug-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Density	SM 2710F-Mo	124222	1	0.997		g/cm3	0.500	18-Aug-09	18-Aug-09 09:30 SMS2	
Mean Total Organic Carb	EPA 9060 Mod	31042	1	36000		mg/kg	5880	20-Aug-09	20-Aug-09 12:14 DJR40	
Percent Moisture	Dry Weight Mo	124091	1	89.1		%	0.100	14-Aug-09	14-Aug-09 10:49 KNH	

3 parameter(s) reported

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Client: Olin Enviromental Management

Client ID: OU2B-SED-ST24-0809
Project: 2098385
Project ID: OU2/6107090035/2009.06
Site: None
Lab ID: 20716697
Matrix: Soil
%Moisture: 88.5 Not Corrected
Description: AL
Collected: 11-Aug-09
Received: 13-Aug-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Density	SM 2710F-Mo	124222	1	0.996		g/cm3	0.500	18-Aug-09	18-Aug-09 09:30 SMS2	
Mean Total Organic Carb	EPA 9060 Mod	31042	1	40500		mg/kg	8000	20-Aug-09	20-Aug-09 12:26 DJR40	
Percent Moisture	Dry Weight Mo	124091	1	88.5		%	0.100	14-Aug-09	14-Aug-09 10:49 KNH	

3 parameter(s) reported

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Client: Olin Enviromental Management

Client ID: OU2B-SED-ST29-0809
Project: 2098385
Project ID: OU2/6107090035/2009.06
Site: None
Lab ID: 20716698
Matrix: Soil
%Moisture: 88.6 Not Corrected
Description: AL
Collected: 11-Aug-09
Received: 13-Aug-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Density	SM 2710F-Mo	124222	1	0.999		g/cm3	0.500	18-Aug-09	18-Aug-09 09:30 SMS2	
Mean Total Organic Carb	EPA 9060 Mod	31042	1	41200		mg/kg	7690	20-Aug-09	20-Aug-09 12:35 DJR40	
Percent Moisture	Dry Weight Mo	124091	1	88.6		%	0.100	14-Aug-09	14-Aug-09 10:50 KNH	

3 parameter(s) reported

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Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SED-ST30-0809
Project: 2098385
Project ID: OU2/6107090035/2009.06
Site: None
Lab ID: 20716699
Matrix: Soil
%Moisture: 87.5 Not Corrected
Description: AL
Collected: 11-Aug-09
Received: 13-Aug-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Density	SM 2710F-Mo	124222	1	1.03		g/cm3	0.500	18-Aug-09	18-Aug-09 09:30 SMS2	
Mean Total Organic Carb	EPA 9060 Mod	31042	1	25100		mg/kg	6900	20-Aug-09	20-Aug-09 12:41 DJR40	
Percent Moisture	Dry Weight Mo	124091	1	87.5		%	0.100	14-Aug-09	14-Aug-09 10:50 KNH	

3 parameter(s) reported

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Client: Olin Enviromental Management

Client ID: OU2B-SED-ST31-0809
Project: 2098385
Project ID: OU2/6107090035/2009.06
Site: None
Lab ID: 20716700
Matrix: Soil
%Moisture: 85 Not Corrected
Description: AL
Collected: 12-Aug-09
Received: 13-Aug-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Density	SM 2710F-Mo	124222	1	1.00		g/cm3	0.500	18-Aug-09	18-Aug-09 09:30 SMS2	
Mean Total Organic Carb	EPA 9060 Mod	31042	1	16500		mg/kg	4000	20-Aug-09	20-Aug-09 12:47 DJR40	
Percent Moisture	Dry Weight Mo	124091	1	85.0		%	0.100	14-Aug-09	14-Aug-09 10:50 KNH	

3 parameter(s) reported

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Client: Olin Enviromental Management

Client ID: OU2B-SED-ST33-0809
Project: 2098385
Project ID: OU2/6107090035/2009.06
Site: None
Lab ID: 20716701
Matrix: Soil
%Moisture: 89.3 Not Corrected
Description: AL
Collected: 12-Aug-09
Received: 13-Aug-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Density	SM 2710F-Mo	124222	1	1.01		g/cm3	0.500	18-Aug-09	18-Aug-09 09:30 SMS2	
Mean Total Organic Carb	EPA 9060 Mod	31042	1	19600		mg/kg	3770	20-Aug-09	20-Aug-09 13:14 DJR40	
Percent Moisture	Dry Weight Mo	124091	1	89.3		%	0.100	14-Aug-09	14-Aug-09 10:50 KNH	

3 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Project: 2098385

Parameter	Batch	Blank	Units	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	RPD	QC Limits LCS	QC Limits MS/MSD	Max RPD	Qu
Mercury	124804	< 0.100	mg/kg	0.100	0.106	106	0.100	0.00201	0.109	0.108	107	106	0	80-120	75-125	20	

*** denotes recovery outside of QC limits.**
ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MS/MSD RPD is calculated via SW-846 rules on the basis of spiked sample concentrations rather than spike recoveries.

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Inorganics Quality Control

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Project: 2098385

Parameter	Batch	Blank	Units	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	RPD	QC Limits LCS	QC Limits MS/MSD	Max RPD	Qu
Percent Moisture	124091	< 1.00	%														
Density	124222		g/cm3	1.00	0.998	100							0	97-103		20	
Mean Total Organic C	31042	< 250.	mg/kg	1000	869.	87	8700		24600	24400	94	90	0.8	80-120	50-150	30	

*** denotes recovery outside of QC limits.**
ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MS/MSD RPD is calculated via SW-846 rules on the basis of spiked sample concentrations rather than spike recoveries.

8/28/2009 16:33:00

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Project: 2098385

Value	Description
D1	The analysis was performed at a dilution due to the high analyte concentration.
J	This estimated value for the analyte is below the adjusted reporting limit but above the instrument reporting limit.
U	The analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.
B	This analyte was detected in the method blank.
E	The sample concentration is above the linear calibrated range of the analysis.
ND	The analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.
MDL	The adjusted method detection limit.
LCS(D)	Laboratory Control Sample (Duplicate).
MS(D)	Matrix Spike (Duplicate).
DUP	Sample Duplicate.
RPD	Relative Percent Difference.

N-OF-CUSTODY / Analytical Request Document

-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

209385

Page: 1 of 1

1145377

Section A Required Client Information:

Section B Required Project Information: cdraper@mactec.com

Section C Invoice Information:

Company: MACTEC	Report To: Kdroberts@olin.com	Attention: Dennis Turner	
Address: 3200 Town Point Dr NW Ste 100	Copy To: KDWatson@Mactec.com	Company Name: Olin	REGULATORY AGENCY
Kennesaw GA 30144	mparker@mactec.com	Address: 3855 N. Ocoee St Cleveland TN	☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
Email To: Cdraper@Mactec.com	Purchase Order No.: OEMC0013-80	Pace Quote Reference:	☐ UST ☐ RCRA ☒ OTHER Cercla
Phone: 770 421 3400 Fax: 770 421 3481	Project Name: OU2	Pace Project Manager: Cindy Olavesen	Site Location STATE: AL
Requested Due Date/TAT: Standard	Project Number: 60107090035 | 2009.06	Pace Profile #:	

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes — MATRIX / CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

Sediment

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Total Hg - USEPA 7471	% Moisture - ASTM D2216	Density - SM2710F - Mod	TSS - USEPA 160.2	TOC - EPA 9060M	Total Solids - SM2540G	Inorganic Solids - SM2540G	Organic Solids - SM2540G	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	OU2B-SED-ST13-0809	OT	C			08/11/09	0935		6	X									X	X	X	X	X	X	X	X		209166 94
2	OU2B-SED-ST15-0809					08/11/09	1040		5										X	X	X	X	X	X	X	X	RMR		695
3	OU2B-SED-ST23-0809					08/11/09	1120		6										X	X	X	X	X	X	X	X			696
4	OU2B-SED-ST24-0809					08/11/09	1410		6										X	X	X	X	X	X	X	X			697
5	OU2B-SED-ST29-0809					08/11/09	1505		5										X	X	X	X	X						698
6	OU2B-SED-ST30-0809					08/11/09	1535		5										X	X	X	X	X						699
7	OU2B-SED-ST31-0809					08/12/09	0905		6										X	X	X	X	X	X	X	X			700
8	OU2B-SED-ST33-0809	↓	↓			08/12/09	0945		5	↓									X	X	X	X	X						701
9	Temp Blank																												
10	(*) Return end product to MACTEC for grain size analysis; ~~Sample~~ 1L jar is grab sample.																												
11																													
12																													

page 25 of 43

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
OT = Sediment	Amie Stell / Mactec	8/12/09	1645							
Analyze as sample size permits	Fed Ex			Lisa Nelson	8/13/09	0940	2.8	Y	Y	Y
in the order: Total Hg, %										
moisture, density, TSS, TOC										

- 1L Jar from Samples OU2B-SED-ST31-0809, OU2B-SED-ST24-0809, OU2B-SED-ST23-0809, and OU2B-SED-ST13-0809 to be analyzed for SM2540G(SOLIDS) - total, organic, inorganic

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Amie Stell / Rani Reece

SIGNATURE of SAMPLER: Stell / Reece DATE Signed (MM/DD/YY): 08/12/09

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

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Sample Condi[illegible]

[illegible] 20 OL IN FINV

Courier: ☐ Pace Courier ☐ Hackbarth ☑ Fed X ☐ UPS ☐ DHL ☐ USPS ☐ Customer ☐ Other

Custody Seal on Cooler/Box Present: [see COC] **Custody Seals Intact:** ☑Yes ☐No

Therometer Used: ☑Therm Fisher IR 1 ☐Therm Fisher IR 2 ☐Therm Fisher IR 3

Type of Ice: (Wet) Blue None **Samples on ice:** [see COC]

Cooler Temperature: [see COC] **Temp should be above freezing to 6°C**

Date and Initials of person examining contents: 8-13-09

Temp must be measured from Temperature blank when present

				Comments:
Temperature Blank Present"?	☐Yes	☑No	☐N/A	1
Chain of Custody Present:	☑Yes	☐No	☐N/A	2
Chain of Custody Complete:	☑Yes	☐No	☐N/A	3
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	4
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	5
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	6
Sufficient Volume:	☑Yes	☑No	☐N/A	7
Correct Containers Used:	☑Yes	☑No	☐N/A	8
Filtered vol. Rec. for Diss. tests	☐Yes	☐No	☑N/A	9
Sample Labels match COC:	☑Yes	☐No	☐N/A	10
All containers received within manafacture's precautionary and/or expiration dates.	☑Yes	☐No	☐N/A	11
All containers needing preservation have been checked (except VOA, coliform, & O&G).	☐Yes	☐No	☑N/A	12
All containers preservation checked found to be in compliance with EPA recommendation.	☐Yes	☐No	☑N/A	13 If No, was preserative added? ☐Yes ☐No If added record lot no.: HNO3 _____ H2SO4 _____
Samples checked for dechlorination:	☐Yes	☐No	☑N/A	14
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☑N/A	14
Trip Blank Present:	☐Yes	☐No	☑N/A	16
Trip Blank Custody Seals Present	☐Yes	☐No	☑N/A	17
Pace Trip Blank Lot # (if purchased): N/A				18

Client Notification/ Resolution:

Person Contacted: _____ **Date/Time:** _____

Comments/ Resolution: _____

ALLC003rev.05, 12Jun2009 - mod

Pace Analytical Services, Inc.
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(920)469-2436

August 21, 2009

Cindy Olavesen
Pace Analytical New Orleans
1000 Riverbend Blvd
Suite F
St. Rose, LA 70087

RE: Project: OU2/6107090035/2009.06
Pace Project No.: 4021275

Dear Cindy Olavesen:
Enclosed are the analytical results for sample(s) received by the laboratory on August 18, 2009. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Steven Mleczko

steve.mleczko@pacelabs.com
Project Manager

Enclosures

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CERTIFICATIONS

Project: OU2/6107090035/2009.06
Pace Project No.: 4021275

Green Bay Certification IDs

California Certification #: 09268CA
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky Certification #: 82
Kentucky Certification #: 83
Louisiana Certification #: 04168
Louisiana Certification #: 04169
Minnesota Certification #: 055-999-334
New York Certification #: 11887
New York Certification #: 11888
North Carolina Certification #: 503
North Dakota Certification #: R-150
South Carolina Certification #: 83006001
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444

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SAMPLE SUMMARY

Project: OU2/6107090035/2009.06
Pace Project No.: 4021275

Lab ID	Sample ID	Matrix	Date Collected	Date Received
20716694	OU2B-SED-ST13-0809	Solid	08/11/09 09:35	08/18/09 09:50
20716695	OU2B-SED-ST15-0809	Solid	08/11/09 10:40	08/18/09 09:50
20716696	OU2B-SED-ST23-0809	Solid	08/11/09 11:20	08/18/09 09:50
20716697	OU2B-SED-ST24-0809	Solid	08/11/09 14:10	08/18/09 09:50
20716698	OU2B-SED-ST29-0809	Solid	08/11/09 15:05	08/18/09 09:50
20716699	OU2B-SED-ST30-0809	Solid	08/11/09 15:35	08/18/09 09:50
20716700	OU2B-SED-ST31-0809	Solid	08/12/09 09:05	08/18/09 09:50
20716701	OU2B-SED-ST33-0809	Solid	08/12/09 09:45	08/18/09 09:50

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SAMPLE ANALYTE COUNT

Project: OU2/6107090035/2009.06
Pace Project No.: 4021275

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
20716694	OU2B-SED-ST13-0809	EPA 9060 Modified	DJR	1	PASI-G
20716695	OU2B-SED-ST15-0809	EPA 9060 Modified	DJR	1	PASI-G
20716696	OU2B-SED-ST23-0809	EPA 9060 Modified	DJR	1	PASI-G
20716697	OU2B-SED-ST24-0809	EPA 9060 Modified	DJR	1	PASI-G
20716698	OU2B-SED-ST29-0809	EPA 9060 Modified	DJR	1	PASI-G
20716699	OU2B-SED-ST30-0809	EPA 9060 Modified	DJR	1	PASI-G
20716700	OU2B-SED-ST31-0809	EPA 9060 Modified	DJR	1	PASI-G
20716701	OU2B-SED-ST33-0809	EPA 9060 Modified	DJR	1	PASI-G

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ANALYTICAL RESULTS

Project: OU2/6107090035/2009.06
Pace Project No.: 4021275

Sample: OU2B-SED-ST13-0809 **Lab ID: 20716694** Collected: 08/11/09 09:35 Received: 08/18/09 09:50 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**19100**	mg/kg	4080	1		08/20/09 11:51	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: OU2/6107090035/2009.06
Pace Project No.: 4021275

Sample: OU2B-SED-ST15-0809 **Lab ID: 20716695** Collected: 08/11/09 10:40 Received: 08/18/09 09:50 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**24500**	mg/kg	4000	1		08/20/09 12:03	7440-44-0	

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ANALYTICAL RESULTS

Project: OU2/6107090035/2009.06
Pace Project No.: 4021275

Sample: OU2B-SED-ST23-0809 **Lab ID: 20716696** Collected: 08/11/09 11:20 Received: 08/18/09 09:50 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**36000**	mg/kg	5880	1		08/20/09 12:14	7440-44-0	

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ANALYTICAL RESULTS

Project: OU2/6107090035/2009.06
Pace Project No.: 4021275

Sample: OU2B-SED-ST24-0809 **Lab ID: 20716697** Collected: 08/11/09 14:10 Received: 08/18/09 09:50 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**40500**	mg/kg	8000	1		08/20/09 12:26	7440-44-0	

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ANALYTICAL RESULTS

Project: OU2/6107090035/2009.06
Pace Project No.: 4021275

Sample: OU2B-SED-ST29-0809 **Lab ID: 20716698** Collected: 08/11/09 15:05 Received: 08/18/09 09:50 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**41200**	mg/kg	7690	1		08/20/09 12:35	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: OU2/6107090035/2009.06
Pace Project No.: 4021275

Sample: OU2B-SED-ST30-0809 **Lab ID: 20716699** Collected: 08/11/09 15:35 Received: 08/18/09 09:50 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**25100**	mg/kg	6900	1		08/20/09 12:41	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: OU2/6107090035/2009.06
Pace Project No.: 4021275

Sample: OU2B-SED-ST31-0809 **Lab ID: 20716700** Collected: 08/12/09 09:05 Received: 08/18/09 09:50 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**16500**	mg/kg	4000	1		08/20/09 12:47	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: OU2/6107090035/2009.06
Pace Project No.: 4021275

Sample: OU2B-SED-ST33-0809 **Lab ID: 20716701** Collected: 08/12/09 09:45 Received: 08/18/09 09:50 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Mean Total Organic Carbon	**19600**	mg/kg	3770	1		08/20/09 13:14	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: OU2/6107090035/2009.06
Pace Project No.: 4021275

QC Batch: WETA/4503 Analysis Method: EPA 9060 Modified
QC Batch Method: EPA 9060 Modified Analysis Description: 9060 TOC Average
Associated Lab Samples: 20716694, 20716695, 20716696, 20716697, 20716698, 20716699, 20716700, 20716701

METHOD BLANK: 196088 Matrix: Solid
Associated Lab Samples: 20716694, 20716695, 20716696, 20716697, 20716698, 20716699, 20716700, 20716701

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/kg	ND	250	08/20/09 11:38	

LABORATORY CONTROL SAMPLE: 196089

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/kg	1000	869	87	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 196090 196091

Parameter	Units	20716700 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mean Total Organic Carbon	mg/kg	16500	8700	8890	24600	24400	94	90	50-150	.8	30	

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QUALIFIERS

Project: OU2/6107090035/2009.06
Pace Project No.: 4021275

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

U - Indicates the compound was analyzed for, but not detected.

LABORATORIES

PASI-G Pace Analytical Services - Green Bay

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: OU2/6107090035/2009.06
Pace Project No.: 4021275

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
20716694	**OU2B-SED-ST13-0809**	EPA 9060 Modified	WETA/4503		
20716695	**OU2B-SED-ST15-0809**	EPA 9060 Modified	WETA/4503		
20716696	**OU2B-SED-ST23-0809**	EPA 9060 Modified	WETA/4503		
20716697	**OU2B-SED-ST24-0809**	EPA 9060 Modified	WETA/4503		
20716698	**OU2B-SED-ST29-0809**	EPA 9060 Modified	WETA/4503		
20716699	**OU2B-SED-ST30-0809**	EPA 9060 Modified	WETA/4503		
20716700	**OU2B-SED-ST31-0809**	EPA 9060 Modified	WETA/4503		
20716701	**OU2B-SED-ST33-0809**	EPA 9060 Modified	WETA/4503		
20716694	**OU2B-SED-ST13-0809**	EPA 9060 Modified	WETA/4504		
20716695	**OU2B-SED-ST15-0809**	EPA 9060 Modified	WETA/4504		
20716696	**OU2B-SED-ST23-0809**	EPA 9060 Modified	WETA/4504		
20716697	**OU2B-SED-ST24-0809**	EPA 9060 Modified	WETA/4504		
20716698	**OU2B-SED-ST29-0809**	EPA 9060 Modified	WETA/4504		
20716699	**OU2B-SED-ST30-0809**	EPA 9060 Modified	WETA/4504		
20716700	**OU2B-SED-ST31-0809**	EPA 9060 Modified	WETA/4504		
20716701	**OU2B-SED-ST33-0809**	EPA 9060 Modified	WETA/4504		

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2098385 20-OLIN ENV

N-OF-CUSTODY / Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

2098385

402275

Page: 1 of 1

1145377

Section A Required Client Information:

Company: MACTEC
Address: 320 Interstate N Pkwy NW Ste 100
Atlanta GA 30339
Email To: cdraper@mactec.com
Phone: 770 421 3400 Fax: 770 421 3488
Requested Due Date/TAT: Standard

Required Project Information: cdraper@mactec.com

Report To: Kdroberts@olin.com
Copy To: KPwatson@Mactec.com
mparker@mactec.com
Purchase Order No.: DEMC0013-80
Project Name: OU2
Project Number: 6107090035 | 2009.06

Section C Invoice Information:

Attention: Dennis Turner
Company Name: Olin
Address: 3855 N. Ocoee St Cleveland TN
Pace Quote Reference:
Pace Project Manager: Cindy Olavesen
Pace Profile #:

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☒ OTHER Georgia

Site Location STATE: AL

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

Sediment

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test: Total Hg - USEPA 7471	% Moisture - ASTM D2216	Density - SM2711F Mod	TSS - USEPA 160.2	TOC - EPA 9060M	Total Solids - SM2540G	Inorganic Solids - SM2540G	Organic Solids - SM2540G	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	OU2B-SED-ST13-0809	OT	C			08/11/09	0935		6	X								X	X	X	X	X	X	X	X		2098694
2	OU2B-SED-ST15-0809					08/11/09	1040		5									X	X	X	X	X	X	X	X	RMR	695
3	OU2B-SED-ST23-0809					08/11/09	1120		6									X	X	X	X	X	X	X	X		696
4	OU2B-SED-ST24-0809					08/11/09	1410		6									X	X	X	X	X	X	X	X		697
5	OU2B-SED-ST29-0809					08/11/09	1505		5									X	X	X	X	X					698
6	OU2B-SED-ST30-0809					08/11/09	1535		5									X	X	X	X	X					699
7	OU2B-SED-ST31-0809					08/12/09	0905		6									X	X	X	X	X	X	X	X		700
8	OU2B-SED-ST33-0809	↓	↓			08/12/09	0945		5	↓								X	X	X	X	X					701
9	Temp Blank																										
10	(*) Return end product to MACTEC for grain size analysis; ~~Save~~ 1L jar is grab sample.																										
11																											
12																											

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
OT = Sediment	Amie Stell / Mactec Fed Ex	8/12/09	1645							
Analyze as sample size permits in the order: Total Hg, %'s moisture, density, TSS, TOC		8/13/09		Lisa Nolte Fed Ex	8/13/09	0840	2.8	Y	Y	Y
	Fed Ex	8/18/09	950		8/18/09	950	1	Y	N	Y

- 1L Jar From Samples OU2B-SED-ST31-0809, OU2B-SED-ST29-0809, OU2B-SED-ST23-0809, and OU2B-SED-ST13-0809 - to be analyzed for SM2540G(Soil,DS) - total, organic

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Amie Stell / Rani Reece

SIGNATURE of SAMPLER: Amie Stell / Rreece DATE Signed (MM/DD/YY): 08/12/09

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

Pace Analytical

Sample Condition Upon Receipt

Client Name: Pace-LA Project # 4021275

Courier: [X] Fed Ex [ ] UPS [ ] USPS [ ] Client [ ] Commercial [ ] Pace Other _____

Tracking #: _____

Custody Seal on Cooler/Box Present: [ ] yes [X] no Seals intact: [ ] yes [ ] no

Custody Seal on Samples Present: [ ] yes [X] no Seals intact: [ ] yes [ ] no

Packing Material: [ ] Bubble Wrap [X] Bubble Bags [ ] None Other

Thermometer Used JB **Type of Ice:** (Wet) Blue Dry None [ ] Samples on ice, cooling process has begun

Cooler Temperature 1° **Biological Tissue is Frozen:** [ ] yes [ ] no

Temp Blank Present: [ ] yes [X] no

Optional
Proj. Due Date:
Proj. Name:

Temp should be above freezing to 6°C for all sample except Biota.
Biota Samples should be received ≤ 0°C.

Person examining contents:
Date: 8/18/09
Initials: MEN

		Comments:
Chain of Custody Present:	[X]Yes [ ]No [ ]N/A	1.
Chain of Custody Filled Out:	[X]Yes [ ]No [ ]N/A	2.
Chain of Custody Relinquished:	[X]Yes [ ]No [ ]N/A	3.
Sampler Name & Signature on COC:	[X]Yes [ ]No [ ]N/A	4.
Samples Arrived within Hold Time:	[X]Yes [ ]No [ ]N/A	5.
Short Hold Time Analysis (<72hr):	[ ]Yes [X]No [ ]N/A	6.
Rush Turn Around Time Requested:	[X]Yes [ ]No [ ]N/A	7. 8/27
Sufficient Volume:	[X]Yes [ ]No [ ]N/A	8.
Correct Containers Used:	[X]Yes [ ]No [ ]N/A	9.
-Pace Containers Used:	[X]Yes [ ]No [ ]N/A	
Containers Intact:	[X]Yes [ ]No [ ]N/A	10.
Filtered volume received for Dissolved tests	[ ]Yes [ ]No [X]N/A	11.
Sample Labels match COC:	[X]Yes [ ]No [ ]N/A	12.
-Includes date/time/ID/Analysis Matrix: S		
All containers needing preservation have been checked.	[ ]Yes [ ]No [X]N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	[ ]Yes [ ]No [X]N/A	Initial when completed / Lot # of added preservative
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	[ ]Yes [ ]No	
Samples checked for dechlorination:	[ ]Yes [ ]No [X]N/A	14.
Headspace in VOA Vials (>6mm):	[ ]Yes [ ]No [X]N/A	15.
Trip Blank Present:	[ ]Yes [ ]No [X]N/A	16.
Trip Blank Custody Seals Present	[ ]Yes [ ]No [X]N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ **Date:** 8/18/09

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

September 29, 2009

Paul Brafford
MACTEC, INC.
1105 Lakewood Parkway
Alpharetta, GA 30009

RE: Project 2098422
Project ID: OU2/6107090035/2009.06

Dear Paul Brafford:

Enclosed are the analytical results for sample(s) received by the laboratory on August 13, 2009. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerly,

Cindy Olavesen

Cindy Olavesen
cindy.olavesen@pacelabs.com

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Project: 2098422

Client: MACTEC, INC.

Project ID: OU2/6107090035/2009.06

U.S. Dept. of Agriculture Foreign Soil Import S-47270
Pennsylviania Dept. of Env Protection (NELAC) 68-04202
Texas Commission on Env. Quality (NELAC) T104704405-08-TX
Kansas Department of Health and Environment (NELAC) E-10266
Florida Department of Health (NELAC) E87595
Louisiana Dept. of Health and Hospitals (NELAC) LA080013
Louisiana Dept. of Environmental Quality (NELAC/LELAP) 02006

ACCREDITED IN ACCORDANCE WITH nelac

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
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St. Rose, LA 70087
(504) 469-0333

Sample Cross Reference

Project: 2098422

Client: MACTEC, INC.

Project ID: OU2/6107090035/2009.06

Client Sample ID	Lab ID	Matrix	Collection Date/Time	Received Date/Time
OU2B-SED-ST13-0809	20716941	Soil	11-Aug-09 09:35	13-Aug-09 09:40
OU2B-SED-ST23-0809	20716945	Soil	11-Aug-09 11:20	13-Aug-09 09:40
OU2B-SED-ST24-0809	20716949	Soil	11-Aug-09 14:10	13-Aug-09 09:40
OU2B-SED-ST31-0809	20716955	Soil	12-Aug-09 09:05	13-Aug-09 09:40

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St. Rose, LA 70087
(504) 469-0333

Project: 2098422

Sample Receipt Condition:

All samples were received in accordance with EPA protocol.

Holding Times:

The following holding times were exceeded. See the previous page for a detailed explanation:

Sample 20716941 analysis 2540Esoi TVS, Soil
Sample 20716941 analysis 2540Gsolid Percent Solids, Soil
Sample 20716945 analysis 2540Esoi TVS, Soil
Sample 20716945 analysis 2540Gsolid Percent Solids, Soil
Sample 20716949 analysis 2540Esoi TVS, Soil
Sample 20716949 analysis 2540Gsolid Percent Solids, Soil
Sample 20716955 analysis 2540Esoi TVS, Soil
Sample 20716955 analysis 2540Gsolid Percent Solids, Soil

Blanks:

All blank results were below reporting limits.

Matrix Spikes and Duplicates:

All MS/MSD recoveries or duplicate RPDs were within QC limits.

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Project: 2098422

Analytical Method	Batch	Sample used for QC
SM 2540G	126619	Project sample OU2B-SED-ST13-0809
SM 2540G	126620	Project sample OU2B-SED-ST13-0809

For the sample used as the original for the DUP or MS/MSD for the batch:

Project sample means a sample from this project was used.
Client sample means a sample from the same client but in a different project was used.
Batch sample means a sample from the a different client was used.

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Client: MACTEC, INC.

Client ID: OU2B-SED-ST13-0809
Project: 2098422
Project ID: OU2/6107090035/2009.06
Site: None
Lab ID: 20716941
Matrix: Soil
%Moisture: 0 Not Corrected
Description: None
Collected: 11-Aug-09
Received: 13-Aug-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Limit
Percent Solids	SM 2540G	126619	1	20.6	N	%	0.100	28-Sep-09	28-Sep-09	13:00 JMA	
Total Volatile Solids	SM 2540G	126620	1	10.9	N	% (w/w)	0.100	28-Sep-09	28-Sep-09	13:00 JMA	

2 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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(504) 469-0333

Sample Results

Client: MACTEC, INC.

Client ID: OU2B-SED-ST23-0809
Project: 2098422
Project ID: OU2/6107090035/2009.06
Site: None
Lab ID: 20716945
Matrix: Soil
%Moisture: 0 Not Corrected
Description: None
Collected: 11-Aug-09
Received: 13-Aug-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Limit
Percent Solids	SM 2540G	126619	1	20.4	N	%	0.100	28-Sep-09	28-Sep-09	13:00 JMA	
Total Volatile Solids	SM 2540G	126620	1	18.0	N	% (w/w)	0.100	28-Sep-09	28-Sep-09	13:00 JMA	

2 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Client: MACTEC, INC.

Client ID: OU2B-SED-ST24-0809
Project: 2098422
Project ID: OU2/6107090035/2009.06
Site: None
Lab ID: 20716949
Matrix: Soil
%Moisture: 0 Not Corrected
Description: None
Collected: 11-Aug-09
Received: 13-Aug-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Limit
Percent Solids	SM 2540G	126619	1	18.2	N	%	0.100	28-Sep-09	28-Sep-09	13:00 JMA	
Total Volatile Solids	SM 2540G	126620	1	19.4	N	% (w/w)	0.100	28-Sep-09	28-Sep-09	13:00 JMA	

2 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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St. Rose, LA 70087
(504) 469-0333

Sample Results

Client: MACTEC, INC.

Client ID: OU2B-SED-ST31-0809
Project: 2098422
Project ID: OU2/6107090035/2009.06
Site: None
Lab ID: 20716955
Matrix: Soil
%Moisture: 0 Not Corrected
Description: None
Collected: 12-Aug-09
Received: 13-Aug-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Limit
Percent Solids	SM 2540G	126619	1	22.7	N	%	0.100	28-Sep-09	28-Sep-09	13:00 JMA	
Total Volatile Solids	SM 2540G	126620	1	11.7	N	% (w/w)	0.100	28-Sep-09	28-Sep-09	13:00 JMA	

2 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Inorganics Quality Control

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1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Project: 2098422

Parameter	Batch	Blank	Units	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	RPD	QC Limits LCS	QC Limits MS/MSD	Max RPD	Qu
Percent Solids	126619	< 0.100	%										2			20	
Total Volatile Solids	126620	< 0.100	% (w/w)										13			20	

9/29/2009 17:11:33

*** denotes recovery outside of QC limits.**
ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MS/MSD RPD is calculated via SW-846 rules on the basis of spiked sample concentrations rather than spike recoveries.

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(504) 469-0333

Project: 2098422

Value	Description
N	See narrative for a detailed explanation.
J	This estimated value for the analyte is below the adjusted reporting limit but above the instrument reporting limit.
U	The analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.
B	This analyte was detected in the method blank.
E	The sample concentration is above the linear calibrated range of the analysis.
ND	The analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.
MDL	The adjusted method detection limit.
LCS(D)	Laboratory Control Sample (Duplicate).
MS(D)	Matrix Spike (Duplicate).
DUP	Sample Duplicate.
RPD	Relative Percent Difference.

2098422 20-OLIN ENV

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

2098422

Page: 1 of 1

1145377

Section A Required Client Information: Section B Required Project Information: Section C Invoice Information:

Company: MACTEC	Report To: Kdroberts@olin.com	Attention: Dennis Turner	
Address: 320 Interstate North Pkwy NW Ste 100 Atlanta GA 30339	Copy To: KDwatson@Mactec.com mparker@mactec.com	Company Name: Olin	REGULATORY AGENCY
Email To: Cindy.Olavesen@Mactec.com	Purchase Order No.: OEMC0013-80	Address: 3855 N Ocoee St Cleveland TN	NPDES GROUND WATER DRINKING WATER
Phone: 770-421-3400 Fax: 770-421-3453	Project Name: OU2	Pace Quote Reference:	UST RCRA OTHER Cercla
Requested Due Date/TAT: Standard	Project Number: 161070900035 | 2009.06	Pace Project Manager: Cindy Olavesen	Site Location STATE: AL
		Pace Profile #:	

Section D Required Client Information

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Sediment

Requested Analyses Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Y/N	Analysis Test: Total Hg - USEPA 1631	% Moisture - ASTM D2216	Density - SW3550C Mod	TSS - USEPA 160.2	TOC - EPA 9060 OLM	Total Solids - SM2540G	Inorganic Solids - SM2540G	Organic Solids - SM2540G mod		Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	OU2B-SED-ST13-0809	ST	C			08/11/09	0935		10	X									X	X	X	X	X	X	X	X		2076	941, 942, 943, 944
2	OU2B-SED-ST15-0809					08/11/09	1040		5										X	X	X	X	X	X	X	X	RMR		
3	OU2B-SED-ST23-0809					08/11/09	1120		6										X	X	X	X	X	X	X	X			945, 946, 947, 948
4	OU2B-SED-ST24-0809					08/11/09	1410		6										X	X	X	X	X	X	X	X			949, 950, 951, 952
5	OU2B-SED-ST29-0809					08/11/09	1505		5										X	X	X	X	X						
6	OU2B-SED-ST30-0809					08/11/09	1535		5										X	X	X	X	X						
7	OU2B-SED-ST31-0809					08/12/09	0905		6										X	X	X	X	X	X	X	X			955, 957, 959, 961
8	OU2B-SED-ST32-0809	↓	↓			08/12/09	0945		5	↓									X	X	X	X	X						
9	Temp Blank																												
10	(*) Return end product to MACTEC for grain size analysis; sample 1L jar is grab sample.																												
11																													
12																													

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
OT = Sediment	Amie Stell / Mactec	8/12/09	1645							
Analyze as sample size permits in the order: Total Hg, % moisture, density, TSS, TOC	Fed Ex			Lisa Nolte	8/13/09	0900	2.8	Y	Y	Y

1L Jar From Samples OU2B-SED-ST31-0809, OU2B-SED-ST24-0809, OU2B-SED-ST23-0809, and OU2B-SED-ST13-0809 - to be analyzed for SM2540G(SOLIDS) - total, organic, inorganic

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Amie Stell / Rani Reece

SIGNATURE of SAMPLER: Amie Stell / Rreece DATE Signed (MM/DD/YY): 08/12/09

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

2098422 20-OLIN ENV

Pace Analytical

1000 Riverbend. Blvd., Suite F
St. Rose, LA 70087

Sample Condition Upon Receipt

Project #: 30

Courier: ☐ Pace Courier ☐ Hackbarth ☑ Fed X ☐ UPS ☐ DHL ☐ USPS ☐ Customer ☐ Other

Custody Seal on Cooler/Box Present: [see COC] Custody Seals Intact: ☑Yes ☐No

Therometer Used: ☑ Therm Fisher IR 1 ☐ Therm Fisher IR 2 ☐ Therm Fisher IR 3

Type of Ice: (Wet) Blue None Samples on Ice: [see COC]

Cooler Temperature: [see COC] Temp should be above freezing to 6°C

Date and Initials of person examining contents: 8-14-09

Temp must be measured from Temperature blank when present

				Comments:
Temperature Blank Present"?	☐Yes	☑No	☐N/A	1
Chain of Custody Present:	☐Yes	☑No	☐N/A	2
Chain of Custody Complete:	☐Yes	☑No	☐N/A	3
Chain of Custody Relinquished:	☐Yes	☑No	☐N/A	4
Sampler Name & Signature on COC:	☐Yes	☑No	☐N/A	5
Samples Arrived within Hold Time:	☐Yes	☑No	☐N/A	6
Sufficient Volume:	☐Yes	☑No	☐N/A	7
Correct Containers Used:	☐Yes	☑No	☐N/A	8
Filtered vol. Rec. for Diss. tests	☐Yes	☐No	☑N/A	9
Sample Labels match COC:	☐Yes	☑No	☐N/A	10
All containers received within manafacture's precautionary and/or expiration dates.	☐Yes	☑No	☐N/A	11
All containers needing preservation have been checked (except VOA, coliform, & O&G).	☐Yes	☐No	☑N/A	12
All containers preservation checked found to be in compliance with EPA recommendation.	☐Yes	☐No	☑N/A	13 If No, was preserative added? ☐Yes ☐No If added record lot no.: HNO3 _____ H2SO4 _____
Samples checked for dechlorination:	☐Yes	☐No	☑N/A	14
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☑N/A	14
Trip Blank Present:	☐Yes	☐No	☑N/A	16
Trip Blank Custody Seals Present	☐Yes	☐No	☑N/A	17
Pace Trip Blank Lot # (if purchased): N/A				18

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

ALLC003rev.05, 12Jun2009 - mod

Pace Analytical Services, Inc.
1000 Riverbend Blvd., Suite F
St. Rose, LA 70087

2098422

Sample	Wt. Dish (g)	Wt Dish + Sample (g)	Wt. Sample (Kg)	Wt. Dish + Sample after 105 (g)	Wt. Dried Sample (mg)	**Total Solids (mg/Kg)**	Wt. Dish + Sample after 550 (g)	**Volatile Solids %**	**Fixed Solids %**
20716941	50.5209	55.5295	0.00501	51.5521	1031	**205,886**	51.4394	**10.93%**	**89.07%**
20716941 Dup	48.9949	53.9959	0.00500	50.0478	1053	**210,538**	49.9166	**12.46%**	**87.54%**
20716945	47.0371	52.0405	0.00500	48.0576	1021	**203,961**	47.8743	**17.96%**	**82.04%**
20716949	50.0380	55.0287	0.00499	50.9461	908	**181,958**	50.7697	**19.43%**	**80.57%**
20716955	44.4909	49.4972	0.00501	45.6260	1135	**226,734**	45.4928	**11.73%**	**88.27%**

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Olin - USACE Project 2098422

Sample ID	Wt. Sample & Jar	Wt. Jar * +10 labels + fuel blade	Vol. of Water Decanted after Centrifuge	Description of Homogenization Process
ST13 0809	1194.53	501.3 g	284 ml	Samples after centrifuge and decant were shook samples and easily mixed in the containers to a homogenous state.
ST23 0809	848.07	↓	179 ml	
ST24 0809	911.04		203 ml	
ST31 0809	966.02		171 ml	
		↓		

Instructions: Use empty jar provided by Olin for 'Wt. Sample & Jar'
Weight eahc of the 4 sample jarsWeigh each of the 4 sample jars that contain the sample (sediment & water) prior to centrifugation and provide the weights.
~~Measure the volume of water that is decanted after cetrifugation.~~
Provide a description of the sediment homogenztion procedure that is used after centrifugation but prior to taking a sediment aliquot.
Provide Lab bench sheets.

* to match label weights on jars.

Centrifuged ~20 min. @ ~6000 rpm

decanted liq into grad cylinder - recorded vol.

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WATER QUALITY BATCH NARRATIVE

METHOD: TS **BATCH:** 126619

Data Review: The following must be checked in reviewing data. Initial / Date all corrections.

LCS / MS source and concentration recorded.

CCVs within 10% and CCBs < DL

Check that dilutions are recorded and/or calculated properly.

Manual calculations: check two calculations, if either has a mistake check ALL calculations.

Digestion or preparation log attached.

All columns are filled out properly or Z'd out.

All analyzed within hold time.

Data Reviewed by: LL 9/29/08 1435

Comments: _____

Data Entry: The following is performed during data entry.

Verify that all batched samples are completed.

Enter all dilution factors.

Enter all digestion volumes.

Data Entered by: LL 9/29/08 1435

The following must be checked or performed before validating data.

All QC within control limits or documented.

Comments on batch sheet followed.

Narratives needed: _____

Valid report needed – list projects: _____

Data Validated by: TE

Problem(s) or corrective action(s) taken: _____

_____

_____

_____

Pace Analytical™
New Orleans Laboratory

FS / TS / TVS (Solids)

SOP NO-I-751

Batch /266619

Procedure: 2540E

Start Analyst: JMA Start Date/Time: 9/28/09 1302

End Analyst: JMA End Date/Time: 9/29/09 1250

FS Result (%) = 100 * [(D - A) / (C - A)]

TS Result (%) = 100 * [(C - A) / (B - A)]

TVS Result (%) = 100 * [(C - D) / (C - A)]

Report Limit _____

Sample	Vessel ID	A Dish tare (g)	B Tare+Sample(g)	C Residue 105C(g)	D Residue 550C(g)	(FS/TS/TVS)	Result (%)
20711694	B11	50.5209 ~~55.5295~~ JMA	55.5295	51.5521	51.4394	0.2058	20.58%
Dup	A	48.9949	53.9959	50.0478	49.9166	0.2105	21.05% RPD=2
6945	5	47.0371	52.0405	48.0576	47.8743	0.2039	20.39%
6949	0	50.0380	55.0287	50.9461	50.7697	0.1819	18.19%
6955	H2	44.4909	49.4972	45.6260	45.4928	0.2267	22.67%

0 samples

PASI Gulf Coast Laboratory

BATCH WORK LIST for Batch 126619

Ordered by Batch Postion

Queue: WET Analyst: LJL

Procedure: 2540Gsolid Percent Solids, Soil

QC Rule: 2540Gsolid Started: 28-SEP-09

Project Sample #	#	Sample	Client sample ID	Sample Type	Mx	St	Rpt List Rpt Method	Coll Date	Recv Date	Hold Date	Sample Due	PM	Client	Original for QC	QC Batch	Comments
2098422-001	1	20716941	OU2B-SED-ST13-0809	PS	SL	B	2540Gsolid/SM 2540G	11-AUG	13-AUG	18-AUG	18-AUG	CMO	20-MACTEC		126619	RUSS TO NARRATE
	1						2540Gsolid/SM 2540G					CMO				DO NOT DISPOSE OF AS H
	2	20728541	126619 DUP 1	DUP	SL	B	2540Gsolid		28-SEP	18-AUG	18-AUG		QC ACCOUNT	20716941	126619	
2098422-005	3	20716945	OU2B-SED-ST23-0809	PS	SL	B	2540Gsolid/SM 2540G	11-AUG	13-AUG	18-AUG	18-AUG	CMO	20-MACTEC		126619	RUSS TO NARRATE
	3						2540Gsolid/SM 2540G					CMO				DO NOT DISPOSE OF AS H
2098422-009	4	20716949	OU2B-SED-ST24-0809	PS	SL	B	2540Gsolid/SM 2540G	11-AUG	13-AUG	18-AUG	18-AUG	CMO	20-MACTEC		126619	RUSS TO NARRATE
	4						2540Gsolid/SM 2540G					CMO				DO NOT DISPOSE OF AS H
2098422-013	5	20716955	OU2B-SED-ST31-0809	PS	SL	B	2540Gsolid/SM 2540G	12-AUG	13-AUG	19-AUG	19-AUG	CMO	20-MACTEC		126619	RUSS TO NARRATE
	5						2540Gsolid/SM 2540G					CMO				DO NOT DISPOSE OF AS H

***** End of bwrklist report *****

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St. Rose, LA 70087

WATER QUALITY BATCH NARRATIVE

METHOD: TVS **BATCH:** 126620

Data Review: The following must be checked in reviewing data. Initial / Date all corrections.

LCS / MS source and concentration recorded.

CCVs within 10% and CCBs < DL

Check that dilutions are recorded and/or calculated properly.

Manual calculations: check two calculations, if either has a mistake check ALL calculations.

Digestion or preparation log attached.

All columns are filled out properly or Z'd out.

All analyzed within hold time.

Data Reviewed by: LL 9/29/03 1435

Comments: _____

Data Entry: The following is performed during data entry.

Verify that all batched samples are completed.

Enter all dilution factors.

Enter all digestion volumes.

Data Entered by: LL 9/29/03 1435

The following must be checked or performed before validating data.

All QC within control limits or documented.

Comments on batch sheet followed.

Narratives needed: _____

Valid report needed – list projects: _____

Data Validated by: TE

Problem(s) or corrective action(s) taken: _____

Pace Analytical™
New Orleans Laboratory

FS / TS / TVS (Solids)

SOP NO-I-751

Batch 126620

Procedure: 2540E

Start Analyst: JMA Start Date/Time: 9/28/09 1300

End Analyst: JMA End Date/Time: 9/29/09 1241

FS Result (%) = 100 * [(D - A) / (C - A)]
TS Result (%) = 100 * [(C - A) / (B - A)]
TVS Result (%) = 100 * [(C - D) / (C - A)]

Report Limit _____

		A	B	C	D		
Sample	Vessel ID	Dish tare (g)	Tare+Sample(g)	Residue 105C(g)	Residue 550C(g)	(FS/TS/TVS)	Result (%)
Blk	TX	52.3803	52.3803	52.3803	52.3803	Nd	Nd
20716941	Bill	50.5209	55.5295	51.5521	51.4394	0.1092	10.92%
Dup	A	48.9949	53.9959	50.0478	49.9116	0.1246	12.46% RPD=13%
6945	S	47.0371	52.0405	48.0571	47.8743	0.1796	17.96%
6949	D	50.0380	55.0287	50.9461	50.7697	0.1942	JMA 19.42%
6955	H2	44.4909	49.4992	45.6260	45.4928	0.1173	11.73%

0 samples

PASI Gulf Coast Laboratory

BATCH WORK LIST for Batch 126620

Ordered by Batch Postion

Queue: WET Analyst: LJL

Procedure: 2540Esoi TVS, Soil

QC Rule: 2540Esoi Started: 28-SEP-09

Project Sample #	#	Sample	Client sample ID	Sample Type	Mx	St	Rpt List Rpt Method	Coll Date	Recv Date	Hold Date	Sample Due	PM	Client	Original for QC	QC Batch	Comments
	1	20728542	126620 BLANK 1	BLANK		B	2540Esoi		28-SEP	05-OCT	02-OCT		QC ACCOUNT		126620	
2098422-001	2	20716941	OU2B-SED-ST13-0809	PS	SL	B	2540Esoi/SM 2540G	11-AUG	13-AUG	18-AUG	18-AUG	CMO	20-MACTEC		126620	RUSS TO NARRATE
	2						2540Esoi/SM 2540G					CMO				DO NOT DISPOSE OF AS
																H
	3	20728543	126620 DUP 1	DUP	SL	B	2540Esoi		28-SEP	18-AUG	18-AUG		QC ACCOUNT	20716941	126620	
2098422-005	4	20716945	OU2B-SED-ST23-0809	PS	SL	B	2540Esoi/SM 2540G	11-AUG	13-AUG	18-AUG	18-AUG	CMO	20-MACTEC		126620	RUSS TO NARRATE
	4						2540Esoi/SM 2540G					CMO				DO NOT DISPOSE OF AS
																H
2098422-009	5	20716949	OU2B-SED-ST24-0809	PS	SL	B	2540Esoi/SM 2540G	11-AUG	13-AUG	18-AUG	18-AUG	CMO	20-MACTEC		126620	RUSS TO NARRATE
	5						2540Esoi/SM 2540G					CMO				DO NOT DISPOSE OF AS
																H
2098422-013	6	20716955	OU2B-SED-ST31-0809	PS	SL	B	2540Esoi/SM 2540G	12-AUG	13-AUG	19-AUG	19-AUG	CMO	20-MACTEC		126620	RUSS TO NARRATE
	6						2540Esoi/SM 2540G					CMO				DO NOT DISPOSE OF AS
																H

***** End of bwrklist report *****

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

December 07, 2009

Keith Roberts
Olin Enviromental Management
Charleston Plant
1186 Lower river Road
Charleston, TN 37310

RE: Project 20102684
Project ID: OLIN MCINTOSH OU2/6107090035

Dear Keith Roberts:

Enclosed are the analytical results for sample(s) received by the laboratory on December 03, 2009. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerly,

Cindy Olavesen

Cindy Olavesen
cindy.olavesen@pacelabs.com

REPORT OF LABORATORY ANALYSIS

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Laboratory Certifications

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(504) 469-0333

Project: 20102684

Client: Olin Enviromental Management

Project ID: OLIN MCINTOSH OU2/6107090035

U.S. Dept. of Agriculture Foreign Soil Import S-47270

Pennsylviania Dept. of Env Protection (NELAC) 68-04202

Texas Commission on Env. Quality (NELAC) T104704405-08-TX

Kansas Department of Health and Environment (NELAC) E-10266

Florida Department of Health (NELAC) E87595

Louisiana Dept. of Health and Hospitals (NELAC) LA080013

Louisiana Dept. of Environmental Quality (NELAC/LELAP) 02006

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(504) 469-0333

Project: 20102684

Sample Receipt Condition:

All samples were received in accordance with EPA protocol.

Holding Times:

All holding times were met.

Blanks:

All blank results were below reporting limits.

Laboratory Control Samples:

All LCS recoveries were within QC limits.

Matrix Spikes and Duplicates:

All MS/MSD recoveries or duplicate RPDs were within QC limits.

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(504) 469-0333

Project: 20102684

Analytical Method	Batch	Sample used for QC
SM 2540D	130471	Batch sample from another client
SM 2540C	130525	Project sample OU2B-SW-GATE-1-113009

For the sample used as the original for the DUP or MS/MSD for the batch:

Project sample means a sample from this project was used.
Client sample means a sample from the same client but in a different project was used.
Batch sample means a sample from the a different client was used.

Sample Results

Pace Analytical Services, Inc.
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(504) 469-0333

Client: Olin Enviromental Management

Client ID: OU2B-SW-GATE-1-113009
Project: 20102684
Project ID: OLIN MCINTOSH OU2/6107090035
Site: None
Lab ID: 20746593
Matrix: Water
%Moisture: n/a
Description: None
Collected: 30-Nov-09
Received: 03-Dec-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Total Dissolved Solids	SM 2540C	130525	1	110.		mg/L	4.00	04-Dec-09	04-Dec-09 14:41 SMS2	
Total Suspended Solids	SM 2540D	130471	1	9.50		mg/L	4.00	03-Dec-09	03-Dec-09 15:14 TAE	

2 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Sample Results

Pace Analytical Services, Inc.
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St. Rose, LA 70087
(504) 469-0333

Client: Olin Enviromental Management

Client ID: OU2B-SW-GATE-2-120209
Project: 20102684
Project ID: OLIN MCINTOSH OU2/6107090035
Site: None
Lab ID: 20746594
Matrix: Water
%Moisture: n/a
Description: None
Collected: 02-Dec-09
Received: 03-Dec-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Total Dissolved Solids	SM 2540C	130525	1	67.5		mg/L	4.00	04-Dec-09	04-Dec-09 14:42 SMS2	
Total Suspended Solids	SM 2540D	130471	1	7.50		mg/L	4.00	03-Dec-09	03-Dec-09 15:19 TAE	

2 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Inorganics Quality Control

Project: 20102684

Parameter	Batch	Blank	Units	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	RPD	QC Limits LCS	QC Limits MS/MSD	Max RPD	Qu
Total Suspended Solid	130471	< 4.00	mg/L	100.	103.	103							19	80-120		20	
Total Dissolved Solids	130525	< 4.00	mg/L	100.	99.0	99							13	80-120		20	

*** denotes recovery outside of QC limits.**
ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MS/MSD RPD is calculated via SW-846 rules on the basis of spiked sample concentrations rather than spike recoveries.

12/7/2009 13:28:08

Pace Analytical Services, Inc.
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(504) 469-0333

Project: 20102684

Value	Description
J	This estimated value for the analyte is below the adjusted reporting limit but above the instrument reporting limit.
U	The analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.
B	This analyte was detected in the method blank.
E	The sample concentration is above the linear calibrated range of the analysis.
ND	The analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.
MDL	The adjusted method detection limit.
LCS(D)	Laboratory Control Sample (Duplicate).
MS(D)	Matrix Spike (Duplicate).
DUP	Sample Duplicate.
RPD	Relative Percent Difference.

20102684 20-OLIN ENV

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain of Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

20102684

Page: 1 of 1

1144877

Section A Required Client Information:

Company:	MACTEC
Address:	3200 TownPt Dr NW #700 Kennesaw GA 30144
Email To:	cedraper@mactec.com
Phone: 7704213400	Fax: 7704213486
Requested Due Date/TAT:	Standard

Section B Required Project Information:

Report To:	cdroberts@olin.com
Copy To:	nefogell@mactec.com
Purchase Order No.:	OEMC0016
Project Name:	Olin McIntosh OU2
Project Number:	601090035

Section C Invoice Information:

Attention:	Dennis Turner
Company Name:	Olin Corporation
Address:	3855 N Ocoee St Suite 200 Cleveland TN 37312
Pace Quote Reference:	
Pace Project Manager:	Cindy Olavesen
Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☒ OTHER CERCLA

Site Location STATE: AL

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes MATRIX / CODE

Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Tissue	TS
Other	OT

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Requested Analysis Filtered (Y/N) Y/N	Analysis Test: TSS	TDS	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	OU2B-SW-TBR-1-120109	WT	G			12/1/09	1130		2	X									X	X		20746593
2	OU2B-SW-Gate-1-113009	WT	G	11/30/09		11/30/09	1715		2	X									X	X		593
3	OU2B-SW-Gate-2-120209	WT	G			12/2/09	1013		2	X									X	X		594
4	OU2B-SW-TBR-2-120209	WT	G			12/2/09	1335		2	X									X	X		595
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Mike Rotty / MACTEC	12/4/09	1750				
	FedEx	12-3-09	1010	[signature]	12-3-09	1010	4-5

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Astell, MRottenberg

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 12/2/09

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

20102684 20-OLIN ENV

Pace Analytical

1000 Riverbend. Blvd., Suite F
St. Rose, LA 70087

Sample Condition Upon Receipt

Project #: 20

Courier: ☐ Pace Courier ☐ Hackbarth ☑ Fed X ☐ UPS ☐ DHL ☐ USPS ☐ Customer ☐ Other

Custody Seal on Cooler/Box Present: [see COC] Custody Seals Intact: ☑Yes ☐No

Therometer Used: ☑ Therm Fisher IR 1 ☐ Therm Fisher IR 2 ☐ Therm Fisher IR 3

Type of Ice: (Wet) Blue None Samples on Ice: [see COC]

Cooler Temperature: [see COC] Temp should be above freezing to 6°C

Date and Initials of person examining contents: 12-3-09 J

Temp must be measured from Temperature blank when present

				Comments:
Temperature Blank Present"?	☑Yes	☐No	☐N/A	1
Chain of Custody Present:	☑Yes	☐No	☐N/A	2
Chain of Custody Complete:	☑Yes	☐No	☐N/A	3
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	4
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	5
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	6
Sufficient Volume:	☑Yes	☐No	☐N/A	7
Correct Containers Used:	☑Yes	☐No	☐N/A	8
Filtered vol. Rec. for Diss. tests	☐Yes	☐No	☑N/A	9
Sample Labels match COC:	☑Yes	☐No	☐N/A	10
All containers received within manafacture's precautionary and/or expiration dates.	☑Yes	☐No	☐N/A	11
All containers needing preservation have been checked (except VOA, coliform, & O&G).	☐Yes	☐No	☑N/A	12
All containers preservation checked found to be in compliance with EPA recommendation.	☐Yes	☐No	☑N/A	13 If No, was preserative added? ☐Yes ☐No If added record lot no.: HNO3 _____ H2SO4 _____
Samples checked for dechlorination:	☐Yes	☐No	☑N/A	14
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☑N/A	14
Trip Blank Present:	☐Yes	☐No	☑N/A	16
Trip Blank Custody Seals Present	☐Yes	☐No	☑N/A	17
Pace Trip Blank Lot # (if purchased): N/A				18

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

ALLC003rev.05, 12Jun2009 - mod

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

March 18, 2009

Cynthia Draper
Mactec Eng & Consulting
3200 Townpoint Dr. NW
Suite 100
Kennesaw, GA 30144

RE: Project 2092711
Project ID: OLIN MCINTOSH 0U2

Dear Cynthia Draper:

Enclosed are the analytical results for sample(s) received by the laboratory on February 25, 2009. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerly,

Cindy Olavesen

Cindy Olavesen
cindy.olavesen@pacelabs.com

ACCREDITED IN ACCORDANCE WITH nelac

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Laboratory Certifications

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St. Rose, LA 70087
(504) 469-0333

Project: 2092711

Client: Olin Enviromental Management

Project ID: OLIN MCINTOSH 0U2

U.S. Dept. of Agriculture Foreign Soil Import S-47270
Pennsylviania Dept. of Env Protection (NELAC) 68-04202
Texas Commission on Env. Quality (NELAC) T104704405-08-TX
Kansas Department of Health and Environment (NELAC) E-10266
Florida Department of Health (NELAC) E87595
Louisiana Dept. of Health and Hospitals (NELAC) LA080013
Louisiana Dept. of Environmental Quality (NELAC/LELAP) 02006

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(504) 469-0333

Sample Cross Reference

Project: 2092711

Client: Olin Enviromental Management

Project ID: OLIN MCINTOSH 0U2

Client Sample ID	Lab ID	Matrix	Collection Date/Time	Received Date/Time
OU2B-SED-ST13-02/09	20673245	Water	18-Feb-09 15:15	25-Feb-09 10:00
OU2B-SED-ST15-02/09	20673246	Water	18-Feb-09 15:53	25-Feb-09 10:00
OU2B-SED-ST19-02/09	20673247	Water	19-Feb-09 10:24	25-Feb-09 10:00
OU2B-SED-ST23-02/09	20673248	Water	19-Feb-09 10:40	25-Feb-09 10:00
OU2B-SED-ST26-02/09	20673249	Water	19-Feb-09 10:55	25-Feb-09 10:00
OU2B-SED-ST24-02/09	20673250	Water	19-Feb-09 11:30	25-Feb-09 10:00
OU2B-SED-ST28-02/09	20673251	Water	19-Feb-09 11:55	25-Feb-09 10:00
OU2B-SED-ST27-02/09	20673252	Water	19-Feb-09 10:05	25-Feb-09 10:00
OU2B-SED-ST30-02/09	20673253	Water	19-Feb-09 08:55	25-Feb-09 10:00

Pace Analytical™

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1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SED-ST13-02/09
Project: 2092711
Project ID: OLIN MCINTOSH 0U2
Site: None
Lab ID: 20673245
Matrix: Water
%Moisture: n/a
Description: None
Collected: 18-Feb-09
Received: 25-Feb-09

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis		Limit
Total Suspended Solids	SM 2540D	114732	1		1700	mg/L	4.00	25-Feb-09	25-Feb-09 17:10	TAE	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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St. Rose, LA 70087
(504) 469-0333

Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SED-ST15-02/09
Project: 2092711
Project ID: OLIN MCINTOSH 0U2
Site: None
Lab ID: 20673246
Matrix: Water
%Moisture: n/a
Description: None
Collected: 18-Feb-09
Received: 25-Feb-09

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis		Limit
Total Suspended Solids	SM 2540D	114732	1		2520	mg/L	4.00	25-Feb-09	25-Feb-09 17:10	TAE	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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St. Rose, LA 70087
(504) 469-0333

Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SED-ST19-02/09
Project: 2092711
Project ID: OLIN MCINTOSH 0U2
Site: None
Lab ID: 20673247
Matrix: Water
%Moisture: n/a
Description: None
Collected: 19-Feb-09
Received: 25-Feb-09

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis		Limit
Total Suspended Solids	SM 2540D	114732	1		5960	mg/L	4.00	25-Feb-09	25-Feb-09 17:10	TAE	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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(504) 469-0333

Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SED-ST23-02/09
Project: 2092711
Project ID: OLIN MCINTOSH 0U2
Site: None
Lab ID: 20673248
Matrix: Water
%Moisture: n/a
Description: None
Collected: 19-Feb-09
Received: 25-Feb-09

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis		Limit
Total Suspended Solids	SM 2540D	114732	1		1240	mg/L	4.00	25-Feb-09	25-Feb-09 17:10	TAE	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Pace Analytical™

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St. Rose, LA 70087
(504) 469-0333

Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SED-ST26-02/09
Project: 2092711
Project ID: OLIN MCINTOSH 0U2
Site: None
Lab ID: 20673249
Matrix: Water
%Moisture: n/a
Description: None
Collected: 19-Feb-09
Received: 25-Feb-09

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis		Limit
Total Suspended Solids	SM 2540D	114732	1		57100	mg/L	4.00	25-Feb-09	25-Feb-09 17:10	TAE	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Pace Analytical™

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1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SED-ST24-02/09
Project: 2092711
Project ID: OLIN MCINTOSH 0U2
Site: None
Lab ID: 20673250
Matrix: Water
%Moisture: n/a
Description: None
Collected: 19-Feb-09
Received: 25-Feb-09

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis		Limit
Total Suspended Solids	SM 2540D	114732	1		40000	mg/L	4.00	25-Feb-09	25-Feb-09 17:10	TAE	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Client: Olin Enviromental Management

Client ID: OU2B-SED-ST28-02/09
Project: 2092711
Project ID: OLIN MCINTOSH 0U2
Site: None
Lab ID: 20673251
Matrix: Water
%Moisture: n/a
Description: None
Collected: 19-Feb-09
Received: 25-Feb-09

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis		Limit
Total Suspended Solids	SM 2540D	114732	1		1340	mg/L	4.00	25-Feb-09	25-Feb-09 17:10	TAE	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Pace Analytical Services, Inc.
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St. Rose, LA 70087
(504) 469-0333

Client: Olin Enviromental Management

Client ID: OU2B-SED-ST27-02/09
Project: 2092711
Project ID: OLIN MCINTOSH 0U2
Site: None
Lab ID: 20673252
Matrix: Water
%Moisture: n/a
Description: None
Collected: 19-Feb-09
Received: 25-Feb-09

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis		Limit
Total Suspended Solids	SM 2540D	114732	1		2700	mg/L	4.00	25-Feb-09	25-Feb-09 17:10	TAE	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Client: Olin Enviromental Management

Client ID: OU2B-SED-ST30-02/09
Project: 2092711
Project ID: OLIN MCINTOSH 0U2
Site: None
Lab ID: 20673253
Matrix: Water
%Moisture: n/a
Description: None
Collected: 19-Feb-09
Received: 25-Feb-09

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis		Limit
Total Suspended Solids	SM 2540D	114732	1		23500	mg/L	4.00	25-Feb-09	25-Feb-09 17:10	TAE	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Pace Analytical Services, Inc.
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St. Rose, LA 70087
(504) 469-0333

Project: 2092711

Parameter	Batch	Blank	ARL	Units	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	RPD	QC Limits LCS	QC Limits MS/MSD	Max RPD	Qu
Total Suspended	114732	ND	4.00	mg/L	100.	100.	100							2	80-120		20	

*** denotes recovery outside of QC limits.**
ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MS/MSD RPD is calculated via SW-846 rules on the basis of spiked sample concentrations rather than spike recoveries.

3/18/2009 14:35:56

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Project: 2092711

Value	Description
J	This estimated value for the analyte is below the adjusted reporting limit but above the instrument reporting limit.
U	The analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.
B	This analyte was detected in the method blank.
E	The sample concentration is above the linear calibrated range of the analysis.
ND	The analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.
MDL	The adjusted method detection limit.
LCS(D)	Laboratory Control Sample (Duplicate).
MS(D)	Matrix Spike (Duplicate).
DUP	Sample Duplicate.
RPD	Relative Percent Difference.

2092711 ~~2092036~~ 20-OLIN ENV

cument
d accurately.

2092711
~~2092036~~

Pace Analytical®
www.pacelabs.com 2 coolers Sent via

76

Page: 1 of 1

1147721

Section A Required Client Information:

Company: MACTEC	
Address: 3200 Town Pt Dr NW ste 100 Kennesaw, GA 30144	
Email To: cdraper@mactec.com	
Phone: 7704213400 Fax: 7704213486	
Requested Due Date/TAT: std	

Section B Required Project Information:

Report To: karoberts@olin.com	
Copy To: mbarker@mactec.com; kjwatson@mactec.com	
Purchase Order No.:	
Project Name: Olin McIntosh OU2	
Project Number: 07090035 2009.06	

Invoice Information:

Attention: Dennis Turner	
Company Name: Olin Corporation	
Address: 3855 N Ocoee St Cleveland TN	
Pace Quote Reference:	
Pace Project Manager: Cindy Olavesen	
Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☒ OTHER CERCLA

Site Location STATE: AL

Section D Required Client Information

Matrix Codes (MATRIX / CODE)

Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
~~Tissue~~ RR	~~TS~~
Other	OT

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

OT ~~TS~~ = sediment

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Y/N	Analysis Test: T Hg	% M	Density	TSS	~~Grain Size~~ RR	TOC	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	OU2B-SED-ST13-02/09	OT	C	2/18/09	1515				2	X								X	X	X	X	X	X		206732314
2	OU2B-SED-ST15-02/09	OT	C	2/18/09	1553				5	X								X	X	X	X	X	X		23
3	OU2B-SED-ST19-02/09	OT	C	2/19/09	1024				4	X								X	X	X	X	X	X		23
4	OU2B-SED-ST23-02/09	OT	C	2/19/09	1040				4	X								X	X	X	X	X	X		23
5	OU2B-SED-ST26-02/09	OT	C	2/19/09	1055				5	X								X	X	X	X	X	X		23
6	OU2B-SED-ST24-02/09	OT	C	2/19/09	1130				5	X								X	X	X	X	X	X		239
7	OU2B-SED-ST28-02/09	OT	C	2/19/09	1155				5	X								X	X	X	X	X	X		240
8	OU2B-SED-ST27-02/09	OT	C	2/19/09	1005				5	X								X	X	X	X	X	X		241
9	OU2B-SED-ST17-02/09	OT	C	2/19/09	0855				2	X								X	X	X	X	X	X		242
10	OU2B-SED-ST	OT	C															X	X	X	X	X	X		
11	~~OU2B-SED-ST~~	~~OT~~	C															X	X	X	X	X	X		
12	~~OU2B-SED-ST~~	~~OT~~	C															X	X	X	X	X	X		

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
analyze, as sample size permits, in the following order: T Hg, % M, density, TSS, ~~Grain Size~~ RR, TOC	MelaRRoy / MACTEC	2/23/09	1430				
	FedEx	2-25-09	1000	MJ Nadell	2-25-09	1000	4.8 4.4 X X X

- matrix code for all samples = OT for sediment

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: RReece

SIGNATURE of SAMPLER: RReece

DATE Signed (MM/DD/YY): 2/23/09

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
4.8 4.4	X	X	X

Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

Pace Analytical
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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

2 Coolers Sent via FedEx 734088620265 + 734088620276

Page: 1 of 1

1147721

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: MACTEC	Report To: kdroberts@olin.com	Attention: Dennis Turner
Address: 3200 Town Pt Dr NW Ste 100	Copy To: mbunker@mactec.com	Company Name: Olin Corporation
Kennesaw, GA 30144	kpwatson@mactec.com	Address: 3855 N Ocoee St Cleveland TN
Email To: cdraper@mactec.com	Purchase Order No.:	Pace Quote Reference:
Phone: 770 421 3400 Fax: 770 421 3486	Project Name: Olin McIntosh OU2	Pace Project Manager: Cindy Olavesen
Requested Due Date/TAT: std	Project Number: 4107090035 2009.06	Pace Profile #:

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☒ OTHER CERCLA

Site Location STATE: AL

Requested Analysis Filtered (Y/N)

Section D Required Client Information

Matrix Codes — MATRIX / CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; ~~Tissue TS~~; Other OT

SAMPLE ID (A-Z, 0-9 / ,) Sample IDs MUST BE UNIQUE

OT ~~TS~~ = sediment

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test ↓	T Hg	% M	Density	TSS	Grain Size	TOC	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	OU2B-SED-ST13-02/09	OT	C	2/19/09	1515				2	X								X	X	X	X	X	X	
2	OU2B-SED-ST15-02/09	OT	C	2/18/09	1553				5	X								X	X	X	X	X	X	
3	OU2B-SED-ST19-02/09	OT	C	2/19/09	1024				4	X								X	X	X	X	X	X	
4	OU2B-SED-ST23-02/09	OT	C	2/19/09	1046				4	X								X	X	X	X	X	X	
5	OU2B-SED-ST26-02/09	OT	C	2/19/09	1055				5	X								X	X	X	X	X	X	
6	OU2B-SED-ST24-02/09	OT	C	2/19/09	1130				5	X								X	X	X	X	X	X	
7	OU2B-SED-ST28-02/09	OT	C	2/19/09	1155				5	X								X	X	X	X	X	X	
8	OU2B-SED-ST27-02/09	OT	C	2/19/09	1005				5	X								X	X	X	X	X	X	
9	~~OU2B-SED-ST17-02/09~~	OT	C	2/19/09	0855				2	X								X	X	X	X	X	X	OU2B-SED-ST30-02/09
10	OU2B-SED-ST	OT	C															X	X	X	X	X	X	
11	~~OU2B-SED-ST~~	OT	C															X	X	X	X	X	X	
12	OU2B-SED-ST	OT	C															X	X	X	X	X	X	

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Analyze, as sample size permits, in the following order: T Hg, % M, density, TSS, ~~Grain Size~~, TOC PR	Melissa Hogg / MACTEC	2/23/09	1430				

- matrix code for all samples = OT for sediment

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: RReece

SIGNATURE of SAMPLER: RReece

DATE Signed (MM/DD/YY): 2/23/09

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

Cindy Olavesen - RE: Olin McInosh samples - change to coc

From: "Reece, Rani" <RMREECE@mactec.com>
To: "Cindy Olavesen" <Cindy.Olavesen@pacelabs.com>
Date: 3/2/2009 3:02 PM
Subject: RE: Olin McInosh samples - change to coc
CC: "Watson, Kate" <KPWATSON@mactec.com>

Again my apologies for the confusion. Please disregard the previous request. You will find attached the corrected COC. The samples labeled OU2B-SED-ST17-02/09 are to be changed to OU2B-SED-ST30-02/09.

Thanks, Rani

From: Cindy Olavesen [mailto:Cindy.Olavesen@pacelabs.com]
Sent: Monday, March 02, 2009 3:05 PM
To: Reece, Rani
Subject: RE: Olin McInosh samples - change to coc

OK

If you have not registered for PacePort, Pace's on line report and EDD generation system, please contact your Project Manager or Sales Representative for details.

Thank you for using Pace Analytical Services for your analytical needs!

Cindy Olavesen
Pace-New Orleans
504-305-3626-Direct Line
504-469-0555- Fax

Karen Brown-504-305-3615
karen.brown@pacelabs.com

Randy Shackelford - 504-305-3616
william.shackelford@pacelabs.com

Gina SteMaria
regina.stemarie@pacelabs.com

>>> "Reece, Rani" <RMREECE@mactec.com> 03/02/09 1:59 PM >>>
Cindy,

Please wait to carry out the requested change. I am verifying the information one more time. I will get back to you in a few moments.

Pace Analytical Services, Inc.
1241 Bellevue Street, Suite 9
Green Bay, WI 54302
(920)469-2436

April 03, 2009

Cindy Olavesen
Pace Analytical New Orleans
1000 Riverbend Blvd
Suite F
St. Rose, LA 70087

RE: Project 4014548
Project ID: 2092036 MACTEC

Dear Cindy Olavesen:

Enclosed are the analytical results for sample(s) received by the laboratory on March 03, 2009. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerly,

Steven Mleczko
steve.mleczko@pacelabs.com
(920)469-2436

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1241 Bellevue Street, Suite 9
Green Bay, WI 54302
(920)469-2436

Project: 2092712

Client: PACE ANALYTICAL SERVICES, INC.

Project ID: 2092036 MACTEC

40	Green Bay Volatiles Certification IDs
40	Green Bay Certification IDs
40	California Certification #: 06247CA
40	Florida (NELAP) Certification #: E87951
40	Illinois Certification #: 200051
40	Kentucky Certification #: 83
40	Louisiana Certification #: 04169
40	Minnesota Certification #: 055-999-334
40	New York Certification #: 11887
40	North Carolina Certification #: 503
40	North Dakota Certification #: R-200
40	South Carolina Certification #: 83006001
40	Wisconsin Certification #: 405132750
40	Wisconsin DATCP Certification #: 105-444
40	California Certification #: 06246CA
40	Florida (NELAP) Certification #: E87948
40	Illinois Certification #: 200050
40	Kentucky Certification #: 82
40	Louisiana Certification #: 04168
40	Minnesota Certification #: 055-999-334
40	New York Certification #: 11888
40	North Carolina Certification #: 503
40	North Dakota Certification #: R-150
40	South Carolina Certification #: 83006001
40	Wisconsin Certification #: 405132750
40	Wisconsin DATCP Certification #: 105-444

ACCREDITED IN ACCORDANCE WITH nelac

REPORT OF LABORATORY ANALYSIS

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Pace Analytical™

Sample Cross Reference

Pace Analytical Services, Inc.
1241 Bellevue Street, Suite 9
Green Bay, WI 54302
(920)469-2436

Project: 2092712

Client: PACE ANALYTICAL SERVICES, INC.

Project ID: 2092036 MACTEC

Client Sample ID	Lab ID	Matrix	Collection Date/Time	Received Date/Time
OU2B-SED-ST13-02/09	20673228019	SOIL	18-Feb-09 15:15	03-Mar-09 10:00
OU2B-SED-ST15-02/09	20673228020	SOIL	18-Feb-09 15:53	03-Mar-09 10:00
OU2B-SED-ST19-02/09	20673228021	SOIL	19-Feb-09 10:24	03-Mar-09 10:00
OU2B-SED-ST23-02/09	20673228022	SOIL	19-Feb-09 10:40	03-Mar-09 10:00
OU2B-SED-ST26-02/09	20673228023	SOIL	19-Feb-09 10:55	03-Mar-09 10:00
OU2B-SED-ST24-02/09	20673228024	SOIL	19-Feb-09 11:30	03-Mar-09 10:00
OU2B-SED-ST28-02/09	20673228025	SOIL	19-Feb-09 11:55	03-Mar-09 10:00
OU2B-SED-ST27-02/09	20673228026	SOIL	19-Feb-09 10:05	03-Mar-09 10:00
OU2B-SED-ST30-02/09	20673228027	SOIL	19-Feb-09 08:55	03-Mar-09 10:00

Pace Analytical Services, Inc.
1241 Bellevue Street, Suite 9
Green Bay, WI 54302
(920)469-2436

Client: PACE ANALYTICAL SERVICES, INC.

Client ID: OU2B-SED-ST13-02/09
Project ID: 2092036 MACTEC
Lab ID: 20673228019
Description: none

Project: 2092712
Site: none
Matrix: Soil
Collected: 18-Feb-09

%Moisture: 1 not corrected
Received: 18-Feb-09

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis	Limit
Mean Total Organic Carb	EPA 9060 Mod	20830	1		66000	mg/kg	10000	06-Mar-09	06-Mar-09 11:39 CCR40	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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1241 Bellevue Street, Suite 9
Green Bay, WI 54302
(920)469-2436

Sample Results

Client: PACE ANALYTICAL SERVICES, INC.

Client ID: OU2B-SED-ST15-02/09
Project ID: 2092036 MACTEC
Lab ID: 20673228020
Description: none

Project: 2092712
Site: none
Matrix: Soil
Collected: 18-Feb-09

%Moisture: 1 not corrected
Received: 18-Feb-09

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis	Limit
Mean Total Organic Carb	EPA 9060 Mod	20830	1		67900	mg/kg	16700	06-Mar-09	06-Mar-09 12:08 CCR40	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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1241 Bellevue Street, Suite 9
Green Bay, WI 54302
(920)469-2436

Sample Results

Client: PACE ANALYTICAL SERVICES, INC.

Client ID: OU2B-SED-ST19-02/09
Project ID: 2092036 MACTEC
Lab ID: 20673228021
Description: none

Project: 2092712
Site: none
Matrix: Soil
Collected: 19-Feb-09

%Moisture: 1 not corrected
Received: 19-Feb-09

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis	Limit
Mean Total Organic Carb	EPA 9060 Mod	20830	1		66300	mg/kg	13300	06-Mar-09	06-Mar-09 12:21 CCR40	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Green Bay, WI 54302
(920)469-2436

Sample Results

Client: PACE ANALYTICAL SERVICES, INC.

Client ID: OU2B-SED-ST23-02/09
Project ID: 2092036 MACTEC
Lab ID: 20673228022
Description: none

Project: 2092712
Site: none
Matrix: Soil
Collected: 19-Feb-09

%Moisture: 1 not corrected
Received: 19-Feb-09

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis	Limit
Mean Total Organic Carb	EPA 9060 Mod	20830	1		147000	mg/kg	22200	06-Mar-09	06-Mar-09 13:21 CCR40	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Pace Analytical Services, Inc.
1241 Bellevue Street, Suite 9
Green Bay, WI 54302
(920)469-2436

Client: PACE ANALYTICAL SERVICES, INC.

Client ID: OU2B-SED-ST26-02/09
Project: 2092712
Project ID: 2092036 MACTEC
Site: none
Lab ID: 20673228023
Matrix: Soil
%Moisture: 1 not corrected
Description: none
Collected: 19-Feb-09
Received: 19-Feb-09

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis	Limit
Mean Total Organic Carb	EPA 9060 Mod	20830	1		71300	mg/kg	16700	06-Mar-09	06-Mar-09 13:32 CCR40	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Pace Analytical™

Pace Analytical Services, Inc.
1241 Bellevue Street, Suite 9
Green Bay, WI 54302
(920)469-2436

Sample Results

Client: PACE ANALYTICAL SERVICES, INC.

Client ID: OU2B-SED-ST24-02/09
Project ID: 2092036 MACTEC
Lab ID: 20673228024
Description: none

Project: 2092712
Site: none
Matrix: Soil
Collected: 19-Feb-09

%Moisture: 1 not corrected
Received: 19-Feb-09

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis	Limit
Mean Total Organic Carb	EPA 9060 Mod	20830	1		66500	mg/kg	14300	06-Mar-09	06-Mar-09 13:45 CCR40	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Pace Analytical Services, Inc.
1241 Bellevue Street, Suite 9
Green Bay, WI 54302
(920)469-2436

Client: PACE ANALYTICAL SERVICES, INC.

Client ID: OU2B-SED-ST28-02/09
Project ID: 2092036 MACTEC
Lab ID: 20673228025
Description: none

Project: 2092712
Site: none
Matrix: Soil
Collected: 19-Feb-09

%Moisture: 1 not corrected
Received: 19-Feb-09

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis	Limit
Mean Total Organic Carb	EPA 9060 Mod	20830	1		239000	mg/kg	33300	06-Mar-09	06-Mar-09 14:03 CCR40	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Pace Analytical Services, Inc.
1241 Bellevue Street, Suite 9
Green Bay, WI 54302
(920)469-2436

Client: PACE ANALYTICAL SERVICES, INC.

Client ID: OU2B-SED-ST27-02/09
Project ID: 2092036 MACTEC
Lab ID: 20673228026
Description: none

Project: 2092712
Site: none
Matrix: Soil
Collected: 19-Feb-09

%Moisture: 1 not corrected
Received: 19-Feb-09

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis	Limit
Mean Total Organic Carb	EPA 9060 Mod	20830	1		54800	mg/kg	11800	06-Mar-09	06-Mar-09 14:23 CCR40	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Pace Analytical Services, Inc.
1241 Bellevue Street, Suite 9
Green Bay, WI 54302
(920)469-2436

Client: PACE ANALYTICAL SERVICES, INC.

Client ID: OU2B-SED-ST30-02/09
Project ID: 2092036 MACTEC
Lab ID: 20673228027
Description: none

Project: 2092712
Site: none
Matrix: Soil
Collected: 19-Feb-09

%Moisture: 1 not corrected
Received: 19-Feb-09

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis	Limit
Mean Total Organic Carb	EPA 9060 Mod	20830	1		72400	mg/kg	20000	06-Mar-09	06-Mar-09 14:46 CCR40	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Pace Analytical Services, Inc.
1241 Bellevue Street, Suite 9
Green Bay, WI 54302
(920)469-2436

Project: 2092712

Parameter	Batch	Blank	ARL	Units	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	RPD	QC Limits LCS	QC Limits MS/MSD	Max RPD	Qu
Mean Total Organ	20830	ND	250.	mg/kg	1000	1090	109	13300	ND	26000	36000	119	194 *	32 *	80-120	50-150	30	
Mean Total Organ	20830			mg/kg				13300	ND	47300	69000	174 *	202 *	37 *		50-150	30	

*** denotes recovery outside of QC limits.**
ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MS/MSD RPD is calculated via SW-846 rules on the basis of spiked sample concentrations rather than spike recoveries.

4/3/2009 16:01:31

Pace Analytical Services, Inc.
1241 Bellevue Street, Suite 9
Green Bay, WI 54302
(920)469-2436

Project: 2092712

Value	Description
J	This estimated value for the analyte is below the adjusted reporting limit but above the instrument reporting limit.
U	The analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.
B	This analyte was detected in the method blank.
E	The sample concentration is above the linear calibrated range of the analysis.
ND	The analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.
MDL	The adjusted method detection limit.
LCS(D)	Laboratory Control Sample (Duplicate).
MS(D)	Matrix Spike (Duplicate).
DUP	Sample Duplicate.
RPD	Relative Percent Difference.

2092112 ~~2092036~~ 20-OLIN ENV

2092112
~~2092036~~
6

Pace Analytical® www.pacelabs.com 2 coolers Sent via

cument
d accurately.

76

Page: 1 of 1

1147721

Section A Required Client Information:

Company:	MACTEC
Address:	3200 Town Pt Dr NW Ste 100 Kennesaw, GA 30144
Email To:	cdraper@mactec.com
Phone: 7704213400	Fax: 7704213486
Requested Due Date/TAT:	std

Section B Required Project Information:

Report To:	kdroberts@olin.com
Copy To:	mbarker@mactec.com; kpwatson@mactec.com
Purchase Order No.:	
Project Name:	Olin McIntosh OU2
Project Number:	0107090035 2009.06

Invoice Information:

Attention:	Dennis Turner
Company Name:	Olin Corporation
Address:	3855 N Ocoee St Cleveland TN
Pace Quote Reference:	
Pace Project Manager:	Cindy Olavesen
Pace Profile #:	

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☒ OTHER CERCLA

Site Location STATE: AL

Section D Required Client Information

Matrix Codes — MATRIX / CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; ~~Tissue TS~~; Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

OT ~~TS~~ = sediment

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N: T Hg	% M	Density	TSS	~~Grain Size~~ RR	TOC	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	OU2B-SED-ST13-02/09	OT	C	2/18/09	1515				2	X								X	X	X	X	X	X	254	206732341
2	OU2B-SED-ST15-02/09	OT	C	2/18/09	1553				5	X								X	X	X	X	X	X	255	234/246
3	OU2B-SED-ST19-02/09	OT	C	2/19/09	1024				4	X								X	X	X	X	X	X	256	235/247
4	OU2B-SED-ST23-02/09	OT	C	2/19/09	1040				4	X								X	X	X	X	X	X	257	237/248
5	OU2B-SED-ST26-02/09	OT	C	2/19/09	1055				5	X								X	X	X	X	X	X	258	238/249
6	OU2B-SED-ST24-02/09	OT	C	2/19/09	1130				5	X								X	X	X	X	X	X	259	239/250
7	OU2B-SED-ST28-02/09	OT	C	2/19/09	1155				5	X								X	X	X	X	X	X	260	240/251
8	OU2B-SED-ST27-02/09	OT	C	2/19/09	1005				5	X								X	X	X	X	X	X	261	241/252
9	OU2B-SED-ST17-02/09	OT	C	2/19/09	0855				2	X								X	X	X	X	X	X	262	242/253
10	OU2B-SED-ST	OT	C															X	X	X	X	X	X		
11	OU2B-SED-ST	OT	C															X	X	X	X	X	X		
12	OU2B-SED-ST	OT	C															X	X	X	X	X	X		

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
Analyze, as sample size permits, in the following order: T Hg, % M, density, TSS, ~~Grain Size~~ RR, TOC	Mella Reece / MACTEC	2/23/09	1430				4-8 4.4	X	X	X
	Fed Ex	2-25-09	1000	MJ Mella	2-25-09	1000				

- matrix code for all samples = OT for sediment

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: RReece

SIGNATURE of SAMPLER: RReece DATE Signed (MM/DD/YY): 2/23/09

Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

2 coolers Sent via FedEx 734088620265 + 734088620276

Page: 1 of 1

1147721

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: MACTEC	Report To: Karoberts@olin.com	Attention: Dennis Turner
Address: 3200 Town Pt Dr NW Ste 100	Copy To: mbarker@mactec.com	Company Name: Olin Corporation
Kennesaw, GA 30144	kwatson@mactec.com	Address: 3855 N Ocoee St Cleveland TN
Email To: cdraper@mactec.com	Purchase Order No.:	Pace Quote Reference:
Phone: 770 421 3400 Fax: 770 421 3486	Project Name: Olin McIntosh OU2	Pace Project Manager: Cindy Olavesen
Requested Due Date/TAT: std	Project Number: 4107090035 2009.06	Pace Profile #:

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☒ OTHER CERCLA

Site Location STATE: AL

Section D Required Client Information

Matrix Codes — MATRIX / CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; ~~Tissue TS~~; Other OT

SAMPLE ID (A-Z, 0-9 / ,) Sample IDs MUST BE UNIQUE

OT ~~TS~~ = sediment

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	T Hg	% M	Density	TSS	~~Grain Size~~ PR	TOC	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	OU2B-SED-ST13-02/09	OT	C	2/19/09	1515				2	X								X	X	X	X	~~X~~	X		
2	OU2B-SED-ST15-02/09	OT	C	2/19/09	1553				5	X								X	X	X	X	~~X~~	X		
3	OU2B-SED-ST19-02/09	OT	C	2/19/09	1024				4	X								X	X	X	X	~~X~~	X		
4	OU2B-SED-ST23-02/09	OT	C	2/19/09	1046				4	X								X	X	X	X	~~X~~	X		
5	OU2B-SED-ST26-02/09	OT	C	2/19/09	1055				5	X								X	X	X	X	~~X~~	X		
6	OU2B-SED-ST24-02/09	OT	C	2/19/09	1130				5	X								X	X	X	X	~~X~~	X		
7	OU2B-SED-ST28-02/09	OT	C	2/19/09	1155				5	X								X	X	X	X	~~X~~	X		
8	OU2B-SED-ST27-02/09	OT	C	2/19/09	1005				5	X								X	X	X	X	~~X~~	X		
9	~~OU2B-SED-ST17-02/09~~	OT	C	2/19/09	0855				2	X								X	X	X	X	~~X~~	X		OU2B-SED-ST30-02/09
10	OU2B-SED-ST	OT	C															X	X	X	X	~~X~~	X		
11	OU2B-SED-ST	OT	C															X	X	X	X	~~X~~	X		
12	OU2B-SED-ST	OT	C															X	X	X	X	~~X~~	X		

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Analyze, as sample size permits, in the following order: T Hg, % M, density, TSS, ~~Grain Size~~ PR, TOC	Melissa Hogg / MACTEC	2/23/09	1430				

- matrix code for all samples = OT for sediment

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: RReece

SIGNATURE of SAMPLER: RReece

DATE Signed (MM/DD/YY): 2/23/09

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

Cindy Olavesen - RE: Olin McInosh samples - change to coc

From: "Reece, Rani" <RMREECE@mactec.com>
To: "Cindy Olavesen" <Cindy.Olavesen@pacelabs.com>
Date: 3/2/2009 3:02 PM
Subject: RE: Olin McInosh samples - change to coc
CC: "Watson, Kate" <KPWATSON@mactec.com>

Again my apologies for the confusion. Please disregard the previous request. You will find attached the corrected COC. The samples labeled OU2B-SED-ST17-02/09 are to be changed to OU2B-SED-ST30-02/09.

Thanks, Rani

From: Cindy Olavesen [mailto:Cindy.Olavesen@pacelabs.com]
Sent: Monday, March 02, 2009 3:05 PM
To: Reece, Rani
Subject: RE: Olin McInosh samples - change to coc

OK

If you have not registered for PacePort, Pace's on line report and EDD generation system, please contact your Project Manager or Sales Representative for details.

Thank you for using Pace Analytical Services for your analytical needs!

Cindy Olavesen
Pace-New Orleans
504-305-3626-Direct Line
504-469-0555- Fax

Karen Brown-504-305-3615
karen.brown@pacelabs.com

Randy Shackelford - 504-305-3616
william.shackelford@pacelabs.com

Gina SteMaria
regina.stemarie@pacelabs.com

>>> "Reece, Rani" <RMREECE@mactec.com> 03/02/09 1:59 PM >>>
Cindy,

Please wait to carry out the requested change. I am verifying the information one more time. I will get back to you in a few moments.

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

March 17, 2009

Cynthia Draper
Mactec Eng & Consulting
3200 Townpoint Dr. NW
Suite 100
Kennesaw, GA 30144

RE: Project 2092036
Project ID: OLIN MCINTOSH OU2

Dear Cynthia Draper:

Enclosed are the analytical results for sample(s) received by the laboratory on February 25, 2009. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerly,

Cindy Olavesen

Cindy Olavesen
cindy.olavesen@pacelabs.com

ACCREDITED IN ACCORDANCE WITH nelac

REPORT OF LABORATORY ANALYSIS

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Pace Analytical™

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Laboratory Certifications

Project: 2092036

Client: Olin Enviromental Management

Project ID: OLIN MCINTOSH OU2

U.S. Dept. of Agriculture Foreign Soil Import S-47270
Pennsylviania Dept. of Env Protection (NELAC) 68-04202
Texas Commission on Env. Quality (NELAC) T104704405-08-TX
Kansas Department of Health and Environment (NELAC) E-10266
Florida Department of Health (NELAC) E87595
Louisiana Dept. of Health and Hospitals (NELAC) LA080013
Louisiana Dept. of Environmental Quality (NELAC/LELAP) 02006

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REPORT OF LABORATORY ANALYSIS

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Pace Analytical™

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Sample Cross Reference

Project: 2092036

Client: Olin Enviromental Management

Project ID: OLIN MCINTOSH OU2

Client Sample ID	Lab ID	Matrix	Collection Date/Time	Received Date/Time
OU2B-SED-ST13-02/09	20673228	Soil	18-Feb-09 15:15	25-Feb-09 10:00
OU2B-SED-ST15-02/09	20673234	Soil	18-Feb-09 15:53	25-Feb-09 10:00
OU2B-SED-ST19-02/09	20673235	Soil	19-Feb-09 10:24	25-Feb-09 10:00
OU2B-SED-ST23-02/09	20673237	Soil	19-Feb-09 10:40	25-Feb-09 10:00
OU2B-SED-ST26-02/09	20673238	Soil	19-Feb-09 10:55	25-Feb-09 10:00
OU2B-SED-ST24-02/09	20673239	Soil	19-Feb-09 11:30	25-Feb-09 10:00
OU2B-SED-ST28-02/09	20673240	Soil	19-Feb-09 11:55	25-Feb-09 10:00
OU2B-SED-ST27-02/09	20673241	Soil	19-Feb-09 10:05	25-Feb-09 10:00
OU2B-SED-ST30-02/09	20673242	Soil	19-Feb-09 08:55	25-Feb-09 10:00

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Project: 2092036

Sample Receipt Condition:

All samples were received in accordance with EPA protocol.

Holding Times:

All holding times were met.

Blanks:

All blank results were below reporting limits.

Laboratory Control Samples:

All LCS recoveries were within QC limits.

Matrix Spikes and Duplicates:

All MS/MSD recoveries or duplicate RPDs were within QC limits.

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Project: 2092036

Analytical Method	Batch	Sample used for QC
EPA 7471	114867	Batch sample from another client
% Moisture	115034	Project sample OU2B-SED-ST13-02/09
SM 2710F-Mod	114777	Project sample OU2B-SED-ST13-02/09

For the sample used as the original for the DUP or MS/MSD for the batch:

Project sample means a sample from this project was used.
Client sample means a sample from the same client but in a different project was used.
Batch sample means a sample from the a different client was used.

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Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SED-ST13-02/09
Project: 2092036
Project ID: OLIN MCINTOSH OU2
Site: None
Lab ID: 20673228
Matrix: Soil
%Moisture: 94.4 Corrected
Description: None
Collected: 18-Feb-09
Received: 25-Feb-09

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis	Limit
Mercury	EPA 7471	114867	10	D1	39.4	mg/kg	3.58	03-Mar-09	03-Mar-09 13:15 MHB1	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SED-ST15-02/09
Project: 2092036
Project ID: OLIN MCINTOSH OU2
Site: None
Lab ID: 20673234
Matrix: Soil
%Moisture: 87.7 Corrected
Description: None
Collected: 18-Feb-09
Received: 25-Feb-09

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis	Limit
Mercury	EPA 7471	114867	10	D1	15.9	mg/kg	1.36	03-Mar-09	03-Mar-09 13:17 MHB1	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SED-ST19-02/09
Project: 2092036
Project ID: OLIN MCINTOSH OU2
Site: None
Lab ID: 20673235
Matrix: Soil
%Moisture: 87.9 Corrected
Description: None
Collected: 19-Feb-09
Received: 25-Feb-09

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis	Limit
Mercury	EPA 7471	114867	10	D1	16.7	mg/kg	1.46	03-Mar-09	03-Mar-09 13:19 MHB1	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Client: Olin Enviromental Management

Client ID: OU2B-SED-ST23-02/09
Project: 2092036
Project ID: OLIN MCINTOSH OU2
Site: None
Lab ID: 20673237
Matrix: Soil
%Moisture: 81.2 Corrected
Description: None
Collected: 19-Feb-09
Received: 25-Feb-09

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis	Limit
Mercury	EPA 7471	114867	10	D1	10.4	mg/kg	0.817	03-Mar-09	03-Mar-09 13:20 MHB1	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SED-ST26-02/09
Project: 2092036
Project ID: OLIN MCINTOSH OU2
Site: None
Lab ID: 20673238
Matrix: Soil
%Moisture: 84.6 Corrected
Description: None
Collected: 19-Feb-09
Received: 25-Feb-09

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis	Limit
Mercury	EPA 7471	114867	10	D1	25.2	mg/kg	1.30	03-Mar-09	03-Mar-09 13:22 MHB1	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SED-ST24-02/09
Project: 2092036
Project ID: OLIN MCINTOSH OU2
Site: None
Lab ID: 20673239
Matrix: Soil
%Moisture: 84.7 Corrected
Description: None
Collected: 19-Feb-09
Received: 25-Feb-09

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis	Limit
Mercury	EPA 7471	114867	10	D1	18.2	mg/kg	1.27	03-Mar-09	03-Mar-09 13:24 MHB1	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SED-ST28-02/09
Project: 2092036
Project ID: OLIN MCINTOSH OU2
Site: None
Lab ID: 20673240
Matrix: Soil
%Moisture: 90.4 Corrected
Description: None
Collected: 19-Feb-09
Received: 25-Feb-09

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis	Limit
Mercury	EPA 7471	114867	10	D1	11.9	mg/kg	2.09	03-Mar-09	03-Mar-09 13:26 MHB1	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SED-ST27-02/09
Project: 2092036
Project ID: OLIN MCINTOSH OU2
Site: None
Lab ID: 20673241
Matrix: Soil
%Moisture: 87.2 Corrected
Description: None
Collected: 19-Feb-09
Received: 25-Feb-09

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis	Limit
Mercury	EPA 7471	114867	10	D1	16.8	mg/kg	1.57	03-Mar-09	03-Mar-09 13:27 MHB1	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SED-ST30-02/09
Project: 2092036
Project ID: OLIN MCINTOSH OU2
Site: None
Lab ID: 20673242
Matrix: Soil
%Moisture: 95 Corrected
Description: None
Collected: 19-Feb-09
Received: 25-Feb-09

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis	Limit
Mercury	EPA 7471	114867	10	D1	26.0	mg/kg	3.16	03-Mar-09	03-Mar-09 13:29 MHB1	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Client: Olin Enviromental Management

Client ID: OU2B-SED-ST13-02/09
Project: 2092036
Project ID: OLIN MCINTOSH OU2
Site: None
Lab ID: 20673228
Matrix: Soil
%Moisture: 94.4 Not Corrected
Description: None
Collected: 18-Feb-09
Received: 25-Feb-09

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis	Limit
Density	SM 2710F-Mo	114777	1		1.00	g/cm3	0.500	26-Feb-09	26-Feb-09 10:45 SMS2	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SED-ST15-02/09
Project: 2092036
Project ID: OLIN MCINTOSH OU2
Site: None
Lab ID: 20673234
Matrix: Soil
%Moisture: 87.7 Not Corrected
Description: None
Collected: 18-Feb-09
Received: 25-Feb-09

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis	Limit
Density	SM 2710F-Mo	114777	1		1.00	g/cm3	0.500	26-Feb-09	26-Feb-09 10:45 SMS2	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SED-ST19-02/09
Project: 2092036
Project ID: OLIN MCINTOSH OU2
Site: None
Lab ID: 20673235
Matrix: Soil
%Moisture: 87.9 Not Corrected
Description: None
Collected: 19-Feb-09
Received: 25-Feb-09

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis	Limit
Density	SM 2710F-Mo	114777	1		1.00	g/cm3	0.500	26-Feb-09	26-Feb-09 10:45 SMS2	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Client: Olin Enviromental Management

Client ID: OU2B-SED-ST23-02/09
Project: 2092036
Project ID: OLIN MCINTOSH OU2
Site: None
Lab ID: 20673237
Matrix: Soil
%Moisture: 81.2 Not Corrected
Description: None
Collected: 19-Feb-09
Received: 25-Feb-09

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis	Limit
Density	SM 2710F-Mo	114777	1		1.00	g/cm3	0.500	26-Feb-09	26-Feb-09 10:45 SMS2	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SED-ST26-02/09
Project: 2092036
Project ID: OLIN MCINTOSH OU2
Site: None
Lab ID: 20673238
Matrix: Soil
%Moisture: 84.6 Not Corrected
Description: None
Collected: 19-Feb-09
Received: 25-Feb-09

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis	Limit
Density	SM 2710F-Mo	114777	1		1.00	g/cm3	0.500	26-Feb-09	26-Feb-09 10:45 SMS2	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Client: Olin Enviromental Management

Client ID: OU2B-SED-ST24-02/09
Project: 2092036
Project ID: OLIN MCINTOSH OU2
Site: None
Lab ID: 20673239
Matrix: Soil
%Moisture: 84.7 Not Corrected
Description: None
Collected: 19-Feb-09
Received: 25-Feb-09

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis	Limit
Density	SM 2710F-Mo	114777	1		1.00	g/cm3	0.500	26-Feb-09	26-Feb-09 10:45 SMS2	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SED-ST28-02/09
Project: 2092036
Project ID: OLIN MCINTOSH OU2
Site: None
Lab ID: 20673240
Matrix: Soil
%Moisture: 90.4 Not Corrected
Description: None
Collected: 19-Feb-09
Received: 25-Feb-09

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis	Limit
Density	SM 2710F-Mo	114777	1		1.00	g/cm3	0.500	26-Feb-09	26-Feb-09 10:45 SMS2	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Client: Olin Enviromental Management

Client ID: OU2B-SED-ST27-02/09
Project: 2092036
Project ID: OLIN MCINTOSH OU2
Site: None
Lab ID: 20673241
Matrix: Soil
%Moisture: 87.2 Not Corrected
Description: None
Collected: 19-Feb-09
Received: 25-Feb-09

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis	Limit
Density	SM 2710F-Mo	114777	1		0.998	g/cm3	0.500	26-Feb-09	26-Feb-09 10:45 SMS2	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SED-ST30-02/09
Project: 2092036
Project ID: OLIN MCINTOSH OU2
Site: None
Lab ID: 20673242
Matrix: Soil
%Moisture: 95 Not Corrected
Description: None
Collected: 19-Feb-09
Received: 25-Feb-09

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis	Limit
Density	SM 2710F-Mo	114777	1		0.999	g/cm3	0.500	26-Feb-09	26-Feb-09 10:45 SMS2	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Project: 2092036

Parameter	Batch	Blank	ARL	Units	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	RPD	QC Limits LCS	QC Limits MS/MSD	Max RPD	Qu
Mercury	114867	ND	0.0200	mg/kg	0.100	0.107	107	0.100	0.0886	0.189	0.193	101	104	2	80-120	75-125	20	

3/17/2009 16:56:32

*** denotes recovery outside of QC limits.**
ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MS/MSD RPD is calculated via SW-846 rules on the basis of spiked sample concentrations rather than spike recoveries.

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Project: 2092036

Parameter	Batch	Blank	ARL	Units	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	RPD	QC Limits LCS	QC Limits MS/MSD	Max RPD	Qu
Density	114777			g/cm3	1.00	0.998	100							0	97-103		20	

*** denotes recovery outside of QC limits.**
ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MS/MSD RPD is calculated via SW-846 rules on the basis of spiked sample concentrations rather than spike recoveries.

3/17/2009 16:56:34

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Project: 2092036

Value	Description
D1	The analysis was performed at a dilution due to the high analyte concentration.
J	This estimated value for the analyte is below the adjusted reporting limit but above the instrument reporting limit.
U	The analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.
B	This analyte was detected in the method blank.
E	The sample concentration is above the linear calibrated range of the analysis.
ND	The analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.
MDL	The adjusted method detection limit.
LCS(D)	Laboratory Control Sample (Duplicate).
MS(D)	Matrix Spike (Duplicate).
DUP	Sample Duplicate.
RPD	Relative Percent Difference.

2092036 20-OLIN ENV

Pace Analytical® www.pacelabs.com 2 coolers Sent via

cument d accurately.

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2092036

Page: 1 of 1

1147721

Section A Required Client Information:

Company:	MACTEC
Address:	3200 Town Pt Dr NW Ste 100 Kennesaw, GA 30144
Email To:	cdraper@mactec.com
Phone: 7704213400	Fax: 7704213486
Requested Due Date/TAT:	std

Section B Required Project Information:

Report To:	karoberts@olin.com
Copy To:	mbunker@mactec.com kpwatson@mactec.com
Purchase Order No.:	
Project Name:	Olin McIntosh OU2
Project Number:	0107090035 2009.06

Invoice Information:

Attention:	Dennis Turner
Company Name:	Olin Corporation
Address:	3855 N Ocoee St Cleveland TN
Pace Quote Reference:	
Pace Project Manager:	Cindy Olavesen
Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER

☐ UST ☐ RCRA ☒ OTHER CERCLA

Site Location STATE: AL

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes — MATRIX / CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; ~~Tissue TS~~ RR; Other OT

OT ~~TS~~ RR = sediment

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test ↓ Y/N	T Hg	% M	Density	TSS	~~Grain Size~~ RR	TOC	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	OU2B-SED-ST13-02/09	OT	C	2/19/09	1515				2	X									X	X	X	X	X	X		206732 34 245
2	OU2B-SED-ST15-02/09	OT	C	2/18/09	1553				5	X									X	X	X	X	X	X		234/246
3	OU2B-SED-ST19-02/09	OT	C	2/19/09	1024				4	X									X	X	X	X	X	X		235/247
4	OU2B-SED-ST23-02/09	OT	C	2/19/09	1046				4	X									X	X	X	X	X	X		237/248
5	OU2B-SED-ST26-02/09	OT	C	2/19/09	1055				5	X									X	X	X	X	X	X		238/249
6	OU2B-SED-ST24-02/09	OT	C	2/19/09	1130				5	X									X	X	X	X	X	X		239/250
7	OU2B-SED-ST28-02/09	OT	C	2/19/09	1155				5	X									X	X	X	X	X	X		240/251
8	OU2B-SED-ST27-02/09	OT	C	2/19/09	1005				5	X									X	X	X	X	X	X		241/252
9	OU2B-SED-ST17-02/09	OT	C	2/19/09	0855				2	X									X	X	X	X	X	X		242/253
10	OU2B-SED-ST	OT	C																							
11	OU2B-SED-ST	OT	C																							
12	OU2B-SED-ST	OT	C																							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Analyze, as sample size permits, in the following order: T Hg, % M, density, TSS, ~~Grain Size~~ RR, TOC	Melissa Hartz / MACTEC Fed Ex	2/23/09	1430							
		2-25-09	1000	MJ Mull	2-25-09	1000	4°C	X	X	X

- matrix code for all samples = OT for sediment

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: RReece

SIGNATURE of SAMPLER: Rreece

DATE Signed (MM/DD/YY): 2/23/09

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

Pace Analytical
www.pacelabs.com

2 coolers sent via FedEx 734088620265 + 734088620276

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

1147721

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: MACTEC	Report To: karoberts@olin.com	Attention: Dennis Turner
Address: 3200 Town Pt Dr NW Ste 100, Kennesaw GA 30144	Copy To: mbarker@mactec.com, kgwatson@mactec.com	Company Name: Olin Corporation
Email To: cdraper@mactec.com	Purchase Order No.:	Address: 3855 N Ocoee St Cleveland TN
Phone: 7704213400 Fax: 7704213486	Project Name: Olin McIntosh OU2	Pace Quote Reference:
Requested Due Date/TAT: std	Project Number: 4107090035 2009.06	Pace Project Manager: Cindy Olavesen
		Pace Profile #:

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☒ OTHER CERCLA

Site Location STATE: AL

Section D Required Client Information

Matrix Codes — MATRIX / CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; ~~Tissue TS~~ TS; Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

OT ~~SED~~ = sediment

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test ↓ Y/N	T Hg	% M	Density	TSS	~~Grain Size~~ PR	TOC	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	OU2B-SED-ST13-02/09	OT	C	3/18/09	1515				2	X								X	X	X	X	~~X~~ PR	X		
2	OU2B-SED-ST15-02/09	OT	C	3/18/09	1553				5	X								X	X	X	X	~~X~~ PR	X		
3	OU2B-SED-ST19-02/09	OT	C	3/19/09	1024				4	X								X	X	X	X	~~X~~ PR	X		
4	OU2B-SED-ST23-02/09	OT	C	3/19/09	1040				4	X								X	X	X	X	~~X~~ PR	X		
5	OU2B-SED-ST26-02/09	OT	C	3/19/09	1055				6	X								X	X	X	X	~~X~~ PR	X		
6	OU2B-SED-ST24-02/09	OT	C	3/19/09	1130				5	X								X	X	X	X	~~X~~ PR	X		
7	OU2B-SED-ST28-02/09	OT	C	3/19/09	1155				5	X								X	X	X	X	~~X~~ PR	X		
8	OU2B-SED-ST27-02/09	OT	C	3/19/09	1005				5	X								X	X	X	X	~~X~~ PR	X		
9	~~OU2B-SED-ST17-02/09~~ OU2B-SED-ST30-02/09	OT	C	3/19/09	0855				2	X								X	X	X	X	~~X~~ PR	X		OU2B-SED-ST30-02/09
10	OU2B-SED-ST	OT	C															X	X	X	X	~~X~~ PR	X		
11	OU2B-SED-ST	OT	C															X	X	X	X	~~X~~ PR	X		
12	OU2B-SED-ST	OT	C															X	X	X	X	~~X~~ PR	X		

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Analyze, as sample size permits, in the following order: T Hg, % M, density, TSS, ~~Grain Size~~ PR, TOC	Mella Ts Hg / MACTEC	2/23/09	1430				

- matrix code for all samples = OT for sediment

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: RReece

SIGNATURE of SAMPLER: RReece

DATE Signed (MM/DD/YY): 2/23/09

Temp In °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

Cindy Olavesen - RE: Olin McInosh samples - change to coc

From: "Reece, Rani" <RMREECE@mactec.com>
To: "Cindy Olavesen" <Cindy.Olavesen@pacelabs.com>
Date: 3/2/2009 3:02 PM
Subject: RE: Olin McInosh samples - change to coc
CC: "Watson, Kate" <KPWATSON@mactec.com>

Again my apologies for the confusion. Please disregard the previous request. You will find attached the corrected COC. The samples labeled OU2B-SED-ST17-02/09 are to be changed to OU2B-SED-ST30-02/09.

Thanks, Rani

From: Cindy Olavesen [mailto:Cindy.Olavesen@pacelabs.com]
Sent: Monday, March 02, 2009 3:05 PM
To: Reece, Rani
Subject: RE: Olin McInosh samples - change to coc

OK

If you have not registered for PacePort, Pace's on line report and EDD generation system, please contact your Project Manager or Sales Representative for details.

Thank you for using Pace Analytical Services for your analytical needs!

Cindy Olavesen
Pace-New Orleans
504-305-3626-Direct Line
504-469-0555- Fax

Karen Brown-504-305-3615
karen.brown@pacelabs.com

Randy Shackelford - 504-305-3616
william.shackelford@pacelabs.com

Gina SteMaria
regina.stemarie@pacelabs.com

>>> "Reece, Rani" <RMREECE@mactec.com> 03/02/09 1:59 PM >>>
Cindy,

Please wait to carry out the requested change. I am verifying the information one more time. I will get back to you in a few moments.

2092036 20-OLIN ENV

Pace Analytical

1000 Riverbend. Blvd., Suite F
St. Rose, LA 70087

Sample Condition

Courier: ☐ Pace Courier ☐ Hackbarth ☑ Fed X ☐ UPS ☐ DHL ☐ USPS ☐ Customer ☐ Other

Custody Seal on Cooler/Box Present: [see COC] **Custody Seals Intact:** ☐Yes ☐No

Therometer Used: ☑ Therm Fisher IR 1 ☐ Therm Fisher IR 2

Type of Ice: (Wet) Blue None

Samples on Ice: [see COC]

Cooler Temperature: [see COC]

Temp should be above freezing to 6°C

Date and initials of person examining contents: 2-25-09

Temp must be measured from Temperature blank when present

				Comments:
Temperature Blank Present"?	☑Yes	☐No	☐N/A	1
Chain of Custody Present:	☑Yes	☐No	☐N/A	2
Chain of Custody Complete:	☑Yes	☐No	☐N/A	3
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	4
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	5
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	6
Sufficient Volume:	☑Yes	☐No	☐N/A	7
Correct Containers Used:	☑Yes	☐No	☐N/A	8
Filtered vol. Rec. for Diss. tests	☐Yes	☐No	☑N/A	9
Sample Labels match COC:	☑Yes	☐No	☐N/A	10
All containers received within manafacture's precautionary and/or expiration dates.	☑Yes	☐No	☐N/A	11
All containers needing preservation have been checked (except VOA, coliform, & O&G).	☐Yes	☐No	☑N/A	12
All containers preservation checked found to be in compliance with EPA recommendation.	☐Yes	☐No	☑N/A	13 If No, was preserative added? ☐Yes ☐No If added record lot no.: HNO3 _____ H2SO4 _____
Samples checked for dechlorination:	☐Yes	☐No	☑N/A	14
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☑N/A	14
Trip Blank Present:	☐Yes	☐No	☑N/A	16
Trip Blank Custody Seals Present	☐Yes	☐No	☑N/A	17
Pace Trip Blank Lot # (If purchased): N/A				18

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

January 19, 2010

Keith Roberts
Olin Enviromental Management
3855 North Ocoee Street
Suite 200
Cleveland, TN 37312

RE: Project 20104039
Project ID: OLIN McINTOSH/6107090035

Dear Keith Roberts:

Enclosed are the analytical results for sample(s) received by the laboratory on January 15, 2010. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerly,

Cindy Olavesen

Cindy Olavesen
cindy.olavesen@pacelabs.com

ACCREDITED IN ACCORDANCE WITH nelac

REPORT OF LABORATORY ANALYSIS

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Laboratory Certifications

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Project: 20104039

Client: Olin Enviromental Management

Project ID: OLIN McINTOSH/6107090035

U.S. Dept. of Agriculture Foreign Soil Import S-47270

Pennsylviania Dept. of Env Protection (NELAC) 68-04202

Texas Commission on Env. Quality (NELAC) T104704405-08-TX

Kansas Department of Health and Environment (NELAC) E-10266

Florida Department of Health (NELAC) E87595

Louisiana Dept. of Health and Hospitals (NELAC) LA080013

Louisiana Dept. of Environmental Quality (NELAC/LELAP) 02006

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Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Project: 20104039

Sample Receipt Condition:

All samples were received in accordance with EPA protocol.

Holding Times:

All holding times were met.

Blanks:

All blank results were below reporting limits.

Laboratory Control Samples:

All LCS recoveries were within QC limits.

Matrix Spikes and Duplicates:

All MS/MSD recoveries or duplicate RPDs were within QC limits.

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Project: 20104039

Analytical Method	Batch	Sample used for QC
SM 2540D	132498	Project sample OU2B-SW-GATE1-011210
SM 2540C	132519	Project sample OU2B-SW-GATE1-011210
SM 2540D	132520	Batch sample from another client

For the sample used as the original for the DUP or MS/MSD for the batch:

Project sample means a sample from this project was used.
Client sample means a sample from the same client but in a different project was used.
Batch sample means a sample from the a different client was used.

Sample Results

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Client: Olin Enviromental Management

Client ID: OU2B-SW-GATE1-011210
Project: 20104039
Project ID: OLIN McINTOSH/6107090035
Site: None
Lab ID: 20755317
Matrix: Water
%Moisture: n/a
Description: None
Collected: 12-Jan-10
Received: 15-Jan-10

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Total Dissolved Solids	SM 2540C	132519	1	82.5		mg/L	4.00	16-Jan-10	16-Jan-10 09:50 JMA	
Total Suspended Solids	SM 2540D	132498	1	ND		mg/L	4.00	15-Jan-10	15-Jan-10 11:14 SMS2	

2 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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(504) 469-0333

Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SW-GATE2-011410
Project: 20104039
Project ID: OLIN McINTOSH/6107090035
Site: None
Lab ID: 20755319
Matrix: Water
%Moisture: n/a
Description: None
Collected: 14-Jan-10
Received: 15-Jan-10

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Limit
Total Dissolved Solids	SM 2540C	132519	1	70.0		mg/L	4.00	16-Jan-10	16-Jan-10 09:51	JMA	
Total Suspended Solids	SM 2540D	132498	1	ND		mg/L	4.00	15-Jan-10	15-Jan-10 11:19	SMS2	

2 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Pace Analytical™

Inorganics Quality Control

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Project: 20104039

Parameter	Batch	Blank	Units	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	RPD	QC Limits LCS	QC Limits MS/MSD	Max RPD	Qu
Total Suspended Solid	132498	< 4.00	mg/L	100.	88.0	88							0	80-120		20	
Total Dissolved Solids	132519	< 4.00	mg/L	100.	92.0	92							13	80-120		20	
Total Suspended Solid	132520	< 4.00	mg/L	100.	98.5	99							0	80-120		20	

*** denotes recovery outside of QC limits.**
ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MS/MSD RPD is calculated via SW-846 rules on the basis of spiked sample concentrations rather than spike recoveries.

1/19/2010 13:48:02

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Project: 20104039

Value	Description
J	This estimated value for the analyte is below the adjusted reporting limit but above the instrument reporting limit.
U	The analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.
B	This analyte was detected in the method blank.
E	The sample concentration is above the linear calibrated range of the analysis.
ND	The analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.
MDL	The adjusted method detection limit.
LCS(D)	Laboratory Control Sample (Duplicate).
MS(D)	Matrix Spike (Duplicate).
DUP	Sample Duplicate.
RPD	Relative Percent Difference.

PA 20104039 20_OLIN_ENV

Pace Analytical
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Chain-of-Custody / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

20104039

Page: 1 of 1

1267889

Section A Required Client Information:

Company: Olin / MACTEC Ste 100	Report To: Kdroberts@olin.com	Attention: Dennis Turner
Address: 3200 Town Point Dr NW Kennesaw, GA 30144	Copy To: hefogell@mactec.com	Company Name: Olin Corp.
Email To: cedraper@mactec.com	Purchase Order No.:	Address: 3855 N Ocoee St. Ste 260
Phone: 770-421-3480 Fax: 770-421-3486	Project Name: Olin McIntosh	Pace Quote Reference: Cleveland, TN
Requested Due Date/TAT: Standard	Project Number: 6107090035	Pace Project Manager: ~~Brenda LaSorsa~~ Amber Pace Profile #: Cindy Olavesen

Section B Required Project Information:

Section C Invoice Information:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER

☐ UST ☐ RCRA ☒ OTHER _____

Site Location STATE: AL

Section D Required Client Information

Matrix Codes MATRIX / CODE

Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Tissue	TS
Other	OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N: TSS	TDS	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	OU2B-SW-GATE1-011210	WT	G			1/12/10	1035		2	X								X	X		20755317
2	OU2B-SW-TBR1-011210	WT	G			1/12/10	1245		2	X								X	X		318
3	OU2B-SW-GATE2-011410	WT	G			1/14/10	1015		2	X								X	X		319
4	OU2B-SW-TBR2-011410	WT	G			1/14/10	1315		2	X								X	X		320
5									(8)												
6																					
7																					
8																					
9																					
10																					
11																					
12																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Temp Blank Included	Mike Rodgers / MACTEC	1/14/10	1700							
	FedEx	1-15-10	0900	M Miller	1-15-10	0900	2.9	Y	Y	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: MRothenberg

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 1/14/10

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

20104039 20-OLIN ENV

Pace Analytical

1000 Riverbend. Blvd., Suite F
St. Rose, LA 70087

Sample Condition Upon Receipt

Project #: 20

Courier: ☐ Pace Courier ☐ Hackbarth ☑ Fed X ☐ UPS ☐ DHL ☐ USPS ☐ Customer ☐ Other

Custody Seal on Cooler/Box Present: [see COC] Custody Seals Intact: ☑Yes ☐No

Theromometer Used: ☐ Therm Fisher IR 1 ☐ Therm Fisher IR 2 ☑ Therm Fisher IR 3

Type of Ice: Wet Blue None Samples on Ice: [see COC]

Cooler Temperature: [see COC] Temp should be above freezing to 6°C

Date and Initials of person examining contents: 1-15-10

Temp must be measured from Temperature blank when present

		Comments:
Temperature Blank Present"?	☑Yes ☐No ☐N/A	1
Chain of Custody Present:	☑Yes ☐No ☐N/A	2
Chain of Custody Complete:	☑Yes ☐No ☐N/A	3
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	4
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	5
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	6
Sufficient Volume:	☑Yes ☐No ☐N/A	7
Correct Containers Used:	☑Yes ☐No ☐N/A	8
Filtered vol. Rec. for Diss. tests	☐Yes ☐No ☑N/A	9
Sample Labels match COC:	☑Yes ☐No ☐N/A	10
All containers received within manafacture's precautionary and/or expiration dates.	☑Yes ☐No ☐N/A	11
All containers needing preservation have been checked (except VOA, coliform, & O&G).	☐Yes ☐No ☑N/A	12
All containers preservation checked found to be in compliance with EPA recommendation.	☐Yes ☐No ☑N/A	13 If No, was preserative added? ☐Yes ☐No If added record lot no.: HNO3 _____ H2SO4 _____
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	14
Trip Blank Present:	☐Yes ☐No ☑N/A	16
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	17
Pace Trip Blank Lot # (if purchased): N/A		18

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

ALLC003rev.05, 12Jun2009 - mod

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

January 25, 2010

Keith Roberts
Olin Enviromental Management
3855 North Ocoee Street
Suite 200
Cleveland, TN 37312

RE: Project 20104125
Project ID: OLIN MCINTOSH/6107100035

Dear Keith Roberts:

Enclosed are the analytical results for sample(s) received by the laboratory on January 19, 2010. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerly,

Cindy Olavesen

Cindy Olavesen
cindy.olavesen@pacelabs.com

REPORT OF LABORATORY ANALYSIS

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Laboratory Certifications

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Project: 20104125

Client: Olin Enviromental Management

Project ID: OLIN MCINTOSH/6107100035

U.S. Dept. of Agriculture Foreign Soil Import S-47270

Pennsylviania Dept. of Env Protection (NELAC) 68-04202

Texas Commission on Env. Quality (NELAC) T104704405-08-TX

Kansas Department of Health and Environment (NELAC) E-10266

Florida Department of Health (NELAC) E87595

Louisiana Dept. of Health and Hospitals (NELAC) LA080013

Louisiana Dept. of Environmental Quality (NELAC/LELAP) 02006

ACCREDITED IN ACCORDANCE WITH nelac

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Project: 20104125

Sample Receipt Condition:

All samples were received in accordance with EPA protocol.

Holding Times:

All holding times were met.

Blanks:

All blank results were below reporting limits.

Laboratory Control Samples:

All LCS recoveries were within QC limits.

Matrix Spikes and Duplicates:

All MS/MSD recoveries or duplicate RPDs were within QC limits.

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St. Rose, LA 70087
(504) 469-0333

Project: 20104125

Analytical Method	Batch	Sample used for QC
SM 2540D	132642	Batch sample from another client
SM 2540C	132798	Project sample OU2B-SW-GATE3-011810

For the sample used as the original for the DUP or MS/MSD for the batch:

Project sample means a sample from this project was used.
Client sample means a sample from the same client but in a different project was used.
Batch sample means a sample from the a different client was used.

Pace Analytical™

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St. Rose, LA 70087
(504) 469-0333

Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SW-GATE3-011810
Project: 20104125
Project ID: OLIN MCINTOSH/6107100035
Site: None
Lab ID: 20755825
Matrix: Water
%Moisture: n/a
Description: None
Collected: 18-Jan-10
Received: 19-Jan-10

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Limit
Total Dissolved Solids	SM 2540C	132798	1	70.0		mg/L	4.00	22-Jan-10	22-Jan-10	15:31 JMA	
Total Suspended Solids	SM 2540D	132642	1	5.50		mg/L	4.00	20-Jan-10	20-Jan-10	12:11 JMA	

2 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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St. Rose, LA 70087
(504) 469-0333

Inorganics Quality Control

Project: 20104125

Parameter	Batch	Blank	Units	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	RPD	QC Limits LCS	QC Limits MS/MSD	Max RPD	Qu
Total Suspended Solid	132642	< 4.00	mg/L	100.	101.	101							12	80-120		20	
Total Dissolved Solids	132798	< 4.00	mg/L	100.	100.	100							0	80-120		20	

*** denotes recovery outside of QC limits.**
ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MS/MSD RPD is calculated via SW-846 rules on the basis of spiked sample concentrations rather than spike recoveries.

1/25/2010 23:18:09

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Project: 20104125

Value	Description
J	This estimated value for the analyte is below the adjusted reporting limit but above the instrument reporting limit.
U	The analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.
B	This analyte was detected in the method blank.
E	The sample concentration is above the linear calibrated range of the analysis.
ND	The analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.
MDL	The adjusted method detection limit.
LCS(D)	Laboratory Control Sample (Duplicate).
MS(D)	Matrix Spike (Duplicate).
DUP	Sample Duplicate.
RPD	Relative Percent Difference.

20104125 20-OLIN ENV

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

20104125

Page: 1 of 1

1192416

Section A Required Client Information:

Company:	Mactec
Address:	3200 Town Pt Dr NW Ste 100
	Kennesaw GA 30144
Email To:	cedraperemactec.com
Phone: 7704243400	Fax: 7704243486
Requested Due Date/TAT:	Standard

Section B Required Project Information:

Report To:	kdrobertse olin.com
Copy To:	
Purchase Order No.:	
Project Name:	Olin McIntosh
Project Number:	6107100035

Section C Invoice Information:

Attention:	D. Turner
Company Name:	Olin Corp.
Address:	Cleveland TN
Pace Quote Reference:	
Pace Project Manager:	Cindy Olavesen
Pace Profile #:	

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☒ OTHER CERCLA

Site Location STATE: AL

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes — MATRIX / CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	TSS	TDS	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	OU2B-SW-0003-011810	WT	G			1/18/10	1420		2	X									X	X		20255825
2	OU2B-SW-TBR3-011810	WT	G			1/18/10	1610		2	X									X	X		826
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
temp blank included	MACTEC	1/18/10	1745		1/19/10	1000	28 g g g

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: MRottenberg

SIGNATURE of SAMPLER: MRottenberg DATE Signed (MM/DD/YY): 1/18/10

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

20104125 20-OLIN ENV

Pace Analytical

1000 Riverbend. Blvd., Suite F
St. Rose, LA 70087

Sample Condition Upon Receipt

Project #: 20

Courier: ☐ Pace Courier ☐ Hackbarth ☑ Fed X ☐ UPS ☐ DHL ☐ USPS ☐ Customer ☐ Other

Custody Seal on Cooler/Box Present: [see COC] **Custody Seals Intact:** ☑Yes ☐No

Therometer Used: ☐ Therm Fisher IR 1 ☐ Therm Fisher IR 2 ☐ Therm Fisher IR 3

Type of Ice: (Wet) Blue None **Samples on Ice:** [see COC]

Cooler Temperature: [see COC] Temp should be above freezing to 6°C

Date and Initials of person examining contents: 1-20-10

Temp must be measured from Temperature blank when present

				Comments:
Temperature Blank Present"?	☑Yes	☐No	☐N/A	1
Chain of Custody Present:	☑Yes	☐No	☐N/A	2
Chain of Custody Complete:	☑Yes	☐No	☐N/A	3
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	4
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	5
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	6
Sufficient Volume:	☑Yes	☐No	☐N/A	7
Correct Containers Used:	☑Yes	☐No	☐N/A	8
Filtered vol. Rec. for Diss. tests	☐Yes	☐No	☑N/A	9
Sample Labels match COC:	☑Yes	☐No	☐N/A	10
All containers received within manafacture's precautionary and/or expiration dates.	☑Yes	☐No	☐N/A	11
All containers needing preservation have been checked (except VOA, coliform, & O&G).	☐Yes	☐No	☑N/A	12
All containers preservation checked found to be in compliance with EPA recommendation.	☐Yes	☐No	☑N/A	13 If No, was preserative added? ☐Yes ☐No If added record lot no.: HNO3 _____ H2SO4 _____
Samples checked for dechlorination:	☐Yes	☐No	☑N/A	14
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☑N/A	14
Trip Blank Present:	☐Yes	☐No	☑N/A	16
Trip Blank Custody Seals Present	☐Yes	☐No	☑N/A	17
Pace Trip Blank Lot # (if purchased): N/A				18

Client Notification/ Resolution:

Person Contacted: _____ **Date/Time:** _____

Comments/ Resolution: _____

ALLC003rev.05, 12Jun2009 - mod

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

January 19, 2010

Keith Roberts
Olin Enviromental Management
3855 North Ocoee Street
Suite 200
Cleveland, TN 37312

RE: Project 20104039
Project ID: OLIN McINTOSH/6107090035

Dear Keith Roberts:

Enclosed are the analytical results for sample(s) received by the laboratory on January 15, 2010. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerly,

Cindy Olavesen

Cindy Olavesen
cindy.olavesen@pacelabs.com

ACCREDITED IN ACCORDANCE WITH nelac

REPORT OF LABORATORY ANALYSIS

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Laboratory Certifications

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Project: 20104039

Client: Olin Enviromental Management

Project ID: OLIN McINTOSH/6107090035

U.S. Dept. of Agriculture Foreign Soil Import S-47270

Pennsylviania Dept. of Env Protection (NELAC) 68-04202

Texas Commission on Env. Quality (NELAC) T104704405-08-TX

Kansas Department of Health and Environment (NELAC) E-10266

Florida Department of Health (NELAC) E87595

Louisiana Dept. of Health and Hospitals (NELAC) LA080013

Louisiana Dept. of Environmental Quality (NELAC/LELAP) 02006

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REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Project: 20104039

Sample Receipt Condition:

All samples were received in accordance with EPA protocol.

Holding Times:

All holding times were met.

Blanks:

All blank results were below reporting limits.

Laboratory Control Samples:

All LCS recoveries were within QC limits.

Matrix Spikes and Duplicates:

All MS/MSD recoveries or duplicate RPDs were within QC limits.

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Project: 20104039

Analytical Method	Batch	Sample used for QC
SM 2540D	132498	Project sample OU2B-SW-GATE1-011210
SM 2540C	132519	Project sample OU2B-SW-GATE1-011210
SM 2540D	132520	Batch sample from another client

For the sample used as the original for the DUP or MS/MSD for the batch:

Project sample means a sample from this project was used.
Client sample means a sample from the same client but in a different project was used.
Batch sample means a sample from the a different client was used.

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St. Rose, LA 70087
(504) 469-0333

Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SW-GATE1-011210
Project: 20104039
Project ID: OLIN McINTOSH/6107090035
Site: None
Lab ID: 20755317
Matrix: Water
%Moisture: n/a
Description: None
Collected: 12-Jan-10
Received: 15-Jan-10

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Limit
Total Dissolved Solids	SM 2540C	132519	1	82.5		mg/L	4.00	16-Jan-10	16-Jan-10 09:50	JMA	
Total Suspended Solids	SM 2540D	132498	1	ND		mg/L	4.00	15-Jan-10	15-Jan-10 11:14	SMS2	

2 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Pace Analytical Services, Inc.
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St. Rose, LA 70087
(504) 469-0333

Client: Olin Enviromental Management

Client ID: OU2B-SW-GATE2-011410
Project: 20104039
Project ID: OLIN McINTOSH/6107090035
Site: None
Lab ID: 20755319
Matrix: Water
%Moisture: n/a
Description: None
Collected: 14-Jan-10
Received: 15-Jan-10

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Limit
Total Dissolved Solids	SM 2540C	132519	1	70.0		mg/L	4.00	16-Jan-10	16-Jan-10 09:51	JMA	
Total Suspended Solids	SM 2540D	132498	1	ND		mg/L	4.00	15-Jan-10	15-Jan-10 11:19	SMS2	

2 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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(504) 469-0333

Project: 20104039

Parameter	Batch	Blank	Units	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	RPD	QC Limits LCS	QC Limits MS/MSD	Max RPD	Qu
Total Suspended Solid	132498	< 4.00	mg/L	100.	88.0	88							0	80-120		20	
Total Dissolved Solids	132519	< 4.00	mg/L	100.	92.0	92							13	80-120		20	
Total Suspended Solid	132520	< 4.00	mg/L	100.	98.5	99							0	80-120		20	

*** denotes recovery outside of QC limits.**
ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MS/MSD RPD is calculated via SW-846 rules on the basis of spiked sample concentrations rather than spike recoveries.

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Project: 20104039

Value	Description
J	This estimated value for the analyte is below the adjusted reporting limit but above the instrument reporting limit.
U	The analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.
B	This analyte was detected in the method blank.
E	The sample concentration is above the linear calibrated range of the analysis.
ND	The analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.
MDL	The adjusted method detection limit.
LCS(D)	Laboratory Control Sample (Duplicate).
MS(D)	Matrix Spike (Duplicate).
DUP	Sample Duplicate.
RPD	Relative Percent Difference.

PA 20104039 20_OLIN_ENV

Pace Analytical
www.pacelabs.com

Chain-of-Custody / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

20104039

Page: 1 of 1

1267889

Section A Required Client Information:

Company: Olin / MACTEC Ste 100	Report To: Kdroberts@olin.com	Attention: Dennis Turner
Address: 3200 Town Point Dr NW Kennesaw, GA 30144	Copy To: hefogell@mactec.com	Company Name: Olin Corp.
Email To: cedraper@mactec.com	Purchase Order No.:	Address: 3855 N Ocoee St. Ste 260 Cleveland, TN
Phone: 770-421-3480 Fax: 770-421-3486	Project Name: Olin McIntosh	Pace Quote Reference:
Requested Due Date/TAT: Standard	Project Number: 6107090035	Pace Project Manager: ~~Brenda LaSorsa~~ Amber Pace Profile #: Cindy Olavesen

Section B Required Project Information:

Section C Invoice Information:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☒ OTHER _____

Site Location STATE: AL

Section D Required Client Information

Matrix Codes MATRIX / CODE

Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Tissue	TS
Other	OT

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N: TSS	TDS	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	OU2B-SW-GATE1-011210	WT	G			1/12/10	1035		2	X								X	X		20755317
2	OU2B-SW-TBR1-011210	WT	G			1/12/10	1245		2	X								X	X		318
3	OU2B-SW-GATE2-011410	WT	G			1/14/10	1015		2	X								X	X		319
4	OU2B-SW-TBR2-011410	WT	G			1/14/10	1315		2	X								X	X		320
5									(8)												
6																					
7																					
8																					
9																					
10																					
11																					
12																					

Page 6 of 10

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Temp Blank Included	Melissa Rodgers / MACTEC	1/14/10	1700							
	FedEx	1-15-10	0900	M Mell	1-15-10	0900	2.9	Y	Y	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: MRothenberg

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 1/14/10

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

20104039 20-OLIN ENV

Pace Analytical

1000 Riverbend. Blvd., Suite F
St. Rose, LA 70087

Sample Condition Upon Receipt

Project #: 20

Courier: ☐ Pace Courier ☐ Hackbarth ☑ Fed X ☐ UPS ☐ DHL ☐ USPS ☐ Customer ☐ Other

Custody Seal on Cooler/Box Present: [see COC] Custody Seals Intact: ☑Yes ☐No

Therometer Used: ☐ Therm Fisher IR 1 ☐ Therm Fisher IR 2 ☑ Therm Fisher IR 3

Type of Ice: Wet Blue None Samples on Ice: [see COC]

Cooler Temperature: [see COC] Temp should be above freezing to 6°C

Date and Initials of person examining contents: 1-15-10

Temp must be measured from Temperature blank when present

				Comments:
Temperature Blank Present"?	☑Yes	☐No	☐N/A	1
Chain of Custody Present:	☑Yes	☐No	☐N/A	2
Chain of Custody Complete:	☑Yes	☐No	☐N/A	3
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	4
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	5
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	6
Sufficient Volume:	☑Yes	☐No	☐N/A	7
Correct Containers Used:	☑Yes	☐No	☐N/A	8
Filtered vol. Rec. for Diss. tests	☐Yes	☐No	☑N/A	9
Sample Labels match COC:	☑Yes	☐No	☐N/A	10
All containers received within manafacture's precautionary and/or expiration dates.	☑Yes	☐No	☐N/A	11
All containers needing preservation have been checked (except VOA, coliform, & O&G).	☐Yes	☐No	☑N/A	12
All containers preservation checked found to be in compliance with EPA recommendation.	☐Yes	☐No	☑N/A	13 If No, was preserative added? ☐Yes ☐No If added record lot no.: HNO3 _____ H2SO4 _____
Samples checked for dechlorination:	☐Yes	☐No	☑N/A	14
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☑N/A	14
Trip Blank Present:	☐Yes	☐No	☑N/A	16
Trip Blank Custody Seals Present	☐Yes	☐No	☑N/A	17
Pace Trip Blank Lot # (if purchased): N/A				18

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

ALLC003rev.05, 12Jun2009 - mod

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

January 25, 2010

Keith Roberts
Olin Enviromental Management
3855 North Ocoee Street
Suite 200
Cleveland, TN 37312

RE: Project 20104125
Project ID: OLIN MCINTOSH/6107100035

Dear Keith Roberts:

Enclosed are the analytical results for sample(s) received by the laboratory on January 19, 2010. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerly,

Cindy Olavesen

Cindy Olavesen
cindy.olavesen@pacelabs.com

ACCREDITED IN ACCORDANCE WITH nelac

REPORT OF LABORATORY ANALYSIS

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Laboratory Certifications

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Project: 20104125

Client: Olin Enviromental Management

Project ID: OLIN MCINTOSH/6107100035

U.S. Dept. of Agriculture Foreign Soil Import S-47270

Pennsylviania Dept. of Env Protection (NELAC) 68-04202

Texas Commission on Env. Quality (NELAC) T104704405-08-TX

Kansas Department of Health and Environment (NELAC) E-10266

Florida Department of Health (NELAC) E87595

Louisiana Dept. of Health and Hospitals (NELAC) LA080013

Louisiana Dept. of Environmental Quality (NELAC/LELAP) 02006

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Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Project: 20104125

Sample Receipt Condition:

All samples were received in accordance with EPA protocol.

Holding Times:

All holding times were met.

Blanks:

All blank results were below reporting limits.

Laboratory Control Samples:

All LCS recoveries were within QC limits.

Matrix Spikes and Duplicates:

All MS/MSD recoveries or duplicate RPDs were within QC limits.

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Project: 20104125

Analytical Method	Batch	Sample used for QC
SM 2540D	132642	Batch sample from another client
SM 2540C	132798	Project sample OU2B-SW-GATE3-011810

For the sample used as the original for the DUP or MS/MSD for the batch:

Project sample means a sample from this project was used.
Client sample means a sample from the same client but in a different project was used.
Batch sample means a sample from the a different client was used.

Pace Analytical™

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SW-GATE3-011810
Project: 20104125
Project ID: OLIN MCINTOSH/6107100035
Site: None
Lab ID: 20755825
Matrix: Water
%Moisture: n/a
Description: None
Collected: 18-Jan-10
Received: 19-Jan-10

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Limit
Total Dissolved Solids	SM 2540C	132798	1	70.0		mg/L	4.00	22-Jan-10	22-Jan-10	15:31 JMA	
Total Suspended Solids	SM 2540D	132642	1	5.50		mg/L	4.00	20-Jan-10	20-Jan-10	12:11 JMA	

2 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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(504) 469-0333

Inorganics Quality Control

Project: 20104125

Parameter	Batch	Blank	Units	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	RPD	QC Limits LCS	QC Limits MS/MSD	Max RPD	Qu
Total Suspended Solid	132642	< 4.00	mg/L	100.	101.	101							12	80-120		20	
Total Dissolved Solids	132798	< 4.00	mg/L	100.	100.	100							0	80-120		20	

*** denotes recovery outside of QC limits.**
ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MS/MSD RPD is calculated via SW-846 rules on the basis of spiked sample concentrations rather than spike recoveries.

1/25/2010 23:18:09

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Project: 20104125

Value	Description
J	This estimated value for the analyte is below the adjusted reporting limit but above the instrument reporting limit.
U	The analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.
B	This analyte was detected in the method blank.
E	The sample concentration is above the linear calibrated range of the analysis.
ND	The analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.
MDL	The adjusted method detection limit.
LCS(D)	Laboratory Control Sample (Duplicate).
MS(D)	Matrix Spike (Duplicate).
DUP	Sample Duplicate.
RPD	Relative Percent Difference.

20104125 20-OLIN ENV

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

20104125

Page: 1 of 1

1192416

Section A Required Client Information:

Company: Mactec

Address: 3200 Town Pt Dr NW Ste 100
Kennesaw GA 30144

Email To: cedraperemactec.com

Phone: 7704243400 Fax: 7704213486

Requested Due Date/TAT: Standard

Section B Required Project Information:

Report To: kdrobertse@olin.com

Copy To:

Purchase Order No.:

Project Name: Olin McIntosh

Project Number: 6107100035

Section C Invoice Information:

Attention: D. Turner

Company Name: Olin Corp.

Address: Cleveland TN

Pace Quote Reference:

Pace Project Manager: Cindy Olavesen

Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☒ OTHER CERCLA

Site Location STATE: AL

Section D Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Matrix Codes — MATRIX / CODE

Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Tissue	TS
Other	OT

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Requested Analysis Filtered (Y/N) Y/N	Analysis Test: TSS	Analysis Test: TDS	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	OU2B-SW-0003-011810	WT	G			1/18/10	1420		2	X									X	X		20255825
2	OU2B-SW-TBR3-011810	WT	G			1/18/10	1610		2	X									X	X		826
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
temp blank included	MACTEC	1/18/10	1745		1/19/10	1000	28 g g g

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: M Rottenberg

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 1/18/10

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

20104125 20-OLIN ENV

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Sample Condition Upon Receipt

Project #: 20

Courier: ☐ Pace Courier ☐ Hackbarth ☑ Fed X ☐ UPS ☐ DHL ☐ USPS ☐ Customer ☐ Other

Custody Seal on Cooler/Box Present: [see COC] **Custody Seals Intact:** ☑Yes ☐No

Therometer Used: ☐ Therm Fisher IR 1 ☐ Therm Fisher IR 2 ☐ Therm Fisher IR 3

Type of Ice: (Wet) Blue None **Samples on Ice:** [see COC]

Cooler Temperature: [see COC] Temp should be above freezing to 6°C

Date and Initials of person examining contents: 1-20-10

Temp must be measured from Temperature blank when present

				Comments:
Temperature Blank Present"?	☑Yes	☐No	☐N/A	1
Chain of Custody Present:	☑Yes	☐No	☐N/A	2
Chain of Custody Complete:	☑Yes	☐No	☐N/A	3
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	4
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	5
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	6
Sufficient Volume:	☑Yes	☐No	☐N/A	7
Correct Containers Used:	☑Yes	☐No	☐N/A	8
Filtered vol. Rec. for Diss. tests	☐Yes	☐No	☑N/A	9
Sample Labels match COC:	☑Yes	☐No	☐N/A	10
All containers received within manafacture's precautionary and/or expiration dates.	☑Yes	☐No	☐N/A	11
All containers needing preservation have been checked (except VOA, coliform, & O&G).	☐Yes	☐No	☑N/A	12
All containers preservation checked found to be in compliance with EPA recommendation.	☐Yes	☐No	☑N/A	13 If No, was preserative added? ☐Yes ☐No If added record lot no.: HNO3 _____ H2SO4 _____
Samples checked for dechlorination:	☐Yes	☐No	☑N/A	14
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☑N/A	14
Trip Blank Present:	☐Yes	☐No	☑N/A	16
Trip Blank Custody Seals Present	☐Yes	☐No	☑N/A	17
Pace Trip Blank Lot # (if purchased): N/A				18

Client Notification/ Resolution:

Person Contacted: _____ **Date/Time:** _____

Comments/ Resolution: _____

ALLC003rev.05, 12Jun2009 - mod

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(504) 469-0333

January 26, 2009

Cynthia Draper
Mactec Eng & Consulting
3200 Townpoint Dr. NW
Suite 100
Kennesaw, GA 30144

RE: Project 2090899
Project ID: OLIN MCINTOSH/6109-09-003

Dear Cynthia Draper:

Enclosed are the analytical results for sample(s) received by the laboratory on January 22, 2009. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerly,

Cindy Olavesen

Cindy Olavesen
cindy.olavesen@pacelabs.com

REPORT OF LABORATORY ANALYSIS

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Laboratory Certifications

Project: 2090899

Client: Olin Enviromental Management

Project ID: OLIN MCINTOSH/6109-09-003

Louisiana Dept. of Environmental Quality (NELAC/LELAP) 02006
Louisiana Dept. of Health and Hospitals (NELAC) LA080013
Florida Department of Health (NELAC) E87595
Kansas Department of Health and Environment (NELAC) E-10266
Texas Commission on Env. Quality (NELAC) T104704405-08-TX
Pennsylvania Dept. of Env Protection (NELAC) 68-04202
U.S. Dept. of Agriculture Foreign Soil Import S-47270

ACCREDITED IN ACCORDANCE WITH nelac

REPORT OF LABORATORY ANALYSIS

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Sample Cross Reference

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(504) 469-0333

Project: 2090899

Client: Olin Enviromental Management

Project ID: OLIN MCINTOSH/6109-09-003

Client Sample ID	Lab ID	Matrix	Collection Date/Time	Received Date/Time
OU2-TSS-D1B-012009	20667037	Water	20-Jan-09 09:41	22-Jan-09 09:50
OU2-TSS-D1T-12009	20667038	Water	20-Jan-09 09:42	22-Jan-09 09:50
OU2-TSS-A1B-12009	20667040	Water	20-Jan-09 10:05	22-Jan-09 09:50
OU2-TSS-A1T-12009	20667042	Water	20-Jan-09 10:06	22-Jan-09 09:50
OU2-TSS-B2B-12009	20667043	Water	20-Jan-09 10:25	22-Jan-09 09:50
OU2-TSS-B2T-12009	20667044	Water	20-Jan-09 10:26	22-Jan-09 09:50
OU2-TSS-B1B-12009	20667045	Water	20-Jan-09 10:36	22-Jan-09 09:50
OU2-TSS-B1T-12009	20667046	Water	20-Jan-09 10:37	22-Jan-09 09:50
OU2-TSS-B3B-12009	20667047	Water	20-Jan-09 11:15	22-Jan-09 09:50
OU2-TSS-B3T-12009	20667048	Water	20-Jan-09 11:16	22-Jan-09 09:50
OU2-TSS-C3B-12009	20667049	Water	20-Jan-09 11:28	22-Jan-09 09:50
OU2-TSS-C3T-12009	20667050	Water	20-Jan-09 11:29	22-Jan-09 09:50
OU2-TSS-C6B-12009	20667051	Water	20-Jan-09 11:53	22-Jan-09 09:50
OU2-TSS-C6T-12009	20667052	Water	20-Jan-09 11:54	22-Jan-09 09:50
OU2-TSS-C2B-12009	20667053	Water	20-Jan-09 12:05	22-Jan-09 09:50
OU2-TSS-C2T-12009	20667054	Water	20-Jan-09 12:06	22-Jan-09 09:50
OU2-TSS-C1B-12009	20667055	Water	20-Jan-09 12:21	22-Jan-09 09:50
OU2-TSS-C1T-12009	20667056	Water	20-Jan-09 12:22	22-Jan-09 09:50
OU2-TSS-C4B-12009	20667057	Water	20-Jan-09 12:30	22-Jan-09 09:50
OU2-TSS-C4T-12009	20667058	Water	20-Jan-09 12:31	22-Jan-09 09:50
OU2-TSS-C5B-12009	20667059	Water	20-Jan-09 12:38	22-Jan-09 09:50
OU2-TSS-C5T-12009	20667060	Water	20-Jan-09 12:39	22-Jan-09 09:50

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Project: 2090899

Sample Receipt Condition:

All samples were received in accordance with EPA protocol.

Holding Times:

All holding times were met.

Blanks:

All blank results were below reporting limits.

Laboratory Control Samples:

All LCS recoveries were within QC limits.

Matrix Spikes and Duplicates:

All MS/MSD recoveries or duplicate RPDs were within QC limits.

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Project: 2090899

Analytical Method	Batch	Sample used for QC
SM 2540D	113307	Batch sample from another client
SM 2540D	113308	Project sample OU2-TSS-C6T-12009

For the sample used as the original for the DUP or MS/MSD for the batch:

Project sample means a sample from this project was used.
Client sample means a sample from the same client but in a different project was used.
Batch sample means a sample from the a different client was used.

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Sample Results

Client: Olin Enviromental Management

Client ID: OU2-TSS-D1B-012009
Project: 2090899
Project ID: OLIN MCINTOSH/6109-09-003
Site: None
Lab ID: 20667037
Matrix: Water
%Moisture: n/a
Description: None
Collected: 20-Jan-09
Received: 22-Jan-09

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis	Limit
Total Suspended Solids	SM 2540D	113307	1		12.0	mg/L	4.00	22-Jan-09	22-Jan-09 13:40 SMS2	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: Olin Enviromental Management

Client ID: OU2-TSS-D1T-12009
Project: 2090899
Project ID: OLIN MCINTOSH/6109-09-003
Site: None
Lab ID: 20667038
Matrix: Water
%Moisture: n/a
Description: None
Collected: 20-Jan-09
Received: 22-Jan-09

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis	Limit
Total Suspended Solids	SM 2540D	113307	1		6.00	mg/L	4.00	22-Jan-09	22-Jan-09 13:40 SMS2	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
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Sample Results

Client: Olin Enviromental Management

Client ID: OU2-TSS-A1B-12009
Project: 2090899
Project ID: OLIN MCINTOSH/6109-09-003
Site: None
Lab ID: 20667040
Matrix: Water
%Moisture: n/a
Description: None
Collected: 20-Jan-09
Received: 22-Jan-09

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis	Limit
Total Suspended Solids	SM 2540D	113307	1		12.0	mg/L	4.00	22-Jan-09	22-Jan-09 13:40 SMS2	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

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Sample Results

Client: Olin Enviromental Management

Client ID: OU2-TSS-A1T-12009
Project: 2090899
Project ID: OLIN MCINTOSH/6109-09-003
Site: None
Lab ID: 20667042
Matrix: Water
%Moisture: n/a
Description: None
Collected: 20-Jan-09
Received: 22-Jan-09

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis	Limit
Total Suspended Solids	SM 2540D	113307	1		12.0	mg/L	4.00	22-Jan-09	22-Jan-09 13:40 SMS2	

1 parameter(s) reported

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MDL denotes method detection limit

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Sample Results

Client: Olin Enviromental Management

Client ID: OU2-TSS-B2B-12009
Project: 2090899
Project ID: OLIN MCINTOSH/6109-09-003
Site: None
Lab ID: 20667043
Matrix: Water
%Moisture: n/a
Description: None
Collected: 20-Jan-09
Received: 22-Jan-09

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis	Limit
Total Suspended Solids	SM 2540D	113307	1		11.0	mg/L	4.00	22-Jan-09	22-Jan-09 13:40 SMS2	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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(504) 469-0333

Client: Olin Enviromental Management

Client ID: OU2-TSS-B2T-12009
Project: 2090899
Project ID: OLIN MCINTOSH/6109-09-003
Site: None
Lab ID: 20667044
Matrix: Water
%Moisture: n/a
Description: None
Collected: 20-Jan-09
Received: 22-Jan-09

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis	Limit
Total Suspended Solids	SM 2540D	113307	1		15.0	mg/L	4.00	22-Jan-09	22-Jan-09 13:40 SMS2	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
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Sample Results

Client: Olin Enviromental Management

Client ID: OU2-TSS-B1B-12009
Project: 2090899
Project ID: OLIN MCINTOSH/6109-09-003
Site: None
Lab ID: 20667045
Matrix: Water
%Moisture: n/a
Description: None
Collected: 20-Jan-09
Received: 22-Jan-09

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis	Limit
Total Suspended Solids	SM 2540D	113307	1		11.0	mg/L	4.00	22-Jan-09	22-Jan-09 13:40 SMS2	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
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Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: Olin Enviromental Management

Client ID: OU2-TSS-B1T-12009
Project: 2090899
Project ID: OLIN MCINTOSH/6109-09-003
Site: None
Lab ID: 20667046
Matrix: Water
%Moisture: n/a
Description: None
Collected: 20-Jan-09
Received: 22-Jan-09

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis	Limit
Total Suspended Solids	SM 2540D	113307	1		9.00	mg/L	4.00	22-Jan-09	22-Jan-09 13:40 SMS2	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
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Sample Results

Client: Olin Enviromental Management

Client ID: OU2-TSS-B3B-12009
Project: 2090899
Project ID: OLIN MCINTOSH/6109-09-003
Site: None
Lab ID: 20667047
Matrix: Water
%Moisture: n/a
Description: None
Collected: 20-Jan-09
Received: 22-Jan-09

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis	Limit
Total Suspended Solids	SM 2540D	113307	1		9.00	mg/L	4.00	22-Jan-09	22-Jan-09 13:40 SMS2	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

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Sample Results

Client: Olin Enviromental Management

Client ID: OU2-TSS-B3T-12009
Project: 2090899
Project ID: OLIN MCINTOSH/6109-09-003
Site: None
Lab ID: 20667048
Matrix: Water
%Moisture: n/a
Description: None
Collected: 20-Jan-09
Received: 22-Jan-09

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis	Limit
Total Suspended Solids	SM 2540D	113307	1		14.0	mg/L	4.00	22-Jan-09	22-Jan-09 13:40 SMS2	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
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Sample Results

Client: Olin Enviromental Management

Client ID: OU2-TSS-C3B-12009
Project: 2090899
Project ID: OLIN MCINTOSH/6109-09-003
Site: None
Lab ID: 20667049
Matrix: Water
%Moisture: n/a
Description: None
Collected: 20-Jan-09
Received: 22-Jan-09

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis	Limit
Total Suspended Solids	SM 2540D	113307	1		13.0	mg/L	4.00	22-Jan-09	22-Jan-09 13:40 SMS2	

1 parameter(s) reported

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Sample Results

Client: Olin Enviromental Management

Client ID: OU2-TSS-C3T-12009
Project: 2090899
Project ID: OLIN MCINTOSH/6109-09-003
Site: None
Lab ID: 20667050
Matrix: Water
%Moisture: n/a
Description: None
Collected: 20-Jan-09
Received: 22-Jan-09

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis	Limit
Total Suspended Solids	SM 2540D	113307	1		9.00	mg/L	4.00	22-Jan-09	22-Jan-09 13:40 SMS2	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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(504) 469-0333

Sample Results

Client: Olin Enviromental Management

Client ID: OU2-TSS-C6B-12009
Project: 2090899
Project ID: OLIN MCINTOSH/6109-09-003
Site: None
Lab ID: 20667051
Matrix: Water
%Moisture: n/a
Description: None
Collected: 20-Jan-09
Received: 22-Jan-09

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis	Limit
Total Suspended Solids	SM 2540D	113307	1		9.00	mg/L	4.00	22-Jan-09	22-Jan-09 13:40 SMS2	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
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Sample Results

Client: Olin Enviromental Management

Client ID: OU2-TSS-C6T-12009
Project: 2090899
Project ID: OLIN MCINTOSH/6109-09-003
Site: None
Lab ID: 20667052
Matrix: Water
%Moisture: n/a
Description: None
Collected: 20-Jan-09
Received: 22-Jan-09

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis	Limit
Total Suspended Solids	SM 2540D	113308	1		10.0	mg/L	4.00	22-Jan-09	22-Jan-09 14:15 SMS2	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: Olin Enviromental Management

Client ID: OU2-TSS-C2B-12009
Project: 2090899
Project ID: OLIN MCINTOSH/6109-09-003
Site: None
Lab ID: 20667053
Matrix: Water
%Moisture: n/a
Description: None
Collected: 20-Jan-09
Received: 22-Jan-09

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis	Limit
Total Suspended Solids	SM 2540D	113308	1		10.0	mg/L	4.00	22-Jan-09	22-Jan-09 14:15 SMS2	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: Olin Enviromental Management

Client ID: OU2-TSS-C2T-12009
Project: 2090899
Project ID: OLIN MCINTOSH/6109-09-003
Site: None
Lab ID: 20667054
Matrix: Water
%Moisture: n/a
Description: None
Collected: 20-Jan-09
Received: 22-Jan-09

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis	Limit
Total Suspended Solids	SM 2540D	113308	1		12.0	mg/L	4.00	22-Jan-09	22-Jan-09 14:15 SMS2	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: Olin Enviromental Management

Client ID: OU2-TSS-C1B-12009
Project: 2090899
Project ID: OLIN MCINTOSH/6109-09-003
Site: None
Lab ID: 20667055
Matrix: Water
%Moisture: n/a
Description: None
Collected: 20-Jan-09
Received: 22-Jan-09

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis	Limit
Total Suspended Solids	SM 2540D	113308	1		9.00	mg/L	4.00	22-Jan-09	22-Jan-09 14:15 SMS2	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: Olin Enviromental Management

Client ID: OU2-TSS-C1T-12009
Project: 2090899
Project ID: OLIN MCINTOSH/6109-09-003
Site: None
Lab ID: 20667056
Matrix: Water
%Moisture: n/a
Description: None
Collected: 20-Jan-09
Received: 22-Jan-09

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis	Limit
Total Suspended Solids	SM 2540D	113308	1		11.0	mg/L	4.00	22-Jan-09	22-Jan-09 14:15 SMS2	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: Olin Enviromental Management

Client ID: OU2-TSS-C4B-12009
Project: 2090899
Project ID: OLIN MCINTOSH/6109-09-003
Site: None
Lab ID: 20667057
Matrix: Water
%Moisture: n/a
Description: None
Collected: 20-Jan-09
Received: 22-Jan-09

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis	Limit
Total Suspended Solids	SM 2540D	113308	1		5.00	mg/L	4.00	22-Jan-09	22-Jan-09 14:15 SMS2	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Client: Olin Enviromental Management

Client ID: OU2-TSS-C4T-12009
Project: 2090899
Project ID: OLIN MCINTOSH/6109-09-003
Site: None
Lab ID: 20667058
Matrix: Water
%Moisture: n/a
Description: None
Collected: 20-Jan-09
Received: 22-Jan-09

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis	Limit
Total Suspended Solids	SM 2540D	113308	1		6.00	mg/L	4.00	22-Jan-09	22-Jan-09 14:15 SMS2	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: Olin Enviromental Management

Client ID: OU2-TSS-C5B-12009
Project: 2090899
Project ID: OLIN MCINTOSH/6109-09-003
Site: None
Lab ID: 20667059
Matrix: Water
%Moisture: n/a
Description: None
Collected: 20-Jan-09
Received: 22-Jan-09

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis	Limit
Total Suspended Solids	SM 2540D	113308	1		9.00	mg/L	4.00	22-Jan-09	22-Jan-09 14:15 SMS2	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: Olin Enviromental Management

Client ID: OU2-TSS-C5T-12009
Project: 2090899
Project ID: OLIN MCINTOSH/6109-09-003
Site: None
Lab ID: 20667060
Matrix: Water
%Moisture: n/a
Description: None
Collected: 20-Jan-09
Received: 22-Jan-09

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis	Limit
Total Suspended Solids	SM 2540D	113308	1		14.0	mg/L	4.00	22-Jan-09	22-Jan-09 14:15 SMS2	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Project: 2090899

Parameter	Batch	Blank	ARL	Units	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	MSD RPD	DUP RPD	QC Limits LCS	QC Limits MS/MSD	Max RPD	Qu
Total Suspen	113307	ND	4.00	mg/L	100	104	104		40.00						11	80 - 120	-	20	
Total Suspen	113308	ND	4.00	mg/L	100	89	89		10.00						18	80 - 120	-	20	

*** denotes recovery outside of QC limits.**
ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MS/MSD RPD is calculated via SW-846 rules on the basis of spiked sample concentrations rather than spike recoveries.

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Project: 2090899

Value	Description
J	This estimated value for the analyte is below the adjusted reporting limit but above the instrument reporting limit.
U	The analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.
B	This analyte was detected in the method blank.
E	The sample concentration is above the linear calibrated range of the analysis.
ND	The analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.
MDL	The adjusted method detection limit.
LCS(D)	Laboratory Control Sample (Duplicate).
MS(D)	Matrix Spike (Duplicate).
DUP	Sample Duplicate.
RPD	Relative Percent Difference.

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2090899

Page: 1 of 2

1147751

Section A Required Client Information:

Company:	MACTEC
Address:	3200 Town Pt. Dr NW Ste 100 Kennesaw 30144
Email To:	See reporting Section ↗
Phone: 7042133100	Fax: 7042133486
Requested Due Date/TAT:	std.

Section B Required Project Information:

Report To:	cedraper@mactec.com
Copy To:	kpwatson@mactec.com mbarker@mactec.com
Purchase Order No.:	
Project Name:	Olin McIntosh - TSS
Project Number:	6109-09-0035

Invoice Information:

Attention:	Dennis Turner
Company Name:	Olin Corporation
Address:	385 Ocoee St Cleveland, TN
Pace Quote Reference:	
Pace Project Manager:	Cindy Olavesen
Pace Profile #:	

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: AL

Section D Required Client Information

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

surface water WS

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Y/N	Analysis Test ↓: TSS 160.2	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	OU2-TSS-D1B-012009	WS	G	1/20/09	~~1106~~ 0941				1	X								X	X		20667037
2	OU2-TSS-D1T-012009	WS	G		0942				1	X								X	X		038
3	OU2-TSS-A1B-012009	WS	G		1005				1	X								X	X		040
4	OU2-TSS-A1T-012009	WS	G		1006				1	X								X	X		042
5	OU2-TSS-B2B-012009	WS	G		1025				1	X								X	X		043
6	OU2-TSS-B2T-012009	WS	G		1026				1	X								X	X		044
7	OU2-TSS-B1B-012009	WS	G		1036				1	X								X	X		045
8	OU2-TSS-B1T-012009	WS	G		1037				1	X								X	X		046
9	OU2-TSS-B3B-012009	WS	G		1115				1	X								X	X		047
10	OU2-TSS-B3T-012009	WS	G		1116				1	X								X	X		048
11	~~DUP~~ OU2-TSS-C3B-012009	WS	G		1128				1	X								X	X		049
12	OU2-TSS-C3T-012009	WS	G	↓	1129				1	X								X	X		1950

page 30 of 32

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Daniel L Howard/Mactec	1/21/09	1230							
	Dea EC	1/22/09	0950		1/22/09	0950	2.5	Y	Y	Y

FedEx # 867534593818

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Daniel Howard

SIGNATURE of SAMPLER: Daniel L Howard DATE Signed (MM/DD/YY): 1/20/09

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

2090899

Page: 2 of 2

1147123

Section A Required Client Information:

Company: Mactec
Address: 3200 Town Pt. Dr NW Ste 100 Kennesaw GA 30144
Email To: See Reporting Section
Phone: 770 421 3400 Fax: 770 421 3486
Requested Due Date/TAT: Std

Section B Required Project Information:

Report To: CEDraper@Mactec.com
Copy To: KPWatson@Mactec.com, MbarKer@Mactec.com
Purchase Order No.:
Project Name: Olin McIntosh - TSS
Project Number: 6109-09-0035

Section C Invoice Information:

Attention: Dennis Turner
Company Name: Olin Corporation
Address: 3855 North Ocoee St, Cleveland, TN
Pace Quote Reference:
Pace Project Manager: Cindy Olavesen
Pace Profile #:

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: AL

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / -) Sample IDs MUST BE UNIQUE

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

Surface water WS

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Analysis Test: T55 160.2	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	OU2-T55-C6B-012009	WS	G	1/20/09	1153				1	X								X	X		2866705-1
2	OU2-T55-C6T-012009	WS	G		1154				1	X								X	X		052
3	OU2-T55-C2B-012009	WS	G		1205				1	X								X	X		053
4	OU2-T55-C2T-012009	WS	G		1206				1	X								X	X		054
5	OU2-T55-C1B-012009	WS	G		1221				1	X								X	X		055
6	OU2-T55-C1T-012009	WS	G		1222				1	X								X	X		056
7	OU2-T55-C4B-012009	WS	G		1230				1	X								X	X		057
8	OU2-T55-C4T-012009	WS	G		1231				1	X								X	X		058
9	OU2-T55-C5B-012009	WS	G		1238				1	X								X	X		059
10	OU2-T55-C5T-012009	WS	G		1239				1	X								X	X		060
11	Temp Blank																				
12																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
	Daniel L Howard/Mactec	1/21/09	1230			
	Ted Cox	1/22/09	0950	[signature]	1/22/09	0950

SAMPLE CONDITIONS

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
2.5	Y	Y	Y

FedEx # 8675 3459 3818

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Daniel Howard

SIGNATURE of SAMPLER: Daniel Howard

DATE Signed (MM/DD/YY): 1/20/09

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

2090899 20-OLIN ENV

Pace Analytical

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St. Rose, LA 70087

Sample Condition Upon Rec

Project #: 20

Courier: ☐ Pace Courier ☐ Hackbarth ☑ Fed X ☐ UPS ☐ DHL ☐ USPS ☐ Customer ☐ Other

Custody Seal on Cooler/Box Present: [see COC] **Custody Seals Intact:** ☑Yes ☐No

Theromometer Used: ☑Therm Fisher IR 1 ☐Therm Fisher IR 2

Type of Ice: (Wet) Blue None

Samples on Ice: [see COC]

Cooler Temperature: [see COC]

Temp should be above freezing to 6°C

Date and Initials of person examining contents: IN 1/22/09

Temp must be measured from Temperature blank when present

					Comments:
Temperature Blank Present"?	☑Yes	☐No	☐N/A		1
Chain of Custody Present:	☑Yes	☐No	☐N/A		2
Chain of Custody Complete:	☑Yes	☐No	☐N/A		3
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A		4
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A		5
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A		6
Sufficient Volume:	☑Yes	☐No	☐N/A		7
Correct Containers Used:	☑Yes	☐No	☐N/A		8
Filtered vol. Rec. for Diss. tests	☐Yes	☐No	☑N/A		9
Sample Labels match COC:	☑Yes	☐No	☐N/A		10
All containers received within manufacture's precautionary and/or expiration dates.	☑Yes	☐No	☐N/A		11
All containers needing preservation have been checked (except VOA, coliform, & O&G).	☑Yes	☐No	☐N/A		12
All containers preservation checked found to be in compliance with EPA recommendation.	☑Yes	☐No	☐N/A		13
Samples checked for dechlorination:	☐Yes	☐No	☑N/A		14
Headspace in VOA Vials (>6mm):	☐Yes	☑No	☐N/A		14
Trip Blank Present:	☐Yes	☑No	☐N/A		16
Trip Blank Custody Seals Present	☐Yes	☑No	☐N/A		17
Pace Trip Blank Lot # (If purchased): N/A					18

Table on OU2-TSS DIB
Should say OU2-TSS DIT

If No, was preserative added? ☐Yes ☐No
If added record lot no.: HNO3 _____ H2SO4 _____

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

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(504) 469-0333

July 23, 2009

Cynthia Draper
Mactec Eng & Consulting
3200 Townpoint Dr. NW
Suite 100
Kennesaw, GA 30144

RE: Project 2097093
Project ID: OLIN MCINTOSH OU2

Dear Cynthia Draper:

Enclosed are the analytical results for sample(s) received by the laboratory on July 10, 2009. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerly,

Cindy Olavesen

Cindy Olavesen
cindy.olavesen@pacelabs.com

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, execpt in full, without the written consent of Pace Analytical Services, Inc.

Project: 2097093

Client: Olin Enviromental Management

Project ID: OLIN MCINTOSH OU2

U.S. Dept. of Agriculture Foreign Soil Import S-47270
Pennsylvania Dept. of Env Protection (NELAC) 68-04202
Texas Commission on Env. Quality (NELAC) T104704405-08-TX
Kansas Department of Health and Environment (NELAC) E-10266
Florida Department of Health (NELAC) E87595
Louisiana Dept. of Health and Hospitals (NELAC) LA080013
Louisiana Dept. of Environmental Quality (NELAC/LELAP) 02006

40 Green Bay Volatiles Certification IDs
40 Green Bay Certification IDs
40 California Certification #: 06247CA
40 Florida (NELAP) Certification #: E87951
40 Illinois Certification #: 200051
40 Kentucky Certification #: 83
40 Louisiana Certification #: 04169
40 Minnesota Certification #: 055-999-334
40 New York Certification #: 11887
40 North Carolina Certification #: 503
40 North Dakota Certification #: R-200
40 South Carolina Certification #: 83006001
40 Wisconsin Certification #: 405132750
40 Wisconsin DATCP Certification #: 105-444
40 California Certification #: 06246CA
40 Florida (NELAP) Certification #: E87948
40 Illinois Certification #: 200050
40 Kentucky Certification #: 82
40 Louisiana Certification #: 04168
40 Minnesota Certification #: 055-999-334
40 New York Certification #: 11888
40 North Carolina Certification #: 503
40 North Dakota Certification #: R-150
40 South Carolina Certification #: 83006001
40 Wisconsin Certification #: 405132750
40 Wisconsin DATCP Certification #: 105-444

ACCREDITED IN ACCORDANCE WITH nelac

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Sample Cross Reference

Project: 2097093

Client: PACE ANALYTICAL SERVICES, INC.

Project ID: OLIN MCINTOSH 0U2 2097093

Client Sample ID	Lab ID	Matrix	Collection Date/Time	Received Date/Time
OU2B-SED-WT17-0709	20706733	Soil	09-Jul-09 09:10	10-Jul-09 09:40
OU2B-SED-WT17-0709	20706733	Soil	09-Jul-09 09:10	10-Jul-09 09:40
OU2B-SED-WT14-0709	20706735	Soil	09-Jul-09 10:00	10-Jul-09 09:40
OU2B-SED-WT14-0709	20706735	Soil	09-Jul-09 10:00	10-Jul-09 09:40
OU2B-SED-WT19-0709	20706736	Soil	09-Jul-09 10:25	10-Jul-09 09:40
OU2B-SED-WT19-0709	20706736	Soil	09-Jul-09 10:25	10-Jul-09 09:40
OU2B-SED-WT32-0709	20706737	Soil	09-Jul-09 11:11	10-Jul-09 09:40
OU2B-SED-WT32-0709	20706737	Soil	09-Jul-09 11:11	10-Jul-09 09:40

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St. Rose, LA 70087
(504) 469-0333

Project: 2097093

Sample Receipt Condition:

All samples were received in accordance with EPA protocol.

Holding Times:

All holding times were met.

Blanks:

All blank results were below reporting limits.

Laboratory Control Samples:

All LCS recoveries were within QC limits.

Matrix Spikes and Duplicates:

All MS/MSD recoveries or duplicate RPDs were within QC limits.

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(504) 469-0333

Project: 2097093

Analytical Method	Batch	Sample used for QC
EPA 7471	122142	Batch sample from another client
% Moisture	122038	Project sample OU2B-SED-WT17-0709

For the sample used as the original for the DUP or MS/MSD for the batch:

Project sample means a sample from this project was used.
Client sample means a sample from the same client but in a different project was used.
Batch sample means a sample from the a different client was used.

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Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SED-WT17-0709
Project: 2097093
Project ID: OLIN MCINTOSH OU2
Site: None
Lab ID: 20706733
Matrix: Soil
%Moisture: 92.4 Corrected
Description: None
Collected: 09-Jul-09
Received: 10-Jul-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Mercury	EPA 7471	122142	10	23.9	D1	mg/kg	2.39	14-Jul-09	16-Jul-09 12:59 MHB1	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SED-WT14-0709
Project: 2097093
Project ID: OLIN MCINTOSH OU2
Site: None
Lab ID: 20706735
Matrix: Soil
%Moisture: 94.4 Corrected
Description: None
Collected: 09-Jul-09
Received: 10-Jul-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Mercury	EPA 7471	122142	10	29.0	D1	mg/kg	2.81	14-Jul-09	16-Jul-09 13:04 MHB1	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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(504) 469-0333

Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SED-WT19-0709
Project: 2097093
Project ID: OLIN MCINTOSH OU2
Site: None
Lab ID: 20706736
Matrix: Soil
%Moisture: 96.3 Corrected
Description: None
Collected: 09-Jul-09
Received: 10-Jul-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Mercury	EPA 7471	122142	10	44.1	D1	mg/kg	4.22	14-Jul-09	16-Jul-09 13:06 MHB1	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Client: Olin Enviromental Management

Client ID: OU2B-SED-WT32-0709
Project: 2097093
Project ID: OLIN MCINTOSH OU2
Site: None
Lab ID: 20706737
Matrix: Soil
%Moisture: 92 Corrected
Description: None
Collected: 09-Jul-09
Received: 10-Jul-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Mercury	EPA 7471	122142	10	32.7	D1	mg/kg	2.27	14-Jul-09	16-Jul-09 13:07 MHB1	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: PACE ANALYTICAL SERVICES, INC.

Client ID: OU2B-SED-WT17-0709
Project: 2097093
Project ID: OLIN MCINTOSH 0U2 2097093
Site: none
Lab ID: 2097093001
Matrix: Soil
%Moisture: 1 corrected
Description: AL
Collected: 09-Jul-09
Received: 09-Jul-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Mean Total Organic Carb	EPA 9060 Mod	29091	1	42000		mg/kg	6450	22-Jul-09	22-Jul-09 10:10 DJR40	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: PACE ANALYTICAL SERVICES, INC.

Client ID: OU2B-SED-WT14-0709
Project: 2097093
Project ID: OLIN MCINTOSH 0U2 2097093
Site: none
Lab ID: 2097093002
Matrix: Soil
%Moisture: 1 corrected
Description: AL
Collected: 09-Jul-09
Received: 09-Jul-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Mean Total Organic Carb	EPA 9060 Mod	29091	1	29700		mg/kg	8330	22-Jul-09	22-Jul-09 10:26 DJR40	

1 parameter(s) reported

Inorganics 7/23/2009 15:27:35

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Pace Analytical Services, Inc.
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(504) 469-0333

Sample Results

Client: PACE ANALYTICAL SERVICES, INC.

Client ID: OU2B-SED-WT19-0709
Project: 2097093
Project ID: OLIN MCINTOSH 0U2 2097093
Site: none
Lab ID: 2097093003
Matrix: Soil
%Moisture: 1 corrected
Description: AL
Collected: 09-Jul-09
Received: 09-Jul-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Mean Total Organic Carb	EPA 9060 Mod	29091	1	45200		mg/kg	9090	22-Jul-09	22-Jul-09 15:10 DJR40	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Pace Analytical Services, Inc.
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(504) 469-0333

Sample Results

Client: PACE ANALYTICAL SERVICES, INC.

Client ID: OU2B-SED-WT32-0709
Project: 2097093
Project ID: OLIN MCINTOSH 0U2 2097093
Site: none
Lab ID: 2097093004
Matrix: Soil
%Moisture: 1 corrected
Description: AL
Collected: 09-Jul-09
Received: 09-Jul-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Mean Total Organic Carb	EPA 9060 Mod	29091	1	32000		mg/kg	6250	22-Jul-09	22-Jul-09 11:51 DJR40	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Project: 2097093

Parameter	Batch	Blank	Units	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	RPD	QC Limits LCS	QC Limits MS/MSD	Max RPD	Qu
Mercury	122142	0.00323 J	mg/kg	0.100	0.108	108	0.0882	0.00421	0.0996	0.106	108	109	6	80-120	75-125	20	

*** denotes recovery outside of QC limits.**
ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MS/MSD RPD is calculated via SW-846 rules on the basis of spiked sample concentrations rather than spike recoveries.

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Inorganics Quality Control

Pace Analytical Services, Inc.
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(504) 469-0333

Project: 2097093

Parameter	Batch	Blank	Units	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	RPD	QC Limits LCS	QC Limits MS/MSD	Max RPD	Qu
Percent Moisture	122038	< 1.00	%														
Mean Total Organic C	29091	< 250.	mg/kg	1000	1170	117	17400		48200	57500	107	167 *	18	80-120	50-150	30	
Mean Total Organic C	29091	<	mg/kg				504.		1450	1760	72	134	19		50-150	30	

7/23/2009 15:27:37

*** denotes recovery outside of QC limits.**
ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MS/MSD RPD is calculated via SW-846 rules on the basis of spiked sample concentrations rather than spike recoveries.

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Project: 2097093

Value	Description
D1	The analysis was performed at a dilution due to the high analyte concentration.
J	This estimated value for the analyte is below the adjusted reporting limit but above the instrument reporting limit.
U	The analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.
B	This analyte was detected in the method blank.
E	The sample concentration is above the linear calibrated range of the analysis.
ND	The analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.
MDL	The adjusted method detection limit.
LCS(D)	Laboratory Control Sample (Duplicate).
MS(D)	Matrix Spike (Duplicate).
DUP	Sample Duplicate.
RPD	Relative Percent Difference.

2097093 20-OLIN ENV

Pace

-CUSTODY / Analytical Request Document

dy is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

2097093

Page: 1 of 1

1145367

Section A Required Client Info

Section C Invoice Information:

Company: MACTEC	Report To: Cedraper@mactec.com, kdroberts	Attention: Dennis Turner	
Address: 3200 Town Point Dr NW Ste 100 Kennesaw GA 30144	Copy To: @olin.com, Kpwatson@mactec.com, Mbarker@mactec.com	Company Name: Olin Corp	REGULATORY AGENCY
Email To: Cedraper@mactec.com	Purchase Order No.: 62MC00013-80	Address: Charleston TN	☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☒ OTHER Cercla
Phone: ~~770~~ 421 3400 Fax: ~~770~~ 421 3481	Project Name: Olin McIntosh OU2	Pace Quote Reference:	
Requested Due Date/TAT: Standard	Project Number: 6107090035 2009_GATESTRAT	Pace Project Manager: Cindy Olavesen	Site Location STATE: AL
		Pace Profile #:	

Requested Analysis Filtered (Y/N)

ITEM #	Section D Required Client Information — SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Y/N	Analysis Test: Mercury ToC	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	OU2B-SED-WT17-0709	OT	C			7/9/09	0910		3	X									X X		20706733
2	OU2B-SED-WT14-0709	OT	C			7/9/09	1000		3	X									X X		735
3	OU2B-SED-WT19-0709	OT	C			7/9/09	1025		3	X									X X		736
4	OU2B-SED-WT32-0709	OT	C			7/9/09	1111		3	X									X X		737
5	Temp Blank																				
6																					
7																					
8																					
9																					
10																					
11																					
12																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
OT = Sediment	RMReece/MACTEC	7/9/09	1800							
	Fed Ex	7-10-09	0948	MJ Mill	7-10-09	0940	3.8	Y	X	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Ran, Reece

SIGNATURE of SAMPLER: RReece DATE Signed (MM/DD/YY): 07/09/09

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

2097093 20-OLIN ENV

Pace Analytical

1000 Riverbend. Blvd., Suite F
St. Rose, LA 70087

Sample Condition Upon Receipt

Project #: 20

Courier: ☐ Pace Courier ☐ Hackbarth ☑ Fed X ☐ UPS ☐ DHL ☐ USPS ☐ Customer ☐ Other

Custody Seal on Cooler/Box Present: [see COC] **Custody Seals Intact:** ☑Yes ☐No

Therometer Used: ☑ Therm Fisher IR 1 ☐ Therm Fisher IR 2 ☐ Therm Fisher IR 3

Type of Ice: (Wet) Blue None **Samples on Ice:** [see COC]

Cooler Temperature: [see COC] Temp should be above freezing to 6°C

Date and initials of person examining contents: 7-10-09

Temp must be measured from Temperature blank when present

				Comments:
Temperature Blank Present"?	☐Yes	☐No	☐N/A	1
Chain of Custody Present:	☑Yes	☐No	☐N/A	2
Chain of Custody Complete:	☑Yes	☐No	☐N/A	3
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	4
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	5
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	6
Sufficient Volume:	☑Yes	☐No	☐N/A	7
Correct Containers Used:	☑Yes	☐No	☐N/A	8
Filtered vol. Rec. for Diss. tests	☐Yes	☐No	☑N/A	9
Sample Labels match COC:	☑Yes	☐No	☐N/A	10
All containers received within manafacture's precautionary and/or expiration dates.	☑Yes	☐No	☐N/A	11
All containers needing preservation have been checked (except VOA, coliform, & O&G).	☐Yes	☐No	☑N/A	12
All containers preservation checked found to be in compliance with EPA recommendation.	☐Yes	☐No	☑N/A	13 If No, was preserative added? ☐Yes ☐No If added record lot no.: HNO3 _____ H2SO4 _____
Samples checked for dechlorination:	☐Yes	☐No	☑N/A	14
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☑N/A	14
Trip Blank Present:	☐Yes	☐No	☑N/A	16
Trip Blank Custody Seals Present	☐Yes	☐No	☑N/A	17
Pace Trip Blank Lot # (If purchased): N/A				18

Client Notification/ Resolution:

Person Contacted: _____ **Date/Time:** _____

Comments/ Resolution: _____

ALLC003rev.05, 12Jun2009 - mod

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

July 22, 2009

Keith Roberts
Olin Enviromental Management
Charleston Plant
1186 Lower river Road
Charleston, TN 37310

RE: Project 2095862
Project ID: OLIN MCINTOSH ESPP/6107090035

Dear Keith Roberts:

Enclosed are the analytical results for sample(s) received by the laboratory on June 10, 2009. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerly,

Cindy Olavesen

Cindy Olavesen
cindy.olavesen@pacelabs.com

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REPORT OF LABORATORY ANALYSIS

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Project: 2095862

Client: Olin Enviromental Management

Project ID: OLIN MCINTOSH ESPP/6107090035

U.S. Dept. of Agriculture Foreign Soil Import S-47270
Pennsylvania Dept. of Env Protection (NELAC) 68-04202
Texas Commission on Env. Quality (NELAC) T104704405-08-TX
Kansas Department of Health and Environment (NELAC) E-10266
Florida Department of Health (NELAC) E87595
Louisiana Dept. of Health and Hospitals (NELAC) LA080013
Louisiana Dept. of Environmental Quality (NELAC/LELAP) 02006

40 Green Bay Volatiles Certification IDs
40 Green Bay Certification IDs
40 California Certification #: 06247CA
40 Florida (NELAP) Certification #: E87951
40 Illinois Certification #: 200051
40 Kentucky Certification #: 83
40 Louisiana Certification #: 04169
40 Minnesota Certification #: 055-999-334
40 New York Certification #: 11887
40 North Carolina Certification #: 503
40 North Dakota Certification #: R-200
40 South Carolina Certification #: 83006001
40 Wisconsin Certification #: 405132750
40 Wisconsin DATCP Certification #: 105-444
40 California Certification #: 06246CA
40 Florida (NELAP) Certification #: E87948
40 Illinois Certification #: 200050
40 Kentucky Certification #: 82
40 Louisiana Certification #: 04168
40 Minnesota Certification #: 055-999-334
40 New York Certification #: 11888
40 North Carolina Certification #: 503
40 North Dakota Certification #: R-150
40 South Carolina Certification #: 83006001
40 Wisconsin Certification #: 405132750
40 Wisconsin DATCP Certification #: 105-444

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REPORT OF LABORATORY ANALYSIS

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Sample Cross Reference

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1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Project: 2095862

Client: PACE ANALYTICAL SERVICES, INC.

Project ID: 2095862 OLIN MCINTOSH ESPP

Client Sample ID	Lab ID	Matrix	Collection Date/Time	Received Date/Time
OU2B-SED-304C-09	20698073	Soil	09-Jun-09 09:10	10-Jun-09 08:40
OU2B-SED-304C-09	20698073	Soil	09-Jun-09 09:10	10-Jun-09 08:40
OU2B-SED-401C-09	20698074	Soil	09-Jun-09 09:38	10-Jun-09 08:40
OU2B-SED-401C-09	20698074	Soil	09-Jun-09 09:38	10-Jun-09 08:40
OU2B-SED-404C-09	20698075	Soil	09-Jun-09 11:00	10-Jun-09 08:40
OU2B-SED-404C-09	20698075	Soil	09-Jun-09 11:00	10-Jun-09 08:40
OU2B-SED-402C-09	20698104	Soil	09-Jun-09 10:10	10-Jun-09 08:40
OU2B-SED-402C-09	20698104	Soil	09-Jun-09 10:10	10-Jun-09 08:40
OU2B-SED-403C-09	20698119	Soil	09-Jun-09 10:35	10-Jun-09 08:40
OU2B-SED-403C-09	20698119	Soil	09-Jun-09 10:35	10-Jun-09 08:40

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Project: 2095862

Sample Receipt Condition:

All samples were received in accordance with EPA protocol.

Holding Times:

All holding times were met.

Blanks:

All blank results were below reporting limits.

Laboratory Control Samples:

All LCS recoveries were within QC limits.

Matrix Spikes and Duplicates:

MS or MSD recoveries outside of QC limits are qualified in the Report of Quality Control section.

Surrogates:

All surrogate recoveries were within QC limits.

Pace Analytical Services, Inc.
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(504) 469-0333

Project: 2095862

Analytical Method	Batch	Sample used for QC
EPA 7471	120210	Project sample OU2B-SED-402C-09
% Moisture	120228	Batch sample from another client
% Moisture	120231	Project sample OU2B-SED-402C-09
SM 2710F-Mod	120280	Project sample OU2B-SED-304C-09

For the sample used as the original for the DUP or MS/MSD for the batch:

Project sample means a sample from this project was used.
Client sample means a sample from the same client but in a different project was used.
Batch sample means a sample from the a different client was used.

Pace Analytical Services, Inc.
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(504) 469-0333

Client: PACE ANALYTICAL SERVICES, INC.

Client ID: OU2B-SED-402C-09
Project ID: 2095862 OLIN MCINTOSH ESPP
Lab ID: 2095862006
Description: AL
Method: EPA 8081
8081 GCS Pesticides

Project: 2095862
Site: none
Matrix: Soil
Prep Level: Soil
Collected: 09-Jun-09
Prepared: 19-Jun-09

% Moisture: 77.3553 corrected
Batch: 26627
Received: 09-Jun-09

Units: ug/kg

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
53-19-0	2,4'-DDD	1	9.90		7.40		19-Jun-09 09:30 DMH40
72-54-8	4,4'-DDD	1	ND		14.7		19-Jun-09 09:30 DMH40
3424-82-6	2,4'-DDE	1	31.1		7.40		19-Jun-09 09:30 DMH40
72-55-9	4,4'-DDE	1	19.0		14.7		19-Jun-09 09:30 DMH40
789-02-6	2,4'-DDT	1	ND		7.40		19-Jun-09 09:30 DMH40
50-29-3	4,4'-DDT	1	ND		14.7		19-Jun-09 09:30 DMH40
118-74-1	Hexachlorobenzene	1	22.1		7.40		19-Jun-09 09:30 DMH40

7 compound(s) reported

Protocol 7/22/2009 14:28:49

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Client: PACE ANALYTICAL SERVICES, INC.

Client ID: OU2B-SED-403C-09
Project ID: 2095862 OLIN MCINTOSH ESPP
Lab ID: 2095862007
Description: AL
Method: EPA 8081
8081 GCS Pesticides

Project: 2095862
Site: none
Matrix: Soil
Prep Level: Soil
Collected: 09-Jun-09
Prepared: 19-Jun-09

% Moisture: 73.4095 corrected
Batch: 26627
Received: 09-Jun-09

Units: ug/kg

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
53-19-0	2,4'-DDD	1	14.1		6.30		19-Jun-09 10:24 DMH40
72-54-8	4,4'-DDD	1	15.2		12.5		19-Jun-09 10:24 DMH40
3424-82-6	2,4'-DDE	1	41.4		6.30		19-Jun-09 10:24 DMH40
72-55-9	4,4'-DDE	1	30.8		12.5		19-Jun-09 10:24 DMH40
789-02-6	2,4'-DDT	1	ND		6.30		19-Jun-09 10:24 DMH40
50-29-3	4,4'-DDT	1	ND		12.5		19-Jun-09 10:24 DMH40
118-74-1	Hexachlorobenzene	1	31.3		6.30		19-Jun-09 10:24 DMH40

7 compound(s) reported

Protocol 7/22/2009 14:28:49

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SED-304C-09
Project: 2095862
Project ID: OLIN MCINTOSH ESPP/6107090035
Site: None
Lab ID: 20698073
Matrix: Soil
%Moisture: 59.7 Corrected
Description: None
Collected: 09-Jun-09
Received: 10-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Limit
Mercury	EPA 7471	120210	100	18.6	D1	mg/kg	3.82	10-Jun-09	15-Jun-09	13:10 KJR	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SED-401C-09
Project: 2095862
Project ID: OLIN MCINTOSH ESPP/6107090035
Site: None
Lab ID: 20698074
Matrix: Soil
%Moisture: 75.3 Corrected
Description: None
Collected: 09-Jun-09
Received: 10-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Limit
Mercury	EPA 7471	120210	10	24.6	D1	mg/kg	0.783	10-Jun-09	15-Jun-09 13:12	KJR	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SED-404C-09
Project: 2095862
Project ID: OLIN MCINTOSH ESPP/6107090035
Site: None
Lab ID: 20698075
Matrix: Soil
%Moisture: 76.7 Corrected
Description: None
Collected: 09-Jun-09
Received: 10-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Limit
Mercury	EPA 7471	120210	10	18.9	D1	mg/kg	0.678	10-Jun-09	15-Jun-09	13:14 KJR	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SED-402C-09
Project: 2095862
Project ID: OLIN MCINTOSH ESPP/6107090035
Site: None
Lab ID: 20698104
Matrix: Soil
%Moisture: 77.6 Corrected
Description: None
Collected: 09-Jun-09
Received: 10-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Limit
Mercury	EPA 7471	120210	100	27.1	D1	mg/kg	8.36	10-Jun-09	15-Jun-09 12:51	KJR	

1 parameter(s) reported

Inorganics 7/22/2009 14:28:50

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SED-403C-09
Project: 2095862
Project ID: OLIN MCINTOSH ESPP/6107090035
Site: None
Lab ID: 20698119
Matrix: Soil
%Moisture: 74.2 Corrected
Description: None
Collected: 09-Jun-09
Received: 10-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Limit
Mercury	EPA 7471	120210	100	35.7	D1	mg/kg	7.03	10-Jun-09	15-Jun-09	13:15 KJR	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SED-304C-09 **Project:** 2095862

Project ID: OLIN MCINTOSH ESPP/6107090035 **Site:** None

Lab ID: 20698073 **Matrix:** Soil **%Moisture:** 59.7 Not Corrected

Description: None **Collected:** 09-Jun-09 **Received:** 10-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Clay	ASTM D422	121097	1	27.3		%	0.0100	17-Jun-09	17-Jun-09 00:00 XXXX	
Density	SM 2710F-Mod	120280	1	1.38		g/cm3	0.500	11-Jun-09	11-Jun-09 14:10 TAE	
Gravel	ASTM D422	121097	1	ND		%	0.0100	17-Jun-09	17-Jun-09 00:00 XXXX	
Sand	ASTM D422	121097	1	4.30		%	0.0100	17-Jun-09	17-Jun-09 00:00 XXXX	
Silt	ASTM D422	121097	1	68.4		%	0.0100	17-Jun-09	17-Jun-09 00:00 XXXX	

5 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Client: Olin Enviromental Management

Client ID: OU2B-SED-401C-09
Project: 2095862
Project ID: OLIN MCINTOSH ESPP/6107090035
Site: None
Lab ID: 20698074
Matrix: Soil
%Moisture: 75.3 Not Corrected
Description: None
Collected: 09-Jun-09
Received: 10-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Clay	ASTM D422	121097	1	25.6		%	0.0100	17-Jun-09	17-Jun-09 00:00 XXXX	
Gravel	ASTM D422	121097	1	ND		%	0.0100	17-Jun-09	17-Jun-09 00:00 XXXX	
Sand	ASTM D422	121097	1	3.60		%	0.0100	17-Jun-09	17-Jun-09 00:00 XXXX	
Silt	ASTM D422	121097	1	70.8		%	0.0100	17-Jun-09	17-Jun-09 00:00 XXXX	

4 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Client: Olin Enviromental Management

Client ID: OU2B-SED-404C-09
Project: 2095862
Project ID: OLIN MCINTOSH ESPP/6107090035
Site: None
Lab ID: 20698075
Matrix: Soil
%Moisture: 76.7 Not Corrected
Description: None
Collected: 09-Jun-09
Received: 10-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Clay	ASTM D422	121097	1	31.0		%	0.0100	17-Jun-09	17-Jun-09 00:00 XXXX	
Gravel	ASTM D422	121097	1	0.500		%	0.0100	17-Jun-09	17-Jun-09 00:00 XXXX	
Sand	ASTM D422	121097	1	15.6		%	0.0100	17-Jun-09	17-Jun-09 00:00 XXXX	
Silt	ASTM D422	121097	1	52.9		%	0.0100	17-Jun-09	17-Jun-09 00:00 XXXX	

4 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Client: Olin Enviromental Management

Client ID: OU2B-SED-402C-09
Project: 2095862
Project ID: OLIN MCINTOSH ESPP/6107090035
Site: None
Lab ID: 20698104
Matrix: Soil
%Moisture: 77.6 Not Corrected
Description: None
Collected: 09-Jun-09
Received: 10-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Clay	ASTM D422	121097	1	54.8		%	0.0100	17-Jun-09	17-Jun-09 00:00 XXXX	
Gravel	ASTM D422	121097	1	ND		%	0.0100	17-Jun-09	17-Jun-09 00:00 XXXX	
Sand	ASTM D422	121097	1	8.80		%	0.0100	17-Jun-09	17-Jun-09 00:00 XXXX	
Silt	ASTM D422	121097	1	36.4		%	0.0100	17-Jun-09	17-Jun-09 00:00 XXXX	

4 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SED-403C-09 **Project:** 2095862

Project ID: OLIN MCINTOSH ESPP/6107090035 **Site:** None

Lab ID: 20698119 **Matrix:** Soil **%Moisture:** 74.2 Not Corrected

Description: None **Collected:** 09-Jun-09 **Received:** 10-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Clay	ASTM D422	121097	1	37.6		%	0.0100	17-Jun-09	17-Jun-09 00:00 XXXX	
Density	SM 2710F-Mod	120280	1	1.31		g/cm3	0.500	11-Jun-09	11-Jun-09 14:10 TAE	
Gravel	ASTM D422	121097	1	ND		%	0.0100	17-Jun-09	17-Jun-09 00:00 XXXX	
Sand	ASTM D422	121097	1	1.40		%	0.0100	17-Jun-09	17-Jun-09 00:00 XXXX	
Silt	ASTM D422	121097	1	61.0		%	0.0100	17-Jun-09	17-Jun-09 00:00 XXXX	

5 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: PACE ANALYTICAL SERVICES, INC.

Client ID: OU2B-SED-304C-09
Project: 2095862
Project ID: 2095862 OLIN MCINTOSH ESPP
Site: none
Lab ID: 2095862001
Matrix: Soil
%Moisture: 1 corrected
Description: AL
Collected: 09-Jun-09
Received: 09-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Mean Total Organic Carb	EPA 9060 Mod	26875	1	11200		mg/kg	2040	24-Jun-09	24-Jun-09 13:59 DJR40	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: PACE ANALYTICAL SERVICES, INC.

Client ID: OU2B-SED-401C-09
Project: 2095862
Project ID: 2095862 OLIN MCINTOSH ESPP
Site: none
Lab ID: 2095862002
Matrix: Soil
%Moisture: 1 corrected
Description: AL
Collected: 09-Jun-09
Received: 09-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Mean Total Organic Carb	EPA 9060 Mod	26875	1	2630		mg/kg	699.	24-Jun-09	24-Jun-09 14:37 DJR40	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Client: PACE ANALYTICAL SERVICES, INC.

Client ID: OU2B-SED-404C-09
Project: 2095862
Project ID: 2095862 OLIN MCINTOSH ESPP
Site: none
Lab ID: 2095862003
Matrix: Soil
%Moisture: 1 corrected
Description: AL
Collected: 09-Jun-09
Received: 09-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Mean Total Organic Carb	EPA 9060 Mod	26875	1	60500		mg/kg	9520	24-Jun-09	24-Jun-09 15:13 DJR40	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: PACE ANALYTICAL SERVICES, INC.

Client ID: OU2B-SED-402C-09
Project: 2095862
Project ID: 2095862 OLIN MCINTOSH ESPP
Site: none
Lab ID: 2095862006
Matrix: Soil
%Moisture: 1 corrected
Description: AL
Collected: 09-Jun-09
Received: 09-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Mean Total Organic Carb	EPA 9060 Mod	26875	1	12300		mg/kg	2000	24-Jun-09	24-Jun-09 15:23 DJR40	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: PACE ANALYTICAL SERVICES, INC.

Client ID: OU2B-SED-403C-09
Project: 2095862
Project ID: 2095862 OLIN MCINTOSH ESPP
Site: none
Lab ID: 2095862007
Matrix: Soil
%Moisture: 1 corrected
Description: AL
Collected: 09-Jun-09
Received: 09-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Mean Total Organic Carb	EPA 9060 Mod	26875	1	13800		mg/kg	2990	24-Jun-09	24-Jun-09 15:31 DJR40	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Batch: 26627 **Project:** 2095862 **LCS:** 170797 18-Jun-09 18:19

MS:

Units: ug/kg **MSD:**

Original for MS:

Parameter Name	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	RPD	QC Limits LCS	QC Limits MS/MSD	Max RPD	Qu
2,4'-DDD														
2,4'-DDE														
2,4'-DDT		0.650												
4,4'-DDD	26.7	24.9	93								49-130			
4,4'-DDE	26.7	25.1	94								55-130			
4,4'-DDT	26.7	23.3	87								55-130			
Hexachlorobenzene														

7 compound(s) reported

*** denotes recovery outside of QC limits.**
MS/MSD RPD is calculated via SW-846 rules on the basis of spiked sample concentrations rather than spike recoveries.

7/22/2009 14:28:53

Pace Analytical™

Organics Quality Control

Pace Analytical Services, Inc.
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Batch: 26627 **Project:** 2095862 **LCS:** 170798 18-Jun-09 18:46

MS: 170823 18-Jun-09 22:20

Units: ug/kg **MSD:** 170824 18-Jun-09 23:40

Original for MS: Batch Sample 2095808044

Parameter Name	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	RPD	QC Limits LCS	QC Limits MS/MSD	Max RPD	Qu
Hexachlorobenzene	13.3	11.6	87			696.	128.			138	60-140		20	

1 compound(s) reported

*** denotes recovery outside of QC limits.**
MS/MSD RPD is calculated via SW-846 rules on the basis of spiked sample concentrations rather than spike recoveries.

7/22/2009 14:28:53

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Pace Analytical Services, Inc.
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Organics Quality Control

Batch: 26627 **Project:** 2095862 **LCS:** 170798 18-Jun-09 18:46

MS: 170823 18-Jun-09 21:53

Units: ug/kg **MSD:** 170824 18-Jun-09 23:14

Original for MS: Batch Sample 2095808044

Parameter Name	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	RPD	QC Limits LCS	QC Limits MS/MSD	Max RPD	Qu
2,4'-DDD	13.3	13.3	100			50.2	37.4			29	60-140		20	
2,4'-DDE	13.3	12.9	97				184.				60-140		20	
2,4'-DDT	13.3	13.4	101			8.80	4.40				60-140		20	

3 compound(s) reported

* denotes recovery outside of QC limits.
MS/MSD RPD is calculated via SW-846 rules on the basis of spiked sample concentrations rather than spike recoveries.

7/22/2009 14:28:53

Pace Analytical Services, Inc.
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(504) 469-0333

Batch: 26627 **Project:** 2095862 **LCS:**

MS: 170823 18-Jun-09 22:20

Units: ug/kg **MSD:** 170824 18-Jun-09 23:40

Original for MS: Batch Sample 2095808044

Parameter Name	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	RPD	QC Limits LCS	QC Limits MS/MSD	Max RPD	Qu
Hexachlorobenzene						696.	128.			138			20	

1 compound(s) reported

*** denotes recovery outside of QC limits.**
MS/MSD RPD is calculated via SW-846 rules on the basis of spiked sample concentrations rather than spike recoveries.

Pace Analytical Services, Inc.
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(504) 469-0333

Batch: 26627 **Project:** 2095862 **LCS:**

MS: 170823 18-Jun-09 21:53

Units: ug/kg **MSD:** 170824 18-Jun-09 23:14

Original for MS: Batch Sample 2095808044

Parameter Name	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	RPD	QC Limits LCS	QC Limits MS/MSD	Max RPD	Qu
2,4'-DDD						50.2	37.4			29			20	
2,4'-DDE							184.						20	
2,4'-DDT						8.80	4.40						20	
4,4'-DDD				26.7		152.	133.	98	78	14		17-142	26	
4,4'-DDE				26.7		193.	164.	108	80	16		22-135	20	
4,4'-DDT				26.7		91.2	89.3	91	89	2		10-145	22	

6 compound(s) reported

*** denotes recovery outside of QC limits.**
MS/MSD RPD is calculated via SW-846 rules on the basis of spiked sample concentrations rather than spike recoveries.

7/22/2009 14:28:53

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Surrogate Recovery

Batch: 26627 **Project:** 2095862

Method: Soil EPA 8081

Lab ID	Sample ID	Qu	Sur 1 %Rec	Sur 2 %Rec	Sur 3 %Rec	Sur 4 %Rec	Sur 5 %Rec	Sur 6 %Rec	Sur 7 %Rec	Sur 8 %Rec
170796	BLANK for HBN 26627 [OEXT/4		79	77						
170798	LCS for HBN 26627 [OEXT/4496		82	81						
170797	LCS for HBN 26627 [OEXT/4496		79	78						
170799	LCSD for HBN 26627 [OEXT/449		79	78						
170823	OU2B-SED-103DC-09(170295M		269 D	76						
170824	OU2B-SED-103DC-09(170295M		211 D	73						
2095862006	OU2B-SED-402C-09		93	62						
2095862007	OU2B-SED-403C-09		92	69						
	QC limits:		30-130	34-130						

Sur 1: Decachlorobiphenyl (S)
Sur 2: Tetrachloro-m-xylene (S)

7/22/2009 14:28:55

*** denotes surrogate recovery outside of QC limits.**
D denotes surrogate recovery is outside of QC limits due to sample dilution, and is not considered an excursion.

Organics Method Blank

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Blank ID: BLANK for HBN 26627 **Project:** 2095862

Lab ID: 170796

Prep Level: Soil **Batch:** 26627

Method: Soil EPA 8081
8081 GCS Pesticides

Prepared: 18-Jun-09

Units: ug/kg

CAS Numb	Analyte	Dilution	Result	Qu	Reporting Limit	Analysis
53-19-0	2,4'-DDD	1	ND		1.70	18-Jun-09 17:52 DMH40
3424-82-6	2,4'-DDE	1	ND		1.70	18-Jun-09 17:52 DMH40
789-02-6	2,4'-DDT	1	ND		1.70	18-Jun-09 17:52 DMH40
72-54-8	4,4'-DDD	1	ND		3.30	18-Jun-09 17:52 DMH40
72-55-9	4,4'-DDE	1	ND		3.30	18-Jun-09 17:52 DMH40
50-29-3	4,4'-DDT	1	ND		3.30	18-Jun-09 17:52 DMH40
118-74-1	Hexachlorobenzene	1	ND		1.70	18-Jun-09 17:52 DMH40

7 compound(s) reported

7/22/2009 14:28:56

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Project: 2095862

Parameter	Batch	Blank	Units	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	RPD	QC Limits LCS	QC Limits MS/MSD	Max RPD	Qu
Mercury	120210	0.000885 J	mg/kg	0.100	0.101	101	0.418	27.1	27.5	25.9	99	0 *	6	80-120	75-125	20	D1,Q1

*** denotes recovery outside of QC limits.**
ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MS/MSD RPD is calculated via SW-846 rules on the basis of spiked sample concentrations rather than spike recoveries.

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Inorganics Quality Control

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(504) 469-0333

Project: 2095862

Parameter	Batch	Blank	Units	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	RPD	QC Limits LCS	QC Limits MS/MSD	Max RPD	Qu
Percent Moisture	120228	< 1.00	%														
Percent Moisture	120231	< 1.00	%														
Density	120280	<	g/cm3	1.00	0.998	100							3	97-103		20	
Mean Total Organic C	26875	< 250.	mg/kg	1000	927.	93	4210		9520	11900	90	168 *	23	80-120	50-150	30	
Mean Total Organic C	26875	<	mg/kg				7550		24500	28500	290 *	343 *	15		50-150	30	

*** denotes recovery outside of QC limits.**
ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MS/MSD RPD is calculated via SW-846 rules on the basis of spiked sample concentrations rather than spike recoveries.

7/22/2009 14:28:59

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Project: 2095862

Value	Description
D1	The analysis was performed at a dilution due to the high analyte concentration.
Q1	The matrix spike recoveries are poor. Acceptable method performance for this analyte has been demonstrated by the laboratory control sample recovery.
J	This estimated value for the analyte is below the adjusted reporting limit but above the instrument reporting limit.
U	The analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.
B	This analyte was detected in the method blank.
E	The sample concentration is above the linear calibrated range of the analysis.
ND	The analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.
MDL	The adjusted method detection limit.
LCS(D)	Laboratory Control Sample (Duplicate).
MS(D)	Matrix Spike (Duplicate).
DUP	Sample Duplicate.
RPD	Relative Percent Difference.
U	This analyte was analyzed for but not detected at the reporting limit or method detection limit as indicated.

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2095862 20-OLIN ENV

Document ... completed accurately.

Sediment

095862

Page: 1 of 1

1145364

Section A Required Client Information:

Company:	MACTEC
Address:	3200 TownPoint Dr NW Ste 100 Kennesaw GA 30144
Email To:	cedraper@mactec.com
Phone: 770 421 3565	Fax: 770 421 3486
Requested Due Date/TAT:	Standard

Section B Required Project Inform

Report To:	Kdroberts@olin.com
Copy To:	Kpwatson@mactec.com mbarker@mactec.com
Purchase Order No.:	OEMC0813-80
Project Name:	Olin McIntosh ESPI
Project Number:	6107090035 2009.02

Attention:	Dennis Turner
Company Name:	Olin
Address:	3055 Norcross St, Cleveland TN
Pace Quote Reference:	
Pace Project Manager:	Cindy Olavesen
Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☒ OTHER Cercla

Site Location STATE: AL

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes MATRIX / CODE

Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Tissue	TS
Other	OT

RMP

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test ↓ Y/N	Total Hg	Sulfide	Sulfate	Density	TOC	Grain Size	% Moisture	HCB	2,4-DDT, DDD, DDE	4,4-DDT, DDD, DDE	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	DU2B-SED-304C-09	OT	C			6/9/09	0910		5	5									X			X	X	X				20698073
2	DU2B-SED-~~404C-09~~ 404C-09	OT	C			6/9/09	0935		4	4									X				X	X	X			8074
3	DU2B-SED-402C-09	OT	C			6/9/09	1010		6	6									X				X	X	X	X	X	8104-042 Co
4	~~DU2B-SED-402C-09(MS/MSD)~~	~~OT~~	~~C~~		MS	6/9/09	1010												X				X	X	X	X		
5	DU2B-SED-402C-09(MS/MSD)	OT	C			6/9/09	1010		4	4									X							X	X	X	105
6	DU2B-SED-403C-09	OT	C			6/9/09	1035		5	5									X			X	X	X	X	X			8119
7	DU2B-SED-404C-09	OT	C			6/9/09	1100		4	4									X				X	X	X				8075
8																													
9																													
10																													
11																													
12																													

page 33 of 41

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
OT=Sediment	Rani Reece/MACTEC	6/9/09	1400							
	Fed Ex	6/10/09	0840	Lisa Nehlsen	06/10/09	0840	3.8	Y	Y	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Rani Reece

SIGNATURE of SAMPLER: RReece DATE Signed (MM/DD/YY): 6/9/09

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

2095862 20-OLIN ENV

Pace Analytical

1000 Riverbend, Blvd., Suite F
St. Rose, LA 70087

Sample Condition Upon

Project #: 20

Courier: ☐ Pace Courier ☐ Hackbarth ☑ Fed X ☐ UPS ☐ DHL ☐ USPS ☐ Customer ☐ Other

Custody Seal on Cooler/Box Present: [see COC] **Custody Seals Intact:** ☑Yes ☐No

Therometer Used: ☑ Therm Fisher IR 1 ☐ Therm Fisher IR 2

Type of Ice: (Wet) Blue None

Samples on Ice: [see COC]

Cooler Temperature: [see COC]

Temp should be above freezing to 6°C

Date and initials of person examining contents: LAT 06/10/09

Temp must be measured from Temperature blank when present

		Comments:
Temperature Blank Present"?	☐Yes ☑No ☐N/A	1
Chain of Custody Present:	☑Yes ☐No ☐N/A	2
Chain of Custody Complete:	☑Yes ☐No ☐N/A	3
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	4
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	5
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	6
Sufficient Volume:	☑Yes ☐No ☐N/A	7
Correct Containers Used:	☑Yes ☐No ☐N/A	8
Filtered vol. Rec. for Diss. tests	☐Yes ☐No ☑N/A	9
Sample Labels match COC:	☑Yes ☐No ☐N/A	10
All containers received within manufacture's precautionary and/or expiration dates.	☑Yes ☐No ☐N/A	11
All containers needing preservation have been checked (except VOA, coliform, & O&G).	☑Yes ☐No ☐N/A	12
All containers preservation checked found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	13 If No, was preserative added? ☐Yes ☐No If added record lot no.: HNO3 _____ H2SO4 _____
Samples checked for dechlorination:	☐Yes ☑No ☐N/A	14
Headspace in VOA Vials (>6mm):	☐Yes ☑No ☐N/A	14
Trip Blank Present:	☐Yes ☑No ☐N/A	16
Trip Blank Custody Seals Present	☐Yes ☐No ☐N/A	17
Pace Trip Blank Lot # (If purchased): N/A		18

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

TRANSMITTAL

AAI

Ardaman & Associates, Inc.

To:	Pace Analytical	**Date:**	June 23, 2009
	1000 Riverbend, Suite F	**Job No.:**	09-L2569
	St. Rose, LA 70087	**Project:**	2095862
Email:	cindy.olavesen@pacelabs.com		
Attention:	Cindy Olavesen	**From:**	Megan G. Bourgeois, E.I.

COPIES	DESCRIPTION
1	Laboratory Test Results Table 1
1	Particle Size Analysis (5)
1	Chain of Custody

THESE ARE TRANSMITTED:

■ **FOR YOUR USE** ☐ **FOR REVIEW & COMMENT** ■ **AS REQUESTED**

REMARKS: _____

Reviewed By:

Megan G. Bourgeois

Megan G. Bourgeois, E.I.

Approved By:

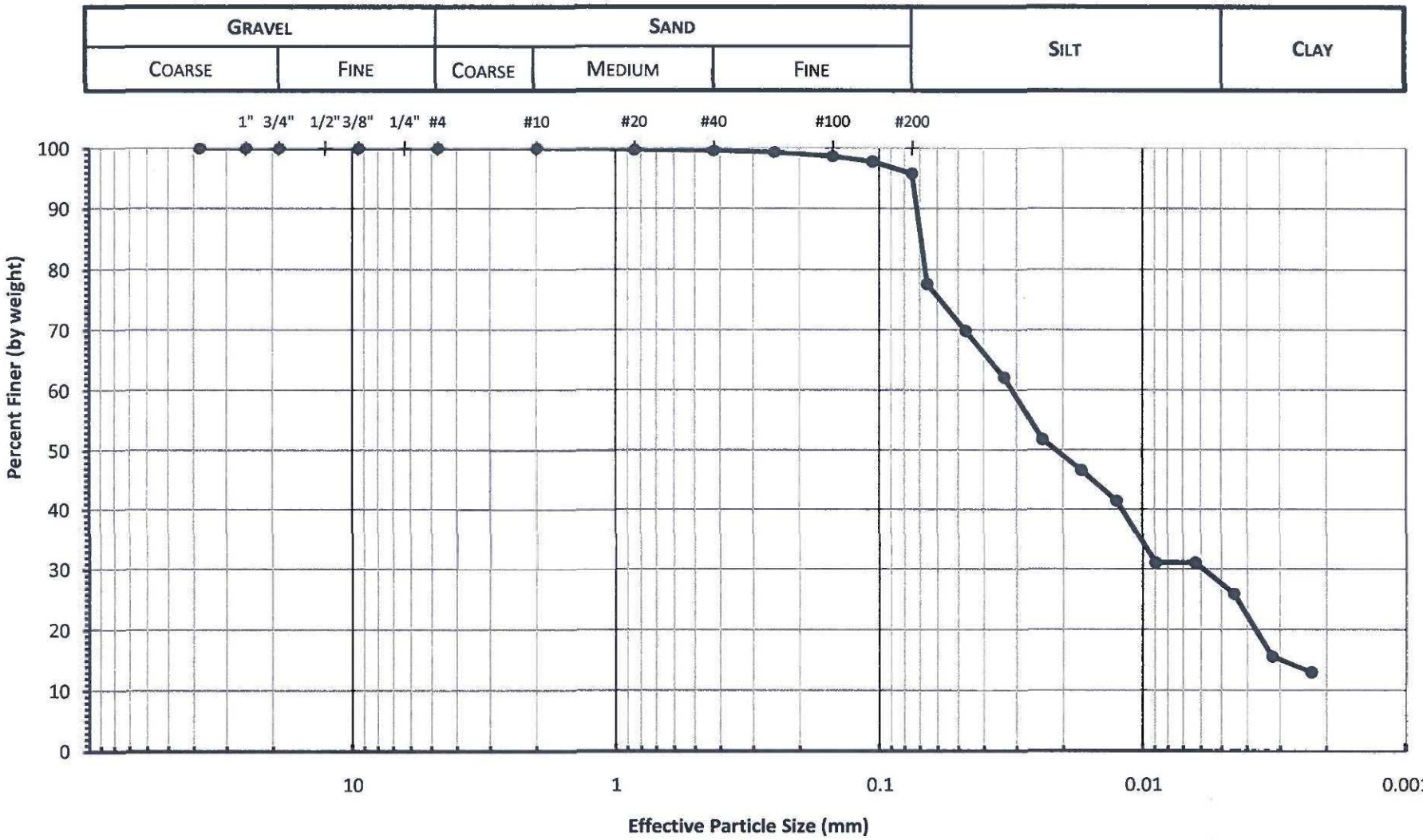
Jason Manning, P.E.
Branch Manager

AASHTO Accredited Laboratory
LELAP Certificate No. 02052

316 HIGHLANDIA DRIVE
BATON ROUGE, LA 70810
PHONE: (225) 752-4790
FAX: (225) 752-4878

Client: PACE
Project: 2095862
AAI Project No.09-L2569

PARTICLE SIZE ANALYSIS
(ASTM D422)



SAMPLE IDENTIFICATION		VISUAL IDENTIFICATION	% GRAVEL	% SAND	% SILT	% CLAY
BORING	DEPTH (FT)					
OU2B-SED-304C-09		Gray silty clay w/orgs	0.0	4.3	68.4	27.3

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USACE Validated

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Baton Rouge, LA 70810
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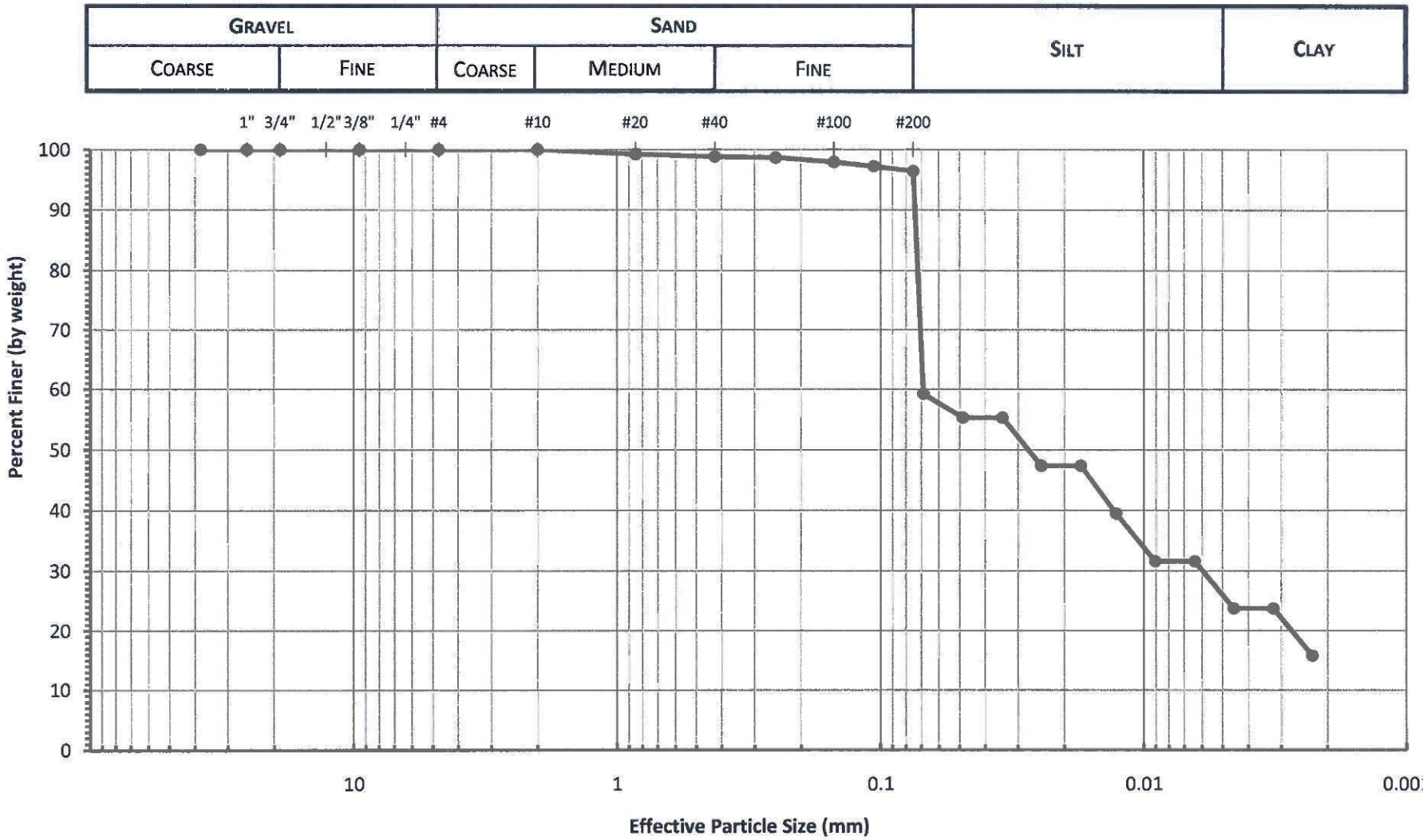
225-752-4878 (fax)

Ardaman & Associates, Inc.

Client: PACE
Project: 2095862
AAI Project No.09-L2569

PARTICLE SIZE ANALYSIS
(ASTM D422)



SAMPLE IDENTIFICATION		VISUAL IDENTIFICATION	% GRAVEL	% SAND	% SILT	% CLAY
BORING	DEPTH (FT)					
OU2B-SED-401C-09		Gray silty clay w/orgs	0.0	3.6	70.8	25.6

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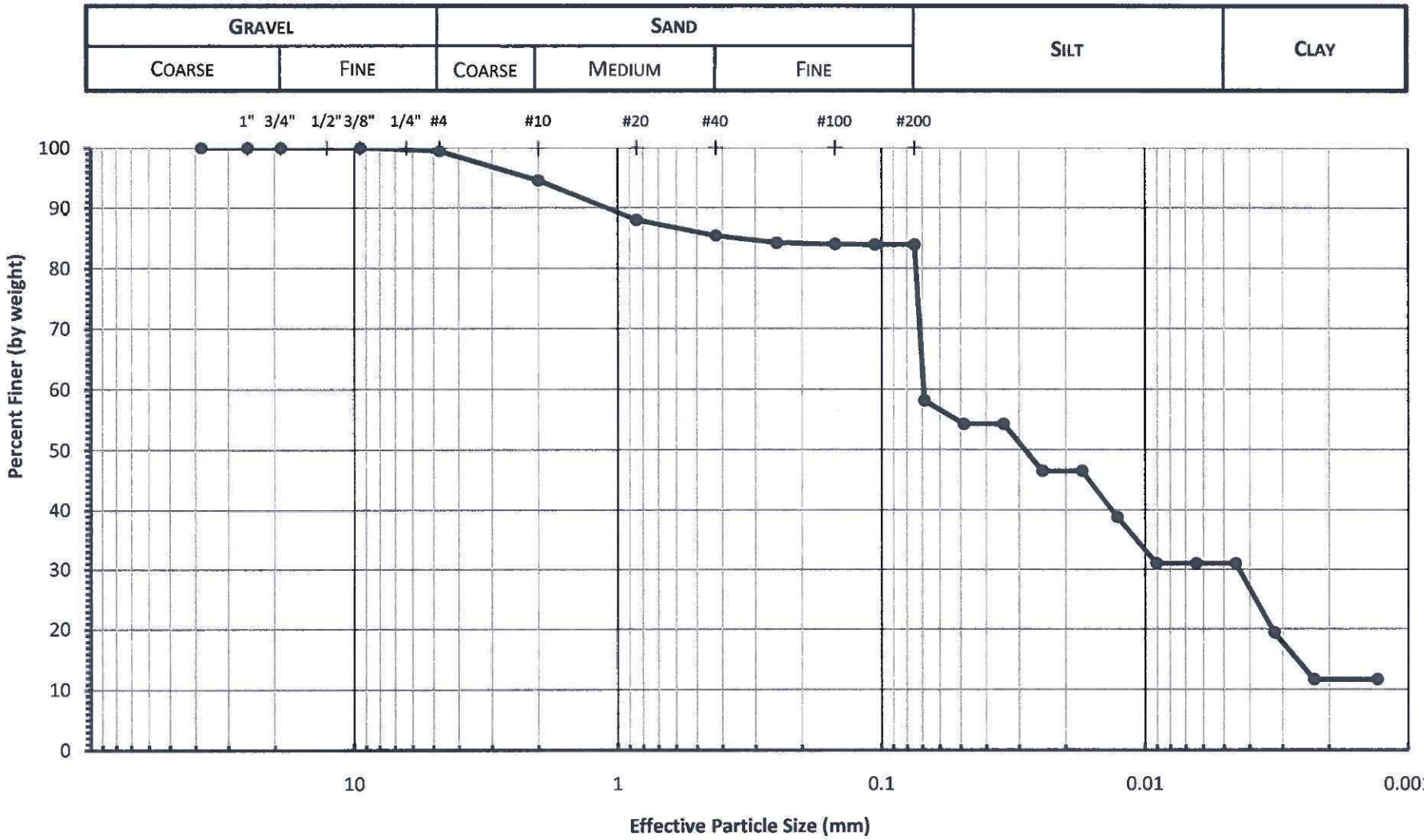
225-752-4878 (fax)

Client: PACE
Project: 2095862
AAI Project No.09-L2569

PARTICLE SIZE ANALYSIS
(ASTM D422)



SAMPLE IDENTIFICATION		VISUAL IDENTIFICATION	% GRAVEL	% SAND	% SILT	% CLAY
BORING	DEPTH (FT)					
OU2B-SED-404C-09		Light gray silty clay w/orgs & roots	0.5	15.6	52.9	31.0

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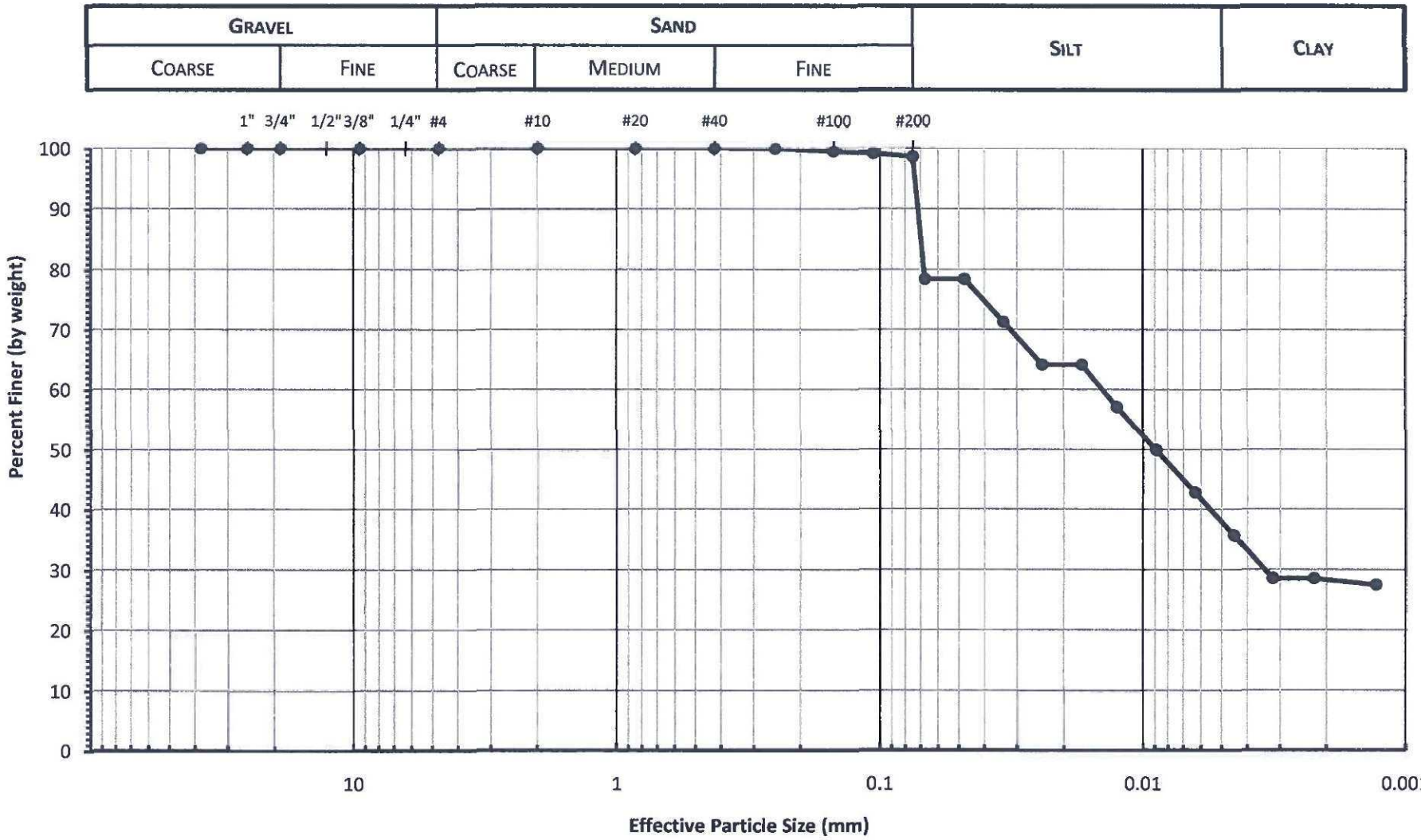
Client: PACE
Project: 2095862
AAI Project No.09-L2569

PARTICLE SIZE ANALYSIS
(ASTM D422)



SAMPLE IDENTIFICATION		VISUAL IDENTIFICATION	% GRAVEL	% SAND	% SILT	% CLAY
BORING	DEPTH (FT)					
OU2B-SED-403C-09		Gray & brown silty clay w/orgs	0.0	1.4	61.0	37.6

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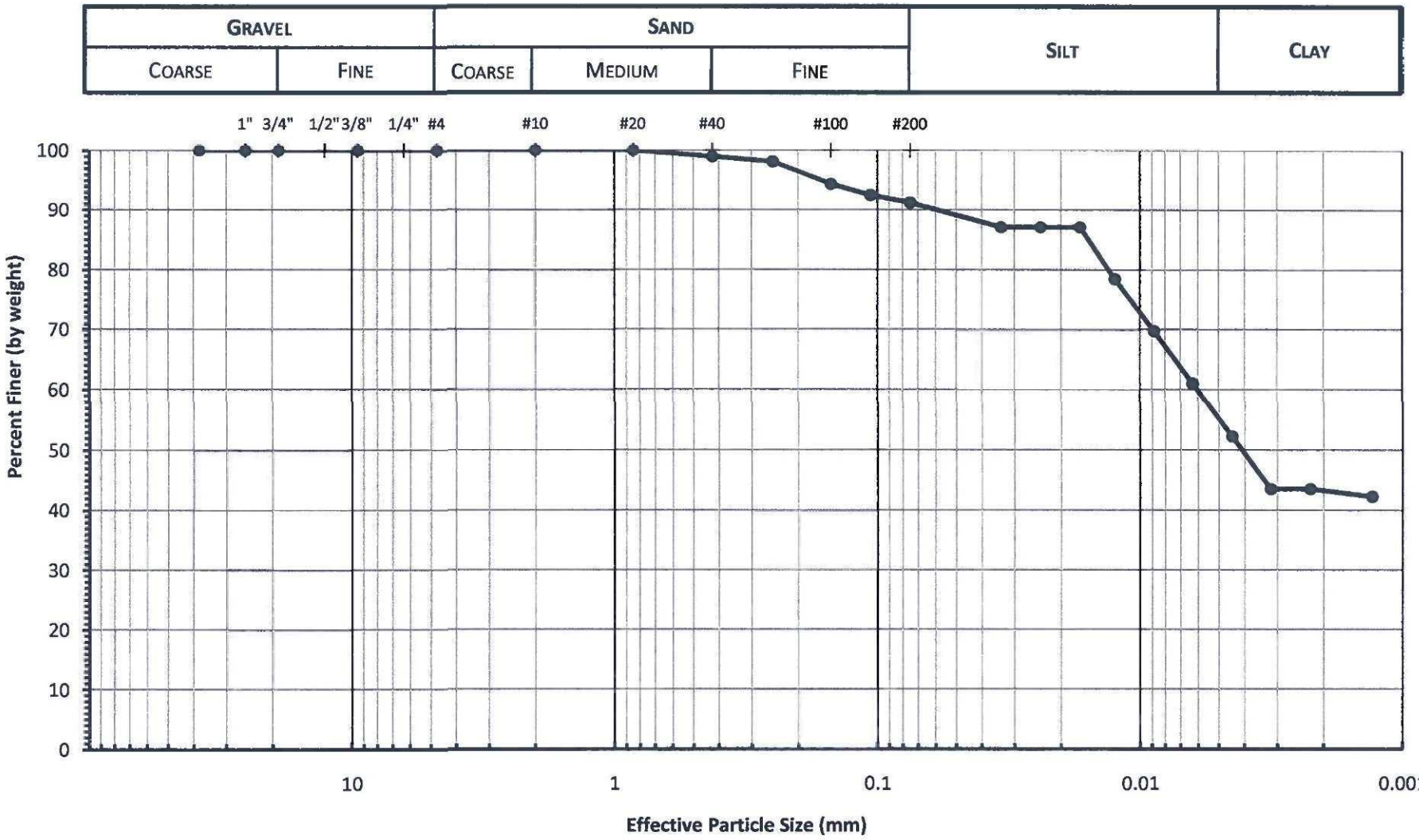
Client: PACE
Project: 2095862
AAI Project No.09-L2569

PARTICLE SIZE ANALYSIS
(ASTM D422)



SAMPLE IDENTIFICATION		VISUAL IDENTIFICATION	% GRAVEL	% SAND	% SILT	% CLAY
BORING	DEPTH (FT)					
OU2B-SED-402C-09		Gray & brown silty clay w/roots	0.0	8.8	36.4	54.8

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Ardaman & Associates, Inc.

Pace Analytical™
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SUBCONTRACTING CHAIN-OF-CUSTODY

09-L2569

Pace Analytical Services,
1000 Riverbend Blvd., S
St. Rose, LA 7
Phone: 504.469.
Fax 504.469.

Due Date: 7/11/09 **Freight Carrier:** Pace **Custody Seals:** (Intact) / Broken / Missing

Subcontractor: _____ **Airbill #:** _____ **Samples:** (Intact) / Broken / Missing

Contact: Megan **EPN #:** 2095862 **Cooler Temperature (°C):** _____

PACE SAMPLE ID	CLIENT SAMPLE ID	SAMPLE DATE/TIME	MATRIX	SAMPLE #	ANALYTE/ METHOD	SAMPLE COMMENTS
20698073	OU2B-SED-304C-09	6/9/09 09:10	S	1		Grain Size
8074	-401C-09	09:38				
8075	-404C-09	11:00				
8104	-402C-09	10:10				
8119	403C-09	10:35				

Relinquished by:	Date/Time	Received by:	Project Comments/Remarks:
Thomas Hudson	6-12-09 0815	Courtney Dor	See attached report format
Relinquished by:	Date/Time	Received by:	
Relinquished by:	Date/Time	Received for subcontractor by:	

REPORT RESULTS TO THE ADDRESS ABOVE TO THE ATTENTION OF ~~KAREN BROWN~~: If the hardcopy results cannot be delivered by the above due date, please contact ~~Karen Brown~~ at the above number.

CINDY DIAVESEN

CINDY DIAVESEN
504-305-3626
CINDY.DIAVESEN@PACELABS.COM

FNO-SM-003:1

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

July 27, 2009

Cynthia Draper
Mactec Eng & Consulting
3200 Townpoint Dr. NW
Suite 100
Kennesaw, GA 30144

RE: Project 2095681
Project ID: OLIN MCINTOSH OU2/6109090036

Dear Cynthia Draper:

Enclosed are the analytical results for sample(s) received by the laboratory on June 04, 2009. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerly,

Cindy Olavesen

Cindy Olavesen
cindy.olavesen@pacelabs.com

REPORT OF LABORATORY ANALYSIS

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Project: 2095681

Client: Olin Enviromental Management

Project ID: OLIN MCINTOSH OU2/6109090036

U.S. Dept. of Agriculture Foreign Soil Import S-47270
Pennsylvania Dept. of Env Protection (NELAC) 68-04202
Texas Commission on Env. Quality (NELAC) T104704405-08-TX
Kansas Department of Health and Environment (NELAC) E-10266
Florida Department of Health (NELAC) E87595
Louisiana Dept. of Health and Hospitals (NELAC) LA080013
Louisiana Dept. of Environmental Quality (NELAC/LELAP) 02006

40 Green Bay Volatiles Certification IDs
40 Green Bay Certification IDs
40 California Certification #: 06247CA
40 Florida (NELAP) Certification #: E87951
40 Illinois Certification #: 200051
40 Kentucky Certification #: 83
40 Louisiana Certification #: 04169
40 Minnesota Certification #: 055-999-334
40 New York Certification #: 11887
40 North Carolina Certification #: 503
40 North Dakota Certification #: R-200
40 South Carolina Certification #: 83006001
40 Wisconsin Certification #: 405132750
40 Wisconsin DATCP Certification #: 105-444
40 California Certification #: 06246CA
40 Florida (NELAP) Certification #: E87948
40 Illinois Certification #: 200050
40 Kentucky Certification #: 82
40 Louisiana Certification #: 04168
40 Minnesota Certification #: 055-999-334
40 New York Certification #: 11888
40 North Carolina Certification #: 503
40 North Dakota Certification #: R-150
40 South Carolina Certification #: 83006001
40 Wisconsin Certification #: 405132750
40 Wisconsin DATCP Certification #: 105-444

ACCREDITED IN ACCORDANCE WITH nelac

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
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St. Rose, LA 70087
(504) 469-0333

Sample Cross Reference

Project: 2095681

Client: Olin Enviromental Management

Project ID: OLIN MCINTOSH OU2/6109090036

Client Sample ID	Lab ID	Matrix	Collection Date/Time	Received Date/Time
SDCR-1-CA-060309	20696657	Soil	03-Jun-09 16:15	04-Jun-09 08:30
SDCR-1-CB-060309	20696658	Soil	03-Jun-09 16:20	04-Jun-09 08:30
SDCR-1-CD-060309	20696660	Soil	03-Jun-09 16:30	04-Jun-09 08:30
SDCR-1-CE-060309	20696661	Soil	03-Jun-09 16:35	04-Jun-09 08:30
SDCR-1-CF-060309	20696662	Soil	03-Jun-09 16:40	04-Jun-09 08:30
SDCR-1-FA-060309	20696663	Soil	03-Jun-09 17:30	04-Jun-09 08:30
SDCR-1-FB-060309	20696664	Soil	03-Jun-09 17:35	04-Jun-09 08:30
SDCR-1-FC-060309	20696665	Soil	03-Jun-09 17:40	04-Jun-09 08:30
SDCR-1-FD-060309	20696666	Soil	03-Jun-09 17:45	04-Jun-09 08:30
SDCR-1-FE-060309	20696667	Soil	03-Jun-09 17:50	04-Jun-09 08:30
SDCR-1-CC-060309	20696668	Soil	03-Jun-09 16:25	04-Jun-09 08:30
SDCR-1-FDUP-060309	20696669	Soil	03-Jun-09 12:00	04-Jun-09 08:30

Pace Analytical Services, Inc.
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Project: 2095681

Sample Receipt Condition:

All samples were received in accordance with EPA protocol.

Holding Times:

All holding times were met.

Laboratory Control Samples:

All LCS recoveries were within QC limits.

Matrix Spikes and Duplicates:

All MS/MSD recoveries or duplicate RPDs were within QC limits.

Surrogates:

All surrogate recoveries were within QC limits.

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Project: 2095681

Analytical Method	Batch	Sample used for QC
SM 2710F-Mod	119963	
SM 2710F-Mod	119963	Project sample SDCR-1-CC-060309

For the sample used as the original for the DUP or MS/MSD for the batch:

Project sample means a sample from this project was used.
Client sample means a sample from the same client but in a different project was used.
Batch sample means a sample from the a different client was used.

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Sample Results

Client: Olin Enviromental Management

Client ID: SDCR-1-CA-060309
Project: 2095681
Project ID: OLIN MCINTOSH OU2/6109090036
Site: none
Lab ID: 2095681001
Matrix: Soil
% Moisture: 41.7458 corrected
Description: AL
Prep Level: Soil
Batch: 26436
Method: EPA 8081
8081 GCS Pesticides
Collected: 03-Jun-09
Received: 03-Jun-09
Prepared: 16-Jun-09

Units: ug/kg

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
118-74-1	Hexachlorobenzene	50	1300		143.		16-Jun-09 00:12 DMH40

1 compound(s) reported

Protocol 7/27/2009 07:50:32

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: Olin Enviromental Management

Client ID: SDCR-1-CB-060309
Project: 2095681
Project ID: OLIN MCINTOSH OU2/6109090036
Site: none
Lab ID: 2095681002
Matrix: Soil
% Moisture: 41.4383 corrected
Description: AL
Prep Level: Soil
Batch: 26436
Method: EPA 8081
8081 GCS Pesticides
Collected: 03-Jun-09
Received: 03-Jun-09
Prepared: 16-Jun-09

Units: ug/kg

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
118-74-1	Hexachlorobenzene	1	15.3		2.80		16-Jun-09 00:39 DMH40

1 compound(s) reported

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Sample Results

Client: Olin Enviromental Management

Client ID: SDCR-1-CD-060309
Project: 2095681
Project ID: OLIN MCINTOSH OU2/6109090036
Site: none
Lab ID: 2095681004
Matrix: Soil
% Moisture: 46.8085 corrected
Description: AL
Prep Level: Soil
Batch: 26436
Method: EPA 8081
8081 GCS Pesticides
Collected: 03-Jun-09
Received: 03-Jun-09
Prepared: 16-Jun-09

Units: ug/kg

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
118-74-1	Hexachlorobenzene	1	ND		3.10		16-Jun-09 01:32 DMH40

1 compound(s) reported

Protocol 7/27/2009 07:50:32

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: Olin Enviromental Management

Client ID: SDCR-1-CE-060309
Project: 2095681
Project ID: OLIN MCINTOSH OU2/6109090036
Site: none
Lab ID: 2095681005
Matrix: Soil
% Moisture: 39.6423 corrected
Description: AL
Prep Level: Soil
Batch: 26436
Method: EPA 8081
8081 GCS Pesticides
Collected: 03-Jun-09
Received: 03-Jun-09
Prepared: 16-Jun-09

Units: ug/kg

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
118-74-1	Hexachlorobenzene	1	ND		2.80		16-Jun-09 02:26 DMH40

1 compound(s) reported

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Client: Olin Enviromental Management

Client ID: SDCR-1-CF-060309
Project: 2095681
Project ID: OLIN MCINTOSH OU2/6109090036
Site: none
Lab ID: 2095681006
Matrix: Soil
% Moisture: 46.9841 corrected
Description: AL
Prep Level: Soil
Batch: 26436
Method: EPA 8081
8081 GCS Pesticides
Collected: 03-Jun-09
Received: 03-Jun-09
Prepared: 16-Jun-09

Units: ug/kg

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
118-74-1	Hexachlorobenzene	1	3.60		3.10		16-Jun-09 03:19 DMH40

1 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Protocol 7/27/2009 07:50:32
Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: Olin Enviromental Management

Client ID: SDCR-1-CC-060309
Project: 2095681
Project ID: OLIN MCINTOSH OU2/6109090036
Site: none
Lab ID: 2095681012
Matrix: Soil
% Moisture: 39.7718 corrected
Description: AL
Prep Level: Soil
Batch: 26436
Method: EPA 8081
8081 GCS Pesticides
Collected: 03-Jun-09
Received: 03-Jun-09
Prepared: 16-Jun-09

Units: ug/kg

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
118-74-1	Hexachlorobenzene	1	5.50		2.80		16-Jun-09 03:46 DMH40

1 compound(s) reported

Protocol 7/27/2009 07:50:32

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: Olin Enviromental Management

Client ID: SDCR-1-FDUP-060309
Project: 2095681
Project ID: OLIN MCINTOSH OU2/6109090036
Site: none
Lab ID: 2095681013
Matrix: Soil
% Moisture: 37.9901 corrected
Description: AL
Prep Level: Soil
Batch: 26436
Method: EPA 8081
8081 GCS Pesticides
Collected: 03-Jun-09
Received: 03-Jun-09
Prepared: 16-Jun-09

Units: ug/kg

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
118-74-1	Hexachlorobenzene	1	5.00		2.80		16-Jun-09 05:07 DMH40

1 compound(s) reported

Protocol 7/27/2009 07:50:32

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: Olin Enviromental Management

Client ID: 20696633
Project: 2095681
Project ID: OLIN MCINTOSH OU2/6109090036
Site:
Lab ID: 20696633
Matrix: Soil
%Moisture: 36.7 Not Corrected
Description:
Collected: 03-Jun-09
Received: 04-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Density	SM 2710F-Mod	119963	1	1.43		g/cm3	0.500	08-Jun-09	08-Jun-09 11:15 TAE	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: Olin Enviromental Management

Client ID: 20696633 DUP 1
Project: 2095681
Project ID: OLIN MCINTOSH OU2/6109090036
Site: None
Lab ID: 20696633 DUP 1
Matrix: Soil
%Moisture: 36.7 Not Corrected
Description: None
Collected: 03-Jun-09
Received: 04-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Limit
Density	SM 2710F-Mod	119963	1	1.38		g/cm3	0.500	08-Jun-09	08-Jun-09	11:15 TAE	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: Olin Enviromental Management

Client ID: SDCR-1-CA-060309
Project: 2095681
Project ID: OLIN MCINTOSH OU2/6109090036
Site: None
Lab ID: 20696657
Matrix: Soil
%Moisture: 0 Not Corrected
Description: None
Collected: 03-Jun-09
Received: 04-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Clay	ASTM D422	121096	1	55.1		%	0.0100	16-Jun-09	16-Jun-09 00:00 XXXX	
Density	SM 2710F-Mod	119963	1	1.51		g/cm3	0.500	08-Jun-09	08-Jun-09 11:15 TAE	
Gravel	ASTM D422	121096	1	ND		%	0.0100	16-Jun-09	16-Jun-09 00:00 XXXX	
Sand	ASTM D422	121096	1	5.40		%	0.0100	16-Jun-09	16-Jun-09 00:00 XXXX	
Silt	ASTM D422	121096	1	39.4		%	0.0100	16-Jun-09	16-Jun-09 00:00 XXXX	

5 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: Olin Enviromental Management

Client ID: SDCR-1-CB-060309 **Project:** 2095681

Project ID: OLIN MCINTOSH OU2/6109090036 **Site:** None

Lab ID: 20696658 **Matrix:** Soil **%Moisture:** 0 Not Corrected

Description: None **Collected:** 03-Jun-09 **Received:** 04-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Clay	ASTM D422	121096	1	59.1		%	0.0100	16-Jun-09	16-Jun-09 00:00 XXXX	
Density	SM 2710F-Mod	119963	1	1.18		g/cm3	0.500	08-Jun-09	08-Jun-09 11:15 TAE	
Gravel	ASTM D422	121096	1	ND		%	0.0100	16-Jun-09	16-Jun-09 00:00 XXXX	
Sand	ASTM D422	121096	1	9.10		%	0.0100	16-Jun-09	16-Jun-09 00:00 XXXX	
Silt	ASTM D422	121096	1	31.8		%	0.0100	16-Jun-09	16-Jun-09 00:00 XXXX	

5 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: Olin Enviromental Management

Client ID: SDCR-1-CD-060309 **Project:** 2095681

Project ID: OLIN MCINTOSH OU2/6109090036 **Site:** None

Lab ID: 20696660 **Matrix:** Soil **%Moisture:** 0 Not Corrected

Description: None **Collected:** 03-Jun-09 **Received:** 04-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Clay	ASTM D422	121096	1	49.2		%	0.0100	16-Jun-09	16-Jun-09 00:00 XXXX	
Density	SM 2710F-Mod	119963	1	1.32		g/cm3	0.500	08-Jun-09	08-Jun-09 11:15 TAE	
Gravel	ASTM D422	121096	1	ND		%	0.0100	16-Jun-09	16-Jun-09 00:00 XXXX	
Sand	ASTM D422	121096	1	10.0		%	0.0100	16-Jun-09	16-Jun-09 00:00 XXXX	
Silt	ASTM D422	121096	1	40.8		%	0.0100	16-Jun-09	16-Jun-09 00:00 XXXX	

5 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: Olin Enviromental Management

Client ID: SDCR-1-CE-060309
Project: 2095681
Project ID: OLIN MCINTOSH OU2/6109090036
Site: None
Lab ID: 20696661
Matrix: Soil
%Moisture: 0 Not Corrected
Description: None
Collected: 03-Jun-09
Received: 04-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Clay	ASTM D422	121096	1	61.5		%	0.0100	16-Jun-09	16-Jun-09 00:00 XXXX	
Density	SM 2710F-Mod	119963	1	1.28		g/cm3	0.500	08-Jun-09	08-Jun-09 11:15 TAE	
Gravel	ASTM D422	121096	1	ND		%	0.0100	16-Jun-09	16-Jun-09 00:00 XXXX	
Sand	ASTM D422	121096	1	0.600		%	0.0100	16-Jun-09	16-Jun-09 00:00 XXXX	
Silt	ASTM D422	121096	1	37.9		%	0.0100	16-Jun-09	16-Jun-09 00:00 XXXX	

5 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: Olin Enviromental Management

Client ID: SDCR-1-CF-060309 **Project:** 2095681

Project ID: OLIN MCINTOSH OU2/6109090036 **Site:** None

Lab ID: 20696662 **Matrix:** Soil **%Moisture:** 0 Not Corrected

Description: None **Collected:** 03-Jun-09 **Received:** 04-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Clay	ASTM D422	121096	1	75.4		%	0.0100	16-Jun-09	16-Jun-09 00:00 XXXX	
Density	SM 2710F-Mod	119963	1	1.11		g/cm3	0.500	08-Jun-09	08-Jun-09 11:15 TAE	
Gravel	ASTM D422	121096	1	ND		%	0.0100	16-Jun-09	16-Jun-09 00:00 XXXX	
Sand	ASTM D422	121096	1	ND		%	0.0100	16-Jun-09	16-Jun-09 00:00 XXXX	
Silt	ASTM D422	121096	1	24.6		%	0.0100	16-Jun-09	16-Jun-09 00:00 XXXX	

5 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: Olin Enviromental Management

Client ID: SDCR-1-CC-060309 **Project:** 2095681

Project ID: OLIN MCINTOSH OU2/6109090036 **Site:** None

Lab ID: 20696668 **Matrix:** Soil **%Moisture:** 0 Not Corrected

Description: None **Collected:** 03-Jun-09 **Received:** 04-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Clay	ASTM D422	121096	1	41.6		%	0.0100	16-Jun-09	16-Jun-09 00:00 XXXX	
Density	SM 2710F-Mod	119963	1	1.32		g/cm3	0.500	08-Jun-09	08-Jun-09 11:15 TAE	
Gravel	ASTM D422	121096	1	ND		%	0.0100	16-Jun-09	16-Jun-09 00:00 XXXX	
Sand	ASTM D422	121096	1	35.9		%	0.0100	16-Jun-09	16-Jun-09 00:00 XXXX	
Silt	ASTM D422	121096	1	22.5		%	0.0100	16-Jun-09	16-Jun-09 00:00 XXXX	

5 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: Olin Enviromental Management

Client ID: SDCR-1-CC-060309 DUP 2
Project: 2095681
Project ID: OLIN MCINTOSH OU2/6109090036
Site: None
Lab ID: 20696668 DUP 2
Matrix: Soil
%Moisture: 0 Not Corrected
Description: None
Collected: 03-Jun-09
Received: 04-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Limit
Density	SM 2710F-Mod	119963	1	1.32		g/cm3	0.500	08-Jun-09	08-Jun-09	11:15 TAE	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: Olin Enviromental Management

Client ID: 119963 LCS 1 **Project:** 2095681

Project ID: OLIN MCINTOSH OU2/6109090036 **Site:**

Lab ID: 20697189 **Matrix:** **%Moisture:** n/a

Description: **Collected:** **Received:**

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Limit
Density	SM 2710F-Mod	119963	1	0.998		g/cm3	0.500	08-Jun-09	08-Jun-09 11:15	TAE	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: Olin Enviromental Management

Client ID: SDCR-1-FA-060309
Project: 2095681
Project ID: OLIN MCINTOSH OU2/6109090036
Site: none
Lab ID: 2095681007
Matrix: Soil
%Moisture: 1 not corrected
Description: AL
Collected: 03-Jun-09
Received: 03-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Mean Total Organic Carb	EPA 9060 Mod	26503	1	10700		mg/kg	3640	16-Jun-09	16-Jun-09 11:09 DJR40	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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(504) 469-0333

Client: Olin Enviromental Management

Client ID: SDCR-1-FB-060309
Project: 2095681
Project ID: OLIN MCINTOSH OU2/6109090036
Site: none
Lab ID: 2095681008
Matrix: Soil
%Moisture: 1 not corrected
Description: AL
Collected: 03-Jun-09
Received: 03-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Mean Total Organic Carb	EPA 9060 Mod	26503	1	4330		mg/kg	2040	16-Jun-09	16-Jun-09 11:23 DJR40	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: Olin Enviromental Management

Client ID: SDCR-1-FC-060309
Project: 2095681
Project ID: OLIN MCINTOSH OU2/6109090036
Site: none
Lab ID: 2095681009
Matrix: Soil
%Moisture: 1 not corrected
Description: AL
Collected: 03-Jun-09
Received: 03-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Mean Total Organic Carb	EPA 9060 Mod	26503	1	5100		mg/kg	971.	16-Jun-09	16-Jun-09 11:39 DJR40	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Client: Olin Enviromental Management

Client ID: SDCR-1-FD-060309
Project: 2095681
Project ID: OLIN MCINTOSH OU2/6109090036
Site: none
Lab ID: 2095681010
Matrix: Soil
%Moisture: 1 not corrected
Description: AL
Collected: 03-Jun-09
Received: 03-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Mean Total Organic Carb	EPA 9060 Mod	26503	1	3410		mg/kg	1040	16-Jun-09	16-Jun-09 12:24 DJR40	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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St. Rose, LA 70087
(504) 469-0333

Sample Results

Client: Olin Enviromental Management

Client ID: SDCR-1-FE-060309
Project: 2095681
Project ID: OLIN MCINTOSH OU2/6109090036
Site: none
Lab ID: 2095681011
Matrix: Soil
%Moisture: 1 not corrected
Description: AL
Collected: 03-Jun-09
Received: 03-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Mean Total Organic Carb	EPA 9060 Mod	26503	1	1320		mg/kg	971.	16-Jun-09	16-Jun-09 13:03 DJR40	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Sample Results

Client: Olin Enviromental Management

Client ID: SDCR-1-FDUP-060309
Project: 2095681
Project ID: OLIN MCINTOSH OU2/6109090036
Site: none
Lab ID: 2095681013
Matrix: Soil
%Moisture: 1 corrected
Description: AL
Collected: 03-Jun-09
Received: 03-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Mean Total Organic Carb	EPA 9060 Mod	26503	1	1970		mg/kg	496.	16-Jun-09	16-Jun-09 13:26 DJR40	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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St. Rose, LA 70087
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Organics Quality Control

Batch: 26436 **Project:** 2095681 **LCS:** 169788 15-Jun-09 22:25

MS: 169829 16-Jun-09 4:13

Units: ug/kg **MSD:** 169830 16-Jun-09 4:40

Original for MS: Batch Sample 2095681012

Parameter Name	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	RPD	QC Limits LCS	QC Limits MS/MSD	Max RPD	Qu
Hexachlorobenzene	13.3	10.5	79	13.3		19.1	20.9	61	69	9	60-140	60-140	20	

1 compound(s) reported

*** denotes recovery outside of QC limits.**
MS/MSD RPD is calculated via SW-846 rules on the basis of spiked sample concentrations rather than spike recoveries.

7/27/2009 07:50:35

Pace Analytical™

Surrogate Recovery

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Batch: 26436 **Project:** 2095681

Method: Soil EPA 8081

Lab ID	Sample ID	Qu	Sur 1 %Rec	Sur 2 %Rec	Sur 3 %Rec	Sur 4 %Rec	Sur 5 %Rec	Sur 6 %Rec	Sur 7 %Rec	Sur 8 %Rec
169787	BLANK for HBN 26436 [OEXT/4		70	69						
169788	LCS for HBN 26436 [OEXT/4475		73	75						
2095681001	SDCR-1-CA-060309		0 D	0 D						
2095681002	SDCR-1-CB-060309		224 *	75						
2095681012	SDCR-1-CC-060309		129	118						
169829	SDCR-1-CC-060309(167682MS)		72	61						
169830	SDCR-1-CC-060309(167682MSD		65	57						
2095681004	SDCR-1-CD-060309		132 *	126						
2095681005	SDCR-1-CE-060309		76	70						
2095681006	SDCR-1-CF-060309		66	63						
2095681013	SDCR-1-FDUP-060309		81	73						
	QC limits:		30-130	34-130						

Sur 1: Decachlorobiphenyl (S)
Sur 2: Tetrachloro-m-xylene (S)

*** denotes surrogate recovery outside of QC limits.**
D denotes surrogate recovery is outside of QC limits due to sample dilution, and is not considered an excursion.

7/27/2009 07:50:36

Organics Method Blank

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Blank ID: BLANK for HBN 26436 **Project:** 2095681

Lab ID: 169787

Prep Level: Soil **Batch:** 26436

Method: Soil EPA 8081
8081 GCS Pesticides

Prepared: 15-Jun-09

Units: ug/kg

CAS Numb	Analyte	Dilution	Result	Qu	Reporting Limit	Analysis
118-74-1	Hexachlorobenzene	1	ND		1.70	15-Jun-09 21:58 DMH40

1 compound(s) reported

7/27/2009 07:50:38

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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St. Rose, LA 70087
(504) 469-0333

Inorganics Quality Control

Project: 2095681

Parameter	Batch	Blank	Units	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	RPD	QC Limits LCS	QC Limits MS/MSD	Max RPD	Qu
Density	119963	<	g/cm3	1.00	0.998	100							3	97-103		20	
Mean Total Organic C	26503	< 250.	mg/kg	1000	1060	106	2650		7680	7450	97	89	3	80-120	50-150	30	
Mean Total Organic C	26503	<	mg/kg				2610		8070	8130	57	57	0.7		50-150	30	

*** denotes recovery outside of QC limits.**
ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MS/MSD RPD is calculated via SW-846 rules on the basis of spiked sample concentrations rather than spike recoveries.

7/27/2009 07:50:39

Pace Analytical Services, Inc.
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St. Rose, LA 70087
(504) 469-0333

Project: 2095681

Value	Description
J	This estimated value for the analyte is below the adjusted reporting limit but above the instrument reporting limit.
U	The analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.
B	This analyte was detected in the method blank.
E	The sample concentration is above the linear calibrated range of the analysis.
ND	The analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.
MDL	The adjusted method detection limit.
LCS(D)	Laboratory Control Sample (Duplicate).
MS(D)	Matrix Spike (Duplicate).
DUP	Sample Duplicate.
RPD	Relative Percent Difference.
U	This analyte was analyzed for but not detected at the reporting limit or method detection limit as indicated.

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www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

2095681

Page: 1 of 2

1145197

Section A Required Client Information:

Company: MACTEC ENGC
Address: 3200 Town Pt Dr NW Ste 100
Kennesaw GA 30144
Email To: cedraper@mactec.com
Phone: 7704213365 Fax: 7704213481
Requested Due Date/TAT: Standard

Section B Required Project Information:

Report To: Cynthia Draper
Copy To: mbaker@mactec.com
Purchase Order No.: OEMC 0013-80
Project Name: OlinLeonardsHole2
Project Number: 6109090036 Task 2009.02

Section C Invoice Information:

Attention: Dennis Turner
Company Name: Olin Corporation
Address: 3855 N Ocoee St Ste 200
Pace Quote Reference:
Pace Project Manager: C. Oldresen
Pace Profile #:

REGULATORY AGENCY
☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☒ OTHER CERCLA

Site Location STATE: AL

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	HGB (8081A)	Grain size	Density	% moisture	TOC	Temp				Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	SDCR-1-CA-060309	SL	C	6/3/09	16:15				2	X									X	X	X	X						2069665 7
2	SDCR-1-CB-060309	SL	C		16:20				2	X									X	X	X	X						65 8
3	SDCR-1-CC-060309	SL	C		16:25				2	X									X	X	X	X			OPS			668 ~~595~~ 596
4	SDCR-1-CD-060309	SL	C		16:30				2	X									X	X	X	X						660
5	SDCR-1-CE-060309	SL	C		16:35				2	X									X	X	X	X						661
6	SDCR-1-CF-060309	SL	C		16:40				2	X									X	X	X	X						662
7	SDCR-1-FA-060309	SL	C		17:30				1	X												X						663
8	SDCR-1-FB-060309	SL	C		17:35				1	X												X						664
9	SDCR-1-FC-060309	SL	C		17:40				1	X												X						665
10	SDCR-1-FD-060309	SL	C		17:45				1	X												X						666
11	SDCR-1-FE-060309	SL	C		17:50				1	X												X						667
12	TempBlank	W	G	↓	—				1	X													X					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	RMReece/MACTEC	6/3/09	1830							
	Fed Ex	6-4-09	0830	[signature]	6-4-09	0830	3.8	X	X	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Rani Reece
SIGNATURE of SAMPLER: RMReece
DATE Signed (MM/DD/YY): 6/3/09

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

2095681 20-OLIN ENV

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

2095681

Page: 2 of 2

1192552

Section A Required Client Information:

Section B Required Project Information:

Section C Invoice Information:

Company: MACTEC	Report To: Cynthia Draper	Attention: Dennis Turner
Address: 3200 Town Point Dr NW Ste 100 Kennesaw GA 30144	Copy To: Mbarker@mactec.com	Company Name: Olin Corporation
Email To: cedraper@mactec.com	Purchase Order No.: OEMC0013-80	Address: 3855 N Ocoee St Ste 200
Phone: 770 421 3365 Fax: 770 421 3486	Project Name: Olin McIntosh OU-2	Pace Quote Reference:
Requested Due Date/TAT: Standard	Project Number: 0157090036 2009.02	Pace Project Manager: C. Olavesen
		Pace Profile #:

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☒ OTHER Georgia

Site Location STATE: AL

Section D Required Client Information

Matrix Codes (MATRIX / CODE)

Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Tissue	TS
Other	OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	HCB (8081A)	Grain Size	Density Glassware	Toc	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	SDCR1-C-MS-060309					6/3/09	1610.25	2											X	X				2069666B
2	SDCR1-C-MSD-060309					6/3/09	1610.25	2											X	X				669
3	SDCR1-C-FD-060309					6/3/09	1200	2													X	X		
4																								
5																								
6																								
7																								
8																								
9																								
10																								
11																								
12																								

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	RRReece	6/3/09	1830							
	Fed Ex	6-4-09	0830	M Mullen	6-4-09	0830	3.8	X	X	X

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Rani Reece

SIGNATURE of SAMPLER: RReece DATE Signed (MM/DD/YY): 6/3/09

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

2095681 20--OLIN ENV

Pace Analytical

1000 Riverbend. Blvd., Suite F
St. Rose, LA 70087

Sample Condition Upon Receipt

Project #: 20

Courier: ☐ Pace Courier ☐ Hackbarth ☑ Fed X ☐ UPS ☐ DHL ☐ USPS ☐ Customer ☐ Other

Custody Seal on Cooler/Box Present: [see COC] **Custody Seals Intact:** ☑Yes ☐No

Therometer Used: ☑Therm Fisher IR 1 ☐Therm Fisher IR 2

Type of Ice: (Wet) Blue None

Samples on Ice: [see COC]

Cooler Temperature: [see COC]

Temp should be above freezing to 6°C

Date and initials of person examining contents: 6-4-09

Temp must be measured from Temperature blank when present

					Comments:
Temperature Blank Present"?	☐Yes	☑No	☐N/A		1
Chain of Custody Present:		☑Yes	☐No	☐N/A	2
Chain of Custody Complete:		☑Yes	☐No	☐N/A	3
Chain of Custody Relinquished:		☑Yes	☐No	☐N/A	4
Sampler Name & Signature on COC:		☑Yes	☐No	☐N/A	5
Samples Arrived within Hold Time:		☑Yes	☐No	☐N/A	6
Sufficient Volume:		☑Yes	☐No	☐N/A	7
Correct Containers Used:		☑Yes	☐No	☐N/A	8
Filtered vol. Rec. for Diss. tests	☐Yes	☐No	☑N/A		9
Sample Labels match COC:		☑Yes	☐No	☐N/A	10 2069666 has 16:30 on label as time collected
All containers received within manafacture's precautionary and/or expiration dates.		☑Yes	☐No	☐N/A	11
All containers needing preservation have been checked (except VOA, coliform, & O&G).		☐Yes	☐No	☐N/A	12
All containers preservation checked found to be in compliance with EPA recommendation.		☐Yes	☐No	☐N/A	13 If No, was preserative added? ☐Yes ☐No If added record lot no.: HNO3 _____ H2SO4 _____
Samples checked for dechlorination:	☐Yes	☐No	☐N/A		14
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☐N/A		14
Trip Blank Present:	☐Yes	☐No	☐N/A		16
Trip Blank Custody Seals Present	☐Yes	☐No	☐N/A		17
Pace Trip Blank Lot # (If purchased): N/A					18

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution:

Time on COC correct per Client
6/8/09

TRANSMITTAL

AAI
Ardaman & Associates, Inc.

To: Pace Analytical
1000 Riverbend, Suite F
St. Rose, LA 70087
Email: cindy.olavesen@pacelabs.com
Attention: Cindy Olavesen

Date: June 30, 2009
Job No.: 09-L2567
Project: 2095681
From: Megan G. Bourgeois, E.I.

COPIES	DESCRIPTION
1	Laboratory Test Results Table 1
1	Particle Size Analysis (6)
1	Chain of Custody

THESE ARE TRANSMITTED:

■ **FOR YOUR USE** ☐ **FOR REVIEW & COMMENT** ■ **AS REQUESTED**

REMARKS:

Reviewed By:
Megan G. Bourgeois, E.I.

Approved By:
Jason Manning, P.E.
Branch Manager

AASHTO Accredited Laboratory
LELAP Certificate No. 02052

316 HIGHLANDIA DRIVE
BATON ROUGE, LA 70810
PHONE: (225) 752-4790
FAX: (225) 752-4878

2095681
LABORATORY TEST RESULTS
TABLE 1

			ASTM D2216			ASTM D854	ASTM D5084	ASTM D4972	ASTM D2974	ASTM D4318			ASTM D422	ASTM D2487
Date Tested	Sample ID	Depth (ft.)	Moisture Content (%)	Dry Density (lbs./cu.ft.)	Total Porosity (decimal)	Specific Gravity	Permeability (cm/sec)	Soil pH	Organic Content (%)	Atterberg Limits			Particle Size Analysis	Classification
										LL	PL	PI		
6/16/2009	SDCR-1-CA-060309	0											*	Gray silty clay
6/16/2009	SDCR-1-CB-060309	0											*	Light brown silty clay
6/16/2009	SDCR-1-CC-060309	0											*	Light brown clay w/sand
6/16/2009	SDCR-1-CD-060309	0											*	Light brown silt w/clay pockets
6/16/2009	SDCR-1-CE-060309	0											*	Gray clay w/silt
6/16/2009	SDCR-1-CF-060309	0											*	Gray silty clay

NOTE:
(1) FOC = Organic Content divided by 174.
(2) * See Particle Size Analysis Graph.

Ardaman & Associates, Inc.

Project: 2095681

Client: Pace Analytical

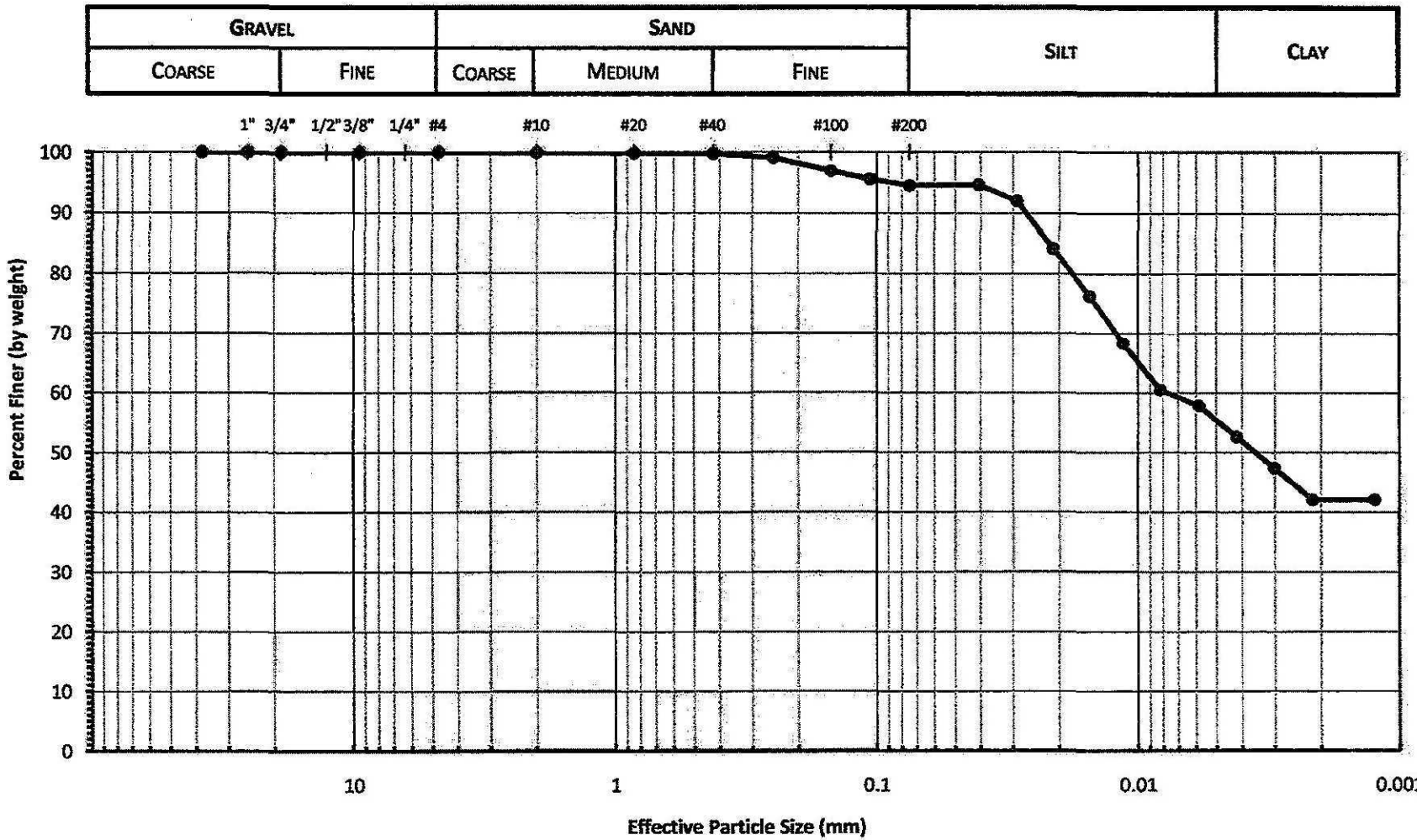
File No.: 09-L2567

Date: 6/30/2009

ARD ENVIRONMENTAL TABLE 09-L2567.GPJ LOG01.GDT 06/30/09

Client: PACE
Project: 2095681
AAI Project No.09-L2567

PARTICLE SIZE ANALYSIS
(ASTM D422)



SAMPLE IDENTIFICATION		VISUAL IDENTIFICATION	% GRAVEL	% SAND	% SILT	% CLAY
BORING	DEPTH (FT)					
SDCR-1-CA-060309	0	Gray silty clay	0.0	5.4	39.4	55.1

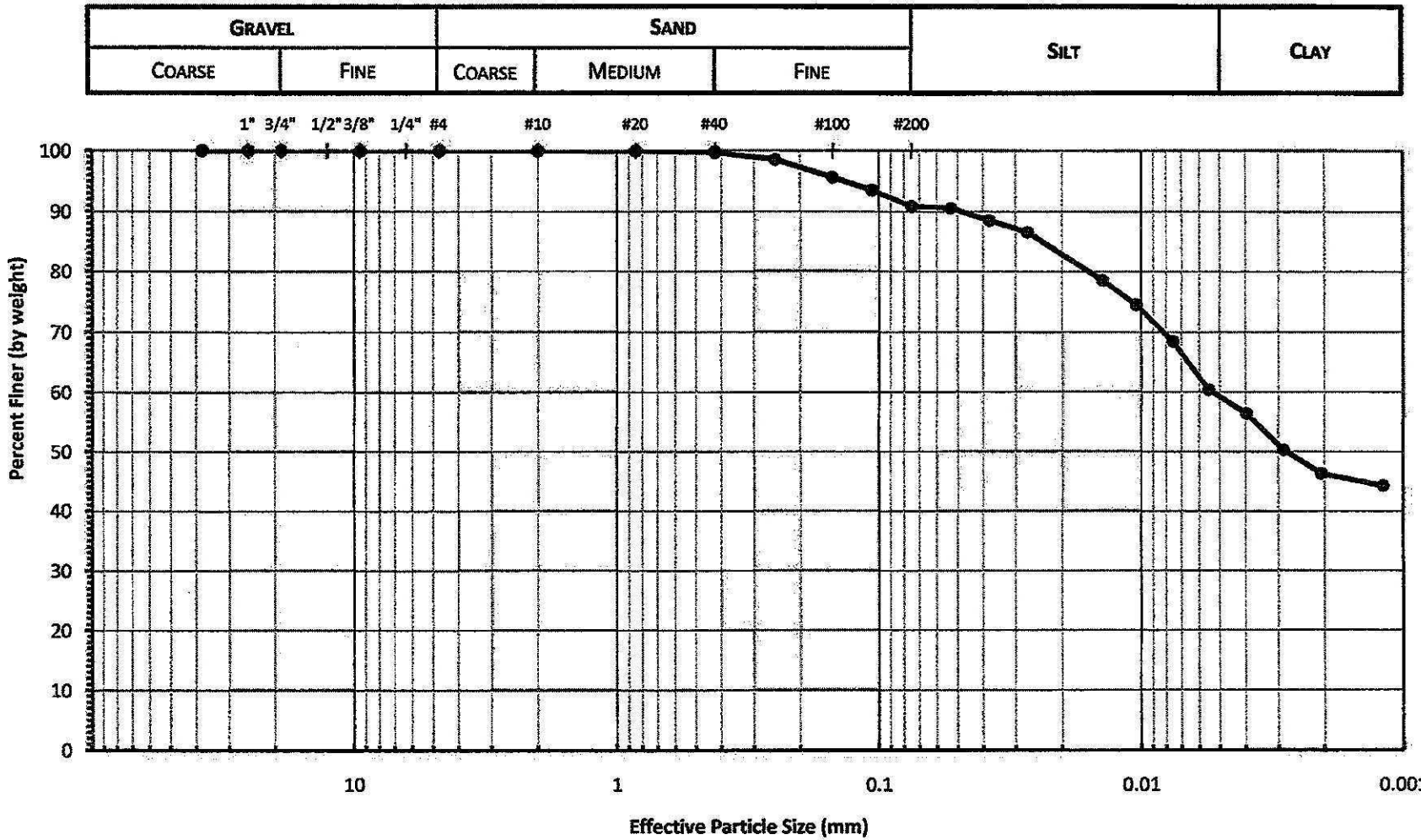
Ardaman & Associates, Inc.

Baton Rouge Geotechnical Laboratory
AASHTO Accredited Laboratory
LELAP Certificate No. 02052
USACE Validated

316 Highlandia Drive
Baton Rouge, LA 70810
225-752-4790 (phone)
225-752-4878 (fax)

Client: PACE
Project: 2095681
AAI Project No.09-L2567

PARTICLE SIZE ANALYSIS
(ASTM D422)



SAMPLE IDENTIFICATION		VISUAL IDENTIFICATION	% GRAVEL	% SAND	% SILT	% CLAY
BORING	DEPTH (FT)					
SDCR-1-CB-060309	0	Light brown silty clay	0.0	9.1	31.8	59.1

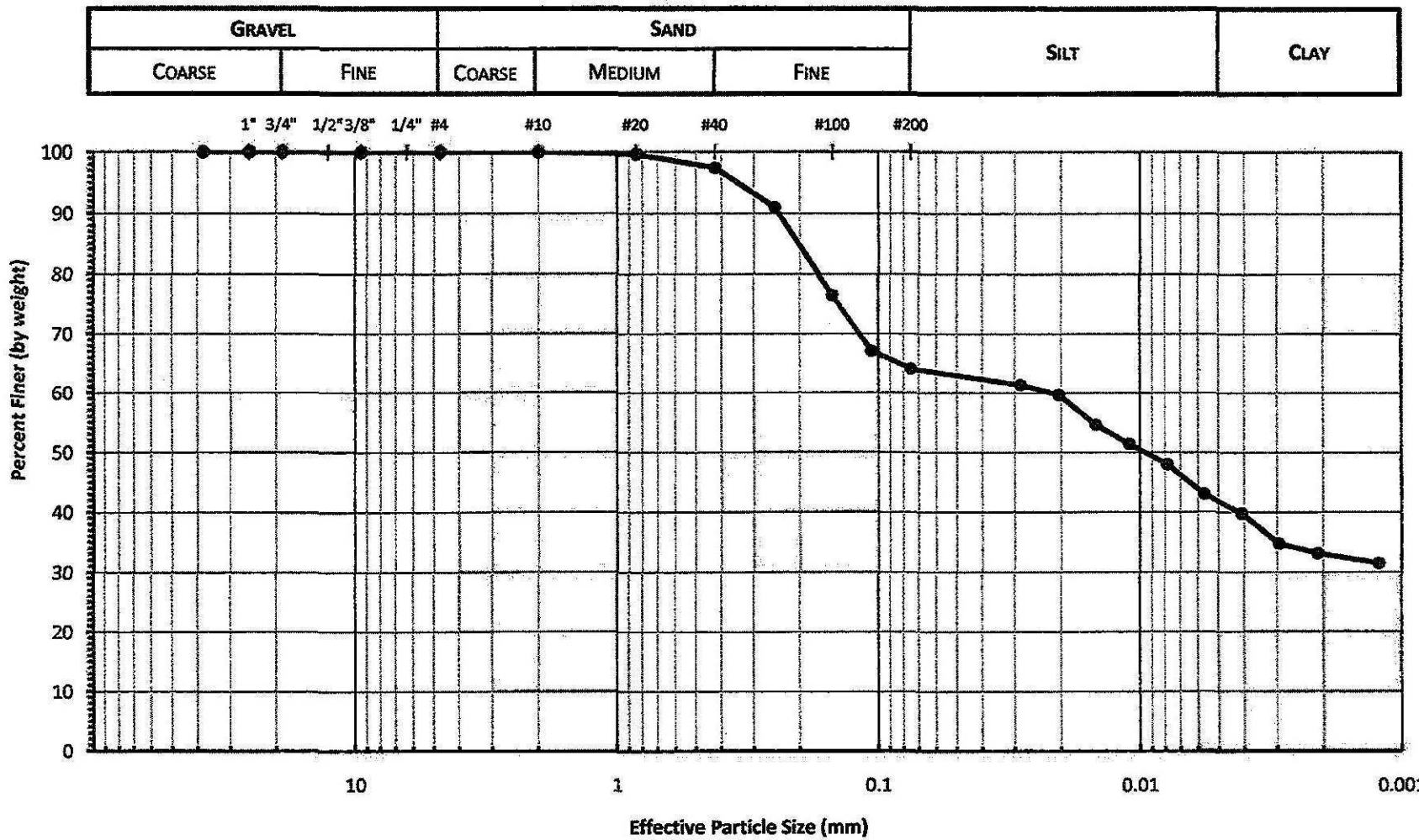
Ardaman & Associates, Inc.

Baton Rouge Geotechnical Laboratory
AASHTO Accredited Laboratory
LELAP Certificate No. 02052
USACE Validated

316 Highlandia Drive
Baton Rouge, LA 70810
225-752-4790 (phone)
225-752-4878 (fax)

Client: PACE
Project: 2095681
AAI Project No.09-L2567

PARTICLE SIZE ANALYSIS
(ASTM D422)



SAMPLE IDENTIFICATION		VISUAL IDENTIFICATION	% GRAVEL	% SAND	% SILT	% CLAY
BORING	DEPTH (FT)					
SDCR-1-CC-060309	0	Light brown clay w/sand	0.0	35.9	22.5	41.6

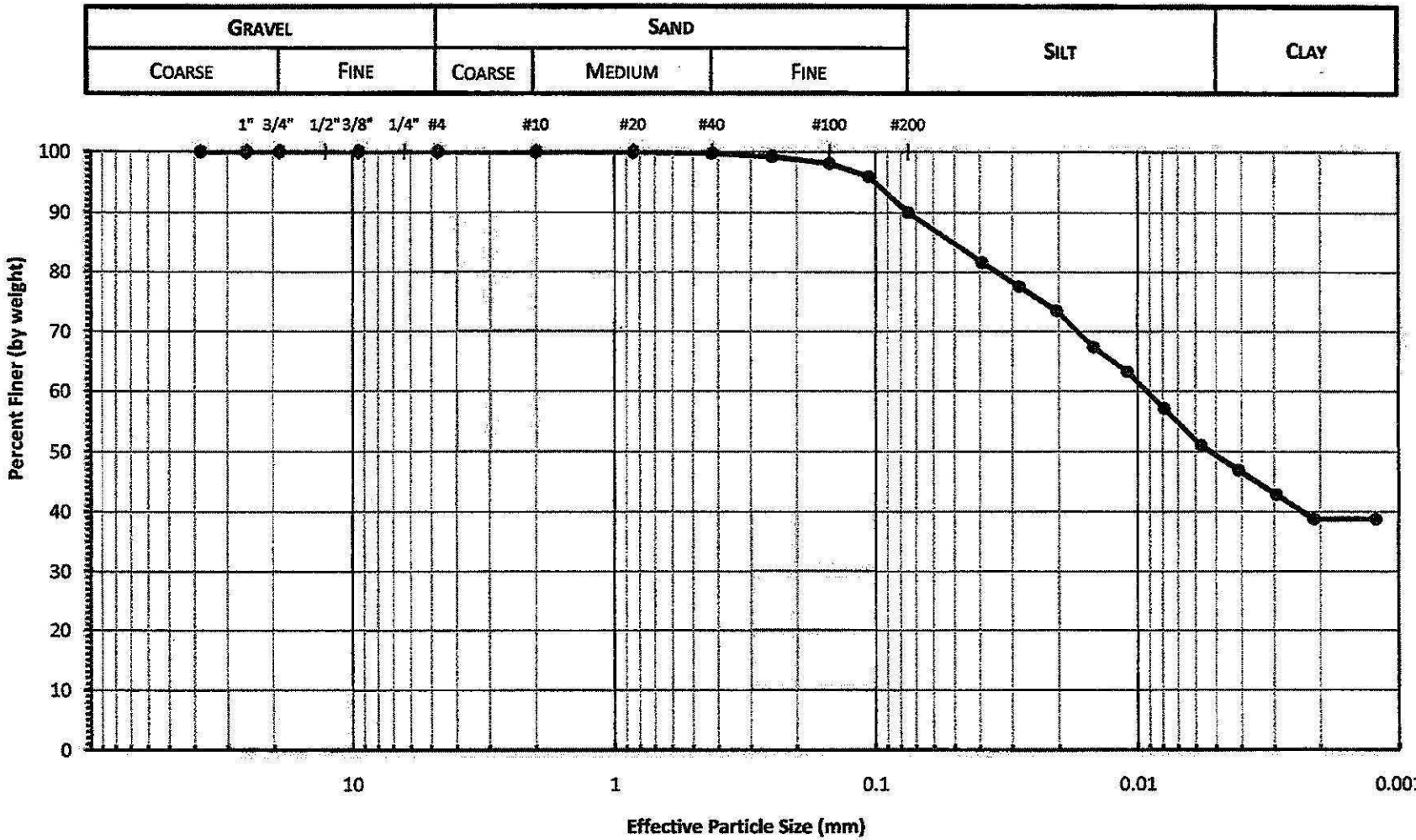
Baton Rouge Geotechnical Laboratory
AASHTO Accredited Laboratory
LELAP Certificate No. 02052
USACE Validated

316 Highlandia Drive
Baton Rouge, LA 70810
225-752-4790 (phone)
225-752-4878 (fax)

Ardaman & Associates, inc.

Client: PACE
Project: 2095681
AAI Project No.09-L2567

PARTICLE SIZE ANALYSIS
(ASTM D422)



SAMPLE IDENTIFICATION		VISUAL IDENTIFICATION	% GRAVEL	% SAND	% SILT	% CLAY
BORING	DEPTH (FT)					
SDCR-1-CD-060309	0	Light brown silt w/clay pockets	0.0	10.0	40.8	49.2

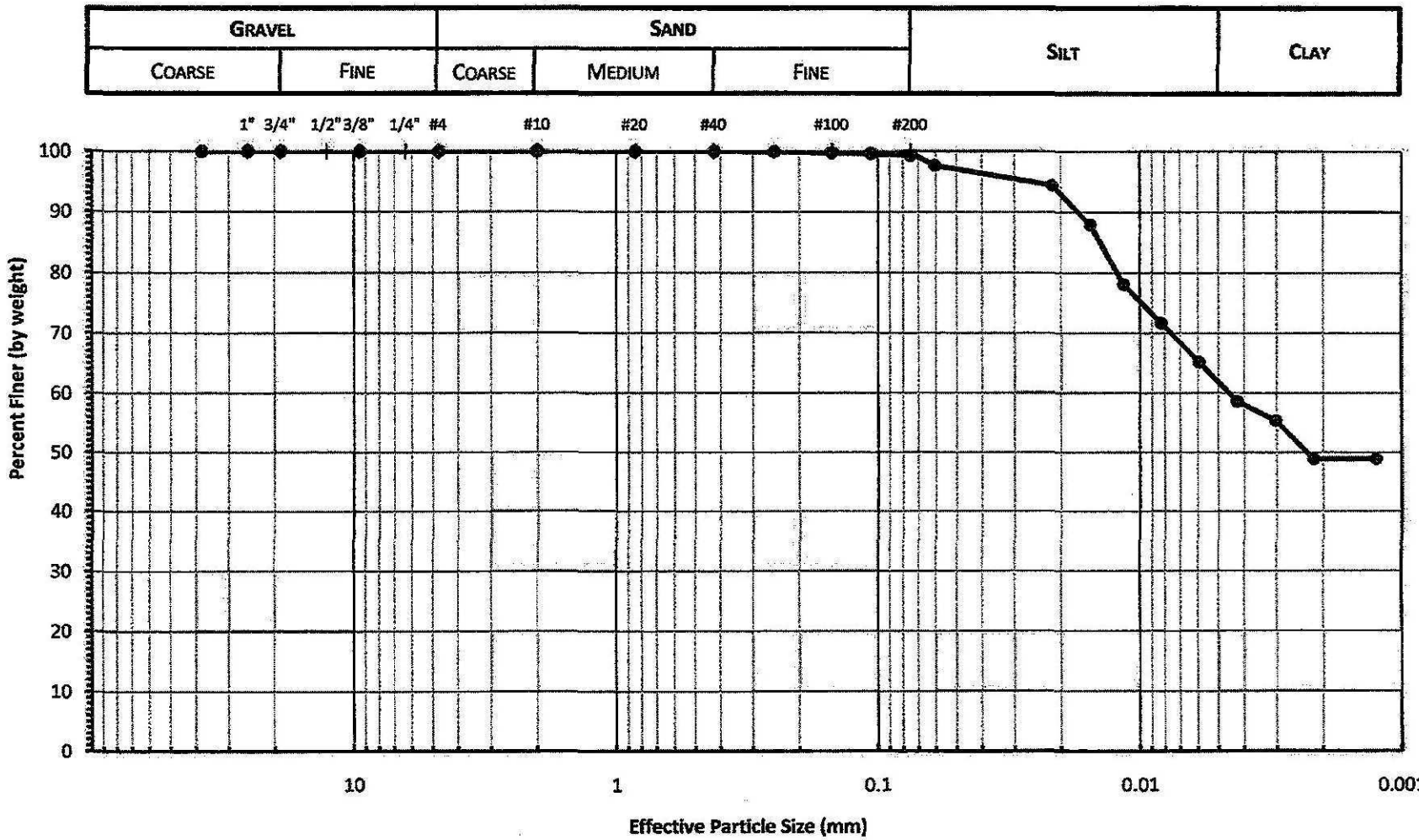
Baton Rouge Geotechnical Laboratory
AASHTO Accredited Laboratory
LELAP Certificate No. 02052
USACE Validated

316 Highlandia Drive
Baton Rouge, LA 70810
225-752-4790 (phone)
225-752-4878 (fax)

Ardaman & Associates, Inc.

Client: PACE
Project: 2095681
AAI Project No.09-L2567

PARTICLE SIZE ANALYSIS
(ASTM D422)



SAMPLE IDENTIFICATION		VISUAL IDENTIFICATION	% GRAVEL	% SAND	% SILT	% CLAY
BORING	DEPTH (FT)					
SDCR-1-CE-060309	0	Gray clay with silt	0.0	0.6	37.9	61.5

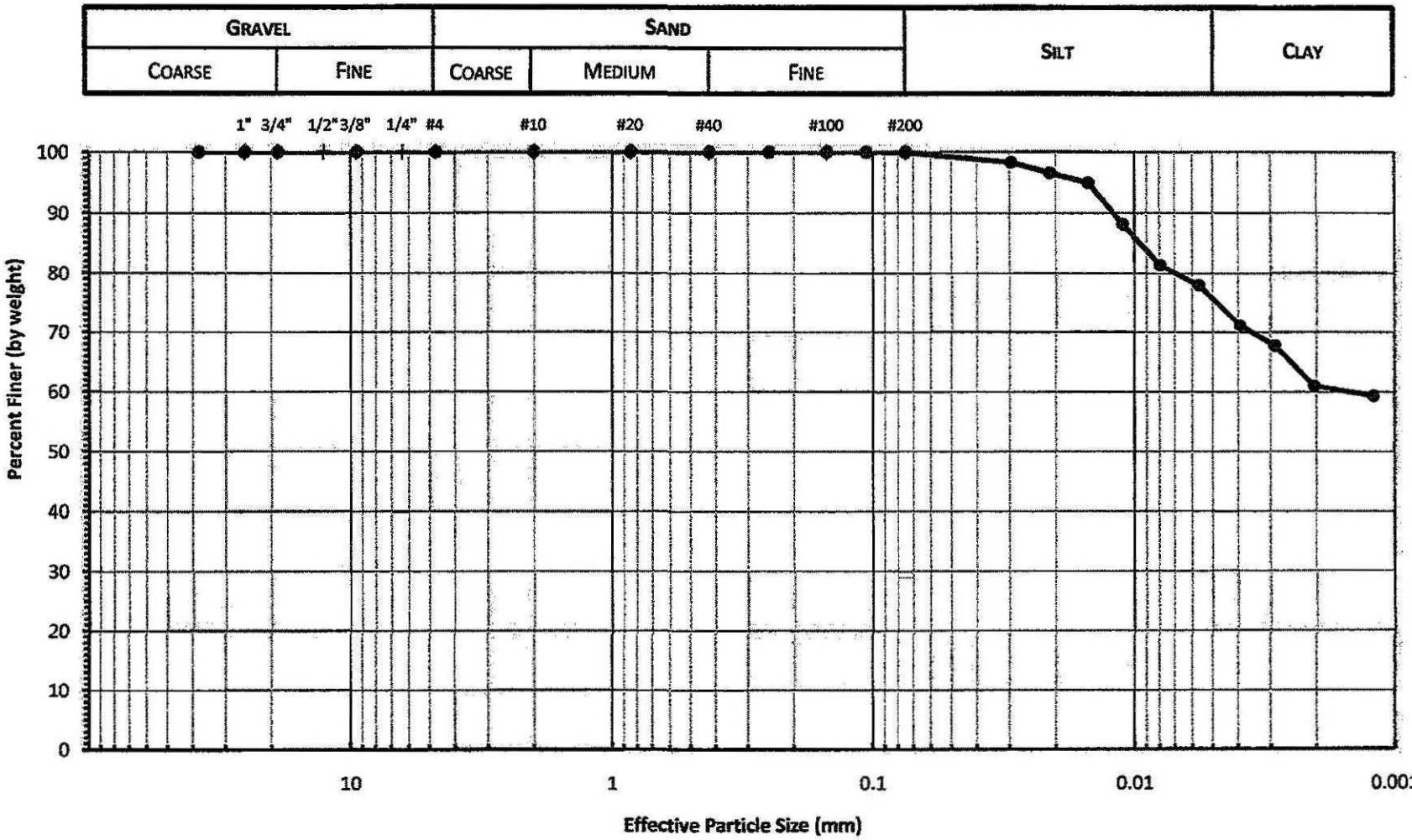
Baton Rouge Geotechnical Laboratory
AASHTO Accredited Laboratory
LELAP Certificate No. 02052
USACE Validated

316 Highlandia Drive
Baton Rouge, LA 70810
225-752-4790 (phone)
225-752-4878 (fax)

Ardaman & Associates, Inc.

Client: PACE
Project: 2095681
AAI Project No.09-L2567

PARTICLE SIZE ANALYSIS
(ASTM D422)



SAMPLE IDENTIFICATION		VISUAL IDENTIFICATION	% GRAVEL	% SAND	% SILT	% CLAY
BORING	DEPTH (FT)					
SDCR-1-CF-060309		Gray silty clay	0.0	0.0	24.6	75.4

Ardaman & Associates, Inc.

Baton Rouge Geotechnical Laboratory
AASHTO Accredited Laboratory
LELAP Certificate No. 02052
USACE Validated

316 Highlandia Drive
Baton Rouge, LA 70810
225-752-4790 (phone)
225-752-4878 (fax)

Pace Analytical™
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SUBCONTRACTING CHAIN-OF-CUSTODY

09-12567

Pace Analytical Services, I
1000 Riverbend Blvd., Sui
St. Rose, LA 70
Phone: 504.469.0
Fax: 504.469.0

Due Date: 6-18-09 **Freight Carrier:** Pace **Custody Seals:** (Intact) / Broken / Missing

Subcontractor: Anderson (BR) **Airbill #:** _____ **Samples:** (Intact) / Broken / Missing

Contact: Megan **EPN #:** 2095681 **Cooler Temperature (°C):** 2°

PACE SAMPLE ID	CLIENT SAMPLE ID	SAMPLE DATE/TIME	MATRIX	SAMPLE #	ANALYTE/ METHOD	SAMPLE COMMENTS
20696657	SDCR-1-CA-060309	6-3-09 1615	SL	1		Grain Size
20696658	SDCR-1-CB-060309	1620		1		
6660	SDCR-1-CD-060309	1630		1		
6661	SDCR-1-CE-060309	1635		1		
6662	SDCR-1-CF-060309	1640		1		
6668	SDCR-1-CC-060309	1625		1		

Relinquished by:	Date/Time	Received by:	Project Comments/Remarks:
Pace	6-8-09 1530		See attached report format
Relinquished by:	Date/Time	Received by:	
Relinquished by:	Date/Time	Received for subcontractor by:	

***REPORT RESULTS TO THE ADDRESS ABOVE TO THE ATTENTION OF ~~KAREN BROWN~~:** If the hardcopy results cannot be delivered by the above due date, please contact ~~Karen Brown~~ at the above number.*

Cindy DiAvesen
504-305-3626
Cindy.DiAvesen@pacelabs.com

FNO-SM-003:1

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

July 22, 2009

Keith Roberts
Olin Enviromental Management
Charleston Plant
1186 Lower river Road
Charleston, TN 37310

RE: Project 2095670
Project ID: OLIN MCINTOSH-ESPP/6107090035

Dear Keith Roberts:

Enclosed are the analytical results for sample(s) received by the laboratory on June 04, 2009. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerly,

Cindy Olavesen

Cindy Olavesen
cindy.olavesen@pacelabs.com

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REPORT OF LABORATORY ANALYSIS

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Project: 2095670

Client: Olin Enviromental Management

Project ID: OLIN MCINTOSH-ESPP/6107090035

U.S. Dept. of Agriculture Foreign Soil Import S-47270
Pennsylvania Dept. of Env Protection (NELAC) 68-04202
Texas Commission on Env. Quality (NELAC) T104704405-08-TX
Kansas Department of Health and Environment (NELAC) E-10266
Florida Department of Health (NELAC) E87595
Louisiana Dept. of Health and Hospitals (NELAC) LA080013
Louisiana Dept. of Environmental Quality (NELAC/LELAP) 02006

40 Green Bay Volatiles Certification IDs
40 Green Bay Certification IDs
40 California Certification #: 06247CA
40 Florida (NELAP) Certification #: E87951
40 Illinois Certification #: 200051
40 Kentucky Certification #: 83
40 Louisiana Certification #: 04169
40 Minnesota Certification #: 055-999-334
40 New York Certification #: 11887
40 North Carolina Certification #: 503
40 North Dakota Certification #: R-200
40 South Carolina Certification #: 83006001
40 Wisconsin Certification #: 405132750
40 Wisconsin DATCP Certification #: 105-444
40 California Certification #: 06246CA
40 Florida (NELAP) Certification #: E87948
40 Illinois Certification #: 200050
40 Kentucky Certification #: 82
40 Louisiana Certification #: 04168
40 Minnesota Certification #: 055-999-334
40 New York Certification #: 11888
40 North Carolina Certification #: 503
40 North Dakota Certification #: R-150
40 South Carolina Certification #: 83006001
40 Wisconsin Certification #: 405132750
40 Wisconsin DATCP Certification #: 105-444

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REPORT OF LABORATORY ANALYSIS

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St. Rose, LA 70087
(504) 469-0333

Sample Cross Reference

Project: 2095670

Client: PACE ANALYTICAL SERVICES, INC.

Project ID: 2095670 OLIN MCINTOSH-ESPP

Client Sample ID	Lab ID	Matrix	Collection Date/Time	Received Date/Time
OU2B-SED-301C-09	20696633	Soil	03-Jun-09 10:36	04-Jun-09 08:30
OU2B-SED-301C-09	20696633	Soil	03-Jun-09 10:36	04-Jun-09 08:30
OU2B-SED-201C-09	20696635	Soil	03-Jun-09 11:20	04-Jun-09 08:30
OU2B-SED-201C-09	20696635	Soil	03-Jun-09 11:20	04-Jun-09 08:30
OU2B-SED-DUP02C-09	20696639	Soil	03-Jun-09 12:00	04-Jun-09 08:30
OU2B-SED-DUP02C-09	20696639	Soil	03-Jun-09 12:00	04-Jun-09 08:30

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St. Rose, LA 70087
(504) 469-0333

Project: 2095670

Sample Receipt Condition:

All samples were received in accordance with EPA protocol.

Holding Times:

All holding times were met.

Blanks:

All blank results were below reporting limits.

Laboratory Control Samples:

All LCS recoveries were within QC limits.

Matrix Spikes and Duplicates:

MS or MSD recoveries outside of QC limits are qualified in the Report of Quality Control section.

Surrogates:

All surrogate recoveries were within QC limits.

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Project: 2095670

Analytical Method	Batch	Sample used for QC
EPA 7471	119874	Project sample OU2B-SED-301C-09
% Moisture	120039	Project sample OU2B-SED-301C-09
SM 2710F-Mod	119963	Project sample OU2B-SED-301C-09
SM 2710F-Mod	119963	

For the sample used as the original for the DUP or MS/MSD for the batch:

Project sample means a sample from this project was used.
Client sample means a sample from the same client but in a different project was used.
Batch sample means a sample from the a different client was used.

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(504) 469-0333

Sample Results

Client: PACE ANALYTICAL SERVICES, INC.

Client ID: OU2B-SED-201C-09
Project ID: 2095670 OLIN MCINTOSH-ESPP
Lab ID: 2095670002
Description: AL
Method: EPA 8081
8081 GCS Pesticides

Project: 2095670
Site: none
Matrix: Soil
Prep Level: Soil
Collected: 03-Jun-09
Prepared: 16-Jun-09

% Moisture: 54.8013 corrected
Batch: 26436
Received: 03-Jun-09

Units: ug/kg

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
118-74-1	Hexachlorobenzene	100	5970		388.		16-Jun-09 09:34 DMH40

1 compound(s) reported

Protocol 7/22/2009 14:18:22

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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St. Rose, LA 70087
(504) 469-0333

Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SED-301C-09
Project: 2095670
Project ID: OLIN MCINTOSH-ESPP/6107090035
Site: None
Lab ID: 20696633
Matrix: Soil
%Moisture: 36.7 Corrected
Description: None
Collected: 03-Jun-09
Received: 04-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Mercury	EPA 7471	119874	100	20.9	D1	mg/kg	3.16	05-Jun-09	08-Jun-09 12:14 MHB1	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
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(504) 469-0333

Client: Olin Enviromental Management

Client ID: OU2B-SED-201C-09
Project: 2095670
Project ID: OLIN MCINTOSH-ESPP/6107090035
Site: None
Lab ID: 20696635
Matrix: Soil
%Moisture: 39.7 Corrected
Description: None
Collected: 03-Jun-09
Received: 04-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Mercury	EPA 7471	119874	100	33.0	D1	mg/kg	3.21	05-Jun-09	08-Jun-09 12:28 MHB1	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
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Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SED-DUP02C-09
Project: 2095670
Project ID: OLIN MCINTOSH-ESPP/6107090035
Site: None
Lab ID: 20696639
Matrix: Soil
%Moisture: 39.2 Corrected
Description: None
Collected: 03-Jun-09
Received: 04-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Mercury	EPA 7471	119874	100	33.8	D1	mg/kg	3.08	05-Jun-09	08-Jun-09 12:30 MHB1	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SED-301C-09
Project: 2095670
Project ID: OLIN MCINTOSH-ESPP/6107090035
Site: None
Lab ID: 20696633
Matrix: Soil
%Moisture: 36.7 Not Corrected
Description: None
Collected: 03-Jun-09
Received: 04-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Clay	ASTM D422	120796	1	10.8		%	0.0100	16-Jun-09	16-Jun-09 00:00 XXXX	
Density	SM 2710F-Mod	119963	1	1.43		g/cm3	0.500	08-Jun-09	08-Jun-09 11:15 TAE	
Gravel	ASTM D422	120796	1	ND		%	0.0100	16-Jun-09	16-Jun-09 00:00 XXXX	
Sand	ASTM D422	120796	1	26.4		%	0.0100	16-Jun-09	16-Jun-09 00:00 XXXX	
Silt	ASTM D422	120796	1	62.8		%	0.0100	16-Jun-09	16-Jun-09 00:00 XXXX	

5 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Pace Analytical Services, Inc.
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St. Rose, LA 70087
(504) 469-0333

Client: Olin Enviromental Management

Client ID: OU2B-SED-201C-09
Project: 2095670
Project ID: OLIN MCINTOSH-ESPP/6107090035
Site: None
Lab ID: 20696635
Matrix: Soil
%Moisture: 39.7 Not Corrected
Description: None
Collected: 03-Jun-09
Received: 04-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Clay	ASTM D422	120796	1	18.1		%	0.0100	16-Jun-09	16-Jun-09 00:00 XXXX	
Density	SM 2710F-Mod	119963	1	1.42		g/cm3	0.500	08-Jun-09	08-Jun-09 11:15 TAE	
Gravel	ASTM D422	120796	1	ND		%	0.0100	16-Jun-09	16-Jun-09 00:00 XXXX	
Sand	ASTM D422	120796	1	21.5		%	0.0100	16-Jun-09	16-Jun-09 00:00 XXXX	
Silt	ASTM D422	120796	1	60.4		%	0.0100	16-Jun-09	16-Jun-09 00:00 XXXX	

5 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Client: PACE ANALYTICAL SERVICES, INC.

Client ID: OU2B-SED-301C-09
Project ID: 2095670 OLIN MCINTOSH-ESPP
Lab ID: 2095670001
Description: AL

Project: 2095670
Site: none
Matrix: Soil
Collected: 03-Jun-09

%Moisture: 1 not corrected
Received: 03-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Mean Total Organic Carb	EPA 9060 Mod	26503	1	3720		mg/kg	1770	15-Jun-09	15-Jun-09 15:09 MY40	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Client: PACE ANALYTICAL SERVICES, INC.

Client ID: OU2B-SED-201C-09
Project: 2095670
Project ID: 2095670 OLIN MCINTOSH-ESPP
Site: none
Lab ID: 2095670002
Matrix: Soil
%Moisture: 1 corrected
Description: AL
Collected: 03-Jun-09
Received: 03-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Mean Total Organic Carb	EPA 9060 Mod	26503	1	5700		mg/kg	1830	15-Jun-09	15-Jun-09 15:17 DJR40	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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(504) 469-0333

Client: PACE ANALYTICAL SERVICES, INC.

Client ID: OU2B-SED-DUP02C-09
Project: 2095670
Project ID: 2095670 OLIN MCINTOSH-ESPP
Site: none
Lab ID: 2095670003
Matrix: Soil
%Moisture: 1 not corrected
Description: AL
Collected: 03-Jun-09
Received: 03-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Mean Total Organic Carb	EPA 9060 Mod	26503	1	5050		mg/kg	1790	15-Jun-09	15-Jun-09 15:22 DJR40	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Organics Quality Control

Batch: 26436 **Project:** 2095670 **LCS:** 169788 15-Jun-09 22:25

MS: 169829 16-Jun-09 4:13

Units: ug/kg **MSD:** 169830 16-Jun-09 4:40

Original for MS: Batch Sample 2095681012

Parameter Name	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	RPD	QC Limits LCS	QC Limits MS/MSD	Max RPD	Qu
Hexachlorobenzene	13.3	10.5	79	13.3		19.1	20.9	61	69	9	60-140	60-140	20	

1 compound(s) reported

* denotes recovery outside of QC limits.
MS/MSD RPD is calculated via SW-846 rules on the basis of spiked sample concentrations rather than spike recoveries.

7/22/2009 14:18:27

Pace Analytical™

Surrogate Recovery

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Batch: 26436 **Project:** 2095670

Method: Soil EPA 8081

Lab ID	Sample ID	Qu	Sur 1 %Rec	Sur 2 %Rec	Sur 3 %Rec	Sur 4 %Rec	Sur 5 %Rec	Sur 6 %Rec	Sur 7 %Rec	Sur 8 %Rec
169787	BLANK for HBN 26436 [OEXT/4		70	69						
169788	LCS for HBN 26436 [OEXT/4475		73	75						
2095670002	OU2B-SED-201C-09		0 D	0 D						
169829	SDCR-1-CC-060309(167682MS)		72	61						
169830	SDCR-1-CC-060309(167682MSD		65	57						
	QC limits:		30-130	34-130						

Sur 1: Decachlorobiphenyl (S)
Sur 2: Tetrachloro-m-xylene (S)

*** denotes surrogate recovery outside of QC limits.**
D denotes surrogate recovery is outside of QC limits due to sample dilution, and is not considered an excursion.

7/22/2009 14:18:28

Organics Method Blank

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Blank ID: BLANK for HBN 26436 **Project:** 2095670

Lab ID: 169787

Prep Level: Soil **Batch:** 26436

Method: Soil EPA 8081
8081 GCS Pesticides

Prepared: 15-Jun-09

Units: ug/kg

CAS Numb	Analyte	Dilution	Result	Qu	Reporting Limit	Analysis
118-74-1	Hexachlorobenzene	1	ND		1.70	15-Jun-09 21:58 DMH40

1 compound(s) reported

7/22/2009 14:18:29

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Pace Analytical Services, Inc.
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(504) 469-0333

Project: 2095670

Parameter	Batch	Blank	Units	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	RPD	QC Limits LCS	QC Limits MS/MSD	Max RPD	Qu
Mercury	119874	< 0.0200	mg/kg	0.100	0.100	100	0.144	20.9	22.2	22.7	922 *	1237 *	2	80-120	75-125	20	D1,Q3

*** denotes recovery outside of QC limits.**
ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MS/MSD RPD is calculated via SW-846 rules on the basis of spiked sample concentrations rather than spike recoveries.

Pace Analytical Services, Inc.
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St. Rose, LA 70087
(504) 469-0333

Project: 2095670

Parameter	Batch	Blank	Units	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	RPD	QC Limits LCS	QC Limits MS/MSD	Max RPD	Qu
Density	119963	<	g/cm3	1.00	0.998	100							3	97-103		20	
Percent Moisture	120039	< 1.00	%														
Mean Total Organic C	26503	< 250.	mg/kg	1000	1060	106	2650		7680	7450	97	89	3	80-120	50-150	30	
Mean Total Organic C	26503	<	mg/kg				2610		8070	8130	57	57	0.7		50-150	30	

*** denotes recovery outside of QC limits.**
ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MS/MSD RPD is calculated via SW-846 rules on the basis of spiked sample concentrations rather than spike recoveries.

7/22/2009 14:18:32

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Project: 2095670

Value	Description
D1	The analysis was performed at a dilution due to the high analyte concentration.
Q3	The matrix spike recoveries are poor due to the presence of this analyte in the sample at a concentration greater than 4 times the spiked amount. Acceptable method performance for this analyte has been demonstrated by the laboratory control sample.
J	This estimated value for the analyte is below the adjusted reporting limit but above the instrument reporting limit.
U	The analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.
B	This analyte was detected in the method blank.
E	The sample concentration is above the linear calibrated range of the analysis.
ND	The analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.
MDL	The adjusted method detection limit.
LCS(D)	Laboratory Control Sample (Duplicate).
MS(D)	Matrix Spike (Duplicate).
DUP	Sample Duplicate.
RPD	Relative Percent Difference.
U	This analyte was analyzed for but not detected at the reporting limit or method detection limit as indicated.

Pace Analytical®
www.pacelabs.com

2095670 20-OLIN ENV

CHAIN of Custody / Analytical Request Document

The Chain-of

sediment samples

mbarker@mactec
kpwatson@mactec,

Page: 1 of 1

1191758

Section A Required Client Information:	Section B Required Project Information:	Invoice Information:
Company: MACTEC/Olin	Report To: kdroberts@olin.com	Attention: Dennis Turner
Address: 3200 Town Pt. Dr NW Ste 100 Kennesaw GA	Copy To: ~~mbarker@olin.com~~ ~~kpwatson@olin.mb~~	Company Name: Olin Corp. Address: Cleveland, TN
Email To: cdraper@mactec.com	Purchase Order No.: OEMC0013-80	Pace Quote Reference:
Phone: 7104234400 Fax: 7104234486	Project Name: Olin McIntosh - ESPP	Pace Project Manager: Cindy Olavesen
Requested Due Date/TAT: standard	Project Number: 0107090035 2009.02	Pace Profile #:

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☒ OTHER CERCLA

Site Location STATE: AL

Requested Analysis Filtered (Y/N)

ITEM #	Section D Required Client Information — SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE	Matrix Codes: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	THg	Sulfide	Sulfate	dBrsths	TOC	Gr. size	%M	HCB	2,4-DDD	4,4-DDD	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	OU2B-SED-301C-09		OT	C			6/3/09	1030		5	5								X			X	X	X	X					20696633
2	OU2B-SED-301C-09MS/MSD		OT	C			6/3/09	1030		1	1								X											
3	OU2B-SED-201C-09		OT	C			6/3/09	1120		5	5								X			X	X	X	X	X				635
4	OU2B-SED-DUP02C-09		OT	C			6/3/09	1200		3	3								X				X		X					639
5	~~OU2B-SED~~																													
6	~~OU2B-SED~~																													
7																														
8																														
9																														
10																														
11																														
12																														

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	RRReece/MACTEC	6/3/09	1830							
	Fed Ex	6-4-09	0830	[signature]	6-4-09	0830	3.8	Y	Y	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Ran, Reece

SIGNATURE of SAMPLER: RRReece DATE Signed (MM/DD/YY): 6/3/09

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

2095670 20-OLIN ENV

Pace Analytical

1000 Riverbend. Blvd., Suite F
St. Rose, LA 70087

Sample Condition Upon Receipt

Project #: 20

Courier: ☐ Pace Courier ☐ Hackbarth ☑ Fed X ☐ UPS ☐ DHL ☐ USPS ☐ Customer ☐ Other

Custody Seal on Cooler/Box Present: [see COC] **Custody Seals Intact:** ☑Yes ☐No

Theromometer Used: ☑Therm Fisher IR 1 ☐ Therm Fisher IR 2

Type of Ice: (Wet) Blue None

Samples on Ice: [see COC]

Cooler Temperature: [see COC]

Temp should be above freezing to 6°C

Date and Initials of person examining contents: IDT 06/04/09

Temp must be measured from Temperature blank when present

				Comments:
Temperature Blank Present"?	☐Yes	☑No	☐N/A	1
Chain of Custody Present:	☑Yes	☐No	☐N/A	2
Chain of Custody Complete:	☑Yes	☐No	☐N/A	3
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	4
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	5
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	6
Sufficient Volume:	☑Yes	☐No	☐N/A	7
Correct Containers Used:	☑Yes	☐No	☐N/A	8
Filtered vol. Rec. for Diss. tests	☐Yes	☐No	☑N/A	9
Sample Labels match COC:	☑Yes	☐No	☐N/A	10
All containers received within manafacture's precautionary and/or expiration dates.	☑Yes	☐No	☐N/A	11
All containers needing preservation have been checked (except VOA, coliform, & O&G).	☑Yes	☐No	☐N/A	12
All containers preservation checked found to be in compliance with EPA recommendation.	☑Yes	☐No	☐N/A	13 If No, was preserative added? ☐Yes ☐No If added record lot no.: HNO3 _____ H2SO4 _____
Samples checked for dechlorination:	☐Yes	☑No	☐N/A	14
Headspace in VOA Vials (>6mm):	☐Yes	☑No	☐N/A	14
Trip Blank Present:	☐Yes	☑No	☐N/A	16
Trip Blank Custody Seals Present	☐Yes	☑No	☐N/A	17
Pace Trip Blank Lot # (If purchased): N/A				18

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

TRANSMITTAL

AAI

Ardaman & Associates, Inc.

To: Pace Analytical
1000 Riverbend, Suite F
St. Rose, LA 70087

Email: cindy.olavesen@pacelabs.com

Attention: Cindy Olavesen

Date: June 16, 2009

Job No.: 09-L2566

Project: 2095670

From: Megan G. Bourgeois, E.I.

COPIES	DESCRIPTION
1	Laboratory Test Results Table 1
1	Particle Size Analysis (2)
1	Chain of Custody

THESE ARE TRANSMITTED:

■ **FOR YOUR USE** ☐ **FOR REVIEW & COMMENT** ■ **AS REQUESTED**

REMARKS:

Reviewed By:

Megan G. Bourgeois, E.I.

Approved By:

Jason Manning, P.E.
Branch Manager

AASHTO Accredited Laboratory
LELAP Certificate No. 02052

316 HIGHLANDIA DRIVE
BATON ROUGE, LA 70810
PHONE: (225) 752-4790
FAX: (225) 752-4878

2095670
LABORATORY TEST RESULTS
TABLE 1

			ASTM D2216			ASTM D854	ASTM D5084	ASTM D4972	ASTM D2974	ASTM D4318			ASTM D422	ASTM D2487
Date Tested	Sample ID	Depth (ft.)	Moisture Content (%)	Dry Density (lbs./cu.ft.)	Total Porosity (decimal)	Specific Gravity	Permeability (cm/sec)	Soil pH	Organic Content (%)	Atterberg Limits			Particle Size Analysis	Classification
										LL	PL	PI		
6/16/2009	OU2B-SED-201C-09	0											*	Gray sandy silt w/clay
6/16/2009	OU2B-SED-301C-09	0											*	Gray sandy silt

NOTE:
(1) FOC = Organic Content divided by 174.
(2) * See Particle Size Analysis Graph.

Ardaman & Associates, Inc.

Project: 2095670

Client: Pace Analytical

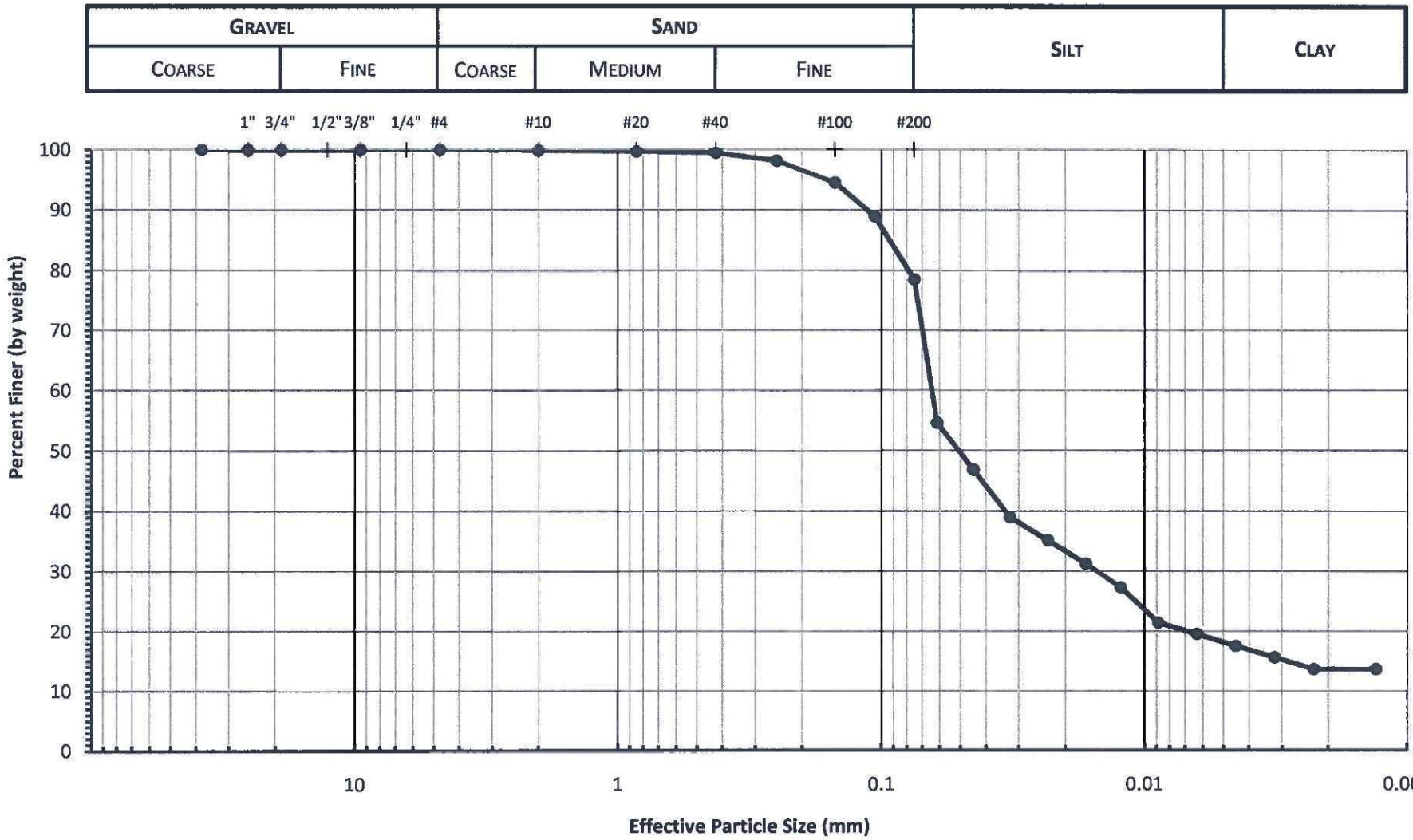
File No.: 09-L2566

Date: 6/17/2009

ARD ENVIRONMENTAL TABLE 09-L2566.GPJ LOG01.GDT 06/17/09

Client: PACE
Project: 2095670
AAI Project No.09-L2566

PARTICLE SIZE ANALYSIS
(ASTM D422)



SAMPLE IDENTIFICATION		VISUAL IDENTIFICATION	% GRAVEL	% SAND	% SILT	% CLAY
BORING	DEPTH (FT)					
OU2B-SED-201C-09	0	Gray sandy silt w/clay	0.0	21.5	60.4	18.1

Ardaman & Associates, Inc.

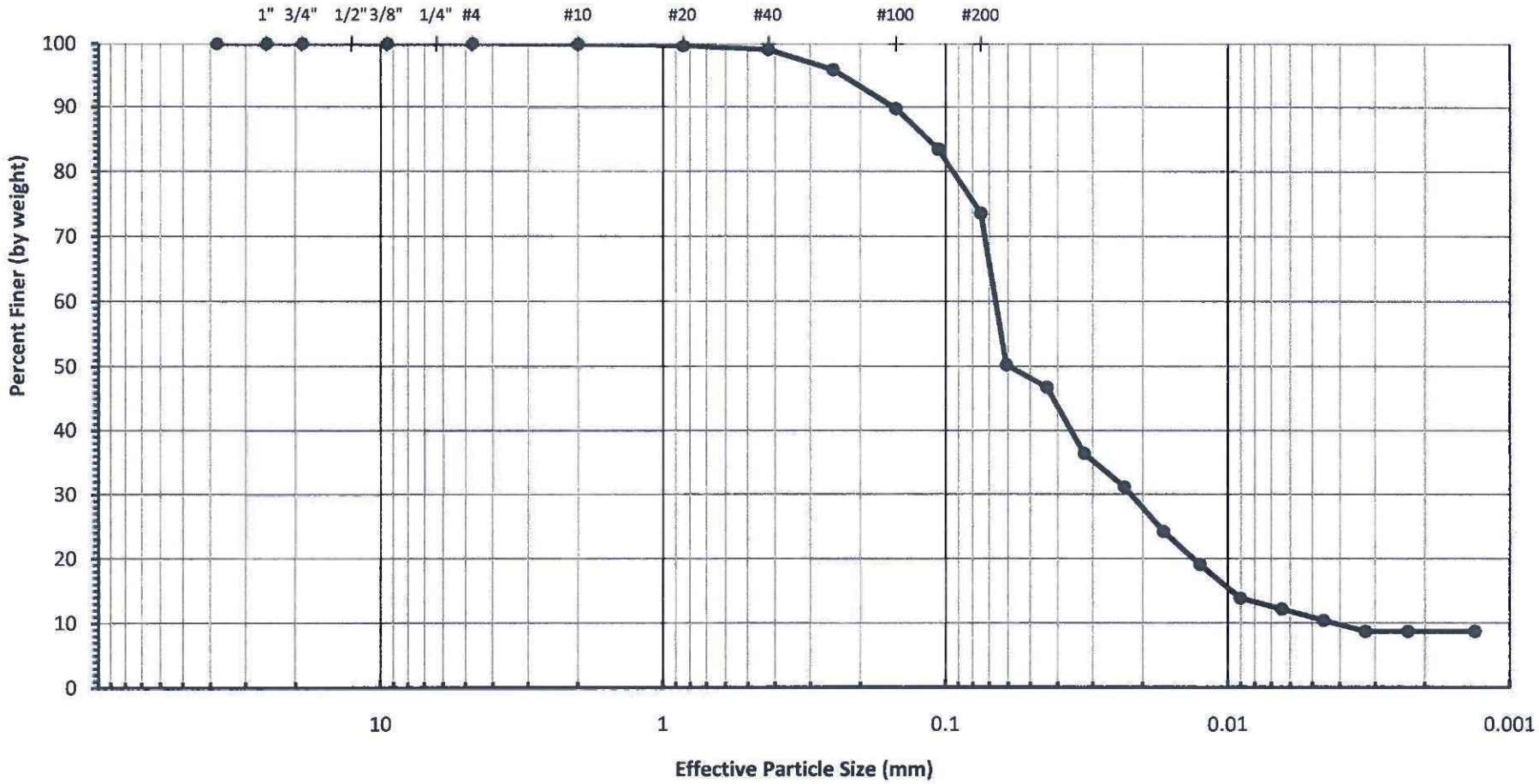
Baton Rouge Geotechnical Laboratory
AASHTO Accredited Laboratory
LELAP Certificate No. 02052
USACE Validated

316 Highlandia Drive
Baton Rouge, LA 70810
225-752-4790 (phone)
225-752-4878 (fax)

Client: PACE
Project: 2095670
AAI Project No.09-L2566

PARTICLE SIZE ANALYSIS
(ASTM D422)

GRAVEL		SAND			SILT	CLAY
COARSE	FINE	COARSE	MEDIUM	FINE		



SAMPLE IDENTIFICATION		VISUAL IDENTIFICATION	% GRAVEL	% SAND	% SILT	% CLAY
BORING	DEPTH (FT)					
OU2B-SED-301C-09	0	Gray sandy silt	0.0	26.4	62.8	10.8

Baton Rouge Geotechnical Laboratory
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LELAP Certificate No. 02052
USACE Validated

316 Highlandia Drive
Baton Rouge, LA 70810
225-752-4790 (phone)
225-752-4878 (fax)

Ardaman & Associates, Inc.

Pace Analytical™
www.pacelabs.com

SUBCONTRACTING CHAIN-OF-CUSTODY

09-L2544

Pace Analytical Services
1000 Riverbend Blvd.,
St. Rose, LA
Phone: 504.46
Fax: 504.46.

Due Date: 6/18 **Freight Carrier:** Pace **Custody Seals:** (Intact) / Broken / Missing

Subcontractor: Adamar **Airbill #:** _____ **Samples:** (Intact) / Broken / Missing

Contact: Megan **EPN #:** 2095670 **Cooler Temperature (°C):** 2°

PACE SAMPLE ID	CLIENT SAMPLE ID	SAMPLE DATE/TIME	MATRIX	SAMPLE #	ANALYTE/ METHOD	SAMPLE COMMENTS
20696633	~~042B~~ 042B-SED-301C-09	6/3/09 0936	SL	1		Grain Size
↓ 635	042B-SED-201C-09	6/3/09 1120	SL	1		↓

Relinquished by:	Date/Time	Received by:	Project Comments/Remarks:
[signature] 6-8-09 1530	6-8-09 1530	[signature]	See attached report format.
Relinquished by:	Date/Time	Received by:	
Relinquished by:	Date/Time	Received for subcontractor by:	

REPORT RESULTS TO THE ADDRESS ABOVE TO THE ATTENTION OF ~~KAREN BROWN~~. If the hardcopy results cannot be delivered by the above due date, please contact ~~Karen Brown~~ at the above number.

CINDY OLAVESEN

CINDY OLAVESEN
504-305-3626
CINDY.OLAVESEN@PACELABS.COM

FNO-SM-003:1

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

August 11, 2009

Keith Roberts
Olin Enviromental Management
Charleston Plant
1186 Lower river Road
Charleston, TN 37310

RE: Project 2095784
Project ID: OLIN MCINTOSH ESPP/6107090035

Dear Keith Roberts:

Enclosed are the analytical results for sample(s) received by the laboratory on June 05, 2009. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerly,

Cindy Olavesen

Cindy Olavesen
cindy.olavesen@pacelabs.com

ACCREDITED IN ACCORDANCE WITH nelac

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Project: 2095784

Client: Olin Enviromental Management

Project ID: OLIN MCINTOSH ESPP/6107090035

U.S. Dept. of Agriculture Foreign Soil Import S-47270

Pennsylviania Dept. of Env Protection (NELAC) 68-04202

Texas Commission on Env. Quality (NELAC) T104704405-08-TX

Kansas Department of Health and Environment (NELAC) E-10266

Florida Department of Health (NELAC) E87595

Louisiana Dept. of Health and Hospitals (NELAC) LA080013

Louisiana Dept. of Environmental Quality (NELAC/LELAP) 02006

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REPORT OF LABORATORY ANALYSIS

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(504) 469-0333

Sample Cross Reference

Project: 2095784

Client: Olin Enviromental Management

Project ID: OLIN MCINTOSH ESPP/6107090035

Client Sample ID	Lab ID	Matrix	Collection Date/Time	Received Date/Time
OU2B-SW-DHDS-09	20697309	Water	04-Jun-09 09:15	05-Jun-09 09:50
OU2B-SW-DHDD-09	20697310	Water	04-Jun-09 09:50	05-Jun-09 09:50
OU2B-SW-103DS-09	20697311	Water	04-Jun-09 10:25	05-Jun-09 09:50
OU2B-SW-103DD-09	20697312	Water	04-Jun-09 10:35	05-Jun-09 09:50
OU2B-SW-101DS-09	20697315	Water	04-Jun-09 11:10	05-Jun-09 09:50
OU2B-SW-101DD-09	20697316	Water	04-Jun-09 11:16	05-Jun-09 09:50
OU2B-SW-203DS-09	20697317	Water	04-Jun-09 11:50	05-Jun-09 09:50
OU2B-SW-203DD-09	20697318	Water	04-Jun-09 12:00	05-Jun-09 09:50

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Project: 2095784

Sample Receipt Condition:

All samples were received in accordance with EPA protocol.

Holding Times:

All holding times were met.

Blanks:

All blank results were below reporting limits.

Laboratory Control Samples:

All LCS recoveries were within QC limits.

Matrix Spikes and Duplicates:

All MS/MSD recoveries or duplicate RPDs were within QC limits.

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Project: 2095784

Analytical Method	Batch	Sample used for QC
SM 2320B	120006	Project sample OU2B-SW-DHDS-09
SM 2540C	120007	Batch sample from another client
SM 2540D	120008	Batch sample from another client
SM 2340C	120124	Batch sample from another client
SM 5310B	120002	

For the sample used as the original for the DUP or MS/MSD for the batch:

Project sample means a sample from this project was used.
Client sample means a sample from the same client but in a different project was used.
Batch sample means a sample from the a different client was used.

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Client: Olin Enviromental Management

Client ID: 20696451
Project: 2095784
Project ID: OLIN MCINTOSH ESPP/6107090035
Site:
Lab ID: 20696451
Matrix: Water
%Moisture: n/a
Description:
Collected: 03-Jun-09
Received: 04-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Limit
Dissolved Organic Carbo	SM 5310B	120002	1	16.0		mg/L	1.00	08-Jun-09	08-Jun-09 14:24	TAE	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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(504) 469-0333

Client: Olin Enviromental Management

Client ID: 20696451 DUP 1
Project: 2095784
Project ID: OLIN MCINTOSH ESPP/6107090035
Site: None
Lab ID: 20696451 DUP 1
Matrix: Water
%Moisture: n/a
Description: None
Collected: 03-Jun-09
Received: 04-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Limit
Dissolved Organic Carbo	SM 5310B	120002	1	16.0		mg/L	2.00	08-Jun-09	08-Jun-09 14:24	TAE	

1 parameter(s) reported

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St. Rose, LA 70087
(504) 469-0333

Sample Results

Client: Olin Enviromental Management

Client ID: 20696451 MS 1
Project: 2095784
Project ID: OLIN MCINTOSH ESPP/6107090035
Site: None
Lab ID: 20696451 MS 1
Matrix: Water
%Moisture: n/a
Description: None
Collected: 03-Jun-09
Received: 04-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Limit
Dissolved Organic Carbo	SM 5310B	120002	1	32.9		mg/L	2.00	08-Jun-09	08-Jun-09 14:24	TAE	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
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St. Rose, LA 70087
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Sample Results

Client: Olin Enviromental Management

Client ID: 20697002 **Project:** 2095784

Project ID: OLIN MCINTOSH ESPP/6107090035 **Site:**

Lab ID: 20697002 **Matrix:** Water **%Moisture:** n/a

Description: **Collected:** 02-Jun-09 **Received:** 05-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Total Dissolved Solids	SM 2540C	120007	1	298.		mg/L	10.0	08-Jun-09	08-Jun-09 13:45 SMS2	
Total Hardness	SM 2340C	120124	1	208.		mg/L	10.0	10-Jun-09	10-Jun-09 09:05 TAE	

2 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

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Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: Olin Enviromental Management

Client ID: 20697002 DUP 1
Project: 2095784
Project ID: OLIN MCINTOSH ESPP/6107090035
Site: None
Lab ID: 20697002 DUP 1
Matrix: Water
%Moisture: n/a
Description: None
Collected: 02-Jun-09
Received: 05-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Total Dissolved Solids	SM 2540C	120007	1	308.		mg/L	10.0	08-Jun-09	08-Jun-09 13:45 SMS2	
Total Hardness	SM 2340C	120124	1	240.		mg/L	10.0	10-Jun-09	10-Jun-09 09:05 TAE	

2 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
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St. Rose, LA 70087
(504) 469-0333

Sample Results

Client: Olin Enviromental Management

Client ID: 20697245 **Project:** 2095784

Project ID: OLIN MCINTOSH ESPP/6107090035 **Site:**

Lab ID: 20697245 **Matrix:** Water **%Moisture:** n/a

Description: **Collected:** 04-Jun-09 **Received:** 08-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Total Suspended Solids	SM 2540D	120008	1	44.0		mg/L	4.00	08-Jun-09	08-Jun-09 13:54 SMS2	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Client: Olin Enviromental Management

Client ID: 20697245 DUP 1
Project: 2095784
Project ID: OLIN MCINTOSH ESPP/6107090035
Site: None
Lab ID: 20697245 DUP 1
Matrix: Water
%Moisture: n/a
Description: None
Collected: 04-Jun-09
Received: 08-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Total Suspended Solids	SM 2540D	120008	1	43.0		mg/L	4.00	08-Jun-09	08-Jun-09 13:54 SMS2	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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St. Rose, LA 70087
(504) 469-0333

Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SW-DHDS-09 **Project:** 2095784

Project ID: OLIN MCINTOSH ESPP/6107090035 **Site:** None

Lab ID: 20697309 **Matrix:** Water **%Moisture:** n/a

Description: None **Collected:** 04-Jun-09 **Received:** 05-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Alkalinity, Total	SM 2320B	120006	1	31.8		mg/L	5.00	08-Jun-09	08-Jun-09 14:15 SMS2	
Dissolved Organic Carbo	SM 5310B	120002	1	16.0		mg/L	1.00	08-Jun-09	08-Jun-09 14:24 TAE	
Total Dissolved Solids	SM 2540C	120007	1	52.5		mg/L	4.00	08-Jun-09	08-Jun-09 13:46 SMS2	
Total Hardness	SM 2340C	120124	1	40.0		mg/L	10.0	10-Jun-09	10-Jun-09 09:05 TAE	
Total Suspended Solids	SM 2540D	120008	1	4.00		mg/L	4.00	08-Jun-09	08-Jun-09 13:54 SMS2	

5 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Pace Analytical™

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SW-DHDS-09 DUP 1
Project: 2095784
Project ID: OLIN MCINTOSH ESPP/6107090035
Site: None
Lab ID: 20697309 DUP 1
Matrix: Water
%Moisture: n/a
Description: None
Collected: 04-Jun-09
Received: 05-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Alkalinity, Total	SM 2320B	120006	1	31.8		mg/L	10.0	08-Jun-09	08-Jun-09 14:15 SMS2	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Sample Results

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Client: Olin Enviromental Management

Client ID: OU2B-SW-DHDD-09
Project: 2095784
Project ID: OLIN MCINTOSH ESPP/6107090035
Site: None
Lab ID: 20697310
Matrix: Water
%Moisture: n/a
Description: None
Collected: 04-Jun-09
Received: 05-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Alkalinity, Total	SM 2320B	120006	1	44.5		mg/L	5.00	08-Jun-09	08-Jun-09 14:15 SMS2	
Dissolved Organic Carbo	SM 5310B	120002	1	18.0		mg/L	1.00	08-Jun-09	08-Jun-09 14:24 TAE	
Total Dissolved Solids	SM 2540C	120007	1	62.5		mg/L	4.00	08-Jun-09	08-Jun-09 13:46 SMS2	
Total Hardness	SM 2340C	120124	1	52.0		mg/L	10.0	10-Jun-09	10-Jun-09 09:05 TAE	
Total Suspended Solids	SM 2540D	120008	1	8.00		mg/L	4.00	08-Jun-09	08-Jun-09 13:55 SMS2	

5 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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(504) 469-0333

Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SW-103DS-09 **Project:** 2095784

Project ID: OLIN MCINTOSH ESPP/6107090035 **Site:** None

Lab ID: 20697311 **Matrix:** Water **%Moisture:** n/a

Description: None **Collected:** 04-Jun-09 **Received:** 05-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Alkalinity, Total	SM 2320B	120006	1	31.8		mg/L	5.00	08-Jun-09	08-Jun-09 14:15 SMS2	
Dissolved Organic Carbo	SM 5310B	120002	1	16.0		mg/L	1.00	08-Jun-09	08-Jun-09 14:24 TAE	
Total Dissolved Solids	SM 2540C	120007	1	45.0		mg/L	4.00	08-Jun-09	08-Jun-09 13:46 SMS2	
Total Hardness	SM 2340C	120124	1	38.0		mg/L	10.0	10-Jun-09	10-Jun-09 09:05 TAE	
Total Suspended Solids	SM 2540D	120008	1	4.00		mg/L	4.00	08-Jun-09	08-Jun-09 13:55 SMS2	

5 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Pace Analytical™

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1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SW-103DD-09
Project: 2095784
Project ID: OLIN MCINTOSH ESPP/6107090035
Site: None
Lab ID: 20697312
Matrix: Water
%Moisture: n/a
Description: None
Collected: 04-Jun-09
Received: 05-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Alkalinity, Total	SM 2320B	120006	1	33.9		mg/L	5.00	08-Jun-09	08-Jun-09 14:15 SMS2	
Dissolved Organic Carbo	SM 5310B	120002	1	16.0		mg/L	1.00	08-Jun-09	08-Jun-09 14:24 TAE	
Total Dissolved Solids	SM 2540C	120007	1	55.0		mg/L	4.00	08-Jun-09	08-Jun-09 13:47 SMS2	
Total Hardness	SM 2340C	120124	1	36.0		mg/L	10.0	10-Jun-09	10-Jun-09 09:05 TAE	
Total Suspended Solids	SM 2540D	120008	1	ND		mg/L	4.00	08-Jun-09	08-Jun-09 13:55 SMS2	

5 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Pace Analytical™

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St. Rose, LA 70087
(504) 469-0333

Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SW-101DS-09
Project: 2095784
Project ID: OLIN MCINTOSH ESPP/6107090035
Site: None
Lab ID: 20697315
Matrix: Water
%Moisture: n/a
Description: None
Collected: 04-Jun-09
Received: 05-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Alkalinity, Total	SM 2320B	120006	1	31.8		mg/L	5.00	08-Jun-09	08-Jun-09 14:15 SMS2	
Dissolved Organic Carbo	SM 5310B	120002	1	16.0		mg/L	1.00	08-Jun-09	08-Jun-09 14:24 TAE	
Total Dissolved Solids	SM 2540C	120007	1	57.5		mg/L	4.00	08-Jun-09	08-Jun-09 13:47 SMS2	
Total Hardness	SM 2340C	120124	1	36.0		mg/L	10.0	10-Jun-09	10-Jun-09 09:05 TAE	
Total Suspended Solids	SM 2540D	120008	1	4.50		mg/L	4.00	08-Jun-09	08-Jun-09 13:55 SMS2	

5 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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St. Rose, LA 70087
(504) 469-0333

Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SW-101DD-09
Project: 2095784
Project ID: OLIN MCINTOSH ESPP/6107090035
Site: None
Lab ID: 20697316
Matrix: Water
%Moisture: n/a
Description: None
Collected: 04-Jun-09
Received: 05-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Alkalinity, Total	SM 2320B	120006	1	31.8		mg/L	5.00	08-Jun-09	08-Jun-09 14:15 SMS2	
Dissolved Organic Carbo	SM 5310B	120002	1	16.0		mg/L	1.00	08-Jun-09	08-Jun-09 14:24 TAE	
Total Dissolved Solids	SM 2540C	120007	1	55.0		mg/L	4.00	08-Jun-09	08-Jun-09 13:47 SMS2	
Total Hardness	SM 2340C	120124	1	36.0		mg/L	10.0	10-Jun-09	10-Jun-09 09:05 TAE	
Total Suspended Solids	SM 2540D	120008	1	ND		mg/L	4.00	08-Jun-09	08-Jun-09 13:55 SMS2	

5 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Pace Analytical™

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St. Rose, LA 70087
(504) 469-0333

Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SW-203DS-09
Project: 2095784
Project ID: OLIN MCINTOSH ESPP/6107090035
Site: None
Lab ID: 20697317
Matrix: Water
%Moisture: n/a
Description: None
Collected: 04-Jun-09
Received: 05-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Alkalinity, Total	SM 2320B	120006	1	31.8		mg/L	5.00	08-Jun-09	08-Jun-09 14:15 SMS2	
Dissolved Organic Carbo	SM 5310B	120002	1	16.0		mg/L	1.00	08-Jun-09	08-Jun-09 14:24 TAE	
Total Dissolved Solids	SM 2540C	120007	1	45.0		mg/L	4.00	08-Jun-09	08-Jun-09 13:48 SMS2	
Total Hardness	SM 2340C	120124	1	34.0		mg/L	10.0	10-Jun-09	10-Jun-09 09:05 TAE	
Total Suspended Solids	SM 2540D	120008	1	4.00		mg/L	4.00	08-Jun-09	08-Jun-09 13:56 SMS2	

5 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Pace Analytical™

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(504) 469-0333

Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SW-203DD-09
Project: 2095784
Project ID: OLIN MCINTOSH ESPP/6107090035
Site: None
Lab ID: 20697318
Matrix: Water
%Moisture: n/a
Description: None
Collected: 04-Jun-09
Received: 05-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Alkalinity, Total	SM 2320B	120006	1	31.8		mg/L	5.00	08-Jun-09	08-Jun-09 14:15 SMS2	
Dissolved Organic Carbo	SM 5310B	120002	1	16.0		mg/L	1.00	08-Jun-09	08-Jun-09 14:24 TAE	
Total Dissolved Solids	SM 2540C	120007	1	72.5		mg/L	4.00	08-Jun-09	08-Jun-09 13:48 SMS2	
Total Hardness	SM 2340C	120124	1	34.0		mg/L	10.0	10-Jun-09	10-Jun-09 09:05 TAE	
Total Suspended Solids	SM 2540D	120008	1	ND		mg/L	4.00	08-Jun-09	08-Jun-09 13:56 SMS2	

5 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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(504) 469-0333

Client: Olin Enviromental Management

Client ID: 120002 BLANK 1
Project: 2095784
Project ID: OLIN MCINTOSH ESPP/6107090035
Site:
Lab ID: 20697346
Matrix:
%Moisture: n/a
Description:
Collected:
Received:

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Limit
Dissolved Organic Carbo	SM 5310B	120002	1	ND		mg/L	2.00	08-Jun-09	08-Jun-09 14:24	TAE	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Pace Analytical Services, Inc.
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St. Rose, LA 70087
(504) 469-0333

Client: Olin Enviromental Management

Client ID: 120002 LCS 1
Project: 2095784
Project ID: OLIN MCINTOSH ESPP/6107090035
Site:
Lab ID: 20697347
Matrix:
%Moisture: n/a
Description:
Collected:
Received:

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Limit
Dissolved Organic Carbo	SM 5310B	120002	1	33.6		mg/L	2.00	08-Jun-09	08-Jun-09 14:24	TAE	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Pace Analytical Services, Inc.
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(504) 469-0333

Client: Olin Enviromental Management

Client ID: 120006 LCS 1
Project: 2095784
Project ID: OLIN MCINTOSH ESPP/6107090035
Site:
Lab ID: 20697358
Matrix:
%Moisture: n/a
Description:
Collected:
Received:

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Alkalinity, Total	SM 2320B	120006	1	48.8		mg/L	10.0	08-Jun-09	08-Jun-09 14:15 SMS2	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Pace Analytical™

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St. Rose, LA 70087
(504) 469-0333

Sample Results

Client: Olin Enviromental Management

Client ID: 120007 BLANK 1
Project: 2095784
Project ID: OLIN MCINTOSH ESPP/6107090035
Site:
Lab ID: 20697360
Matrix:
%Moisture: n/a
Description:
Collected:
Received:

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Total Dissolved Solids	SM 2540C	120007	1	ND		mg/L	10.0	08-Jun-09	08-Jun-09 13:44 SMS2	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Pace Analytical Services, Inc.
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(504) 469-0333

Client: Olin Enviromental Management

Client ID: 120007 LCS 1
Project: 2095784
Project ID: OLIN MCINTOSH ESPP/6107090035
Site:
Lab ID: 20697361
Matrix:
%Moisture: n/a
Description:
Collected:
Received:

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Total Dissolved Solids	SM 2540C	120007	1	93.0		mg/L	10.0	08-Jun-09	08-Jun-09 13:44 SMS2	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: Olin Enviromental Management

Client ID: 120008 BLANK 1
Project: 2095784
Project ID: OLIN MCINTOSH ESPP/6107090035
Site:
Lab ID: 20697363
Matrix:
%Moisture: n/a
Description:
Collected:
Received:

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Total Suspended Solids	SM 2540D	120008	1	ND		mg/L	4.00	08-Jun-09	08-Jun-09 13:53 SMS2	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Pace Analytical Services, Inc.
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Client: Olin Enviromental Management

Client ID: 120008 LCS 1
Project: 2095784
Project ID: OLIN MCINTOSH ESPP/6107090035
Site:
Lab ID: 20697364
Matrix:
%Moisture: n/a
Description:
Collected:
Received:

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Total Suspended Solids	SM 2540D	120008	1	86.0		mg/L	4.00	08-Jun-09	08-Jun-09 13:53 SMS2	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Pace Analytical Services, Inc.
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(504) 469-0333

Client: Olin Enviromental Management

Client ID: 120124 BLANK 1
Project: 2095784
Project ID: OLIN MCINTOSH ESPP/6107090035
Site:
Lab ID: 20697953
Matrix:
%Moisture: n/a
Description:
Collected:
Received:

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Limit
Total Hardness	SM 2340C	120124	1	ND		mg/L	10.0	10-Jun-09	10-Jun-09 09:05	TAE	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: Olin Enviromental Management

Client ID: 120124 LCS 1
Project: 2095784
Project ID: OLIN MCINTOSH ESPP/6107090035
Site:
Lab ID: 20697954
Matrix:
%Moisture: n/a
Description:
Collected:
Received:

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Limit
Total Hardness	SM 2340C	120124	1	104.		mg/L	10.0	10-Jun-09	10-Jun-09	09:05 TAE	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
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Project: 2095784

Parameter	Batch	Blank	Units	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	RPD	QC Limits LCS	QC Limits MS/MSD	Max RPD	Qu
Dissolved Organic Car	120002	< 1.00	mg/L	32.8	33.6	102	20.0	15.9	32.9		85		3	90-110	75-125	20	
Alkalinity, Total	120006	<	mg/L	50.0	48.8	98							0	90-110		20	
Total Dissolved Solids	120007	8.00	mg/L	100.	93.0	93							3	80-120		20	
Total Suspended Solid	120008	< 4.00	mg/L	100.	86.0	86							2	80-120		20	
Total Hardness	120124	< 10.0	mg/L	106.	104.	98							14	90-110		20	

8/11/2009 16:57:39

*** denotes recovery outside of QC limits.**
ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MS/MSD RPD is calculated via SW-846 rules on the basis of spiked sample concentrations rather than spike recoveries.

Pace Analytical Services, Inc.
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(504) 469-0333

Project: 2095784

Value	Description
J	This estimated value for the analyte is below the adjusted reporting limit but above the instrument reporting limit.
U	The analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.
B	This analyte was detected in the method blank.
E	The sample concentration is above the linear calibrated range of the analysis.
ND	The analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.
MDL	The adjusted method detection limit.
LCS(D)	Laboratory Control Sample (Duplicate).
MS(D)	Matrix Spike (Duplicate).
DUP	Sample Duplicate.
RPD	Relative Percent Difference.

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2095784 20-OLIN ENV

CHAIN-OF-CUSTODY / Analytical Request Document

This is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

surface water

2095784

Page: 1 of 1

1191759

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: MACTEC/OLIN	Report To: kdroberts@olin.com	Attention: Dennis Turner
Address: 3115 Town Pt Dr. Kennesaw GA	Copy To: Mbencer@mactec.com kpwatson@mactec.com	Company Name: Olin Corp. Address: Cleveland TN
Email To: cedraperemactec.com	Purchase Order No.: OEMC0013-80	Pace Quote Reference:
Phone: 7704234400 Fax: 7704234486	Project Name: Olin McIntosh ESPP	Pace Project Manager: Cindy Olavesen
Requested Due Date/TAT: Standard	Project Number: 60709035 2009.02	Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☒ OTHER CERCLA

Site Location STATE: AL

Section D Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Matrix Codes — MATRIX / CODE
Drinking Water DW
Water WT
~~Waste Water~~ WW
Product P
Soil/Solid SL
Oil OL
Wipe WP
Air AR
Tissue TS
Other OT

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test: Hardness $CaCO_3$	Alkalinity	DOC	TSS	TDS	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	OU2B-SW-DHDS-09	WT	G			6/4/09	0915		2	1		1						X	X	X	X	X		20697309
2	OU2B-SW-DHDD-09	WT	G			6/4/09	0950		2	1		1						X	X	X	X	X		310
3	OU2B-SW-103DS-09	WT	G			6/4/09	1025		2	1		1						X	X	X	X	X		311
4	OU2B-SW-103DD-09	WT	G			6/4/09	1035		2	1		1						X	X	X	X	X		312
5	OU2B-SW-101DS-09	WT	G			6/4/09	1110		2	1		1						X	X	X	X	X		315
6	OU2B-SW-101DD-09	WT	G			6/4/09	1116		2	1		1						X	X	X	X	X		316
7	OU2B-SW-203DS-09	WT	G			6/4/09	1150		2	1		1						X	X	X	X	X		317
8	OU2B-SW-203DD-09	WT	G			6/4/09	1200		2	1		1						X	X	X	X	X		318
9	Temp Blank																							
10																								
11																								
12																								

page 3 of 3

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	RLReece/MACTEC	6/4/09	1500							
	FedEx	6-5-09	0950	[signature]	6-5-09	0950	2.9	Y	Y	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Rani Reece

SIGNATURE of SAMPLER: RLReece DATE Signed (MM/DD/YY): 06/04/09

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

2095784 20-OLIN ENV

Pace Analytical

1000 Riverbend. Blvd., Suite F
St. Rose, LA 70087

Sample Condition Upon Receipt

Project #: 20

Courier: ☐ Pace Courier ☐ Hackbarth ☑ Fed X ☐ UPS ☐ DHL ☐ USPS ☐ Customer ☐ Other

Custody Seal on Cooler/Box Present: [see COC] **Custody Seals Intact:** ☑Yes ☐No

Theromometer Used: ☑Therm Fisher IR 1 ☐Therm Fisher IR 2

Type of Ice: (Wet) Blue None

Samples on Ice: [see COC]

Cooler Temperature: [see COC]

Temp should be above freezing to 6°C

Date and initials of person examining contents: MT 06/05/09

Temp must be measured from Temperature blank when present

				Comments:
Temperature Blank Present"?	☐Yes	☑No	☐N/A	1
Chain of Custody Present:	☑Yes	☐No	☐N/A	2
Chain of Custody Complete:	☑Yes	☐No	☐N/A	3
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	4
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	5
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	6
Sufficient Volume:	☑Yes	☐No	☐N/A	7
Correct Containers Used:	☑Yes	☐No	☐N/A	8
Filtered vol. Rec. for Diss. tests	☐Yes	☐No	☑N/A	9
Sample Labels match COC:	☑Yes	☐No	☐N/A	10
All containers received within manafacture's precautionary and/or expiration dates.	☑Yes	☐No	☐N/A	11
All containers needing preservation have been checked (except VOA, coliform, & O&G).	☐Yes	☐No	☐N/A	12
All containers preservation checked found to be in compliance with EPA recommendation.	☑Yes	☐No	☐N/A	13 If No, was preserative added? ☐Yes ☐No If added record lot no.: HNO3 _____ H2SO4 _____
Samples checked for dechlorination:	☐Yes	☑No	☐N/A	14
Headspace in VOA Vials (>6mm):	☐Yes	☑No	☐N/A	14
Trip Blank Present:	☐Yes	☑No	☐N/A	16
Trip Blank Custody Seals Present	☐Yes	☑No	☐N/A	17
Pace Trip Blank Lot # (If purchased): N/A				18

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

August 14, 2009

Cynthia Draper
Mactec Eng & Consulting
3200 Townpoint Dr. NW
Suite 100
Kennesaw, GA 30144

RE: Project 2095803
Project ID: OLIN MCINTOSH/ESPP/6107090035

Dear Cynthia Draper:

Enclosed are the analytical results for sample(s) received by the laboratory on June 09, 2009. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerly,

Cindy Olavesen

Cindy Olavesen
cindy.olavesen@pacelabs.com

ACCREDITED IN ACCORDANCE WITH nelac

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Project: 2095803

Client: Olin Enviromental Management

Project ID: OLIN MCINTOSH/ESPP/6107090035

U.S. Dept. of Agriculture Foreign Soil Import S-47270

Pennsylviania Dept. of Env Protection (NELAC) 68-04202

Texas Commission on Env. Quality (NELAC) T104704405-08-TX

Kansas Department of Health and Environment (NELAC) E-10266

Florida Department of Health (NELAC) E87595

Louisiana Dept. of Health and Hospitals (NELAC) LA080013

Louisiana Dept. of Environmental Quality (NELAC/LELAP) 02006

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REPORT OF LABORATORY ANALYSIS

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St. Rose, LA 70087
(504) 469-0333

Sample Cross Reference

Project: 2095803

Client: Olin Enviromental Management

Project ID: OLIN MCINTOSH/ESPP/6107090035

Client Sample ID	Lab ID	Matrix	Collection Date/Time	Received Date/Time
OU2B-SW-105DS-09	20697485	Water	08-Jun-09 09:15	09-Jun-09 08:40
OU2B-SW-105DD-09	20697486	Water	08-Jun-09 09:20	09-Jun-09 08:40
OU2B-SW-205DS-09	20697487	Water	08-Jun-09 10:09	09-Jun-09 08:40
OU2B-SW-205DD-09	20697488	Water	08-Jun-09 10:20	09-Jun-09 08:40
OU2B-SW-DUP01DS-09	20697489	Water	08-Jun-09 12:00	09-Jun-09 08:40
OU2B-SW-EB101-09	20697494	Water	08-Jun-09 09:50	09-Jun-09 08:40

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St. Rose, LA 70087
(504) 469-0333

Project: 2095803

Sample Receipt Condition:

All samples were received in accordance with EPA protocol.

Holding Times:

All holding times were met.

Blanks:

All blank results were below reporting limits.

Laboratory Control Samples:

All LCS recoveries were within QC limits.

Matrix Spikes and Duplicates:

All MS/MSD recoveries or duplicate RPDs were within QC limits.

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1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Project: 2095803

Analytical Method	Batch	Sample used for QC
SM 2540C	120051	Batch sample from another client
SM 2320B	120074	Batch sample from another client
SM 2540D	120075	Batch sample from another client
SM 2340C	120124	Batch sample from another client
SM 5310B	120098	Project sample OU2B-SW-105DS-09

For the sample used as the original for the DUP or MS/MSD for the batch:

Project sample means a sample from this project was used.
Client sample means a sample from the same client but in a different project was used.
Batch sample means a sample from the a different client was used.

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1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SW-105DS-09 **Project:** 2095803

Project ID: OLIN MCINTOSH/ESPP/6107090035 **Site:** None

Lab ID: 20697485 **Matrix:** Water **%Moisture:** n/a

Description: None **Collected:** 08-Jun-09 **Received:** 09-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Alkalinity, Total	SM 2320B	120074	1	31.8		mg/L	5.00	09-Jun-09	09-Jun-09 14:20 SMS2	
Dissolved Organic Carbo	SM 5310B	120098	1	17.0		mg/L	1.00	09-Jun-09	09-Jun-09 16:15 TAE	
Total Dissolved Solids	SM 2540C	120051	1	72.5		mg/L	4.00	09-Jun-09	09-Jun-09 13:56 LJL	
Total Hardness	SM 2340C	120124	1	36.0		mg/L	10.0	10-Jun-09	10-Jun-09 09:05 TAE	
Total Suspended Solids	SM 2540D	120075	1	16.0		mg/L	4.00	09-Jun-09	09-Jun-09 14:11 TAE	

5 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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St. Rose, LA 70087
(504) 469-0333

Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SW-105DD-09
Project: 2095803
Project ID: OLIN MCINTOSH/ESPP/6107090035
Site: None
Lab ID: 20697486
Matrix: Water
%Moisture: n/a
Description: None
Collected: 08-Jun-09
Received: 09-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Alkalinity, Total	SM 2320B	120074	1	31.8		mg/L	5.00	09-Jun-09	09-Jun-09 14:20 SMS2	
Dissolved Organic Carbo	SM 5310B	120098	1	17.0		mg/L	1.00	09-Jun-09	09-Jun-09 16:15 TAE	
Total Dissolved Solids	SM 2540C	120051	1	72.5		mg/L	4.00	09-Jun-09	09-Jun-09 13:56 LJL	
Total Hardness	SM 2340C	120124	1	38.0		mg/L	10.0	10-Jun-09	10-Jun-09 09:05 TAE	
Total Suspended Solids	SM 2540D	120075	1	22.0		mg/L	4.00	09-Jun-09	09-Jun-09 14:11 TAE	

5 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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St. Rose, LA 70087
(504) 469-0333

Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SW-205DS-09
Project: 2095803
Project ID: OLIN MCINTOSH/ESPP/6107090035
Site: None
Lab ID: 20697487
Matrix: Water
%Moisture: n/a
Description: None
Collected: 08-Jun-09
Received: 09-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Alkalinity, Total	SM 2320B	120074	1	33.9		mg/L	5.00	09-Jun-09	09-Jun-09 14:20 SMS2	
Dissolved Organic Carbo	SM 5310B	120098	1	17.0		mg/L	1.00	09-Jun-09	09-Jun-09 16:15 TAE	
Total Dissolved Solids	SM 2540C	120051	1	55.0		mg/L	4.00	09-Jun-09	09-Jun-09 13:57 LJL	
Total Hardness	SM 2340C	120124	1	34.0		mg/L	10.0	10-Jun-09	10-Jun-09 09:05 TAE	
Total Suspended Solids	SM 2540D	120075	1	10.0		mg/L	4.00	09-Jun-09	09-Jun-09 14:12 TAE	

5 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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(504) 469-0333

Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SW-205DD-09 **Project:** 2095803

Project ID: OLIN MCINTOSH/ESPP/6107090035 **Site:** None

Lab ID: 20697488 **Matrix:** Water **%Moisture:** n/a

Description: None **Collected:** 08-Jun-09 **Received:** 09-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Alkalinity, Total	SM 2320B	120074	1	31.8		mg/L	5.00	09-Jun-09	09-Jun-09 14:20 SMS2	
Dissolved Organic Carbo	SM 5310B	120098	1	17.0		mg/L	1.00	09-Jun-09	09-Jun-09 16:15 TAE	
Total Dissolved Solids	SM 2540C	120051	1	70.0		mg/L	4.00	09-Jun-09	09-Jun-09 13:57 LJL	
Total Hardness	SM 2340C	120124	1	36.0		mg/L	10.0	10-Jun-09	10-Jun-09 09:05 TAE	
Total Suspended Solids	SM 2540D	120075	1	15.0		mg/L	4.00	09-Jun-09	09-Jun-09 14:12 TAE	

5 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Pace Analytical™

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SW-DUP01DS-09
Project: 2095803
Project ID: OLIN MCINTOSH/ESPP/6107090035
Site: None
Lab ID: 20697489
Matrix: Water
%Moisture: n/a
Description: None
Collected: 08-Jun-09
Received: 09-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Alkalinity, Total	SM 2320B	120074	1	31.8		mg/L	5.00	09-Jun-09	09-Jun-09 14:20 SMS2	
Dissolved Organic Carbo	SM 5310B	120098	1	16.0		mg/L	1.00	09-Jun-09	09-Jun-09 16:15 TAE	
Total Dissolved Solids	SM 2540C	120051	1	85.0		mg/L	4.00	09-Jun-09	09-Jun-09 13:57 LJL	
Total Hardness	SM 2340C	120124	1	36.0		mg/L	10.0	10-Jun-09	10-Jun-09 09:05 TAE	
Total Suspended Solids	SM 2540D	120075	1	6.50		mg/L	4.00	09-Jun-09	09-Jun-09 14:12 TAE	

5 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Pace Analytical™

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SW-EB101-09
Project: 2095803
Project ID: OLIN MCINTOSH/ESPP/6107090035
Site: None
Lab ID: 20697494
Matrix: Water
%Moisture: n/a
Description: None
Collected: 08-Jun-09
Received: 09-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Alkalinity, Total	SM 2320B	120074	1	ND		mg/L	5.00	09-Jun-09	09-Jun-09 14:20 SMS2	
Dissolved Organic Carbo	SM 5310B	120098	1	1.20		mg/L	1.00	09-Jun-09	09-Jun-09 16:15 TAE	
Total Dissolved Solids	SM 2540C	120051	1	ND		mg/L	4.00	09-Jun-09	09-Jun-09 13:57 LJL	
Total Hardness	SM 2340C	120124	1	ND		mg/L	10.0	10-Jun-09	10-Jun-09 09:05 TAE	
Total Suspended Solids	SM 2540D	120075	1	ND		mg/L	4.00	09-Jun-09	09-Jun-09 14:12 TAE	

5 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Pace Analytical™

Inorganics Quality Control

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Project: 2095803

Parameter	Batch	Blank	Units	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	RPD	QC Limits LCS	QC Limits MS/MSD	Max RPD	Qu
Total Dissolved Solids	120051	< 4.00	mg/L	100.	93.0	93							16	80-120		20	
Alkalinity, Total	120074	<	mg/L	50.0	48.8	98							0	90-110		20	
Total Suspended Solid	120075	< 4.00	mg/L	100.	95.5	96							0	80-120		20	
Dissolved Organic Car	120098	< 1.00	mg/L	32.8	32.8	100	20.0	16.7	33.6		85		6	90-110	75-125	20	
Total Hardness	120124	< 10.0	mg/L	106.	104.	98							14	90-110		20	

8/14/2009 11:42:37

*** denotes recovery outside of QC limits.**
ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MS/MSD RPD is calculated via SW-846 rules on the basis of spiked sample concentrations rather than spike recoveries.

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Project: 2095803

Value	Description
J	This estimated value for the analyte is below the adjusted reporting limit but above the instrument reporting limit.
U	The analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.
B	This analyte was detected in the method blank.
E	The sample concentration is above the linear calibrated range of the analysis.
ND	The analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.
MDL	The adjusted method detection limit.
LCS(D)	Laboratory Control Sample (Duplicate).
MS(D)	Matrix Spike (Duplicate).
DUP	Sample Duplicate.
RPD	Relative Percent Difference.

2095803 20-OLIN ENV

Page 1 of 1

Surface water

COC No. 010483

CHAIN OF CUSTODY

(Please Print Clearly)

Company Name:	Olin / MACTEC
Branch/Location:	Kennesaw GA
Project Contact:	Cynthia Draper
Phone:	7704213400
Project Number:	6107090085 2009.02
Project Name:	Olin McIntosh ESPP
Project State:	AL
Sampled By (Print):	Rani Reece
Sampled By (Sign):	RReece
PO #:	OEMC0013-80
Regulatory Program:	CERCLA

*Preservation Codes

A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

Quote #:	(Invoice to:)
Mail To Contact:	Dennis Turner
Mail To Company:	Olin Corporation
Mail To Address:	3855 N Ocoee ST Cleveland TN
~~Invoice~~ report To Contact:	cedraper@mactec.com
Invoice To Company:	kdroberts@mactec.com
Invoice To Address:	Mbarker@mactec.com kpwatson@mactec.com
Invoice To Phone:	

Data Package Options (billable)
- ☐ EPA Level III
- ☐ EPA Level IV

MS/MSD
- ☐ On your sample (billable)
- ☐ NOT needed on your sample

Matrix Codes

A = Air	W = Water
B = Biota	DW = Drinking Water
C = Charcoal	GW = Ground Water
O = Oil	SW = Surface Water
S = Soil	~~WW = Waste Water~~
SI = Sludge	WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	FILTERED? (YES/NO) Y/N	PRESERVATION (CODE)* Pick Letter	Analyses Requested: Hardness as CaCO3	Alkalinity	DOC	TSS	TDS	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
	OU2B-SW-105DS-09	6/8/09	0915	SW			X	X	X	X	X		20697485	
	OU2B-SW-105DD-09	6/8/09	0921	SW			X	X	X	X	X		486	
	OU2B-SW-205DS-09	6/8/09	1009	SW			X	X	X	X	X		487	
	OU2B-SW-205DD-09	6/8/09	1020	SW			X	X	X	X	X		488	
	OU2B-SW-DUP01DS-09	6/8/09	1200	SW			X	X	X	X	X		489	
	OU2B-SW-EB101-09	6/8/09	0950	SW			X	X	X	X	X		494	
	Temp Blank													

Rush Turnaround Time Requested - Prelims (Rush TAT subject to approval/surcharge)
Date Needed: Standard

Transmit Prelim Rush Results by (complete what you want):

Email #1:	
Email #2:	
Telephone:	
Fax:	

Samples on HOLD are subject to special pricing and release of liability

Relinquished By:	Date/Time:	Received By:	Date/Time:
RReece	6/8/09 1400		
Relinquished By: FedEx	Date/Time: 6-9-09 0840	Received By:	Date/Time: 6-9-09 0840
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:

PACE Project No.

Receipt Temp = 2.4-3.9 °C

Sample Receipt pH OK / Adjusted

Cooler Custody Seal Present / Not Present Intact / Not Intact

Version 6.0 06/14/06

ORIGINAL

2095803 20-OLIN ENV

Pace Analytical

1000 Riverbend. Blvd., Suite F
St. Rose, LA 70087

Sample Condition Upon Rec

Project #: 20

Courier: ☐ Pace Courier ☐ Hackbarth ☑ Fed X ☐ UPS ☐ DHL ☐ USPS ☐ Customer ☐ Other

Custody Seal on Cooler/Box Present: [see COC] Custody Seals Intact: ☑Yes ☐No

Thermometer Used: ☑ Therm Fisher IR 1 ☐ Therm Fisher IR 2

Type of Ice: (Wet) Blue None

Samples on Ice: [see COC]

Cooler Temperature: [see COC]

Temp should be above freezing to 6°C

Date and initials of person examining contents: JAT 06/09/09

Temp must be measured from Temperature blank when present

		Comments:
Temperature Blank Present"?	☑Yes ☐No ☐N/A	1
Chain of Custody Present:	☑Yes ☐No ☐N/A	2
Chain of Custody Complete:	☑Yes ☐No ☐N/A	3
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	4
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	5
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	6
Sufficient Volume:	☑Yes ☐No ☐N/A	7
Correct Containers Used:	☑Yes ☐No ☐N/A	8
Filtered vol. Rec. for Diss. tests	☐Yes ☐No ☑N/A	9
Sample Labels match COC:	☑Yes ☐No ☐N/A	10
All containers received within manufacture's precautionary and/or expiration dates.	☑Yes ☐No ☐N/A	11
All containers needing preservation have been checked (except VOA, coliform, & O&G).	☑Yes ☐No ☐N/A	12
All containers preservation checked found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	13 If No, was preserative added? ☐Yes ☐No If added record lot no.: HNO3 _____ H2SO4 _____
Samples checked for dechlorination:	☐Yes ☑No ☐N/A	14
Headspace in VOA Vials (>6mm):	☐Yes ☑No ☐N/A	14
Trip Blank Present:	☐Yes ☑No ☐N/A	16
Trip Blank Custody Seals Present	☐Yes ☑No ☐N/A	17
Pace Trip Blank Lot # (If purchased): N/A		18

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

August 11, 2009

Keith Roberts
Olin Enviromental Management
Charleston Plant
1186 Lower river Road
Charleston, TN 37310

RE: Project 2095640
Project ID: OLIN MCINTOSH ESPP/6107090035

Dear Keith Roberts:

Enclosed are the analytical results for sample(s) received by the laboratory on June 04, 2009. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerly,

Cindy Olavesen

Cindy Olavesen
cindy.olavesen@pacelabs.com

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REPORT OF LABORATORY ANALYSIS

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Laboratory Certifications

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Project: 2095640

Client: Olin Enviromental Management

Project ID: OLIN MCINTOSH ESPP/6107090035

U.S. Dept. of Agriculture Foreign Soil Import S-47270

Pennsylviania Dept. of Env Protection (NELAC) 68-04202

Texas Commission on Env. Quality (NELAC) T104704405-08-TX

Kansas Department of Health and Environment (NELAC) E-10266

Florida Department of Health (NELAC) E87595

Louisiana Dept. of Health and Hospitals (NELAC) LA080013

Louisiana Dept. of Environmental Quality (NELAC/LELAP) 02006

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REPORT OF LABORATORY ANALYSIS

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Sample Cross Reference

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Project: 2095640

Client: Olin Enviromental Management

Project ID: OLIN MCINTOSH ESPP/6107090035

Client Sample ID	Lab ID	Matrix	Collection Date/Time	Received Date/Time
OU2B-SW-301DS-09	20696451	Water	03-Jun-09 10:05	04-Jun-09 08:30
OU2B-SW-301DD-09	20696452	Water	03-Jun-09 10:15	04-Jun-09 08:30
OU2B-SW-201DD-09	20696453	Water	03-Jun-09 11:15	04-Jun-09 08:30
OU2B-SW-201DS-09	20696454	Water	03-Jun-09 11:00	04-Jun-09 08:30
OU2R-SW-101DS-09	20696455	Water	03-Jun-09 12:15	04-Jun-09 08:30
OU2R-SW-101DD-09	20696456	Water	03-Jun-09 12:20	04-Jun-09 08:30
OU2B-SW-303DS-09	20696457	Water	03-Jun-09 13:00	04-Jun-09 08:30
OU2B-SW-303DD-09	20696458	Water	03-Jun-09 13:10	04-Jun-09 08:30
OU2B-SW-304DS-09	20696459	Water	03-Jun-09 15:00	04-Jun-09 08:30
OU2B-SW-304DD-09	20696460	Water	03-Jun-09 15:10	04-Jun-09 08:30
OU2B-SW-DUP01DD-09	20696461	Water	03-Jun-09 12:00	04-Jun-09 08:30

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Project: 2095640

Sample Receipt Condition:

All samples were received in accordance with EPA protocol.

Holding Times:

All holding times were met.

Blanks:

All blank results were below reporting limits.

Laboratory Control Samples:

All LCS recoveries were within QC limits.

Matrix Spikes and Duplicates:

MS or MSD recoveries outside of QC limits are qualified in the Report of Quality Control section.

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Project: 2095640

Analytical Method	Batch	Sample used for QC
SM 2340C	119835	Project sample OU2B-SW-301DS-09
SM 2540C	119850	Batch sample from another client
SM 2540D	119854	Batch sample from another client
SM 2320B	119876	Batch sample from another client
SM 2540C	119895	Project sample OU2B-SW-303DS-09
SM 5310B	120002	Project sample OU2B-SW-301DS-09

For the sample used as the original for the DUP or MS/MSD for the batch:

Project sample means a sample from this project was used.
Client sample means a sample from the same client but in a different project was used.
Batch sample means a sample from the a different client was used.

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Sample Results

Client: Olin Enviromental Management

Client ID: 20696057
Project: 2095640
Project ID: OLIN MCINTOSH ESPP/6107090035
Site:
Lab ID: 20696057
Matrix: Water
%Moisture: n/a
Description:
Collected: 02-Jun-09
Received: 03-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Limit
Total Dissolved Solids	SM 2540C	119850	1	80.0		mg/L	10.0	04-Jun-09	04-Jun-09 16:42	LJL	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
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Client: Olin Enviromental Management

Client ID: 20696057 DUP 1
Project: 2095640
Project ID: OLIN MCINTOSH ESPP/6107090035
Site: None
Lab ID: 20696057 DUP 1
Matrix: Water
%Moisture: n/a
Description: None
Collected: 02-Jun-09
Received: 03-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Limit
Total Dissolved Solids	SM 2540C	119850	1	57.5		mg/L	10.0	04-Jun-09	04-Jun-09 16:42	LJL	

1 parameter(s) reported

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Sample Results

Client: Olin Enviromental Management

Client ID: 20696171
Project: 2095640
Project ID: OLIN MCINTOSH ESPP/6107090035
Site:
Lab ID: 20696171
Matrix: Water
%Moisture: n/a
Description:
Collected: 02-Jun-09
Received: 03-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Alkalinity, Total	SM 2320B	119876	1	118.		mg/L	10.0	05-Jun-09	05-Jun-09 12:30 SMS2	

1 parameter(s) reported

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Client: Olin Enviromental Management

Client ID: 20696171 DUP 1
Project: 2095640
Project ID: OLIN MCINTOSH ESPP/6107090035
Site: None
Lab ID: 20696171 DUP 1
Matrix: Water
%Moisture: n/a
Description: None
Collected: 02-Jun-09
Received: 03-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Alkalinity, Total	SM 2320B	119876	1	118.		mg/L	10.0	05-Jun-09	05-Jun-09 12:30 SMS2	

1 parameter(s) reported

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Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SW-301DS-09 **Project:** 2095640

Project ID: OLIN MCINTOSH ESPP/6107090035 **Site:** None

Lab ID: 20696451 **Matrix:** Water **%Moisture:** n/a

Description: None **Collected:** 03-Jun-09 **Received:** 04-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Alkalinity, Total	SM 2320B	119876	1	31.8		mg/L	5.00	05-Jun-09	05-Jun-09 12:30 SMS2	
Dissolved Organic Carbo	SM 5310B	120002	1	16.0		mg/L	1.00	08-Jun-09	08-Jun-09 14:24 TAE	
Total Dissolved Solids	SM 2540C	119850	1	72.5		mg/L	4.00	04-Jun-09	04-Jun-09 16:46 LJL	
Total Hardness	SM 2340C	119835	1	40.0		mg/L	10.0	04-Jun-09	04-Jun-09 13:10 LJL	
Total Suspended Solids	SM 2540D	119854	1	5.00		mg/L	4.00	04-Jun-09	04-Jun-09 16:35 SMS2	

5 parameter(s) reported

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Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SW-301DS-09 DUP 1
Project: 2095640
Project ID: OLIN MCINTOSH ESPP/6107090035
Site: None
Lab ID: 20696451 DUP 1
Matrix: Water
%Moisture: n/a
Description: None
Collected: 03-Jun-09
Received: 04-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Limit
Dissolved Organic Carbo	SM 5310B	120002	1	16.0		mg/L	2.00	08-Jun-09	08-Jun-09 14:24	TAE	
Total Hardness	SM 2340C	119835	1	40.0		mg/L	10.0	04-Jun-09	04-Jun-09 13:10	LJL	

2 parameter(s) reported

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Client: Olin Enviromental Management

Client ID: OU2B-SW-301DS-09 MS 1
Project: 2095640
Project ID: OLIN MCINTOSH ESPP/6107090035
Site: None
Lab ID: 20696451 MS 1
Matrix: Water
%Moisture: n/a
Description: None
Collected: 03-Jun-09
Received: 04-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Limit
Dissolved Organic Carbo	SM 5310B	120002	1	32.9		mg/L	2.00	08-Jun-09	08-Jun-09 14:24	TAE	

1 parameter(s) reported

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Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SW-301DD-09
Project: 2095640
Project ID: OLIN MCINTOSH ESPP/6107090035
Site: None
Lab ID: 20696452
Matrix: Water
%Moisture: n/a
Description: None
Collected: 03-Jun-09
Received: 04-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Alkalinity, Total	SM 2320B	119876	1	31.8		mg/L	5.00	05-Jun-09	05-Jun-09 12:30 SMS2	
Dissolved Organic Carbo	SM 5310B	120002	1	16.0		mg/L	1.00	08-Jun-09	08-Jun-09 14:24 TAE	
Total Dissolved Solids	SM 2540C	119850	1	87.5		mg/L	4.00	04-Jun-09	04-Jun-09 16:46 LJL	
Total Hardness	SM 2340C	119835	1	50.0		mg/L	10.0	04-Jun-09	04-Jun-09 13:10 LJL	
Total Suspended Solids	SM 2540D	119854	1	4.50		mg/L	4.00	04-Jun-09	04-Jun-09 16:36 SMS2	

5 parameter(s) reported

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Client: Olin Enviromental Management

Client ID: OU2B-SW-201DD-09
Project: 2095640
Project ID: OLIN MCINTOSH ESPP/6107090035
Site: None
Lab ID: 20696453
Matrix: Water
%Moisture: n/a
Description: None
Collected: 03-Jun-09
Received: 04-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Alkalinity, Total	SM 2320B	119876	1	31.8		mg/L	5.00	05-Jun-09	05-Jun-09 12:30 SMS2	
Dissolved Organic Carbo	SM 5310B	120002	1	16.0		mg/L	1.00	08-Jun-09	08-Jun-09 14:24 TAE	
Total Dissolved Solids	SM 2540C	119850	1	82.5		mg/L	4.00	04-Jun-09	04-Jun-09 16:46 LJL	
Total Hardness	SM 2340C	119835	1	44.0		mg/L	10.0	04-Jun-09	04-Jun-09 13:10 LJL	
Total Suspended Solids	SM 2540D	119854	1	4.50		mg/L	4.00	04-Jun-09	04-Jun-09 16:36 SMS2	

5 parameter(s) reported

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Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SW-201DS-09
Project: 2095640
Project ID: OLIN MCINTOSH ESPP/6107090035
Site: None
Lab ID: 20696454
Matrix: Water
%Moisture: n/a
Description: None
Collected: 03-Jun-09
Received: 04-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Alkalinity, Total	SM 2320B	119876	1	31.8		mg/L	5.00	05-Jun-09	05-Jun-09 12:30 SMS2	
Dissolved Organic Carbo	SM 5310B	120002	1	16.0		mg/L	1.00	08-Jun-09	08-Jun-09 14:24 TAE	
Total Dissolved Solids	SM 2540C	119850	1	65.0		mg/L	4.00	04-Jun-09	04-Jun-09 16:46 LJL	
Total Hardness	SM 2340C	119835	1	46.0		mg/L	10.0	04-Jun-09	04-Jun-09 13:10 LJL	
Total Suspended Solids	SM 2540D	119854	1	6.50		mg/L	4.00	04-Jun-09	04-Jun-09 16:36 SMS2	

5 parameter(s) reported

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Client: Olin Enviromental Management

Client ID: OU2R-SW-101DS-09
Project: 2095640
Project ID: OLIN MCINTOSH ESPP/6107090035
Site: None
Lab ID: 20696455
Matrix: Water
%Moisture: n/a
Description: None
Collected: 03-Jun-09
Received: 04-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Alkalinity, Total	SM 2320B	119876	1	31.8		mg/L	5.00	05-Jun-09	05-Jun-09 12:30 SMS2	
Dissolved Organic Carbo	SM 5310B	120002	1	15.0		mg/L	1.00	08-Jun-09	08-Jun-09 14:24 TAE	
Total Dissolved Solids	SM 2540C	119850	1	112.		mg/L	4.00	04-Jun-09	04-Jun-09 16:46 LJL	
Total Hardness	SM 2340C	119835	1	46.0		mg/L	10.0	04-Jun-09	04-Jun-09 13:10 LJL	
Total Suspended Solids	SM 2540D	119854	1	ND		mg/L	4.00	04-Jun-09	04-Jun-09 16:36 SMS2	

5 parameter(s) reported

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Client: Olin Enviromental Management

Client ID: OU2R-SW-101DD-09
Project: 2095640
Project ID: OLIN MCINTOSH ESPP/6107090035
Site: None
Lab ID: 20696456
Matrix: Water
%Moisture: n/a
Description: None
Collected: 03-Jun-09
Received: 04-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Alkalinity, Total	SM 2320B	119876	1	31.8		mg/L	5.00	05-Jun-09	05-Jun-09 12:30 SMS2	
Dissolved Organic Carbo	SM 5310B	120002	1	16.0		mg/L	1.00	08-Jun-09	08-Jun-09 14:24 TAE	
Total Dissolved Solids	SM 2540C	119850	1	125.		mg/L	4.00	04-Jun-09	04-Jun-09 16:46 LJL	
Total Hardness	SM 2340C	119835	1	48.0		mg/L	10.0	04-Jun-09	04-Jun-09 13:10 LJL	
Total Suspended Solids	SM 2540D	119854	1	9.50		mg/L	4.00	04-Jun-09	04-Jun-09 16:36 SMS2	

5 parameter(s) reported

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Client: Olin Enviromental Management

Client ID: OU2B-SW-303DS-09
Project: 2095640
Project ID: OLIN MCINTOSH ESPP/6107090035
Site: None
Lab ID: 20696457
Matrix: Water
%Moisture: n/a
Description: None
Collected: 03-Jun-09
Received: 04-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Alkalinity, Total	SM 2320B	119876	1	31.8		mg/L	5.00	05-Jun-09	05-Jun-09 12:30 SMS2	
Dissolved Organic Carbo	SM 5310B	120002	1	16.0		mg/L	1.00	08-Jun-09	08-Jun-09 14:24 TAE	
Total Dissolved Solids	SM 2540C	119895	1	87.5		mg/L	4.00	05-Jun-09	05-Jun-09 12:00 SMS2	
Total Hardness	SM 2340C	119835	1	40.0		mg/L	10.0	04-Jun-09	04-Jun-09 13:10 LJL	
Total Suspended Solids	SM 2540D	119854	1	7.00		mg/L	4.00	04-Jun-09	04-Jun-09 16:37 SMS2	

5 parameter(s) reported

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Client: Olin Enviromental Management

Client ID: OU2B-SW-303DS-09 DUP 1
Project: 2095640
Project ID: OLIN MCINTOSH ESPP/6107090035
Site: None
Lab ID: 20696457 DUP 1
Matrix: Water
%Moisture: n/a
Description: None
Collected: 03-Jun-09
Received: 04-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Total Dissolved Solids	SM 2540C	119895	1	90.0		mg/L	10.0	05-Jun-09	05-Jun-09 12:01 SMS2	

1 parameter(s) reported

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Client: Olin Enviromental Management

Client ID: OU2B-SW-303DD-09
Project: 2095640
Project ID: OLIN MCINTOSH ESPP/6107090035
Site: None
Lab ID: 20696458
Matrix: Water
%Moisture: n/a
Description: None
Collected: 03-Jun-09
Received: 04-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Alkalinity, Total	SM 2320B	119876	1	31.8		mg/L	5.00	05-Jun-09	05-Jun-09 12:30 SMS2	
Dissolved Organic Carbo	SM 5310B	120002	1	16.0		mg/L	1.00	08-Jun-09	08-Jun-09 14:24 TAE	
Total Dissolved Solids	SM 2540C	119895	1	105.		mg/L	4.00	05-Jun-09	05-Jun-09 12:01 SMS2	
Total Hardness	SM 2340C	119835	1	44.0		mg/L	10.0	04-Jun-09	04-Jun-09 13:10 LJL	
Total Suspended Solids	SM 2540D	119854	1	ND		mg/L	4.00	04-Jun-09	04-Jun-09 16:37 SMS2	

5 parameter(s) reported

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Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SW-304DS-09 **Project:** 2095640

Project ID: OLIN MCINTOSH ESPP/6107090035 **Site:** None

Lab ID: 20696459 **Matrix:** Water **%Moisture:** n/a

Description: None **Collected:** 03-Jun-09 **Received:** 04-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Alkalinity, Total	SM 2320B	119876	1	31.8		mg/L	5.00	05-Jun-09	05-Jun-09 12:30 SMS2	
Dissolved Organic Carbo	SM 5310B	120002	1	16.0		mg/L	1.00	08-Jun-09	08-Jun-09 14:24 TAE	
Total Dissolved Solids	SM 2540C	119895	1	97.5		mg/L	4.00	05-Jun-09	05-Jun-09 12:01 SMS2	
Total Hardness	SM 2340C	119835	1	46.0		mg/L	10.0	04-Jun-09	04-Jun-09 13:10 LJL	
Total Suspended Solids	SM 2540D	119854	1	12.0		mg/L	4.00	04-Jun-09	04-Jun-09 16:37 SMS2	

5 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: Olin Enviromental Management

Client ID: OU2B-SW-304DD-09 **Project:** 2095640

Project ID: OLIN MCINTOSH ESPP/6107090035 **Site:** None

Lab ID: 20696460 **Matrix:** Water **%Moisture:** n/a

Description: None **Collected:** 03-Jun-09 **Received:** 04-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Alkalinity, Total	SM 2320B	119876	1	31.8		mg/L	5.00	05-Jun-09	05-Jun-09 12:30 SMS2	
Dissolved Organic Carbo	SM 5310B	120002	1	16.0		mg/L	1.00	08-Jun-09	08-Jun-09 14:24 TAE	
Total Dissolved Solids	SM 2540C	119895	1	115.		mg/L	4.00	05-Jun-09	05-Jun-09 12:01 SMS2	
Total Hardness	SM 2340C	119835	1	46.0		mg/L	10.0	04-Jun-09	04-Jun-09 13:10 LJL	
Total Suspended Solids	SM 2540D	119854	1	6.50		mg/L	4.00	04-Jun-09	04-Jun-09 16:37 SMS2	

5 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Client: Olin Enviromental Management

Client ID: OU2B-SW-DUP01DD-09
Project: 2095640
Project ID: OLIN MCINTOSH ESPP/6107090035
Site: None
Lab ID: 20696461
Matrix: Water
%Moisture: n/a
Description: None
Collected: 03-Jun-09
Received: 04-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Alkalinity, Total	SM 2320B	119876	1	31.8		mg/L	5.00	05-Jun-09	05-Jun-09 12:30 SMS2	
Dissolved Organic Carbo	SM 5310B	120002	1	16.0		mg/L	1.00	08-Jun-09	08-Jun-09 14:24 TAE	
Total Dissolved Solids	SM 2540C	119895	1	87.5		mg/L	4.00	05-Jun-09	05-Jun-09 12:02 SMS2	
Total Hardness	SM 2340C	119835	1	46.0		mg/L	10.0	04-Jun-09	04-Jun-09 13:10 LJL	
Total Suspended Solids	SM 2540D	119854	1	7.00		mg/L	4.00	04-Jun-09	04-Jun-09 16:37 SMS2	

5 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: Olin Enviromental Management

Client ID: 119835 BLANK 1
Project: 2095640
Project ID: OLIN MCINTOSH ESPP/6107090035
Site:
Lab ID: 20696555
Matrix:
%Moisture: n/a
Description:
Collected:
Received:

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Limit
Total Hardness	SM 2340C	119835	1	ND		mg/L	10.0	04-Jun-09	04-Jun-09 13:10	LJL	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Client: Olin Enviromental Management

Client ID: 119835 LCS 1
Project: 2095640
Project ID: OLIN MCINTOSH ESPP/6107090035
Site:
Lab ID: 20696556
Matrix:
%Moisture: n/a
Description:
Collected:
Received:

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Limit
Total Hardness	SM 2340C	119835	1	100.		mg/L	10.0	04-Jun-09	04-Jun-09 13:10	LJL	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Client: Olin Enviromental Management

Client ID: 119850 BLANK 1
Project: 2095640
Project ID: OLIN MCINTOSH ESPP/6107090035
Site:
Lab ID: 20696636
Matrix:
%Moisture: n/a
Description:
Collected:
Received:

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Limit
Total Dissolved Solids	SM 2540C	119850	1	ND		mg/L	10.0	04-Jun-09	04-Jun-09 16:41	LJL	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Client: Olin Enviromental Management

Client ID: 119850 LCS 1
Project: 2095640
Project ID: OLIN MCINTOSH ESPP/6107090035
Site:
Lab ID: 20696637
Matrix:
%Moisture: n/a
Description:
Collected:
Received:

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Limit
Total Dissolved Solids	SM 2540C	119850	1	92.0		mg/L	10.0	04-Jun-09	04-Jun-09 16:41	LJL	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Sample Results

Client: Olin Enviromental Management

Client ID: 20696656 **Project:** 2095640

Project ID: OLIN MCINTOSH ESPP/6107090035 **Site:**

Lab ID: 20696656 **Matrix:** Water **%Moisture:** n/a

Description: **Collected:** 02-Jun-09 **Received:** 04-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Total Suspended Solids	SM 2540D	119854	1	ND		mg/L	4.00	04-Jun-09	04-Jun-09 16:34 SMS2	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Client: Olin Enviromental Management

Client ID: 20696656 DUP 1
Project: 2095640
Project ID: OLIN MCINTOSH ESPP/6107090035
Site: None
Lab ID: 20696656 DUP 1
Matrix: Water
%Moisture: n/a
Description: None
Collected: 02-Jun-09
Received: 04-Jun-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Total Suspended Solids	SM 2540D	119854	1	ND		mg/L	4.00	04-Jun-09	04-Jun-09 16:35 SMS2	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Client: Olin Enviromental Management

Client ID: 119854 BLANK 1
Project: 2095640
Project ID: OLIN MCINTOSH ESPP/6107090035
Site:
Lab ID: 20696670
Matrix:
%Moisture: n/a
Description:
Collected:
Received:

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Limit
Total Suspended Solids	SM 2540D	119854	1	ND		mg/L	4.00	04-Jun-09	04-Jun-09	16:34 SMS2	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Client: Olin Enviromental Management

Client ID: 119854 LCS 1
Project: 2095640
Project ID: OLIN MCINTOSH ESPP/6107090035
Site:
Lab ID: 20696671
Matrix:
%Moisture: n/a
Description:
Collected:
Received:

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Total Suspended Solids	SM 2540D	119854	1	92.0		mg/L	4.00	04-Jun-09	04-Jun-09 16:34 SMS2	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Client: Olin Enviromental Management

Client ID: 119876 LCS 1
Project: 2095640
Project ID: OLIN MCINTOSH ESPP/6107090035
Site:
Lab ID: 20696773
Matrix:
%Moisture: n/a
Description:
Collected:
Received:

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Alkalinity, Total	SM 2320B	119876	1	48.8		mg/L	10.0	05-Jun-09	05-Jun-09 12:30 SMS2	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Client: Olin Enviromental Management

Client ID: 119895 BLANK 1
Project: 2095640
Project ID: OLIN MCINTOSH ESPP/6107090035
Site:
Lab ID: 20696824
Matrix:
%Moisture: n/a
Description:
Collected:
Received:

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Total Dissolved Solids	SM 2540C	119895	1	ND		mg/L	10.0	05-Jun-09	05-Jun-09 12:00 SMS2	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Client: Olin Enviromental Management

Client ID: 119895 LCS 1
Project: 2095640
Project ID: OLIN MCINTOSH ESPP/6107090035
Site:
Lab ID: 20696825
Matrix:
%Moisture: n/a
Description:
Collected:
Received:

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Total Dissolved Solids	SM 2540C	119895	1	105.		mg/L	10.0	05-Jun-09	05-Jun-09 12:00 SMS2	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Client: Olin Enviromental Management

Client ID: 120002 BLANK 1
Project: 2095640
Project ID: OLIN MCINTOSH ESPP/6107090035
Site:
Lab ID: 20697346
Matrix:
%Moisture: n/a
Description:
Collected:
Received:

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Limit
Dissolved Organic Carbo	SM 5310B	120002	1	ND		mg/L	2.00	08-Jun-09	08-Jun-09 14:24	TAE	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Client: Olin Enviromental Management

Client ID: 120002 LCS 1
Project: 2095640
Project ID: OLIN MCINTOSH ESPP/6107090035
Site:
Lab ID: 20697347
Matrix:
%Moisture: n/a
Description:
Collected:
Received:

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Limit
Dissolved Organic Carbo	SM 5310B	120002	1	33.6		mg/L	2.00	08-Jun-09	08-Jun-09 14:24	TAE	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Inorganics Quality Control

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Project: 2095640

Parameter	Batch	Blank	Units	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	RPD	QC Limits LCS	QC Limits MS/MSD	Max RPD	Qu
Total Hardness	119835	< 10.0	mg/L	106.	100.	94							0	90-110		20	
Total Dissolved Solids	119850	< 4.00	mg/L	100.	92.0	92							33 *	80-120		20	
Total Suspended Solid	119854	< 4.00	mg/L	100.	92.0	92							0	80-120		20	
Alkalinity, Total	119876	<	mg/L	50.0	48.8	98							0	90-110		20	
Total Dissolved Solids	119895	4.00	mg/L	100.	105.	105							3	80-120		20	
Dissolved Organic Car	120002	< 1.00	mg/L	32.8	33.6	102	20.0	15.9	32.9		85		3	90-110	75-125	20	

8/11/2009 15:57:51

*** denotes recovery outside of QC limits.**
ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MS/MSD RPD is calculated via SW-846 rules on the basis of spiked sample concentrations rather than spike recoveries.

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Project: 2095640

Value	Description
J	This estimated value for the analyte is below the adjusted reporting limit but above the instrument reporting limit.
U	The analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.
B	This analyte was detected in the method blank.
E	The sample concentration is above the linear calibrated range of the analysis.
ND	The analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.
MDL	The adjusted method detection limit.
LCS(D)	Laboratory Control Sample (Duplicate).
MS(D)	Matrix Spike (Duplicate).
DUP	Sample Duplicate.
RPD	Relative Percent Difference.

2095640 20-OLIN ENV

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CHAIN OF CUSTODY / Analytical Request Document
This LEGAL DOCUMENT. All relevant fields must be completed accurately.

surface water
2095640

Page: 1 of 1

1238999

Section A Required Client Information:	Section B Required Project Information:	Invoice Information:
Company: MACTEC / Olin	Report To: kdroberts@olin.com	Attention: Dennis Turner
Address: 3200 town Pt kennesaw GA	Copy To: mbarker@mactec.com kpwatson@mactec.com	Company Name: Olin Corp. Address: Cleveland TN
Email To: cedreper@mactec.com	Purchase Order No.: OEMCO013-80	Pace Quote Reference:
Phone: 7704213400 Fax: 7704213486	Project Name: Olin McIntosh ESPP	Pace Project Manager: Cindy Olavesen
Requested Due Date/TAT: Standard.	Project Number: 6107090035 2009.02	Pace Profile #:

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☒ OTHER CERCLA

Site Location STATE: AL

Requested Analysis Filtered (Y/N)

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Y/N	Analysis Test: Hardness CaCO3	Alkalinity	DOC	TSS	TDS	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	OU2B-SW-301DS-09	WT	G			6/3/09	1005		2	1		1							X	X	X	X	X		20696 451
2	OU2B-SW-301DD-09	WT	G			6/3/09	1015		2	1		1							X	X	X	X	X		452
3	OU2B-SW-201DD-09	WT	G			6/3/09	1115		2	1		1							X	X	X	X	X		453
4	OU2B-SW-201DS-09	WT	G			6/3/09	1100		2	1		1							X	X	X	X	X		454
5	OU2R-SW-101DS-09	WT	G			6/3/09	1215		2	1		1							X	X	X	X	X		455
6	OU2R-SW-101DD-09	WT	G			6/3/09	1220		2	1		1							X	X	X	X	X		456
7	OU2B-SW-303DS-09	WT	G			6/3/09	1300		2	1		1							X	X	X	X	X		457
8	OU2B-SW-303DD-09	WT	G			6/3/09	1310		2	1		1							X	X	X	X	X		458
9	OU2B-SW-304DS-09	WT	G			6/3/09	1500		2	1		1							X	X	X	X	X		459
10	OU2B-SW-304DD-09	WT	G			6/3/09	1510		2	1		1							X	X	X	X	X		460
11	OU2B-SW-DUP01DD-09	WT	G			6/3/09	1200		2	1		1							X	X	X	X	X		461
12																										

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	RMReece/MACTEC	6/3/09	1830							
	FedEX	6-4-09	0830	[signature]	6-4-09	0830	2.5	X	X	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Rani Reece

SIGNATURE of SAMPLER: RMReece DATE Signed (MM/DD/YY): 6/3/09

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

2095640 20-OLIN ENV

Pace Analytical

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St. Rose, LA 70087

Sample Condition Upon Rec

Project #: 20

Courier: ☐ Pace Courier ☐ Hackbarth ☑ Fed X ☐ UPS ☐ DHL ☐ USPS ☐ Customer ☐ Other

Custody Seal on Cooler/Box Present: [see COC] **Custody Seals Intact:** ☑Yes ☐No

Therometer Used: ☑ Therm Fisher IR 1 ☐ Therm Fisher IR 2

Type of Ice: (Wet) Blue None

Samples on Ice: [see COC]

Cooler Temperature: [see COC]

Temp should be above freezing to 6°C

Date and Initials of person examining contents: IAT 06/04/09

Temp must be measured from Temperature blank when present

				Comments:
Temperature Blank Present"?	☑Yes	☐No	☐N/A	1
Chain of Custody Present:	☑Yes	☐No	☐N/A	2
Chain of Custody Complete:	☑Yes	☐No	☐N/A	3
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	4
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	5
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	6
Sufficient Volume:	☑Yes	☐No	☐N/A	7
Correct Containers Used:	☑Yes	☐No	☐N/A	8
Filtered vol. Rec. for Diss. tests	☐Yes	☐No	☑N/A	9
Sample Labels match COC:	☑Yes	☐No	☐N/A	10
All containers received within manufacture's precautionary and/or expiration dates.	☑Yes	☐No	☐N/A	11
All containers needing preservation have been checked (except VOA, coliform, & O&G).	☑Yes	☐No	☐N/A	12
All containers preservation checked found to be in compliance with EPA recommendation.	☑Yes	☐No	☐N/A	13 If No, was preservative added? ☐Yes ☐No If added record lot no.: HNO3 _____ H2SO4 _____
Samples checked for dechlorination:	☐Yes	☑No	☐N/A	14
Headspace in VOA Vials (>6mm):	☐Yes	☑No	☐N/A	14
Trip Blank Present:	☐Yes	☑No	☐N/A	16
Trip Blank Custody Seals Present	☐Yes	☑No	☐N/A	17
Pace Trip Blank Lot # (If purchased): N/A				18

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

September 30, 2009

Paul Brafford
MACTEC, INC.
1105 Lakewood Parkway
Alpharetta, GA 30009

RE: Project 2095624
Project ID: OU2/6107090035/2009.06

Dear Paul Brafford:

Enclosed are the analytical results for sample(s) received by the laboratory on May 29, 2009. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerly,

Cindy Olavesen

Cindy Olavesen
cindy.olavesen@pacelabs.com

ACCREDITED IN ACCORDANCE WITH nelac

REPORT OF LABORATORY ANALYSIS

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1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Project: 2095624

Client: MACTEC, INC.

Project ID: OU2/6107090035/2009.06

U.S. Dept. of Agriculture Foreign Soil Import S-47270
Pennsylviania Dept. of Env Protection (NELAC) 68-04202
Texas Commission on Env. Quality (NELAC) T104704405-08-TX
Kansas Department of Health and Environment (NELAC) E-10266
Florida Department of Health (NELAC) E87595
Louisiana Dept. of Health and Hospitals (NELAC) LA080013
Louisiana Dept. of Environmental Quality (NELAC/LELAP) 02006

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St. Rose, LA 70087
(504) 469-0333

Sample Cross Reference

Project: 2095624

Client: MACTEC, INC.

Project ID: OU2/6107090035/2009.06

Client Sample ID	Lab ID	Matrix	Collection Date/Time	Received Date/Time
OU2B-SED-ST13-0509	20696300	Soil	28-May-09 11:00	29-May-09 09:45
OU2B-SED-ST23-0509	20696310	Soil	28-May-09 11:45	29-May-09 09:45
OU2B-SED-ST24-0509	20696320	Soil	28-May-09 13:45	29-May-09 09:45
OU2B-SED-ST15-0509	20696330	Soil	28-May-09 11:25	29-May-09 09:45

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Project: 2095624

Narrative detail for project management:

Tests are flagged as being performed outside holding time due to work order release for porject not being received until after hold times had expired.

Narrative detail for water quality analyses:

Entire content of each sample container was centrifuged and the supernatant decanted and the volume measured. The remaining sludge was transferred into another jar and thoroughly mixed.

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Project: 2095624

Sample Receipt Condition:

All samples were received in accordance with EPA protocol.

Holding Times:

The following holding times were exceeded. See the previous page for a detailed explanation:

Sample 20696300 analysis 2540Esoi TVS, Soil

Sample 20696300 analysis 2540Gsolid Percent Solids, Soil

Sample 20696310 analysis 2540Esoi TVS, Soil

Sample 20696310 analysis 2540Gsolid Percent Solids, Soil

Sample 20696320 analysis 2540Esoi TVS, Soil

Sample 20696320 analysis 2540Gsolid Percent Solids, Soil

Sample 20696330 analysis 2540Esoi TVS, Soil

Sample 20696330 analysis 2540Gsolid Percent Solids, Soil

Blanks:

All blank results were below reporting limits.

Matrix Spikes and Duplicates:

All MS/MSD recoveries or duplicate RPDs were within QC limits.

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Project: 2095624

Analytical Method	Batch	Sample used for QC
SM 2540G	126338	Project sample OU2B-SED-ST13-0509
SM 2540G	126340	Project sample OU2B-SED-ST13-0509

For the sample used as the original for the DUP or MS/MSD for the batch:

Project sample means a sample from this project was used.
Client sample means a sample from the same client but in a different project was used.
Batch sample means a sample from the a different client was used.

Form 1

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Client: MACTEC, INC.

Client ID: OU2B-SED-ST13-0509
Project: 2095624
Project ID: OU2/6107090035/2009.06
Site: None
Lab ID: 20696300
Matrix: Soil
%Moisture: 0 Not Corrected
Description: None
Collected: 28-May-09
Received: 29-May-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Limit
Percent Solids	SM 2540G	126340	1	21.6	N	%	0.100	23-Sep-09	23-Sep-09	11:25 JMA	
Total Volatile Solids	SM 2540G	126338	1	11.3	N	% (w/w)	0.100	23-Sep-09	23-Sep-09	11:25 JMA	

2 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Form 1

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Client: MACTEC, INC.

Client ID: OU2B-SED-ST23-0509
Project: 2095624
Project ID: OU2/6107090035/2009.06
Site: None
Lab ID: 20696310
Matrix: Soil
%Moisture: 0 Not Corrected
Description: None
Collected: 28-May-09
Received: 29-May-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Limit
Percent Solids	SM 2540G	126340	1	34.7	N	%	0.100	23-Sep-09	23-Sep-09 11:25	JMA	
Total Volatile Solids	SM 2540G	126338	1	11.4	N	% (w/w)	0.100	23-Sep-09	23-Sep-09 11:25	JMA	

2 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Form 1

Pace Analytical Services, Inc.
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St. Rose, LA 70087
(504) 469-0333

Client: MACTEC, INC.

Client ID: OU2B-SED-ST24-0509
Project: 2095624
Project ID: OU2/6107090035/2009.06
Site: None
Lab ID: 20696320
Matrix: Soil
%Moisture: 0 Not Corrected
Description: None
Collected: 28-May-09
Received: 29-May-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Limit
Percent Solids	SM 2540G	126340	1	33.4	N	%	0.100	23-Sep-09	23-Sep-09 11:25	JMA	
Total Volatile Solids	SM 2540G	126338	1	11.1	N	% (w/w)	0.100	23-Sep-09	23-Sep-09 11:25	JMA	

2 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Pace Analytical Services, Inc.
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St. Rose, LA 70087
(504) 469-0333

Form 1

Client: MACTEC, INC.

Client ID: OU2B-SED-ST15-0509
Project: 2095624
Project ID: OU2/6107090035/2009.06
Site: None
Lab ID: 20696330
Matrix: Soil
%Moisture: 0 Not Corrected
Description: None
Collected: 28-May-09
Received: 29-May-09

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Limit
Percent Solids	SM 2540G	126340	1	28.2	N	%	0.100	23-Sep-09	23-Sep-09	11:25 JMA	
Total Volatile Solids	SM 2540G	126338	1	13.0	N	% (w/w)	0.100	23-Sep-09	23-Sep-09	11:25 JMA	

2 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MDL denotes method detection limit

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Form 3

Pace Analytical Services, Inc.
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(504) 469-0333

Project: 2095624

Parameter	Batch	Blank	Units	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	RPD	QC Limits LCS	QC Limits MS/MSD	Max RPD	Qu
Total Volatile Solids	126338	< 0.100	% (w/w)										6			20	
Percent Solids	126340	< 0.100	%										5			20	

*** denotes recovery outside of QC limits.**
ND denotes Not Detected at or above the adjusted reporting limit or PQL.
MS/MSD RPD is calculated via SW-846 rules on the basis of spiked sample concentrations rather than spike recoveries.

9/30/2009 16:19:02

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Project: 2095624

Value	Description
N	See narrative for a detailed explanation.
J	This estimated value for the analyte is below the adjusted reporting limit but above the instrument reporting limit.
U	The analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.
B	This analyte was detected in the method blank.
E	The sample concentration is above the linear calibrated range of the analysis.
ND	The analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.
MDL	The adjusted method detection limit.
LCS(D)	Laboratory Control Sample (Duplicate).
MS(D)	Matrix Spike (Duplicate).
DUP	Sample Duplicate.
RPD	Relative Percent Difference.

2095624 20-OLIN ENV

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

2095624
~~2095492~~
6

Page: 1 of 1

1192074

Section A Required Client Information:

Company: MACTEC / Olin	Report To: kdroberts@olin.com	Attention: Dennis Turner
Address: 3320 Town Pt Dr NW Ste 100 Kennesaw GA 30144	Copy To: LPwatson@mactec.com MBaxter@mactec.com	Company Name: Olin Address: 3855 N Ocoee St Cleveland TN
Email To: rodrogers@mactec.com	Purchase Order No.: OEMC0013-80	Pace Quote Reference:
Phone: 770-421-3403 Fax: 770-424-3402	Project Name: ~~Cindy Olavesen~~ OU2	Pace Project Manager: Cindy Olavesen
Requested Due Date/TAT: Standard	Project Number: 6107090035 12109.06	Pace Profile #:

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☒ OTHER CERCLA

Site Location STATE: AL

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	THg	%M	Density	TSS	TOC	SM2540G - Total Solids	SM2540G - Inorganic Solids	SM2540G - Organic Solids	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	OU2B-SED-ST13-0509	SO	G			5/18/09	1100	4	3	X									X	X	X	X	X	X	X	X	206 ~~1530~~ ~~1351~~ ~~1383~~ G
2	OU2B-SED-ST23-0509	SO	G			5/18/09	1145	6	6	X									X	X	X	X	X	X	X	X	~~346~~ ~~1350~~ ~~1384~~ G
3	OU2B-SED-ST24-0509	SO	G			5/18/09	1345	6	6	X									X	X	X	X	X	X	X	X	~~347~~ ~~1381~~ ~~1385~~ G
4	OU2B-SED-ST15-0509	SO	G			5/19/09	1125	6	6	X									X	X	X	X	X	X	X	X	~~348~~ ~~1382~~ ~~1386~~ G
5	(X) return and product to MACTEC for grain size analysis.																										
6																											
7																											
8																											
9	#1 - ~~20696300, 301, 302~~, 303, 304, 305, 306, 307, 308, 309																										
10	#2 - 20696310, 311, 312, 313, 314, 315, 316, 317, 318, 319																										
11	#4 - 20696320, 321, 322, 323, 324, 325, 326, 327, 328, 329																										
12	#5 - 20696330, 331, 332, 333, 334, 335, 336, 337, 338, 339																										

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Analyze as sample size permits in this order - THg, %M, dens, M, TSS, TOC 1L jar from each sample to be analyzed for SM2540G (solids) - total, organic, inorganic	RMReece/MACTEC	5/25/09	1830			
	[signature]	5/29/09	0945	[signature]	5-29-09	0945

SAMPLE CONDITIONS: Temp in °C: 4.4 | Received on Ice (Y/N): Y | Custody Sealed Cooler (Y/N): Y | Samples Intact (Y/N): Y

SAMPLER NAME AND SIGNATURE: [signature]

PRINT Name of SAMPLER: Melissa Rottenberg / Reni Reece

SIGNATURE of SAMPLER: [signature]

DATE Signed (MM/DD/YY): 5/28/09

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

2095624 20-OLIN ENV

Pace Analytical

1000 Riverbend. Blvd., Suite F
St. Rose, LA 70087

Sample Condition Upon Receipt

Project #: 20

Courier: ☐ Pace Courier ☐ Hackbarth ☑ Fed X ☐ UPS ☐ DHL ☐ USPS ☐ Customer ☐ Other

Custody Seal on Cooler/Box Present: [see COC] **Custody Seals Intact:** ☐Yes ☐No

Therometer Used: ☐ Therm Fisher IR 1 ☐ Therm Fisher IR 2

Type of Ice: (Wet) Blue None

Samples on Ice: [see COC]

Cooler Temperature: [see COC]

Temp should be above freezing to 6°C

Date and initials of person examining contents: 5-29-09

Temp must be measured from Temperature blank when present

				Comments:
Temperature Blank Present"?	☐Yes	☑No	☐N/A	1
Chain of Custody Present:	☑Yes	☐No	☐N/A	2
Chain of Custody Complete:	☑Yes	☐No	☐N/A	3
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	4
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	5
Samples Arrived within Hold Time:	☐Yes	☐No	☐N/A	6
Sufficient Volume:	☐Yes	☐No	☐N/A	7
Correct Containers Used:	☐Yes	☐No	☐N/A	8
Filtered vol. Rec. for Diss. tests	☐Yes	☐No	☐N/A	9
Sample Labels match COC:	☐Yes	☐No	☐N/A	10
All containers received within manafacture's precautionary and/or expiration dates.	☐Yes	☐No	☐N/A	11
All containers needing preservation have been checked (except VOA, coliform, & O&G).	☐Yes	☐No	☐N/A	12
All containers preservation checked found to be in compliance with EPA recommendation.	☐Yes	☐No	☐N/A	13 If No, was preserative added? ☐Yes ☐No If added record lot no.: HNO3 _____ H2SO4 _____
Samples checked for dechlorination:	☐Yes	☐No	☐N/A	14
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☐N/A	14
Trip Blank Present:	☐Yes	☐No	☐N/A	16
Trip Blank Custody Seals Present	☐Yes	☐No	☐N/A	17
Pace Trip Blank Lot # (If purchased): N/A				18

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Pace Analytical Services, Inc.
1000 Riverbend Blvd., Suite F
St. Rose, LA 70087

2095624

Sample	Wt. Dish (g)	Wt Dish + Sample (g)	Wt. Sample (Kg)	Wt. Dish + Sample after 105 (g)	Wt. Dried Sample (mg)	**Total Solids (mg/Kg)**	Wt. Dish + Sample after 550 (g)	**Volatile Solids %**	**Fixed Solids %**
20696300	50.5212	55.4559	0.00493	51.5882	1067	**216,224**	51.4673	**11.33%**	**88.67%**
20696300 Dup	48.4087	53.1185	0.00471	49.4848	1076	**228,481**	49.3550	**12.06%**	**87.94%**
20696310	59.8261	64.8384	0.00501	61.5634	1737	**346,607**	61.3659	**11.37%**	**88.63%**
20696320	46.5323	51.5255	0.00499	48.2022	1670	**334,435**	48.0145	**11.24%**	**88.76%**
20696330	47.7465	52.7314	0.00498	49.1544	1408	**282,433**	48.9713	**13.01%**	**86.99%**

Pace Analytical Services, Inc.
1000 Riverbend Blvd., Suite F
St. Rose, LA 70087

Olin - USACE Project 2095624

Sample ID	Wt. Sample & Jar	Wt. Jar * + to labels + field label	Vol. of Water Decanted after Centrifuge	Description of Homogenization Process
~~OU2B-SED~~				Samples after centrifuge and decant were shake samples and easily mixed in the container to a homogenous state.
ST13-0509	519.6	501.3	11.5 ml	
ST23-0509	715.4	↓	94 ml	
ST24-0509	755.4	↓	122 ml	
ST15-0509	802.5	↓	83 ml	

Instructions: Use empty jar provided by Olin for 'Wt. Sample & Jar'
Weight eahc of the 4 sample jarsWeigh each of the 4 sample jars that contain the sample (sediment & water) prior to centrifugation and provide the weights.
Measure the volume of water that is decanted after cetrifugation.
Provide a description of the sediment homogenztion procedure that is used after centrifugation but prior to taking a sediment aliquot.
Provide Lab bench sheets.

* too much labels on sampler jars

centrifuged. ~20 min @ 6000 rpm

decanted liq into grad cylinder - recorded vol.

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Pace Analytical Services, Inc.
1000 Riverbend Blvd., Suite F
St. Rose, LA 70087

WATER QUALITY BATCH NARRATIVE

METHOD: TVS **BATCH:** 126338

Data Review: The following must be checked in reviewing data. Initial / Date all corrections.

LCS / MS source and concentration recorded.

CCVs within 10% and CCBs < DL

Check that dilutions are recorded and/or calculated properly.

Manual calculations: check two calculations, if either has a mistake check ALL calculations.

Digestion or preparation log attached.

All columns are filled out properly or Z'd out.

All analyzed within hold time.

Data Reviewed by: 9/24/09 1420

Comments: _____

Data Entry: The following is performed during data entry.

Verify that all batched samples are completed.

Enter all dilution factors.

Enter all digestion volumes.

Data Entered by: 9/24/09 1420

The following must be checked or performed before validating data.

All QC within control limits or documented.

Comments on batch sheet followed.

Narratives needed: _____

Valid report needed – list projects: _____

Data Validated by: TE

Problem(s) or corrective action(s) taken: _____

Pace Analytical™
New Orleans Laboratory

FS / TS / TVS (Solids)

SOP NO-I-751

Batch 260358

Procedure: 2540E

Start Analyst: JMA Start Date/Time: 9/23/09 1125

End Analyst: JMA End Date/Time: 9/24/09 1245

FS Result (%) = 100 * [(D - A) / (C - A)]
TS Result (%) = 100 * [(C - A) / (B - A)]
TVS Result (%) = 100 * [(C - D) / (C - A)]

Report Limit _____

		A	B	C	D		
Sample	Vessel ID	Dish tare (g)	Tare+Sample(g)	Residue 105C(g)	Residue 550C(g)	(FS/TS/TVS)	Result (%)
BLK	205	51.3987	51.3987	51.3981	51.3978 JMA	0	Nd
20609-6300	Bill	50.5212	55.4559	51.5882	51.4673	0.1133	11.33%
Dup	SDP	48.4087	53.1185	49.4848	49.3550	0.1206	12.06% RPD 6
6310	CB	59.8261	64.8384	61.5634	61.3659	0.1136	11.36%
6320	WQ	46.5323	51.5255	48.2002	48.0145	0.1113	11.13%
6330	D3	47.7465	52.7314	49.1544	48.9713	0.1300	13%

0 samples

PASI Gulf Coast Laboratory

BATCH WORK LIST for Batch 126338

Ordered by Batch Postion

Queue: WET Analyst: JMA

Procedure: 2540Esoi TVS, Soil

QC Rule: 2540Esoi Started: 23-SEP-09

Project Sample #	#	Sample	Client sample ID	Sample Type	Mx	St	Rpt List Rpt Method	Coll Date	Recv Date	Hold Date	Sample Due	PM	Client	Original for QC	QC Batch	Comments
	1	20727192	126338 BLANK 1	BLANK		B	2540Esoi		23-SEP	30-SEP	29-SEP		QC ACCOUNT		126338	
2095624-001	2	20696300	OU2B-SED-ST13-0509	PS	SL	B	2540Esoi/SM 2540G	28-MAY	29-MAY	04-JUN	04-JUN	CMO	20-MACTEC		126338	
	3	20727193	126338 DUP 1	DUP	SL	B	2540Esoi		23-SEP	04-JUN	04-JUN		QC ACCOUNT	20696300	126338	
2095624-011	4	20696310	OU2B-SED-ST23-0509	PS	SL	B	2540Esoi/SM 2540G	28-MAY	29-MAY	04-JUN	04-JUN	CMO	20-MACTEC		126338	
2095624-021	5	20696320	OU2B-SED-ST24-0509	PS	SL	B	2540Esoi/SM 2540G	28-MAY	29-MAY	04-JUN	04-JUN	CMO	20-MACTEC		126338	
2095624-031	6	20696330	OU2B-SED-ST15-0509	PS	SL	B	2540Esoi/SM 2540G	28-MAY	29-MAY	04-JUN	04-JUN	CMO	20-MACTEC		126338	

***** End of bwrklist report *****

Pace Analytical
www.pacelabs.com

Pace Analytical Services, Inc.
1000 Riverbend Blvd., Suite F
St. Rose, LA 70087

WATER QUALITY BATCH NARRATIVE

METHOD: TS **BATCH:** 126340

Data Review: The following must be checked in reviewing data. Initial / Date all corrections.

LCS / MS source and concentration recorded.

CCVs within 10% and CCBs < DL

Check that dilutions are recorded and/or calculated properly.

Manual calculations: check two calculations, if either has a mistake check ALL calculations.

Digestion or preparation log attached.

All columns are filled out properly or Z'd out.

All analyzed within hold time.

Data Reviewed by: cc 9/24/08 1420

Comments: _____

Data Entry: The following is performed during data entry.

Verify that all batched samples are completed.

Enter all dilution factors.

Enter all digestion volumes.

Data Entered by: cc 9/24/08 1420

The following must be checked or performed before validating data.

All QC within control limits or documented.

Comments on batch sheet followed.

Narratives needed: _____

Valid report needed – list projects: _____

Data Validated by: TE

Problem(s) or corrective action(s) taken: _____

_____

_____

_____

Pace Analytical™
New Orleans Laboratory

FS / TS / TVS (Solids)

SOP NO-I-751

Batch 126340

Procedure: 2540E

Start Analyst: JMA Start Date/Time: 9/23/09 1125

End Analyst: JMA End Date/Time: 9/24/09 1250

FS Result (%) = 100 * [(D - A) / (C - A)]

TS Result (%) = 100 * [(C - A) / (B - A)]

TVS Result (%) = 100 * [(C - D) / (C - A)]

Report Limit 0.1

		A	B	C	D		
Sample	Vessel ID	Dish tare (g)	Tare+Sample(g)	Residue 105C(g)	Residue 550C(g)	(FS/TS/TVS)	Result (%)
20126300	Bill	50.5212	55.4559	51.5882	51.4673	0.2162	21.62 %
Dup	SOP	48.4087	53.1185	49.4848	49.3550	0.2284	22.84 % RPD=5%
6310	CB	59.8261	64.8384	61.5634	61.3659	0.3466	34.66 %
6320	WQ	46.5323	51.5255	48.2002	48.0145	0.3340	33.40 %
6330	D3	47.7465	52.7314	49.1544	48.9713	0.2824	28.24 %

0 samples

PASI Gulf Coast Laboratory

BATCH WORK LIST for Batch 126340

Ordered by Batch Postion

Queue: WET Analyst: JMA

Procedure: 2540Gsolid Percent Solids, Soil

QC Rule: 2540Gsolid Started: 23-SEP-09

Project Sample #	#	Sample	Client sample ID	Sample Type	Mx	St	Rpt List Rpt Method	Coll Date	Recv Date	Hold Date	Sample Due	PM	Client	Original for QC	QC Batch	Comments
2095624-001	1	20696300	OU2B-SED-ST13-0509	PS	SL	B	2540Gsolid/SM 2540G	28-MAY	29-MAY	04-JUN	04-JUN	CMO	20-MACTEC		126340	
	2	20727195	126340 DUP 1	DUP	SL	B	2540Gsolid		23-SEP	04-JUN	04-JUN		QC ACCOUNT	20696300	126340	
2095624-011	3	20696310	OU2B-SED-ST23-0509	PS	SL	B	2540Gsolid/SM 2540G	28-MAY	29-MAY	04-JUN	04-JUN	CMO	20-MACTEC		126340	
2095624-021	4	20696320	OU2B-SED-ST24-0509	PS	SL	B	2540Gsolid/SM 2540G	28-MAY	29-MAY	04-JUN	04-JUN	CMO	20-MACTEC		126340	
2095624-031	5	20696330	OU2B-SED-ST15-0509	PS	SL	B	2540Gsolid/SM 2540G	28-MAY	29-MAY	04-JUN	04-JUN	CMO	20-MACTEC		126340	

***** End of bwrklist report *****