

OMB No. 2040-0042

Approval Expires 11/30/2014

 United States Environmental Protection Agency Underground Injection Control Permit Application <i>(Collected under the authority of the Safe Drinking Water Act. Sections 1421, 1422, 40 CFR 144)</i>										I. EPA ID Number 				T/A	C
Read Attached Instructions Before Starting For Official Use Only										U					
Application approved mo day year			Date received mo day year			Permit Number		Well ID		FINDS Number					
II. Owner Name and Address							III. Operator Name and Address								
Owner Name Sammy-Mar LLC							Owner Name Sammy-Mar LLC								
Street Address 255 Airport Road					Phone Number (724) 349-7170		Street Address 255 Airport Road					Phone Number (724) 349-7170			
City Indiana			State PA		ZIP CODE 15701		City Indiana			State PA		ZIP CODE 15701			
IV. Commercial Facility			V. Ownership			VI. Legal Contact			VII. SIC Codes						
☒ Yes ☐ No			☒ Private ☐ Federal ☐ Other			☒ Owner ☐ Operator			Type D						
VIII. Well Status (Mark "x")															
☐ A Operating		Date Started mo day year 		☐ B. Modification/Conversion				☒ C. Proposed							
IX. Type of Permit Requested (Mark "x" and specify if required)															
☒ A. Individual		☐ B. Area		Number of Existing Wells 0		Number of Proposed Wells 1		Name(s) of field(s) or project(s) Povlick							
X. Class and Type of Well (see reverse)															
A. Class(es) (enter code(s)) Class II		B. Type(s) (enter code(s)) D		C. If class is "other" or type is code 'x,' explain 					D. Number of wells per type (if area permit) 						
XI. Location of Well(s) or Approximate Center of Field or Project											XII. Indian Lands (Mark 'x')				
Latitude Deg Min Sec 41 10 58			Longitude Deg Min Sec 78 34 59			Township and Range Sec Twp Range 1/4 Sec 				Feet From Line Feet From Line 		☐ Yes ☒ No			
XIII. Attachments															
(Complete the following questions on a separate sheet(s) and number accordingly; see instructions) For Classes I, II, III, (and other classes) complete and submit on a separate sheet(s) Attachments A--U (pp 2-6) as appropriate. Attach maps where required. List attachments by letter which are applicable and are included with your application.															
XIV. Certification															
I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32)															
A. Name and Title (Type or Print) W. Daniel Sinclair, President										B. Phone No. (Area Code and No.) (724) 349-7170					
C. Signature 										D. Date Signed 7/18/2013					

Class I Wells used to inject waste below the deepest underground source of drinking water.

Type "I" Nonhazardous industrial disposal well
 "M" Nonhazardous municipal disposal well
 "W" Hazardous waste disposal well injecting below USDWs
 "X" Other Class I wells (not included in Type "I," "M," or "W")

Class II Oil and gas production and storage related injection wells.

Type "D" Produced fluid disposal well
 "R" Enhanced recovery well
 "H" Hydrocarbon storage well (excluding natural gas)
 "X" Other Class II wells (not included in Type "D," "R," or "H")

Class III Special process injection wells.

Type "G" Solution mining well
 "S" Sulfur mining well by Frasch process
 "U" Uranium mining well (excluding solution mining of conventional mines)
 "X" Other Class III wells (not included in Type "G," "S," or "U")

Other Classes Wells not included in classes above.
 Class V wells which may be permitted under §144.12.
 Wells not currently classified as Class I, II, III, or V.

Attachments to Permit Application

Class	Attachments
I new well	A, B, C, D, F, H – S, U
existing	A, B, C, D, F, H – U
II new well	A, B, C, E, G, H, M, Q, R; optional – I, J, K, O, P, U
existing	A, E, G, H, M, Q, R, – U; optional – J, K, O, P, Q
III new well	A, B, C, D, F, H, I, J, K, M – S, U
existing	A, B, C, D, F, H, J, K, M – U
Other Classes	To be specified by the permitting authority

INSTRUCTIONS - Underground Injection Control (UIC) Permit Application

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Paperwork Reduction Act: The public reporting and record keeping burden for this collection of information is estimated to average 224 hours for a Class I hazardous well application, 110 hours for a Class I non-hazardous well application, 67 hours for a Class II well application, and 132 hours for a Class III well application. Burden means the total time, effort, or financial resource expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal Agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to the collection of information; search data sources; complete and review the collection of information; and, transmit or otherwise disclose the information. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including the use of automated collection techniques to Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822), 1200 Pennsylvania Ave., NW, Washington, DC 20460. Include the OMB control number in any correspondence. Do not send the completed forms to this address.

This form must be completed by all owners or operators of Class I, II, and III injection wells and others who may be directed to apply for permit by the Director.

- I. **EPA I.D. NUMBER** - Fill in your EPA Identification Number. If you do not have a number, leave blank.
- II. **OWNER NAME AND ADDRESS** - Name of well, well field or company and address.
- III. **OPERATOR NAME AND ADDRESS** - Name and address of operator of well or well field.
- IV. **COMMERCIAL FACILITY** - Mark the appropriate box to indicate the type of facility.
- V. **OWNERSHIP** - Mark the appropriate box to indicate the type of ownership.
- VI. **LEGAL CONTACT** - Mark the appropriate box.
- VII. **SIC CODES** - List at least one and no more than four Standard Industrial Classification (SIC) Codes that best describe the nature of the business in order of priority.
- VIII. **WELL STATUS** - Mark Box A if the well(s) were operating as injection wells on the effective date of the UIC Program for the State. Mark Box B if wells(s) existed on the effective date of the UIC Program for the State but were not utilized for injection. Box C should be marked if the application is for an underground injection project not constructed or not completed by the effective date of the UIC Program for the State.
- IX. **TYPE OF PERMIT** - Mark "Individual" or "Area" to indicate the type of permit desired. Note that area permits are at the discretion of the Director and that wells covered by an area permit must be at one site, under the control of one person and do not inject hazardous waste. If an area permit is requested the number of wells to be included in the permit must be specified and the wells described and identified by location. If the area has a commonly used name, such as the "Jay Field," submit the name in the space provided. In the case of a project or field which crosses State lines, it may be possible to consider an area permit if EPA has jurisdiction in both States. Each such case will be considered individually, if the owner/operator elects to seek an area permit.
- X. **CLASS AND TYPE OF WELL** - Enter in these two positions the Class and type of injection well for which a permit is requested. Use the most pertinent code selected from the list on the reverse side of the application. When selecting type X please explain in the space provided.
- XI. **LOCATION OF WELL** - Enter the latitude and longitude of the existing or proposed well expressed in degrees, minutes, and seconds or the location by township, and range, and section, as required by 40 CFR Part 146. If an area permit is being requested, give the latitude and longitude of the approximate center of the area.
- XII. **INDIAN LANDS** - Place an "X" in the box if any part of the facility is located on Indian lands.
- XIII. **ATTACHMENTS** - Note that information requirements vary depending on the injection well class and status. Attachments for Class I, II, III are described on pages 4 and 5 of this document and listed by Class on page 2. Place EPA ID number in the upper right hand corner of each page of the Attachments.
- XIV. **CERTIFICATION** - All permit applications (except Class II) must be signed by a responsible corporate officer for a corporation, by a general partner for a partnership, by the proprietor of a sole proprietorship, and by a principal executive or ranking elected official for a public agency. For Class II, the person described above should sign, or a representative duly authorized in writing.

INSTRUCTIONS - Attachments

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Attachments to be submitted with permit application for Class I, II, III and other wells.

- A. **AREA OF REVIEW METHODS** - Give the methods and, if appropriate, the calculations used to determine the size of the area of review (fixed radius or equation). The area of review shall be a fixed radius of 1/4 mile from the well bore unless the use of an equation is approved in advance by the Director.
- B. **MAPS OF WELL/AREA AND AREA OF REVIEW** - Submit a topographic map, extending one mile beyond the property boundaries, showing the injection well(s) or project area for which a permit is sought and the applicable area of review. The map must show all intake and discharge structures and all hazardous waste treatment, storage, or disposal facilities. If the application is for an area permit, the map should show the distribution manifold (if applicable) applying injection fluid to all wells in the area, including all system monitoring points. Within the area of review, the map must show the following:

Class I

The number, or name, and location of all producing wells, injection wells, abandoned wells, dryholes, surface bodies of water, springs, mines (surface and subsurface), quarries, and other pertinent surface features, including residences and roads, and faults, if known or suspected. In addition, the map must identify those wells, springs, other surface water bodies, and drinking water wells located within one quarter mile of the facility property boundary. Only information of public record is required to be included in this map;

Class II

In addition to requirements for Class I, include pertinent information known to the applicant. This requirement does not apply to existing Class II wells;

Class III

In addition to requirements for Class I, include public water systems and pertinent information known to the applicant.

- C. **CORRECTIVE ACTION PLAN AND WELL DATA** - Submit a tabulation of data reasonably available from public records or otherwise known to the applicant on all wells within the area of review, including those on the map required in B, which penetrate the proposed injection zone. Such data shall include the following:

Class I

A description of each well's types, construction, date drilled, location, depth, record of plugging and/or completion, and any additional information the Director may require. In the case of new injection wells, include the corrective action proposed to be taken by the applicant under 40 CFR 144.55.

Class II

In addition to requirement for Class I, in the case of Class II wells operating over the fracture pressure of the injection formation, all known wells within the area of review which penetrate formations affected by the increase in pressure. This requirement does not apply to existing Class II wells.

Class III

In addition to requirements for Class I, the corrective action proposed under 40 CFR 144.55 for all Class III wells.

- D. **MAPS AND CROSS SECTION OF USDWs** - Submit maps and cross sections indicating the vertical limits of all underground sources of drinking water within the area of review (both vertical and lateral limits for Class I), their position relative to the injection formation and the direction of water movement, where known, in every underground source of drinking water which may be affected by the proposed injection. (Does not apply to Class II wells.)

- E. **NAME AND DEPTH OF USDWs (CLASS II)** - For Class II wells, submit geologic name, and depth to bottom of all underground sources of drinking water which may be affected by the injection.
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- F. **MAPS AND CROSS SECTIONS OF GEOLOGIC STRUCTURE OF AREA** - Submit maps and cross sections detailing the geologic structure of the local area (including the lithology of injection and confining intervals) and generalized maps and cross sections illustrating the regional geologic setting. (Does not apply to Class II wells.)
- G. **GEOLOGICAL DATA ON INJECTION AND CONFINING ZONES (Class II)** - For Class II wells, submit appropriate geological data on the injection zone and confining zones including lithologic description, geological name, thickness, depth and fracture pressure.
- H. **OPERATING DATA** - Submit the following proposed operating data for each well (including all those to be covered by area permits): (1) average and maximum daily rate and volume of the fluids to be injected; (2) average and maximum injection pressure; (3) nature of annulus fluid; (4) for Class I wells, source and analysis of the chemical, physical, radiological and biological characteristics, including density and corrosiveness, of injection fluids; (5) for Class II wells, source and analysis of the physical and chemical characteristics of the injection fluid; (6) for Class III wells, a qualitative analysis and ranges in concentrations of all constituents of injected fluids. If the information is proprietary, maximum concentrations only may be submitted, but all records must be retained.
- I. **FORMATION TESTING PROGRAM** - Describe the proposed formation testing program. For Class I wells the program must be designed to obtain data on fluid pressure, temperature, fracture pressure, other physical, chemical, and radiological characteristics of the injection matrix and physical and chemical characteristics of the formation fluids.

For Class II wells the testing program must be designed to obtain data on fluid pressure, estimated fracture pressure, physical and chemical characteristics of the injection zone. (Does not apply to existing Class II wells or projects.)

For Class III wells the testing must be designed to obtain data on fluid pressure, fracture pressure, and physical and chemical characteristics of the formation fluids if the formation is naturally water bearing. Only fracture pressure is required if the program formation is not water bearing. (Does not apply to existing Class III wells or projects.)
- J. **STIMULATION PROGRAM** - Outline any proposed stimulation program.
- K. **INJECTION PROCEDURES** - Describe the proposed injection procedures including pump, surge, tank, etc.
- L. **CONSTRUCTION PROCEDURES** - Discuss the construction procedures (according to §146.12 for Class I, §146.22 for Class II, and §146.32 for Class III) to be utilized. This should include details of the casing and cementing program, logging procedures, deviation checks, and the drilling, testing and coring program, and proposed annulus fluid. (Request and submission of justifying data must be made to use an alternative to packer for Class I.)
- M. **CONSTRUCTION DETAILS** - Submit schematic or other appropriate drawings of the surface and subsurface construction details of the well.
- N. **CHANGES IN INJECTED FLUID** - Discuss expected changes in pressure, native fluid displacement, and direction of movement of injection fluid. (Class III wells only.)
- O. **PLANS FOR WELL FAILURES** - Outline contingency plans (proposed plans, if any, for Class II) to cope with all shut-ins or wells failures, so as to prevent migration of fluids into any USDW.
- P. **MONITORING PROGRAM** - Discuss the planned monitoring program. This should be thorough, including maps showing the number and location of monitoring wells as appropriate and discussion of monitoring devices, sampling frequency, and parameters measured. If a manifold monitoring program is utilized, pursuant to §146.23(b)(5), describe the program and compare it to individual well monitoring.
- Q. **PLUGGING AND ABANDONMENT PLAN** - Submit a plan for plugging and abandonment of the well including: (1) describe the type, number, and placement (including the elevation of the top and bottom) of plugs to be used; (2) describe the type, grade, and quantity of cement to be used; and (3) describe the method to be used to place plugs, including the method used to place the well in a state of static equilibrium prior to placement of the plugs. Also for a Class III well that underlies or is in an exempted aquifer, demonstrate adequate protection of USDWs. Submit this information on EPA Form 7520-14, Plugging and Abandonment Plan.

- R. **NECESSARY RESOURCES** - Submit evidence such as a surety bond or financial statement to verify that the resources necessary to close, plug or abandon the well are available.
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- S. **AQUIFER EXEMPTIONS** - If an aquifer exemption is requested, submit data necessary to demonstrate that the aquifer meets the following criteria: (1) does not serve as a source of drinking water; (2) cannot now and will not in the future serve as a source of drinking water; and (3) the TDS content of the ground water is more than 3,000 and less than 10,000 mg/l and is not reasonably expected to supply a public water system. Data to demonstrate that the aquifer is expected to be mineral or hydrocarbon production, such as general description of the mining zone, analysis of the amenability of the mining zone to the proposed method, and time table for proposed development must also be included. For additional information on aquifer exemptions, see 40 CFR Sections 144.7 and 146.04.
- T. **EXISTING EPA PERMITS** - List program and permit number of any existing EPA permits, for example, NPDES, PSD, RCRA, etc.
- U. **DESCRIPTION OF BUSINESS** - Give a brief description of the nature of the business.

ATTACHMENT "A"
AREA OF REVIEW METHODS

Attachment A
Area of Review Methods
SAMMY-MAR LLC Povlik Injection Well

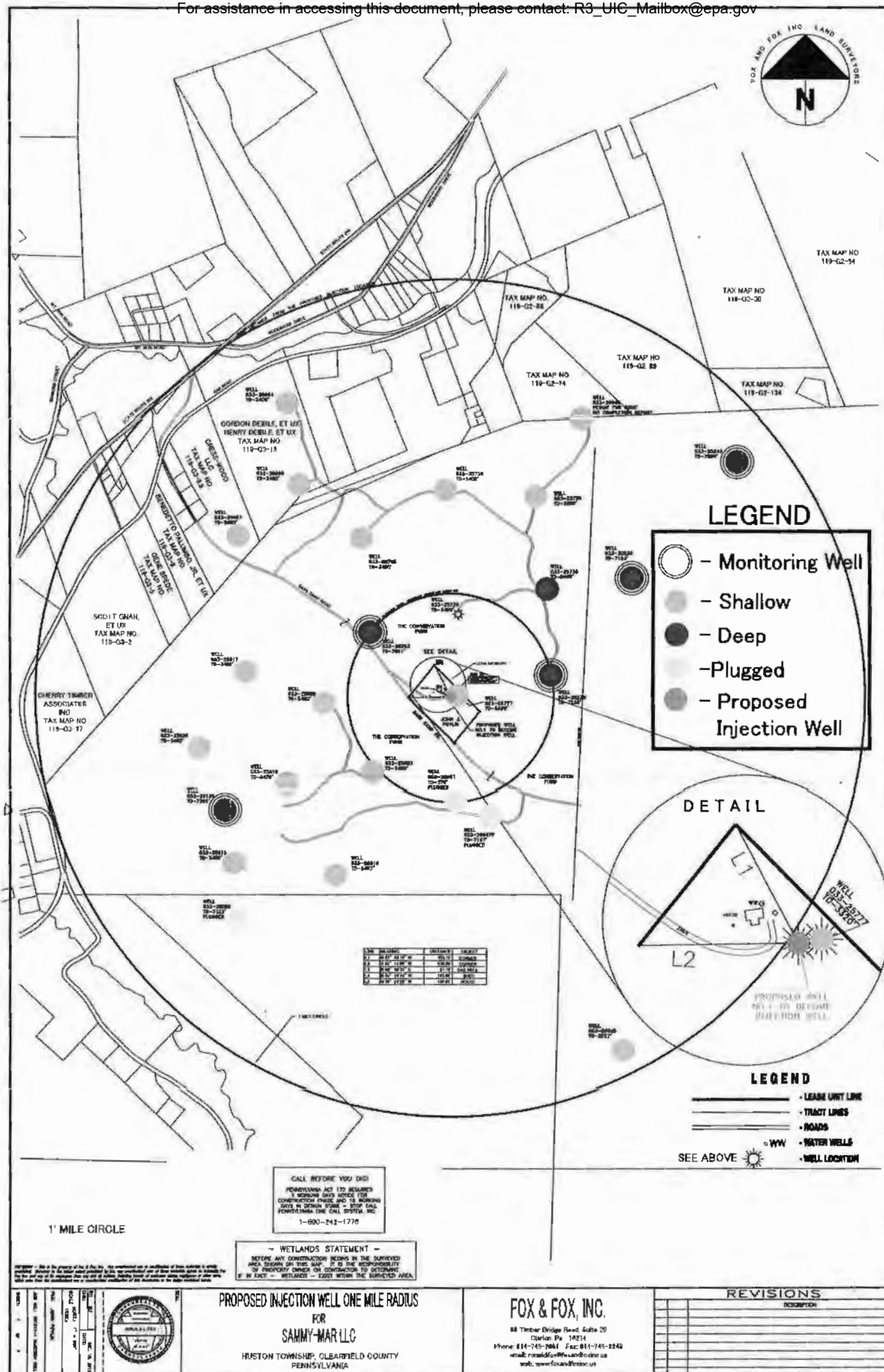
Area of Review Methods

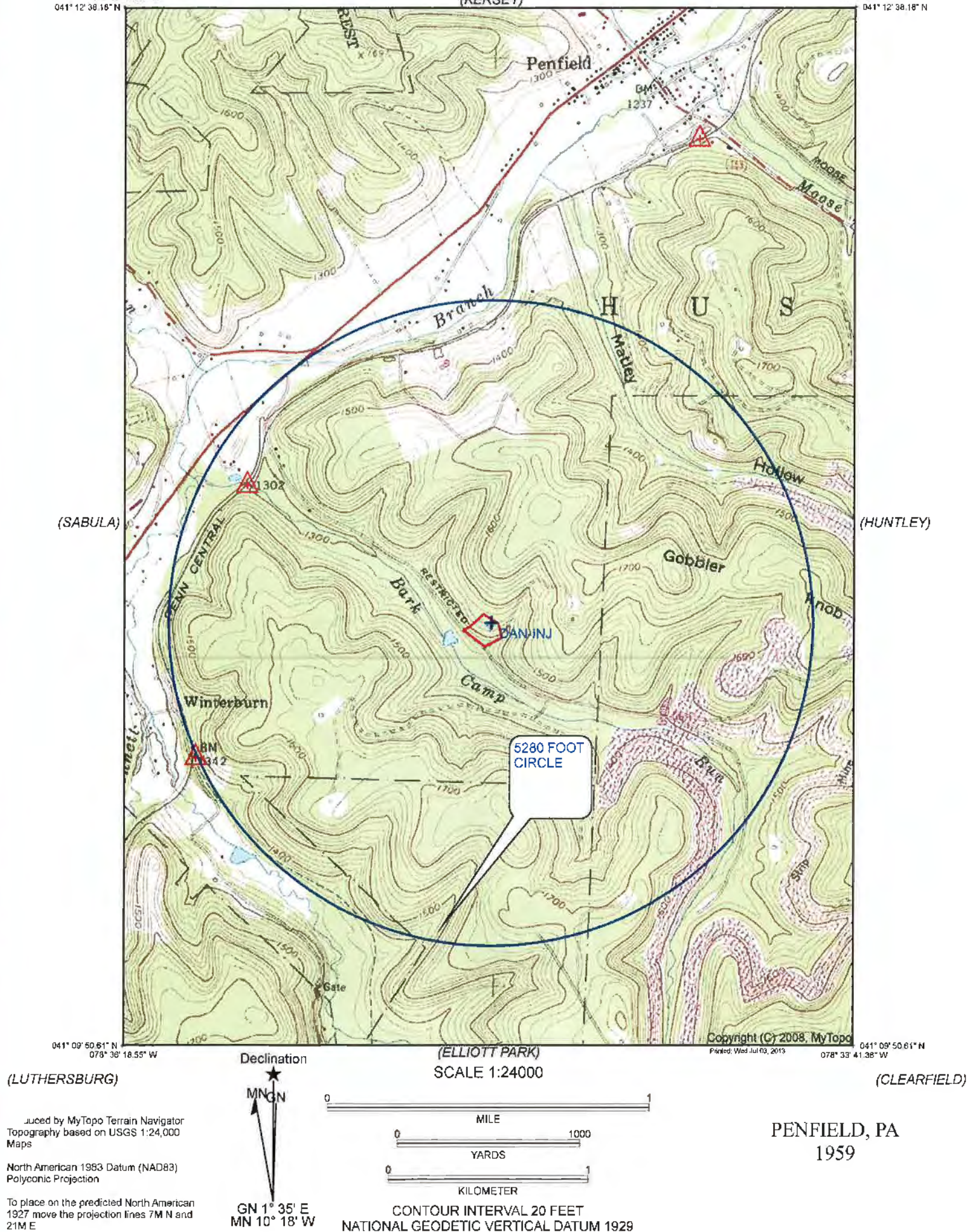
The size of the area of review was determined by a fixed radius of one quarter mile as required by permit application. In addition, maps with a half mile and one (1) mile radius were prepared. Maps detailing the area of review are in Attachment B. Research was conducted by:

- 1) Survey by Fox and Fox, Inc, registered professional surveyors
- 2) Conversations with surface landowners by Fox and Fox and representatives of SAMMY-MAR and Rock Run Enterprises an environmental consulting company.
- 3) Research of Pennsylvania Bureau of Oil and Gas well records, conducted by Fox and Fox, SAMMY-MAR and Rock Run Enterprises
- 4) Research of Pennsylvania Geological Survey's publications covering the area of review by Fox and Fox, SAMMY-MAR and Rock Run Enterprises
- 5) Resource Identification and Wetland Delineation Report prepared by Todd Fantaskey of Northeast Soil Services an environmental consulting firm and made part of Attachment B.

Using the results from the above research, topographic and tax maps displaying surface features such as buildings, streams, water sampling sites and the location of the proposed injection well were prepared for and included in Attachment B.

ATTACHMENT "B"
MAPS OF WELL / AREA & AREA OF REVIEW





WELL LOCATION PLAT

PAGE 1 Surface Location

Auth ID #	G:
Permit #	C:
Project #	

☐ Denotes location of top of well on topo map.

True Latitude: NORTH

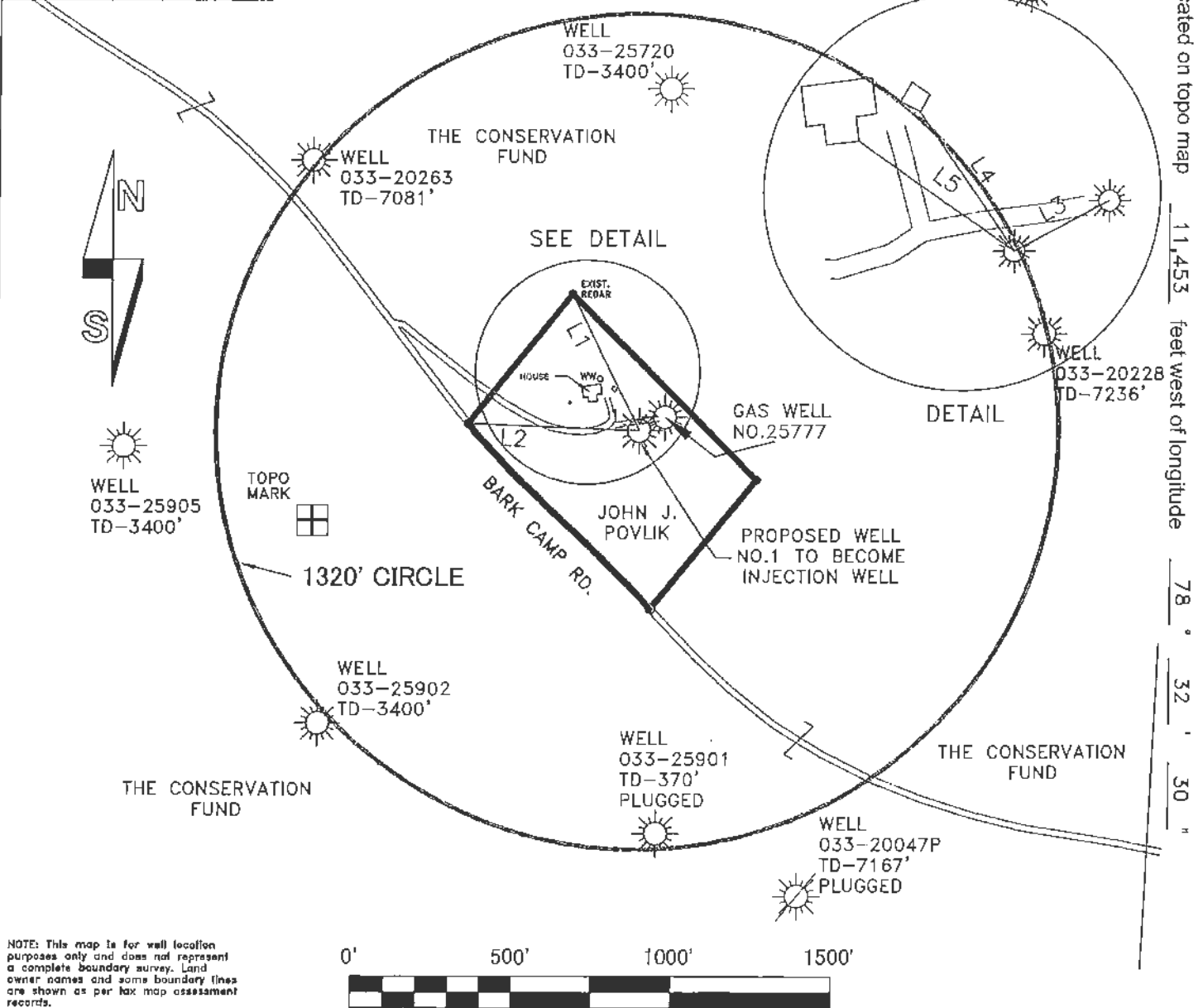
41	10	58	29
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True Longitude: WEST

78	34	59	80
----	----	----	----

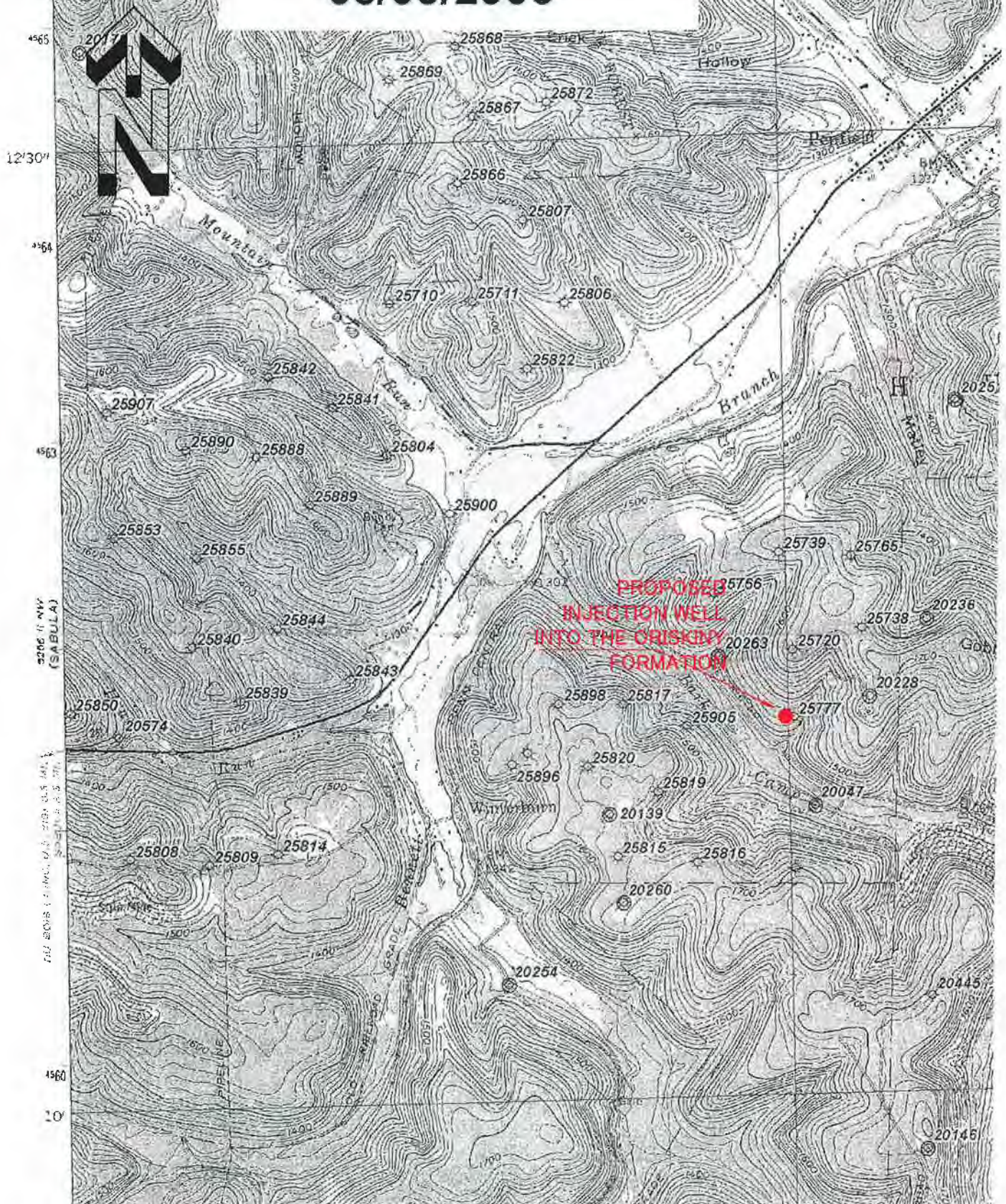
Well is located on topo map 9281 feet south of latitude 41 ° 12 ' 30 "

LINE	BEARING	DISTANCE	OBJECT
L1	N 26°05'46" W	479.70'	CORNER
L2	N 87°36'33" W	538.06'	CORNER
L3	N 62°03'09" E	91.07'	GAS WELL
L4	N 33°58'55" W	142.03'	SHED
L5	N 54°43'06" W	160.88'	HOUSE



NOTE: This map is for well location purposes only and does not represent a complete boundary survey. Land owner names and some boundary lines are shown as per tax map assessment records.

Applicant / Well Operator Name: SAMMY-MAR LLC		DEP ID#:	Well(Farm) Name: POVLIK		Well #: 1	Serial #:
Address: 255 AIRPORT ROAD INDIANA, PA 15701		County: CLEARFIELD		Municipality: HUSTON TOWNSHIP	Well Type: INJECTION	
911 address of well site: BARK CAMP RD.		USGS 71/2 Quadrangle Map Name: PENFIELD		Map Section: 5	Surface Elevation: 1435 ft.	
Surveyor or Engineer: RONALD L. FOX, PLS	Phone #: 814-745-2861	Dwg #: 631812	Date: 3-20-13	Scale: 1" = 1200'	Tract Acreage: 10	
Lat. & Long Metadata: GPS	Accuracy: Submeter	Datum: Nad 83	Elevation Metadata Method: Topo	Accuracy: +/-10	Datum: NGVD 1929	Survey Date: 10-23-2012



Resource Identification and Wetland Delineation Report

MAR-SAM, LLC POVLIK INJECTION WELL PROJECT

Huston Township

Clearfield County, Pennsylvania

February 23, 2013

WETLAND REPORT

Prepared For:

**MAR-SAM LLC
255 Airport Road
Indiana, PA. 15701
(724) 349-7170**

Prepared by:

Northwest Soil Services

**Todd Fantaskey, Environmental Consultant
1137 Follett Run Road, Warren, PA 16365
814-723-3775**

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FIGURES

FIGURE 1: PROJECT LOCATION AND NATIONAL WETLAND INVENTORY MAPS

FIGURE 2: SOILS AND PROJECT MAPS

APPENDICES

APPENDIX A: QUALIFICATIONS

APPENDIX B: PHOTO LOG

EXECUTIVE SUMMARY

Northwest Soil Services was retained by MAR-SAM LLC to conduct a wetland delineation of the proposed Povlik Injection Well Project to be located in Huston Township, Clearfield County, Pennsylvania. Northwest Soil Services conducted the field investigations on January 30, 2013 .

The wetland delineation was conducted in accordance with the U.S. Army Corps of Engineers (ACOE) 1987 Wetland Delineation Manual (technical Report *-87-1) and the U. S. Army Corps of Engineers Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region. This delineation procedure is based on examination of hydrologic conditions, soil characteristics and identification and classification of dominant vegetation. This report is intended to document these three parameters. A physical description of the site is provided along with the methodology used to delineate wetland areas. The delineation methodology discussed was applied to physical site characteristics that resulted in the resource boundary determinations. The following abbreviations are used as descriptors for vegetative strata: (H) = Herbaceous, (S) = Shrub, (T) = Tree and (V) = Vine.

The areas of investigation consisted of the proposed project area as identified by Fox and Fox Inc. The proposed drilling pad and roadway is mainly a sloped forested condition and much of the project is following existing roadways. Land use within the area of investigation consisted mainly of forested and meadow areas along with lawn areas near the proposed injection well. Secondary data review showed non-hydric and hydric soils located within the area of investigation. One small stream channel which is an unnamed tributary to Bark Camp Run is located to the east of the project area. Bark Camp Run is located south of the project area. There were 3 wetlands identified during my field investigation on January 30, 2013 at the MAR-SAM LLC Povlik Injection Well Project. Wetlands A, B and C were identified and marked in the field to avoid. The project construction activities as proposed will not impact any wetlands identified (A , B and C) on January 30, 2013. These wetland areas are flagged in the field and are also mapped on project maps to avoid any and all encroachment activities.

WETLAND SUMMARY

WETLAND I.D.	IMPACT SUMMARY	WETLAND CLASSIFICATION	WETLAND SIZE (SQUARE FEET)
A	AVOIDED	PEM	5417
B	AVOIDED	PEM	413
C	AVOIDED	PEM	886

1.0 SITE DESCRIPTION

The MAR-SAM LLC study area is located 1.8 miles south of Penfield on Bark Camp Run Road. The project is located 1.2 mile east on Bark Camp Run Road off of PA Route 255 in Huston Township, Clearfield County, Pennsylvania. Landuse within the area of investigation was mainly forested with some existing meadow and lawn areas. The topography of the project area ranges from flat and moderate slopes to steep slopes along various sections of the project area. The receiving waters of the project site are Bark Camp Run and associated tributaries. Bark Camp Run is a cold water fishery (CWF) according to PA Title 25, Chapter 93 Regulations. Bark Camp Run is a Pennsylvania Wild Trout Waters(Natural Reproduction) waterways according to the Pennsylvania Fish and Boat Commission from the headwaters downstream to a defined mine discharge. This project is located downstream of the mine discharge, therefore is not in a wild trout designated area.

1.0 SITE LOCATION

SITE	MAR-SAM LLC Povlik Injection Well Project
MUNICIPALITY	Huston Township
COUNTY	Clearfield
STATE	Pennsylvania
USGS QUADRANGLE	Penfield Quadrangle Map
WATERSHED	Bark Camp Run
CHAPTER 93 DESIGNATION	CWF (Cold Water Fishes)

2.0 METHODOLOGY

The investigation was initiated by researching available reference material in an attempt to anticipate site conditions (Section 4.0, Review of Secondary Data). Available references include the County Soil Survey, the National Wetlands Inventory (NWI) Map(s), the USGS Topographic Map(s) and aerial photography. Examination of these resources revealed portions of the site that would have the highest probability of containing jurisdictional wetlands. The field *investigation* was conducted to locate and identify wetland resources not designated in the NWI and/or streams not shown on the USGS Topographic Maps.

The proposed project area and surrounding areas were investigated. This area should encompass the earth disturbance created by the proposed well pad and associated roadways. Wetlands within the study area were delineated following the U. S. Army Corps of Engineers 1987 Wetland Delineation Manual (Technical Report Y-87-1) and the U. S. Army Corps of Engineers Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region.

If areas exhibiting wetland characteristics were encountered (hydrophytes, inundations, water staining, etc.), they were investigated to determine if the area is a jurisdictional wetland. When the wetlands were encountered, transitional features were identified. Site-specific indicators of transition from wetland to upland were examined in the field to locate the line corresponding to a jurisdictional boundary satisfying ACOE and PADEP delineation methods. Data including dominant vegetation, soil characteristics, and hydrology was collected at each observation point to determine which areas exhibited wetland characteristics.

The locations of relevant features were surveyed using a GPS Unit. Locational data for watercourses were collected and the ordinary high water mark. Distances to watercourses were measured from the project limits to the nearest bank of the watercourse.

Vegetation data was interpreted using the U. S. Fish and Wildlife Service's 1988 northeast (Region 1) plant list. The plant list categories species according to the following system:

Obligate (OBL): Occur almost always in wetlands under natural conditions (frequency > 99%), but may persist in non-wetlands if planted there by man or in wetlands that have been drained, filled or otherwise transformed into non-wetlands.

Facultative Wetland (FACW): Usually found in wetlands (66% to 99% frequency), but occasionally found in non-wetlands.

Facultative (FAC): Sometimes found in wetland (34% to 66% frequency), but also occur in non-wetlands.

Facultative Upland (FACU): Seldom occur in wetlands (1% to 33% frequency) and usually occur in non-wetlands.

Non-wetland (UPL): Occur in wetlands in another region, but not found (1% frequency) in wetlands in the region specified. If a species does not occur in wetlands in any region, it is not on the list.

The following abbreviations are used as descriptors for vegetative strata: (H)= Herbaceous, (S) = Shrub, (T) – Tree, and (V) = Vine.

Soil evaluation of the data point(s) was based on detailed examination of the color, mottles (redoximorphic features), structure, consistency, and other characteristics as specified in the ACOE manual (paragraph 44t). Munsell Soil Color Charts were utilized to determine soil color. Hydrology was determined according to the indicators provided in the ACOE manual (paragraph 49b).

3.0 REVIEW OF SECONDARY DATA

Secondary data for this delineation was obtained by reviewing the United States Geological Survey Topographic Map(s) (Penfield, PA), the Clearfield County Soil Survey, the National Wetlands Inventory Map(s) (Penfield), NRCS Soil Survey, Terrain Navigator Map program, PADCNr, and aerial photography (Clearfield County).

The Clearfield County Soil Survey map (Soils Map) identifies the following soil maps units within the project study area:

Symbol	Name	Drainage Class	Depth to Seasonal Water Table(Feet)
GIC	Gilpin Channery Silt Loam	Well Drained	>6 feet
RbF	Rayne Channery Silt Loam	Well Drained	>6 feet
BrB	Brinkerton Silt loam(Hydric)	Poorly Drained	0-.5 ft

All soils above are listed as non hydric soils except the Brinkerton Silt Loams. The NWI map (Project Location Map) does not identify wetlands within the project boundary. It does identify wetlands (PSS) south of the project area along Bark Camp Run. These wetlands will not be impacted by the proposed project.

4.0 RESULTS OF THE FIELD INVESTIGATION

Three (3) wetlands were identified within the areas of investigation for the MAR-SAM, LLC Povlik Injection Well Project located in Huston Township, Clearfield County, Pennsylvania. The proposed injection well project will not adversely impact the streams or wetland areas identified if all best management practices are implemented according to the erosion control plan developed by Fox and Fox, Inc. Noted vegetation at the MAR-SAM, LLC, Povlik Injection Well Project consisted of: cattail (H) (*Typha latifolia*), soft rush(*Juncus effusus*)(H), sensitive fern (H) (*onoclea sensibilis*), reed canary grass (H) (*Pharlaris arundinacea*), woolgrass (H) (*Scirpus cyperinus*), common bulrush(*Scirpus atrovirens*)(H), silky dogwood (*Cornus amomum*)(H), sedge species(*carex species*) (H) and grass leafed goldenrod(H) (*solidago graminifolia*). There are hydric soils, hydrophytic vegetation and/or wetland hydrology associated with the three (3) wetlands identified on January 30, 2013. The wetland areas discovered ("Wetlands A, B and C") are located along or near the proposed injection well project. Wetlands A, B and C will be avoided by the proposed project. The wetland areas identified are flagged in the field for observation and/or inspection.

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Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. Available online at <http://websoilsurvey.nrcs.usda.gov/> accessed 08/18/2011.

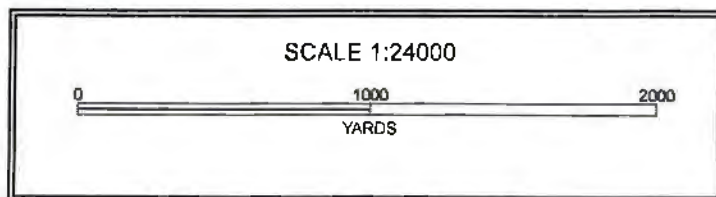
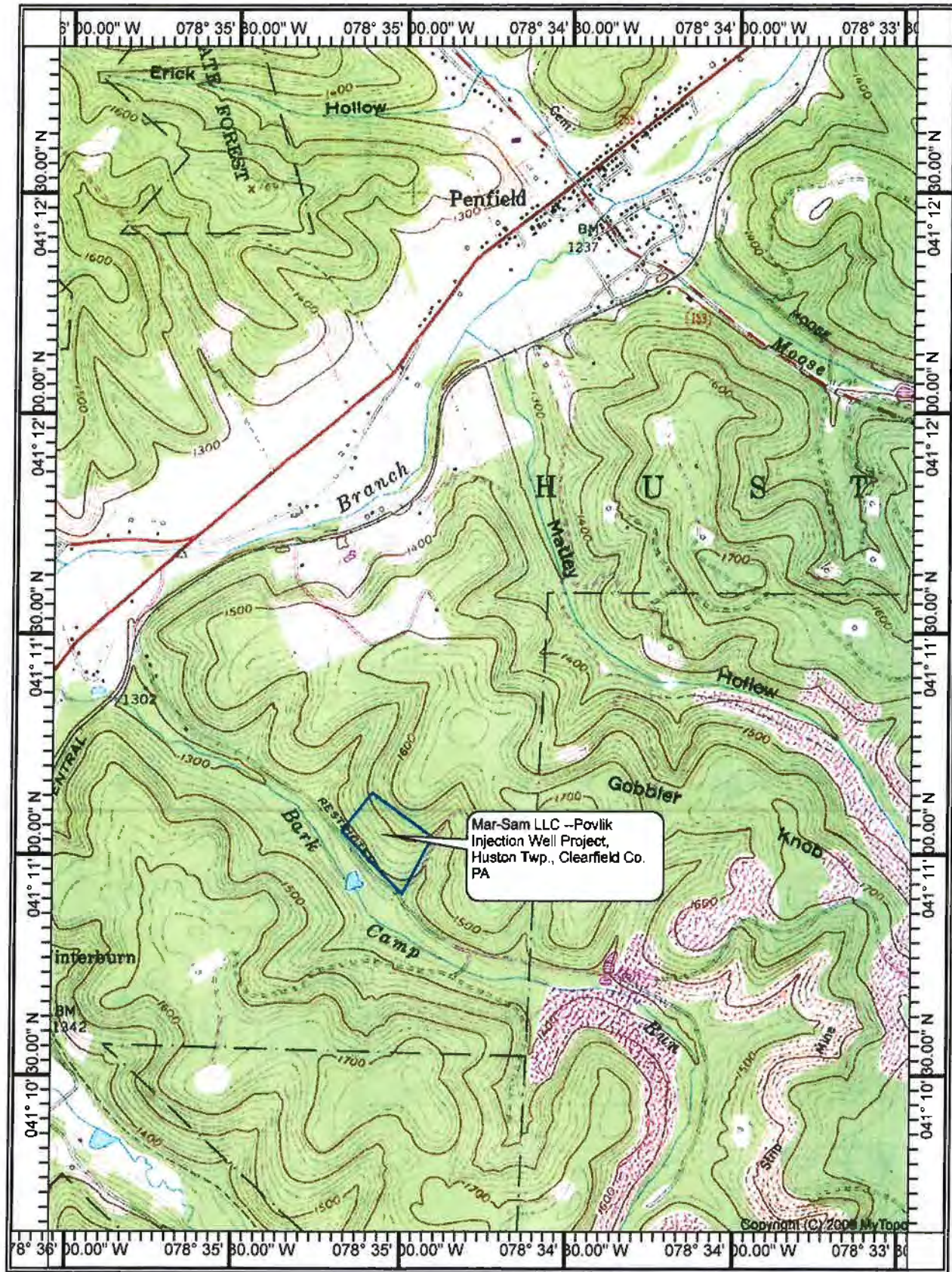
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U.S. Army Corps of Engineers. *Wetlands Delineation Manuol*. Technical Report Y-87-1. 1988.

U.S. Fish and Wildlife Service. *Natianal List of Plant Species That Occur in Wetlands: Northeast (Region 1)*. Biological Report 88 (26.1). 1988.

FIGURE 1

PROJECT LOCATION & NATIONAL WETLAND INVENTORY MAP



Location: 041° 11' 01.56" N 078° 35' 17.90" W



U.S. Fish and Wildlife Service

National Wetlands Inventory

MAR-SAM LLC

Feb 24, 2013



Wetlands

- Freshwater Emergent
- Freshwater Forested/Shrub
- Estuarine and Marine Deepwater
- Estuarine and Marine
- Freshwater Pond
- Lake
- Riverine
- Other

Riparian

- Herbaceous
- Forested/Shrub

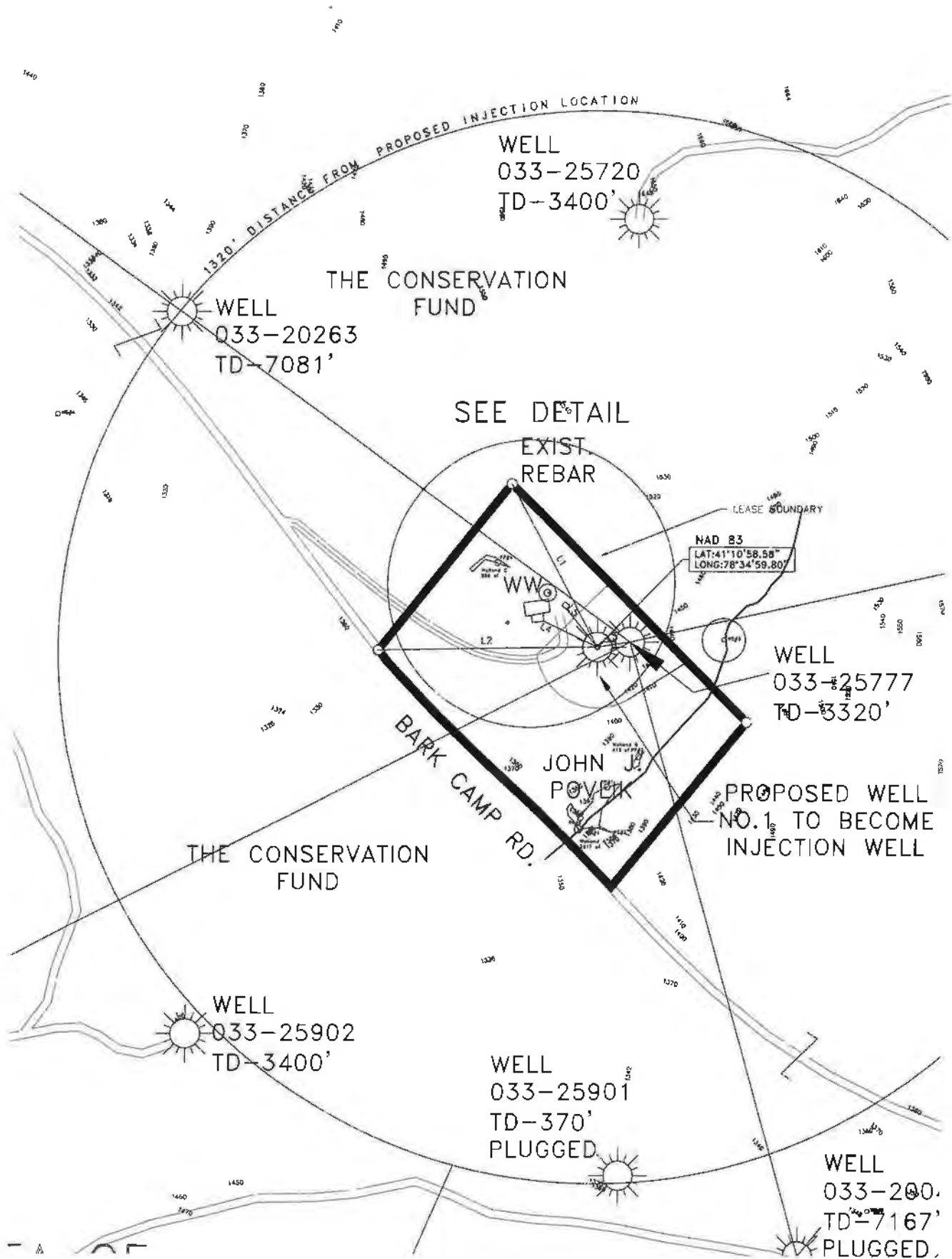
This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

User Remarks:

National Wetlands Inventory Map, Huston Twp., Clearfield County, PA

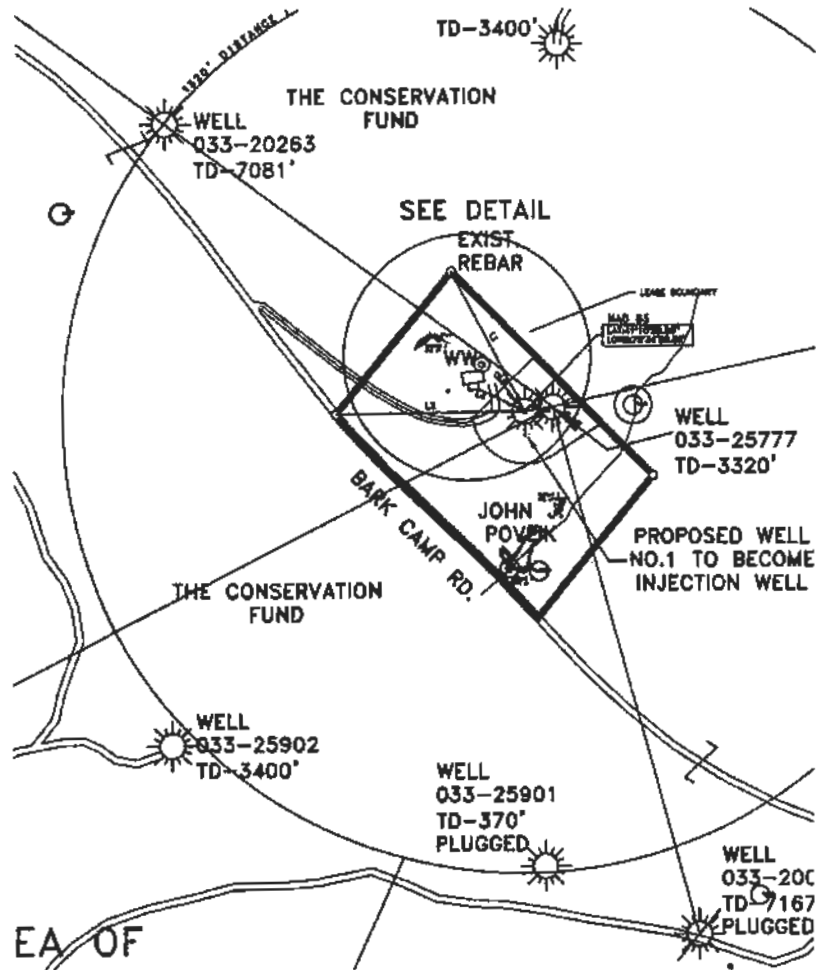
(Joins sheet 12)





APPENDIX A

QUALIFICATIONS



TODD FANTASKEY, ENVIRONMENTALCONSULTANT

EDUCATION

BA Environmental Studies, 1990. Lock Haven University, Lock Haven, Pennsylvania

CONTINUING EDUCATION

Richard Chinn Environmental Training. USACOE Wetland Delineation and Management Training Program, State College, PA 3/26/2009. (38 Hour Course)

Advanced Soils Class, PA-DEP, State College, PA July 15-15, 2003

Todd Fantaskey has more than twenty(20) years experience as an environmental professional working for local, state and federal agencies, as well as the private sector in Pennsylvania and New York. His primary areas of expertise include site assessment for individual wastewater systems, wetland delineations, wetland mitigation and wetland mitigation monitoring. He is also experienced in water testing and annual maintenance inspections for single residence wastewater treatment facilities. Todd has a vast array of experience in northwestern Pennsylvania performing various permitting activities for the oil and gas industry.

A sampling of his project experience is listed below.

XTO Energy Inc.

Completed wetland delineation for proposed deep well gas project located in Westmoreland County, PA.

PAPCO

Conduct wetland delineation and site assessment for a proposed 12 oil well drilling project in Warren County, Pennsylvania.

ENERVEST OPERATING INC.

Conduct wetland delineation and water obstruction permitting for various proposed gas wells in Crawford County, Pennsylvania.

AMERICAN REFINING GROUP

Conduct wetland delineation for various proposed well packages and provide wetland mitigation plan for proposed wetland impacts.

ABC CORPORATION WETLAND MONITORING PROJECT

Provide wetland mitigation monitoring for a newly constructed wetland mitigation project located in Lewis Run, McKean County, PA..

CLARION BOARDS INC.

Conduct wetland mitigation monitoring In accordance to the PA DEP mitigation monitoring reporting requirements for the approved water obstruction permit.

LANDVEST INC.

Wetland Delineation of 200 acres of proposed timber harvest area in accordance to PA-DCNR requirements for PNDI. Project is located In Sergeant Township, McKean County, PA..

NAPA STORE, KANE, PA

Perform double ring infiltration test(percolation tests) for proposed in-ground storm water infiltration area for proposed new commercial building.

SHEFFIELD TOWNSHIP SUPERVISORS

Conduct Wastewater Needs Survey and wetland delineation for proposed wastewater extension project located in Sheffield Township, Warren County, PA.

APPENDIX B

PROJECT PHOTOS



PHOTO #1

Is a view of the soils at PP#1 and Wetland A at the MAR-SAM LLC project. This soil probe was very saturated and had a 10YR 2/1 soil color.



PHOTO #2

Is a view west of Wetland A at PP#1. This concave area is dominated with soft rush (*Juncus effusus*), cattail (*Typha latifolia*) and sensitive fern (*Onoclea sensibilis*). There is also sedge (*Carex*) species and goldenrod (*Solidago*) species in wetland A.



PHOTO #3

Is a view east of PP#2 Wetland "A". The soils here have a 10YR 2/1 matrix color. The soils were also saturated on January 30, 2013.



PHOTO #4

Is a view east of Wetland A. This concave area is dominated with cattail, sedge species, soft rush, reed canary grass and sensitive fern. These common herbaceous plants are found in wetlands across the northeastern United States. This wetland is following a concave drainage channel downslope. The project will not impact this area.



PHOTO #5

Is a view of the soils at PP#3 and Wetland B. This soil has a 10YR 3/1 matrix color and is saturated.



PHOTO #6

Is a view west of Wetland B. This area is dominated with sensitive fern (*Onoclea sensibilis*), *Carex* species and *ranunculoides* (pennywort) species. This wetland is following a small drainageway downslope



PHOTO #7

Is a view of the soils at PP#4 and Wetland C. This soil has a 10YR 3/1 matrix color and is saturated .



PHOTO #8

Is a view west of Wetland C. This area is dominated with soft rush, woolgrass, silky dogwood and carex species. This wetland area is being avoided. This wetland is located north of the existing cabin along a man-made drainage channel.



PHOTO #9

Is a view of the proposed injection well site located north of Bark Camp Run Road. This area is surrounded by upland conditions.



PHOTO #10

Photo #10 is a view of the seasonal residence that is located northwest of the proposed injection well. Wetland "C" is located behind the dwelling approximately 100 feet.

APPENDIX C

WETLAND DETERMINATION DATA FORM(S)

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: MAR-SAM, LLC City/County: CLEARFIELD CO. Sampling Date: 1-30-13
 Applicant/Owner: POVLIK INJECTION WELL PROJECT State: PA Sampling Point: PP#1
 Investigator(s): Todd S. FANTASKEY Section, Township, Range: Huston Twp
 Landform (hillside, terrace, etc.): Hillside Local relief (concave, convex, none): Concave Slope (%): 0-3%
 Subregion (LRR or MLRA): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: BRINKERTON SILT LOAM NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? No Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ WETLAND "A"
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: <u>Hydric Soils, Hydrophytic vegetation and wetland hydrology are present at PP#1 - Wetland "A".</u>	

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

X Surface Water (A1)

X High Water Table (A2)

X Saturation (A3)

____ Water Marks (B1)

____ Sediment Deposits (B2)

____ Drift Deposits (B3)

____ Algal Mat or Crust (B4)

____ Iron Deposits (B5)

____ Inundation Visible on Aerial Imagery (B7)

____ Water-Stained Leaves (B9)

____ Aquatic Fauna (B13)

____ True Aquatic Plants (B14)

____ Hydrogen Sulfide Odor (C1)

____ Oxidized Rhizospheres on Living Roots (C3)

____ Presence of Reduced Iron (C4)

____ Recent Iron Reduction in Tilled Soils (C6)

____ Thin Muck Surface (C7)

____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

____ Surface Soil Cracks (B6)

____ Sparsely Vegetated Concave Surface (B8)

____ Drainage Patterns (B10)

____ Moss Trim Lines (B16)

____ Dry-Season Water Table (C2)

____ Crayfish Burrows (C8)

____ Saturation Visible on Aerial Imagery (C9)

____ Stunted or Stressed Plants (D1)

____ Geomorphic Position (D2)

____ Shallow Aquitard (D3)

____ Microtopographic Relief (D4)

____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes X No _____

Depth (inches): 1-2"

Water Table Present? Yes X No _____

Depth (inches): Surface

Saturation Present? Yes X No _____

Depth (inches): Surface

(includes capillary fringe)

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

- NIA -

Remarks:

Wetland hydrology was present on 1-30-2013 during my second site visit.

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point:

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>N/A</u>			
2. _____			
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			
8. _____			

Sapling/Shrub Stratum (Plot size: <u>15'</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>N/A</u>			
2. _____			
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			
8. _____			
9. _____			
10. _____			

Herb Stratum (Plot size: <u>5'</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Juncus effusus</u>	<u>25%</u>	<u>YES</u>	<u>FACW</u>
2. <u>Typha latifolia</u>	<u>20%</u>	<u>YES</u>	<u>OBL</u>
3. <u>Carex sp.</u>	<u>15%</u>	<u>NO</u>	<u>OBL/FACW</u>
4. <u>Onoclea sensibilis</u>	<u>10%</u>	<u>NO</u>	<u>FACW</u>
5. <u>Solidago graminifolia</u>	<u>8%</u>	<u>NO</u>	<u>FAC</u>
6. _____			
7. _____			
8. _____			
9. _____			
10. _____			
11. <u>78 x .5 = 39</u>			
12. <u>78 x .2 = 15.6</u>			

Woody Vine Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____			
2. <u>N/A</u>			
3. _____			
4. _____			
5. _____			
6. _____			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____	(A) _____ (B) _____

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0¹
- ☐ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present?

Yes X No _____

Remarks: (Include photo numbers here or on a separate sheet.)

Sampling Point: PP#1

[illegible]²Location: PL=Pore Lining, M=Matrix.

☐ 2 cm Muck (A10) (MLRA 147)
☐ Coast Prairie Redox (A16)
 (MLRA 147, 148)
☐ Piedmont Floodplain Soils (F19)
 (MLRA 136, 147)
☐ Red Parent Material (TF2)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No

Remarks:

Soil was depleted with chroma ≤ 2 with Redox features.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: MAR-SAM LLC City/County: CLEARFIELD Sampling Date: PP#2
 Applicant/Owner: POWLIK Injection Well Project State: PA Sampling Point: 1-30-13
 Investigator(s): Todd S. FANTASKEY Section, Township, Range: Huston Twp.
 Landform (hillslope, terrace, etc.): Valley Bottom Local relief (concave, convex, none): Concave Slope (%): 0-4%
 Subregion (LRR or MLRA): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: BRINKERTON SILT LOAM NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? No Are "Normal Circumstances" present? Yes ☒ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☒ No _____	Is the Sampled Area within a Wetland? Yes ☒ No _____
Hydric Soil Present?	Yes ☒ No _____	
Wetland Hydrology Present?	Yes ☒ No _____	

Remarks:

Hydric soils, vegetation and hydrology were present
on 1/30/2013

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

☒ Surface Water (A1) _____ True Aquatic Plants (B14)
☒ High Water Table (A2) _____ Hydrogen Sulfide Odor (C1)
☒ Saturation (A3) _____ Oxidized Rhizospheres on Living Roots (C3)
 _____ Water Marks (B1) _____ Presence of Reduced Iron (C4)
 _____ Sediment Deposits (B2) _____ Recent Iron Reduction in Tilled Soils (C6)
 _____ Drift Deposits (B3) _____ Thin Muck Surface (C7)
 _____ Algal Mat or Crust (B4) _____ Other (Explain in Remarks)
 _____ Iron Deposits (B5)
 _____ Inundation Visible on Aerial Imagery (B7)
 _____ Water Stained Leaves (D9)
 _____ Aquatic Fauna (B13)

Secondary Indicators (minimum of two required)

_____ Surface Soil Cracks (B6)
 _____ Sparsely Vegetated Concave Surface (B8)
 _____ Drainage Patterns (B10)
 _____ Moss Trim Lines (B16)
 _____ Dry-Season Water Table (C2)
 _____ Crayfish Burrows (C8)
 _____ Saturation Visible on Aerial Imagery (C9)
 _____ Stunted or Stressed Plants (D1)
 _____ Geomorphic Position (D2)
 _____ Shallow Aquitard (D3)
 _____ Microtopographic Relief (D4)
 _____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☒ No _____ Depth (inches): 2"
 Water Table Present? Yes ☒ No _____ Depth (inches): Surface
 Saturation Present? Yes ☒ No _____ Depth (inches): Surface
 (includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Hydrology was present on 1/30/2013.

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: PP#2

Tree Stratum (Plot size: 30)		Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1.					Number of Dominant Species That Are OBL, FACW, or FAC:	5 (A)
2.					Total Number of Dominant Species Across All Strata:	5 (B)
3.	N/A				Percent of Dominant Species That Are OBL, FACW, or FAC:	100 (A/B)
4.						
5.						
6.						
7.						
8.						
				= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')					Prevalence Index worksheet:	
1.					Total % Cover of:	Multiply by:
2.					OBL species	x 1 =
3.	N/A				FACW species	x 2 =
4.					FAC species	x 3 =
5.					FACU species	x 4 =
6.					UPL species	x 5 =
7.					Column Totals:	(A) (B)
8.					Prevalence Index = B/A =	
9.						
10.						
				= Total Cover		
Herb Stratum (Plot size: 5')					Hydrophytic Vegetation Indicators:	
1.	<i>Typha latifolia</i>	20%	YES	OBL	☒ 1 - Rapid Test for Hydrophytic Vegetation	
2.	<i>Carex sp.</i>	15%	YES	OBL/FACW	☐ 2 - Dominance Test is >50%	
3.	<i>Juncus effusus</i>	12%	NO	FACW	☐ 3 - Prevalence Index is ≤3.0	
4.	<i>Phalaris arundinacea</i>	10%	NO	FACW	☐ 4 - Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)	
5.	<i>Onoclea sensibilis</i>	5%	NO	FACW	☐ Problematic Hydrophytic Vegetation (Explain)	
6.	<i>Solidago sp.</i>				Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
7.					Definitions of Four Vegetation Strata:	
8.					Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
9.					Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
10.					Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
11.	102 x 5 = 31.5				Woody vine – All woody vines greater than 3.28 ft in height.	
12.	62 x 2 = 12.4					
				= Total Cover		
Woody Vine Stratum (Plot size: 30')					Hydrophytic Vegetation Present?	
1.					Yes ☒ No ☐	
2.						
3.						
4.						
5.						
6.						
				= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet.)

pp#2

[illegible]

Soil Chroma is ≤ 2 with Redox present.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: MAR-SAM LLC City/County: CLEARFIELD CO. Sampling Date: 1-30-13
 Applicant/Owner: POULIK INJECTION WELL State: PA Sampling Point: PP#3
 Investigator(s): Todd S. FANTASKY Section, Township, Range: Huston Twp.
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): CONCAVE Slope (%): 0-5%
 Subregion (LRR or MLRA): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Brinkerton SILT Loam NWI classification: PEM.
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? NO Are "Normal Circumstances" present? Yes ☒ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? NO (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☒ No _____	Is the Sampled Area <u>Wetland "B"</u> within a Wetland? Yes ☒ No _____
Hydric Soil Present?	Yes ☒ No _____	
Wetland Hydrology Present?	Yes ☒ No _____	

Remarks:

Hydric soils, vegetation and hydrology are present at Wetland "B".

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

☒ Surface Water (A1)
☒ High Water Table (A2)
☒ Saturation (A3)
 _____ Water Marks (B1)
 _____ Sediment Deposits (B2)
 _____ Drift Deposits (B3)
 _____ Algal Mat or Crust (B4)
 _____ Iron Deposits (B5)
 _____ Inundation Visible on Aerial Imagery (B7)
 _____ Water-Stained Leaves (B9)
 _____ Aquatic Fauna (B13)

_____ True Aquatic Plants (B14)
 _____ Hydrogen Sulfide Odor (C1)
 _____ Oxidized Rhizospheres on Living Roots (C3)
 _____ Presence of Reduced Iron (C4)
 _____ Recent Iron Reduction in Tilled Soils (C6)
 _____ Thin Muck Surface (C7)
 _____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

_____ Surface Soil Cracks (B6)
 _____ Sparsely Vegetated Concave Surface (B8)
 _____ Drainage Patterns (B10)
 _____ Moss Trim Lines (B16)
 _____ Dry-Season Water Table (C2)
 _____ Crayfish Burrows (C8)
 _____ Saturation Visible on Aerial Imagery (C9)
 _____ Stunted or Stressed Plants (D1)
 _____ Geomorphic Position (D2)
 _____ Shallow Aquitard (D3)
 _____ Microtopographic Relief (D4)
 _____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☒ No _____ Depth (inches): 1"
 Water Table Present? Yes ☒ No _____ Depth (inches): Surface
 Saturation Present? Yes ☒ No _____ Depth (inches): Surface
 (includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Hydrology was present at Wetland "B" on 1/30/2013.

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: PP#3

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.	<u>N/A</u>		
5.			
6.			
7.			
8.			

Sapling/Shrub Stratum (Plot size: 15') _____ = Total Cover

1.			
2.			
3.			
4.			
5.	<u>N/A</u>		
6.			
7.			
8.			
9.			
10.			

Herb Stratum (Plot size: 5') _____ = Total Cover

1.	<u>Oreoclea sensibilis</u>	<u>15%</u>	<u>X</u>	<u>FACW</u>
2.	<u>Carex speciosa</u>	<u>12%</u>	<u>X</u>	<u>OBL/FACW</u>
3.	<u>Ranunculus speciosus</u>	<u>10%</u>	<u>X</u>	<u>OBL</u>
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				

Woody Vine Stratum (Plot size: 30') _____ = Total Cover

1.			
2.			
3.			
4.	<u>N/A</u>		
5.			
6.			

_____ = Total Cover

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 = _____
FACW species	x 2 = _____
FAC species	x 3 = _____
FACU species	x 4 = _____
UPL species	x 5 = _____
Column Totals:	(A) _____ (B) _____

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☒ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0¹
- ☐ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present?

Yes X No _____

Remarks: (Include photo numbers here or on a separate sheet.)

Small Concave area along drainage

Sampling Point: PP# 3

²Location: PL=Pore Lining, M=Matrix.

Indicators for Problematic Hydric Soils³

- ☐ 2 cm Muck (A10) (MLRA 147)
☐ Coast Prairie Redox (A16)
 (MLRA 147, 148)
☐ Piedmont Floodplain Soils (F19)
 (MLRA 136, 147)
☐ Red Parent Material (TF2)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No

Soil Chroma at PP#3 is ≤ 2 with
Redox features present.

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont

Project/Site: MAR-SAM LLC City/County: CLEARFIELD Sampling Date: 1/30/2013
 Applicant/Owner: POULIK INJECTION WELL PROJ. State: PA Sampling Point: PP #4
 Investigator(s): Todd S. FANTASKE Section, Township, Range: HUSTON
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 0-1%
 Subregion (LRR or MLRA): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: MADE LAND - EXCAVATED NWI classification: P.E.M.

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? No Are "Normal Circumstances" present? Yes ☒ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ☒ No _____	Is the Sampled Area within a Wetland? <u>WETLAND "C"</u> Yes ☒ No _____
Hydric Soil Present? Yes ☒ No _____	
Wetland Hydrology Present? Yes ☒ No _____	

Remarks: This small man-made wetland is located behind the existing camp. This area will not be disturbed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | | |
|---|--|
| ☒ Surface Water (A1) | _____ True Aquatic Plants (B14) |
| ☒ High Water Table (A2) | _____ Hydrogen Sulfide Odor (C1) |
| ☒ Saturation (A3) | _____ Oxidized Rhizospheres on Living Roots (C3) |
| _____ Water Marks (B1) | _____ Presence of Reduced Iron (C4) |
| _____ Sediment Deposits (B2) | _____ Recent Iron Reduction in Tilled Soils (C6) |
| _____ Drift Deposits (B3) | _____ Thin Muck Surface (C7) |
| _____ Algal Mat or Crust (B4) | _____ Other (Explain in Remarks) |
| _____ Iron Deposits (B5) | |
| _____ Inundation Visible on Aerial Imagery (B7) | |
| _____ Water-Stained Leaves (B9) | |
| _____ Aquatic Fauna (B13) | |

Secondary Indicators (minimum of two required)

- | |
|---|
| _____ Surface Soil Cracks (B6) |
| _____ Sparsely Vegetated Concave Surface (B8) |
| _____ Drainage Patterns (B10) |
| _____ Moss Trim Lines (B16) |
| _____ Dry-Season Water Table (C2) |
| _____ Crayfish Burrows (C8) |
| _____ Saturation Visible on Aerial Imagery (C9) |
| _____ Stunted or Stressed Plants (D1) |
| _____ Geomorphic Position (D2) |
| _____ Shallow Aquitard (D3) |
| _____ Microtopographic Relief (D4) |
| _____ FAC-Neutral Test (D5) |

Field Observations:

Surface Water Present? Yes ☒ No _____ Depth (inches): 2 1/4
 Water Table Present? Yes ☒ No _____ Depth (inches): Surface
 Saturation Present? Yes ☒ No _____ Depth (inches): Surface
 (includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Hydrology was present on 1/30/13.

(Wetland "C" was created by a man-made diversion ditch to catch upslope storm water and divert this water from the camp yard.)

VEGETATION (Four Strata) – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
_____ = Total Cover			
Sapling/Shrub Stratum (Plot size: <u>15'</u>)			
1. <u>Cornus amomum</u>	<u>20%</u>	<u>Y</u>	<u>FACW</u>
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
_____ = Total Cover			
Herb Stratum (Plot size: <u>5'</u>)			
1. <u>Juncus effusus</u>	<u>30%</u>	<u>Y</u>	<u>FACW</u>
2. <u>Scirpus hypericinus</u>	<u>30%</u>	<u>Y</u>	<u>FACW</u>
3. <u>Carex sp.</u>	<u>10%</u>	<u>X</u>	<u>FACW</u>
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
_____ = Total Cover			
Woody Vine Stratum (Plot size: <u>30'</u>)			
1.			
2.			
3.			
4.			
5.			
6.			
_____ = Total Cover			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____	(A) _____ (B) _____

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☒ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0¹
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Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present?

Yes X No _____

Remarks: (Include photo numbers here or on a separate sheet.)

Sampling Point: _____

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Indicators for Problematic Hydric Soils³:

- ☐ 2 cm Muck (A10) (**MLRA 147**)
☐ Coast Prairie Redox (A16)
(MLRA 147, 148)
☐ Piedmont Floodplain Soils (F19)
(MLRA 136, 147)
☐ Red Parent Material (TF2)
☐ Very Shallow Dark Surface (TF12)
☒ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Man Made area. Will be avoided by project as proposed on 11/30/13.

Pt. I

Specific Criteria	Stream	Zone	County	Water Uses Protected	Exceptions To Specific Criteria
one	3—Unnamed Tributaries to West Branch Susquehanna River	Basins, RM 121.36 to Queens Run	Clinton	HQ-CWF	None
one	3—Bougher Run	Basin	Centre	HQ-CWF	None
one	3—Little Bougher Run	Basin	Clinton	CWF	None
one	3—Leaning Pine Run	Basin	Clinton	HQ-CWF	None
one	3—Moores Run	Basin	Centre	HQ-CWF	None
one	3—Sugarcamp Run	Basin	Clinton	HQ-CWF	None
one	3—Birch Island Run	Basin	Clinton	HQ-CWF	None
one	3—Black Stump Run	Basin	Clinton	HQ-CWF	None
one	3—Grove Run	Basin	Clinton	HQ-CWF	None
one	3—Fields Run	Basin	Centre	HQ-CWF	None
one	3—Yost Run	Basin	Centre	EV	None
one	3—Morris Run	Basin	Clinton	HQ-CWF	None
one	3—Dry Run	Basin	Clinton	HQ-CWF	None
one	3—Burns Run	Basin	Centre	EV	None
one	3—Jews Run	Basin	Clinton	HQ-CWF	None
one	3—Sinnemahoning Creek				
one	4—Beunett Branch Sinnemahoning Creek	Main Stem, Source to Mill Run	Cameron	CWF	None
one	5—Unnamed Tributaries to Bennett Branch Sinnemahoning Creek	Basins	Clearfield-Elk-Cameron	CWF	None
one	5—McCracken Run	Basin	Clearfield	CWF	None
one	5—South Branch Bennett Branch	Basin	Clearfield	HQ-CWF	None
one	5—Heath Run	Basin	Clearfield	CWF	None
one	5—Bark Camp Run	Basin	Clearfield	CWF	None
one	5—Mountain Run	Basin	Clearfield	CWF	None
one	5—Matley Hollow	Basin	Clearfield	CWF	None
one	5—Wilson Run	Basin, Source to East Branch Wilson Run	Clearfield	CWF	None
one	6—East Branch Wilson Run	Basin	Clearfield	HQ-CWF	None
one	5—Wilson Run	Basin, East Branch Wilson Run to Mouth	Clearfield	CWF	None
one	5—Moose Run	Basin	Clearfield	CWF	None
one	5—Horning Run	Basin	Clearfield	CWF	None
one	5—Lamb Hollow	Basin	Clearfield	CWF	None
one	5—Horning Hollow	Basin	Clearfield	CWF	None
one	5—Mill Run	Basin	Clearfield	CWF	None

Pennsylvania Wild Trout Waters (Natural Reproduction) January 2013

County	Watername	Trib To:	Wild Trout Limits	Lower Limit Lat	Lower Limit Lon
Chester	Valley Creek	Schuylkill River	Headwaters dnst to mouth	40.103058	-75.461388
Chester	West Branch Crum Creek	Crum Creek	Headwaters dnst to mouth	39.999561	-75.463699
Clarion	Beaver Creek	Clarion River	Mehrten Rd Bridge dnst to Rt 338 Bridge at Blair's Corners	41.181389	-79.560837
Clarion	Blyson Run	Clarion River	Headwaters dnst to mouth	41.268055	-79.302498
Clarion	Boyd Run	Deer Creek	Headwaters dnst to mouth	41.194721	-79.469719
Clarion	Browns Run	Toms Run	Headwaters dnst to mouth	41.360558	-79.218330
Clarion	Bull Run	Coon Creek	Headwaters dnst to mouth	41.429443	-79.312500
Clarion	Canoe Creek	Clarion River	Headwaters dnst to mouth	41.161667	-79.533058
Clarion	Catfish Run	Allegheny River	Headwaters dnst to mouth	41.005390	-79.588211
Clarion	Cathers Run	Clarion River	Headwaters dnst to mouth	41.317223	-79.233330
Clarion	Chapel Run	Toms Run	Headwaters dnst to mouth	41.378075	-79.242889
Clarion	Cherry Run	Licking Creek	Headwaters dnst to mouth	41.122223	-79.565559
Clarion	Dunlap Creek	Allegheny River	Headwaters dnst to mouth	41.071220	-79.662224
Clarion	Hefren Run	Toms Run	Headwaters dnst to mouth	41.350693	-79.226242
Clarion	Mables Run	Paint Creek	Headwaters dnst to mouth	41.253887	-79.444168
Clarion	Maxwell Run	Clarion River	Headwaters dnst to mouth	41.291668	-79.269447
Clarion	McCanna Run	Pendleton Run	Headwaters dnst to mouth	41.246944	-79.235558
Clarion	Mill Creek	Clarion River	Headwaters dnst to Ccnf Ltl Mill Ck	41.222500	-79.250832
Clarion	Pendleton Run	Mill Creek	Headwaters dnst to mouth	41.235001	-79.235001
Clarion	Spangler Run	Pendleton Run	Headwaters dnst to mouth	41.246944	-79.235832
Clarion	Stroup Run	Mill Creek	Headwaters dnst to mouth	41.237778	-79.287498
Clarion	Toby Creek	Clarion River	Headwaters dnst to conf Henry Rn	41.331944	-79.291946
Clarion	Toomey Run	Toms Run	Headwaters dnst to mouth	41.368176	-79.241692
Clarion	Trap Run	Mill Creek	Headwaters dnst to mouth	41.237911	-79.306450
Clarion	Unt To Allegheny River (rm - 82.9)	Allegheny River	Headwaters dnst to mouth	41.088612	-79.676392
Clarion	Unt To Clarion River (gravel lick)	Clarion River	Headwaters dnst to mouth	41.316235	-79.242050
Clarion	Unt To Toby Creek	Toby Creek	Headwaters dnst to mouth	41.354179	-79.291634
Clarion	Woods Run	Mill Creek	Headwaters dnst to mouth	41.220280	-79.263835
Clearfield	Alex Branch	Trout Run	Headwaters dnst to mouth	41.171665	-78.408830
Clearfield	Anderson Creek	West Branch Susquehanna River	Headwaters to Gordon Rd Brdg.	41.147499	-78.572220
Clearfield	Bark Camp Run	Bennett Branch Sinnemahoning Creek	Headwaters to Mine Discharge	41.178318	-78.576103
Clearfield	Barrett Run	Wilson Run	Headwaters dnst to mouth	40.826111	-78.647499
Clearfield	Bear Pen Hollow	Upper Three Runs	Headwaters dnst to mouth	41.192894	-78.107910
Clearfield	Bear Run	West Branch Susquehanna River	Headwaters dnst to mouth	41.057064	-78.308930
Clearfield	Bear Run	West Branch Susquehanna River	Headwaters to conf of Bear Rn S Br	40.876461	-78.809131
Clearfield	Beaver Run	West Branch Susquehanna River	Headwaters dnst to mouth	40.780556	-78.779724
Clearfield	Beaver Run	Moshannon Creek	Headwaters to confluence with Gose Run	40.830467	-78.338051
Clearfield	Bee Hollow	Trout Run	Headwaters dnst to mouth	41.137169	-78.404958
Clearfield	Beech Run	East Branch Mahoning Creek	Headwaters dnst to mouth	41.008144	-78.773041
Clearfield	Big Run (fairview)	West Branch Susquehanna River	Headwaters dnst to mouth	41.061943	-78.199448
Clearfield	Buck Run	Deer Creek	Headwaters dnst to mouth	41.086945	-78.245033
Clearfield	Burns Run	Montgomery Run	Headwaters downstream to the mouth	41.096027	-78.617050
Clearfield	Campbell Run	Gazzam Run	Headwaters dnst to mouth	40.881943	-78.586945
Clearfield	Chest Creek	West Branch Susquehanna River	Headwaters to unnamed trib at Bradley Junction	40.550835	-78.668832
Clearfield	Clearfield Creek	West Branch Susquehanna River	Headwaters downstream to Brubaker Run	40.622185	-78.503250
Clearfield	Cofinan Run	Clearfield Creek	Headwaters dnst to mouth	40.786667	-78.498836
Clearfield	Coldstream Run	Trout Run	Headwaters dnst to mouth	41.112541	-78.393738

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Approved R. E. Burch Date 1-6-70

Latitude 41-15'

29

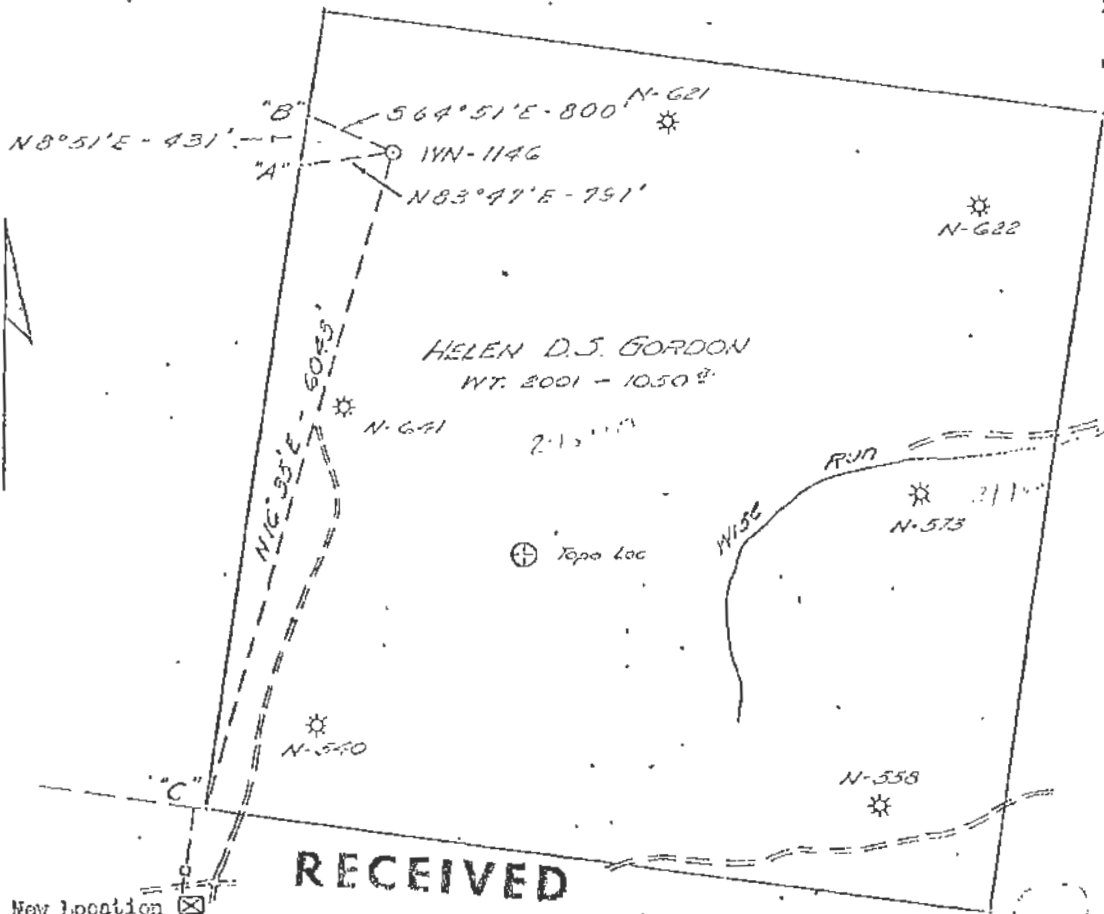
Longitude 79-50'

"A" = SURVEY STA. 8 (LOC. N-641)

"B" = SURVEY STA. 9 (LOC. N-641)

"C" = SURVEY CORNER WT. 2001

NOTE: ALL BEARINGS CORRECTED TO PROPERTY DESCRIPTION



RECEIVED

MAY 5 1970

GEOLOGIC SURVEY

- New location ☒
 Drill Deeper ☐
 Abandonment ☐
 Repairs ☐

Company CONSOLIDATED GAS SUPPLY CORP.
 Address 4-5 W. MAIN ST. CLARKSBURG W. VA.
 Farm HELEN D.S. GORDON
 Tract _____ Acres 1050.0 Lease No. 58665
 Well (Farm) No. _____ Co. Serial No. WV-1146
 Angle of Deviation, if any _____
 Elevation 1711' Quadrangle REYNOLDS
 County CAMPBELL Township HUNTON
 Engineer W. E. Burch
 Engineer's Registration No. 11111
 File No. _____ Drawing No. WV-1146
 Date MAY 5, 1970 Scale 1" = 1250'

COMMONWEALTH OF PENNSYLVANIA
 DEPARTMENT OF MINES

Oil and Gas Division
 HARRISBURG

WELL LOCATION MAP
 Dept. File No. CLE-445

⊕ Denotes Values of Well on United
 States Topographic Maps.

Scale 15' ☒ 71' ☐

WORKABLE COAL SEAMS TO BE PENETRATED

Name of Seams Owner of Seams

A. SEAMS

REN. COAL CO.

DEPARTMENT OF MINES AND MINERAL INDUSTRIES
OIL AND GAS DIVISION
PITTSBURGH, PENNSYLVANIA

WELL RECORD

PERMIT NO. CSE-445-3

TYPE OF WELL Gas

24,500 S. 47° E.

21,400 W 78° 30' E

CSD

29

WELL OPERATOR Consolidated Gas Supply Corporation
ADDRESS 445 W. Main Street, Clarksburg, W. Va. ZIP 26301
FARM NAME: Helen D. S. Gordon FARM NO. SERIAL NO. WT-1146 ACRES 1050'
TOWNSHIP: Huston COUNTY: Clearfield
DRILLING COMMENCED June 1, 1970 DRILLING COMPLETED September 2, 1970
ELEVATION 1711' QUADRANGLE Penfield ☐ 7 ☒ 15'

Casing and Tubing Record

Pipe Size	Amt. In Well	Material Behind Pipe Cement (Sks.)	Gel (Sks.)	Packer Type	Size	Depth	Date Run
11 3/4"	31'	15 sax					6-2-70
8 5/8"	374'	60 sax	6 gel	Guide Shoe	8 5/8"	1028'	6-4-70
4 1/2"	1255'	250 sax	15 gel	Float Shoe	4 1/2"	3169'	6-8-70

RECEIVED

OCT 14 1970

GEOLOGIC SURVEY

Perforation Record

Stimulation Record

Date	Interval Perforated From	To	Date	Interval Treated	Amt. Fluid	Amt. Sand	Injection Rate
6-18-70	2441'	2446'	6-18-70	2441-2446	20,100 gal.	10,000#	27.3 BPD
6-18-70	2866'	2870'	6-18-70	2866-2890	21,300 gal.	30,000#	34.6 BPD
6-18-70	2886'	2890'	6-18-70	2950-3023	21,200 gal.	30,000#	42.5 BPD
6-18-70	2950'	2964'					
6-18-70	3015'	3023'					

Natural Open Flow 54,080 cubic feet Natural Rock Pressure: N.T. hrs.
After Treatment Open Flow 73,100 cubic feet After Treatment Rock Pressure: N.T. hrs.
days.

REMARKS: Plugged and abandoned.

T.D.	D.D.	D.P.I.	Class	O	G	Loss

For Information on Perforation Side

FORMATIONS

Name	Top	Bottom	Gas At	Oil At	WATER AT (Fresh or Salt Water)	Driller's Log Source of Data
rd	0	30				
Sand & Shale	30	132			TW-84	1/2" stream
Coal	132	134				
Sand & Shale	134	568			TW-530	3/4" stream
Red rock	568	572				
Shale	572	600				
Red rock	600	625				
Sandy shale & red rock	625	670				
Sand & Shale	670	1270			TW-675	
Red rock	1270	1570				
Sand & shale	1570	2000				
Sand	2000	2080				
Shale	2080	2550	2100 (small)			
Sandy shale	2550	2610	2441			
Shale	2610	2870	2866			
Sand	2870	2900	2886			
Sand & shale	2900	3040	2960			
Sand	3040	3060				
Shale	3060	3200				
Sand & shale	3200					
Total Depth		3287				
GAMMA RAY LOG						
Base Pottsville		549				
Speechley	2324					
Tiona	2439					
Balltown	2600					
Sheffield	2664					
1st Bradford	2848					
d Bradford	2939					
d Bradford	3012					
e	3128					

Date September 23, 1970

Approved Consolidated Gas Supply Corp.

Operator

By R. E. Bayne, Manager of Production

Title

RECEIVED
OCT 1 1970
OCT 1 1970

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COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF MINES AND MINERAL INDUSTRIES
OIL AND GAS DIVISION
STATE OFFICE BUILDING
PITTSBURGH, PENNSYLVANIA 15222

C.P.

CERTIFICATE OF PLUGGING WELL

P. & H. Coal Company
Coal Operator or Owner
242 W. Mahoning Street
Pittsburgh, Pennsylvania 15267
Address

Coal Operator or Owner
Address

Coal Operator or Owner
Address

COMPLETE ABOVE SECTION
IF APPLICABLE

Consolidated Gas Supply Corporation
Name of Well Operator
445 W. Main Street, Clarksburg, W. Va.
Address

August 11, 1970
Date

Hugton Township

Clearfield County

Farm Helen D. S. Gordon

Well (Farm) No. Serial No. WH-1146

C. Straub

Division Representative Supervising

None

Coal Representative Observing

We, the undersigned representatives of the well operator certify that we participated in the plugging of the above well, and that the work was started Aug. 26 1970 and that the well was plugged as follows:

Rotary Measurement 10' aboveground level

Filling Material and Plugs	From	To	Casing and Tubing		
			Size	Pulled	Left
Total Depth		3287'	11 3/4"	none	31'5"
water	3287'	3169'	8 5/8"	653'5"	374'0"
60 sbs cement	3169'	2285'	4 1/2"	1936'6"	1254'7"
Aquagel & water	2285'	1078'			
Brush Bridge & gravel	1078'	1058'			
20 sbs cement	1058'	1008'	Depth of Coal Seams, If Any		
Aquagel & water	1008'	570'	132' to 134'		
Brush Bridge & stone	570'	550'			
20 sacks of cement	550'	510'			
Aquagel & water	510'	215'			
Brush Bridge & stone	215'	195'	Description of Monument		
10 sbs Cement	195'	175'	2" vent extends 6' above ground		
Stone	175'	155'			
2" Vent w/ plate on bottom set at		155'			
75 sbs Cement	155'	surface			

and that the work of plugging and filling said well was completed on the 2nd day of September, 1970.

Qualified Participants

P. B. Lee
V. E. Bayne

Permit No. CLE-445-P

Well Operator Consolidated Gas Supply Corp.

One copy of this certificate to be mailed to each coal operator or owner, if any, and one to the Division, by registered mail, upon completion of plugging.

PLUGGED

COMPANY THE MANUFACTURERS LIGHT AND HEAT COMPANY
LAND AGENT, 500 UNION TRUST BUILDING
ADDRESS PITTSBURGH 19, PA.
FARM GREEN GLEN CORP
TRACT ACRES 3400 LEASE NO. 29148
WELL (FARM) NO 1 SERIAL NO. 1057
ANGLE OF DEVIATION, IF ANY
ELEVATION (SPIRIT LEVEL) 1073'
QUADRANGLE PENFIELD
COUNTY CLEARFIELD TOWNSHIP MUSTUN
ENGINEER Robert M. Shull (P.E.)
ENGINEER'S REGISTRATION NO. 361-E
LE NO. DRAWING NO. Y-15-542
TE 15 MARCH 57 SCALE 1"=2000'

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF MINES
OIL AND GAS DIVISION
HARRISBURG

WELL LOCATION MAP

DEPARTMENT FILE NO. C.R. 47-P

⊕ DENOTES VALUES OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.

SCALE 15' ☒ 7 1/2' ☐

WORKABLE COAL SEAMS TO BE PENETRATED

NAME OF SEAM	OWNER OF SEAM
All Coal	Mr. A. H. Reitz 17 North High St. DuBois, Pennsylvania

heart of 4-26-1957 (2)

JAN 31 1958 MAY 29 1959

10650'S 41°12'30"
11050'W 98°32'30"
(5)

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033-20047

KUNXY-DRIFTWOOD

Oil and Gas Division
PENNSYLVANIA

LOCALITY: Penfield ☐ 7' ☒ 15'

PERMIT NO. CL2-47-P

Dry Hole

REFERENCE: 22,700' W of 78° 30'

KIND OF WELL: Drilled for Gas
(Oil, Gas, Other)

22,700' S of 41° 15'

WELL RECORD

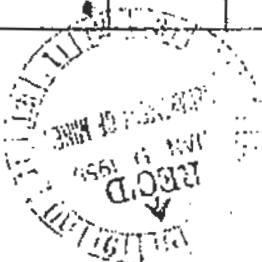
TANK:	Size of Casing and Tubing	Used in Drilling	Left in Well	Producers: Type, Size and Depth
The Manufacturers Light and Heat	13 3/4"	24 1/2"	-	
ADDRESS: <u>801 Union Trust Building, Pgh. 19, Pa.</u>	9 5/8"	976'	976'	
BY: <u>Green Glen Corp.</u> GRES <u>3400</u>	7"	7080'	1100'	
WELL (FAIR) NO. <u>1</u> CO. SERIAL NO. <u>4427</u>				
ELEVATION: <u>1373'</u> LEASE: <u>29168</u>				
SHIP: <u>Huston</u> COUNTY: <u>Clearfield</u>				
DRILLING				
FINISHED: <u>1-20-57</u> COMPLETED: <u>12-16-57</u>				
PRODUCTION: <u>Dry Hole</u>				PERFORATIONS AT
WELL PRESSURE: <u>-</u> psig <u>-</u> hrs				
WELL TREATMENT: (Shooting, Acidizing, Fracturing Etc.)				
<u>None</u>	CEMENTING DATA (Size Pipe, Depth, No. Bags, Date)			
	9 5/8"	976'	500	-
	7"	7080'	115	-
WELL TESTS AFTER TREATMENT: <u>-</u>				
WELL PRESSURE AFTER TREATMENT: <u>-</u>				

REMARKS:

FORMATION	TOP	BOTTOM	GAS AT	OIL AT	WATER AT (Fresh or Salt Water)	REMARKS
Law Clay	0	25				
Shale	25	35				
Shale	35	50				
	50	58				
Shale	58	70				
	70	73				
Shale	73	97				
	97	120				
Shale	120	138				
Shale	138	150				
Shale	150	190				
	190	240				
Shale	240	275				
	275	335				
Shale	335	490				

(Over)

FORMATION	TOP	BOTTOM	GAS AT	OIL AT	WATER AT (Fresh or Salt Water)	REMARKS
Red Rock	490	531				
Slate & Shells	530	568				
Limy Sand	568	680				
White Sand	680	692				
Black Sand	692	723				
Slate & Shells	723	768				
Sand	768	791				
Slate & Shells	791	870				
Limy Sand	870	890				
Slate & Shells	890	976				
Slate	976	986				
Shale	987	1008				
Sandy Shale	1008	1030				
Shale	1030	1120				
Sandy Lime	1120	1135				
Shale	1135	1150				
Lime	1150	1350				
Shale & Lime	1350	1360				
Shale	1360	1380				
Shale & Sand	1380	1390				
Lime	1390	1445				
Sandy Lime	1460	1760				
Shale	1760	1775				
Shale & Lime	1775	2720				
Shale & Sand	2720	2830				
Lime	2830	2840				
Shale	2840	3005				
Shale & Lime	3005	5970				
Shale	5970	6295				
Sandy Lime	6295	6400				
Shale	6400	7070				
Wendapa Lime	7070	7083				
Sand	7083	7149				
Griskany Sand	7149	7167			7155'	Salt Water
Total Depth		7167				



Date January 2, 1961
 THE MANUFACTURERS LIGHT AND HEAT COMPANY
 APPROVED C. P. [Signature], Cwc
 By Chief Geologist
 (Title)

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF MINES
OIL AND GAS DIVISION

CERTIFICATE OF PLUGGING WELL THROUGH WORKABLE COAL SEAMS

Mrs. A.H. Reitz
Coal Operator or Owner

17 N. High St. DuBois, Pa.
Address

Coal Operator or Owner

Address

Coal Operator or Owner

Address

Division Representative Supervising

The Manufacturers Light & Heat Co.

Name of Well Operator

800 Union Trust Building

Pittsburgh, Pa.
Address

May 19 ~~XXXXXX~~, 19 59
Date

Huston Township

Clearfield County

Farm Green Glen Corp.

Well (Farm) No. 1 Serial No. L-4457

Coal Representative Observing

We, the undersigned representatives of the well operator certify that we participated in the plugging of the above well, and that the work was started Jan. 6, 1958, and that the well was plugged as follows:

Filling Material and Plugs	From	To	Casing and Tubing		
			Size	Pulled	Left
Total Depth	7160		13 3/8"	0	17
Solid Salt	7160	7090	9 5/8"	0	977
Cement	7090	6985	7"	5873.9	1333
Rotary Mud & Water	6985	1080			
Bridge: Mud & Rock	1080	1025			
Cement	1025	981			
Open hole (Vent)	981	2	Depth of Coal Seams		
Cement Monument	2	-2	70' To 73'		
			Description of Monument		
			8' of 2 3/8" Sc. Pipe		
			in top of <u>9 5/8"</u> casing		
			in center of monument		

and that the work of plugging and filling said well was completed on the 24th day of March, 1958.

Qualified Participants Walter A. Brown

Permit No. CLE-47-P

Walter A. Brown THE MANUFACTURERS LIGHT AND HEAT
Land Agent

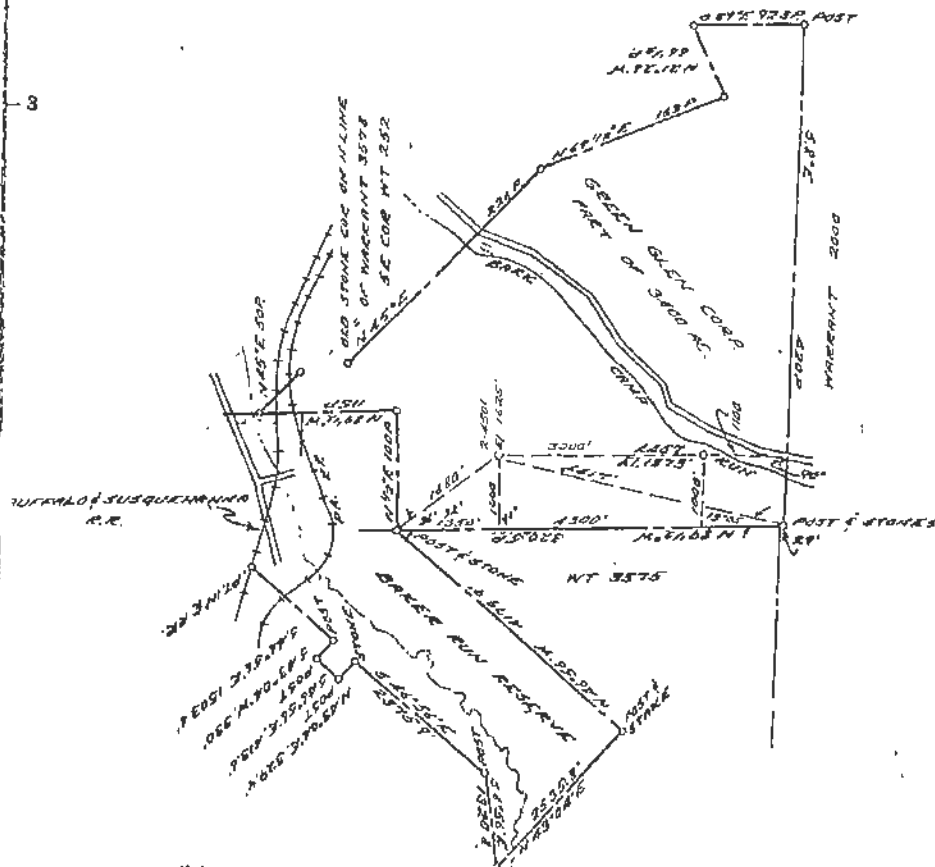
One copy of this certificate to be mailed to each coal operator or owner, and one to the Division, by registered mail, upon completion of plugging.

10700'S. 41°12'30"
2850'W 78°35'00"
(4)

LATITUDE 41° 15'

LONGITUDE

+ 3,000



NEW LOCATION.. ☒
 DRILL DEEPER.. ☐
 ABANDONMENT... ☐
 RE-DRILL .. ☐

COMPANY THE MANUFACTURERS LIGHT AND HEAT COMPANY
LAND AGENT, 100 UNION TRUST BUILDING
ADDRESS PITTSBURGH 12, PA.

FARM GREEN GLYN CORP?

TRAC 1 _____ ACRES 3400 LEASE NO. 29165

WELL (FARM) NO. 2 SERIAL NO. 4501

ANGLE OF DEVIATION, IF ANY

ELEVATION (SPIRIT LEVEL) 1625'

QUADRANGLE PENFIELD

COUNTY CLATFIELD TOWNSHIP HUSTON

ENGINEER Robert A. Hall

ENGINEER'S REGISTRATION NO. 361-F (A) K.B.

FILE NO. _____ DRAWING NO. Y-15-896

DATE 31 APR. 68 SCALE 1" = 2000'

COMMONWEALTH OF PENNSYLVANIA

DEPARTMENT OF MINES

OIL AND GAS DIVISION

HARRISBURG 03

LOCATION MAP

WELL LOCATION MAP

DEPARTMENT FILE NO. 66-137

① DENOTES VALUES OF WEILL ON UNITED STATES TOPOGRAPHIC MAPS.

SCALE 15' ☐ 7 1/2' ☐

WORKABLE COAL SEAMS TO BE PENETRATED

NAME OF SEAM

OWNER OF SEAM

ALL COPY

R. H. REITZ

For assistance in accessing this document, please contact: R3_UIC_Mailbox@epa.gov.

Name Green Glen # 2 Co. Clayfield Twp. Huston No. 2669

Owner Manufacturers L & H Co. Contr. W. H. ...

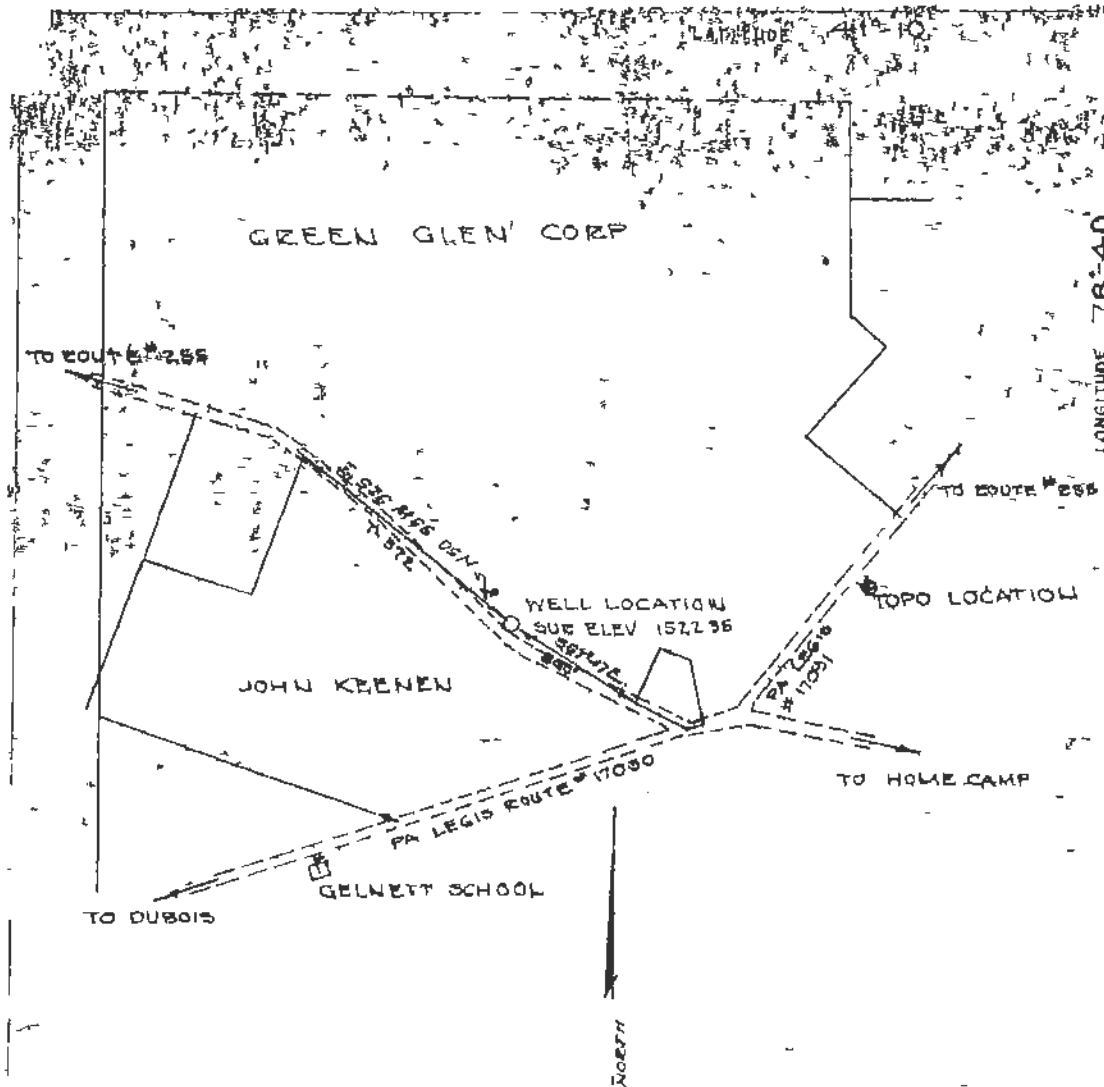
Date _____ Elev. 1625 Product _____ Drill 033-201

Obtained by	Authority	Quadrant field 13
-------------	-----------	-------------------

25,500' S $41^{\circ}15'$
3,100' W $12^{\circ}35'$

100

[illegible]



- NEW LOCATION ☒
 DRILL DEPTH ☐
 ABANDONMENT ☐
 ABANDONED ☐

COMPANY HAMMERMAN DRILLING CO
 ADDRESS HAMMERSLEY FORK PA
 FARM GREEN GLEN CORP
 TRACT ACRES 150± LEASE NO
 WELL (FARM) NO 1 (A) CO SERIAL NO
 ANGLE OF DEVIATION IF ANY
 ELEVATION 1522.35 QUADRANGLE PENFIELD
 COUNTY CLEARFIELD TOWNSHIP SANDY
 OWNER YOST ASSOCIATES INC
 GIBBER
 MINER'S REGISTRATION NO 1261-F
 FILE NO 151246 DRAWING NO
 DATE DEC 14, 1960 SCALE 1" = 800'

COMMONWEALTH OF PENNSYLVANIA
 DEPARTMENT OF MINES

OIL AND GAS DIVISION
 HARRISBURG

WELL LOCATION MAP
 DEPT FILE NO 023-20122

① DENOTES VALUES OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

SCALE IS ☒ 7.5' ☐ 15' ☐ 30'

POSSIBLE WORKABLE COAL SEAMS TO BE PENETRATED

NAME OF SEAM	OWNER OF SEAM
ALL LOWER	CLOVERLEAF
PRODUCTIVE	MINES INC

file

8,950' S 41°12'30"
10,150' W 78°32'30" (5)

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF MINES AND MINERAL INDUSTRIES
OIL AND GAS DIVISION

033-20228

QUADRANGLE: Panfield ☒ 7 1/2' ☒ 15'

PERMIT NO. CHS-228

MAP REFERENCE:

PUNXY-DRIFTWOOD, ROCKTON

WELL RECORD

KIND OF WELL: Gas

(Oil, Gas, Other)

COMPANY:	Size of Casing and Tubing	Used in Drilling	Left in Well	Packers: Type, Size and Depth
<u>Lee E. Minter et al</u>				
ADDRESS: <u>9 Florence St., Bradford, Pa.</u>	<u>11 3/4"</u>	<u>48'</u>	<u>48'</u>	
FARM <u>Green Glen Corp.</u> ACRES <u>735</u>	<u>8 5/8"</u>	<u>1050'</u>	<u>1050'</u>	
WELL (FAIR) NO. <u>1</u> CO. SERIAL NO. <u>---</u>	<u>5 1/2"</u>	<u>7182'</u>	<u>7182'</u>	
ELEVATION: <u>1700'</u> LEASE: <u>---</u>				
TOWNSHIP: <u>RUSSON</u> COUNTY: <u>Gleanfield</u>				
DRILLING COMMENCED: <u>5-14-59</u> DRILLING COMPLETED: <u>5-31-59</u>				
PRODUCTION: <u>45,000 MCF</u>				PERFORATIONS AT:
ROCK PRESSURE: <u>3900</u> psig <u>24</u> hrs				
WELL TREATMENT: (Shooting, Acidizing, Fracturing Etc.)				
Cementing Data (Size Pipe, Depth, No. Bags, Date)				
	<u>11 3/4"</u>	<u>- 48'</u>	<u>- 40 SAG</u>	
	<u>8 5/8"</u>	<u>- 1050'</u>	<u>- 250 SAG</u>	
RESULTS AFTER TREATMENT:	<u>5 1/2"</u>	<u>- 7182'</u>	<u>- 100 SAG</u>	
ROCK PRESSURE AFTER TREATMENT:				

REMARKS:

FORMATION	TOP	BOTTOM	GAS AT	OIL AT	WATER AT (Fresh or Salt Water)	REMARKS
Shale	-0-	48			Fresh	
Sand	48	134				
Coal	134	135 1/2				
Sandy Lime	135 1/2	284				
Coal	284	288				
Lime	288	320				
Lime, Sandy	320	500				
Lime	500	560				
Lime, Sandy	560	705				
Sand	705	840				
Red Rock	840	860				
Lime, Sandy	860	1050				
Lime & Shale	1050	1135				
Lime & Red Rock	1135	1545				

(over)

FORMATION	TOP	BOTTOM	GAS AT	OIL AT	WATER AT (Fresh or Salt Water)	REMARKS
Shale & Lime	1545	2160				
Shale & Lime	2160	2615				
Sand	2615	2640	show			
Shale, Lime streaks	2640	3095				
Shale	3095	3805				
Shale, Lime streaks	3805	4258				
Lime & Shale	4258	4470				
Sandy Lime	4470	4672				
Shale & Lime	4672	5389				
Shale	5389	6590				
Lime, Tully	6590	6697				
Shale	6697	7172				
Lime, Onadaga	7172	7184				
Chert	7184	7232				
Sand, Oriskany	7232	7236	7232			
Total Depth	7236					

RECEIVED
DIVISION OF
WATER RESOURCES
JUN 13 AM 7:29

Date June 15, 1959

APPROVED E. Winter, Owner

By _____
(Title)

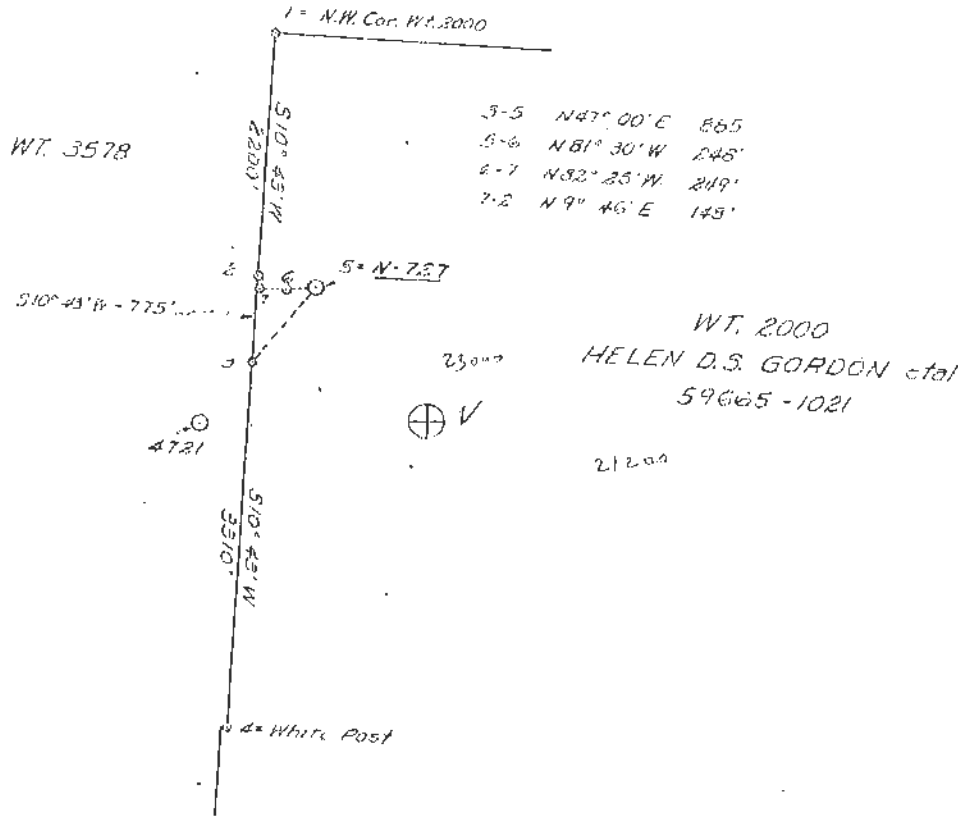
DM-OG-2-56

District CENTRAL Map 88-16W EX S 56 EX W 108
Loc. Made 6-2-59 Bk. 1840 Pg. 56-7 El. Bk. 1840 Pg. 58

Approved _____ Date June 3, 1959

Latitude 41° 15'

Longitude 78° 30'



New Location ☒
Drill Deeper ☐
Abandonment ☐
Re-drill ☐

Company NEW YORK STATE NATURAL GAS CORPORATION
Address 2 Gateway Center, Pittsburgh 22, Pa.
Farm Helen D. S. Gordon, #11
Tract -- Acres 1021 Lease No. 59665
Well (Farm) No. 11 Co. Serial No. N-727
Angle of Deviation, if any ---
Elevation 1593.07 Quadrangle Penfield "C"
County Clearfield Township Huston
Engineer R. A. Doman
Engineer's Registration No. 14016
File No. --- Drawing No. ---
Date June 3, 1959 Scale 1" = 1320'

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF MINES

Oil and Gas Division
HARRISBURG

WELL LOCATION MAP

Dept. File No. 612-236

⊕ Denotes Values of Well on United States Topographic Maps.

Scale 15' ☒ 7 1/2' ☐

WORKABLE COAL SEAMS TO BE PENETRATED

Name of Seam Owner of Seam

Lower Kittanning A. H. Reitz et al

JUN 23 1959

2

UIC Mailbox@epa.gov

23,000' from N
20,900 from E

Geol. Name	Thick-ness	From	To	Geol. Name	Thick-ness	From	To
JUN 5 1959							
III 10 1959							
Tully		6498		9 5/8" casing @ 1091			
Onondaga		7085		7" " / @ 7102			
chert	46	7101					
Oriskany		7147					
I.D.			7164				
7000 Mcf gas est							
R.P. 3435 1/19 hrs							
Completed 7-11-59							

DM-OG-4-56

7.750' S 41° 12' 30"
9.200' W 78° 32' 30" (5)

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF MINES

Oil and Gas Division
HARRISBURG

033-20236

QUADRANGLE: Penfield 40W☒ 7 1/2' ☒ 15'PERMIT NO. OTF #236MAP REFERENCE: S3 16W 856 - W108PUNXY-DRIFTWOOD; ROCKTON POOL.

WELL RECORD

KIND OF WELL: Gas
(Oil, Gas, Other)

COMPANY: <u>New York State Natural Gas Corporation</u>	Size of Casing and Tubing	Used in Drilling	Left in Well	Packers: Type, Size and Depth
ADDRESS: <u>#2 Gateway Center, Pittsburgh 22, Pa.</u>	<u>13-3/8"</u>	<u>30'</u>	<u>30'</u>	
FARM <u>Helen D. S. Gordon</u> ACRES <u>1021</u>	<u>9-5/8"</u>	<u>1090'</u>	<u>1090'</u>	<u>BHS @ 1091'</u>
WELL(FARM)NO. <u>#11</u> CO. SERIAL NO. <u>N-727</u>	<u>7"</u>	<u>7175'</u>	<u>7175'</u>	<u>BHS @ 7102'</u>
ELEVATION: <u>1592.07</u> LEASE: <u>59665</u>				
TOWNSHIP: <u>Huston</u> COUNTY: <u>Clearfield</u>				
DRILLING COMMENCED: <u>6-20-59</u> DRILLING COMPLETED: <u>7-8-59</u>				
PRODUCTION: <u>Calc. 61,000,000 cubic feet</u>				PERFORATIONS AT:
ROCK PRESSURE: <u>3490</u> psig <u>47</u> hrs.				
WELL TREATMENT: (Shooting, Acidizing, Fracturing Etc.)				
	CEMENTING DATA: (Size Pipe, Depth, No. Bags, Date)			
	<u>6-29-59 - 9-5/8" cem. @ 1091' w/30 sacks cement & 15 sacks of equal</u>			
	<u>7-7-59 - 7" cem. @ 7102' w/125 sacks.</u>			
RESULTS AFTER TREATMENT:				
ROCK PRESSURE AFTER TREATMENT:				
REMARKS:				

FORMATION	TOP	BOTTOM	GAS AT	OIL AT	WATER AT (Fresh or Salt Water)	REMARKS
Sandstone	0	170			FW-95	
Sand & shale	170	310				
Coal	310	315				
Sand & shale	315	558				
Sand	558	605				
Sandstone	605	805				
Sandy shale	805	1330				
Red rock	1330	1375				
Sand & shale	1375	1425				
Red rock	1425	1620				
Sandy shale	1620	5605				
Shale	5980	6498				
Shale (Tully)	6498	6602				
ls	6602	7085				
sdaga	7085	7101				
lert	7101	7147				

(Over)

FORMATION	TOP	BOTTOM	GAS AT	OIL AT	WATER AT (Fresh or Salt Water)	REMARKS
Sand	7147		7148-55			
Total Depth		7164 (Still in Sand)				
<u>Sample Study</u>						
Tully	6498					
Onondaga	7085					
Chert	7101					
Oriskany	7147		7148-55			

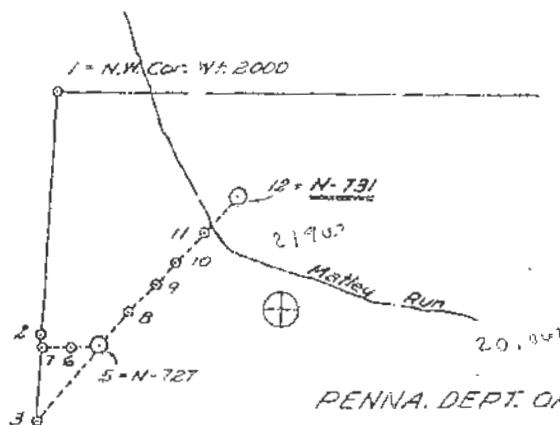
DATE August 17, 19 59

APPROVED New York State Natural Gas Corporation OWNER

BY D. K. Barger
TITLE Superintendent Operations

WM-OG-2-56

District CENTRAL Map 85-16 N S-56 W N108
 Loc. Made 7-27-59 Bk. 1897 Pg. 8 El. Bk. 1897 Pg. 8
 Approved J. H. Hendrickson Date July 28, 1959

Latitude 41° 15'Longitude 78° 30'

PENNA. DEPT. OF FOR & WAT.
 SURF.
 HELEN D.S. GORDON Etal
 Oil & Gas
 59665-1021
 WT. 2000

STA.	BKG.	DIST.	STA.	BKG.	DIST.
1-2	S10° 43' W	2200'	5-8	N49° 30' E	379'
2-3	" "	775'	8-9	N49° 38' E	343'
3-4	" "	9310'	9-10	N49° 34' E	261'
3-5	N47° 00' E	885'	10-11	N49° 30' E	363'
5-6	N81° 30' W	248'	11-12	" "	454'
6-7	N82° 25' W	249'			
7-2	N4° 46' E	148'			

4 = White Post →

- ☒ New Location
☐ Drill Deeper
☐ Abandonment
☐ Re-drill

Company New York State Natural Gas Corporation
 Address 2 Gateway Center, Pittsburgh 22, Pa.
 Farm Helen D. S. Gordon
 Tract --- Acres 1021 Lease No. 59665
 Well (Farm) No. 512 Co. Serial No. N-731
 Angle of Deviation, if any ---
 Elevation 1456.93 Quadrangle Penfield "C"
 County Clearfield Township Muston
 Engineer R. A. Dorman
 Engineer's Registration No. 14016
 File No. --- Drawing No. ---
 Date July 28, 1959 Scale 1" = 1320'

COMMONWEALTH OF PENNSYLVANIA
 DEPARTMENT OF MINES

Oil and Gas Division
 HARRISBURG

WELL LOCATION MAP
 Dept. File No. GLE-245

⊕ Denotes Values of Well on United States Topographic Maps.

Scale 15' ☒ 7 1/2' ☐

WORKABLE COAL SEAMS TO BE PENETRATED

Name of Seam	Owner of Seam
Lower Kittanning	A. H. Reitz, et al

AUG 11 1959

21

RD CLE-245 Pen
033-20245
RB UIC Mailbox@epa.gov

21,600' from N.
29,000' from E

Geol. Name	Thick-ness	From	To	Geol. Name	Thick-ness	From	To
JUL 31 1953							
AUG 7 1953							
Tully		6370		7" casing @ 6976			
Orondaga		6959					
Chert	42	6975					
Oriskany	11	7018	7049				
T.D			7050				
17,000 Mcf gas BF							
R.P 2260 # 57 hrs							
Will not frac							
Completed 9-4-59							

DM-OG-4-56

6,250' S 41° 12' 30"

7,850' W 78° 32' 30" (S)

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF MINESOil and Gas Division
HARRISBURG

083-20245

QUADRANGLE: Penfield ☒ 7 1/2' ☐ 15'PERMIT NO. 083-20245MAP REFERENCE: 8S 16W S56 - W108PUNXY-DRIFTWOOD; ROCKTON POOL

WELL RECORD

KIND OF WELL: Gas
(Oil, Gas, Other)

COMPANY: <u>New York State Natural Gas Corporation</u>	Size of Casing and Tubing	Used in Drilling	Loft in Well	Packers: Type, Size and Depth
ADDRESS: <u>#2 Gateway Center, Pittsburgh 22, Pa.</u>	<u>13-3/8"</u>	<u>26</u>	<u>26</u>	
FARM <u>Helen D. S. Gordon</u> ACRES	<u>9-5/8"</u>	<u>996</u>	<u>996</u>	<u>BHS @ 1003</u>
WELL(FARM)NO. <u>12</u> CO. SERIAL NO. <u>N-731</u>	<u>7"</u>	<u>7037</u>	<u>7037</u>	<u>BHS @ 6979</u>
ELEVATION: <u>1456.93</u> LEASE: <u>59665</u>				
TOWNSHIP: <u>Hutton</u> COUNTY: <u>Clearfield</u>				
DRILLING COMMENCED: <u>8-15-59</u> DRILLING COMPLETED: <u>9-4-59</u>				
PRODUCTION: <u>17,500,000 cubic feet</u>				PERFORATIONS AT:
ROCK PRESSURE: <u>2260</u> psig <u>57</u> hrs.				
WELL TREATMENT: (Shooting, Acidizing, Fracturing Etc.)				
	CEMENTING DATA: (Size Pipe, Depth, No. Bags, Date)			
	<u>8-2-59 - 13-3/8" cem. @ 26' w/35 sax cem.</u>			
	<u>8-19-59 - 9-5/8" cem. @ 1003 w/50 sax cem. & 15 sacks aquagel</u>			
RESULTS AFTER TREATMENT:	<u>9-1-59 = 7" cem. @ 6979 w/125 sax</u>			
ROCK PRESSURE AFTER TREATMENT:				

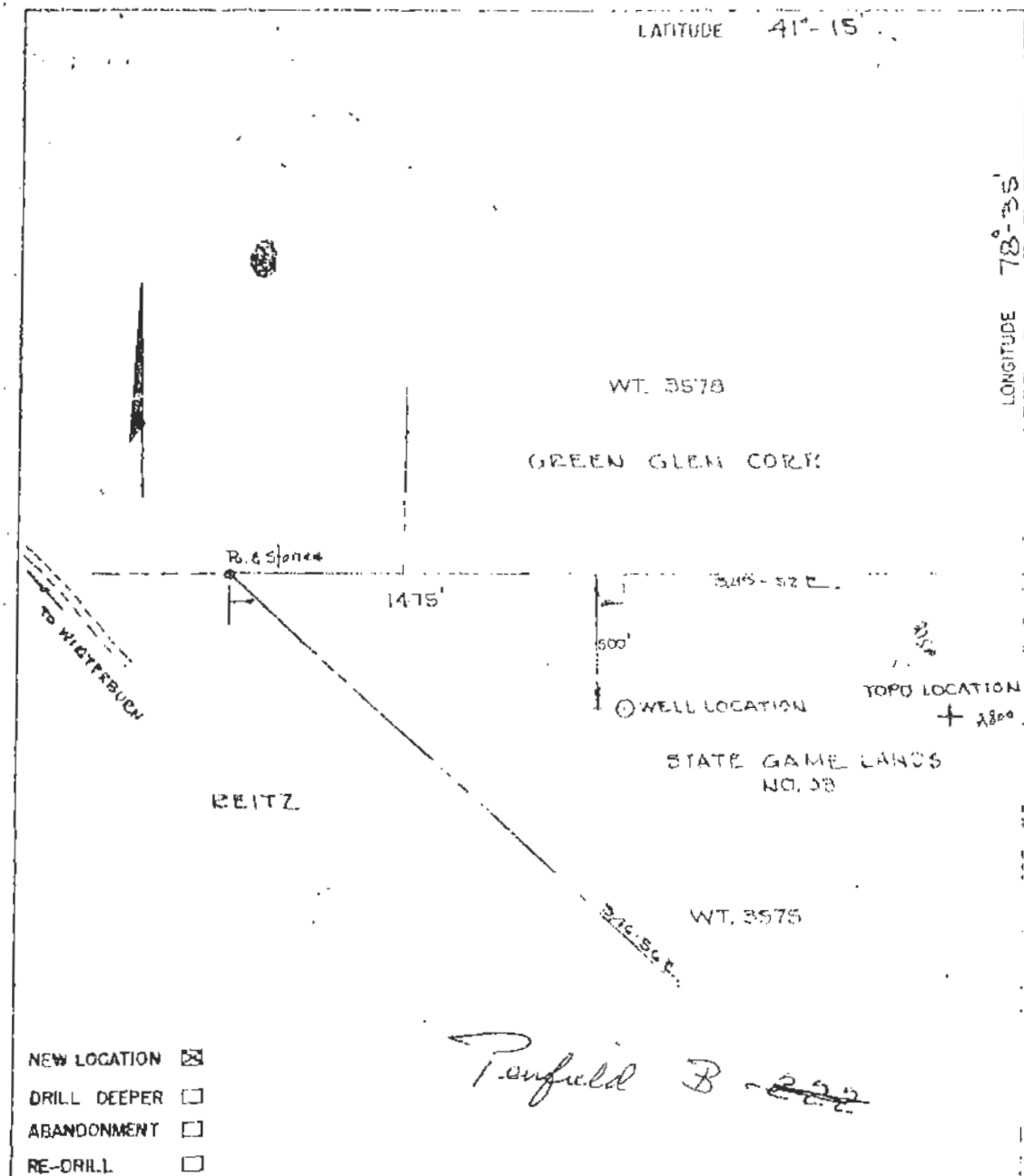
REMARKS:

FORMATION	TOP	BOTTOM	GAS AT	OIL AT	WATER AT (Fresh or Salt Water)	REMARKS
Sandstone	0	58			FW 60	
Coal	58	60				per sample study
Coal & sand	60	130				
Coal	130	133				per sample study
Sand	133	417				
Shale & sand	417	502				
Red Rock	502	515				
Sand & Shale	515	940				
Shale	940	1140				
Red Rock	1140	1160				
Shale	1160	1180				
Red Rock	1180	1240				
Shale	1240	1270				
Rock	1270	1300				
le	1300	1400				
Rock	1400	1480				

(Over)

FORMATION	TOP	BOTTOM	GAS AT	OIL AT	WATER AT (Fresh or Salt Water)	REMARKS
and & shale	1480	1791				
sand, shale & shells	1791	4986				
Shale & shells	4986	5845				
Shale	5845	6360				
Tully lime	6360	6470				
Shale	6470	6939				
Onondaga	6939	6955				
Chert	6955	7018				
Sand	7018	7049	7020-32			
Lime	7049					
Total Depth		7050				
<u>Sample Study</u>						
Tully	6370					
Onondaga	6959					
Chert	6975					
Oriskany	7018	7049	7020-32			

DATE December 23, 19 59APPROVED New York State Natural Gas Corporation OWNERBY H. R. Barger TITLE
Superintendent Operations



COMPANY FAIRMAN DRILLING CO.
ADDRESS HAMMERSLEY FORK PA.
FARM PA. GAME LANDS NO. 93
TRACT 93 ACRES LEASE NO.
WELL (FARM) NO. 1 CO. SERIAL NO.
ANGLE OF DEVIATION, IF ANY
ELEVATION 1655.71 QUADRANGLE PENFIELD
COUNTY CLEARFIELD TOWNSHIP HUSTON
ENGINEER *William J. Smith*
ENGINEER'S REGISTRATION NO. 1261-E
FILE NO. L-1271 DRAWING NO.
DATE Oct 5, 1953 SCALE 1" = 500'

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF MINES
OIL AND GAS DIVISION
HARRISBURG
WELL LOCATION MAP
DEPT. FILE NO. 033-20260-P
⊕ DENOTES VALUES OF WELL ON UNITED STATES TOPOGRAPHIC MAPS
SCALE 15' ☒ 7.5' ☐
POSSIBLE WORKABLE COAL SEAMS TO BE PENETRATED
NAME OF SEAM OWNER OF SEAM
ALL LOWE
PRODUCTIVE

12,106° S 41° 12' 30"
2,650° W 78° 35' 00" (4)

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF MINES AND MINERAL INDUSTRIES
OIL AND GAS DIVISION

083-20260-P

QUADRANGLE: Panfield ☒ 7' ☒ 15'

PERMIT NO. GLE - 260

MAP REFERENCE:

PUNNY-DRAFTWOOD, ROCKTON P.O.

WELL RECORD

KIND OF WELL: Gas
(Oil, Gas, Other)

COMPANY: <u>Fairman Drilling Company</u>	Size of Casing and Tubing	Used in Drilling	Left in Well	Packer: Type, Size and Depth
ADDRESS: <u>Hammersley Fork, Penna.</u>	13 3/8"	32'	32'	
FARM: <u>State Game Lands #93</u> ACRES: <u>2200</u>	9 5/8"	1,048'	1,048'	Shoe
WELL (FARM) NO. <u>1</u> CO. SERIAL NO. <u>--</u>	5 1/2"	7,257'	7,257'	Shoe
ELEVATION: <u>1,656</u> LEASE: <u>Baker Run Reserve</u>				
TOWNSHIP: <u>Houston</u> COUNTY: <u>Clearfield</u>				
DRILLING COMMENCED: <u>10-18-59</u> DRILLING COMPLETED: <u>11-7-59</u>				
PRODUCTION: <u>2,000,000 cu. ft.</u>				PERFORATIONS AT:
ROCK PRESSURE: <u>1,640</u> psig <u>72</u> hrs				
WELL TREATMENT: (Shooting, Acidizing, Fracturing Etc.) <u>Well hydraulfractured with 20,000 lb. sand and 20,000 gallons of gel.</u>				
Breakdown pressure - <u>4,500 P. S. I.</u>	CEMENTING DATA (Size Pipe, Depth, No. Bags, Date)			
	13 3/8" - 32' - 20 sks. - 10/19/59			
	9 5/8" - 1,048' - 100 sks. 10/21/59			
RESULTS AFTER TREATMENT: <u>2,000,000 cu. ft.</u>	5 1/2" - 7,257' - 100 sks. - 11/5/59			
ROCK PRESSURE AFTER TREATMENT: <u>1,640</u>				

REMARKS:

Well made same after frac as before frac.

FORMATION	TOP	BOTTOM	GAS AT	OIL AT	WATER AT (Fresh or Salt Water)	REMARKS
Surface shale	0	42				
Shale	42	150				
Shale with Sand	150	370			150	
Shale	370	570				
Shale and Sand	570	715				
Sand and Shale	715	850				
Sand and Red Rock	850	989				
Sandy Shale	989	1048				
Shale and Sand	1048	1105				
Shale	1105	1330				
Red Rock and Sand	1330	1710				
Sandy Shale--Red Rock	1710	2055				
Sand and Shale	2055	2425				
Sand and Shale	2425	2745				
Shale and Sandy Shale	2745	3075				
Shale	3075	3405				

(Over)

FORMATION	TOP	BOTTOM	GAS AT	OIL AT	WATER AT (Fresh or Salt Water)	REMARKS
Sand & Lime	3405	3805				
Sandy Shale	3805	4140				
Shale	4140	4450				
Sandy Shale	4450	4738				
Sandy Shale	4738	5075				
Shale	5075	5385				
Shale with Shells	5385	5730				
Slate with Shells	5730	5985				
Shale and Shells	5985	6160				
Shale	6160	6365				
Shale with Shells	6365	6550				
Brown Shale & Lime	6550	6648				
Lime (Gully)	6648	6759				
Shale	6759	7242				
Lime (Onondaga)	7242	7256				
Chert	7256	7304				
Sand (Criskany)	7304	7321	7305 -			
Total Depth	7321		7310			

Date Nov 27, 1957
 APPROVED Fairman Drilling Co., Owner
Roy R. Fairman, Partner
 (Title)

D.MI-CG-9-56

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF MINES AND MINERAL INDUSTRIES
OIL AND GAS DIVISION

CERTIFICATE OF PLUGGING WELL THROUGH WORKABLE COAL SEAMS

A. H. Reitz
Coal Operator or Owner
17 North High Street
Du Bois, Pa.
Address

Coal Operator or Owner

Address

Coal Operator or Owner

Wm. Jack Burns

Address

Fairman Drilling Co.
Name of Well Operator

Punxsutawney, Pa.
Address

September 9, 1960
Date

Huston Township

Clearfield County

Farm Penna. Game Land #93

Well (Farm) No. 1 Serial No.

Division Representative Supervising

None present
Coal Representative Observing

We, the undersigned representatives of the well operator certify that we participated in the plugging of the above well, and that the work was started August 17 1960, and that the well was plugged as follows:

Filling Material and Plugs	From	To	Casing and Tubing		
			Size	Pulled	Left
Baker bridge plug		6950	5 1/2" O.D.	6215	1043
5 bags cement	6908	6950	9 5/8" O.D.	650	398
wood plug		1135	13 3/8" O.D.		30
			2 3/8" O.D.		1170
stone and mud	1120	1135	Depth of Coal Seams		
			No coal		
20 bags cement	1068	1120			
stone	1038	1068	Description of Monument		
			170' 2 3/8" O.D. pipe		
170' 2 3/8" pipe with bell nipple			5' above ground		
stone and mud	160	170			
15 bags cement	140	160	with 2" inverted		
drill cuttings	4	140			
3 bags cement	0	4	tee		

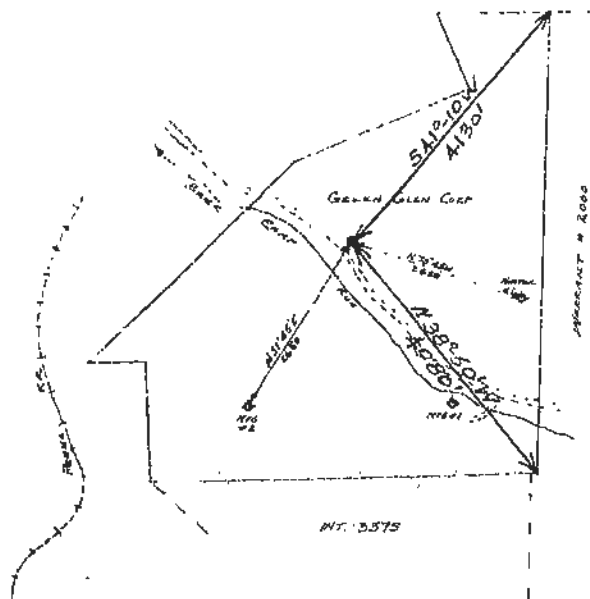
and that the work of plugging and filling said well was completed on the 27th day of August, 1960.

Qualified Participants Paul Fairman

Permit No. 083-20260-P
016-250-F

Fairman Drilling Co.
Well Operator Paul Fairman

One copy of this certificate to be mailed to each coal operator or owner, and one to the Division, by registered mail, upon completion of plugging.



23600

1200

New Location ☒Drill Deeper ☐Abandonment ☐Re-drill ☐455
025Company GREEN GLEN CORP.Address BERDORD, PENNAFarm GREEN GLEN CORPTract _____ Acres 3400 Lease No. _____Well(Farm) No. 4 Co. Serial No. _____

Angle of Deviation, if any _____

Elevation 1350 Topo. Quadrangle PENFIELD (B)County CLEARFIELD Township HUSTONEngineer Carl V. Lovell E.S.Engineer's Registration No. 29-E

File No. _____ Drawing No. _____

Date Nov. 2 1959 Scale 1" = 2000'COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF MINESOil and Gas Division
HARRISBURG

WELL LOCATION MAP

Dept. File No. CLE-263037-20262⊕ Denotes Values of Well on United
States Topographic Maps.Scale 15' ☒ 7 1/2' ☐

WORKABLE COAL SEAMS TO BE PENETRATED

Name of Seam Owner of Seam

All coal

A.H. Hertz

NOV 10 1959

8,250' S 41° 12' 30"
1,075' W 78° 35' 00"

DEPARTMENT OF MINES AND MINERAL INDUSTRIES

OIL AND GAS DIVISION

(4)

033-20243

QUADRANGLE: Penfield ☒ 7 1/2' ☒ 15'PERMIT NO. CLE-263MAP REFERENCE: B-23, 400' N 1,100' EKIND OF WELL: Gas
(Oil, Gas, Other)PUNKY-DRIFTWOOD; ROCKTON POOL WELL RECORD

COMPANY: <u>Lee E. Minter</u>	Size of Casing and Tubing	Used in Drilling	Left in Well	Packers: Type, Size and Depth
ADDRESS: <u>9 Florence St. Bradford, Pa.</u>				
FARM <u>Green Glen Corp.</u> ACRES <u>735</u>	<u>11 3/4"</u>		<u>41'</u>	
WELL (FARM) NO. <u>4</u> CO. SERIAL NO. _____	<u>8 5/8"</u>		<u>850'</u>	
ELEVATION: <u>1378'</u> LEASE: _____	<u>5 1/2"</u>		<u>7,015'</u>	
TOWNSHIP: <u>Huston</u> COUNTY: <u>Clearfield</u>				
DRILLING COMMENCED: <u>11/14/59</u> COMPLETED: <u>11/30/59</u>				
PRODUCTION: <u>371,000 CF</u>				PERFORATIONS AT:
ROCK PRESSURE: <u>1,000</u> psig <u>10</u> hrs				
WELL TREATMENT: (Shooting, Acidizing, Fracturing Etc.) <u>Hydrofrac</u>				
	CEMENTING DATA (Size Pipe, Depth, No. Bags, Date)			
	<u>11/14/59</u>	<u>11 3/4"</u>	<u>30</u>	<u>bags</u>
	<u>11/17/59</u>	<u>8 5/8"</u>	<u>250</u>	<u>bags</u>
RESULTS AFTER TREATMENT: <u>2,050,000 CF</u>	<u>11/28/59</u>	<u>5 1/2"</u>	<u>75</u>	<u>bags</u>
ROCK PRESSURE AFTER TREATMENT: <u>1,500 #</u>				

REMARKS:

FORMATION	TOP	BOTTOM	GAS AT	OIL AT	WATER AT (Fresh or Salt Water)	REMARKS
Shale	41	78				
Water sand	78	90				
Shells & lime	90	225				
Coal	225	228				
Shales	228	367				
Sand	367	418				
Coal	418	423				
Sand	423	640				
Red Rock	640	680				
Sand & shale	680	850				
Lime & shale	850	1,275				
Red Rock	1,275	1,460				
Lime & shale streaks	1,460	2,525				
Sandy lime & shale	2,525	3,550				
me & shale streaks	3,550	4,195				

(over)

FORMATION	TOP	BOTTOM	GAS AT	OIL AT	WATER AT (Fresh or Salt Water)	REMARKS
Sandy lime	4,195	5,185				
Shale & lime streaks	5,185	5,559				
Shale	5,559	6,398				
Tully lime	6,398	6,503				
Shale	6,503	6,998				
Onondaga Lime	6,998	7,013				
Chert	7,013	7,015	7,015			
Chert	7,015	7,067				
Oriskany Sand	7,067	7,081				

Date December 21, 1959

APPROVED Lee E. Minter, Owner

By Lee E. Minter
(Title)



GEO COPY

OIL AND GAS MANAGEMENT PROGRAM

WELL LOCATION PLAT

DEP	Auth ID #	C-579136
USE	Permit #	37-033-25720-000
ONLY	Project #	

ral

Denotes location of well on topo map.

True Latitude: NORTH

41° 11' 09.09"

True Longitude: WEST

78° 34' 59.66"

Well is located on topo map 8,188 feet south of latitude 41° 12' 30"



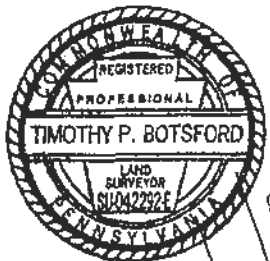
HENRY DEIBLE

T.MUNN

C.MUNN

NRI DuBOIS, LLC.

BARK CAMP

GEORGE ANDERSON
ROBERT SPADE

SCOTT GNAN

CHERRY
TIMBER
ASSOC.EXISTING
WELL
P.N.20263N77°29'E
1149.1'PROPOSED
WELLEXISTING
WELL
P.N.20228John Poylik
(surface only)

4987.9'

4988.5'

N44°57'E

S89°01'E

4950.8'

N16°12'N

COMMONWEALTH OF PENNSYLVANIA

Well is located on topo map 11,442 feet west of longitude 78° 32' 30"

DEP SOUTHWEST
REGIONAL OFFICE

2005 JAN 18 AM 10:10

COMMONWEALTH OF PENNSYLVANIA

Surveyor or Engineer	Phone #	Dwg. #	Date	Scale:	Tract Acreage
TIMOTHY P. BOTSFORD	724-349-5659	M-1068	12-28-04	1" = 1000'	620±
Lat & Long Meridians	Accuracy	ft. Datum	Elevation Meridians	Accuracy	ft. Datum
Method Direct GPS	3	NAD 27	Method Direct GPS	10	NGVD 29
Applicant / Well Operator Name	MID EAST OIL		Well(Farm) Name	CHAGRIN	Well #
Address	P.O. BOX 1378 INDIANA, PA. 15701		County	CLEARFIELD	Municipality
Surface Landowner	NRI DuBOIS, LLC.		USGS 7 1/2 Quadrangle Map Name	PENFIELD	Map Section
Surface Lessor			Angle & Course of Deviation (Drilling)	0°	Surface Elevation
Surface Owner or Water Purveyor with a Water Supply within 1,000 ft.	Approximate Course and Distance to Water Supply		Owner, Lessee, or Operator of Workable Coal Seam	Name of Coal Seam Owned, Leased, or Operated	
NONE	Lower Kittanning Seam		NEW SHAWMUT MINING CO. INC.	ALL SEAMS	
			301 BRUSSELL ST.		
			St. MARYS, PA. 15857		

GOB (Bark Camp #1 & Bark Camp #2)



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 MAY 16 2005
 COMMONWEALTH OF PENNSYLVANIA
 DEPARTMENT OF ENVIRONMENTAL PROTECTION
 OIL AND GAS MANAGEMENT PROGRAM

DEP USE ONLY	
Site Id	Primary Facility Id
Client Id	Sub-facility Id

WELL RECORD AND COMPLETION REPORT

Well Operator MID-EAST OIL COMPANY		DEP ID# 87845	Well API # (Permit / Reg) 37-033-25720	Project Number	Acres 620±
Address PO Box 1378			Well Farm Name CHAGRIN	Well # BEL#1	Serial #
City Indiana	State PA	Zip Code 15701	County Clearfield	Municipality Huston Township	
Phone 724-349-6690	Fax 724-349-6711	USGS 7.5 min. quadrangle map Penfield			

Check all that apply: ☒ Original Well Record ☒ Original Completion Report ☐ Amended Well Record ☐ Amended Completion Report

WELL RECORD (Also complete Log of Completion on back page)

Well Type	☒ Gas ☐ Oil ☐ Combination Oil & Gas ☐ Injection ☐ Storage ☐ Disposal								
Drilling Method	☒ Rotary - Air ☐ Rotary - Mud ☐ Cable Tool								
Date Drilling Started 3/29/05	Date Drilling Completed 4/4/05	Surface Elevation 1645 ft.	Total Depth - Driller 3400 ft.	Total Depth - Logger 3406 ft.					
Casing and Tubing		Cement returned on surface casing? ☒ Yes ☐ No Cement returned on coal protective casing? ☒ Yes ☐ No ☐ N/A							
Hole Size	Pipe Size	Wt.	Thread / Weld	Amount in Well (ft)	Material Behind Pipe Type and Amount	Packer / Hardware / Centralizers Type	Size	Depth	Date Run
15 1/4	13 3/8	38	T	42	Sanded in with cuttings	none			3/29/05
12 1/4	9 5/8	26	T	485	75 sks Uniflow 100 sks Class A	Guide Shoe	9 5/8	485	3/30/05
8 7/8	7	17	T	930	180 sks Class A	Guide Shoe	7	930	3/31/05
6 1/4	4 1/2	9.5	T	3262	115 sks TD cement	Float Shoe	4 1/2	3262	4/4/05

COMPLETION REPORT

Perforation Record			Stimulation Record						
Date	Interval Perforated From	To	Date	Interval Treated	Fluid Type	Amount	Propping Agent Type	Amount	Average Injection
4/20/05	3142	3150	4/20/05	3rd Bradford	Water	19,051	Sand	26,000	26.3 BPM
4/20/05	3055	3060	4/20/05	2nd Bradford	Water	18,882	Sand	21,200	28.2 BPM
4/20/05	2986	3018	4/20/05	1st Bradford	Water	34,144	Sand	43,100	26.9 BPM
4/20/05	2996	2500	4/20/05	Tiona	Water	19,865	Sand	13,100	22.9 BPM
4/20/05	2432	2438	4/20/05	Warren	Water	10,101	Sand	56,000	18.9 BPM
4/20/05	2269	2292	4/20/05	Bayard	Water	28,689	Sand	100,000	27.9 BPM
Natural Open Flow Not taken			Natural Rock Pressure Not taken			Hours Days			
After Treatment Open Flow 110,000			After Treatment Rock Pressure 620			24 Hours Days			

Well Service Companies -- Provide the name, address, and phone number of all well service companies involved.

Name	Address	City - State - Zip	Phone
WHIPSTOCK NATURAL GAS SERVICE	1020 Franklin St.	Clymer, PA 15728	724-254-0500
UNIVERSAL WELL SERVICES, INC.	PO Box 305	Punxsutawney, PA 15767	814-938-2051
SUPERIOR WELL SERVICES	PO Box 458	Black Lick, PA 15718	724-248-1001

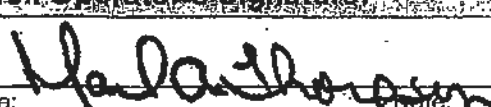
PENDING APPROVAL

LOG OF FORMATIONS

Well API#: 37-033-25720

Formation Name or Type	Top (feet)	Bottom (feet)	Gas at (feet)	Oil at (feet)	Water at (fresh / brine; ft.)	Source of Data
Fill	0	3				DRILLER'S LOG
Sand & Shale	3	19				
Sand	19	26				
Sand & Shale	26	35				
Sand	35	50				
Sand & Shale	50	95				
Sand	95	145				
Coal	145	147				
Sand & Shale	147	275			1" FW @	
Sand	275	300			240'	
Sand & Shale	300	310				
Sand	310	340				
Shale	340	355				
Sand	355	370				
Shale	370	390				
Sand & Shale	390	445				
Mine	445	450			Big water	
Shale	450	455				
Sand	455	500				
Shale	500	520			1/2" FW	
Sand & Shale	520	550				
Coal	550	555				
Sand & Shale	555	585				
Sand	585	670				
Shale & Coal	670	680				
Sand & Shale	680	690				
Sand	690	700				
Limestone	700	710				
Sand & Shale	710	720				
Shale	720	730				
Sand & Shale	730	740				
Red Rock	740	750				
Shale	750	760				
Sand & Red Rock	760	770				
Sand	770	860			1/2" FW @	
Red Rock, Sand & Shale	860	885			790' - 800'	
Sand	885	890				
Red Rock	890	900				
Sand & Red Rock	900	920				
Shale & Sand	920	1150				
Red Rock & Sand	1150	1160				
Sand & Shale	1160	1175				
Red Rock & Sand	1175	1190				
Sand & Shale	1190	1340				
Sand	1340	1400				

Please delete empty rows if necessary to make all of page 2 fit on one page.

Well Operator's Signature		DEP USE ONLY	
		Reviewed by:	Date:
Title: President		Comments:	

LOG OF FORMATIONS						
Pg. 3		Well API#: 37-033-25720				
Formation Name or Type	Top (feet)	Bottom (feet)	Gas at (feet)	Oil at (feet)	Water at (fresh / brine: ft.)	Source of Data
Shale & Red Rock	1400	1435				
Sand	1435	1450				
Shale & Sand	1450	1480				
Sand	1480	1500				
Sand & Shale	1500	1550				
Red Rock	1550	1570				
Shale & Red Rock	1570	1590				
Red Rock	1590	1640				
Sand & Shale	1640	1800				
Red Rock	1800	1815				
Sand & Red Rock	1815	1830				
Shale	1830	1840				
Sand	1840	1855				
Shale	1855	1870				
Sand & Shale	1870	2190				
Red Rock & Sand	2190	2270				
Sand & Shale	2270	2340				
Red Rock & Sand	2340	2355				
Sand & Shale	2355	2445				
Red Rock & Sand	2445	2460				
Sand & Shale	2460	2490				
Red Rock	2490	2495				
Sand & Shale	2495	2820				
Shale	2820	2850				
Sand	2850	2855				
Shale	2855	2875				
Sand & Shale	2875	2935				
Sand	2935	2975				
Sand & Shale	2975	3050				
Sand	3050	3070				
Sand & Shale	3070	3400				

MAY 16 2005



WELL LOCATION PLAT

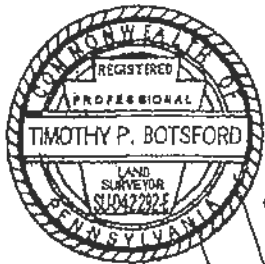
For assistance in accessing this document, please contact: R3_UIC_Mailbox@epa.gov

Well is located on topo map 7,864 feet south of latitude 41 12 30

Denotes location of well
on topo map.

True Latitude: NORTH
41 11 12.29

True Longitude: WEST
78 34 45.04

HENRY
DEIBLE

T.MUNN

C.MUNN

NRI DuBOIS, LLC.

BARK CAMP

EXISTING
WELL
P.N.20263PROPOSED
WELL#1PROPOSED
WELLEXISTING
WELL
P.N.20236EXISTING
WELL
P.N.20228John Povlik
(surface only)CHERRY
TIMBER
ASSOC.SCOTT
GNANGEORGE ANDERSON
ROBERT SPADE

JAN 27 2005

DLP

S89°01'E

N50°24'E

4950.8'

N4°24'N

COMMONWEALTH OF PENNSYLVANIA

Well is located on topo map 10,324 feet west of longitude 78° 32' 30"

COMMONWEALTH OF PENNSYLVANIA

Surveyor or Engineer TIMOTHY P. BOTSFORD	Phone # 724-349-5659	Dwg. # M-1069	Date: 12-28-04	Scale: 1" = 1000'	Tract Acreage 620±
Lat & Long Method Direct GPS	Accuracy 3	ft. Datum NAD 27	Elevation Method Direct GPS	Accuracy 10	ft. Datum NGVD 29
Survey Date 12-15-04	Well(Farm) Name CHAGRIN	Well # BEL#2	Serial #		
Applicant / Well Operator Name MID EAST OIL	County CLEARFIELD	Municipality HUSTON TWP.	Well Type GAS		
Address P.O. BOX 1378, INDIANA, PA. 15701	USGS 7 1/2 Quadrangle Map Name PENFIELD	Map Section 5			
Surface Landowner NRI DuBOIS, LLC.	Angle & Course of Deviation (Drilling) 0°	Surface Elevation 1670 ft.	Anticipated Total Depth 5000 ft.		
Surface Lessee					
Surface Owner or Water Purveyor with a Water Supply within 1,000 ft.	Approximate Course and Distance to Water Supply	Owner, Lessee, or Operator of Workable Coal Seam NEW SHAWMUT MINING CO. INC. 301 BRUSSELL ST. ST. MARYS, PA. 15857	Name of Coal Seam Owned, Leased, or Operated ALL SEAMS		
NONE					

GOS Lower Kistanning Seam



APR 25 2006

DEPARTMENT OF ENVIRONMENTAL PROTECTION
OIL AND GAS MANAGEMENT PROGRAM

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Client Id	Primary Facility Id

WELL RECORD AND COMPLETION REPORT

Well Operator MID-EAST OIL COMPANY		DEP ID# 87845	Well API # (Permit / Reg) 37-033-25738	Project Number	Acres 620±
Address PO Box 1378			Well Farm Name CHAGRIN	Well # BEL#2	Serial #
City Indiana	State PA	Zip Code 15701	County Clearfield	Municipality Huston Township	
Phone 724-349-6690	Fax 724-349-6711	USGS 7.5 min. quadrangle map Penfield			
Check all that apply: ☒ Original Well Record ☒ Original Completion Report ☐ Amended Well Record ☐ Amended Completion Report					

WELL RECORD

Well Type	☒ Gas ☐ Oil ☐ Combination Oil & Gas ☐ Injection ☐ Storage ☐ Disposal						
Drilling Method	☒ Rotary - Air ☐ Rotary - Mud ☐ Cable Tool						
Date Drilling Started 2/15/05	Date Drilling Completed 2/23/05	Surface Elevation 1670 ft.	Total Depth - Driller 5005 ft.	Total Depth - Logger 5012 ft.			
Casing and Tubing		Cement returned on surface casing? ☒ Yes ☐ No Cement returned on coal protective casing? ☒ Yes ☐ No ☐ N/A					
Hole Size	Pipe Size	Wt.	Thread / Weld	Amount in Well (ft)	Material Behind Pipe Type and Amount	Packer / Hardware / Centralizers Type Size Depth	Date Run
15 1/4	13 3/8	37	T	31	Sanded in with cuttings	None	2/16/05
12 1/4	9 5/8	26	T	479	50 sks Class A Bottom 60 sks Class A Top	Basket 9 5/8 400	2/17/05
8 7/8	7	20	T	1063	200 sks Class A 3% Gal	Guide Shoe 7 1063	2/18/05
6 1/4	4 1/2	10.5	T	3295	125 sks UFL	Float Shoe 4 1/2 3295	2/24/05

COMPLETION REPORT

Perforation Record			Stimulation Record						
Date	Interval Perforated From	To	Date	Interval Treated	Fluid Type	Amount	Propping Agent Type	Amount	Average Injection
3/10/05	3130	3141	3/10/05	3rd Bradford	Water	16,869	Sand	26,100	27.6 BPM
3/10/05	3007	3060	3/10/05	2nd Bradford	Water	19,521	Sand	20,600	30.4 BPM
3/10/05	2969	2989	3/10/05	1st Bradford	Water	24,890	Sand	46,400	35.9 BPM
3/10/05	2563	2570	3/10/05	Tiona	Water	19,317	Sand	20,000	28.3 BPM

PENDING APPROVAL

Natural-Open Flow Not taken	Natural Rock Pressure Not taken	Hours	Days
After Treatment Open Flow 178,000	After Treatment Rock Pressure 890 PSI	24	Hours Days

Well Service Companies -- Provide the name, address, and phone number of all well service companies involved.

Name WHIPSTOCK NATURAL GAS SERVICE	Name UNIVERSAL WELL SERVICES, INC.	Name SUPERIOR WELL SERVICES
Address 1020 Franklin Street	Address PO Box 305	Address PO Box 458
City - State - Zip Clymer, PA 15716	City - State - Zip Punxsutawney, PA 15767	City - State - Zip Blacklick, PA 15716
Phone 724-254-0500	Phone 814-938-2051	Phone 724-248-1001

LOG OF FORMATIONS

Well API#: 37-033-25738

Formation Name or type	Top (feet)	Bottom (feet)	Base of (feet)	Oil UIC (feet)	Water (fresh / brine; ft.)	Source of Data
Fill	0	1				DRILLER'S LOG
Sand & Shale	1	10				
Sand	10	20				
Sand & Shale	20	25				
Sand	25	40				
Shale	40	50				
Sand & Shale	50	60				
Sand	60	70				
Shale	70	105				
Sand & Shale	105	190				
Shale & Coal	190	200				
Sand & Shale	200	250				
Shale & Coal	250	260				
Sand & Shale	260	275				
Coal	275	280				
Sand & Shale	280	330				
Coal & Shale	330	340				
Shale	340	350				
Sand & Shale	350	390				
Coal	390	400				
Sand & Shale	400	430			2" FW @425'	
Sand	430	442				
Mine	442	449			Full of water	
Sand	449	500				
Shale	500	580				
Sand	580	620			1/2" FW @ 600'	
Sand & Shale	620	700				
Sand	700	855				
Red Rock	855	870				
Sand & Red Rock	870	920				
Sand	920	955				
Sand & Shale	955	990				
Sand	990	1010				
Sand & Shale	1010	1150				
Red Rock	1150	1160				
Shale	1160	1400				
Red Rock	1400	1420				
Sand & Shale	1420	1450				
Red Rock	1450	1490				
Sand & Red Rock	1490	1550				
Sand & Shale	1550	1590				
Red rock	1590	1635				
Red Rock & Sand	1635	1750				
Sand & Shale	1750	1770				
Red Rock	1770	1820				
Sand & Shale	1820	1890				

Please delete empty rows if necessary to make all of page 2 fit on one page.

Well Operator's Signature:		DEP USE ONLY	
		Reviewed by:	Date:
Title: President	Date: 4/21/05	Comments:	

LOG OF FORMATIONS

Well API#: 37-033-25738

Pg. 3

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Formation Name or Type	Top (feet)	Bottom (feet)	Core (feet)	Oil (feet)	Water (feet) (fresh / brine; ft.)	Source of Data
Shale	1890	1910				
Shale	1910	2100				
Sand	2100	2140				
Sand & Shale	2140	2170				
Red Rock	2170	2180				
Shale & Red Rock	2180	2275				
Sand & Shale	2275	2600				
Shale	2600	2660				
Sand & Shale	2660	2700				
Shale	2700	2730				
Sand & Shale	2730	2820				
Shale	2820	2885				
Sand & Shale	2885	3030				
Shale	3030	3070				
Sand	3070	3180				
Sand & Shale	3180	3400				
Sand	3400	3420				
Sand & Shale	3420	3600				
Shale	3600	3700				
Sand	3700	3710				
Sand & Shale	3710	3775				
Sand	3775	3860				
Sand & Shale	3860	4085				
Sand	4085	4110				
Sand & Shale	4110	4350				
Shale	4350	4500				
Sand & Shale	4500	4560				
Sand	4560	4580				
Shale	4580	4770				
Sand	4770	4780				
Sand & Shale	4780	4850				
Shale	4850	5005				

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APR 25 2005

ELP
CONTINUED TO FORM 1000



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 DEPARTMENT OF ENVIRONMENTAL PROTECTION
 OIL AND GAS MANAGEMENT PROGRAM

APR 25 2005

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H-60062

DEP USE ONLY

Site Id	Primary Facility Id
Client Id	Sub-facility Id

WELL RECORD AND COMPLETION REPORT

Well Operator MID-EAST OIL COMPANY		DEP ID# 87845	Well API # (Permit / Reg) 37-033-25738	Project Number	Acres 620±
Address PO Box 1378			Well Farm Name CHAGRIN	Well # BEL#2	Serial #
City Indiana	State PA	Zip Code 15701	County Clearfield	Municipality Huston Township	
Phone 724-349-6690	Fax 724-349-6711	USGS 7.5 min. quadrangle map Penfield			

Check all that apply: ☒ Original Well Record ☒ Original Completion Report ☐ Amended Well Record ☐ Amended Completion Report

WELL RECORD Also complete location information on back (page 2)

Well Type	☒ Gas ☐ Oil ☐ Combination Oil & Gas ☐ Injection ☐ Storage ☐ Disposal								
Drilling Method	☒ Rotary - Air ☐ Rotary - Mud ☐ Cable Tool								
Date Drilling Started 2/15/05	Date Drilling Completed 2/23/05	Surface Elevation 1670 ft.	Total Depth - Driller 5005 ft.	Total Depth - Logger 5012 ft.					
Casing and Tubing		Cement returned on surface casing? ☒ Yes ☐ No Cement returned on coal protective casing? ☒ Yes ☐ No ☐ N/A							
Hole Size	Pipe Size	Wt.	Thread / Weld	Amount in Well (ft)	Material Behind Pipe Type and Amount	Packer / Hardware / Centralizers Type	Size	Depth	Date Run
15 1/4	13 3/8	37	T	31	Sanded in with cuttings	None			2/16/05
12 1/4	9 5/8	26	T	479	50 sks Class A Bottom	Basket	9 5/8	400	2/17/05
8 7/8	7	20	T	1063	200 sks Class A 3% Cal	Guide Shoe	7	1063	2/18/05
6 1/4	4 1/2	10.5	T	3295	125 sks UFL	Float Shoe	4 1/2	3295	2/24/05

COMPLETION REPORT

Perforation Record			Stimulation Record						
Date	Interval Perforated From	To	Date	Interval Treated	Fluid Type	Amount	Propping Agent Type	Amount	Average Injection
3/10/05	3130	3141	3/10/05	3rd Bradford	Water	16,869	Sand	26,100	27.6 BPM
3/10/05	3007	3060	3/10/05	2nd Bradford	Water	19,521	Sand	20,600	30.4 BPM
3/10/05	2969	2989	3/10/05	1st Bradford	Water	24,890	Sand	46,400	35.9 BPM
3/10/05	2563	2570	3/10/05	Tiona	Water	19,317	Sand	31,000	28.3 BPM
			AUG 24 2005						

Natural Open Flow Not taken	Natural Rock Pressure Not taken	Hours	Days
After Treatment Open Flow 178,000	After Treatment Rock Pressure 890 PSI	24	Hours Days

Well Service Companies -- Provide the name, address, and phone number of all well service companies involved.

Name WHIPSTOCK NATURAL GAS SERVICE	Name UNIVERSAL WELL SERVICES, INC.	Name SUPERIOR WELL SERVICES
Address 1020 Franklin Street	Address PO Box 305	Address PO Box 458
City - State - Zip Clymer, PA 15716	City - State - Zip Punxsutawney, PA 15767	City - State - Zip Blacklick, PA 15716
Phone 724-254-0500	Phone 814-938-2051	Phone 724-248-1001

AUG 29 2005

LOG OF FORMATIONS

Well API#: 37-033-25738

Pg. 3

Formation Name or Type	Top (feet)	Bottom (feet)	Gas at (feet)	Oil at (feet)	Water at (fresh / brine; ft.)	Source of Data
Shale	1890	1910				
Shale	1910	2100				
Sand	2100	2140				
Sand & Shale	2140	2170				
Red Rock	2170	2180				
Shale & Red Rock	2180	2275				
Sand & Shale	2275	2600				
Shale	2600	2660				
Sand & Shale	2660	2700				
Shale	2700	2730				
Sand & Shale	2730	2820				
Shale	2820	2885				
Sand & Shale	2885	3030				
Shale	3030	3070				
Sand	3070	3180				
Sand & Shale	3180	3400				
Sand	3400	3420				
Sand & Shale	3420	3600				
Shale	3600	3700				
Sand	3700	3710				
Sand & Shale	3710	3775				
Sand	3775	3860				
Sand & Shale	3860	4085				
Sand	4085	4110				
Sand & Shale	4110	4350				
Shale	4350	4500				
Sand & Shale	4500	4560				
Sand	4560	4580				
Shale	4580	4770				
Sand	4770	4780				
Sand & Shale	4780	4850				
Shale	4850	5005				

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APR 25 2005

AUG 24 2005

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OIL AND GAS MANAGEMENT PROGRAM

WELL LOCATION PLAT

DEP	Auth. ID: C-580111	G: <i>RS</i>
USE	Permit #: 87-033-25739-00	C: ral
ONLY	Project #	

Denotes location of well on topo map.

True Latitude: NORTH

41° 11' 24.39"

True Longitude: WEST

78° 35' 02.17"

Well is located on topo map 6,640 feet south of latitude 41° 12' 30"



GEORGE ANDERSON
ROBERT SPADE

SCOTT GNAN

CHERRY
TIMBER
ASSOC.

BARK CAMP

HENRY
DEIBLE

T. MUNN

C. MUNN

NRI DuBOIS, LLC.



COMMONWEALTH OF PENNSYLVANIA

Well is located on topo map 165 feet west of longitude 78° 35' 00"

Surveyor or Engineer	Phone #	Dwg. #	Date:	Scale:	Tract Acreage
TIMOTHY P. BOTSFORD	724-349-5659	M-1071	12-28-04	1" = 1000'	620±
Lat & Long Method	Accuracy	ft. Datum	Method	Accuracy	ft. Datum
Direct GPS	3	NAD 27	Direct GPS	10	NGVD 29
Applicant / Well Operator Name	MID EAST OIL		Well (Farm) Name	CHAGRIN	Serial #
Address		P.O. BOX 1378 INDIANA, PA. 15701		County	Municipality
				CLEARFIELD	HUSTON TWP.
Surface Landowner	NRI DuBOIS, LLC.		USGS 7 1/2 Quadrangle Map Name	PENFIELD	Map Section
				0917	4
Surface Lessee			Angle & Collage of Deviation (Drilling)	Surface Elevation	Anticipated Total Depth
				0°	1620 ft. / 5000 ft.
Surface Owner or Water Purveyor with a Water Supply within 1,000 ft.	Approximate Course and Distance to Water Supply	Owner, Lessee, or Operator of Workable Coal Seam		Name of Coal Seam Owned, Leased, or Operated	
NONE		NEW SHAWMUT MINING CO. INC.			
		301 BRUSSELL ST.		ALL SEAMS	
		ST. MARYS, PA. 15857			

GAS Lower Kittanning Seam



For assistance in accessing this information, please contact:

 COMMONWEALTH OF PENNSYLVANIA
 DEPARTMENT OF ENVIRONMENTAL PROTECTION
 OIL AND GAS MANAGEMENT PROGRAM

DEP USE ONLY

Agency Id	Primary Facility Id
Client Id	Sub-facility Id

WELL RECORD AND COMPLETION REPORT

Well Operator MID-EAST OIL COMPANY			DEP ID# 87845		Well API # (Permit / Reg) 37-033-25739		Project Number		Acres 620±		
Address PO Box 1378					Well Farm Name CHAGRIN			Well # BEL#4		Serial #	
City Indiana			State PA		Zip Code 15701		County Clearfield		Municipality Huston Township		
Phone 724-349-6690			Fax 724-349-6711		USGS 7.5 min. quadrangle map Penfield						

 Check all that apply: ☒ Original Well Record ☒ Original Completion Report ☐ Amended Well Record ☐ Amended Completion Report

WELL RECORD - Also complete Log and Completion Report on Log Form 20

Well Type		☒ Gas ☐ Oil ☐ Combination Oil & Gas ☐ Injection ☐ Storage ☐ Disposal									
Drilling Method		☒ Rotary - Air ☐ Rotary - Mud ☐ Cable Tool									
Date Drilling Started 2/24/05		Date Drilling Completed 2/28/05		Surface Elevation 1620 ft.		Total Depth - Driller 3400 ft.		Total Depth - Logger 3402 ft.			
Casing and Tubing						Cement returned on surface casing? ☒ Yes ☐ No					
						Cement returned on coal protective casing? ☐ Yes ☐ No ☐ N/A					
Hole Size	Pipe Size	Wt.	Thread / Weld	Amount in Well (ft)	Material Behind Pipe Type and Amount	Packer / Hardware / Centralizers Type	Size	Depth	Date Run		
15 1/4	13 3/8	37	T	32	Sanded in with cuttings	None			2/24/05		
8 7/8	7	20	T	1129	100 sks Class A 50 sks Super Tropic	Guide Shoe	7	1129	2/25/05		
6 1/4	4 1/2	9.5	T	3322	1.15 sks TD cement	Float Shoe	4 1/2	3322	2/28/05		

COMPLETION REPORT

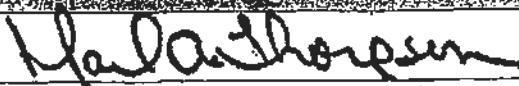
Perforation Record			Stimulation Record						
Date	Interval Perforated From To		Date	Interval Treated	Fluid Type Amount	Propping Agent Type Amount	Average Injection		
3/24/05	3174 3182		3/24/05	3rd Bradford	Water 15,690	Sand 22,800	33.2 BPM		
3/24/05	3095 3128		3/24/05	2nd Bradford	Water 16,707	Sand 17,700	29.9 BPM		
3/24/05	3018 3052		3/24/05	1st Bradford	Water 20,762	Sand 20,000	30.3 BPM		
3/24/05	2812 2854		3/24/05	Tiona	Water 13,510	Sand 14,700	27.5 BPM		
3/24/05	2598 2634		3/24/05	Warren	Water 29,323	Sand 40,000	23.0 BPM		
3/24/05	2294 2524		3/24/05	Bayard	Water 29,323	Sand 20,000	21.4 BPM		
Natural Open Flow Not taken			Natural Rock Pressure Not taken			Hours Days			
After Treatment Open Flow 1,060,000			After Treatment Rock Pressure 1040 PSI			24 Hours Days			
Well Service Companies -- Provide the name, address, and phone number of all well service companies involved.									
Name WHIPSTOCK NATURAL GAS SERVICE			Name SUPERIOR WELL SERVICES						
Address 1020 Franklin Street			Address PO Box 458						
City - State - Zip Clymer, PA 15716			City - State - Zip Blacklick, PA 15716						
Phone 724-254-0500			Phone 724-248-1001						

LOG OF FORMATIONS

Well API#: 37-033-25739

Formation Name or Type	Top (feet)	Bottom (feet)	Gas at (feet)	Oil at (feet)	Water at (fresh / brine; ft.)	Source of Data
Shale	0	10				DRILLER'S LOG
Sand	10	35				
Sand & Shale	35	205				
Coal & Shale	205	208			Damp @ 205'	
Sand & Shale	208	225				
Sand	225	260				
Sand & Shale	260	310				
Coal & Shale	310	315				
Sand	315	335				
Sand & Shale	335	360				
Coal & Shale	360	365				
Sand & Shale	365	375				
Coal & Shale	375	380				
Sand & Shale	380	418				
Coal & Shale	418	427				
Sand & Shale	427	480			1/2" FW @	
Coal	480	485			480'	
Sand & Shale	485	580			1/2" FW @	
Coal & Shale	580	590			580'	
Sand	590	665			1/2" FW @	
Sand & Shale	665	685			685'	
Coal & Shale	685	695				
Sand & Shale	695	710				
Sand	710	730				
Sand & Shale	730	930				
Sand	930	980				
Sand & Shale	980	990				
Shale	990	1015				
Sand	1015	1030				
Sand & Shale	1030	1220				
Shale	1220	1385				
Sand	1385	1395				
Shale	1395	1400				
Sand & Shale	1400	1435				
Red Rock	1435	1455				
Shale & Sand	1455	1485				
Shale	1485	1500				
Sand & Shale	1500	1560				
Sand	1560	1570				
Red Rock	1570	1580				
Shale & Red Rock	1580	1675				
Shale	1675	1720				
Red Rock & Shale	1720	1810				
Sand	1810	1825				
Shale	1825	1850				
Sand & Shale	1850	1860				

Please delete empty rows if necessary to make all of page 2 fit on one page.

Well Operator's Signature		DEP USE ONLY	
		Reviewed by:	Date:
		Comments:	
Title:	Date:		
President	4/21/05		

LOG OF FORMATIONS

Well API# 37-033-25739

Page 3

Formation Name or Type	Top (feet)	Bottom (feet)	Gas at (feet)	Oil at (feet)	Water at (fresh / brine; ft.)	Source of Data
Sand	1860	1880				
Sand & Shale	1880	2140				
Sand	2140	2150				
Shale	2150	2240				
Red Rock	2240	2255				
Shale	2255	2265				
Red Rock	2265	2280				
Shale	2280	2310				
Sand	2310	2325				
Shale	2325	2420				
Sand	2420	2510				
Red Rock	2510	2520				
Sand	2520	2560				
Sand & Shale	2560	2830				
Sand	2830	2840				
Sand & Shale	2840	2910				
Shale	2910	3000				
Sand	3000	3020				
Sand & Shale	3020	3100				
Sand	3100	3130				
Shale	3130	3170				
Sand & Shale	3170	3215				
Sand	3215	3230				
Sand & Shale	3230	3400				

Wet 2800-2850
1/2" salt water

LECT 10

APR 25 2005

LP

LOG OF FORMATIONS

Well API#: 37-033-25739

Page 3

Formation Name or Type	Top (feet)	Bottom (feet)	Gas at (feet)	Oil at (feet)	Water at (fresh / brine; ft.)	Source of Data
Sand	1860	1880				
Sand & Shale	1880	2140				
Sand	2140	2150				
Shale	2150	2240				
Red Rock	2240	2255				
Shale	2255	2265				
Red Rock	2265	2280				
Shale	2280	2310				
Sand	2310	2325				
Shale	2325	2420				
Sand	2420	2510				
Red Rock	2510	2520				
Sand	2520	2560				
Sand & Shale	2560	2830				
Sand	2830	2840				
Sand & Shale	2840	2910				
Shale	2910	3000				
Sand	3000	3020				
Sand & Shale	3020	3100				
Sand	3100	3130				
Shale	3130	3170				
Sand & Shale	3170	3215				
Sand	3215	3230				
Sand & Shale	3230	3400				

Wet 2800-2850
1/2" salt water

APR 25 2005

AUG 24 2005

OCT 10 2005

APR 25 2005

APR 25 2005



APR 25 2005

 COMMONWEALTH OF PENNSYLVANIA
 DEPARTMENT OF ENVIRONMENTAL PROTECTION
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DEP USE ONLY

Site Id	Primary Facility Id
Client Id	Sub-facility Id

WELL RECORD AND COMPLETION REPORT

Well Operator MID-EAST OIL COMPANY		DEP ID# 87845	Well API # (Permit / Reg) 37-033-25739		Project Number	Acres 620±
Address PO Box 1378			Well Farm Name CHAGRIN		Well # BEL#4	Serial #
City Indiana	State PA	Zip Code 15701	County Clearfield		Municipality Huston Township	
Phone 724-349-6690	Fax 724-349-6711	USGS 7.5 min. quadrangle map Penfield				
Check all that apply: ☒ Original Well Record ☒ Original Completion Report ☐ Amended Well Record ☐ Amended Completion Report						

WELL RECORD

Well Type	☒ Gas	☐ Oil	☐ Combination Oil & Gas	☐ Injection	☐ Storage	☐ Disposal	
Drilling Method	☒ Rotary - Air ☐ Rotary - Mud ☐ Cable Tool						
Date Drilling Started 2/24/05	Date Drilling Completed 2/28/05	Surface Elevation 1620 ft.	Total Depth - Driller 3400 ft.	Total Depth - Logger 3402 ft.			
Casing and Tubing		Cement returned on surface casing? ☒ Yes ☐ No Cement returned on coal protective casing? ☐ Yes ☐ No ☐ N/A					
Hole Size	Pipe Size	Wt.	Thread / Weld	Amount in Well (ft)	Material Behind Pipe Type and Amount	Packer / Hardware / Centralizers Type Size Depth	Date Run
15 1/4	13 3/8	37	T	32	Sanded in with cuttings	None	2/24/05
8 7/8	7	20	T	1129	100 sks Class A 50 sks Super Tropic	Guide Shoe 7	2/25/05
6 1/4	4 1/2	9.5	T	3322	115 sks TD cement	Float Shoe 4 1/2	2/28/05

COMPLETION REPORT

Perforation Record			Stimulation Record					
Date	Interval Perforated From To		Date	Interval Treated	Fluid Type Amount	Propping Agent Type Amount	Average Injection	
3/24/05	3174 3182		3/24/05	3rd Bradford	Water 15,690	Sand 22,800	33.2 BPM	
3/24/05	3095 3128		3/24/05	2nd Bradford	Water 16,707	Sand 17,700	29.9 BPM	
3/24/05	3018 3052		3/24/05	1st Bradford	Water 20,762	Sand 14,700	30.3 BPM	
3/24/05	2812 2854		3/24/05	Tiona	Water 13,510	Sand 14,700	27.5 BPM	
3/24/05	2598 2634		3/24/05	Warren	Water 13,510	Sand 40,000	23.0 BPM	
3/24/05	2294 2524		3/24/05	Bayard	Water 29,323	Sand 20,000	21.4 BPM	
Natural Open Flow Not taken			Natural Rock Pressure Not taken					
After Treatment Open Flow 1,060,000			After Treatment Rock Pressure 1040 PSI					
			Hours Days					

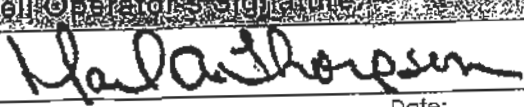
Well Service Companies -- Provide the name, address, and phone number of all well service companies involved.

Name WHIPSTOCK NATURAL GAS SERVICE	Name SUPERIOR WELL SERVICES
Address 1020 Franklin Street	Address PO Box 458
City - State - Zip Clymer, PA 15716	City - State - Zip Blacklick, PA 15716
Phone 724-254-0500	Phone 724-248-1001

LOG OF FORMATIONS

Formation Name or Type	Top (feet)	Bottom (feet)	Gas at (feet)	Oil at (feet)	Water at (fresh / brine; ft.)	Source of Data
						DRILLER'S LOG
Shale	0	10				
Sand	10	35				
Sand & Shale	35	205				
Coal & Shale	205	208			Damp @ 205'	
Sand & Shale	208	225				
Sand	225	260				
Sand & Shale	260	310				
Coal & Shale	310	315				
Sand	315	335				
Sand & Shale	335	360				
Coal & Shale	360	365				
Sand & Shale	365	375				
Coal & Shale	375	380				
Sand & Shale	380	418				
Coal & Shale	418	427				
Sand & Shale	427	480			1/2" FW @ 480'	
Coal	480	485				
Sand & Shale	485	580			1/2" FW @ 580'	
Coal & Shale	580	590				
Sand	590	665				
Sand & Shale	665	685			1/2" FW @ 685'	
Coal & Shale	685	695				
Sand & Shale	695	710				
Sand	710	730				
Sand & Shale	730	930				
Sand	930	980				
Sand & Shale	980	990				
Shale	990	1015				
Sand	1015	1030				
Sand & Shale	1030	1220				
Shale	1220	1385				
Sand	1385	1395				
Shale	1395	1400				
Sand & Shale	1400	1435				
Red Rock	1435	1455				
Shale & Sand	1455	1485				
Shale	1485	1500				
Sand & Shale	1500	1560				
Sand	1560	1570				
Red Rock	1570	1580				
Shale & Red Rock	1580	1675				
Shale	1675	1720				
Red Rock & Shale	1720	1810				
Sand	1810	1825				
Shale	1825	1850				
Sand & Shale	1850	1860				

Please delete empty rows if necessary to make all of page 2 fit on one page.

Well Operator's Signature: 		DEP USE ONLY	
Title: President		Date: 4/21/05	Reviewed by: Date: Comments:

LOG OF FORMATIONS

Well API# 37-033-25739

Page 3

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Formation Name or Type	Top (feet)	Bottom (feet)	Gas at (feet)	Oil at (feet)	Water at (fresh / brine; ft.)	Source of Data
Sand	1860	1880				
Sand & Shale	1880	2140				
Sand	2140	2150				
Shale	2150	2240				
Red Rock	2240	2255				
Shale	2255	2265				
Red Rock	2265	2280				
Shale	2280	2310				
Sand	2310	2325				
Shale	2325	2420				
Sand	2420	2510				
Red Rock	2510	2520				
Sand	2520	2560				
Sand & Shale	2560	2830				
Sand	2830	2840				
Sand & Shale	2840	2910				
Shale	2910	3000				
Sand	3000	3020				
Sand & Shale	3020	3100				
Sand	3100	3130				
Shale	3130	3170				
Sand & Shale	3170	3215				
Sand	3215	3230				
Sand & Shale	3230	3400				

Wet 2800-2850
1/2" salt water

EC
APR 25 2005

ELP

LOG OF FORMATIONS

Well API# 37-033-25739

Page 3

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Formation Name or Type	Top (feet)	Bottom (feet)	Gas at (feet)	Oil at (feet)	Water at (fresh / brine; ft.)	Source of Data
Sand	1860	1880				
Sand & Shale	1880	2140				
Sand	2140	2150				
Shale	2150	2240				
Red Rock	2240	2255				
Shale	2255	2265				
Red Rock	2265	2280				
Shale	2280	2310				
Sand	2310	2325				
Shale	2325	2420				
Sand	2420	2510				
Red Rock	2510	2520				
Sand	2520	2560				
Sand & Shale	2560	2830				
Sand	2830	2840				
Sand & Shale	2840	2910				
Shale	2910	3000				
Sand	3000	3020				
Sand & Shale	3020	3100				
Sand	3100	3130				
Shale	3130	3170				
Sand & Shale	3170	3215				
Sand	3215	3230				
Sand & Shale	3230	3400				

Wet 2800-2850
1/2" salt water

ELECT

APR 25 2005

ELP

AUG 24 2005

OCT 12 2005
NOV 10 2005

DEC 28 2005

JAN 10 2006



APR 25 2005

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
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DEP USE ONLY	
Site Id	Primary Facility Id
Client Id	Sub-facility Id

WELL RECORD AND COMPLETION REPORT

Well Operator MID-EAST OIL COMPANY		DEP ID# 87845	Well API # (Permit / Reg) 37-033-25739	Project Number	Acres 620±
Address PO Box 1378			Well Farm Name CHAGRIN	Well # BEL#4	Serial #
City Indiana	State PA	Zip Code 15701	County Clearfield	Municipality Huston Township	
Phone 724-349-6690	Fax 724-349-6711	USGS 7.5 min. quadrangle map Penfield			
Check all that apply: ☒ Original Well Record ☒ Original Completion Report ☐ Amended Well Record ☐ Amended Completion Report					

WELL RECORD

Also complete location information on back page.

Well Type	☒ Gas ☐ Oil ☐ Combination Oil & Gas ☐ Injection ☐ Storage ☐ Disposal						
Drilling Method	☒ Rotary - Air ☐ Rotary - Mud ☐ Cable Tool						
Date Drilling Started 2/24/05	Date Drilling Completed 2/28/05	Surface Elevation 1620 ft.	Total Depth - Driller 3400 ft.	Total Depth - Logger 3402 ft.			
Casing and Tubing		Cement returned on surface casing? ☒ Yes ☐ No Cement returned on coal protective casing? ☐ Yes ☐ No ☐ N/A					
Hole Size	Pipe Size	Wt.	Thread / Weld	Amount in Well (ft)	Material Behind Pipe Type and Amount	Packer / Hardware / Centralizers Type Size Depth	Date Run
15 1/4	13 3/8	37	T	32	Sanded in with cuttings	None	2/24/05
8 7/8	7	20	T	1129	100 sks Class A 50 sks Super Tropic	Guide Shoe	2/25/05
6 1/4	4 1/2	9.5	T	3322	115 sks TD cement	Float Shoe	2/28/05
AUG 24 2005							

COMPLETION REPORT

Perforation Record			Stimulation Record					
Date	Interval Perforated From To		Date	Interval Treated	Fluid Type Amount	Propping Agent Type Amount	Average Injection	
3/24/05	3174 3182		3/24/05	3rd Bradford	Water 15,690	Sand 22,800	33.2 BPM	
3/24/05	3095 3128		3/24/05	2nd Bradford	Water 16,707	Sand 17,700	29.9 BPM	
3/24/05	3018 3052		3/24/05	1st Bradford	Water 20,762	Sand 34,700	30.3 BPM	
3/24/05	2812 2854		3/24/05	Tiona	Water 13,510	Sand 14,700	27.5 BPM	
3/24/05	2598 2634		3/24/05	Warren	Water 34,239	Sand 40,000	23.0 BPM	
3/24/05	2294 2524		3/24/05	Bayard	Water 29,323	Sand 20,000	21.4 BPM	
Natural Open Flow Not taken			Natural Rock Pressure Not taken					Hours Days
After Treatment Open Flow 1,060,000			After Treatment Rock Pressure 1040 PSI					24 Hours Days

Well Service Companies -- Provide the name, address, and phone number of all well service companies involved.

Name WHIPSTOCK NATURAL GAS SERVICE	Name SUPERIOR WELL SERVICES
Address 1020 Franklin Street	Address PO Box 458
City - State - Zip Clymer, PA 15716	City - State - Zip Blacklick, PA 15716
Phone 724-254-0500	Phone 724-248-1001

LANSBURY, CRY



DEP USE ONLY	
Site Id	Primary Facility Id
Client Id	Sub-facility Id

MAY 16 2005

WELL RECORD AND COMPLETION REPORT

Well Operator MID-EAST OIL COMPANY		DEP ID# 87845	Well API # (Permit / Reg) 37-033-25765	Project Number	Acres 620±
Address PO Box 1378		Well Farm Name CHAGRIN		Well # BEL#3	Serial #
City Indiana	State PA	Zip Code 15701	County Clearfield	Municipality Huston Township	
Phone 724-349-6690	Fax 724-349-6711	USGS 7.5 min. quadrangle map Penfield			
Check all that apply: ☒ Original Well Record ☒ Original Completion Report ☐ Amended Well Record ☐ Amended Completion Report					

WELL RECORD

Also complete top of hole, if applicable.

Well Type	☒ Gas ☐ Oil ☐ Combination Oil & Gas ☐ Injection ☐ Storage ☐ Disposal						
Drilling Method	☒ Rotary - Air ☐ Rotary - Mud ☐ Cable Tool						
Date Drilling Started 3/16/05	Date Drilling Completed 3/28/05	Surface Elevation 1635 ft.	Total Depth - Driller 3300 ft.	Total Depth - Logger 3255 ft.			
Casing and Tubing		Cement returned on surface casing? ☐ Yes ☐ No Cement returned on coal protective casing? ☐ Yes ☐ No ☐ N/A					
Hole Size	Pipe Size	Wt.	Thread / Weld	Amount in Well (ft)	Material Behind Pipe Type and Amount	Packer / Hardware / Centralizers Type Size Depth	Date Run
15 1/4	13 3/8	38	T	42	Sanded in with cuttings	none	3/15/05
12 1/4	9 5/8	28	T	442	170 sks Class A 50 sks Supertropic	Guide Shoe 9 5/8 442	3/17/05
8 7/8	7	17	T	488	110 sks Class A 50 sks Unispan	Guide Shoe 7 488	3/23/05
6 1/4	4 1/2	9.5	T	3259	110 sks UFL	Float Shoe 4 1/2 3259	3/29/05

COMPLETION REPORT

Perforation Record			Stimulation Record					
Date	Interval Perforated From To		Date	Interval Treated	Fluid Type Amount	Propping Agent Type Amount	Average Injection	
4/14/05	3138 3145		4/14/05	3rd Bradford	Water 17,684	Sand 26,000	29.2 BPM	
4/14/05	3058 3064		4/14/05	2nd Bradford	water 18,202	Sand 26,000	30.1 BPM	
4/14/05	2982 2992		4/14/05	1st Bradford	water 23,700	Sand 33,100	31 BPM	
4/14/05	2809 2816		4/14/05	Tiona	water 17,684	Sand 21,100	25.5 BPM	
4/14/05	2560 2592		4/14/05	Warren	water 43,036	Sand 41,300	31.4 BPM	
Natural Open Flow Not taken			Natural Rock Pressure Not taken					
After Treatment Open Flow 375,000			After Treatment Rock Pressure 840 PSI 24 Hours Days					

Well Service Companies -- Provide the name, address, and phone number of all well service companies involved.

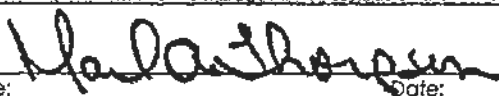
Name WHIPSTOCK NATURAL GAS SERVICE	Name UNIVERSAL WELL SERVICES, INC.	Name SUPERIOR WELL SERVICES
Address 1020 Franklin St.	Address PO Box 305	Address PO Box 458
City - State - Zip Clymer, PA 15728	City - State - Zip Punxsutawney, PA 15767	City - State - Zip Black Lick, PA 15716
Phone 724-254-0500	Phone 814-938-2051	Phone 724-248-1001

LOG OF FORMATIONS

For assistance in accessing this document, please contact: R3-UC_Mailbox@epa.gov Well API#: 37-033-25765

Formation Name or Type	Top (feet)	Bottom (feet)	Gas at (feet)	Oil at (feet)	Water at (fresh / brine: ft.)	Source of Data
						DRILLER'S LOG
Fill	0	5				
Sand & Shale	5	18				
Sand	18	20				
Shale & Sand	20	135			3/4" FW	
Coal	135	140			@ 75'	
Shale with coal	140	155				
Sand	155	160				
Sand	160	170				
Shale	170	175				
Sand	175	185				
Coal & Shale	185	195				
Sand	195	200				
White Sand	200	210				
Sand & Shale	210	225				
Sand	225	230				
Coal	230	233				
Shale	233	260				
Sand	260	270				
Coal & Shale	270	280				
Sand & Shale	280	335				
Coal	335	339				
Shale	339	370				
Sand	370	380				
Shale	380	385				
Coal/Shale	385	390			1" FW @	
Shale	390	395			385'	
Shale	395	405			4 - 6" FW	
Mine	405	410			@ 395'	
Sand & Shale	410	460				
Coal and Shale	460	470				
Sand	470	555			6-7" FW @	
Coal	555	560			470'	
Sand & Shale	560	620				
Coal	620	624				
Sand & Shale	624	635				
Sand	635	710				
Shale	710	725				
Sand & Shale	725	785				
Shale	785	790				
Red Rock	790	795				
Shale	795	830				
Sand & Shale	830	880				
Sand	880	895				
Shale	895	905				

Please delete empty rows if necessary to make all of page 2 fit on one page.

Well Operator's Signature		DEP USE ONLY	
		Reviewed by:	Date:
Title: President Date: 5/13/05		Comments:	

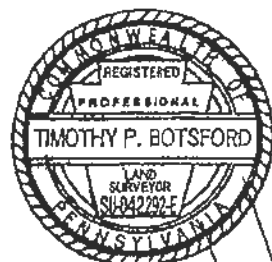
Formation Name or Type	Top (feet)	Bottom (feet)	Gas at (feet)	Oil at (feet)	Water at (fresh / brine; ft.)	Source of Data
Sand	905	965				
Shale	965	1005				
Sand & Shale	1005	1140				
Sand	1140	1235				
Sand	1235	1250				
Shale	1250	1390				
Sand	1390	1435				
Red Rock	1435	1460				
Sand & Shale	1460	1480				
Red Rock	1480	1730				
Sand	1730	1750				
Red Rock & Shale	1750	1835				
Sand	1835	1860				
Sand & Shale	1860	1950				
Red Rock & Sand	1950	2090				
Sand & Shale	2090	2225				
Red Rock & Sand	2225	2260				
Sand & Shale	2260	2280				
Sand	2280	2295				
Sand & Shale	2295	2525				
Red Rock & Shale	2525	2550				
Shale	2550	2590				
Sand	2590	2600				
Sand & Shale	2600	2635			1/4 - 1/2" FW @ 2635	
Sand	2635	2645				
Shale	2645	2660				
Sand	2660	2685				
Shale	2685	2700				
Sand	2700	2755				
Shale	2755	2780				
Sand	2780	2795				
Shale	2795	2940				
Sand	2940	2970				
Sand & Shale	2970	3030				
Sand	3030	3045				
Shale	3045	3300				

MAY 16 2005



WELL LOCATION PLAT

☐	Denotes location of well on topo map.
True Latitude: NORTH	
41	11 18.33"
True Longitude: WEST	
78	35 15.67"

Well is located on topo map 7,253 feet south of latitude 41 12 30

GEORGE ANDERSON
ROBERT SPADE

SCOTT GNAN

CHERRY
TIMBER
ASSOC.

BARK CAMP

HENRY
DEIBLE

T.MUNN

C.MUNN

PROPOSED
WELLPROPOSED
WELL#4

NRI DuBOIS, LLC.

EXISTING
WELL
/P.N.20263PROPOSED
WELL#1John Povlik
(surface only)

COMMONWEALTH OF PENNSYLVANIA

Well is located on topo map 1,198 feet west of longitude 78 35 00"

COMMONWEALTH OF PENNSYLVANIA

Surveyor or Engineer	Phone #	Dwg. #	Date:	Scale:	Tract Acreage
TIMOTHY P. BOTSFORD	724-349-5659	M-1072	12-28-04	1" = 1000'	620±
Lat & Long Metadata			Elevation Metadata		
Method	Accuracy	ft. Datum	Method	Accuracy	ft. Datum
Direct GPS	3	NAD 27	Direct GPS	10	NGVD 29
Applicant / Well Operator Name			Survey Date		
MID EAST OIL			12-15-04		
Address			Well (Farm) Name		
P.O. BOX 1378 INDIANA, PA. 15701			CHAGRIN		
Surface Landowner			County	Municipality	Well Type
NRI DuBOIS, LLC.			CLEARFIELD	HUSTON TWP.	GAS
Surface Lessor			USGS 7172 Quadrangle Map Name		
			PENFIELD		
			Angle & Course of Deviation (Drilling)	Surface Elevation	Anticipated Total Depth
			0°	1565 ft.	5000 ft.
Surface Owner or Water Purveyor with a Water Supply within 1,000 ft.		Approximate Course and Distance to Water Supply		Owner, Lessee, or Operator of Workable Coal Seam	
NONE				Name of Coal Seam Owned, Leased, or Operated	
				ALL SEAMS	


WELL RECORD AND COMPLETION REPORT

DEP USE ONLY	
Site Id	Primary Facility Id
Client Id	Sub-facility Id

Well Operator MID-EAST OIL COMPANY		DEP ID# 87845	Well API # (Permit / Reg) 37-033-25766	Project Number	Acres 620±
Address PO Box 1378		Well Farm Name CHAGRIN		Well # BEL#5	Serial #
City Indiana	State PA	Zip Code 15701	County Clearfield	Municipality Huston Township	
Phone 724-349-6690	Fax 724-349-6711	USGS 7.5 min. quadrangle map Penfield			
Check all that apply: ☒ Original Well Record ☒ Original Completion Report ☐ Amended Well Record ☐ Amended Completion Report					

WELL RECORD

Well Type	☒ Gas	☐ Oil	☐ Combination Oil & Gas	☐ Injection	☐ Storage	☐ Disposal	
Drilling Method	☒ Rotary - Air	☐ Rotary - Mud	☐ Cable Tool				
Date Drilling Started 3/11/05	Date Drilling Completed 3/16/05	Surface Elevation 1565 ft.	Total Depth - Driller 3400 ft.	Total Depth - Logger 3412 ft.			
Casing and Tubing		Cement returned on surface casing? ☒ Yes ☐ No Cement returned on coal protective casing? ☒ Yes ☐ No ☐ N/A					
Hole Size	Pipe Size	Wt.	Thread / Weld	Amount in Well (ft)	Material Behind Pipe Type and Amount	Packer / Hardware / Centralizers Type Size Depth	Date Run
15 1/4	13 3/8	38	T	73	Sanded in with cuttings	None	3/11/05
12 1/4	9 5/8	26	T	487	220 sks Class A	Guide Shoe 9 5/8 487	3/13/05
8 7/8	7	17	T	1063	125 sks Class A 50 sks Supertropic	Guide Shoe 7 1063	3/14/05
6 1/4	4 1/2	9.5	T	3249	155 sks TD cement	Float Shoe 4 1/2 3249	3/16/05

COMPLETION REPORT

Perforation Record			Stimulation Record					
Date	Interval Perforated From To		Date	Interval Treated	Fluid Type Amount	Propping Agent Type Amount	Average Injection	
4/13/05	3136 3146		4/13/05	3rd Bradford	Water 15,748	Sand 20,000	30.9 BPM	
4/13/05	3058 3063		4/13/05	2nd Bradford	Water 20,843	Sand 25,600	28.5 BPM	
4/13/05	2981 2990		4/13/05	1st Bradford	Water 22,877	Sand 33,000	29.9 BPM	
4/13/05	2774 2780		4/13/05	Tiona	Water 14,521	Sand 1,500	28.1 BPM	
4/13/05	2268 2272		4/13/05	Warren	Water 1,500	Sand 3200	24.6 BPM	
Natural Open Flow Not taken			Natural Rock Pressure Not taken			Hours Days		
After Treatment Open Flow 151,000			After Treatment Rock Pressure 960 PSI			24 Hours Days		

Well Service Companies -- Provide the name, address, and phone number of all well service companies involved.

Name WHIPSTOCK NATURAL GAS SERVICE	Name SUPERIOR WELL SERVICES
Address 1020 Franklin St.	Address PO Box 458
City - State - Zip Clymer, PA 15728	City - State - Zip Black Lick, PA 15716
Phone 724-254-0500	Phone 724-248-1001

For assistance in accessing this document, please contact: RSC Mailbox@epa.gov Well API#: 37-033-25766

LOG OF FORMATIONS

Formation Name or Type	Top (feet)	Bottom (feet)	Gas at (feet)	Oil at (feet)	Water at (fresh / brine; ft.)	Source of Data
						DRILLER'S LOG
Sand & Shale	0	7				
Sand	7	40				
Shale	40	110				
Sand	110	145				
Shale	145	170				
Sand & Shale	170	215			Hole damp @ 170'	
Coal	215	220				
Sand	220	250			1/2" FW @ 185'	
Sand & Shale	250	360				
Sand	360	405			1/2" FW @ 280'	
Coal	405	408				
Shale	408	415				
Sand	415	450				
Mine	450	455				
Sand	455	490				
Shale	490	550				
Coal	550	554				
Shale	554	560				
Sand	560	620			1/2" FW @ 690' - 700'	
Shale & Sand	620	645				
Sand	645	700				
Sand & Shale	700	730				
Shale	730	740				
Sand & Shale	740	775				
Red Rock	775	790				
Sand	790	795				
Shale	795	805				
Sand & Shale	805	890				
Sand	890	1160				
Shale	1160	1180				
Sand & Shale	1180	1250				
Shale	1250	1290				
Sand & Shale	1290	1400				
Red Rock	1400	1410				
Sand	1410	1420				
Red Rock & Shale	1420	1500				
Red Rock	1500	1510				
Sand	1510	1580				
Red Rock	1580	1670				
Sand	1670	1690				
Red Rock	1690	1720				
Shale	1720	1755				
Sand & Shale	1755	1770				
Sand	1770	1800				
Sand & Shale	1800	1830				

Please delete empty rows if necessary to make all of page 2 fit on one page.

Well Operator's Signature:

DEP USE ONLY

Hal Anderson 5/13/05
 Title: President Date:

Reviewed by:

Date:

Comments:

LOG OF FORMATIONS

Well API#: 37-033-25766

Pg. 3

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Formation Name or Type	Top (feet)	Bottom (feet)	Gas at (feet)	Oil at (feet)	Water at (fresh / brine; ft.)	Source of Data
Sand	1830	1840				
Shale	1840	1870				
Sand & Shale	1870	1920				
Shale	1920	1955				
Sand & Shale	1955	2300				
Red Rock	2300	2305				
Sand & Shale	2305	2365				
Sand	2365	2375				
Sand & Shale	2375	2610				
Red Rock	2610	2620				
Sand & Shale	2620	2880				
Shale	2880	2990				
Sand & Shale	2990	3180				
Shale	3180	3200				
Sand & Shale	3200	3310				
Shale	3310	3335				
Sand & Shale	3335	3400				

MAY 16 2005



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OIL AND GAS MANAGEMENT PROGRAM
For assistance in accessing this document, please contact: DEP_UIC_Mailbox@epa.gov

WELL RECORD AND COMPLETION REPORT

DEP USE ONLY	
Site Id	Primary Facility Id
Client Id	Sub-facility Id

Well Operator MID-EAST OIL COMPANY		DEP ID # 87845	Well API # (Permit / Reg) 37-033-25766	Project Number	Acres 620±
Address PO Box 1378			Well Farm Name CHAGRIN	Well # BEL#5	Serial #
City Indiana	State PA	Zip Code 15701	County Clearfield	Municipality Huston Township	
Phone 724-349-6690	Fax 724-349-6711	USGS 7.5 min. quadrangle map Penfield			
Check all that apply: ☒ Original Well Record ☒ Original Completion Report ☐ Amended Well Record ☐ Amended Completion Report					

WELL RECORD

Also complete Log information on back page 2

Well Type	☒ Gas ☐ Oil ☐ Combination Oil & Gas ☐ Injection ☐ Storage ☐ Disposal						
Drilling Method	☒ Rotary - Air ☐ Rotary - Mud ☐ Cable Tool						
Date Drilling Started 3/11/05	Date Drilling Completed 3/16/05	Surface Elevation 1565 ft.	Total Depth - Driller 3400 ft.	Total Depth - Logger 3412 ft.			
Casing and Tubing		Cement returned on surface casing? ☒ Yes ☐ No Cement returned on coal protective casing? ☒ Yes ☐ No ☐ N/A					
Hole Size	Pipe Size	Wt.	Thread / Weld	Amount in Well (ft)	Material Behind Pipe Type and Amount	Packer / Hardware / Centralizers Type Size Depth	Date Run
15 1/4	13 3/8	38	T	73	Sanded in with cuttings	None	3/11/05
12 1/4	9 5/8	26	T	487	220 sks Class A	Guide Shoe 9 5/8 487	3/13/05
8 7/8	7	17	T	1063	125 sks Class A 50 sks Supertropic	Guide Shoe 7 1063	3/14/05
6 1/4	4 1/2	9.5	T	3249	155 sks TD cement	Float Shoe 4 1/2 3249	3/16/05

COMPLETION REPORT

Perforation Record			Stimulation Record						
Date	Interval Perforated From	To	Date	Interval Treated	Fluid Type	Amount	Propping Agent Type	Amount	Average Injection
4/13/05	3136	3146	4/13/05	3rd Bradford	Water	15,748	Sand	20,000	30.9 BPM
4/13/05	3058	3063	4/13/05	2nd Bradford	Water	20,843	Sand	25,600	28.5 BPM
4/13/05	2981	2990	4/13/05	1st Bradford	Water	22,877	Sand	33,000	29.9 BPM
4/13/05	2774	2780	4/13/05	Tiona	Water	14,521	Sand	14,700	28.1 BPM
4/13/05	2268	2272	4/13/05	Warren	Water	7856	Sand	3200	24.6 BPM
Natural Open Flow Not taken			Natural Rock Pressure Not taken			Hours Days			
After Treatment Open Flow 151,000			After treatment Rock Pressure 960 PSI			24 Hours Days			

Well Service Companies -- Provide the name, address, and phone number of all well service companies involved.

Name WHIPSTOCK NATURAL GAS SERVICE	Name RECEIVED DEPT OF ENV PROTECTION	Name SUPERIOR WELL SERVICES
Address 1020 Franklin St.	Address PO Box 458	Address PO Box 458
City - State - Zip Clymer, PA 15728	City - State - Zip Black Lick, PA 15716	City - State - Zip Black Lick, PA 15716
Phone 724-254-0500	Phone 724-248-1001	Phone 724-248-1001

CAMBRIA OFFICE

Pg. 3

LOG OF FORMATIONS

Formation Name or Type	Top (feet)	Bottom (feet)	Gas at (feet)	Oil at (feet)	Water at (fresh / brine; ft.)	Source of Data
Sand	1830	1840				
Shale	1840	1870				
Sand & Shale	1870	1920				
Shale	1920	1955				
Sand & Shale	1955	2300				
Red Rock	2300	2305				
Sand & Shale	2305	2365				
Sand	2365	2375				
Sand & Shale	2375	2610				
Red Rock	2610	2620				
Sand & Shale	2620	2880				
Shale	2880	2990				
Sand & Shale	2990	3180				
Shale	3180	3200				
Sand & Shale	3200	3310				
Shale	3310	3335				
Sand & Shale	3335	3400				

MAY 16 2005

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MAY 20 2005

CAMBRIA OFFICE

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DEP	Auth ID #	C-581984	G	DS
ONLY	Permit #	37-033-25777-00	C	ral
	Project #			



WELL LOCATION PLAT

Denotes location of well on topo map.

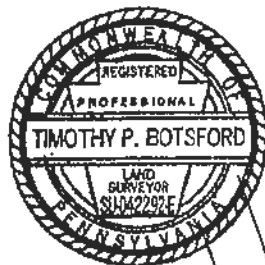
True Latitude: NORTH

41° 10' 58.60"

True Longitude: WEST

78° 34' 59.76"

Well is located on topo map 9,250 feet south of latitude 41° 12' 30"



GEORGE ANDERSON
ROBERT SPADE

SCOTT GNAN

CHERRY
TIMBER
ASSOC.

BARK CAMP

HENRY
DEIBLEPROPOSED
WELL

T.MUNN

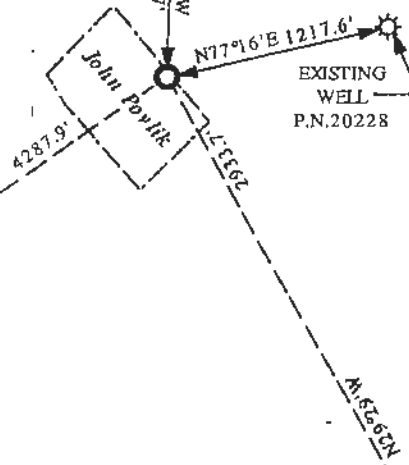
C.MUNN

PROPOSED
WELL#4

NRI DuBOIS, LLC.

EXISTING
WELL
P.N.20263PROPOSED
WELL#1S05°58'W
1061.7'

N77°16'E 1217.6'

EXISTING
WELL
P.N.20228

MAR 11 2005

FEB 14 2005

Well is located on topo map 11,450 feet west of longitude 78° 32' 30"

COMMONWEALTH OF PENNSYLVANIA

COMMONWEALTH OF PENNSYLVANIA

Surveyor or Engineer	Phone #	Dwg. #	Date:	Scale:	Tract Acreage
TIMOTHY P. BOTSFORD	724-349-5659	M-1073	12-28-04	1" = 1000'	620±
Lat & Long Metadata	Method	Accuracy	ft. Datum	Elevation Metadata	Method
Direct GPS	3	NAD 27	Direct GPS	10	NGVD 29
Applicant / Well Operator Name	Well (Farm) Name	Well #	Serial #	Survey Date	
MID EAST OIL	CHAGRIN	BEL#6		12-15-04	
Address	County	Municipality	Well Type		
P.O. BOX 1378 INDIANA, PA. 15701	CLEARFIELD	HUSTON TWP.	GAS		
Surface Landowner	USGS 71/2. Quadrangle Map Name	Map Section			
JOHN POVLIK	PENFIELD	5			
Surface Lessor	Angle & Course of Deviation (Drilling)	Surface Elevation	Anticipated Total Depth		
	0°	1440 ft.	5000 ft.		
Surface Owner or Water Purveyor with a Water Supply within 1,000 ft.	Approximate Course and Distance to Water Supply	Owner, Lessee, or Operator of Workable Coal Seam	Name of Coal Seam Owned, Leased, or Operated		
JOHN POVLIK	N 59° W 240'	NEW SHAWMUT MINING CO. INC.			
132 OLD SCHOOL RD. BOX 25		301 BRUSSELL ST.			
LUXOR, PA. 15622		St. MARYS, PA. 15857			ALL SEAMS

GOS Lower Kittanning Seam



MAY 25 2005

 For assistance in accessing this information, call 1-800-333-3333 or write to: UIC Mailbox@epa.gov
 DEPARTMENT OF ENVIRONMENTAL PROTECTION
 OIL AND GAS MANAGEMENT PROGRAM

DEP USE ONLY	
Well Id	Primary Facility Id
Client Id	Sub-facility Id

WELL RECORD AND COMPLETION REPORT

Well Operator MID-EAST OIL COMPANY		DEP ID# 87845	Well API # (Permit / Reg) 37-033-25777	Project Number	Acres 620±
Address PO Box 1378		Well Farm Name CHAGRIN		Well # BEL#6	Serial #
City Indiana	State PA	Zip Code 15701	County Clearfield	Municipality Huston Township	
Phone 724-349-6690	Fax 724-349-6711	USGS 7.5 min. quadrangle map Penfield			

 Check all that apply: ☒ Original Well Record ☒ Original Completion Report ☐ Amended Well Record ☐ Amended Completion Report

WELL RECORD

Well Type	☒ Gas ☐ Oil ☐ Combination Oil & Gas ☐ Injection ☐ Storage ☐ Disposal						
Drilling Method	☒ Rotary - Air ☐ Rotary - Mud ☐ Cable Tool						
Date Drilling Started 4/7/05	Date Drilling Completed 4/12/05	Surface Elevation 1440 ft.	Total Depth - Driller 3320 ft.	Total Depth - Logger 3329 ft.			
Casing and Tubing		Cement returned on surface casing? ☒ Yes ☐ No Cement returned on coal protective casing? ☒ Yes ☐ No ☐ N/A					
Hole Size	Pipe Size	Wt.	Thread / Weld	Amount in Well (ft)	Material Behind Pipe Type and Amount	Packer / Hardware / Centralizers Type Size Depth	Date Run
15 1/4	13 3/8	38	T	20	Sanded in with cuttings	none	4/7/05
12 1/4	9 5/8	26	T	256	100 sks Supertropic	Guide Shoe 9 5/8 256	4/8/05
8 7/8	7	17	T	840	110 sks Supertropic	Guide Shoe 7 840	4/11/05
6 1/4	4 1/2	9.5	T	3032	75 sks TD cement	Float Shoe 4 1/2 3032	4/13/05

COMPLETION REPORT

Perforation Record			Stimulation Record						
Date	Interval Perforated From	To	Date	Interval Treated	Fluid Type	Amount	Propping Agent Type	Amount	Average Injection
5/12/05	2905	2915	5/12/05	3rd Bradford	Water	18,894	Sand	30,500	30.6
5/12/05	2830	2834	5/12/05	2nd Bradford	Water	13,191	Sand	10,800	24.3
5/12/05	2753	2764	5/12/05	1st Bradford	Water	24,145	Sand	38,300	30.4
5/12/05	2586	2558	5/12/05	Sheffield	Water	19,797	Sand	15,400	26.6
5/12/05	2457	2462	5/12/05	Tiona	Water	8,018	Sand	2,500	23.4
5/12/05	2344	2348	5/12/05	Warren	Water				
Natural Open Flow Not taken			Natural Rock Pressure Not taken			Hours Days			
After Treatment Open Flow 148,000			After Treatment Rock Pressure 820 PSI			24 Hours Days			

Well Service Companies -- Provide the name, address, and phone number of all well service companies involved.

Name L.K. DRILLING CORP., INC.	Name SUPERIOR WELL SERVICES
Address 542 Lutz School Road	Address PO Box 458
City - State - Zip Indiana, PA 15701	City - State - Zip Blacklick, PA 15716
Phone 724-465-9130	Phone 724-248-1001

LOG OF FORMATIONS

Well API#: 37-033-25777

Formation Name or Type	Top (feet)	Bottom (feet)	Gas at (feet)	Oil at (feet)	Water at (fresh / brine; ft.)	Source of Data
Brown Sandstone	0	22				DRILLER'S LOG
Gray Sandstone	22	205			5 GPM FW @	
Open Mine	205	210			60'	
Gray Sandstone	210	630				
Red Rock	630	690			100 GPM FW	
White Sandstone	690	850			@ 205'	
Gray Shale & Sand	850	1170			200 GPM FW	
Red & Gray Shale	1170	1500			@ 230'	
Gray Shale & Sand	1500	2040				
Gray Sand	2040	2050			7 GPM FW	
Gray Shale & Sand	2050	2295			@ 560'	
Gray Sand	2295	2305				
Gray Shale & Sand	2305	2780				
Gray Sand	2780	2800				
Gray Shale & Sand	2800	3030				
Gray Sand	3030	3040				
Gray Shale & Sand	3040	3320				

Please delete empty rows if necessary to make all of page 2 fit on one page.

Well Operator's Signature _____

DEP USE ONLY

Title:
President

Reviewed by:

Date:

Comments:



MAY 25 2005

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OIL AND GAS MANAGEMENT PROGRAM

DEP USE ONLY

Site Id	Primary Facility Id
Client Id	Sub-facility Id

WELL RECORD AND COMPLETION REPORT

Well Operator MID-EAST OIL COMPANY	DEP ID# 87845	Well API # (Permit / Reg) 37-033-25777	Project Number	Acres 620±
Address PO Box 1378		Well Farm Name CHAGRIN	Well # BEL#6	Serial #
City Indiana	State PA	Zip Code 15701	County Clearfield	Municipality Huston Township
Phone 724-349-6690	Fax 724-349-6711	USGS 7.5 min. quadrangle map Penfield		

Check all that apply: ☒ Original Well Record ☒ Original Completion Report ☐ Amended Well Record ☐ Amended Completion Report

WELL RECORD Also complete Log of Formations on back (page 2)

Well Type	☒ Gas ☐ Oil ☐ Combination Oil & Gas ☐ Injection ☐ Storage ☐ Disposal						
Drilling Method	☒ Rotary - Air ☐ Rotary - Mud ☐ Cable Tool						
Date Drilling Started 4/7/05	Date Drilling Completed 4/12/05	Surface Elevation 1440 ft.	Total Depth - Driller 3320 ft.	Total Depth - Logger 3329 ft.			
Casing and Tubing		Cement returned on surface casing? ☒ Yes ☐ No Cement returned on coal protective casing? ☒ Yes ☐ No ☐ N/A					
Hole Size	Pipe Size	Wt.	Thread / Weld	Amount in Well (ft)	Material Behind Pipe Type and Amount	Packer / Hardware / Centralizers Type Size Depth	Date Run
15 1/4	13 3/8	38	T	20	Sanded in with cuttings	none	4/7/05
12 1/4	9 5/8	26	T	256	100 sks Supertropic	Guide Shoe 9 5/8 256	4/8/05
8 7/8	7	17	T	840	110 sks Supertropic	Guide Shoe 7 840	4/11/05
6 1/4	4 1/2	9.5	T	3032	75 sks TD cement	Float Shoe 4 1/2 3032	4/13/05
DEC 07 2005							

COMPLETION REPORT

Perforation Record			Stimulation Record					
Date	Interval Perforated From To		Date	Interval Treated	Fluid Type Amount	Propping Agent Type Amount	Average Injection	
5/12/05	2905 2915		5/12/05	3rd Bradford	Water 18,894	Sand 30,500	30.6	
5/12/05	2830 2834		5/12/05	2nd Bradford	Water 13,191	Sand 10,800	24.3	
5/12/05	2753 2764		5/12/05	1st Bradford	Water 24,145	Sand 38,300	30.4	
5/12/05	2586 2558		5/12/05	Sheffield	Water 19,797	Sand 19,300	29.5	
5/12/05	2457 2462		5/12/05	Tiona	Water 17,585	Sand 15,400	26.6	
5/12/05	2344 2348		5/12/05	Warren	Water 8,018	Sand 2,500	23.4	
Natural Open Flow Not taken			Natural Rock Pressure Not taken			Hours Days		
After Treatment Open Flow 148,000			After Treatment Rock Pressure 820 PSI			24 Hours Days		
Well Service Companies -- Provide the name, address, and phone number of all well service companies involved.								
Name L.K. DRILLING CORP., INC.			Name RECEIVED DEPT OF ENV PROTECTION			Name SUPERIOR WELL SERVICES		
Address 542 Lutz School Road			Address			Address PO Box 458		
City - State - Zip Indiana, PA 15701			City - State - Zip JUN 01 2005			City - State - Zip Black Lick, PA 15716		
Phone 724-465-9130			Phone			Phone 724-248-1001		

CAMBRIA OFFICE

LOG OF FORMATIONS

Well API#: 37-033-25777

Formation Name or Type	Top (feet)	Bottom (feet)	Gas at (feet)	Oil at (feet)	Water at (fresh / brine; ft.)	Source of Data
						DRILLER'S LOG
Brown Sandstone	0	22				
Gray Sandstone	22	205			5 GPM FW @	
Open Mine	205	210			60'	
Gray Sandstone	210	630			100 GPM FW	
Red Rock	630	690			@ 205'	
White Sandstone	690	850				
Gray Shale & Sand	850	1170			200 GPM FW	
Red & Gray Shale	1170	1500			@ 230'	
Gray Shale & Sand	1500	2040				
Gray Sand	2040	2050			7 GPM FW	
Gray Shale & Sand	2050	2295			@ 560'	
Gray Sand	2295	2305				
Gray Shale & Sand	2305	2780				
Gray Sand	2780	2800				
Gray Shale & Sand	2800	3030				
Gray Sand	3030	3040				
Gray Shale & Sand	3040	3320				

Please delete empty rows if necessary to make all of page 2 fit on one page.

Well Operator's Signature:



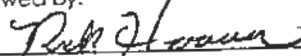
 Title:
President

Date:

5/23/05

DEP USE ONLY

Reviewed by:



Date:

11/15/05

Comments:



COMMONWEALTH OF PENNSYLVANIA

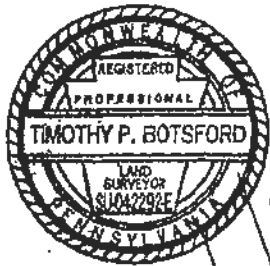
OIL AND GAS MANAGEMENT PROGRAM

WELL LOCATION PLAT

DEP	Auth ID # 6-586938	G: 25
USE	Permit # 27-033-25815	00
ONLY	Project #	ral

	Denotes location of well on topo map.
True Latitude: NORTH	
41° 10' 37.56"	
True Longitude: WEST	
78° 35' 36.71"	

Well is located on topo map 11,379 feet south of latitude 41° 12' 30"



BARK CAMP

HENRY DEIBLE

HQ

Watershed

South Branch
Bennett Branch

MAR 31 2005

ELF

NRI DuBOIS, LLC.

John Fovik

PLUGGED WELL
20139-P

PROPOSED WELL

S89°01'E

4950.8'

COMMONWEALTH OF PENNSYLVANIA

COMMONWEALTH OF PENNSYLVANIA

Well is located on topo map 2,807 feet west of longitude 78° 35' 00"

Surveyor or Engineer TIMOTHY P. BOTSFORD		Phone # 724-349-5659	Dwg. # M-1098	Date: 3-12-05	Scale: 1" = 1000'	Tract Acreage 620±
Lat & Long Metadata Method Direct GPS Accuracy 3 ft. Datum NAD 27			Elevation Metadata Method Direct GPS Accuracy 10 ft. Datum NGVD 29			Survey Date 3-10-05
Applicant / Well Operator Name MID EAST OIL			Well(Farm) Name CHAGRIN		Well # BEL#30	Serial #
Address P.O. BOX 1378 INDIANA, PA. 15701			County CLEARFIELD	Municipality HUSTON TWP (930)	Well Type GAS	
Surface Landowner NRI DuBOIS, LLC.			USGS 7 1/2 Quadrangle Map Name PENFIELD (0917)		Map Section 4	
Surface Lessor			Angle & Course of Deviation (Drilling) 0°		Surface Elevation 1645 ft.	Anticipated Total Depth 5000 ft.
Surface Owner or Water Purveyor with a Water Supply within 1,000 ft.		Approximate Course and Distance to Water Supply		Owner, Lessee or Operator of Workable Coal Seam		Name of Coal Seam Owned, Leased or Operated
NONE				ROSEBUD MINING CO.		ALL SEAMS
				301 MARKET ST.		
				KITTANNING, PA. 16201		

GOB Lower Kittanning Seam



AUG 03 2005

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OIL AND GAS MANAGEMENT PROGRAM

GEO COPY

DEP USE ONLY	
Site ID 652856	Primary Fac ID 565796
Client Id 87845	Subfacility Id CF

Well Record and Completion Report

Operator MID-EAST OIL COMPANY		DEP ID# 87845	Well API # (Permit / Reg) 37-033-25815-00	Project Number	Acres
Address 255 AIRPORT RD, PO BOX 1378			Well Farm Name & Well # CHAGRIN BEL 30		Serial #
City INDIANA	State PA	Zip Code 15701	County Clearfield	Municipality Huston	
Phone (724) 349-6690	Fax 724-349-6711	USGS 7.5 min. quadrangle map Penfield			

Check all that apply: ☒ Original Well Record ☒ Original Completion Report ☐ Amended Well Record ☐ Amended Completion Report

WELL RECORD Also complete the Log of Formations on back (page 2)

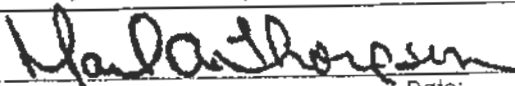
Well Type	☒ Gas ☐ Oil ☐ Combination Oil & Gas ☐ Injection ☐ Storage ☐ Disposal						
Drilling Method	☒ Rotary - Air ☐ Rotary - Mud ☐ Cable Tool						
Date Drilling Started 6/21/05	Date Drilling Completed 6/27/05	Surface Elevation 1645 ft.	Total Depth - Driller 3459 ft.	Total Depth - Logger 3465 ft.			
Casing and Tubing		Cement returned on surface casing? ☒ Yes ☐ No Cement returned on coal protective casing? ☒ Yes ☐ No ☐ N/A					
Hole Size	Pipe Size	Wt.	Thread / Weld	Amount in Well (ft)	Material Behind Pipe Type and Amount	Packer / Hardware / Centralizers Type Size Depth	Date Run
15 1/4	13 3/8	37	T	15	Sanded in with cuttings	none	6/21/05
12 1/4	9 5/8	26	T	488	150 sks Super Tropic	Guide Shoe 9 5/8 488	6/22/05
8 7/8	7	17	T	983	165 sks Class A	Guide Shoe 7 983	6/23/05
6 1/4	4 1/2	9.5	T	3347	125 sks TD cement	Float Shoe 4 1/2 3347	6/28/05

COMPLETION REPORT

Perforation Record			Stimulation Record						
Date	Interval Perforated From	To	Date	Interval Treated	Fluid Type	Amount	Propping Agent Type	Amount	Average Injection
7/6/05	3146	3194	7/6/05	3rd Bradford	Water	16,340	Sand	22,700	31.8 BPM
7/6/05	3070	3101	7/6/05	2nd Bradford	Water	25,311	Sand	24,700	30.6 BPM
7/6/05	2996	3005	7/6/05	1st Bradford	Water	18,525	Sand	28,000	29.5 BPM
7/6/05	2763	2834	7/6/05	Balltown	Water	23,674	Sand	25,600	29.4 BPM
7/6/05	2453	2461	7/6/05	Warren	Water	22,717	Sand	25,200	24.5 BPM
7/6/05	1858	1868	7/6/05	Bayard	Water	25,210	Sand	26,400	25.4 BPM
Natural Open Flow Not taken			Natural Rock Pressure Not taken			Hours Days			
After Treatment Open Flow 160,000			After Treatment Rock Pressure 990 PSI			24 Hours Days			

Well Service Companies -- Provide the name, address, and phone number of all well service companies involved.

Name L.R. DRILLING CORP., INC.	Name SUPERIOR WELL SERVICES
Address 542 Lutz School Road	Address PO Box 458
City - State - Zip Indiana, PA 15701	City - State - Zip Black Lick, PA 15716
Phone 724-465-9130	Phone 724-248-1001

LOG OF FORMATIONS						Well API#: 37-033-25815-00-
(If you will need more space than this page, please photocopy the blank form before filling it in.)						
Formation Name or Type	Top (feet)	Bottom (feet)	Gas at (feet)	Oil at (feet)	Water at (fresh / brine: ft.)	Source of Data
Brown Sandstone	0	12				DRILLER'S LOG
Gray Sandstone	12	220				
Coal	220	223				
Sandstone	223	449				
Mine	449	457				
Sandstone	457	850				
Red Rock	850	1210				
Shale	1210	2100				
Sand	2100	2110				
Sandy Shale	2110	3459				
Well Operator's Signature			DEP USE ONLY			
			Reviewed by:		Date:	
Title: _____ Date: 7/27/05			Comments:			

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M-060004 Rev. 2/2001



AUG 03 2005

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OIL AND GAS MANAGEMENT PROGRAM

DEP USE ONLY	
Site ID 652856	Primary Fac ID 685796
Client ID 87845	Subfacility ID CF

Well Record and Completion Report

Operator IID-EAST OIL COMPANY	DEP ID# 87845	Well API # (Permit / Reg) 37-033-25815-00	Project Number	Acres
Address 255 AIRPORT RD, PO BOX 1378		Well Form Name & Well # CHAGRIN BEL 30	Serial #	
City INDIANA	State PA	Zip Code 15701	County Clearfield	Municipality Huston
Phone (724) 349-6690	Fax 724-349-6711	USGS 7.5 min. quadrangle map Penfield		

Check all that apply: ☒ Original Well Record ☒ Original Completion Report ☐ Amended Well Record ☐ Amended Completion Report

WELL RECORD Also complete the Log of Formations on back (page 2)

Well Type	☒ Gas ☐ Oil ☐ Combination Oil & Gas ☐ Injection ☐ Storage ☐ Disposal						
Drilling Method	☒ Rotary - Air ☐ Rotary - Mud ☐ Cable Tool						
Date Drilling Started 6/21/05	Date Drilling Completed 6/27/05	Surface Elevation 1645 ft.	Total Depth - Driller 3459 ft.	Total Depth - Logger 3465 ft.			
Casing and Tubing		Cement returned on surface casing? ☒ Yes ☐ No Cement returned on coal protective casing? ☒ Yes ☐ No ☐ N/A					
Hole Size	Pipe Size	Wt.	Thread / Weld	Amount in Well (ft)	Material Behind Pipe Type and Amount	Packer / Hardware / Centralizers Type Size Depth	Date Run
15 1/4	13 3/8	37	T	15	Sanded in with cuttings	none	6/21/05
12 1/4	9 5/8	26	T	488	150 sks Super Tropic	Guide Shoe 9 5/8 488	6/22/05
8 7/8	7	17	T	983	165 sks Class A	Guide Shoe 7 983	6/23/05
6 1/4	4 1/2	9.5	T	3347	125 sks TD cement	Float Shoe 4 1/2 3347	6/28/05

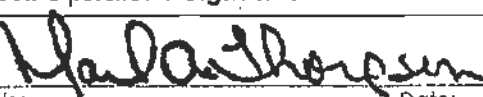
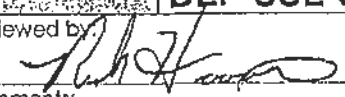
COMPLETION REPORT

Perforation Record			Stimulation Record						
Date	Interval Perforated From	To	Date	Interval Treated	Fluid Type	Amount	Propping Agent Type	Amount	Average Injection
6/6/05	3146	3194	7/6/05	3rd Bradford	Water	16,340	Sand	22,700	31.8 BPM
6/6/05	3070	3101	7/6/05	2nd Bradford	Water	25,311	Sand	24,700	30.6 BPM
6/6/05	2996	3005	7/6/05	1st Bradford	Water	18,525	Sand	28,000	29.5 BPM
6/6/05	2763	2834	7/6/05	Balltown	Water	23,674	Sand	25,600	29.4 BPM
6/6/05	2453	2461	7/6/05	Warren	Water	22,717	Sand	25,200	24.5 BPM
6/6/05	1858	1868	7/6/05	Bayard	Water	25,210	Sand	26,400	25.4 BPM
Natural Open Flow			Natural Rock Pressure		Not taken		Hours		Days
After Treatment Flow			After Treatment Rock Pressure		990 PSI		24 Hours		Days

Well Service Companies -- Provide the name, address, and phone number of all well service companies involved.

Name K. DRILLING CORP., INC.	Name SUPERIOR WELL SERVICES
Address 542 Lutz School Road	Address PO Box 458
City - State - Zip Indiana, PA 15701	City - State - Zip Black Lick, PA 15716
Phone 724-465-9130	Phone 724-248-1001

- 1 -

LOG OF FORMATIONS						Well API#: 37-033-25815-00-
(If you will need more space than this page, please photocopy the blank form before filling it in.)						
Formation Name or Type	Top (feet)	Bottom (feet)	Gas at (feet)	Oil at (feet)	Water at (fresh / brine; ft.)	Source of Data
						DRILLER'S LOG
Brown Sandstone	0	12				
Gray Sandstone	12	220				
Coal	220	223				
Sandstone	223	449				
Mine	449	457				
Sandstone	457	850				
Red Rock	850	1210				
Shale	1210	2100				
Sand	2100	2110				
Sandy Shale	2110	3459				
Well Operator's Signature			DEP USE ONLY			
			Reviewed by:		Date:	
Title:					5/23/05	
Date: 7/27/05			Comments:			

- 2 -

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OIL AND GAS MANAGEMENT PROGRAM
WELL LOCATION PLAT

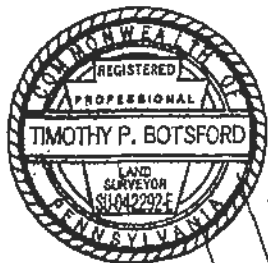
DEP	Auth ID #	G:
USE	Permit #	
ONLY	Project #	
	C-586941	RS
	37-033-25810-00	
	033-25810	ral

Denotes location of well on topo map.

True Latitude: NORTH
41° 10' 36.33"

True Longitude: WEST
78° 35' 20.19"

Well is located on topo map 11,503 feet south of latitude 41° 12' 30"



HENRY DRIBLE

T.MUNN

C.MUNN

BARK CAMP

GEORGE ANDERSON
ROBERT SPADE

SCOTT GNAN

CHERRY
TIMBER
ASSOC.

NRI DuBOIS, LLC.

John Dvlik

PLUGGED
WELL
20139-P

PROPOSED
WELL#30

PROPOSED
WELL

S83°49'E 1269.8'
N83°13'E 1936.7'
S89°01'E

3043.2'

N44°04'E
4950.8'

COMMONWEALTH OF PENNSYLVANIA

COMMONWEALTH OF PENNSYLVANIA

Well is located on topo map 1,543 feet west of longitude 78° 35' 00"

Surveyor or Engineer	Phone #	Dwg. #	Date:	Scale:	Tran. Accuracy
TIMOTHY P. BOTSFORD	724-349-5659	M-1099	3-12-05	1" = 1000'	620±
Lat & Long Metadata			Elevation Metadata		
Method	Accuracy	n. Datum	Method	Accuracy	n. Datum
Direct GPS	3	NAD 27	Direct GPS	10	NGVD 29
Applicant / Well Operator Name			Survey Date		
MID EAST OIL			3-10-05		
Address			Well (Farm) Name		
P.O. BOX 1378 INDIANA, PA. 15701			CHAGRIN		
Surface Landowner			County	Municipality	Well Type
NRI DuBOIS, LLC.			CLEARFIELD	HUSTON TWP. 930	GAS
Surface Lessor			Well #		
			BEL#31		
USGS 7 1/2 Quadrangle Map Name			Map Section		
PENFIELD (0917)			4		
Angle & Course of Deviation (Drilling)			Surface Elevation		
0°			1685 ft.		
Anticipated Total Depth			5000 ft.		
Surface Owner or Water Purveyor with a Water Supply within 1,000 ft.		Approximate Course and Distance to Water Supply		Owner, Lessee, or Operator of Workable Coal Seam	
NONE				ROSERUD MINING CO.	
				301 MARKET ST.	
				KITANNING, PA. 16201	
				Name of Coal Seam Owned, Leased, or Operated	
				ALL SEAMS	

Good Lower Kittanning Area

I-OG0004 Rev. 2/2001



AUG 10 2005

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OIL AND GAS MANAGEMENT PROGRAM

DEP USE ONLY	
Site ID 652860	Primary Fac ID 665799
Client ID 87845	Subsidiary ID CA

Well Record and Completion Report

Operator ID-EAST OIL COMPANY	DEP ID# 87845	Well API # (Permit / Reg) 37-033-25816-00	Project Number	Acres 620±
Address 55 AIRPORT RD, PO BOX 1378		Well Form Name & Well # CHAGRIN BEL 31		Serial #
State INDIANA	State PA	Zip Code 15701	County Clearfield	Municipality Huston
Phone (724) 349-6690	Fax 724-349-6711	USGS 7.5 min. quadrangle map Penfield		

Check all that apply: ☒ Original Well Record ☒ Original Completion Report ☐ Amended Well Record ☐ Amended Completion Report

WELL RECORD Also complete the Log of Formations on back (page 2)

Well Type	☒ Gas ☐ Oil ☐ Combination Oil & Gas ☐ Injection ☐ Storage ☐ Disposal						
Drilling Method	☒ Rotary - Air ☐ Rotary - Mud ☐ Cable Tool						
Date Drilling Started 7/11/05	Date Drilling Completed 7/13/05	Surface Elevation 1685 ft.	Total Depth - Driller 3497 ft.	Total Depth - Logger 3507 ft.			
Casing and Tubing		Cement returned on surface casing? ☒ Yes ☐ No Cement returned on coal protective casing? ☐ Yes ☐ No ☐ N/A					
Hole Size	Pipe Size	WT.	Thread / Weld	Amount in Well (ft)	Material Behind Pipe Type and Amount	Packer / Hardware / Centralizers Type Size Depth	Date Run
15 1/4	13 3/8	37	T	19	Sanded in with cuttings	None	7/11/05
8 7/8	7	17	T	1064	200 sks Class A 3%	Guide Shoe 7	7/12/05
1 1/4	4 1/2	9.5	T	3240	135 sks TD cement	Float Shoe 4 1/2	7/13/05

COMPLETION REPORT

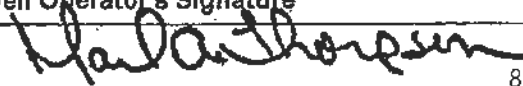
Perforation Record			Stimulation Record						
Date	Interval Perforated From	To	Date	Interval Treated	Fluid Type	Amount	Propping Agent Type	Amount	Average Injection
7/21/05	3152	3202	7/21/05	3rd Bradford	Water	12,873	Sand	22,700	27.1 BPM
7/21/05	3072	3109	7/21/05	2nd Bradford	Water	17,824	Sand	20,100	25.0 BPM
7/21/05	3005	3011	7/21/05	1st Bradford	Water	17,173	Sand	22,900	30.9 BPM
7/21/05	2781	2842	7/21/05	Sheffield	Water	13,392	Sand	20,400	23.4 BPM
7/21/05	2472	2566	7/21/05	Tiona	Water	32,076	Sand	24,200	24.5 BPM
7/21/05	1742	1750	7/21/05	4th Sand	Water	28,588	Sand	51,800	30.7 BPM
Open Flow			Natural Rock Pressure		Not taken		Hours		Days
Treatment Volume 650,000			After Treatment Rock Pressure		610 PSI		24		Hours Days

Service Companies -- Provide the name, address, and phone number of all well service companies involved.

DRILLING CORP., INC.	Name	SUPERIOR WELL SERVICES
1001 School Road	Address	Box 458
Clearfield, PA 15701	City - State - Zip	Black Lick, PA 15716
724-9130	Phone	724-248-1001

- 1 -

LOG OF FORMATIONS						Well API#: 37-033-25816-00-
(If you will need more space than this page, please photocopy the blank form before filling it in.)						
Formation Name or Type	Top (feet)	Bottom (feet)	Gas at (feet)	Oil at (feet)	Water at (fresh / brine; ft.)	Source of Data
Brown Shale	0	17				DRILLER'S LOG 5 GPM FW @ 95'
Gray Shale	17	95				
Coal	95	100				
Sandstone	100	555				
Sandy Shale	555	1750				
Sand	1750	1800				
Sandy Shale	1800	2500				
Sand	2500	2530				
Sandy Shale	2530	3040				
Sand	3040	3050				
Sandy Shale	3050	3497				

Well Operator's Signature 		DEP USE ONLY	
Date: 8/8/05		Reviewed by: _____ Date: _____	
Title: President		Comments: _____	

- 2 -



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COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OIL AND GAS MANAGEMENT PROGRAM

DEP USE ONLY	
Site ID 652860	Primary Fac ID 665799
Client ID 87845	Subfacility ID CA

Well Record and Completion Report

Operator MID-EAST OIL COMPANY		DEP ID# 87845	Well API # (Permit / Reg) 37-033-25816-00	Project Number	Acres 620±
Address 255 AIRPORT RD, PO BOX 1378			Well Farm Name & Well # CHAGRIN BEL 31		Serial #
City INDIANA	State PA	Zip Code 15701	County Clearfield	Municipality Huston	
Phone (724) 349-6690	Fax 724-349-6711	USGS 7.5 min. quadrangle map Penfield			
Check all that apply: ☒ Original Well Record ☒ Original Completion Report ☐ Amended Well Record ☐ Amended Completion Report					

WELL RECORD

Also complete the Log of Formations on back (page 2)

Well Type	☒ Gas ☐ Oil ☐ Combination Oil & Gas ☐ Injection ☐ Storage ☐ Disposal						
Drilling Method	☒ Rotary - Air ☐ Rotary - Mud ☐ Cable Tool						
Date Drilling Started 7/11/05	Date Drilling Completed 7/13/05	Surface Elevation 1685 ft.	Total Depth - Driller 3497 ft.	Total Depth - Logger 3507 ft.			
Casing and Tubing		Cement returned on surface casing? ☒ Yes ☐ No Cement returned on coal protective casing? ☐ Yes ☐ No ☐ N/A					
Hole Size	Pipe Size	Wt.	Thread / Weld	Amount in Well (ft)	Material Behind Pipe Type and Amount	Packer / Hardware / Centralizers Type Size Depth	Date Run
15 1/4	13 3/8	37	T	19	Sanded in with cuttings	None	7/11/05
8 7/8	7	17	T	1064	200 sks Class A 3%	Guide Shoe	7/12/05
6 1/4	4 1/2	9.5	T	3240	135 sks TD cement	Float Shoe	7/13/05
AUG 24 2005							

COMPLETION REPORT

Perforation Record			Stimulation Record						
Date	Interval Perforated From	To	Date	Interval Treated	Fluid Type	Amount	Propping Agent Type	Amount	Average Injection
7/21/05	3152	3202	7/21/05	3rd Bradford	Water	12,873	Sand	22,700	27.1 BPM
7/21/05	3072	3109	7/21/05	2nd Bradford	Water	17,824	Sand	20,100	25.0 BPM
7/21/05	3005	3011	7/21/05	1st Bradford	Water	17,173	Sand	22,900	30.9 BPM
7/21/05	2781	2842	7/21/05	Sheffield	Water	13,392	Sand	20,400	23.4 BPM
7/21/05	2472	2566	7/21/05	Tiona	Water	32,076	Sand	24,200	24.5 BPM
7/21/05	1742	1750	7/21/05	4th Sand	Water	28,588	Sand	51,800	30.7 BPM
Natural Open Flow Not taken			Natural Rock Pressure Not taken			Hours Days			
After Treatment Open Flow 650,000			After Treatment Rock Pressure 610 PSI			24 Hours Days			
Well Service Companies -- Provide the name, address, and phone number of all well service companies involved.									
Name L.K. DRILLING CORP., INC.			Name			Name SUPERIOR WELL SERVICES			
Address 542 Lutz School Road			Address			Address Box 458			
City-State-Zip Indiana, PA 15701			City-State-Zip			City-State-Zip Black Lick, PA 15716			
Phone 724-349-9130			Phone			Phone 724-248-1001			

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DEP CAMBRIA OFFICE

LOG OF FORMATIONS						Well API#: 37-033-25816-00-
(If you will need more space than this page, please photocopy the blank form before filling it in.)						
Formation Name or Type	Top (feet)	Bottom (feet)	Gas at (feet)	Oil at (feet)	Water at (fresh / brine; ft.)	Source of Data
						DRILLER'S LOG
Brown Shale	0	17				
Gray Shale	17	95				
Coal	95	100			5 GPM FW	
Sandstone	100	555			@ 95'	
Sandy Shale	555	1750				
Sand	1750	1800				
Sandy Shale	1800	2500				
Sand	2500	2530				
Sandy Shale	2530	3040				
Sand	3040	3050				
Sandy Shale	3050	3497				
Well Operator's Signature: <i>Harold Thompson</i>			DEP USE ONLY		Date: <i>8/22/05</i>	
Title: President			Reviewed by: <i>Robert Houser</i>		Date: <i>8/22/05</i>	
Date: <i>8/8/05</i>			Comments:			



GEO COPY

COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION OIL AND GAS MANAGEMENT PROGRAM WELL LOCATION PLAT

DEP USE ONLY Permit # 37-033-25817-03 Project #	G: 586944 ral
--	----------------------------

Denotes location of well on topo map.

True Latitude: NORTH

41° 11' 01.31"

True Longitude: WEST

78° 35' 35.11"

Well is located on topo map 8,975 feet south of latitude 41 12 30



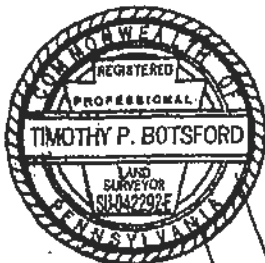
C. MUNN

T. MUNN

HENRY DEIBLE

BARK CAMP

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MAR 31 2005



GEORGE ANDERSON
ROBERT SPADE

SCOTT GNAN

CHERRY
TIMBER
ASSOC.

NRI DuBOIS, LLC.

John Pavlik

PROPOSED
WELL#33

PROPOSED
WELL

PROPOSED
WELL#32

N11°32'E
1137.0'
2882.5'
N16°14'E

S16°05'

N55°25'W

S89°01'E

4950.8'

COMMONWEALTH OF PENNSYLVANIA

COMMONWEALTH OF PENNSYLVANIA

Well is located on topo map 2,684 feet west of longitude 78° 35' 00"

Surveyor or Engineer TIMOTHY P. BOTSFORD		Phone # 724-349-5659	Dwg. # M-1103	Date: 3-12-05	Scale: 1" = 1000'	Tract Acreage 620±
Lat & Long Metadata Method Direct GPS Accuracy 3 ft. Datum NAD 27		Elevation Metadata Method Direct GPS Accuracy 10 ft. Datum NGVD 29		Survey Date 3-10-05		
Applicant / Well Operator Name MID EAST OIL		Well (Farm) Name CHAGRIN		Well # BEL#35	Serial #	
Address P.O. BOX 1378 INDIANA, PA. 15701		County CLEARFIELD	Municipality HUSTON TWP (936)	Well Type GAS		
Surface Landowner NRI DuBOIS, LLC.		USGS 7 1/2 Quadrangle Map Name PENFIELD (0917)		Map Section 4		
Surface Lessor		Angle & Course of Deviation (Drilling) 0°		Surface Elevation 1590 ft.	Anticipated Total Depth 5000 ft.	
Surface Owner or Water Purveyor with a Water Supply within 1,000 ft.		Approximate Course and Distance to Water Supply		Name of Coal Seam		
NONE				ALL SEAMS		
		Owner, Lessee, or Operator of Workable Coal Seam ROSEBUD MINING CO.				
		301 MARKET ST.				
		KITTANNING, PA. 16201				

608 Java Kittanning Area

GEOCOPY

5500-FM-OG0004 Rev. 2/2001



AUG 03 2005

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OIL AND GAS MANAGEMENT PROGRAM

DEP USE ONLY	
Site ID 652861	Primary Fac ID 665800
Client Id 87845	Subfacility Id CF

Well Record and Completion Report

Operator MID-EAST OIL COMPANY		DEP ID# 87845	Well API # (Permit / Reg) 37-033-25817-00	Project Number	Acres 620±
Address 255 AIRPORT RD, PO BOX 1378			Well Farm Name & Well # CHAGRIN BEL 35		Serial #
City INDIANA	State PA	Zip Code 15701	County Clearfield	Municipality Huston	
Phone (724) 349-6890	Fax 724-349-6711	USGS 7.5 min. quadrangle map Penfield			
Check all that apply: ☒ Original Well Record ☒ Original Completion Report ☐ Amended Well Record ☐ Amended Completion Report					

WELL RECORD Also complete the Log of Formations on back (page 2)

Well Type	☒ Gas ☐ Oil ☐ Combination Oil & Gas ☐ Injection ☐ Storage ☐ Disposal						
Drilling Method	☒ Rotary - Air ☐ Rotary - Mud ☐ Cable Tool						
Date Drilling Started 6/18/05	Date Drilling Completed 6/20/05	Surface Elevation 1590 ft.	Total Depth - Driller 3408 ft.	Total Depth - Logger 3414 ft.			
Casing and Tubing		Cement returned on surface casing? ☒ Yes ☐ No Cement returned on coal protective casing? ☐ Yes ☐ No ☐ N/A					
Hole Size	Pipe Size	Wt.	Thread / Weld	Amount in Well (ft)	Material Behind Pipe Type and Amount	Packer / Hardware / Centralizers Type Size Depth	Date Run
15 1/4	13 3/8	37	T	41	Sanded in with cuttings	None	6/18/05
8 7/8	7	17	T	975	200 sks Class A	Guide Shoe 7 975	6/19/05
1 1/4	4 1/2	9.5	T	3319	95 sks TD cement	Float Shoe 4 1/2 3319	6/20/05

COMPLETION REPORT

Perforation Record			Stimulation Record					
Date	Interval Perforated From To		Date	Interval Treated	Fluid Type Amount	Propping Agent Type Amount	Average Injection	
6/30/05	3159 3206		6/30/05	3rd Bradford	Water 24,841	Sand 25,700	29.1 BPM	
6/30/05	3061 3115		6/30/05	2nd Bradford	Water 21,996	Sand 25,800	30.9 BPM	
6/30/05	3005 3037		6/30/05	1st Bradford	Water 27,599	Sand 30,400	30.3 BPM	
6/30/05	2783 2805		6/30/05	Balltown	Water 25,745	Sand 20,300	30.0 BPM	
6/30/05	2459 2470		6/30/05	Tiona	Water 20,022	Sand 25,000	26.9 BPM	
6/30/05	2288 2298		6/30/05	Fifth	Water 18,292	Sand 21,100	24.1 BPM	
Natural Open Flow Not taken			Natural Rock Pressure Not taken					Hours Days
After Treatment Open Flow 212,000			After Treatment Rock Pressure 920 PSI					24 Hours Days

Well Service Companies -- Provide the name, address, and phone number of all well service companies involved.

Name J.K. DRILLING CORP., INC.	Name SUPERIOR WELL SERVICES
Address 42 Lutz School Road	Address PO Box 458
City - State - Zip Indiana, PA 15701	City - State - Zip Black Lick, PA 15716
Phone 724-465-9130	Phone 724-248-1001

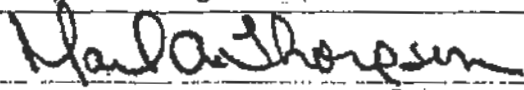
LOG OF FORMATIONS

Well API#: 37-033-25817-00-

(If you will need more space than this page, please photocopy the blank form before filling it in.)

Formation Name or Type	Top (feet)	Bottom (feet)	Gas at (feet)	Oil at (feet)	Water at (fresh / brine; ft.)	Source of Data
Brown Sandstone	0	37				DRILLER'S LOG 5 GPM FW @ 75'
Gray Shale	37	200				
Sandstone	200	330				
Red & Gray Shale	330	560				
Sandstone	560	920				
Red & Gray Shale	920	2140				
Sandy Shale	2140	2380				
Sand	2380	2400				
Sandy Shale	2400	3408				

Well Operator's Signature

DEP USE ONLY


7/25/05

Reviewed by:

Date:

Title:

Date:

Comments:



AUG 03 2006

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OIL AND GAS MANAGEMENT PROGRAM

DEP USE ONLY	
Site ID 652861	Primary Fac ID 665800
Client ID 87845	Subfacility ID CF

Well Record and Completion Report

Oil Operator MID-EAST OIL COMPANY		DEP ID# 87845	Well API # (Permit / Reg) 37-033-25817-00		Project Number	Acres 620±
Address 255 AIRPORT RD, PO BOX 1378			Well Farm Name & Well # CHAGRIN BEL 35		Serial #	
City INDIANA	State PA	Zip Code 15701	County Clearfield	Municipality Huston		
Phone (724) 349-6690	Fax 724-349-6711	USGS 7.5 min. quadrangle map Pentfield				

Check all that apply: ☒ Original Well Record ☒ Original Completion Report ☐ Amended Well Record ☐ Amended Completion Report

WELL RECORD Also complete the Log of Formations on back (page 2)

Well Type	☒ Gas ☐ Oil ☐ Combination Oil & Gas ☐ Injection ☐ Storage ☐ Disposal						
Drilling Method	☒ Rotary - Air ☐ Rotary - Mud ☐ Cable Tool						
Date Drilling Started 6/18/05	Date Drilling Completed 6/20/05	Surface Elevation 1590 ft.	Total Depth - Driller 3408 ft.	Total Depth - Logger 3414 ft.			
Casing and Tubing			Cement returned on surface casing? ☒ Yes ☐ No Cement returned on coal protective casing? ☐ Yes ☐ No ☐ N/A				
Hole Size	Pipe Size	Wt.	Thread / Weld	Amount in Well (ft)	Material Behind Pipe Type and Amount	Packer / Hardware / Centralizers Type Size Depth	Date Run
15 1/4	13 3/8	37	T	41	Sanded in with cuttings	None	6/18/05
7/8	7	17	T	975	200 sks Class A	Guide Shoe 7 975	6/19/05
1/4	4 1/2	9.5	T	3319	95 sks TD cement	Float Shoe 4 1/2 3319	6/20/05

COMPLETION REPORT

Perforation Record			Stimulation Record						
Date	Interval Perforated From	To	Date	Interval Treated	Fluid Type	Amount	Propping Agent Type	Amount	Average Injection
6/30/05	3159	3206	6/30/05	3rd Bradford	Water	24,841	Sand	25,700	29.1 BPM
6/30/05	3061	3115	6/30/05	2nd Bradford	Water	21,996	Sand	25,800	30.9 BPM
6/30/05	3005	3037	6/30/05	1st Bradford	Water	27,599	Sand	30,400	30.3 BPM
6/30/05	2783	2805	6/30/05	Balltown	Water	25,745	Sand	20,300	30.0 BPM
6/30/05	2459	2470	6/30/05	Tiona	Water	20,022	Sand	25,000	26.9 BPM
6/30/05	2288	2298	6/30/05	Fifth	Water	18,292	Sand	21,100	24.1 BPM
Natural Open Flow			Natural Rock Pressure		Not taken		Hours		Days
After Treatment Open Flow			After Treatment Rock Pressure		920 PSI		24 Hours		Days

Well Service Companies -- Provide the name, address, and phone number of all well service companies involved.

Name L.K. DRILLING CORP., INC.	Name SUPERIOR WELL SERVICES
Address 42 Lutz School Road	Address PO Box 458
City - State - Zip Indiana, PA 15701	City - State - Zip Black Lick, PA 15716
Phone 724-465-9130	Phone 724-248-1001

AUG 05 2005

- 1 -

- 2 -

WELL LOCATION PLAT

DEP	FILE #	587126
USE	Permit #	37-033-25819-00
ONLY	Project #	ral



Denotes location of well on topo map.
True Latitude: NORTH
41° 10' 47.41"
True Longitude: WEST
78° 35' 28.08"

Well is located on topo map 10,382 feet south of latitude 41° 12' 30"



GEORGE ANDERSON
ROBERT SPADE

SCOTT GNAN

CHERRY
TIMBER
ASSOC.

BARK CAMP

HENRY
DEIBLE

T.MUNN

C.MUNN

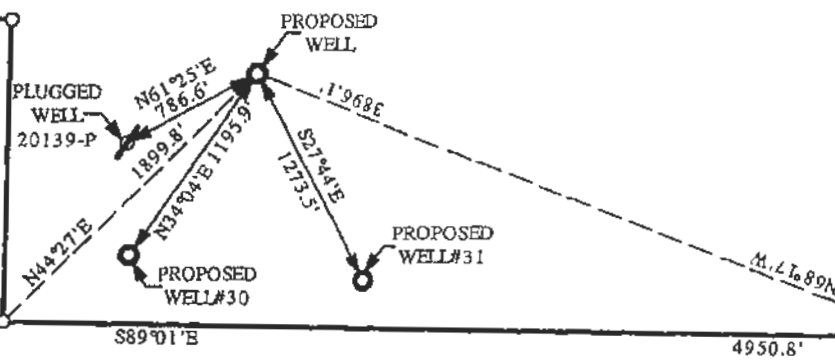
NRI DuBOIS, LLC.

John Pavlik

COMMONWEALTH OF PENNSYLVANIA

Well is located on topo map 2,147 feet west of longitude 78° 35' 00"

APR 01 2005



COMMONWEALTH OF PENNSYLVANIA

Surveyor or Engineer	TIMOTHY P. BOTSFORD	Phone #	724-349-5659	Dwg. #	M-1101	Date:	3-12-05	Scale:	1" = 1000'	Tract Acreage	620±
Lat & Long Metadata				Elevation Metadata				Survey Date			
Method	Direct GPS	Accuracy	3 ft. Datum	NAD 27	Method	Direct GPS	Accuracy	10 ft. Datum	NGVD 29	3-10-05	
Applicant / Well Operator Name				Well (Farm) Name				Well #		Serial #	
MID EAST OIL				CHAGRIN				BEI#33			
Address				County		Municipality		Well Type			
P.O. BOX 1378 INDIANA, PA. 15701				CLEARFIELD		HUSTON TWP. 980		GAS			
Surface Landowner				USGS 11/2 Quadrangle Map Name				Map Section			
NRI DuBOIS, LLC.				PENFIELD (0917)				4			
Surface Lessor				Angle & Course of Deviation (Drilling)		Surface Elevation		Anticipated Total Depth			
				0°		1635 ft.		5000 ft.			
Surface Owner or Water Purveyor with a Water Supply within 1,000 ft.				Approximate Course and Distance to Water Supply				Owner, Lessee, or Operator of Workable Coal Seam		Name of Coal Seam Owned, Leased, or Operated	
NONE								ROSEBUD MINING CO.			
								301 MARKET ST.			
								KITTANNING, PA. 16201		ALL SEAMS	

as Glen Ivan Corporation
Bark Camp #1 / Bark Camp #2 Lower Kittanning Seam



DEP USE ONLY	
Site Id	Primary Facility Id
Client Id	Sub-facility Id

WELL RECORD AND COMPLETION REPORT

Well Operator MID-EAST OIL COMPANY		DEP ID# 87845	Well API # (Permit / Reg) 37-033-25819	Project Number	Acres 620±
Address PO Box 1378			Well Farm Name CHAGRIN	Well # BEL#33	Serial #
City Indiana	State PA	Zip Code 15701	County Clearfield	Municipality Huston Township	
Phone 724-349-6690	Fax 724-349-6711	USGS 7.5 min. quadrangle map Penfield			
Check all that apply: ☒ Original Well Record ☒ Original Completion Report ☐ Amended Well Record ☐ Amended Completion Report					

WELL RECORD - Also complete log of formations on back (page 2)

Well Type	☒ Gas	☐ Oil	☐ Combination Oil & Gas	☐ Injection	☐ Storage	☐ Disposal	
Drilling Method	☒ Rotary - Air	☐ Rotary - Mud	☐ Cable Tool				
Date Drilling Started 6/9/05	Date Drilling Completed 6/15/05	Surface Elevation 1635 ft.	Total Depth - Driller 3470 ft.	Total Depth - Logger 3482 ft.			
Casing and Tubing		Cement returned on surface casing? ☒ Yes ☐ No Cement returned on coal protective casing? ☐ Yes ☐ No ☐ N/A					
Hole Size	Pipe Size	Wt.	Thread / Weld	Amount in Well (ft)	Material Behind Pipe Type and Amount	Packer / Hardware / Centralizers Type Size Depth	Date Run
15 1/4	13 3/8	37	T	39	Sanded in with cuttings	None	6/9/05
8 7/8	7	17	T	1050	195 sks Class A	Guide Shoe 7	6/13/05
6 1/4	4 1/2	9.5	T	3269	90 sks TD cement	Float Shoe 4 1/2	6/15/05

COMPLETION REPORT

Perforation Record			Stimulation Record						
Date	Interval Perforated From	To	Date	Interval Treated	Fluid Type	Amount	Propping Agent Type	Amount	Average Injection
6/22/05	3148	3157	6/22/05	3rd Bradford	Water	18,508	Sand	27,500	30.7 BPM
6/22/05	3070	3078	6/22/05	2nd Bradford	Water	16,956	Sand	20,000	30.2 BPM
6/22/05	2995	3006	6/22/05	1st Bradford	Water	18,406	Sand	27,500	30.3 BPM
6/22/05	2773	2832	6/22/05	Balltown	Water	18,051	Sand	25,000	30.3 BPM
Natural Open Flow Not taken			Natural Rock Pressure Not taken						
After Treatment Open Flow 183,000			After Treatment Rock Pressure 860 PSI 24 Hours Days						

Well Service Companies -- Provide the name, address, and phone number of all well service companies involved.

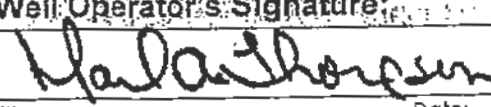
Name L.K. DRILLING CORP., INC.	Name SUPERIOR WELL SERVICES
Address 542 Lutz School Road	Address PO Box 458
City - State - Zip Indiana, PA 15701	City - State - Zip Black Lick, PA 15716
Phone 724-465-9130	Phone 724-248-1001

LOG OF FORMATIONS

Well API# 37-033-25819

Formation Name or Type	Top (feet)	Bottom (feet)	Gas at (feet)	Oil at (feet)	Water at (fresh / brine; ft.)	Source of Data
						DRILLER'S LOG
Brown Sandstone	0	20				
Gray Shale	20	35				
Sandstone	35	430			2 GPM FW @ 175'	
Coal	430	453				
Sandstone	453	1400			3 GPM FW @ 465'	
Red Rock	1400	1840				
Sandstone	1840	2400				
Sandy Shale	2400	2775				
Sand	2775	2785				
Sandy Shale	2785	3170				
Sand	3170	3180				
Sandy Shale	3180	3470				

Please delete empty rows if necessary to make all of page 2 fit on one page.

Well Operator's Signature:		DEP USE ONLY	
		Reviewed by:	Date:
Title:		Comments:	
President			



AUG 03 2005

COMMONWEALTH OF PENNSYLVANIA

DEPARTMENT OF ENVIRONMENTAL PROTECTION
OIL AND GAS MANAGEMENT PROGRAM

For assistance in accessing this document, please contact: RS-UC Mailbox@epa.gov

DEP USE ONLY	
Site Id	Primary Facility Id
Client Id	Sub-facility Id

WELL RECORD AND COMPLETION REPORT

Well Operator MID-EAST OIL COMPANY		DEP ID# 87845	Well API # (Permit / Reg) 37-033-25819	Project Number	Acres 620±
Address PO Box 1378			Well Farm Name CHAGRIN	Well # BEL#33	Serial #
City Indiana	State PA	Zip Code 15701	County Clearfield	Municipality Huston Township	
Phone 724-349-6690	Fax 724-349-6711	USGS 7.5 min. quadrangle map Penfield			
Check all that apply: ☒ Original Well Record ☒ Original Completion Report ☐ Amended Well Record ☐ Amended Completion Report					

WELL RECORD

Also complete Log of Formations on back (page 2)

Well Type	☒ Gas ☐ Oil ☐ Combination Oil & Gas ☐ Injection ☐ Storage ☐ Disposal						
Drilling Method	☒ Rotary - Air ☐ Rotary - Mud ☐ Cable Tool						
Date Drilling Started 6/9/05	Date Drilling Completed 6/15/05	Surface Elevation 1635 ft.	Total Depth - Driller 3470 ft.	Total Depth - Logger 3482 ft.			
Casing and Tubing		Cement returned on surface casing? ☒ Yes ☐ No Cement returned on coal protective casing? ☐ Yes ☐ No ☐ N/A					
Hole Size	Pipe Size	Wt.	Thread / Weld	Amount in Well (ft)	Material Behind Pipe Type and Amount	Packer / Hardware / Centralizers Type Size Depth	Date Run
15 1/4	13 3/8	37	T	39	Sanded in with cuttings	None	6/9/05
8 7/8	7	17	T	1050	195 sks Class A	Guide Shoe 7	6/13/05
6 1/4	4 1/2	9.5	T	3269	90 sks TD cement	Float Shoe 4 1/2	6/15/05

COMPLETION REPORT

Perforation Record			Stimulation Record						
Date	Interval Perforated From To		Date	Interval Treated	Fluid Type Amount	Propping Agent Type Amount	Average Injection		
6/22/05	3148 3157		6/22/05	3rd Bradford	Water 18,508	Sand 27,500	30.7 BPM		
6/22/05	3070 3078		6/22/05	2nd Bradford	Water 16,956	Sand 20,000	30.2 BPM		
6/22/05	2995 3006		6/22/05	1st Bradford	Water 18,406	Sand 27,500	30.3 BPM		
6/22/05	2773 2832		6/22/05	Balltown	Water 18,051	Sand 25,000	30.3 BPM		
Natural Open Flow Not taken			Natural Rock Pressure Not taken					Hours Days	
After Treatment Open Flow 183,000			After Treatment Rock Pressure 860 PSI					24 Hours Days	

Well Service Companies -- Provide the name, address, and phone number of all well service companies involved.

Name L.K. DRILLING CORP., INC.	Name SUPERIOR WELL SERVICES
Address 542 Lutz School Road	Address PO Box 458
City - State - Zip Indiana, PA 15701	City - State - Zip Black Lick, PA 15716
Phone 724-465-9130	Phone 724-248-1001

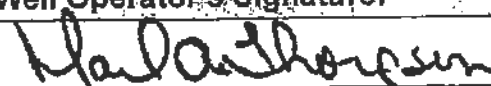
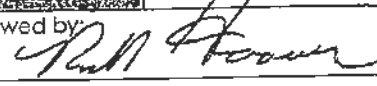
AUG 24 2005

AUG 05 2005

LOG OF FORMATIONS

Formation Name or Type	Top (feet)	Bottom (feet)	Gas at (feet)	Oil at (feet)	Water at (fresh / brine; ft.)	Source of Data
						DRILLER'S LOG
Brown Sandstone	0	20				
Gray Shale	20	35				
Sandstone	35	430			2 GPM FW @ 175'	
Coal	430	453				
Sandstone	453	1400			3 GPM FW @ 465'	
Red Rock	1400	1840				
Sandstone	1840	2400				
Sandy Shale	2400	2775				
Sand	2775	2785				
Sandy Shale	2785	3170				
Sand	3170	3180				
Sandy Shale	3180	3470				

Please delete empty rows if necessary to make all of page 2 fit on one page.

Well Operator's Signature:		DEP USE ONLY	
		Reviewed by:  Date: 8/22/05	
Title: President Date: 7/26/05		Comments:	



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 COMMONWEALTH OF PENNSYLVANIA
 DEPARTMENT OF ENVIRONMENTAL PROTECTION
 OIL AND GAS MANAGEMENT PROGRAM

WELL LOCATION PLAT

USE ONLY	Permit # 37033-25820	Project #
Date 4-58-7331		Scale 1/2" = 100'

Denotes location of well on topo map.		
True Latitude: NORTH		
41	10	51.68
True Longitude: WEST		
78	35	42.77

Well is located on topo map 9,950 feet south of latitude 41 12 30

BARK CAMP

HENRY DEBLE

T.MUNN

C.MUNN

APR 04 2005

D.L.F.

NRI DuBOIS, LLC.

COMMONWEALTH OF PENNSYLVANIA

Well is located on topo map 3,270 feet west of longitude 78 35 00CHERRY
TIMBER
ASSOC.SCOTT
GNANGEORGE ANDERSON
ROBERT SPADEPROPOSED
WELL
 S68°27'E 1204.1'
 S74°0'E 1810.1'
 S74°0'E 924.5'
 N64°1'E
PROPOSED
WELL#32PLUGGED
WELL
20139-P

S89°01'E

M.61.89N

4950.8'

COMMONWEALTH OF PENNSYLVANIA

Surveyor or Engineer TIMOTHY P. BOTSFORD	Phone # 724-349-5659	Dwg. # M-1102	Date: 3-12-05	Scale: 1" = 1000'	Tract Acreage 620±
Lat & Long Metadata Method Direct GPS Accuracy 3 ft. Datum NAD 27		Elevation Metadata Method Direct GPS Accuracy 10 ft. Datum NGVD 29		Survey Date 3-10-05	
Applicant / Well Operator Name MID EAST OIL		Well (Farm) Name CHAGRIN		Well # BEL#34	Serial #
Address P.O. BOX 1378 INDIANA, PA. 15701		County CLEARFIELD	Municipality HUSTON TWP.	Well Type 980 GAS	
Surface Landowner NRI DuBOIS, LLC.		USGS 7 1/2 Quadrangle Map Name PENFIELD 0917		Map Section 4	
Surface Lessor		Angle & Course of Deviation (Drilling) 0°	Surface Elevation 1640 ft.	Anticipated Total Depth 5000 ft.	
Surface Owner or Water Purveyor with a Water Supply within 1,000 ft.	Approximate Course and Distance to Water Supply	Owner, Lessee, or Operator of Workable Coal Seam ROSEBUD MINING CO. 301 MARKET ST. KITANNING, PA. 16201		Name of Coal Seam ALL SEAMS	
NONE					

"G-03" - Bark Camp #1-2 Low. Kitt Coal

5500-FM-OG0004 Rev. 2/2004



AUG 03 2005

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OIL AND GAS MANAGEMENT PROGRAM

DEP USE ONLY	
Site ID 652975	Primary Fac ID 665883
Client ID 87845	Subfacility ID CF

Well Record and Completion Report

II Operator MID-EAST OIL COMPANY		DEP ID# 87845	Well API # (Permit / Reg) 37-033-25820-00	Project Number	Acres 620±
Address 255 AIRPORT RD, PO BOX 1378			Well Farm Name & Well # CHAGRIN BEL 34		Serial #
City INDIANA	State PA	Zip Code 15701	County Clearfield	Municipality Huston	
Phone (724) 349-6690	Fax 724-349-6711	USGS 7.5 min. quadrangle map Penfield			

Check all that apply: ☒ Original Well Record ☒ Original Completion Report ☐ Amended Well Record ☐ Amended Completion Report

WELL RECORD Also complete the Log of Formations on back (page 2)

Well Type	☒ Gas ☐ Oil ☐ Combination Oil & Gas ☐ Injection ☐ Storage ☐ Disposal						
Drilling Method	☒ Rotary - Air ☐ Rotary - Mud ☐ Cable Tool						
Date Drilling Started 6/15/05	Date Drilling Completed 6/17/05	Surface Elevation 1640 ft.	Total Depth - Driller 3480 ft.	Total Depth - Logger 3486 ft.			
Casing and Tubing		Cement returned on surface casing? ☒ Yes ☐ No Cement returned on coal protective casing? ☐ Yes ☐ No ☐ N/A					
Hole Size	Pipe Size	Wt.	Thread / Weld	Amount in Well (ft)	Material Behind Pipe Type and Amount	Packer / Hardware / Centralizers Type Size Depth	Date Run
15 1/4	13 3/8	37	T	17	Sanded in with cuttings	None	6/15/05
8 7/8	7	17	T	1013	220 sks Class A	Guide Shoe	6/16/06
6 1/4	4 1/2	9.5	T	3383	85 sks TD cement	Float Shoe	6/18/05

COMPLETION REPORT

Perforation Record			Stimulation Record						
Date	Interval Perforated From	To	Date	Interval Treated	Fluid Type	Amount	Propping Agent Type	Amount	Average Injection
6/23/05	3192	3200	6/23/05	3rd Bradford	Water	19,434	Sand	25,000	30.6 BPM
6/23/05	3115	3120	6/23/05	2nd Bradford	Water	14,731	Sand	15,000	30.5 BPM
6/23/05	3038	3051	6/23/05	1st Bradford	Water	23,555	Sand	30,000	30.9 BPM
6/23/05	2886	2877	6/23/05	Sheffield	Water	17,731	Sand	20,000	30.2 BPM
6/23/05	2488	2498	6/23/05	Warren	Water	19,006	Sand	25,000	30.5 BPM
Natural Open Flow Not taken			Natural Rock Pressure Not taken			Hours		Days	
After Treatment Open Flow 168,000			After Treatment Rock Pressure 720 PSI			24		Hours Days	

Well Service Companies -- Provide the name, address, and phone number of all well service companies involved.

Name L.K. DRILLING CORP., INC. Address 542 Lutz School Road City-State-Zip Indiana, PA 15701 Phone 724-465-9130	Name SUPERIOR WELL SERVICES Address PO Box 458 City-State-Zip Black Lick, PA 15716 Phone 724-248-1001
--	--

LOG OF FORMATIONS						Well API#: 37-033-25820-00-
(If you will need more space than this page, please photocopy the blank form before filling it in.)						
Formation Name or Type	Top (feet)	Bottom (feet)	Gas at (feet)	Oil at (feet)	Water at (fresh / brine; ft.)	Source of Data
Brown Sandstone	0	10				DRILLER'S LOG 5 GPM FW @ 70'
Gray Shale	10	200				
Sandstone	200	442				
Coal	442	445				
Sandstone	445	500				
Coal	500	505				
Sandy Sand	505	1390				
Red Rock	1390	1845				
Gray Sandy Shale	1845	2230				
Red Rock	2230	2300				
Sandy Shale	2300	3200				
Sand	3200	3210				
Sandy Shale	3210	3480				
Well Operator's Signature						DEP USE ONLY
						Reviewed by: _____ Date: _____
Title: _____ Date: 7/27/05						Comments: _____



AUG 03 2005

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OIL AND GAS MANAGEMENT PROGRAM

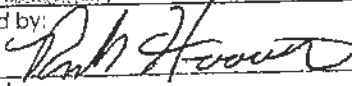
DEP USE ONLY	
Site ID 652975	Primary Fac ID 665883
Client ID 87845	Subfacility ID CF

Well Record and Completion Report

Operator MID-EAST OIL COMPANY		DEP ID# 87845		Well API # (Permit / Reg) 37-033-25820-00		Project Number		Acres 620±	
Address 255 AIRPORT RD, PO BOX 1378				Well Farm Name & Well # CHAGRIN BEL 34				Serial #	
City INDIANA		State PA		Zip Code 15701		County Clearfield		Municipality Huston	
Phone (724) 349-6690		Fax 724-349-6711		USGS 7.5 min. quadrangle map Penfield					
Check all that apply: ☒ Original Well Record ☒ Original Completion Report ☐ Amended Well Record ☐ Amended Completion Report									
WELL RECORD Also complete the Log of Formations on back (page 2)									
Well Type		☒ Gas ☐ Oil ☐ Combination Oil & Gas ☐ Injection ☐ Storage ☐ Disposal							
Drilling Method		☒ Rotary - Air ☐ Rotary - Mud ☐ Cable Tool							
Date Drilling Started 6/15/05		Date Drilling Completed 6/17/05		Surface Elevation 1640 ft.		Total Depth - Driller 3480 ft.		Total Depth - Logger 3486 ft.	
Casing and Tubing				Cement returned on surface casing? ☒ Yes ☐ No Cement returned on coal protective casing? ☐ Yes ☐ No ☐ N/A					
Hole Size	Pipe Size	Wt.	Thread / Weld	Amount in Well (ft)	Material Behind Pipe Type and Amount	Packer / Hardware / Centralizers Type Size Depth	Date Run		
15 1/4	13 3/8	37	T	17	Sanded in with cuttings	None	17	6/15/05	
8 7/8	7	17	T	1013	220 sks Class A	Guide Shoe	7	1013	6/16/06
5 1/4	4 1/2	9.5	T	3383	85 sks TD cement	Float Shoe	4 1/2	3383	6/18/05
COMPLETION REPORT									
Perforation Record				Stimulation Record					
Date	Interval Perforated From To		Date	Interval Treated	Fluid Type Amount	Propping Agent Type Amount		Average Injection	
6/23/05	3192	3200	6/23/05	3rd Bradford	Water 19,434	Sand	25,000	30.6 BPM	
6/23/05	3115	3120	6/23/05	2nd Bradford	Water 14,731	Sand	15,000	30.5 BPM	
6/23/05	3038	3051	6/23/05	1st Bradford	Water 23,555	Sand	30,000	30.9 BPM	
6/23/05	2886	2877	6/23/05	Sheffield	Water 17,731	Sand	20,000	30.2 BPM	
6/23/05	2488	2498	6/23/05	Warren	Water 19,006	Sand	25,000	30.5 BPM	
Natural Open Flow Not taken				Natural Rock Pressure Not taken					
After Treatment Open Flow 168,000				After Treatment Rock Pressure 720 PSI					
				Hours Days					
				Hours Days					
Well Service Companies -- Provide the name, address, and phone number of all well service companies involved.									
Name L.K. DRILLING CORP., INC.			Name SUPERIOR WELL SERVICES			Name SUPERIOR WELL SERVICES			
Address 542 Lutz School Road			Address PO Box 458			Address PO Box 458			
City - State - Zip Indiana, PA 15701			City - State - Zip Black Lick, PA 15716			City - State - Zip Black Lick, PA 15716			
Phone 724-465-9130			Phone 724-248-1001			Phone 724-248-1001			

AUG 05 2005

LOG OF FORMATIONS						Well API#: 37-033-25820;00-
(If you will need more space than this page, please photocopy the blank form before filling it in.)						
Formation Name or Type	Top (feet)	Bottom (feet)	Gas at (feet)	Oil at (feet)	Water at (fresh / brine; ft.)	Source of Data
Brown Sandstone	0	10				DRILLER'S LOG 5 GPM FW @ 70'
Gray Shale	10	200				
Sandstone	200	442				
Coal	442	445				
Sandstone	445	500				
Coal	500	505				
Sandy Sand	505	1390				
Red Rock	1390	1845				
Gray Sandy Shale	1845	2230				
Red Rock	2230	2300				
Sandy Shale	2300	3200				
Sand	3200	3210				
Sandy Shale	3210	3480				

Well Operator's Signature		DEP USE ONLY	
		Reviewed by: 	
Title: _____ Date: 7/27/05		Date: 8/22/05 Comments: _____	

GEO COPY



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OIL AND GAS MANAGEMENT PROGRAM

WELL LOCATION PLAT

Auth. No.	C604898
USE	37-033-25901
ONLY	Project #
PM	

Denotes location of well
on topo map.

True Latitude: NORTH

41° 10' 45.81"

True Longitude: WEST

78° 34' 59.73"

Well is located on topo map 10,544 feet south of latitude 41° 12' 30"



GEORGE ANDERSON
ROBERT SPADE

BARK CAMP

HENRY
DEIBLE

T.MUNN

C.MUNN

CHERRY
TIMBER
ASSOC.SCOTT
GNAN

NRI DuBOIS, LLC.

NOTE*
PROPOSED WELL IS
140' FROM NEAREST
POINT ON EXISTING
WETLANDS ALONG
BARK CAMP RUN.

Well is located on topo map 11,448 feet west of longitude 78° 32' 30"

COMMONWEALTH OF PENNSYLVANIA

2007 20 SEP

Surveyor or Engineer	TIMOTHY P. BOTSFORD	Phone #	724-349-5659	Dwg. #	M-1165	Date:	8-16-05	Scale:	1" = 1000'	Tract Acres	620±	
Lat & Long Metadata	Method	Direct GPS	Accuracy	3	ft. Datum	NAD 27	Method	Direct GPS	Accuracy	10	ft. Datum	NGVD 29
Applicant / Well Operator Name	MID EAST OIL		Well (Farm) Name	CHAGRIN		Well #	930		Serial #	BEL#54		
Address	P.O. BOX 1378 INDIANA, PA. 15701		County	CLEARFIELD		Municipality	HUSTON TWP.		Well Type	GAS		
Surface Landowner	NRI DuBOIS, LLC.		USGS 7 1/2 Quadrangle Map Name	PENFIELD		Map Section	0917		5			
Surface Lessor			Angle & Course of Deviation (Drilling)	0°		Surface Elevation	1365 ft.		Anticipated Total Depth	5000 ft.		
Surface Owner or Water Purveyor with a Water Supply within 1,000 ft.	NONE		Approximate Course and Distance to Water Supply			Owner, Lessee, or Operator of Waterable Coal Seam	ROSEBUD MINING CO. 301 MARKET ST. KITTINGING, PA. 16201		Name of Coal Seam Owned, Leased, or Operated	ALL SEAMS		

GCB / Glen Iron Corporation
2nd 11/2 / 1st level Kittinging Seam



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OIL AND GAS MANAGEMENT PROGRAM

DEP USE ONLY	
Site Id	Primary Facility Id
Client Id	Sub-facility Id C.F.

WELL RECORD AND COMPLETION REPORT

Well Operator MID-EAST OIL COMPANY		DEP ID# 87845	Well API # (Permit / Reg) 37-033-25901	Project Number	Acres 620±
Address PO Box 1378			Well Farm Name CHAGRIN	Well # BEL 54	Serial #
City Indiana	State PA	Zip Code 15701	County Clearfield	Municipality Huston Township	
Phone 724-349-6690	Fax 724-349-6711	USGS 7.5 min. quadrangle map Penfield			

Check all that apply: ☒ Original Well Record ☒ Original Completion Report ☐ Amended Well Record ☐ Amended Completion Report

WELL RECORD

Well Type	☒ Gas	☐ Oil	☐ Combination Oil & Gas	☐ Injection	☐ Storage	☐ Disposal	
Drilling Method	☒ Rotary - Air	☐ Rotary - Mud	☐ Cable Tool				
Date Drilling Started 11/9/05	Date Drilling Completed 11/15/05	Surface Elevation 1365 ft.	Total Depth - Driller 370 ft.	Total Depth - Logger Not logged ft.			
Casing and Tubing		Cement returned on surface casing? ☒ Yes ☐ No Cement returned on coal protective casing? ☐ Yes ☐ No ☐ N/A					
Hole Size	Pipe Size	Wt.	Thread / Weld	Amount in Well (ft)	Material Behind Pipe Type and Amount	Packer / Hardware / Centralizers Type Size Depth	Date Run
15 1/4	13 3/8	37	T	13	Sanded in with cuttings	None	11/9/05
8 7/8	7	20	T	286	150 sks Unispan 70 sks Class A	Guide Shoe 7	11/10/05
					PLUGGED 11/15/05		
					150 sks Class A -		
					Plug to surface		

COMPLETION REPORT

Perforation Record			Stimulation Record				
Date	Interval Perforated From To		Date	Interval Treated	Fluid Type Amount	Propping Agent Type Amount	Average Injection

Natural Open Flow	Natural Rock Pressure	Hours	Days
After Treatment Open Flow	After Treatment Rock Pressure	Hours	Days

Well Service Companies -- Provide the name, address, and phone number of all well service companies involved.

Name L.K. DRILLING CORP., INC.	Name SUPERIOR WELL SERVICES
Address 542 Lutz School Road	Address PO Box 458
City - State - Zip Indiana, PA 15701	City - State - Zip Black Lick, PA 15716
Phone 724-465-9130	Phone 724-248-1001

LOG OF FORMATIONS

Well API#37-033-25901

Formation Name or Type	Top (feet)	Bottom (feet)	Gas at (feet)	Oil at (feet)	Water at (fresh / brine; ft.)	Source of Data
						DRILLER'S LOG
Brown Shale	0	25				
Black Shale	25	30				
Brown Sandstone	30	40				
Limestone	40	62				
Gray Shale	62	94			30 GPM FW	
Gray & White Sandstone	94	172			@ 80'	
Gray Shale & Limestone	172	180			1500 - 1800	
Broken	180	183			Artesian @	
Gray Sandstone & Shale	183	300			180'	
Gray Shale & Limestone	300	340				
Broken Gray Sandstone	340	370			2nd Artesian	
					@ 340'	

Please delete empty rows if necessary to make all of page 2 fit on one page.

Well Operator's Signature:

DEP USE ONLY

Reviewed by:

Date:

Title:
PresidentDate:
12/11/06

Comments:



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OIL AND GAS MANAGEMENT PROGRAM

DEP USE ONLY	
Site Id	Primary Facility Id
Client Id	Sub-facility Id CLF

WELL RECORD AND COMPLETION REPORT

Well Operator MID-EAST OIL COMPANY		DEP ID# 87845	Well API # (Permit / Reg) 37-033-25901	Project Number	Acres 620±
Address PO Box 1378		Well Farm Name CHAGRIN		Well # BEL 54	Serial #
City Indiana	State PA	Zip Code 15701	County Clearfield	Municipality Huston Township	
Phone 724-349-6690	Fax 724-349-6711	USGS 7.5 min. quadrangle map Pahfield			
Check all that apply: ☒ Original Well Record ☒ Original Completion Report ☐ Amended Well Record ☐ Amended Completion Report					

WELL RECORD (Also complete top of form on back of page 2)

Well Type	☒ Gas ☐ Oil ☐ Combination Oil & Gas ☐ Injection ☐ Storage ☐ Disposal						
Drilling Method	☒ Rotary - Air ☐ Rotary - Mud ☐ Cable Tool						
Date Drilling Started 11/9/05	Date Drilling Completed 11/15/05	Surface Elevation 1365 ft.	Total Depth - Driller 370 ft.	Total Depth - Logger Not Logged ft.			
Casing and Tubing		Cement returned on surface casing? ☒ Yes ☐ No Cement returned on coal protective casing? ☐ Yes ☐ No ☐ N/A					
Hole Size	Pipe Size	Wt.	Thread / Weld	Amount in Well (ft)	Material Behind Pipe Type and Amount	Packer / Hardware / Centralizers Type Size Depth	Date Run
15 1/4	13 3/8	37	T	13	Sanded in with cuttings	None	11/9/05
8 7/8	7	20	T	286	150 sks Unispan 70 sks Class A	Guide Shoe 7 286	11/10/05
					PLUGGED 11/15/05		
					150 sks Class A -		
					Plug to surface		

COMPLETION REPORT

Perforation Record				Stimulation Record				
Date	Interval Perforated From To			Date	Interval Treated	Fluid Type Amount	Propping Agent Type Amount	Average Injection

Natural Open Flow	Natural Rock Pressure	Hours	Days
After Treatment Open Flow	After Treatment Rock Pressure	Hours	Days

Well Service Companies -- Provide the name, address, and phone number of all well service companies involved.

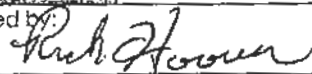
Name L.K. DRILLING CORP., INC.	Name SUPERIOR WELL SERVICES
Address 542 Lutz School Road	Address PO Box 458
City - State - Zip Indiana, PA 15701	City - State - Zip Bellevue, PA 15719
Phone 724-465-9130	Phone 724-248-1001

DEP CAMBRIA OFFICE

5500-FM-OG0004 Rev. 2/2001

LOG OF FORMATIONS

Well API#37-033-25901

Formation Name or Type	Top (feet)	Bottom (feet)	Gas at (feet)	Oil at (feet)	Water at (fresh / brine; ft.)	Source of Data
						DRILLER'S LOG
Brown Shale	0	25				
Black Shale	25	30				
Brown Sandstone	30	40				
Limestone	40	62				
Gray Shale	62	94			30 GPM FW	
Gray & White Sandstone	94	172			@ 80'	
Gray Shale & Limestone	172	180			1500 - 1800	
Broken	180	183			Artesian @	
Gray Sandstone & Shale	183	300			180'	
Gray Shale & Limestone	300	340			2nd Artesian	
Broken Gray Sandstone	340	370			@ 340'	
AUG 01 2007 DEP. SOUTHWEST REGION OIL & GAS						
Please delete empty rows if necessary to make all of page 2 fit on one page.						
Well Operator's Signature:			DEP USE ONLY			
			Reviewed by:		Date:	
Title: President					5/11/07	
Date: 12/11/06			Comments:			



MAR 07 2007

For assistance in accessing this document, please contact: R3_UIC_Mailbox@epa.gov

DEPARTMENT OF ENVIRONMENTAL PROTECTION
OIL & GAS MANAGEMENT PROGRAMDEP, SOUTHWEST REGION
OIL & GAS

Certificate of Well Plugging

DEP USE ONLY	
Primary Facility ID #	
Sub-facility ID #	
Bonded Well?	Bond Agreement #
☒ Yes ☐ No	5428

Well Operator MID-EAST OIL COMPANY		DEP ID# 87845	Well API # (Permit / Reg) 37-033-25901	Project Number	Type of Well Gas
Address PO Box 1378		City Indiana	State PA	Zip Code 15701	Well Farm Name CHAGRIN
Phone 724-349-6690		Fax 724-349-6711	County Clearfield	Municipality Huston Township	Well # BEL 54
Complete the next section (coal) if applicable.					

Coal ☐ Operator ☒ Owner ☐ Lessee	Coal ☐ Operator ☐ Owner ☐ Lessee	Coal ☐ Operator ☐ Owner ☐ Lessee
Rosebud Mining Co.		
Address 301 Market Street	Address	Address
City, State, Zip Kittanning, PA 16201	City, State, Zip	City, State, Zip

The undersigned representatives of the Well Operator certify that we participated in plugging this well, and that the work was started on (date) 11/15/05, and that the well was plugged as follows.

Filling Material and Plugs	Depth		Casing and Tubing		
	From	To	Size	Pulled	Left
Plugged 11/15/05	370'	Surface	13 3/8"		13'
150 sks Class A			7"		286'
Plug to surface					
Depth to coal seams, if any					
Describe Monument					
PLUGGED WELL					
2" pipe					

Signature of Participants

Signature - Well Operator <i>Lancelott J. Casaday</i> Print or Type Signer's Name and Title Lancelott J. Casaday Vice President - Operations	Signature - Qualified Participant <i>David Lansberry</i> Print or Type Signer's Name, Title, & Co. Mid-East Oil Company Field Supervisor David Lansberry	Signature - Qualified Participant Print or Type Signer's Name, Title, & Co.
--	---	--

Signers certify that the work of plugging this well was completed on (date) 11/15/05 and that the information above is true and accurate.

DEP USE ONLY		Plug Inspector	Site Restoration (WQS)	Bond REL#
☒ Approved ☐ Denied	Date 3/5/07			☐ Yes ☐ No
DEP Rep: <i>Paul Hoon</i>		Date:		

on completion of plugging, mail one copy of this certificate to each coal operator, owner, or lessee, if any, and one copy to the appropriate DEP Regional Oil and Gas Management Program office.

Dept. of Environmental Protection
NW Regional Office - Oil & Gas
230 Chestnut Street
Meadville, PA 16335-3481

Dept. of Environmental Protection
SW Regional Office - Oil & Gas
400 Waterfront Drive
Pittsburgh, PA 15222-4745

DEP CAMBRIA OFFICE

GEO COPY

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OIL AND GAS MANAGEMENT PROGRAM

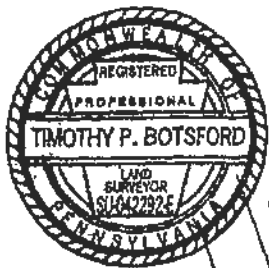
DEF	Auth ID # C604906	10305
USE	Permit # 37-033-25902	
ONLY	Project #	
		PM



WELL LOCATION PLAT

Denotes location of well on topo map.		
True Latitude: NORTH		
41	10	48.96"
True Longitude: WEST		
78	35	13.65"

Well is located on topo map 10,225 feet south of latitude 41 12 30



GEORGE ANDERSON
ROBERT SPADE

SCOTT GNAN

CHERRY
TIMBER
ASSOC.

BARK CAMP

HENRY
DEIBLE

T.MUNN

C.MUNN

NRI DuBOIS, LLC.

PROPOSED
WELL#6

John Parik

PROPOSED
WELLEXISTING
WELL
P.N.25819N82°52'E
1111.4'

2861.5'

S72°46'E
1110.9'PROPOSED
WELL#54

2974.1'

N58°20'E

S89°01'E

N57°44'W

4950.8'

COMMONWEALTH OF PENNSYLVANIA

COMMONWEALTH OF PENNSYLVANIA

SEP 20 2005

Surveyor or Engineer TIMOTHY P. BOTSFORD	Phone # 724-349-5659	Dwg. # M-1166	Date: 8-16-05	Scale: 1" = 1000'	Tract Acreage 620±
Lat & Long Metadata Method Direct GPS Accuracy 3 ft. Datum NAD 27		Elevation Metadata Method Direct GPS Accuracy 10 ft. Datum NGVD 29		Survey Date 8-12-05	
Applicant / Well Operator Name MID EAST OIL		Well(Farm) Name CHAGRIN		Well # BEL#55	Serial #
Address P.O. BOX 1378 INDIANA, PA. 15701		County CLEARFIELD	Municipality HUSTON TWP.	Well Type GAS	
Surface Landowner NRI DuBOIS, LLC.		USGS 7 1/2 Quadrangle Map Name PENFIELD		Map Section 4	
Surface Lessor		Angle & Course of Deviation (Drilling) 0°	Surface Elevation 1425 ft.	Anticipated Total Depth 5000 ft.	
Surface Owner or Water Purveyor with a Water Supply within 1,000 ft.	Approximate Course and Distance to Water Supply	Owner, Lessee, or Operator of Well (Farm) Name	Name of Coal Seam		
NONE		ROSEBUD MINING CO.	ALL SEAMS		
		301 MARKET ST.			
		KITTANNING, PA. 16201			

Back / Glen Ivan Corp. #1 / #2 Mine 1 and Kittanning River

WELL RECORD AND COMPLETION REPORT

DEP USE ONLY	
Site Id	Primary Facility Id
Client Id	Sub-facility Id

WELL RECORD Also complete log of information on lead (page 2)

DEP, SOUTHWEST REGION

COMPLETION REPORT

Natural Open Flow		Natural Rock Pressure		Hours	Days
	not taken		not taken		
After Treatment Open Flow	435,000	After Treatment Rock Pressure	560 PSI	24 Hours	Days

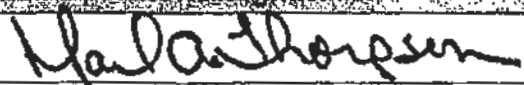
Well Service Companies -- Provide the name, address, and phone number of all well service companies involved.

Name L.K. DRILLING CORP., INC.	Name UNIVERSAL WELL SERVICES, INC.	Name SUPERIOR WELL SERVICES
Address 542 Lutz School Road	Address PO Box 305	Address PO Box 458
City - State - Zip Indiana, PA 15701	City - State - Zip Punksburntawney, PA 15767	City - State - Zip Black Lick, PA 15716
Phone 724-485-9130	Phone 814-938-2051	Phone 724-248-1001

5500-FM-OG0004 Rev. 2/2001

LOG OF FORMATIONS

Well API#37-033-25902

Formation Name or Type	Top (feet)	Bottom (feet)	Gas at (feet)	Oil at (feet)	Water at (fresh / brine: ft.)	Source of Data
						DRILLER'S LOG
Fill	0	5				
Brown Shale & Sandstone	5	21				
Gray & Brown Sandstone	21	63				
Gray Shale & Sandstone	63	225			5 GPM FW @ 105'	
Coal	225	228				
Shale & Sandstone	228	315				
Shale & Limestone	315	465			10 BPM FW @ 240'	
Red & Gray Sandstone	465	705				
Gray Shale & Sandstone	705	1160			5 GPM FW @ 315'	
Red & Gray Shale	1160	1280				
Gray Sand & Sandstone	1280	1340				
Red & Gray Shale	1340	1610				
Limestone & Sand	1610	1935				
Red & Gray Sandstone	1935	2255				
Gray Shale & Sandstone	2255	2500				
Gray Sand & Sandstone	2500	2510				
Gray Shale & Sandstone	2510	2700				
Gray Sand & Sandstone	2700	2706				
Gray Shale & Sandstone	2706	3100				
Gray Sand & Sandstone	3100	3110				
Gray Shale & Sandstone	3110	3330				
Gray Sand & Sandstone	3330	3335				
Gray Shale & Sandstone	3335	3400				
Please delete empty rows if necessary to make all of page 2 fit on one page.						
Well Operator's Signature:				DEP USE ONLY		
				Reviewed by:		Date:
Title: President				Comments:		
Date: 6/15/06						



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OIL AND GAS MANAGEMENT PROGRAM

DEP USE ONLY

Site Id	Primary Facility Id
Client Id	Sub-facility Id

WELL RECORD AND COMPLETION REPORT

Well Operator MID-EAST OIL COMPANY		DEP ID# 87845	Well API # (Permit / Reg) 37-033-25902	Project Number	Acres 620±
Address PO Box 1378			Well Farm Name CHAGRIN	Well # BEL 55	Serial #
City Indiana	State PA	Zip Code 15701	County Clearfield	Municipality Huston Township	
Phone 724-349-6690	Fax 724-349-6711	USGS 7.5 min. quadrangle map Penfield			

Check all that apply: ☒ Original Well Record ☒ Original Completion Report ☐ Amended Well Record ☐ Amended Completion Report

WELL RECORD Also complete the information on back (page 2)

Well Type		☒ Gas	☐ Oil	☐ Combination Oil & Gas	☐ Injection	☐ Storage	☐ Disposal
Drilling Method		☒ Rotary - Air	☐ Rotary - Mud	☐ Cable Tool			
Date Drilling Started 2/27/06		Date Drilling Completed 3/1/06		Surface Elevation 1425 ft.	Total Depth - Driller 3400 ft.	Total Depth - Logger 3411 ft.	
Casing and Tubing				Cement returned on surface casing? ☐ Yes ☐ No			
				Cement returned on coal protective casing? ☐ Yes ☐ No ☐ N/A			
Hole Size	Pipe Size	Wt.	Thread / Weld	Amount in Well (ft)	Material Behind Pipe Type and Amount	Packer / Hardware / Centralizers Type	Date Run
15 1/4	13 3/8	37	T	24	Sanded in with cuttings	none	2/27/06
8 7/8	7	20	T	932	185 sks Class A	Guide Shoe	2/28/06
1/4	4 1/2	9.5	T	3026	120 sks TD cement	Float Shoe	3/1/06
				DEC 29 2006 AUG 04 2006			
				SOUTHWEST REGION DEP, SOUTHWEST REGION			

Perforation Record			Stimulation Record						
Date	Interval Perforated From	To	Date	Interval Treated	Fluid Type	Amount	Propping Agent Type	Amount	Average Injection
3/21/06	2910	2914	3/21/06	3rd Bradford	Water	11,023	Sand	12,500	22.0 BPM
3/21/06	2827	2839	3/21/06	2nd Bradford	Water	14,670	Sand	17,500	29.2 BPM
3/21/06	2756	2789	3/21/06	1st Bradford	Water	20,520	Sand	30,000	29.5 BPM
3/21/06	2557	2594	3/21/06	Tiona	Water	13,310	Sand	15,000	22.6 BPM
3/21/06	1490	1504	3/21/06	4th Bradford	Water	21,726	Sand	35,000	30.8 BPM

Natural Open Flow	not taken	Natural Rock Pressure	not taken	Hours	Days
After Treatment Open Flow	435,000	After Treatment Rock Pressure	560 PSI	24 Hours	Days

Well Service Companies -- Provide the name, address, and phone number of all well service companies involved.

Name L.K. DRILLING CORP., INC.	Name UNIVERSAL WELL SERVICES, INC.	Name SUPERIOR WELL SERVICES
Address 542 Lutz School Road	Address PO Box 305	Address PO Box 458
City-State-Zip Indiana, PA 15701	City-State-Zip Punxsutawney, PA 15767	City-State-Zip Black Lick, PA 15716
Phone 724-465-9130	Phone 814-938-2051	Phone 724-248-1001

5500-FM-OG0004 Rev. 2/2001

LOG OF FORMATIONS

Well API#37-033-25902

Formation Name or Type	Top (feet)	Bottom (feet)	Gas at (feet)	Oil at (feet)	Water at (fresh / brine; ft.)	Source of Data
						DRILLER'S LOG
Fill	0	5				
Brown Shale & Sandstone	5	21				
Gray & Brown Sandstone	21	63				
Gray Shale & Sandstone	63	225			5 GPM FW	
Coal	225	228			@ 105'	
Shale & Sandstone	228	315				
Shale & Limestone	315	465			10 BPM FW	
Red & Gray Sandstone	465	705			@ 240'	
Gray Shale & Sandstone	705	1160			5 GPM FW	
Red & Gray Shale	1160	1280			@ 315'	
Gray Sand & Sandstone	1280	1340				
Red & Gray Shale	1340	1610				
Limestone & Sand	1610	1935				
Red & Gray Sandstone	1935	2255				
Gray Shale & Sandstone	2255	2500				
Gray Sand & Sandstone	2500	2510				
Gray Shale & Sandstone	2510	2700				
Gray Sand & Sandstone	2700	2706				
Gray Shale & Sandstone	2706	3100				
Gray Sand & Sandstone	3100	3110				
Gray Shale & Sandstone	3110	3330				
Gray Sand & Sandstone	3330	3335				
Gray Shale & Sandstone	3335	3400				

Please delete empty rows if necessary to make all of page 2 fit on one page.

Well Operator's Signature <i>Malcolm Thompson</i>	DEP USE ONLY
Title: President	Reviewed by <i>Rich H. Jones</i> Date: 12/27/06
Date: 6/15/06	Comments:

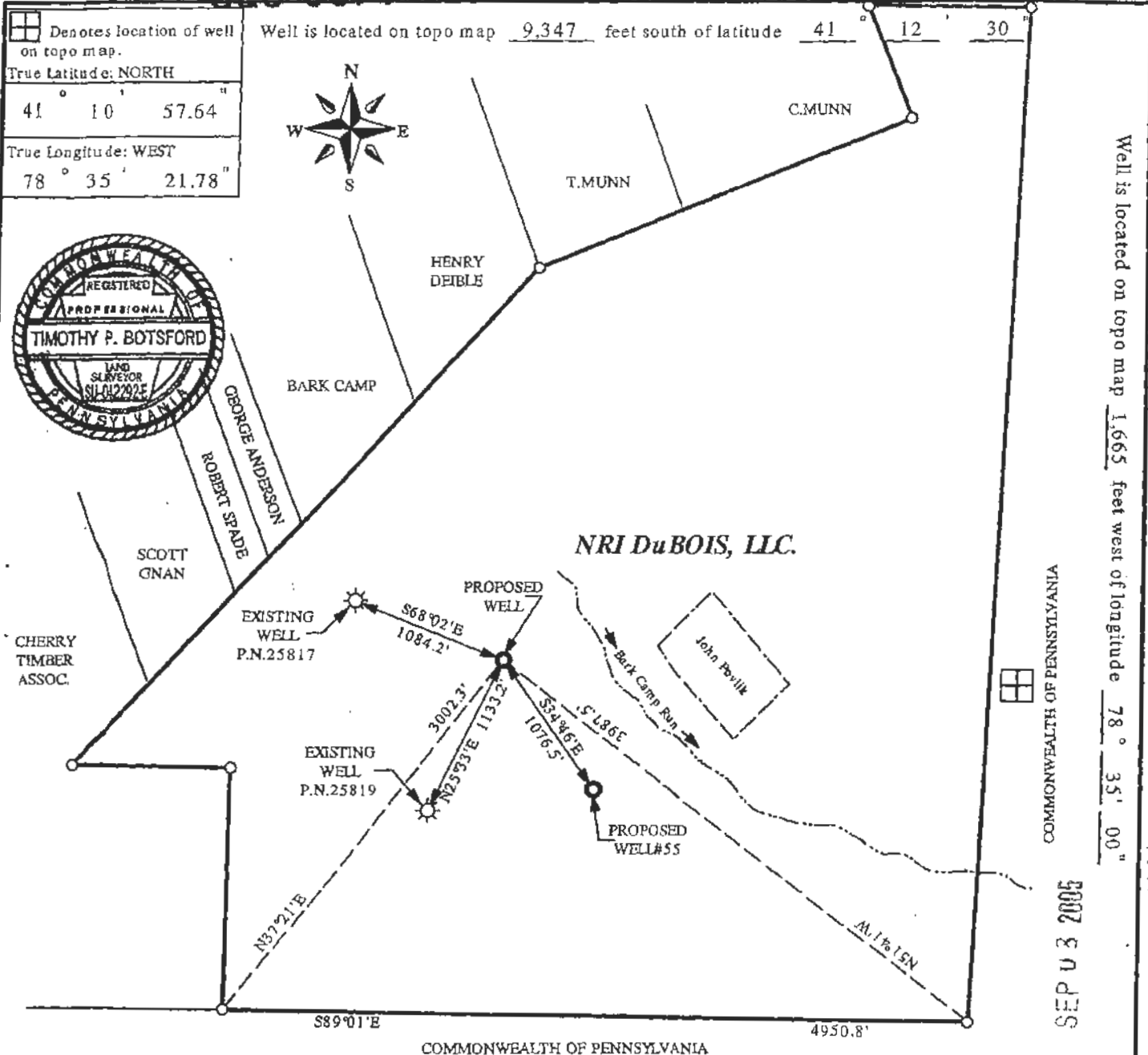


GEO COPY

 COMMONWEALTH OF PENNSYLVANIA
 DEPARTMENT OF ENVIRONMENTAL PROTECTION
 OIL AND GAS MANAGEMENT PROGRAM

WELL LOCATION PLAT

DEP	Alpha ID #	C-605067	PM
USE	Branch #	37-033-25905	
ONLY	Project #		



Surveyor or Engineer TIMOTHY P. BOTSFORD	Phone # 724-349-5659	Dwg. # M-1167	Date: 8-16-05	Scale: 1" = 1000'	Tract Acreage 620±
Lat & Long Metadata Method Direct GPS Accuracy 3 ft. Datum NAD 27		Elevation Metadata Method Direct GPS Accuracy 10 ft. Datum NGVD 29		Survey Date 8-12-05	
Applicant / Well Operator Name MID EAST OIL		Well (Farm) Name CHAGRIN		Well # BEL#56	Serial #
Address P.O. BOX 1378 INDIANA, PA. 15701		County CLEARFIELD	Municipality HUSTON TWP.	Well Type 930 GAS	
Surface Landowner NRI DuBOIS, LLC.		USGS 7 1/2 Quadrangle Map Name PENFIELD		Map Section 0917 4	
Surface Lessor		Angle & Course of Deviation (Drilling) 0°	Surface Elevation 1465 ft.	Anticipated Total Depth 5000 ft.	
Surface Owner or Water Parryor with a Water Supply within 3,000 ft.		Approximate Course and Distance to Water Supply		Owner, Lessee, or Operator of Well ROSEBUD MINING CO. 301 MARKET ST. KITANNING, PA. 16201	
NONE				Name of Coal Seam ALL SEAMS	

GBS / Glen Ivan Corp

5500-FM-OG0004 Rev. 2/2001



FEB 06 2006

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OIL AND GAS MANAGEMENT PROGRAM

DEP, SOUTHWEST REGION

WELL RECORD AND COMPLETION REPORT

DEP USE ONLY	
Site Id	Primary Facility Id
Client Id	Sub-facility Id

Well Operator MID-EAST OIL COMPANY		DEP ID# 87845	Well API # (Permit / Reg) 37-033-25905	Project Number	Acres 620±
Address PO Box 1378		Well Farm Name CHAGRIN		Well # BEL #56	Serial #
City Indiana	State PA	Zip Code 15701	County Clearfield	Municipality Huston Township	
Phone 724-349-6690	Fax 724-349-6711	USGS 7.5 min. quadrangle map Penfield			

Check all that apply: ☒ Original Well Record ☒ Original Completion Report ☐ Amended Well Record ☐ Amended Completion Report

WELL RECORD Also complete Log information on back (page 2)

Well Type	☒ Gas ☐ Oil ☐ Combination Oil & Gas ☐ Injection ☐ Storage ☐ Disposal						
Drilling Method	☒ Rotary - Air ☐ Rotary - Mud ☐ Cable Tool						
Date Drilling Started 10/31/05	Date Drilling Completed 11/3/05	Surface Elevation 1465 ft.	Total Depth - Driller 3400 ft.	Total Depth - Logger 3411 ft.			
Casing and Tubing		Cement returned on surface casing? ☒ Yes ☐ No Cement returned on coal protective casing? ☐ Yes ☐ No ☐ N/A					
Hole Size	Pipe Size	Wt.	Thread / Weld	Amount in Well (ft)	Material Behind Pipe Type and Amount	Packer / Hardware / Centralizers Type Size Depth	Date Run
15 1/4	13 3/8	37	T	126	Sanded in with cuttings	None	10/31/05
8 7/8	7	20	T	930	210 sks Class A-	Guide Shoe 7 930	10/31/05
5 1/4	4 1/2	9.5	T	3130	65 sks TD cement	Float Shoe 4 1/2 3130	10/31/05

COMPLETION REPORT

Perforation Record			Stimulation Record				
Date	Interval Perforated From To		Date	Interval Treated	Fluid Type Amount	Propping Agent Type Amount	Average Injection
11/9/05	3001 3010		11/9/05	3rd Bradford	Water 18,633	Sand 19,900	32.4 BPM
11/9/05	2924 2928		11/9/05	2nd Bradford	Water 16,370	Sand 12,500	30.8 BPM
11/9/05	2807 2858		11/9/05	1st Bradford	Water 22,666	Sand 27,500	35.3 BPM
11/9/05	2680 2686		11/9/05	Balltown	Water 14,724	Sand 12,500	29.8 BPM
11/9/05	2641 2647		11/9/05	Sheffield	Water 18,395	Sand 20,000	27.4 BPM

Natural Open Flow	Not taken	Natural Rock Pressure	Not taken	Hours	Days
After Treatment Open Flow	200,000	After Treatment Rock Pressure	740 PSI	24	Hours Days

Well Service Companies -- Provide the name, address, and phone number of all well service companies involved.

Name L.K. DRILLING CORP., INC.	Name APR 19 2006	Name SUPERIOR WELL SERVICES
Address 542 Lutz School Road	Address	Address PO Box 458
City - State - Zip Indiana, PA 15701	City - State - Zip DEP, SOUTHWEST REGION OIL & GAS	City - State - Zip Black Lick, PA 15716
Phone 724-465-9130	Phone	Phone 724-248-1001

RECEIVED
FEB 24 2006

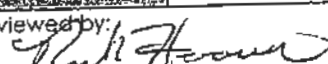
5500-FM-OG0004 Rev. 2/2001

LOG OF FORMATIONS

Well API#: 37-033-25905

Formation Name or Type	Top (feet)	Bottom (feet)	Gas at (feet)	Oil at (feet)	Water at (fresh / brine; ft.)	Source of Data
						DRILLER'S LOG
Fill	0	8				
Brown Shale	8	29				
Gray Shale	29	64				
Coal	64	67				
Gray Shale	67	116				
Broken	116	122				
Gray Shale & Limestone	122	248			3 GPM FW @ 150'	
Coal	248	250				
Limestone	250	293				
Coal	293	296				
Gray Shale	296	420				
Limestone & Gray						
Sandstone	420	730				
Gray Sandstone & Shale	730	1010				
Red & Gray Shale	1010	1360				
Gray Shale & Limestone	1360	1740				
Gray Sand & Shale	1740	2325				
Gray Sand & Sandstone	2325	2850				
Limestone & Gray						
Sandstone	2850	3070				
Gray Sandstone & Sand	3070	3400				

Please delete empty rows if necessary to make all of page 2 fit on one page.

Well Operator's Signature:		DEP USE ONLY	
		Reviewed by: 	Date: 4/12/06
Title: President	Date: 2/2/06	Comments:	

5500-PM-OG002DWG Rev. 11/2003



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Oil and Gas Management Program
WELL LOCATION PLAT

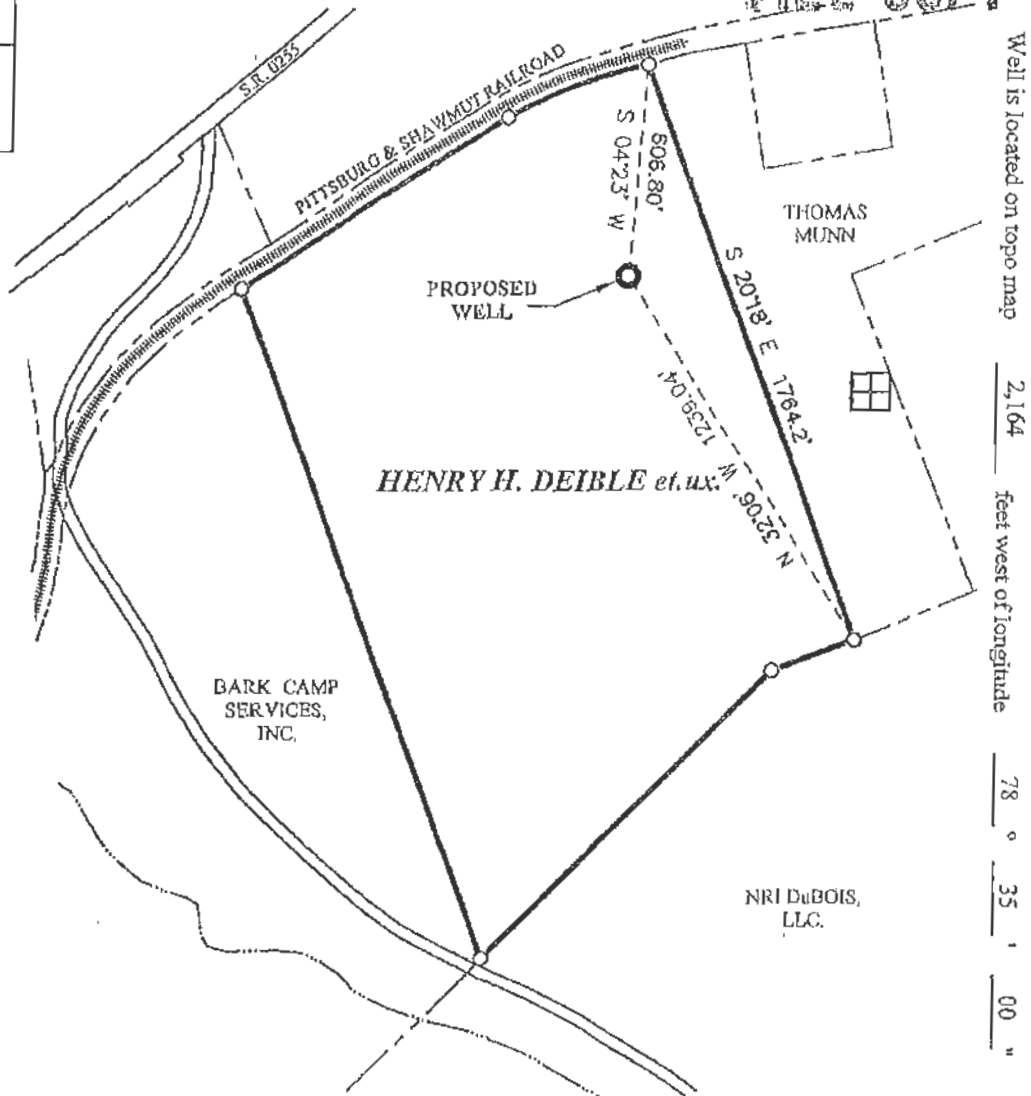
DEP Application Tracking # C-616118
USE Permit # 57-033-25464-00
ONLY Project # 033-259164

OK
11/04/06
RAL

Denotes location of well on topo map.
True Latitude: NORTH
41° 11' 34.61"
True Longitude: WEST
78° 35' 28.32"

Well is located on topo map 5,605 feet south of latitude 41° 12' 30"

FILE COPY

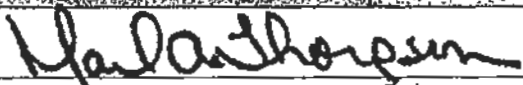


Surveyor of Engineer	TIMOTHY P. BOTSFORD	Phone #	724-349-5659	Drig. #	M-1176	Date	10-19-05	Scale	1" = 500'	Tract Acreage	57.2 ±
Lat. & Long. Metadata	Method	Direct GPS	Accuracy	3	A. Datum	NAD 27	Elevation Metadata	Method	Direct GPS	Accuracy	10
Applicant / Well Operator Name	MID EAST OIL		DEIBLE		WELL #		9230	BEL # 1		Serial #	
Address	P.O. BOX 1378 INDIANA, PA 15701		County	CLEARFIELD	Municipality	HUSTON TOWNSHIP	Well Type	OAS			
Surface Landowner	HENRY H. DEIBLE et. ux.		USGS 7 1/2 Quadrangle Map Name		PENFIELD		Map Section	4			
Surface Lessee			Angle & Course of Direction (Drilling)	0°		Surface Elevation	1475	A.	Anticipated Total Depth	5000	
Surface Owner or Water Purveyor with a Water Supply within 1,000 ft.	Approximate Course and Distance to Water Supply		Owner, Lessee, or Operator of Marketable Coal Seam		Name of Coal Seam Owned, Leased, or Operated						
GEORGE SZYMANSKI	236 GLENN PLACE		N 56° E 820'		ROSEBUD MINING CO.		ALL SEAMS				
ELKINS PARK, PA 19027					301 MARKET STREET		KITTANNING, PA 16201				

5002 91 030
DEC 16 2005

LOG OF FORMATIONS

Well API#: 37-033-25964

Formation Name or Type	Top (feet)	Bottom (feet)	Gas at (feet)	Oil at (feet)	Water at (fresh / brine; ft.)	Source of Data
Fill	0	6				DRILLER'S LOG
Brown Sandstone & Brown Silt	6	23				
Gray Shale & Sandstone	23	30				
Brown & Gray Sandstone	30	56				
Gray Sandstone & Shale	56	220			2 GPM FW	
Coal	220	225			@ 235'	
Gray Shale & Sandstone	225	565				
White & Gray Sandstone	565	615				
Gray Sandstone & Limestone	615	835				
Red & Gray Sandstone	835	1910				
Gray Sand & Shale	1910	2040				
Gray Sandstone & Sand	2040	2510				
Gray Sand & Limestone	2510	2815				
Gray Sand & Shale	2815	3000				
Gray Sandstone & Sand	3000	3400				
Please delete empty rows if necessary to make all of page 2 fit on one page.						
Well Operator's Signature:			DEP USE ONLY			
			Reviewed by:		Date:	
Title:			Comments:			
President			Date:		6/15/06	



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OIL AND GAS MANAGEMENT PROGRAM

DEP USE ONLY	
Site Id	Primary Facility Id
Client Id	Sub-facility Id

WELL RECORD AND COMPLETION REPORT

Well Operator MID-EAST OIL COMPANY		DEP ID# 87845	Well API # (Permit / Reg) 37-033-25964	Project Number	Acres 57.2±
Address PO Box 1378		Well Farm Name DEIBLE		Well # BEL 1	Serial #
City Indiana	State PA	Zip Code 15701	County Clearfield	Municipality Huston Township	
Phone 724-349-6690	Fax 724-349-6711	USGS 7.5 min. quadrangle map Penfield			

Check all that apply: ☒ Original Well Record ☒ Original Completion Report ☐ Amended Well Record ☐ Amended Completion Report

WELL RECORD									
Well Type		☒ Gas ☐ Oil ☐ Combination Oil & Gas ☐ Injection ☐ Storage ☐ Disposal							
Drilling Method		☒ Rotary - Air ☐ Rotary - Mud ☐ Cable Tool							
Date Drilling Started 2/18/06		Date Drilling Completed 2/20/06		Surface Elevation 1475 ft.		Total Depth - Driller 3400 ft.		Total Depth - Logger 3407 ft.	
Casing and Tubing				Cement returned on surface casing? ☒ Yes ☐ No Cement returned on coal protective casing? ☐ Yes ☐ No ☐ N/A					
Hole Size	Pipe Size	WT.	Thread / Weld	Amount in Well (ft)	Material Behind Pipe Type and Amount	Packer / Hardware / Centralizers Type	Size	Depth	Date Run
15 1/4	13 3/8	37	T	57	Sanded in with cuttings	None			2/18/06
8 7/8	7	20	T	976	190 sks Class A	Guide Shoe	7	976	2/19/06
5 1/4	4 1/2	9.5	T	3278	125 sks TD cement	Float Shoe	4 1/2	3278	2/20/06
DEC 29 2006									
DEP SOUTH WEST REGION									

Perforation Record			Stimulation Record				
Date	Interval Perforated From To		Date	Interval Treated	Fluid Type Amount	Propping Agent Type Amount	Average Injection
3/2/06	3156 3159		3/2/06	3rd Bradford	Water 13,643	Sand 12,000	32.4 BPM
3/2/06	3070 3076		3/2/06	2nd Bradford	Water 15,667	Sand 16,000	30.0 BPM
3/2/06	2953 3028		3/2/06	1st Bradford	Water 31,051	Sand 38,500	32.5 BPM
AUG 04 2006							
DEP SOUTH WEST REGION							

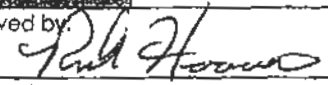
Natural Open Flow	Not taken	Natural Rock Pressure	Not taken	OIL & GAS	Hours	Days
After Treatment Open Flow	84,000	After Treatment Rock Pressure	480 PSI	24	Hours	Days

Well Service Companies -- Provide the name, address, and phone number of all well service companies involved.

Name L.K. DRILLING CORP., INC.	Name SUPERIOR WELL SERVICES
Address 542 Lutz School Road	Address PO Box 458
City - State - Zip Indiana, PA 15701	City - State - Zip Black Lick, PA 15716
Phone 724-465-9130	Phone 724-248-1001

LOG OF FORMATIONS

Well API#: 37-033-25964

Formation Name or Type	Top (feet)	Bottom (feet)	Gas at (feet)	Oil at (feet)	Water at (fresh / brine; ft.)	Source of Data
						DRILLER'S LOG
Fill	0	6				
Brown Sandstone & Brown Silt	6	23				
Gray Shale & Sandstone	23	30				
Brown & Gray Sandstone	30	56				
Gray Sandstone & Shale	56	220			2 GPM FW @ 235'	
Coal	220	225				
Gray Shale & Sandstone	225	565				
White & Gray Sandstone	565	615				
Gray Sandstone & Limestone	615	835				
Red & Gray Sandstone	835	1910				
Gray Sand & Shale	1910	2040				
Gray Sandstone & Sand	2040	2510				
Gray Sand & Limestone	2510	2815				
Gray Sand & Shale	2815	3000				
Gray Sandstone & Sand	3000	3400				
Please delete empty rows if necessary to make all of page 2 fit on one page.						
Well Operator's Signature:			DEP USE ONLY			
			Reviewed by: 		Date: 12/27/06	
Title: President			Date: 6/15/06		Comments:	



GEO-CON

COMMONWEALTH OF PENNSYLVANIA

For assistance in accessing this document, please contact: R3_UIC

Oil and Gas Management Program

WELL LOCATION PLAT **DEC 19 2002**

DEP Application
C-616254
Permit #
37-033-25965-00
Project #

11/10/06

G: TD

C: RAL

Denotes location of well
on topo map.

True Latitude: NORTH

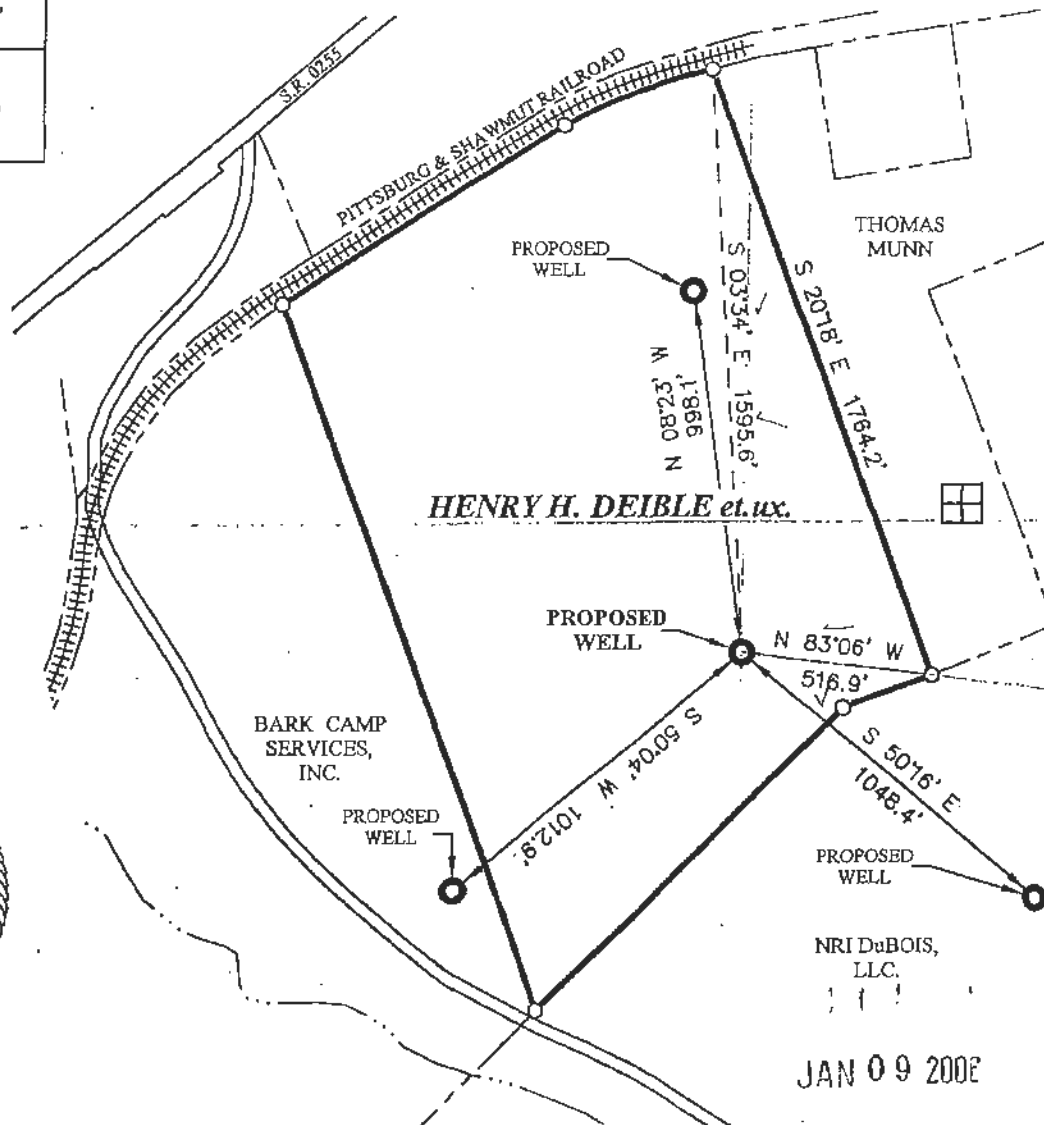
41 ° 11 ' 24.87"

True Longitude: WEST

78 ° 35 ' 26.30"



Well is located on topo map 6,591 feet south of latitude 41 ° 12 ' 30 "



JAN 09 2002

Surveyor or Beginner	TIMOTHY P. BOTSFORD	Phone #	724-349-5659	Dwg. #	M-1177	Date	10-19-05	Scale	1" = 500'	Tract Acres	57.2 ±
Lat. & Long. Method	Direct GPS	Accuracy	3	ft. Datum	NAD 27	Elevation Method	Direct GPS	Accuracy	10	ft. Datum	NGVD 29
Method	Direct GPS	Accuracy	3	ft. Datum	NAD 27	Method	Direct GPS	Accuracy	10	ft. Datum	NGVD 29
Applicant / Well Operator Name	MID EAST OIL	Well (Farm) Name	DEIBLE	Well #	BEL # 2	Serial #		Survey Date	11-11-05		
Address	P.O. BOX 1378 INDIANA, PA 15701	County	CLEARFIELD	Municipality	HUSTON TOWNSHIP	Well Type	GAS				
Surface Landowner	HENRY H. DEIBLE et ux.	USGS 7 1/2 Quadrangle Map Name	PENFIELD	Map Section	4						
Surface Lessee		Angle & Course of Deviation (Drilling)	0°	Surface Elevation	1565	Anticipated Total Depth	5000				
Surface Owner or Water Purveyor with a Water Supply within 1,000 ft.	NONE	Approximate Course and Distance to Water Supply		Owner, Lessee, or Operator of Workable Coal Seam	ROSEBUD MINING CO.	Name of Coal Seam Owned, Leased, or Operated	ALL SEAMS				
					301 MARKET STREET						
					KITTANNING, PA 16201						



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OIL AND GAS MANAGEMENT PROGRAM

DEP USE ONLY	
Site Id	Primary Facility Id
Client Id	Sub-facility Id

WELL RECORD AND COMPLETION REPORT

Well Operator MID-EAST OIL COMPANY		DEP ID# 87845	Well API # (Permit / Reg) 37-033-25965	Project Number	Acres 57.2±
Address PO Box 1378		Well Farm Name DEIBLE		Well # BEL 2	Serial #
City Indiana	State PA	Zip Code 15701	County Clearfield	Municipality Huston Township	
Phone 724-349-6690	Fax 724-349-6711	USGS 7.5 min. quadrangle map Penfield			
Check all that apply: ☒ Original Well Record ☒ Original Completion Report ☐ Amended Well Record ☐ Amended Completion Report					

WELL RECORD

Also completed on back page 2

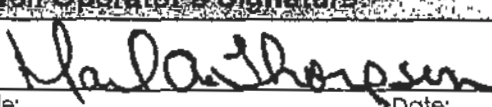
Well Type	☒ Gas ☐ Oil ☐ Combination Oil & Gas ☐ Injection ☐ Storage ☐ Disposal						
Drilling Method	☒ Rotary - Air ☐ Rotary - Mud ☐ Cable Tool						
Date Drilling Started 2/8/06	Date Drilling Completed 2/13/06						
Surface Elevation 1565 ft.	Total Depth - Driller 3400 ft.						
Total Depth - Logger 3408 ft.							
Casing and Tubing							
Cement returned on surface casing? ☒ Yes ☐ No							
Cement returned on coal protective casing? ☐ Yes ☐ No ☐ N/A							
Hole Size	Pipe Size	Wt.	Thread / Weld	Amount in Well (ft)	Material Behind Pipe Type and Amount	Packer / Hardware / Centralizers Type Size Depth	Date Run
15 1/4	13 3/8	37	T	33	Sanded in with cuttings	None	2/8/06
8 7/8	7	20	T	1022	200 sks Class A	Guide Shoe	2/9/06
1 1/4	4 1/2	9.5	T	3342	130 sks TD cement	Float Shoe	2/14/06
AUG 03 2006							

COMPLETION REPORT

Perforation Record			Stimulation Record					
Date	Interval Perforated From To		Date	Interval Treated	Fluid Type Amount	Propping Agent Type Amount	Average Injection	
2/23/06	3184 3192		2/23/06	Kane	Water 13,305	Sand 15,000	31.5 BPM	
2/23/06	3056 3110		2/23/06	3rd Bradford	Water 24,427	Sand 25,000	28.5 BPM	
2/23/06	3027 3037		2/23/06	2nd Bradford	Water 20,119	Sand 27,500	29.9 BPM	
2/23/06	2754 2898		2/23/06	1st Bradford	Water 24,787	Sand 25,000	30.5 BPM	
2/23/06	2614 2684		2/23/06	Tiona	Water 12,536	Sand 12,500	26.0 BPM	
2/23/06	2308 2318		2/23/06	Warren	Water 17,096	Sand 25,000	32.3 BPM	
Natural Open Flow Not taken			Natural Rock Pressure Not taken					
After Treatment Open Flow 119,000			After Treatment Rock Pressure 470 PSI 24 Hours Days					
Well Service Companies -- Provide the name, address, and phone number of all well service companies involved.								
Name L.K. DRILLING CORP., INC.			Name SUPERIOR WELL SERVICES					
Address 542 Lutz School Road			Address PO Box 458					
City - State - Zip Indiana, PA 15701			City - State - Zip Black Lick, PA 15716					
Phone 724-465-9130			Phone 724-248-1001					

LOG OF FORMATIONS

Well API#:37-033-25965

Formation Name or Type	Top (feet)	Bottom (feet)	Gas at (feet)	Oil at (feet)	Water at (fresh / brine: ft.)	Source of Data
						DRILLER'S LOG
Fill	0	6				
Brown & Gray Silt	6	12				
Brown Shale & Sandstone	12	36				
Limestone & Shale	36	270			Damp @ 50'	
Coal	270	273			3 GPM FW	
Gray Sandstone & Shale	273	449			@ 273'	
Coal	449	453				
Gray Sandstone & Shale	453	489				
Coal	489	493				
Shale & Sandstone	493	695				
White Sandstone	695	745				
Gray Sandstone & Limestone	745	1340				
Red Rock & Gray Shale	1340	1980				
Gray Sand & Sandstone	1980	2010				
Gray Shale & Sand	2010	2370				
Gray Sandstone & Sand	2370	2465				
Gray Sand	2465	2475				
Shale & Sand	2475	2890				
Sandstone & Sand	2890	3400				
Please delete empty rows if necessary to make all of page 2 fit on one page.						
Well Operator's Signature			DEP USE ONLY			
 Title: President Date: 6/16/06			Reviewed by: _____ Date: _____ Comments: _____			



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OIL AND GAS MANAGEMENT PROGRAM

DEP USE ONLY	
Site Id	Primary Facility Id
Client Id	Sub-facility Id

WELL RECORD AND COMPLETION REPORT

Well Operator MID-EAST OIL COMPANY		DEP ID# 87845	Well API # (Permit / Reg) 37-033-25965	Project Number	Acres 57.2±
Address PO Box 1378		Well Farm Name DEIBLE		Well # BEL 2	Serial #
City Indiana	State PA	Zip Code 15701	County Clearfield	Municipality Huston Township	
Phone 724-349-6690	Fax 724-349-6711	USGS 7.5 min. quadrangle map Penfield.			
Check all that apply: ☒ Original Well Record ☒ Original Completion Report ☐ Amended Well Record ☐ Amended Completion Report					

WELL RECORD - Also complete top of formations on back page

Well Type	☒ Gas ☐ Oil ☐ Combination Oil & Gas ☐ Injection ☐ Storage ☐ Disposal						
Drilling Method	☒ Rotary - Air ☐ Rotary - Mud ☐ Cable Tool						
Date Drilling Started 2/8/06	Date Drilling Completed 2/13/06	Surface Elevation 1565 ft.	Total Depth - Driller 3400 ft.	Total Depth - Logger 3408 ft.			
Casing and Tubing		Cement returned on surface casing? ☒ Yes ☐ No Cement returned on coal protective casing? ☐ Yes ☐ No ☐ N/A					
Hole Size	Pipe Size	Wt.	Thread / Weld	Amount in Well (ft)	Material Behind Pipe Type and Amount	Packer / Hardware / Centralizers Type Size Depth	Date Run
15 1/4	13 3/8	37	T	33	Sanded in with cuttings	None	2/8/06
8 7/8	7	20	T	1022	200 sks Class A	Guide Shoe 7 1022	2/9/06
1/4	4 1/2	9.5	T	3342	130 sks TD cement	Float Shoe 4 1/2 3342	2/14/06
					DEC 29 2006	AUG 03 2006	
					DEP SOUTH WEST REGION	DEP SOUTH WEST REGION	

COMPLETION REPORT

Perforation Record			Stimulation Record						
Date	Interval Perforated From	To	Date	Interval Treated	Fluid Type	Amount	Propping Agent Type	Amount	Average Injection
2/23/06	3184	3192	2/23/06	Kane	Water	13,305	Sand	15,000	31.5 BPM
2/23/06	3056	3110	2/23/06	3rd Bradford	Water	24,427	Sand	25,000	28.5 BPM
2/23/06	3027	3037	2/23/06	2nd Bradford	Water	20,119	Sand	27,500	29.9 BPM
2/23/06	2754	2898	2/23/06	1st Bradford	Water	24,787	Sand	25,000	30.5 BPM
2/23/06	2614	2684	2/23/06	Tiona	Water	12,536	Sand	12,500	26.0 BPM
2/23/06	2308	2318	2/23/06	Warren	Water	17,096	Sand	25,000	32.3 BPM
Natural Open Flow Not taken			Natural Rock Pressure Not taken			Hours Days			
After Treatment Open Flow 119,000			After Treatment Rock Pressure 470 PSI			24 Hours Days			

Well Service Companies -- Provide the name, address, and phone number of all well service companies involved.

Name L.K. DRILLING CORP., INC.	Name SUPERIOR WELL SERVICES
Address 542 Lutz School Road	Address PO Box 458
City - State - Zip Indiana, PA 15701	City - State - Zip Black Lick, PA 15716
Phone 724-465-9130	Phone 724-248-1001

5500-FM-OG0004 Rev. 2/2001

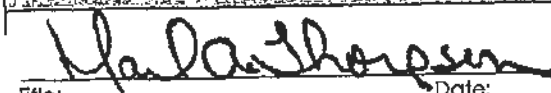
LOG OF FORMATIONS

Well API#:37-033-25965

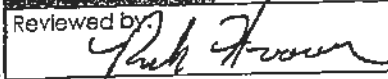
Formation Name or Type	Top (feet)	Bottom (feet)	Gas at (feet)	Oil at (feet)	Water at (fresh / brine; ft.)	Source of Data
						DRILLER'S LOG
Fill	0	6				
Brown & Gray Silt	6	12				
Brown Shale & Sandstone	12	36				
Limestone & Shale	36	270			Damp @ 50'	
Coal	270	273			3 GPM FW @ 273'	
Gray Sandstone & Shale	273	449				
Coal	449	453				
Gray Sandstone & Shale	453	489				
Coal	489	493				
Shale & Sandstone	493	695				
White Sandstone	695	745				
Gray Sandstone & Limestone	745	1340				
Red Rock & Gray Shale	1340	1980				
Gray Sand & Sandstone	1980	2010				
Gray Shale & Sand	2010	2370				
Gray Sandstone & Sand	2370	2465				
Gray Sand	2465	2475				
Shale & Sand	2475	2890				
Sandstone & Sand	2890	3400				

Please delete empty rows if necessary to make all of page 2 fit on one page.

Well Operator's Signature


Title:
PresidentDate:
6/16/06**DEP USE ONLY**

Reviewed by:



Date:

12/27/06

Comments:


 DEPARTMENT OF ENVIRONMENTAL PROTECTION
 Oil and Gas Management Program

WELL LOCATION PLAT

 DEP Application
 Tracking # 6-617593
 Permit # 37-033-25987-00
 Project #

 1/30/06
 Q: TD
 C: RAL

 Denotes location of well
 on topo map.

True Latitude: NORTH

41 ° 11 ' 18.37"

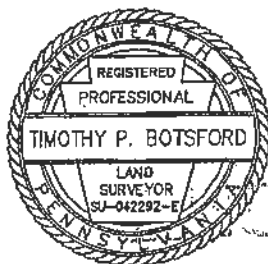
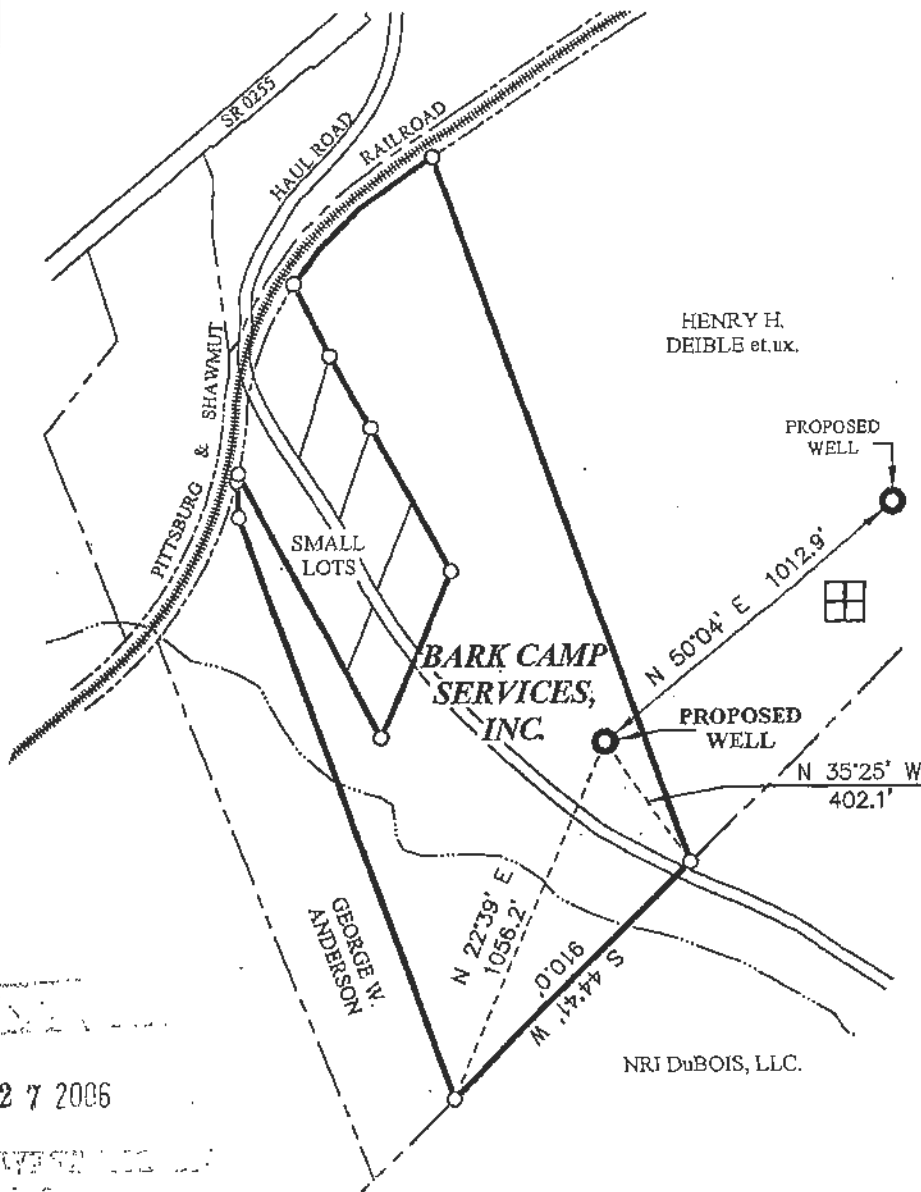
True Longitude: WEST

78 ° 35 ' 36.37"



Well is located on topo map 7,249 feet south of latitude 41 ° 12 ' 30 "

Well is located on topo map 2,780 feet west of longitude 78 ° 35 ' 00 "



JAN 27 2006

 DEP, SCOUTING, etc.
 CLEGG

Surveyor or Engineer	TIMOTHY P. BOTSFORD	Phone #	724-349-5659	Dwg. #	M-1175	Date	10-19-05	Scale	1" = 500'	Tract Acreage	30.8 ±
Lat. & Long. Method	Method	Accuracy	3	ft. Datum	NAD 27	Elevation Method	Method	Accuracy	10	ft. Datum	NGVD 29
Applicant / Well Operator Name	MID EAST OIL		BARK CAMP SERVICE, INC.		Well #	BEL # 1	Serial #				
Address	P.O. BOX 1378 INDIANA, PA 15701		County	CLEARFIELD	Municipality	HUSTON TOWNSHIP	Well Type	GAS			
Surface Landowner	BARK CAMP SERVICE, INC.		USGS 11/2 Quadrangle Map Name	PENFIELD		Map Section	4				
Surface Lessor			Angle & Course of Deviation (Drilling)	0°		Surface Elevation	1425 ft		Anticipated Total Depth	5000 ft	
Surface Owner or Water Purveyor with a Water Supply within 1,000 ft.	Approximate Course and Distance to Water Supply		Owner, Lessee, or Operator of Workable Coal Seam		Name of Coal Seam, Owned, Leased, or Operated						
SEE ATTACHED LIST			ROSEBUD MINING CO.			ALL SEAMS					
			301 MARKET STREET								
			KITTANNING, PA 16201								



DEPARTMENT OF ENVIRONMENTAL PROTECTION
Oil and Gas Management Program
WELL LOCATION PLAT
(ATTACHMENT, if needed)

DEP Auth ID #
USE
ONLY C-617593

Use only if you need additional space for listings.

[illegible]

JAN 04 2005



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OIL AND GAS MANAGEMENT PROGRAM

DEP USE ONLY	
Site Id	Primary Facility Id
Client Id	Sub-facility Id

WELL RECORD AND COMPLETION REPORT

Well Operator MID-EAST OIL COMPANY		DEP ID# 87845	Well API # (Permit / Reg) 37-033-25987	Project Number	Acre 30.8±
Address PO Box 1378		Well Farm Name BARK CAMP SERVICE, INC		Well # BEL 1	Serial #
City Indiana	State PA	Zip Code 15701	County Clearfield	Municipality Huston Township	
Phone 724-349-6690	Fax 724-349-6711	USGS 7.5 min. quadrangle map Penfield			
Check all that apply: ☒ Original Well Record ☒ Original Completion Report ☐ Amended Well Record ☐ Amended Completion Report					

WELL RECORD

Well Type	☒ Gas ☐ Oil ☐ Combination Oil & Gas ☐ Injection ☐ Storage ☐ Disposal			
Drilling Method	☒ Rotary - Air ☐ Rotary - Mud ☐ Cable Tool			
Date Drilling Started 2/21/06	Date Drilling Completed 2/23/06	Surface Elevation 1425 ft.	Total Depth - Driller 3400 ft.	Total Depth - Logger 3410 ft.

Casing and Tubing					Cement returned on surface casing? ☒ Yes ☐ No			
					Cement returned on coal protective casing? ☒ Yes ☐ No ☐ N/A			
Hole Size	Pipe Size	Wt.	Thread / Weld	Amount in Well (ft)	Material Behind Pipe Type and Amount	Packer / Hardware / Centralizers Type Size Depth	Date Run	
15 1/4	13 3/8	37	T	31	Sanded in with cuttings	None	2/21/06	
12 1/4	9 5/8	26	T	355	130 sks Class A	Guide Shoe 9 5/8 355	2/22/06	
9 7/8	7	20	T	1020	190 sks Class A	Guide Shoe 7 1020	2/22/06	
1 1/4	4 1/2	9.5	T	3221	130 sks TD cement	Float Shoe 4 1/2 3221	2/24/06	

COMPLETION REPORT

Perforation Record			Stimulation Record						
Date	Interval Perforated From To		Date	Interval Treated	Fluid Type Amount	Propping Agent Type Amount	Average Injection		
3/9/06	3068 3077		3/9/06	Kane	Water 12,722	Sand 12,000	31.3 BPM		
3/9/06	2965 2996		3/9/06	3rd Bradford	Water 15,493	Sand 17,500	32.0 BPM		
3/9/06	2870 2941		3/9/06	2nd Bradford	Water 25,242	Sand 26,500	30.8 BPM		
3/9/06	2688 2795		3/9/06	1st Bradford	Water 12,909	Sand 12,000	33.6 BPM		

Natural Open Flow	Not taken	Natural Rock Pressure	Not taken	Hours	Days
After Treatment Open Flow	103,000	After Treatment Rock Pressure	800 PSI	24	Hours Days

Well Service Companies -- Provide the name, address, and phone number of all well service companies involved.

Name L.K. DRILLING CORP., INC.	Name SUPERIOR WELL SERVICES
Address 542 Lutz School Road	Address PO Box 458
City - State - Zip Indiana, PA 15701	City - State - Zip Black Lick, PA 15716
Phone 724-465-9130	Phone 724-248-1001

DEP, SOUTHWEST REGION
OIL & GAS

LOG OF FORMATIONS

Well API#:37-033-25987

Formation Name or Type	Top (feet)	Bottom (feet)	Gas at (feet)	Oil at (feet)	Water at (fresh / brine; ft.)	Source of Data
						DRILLER'S LOG
Fill	0	6				
Brown Shale & Silt	6	26				
Gray Shale & Sandstone	26	464			5 GPM FW	
Coal	464	466			@ 105'	
Gray Shale	466	476			2 GPM FW	
Gray Sandstone & Limestone	476	580			@ 365'	
White Sandstone	580	630			2 - 3 GPM	
Gray Sandstone & Limestone	630	762			FW @ 476'	
Red & Gray Shale	762	850				
Gray Sandstone & Shale	850	1145				
Red & Gray Shale	1145	1755				
Gray Sand & Sandstone	1755	1813				
Gray Shale & Sand	1813	2595				
Red Sand	2595	2600				
Gray Sand	2600	2630				
Gray Shale & Sand	2630	2855				
Gray Sand	2855	2860				
Gray Shale & Sand	2860	2970				
Gray Sand	2970	2980				
Gray Shale & Sand	2980	3400				
Please delete empty rows if necessary to make all of page 2 fit on one page.						
Well Operator's Signature			DEP USE ONLY			
			Reviewed by:		Date:	
Title: President			Date: 6/16/06		Comments:	



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OIL AND GAS MANAGEMENT PROGRAM

DEP USE ONLY	
Site Id	Primary Facility Id
Client Id	Sub-facility Id

WELL RECORD AND COMPLETION REPORT

Well Operator MID-EAST OIL COMPANY		DEP ID# 87845	Well API # (Permit / Reg) 37-033-25987	Project Number	Acres 30.8±
Address PO Box 1378			Well Farm Name BARK CAMP SERVICE, INC	Well # BEL 1	Serial #
City Indiana	State PA	Zip Code 15701	County Clearfield	Municipality Huston Township	
Phone 724-349-6690	Fax 724-349-6711	USGS 7.5 min. quadrangle map Penfield			

Check all that apply: ☒ Original Well Record ☒ Original Completion Report ☐ Amended Well Record ☐ Amended Completion Report

Well Type	☒ Gas ☐ Oil ☐ Combination Oil & Gas ☐ Injection ☐ Storage ☐ Disposal						
Drilling Method	☒ Rotary - Air ☐ Rotary - Mud ☐ Cable Tool						
Date Drilling Started 2/21/06	Date Drilling Completed 2/23/06	Surface Elevation 1425 ft.	Total Depth - Driller 3400 ft.	Total Depth - Logger 3410 ft.			
Casing and Tubing		Cement returned on surface casing? ☒ Yes ☐ No Cement returned on coal protective casing? ☒ Yes ☐ No ☐ N/A					
Hole Size	Pipe Size	Wt.	Thread / Weld	Amount in Well (ft)	Material Behind Pipe Type and Amount	Packer / Hardware / Centralizers Type Size Depth	Date Run
15 1/4	13 3/8	37	T	31	Sanded in with cuttings	None	2/21/06
12 1/4	9 5/8	26	T	355	130 sks Class A	Guide Shoe 9 5/8 355	2/22/06
3 7/8	7	20	T	1020	190 sks Class A	Guide Shoe 7 1020	2/22/06
1/4	4 1/2	9.5	T	3221	130 sks TD cement	Float Shoe 4 1/2 3221	2/24/06

DEC 29 2006
DEP SOUTHWEST REGION

Perforation Record			Stimulation Record						
Date	Interval Perforated From	To	Date	Interval Treated	Fluid Type	Amount	Propping Agent Type	Amount	Average Injection
3/9/06	3068	3077	3/9/06	Kane	Water	12,722	Sand	12,000	31.3 BPM
3/9/06	2965	2996	3/9/06	3rd Bradford	Water	15,493	Sand	17,500	32.0 BPM
3/9/06	2870	2941	3/9/06	2nd Bradford	Water	25,242	Sand	26,500	30.8 BPM
3/9/06	2688	2795	3/9/06	1st Bradford	Water	12,909	Sand	12,000	33.6 BPM

Natural Open Flow	Not taken	Natural Rock Pressure	Not taken	Hours	Days
After Treatment Open Flow	103,000	After Treatment Rock Pressure	800 PSI	24 Hours	Days

Well-Service Companies -- Provide the name, address, and phone number of all well service companies involved.

Name L.K. DRILLING CORP., INC.	Name SUPERIOR WELL SERVICES
Address 542 Lutz School Road	Address PO Box 458
City - State - Zip Indiana, PA 15701	City - State - Zip Black Lick, PA 15715
Phone 724-465-9130	Phone 724-248-1001

AUG 03 2006

DEP SOUTHWEST REGION
OIL & GAS

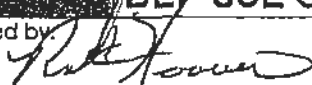
5500-FM-OG0004 Rev. 2/2001

LOG OF FORMATIONS

Well API#:37-033-25987

Formation Name or Type	Top (feet)	Bottom (feet)	Gas at (feet)	Oil at (feet)	Water at (fresh / brine; ft.)	Source of Data
						DRILLER'S LOG
Fill	0	6				
Brown Shale & Silt	6	26				
Gray Shale & Sandstone	26	464			5 GPM FW @ 105'	
Coal	464	466				
Gray Shale	466	476			2 GPM FW @ 365'	
Gray Sandstone & Limestone	476	580				
White Sandstone	580	630			2 - 3 GPM FW @ 476'	
Gray Sandstone & Limestone	630	762				
Red & Gray Shale	762	850				
Gray Sandstone & Shale	850	1145				
Red & Gray Shale	1145	1755				
Gray Sand & Sandstone	1755	1813				
Gray Shale & Sand	1813	2595				
Red Sand	2595	2600				
Gray Sand	2600	2630				
Gray Shale & Sand	2630	2855				
Gray Sand	2855	2860				
Gray Shale & Sand	2860	2970				
Gray Sand	2970	2980				
Gray Shale & Sand	2980	3400				

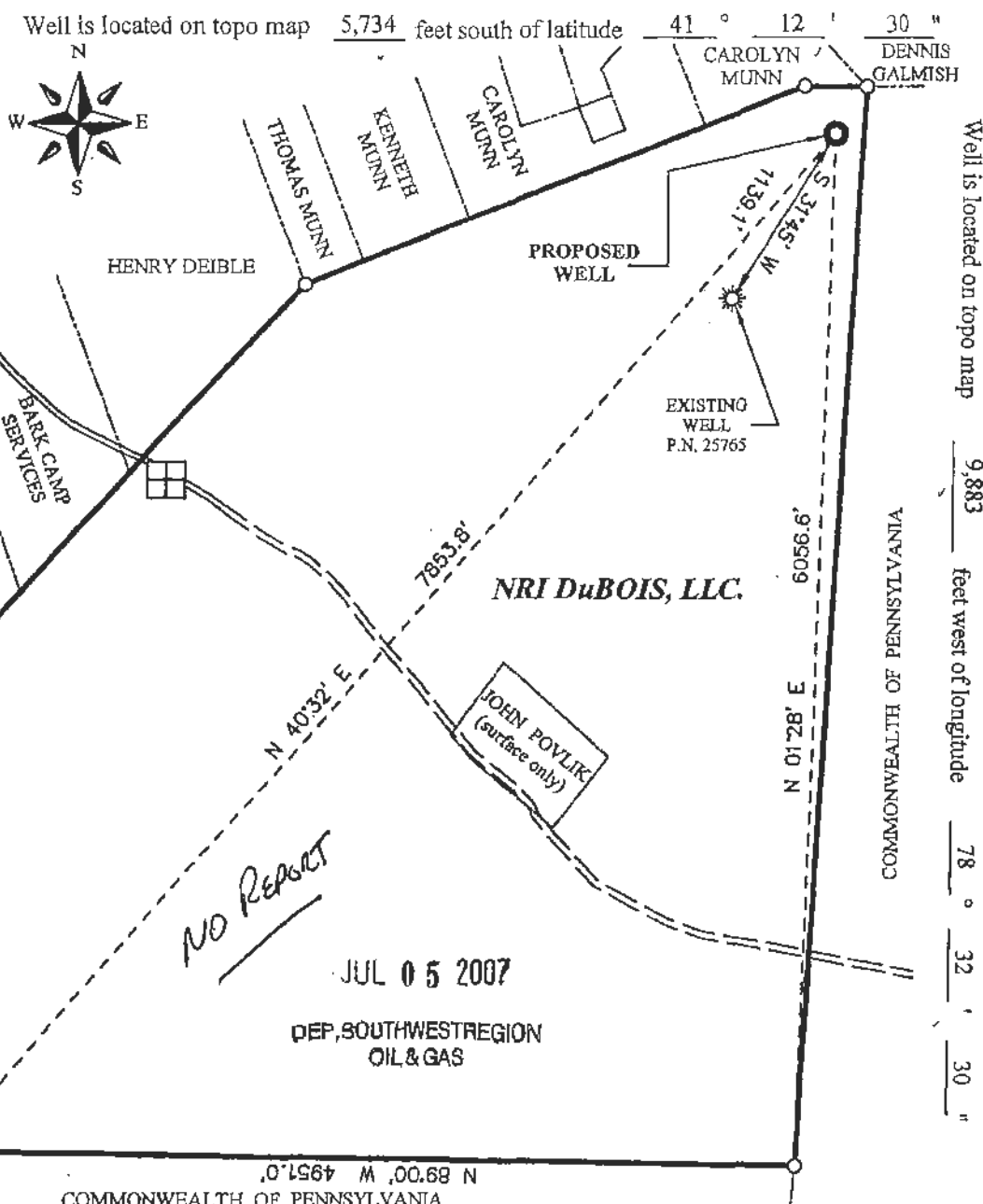
Please delete empty rows if necessary to make all of page 2 fit on one page.

Well Operator's Signature: 	DEP USE ONLY
Reviewed by: 	Date: 12/27/06
Title: President	Comments:



WELL LOCATION PLAT

Denotes location of well on topo map.
True Latitude: NORTH
41 ° 11 ' 33.34"
True Longitude: WEST
78 ° 34 ' 39.29"



Surveyor or Engineer	TIMOTHY P. BOTSFORD	Phone #	724-349-5659	Dwg. #	X-126	Date	6-14-07	Scale	1" = 1000'	Tract Acreage	620 ±
Lat. & Long. Metadata	Method Direct GPS Accuracy 3 ft. Datum NAD 27				Elevation Metadata Method Direct GPS Accuracy 10 ft. Datum NGVD 29				Survey Date 11-30-05		
Applicant / Well Operator Name				Well (Farm) Name				Well #		Serial #	
DANNIC ENERGY CORP.				17 CHAGRIN				65			
Address				County		Municipality		Well Type			
164 MILLRUN DRIVE, INDIANA, PA 15701				CLEARFIELD		HUSTON TOWNSHIP		GAS			
Surface Landowner				USGS 71/2 Quadrangle Map Name				Map Section			
NRI DuBOIS, LLC.				PENFIELD				0917		5	
Surface Lessee				Angle & Course of Deviation (Drilling)				Surface Elevation		Anticipated Total Depth	
				0°				1415		5000	
Subsidiary Data				Anticipated Source of Risk				Name of Coal Seam			
NONE				ROSEBUD MINING CO.				ALL SEAMS			
				301 MARKET ST							
				KITANNING, PA 16201							

GOB-LOWER KITANNING SEAM,

ATTACHMENT "C"
CORRECTIVE ACTION PLAN & WELL DATA

Attachment C
Corrective Action Plan and Well Data
SAMMY-MAR LLC Povlik Injection Well

If any upward fluid migration should occur through the well bore of any know or unknown well or any improperly plugged well due to the injection of permitted fluids, injection will be stopped until the situation can be remedied. Should any problems develop with the casing of the injection well, injection will be stopped until repairs can be made to the casing.

There are eight (8) wells in the AOR, three penetrate the injection zone, one (1) has been plugged Permit # 033-20047P, well Permit # 003-20228 will be an observation well, and the third well is Permit # 033-20263. Maps showing the location of these wells are in Attachment B.

Tabulation of wells penetrating the injection zone:

Well Permit #	Well Type	Construction	Date Drilled	Location*	Total Depth	Completion
033-20047P	Gas	Not Sure/ Possibly Cable Tool	5/20/1957	South East	7167	Dry Hole
033-20228	Gas	Rotary	5/14/1959	East	7236	Open Hole
033-20263	Gas	Rotary	11/14/1959	North East	7081	Open Hole

*Location given in reference to proposed injection well.

There are five additional wells in the AOR that do not penetrate the injection zone.

Tabulation of wells in AOR that do not penetrate the injection zone:

Well Permit #	Well Type	Construction	Date Drilled	Location*	Total Depth	Completion
033-25720	Gas	Rotary	3/29/2005	North	3406'	Cased
033-25816	Gas	Rotary	7/11/2005	South West	3507'	Cased
033-25901	Gas	Rotary	11/09/2005	South	370'	Plugged
033-25902	Gas	Rotary	2/2//2006	South	3411'	Cased
033-25905	Gas	Rotary	101/31/2005	West	3411'	Cased

*Location given in reference to proposed injection well.

Well records and completion reports are included in Attachment B of the application.

ATTACHMENT "D"
MAPS & CROSS SECTION OF USDWs

ATTACHMENT "E"
NAME & DEPTH OF USDWs

Attachment E
USDWs
SAMMY-MAR LLC Povlik Injection Well

USDWs for Povlik Injection Well

The SAMMY-MAR AOR is located in the Allegheny High Plateaus Section of the Appalachian Plateau physiographic province. Aquifers in the AOR are mainly sandstones of the Conemaugh Group, Allegheny Group, Pottsville Group and the Mauch Chunk Formation. The thickness of the section from the Conemaugh to the Mauch Chunk is around 1,000 feet.

In the AOR, rock members of the Conemaugh and Allegheny Groups are exposed at the surface. The Casselman and Glenshaw Formations make up the Conemaugh Group, and consist of shale, red shale, sandstone, and coals.

The Allegheny Group consists of shale, sandstone, thin beds of limestone and coals. The Glen Richey, Laurel Run, Mineral Springs, Millstone Run, and Clearfield Formations make up the Allegheny Group.

The Pottsville Group is composed of sandstones, siltstones, thin coal beds and conglomerates. The Pottsville is divided into two formations the Curwensville and Elliott Park.

The Mauch Chunk Formation consists of a calcareous quartz sandstone, inter-bedded sandstone, siltstone, shale, and mudstone.

ATTACHMENT "E"

Existing drinking water wells within one quarter mile

Name	Size (in)	Constr Type	Date	Location	Depth (ft)	Plug/Complete	Additional info
Povlik house	6 1/4	Air drilled	1988	41-10-59	78-35-00	100	Filter

Figure 89. The principal aquifers in the Appalachian Plateaus Province in Segment 11 are sandstones in the geologic units shown in yellow and limestone shown in blue. Where fractured, rocks of the Greenbrier, the Catskill, and the Brallier Formations locally yield water. The gray areas represent missing rocks.

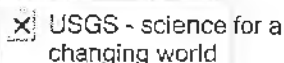
System	Pennsylvania	Maryland	West Virginia	Virginia
Permian	Dunkard Group		Dunkard Group	
	Monongahela Group	Monongahela Formation	Monongahela Group	
	Conemaugh Group	Conemaugh Formation	Conemaugh Group	
	Allegheny Group	Allegheny Formation	Allegheny Formation	
	Pottsville Group	Pottsville Formation	Pottsville Group	Holston Formation
Mississippian				Wise Formation
				Norton Formation
				Lee Formation
				Muskogee Formation
				Hinton Formation
Devonian	Mauch Chunk Formation	Mauch Chunk Formation	Mauch Chunk Group	Shuttsford Formation
		Greenbrier Formation ¹	Greenbrier Group	Greenbrier Limestone
				Marlboro Shale
	Potomac Formation	Potomac Formation	Potomac Group	Price Formation
	Hurley Mountain Formation			
Carboniferous	Catskill Formation ¹	Hempshire Formation	Hempshire Formation	Chatham Shale
		Chemung Formation	Chemung Formation	
	Timber Lake Formation	Brallier Formation ¹	Brallier Formation ¹	
	Harrel Formation	Harrel Shale	Harrel Shale	

¹Locally water-yielding.

Modified from:

Patchen, D.G., and others, 1985a, Correlation of stratigraphic units of North America (COSUNA) Project, southern Appalachian region: American Association of Petroleum Geologists, 1 sheet.

_____, 1985b, Correlation of stratigraphic units of North America (COSUNA) Project, northern Appalachian region: American Association of Petroleum Geologists, 1 sheet.



Mineral Resources On-Line Spatial Data

Mineral Resources > Online Spatial Data > Geology > by state > Pennsylvania Geology

Geologic units in Clearfield county, Pennsylvania

Glenshaw Formation (Pennsylvanian) *at surface, covers 21 % of this area*

Glenshaw Formation - Cyclic sequences of shale, sandstone, red beds, and thin limestone and coal; includes four marine limestone or shale horizons; red beds are involved in landslides; base is at top of Upper Freeport coal.

Lithology: shale; sandstone; limestone; clastic; coal

Casselman Formation (Pennsylvanian) *at surface, covers 0.8 % of this area*

Casselman Formation - Cyclic sequences of shale, siltstone, sandstone, red beds, thin, impure limestone, and thin, nonpersistent coal; red beds are associated with landslides; base is at top of Ames limestone.

Lithology: shale; siltstone; sandstone; clastic; limestone; coal

Mauch Chunk Formation (Mississippian) *at surface, covers 0.4 % of this area*

Mauch Chunk Formation - Grayish-red shale, siltstone, sandstone, and some conglomerate; some local nonred zones. Includes Loyalhanna Member (crossbedded, sandy limestone) at base in south-central and southwestern Pennsylvania; also includes Greenbrier Limestone Member, and Wymps Gap and Deer Valley Limestones, which are tongues of the Greenbrier. Along Allegheny Front from Blair County to Sullivan County, Loyalhanna Member is greenish-gray, calcareous, crossbedded sandstone.

Lithology: shale; siltstone; sandstone; conglomerate; limestone

Huntley Mountain Formation (Mississippian and Devonian) *at surface, covers 2 % of this area*

Huntley Mountain Formation - Greenish-gray and light-olive-gray, flaggy, fine-grained sandstone, siltstone, and a few red shale interbeds; includes lower "Pocono" plus "Oswayo" of earlier workers. Forms transition between Catskill Formation and Burgoon Sandstone.

Lithology: sandstone; siltstone; shale

Allegheny Formation (Pennsylvanian) *at surface, covers 43 % of this area*

Allegheny Formation - Cyclic sequences of sandstone, shale, limestone, clay, and coal; includes valuable clay deposits and Vanport Limestone; commercially valuable Freeport, Kittanning, and Brookville-Clarion coals present; base is at bottom of Brookville-Clarion coal.

Lithology: sandstone; shale; limestone; clay or mud; coal

Burgoon Sandstone (Mississippian) *at surface, covers 9 % of this area*

Burgoon Sandstone - Buff, medium-grained, crossbedded sandstone; includes shale and coal; in places, contains conglomerate at base; contains plant fossils; equivalent to Pocono Formation of Ridge and Valley province.

Lithology: sandstone; conglomerate; shale; coal

Shenango Formation through Oswayo Formation, undivided (Mississippian and Devonian) *at surface, covers 0.1 % of this area*

Shenango Formation through Oswayo Formation, undivided - Greenish-gray, olive, and buff sandstone and siltstone, and gray shale in varying proportions; includes "Pocono" ("Knapp") and Oswayo of earlier workers; difficult lithologic distinction between Oswayo and "Knapp"- "Pocono" south and east of type area at Olean, N. Y.; contains marine fossils; includes lateral equivalents of Shenango Formation, Cuyahoga Group, Corry Sandstone, Bedford Shale, and Cussewago Sandstone, plus Oswayo Formation.

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Lithology: sandstone; siltstone; shale

Rockwell Formation (Mississippian and Devonian) *at surface, covers < 0.1 % of this area*

Rockwell Formation - Buff, fine- to medium-grained, crossbedded, argillaceous sandstone and dark-gray shale; includes some carbonaceous shale, sporadic conglomerate beds, and diamictite; included in lower "Pocono" of earlier workers.

Lithology: sandstone; shale; conglomerate

Pottsville Formation (Pennsylvanian) *at surface, covers 24 % of this area*

Pottsville Formation - Predominantly gray sandstone and conglomerate; also contains thin beds of shale, claystone, limestone, and coal; includes Olean and Sharon conglomerates of northwestern Pennsylvania; thin marine limestones present in Beaver, Lawrence, and Mercer Counties; minable coals and commercially valuable high-alumina clays present locally.

Lithology: sandstone; conglomerate; shale; siltstone; claystone; limestone; coal

U.S. Department of the Interior | U.S. Geological Survey

URL: <http://mrdata.usgs.gov/geology/state/fips-unit.php?code=f42033>

Page Contact Information: pschweitzer@usgs.gov

Page Last modified: 10:03 on 08-May-2012

ATTACHMENT "G"
GEOLOGICAL DATA ON INJECTION & CONFINING ZONES

Attachment G Geological Data On Injection and Confining Zones SAMMY-MAR LLC Povlik Injection Well

Geological Data for Povlik Injection Well

The Povlik well will be in a depleted natural gas field (Punxsutawney-Driftwood field, Rockton pool) on the southeastern flank of the Punxsutawney-Caledonia Syncline. The current field pressure is around 25 psi. The top of the injection zone will be at a depth of 7,029' in the Huntersville Chert and extend through the bottom of the Oriskany Sand to a depth of 7,100'. A structure map from Atlas 74ab included in this section shows localized faulting in the area. A seismic survey run by an exploration/production company in the area of the proposed injection well and made available to Sammy-Mar shows the faulting in more detail, see map labeled Map 1 Attachment G in this section. This map shows the injection well will be on a structural high, a horst like structure, caused by reverse faulting.

Four (4) of the seven (7) wells in the AOR that penetrate the Huntersville Chert/Oriskany Sand injection zone are located on the structure. The wells are highlighted on the structure map marked Map 1. An injection test was conducted on well 033-2028 and the test results are found in Attachment H. The reported rock pressures and open flows for the wells located on structure were:

State Permit Number	Rock Pressure PSI	Open Flow
033-20228	3900#	45 MMCF
033-20236	3400#	70 MMCF
003-20245	2260#	17 MMCF
033-20260P*	1640#	2 MMCF

*Hydro-fraced

The other three (3) wells were drilled on either side of the structural high and were dry holes or had much lower rock pressure and open flows.

State Permit Number	Rock Pressure PSI	Open Flow
033-20047P	N/A	Dry Hole
033-20139	N/A	Dry Hole
033-20263*	1500#	2 MMCF

*Hydro-fraced

The well records show a pattern, wells had to be drilled on the structure to be productive. The drilling records lead Sammy-Mar to conclude that the faults creating the horst are sealing faults that created the trap for the accumulation of gas. Further evidence of the sealing nature of the faults is exemplified by the high rock (surface) pressure of the productive wells. The same seal needed to keep the gas from migrating from the Huntersville Chert/Oriskany Sand injection zone will also keep the injection fluid from migrating out of zone and confined to the depleted gas reservoir.

The breakdown pressure, the pressure needed to initiate a fracture was reported at 4,500# for well 033-20260P. This is in line with reported breakdown pressures from other wells in the injection zone (Huntersville Chert/Oriskany Sand)

The top of the injection zone will be at a depth of 7,029' in the Huntersville Chert and extend through the bottom of the Oriskany Sand to a depth of 7,100'. The Huntersville Chert is around 50' thick and consists of mottled gray to dark gray chert. The Oriskany is approximately 20' thick and is fine grained quartz sandstone.

The injection zone is overlain by the Onondaga Limestone which deep well records in the vicinity of the Povlik well show to be around 12' thick. The Onondaga is immediately overlain by the Hamilton Group consisting of approximately 500' of brownish-black to medium gray shale, which in turn is overlain by the Tully Formation a fairly hard, dark gray limestone about 100' thick.

The Helderberg Formation under lies the Huntersville Chert/Oriskany injection zone. None of the well records in the AOR indicate the Helderberg was penetrated by the drill bit. Wells near the AOR have penetrated the Helderberg and show the formation can be a cherty limestone to a dense argillaceous limestone between 100 to 150' thick.

Sammy - Mar LLC

From: Atlas 74ab, 1976

Commonwealth of Pennsylvania

Dept of Environmental Resource

Topographic and Geologic Survey

- Approximate location of Polvick #1 Injection Well

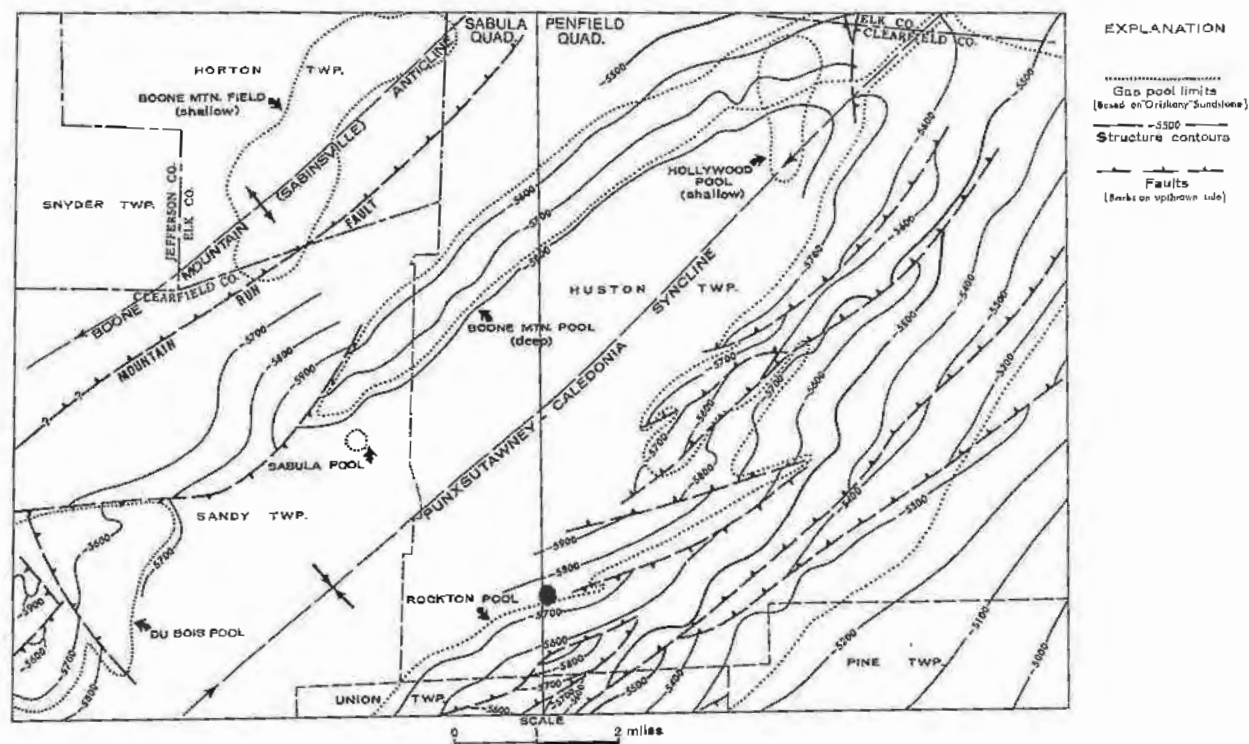
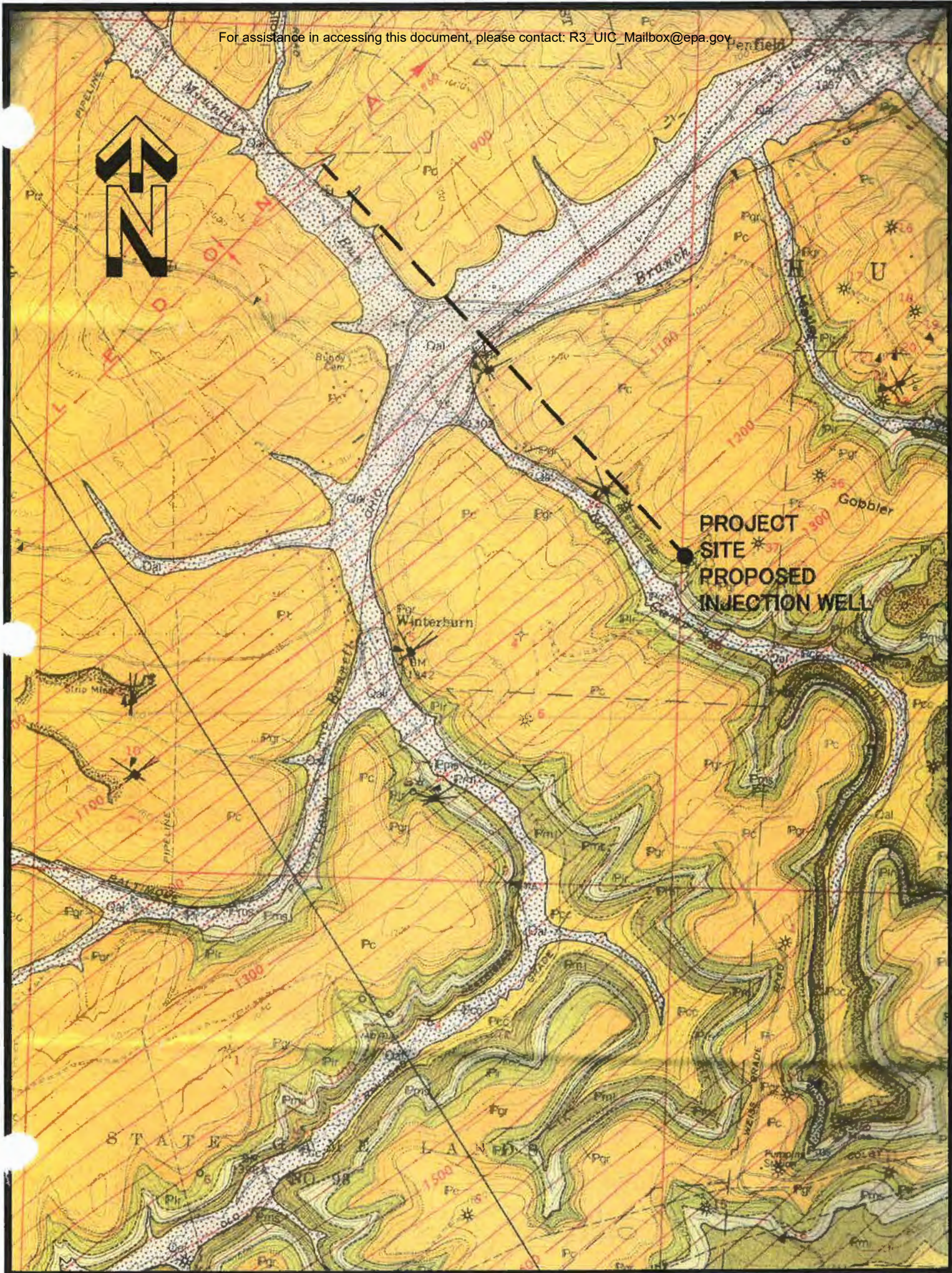
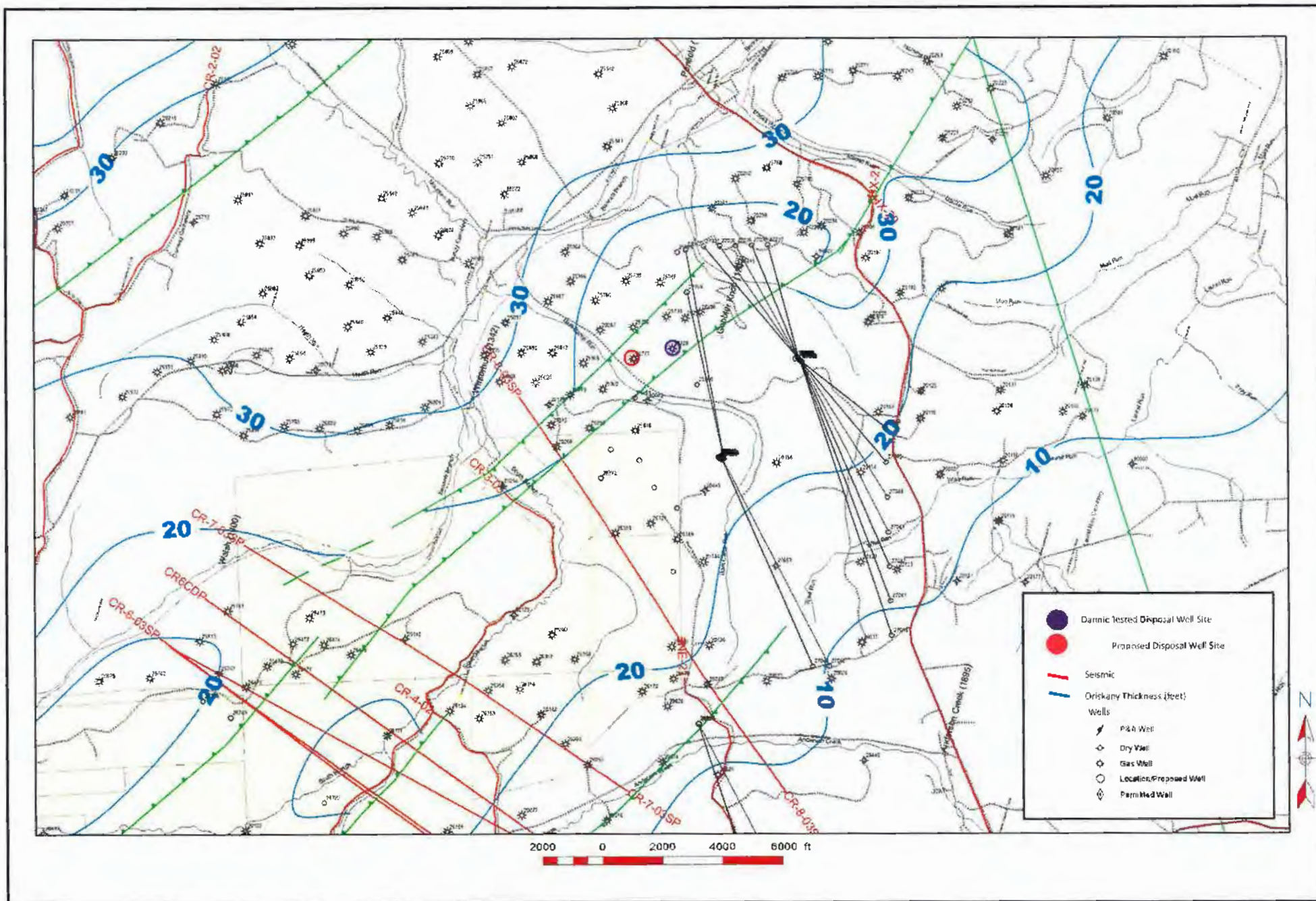
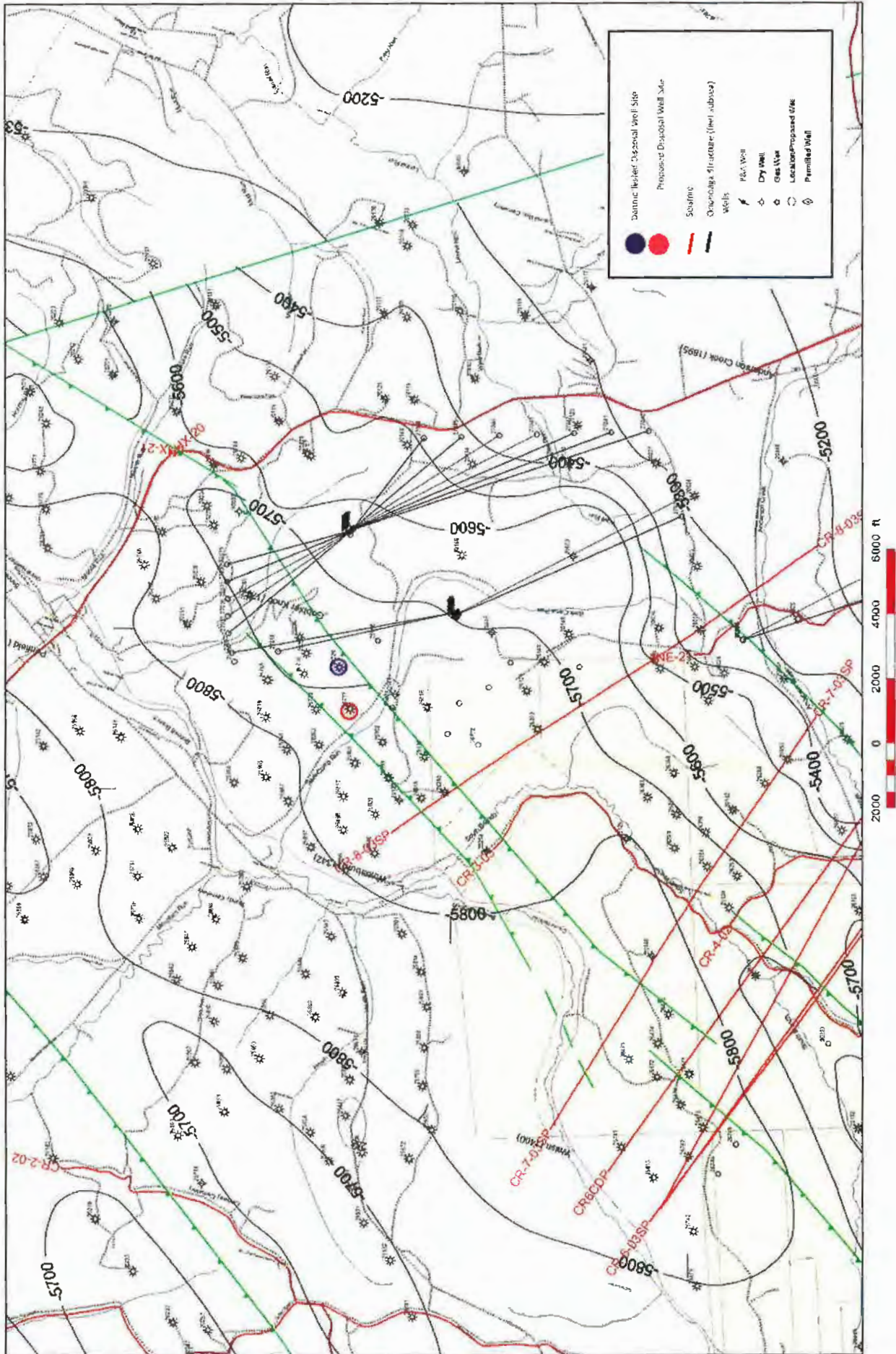


Figure 16. Subsurface structural geology, based on the "Oriskany" (Ridgeley) Sandstone, and limits of gas fields and pools (adapted from Cate, 1961).

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Attachment H
Operating Data
SAMMY-MAR LLC Povlik Injection Well

Injection Rates and Volumes

- 1) The proposed average injection rate is 1,500 BBLs of water per day and the maximum rate should be no greater than 2,000 BBLs of water per day.

Injection Pressures

- 2) Injection pressure is expected to be below 1,561psi, the calculated maximum injection pressure at the well head, without accounting for the estimated 150 to 200 psi of pipe friction through the 2 7/8" injection string. The calculated bottom hole pressure is 5,154 psi.

The maximum injection pressure of 1,561 psi, was calculated using the formula published in 40 CFR 147.1953 [$P_m = (0.733 - 0.433 S_g)d$] for a column of water. The S_g used was 1.18, the S_g of the produced brine water used in the injection test on the Green Glen #1 and a depth of 7,030'. It is not expected that the maximum pressure will be reached because of the results of the attached injection test performed on the Green Glen #1, Permit # 033-20228, which will serve as an observation well.

Annulus Fluid

- 3) Fresh water will be in placed in the 2 7/8" by 4 1/2" annulus, mixed with Corr Plex 300 which acts as a corrosion inhibitor and bacteria growth preventer. Twenty gallons of Corr Plex 300 will be mixed with approximately 2,500 gallons of fresh water. The MSD sheet for the chemical mixture Corr Plex 300 listing ingredients and physical data is included in this section. Positive pressure will be maintained on the annulus to monitor mechanical integrity.

Source and Analysis of Injection Fluid

- 4) The source of the injection fluid is produced water from oil and gas wells and flow back fluid from oil and gas well stimulation activities. An analysis of the produced fluids and flow back water is included in this section. Before injection the produced fluid and flow back water will be subjected to treatment and passed through a filter to remove large particles and suspended solids from the fluid before injection. The solids removed will be transported to an appropriate solid waste disposal site.

Dannic Energy Injection Test Green Glenn #1 DEP ID #37-033-20228									
Date	Time	Rate bbls/day	Vol. bbls	Press. psf	Density ppg	Remarks	Pi psi	Pf psi	time minutes
10/13/2009	8:00:00 AM			0	9.10	Gravity fed well to load hole for pump test			
	8:00:00 PM		180	0	9.10				
10/14/2009	6:45:00 AM	850	180	0	9.10	Start Injection Test			
	7:45:00 AM	840	215	0	9.10	Increase rate			
	8:45:00 AM	1200	260	0	9.10				
	9:15:00 AM	1175	284	300	9.10	Caught Pressure at 104 bbls on pump			
	9:20:00 AM	0	286	1500	9.10	Shut down; monitor pressure decline	1500	300	40
	10:00:00 AM	620	286	300	9.10	Start Pump			
	10:30:00 AM	0	292	1500	9.10	Shut down; monitor pressure decline	1500	0	25
	11:00:00 AM	425	292	0	9.10	Start Pump			
	11:30:00 AM	0	300	1500	9.10	Shut down; monitor pressure decline	1500	0	20
	12:00:00 PM	425	300	0	9.10	Start Pump			
	12:30:00 PM	0	309	1500	9.10	Shut down; monitor pressure decline	1500	0	10
	1:30:00 PM	425	309	0	9.10	Start Pump			
	1:30:00 PM	0	318	1400	9.10	Shut down; monitor pressure decline	1400	0	7
	2:00:00 PM	425	318	0	9.10	Start pump			
	2:30:00 PM	0	326	1380	9.10	Shut down; monitor pressure decline	1380	0	5
	3:00:00 PM	425	326	0	9.10	Start Pump			
	3:30:00 PM	425	335	1300	9.10	Well taking fluid at 1300 psf			
	4:00:00 PM	850	344	1300	9.10	Increase rate			
	5:00:00 PM	850	379	1320	9.10				
	5:15:00 PM	0	390	1320	9.10	shut down for night	1320	0	3
10/15/2009	6:00:00 AM		390	0	9.10	Open well; well on vacuum			
	6:00:00 AM	950	390	0	9.10	Start pump			
	7:00:00 AM	1030	430	0	9.10				
	8:00:00 AM	990	471	0	9.10				
	9:00:00 AM	800	504	0	8.90	Change suction tank			
	10:00:00 AM	800	537	0	8.90				
	11:00:00 AM	800	570	300	8.90				

JUN-04-2010 02:21 PM

P.07

	12:00:00 PM	900	610	1400	8.90			
	1:00:00 PM	900	645	1380	8.90			
	2:00:00 PM	1000	686	1380	8.90			
	3:00:00 PM	900	722	1380	8.90			
	4:00:00 PM	1000	767	1380	8.90	Shut down pump for night; gravity fed hole	1380	0
10/16/2009	8:00:00 AM	340	992	0	8.90	well on vacuum; gravity 225 bbls		3
	8:00:00 AM	335	992	0	8.80	Change suction tank; start pump		
	8:05:00 AM	900	995	1400	8.80			
	9:00:00 AM	620	1020	1300	8.80	Pump problems; shut down high temp		
	9:30:00 AM	0	1042	1300	8.80	Bad Temp sensor in pump motor shut down	1300	0
						Scheduled bond log; gravity fed hole		3
10/17/2009	9:30:00 AM	350	1392	0	8.80	gravity 350 bbls		
10/18/2009	9:30:00 AM	250	1642	0	8.80	gravity 250 bbls		
10/19/2009	7:00:00 AM	300	1927	0	8.50	gravity 300 bbls; log well		
	1:00:00 PM	900	1927	0	8.60	Start Pump		
	2:00:00 PM	940	1964	1500	8.60			
	3:00:00 PM	900	2003	1500	8.60			
	4:00:00 PM	920	2040	1480	8.60			
	5:00:00 PM	1000	2080	1320	8.60			
	6:00:00 PM	950	2120	1240	8.60	Shut pump down for night; gravity fed well		
10/20/009	6:45:00 AM	480	2370	0	8.70	Start Pump		
	7:00:00 AM	1000	2390	1175	8.70			
	8:00:00 AM	1000	2432	1200	8.70			
	9:00:00 AM	975	2471	1200	8.70			
	10:00:00 AM	900	2508	1250	8.70			
	11:00:00 AM	900	2545	1275	8.70			
	12:00:00 PM	1000	2587	1275	9.10	Change suction tank		
	1:00:00 PM	980	2628	1220	9.10			
	2:00:00 PM	1200	2678	1220	9.10			
	3:00:00 PM	1025	2721	1210	9.10			
	4:00:00 PM	1025	2763	1170	9.10			
	5:00:00 PM	1030	2806	1140	9.10			
	6:00:00 PM	1030	2850	1100	9.10			
	7:00:00 PM	1025	2889	1100	9.10	Shut pump down for night; gravity fed well	1100	0
								1

JUN-04-2010 07:22 AM

10/21/2009	7:00:00 AM	500	3189	0	8.70	Change suction tank; start pump			
	8:00:00 AM	1000	3231	1150	8.70				
	9:00:00 AM	1050	3275	1200	8.70				
	10:00:00 AM	1050	3318	1220	8.70	Increase pump rate			
	11:00:00 AM	1200	3368	1220	8.70				
	12:00:00 PM	1200	3419	1220	8.70				
	1:00:00 PM	1350	3474	1250	8.70	Increase pump rate			
	2:00:00 PM	1350	3530	1250	8.70				
	3:00:00 PM	1350	3585	1250	8.70				
	4:00:00 PM	1350	3642	1240	8.70				
	5:00:00 PM	1350	3698	1240	8.70				
	6:00:00 PM	1350	3755	1240	8.70				
	7:00:00 PM	1350	3811	1240	8.70		1240	0	1
10/22/2009	7:00:00 AM	500	4311	0	8.80	Change suction tank; gravity fed well			
						Test Complete			
						Witness Test: Michael G. Hoover			
						Witness Test: Douglas A. Hoover			



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F: (724) 465-4209
PADEP: 32-00382

1276 Bentleyville Rd.
Van Voorhis, PA 15366
P: (724) 258-TEST
F: (724) 258-8376
PADEP: 63-04247

1200 River Avenue
Williamsport, PA 17701
P: (570) 321-9002
F: (570) 321-1957
PADEP: 41-04890

14 February 2013

Work Order: 3011498

Project: PHC Brine Facility

EOG Resources

Attn: Ben Olds

400 Southpointe Blvd, Southpointe Plaza 1

Canonsburg, PA 15317

Report of Analysis

Client Sample ID	Lab Sample ID	Matrix	Date Sampled	Date Received
PHC Brine Facility	3011498-01	Waste Water	01/21/2013 13:20	01/21/2013 15:40

Report Narrative

The results contained in this report are only representative of the samples received. Environmental Service Laboratories, Inc. is not responsible for use or interpretation of the data included herein.

Definitions

K	Analyte was detected in both sample and prep blank.
F	CBOD / BOD result may be biased high due to GGA standard exceeding laboratory acceptance criteria.
D	The reported value is from a dilution.
ND	Less than reporting limit
RL	Reporting Limit
CFU	Colony Forming Units

Certifications

Analyses performed by Environmental Service Laboratories, Inc., Indiana PA unless otherwise specified.

Environmental Service Laboratories, Inc., Indiana, PA DEP lab ID #32-32382

Approved By

Gabe Taylor

Manager



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F: (570) 321-1957
PADEP: 41-04880

EOG Resources
400 Southpointe Blvd, Southpointe Plaza 1
Canonsburg, PA 15317

Reported: 02/14/2013 16:33

Lab Sample ID#: 3011498-01
Sample Type: Waste Water
Sample Source: Grab
Sampler: peter Kostella
Client Sample ID: PHC Brine Facility

Sample Date: 01/21/2013 13:20
Receipt Date: 01/21/2013 15:40

Analyte	Sample Result	Units	Data Qualifier	RL	Method	Analyst/ Certification	Analysis Date/Time
Field Analysis							
pH	5.35	S.U.			SM4500-H B	PK	01/21 13:20
General Chemistry							
Acidity	147	mg/L			SM2310 B	BNH	01/23 20:49
Alkalinity, Total (CaCO ₃)	ND	mg/L		20.0	SM2320B	NDZ	01/22 17:20
Ammonia as N	159	mg/L		10.3	SM4500NH3D	RNS	01/22 20:46
Biochemical Oxygen Demand	14.3	mg/L	F	2.0	SM5210B	KAR	01/23 09:00
Boron	7.50	mg/L	D	6.25	SM4500B B	JMH	01/25 15:15
Bromide	1310	mg/L		100	ASTMD1246 95C	SR	01/25 12:40
Chloride	97000	mg/L	D	5.00	SM4500CLC/D	SR	01/22 16:30
Chemical Oxygen Demand	4600	mg/L	D	1000	SM5220D	ZTR	01/28 21:53
Surfactants	ND	mg/L		0.200	SM5540C	SNA	01/22 17:12
Nitrate/Nitrite	0.109	mg/L		0.0500	SM4500N03E	SER	01/29 16:51
Oil & Grease (HEM)	21.6	mg/L		5.00	EPA1664A	TEM	01/22 15:22
Specific Conductance	148500	umhos/cm		1.0	SM2510B	LAL	01/30 14:29
Sulfate	ND	mg/L		5.0	ASTMD516 02	RNS	01/23 22:05
Total Dissolved Solids	214000	mg/L		25.0	SM2540C	TEM	01/25 11:20
Total Kjeldahl Nitrogen	168	mg/L		60.5	SM4500NH3D	JMH	01/22 16:17
Phenolics	ND	mg/L		0.250	EPA420.1	JMH	01/26 15:00
Total Suspended Solids	230	mg/L		5.0	SM2540D	LMB	01/23 12:30
Total Metals							
Aluminum	ND	mg/L	D	10.0	EPA200.7	BEE	01/25 11:15
Arsenic	ND	mg/L	D	10.0	EPA200.7	BEE	01/25 11:15
Barium	3190	mg/L	D	5.00	EPA200.7	BEE	01/25 11:15
Beryllium	ND	mg/L	D	5.00	EPA200.7	BEE	01/25 11:15
Cadmium	ND	mg/L	D	5.00	EPA200.7	BEE	01/25 11:15
Calcium	17700	mg/L	D	500	EPA200.7	BEE	01/25 11:15
Chromium	ND	mg/L	D	5.00	EPA200.7	BEE	01/25 11:15
Cobalt	ND	mg/L	D	5.00	EPA200.7	BEE	01/25 11:15
Copper	ND	mg/L	D	5.00	EPA200.7	BEE	01/25 11:15
Hardness	49200	mg/L			SM2340B	BEE	01/25 11:15
Iron	25.5	mg/L	D, K	10.0	EPA200.7	BEE	01/25 11:15
Lead	ND	mg/L	D	5.00	EPA200.7	BEE	01/25 11:15
Lithium	ND	mg/L	D	500	EPA200.7	BEE	01/25 11:15



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F: (570) 321-1957
PADEP: 41-04880

EOG Resources

400 Southpointe Blvd, Southpointe Plaza 1
Canonsburg, PA 15317

Reported: 02/14/2013 16:33

Lab Sample ID#: 3011498-01
Sample Type: Waste Water
Sample Source: Grab
Sampler: peter Kostella
Client Sample ID: PHC Brine Facility

Sample Date: 01/21/2013 13:20
Receipt Date: 01/21/2013 15:40

Analyte	Sample Result	Units	Data Qualifier	RL	Method	Analyst/ Certification	Analysis Date/Time
Total Metals							
Magnesium	1210	mg/L	D	500	EPA200.7	BEE	01/25 11:15
Manganese	14.2	mg/L	D	5.00	EPA200.7	BEE	01/25 11:15
Mercury	ND	mg/L	D	0.001	EPA245.1	SFS	01/25 13:42
Molybdenum	ND	mg/L	D	5.00	EPA200.7	BEE	01/25 11:15
Nickel	ND	mg/L	D	5.00	EPA200.7	BEE	01/25 11:15
Selenium	ND	mg/L	D	10.0	EPA200.7	BEE	01/25 11:15
Silver	ND	mg/L	D	5.00	EPA200.7	BEE	01/25 11:15
Sodium	19900	mg/L	D	500	EPA200.7	BEE	01/25 11:15
Strontium	4620	mg/L	D	10.0	EPA200.7	BEE	01/25 11:15
Zinc	ND	mg/L	D	5.00	EPA200.7	BEE	01/25 11:15
Dissolved Metals							
Iron, Dissolved	40.7	mg/L	D	10.0	EPA200.7	BEE	01/30 13:33
Volatile Organics							
Benzene	ND	ug/L		10.0	EPA624/8260	JMG	01/23 22:27
Toluene	ND	ug/L		10.0	EPA624/8260	JMG	01/23 22:27
Surrogate: 1,2-Dichloroethane-d4	104 %	86-118			EPA624/8260	JMG	01/23 22:27
Surrogate: Toluene-d8	99 %	88-110			EPA624/8260	JMG	01/23 22:27
Surrogate: 4-Bromofluorobenzene	99 %	86-115			EPA624/8260	JMG	01/23 22:27
Organics							
Ethylene glycol	ND	mg/L	D	2500	EPA8015B	EAC	01/23 00:07

Benchmark Analytics, Inc.-Center Valley - PA DEP lab ID# 39-00401

Subcontracted

Gross Alpha	9264 (1479)	PCi/L		EPA900.0	01/28 09:01
Gross Beta	5893 (1301)	PCi/L		EPA900.0	01/28 09:01
Radium-226	10060 (4098)	PCi/L		EPA903.0	02/08 12:30
Radium-228	2574 (3296)	PCi/L		EPA904.0	02/04 09:50
Thorium	<500.0	ug/L		EPA200.8	01/31 12:10
Uranium	<25.00	ug/L		EPA200.8	01/31 12:10

ENVIRONMENTAL SERVICE LABORATORIES, INC.	
HEADQUARTERS: 1803 Philadelphia St. Indiana, PA 15701 (724) 493-TEST (724) 495-4209	SOUTHERN DIVISION: 1276 Bentleyville Road Ven Vouthis, PA 15366 (724) 258-TEST (724) 258-8376
FOR INTERNAL LABORATORY USE ONLY	

SAMPLE REQUEST & CHAIN OF CUSTODY

PAGE 1 OF 1

Page 4 of 7

Sample Identification	3011498 ESL#	Sample Type				Matrix	# of Containers	Container Type Preservative	5, 3.5 Analysis Requested
		Composite		Grab					
		Date and/or	Time and/or	Date	Time				
PHC BRINE FACILITY	-01			1-21-13	1320	WW	1 2	Plastic Litter none	pH, SC, Chloride, Sulfate, Alkalinity, Acidity, Bromide
						WW	2	Plastic Litter none	TSS, TDS, Dissolved Iron, Boron, BOD, MBAS Surfactants
						WW	1	Plastic Litter HNO ₃	Al, As, Ba, Be, Cd, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, Se, Ag, Sr, Zn, Li, Na, Ca, Mo, Hardness
						WW	1	Plastic Litter H ₂ SO ₄	Nitrate+Nitrite, TKN, Ammonia, COD
						WW	5 1000 mL	Plastic Litter HNO ₃	Gross Alpha, Gross Beta Radium 226, Radium 228 Thorium, Uranium
						WW	1	Amber Glass L HCl	Oil & Grease
						WW	1	Amber Glass L H ₂ SO ₄	Total Phenolics
						WW	2	Amber VOA Vials none	Ethylene Glycol
						WW	2	Amber VOA Vials HCl	Benzene, Toluene
TRIP BLANK						Water	2	Amber VOA Vials HCl	Benzene, Toluene

THE UNDERSIGNED PURCHASER HEREBY AGREES TO PAY SERVICE CHARGES ON ACCOUNTS OVER 31 DAYS OLD.
 1. THESE SERVICE CHARGES WILL ACCRUE AT THE RATE OF 1 1/2% PER MONTH (18% PER ANNUM OR THE MAXIMUM ALLOWED BY LAW).
 2. THE UNDERSIGNED PURCHASER AGREES TO PAY, IN THE EVENT HIS ACCOUNT BECOMES DELINQUENT AND IS TURNED OVER TO ANY ATTORNEY FOR COLLECTION, REASONABLE ATTORNEY'S FEES PLUS ALL COURT AND ATTENDANT COLLECTION COSTS.

Signature: *Peter Bartola* Date/Time: 1-21-13 1320

Signature: *Peter Bartola* Date/Time: 1-21-13 1540

Signature: _____ Date/Time: _____

Signature: _____ Date/Time: _____

Signature: _____ Date/Time: _____

Signature: _____ Date/Time: _____

Signature: _____ Date/Time: _____

Signature: _____ Date/Time: _____

Signature: _____ Date/Time: _____

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Signature: _____ Date/Time: _____

Signature: _____ Date/Time: _____

Signature: _____ Date/Time: _____

Signature: _____ Date/Time: _____

Signature: _____ Date/Time: _____

Signature: _____ Date/Time: _____

Signature: *Heidi Gilman* Date/Time: 1-21-13 1614

Signature: _____ Date/Time: _____

Signature: _____ Date/Time: _____

Signature: _____ Date/Time: _____

Signature: _____ Date/Time: _____

Signature: _____ Date/Time: _____

Signature: _____ Date/Time: _____

Signature: _____ Date/Time: _____

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Signature: _____ Date/Time: _____

Signature: _____ Date/Time: _____

Signature: _____ Date/Time: _____

Signature: _____ Date/Time: _____

Signature: _____ Date/Time: _____

Signature: _____ Date/Time: _____

Project Notes: PHC BRINE FACILITY Clearfield

Company/Name: EOG RESOURCES

Address: 400 Southpointe Boulevard

Southpointe Plaza 1, Suite 300

Canonsburg, PA 15317

Contact Person: Ben Olds

Phone: 724-743-2730

Fax: _____

Email: _____

PRESERVATION Y / N CONTAINER Y / N TEMP ≤ 4°C Y / N / NA

A.C.

SUBCONTRACT ORDER

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Environmental Service Laboratories, Inc.

3011498

SENDING LABORATORY:

Environmental Service Laboratories, Inc.
 1803 Philadelphia Street
 Indiana, PA 15701
 Phone: 724-463-8378
 Fax: 724-465-4209
 Project Manager: Gabe Taylor

RECEIVING LABORATORY:

Benchmark Analytics, Inc.-Center Valley
 4777 Saucon Creek Road
 Center Valley, PA 18034
 Phone :610-974-8100
 Fax: -

Analysis	Due	Expires	Laboratory ID	Comments
Sample ID: 3011498-01	Water	Sampled:01/21/2013 13:20		Wbs, Grab, Free Water
Uranium	02/04/2013 14:00	02/18/2013 13:20		
Thorium	02/04/2013 14:00	02/18/2013 13:20		
Radium 228	02/04/2013 14:00	02/18/2013 13:20		
Radium 226	02/04/2013 14:00	02/18/2013 13:20		
Gross Beta	02/04/2013 14:00	02/18/2013 13:20		
Gross Alpha	02/04/2013 14:00	02/18/2013 13:20		
Containers Supplied:				(5)

W/O#: 13013121

001A GA/B
 001B 226
 001C 228
 001D ME RAD
 001E BACK UP

Good no ice 0.4°C

Released By	<i>Ataphan Johnson</i>	Date	1/22/13 16:00	Received By		Date	
Released By	<i>MPB</i>	Date	1/24/13 9:45	Received By	<i>Gabe Taylor</i>	Date	

SEND DATA TO:

NAME: Kathy Brown
COMPANY: Environmental Service Laboratories, Inc
ADDRESS: 1803 Philadelphia St
Indiana, PA 15701

WO#: 13013121

PAGE: 1 of 1

PO#:

PWS ID#

PHONE: (724) 463-8378
FAX: (724) 465-4209

TEST REPORT

3011498

RECEIVED FOR LAB BY: GMD

DATE: 01/24/2013 9:45

Page 1 of 1

SAMPLE: **3011498-01**

Lab ID: 13013121-001A Grab

SAMPLED BY: Client

Sample Time 01/21/2013 13:20

Test	Result	Uncert.	MDA	Units	Method	MCL	Analysis Start	Analysis End	Analyst *
Combined Activity (Alpha + Beta)	15160			pCi/L	Calculation		02/12/13 15:18		MJG-CV
Gross Alpha	9264	± 1122.	1479.00	pCi/L	EPA 900.0		01/24/13 9:01	01/28/13	MJG-CV
Gross Beta	5893	± 583.5	1301.00	pCi/L	EPA 900.0		01/24/13 9:01	01/28/13	MJG-CV

SAMPLE: **3011498-01**

Lab ID: 13013121-001B Grab

SAMPLED BY: Client

Sample Time 01/21/2013 13:20

Test	Result	Uncert.	MDA	Units	Method	MCL	Analysis Start	Analysis End	Analyst *
Radium, Combined (Ra226 + Ra228)	12630			pCi/L	Calculation		02/12/13 15:18		MJG-CV
Radium-226	10060	± 936.2	4098.00	pCi/L	EPA 903.0		01/25/13 12:30	02/08/13	CLF-CV
Carrier Recovery	100			%	EPA 903.0		01/25/13 12:30	02/08/13	CLF-CV

SAMPLE: **3011498-01**

Lab ID: 13013121-001C Grab

SAMPLED BY: Client

Sample Time 01/21/2013 13:20

Test	Result	Uncert.	MDA	Units	Method	MCL	Analysis Start	Analysis End	Analyst *
Radium-228	2574	± 3180.	3296.00	pCi/L	EPA 904.0		02/01/13 9:50	02/04/13	GSR-CV
Carrier Recovery	80			%	EPA 904.0		02/01/13 9:50	02/04/13	GSR-CV

REMARKS:

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of NELAP unless otherwise noted on the Analytical Report.

* CV = Benchmark Analytics, Inc. Center Valley, PA; SA = Benchmark Analytics, Inc. Sayre, PA

MANAGER


Christopher Medoi, Manager

DATE: 2/12/2013

Page 6 of 7

LAB ID: 39-00401 *CV
LAB ID: 08-00380 *SA

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A BWMI NETWORK LABORATORY
4777 Saucon Creek Road • Center Valley, PA 18034
(610) 974-8100 • Fax: (610) 974-8104

SEND DATA TO:

NAME: Kathy Brown
COMPANY: Environmental Service Laboratories, Inc
ADDRESS: 1803 Philadelphia St
Indiana, PA 15701

WO#: 13013121

PAGE: 1 of 1

PO#:

PWS ID#

PHONE: (724) 463-8378
FAX: (724) 465-4209

TEST REPORT

3011498

RECEIVED FOR LAB BY: GMD

DATE: 01/24/2013 9:45

Page 1 of 1

SAMPLE: **3011498-01**
SAMPLED BY: Client

Lab ID: 13013121-001D Grab
Sample Time: 01/21/2013 13:20

<u>Test</u>	<u>Result</u>	<u>Method</u>	<u>Req. Limit</u>	<u>Analysis Start</u>	<u>Analysis End</u>	<u>Analyst *</u>
Thorium	< 500.0 µg/L	EPA 200.8		01/25/13 12:10	01/31/13	STD-CV
Uranium	< 25.00 µg/L	EPA 200.8	30	01/25/13 12:10	01/31/13	STD-CV
Uranium	< 17.00 pCi/L	EPA 200.8		01/25/13 12:10	01/31/13	STD-CV

REMARKS:

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of NELAP unless otherwise noted on the Analytical Report.

* CV = Benchmark Analytics, Inc. Center Valley, PA; SA = Benchmark Analytics, Inc. Sayre, PA

MANAGER

Christopher Medei
Christopher Medei, Manager

DATE: 2/12/2013

JAN 03 2013

EOG RESOURCES PIT DIV



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1200 River Avenue
Williamsport, PA 17701
P: (570) 321-9002
F: (570) 321-1957
PADEP: 41-04880

05 December 2012

Work Order: 2110683

Project: PHC 8

EOG Resources
Attn: Ben Olds

400 Southpointe Blvd, Southpointe Plaza 1
Canonsburg, PA 15317

Report of Analysis

Client Sample ID	Lab Sample ID	Matrix	Date Sampled	Date Received
PHC 8	2110683-01	Waste Water	11/08/2012 11:30	11/08/2012 18:00
PHC 8 Trip Blank	2110683-02	Water	11/08/2012 00:00	11/08/2012 18:00

Report Narrative

The results contained in this report are only representative of the samples received. Environmental Service Laboratories, Inc. is not responsible for use or interpretation of the data included herein.

Definitions

R Received out of recommended hold time.
K Analyte was detected in both sample and prep blank.
E Estimated value.
D The reported value is from a dilution.
ND Less than reporting limit
RL Reporting Limit
CFU Colony Forming Units

Certifications

Analyses performed by Environmental Service Laboratories, Inc., Indiana PA unless otherwise specified.

Environmental Service Laboratories, Inc., Indiana, PA DEP lab ID #32-32382

Approved By

Gabo Taylor
Manager



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EOG Resources

400 Southpointe Blvd, Southpointe Plaza 1
Canonsburg, PA 15317

Reported: 12/05/2012 11:27

Lab Sample ID#: 2110683-01
Sample Type: Waste Water
Sample Source: Grab
Sampler: Scot P. May
Client Sample ID: PHC 8

Sample Date: 11/08/2012 11:30
Receipt Date: 11/08/2012 18:00

Analyte	Sample Result	Units	Data Qualifier	RL	Method	Analyst/Certification	Analysis Date/Time
General Chemistry							
Acidity	416	mg/L			SM2310 B	RNS	11/15 23:08
Alkalinity, Total (CaCO ₃)	ND	mg/L		20.0	SM2320B	NDZ	11/15 23:29
Ammonia as N	335	mg/L		4.96	SM4500NH3D	RNS	11/23 20:53
Biochemical Oxygen Demand	16.6	mg/L		2.0	SM5210B	KAR	11/09 12:45
Boron	5.40	mg/L	D	2.50	SM4500B B	ZTR	11/21 14:08
Bromide	3170	mg/L	D	100	ASTMD1246 95C	SER	11/13 15:56
Chloride	164000	mg/L	D	5.00	SM4500CLC/D	NDZ	11/17 17:50
Chemical Oxygen Demand	3890	mg/L	D	1000	SM5220D	ZTR	11/15 22:37
Surfactants	0.374	mg/L		0.200	SM5540C	TEM	11/09 10:00
Nitrate/Nitrite	0.171	mg/L		0.0500	SM4500N03E	SER	11/26 18:05
Oil & Grease (HBM)	ND	mg/L		5.00	EPA1664A	RLG	11/14 11:52
pH	5.14	S.U.	R	1.00	SM4500-H B	NDZ	11/15 23:23
Specific Conductance	228090	umhos/cm		1.0	SM2510B	NDZ	11/15 23:16
Sulfate	ND	mg/L		5.0	ASTMD516 02	ZTR	11/14 22:04
Total Dissolved Solids	394000	mg/L		25.0	SM2540C	RLG	11/12 10:05
Total Kjeldahl Nitrogen	309	mg/L		58.3	SM4500NH3D	AJD	11/17 16:40
Phenolics	ND	mg/L		0.250	EPA420.1	JRM	11/21 14:18
Total Suspended Solids	108	mg/L		5.0	SM2540D	RLG	11/12 08:17
Total Metals							
Aluminum	ND	mg/L	D	10.0	EPA200.7	BEE	11/27 10:48
Arsenic	ND	mg/L	D	10.0	EPA200.7	BEE	11/27 10:48
Barium	5260	mg/L	D, K	5.00	EPA200.7	BEE	11/27 10:48
Beryllium	ND	mg/L	D	5.00	EPA200.7	BEE	11/27 10:48
Cadmium	ND	mg/L	D	5.00	EPA200.7	BEE	11/27 10:48
Calcium	34300	mg/L	D	500	EPA200.7	BEE	11/27 10:48
Chromium	ND	mg/L	D, E	5.00	EPA200.7	BEE	11/27 10:48
Cobalt	ND	mg/L	D, E	5.00	EPA200.7	BEE	11/27 10:48
Copper	ND	mg/L	D	5.00	EPA200.7	BEE	11/27 10:48
Hardness	95200	mg/L			SM2340B	BEE	11/27 10:48
Iron	66.2	mg/L	D	10.0	EPA200.7	BEE	11/27 10:48
Lead	ND	mg/L	D	5.00	EPA200.7	BEE	11/27 10:48
Lithium	ND	mg/L	D, E	500	EPA200.7	BEE	11/27 10:48



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EOG Resources

400 Southpointe Blvd, Southpointe Plaza 1
Canonsburg, PA 15317

Reported: 12/05/2012 11:27

Lab Sample ID#: 2110683-01
Sample Type: Waste Water
Sample Source: Grab
Sampler: Scot P. May
Client Sample ID: PHC 8

Sample Date: 11/08/2012 11:30
Receipt Date: 11/08/2012 18:00

Analyte	Sample Result	Units	Data Qualifier	RL	Method	Analyst/ Certification	Analysis Date/Time
Total Metals							
Magnesium	2360	mg/L	D, E	500	EPA200.7	BEE	11/27 10:48
Manganese	23.6	mg/L	D	5.00	EPA200.7	BEE	11/27 10:48
Mercury	ND	mg/L	D	0.001	EPA245.1	SFS	11/23 13:56
Molybdenum	ND	mg/L	D, E	5.00	EPA200.7	BEE	11/27 10:48
Nickel	ND	mg/L	D	5.00	EPA200.7	BEE	11/27 10:48
Selenium	ND	mg/L	D	10.0	EPA200.7	BEE	11/27 10:48
Silver	ND	mg/L	D	5.00	EPA200.7	BEE	11/27 10:48
Sodium	25800	mg/L	D, E	500	EPA200.7	BEE	11/27 10:48
Strontium	7920	mg/L	D, E	10.0	EPA200.7	BEE	11/27 10:48
Zinc	ND	mg/L	D	5.00	EPA200.7	BEE	11/27 10:48
Dissolved Metals							
Iron, Dissolved	45.7	mg/L		10.0	EPA200.7	BEE	11/27 12:11
Volatile Organics							
Benzene	ND	ug/L	D	10.0	EPA624/8260	JG	11/10 10:10
Toluene	ND	ug/L	D	10.0	EPA624/8260	JG	11/10 10:10
Surrogate: 1,2-Dichloroethane-d4	103 %	86-118			EPA624/8260	JG	11/10 10:10
Surrogate: Toluene-d8	99 %	88-110			EPA624/8260	JG	11/10 10:10
Surrogate: 4-Bromofluorobenzene	101 %	86-115			EPA624/8260	JG	11/10 10:10
Organics							
Ethylene glycol	ND	mg/L	D	250	EPA8015B	EAC	11/12 13:49

Benchmark Analytics, Inc.-Center Valley - PA DEP lab ID# 39-00401

Subcontracted

Gross Alpha	20590 (3926)	PCvL			EPA900.0		11/19 16:15
Gross Beta	12030 (3936)	PCvL			EPA900.0		11/19 16:15
Radium-226	11160 (4182)	PCvL			EPA903.0		12/01 12:30
Radium-228	1164 (300.4)	PCvL			EPA904.0		11/18 08:35
Thorium	<5000	ug/L			EPA200.8		11/20 11:25
Uranium	<250	ug/L			EPA200.8		11/20 11:25



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F: (570) 321-1957
PADEP: 41-04880

EOG Resources

400 Southpointe Blvd, Southpointe Plaza 1
Canonsburg, PA 15317

Reported: 12/05/2012 11:27

Lab Sample ID#: 2110683-02
Sample Type: Water
Sample Source: Trip Blank
Sampler: Scot P. May
Client Sample ID: PHC 8 Trip Blank

Sample Date: 11/08/2012 00:00
Receipt Date: 11/08/2012 18:00

Analyte	Sample Result	Units	Data Qualifier	RL	Method	Analyst/ Certification	Analysis Date/Time
Volatile Organics							
Benzene	ND	ug/L		1.00	EPA624/8260	JG	11/10 10:32
Toluene	ND	ug/L		1.00	EPA624/8260	JG	11/10 10:32
Surrogate: 1,2-Dichloroethane-d4	103 %	86-118			EPA624/8260	JG	11/10 10:32
Surrogate: Toluene-d8	101 %	88-110			EPA624/8260	JG	11/10 10:32
Surrogate: 4-Bromofluorobenzene	98 %	86-115			EPA624/8260	JG	11/10 10:32

LAB ID: 39-00401 *CV
LAB ID: 08-00380 *SA

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**BENCHMARK
ANALYTICS, INC.**

A BWMI NETWORK LABORATORY
4777 Saucon Creek Road • Center Valley, PA 18034
(610) 974-8100 • Fax: (610) 974-8104

SEND DATA TO:

NAME: Kathy Brown
COMPANY: Environmental Service Laboratories, Inc
ADDRESS: 1803 Philadelphia St
Indiana, PA 15701

WO#: 12111850

PAGE: 1 of 1

PO#:

PWS ID#

PHONE: (724) 463-8378
FAX: (724) 465-4209

TEST REPORT

2110683

RECEIVED FOR LAB BY: GMD

DATE: 11/13/2012 10:05

Page 1 of 1

SAMPLE: 2110683-01

Lab ID: 12111850-001D

Grab

SAMPLED BY: Client

Sample Time: 11/08/2012 11:30

Test	Result	MS	Method	Reg. Limit	Analysis Start	Analysis End	Analyst *
Thorium	< 5000 µg/L	MS	EPA 200.8		11/15/12 11:25	11/20/12	STD-CV
Uranium	< 250.0 µg/L	MS	EPA 200.8	30	11/15/12 11:25	11/20/12	STD-CV
Uranium	< 170.0 pCi/L	MS	EPA 200.8		11/15/12 11:25	11/20/12	STD-CV

REMARKS:

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of NELAP unless otherwise noted on the Analytical Report.

* CV = Benchmark Analytics, Inc. Center Valley, PA; SA = Benchmark Analytics, Inc. Sayre, PA

MS Limit of detection increased due to matrix interference and spike recovery data

MANAGER

Chris Medai
Christopher Medai, Manager

DATE: 12/4/2012

Page 6 of 7

LAB ID: 39-00401 *CV
LAB ID: 08-00380 *SA

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TEST REPORT

2110683

RECEIVED FOR LAB BY: GMD

DATE: 11/13/2012 10:05

Page 1 of 1

SAMPLE: 2110683-01

Lab ID: 12111850-001A

Grab

SAMPLED BY: Client

Sample Time 11/08/2012 11:30

Test	Result	Uncert.	MDA	Units	Method	MCL	Analysis Start	Analysis End	Analyst *
Combined Activity (Alpha + Beta)	32630			pCi/L x N	Calculation		12/04/12 9:58		CMW-CV
Gross Alpha	20590	± 3263.	3928.00	pCi/L x	EPA 900.0	15	11/14/12 16:15	11/19/12	CMW-CV
Gross Beta	12030	± 1780.	3936.00	pCi/L	EPA 900.0		11/14/12 16:15	11/19/12	CMW-CV

SAMPLE: 2110683-01

Lab ID: 12111850-001B

Grab

SAMPLED BY: Client

Sample Time 11/08/2012 11:30

Test	Result	Uncert.	MDA	Units	Method	MCL	Analysis Start	Analysis End	Analyst *
Radium, Combined (Ra226 + Ra228)	12320			pCi/L N	Calculation		12/04/12 9:58		CMW-CV
Radium-226	11180	± 1130.	4182.00	pCi/L	EPA 903.0		11/13/12 12:30	12/01/12	CLF-CV
Carrier Recovery	108			%	EPA 903.0		11/13/12 12:30	12/01/12	CLF-CV

SAMPLE: 2110683-01

Lab ID: 12111850-001C

Grab

SAMPLED BY: Client

Sample Time 11/08/2012 11:30

Test	Result	Uncert.	MDA	Units	Method	MCL	Analysis Start	Analysis End	Analyst *
Radium-228	1164	± 582.8	300.40	pCi/L	EPA 904.0		11/16/12 8:35	11/18/12	GSR-CV
Carrier Recovery	118			%	EPA 904.0		11/16/12 8:35	11/18/12	GSR-CV

REMARKS:

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of NELAP unless otherwise noted on the Analytical Report.

* CV = Benchmark Analytics, Inc. Center Valley, PA; SA = Benchmark Analytics, Inc. Sayre, PA

N Parameter is not NELAP certified

Value exceeds Maximum Contaminant Level or other Regulatory Level.

MANAGER

Ch. Meli

DATE:

12/4/2012

Page 7 of 7

ENVIRONMENTAL SERVICE LABORATORIES, INC.

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(724) 455-4208



SOUTHERN DIVISION:
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Van Voorhis, PA 15388
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(724) 258-8376



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SAMPLE REQUEST & CHAIN OF CUSTODY

PAGE ____ OF ____

Page 5 of 7

Sample Identification	ESL#	Sample Type				Matrix	# of Containers	Container Type Preservative	Analysis Requested
		Composite		Grab					
		Date on/off	Time on/off	Date	Time				
PHC 8	2110683 -01			11/8/12	11:30	WW	1 ✓	Plastic Liter none	pH, SC, Chloride, Sulfate, Alkalinity, Acidity, Bromide ✓
						WW	2 ✓	Plastic Liter none	TSS, TDS, Dissolved Iron, Boron, BOD, MBAS Surfactants ✓
						WW	1 ✓	Plastic Liter HNO ₃	Al, As, Ba, Be, Cd, Cr, Co, Cu, Fe, Pb, Mg, ✓ Mn, Hg, Ni, Se, Ag, Sr, Zn, U, Na, Ca, Mo, Hardness
						WW	1 ✓	Plastic Liter H ₂ SO ₄	Nitrate+Nitrite, TKN, Ammonia, COD ✓
						WW	5 1000 mL ✓	Plastic Liter HNO ₃	Gross Alpha, Gross Beta Radium 226, Radium 228 Thorium, Uranium ✓
						WW	1 ✓	Amber Glass L HCl	Oil & Grease ✓
						WW	1 ✓	Amber Glass L H ₂ SO ₄	Total Phenolics ✓
						WW	2 ✓	Amber VOA Vials none	Ethylene Glycol
						WW	2 ✓	Amber VOA Vials HCl	Benzene, Toluene
TRIP BLANK	-02					Water	2 ✓	Amber VOA Vials HCl	Benzene, Toluene

2110683

THE UNDERSIGNED PURCHASER HEREBY AGREES TO PAY SERVICE CHARGES ON ACCOUNTS OVER 31 DAYS OLD.
1. THESE SERVICE CHARGES WILL ACCRUE AT THE RATE OF 1 1/2% PER MONTH (18% PER ANNUM OR THE MAXIMUM ALLOWED BY LAW.)
2. THE UNDERSIGNED PURCHASER AGREES TO PAY, IN THE EVENT HIS ACCOUNT BECOMES DELINQUENT AND IS TURNED OVER TO ANY
ATTORNEY FOR COLLECTION, REASONABLE ATTORNEY'S FEES PLUS ALL COURT AND ATTENDANT COLLECTION COSTS.

Project Notes:

PHC 8

Summ 11/8/12 11:30

Sampled By: (Signature)

Date/ Time

Summ 11/8/12 1800

Date/ Time

Relinquished By: (Signature)

Date/ Time

Relinquished By: (Signature)

Date/ Time

Relinquished By: (Signature)

11/9/12 0925

Received By: (Signature)

Date/ Time

Received By: (Signature)

Date/ Time

Received By: (Signature)

Date/ Time

Company/Name:

EOG RESOURCES

Address:

400 Southpointe Boulevard
Southpointe Plaza 1, Suite 300
Canonsburg, PA 15317

Contact Person:

Chuck Pateman

Phone:

(724) 599-8662

Fax:

Email:

PRESERVATION (Y) / N CONTAINER (Y) / N TEMP ≤ 4°C (Y) / N / NA

1.2



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PADEP: 63-04247

1200 River Avenue
Williamsport, PA 17701
P: (570) 321-9002
F: (570) 321-1957
PADEP: 41-04880

01 October 2012

Work Order: 2080268

Project: SSHC 5H

EOG Resources
Attn: Bill Burket

400 Southpointe Blvd, Southpointe Plaza 1
Canonsburg, PA 15317

Report of Analysis

Client Sample ID	Lab Sample ID	Matrix	Date Sampled	Date Received
SS 5H	2080268-01	Waste Water	08/21/2012 08:30	08/21/2012 13:00
SS 5H Trip Blank	2080268-02	Water	08/21/2012 00:00	08/21/2012 13:00

Report Narrative

The results contained in this report are only representative of the samples received. Environmental Service Laboratories, Inc. is not responsible for use or interpretation of the data included herein.

Definitions

R Received out of recommended hold time.
D The reported value is from a dilution.
ND Less than reporting limit
RL Reporting Limit
CFU Colony Forming Units

Certifications

Analyses performed by Environmental Service Laboratories, Inc., Indiana PA unless otherwise specified.

Environmental Service Laboratories, Inc., Indiana, PA DEP lab ID #32-32382

Approved By

Gabe Taylor
Manager



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PADEP: 41-04880

EOG Resources

400 Southpointe Blvd, Southpointe Plaza 1
Canonsburg, PA 15317

Reported: 10/01/2012 19:23

Lab Sample ID#: 2080268-01
Sample Type: Waste Water
Sample Source: Grab
Sampler: Scot P. May
Client Sample ID: SS 5H

Sample Date: 08/21/2012 08:30
Receipt Date: 08/21/2012 13:00

Analyte	Sample Result	Units	Data Qualifier	RL	Method	Analyst/Certification	Analysis Date/Time
General Chemistry							
Acidity	233	mg/L			SM2310 B	RNS	08/24 19:57
Alkalinity, Total (CaCO ₃)	38.9	mg/L		20.0	SM2320B	SR	08/30 15:46
Ammonia as N	101	mg/L		10.7	SM4500NH3D	ZTR	08/30 22:14
Biochemical Oxygen Demand	7.2	mg/L		2.0	SM5210B	KAR	08/22 15:51
Boron	4.30	mg/L	D	1.25	SM4500B B	ZTR	08/29 22:51
Bromide	1820	mg/L	D	100	ASTMD1246 95C	SER	08/27 09:11
Chemical Oxygen Demand	5390	mg/L	D	1000	SM5220D	ZTR	08/28 21:11
Chloride	138000	mg/L	D	5.00	SM4500CLC/D	SR	08/30 15:37
Surfactants	ND	mg/L	D	0.400	SM5540C	SGT	08/22 11:55
Nitrate/Nitrite	ND	mg/L		0.0500	SM4500N03E	SER	09/04 08:48
Oil & Grease (HEM)	ND	mg/L		5.00	EPA1664A	SGT	08/27 14:11
pH	5.62	S.U.	R	1.00	SM4500-H B	SR	08/30 15:58
Specific conductance	219440	umhos/cm		1.0	SM2510B	SR	08/30 16:06
Sulfate	ND	mg/L		5.0	ASTMD516 02	JMH	09/02 15:40
Total Dissolved Solids	353000	mg/L		25.0	SM2540C	RLG	08/24 08:52
Total Kjeldahl Nitrogen	122	mg/L		55.5	SM4500NH3D	ZTR	08/30 21:03
Phenolics	ND	mg/L		0.0500	EPA420.1	JMH	09/04 11:00
Total Suspended Solids	187	mg/L		5.0	SM2540D	RLG	08/24 08:57
Total Metals							
Aluminum	ND	mg/L	D	1.00	EPA200.7	BEE	09/04 12:21
Arsenic	ND	mg/L	D	1.00	EPA200.7	BEE	09/04 12:21
Barium	3940	mg/L	D	0.500	EPA200.7	BEE	09/04 12:21
Beryllium	ND	mg/L	D	0.500	EPA200.7	BEE	09/04 12:21
Cadmium	ND	mg/L	D	0.500	EPA200.7	BEE	09/05 11:06
Calcium	24200	mg/L	D	50.0	EPA200.7	BEE	09/04 12:21
Chromium	ND	mg/L	D	0.500	EPA200.7	BEE	09/04 12:21
Cobalt	ND	mg/L	D	0.500	EPA200.7	BEE	09/04 12:21
Copper	ND	mg/L	D	0.500	EPA200.7	BEE	09/04 12:21
Hardness	67600	mg/L			SM2340B	BEE	09/04 12:21
Iron	114	mg/L	D	1.00	EPA200.7	BEE	09/04 12:21



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EOG Resources

400 Southpointe Blvd, Southpointe Plaza 1
Canonsburg, PA 15317

Reported: 10/01/2012 19:23

Lab Sample ID#: 2080268-01
Sample Type: Waste Water
Sample Source: Grab
Sampler: Scot P. May
Client Sample ID: SS 5H

Sample Date: 08/21/2012 08:30
Receipt Date: 08/21/2012 13:00

Analyte	Sample Result	Units	Data Qualifier	RL	Method	Analyst/Certification	Analysis Date/Time
Total Metals							
Lead	ND	mg/L	D	0.500	EPA200.7	BEE	09/04 12:21
Lithium	117	mg/L	D	50.0	EPA200.7	BEE	09/04 12:21
Magnesium	1760	mg/L	D	50.0	EPA200.7	BEE	09/04 12:21
Manganese	16.0	mg/L	D	0.500	EPA200.7	BEE	09/04 12:21
Mercury	ND	mg/L		0.001	EPA245.1	SFS	08/31 15:41
Molybdenum	ND	mg/L	D	0.500	EPA200.7	BEE	09/04 12:21
Nickel	ND	mg/L	D	0.500	EPA200.7	BEE	09/04 12:21
Selenium	ND	mg/L	D	1.00	EPA200.7	BEE	09/04 12:21
Silver	ND	mg/L	D	0.500	EPA200.7	BEE	09/04 12:21
Sodium	48200	mg/L	D	500	EPA200.7	BEE	09/04 12:42
Strontium	8650	mg/L	D	10.0	EPA200.7	BEE	09/04 12:42
Zinc	0.670	mg/L	D	0.500	EPA200.7	BEE	09/04 12:21

Dissolved Metals

Iron, Dissolved	114	mg/L	D	1.00	EPA200.7	BEE	09/04 12:21
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Organics

Ethylene glycol	ND	mg/L	D	250	EPA8015B	MAD	08/29 12:51
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Benchmark Analytics, Inc.-Center Valley - PA DEP lab ID# 39-00401

General Chemistry

Thorium	<4500	PCi/L			EPA200.8		09/05 09:30
Uranium	<153	PCi/L			EPA200.8		09/05 09:30

Subcontracted

Gross Alpha	29010 (3985)	PCi/L			EPA900.0		09/01 09:45
Gross Beta	12490 (2254)	PCi/L			EPA900.0		09/01 09:45
Radium-226	8610 (893)	PCi/L			EPA904.0		09/11 10:30
Radium-228	1670 (329.5)	PCi/L			EPA904.0		09/05 08:50



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EOG Resources

400 Southpointe Blvd, Southpointe Plaza I
Canonsburg, PA 15317

Reported: 10/01/2012 19:23

Lab Sample ID#: 2080268-01
Sample Type: Waste Water
Sample Source: Grab
Sampler: Scot P. May
Client Sample ID: SS 5H

Sample Date: 08/21/2012 08:30
Receipt Date: 08/21/2012 13:00

Analyte	Sample Result	Units	Data Qualifier	RL	Method	Analyst/ Certification	Analysis Date/Time
---------	---------------	-------	----------------	----	--------	---------------------------	-----------------------

Pace Analytical Services, Inc. - PA DEP lab ID# 65-282

Volatile Organics

Benzene	ND	ug/L		10	EPA624/8260		08/31 17:46
Toluene	ND	ug/L		10	EPA624/8260		08/31 17:46
Surrogate: 1,2-Dichloroethane-d4	%	86-118			EPA624/8260		08/31 17:46
Surrogate: Toluene-d8	%	88-110			EPA624/8260		08/31 17:46
Surrogate: 4-Bromofluorobenzene	%	86-115			EPA624/8260		08/31 17:46



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EOG Resources

400 Southpointe Blvd, Southpointe Plaza I
Canonsburg, PA 15317

Reported: 10/01/2012 19:23

Lab Sample ID#: 2080268-02
Sample Type: Water
Sample Source: Grab
Sampler: Scot P. May
Client Sample ID: SS 5H Trip Blank

Sample Date: 08/21/2012 00:00
Receipt Date: 08/21/2012 13:00

Analyte	Sample Result	Units	Data Qualifier	RL	Method	Analyst/Certification	Analysis Date/Time
---------	---------------	-------	----------------	----	--------	-----------------------	--------------------

Pace Analytical Services, Inc. - PA DEP lab ID# 65-282

Volatile Organics

Benzene	ND	ug/L		10	EPA624/8260		08/31 17:46
Toluene	ND	ug/L		10	EPA624/8260		08/31 17:46
Surrogate: 1,2-Dichloroethane-d4	%	86-118			EPA624/8260		08/31 17:46
Surrogate: Toluene-d8	%	88-110			EPA624/8260		08/31 17:46
Surrogate: 4-Bromofluorobenzene	%	86-115			EPA624/8260		08/31 17:46

ENVIRONMENTAL SERVICE LABORATORIES, INC.

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SAMPLE REQUEST & CHAIN OF CUSTODY

PAG. 1 OF 5

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SOUTHERN DIVISION:
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(724) 258-TEST
(724) 258-8378



2080268

FOR INTERNAL LABORATORY USE ONLY

Sample Identification	ESL#	Sample Type				Matrix	# of Containers	Container Type Preservative	Analysis Requested
		Composite		Grab					
		Date on/off	Time on/off	Date	Time				
555H	2080268-01			8/21/12	830	WW	1 ✓	Plastic Liter none	pH, SC, Chloride, Sulfate, Alkalinity, Acidity, Bromide ✓
						WW	2 ✓	Plastic Liter none	TSS, TDS, Dissolved Iron, Boron, BOD, MBAS Surfactants ✓
						WW	1 ✓	Plastic Liter HNO ₃	Al, As, Ba, Be, Cd, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, Se, Ag, Sr, Zn, Li, Na, Ca, Mo, Hardness ✓
						WW	1 ✓	Plastic Liter H ₂ SO ₄	Nitrate+Nitrite, TKN, Ammonia, COD ✓
						WW	5 1000 mL ✓	Plastic Liter HNO ₃	Gross Alpha, Gross Beta Radium 226, Radium 228, Thorium, Uranium ✓
						WW	1 ✓	Amber Glass L HCl	Oil & Grease ✓
						WW	1 ✓	Amber Glass L H ₂ SO ₄	Total Phenolics ✓
						WW	2 ✓	Amber VOA Vials none	Ethylene Glycol
						WW	2 ✓	Amber VOA Vials HCl	Benzene, Toluene ✓
TRIP BLANK	W0-02					Water	2 ✓	Amber VOA Vials HCl	Benzene, Toluene

THE UNDERSIGNED PURCHASER HEREBY AGREES TO PAY SERVICE CHARGES ON ACCOUNTS OVER 31 DAYS OLD.

1. THESE SERVICE CHARGES WILL ACCRUE AT THE RATE OF 1 1/2% PER MONTH (18% PER ANNUM OR THE MAXIMUM ALLOWED BY LAW.)

2. THE UNDERSIGNED PURCHASER AGREES TO PAY, IN THE EVENT HIS ACCOUNT BECOMES DELINQUENT AND IS TURNED OVER TO ANY

ATTORNEY FOR COLLECTION, REASONABLE ATTORNEY'S FEES PLUS ALL COURT AND ATTENDANT COLLECTION COSTS.

Project Notes:

SSHC 5H

Company/Name:

EOG RESOURCES

Address:

400 Southpointe Boulevard
Southpointe Plaza 1, Suite 300
Canonsburg, PA 15317

Contact Person:

Ben Olds

Phone:

(724) 743-2735

Fax:

Email:

Sum 8/21/12 830
Sampled By: (Signature) Date/ Time

Sum 8/21/12 130
Relinquished By: (Signature) Date/ Time

Relinquished By: (Signature) Date/ Time

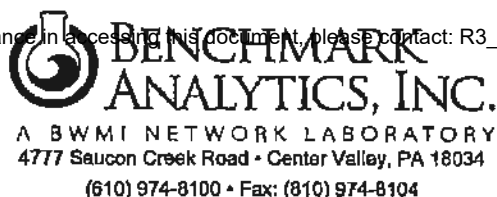
Relinquished By: (Signature) Date/ Time

8/23/12 1333
Received By: (Signature) Date/ Time

Received By: (Signature) Date/ Time

Received By: (Signature) Date/ Time

PRESERVATION (Y) N CONTAINER (Y) N TEMP 5°C (Y) N / NA



SEND DATA TO:

NAME: Kathy Brown
COMPANY: Environmental Service Laboratories, inc
ADDRESS: 1803 Philadelphia St
Indiana, PA 15701

WO#: 12084526

PAGE: 1 of 1

PO#:

PWS ID#

PHONE: (724) 463-8378
FAX: (724) 465-4209

TEST REPORT

2080268

RECEIVED FOR LAB BY: MAK

DATE: 08/27/2012 9:50

Page 1 of 1

SAMPLE: 2080268-01

Lab ID: 12084526-001A

Grab

SAMPLED BY: Client

Sample Time 08/21/2012 8:30

Test	Result	Uncert.	MDA	Units	Method	MCL	Analysis Start	Analysis End	Analyst *
Combined Activity (Alpha+Beta)				pCi/L	N	Calculation	09/16/12 15:13		CMW-CV
Gross Alpha	29010	± 3388.	3985.00	pCi/L	EPA 900.0		08/28/12 9:45	09/01/12	CMW-CV
Gross Beta	12490	± 1228.	2254.00	pCi/L	EPA 900.0		08/28/12 9:45	09/01/12	CMW-CV

SAMPLE: 2080268-01

Lab ID: 12084526-001B

Grab

SAMPLED BY: Client

Sample Time 08/21/2012 8:30

Test	Result	Uncert.	MDA	Units	Method	MCL	Analysis Start	Analysis End	Analyst *
Radium, Combined (Ra226 + Ra228)	10280			pCi/L	N	Calculation	09/16/12 15:14		CLF-CV
Radium-226	8610	± 374.3	893.30	pCi/L	EPA 903.0		08/27/12 10:30	09/11/12	CLF-CV
Carrier Recovery	128			%	SZ	EPA 903.0	08/27/12 10:30	09/11/12	CLF-CV

SAMPLE: 2080268-01

Lab ID: 12084526-001C

Grab

SAMPLED BY: Client

Sample Time 08/21/2012 8:30

Test	Result	Uncert.	MDA	Units	Method	MCL	Analysis Start	Analysis End	Analyst *
Radium-228	1870	± 278.5	329.50	pCi/L	EPA 904.0		09/30/12 8:50	09/05/12	STD-CV
Carrier Recovery	98			%	EPA 904.0		09/30/12 8:50	09/05/12	STD-CV

REMARKS:

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of NELAP unless otherwise noted on the Analytical Report.

* CV = Benchmark Analytics, Inc. Center Valley, PA; SA = Benchmark Analytics, Inc. Sayre, PA

N Parameter is not NELAP certified

S Spike Recovery outside accepted recovery limits

Z Due to matrix bias, spike recovery was outside acceptance limits

MANAGER

Chimeli
Christopher Madal Manager

DATE: 9/17/2012

LAB ID: 39-00401 *CV
LAB ID: 08-00380 *SA

For assistance in accessing this document, please contact: R3_UIC_Mailbox@epa.gov



BENCHMARK ANALYTICS, INC.

A BWMI NETWORK LABORATORY
4777 Saucon Creek Road • Center Valley, PA 18034
(610) 974-8100 • Fax: (610) 974-8104

Page 7 of 9

SEND DATA TO:

NAME: Kathy Brown
COMPANY: Environmental Service Laboratories, Inc
ADDRESS: 1803 Philadelphia St
Indiana, PA 15701

WO#: 12084526

PAGE: 1 of 1

PO#:

PWS ID#

PHONE: (724) 463-8378
FAX: (724) 465-4209

TEST REPORT

2080268

RECEIVED FOR LAB BY: MAK

DATE: 08/27/2012 9:50

Page 1 of 1

SAMPLE: 2080268-01

Lab ID: 12084526-001D

Grab

SAMPLED BY: Client

Sample Time: 08/21/2012 8:30

Test	Result		Method	Req. Limit	Analysis Start	Analysis End	Analyst *
Thorium	< 4500 µg/L	MS	EPA 200.8		08/04/12 9:30	08/05/12	STD-CV
Uranium	< 225.0 µg/L	MS	EPA 200.8	30	08/04/12 9:30	08/05/12	STD-CV
Uranium	< 153.0 pCi/L		EPA 200.8		08/04/12 9:30	08/05/12	STD-CV

REMARKS:

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of NELAP unless otherwise noted on the Analytical Report.

* CV = Benchmark Analytics, Inc. Center Valley, PA; SA = Benchmark Analytics, Inc. Sayre, PA

MS Limit of detection increased due to matrix interference and spike recovery data

MANAGER

Ch. Medel
Christopher Medel, Manager

DATE: 9/17/2012

ANALYTICAL RESULTS

Project: 2080268
Pace Project No.: 3076436

Sample: 2080268-01		Lab ID: 3076436001	Collected: 08/21/12 09:30		Received: 08/30/12 16:00		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV PA UST		Analytical Method: EPA 8260						
Benzene	ND	ug/L	10.0	10		08/31/12 17:46	71-43-2	D3
Ethylbenzene	ND	ug/L	10.0	10		08/31/12 17:46	100-41-4	
Toluene	ND	ug/L	10.0	10		08/31/12 17:46	108-88-3	
Xylene (Total)	ND	ug/L	30.0	10		08/31/12 17:46	1330-20-7	
Surrogates								
Toluene-d8 (S)	93 %		70-130	10		08/31/12 17:46	2037-26-5	
4-Bromofluorobenzene (S)	100 %		70-130	10		08/31/12 17:46	460-00-4	
1,2-Dichloroethane-d4 (S)	115 %		70-130	10		08/31/12 17:46	17060-07-0	

Sample: 2080268-02		Lab ID: 3076436002	Collected: 08/21/12 00:00		Received: 08/30/12 16:00		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV PA UST		Analytical Method: EPA 8260						
Benzene	ND	ug/L	10.0	10		08/31/12 18:13	71-43-2	D3
Ethylbenzene	ND	ug/L	10.0	10		08/31/12 18:13	100-41-4	
Toluene	ND	ug/L	10.0	10		08/31/12 18:13	108-88-3	
Xylene (Total)	ND	ug/L	30.0	10		08/31/12 18:13	1330-20-7	
Surrogates								
Toluene-d8 (S)	94 %		70-130	10		08/31/12 18:13	2037-26-5	
4-Bromofluorobenzene (S)	97 %		70-130	10		08/31/12 18:13	460-00-4	
1,2-Dichloroethane-d4 (S)	113 %		70-130	10		08/31/12 18:13	17060-07-0	

Complex 300



Chemplex, Ltd.
506 CR 137
Snyder, TX 79549
(325) 573-7298

DATE PREPARED:.....07/16/2003
REVISION DATE:..... 10/10/2011
EMERGENCY NUMBER:.....301-633-8253
PRODUCT NUMBER:..... 01201

SECTION I – IDENTIFICATION

PRODUCT NAME: Complex 300
CHEMICAL FAMILY: Amine Salt
PRODUCT USE: Petrochemical industry:
Preparing Oil Well Packer Fluids.



SECTION II – HAZARDOUS INGREDIENTS

HAZ INGREDIENT	PERCENT	CAS NUMBER	PEL
FATTY ALKYL AMINE SALT	3-7 %	61790-85-0	Not Available
Ammonium Bisulfite	<10%	10192-30-0	Not Available
Methanol	15%	67-56-1	Not Available

SECTION III – PHYSICAL DATA

APPEARANCE: Amber Liquid
ODOR: Sulfite-like
BOILING POINT: ND
FLASHPOINT: 71°F Closed Cup
VAPOR DENSITY (AIR=1): ND
SPECIFIC GRAVITY (WATER=1): 0.98
pH (1% SOLN/WATER): 5
Density: 8.16 # per gallon

SECTION IV – FIRE AND EXPLOSION DATA

FLASHPOINT: 71°F Closed Cup
FLAMMABLE HAZARDS: When heated to decomposition, it emits acrid smoke and irritating fumes.

Complex 300

FIRE FIGHTING PROCEDURES: **SMALL FIRE:** Use DRY chemical, CO2 alcohol foam or water spray, as appropriate for surrounding materials.
LARGE FIRE: Use water spray, fog or foam. Cool containing vessels with water jet in order to prevent pressure build-up, auto ignition or explosion.

SECTION V – REACTIVITY DATA

STABILITY: This product is stable.
CORROSIVITY: ND
REACTIVITY: Highly reactive with oxidizing agents.
 Slightly reactive to reactive with reducing agents, alkalis.
 Very slightly to slightly reactive with organic materials, metals, acids.

SECTION VIA - HEALTH HAZARD DATA

ROUTE OF ENTRY: Ingestion. Skin Contact. Inhalation.
CHRONIC EFFECTS ON HUMANS: ... May cause nervous system depression, headaches, dizziness or confusion. The substance may be toxic to the nervous system.

SECTION VI B - FIRST AID

INHALATION: **SLIGHT INHALATION:** Allow the victim to rest in a well ventilated area. Seek immediate medical attention.
HAZARDOUS INHALATION: Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. **WARNING:** It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek medical attention.

INGESTION: **SLIGHT INGESTION:** Do not induce vomiting. Have conscious person drink several glasses of water or milk. Seek immediate medical attention.
HAZARDOUS INGESTION: Do NOT induce vomiting. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. Loosen tight clothing such as a collar, tie, belt or waist band. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.

EYE CONTACT: Check for and remove any contact lenses. Do not use an eye ointment. Seek medical attention.

SKIN CONTACT: If the chemical got onto the clothed portion of the body, remove the contaminated clothes as quickly as possible,

Complex 300

protecting your own hands and body. Place the victim under a deluge shower. If the chemical touches the victims exposed skin, such as the hands: Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. COLD water may be used. Cover the irritated skin with an emollient. If irritation persists, seek medical attention. Wash contaminated clothing before reusing.

SECTION VII – SPILL, STORAGE AND DISPOSAL DATA

- SPILL:** **SMALL SPILL:** Absorb with an inert material and put the spilled material in an appropriate waste disposal. **LARGE SPILL:** Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all ignition sources.
- WASTE DISPOSAL:** Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.
- HANDLING:** Normal industrial hygiene procedures are appropriate. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, reducing agents, alkalis.
- STORAGE:** Flammable materials should be stored in a separate safety storage cabinet or room. Keep away from heat. Keep away from sources of ignition. Keep container tightly closed. Keep in a cool, well-ventilated place. Ground all equipment containing material. A refrigerated room would be preferable for materials with a flash point lower than 37.8°C (100°F).

SECTION VIII – PROTECTIVE CLOTHING

RESPIRATORY PROTECTION: Use MSHA/NIOSH approved respirator or equivalent
PROTECTIVE CLOTHING/EQUIPMENT: Splash goggles, lab coat/apron, gloves

Complex 300

SECTION IX – TRANSPORTATION DATA

PROPER SHIPPING NAME: Flammable liquid, n.o.s.(contains Methanol)
HAZARD CLASS: 3
UN NUMBER: UN 1993
PACKAGING GROUP: II
RQ: 612 gallons (Methanol)
DOT SHIPPING: Flammable liquid, n.o.s.(contains Methanol)

SECTION X – OTHER REGULATORY INFORMATION

TSCA STATUS: All components of this product are listed on the TSCA
inventory.
NFPA HEALTH: 1
NFPA FLAMMABILITY: 3
NFPA REACTIVITY: 0

SECTION XI - ADDITIONAL INFORMATION

PREPARED BY: Edward F. Vinson

EMERGENCY RESPONSE NUMBER: 800-633-8253

ATTACHMENT "J"
STIMULATION PROGRAM

Attachment J
Stimulation Program
SAMMY-MAR LLC Povlik Injection Well

Stimulation Program for Povlik Injection Well

There are currently no plans to stimulate the Povlik Injection Well.

3/19/2013

ATTACHMENT "K"
INJECTION PROCEDURES

Attachment K
Injection Procedures
SAMMY-MAR LLC Povlik Injection Well

Injection Procedures:

Injection fluid will be brought in by trucks and a sample taken from each load prior to unloading. Sammy-Mar will measure the specific gravity of the sample with a hydrometer along with ph and conductivity. The produced fluids will then be unloaded through a discharge manifold into lined storage tanks. The fluid will then be treated with an oxygen scavenging agent and corrosion control additives.

The fluid will be pulled from the off loading tanks through a 10 micron filter to remove large suspended solids and transported through connecting pipes to additional tanks to hold the filter fluid until injection. From the tanks holding the filtered water the fluid will be transported by pipeline to high pressure pumps for transportation to the injection point where the rate of injection and pressure will be monitored and regulated so as not to exceed the maxim injection pressure and rate stated in the permit. The fluids will be pumped through a checkvalve at the wellhead down the 2 7/8" tubing to the Huntersville Chert/Oriskany injection zone. Surface tubing and the tubing casing annulus pressures will be monitored and recorded by a 2 pen recorder.

6/27/2013

ATTACHMENT “L”
CONSTRUCTION PROCEDURES

Attachment L
Construction Procedures
SAMMY-MAR LLC Povlik Injection Well

Construction Details For:

Well Name: John J. Povlik #1
Location: Huston Twp, Jefferson Co. PA
(See attached Well Location Plat)

Drilling Program

The Povlik will be air rotary drilled from the surface through the Huntersville Chert/Oriskany Sandstone injection zone, to a total depth of 7,098'. SAMMY-MAR will set 8' to 10' of 24 1/2" conductor pipe sanded in with sakrete to surface. Two (2) water strings will be installed, the first string consisting of 200' of 16" casing and the second string being 375' of 11 3/4" casing, both strings will be cemented back to surface. Sammy-Mar will then run 1,250' of 8 5/8" surface casing cemented back to surface. The final, long string, of casing will consist of 7,030' of 4 1/2" casing with the cement top at 5,000' (2,000' of cement fill up). The injection string will be made up of 2 7/8" 6.4#/ft N-80 tubing set on a Baker AL-2 Lock-Set packer at 7,025'. The injection zone, consisting of the Huntersville Chert and Oriskany Sandstone, will be left open.

The annulus between the 2 7/8" injection string and the 4 1/2" casing will be filled with fresh water mixed with Corr Plex 300 which acts as a corrosion inhibitor and bacteria growth preventer, twenty gallons of Corr Plex 300 will be mixed with approximately 2,500 gallons of fresh water.

See casing and cementing data chart in this section for details of casing and cementing plan, see Attachment M for surface facilities and well head details.

Deviation Checks:

The drilling rig will run periodic deviation checks to ensure the well bore remains within 2 to 3 degrees of vertical.

Logging Program:

The following open hole well logs will be run, Gamma Ray, Compensated Density, Neutron, Dual Induction, Temperature and Caliper. The logs will be run from TD to the bottom of the 8 5/8" casing with the Gamma Ray run to surface.

A cement bond log will be run after cementing the 4 1/2" casing to determine cement top and quality of the bond.



pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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WELL LOCATION PLAT

PAGE 1 Surface Location

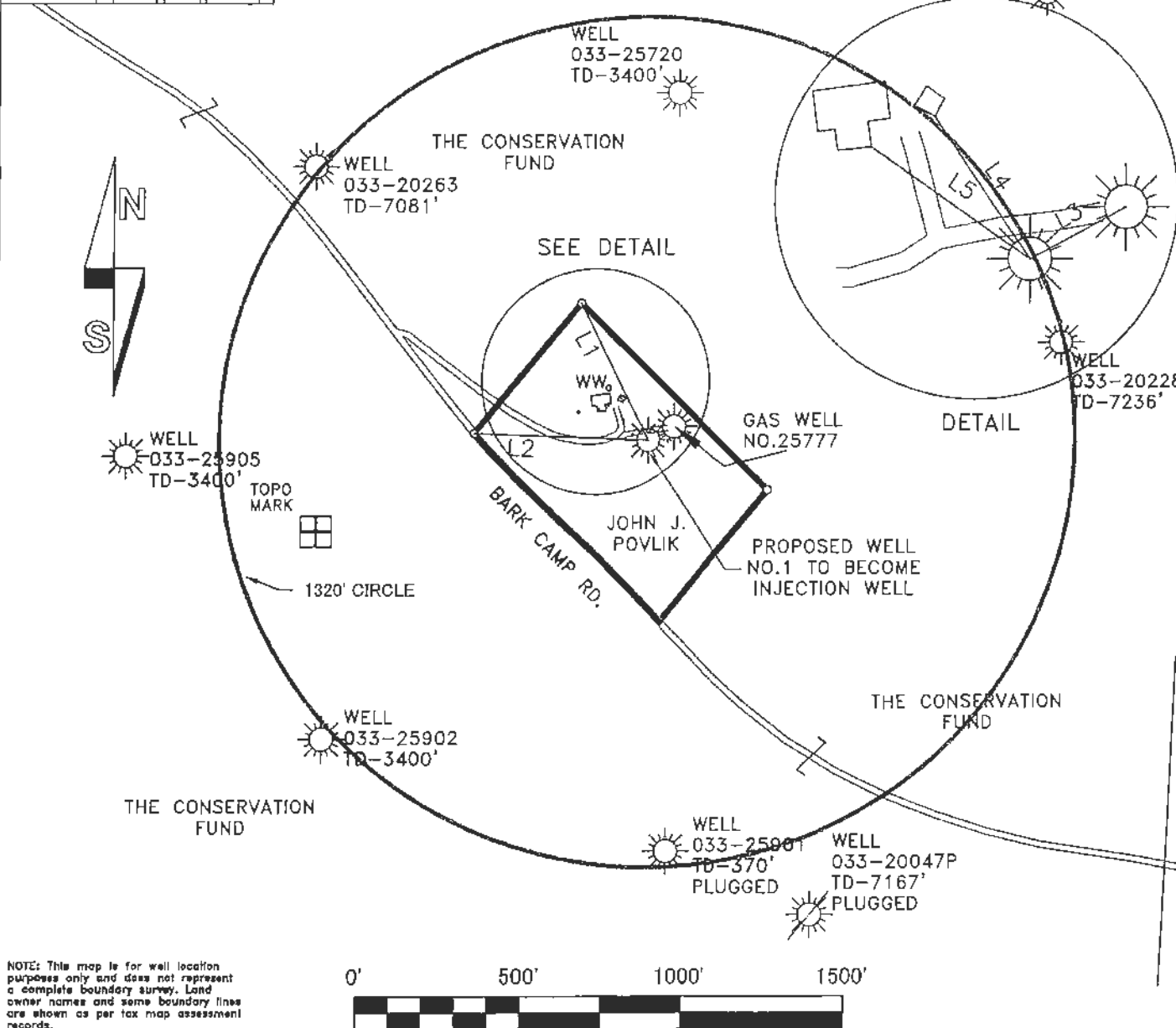
Auth ID #	
Permit #	
Project #	

Denotes location of top of well on topo map.			
True Latitude: NORTH			
41	0	10	58 29
True Longitude: WEST			
78	34	59	80

Well is located on topo map 9281 feet south of latitude 41 ° 12 ' 30 "

LINE	BEARING	DISTANCE	OBJECT
L1	N 26°05'46" W	479.70'	CORNER
L2	N 87°36'33" W	538.06'	CORNER
L3	N 62°03'09" E	91.07'	GAS WELL
L4	N 33°58'55" W	142.03'	SHED
L5	N 54°43'06" W	160.88'	HOUSE

Well is located on topo map 11,453 feet west of longitude 78 ° 32 ' 30 "



NOTE: This map is for well location purposes only and does not represent a complete boundary survey. Land owner names and some boundary lines are shown as per tax map assessment records.

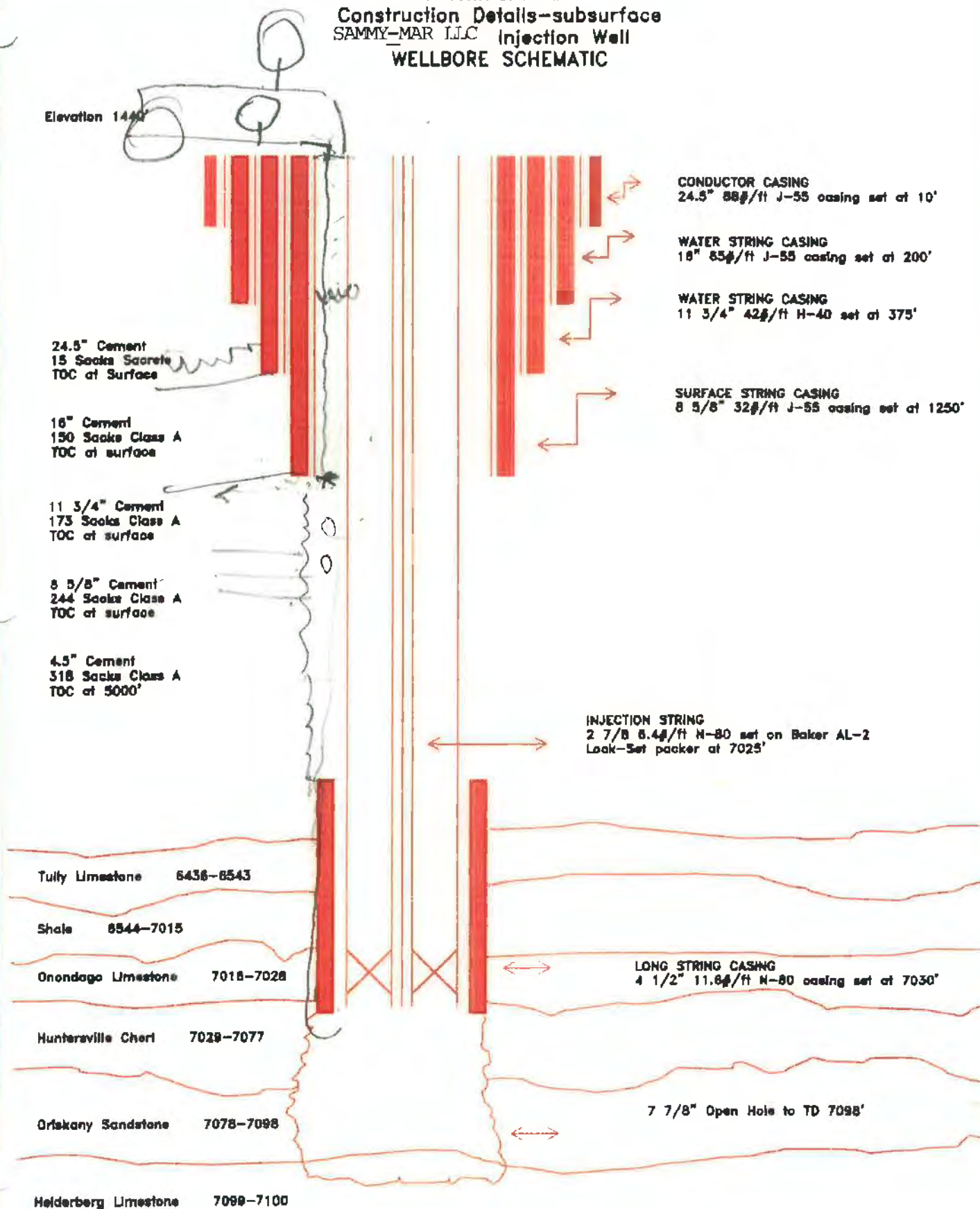
Applicant / Well Operator Name: DANNIC ENERGY CORPORATION		DEP ID#: 5426	Well(Farm) Name: POVLIK		Well #: 1	Serial #:
Address: 134 MILLRUN DRIVE INDIANA, PA 15701		County: CLEARFIELD		Municipality: HUSTON TOWNSHIP	Well Type: GAS	
911 address of well site: BARK CAMP RD.		USGS 7 1/2 Quadrangle Map Name: PENFIELD		Map Section: 8	Surface Elevation: 1538 ft.	
Surveyor or Engineer: RONALD L. FOX, PLS	Phone #: 814-745-2861	Dwg #: 631812	Date: OCTOBER 31, 2012	Scale: 1" = 1200'	Tract Acreage: 10	
Lat & Long Metadata: GPS	Accuracy: Submeter	Datum: Nad 83	Elevation Metadata Method: Topo	Accuracy: +/-10	Datum: NGVD 1929	Survey Date: 10-23-2012

Attachment L
Casing and Cementing Data
SAMMY-MAR LLC Povlik Injection Well

Casing	Size	Type	Weight	Grade	Set Depth	Internal Yield	Collapse	Joint Yield	Body Yield	Basket	Centralizers
	inches				feet	Pressure in psi	Pressure in psi	lbs.	lbs	feet	feet
Conductor	24 1/2		88	J-55	10						
Water String	16	LT & C	65	H-40	200	1640	670	439000	736000	65	Every Joint
Water String	11 3/4	LT & C	42	H-40	375	1980	1070	307000	478000	180	Every Joint
Surface Casing	8 5/8	LT & C	32	J-55	1250	3930	2530	417000	503000	360	Every 3 Joints
Long String	4 1/2	LT & C	11.6	N-80	7030	7780	7010	223000	267000		Every 3 Joints
Injection String	2 7/8	EUE	6.4	N-80	7025	10570	11160	144960	145000		

Cement		Class	Amount	CaCl	Celloflake	Yield	Density	Volume	Cement
			sacks	%	#/sack	cu.ft./sack	#/gal.	bbls.	Tops
Conductor	24 1/2	sacrete	15			1.18	15.6		
Water String	16	A	150	2	0.5	1.18	15.6	31.5	Ground Level
Water String	11.75	A	173	2	0.5	1.18	15.6	34.8	Ground Level
Surface Casing	8 5/8	A	244	2	0.25	1.18	15.6	51.3	Ground Level
Long String	4 1/2	A	318			1.18	15.6	57	5,500
Injection String	2 7/8								

ATTACHMENT "M"
CONSTRUCTION DETAILS



Attachment M
Casing and Cementing Data
SAMMY-MAR LLC Povlik Injection Well

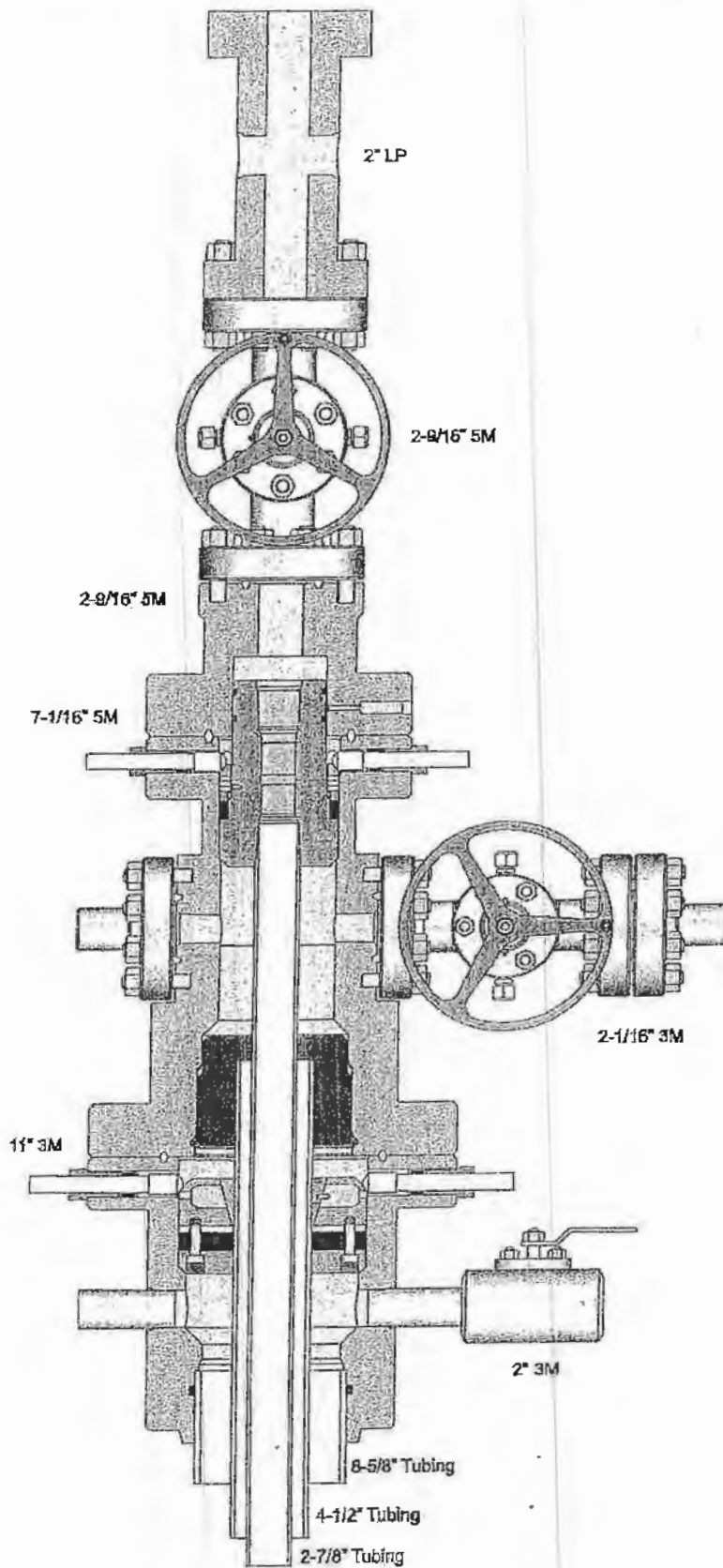
Casing	Size	Type	Weight	Grade	Set Depth	Internal Yield	Collapse	Joint Yield	Body Yield	Basket	Centralizers
	inches				feet	Pressure in psi	Pressure in psi	lbs.	lbs	feet	feet
Conductor	24 1/2		88	J-55	10						
Water String	16	LT & C	65	H-40	200	1640	670	439000	736000	65	Every Joint
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Surface Casing	8 5/8	LT & C	32	J-55	1250	3930	2530	417000	503000	360	Every 3 Joints
Long String	4 1/2	LT & C	11.6	N-80	7030	7780	7010	223000	267000		Every 3 Joints
Injection String	2 7/8	EUE	6.4	N-80	7025	10570	11160	144960	145000		

Cement		Class	Amount	CaCl	Celloflake	Yield	Density		Volume
			sacks	%	#/sack	cu.ft./sack	#/gal.		bbls.
Conductor	24 1/2	sacrete	15			1.18	15.6		
Water String	16	A	150	2	0.5	1.18	15.6		31.5
Water String	11.75	A	173	2	0.5	1.18	15.6		34.8
Surface Casing	8 5/8	A	244	2	0.25	1.18	15.6		51.3
Long String	4 1/2	A	318			1.18	15.6		57
Injection String	2 7/8								

3/19/2013

Cactus Wellhead

8-5/8" x 4-1/2" x 2-7/8" 5M
DUE27



MODEL A-3™ AND AL-2™ LOK-SET RETRIEVABLE CASING PACKER

Product Family Nos. H64630 and H64628

DESCRIPTION/APPLICATION

The Model A-3 Lok-Set Packer combines advantages of a retrievable packer with features of a permanent packer. Its ability to lock down tubing forces provides for a broad range of applications, including production, injection, zone isolation, and remedial operations. The packer is set with right-hand rotation while slacking off tubing weight. Right-hand rotation with slight tension applied releases the packer.

The Model AL-2 Lok-Set Packer is similar to the Model A-3 and is recommended when a larger-than-normal bore size is required.

FEATURES/BENEFITS

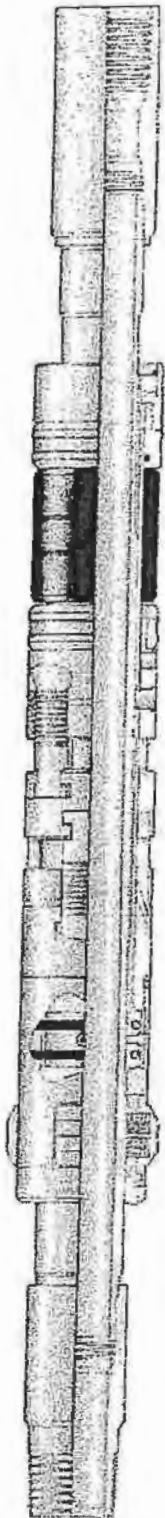
- Holds pressure from above and below, without relying on set-down weight, tubing tension, or hydraulic hold-down
- Provides tubing anchoring with tension applied, suitable for pumping wells or injection, controlling tubing forces related to change fluid temperatures

- Opposed, non-transferring, dovetail slips prevent packer movement associated by changing differential pressures, while allowing the landing of the tubing in tension, neutral, or compression
- Rotational release provides ease of operation in combination with the L-10 On-Off Tubing Connector
- Packing element compression is locked in by ratcheting action of lock segments, also permitting rotation in only one direction

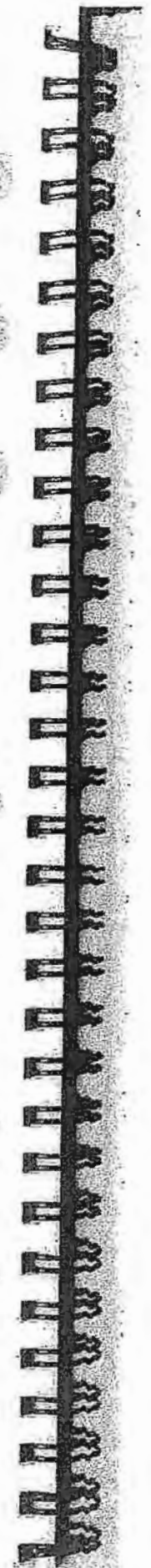
ACCESSORIES

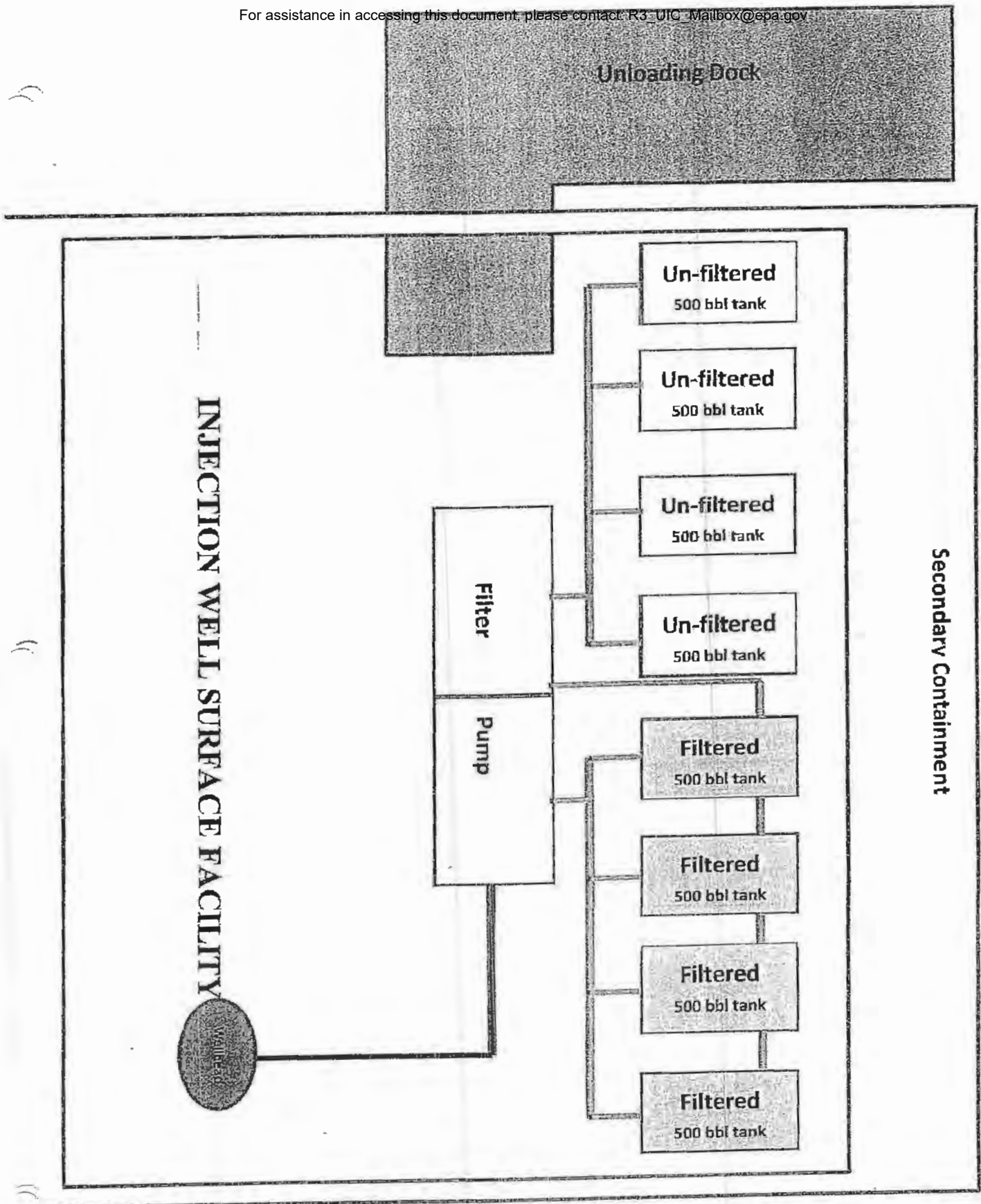
To provide a simple and reliable injection system for retrieving the injection string without having to unseat the packer:

- Model L-10 or L-316 On-Off Sealing Connectors, Product Family Nos. H68420 and H68422.
- Baker Blanking Plug can be used in the seating nipple profile of the on-off sealing connector to provide a means of plugging the lower zone while the tubing is being pulled.



Model A-3 Lok-Set
Retrievable Casing Packer
Product Family No. H64630





**Attachment M Povlik
Formation Tops and Bottoms**

Formation	Top	Bottom	Thickness
Tully Limestone	6436'	6543'	107'
Shale	6544'	7015'	471'
Onondaga Limestone	7016'	7028'	12'
Huntersville Chert	7029	7079	51'
Oriskany Sandstone	7080	7100	20'
Helderberg Limestone			

ATTACHMENT "O"
PLANS FOR WELL FAILURES

Attachment O
Plans for Well Failures
SAMMY-MAR LLC Povlik Injection Well

Plans for Well Failures for Povlik Injection Well

If there is a well failure that involves equipment the well will be shut-in until the faulty equipment is repaired or replaced. If the failure poses no environmental or operational hazard, and the well has been returned to a safe operating condition, the well will be placed back into operation and nothing further will be done.

If there is a casing leak or some other major failure the well will be immediately shut-in and the Pennsylvania DEP and the EPA notified of the problem. Depending on the condition, the corrective action may include squeezing off the leak with cement or running an additional string of casing. The well will not be placed into service until it has been determined that the problem has been corrected. Any fluid produced during the shut-in will be stored on site or disposed of at another approved facility.

5/7/2013

ATTACHMENT "P"
MONITORING PROGRAM

Attachment P
Monitoring Program
SAMMY-MAR LLC Povlik Injection Well

Monitoring Program for Povlik Injection Well

SAMMY-MAR's Povlik injection well will be monitored for its entire life in compliance with all EPA monitoring guidelines and reporting requirements.

There will be five (5) monitoring wells whose locations are shown on the attached map and a possible sixth well if the well which was previously plugged, can be adapted for use as a monitoring well. This well is also shown on the accompanying map. The wells have satisfactory spacing and placement to provide an adequately sampling area without having to drill a well or wells for the specific propose of sampling. The wells are identified by their Pennsylvania issued permit numbers:

033-20047 (Plugged well)	033-20236
033-20139	033-20245
033-20228	033-20263

Pressure and rate monitoring will be at the well site (wellhead), both injection pressure and the pressure of the 4 1/2" by 2 7/8" annulus will be monitored. Pressure will be measured by use of a pressure gage and the injection rate by use of a flow meter. Results will be reported to the EPA as required by the injection permit or according to EPA guidelines, but no less than annually.

Injection fluids will be sampled and analyzed quarterly with the sample taken at the injection site (wellhead). The results will be reported as required by the permit or according to EPA guidelines.

The company will also be prepared to conduct any other monitoring or sampling as required by the permit.

CALL BEFORE YOU DIG!
PENNSYLVANIA ACT 172 REQUIRES
3 WORKING DAYS NOTICE FOR
CONSTRUCTION PHASE AND 10 WORKING
DAYS IN DESIGN STAGE - STOP CALL
PENNSYLVANIA ONE CALL SYSTEM, INC.
1-800-242-1776

BEFORE ANY CONSTRUCTION BEGINS IN THE SURVEYED AREA SHOWN ON THIS MAP, IT IS THE RESPONSIBILITY OF PROPERTY OWNER OR CONTRACTOR TO DETERMINE IF IN FACT - WETLANDS - EXIST WITHIN THE SURVEYED AREA.

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SCALE												
DATE	<table border="1"> <tr> <td>YR.</td> <td>MO.</td> <td>DAY</td> </tr> <tr> <td>1971</td> <td>10</td> <td>2012</td> </tr> </table>	YR.	MO.	DAY	1971	10	2012	<table border="1"> <tr> <td>TIME</td> <td>DATE</td> </tr> <tr> <td>10:00</td> <td>10/20/12</td> </tr> </table>	TIME	DATE	10:00	10/20/12
YR.	MO.	DAY										
1971	10	2012										
TIME	DATE											
10:00	10/20/12											
SCALE	SCALE: 1" = 800' VENT:											
FILE	FILE: JOHN POKER											
JOB NO.	JOB NO.: 13113-1-BAYVIEW WOLA											
NUMBER	NUMBER: 1 OF 4											

FOX & FOX, INC.

58 Timber Bridge Road, Suite 20
Clarion, Pa. 16214
Phone: 814-745-2861 Fax: 814-745-2248
email: ronaldfox@foxandfoxinc.us
web: www.foxandfoxinc.us

[illegible]



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P: (724) 463-TEST
F: (724) 465-4209
PADEP: 32-00382

1276 Bentleyville Rd.
Van Voorhis, PA 15366
P: (724) 258-TEST
F: (724) 258-8376
PADEP: 63-04247

1200 River Avenue
Williamsport, PA 17701
P: (570) 321-9002
F: (570) 321-1957
PADEP: 41-04880

14 February 2013

Work Order: 3011498

Project: PHC Brine Facility

EOG Resources
Attn: Ben Olds
400 Southpointe Blvd, Southpointe Plaza 1
Canonsburg, PA 15317

Report of Analysis

Client Sample ID	Lab Sample ID	Matrix	Date Sampled	Date Received
PHC Brine Facility	3011498-01	Waste Water	01/21/2013 13:20	01/21/2013 15:40

Report Narrative

The results contained in this report are only representative of the samples received. Environmental Service Laboratories, Inc. is not responsible for use or interpretation of the data included herein.

Definitions

- K Analyte was detected in both sample and prep blank.
- F CBOD / BOD result may be biased high due to GGA standard exceeding laboratory acceptance criteria.
- D The reported value is from a dilution.
- ND Less than reporting limit
- RL Reporting Limit
- CFU Colony Forming Units

Certifications

Analyses performed by Environmental Service Laboratories, Inc., Indiana PA unless otherwise specified.
Environmental Service Laboratories, Inc., Indiana, PA DEP lab ID #32-32382

Approved By

Gabe Taylor
Manager



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PADEP: 41-04880

EOG Resources

Reported: 02/14/2013 16:33

400 Southpointe Blvd, Southpointe Plaza 1
Canonsburg, PA 15317

Lab Sample ID#: 3011498-01
Sample Type: Waste Water
Sample Source: Grab
Sampler: peter Kostella
Client Sample ID: PIIC Brine Facility

Sample Date: 01/21/2013 13:20
Receipt Date: 01/21/2013 15:40

Analyte	Sample Result	Units	Data Qualifier	RL	Method	Analyst/Certification	Analysis Date/Time
Field Analysis							
pH	5.35	S.U.			SM4500-II B	PK	01/21 13:20
General Chemistry							
Acidity	147	mg/L			SM2310 B	BNH	01/23 20:49
Alkalinity, Total (CaCO ₃)	ND	mg/L		20.0	SM2320B	NDZ	01/22 17:20
Ammonia as N	159	mg/L		10.3	SM4500NH3D	RNS	01/22 20:46
Biochemical Oxygen Demand	14.3	mg/L	F	2.0	SM5210B	KAR	01/23 09:00
Boron	7.50	mg/L	D	6.25	SM4500B B	JMH	01/25 15:15
Bromide	1310	mg/L		100	ASTMD1246 95C	SR	01/25 12:40
Chloride	97000	mg/L	D	5.00	SM4500CLC/D	SR	01/22 16:30
Chemical Oxygen Demand	4600	mg/L	D	1000	SM5220D	ZTR	01/28 21:53
Surfactants	ND	mg/L		0.200	SM5540C	SNA	01/22 17:12
Nitrate/Nitrite	0.109	mg/L		0.0500	SM4500N03E	SER	01/29 16:51
Oil & Grease (HEM)	21.6	mg/L		5.00	EPA1664A	TEM	01/22 15:22
Specific Conductance	148500	umhos/cm		1.0	SM2510B	LAL	01/30 14:29
Sulfate	ND	mg/L		5.0	ASTMD516 02	RNS	01/23 22:05
Total Dissolved Solids	214000	mg/L		25.0	SM2540C	TEM	01/25 11:20
Total Kjeldahl Nitrogen	168	mg/L		60.5	SM4500NH3D	JMII	01/22 16:17
Phenolics	ND	mg/L		0.250	EPA420.1	JMH	01/26 15:00
Total Suspended Solids	230	mg/L		5.0	SM2540D	LMB	01/23 12:30
Total Metals							
Aluminum	ND	mg/L	D	10.0	EPA200.7	BEE	01/25 11:15
Arsenic	ND	mg/L	D	10.0	EPA200.7	BEE	01/25 11:15
Barium	3190	mg/L	D	5.00	EPA200.7	BEE	01/25 11:15
Beryllium	ND	mg/L	D	5.00	EPA200.7	BEE	01/25 11:15
Cadmium	ND	mg/L	D	5.00	EPA200.7	BEE	01/25 11:15
Calcium	17700	mg/L	D	500	EPA200.7	BEE	01/25 11:15
Chromium	ND	mg/L	D	5.00	EPA200.7	BEE	01/25 11:15
Cobalt	ND	mg/L	D	5.00	EPA200.7	BEE	01/25 11:15
Copper	ND	mg/L	D	5.00	EPA200.7	BEE	01/25 11:15
Hardness	49200	mg/L			SM2340B	BEE	01/25 11:15
Iron	25.5	mg/L	D, K	10.0	EPA200.7	BEE	01/25 11:15
Lead	ND	mg/L	D	5.00	EPA200.7	BEE	01/25 11:15
Lithium	ND	mg/L	D	500	EPA200.7	BEE	01/25 11:15



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EOG Resources
400 Southpointe Blvd, Southpointe Plaza 1
Canonsburg, PA 15317

Reported: 02/14/2013 16:33

Lab Sample ID#: 3011498-01
Sample Type: Waste Water
Sample Source: Grab
Sampler: peter Kostella
Client Sample ID: PHC Brine Facility

Sample Date: 01/21/2013 13:20
Receipt Date: 01/21/2013 15:40

Analyte	Sample Result	Units	Data Qualifier	RL	Method	Analyst/ Certification	Analysis Date/Time
Total Metals							
Magnesium	1210	mg/L	D	500	EPA200.7	BEE	01/25 11:15
Manganese	14.2	mg/L	D	5.00	EPA200.7	BEE	01/25 11:15
Mercury	ND	mg/L	D	0.001	EPA245.1	SFS	01/25 13:42
Molybdenum	ND	mg/L	D	5.00	EPA200.7	BEE	01/25 11:15
Nickel	ND	mg/L	D	5.00	EPA200.7	BEE	01/25 11:15
Selenium	ND	mg/L	D	10.0	EPA200.7	BEE	01/25 11:15
Silver	ND	mg/L	D	5.00	EPA200.7	BEE	01/25 11:15
Sodium	19900	mg/L	D	500	EPA200.7	BEE	01/25 11:15
Strontium	4620	mg/L	D	10.0	EPA200.7	BEE	01/25 11:15
Zinc	ND	mg/L	D	5.00	EPA200.7	BEE	01/25 11:15
Dissolved Metals							
Iron, Dissolved	40.7	mg/L	D	10.0	EPA200.7	BEE	01/30 13:33
Volatile Organics							
Benzene	ND	ug/L		10.0	EPA624/8260	JMG	01/23 22:27
Toluene	ND	ug/L		10.0	EPA624/8260	JMG	01/23 22:27
Surrogate: 1,2-Dichloroethane-d4	104 %	86-118			EPA624/8260	JMG	01/23 22:27
Surrogate: Toluene-d8	99 %	88-110			EPA624/8260	JMG	01/23 22:27
Surrogate: 4-Bromofluorobenzene	99 %	86-115			EPA624/8260	JMG	01/23 22:27
Organics							
Ethylene glycol	ND	mg/L	D	2500	EPA8015B	EAC	01/23 00:07

Benchmark Analytics, Inc.-Center Valley - PA DEP Lab ID# 39-00401

Subcontracted

Gross Alpha	9264 (1479)	PCi/L			EPA900.0		01/28 09:01
Gross Beta	5893 (1301)	PCi/L			EPA900.0		01/28 09:01
Radium-226	10060 (4098)	PCi/L			EPA903.0		02/08 12:30
Radium-228	2574 (3296)	PCi/L			EPA904.0		02/04 09:50
Thorium	<500.0	ug/L			EPA200.8		01/31 12:10
Uranium	<25.00	ug/L			EPA200.8		01/31 12:10

ENVIRONMENTAL SERVICE LABORATORIES, INC.

SAMPLE REQUEST & CHAIN OF CUSTODY

PAGE 1 OF 1

Page 4 of 7

HEADQUARTERS:

1803 Philadelphia St.
Indiana, PA 15701
(724) 463-TEST
(724) 465-4208

SOUTHERN DIVISION:

1276 Bentleyville Road
Van Voorhis, PA 15366
(724) 258-TEST
(724) 258-8376

FOR INTERNAL LABORATORY USE ONLY

Sample Identification	ESL#	Sample Type				Matrix	# of Containers	Container Type Preservative	Analysis Requested
		Composite		Grab					
		Date on/off	Time on/off	Date	Time				
PHC BRINE FACILITY	3011498			1-21-13	1320	WW	1 2	Plastic Liter none	pH, SC, Chloride, Sulfate, Alkalinity, Acidity, Bromide
						WW	2	Plastic Liter none	TSS, TDS, Dissolved Iron, Boron, BOD, MBAS Surfactants
						WW	1	Plastic Liter HNO ₃	Al, As, Ba, Be, Cd, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, Se, Ag, Sr, Zn, Li, Na, Ca, Mo, Hardness
						WW	1	Plastic Liter H ₂ SO ₄	Nitrate+Nitrite, TKN, Ammonia, CQD
						WW	5 1000 mL	Plastic Liter HNO ₃	Gross Alpha, Gross Beta Radium 226, Radium 228 Thorium, Uranium
						WW	1	Amber Glass L HCl	Oil & Grease
						WW	1	Amber Glass L H ₂ SO ₄	Total Phenolics
						WW	2	Amber VOA Vials none	Ethylene Glycol
						WW	2	Amber VOA Vials HCl	Benzene, Toluene
TRIP BLANK						Water	2	Amber VOA Vials HCl	Benzene, Toluene

THE UNDERSIGNED PURCHASER HEREBY AGREES TO PAY SERVICE CHARGES ON ACCOUNTS OVER 31 DAYS OLD.
1. THESE SERVICE CHARGES WILL ACCRUE AT THE RATE OF 1 1/2% PER MONTH (18% PER ANNUM OR THE MAXIMUM ALLOWED BY LAW.)
2. THE UNDERSIGNED PURCHASER AGREES TO PAY, IN THE EVENT HIS ACCOUNT BECOMES DELINQUENT AND IS TURNED OVER TO ANY ATTORNEY FOR COLLECTION, REASONABLE ATTORNEY'S FEES PLUS ALL COURT AND ATTENDANT COLLECTION COSTS.

Project Notes:

PHC BRINE FACILITY
Clearfield

Sampled By: (Signature)

Date/ Time

Relinquished By: (Signature)

Date/ Time

Relinquished By: (Signature)

Date/ Time

Relinquished By: (Signature)

Date/ Time

Received By: (Signature)

Date/ Time

Received By: (Signature)

Date/ Time

Received By: (Signature)

Date/ Time

Company/Name:

EOG RESOURCES

Address:

400 Southpointe Boulevard
Southpointe Plaza 1, Suite 300
Canonsburg, PA 15317

Contact Person:

Ben Olds

Phone:

724-743-2736

Fax:

Email:

PRESERVATION Y N CONTAINER Y Y N TEMP ≤ 4°C Y / N / NA

Environmental Service Laboratories, Inc.

3011498

SENDING LABORATORY:

Environmental Service Laboratories, Inc.
1803 Philadelphia Street
Indiana, PA 15701
Phone: 724-463-8378
Fax: 724-465-4209
Project Manager: Gabe Taylor

RECEIVING LABORATORY:

Benchmark Analytics, Inc.-Center Valley
4777 Saucon Creek Road
Center Valley, PA 18034
Phone :610-974-8100
Fax: -

Analysis	Due	Expires	Laboratory ID	Comments
Sample ID: 3011498-01	Water	Sampled:01/21/2013 13:20		Who, Grab, Frac Water
Uranium	02/04/2013 14:00	02/18/2013 13:20		
Thorium	02/04/2013 14:00	02/18/2013 13:20		
Radium 228	02/04/2013 14:00	02/18/2013 13:20		
Radium 226	02/04/2013 14:00	02/18/2013 13:20		
Gross Beta	02/04/2013 14:00	02/18/2013 13:20		
Gross Alpha	02/04/2013 14:00	02/18/2013 13:20		
Containers Supplied:	(5)			

W/O#: 13013121

001A GA/B
001B 226
001C 228
001D ME RAD
001E BACK UP

Good NO ICE 0.4°C

Released By	<i>Stephen Johnson</i>	Date	1/22/13 16:00	Received By		Date	
Released By	<i>UPS</i>	Date	1/24/13 9:45	Received By	<i>Gabe Taylor</i>	Date	

LAB ID: 39-00401 *CV
LAB ID: 08-00380 *SA

For assistance in accessing this document, please contact R3_UIC_Mailbox@epa.gov



SEND DATA TO:

NAME: Kathy Brown
COMPANY: Environmental Service Laboratories, Inc
ADDRESS: 1803 Philadelphia St
Indiana, PA 15701

WO#: 13013121

PAGE: 1 of 1

PO#:

PWS ID#

PHONE: (724) 463-8378
FAX: (724) 465-4209

TEST REPORT

3011498

RECEIVED FOR LAB BY: GMD

DATE: 01/24/2013 9:45

Page 1 of 1

SAMPLE: 3011498-01
SAMPLED BY: Client

Lab ID: 13013121-001A Grab
Sample Time 01/21/2013 13:20

Test	Result	Uncert.	MDA	Units	Method	MCL	Analysis Start	Analysis End	Analyst *
Combined Activity (Alpha + Beta)	5160			pCi/L	Calculation		02/12/13 15:18		MJG-CV
Gross Alpha	9264	± 1122.	1479.00	pCi/L	EPA 900.0		01/24/13 9:01	01/28/13	MJG-CV
Gross Beta	5893	± 583.5	1301.00	pCi/L	EPA 900.0		01/24/13 9:01	01/28/13	MJG-CV

SAMPLE: 3011498-01
SAMPLED BY: Client

Lab ID: 13013121-001B Grab
Sample Time 01/21/2013 13:20

Test	Result	Uncert.	MDA	Units	Method	MCL	Analysis Start	Analysis End	Analyst *
Radium, Combined (Ra226 + Ra228)	12630			pCi/L	Calculation		02/12/13 15:18		MJG-CV
Radium-226	10060	± 936.2	4098.00	pCi/L	EPA 903.0		01/25/13 12:30	02/08/13	CLF-CV
Carrier Recovery	100			%	EPA 903.0		01/25/13 12:30	02/08/13	CLF-CV

SAMPLE: 3011498-01
SAMPLED BY: Client

Lab ID: 13013121-001C Grab
Sample Time 01/21/2013 13:20

Test	Result	Uncert.	MDA	Units	Method	MCL	Analysis Start	Analysis End	Analyst *
Radium-228	2574	± 3180.	3298.00	pCi/L	EPA 904.0		02/01/13 9:50	02/04/13	GSR-CV
Carrier Recovery	80			%	EPA 904.0		02/01/13 9:50	02/04/13	GSR-CV

REMARKS:

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of NELAP unless otherwise noted on the Analytical Report.

* CV = Benchmark Analytics, Inc. Center Valley, PA; SA = Benchmark Analytics, Inc. Sayre, PA

MANAGER

Ch. Medci
Christopher Medci, Manager

DATE: 2/12/2013

Page 6 of 7

LAB ID: 39-00401 *CV
LAB ID: 08-00380 *SA

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SEND DATA TO:

NAME: Kathy Brown
COMPANY: Environmental Service Laboratories, Inc
ADDRESS: 1803 Philadelphia St
Indiana, PA 15701

WO#: 13013121

PAGE: 1 of 1

PO#:

PWS ID#

PHONE: (724) 463-8378
FAX: (724) 465-4209

TEST REPORT

3011498

RECEIVED FOR LAB BY: GMD

DATE: 01/24/2013 9:45

Page 1 of 1

SAMPLE: 3011498-01

Lab ID: 13013121-001D Grab

SAMPLED BY: Client

Sample Time: 01/21/2013 13:20

<u>Test</u>	<u>Result</u>	<u>Method</u>	<u>Reg Limit</u>	<u>Analysis Start</u>	<u>Analysis End</u>	<u>Analyst *</u>
Thorium	< 500.0 µg/L	EPA 200.8		01/25/13 12:10	01/31/13	STD-CV
Uranium	< 25.00 µg/L	EPA 200.8	30	01/25/13 12:10	01/31/13	STD-CV
Uranium	< 17.00 pCi/L	EPA 200.8		01/25/13 12:10	01/31/13	STD-CV

REMARKS:

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of NELAP unless otherwise noted on the Analytical Report.

* CV = Benchmark Analytics, Inc. Center Valley, PA; SA = Benchmark Analytics, Inc. Sayre, PA

MANAGER

Ch. Medci
Christopher Medci, Manager

DATE: 2/12/2013

RECEIVED

JAN 03 2013

EOG RESOURCES PIT DIV



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PADEP: 63-04247

1200 River Avenue
Williamsport, PA 17701
P: (570) 321-9002
F: (570) 321-1957
PADEP: 41-04380

05 December 2012

Work Order: 2110683

Project: PHC 8

EOG Resources
Attn: Ben Olds
400 Southpointe Blvd, Southpointe Plaza 1
Canonsburg, PA 15317

Report of Analysis

Client Sample ID	Lab Sample ID	Matrix	Date Sampled	Date Received
PHC 8	2110683-01	Waste Water	11/08/2012 11:30	11/08/2012 18:00
PHC 8 Trip Blank	2110683-02	Water	11/08/2012 00:00	11/08/2012 18:00

Report Narrative

The results contained in this report are only representative of the samples received. Environmental Service Laboratories, Inc. is not responsible for use or interpretation of the data included herein.

Definitions

R Received out of recommended hold time.
K Analyte was detected in both sample and prep blank.
E Estimated value.
D The reported value is from a dilution.
ND Less than reporting limit
RL Reporting Limit
CFU Colony Forming Units

Certifications

Analyses performed by Environmental Service Laboratories, Inc., Indiana PA unless otherwise specified.
Environmental Service Laboratories, Inc., Indiana, PA DEP lab ID #32-32382

Approved By

Gabe Taylor
Manager



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F: (570) 321-1957
PADEP: 41-04880

EOG Resources
400 Southpointe Blvd, Southpointe Plaza 1
Canonsburg, PA 15317

Reported: 12/05/2012 11:27

Lab Sample ID#: 2110683-01
Sample Type: Waste Water
Sample Source: Grab
Sampler: Scot P. May
Client Sample ID: PHC 8

Sample Date: 11/08/2012 11:30
Receipt Date: 11/08/2012 18:00

Analyte	Sample Result	Units	Data Qualifier	RL	Method	Analyst/Certification	Analysis Date/Time
General Chemistry							
Acidity	416	mg/L			SM2310 B	RNS	11/15 23:08
Alkalinity, Total (CaCO ₃)	ND	mg/L		20.0	SM2320B	NDZ	11/15 23:29
Ammonia as N	335	mg/L		4.96	SM4500NH3D	RNS	11/23 20:53
Biochemical Oxygen Demand	16.6	mg/L		2.0	SM5210B	KAR	11/09 12:45
Boron	5.40	mg/L	D	2.50	SM4500B B	ZTR	11/21 14:08
Bromide	3170	mg/L	D	100	ASTMD1246 95C	SER	11/13 15:56
Chloride	164000	mg/L	D	5.00	SM4500CLC/D	NDZ	11/17 17:50
Chemical Oxygen Demand	3890	mg/L	D	1000	SM5220D	ZTR	11/15 22:37
Surfactants	0.374	mg/L		0.200	SM5540C	TEM	11/09 10:00
Nitrate/Nitrite	0.171	mg/L		0.0500	SM4500N03E	SER	11/26 18:05
Oil & Grease (HEM)	ND	mg/L		5.00	EPA1664A	RLG	11/14 11:52
pH	5.14	S.U.	R	1.00	SM4500-H B	NDZ	11/15 23:23
Specific Conductance	228090	umhos/cm		1.0	SM2510B	NDZ	11/15 23:16
Sulfate	ND	mg/L		5.0	ASTMD516 02	ZTR	11/14 22:04
Total Dissolved Solids	394000	mg/L		25.0	SM2540C	RLG	11/12 10:05
Total Kjeldahl Nitrogen	309	mg/L		58.3	SM4500NH3D	AJD	11/17 16:40
Phenolics	ND	mg/L		0.250	EPA420.1	JRM	11/21 14:18
Total Suspended Solids	108	mg/L		5.0	SM2540D	RLG	11/12 08:17
Total Metals							
Aluminum	ND	mg/L	D	10.0	EPA200.7	BEE	11/27 10:48
Arsenic	ND	mg/L	D	10.0	EPA200.7	BEE	11/27 10:48
Barium	5260	mg/L	D, K	5.00	EPA200.7	BEE	11/27 10:48
Beryllium	ND	mg/L	D	5.00	EPA200.7	BEE	11/27 10:48
Cadmium	ND	mg/L	D	5.00	EPA200.7	BEE	11/27 10:48
Calcium	34300	mg/L	D	500	EPA200.7	BEE	11/27 10:48
Chromium	ND	mg/L	D, E	5.00	EPA200.7	BEE	11/27 10:48
Cobalt	ND	mg/L	D, E	5.00	EPA200.7	BEE	11/27 10:48
Copper	ND	mg/L	D	5.00	EPA200.7	BEE	11/27 10:48
Hardness	95200	mg/L			SM2340B	BEE	11/27 10:48
Iron	66.2	mg/L	D	10.0	EPA200.7	BEE	11/27 10:48
Lead	ND	mg/L	D	5.00	EPA200.7	BEE	11/27 10:48
Lithium	ND	mg/L	D, E	500	EPA200.7	BEE	11/27 10:48



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1200 River Avenue
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F: (570) 321-1957
PADEP: 41-04880

EOG Resources
400 Southpointe Blvd, Southpointe Plaza 1
Canonsburg, PA 15317

Reported: 12/05/2012 11:27

Lab Sample ID#: 2110683-01
Sample Type: Waste Water
Sample Source: Grab
Sampler: Scot P. May
Client Sample ID: PHC 8

Sample Date: 11/08/2012 11:30
Receipt Date: 11/08/2012 18:00

Analyte	Sample Result	Units	Data Qualifier	RL	Method	Analyst/ Certification	Analysis Date/Time
Total Metals							
Magnesium	2360	mg/L	D, E	500	EPA200.7	BEE	11/27 10:48
Manganese	23.6	mg/L	D	5.00	EPA200.7	BEE	11/27 10:48
Mercury	ND	mg/L	D	0.001	EPA245.1	SFS	11/23 13:56
Molybdenum	ND	mg/L	D, E	5.00	EPA200.7	BEE	11/27 10:48
Nickel	ND	mg/L	D	5.00	EPA200.7	BEE	11/27 10:48
Selenium	ND	mg/L	D	10.0	EPA200.7	BEE	11/27 10:48
Silver	ND	mg/L	D	5.00	EPA200.7	BEE	11/27 10:48
Sodium	25800	mg/L	D, E	500	EPA200.7	BEE	11/27 10:48
Strontium	7920	mg/L	D, E	10.0	EPA200.7	BEE	11/27 10:48
Zinc	ND	mg/L	D	5.00	EPA200.7	BEE	11/27 10:48
Dissolved Metals							
Iron, Dissolved	45.7	mg/L		10.0	EPA200.7	BEE	11/27 12:11
Volatile Organics							
Benzene	ND	ug/L	D	10.0	EPA624/8260	JG	11/10 10:10
Toluene	ND	ug/L	D	10.0	EPA624/8260	JG	11/10 10:10
Surrogate: 1,2-Dichloroethane-d4	103 %	86-118			EPA624/8260	JG	11/10 10:10
Surrogate: Toluene-d8	99 %	88-110			EPA624/8260	JG	11/10 10:10
Surrogate: 4-Bromofluorobenzene	101 %	86-115			EPA624/8260	JG	11/10 10:10
Organics							
Ethylene glycol	ND	mg/L	D	250	EPA8015B	EAC	11/12 13:49
Benchmark Analytics, Inc.-Center Valley - PA DEP lab ID# 39-00401							
Subcontracted							
Gross Alpha	20590 (3926)	PCi/L			EPA900.0		11/19 16:15
Gross Beta	12030 (3936)	PCi/L			EPA900.0		11/19 16:15
Radium-226	11160 (4182)	PCi/L			EPA903.0		12/01 12:30
Radium-228	1164 (300.4)	PCi/L			EPA904.0		11/18 08:35
Thorium	<5000	ug/L			EPA200.8		11/20 11:25
Uranium	<250	ug/L			EPA200.8		11/20 11:25



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PADEP: 63-04247

1200 River Avenue
Williamsport, PA 17701
P: (570) 321-9002
F: (570) 321-1957
PADEP: 41-04880

EOG Resources
400 Southpointe Blvd, Southpointe Plaza 1
Canonsburg, PA 15317

Reported: 12/05/2012 11:27

Lab Sample ID#: 2110683-02
Sample Type: Water
Sample Source: Trip Blank
Sampler: Scot P. May
Client Sample ID: PHC 8 Trip Blank

Sample Date: 11/08/2012 00:00
Receipt Date: 11/08/2012 18:00

Analyte	Sample Result	Units	Data Qualifier	RL	Method	Analyst/Certification	Analysis Date/Time
Volatile Organics							
Benzene	ND	ug/L		1.00	EPA624/8260	JG	11/10 10:32
Toluene	ND	ug/L		1.00	EPA624/8260	JG	11/10 10:32
Surrogate: 1,2-Dichloroethane-d4	103 %		86-118		EPA624/8260	JG	11/10 10:32
Surrogate: Toluene-d8	101 %		88-110		EPA624/8260	JG	11/10 10:32
Surrogate: 4-Bromofluorobenzene	98 %		86-115		EPA624/8260	JG	11/10 10:32

LAB ID: 39-00401 *CV
LAB ID: 08-00380 *SA



SEND DATA TO:

NAME: Kathy Brown
COMPANY: Environmental Service Laboratories, Inc
ADDRESS: 1803 Philadelphia St
Indiana, PA 15701

WO#: 12111850

PAGE: 1 of 1

PO#:

PWS ID#

PHONE: (724) 463-8378
FAX: (724) 465-4209

TEST REPORT

2110683

RECEIVED FOR LAB BY: GMD

DATE: 11/13/2012 10:05

Page 1 of 1

SAMPLE: 2110683-01
SAMPLED BY: Client

Lab ID: 12111850-001D Grab
Sample Time: 11/08/2012 11:30

Test	Result	Method	Reg Limit	Analysis Start	Analysis End	Analyst *
Thorium	< 5000 µg/L	MS		11/15/12 11:25	11/20/12	STD-CV
Uranium	< 250.0 µg/L	MS	30	11/15/12 11:25	11/20/12	STD-CV
Uranium	< 170.0 pCi/L	MS		11/15/12 11:25	11/20/12	STD-CV

REMARKS:

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of NELAP unless otherwise noted on the Analytical Report.

* CV = Benchmark Analytics, Inc. Center Valley, PA; SA = Benchmark Analytics, Inc. Sayre, PA

MS Limit of detection increased due to matrix interference and spike recovery data

MANAGER

Ch. Medel
Christopher Medel, Manager

DATE: 12/4/2012

LAB ID: 39-00401 *CV
LAB ID: 08-00380 *SA



SEND DATA TO:

NAME: Kathy Brown
COMPANY: Environmental Service Laboratories, Inc
ADDRESS: 1803 Philadelphia St
Indiana, PA 15701

WO#: 12111850

PAGE: 1 of 1

PO#:

PWS ID#

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TEST REPORT

2110683

RECEIVED FOR LAB BY: GMD

DATE: 11/13/2012 10:05

Page 1 of 1

SAMPLE: 2110683-01

Lab ID: 12111850-001A

Grab

SAMPLED BY: Client

Sample Time 11/08/2012 11:30

Test	Result	Uncert.	MDA	Units	Method	MCL	Analysis Start	Analysis End	Analyst *
Combined Activity (Alpha + Beta)	32630			pCi/L x N	Calculation		12/04/12 9:58		CMW-CV
Gross Alpha	20590	± 3263.	3926.00	pCi/L x	EPA 900.0	15	11/14/12 16:15	11/19/12	CMW-CV
Gross Beta	12030	± 1780.	3936.00	pCi/L	EPA 900.0		11/14/12 16:15	11/19/12	CMW-CV

SAMPLE: 2110683-01

Lab ID: 12111850-001B

Grab

SAMPLED BY: Client

Sample Time 11/08/2012 11:30

Test	Result	Uncert.	MDA	Units	Method	MCL	Analysis Start	Analysis End	Analyst *
Radium, Combined (Ra226 + Ra228)	12320			pCi/L N	Calculation		12/04/12 9:58		CMW-CV
Radium-226	11160	± 1130.	4182.00	pCi/L	EPA 903.0		11/13/12 12:30	12/01/12	CLF-CV
Carrier Recovery	108			%	EPA 903.0		11/13/12 12:30	12/01/12	CLF-CV

SAMPLE: 2110683-01

Lab ID: 12111850-001C

Grab

SAMPLED BY: Client

Sample Time 11/08/2012 11:30

Test	Result	Uncert.	MDA	Units	Method	MCL	Analysis Start	Analysis End	Analyst *
Radium-228	1184	± 582.8	300.40	pCi/L	EPA 904.0		11/16/12 8:35	11/18/12	GSR-CV
Carrier Recovery	118			%	EPA 904.0		11/16/12 8:35	11/18/12	GSR-CV

REMARKS:

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of NELAP unless otherwise noted on the Analytical Report.

* CV = Benchmark Analytics, Inc. Center Valley, PA; SA = Benchmark Analytics, Inc. Sayre, PA

N Parameter is not NELAP certified

X Value exceeds Maximum Contaminant Level or other Regulatory Level.

MANAGER

Christopher M. M...
Ch. M...

DATE: 12/4/2012

Page 7 of 7

ENVIRONMENTAL SERVICE LABORATORIES, INC.

HEADQUARTERS:
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SOUTHERN DIVISION:
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Van Voorhe, PA 15365
(724) 258-TEST
(724) 258-6375



FOR INTERNAL LABORATORY USE ONLY

SAMPLE REQUEST & CHAIN OF CUSTODY

PAGE ____ OF ____

Page 5 of 7

Sample Identification	ESL#	Sample Type				Matrix	# of Containers	Container Type Preservative	Analysis Requested
		Composite		Grab					
		Date on/off	Time on/off	Date	Time				
PHC 8	2110683-01			11/8/12	11:30	WW	1 ✓	Plastic Liter none	pH, SC, Chloride, Sulfate, Alkalinity, Acidity, Bromide ✓
						WW	2 ✓	Plastic Liter none	TSS, TDS, Dissolved Iron, Boron, BOD, MBAS Surfactants ✓
						WW	1 ✓	Plastic Liter HNO ₃	Al, As, Ba, Be, Cd, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, Se, Ag, Sr, Zn, Li, Na, Ca, Mo, Hardness ✓
						WW	1 ✓	Plastic Liter H ₂ SO ₄	Nitrate+Nitrite, TKN, Ammonia, COD ✓
						WW	5 1000 mL ✓	Plastic Liter HNO ₃	Gross Alpha, Gross Beta Radium 226, Radium 228 Thorium, Uranium ✓
						WW	1 ✓	Amber Glass L HCl	Oil & Grease ✓
						WW	1 ✓	Amber Glass L H ₂ SO ₄	Total Phenolics ✓
						WW	2 ✓	Amber VOA Vials none	Ethylene Glycol
						WW	2 ✓	Amber VOA Vials HCl	Benzene, Toluene
TRIP BLANK	-02					Water	2 ✓	Amber VOA Vials HCl	Benzene, Toluene

THE UNDERSIGNED PURCHASER HEREBY AGREES TO PAY SERVICE CHARGES ON ACCOUNTS OVER 31 DAYS OLD.

1. THESE SERVICE CHARGES WILL ACCRUE AT THE RATE OF 1 1/2% PER MONTH (18% PER ANNUM OR THE MAXIMUM ALLOWED BY LAW.)

2. THE UNDERSIGNED PURCHASER AGREES TO PAY, IN THE EVENT HIS ACCOUNT BECOMES DELINQUENT AND IS TURNED OVER TO ANY

ATTORNEY FOR COLLECTION, REASONABLE ATTORNEY'S FEES PLUS ALL COURT AND ATTENDANT COLLECTION COSTS.

Project Notes:

PHC 8

Sampled By: (Signature)

Date/ Time

11/8/12 11:30

Relinquished By: (Signature)

Date/ Time

11/8/12 1800

Relinquished By: (Signature)

Date/ Time

Relinquished By: (Signature)

Date/ Time

Received By: (Signature)

Date/ Time

11/9/12 0925

Received By: (Signature)

Date/ Time

Received By: (Signature)

Date/ Time

PRESERVATION ☒ N CONTAINER ☒ N TEMP $\leq 4^{\circ}\text{C}$ ☒ N / NA

Company/Name:

EOG RESOURCES

Address:

400 Southpointe Boulevard
Southpointe Plaza 1, Suite 300
Canonsburg, PA 15317

Contact Person:

Chuck Peterman

Phone:

(724) 599-8662

Fax:

Email:

1.2



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F: (570) 321-1957
PADEP: 41-04880

01 October 2012

Work Order: 2080268

Project: SSHC 5H

EOG Resources
Attn: Bill Burket
400 Southpointe Blvd, Southpointe Plaza I
Canonsburg, PA 15317

Report of Analysis

Client Sample ID	Lab Sample ID	Matrix	Date Sampled	Date Received
SS 5H	2080268-01	Waste Water	08/21/2012 08:30	08/21/2012 13:00
SS 5H Trip Blank	2080268-02	Water	08/21/2012 00:00	08/21/2012 13:00

Report Narrative

The results contained in this report are only representative of the samples received. Environmental Service Laboratories, Inc. is not responsible for use or interpretation of the data included herein.

Definitions

R Received out of recommended hold time.
D The reported value is from a dilution.
ND Less than reporting limit
RL Reporting Limit
CFU Colony Forming Units

Certifications

Analyses performed by Environmental Service Laboratories, Inc., Indiana PA unless otherwise specified.
Environmental Service Laboratories, Inc., Indiana, PA DEP lab ID #32-32382

Approved By

Gabe Taylor
Manager



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PADEP: 41-04880

EOG Resources

400 Southpointe Blvd, Southpointe Plaza 1
Canonsburg, PA 15317

Reported: 10/01/2012 19:23

Lab Sample ID#: 2080268-01
Sample Type: Waste Water
Sample Source: Grab
Sampler: Scot P. May
Client Sample ID: SS 5H

Sample Date: 08/21/2012 08:30
Receipt Date: 08/21/2012 13:00

Analyte	Sample Result	Units	Data Qualifier	RL	Method	Analyst/Certification	Analysis Date/Time
General Chemistry							
Acidity	233	mg/L			SM2310 B	RNS	08/24 19:57
Alkalinity, Total (CaCO ₃)	38.9	mg/L		20.0	SM2320B	SR	08/30 15:46
Ammonia as N	101	mg/L		10.7	SM4500NH3D	ZTR	08/30 22:14
Biochemical Oxygen Demand	7.2	mg/L		2.0	SM5210B	KAR	08/22 15:51
Boron	4.30	mg/L	D	1.25	SM4500B B	ZTR	08/29 22:51
Bromide	1820	mg/L	D	100	ASTMD1246 95C	SER	08/27 09:11
Chemical Oxygen Demand	5390	mg/L	D	1000	SM5220D	ZTR	08/28 21:11
Chloride	138000	mg/L	D	5.00	SM4500CLC/D	SR	08/30 15:37
Surfactants	ND	mg/L	D	0.400	SM5540C	SGT	08/22 11:55
Nitrate/Nitrite	ND	mg/L		0.0500	SM4500N03E	SER	09/04 08:48
Oil & Grease (HEM)	ND	mg/L		5.00	EPA1664A	SGT	08/27 14:11
pH	5.62	S.U.	R	1.00	SM4500-H B	SR	08/30 15:58
Specific conductance	219440	umhos/cm		1.0	SM2510B	SR	08/30 16:06
Sulfate	ND	mg/L		5.0	ASTMD516 02	JMH	09/02 15:40
Total Dissolved Solids	353000	mg/L		25.0	SM2540C	RLG	08/24 08:52
Total Kjeldahl Nitrogen	122	mg/L		55.5	SM4500NH3D	ZTR	08/30 21:03
Phenolics	ND	mg/L		0.0500	EPA420.1	JMH	09/04 11:00
Total Suspended Solids	187	mg/L		5.0	SM2540D	RLG	08/24 08:57
Total Metals							
Aluminum	ND	mg/L	D	1.00	EPA200.7	BEE	09/04 12:21
Arsenic	ND	mg/L	D	1.00	EPA200.7	BEE	09/04 12:21
Barium	3940	mg/L	D	0.500	EPA200.7	BEE	09/04 12:21
Beryllium	ND	mg/L	D	0.500	EPA200.7	BEE	09/04 12:21
Cadmium	ND	mg/L	D	0.500	EPA200.7	BEE	09/05 11:06
Calcium	24200	mg/L	D	50.0	EPA200.7	BEE	09/04 12:21
Chromium	ND	mg/L	D	0.500	EPA200.7	BEE	09/04 12:21
Cobalt	ND	mg/L	D	0.500	EPA200.7	BEE	09/04 12:21
Copper	ND	mg/L	D	0.500	EPA200.7	BEE	09/04 12:21
Hardness	67600	mg/L			SM2340B	BEE	09/04 12:21
Iron	114	mg/L	D	1.00	EPA200.7	BEE	09/04 12:21



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PADEP: 41-04880

EOG Resources
400 Southpointe Blvd, Southpointe Plaza 1
Canonsburg, PA 15317

Reported: 10/01/2012 19:23

Lab Sample ID#: 2080268-01
Sample Type: Waste Water
Sample Source: Grab
Sampler: Scot P. May
Client Sample ID: SS SH

Sample Date: 08/21/2012 08:30
Receipt Date: 08/21/2012 13:00

Analyte	Sample Result	Units	Data Qualifier	RL	Method	Analyst/ Certification	Analysis Date/Time
Total Metals							
Lead	ND	mg/L	D	0.500	EPA200.7	BEE	09/04 12:21
Lithium	117	mg/L	D	50.0	EPA200.7	BEE	09/04 12:21
Magnesium	1760	mg/L	D	50.0	EPA200.7	BEE	09/04 12:21
Manganese	16.0	mg/L	D	0.500	EPA200.7	BEE	09/04 12:21
Mercury	ND	mg/L		0.001	EPA245.1	SFS	08/31 15:41
Molybdenum	ND	mg/L	D	0.500	EPA200.7	BEE	09/04 12:21
Nickel	ND	mg/L	D	0.500	EPA200.7	BEE	09/04 12:21
Selenium	ND	mg/L	D	1.00	EPA200.7	BEE	09/04 12:21
Silver	ND	mg/L	D	0.500	EPA200.7	BEE	09/04 12:21
Sodium	48200	mg/L	D	500	EPA200.7	BEE	09/04 12:42
Strontium	8650	mg/L	D	10.0	EPA200.7	BEE	09/04 12:42
Zinc	0.670	mg/L	D	0.500	EPA200.7	BEE	09/04 12:21
Dissolved Metals							
Iron, Dissolved	114	mg/L	D	1.00	EPA200.7	BEE	09/04 12:21
Organics							
Ethylene glycol	ND	mg/L	D	250	EPA8015B	MAD	08/29 12:51

Benchmark Analytics, Inc.-Center Valley - PA DEP lab ID# 39-00401

General Chemistry							
Thorium	<4500	PCi/L			EPA200.8		09/05 09:30
Uranium	<153	PCi/L			EPA200.8		09/05 09:30
Subcontracted							
Gross Alpha	29010 (3985)	PCi/L			EPA900.0		09/01 09:45
Gross Beta	12490 (2254)	PCi/L			EPA900.0		09/01 09:45
Radium-226	8610 (893)	PCi/L			EPA904.0		09/11 10:30
Radium-228	1670 (329.5)	PCi/L			EPA904.0		09/05 08:50



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F: (570) 321-1957
PADEP: 41-04880

EOG Resources
400 Southpointe Blvd, Southpointe Plaza 1
Canonsburg, PA 15317

Reported: 10/01/2012 19:23

Lab Sample ID#: 2080268-01
Sample Type: Waste Water
Sample Source: Grab
Sampler: Scot P. May
Client Sample ID: SS 5H

Sample Date: 08/21/2012 08:30
Receipt Date: 08/21/2012 13:00

Analyte	Sample Result	Units	Data Qualifier	RL	Method	Analyst/Certification	Analysis Date/Time
---------	---------------	-------	----------------	----	--------	-----------------------	--------------------

Pace Analytical Services, Inc. - PA DEP lab ID# 65-282

Volatile Organics

Benzene	ND	ug/L		10	EPA624/8260		08/31 17:46
Toluene	ND	ug/L		10	EPA624/8260		08/31 17:46
Surrogate: 1,2-Dichloroethane-d4	%	86-118			EPA624/8260		08/31 17:46
Surrogate: Toluene-d8	%	88-110			EPA624/8260		08/31 17:46
Surrogate: 4-Bromofluorobenzene	%	86-115			EPA624/8260		08/31 17:46



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EOG Resources
400 Southpointe Blvd, Southpointe Plaza I
Canonsburg, PA 15317

Reported: 10/01/2012 19:23

Lab Sample ID#: 2080268-02
Sample Type: Water
Sample Source: Grab
Sampler: Scot P. May
Client Sample ID: SS 5H Trip Blank

Sample Date: 08/21/2012 00:00
Receipt Date: 08/21/2012 13:00

Analyte	Sample Result	Units	Data Qualifier	RL	Method	Analyst/ Certification	Analysis Date/Time
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Pace Analytical Services, Inc. - PA DEP lab ID# 65-282

Volatile Organics

Benzene	ND	ug/L		10	EPA624/8260		08/31 17:46
Toluene	ND	ug/L		10	EPA624/8260		08/31 17:46
Surrogate: 1,2-Dichloroethane-d4	%	86-118			EPA624/8260		08/31 17:46
Surrogate: Toluene-d8	%	88-110			EPA624/8260		08/31 17:46
Surrogate: 4-Bromofluorobenzene	%	86-115			EPA624/8260		08/31 17:46

ENVIRONMENTAL SERVICE LABORATORIES, INC.

SAMPLE REQUEST & CHAIN OF CUSTODY

PAGE 5 OF 5

HEADQUARTERS: 1803 Philadelphia St. Indiana, PA 15701 (724) 483-TEST (724) 485-4209	☒	SOUTHERN DIVISION: 1276 Bentleyville Road Van Voorhis, PA 15386 (724) 258-TEST (724) 258-8378	☐
FOR INTERNAL LABORATORY USE ONLY			

 2080268
 2080268

Sample Identification	ESL#	Sample Type				Matrix	# of Containers	Container Type Preservative	Analysis Requested
		Composite		Grab					
		Date on/off	Time on/off	Date	Time				
SS 5H	2080268-01			8/21/12	830	WW	1 ✓	Plastic Liter none	pH, SC, Chloride, Sulfate, Alkalinity, Acidity, Bromide ✓
						WW	2 ✓	Plastic Liter none	TSS, TDS, Dissolved Iron, Boron, BOD, MBAS Surfactants ✓
						WW	1 ✓	Plastic Liter HNO ₃	Al, As, Ba, Be, Cd, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, Se, Ag, Sr, Zn, Li, Na, Ca, Mo, Hardness ✓
						WW	1 ✓	Plastic Liter H ₂ SO ₄	Nitrate+Nitrite, TKN, Ammonia, COD ✓
						WW	5 1000 mL ✓	Plastic Liter HNO ₃	Gross Alpha, Gross Beta Radium 226, Radium 228 Thorium, Uranium ✓
						WW	1 ✓	Amber Glass L HCl	Oil & Grease ✓
						WW	1 ✓	Amber Glass L H ₂ SO ₄	Total Phenolics ✓
						WW	2 ✓	Amber VOA Vials none	Ethylene Glycol
						WW	2 ✓	Amber VOA Vials HCl	Benzene, Toluene ✓
TRIP BLANK	WO-02					Water	2 ✓	Amber VOA Vials HCl	Benzene, Toluene

THE UNDERSIGNED PURCHASER HEREBY AGREES TO PAY SERVICE CHARGES ON ACCOUNTS OVER 31 DAYS OLD.

1. THESE SERVICE CHARGES WILL ACCRUE AT THE RATE OF 1 1/2% PER MONTH (18% PER ANNUM OR THE MAXIMUM ALLOWED BY LAW.)

2. THE UNDERSIGNED PURCHASER AGREES TO PAY, IN THE EVENT HIS ACCOUNT BECOMES DELINQUENT AND IS TURNED OVER TO ANY ATTORNEY FOR COLLECTION, REASONABLE ATTORNEY'S FEES PLUS ALL COURT AND ATTENDANT COLLECTION COSTS.

Project Notes:

SSH 5H

Sampled By: (Signature) <i>[Signature]</i> Date/ Time 8/21/12 830	Received By: (Signature) <i>[Signature]</i> Date/ Time 8/23/12 1333
Relinquished By: (Signature) <i>[Signature]</i> Date/ Time 8/21/12 130	
Relinquished By: (Signature) _____ Date/ Time _____	
Relinquished By: (Signature) _____ Date/ Time _____	

Company/Name:

EOG RESOURCES

Address:

400 Southpointe Boulevard
Southpointe Plaza 1, Suite 300

Contact Person:

Canonsburg, PA 15317

Phone:

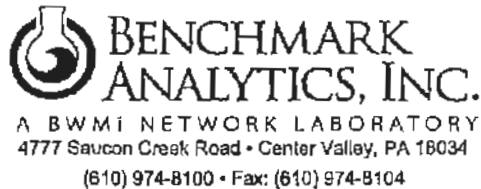
Ben Olds
(724) 743-2736

Fax:

Email:

Page 9 of 9

LAB ID: 39-00401 *CV
LAB ID: 08-00380 *SA



SEND DATA TO:

NAME: Kathy Brown
COMPANY: Environmental Service Laboratories, Inc
ADDRESS: 1803 Philadelphia St
Indiana, PA 15701

WO#: 12084526

PAGE: 1 of 1

PO#:

PWS ID#

PHONE: (724) 463-8378
FAX: (724) 465-4209

TEST REPORT

2080268

RECEIVED FOR LAB BY: MAK

DATE: 08/27/2012 9:50

Page 1 of 1

SAMPLE: 2080268-01		Lab ID: 12084526-001A		Grab					
SAMPLED BY: Client		Sample Time 08/21/2012 8:30							
<u>Test</u>	<u>Result</u>	<u>Uncert.</u>	<u>MDA</u>	<u>Units</u>	<u>Method</u>	<u>MCL</u>	<u>Analysis Start</u>	<u>Analysis End</u>	<u>Analyst *</u>
Combined Activity (Alpha+ Beta)				pCi/L N	Calculation		08/16/12 15:13		CMW-CV
Gross Alpha	29010	± 3368.	3985.00	pCi/L	EPA 900.0		08/29/12 9:45	09/01/12	CMW-CV
Gross Beta	12490	± 1228.	2254.00	pCi/L	EPA 900.0		08/29/12 9:45	09/01/12	CMW-CV

SAMPLE: 2080268-01		Lab ID: 12084526-001B		Grab					
SAMPLED BY: Client		Sample Time 08/21/2012 8:30							
<u>Test</u>	<u>Result</u>	<u>Uncert.</u>	<u>MDA</u>	<u>Units</u>	<u>Method</u>	<u>MCL</u>	<u>Analysis Start</u>	<u>Analysis End</u>	<u>Analyst *</u>
Radium, Combined (Ra226 + Ra228)	10280			pCi/L N	Calculation		08/16/12 15:14		CLF-CV
Radium-228	8510	± 374.3	893.30	pCi/L	EPA 903.0		08/27/12 10:30	09/11/12	CLF-CV
Carrier Recovery	128			% sz	EPA 903.0		08/27/12 10:30	09/11/12	CLF-CV

SAMPLE: 2080268-01		Lab ID: 12084526-001C		Grab					
SAMPLED BY: Client		Sample Time 08/21/2012 8:30							
<u>Test</u>	<u>Result</u>	<u>Uncert.</u>	<u>MDA</u>	<u>Units</u>	<u>Method</u>	<u>MCL</u>	<u>Analysis Start</u>	<u>Analysis End</u>	<u>Analyst *</u>
Radium-228	1670	± 279.5	329.50	pCi/L	EPA 904.0		08/30/12 8:50	09/05/12	STD-CV
Carrier Recovery	98			%	EPA 904.0		08/30/12 8:50	09/05/12	STD-CV

REMARKS:

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of NELAP unless otherwise noted on the Analytical Report.

* CV = Benchmark Analytics, Inc. Center Valley, PA; SA = Benchmark Analytics, Inc. Sayre, PA

N Parameter is not NELAP certified

S Spike Recovery outside accepted recovery limits

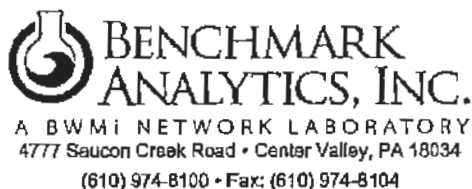
Z Due to matrix bias, spike recovery was outside acceptance limits

MANAGER

Christopher Madala, Manager

DATE: 9/17/2012

LAB ID: 39-00401 *CV
LAB ID: 08-00380 *SA



Page 7 of 9

SEND DATA TO:

NAME: Kathy Brown
COMPANY: Environmental Service Laboratories, Inc
ADDRESS: 1803 Philadelphia St
Indiana, PA 15701

WO#: 12084526

PAGE: 1 of 1

PO#:

PWS ID#

PHONE: (724) 463-8378
FAX: (724) 465-4209

TEST REPORT

2080268

RECEIVED FOR LAB BY: MAK

DATE: 08/27/2012 9:50

Page 1 of 1

SAMPLE: 2080268-01
SAMPLED BY: Client

Lab ID: 12084526-001D Grab
Sample Time: 08/21/2012 8:30

<u>Test</u>	<u>Result</u>		<u>Method</u>	<u>Reg Limit</u>	<u>Analysis Start</u>	<u>Analysis End</u>	<u>Analyst*</u>
Thorium	< 4500 µg/L	MS	EPA 200.8		09/04/12 9:30	09/05/12	STD-CV
Uranium	< 225.0 µg/L	MS	EPA 200.8	30	09/04/12 9:30	09/05/12	STD-CV
Uranium	< 153.0 pCi/L		EPA 200.8		09/04/12 9:30	09/05/12	STD-CV

REMARKS:

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of NELAP unless otherwise noted on the Analytical Report.

* CV = Benchmark Analytics, Inc. Center Valley, PA; SA = Benchmark Analytics, Inc. Sayre, PA

MS Limit of detection increased due to matrix interference and spike recovery data

MANAGER

Christopher Medei
Christopher Medei, Manager

DATE: 9/17/2012



ANALYTICAL RESULTS

Project: 2080268
Pace Project No.: 3076436

Sample: 2080268-01		Lab ID: 3076436001	Collected: 08/21/12 08:30		Received: 08/30/12 16:00		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV PA UST		Analytical Method: EPA 8260						
Benzene	ND ug/L		10.0	10		08/31/12 17:46	71-43-2	D3
Ethylbenzene	ND ug/L		10.0	10		08/31/12 17:48	100-41-4	
Toluene	ND ug/L		10.0	10		08/31/12 17:46	108-88-3	
Xylene (Total)	ND ug/L		30.0	10		08/31/12 17:46	1330-20-7	
Surrogates								
Toluene-d8 (S)	93 %		70-130	10		08/31/12 17:46	2037-26-5	
4-Bromofluorobenzene (S)	100 %		70-130	10		08/31/12 17:46	460-00-4	
1,2-Dichloroethane-d4 (S)	115 %		70-130	10		08/31/12 17:46	17060-07-0	

Sample: 2080268-02		Lab ID: 3076436002	Collected: 08/21/12 00:00		Received: 08/30/12 16:00		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV PA UST		Analytical Method: EPA 8260						
Benzene	ND ug/L		10.0	10		08/31/12 18:13	71-43-2	D3
Ethylbenzene	ND ug/L		10.0	10		08/31/12 18:13	100-41-4	
Toluene	ND ug/L		10.0	10		08/31/12 18:13	108-88-3	
Xylene (Total)	ND ug/L		30.0	10		08/31/12 18:13	1330-20-7	
Surrogates								
Toluene-d8 (S)	94 %		70-130	10		08/31/12 18:13	2037-26-5	
4-Bromofluorobenzene (S)	97 %		70-130	10		08/31/12 18:13	460-00-4	
1,2-Dichloroethane-d4 (S)	113 %		70-130	10		08/31/12 18:13	17060-07-0	

ATTACHMENT "Q"
PLUGGING AND ABANDONMENT PLAN

Attachment Q
Plugging and Abandonment Plan
SAMMY-MAR LLC Povlik Injection Well

Plugging and Abandonment Plan:

Sammy- Mar will plug the Povlik in accordance with the Pennsylvania Bureau of Oil and Gas Management and the EPA regulations in place at the time of abandonment. The following actions will be taken:

- *Move in service rig
- *Retrieve injection string and packer
- *Run 2 7/8" tubing to TD of 7,100'
- *Load hole with saltwater gel (if necessary a cast iron bridge plug will be placed in 4 1/2" casing, at 7030' to put well in static state prior to setting cement plugs).
- *Balance a 500' cement plug from 7,100' to 6,600'
- *Lay down tubing string.
- *Cut 4 1/2" casing at 5,500' and circulate hole.
- *Balance 50' cement plugs over shallow gas sands at the following depths:
2900' to 2,850'; 2,810' to 2,760'; 2,730' to 2,680'; and 2,320 to 2,270' for a total of four plugs.
- *Balance 100' cement plug from 1,450' to 1,350'
- *Bail 8 5/8" casing
- *Fill 8 5/8" casing with sand/gravel
- *Install monument with well name and permit number

Cost Estimate:

Service Rig	\$13,000
Cement Services	10,412
Contingencies	<u>2,500</u>
Total	\$25,912

Form 7520-14 is attached.



United States Environmental Protection Agency
Washington, DC 20460

PLUGGING AND ABANDONMENT PLAN

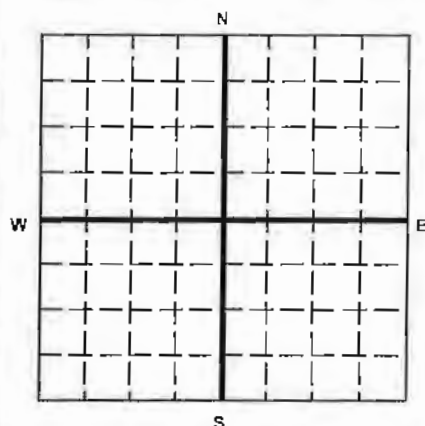
Name and Address of Facility

Povlik #1
Huston Twp, Clearfield Co., PA

Name and Address of Owner/Operator

Sammy-Mar, LLC
255 Airport Rd, Indiana, PA 15701

Locate Well and Outline Unit on
Section Plat - 640 Acres



State

Pennsylvania

County

Clearfield

Permit Number

Surface Location Description

☐ 1/4 of ☐ 1/4 of ☐ 1/4 of ☐ 1/4 of Section ☐ Township ☐ Range ☐

Locate well in two directions from nearest lines of quarter section and drilling unit

Surface

Location ☐ ft. from (N/S) ☐ Line of quarter sectionand ☐ ft. from (E/W) ☐ Line of quarter section.

TYPE OF AUTHORIZATION

- ☒ Individual Permit
☐ Area Permit
☐ Rule

Number of Wells

Lease Name Povlik

WELL ACTIVITY

- ☐ CLASS I
☒ CLASS II
☐ Brine Disposal
☐ Enhanced Recovery
☐ Hydrocarbon Storage
☐ CLASS III

Well Number 1

CASING AND TUBING RECORD AFTER PLUGGING

SIZE	WT (LB/FT)	TO BE PUT IN WELL (FT)	TO BE LEFT IN WELL (FT)	HOLE SIZE
16	65	200	200	20
11.75	42	375	375	15
8.625	32	1250	1250	10.625
4.5	11.6	7030	1530	7.875

METHOD OF EMPLACEMENT OF CEMENT PLUGS

- ☒ The Balance Method
☐ The Dump Bailer Method
☐ The Two-Plug Method
☐ Other

CEMENTING TO PLUG AND ABANDON DATA:

	PLUG #1	PLUG #2	PLUG #3	PLUG #4	PLUG #5	PLUG #6	PLUG #7
Size of Hole or Pipe in which Plug Will Be Placed (inches)	4.5	7.875	7.875	7.875	7.875	7.875	
Depth to Bottom of Tubing or Drill Pipe (ft)	7030	2900	2810	2730	2320	1450	
Sacks of Cement To Be Used (each plug)	34	13	13	13	13	27	
Slurry Volume To Be Pumped (cu. ft.)	44.9	16.8	16.8	16.8	16.8	34.8	
Calculated Top of Plug (ft.)	6600	2850	2760	2680	2270	1350	
Measured Top of Plug (If tagged ft.)							
Slurry Wt. (Lb./Gal.)	14.4	14.4	14.4	14.4	14.4	14.4	
Type Cement or Other Material (Class III)	Class A	Class A	Class A	Class A	Class A	Class A	

LIST ALL OPEN HOLE AND/OR PERFORATED INTERVALS AND INTERVALS WHERE CASING WILL BE VARIED (if any)

From	To	From	To
7100	7030		
6600	1250		

Estimated Cost to Plug Wells

\$25,912

Certification

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32)

Name and Official Title (Please type or print)

Wesley D. Sinclair, President

Signature

Date Signed

7/9/2013



Shelocta, PA Office
724-354-4400
Fax 724-354-3749

Bradford, PA Office
814-368-4811
Fax 814-368-4957

Company Sammy-Mar LLC
Billing Address _____
Billing City, State, Zip _____
Hole Size 4.5 ins.
Pipe Size 2.875 ins.
Pipe ID 0 ins.
Job Type 0

Field Ticket No. #N/A
Lease Povlik
Well # #1
Job Date July 2, 2013
County Clearfield
State Pennsylvania
Well Type 0
Price Book Used September 1, 2009

Code	Item Description	Qty	U/M	Unit Cost	Disc	Gross	Net
	Pumping through casing @	7,100	Feet	1		\$4,780.00	\$3,250.40
RND5140	Heavy Equipment Mileage	2	Units 50 R/T Miles	100 Unit/Mile	\$6.53	32%	\$653.00 \$444.04
RND5170	Pickup Mileage	1	Units 50 R/T Miles	50 Unit/Mile	\$4.25	32%	\$212.50 \$144.50
RND5330	Data Acquisition			1 Per Job	\$500.00	32%	\$500.00 \$340.00
RND5220	Densometer Rental			1 Per Job	\$410.00	32%	\$410.00 \$278.80
RND0000	Recirculating Mixer			1 1st 4 Hrs	\$500.00	32%	\$500.00 \$340.00
RND5210	Swage & Valve Rental			1 Per Day	\$350.00	32%	\$350.00 \$238.00
RND5120	Standby Pump	1 Units	1 Hours	1 Unit Hr	\$600.00	32%	\$600.00 \$408.00
RND1300	Standby Bulk Equipment	1 Units	1 Hours	1 Unit Hr	\$300.00	32%	\$300.00 \$204.00
	Stage 1 Lead Slurry	Yield 1.29	Dens 14.30	Water 5.80			
RND5800	50/50 Poz	84 PPS		128 Sacks	\$16.80	32.0%	\$2,150.40 \$1,462.27
	Stage 1 Lead Slurry	Yield	Dens	Water			
WAS JOB SATISFACTORILY COMPLETED?				YES / NO	A TICKET	\$10,455.90	\$7,110.01
WAS OPERATION OF EQUIPMENT SATISFACTORY?				YES / NO	B TICKET	\$2,428.40	\$1,651.31
WAS PERFORMANCE OF PERSONNEL SATISFACTORY?				YES / NO			
TOTALS						\$12,884.30	\$8,761.32
CUSTOMER OR AGENT				JOB SUPERVISOR			
NET TOTAL						\$8,761.32	

THIS IS NOT AN INVOICE

Taxes, price changes and other applicable data will be shown on our invoice to be submitted for payment at a later date.

8761.32
1617.31
10412.63
1



Shelosta, PA Office
724-354-4400
Fax 724-354-3749

Bradford, PA Office
814-368-4811
Fax 814-368-4957

B TICKET

Ticket Number: #N/A

Code	Item Description	Qty	U/M	Unit Cost	Disc	Gross	Net
	Stage 1 Lead Slurry	Yield	Dens	Water			
	Stage 1 Lead Slurry	Yield	Dens	Water		\$0.00	
	Stage 1 Lead Slurry	Yield	Dens	Water			
	Stage 1 Lead Slurry	Yield	Dens	Water			
RND5180	Bulk Delivery	25	Miles	6 Tons	150 Ton/Mile	\$3.20 32.0%	\$480.00 \$326.40
RND5190	Bulk Service charge				166 Cu. Ft.	\$2.40 32.0%	\$398.40 \$270.91
	Other Charges						
CH50003	Bentonite Blended				3100 LB	\$0.50 32.0%	\$1,550.00 \$1,054.00
THIS IS NOT AN INVOICE						Total B Ticket	\$2,428.40 \$1,651.31

Taxes, price changes and other applicable data will be shown on our invoice to be submitted for payment at a later date.

Sammy-Mar LLC
Povlik #1
Clearfield Co.

7100' – 6600' (in 4 ½) 34sks

2955' – 2300' (in 7 7/8 OH)

4 plugs @ 50' each 13 sks (total 67)

1 plug @ 100' 27sks

Total Cement: 128sks 50/50 poz 10% salt 2% gel (1.29)

3100lbs gel (Gel between plugs for total hole)

MULTI PRODUCTION SYSTEMS, INC.

For assistance in accessing this document, please contact: R3_UIC_Mailbox@epa.gov

134 MILL RUN DRIVE
INDIANA, PENNSYLVANIA 15701
(724) 465-6663 FAX (724) 465-7375

Sammy-Mar, LLC
255 Airport Road
Indiana, PA 15701

ESTIMATED COSTS FOR PLUGGING SERVICES

Operator: Sammy-Mar, LLC
Well Name: Povlik #1
Location: Huston Township, Clearfield County

Day 1 – Trip out and lay down packer. Trip back in hole to set bottom hole plugs.

Day 2 – Set plugs and pull tubing.

Day 3 – Lay down 4-1/2" casing.

Day 4 – Bail 8-5/8" dry.

Rig Time	40 hours @ \$225.00/hr = \$9,000.00
Trucking	12 hours @ \$125.00/hr = \$1,500.00
Misc. Labor	50 hours @ \$50.00/hr = <u>\$2,500.00</u>

TOTAL ESTIMATED COSTS: \$13,000.00

ATTACHMENT "R"
NECESSARY RESOURCES

Attachment R
Necessary Resources
SAMMY-MAR LLC Povlik Injection Well

Necessary Resources

Following is a Standby Trust Agreement and an Irrevocable Letter of Credit evidencing the needed financial resources.

7/16/2013

STANDBY TRUST AGREEMENT

U.S. Environmental Protection Agency
Underground Injection Control
Financial Responsibility Requirement

THIS TRUST AGREEMENT (the "Agreement") is entered into as of July 9, 2013
by and between Sammy-Mar, LLC, owner or operator, a
corporation / partnership / association / proprietorship (the "Grantor"), and
CNB Bank (the "Trustee"), a Pennsylvania corporation/financial
institution.

Whereas, the United States Environmental Protection Agency ("EPA"), an agency of the United States Government, has established certain regulations applicable to the Grantor, requiring that an owner or operator of an injection well shall provide assurance that funds will be available when needed for plugging and abandonment of the injection well or wells,

Whereas, the Grantor has elected to establish a trust to provide all or part of such financial assurance for the facility or facilities identified herein, and

Whereas, the Grantor, acting through its duly authorized officers, has selected the Trustee to be the trustee under this Agreement, and the Trustee is willing to act as trustee,

NOW THEREFORE, the Grantor and the Trustee agree as follows:

Section 1. Definitions. As used in this Agreement: (a) The term "Grantor" means the owner or operator who enters into this Agreement and any successors or assigns of the Grantor. (b) The term "Trustee" means the Trustee who enters into this Agreement and any successor Trustee. (c) Facility or activity means any "underground injection well" or any other facility or activity that is subject to regulation under the Underground Injection Control Program.

Section 2. Identification of Facilities and Cost Estimates. This Agreement pertains to the facilities and cost estimates identified on attached Schedule A.

Section 3. Establishment of Fund. The Grantor and the Trustee hereby establish a trust fund (the "Fund") for the purpose of assuring compliance with the plugging and abandonment requirements established by EPA for the facilities identified on Schedule A. The Underground Injection Control regulations which govern the authorization to inject include a requirement for such financial assurance that the well or wells shall be plugged and abandoned at the time designated by EPA. The Grantor and the Trustee acknowledge that the Fund and all expenditures from the Fund shall be to fulfill the legal obligations of the Grantor under such regulations, and not any obligation of EPA. The Grantor and the Trustee intend that no third party have access to the Fund except as herein provided. The Fund is established initially as consisting of the property, which is acceptable to the Trustee, described in Schedule B attached hereto. Such property and any other property subsequently transferred to the Trustee is referred

to as the Fund, together with all earnings and profits thereon, less any payments or distributions made by the Trustee pursuant to this Agreement. The Fund shall be held by the Trustee, IN TRUST, as hereinafter provided. The Trustee shall not be responsible, nor shall it undertake any responsibility, for the amount or adequacy of any additional payments necessary to discharge any liabilities of the Grantor established by EPA, nor shall the Trustee have any duty to collect such additional amounts from the Grantor.

Section 4. Payment for Plugging and Abandonment. The Trustee shall make payments from the Fund only for the costs of plugging and abandonment ("P&A") of the injection wells covered by this Agreement and the associated P&A Plan, only after EPA has advised the Trustee that work has been completed under the P&A Plan that complies with 40 C.F.R. § 144.28 and/or § 144.52. The Trustee shall not refund to the Grantor any amounts from the Fund unless and until EPA has advised the Trustee that the P&A Plan has been successfully completed. The Trustee shall not release any funds to the Grantor that are necessary to cover liability for any injection wells covered by this Agreement that remain unplugged.

Section 5. Payments Comprising the Fund. Payments made to the Trustee for the Fund shall consist of cash or securities acceptable to the Trustee.

Section 6. Trustee Management. The Trustee shall invest and reinvest the principal and income of the Fund and keep the Fund invested as a single fund, without distinction between principal and income, in accordance with general investment policies and guidelines which the Grantor may communicate in writing to the Trustee from time to time, subject, however, to the provisions of this Section. In investing, reinvesting, exchanging, selling, and managing the Fund, the Trustee shall discharge his duties with respect to the trust fund solely in the interest of the beneficiary and with the care, skill, prudence, and diligence under the circumstances then prevailing which persons of prudence, acting in a like capacity and familiar with such matters, would use in the conduct of an enterprise of a like character and with like aims; *except that:*

- (i) Securities or other obligations of the Grantor, or any other owner or operator of the facilities, or any of their affiliates as defined in the Investment Company Act of 1940, as amended, 15 U.S.C. 80a-2.(a), shall not be acquired or held, unless they are securities or other obligations of the Federal or a State government;
- (ii) The Trustee is authorized to invest the Fund in time or demand deposits of the Trustee, to the extent insured by an agency of the Federal or State government; and
- (iii) The Trustee is authorized to hold cash awaiting investment or distribution uninvested for a reasonable time and without liability for the payment of interest thereon.

Section 7. Commingling and Investment. The Trustee is expressly authorized in its discretion:

- (a) To transfer from time to time any or all of the assets of the Fund to any common, commingled, or collective trust fund created by the Trustee in which the Fund is eligible to participate, subject to all of the provisions thereof, to be commingled with the assets of other

trusts participating therein; and (b) To purchase shares in any investment company registered under the Investment Company Act of 1940, 15 U. S. C. 80a-1 *et seq.*, including one which may be created, managed, underwritten, or to which investment advice is rendered or the shares of which are sold by the Trustee. The Trustee may vote shares in its discretion.

Section 8. Express Powers of Trustee. Without in any way limiting the powers and discretions conferred upon the Trustee by the other provisions of this Agreement or by law, the Trustee is expressly authorized and empowered: (a) To sell, exchange, convey, transfer, or otherwise dispose of any property held by it, by public or private sale. No person dealing with the Trustee shall be bound to see to the application of the purchase money or to inquire into the validity or expediency of any such sale or other disposition; (b) To make, execute, acknowledge, and deliver any and all documents of transfer and conveyance and any and all other instruments that may be necessary or appropriate to carry out the powers herein granted; (c) To register any securities held in the Fund in its own name or in the name of a nominee and to hold any security in bearer form or in book entry, or to combine certificates representing such securities with certificates of the same issue held by the Trustee in other fiduciary capacities, or to deposit or arrange for the deposit of such securities in a qualified central depository even though, when so deposited, such securities may be merged and held in bulk in the name of the nominee of such depository with other securities deposited therein by another person, or to deposit or arrange for the deposit of any securities issued by the United States Government, or any agency or instrumentality thereof, with a Federal Reserve bank, but the books and records of the Trustee shall at all times show that all such securities are part of the Fund; (d) To deposit any cash in the Fund in interest-bearing accounts maintained or savings certificates issued by the Trustee, in its separate corporate capacity, or in any other banking institution affiliated with the Trustee, to the extent insured by an agency of the Federal or State government; and (e) To compromise or otherwise adjust all claims in favor of or against the Fund.

Section 9. Taxes and Expenses. All taxes of any kind that may be assessed or levied against or in respect of the Fund and all brokerage commissions incurred by the Fund shall be paid from the Fund. All other expenses incurred by the Trustee in connection with the administration of this Trust, including fees for legal services rendered to the Trustee, the compensation of the Trustee to the extent not paid directly by the Grantor, and all other proper charges and disbursements of the Trustee shall be paid from the Fund.

Section 10. Annual Valuation. The Trustee shall annually, at least 30 days prior to the anniversary date of establishment of the Fund, furnish to the Grantor and to the appropriate EPA Regional Administrator a statement confirming the value of the Trust. Any securities in the Fund shall be valued at market value as of no more than 60 days prior to the anniversary date of establishment of the Fund. The failure of the Grantor to object in writing to the Trustee within 90 days after the statement has been furnished to the Grantor and the EPA Regional Administrator shall constitute a conclusively binding assent by the Grantor, barring the Grantor from asserting any claim or liability against the Trustee with respect to matters disclosed in the statement.

Section 11. Advice of Counsel. The Trustee may from time to time consult with counsel, who may be counsel to the Grantor, with respect to any question arising as to the construction of this

Agreement of any action to be taken hereunder. The Trustee shall be fully protected, to the extent permitted by law, in acting upon the advice of counsel.

Section 12. Trustee Compensation. The Trustee shall be entitled to reasonable compensation for its services as agreed upon in writing from time to time with the Grantor.

Section 13. Successor Trustee. The Trustee may resign or the Grantor may replace the Trustee, but such resignation or replacement shall not be effective until the Grantor has appointed a successor trustee and this successor accepts the appointment. The successor trustee shall have the same powers and duties as those conferred upon the Trustee hereunder. Upon the successor trustee's acceptance of the appointment, the Trustee shall assign, transfer, and pay over to the successor trustee the funds and properties then constituting the Fund. If for any reason the Grantor cannot or does not act in the event of the resignation of the Trustee, the Trustee may apply to a court of competent jurisdiction for the appointment of a successor trustee or for instructions. The successor trustee shall specify the date on which it assumes administration of the trust in a writing sent to the Grantor, the EPA Regional Administrator, and the present Trustee by certified mail 10 days before such change becomes effective. Any expenses incurred by the Trustee as a result of any of the acts contemplated by this Section shall be paid as provided in Section 9.

Section 14. Instructions to the Trustee. All orders, requests, and instructions by the Grantor to the Trustee shall be in writing, signed by such persons as are designated in the attached Exhibit A or such other designees as the Grantor may designate by amendment to Exhibit A. The Trustee shall be fully protected in acting without inquiry in accordance with the Grantor's orders, requests, and instructions. All orders, requests, and instructions by the EPA Regional Administrator to the Trustee shall be in writing, signed by the EPA Regional Administrators of the Regions in which the facilities are located, or their designees, and the Trustee shall act and shall be fully protected in acting in accordance with such orders, requests, and instructions. The Trustee shall have the right to assume, in the absence of written notice to the contrary, that no event constituting a change or a termination of the authority of any person to act on behalf of the Grantor or EPA hereunder has occurred. The Trustee shall have no duty to act in the absence of such orders, requests, and instructions from the Grantor and/or EPA, except as provided for herein.

Section 15. Notice of Nonpayment. The Trustee shall notify the Grantor and the appropriate EPA Regional Administrator, by certified mail within 10 days following the expiration of the 30-day period after the anniversary of the establishment of the Trust, if no payment is received from the Grantor during that period. After the pay-in period is completed, the Trustee shall not be required to send a notice of nonpayment.

Section 16. Amendment of Agreement. This Agreement may be amended by an instrument in writing executed by the Grantor, the Trustee, and the appropriate EPA Regional

Administrator, or by the Trustee and the appropriate EPA Regional Administrator if the Grantor ceases to exist.

Section 17. Irrevocability and Termination. Subject to the right of the parties to amend this Agreement as provided in Section 16, this Trust shall be irrevocable and shall continue until terminated at the written agreement of the Grantor, the Trustee, and the EPA Regional Administrator, or by the Trustee and the EPA Regional Administrator if the Grantor ceases to exist. Upon termination of the Trust, all remaining trust property, less final trust administration expenses, shall be delivered to the Grantor.

Section 18. Immunity and Indemnification. The Trustee shall not incur personal liability of any nature in connection with any act or omission, made in good faith, in the administration of this Trust, or in carrying out any directions by the Grantor or the EPA Regional Administrator issued in accordance with this Agreement. The Trustee shall be indemnified and saved harmless by the Grantor or from the Trust Fund, or both, from and against any personal liability to which the Trustee may be subjected by reason of any act or conduct in its official capacity, including all expenses reasonably incurred in its defense in the event the Grantor fails to provide such defense.

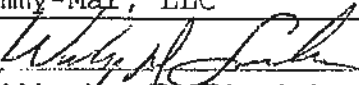
Section 19. Choice of Law. This Agreement shall be administered, construed, and enforced according to the laws of the State of PA.

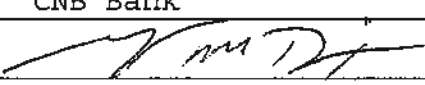
Section 20. Interpretation. As used in this Agreement, words in the singular include the plural and words in the plural include the singular. The descriptive headings for each Section of this Agreement shall not affect the interpretation or the legal efficacy of this Agreement.

IN WITNESS WHEREOF the parties have caused this Agreement to be executed by their respective representatives duly authorized and their seals to be hereunto affixed and attested as of the date first above written.

GRANTOR

TRUSTEE

Sammy-Mar, LLC

By: Wesley D. Sinclair
[Print name]
Its: Member
[Title]

CNB Bank

By: Gregory M. Dixon
[Print name]
Its: Vice President
[Title]

Attest:

[Signature]

Attest:

[Signature]

Its:

V.P.

[Title]

[SEAL]

Its:

V.P.

[Title]

[SEAL]

Before me came the individual whose identity
I confirmed as Wesley D. Sinclair,
and whose true signature is set forth above;
wherefore have I set my hand and seal this
9th day of July, 2013

Teresa R. Jones
Notary Public

COMMONWEALTH OF PENNSYLVANIA

Notarial Seal
Teresa R. Jones, Notary Public
Center Twp., Indiana County
My Commission Expires Sept. 30, 2013
Member, Pennsylvania Association of Notaries

Before me came the individual whose identity
I confirmed as Gregory M. Dixon,
and whose true signature is set forth above;
wherefore have I set my hand and seal this
9th day of July, 2013

Teresa R. Jones
Notary Public

COMMONWEALTH OF PENNSYLVANIA

Notarial Seal
Teresa R. Jones, Notary Public
Center Twp., Indiana County
My Commission Expires Sept. 30, 2013
Member, Pennsylvania Association of Notaries

Commonwealth of Pennsylvania
County of Indiana

Commonwealth of Pennsylvania
County of Indiana

SCHEDULE A

Identification of Facilities and Cost Estimates

Schedule A is referenced in the standby trust agreement dated July 9, 2013 by and between SAMMY-MAR, LLC, the "Grantor" and CNB Bank, the "Trustee"

(Name of owner or operator)

(Name of trustee)

EPA identification number

Name of facility

Address of facility

Current plugging and
abandonment cost estimate

Date of estimate

EPA identification number

Name of facility

Address of facility

Current plugging and
abandonment cost estimate

Date of estimate

Povlik Injection Well

Huston Township

Clearfield Co. PA

\$25,912

July 13, 2013

SCHEDULE B

Identification of Fund

Schedule B is referenced in the Standby Trust Agreement dated July 9, 2013

by and between SAMMY-MAR, LLC
(Name of Owner or Operator)

the "Grantor" and CNB Bank
(Name of Trustee)

the "Trustee."

The fund consists of: (Check one and provide identification number)

☒ Irrevocable Letter of Credit No. 1393

☐ Surety Performance Bond No. _____

☐ Other (Describe) _____



Mark D. Broakey
Executive Vice President
Commercial Banking

July 9, 2013

IRREVOCABLE STANDBY LETTER OF CREDIT
U.S. Environmental Protection Agency
Underground Injection Control
Financial Responsibility Requirement

Regional Administrator
Environmental Protection Agency Region III
1650 Arch Street, Philadelphia, PA 19103

Dear Sir or Madam:

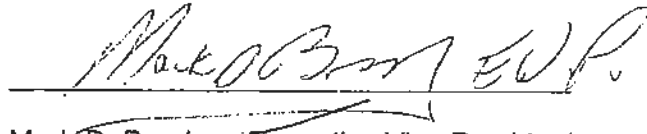
We hereby establish our Irrevocable Standby Letter of Credit No. 1393 in your favor, at the request and for the account of Sammy-Mar, LLC, 255 Airport Road, Indiana, PA 15701 up to the aggregate amount of Twenty-Six Thousand Dollars and 00/100 U.S. Dollars (\$26,000.00), available upon presentation of:

1. Your sight draft, bearing reference to this letter of Credit No. 1393, and
2. Your signed statement reading as follows: "I certify that the amount of the draft is payable pursuant to regulations issued under authority of the Safe Drinking Water Act."

This Letter of Credit is effective as of July 9, 2013 and shall expire on July 9, 2014 but such expiration date shall be automatically extended for a period of one year on July 9, 2014 and each successive expiration date, at least 120 days before the current expiration date, CNB Bank notifies both you and Sammy-Mar, LLC by certified mail that we have decided not to extend this letter of credit beyond the current expiration date. In the event you are so notified, any unused portion of the credit shall be available upon presentation of your sight draft for 120 days after the date of receipt by both you and Sammy-Mar, LLC, as shown on the signed return receipts.

Whenever this Letter of Credit is drawn on under on in compliance with the terms of this credit, CNB Bank shall duly honor such draft upon presentation to us, and we shall deposit the

amount of the draft directly into the Standby Trust Fund of Sammy-Mar, LLC in accordance with your instructions.

A handwritten signature in black ink, appearing to read "Mark D. Breakey", is written over a horizontal line.

Mark D. Breakey, Executive Vice President

July 9, 2013

Date

This Credit is subject to:

The most recent edition of the Uniform Customs and Practice for Documentary Credits, published by the International Chamber of Commerce

ATTACHMENT "U"
DESCRIPTION OF BUSINESS

Attachment U
Business Description
SAMMY-MAR LLC Povlik Injection Well

Business Description for Povlik Injection Well

SAMMY-MAR's business is the treatment and disposal of oil and gas well produced fluids by injecting the fluid into an underground formation via an injection well constructed by the company for this purpose.

3/6/2013