



west virginia department of environmental protection

Office of Oil and Gas
601 57th Street SE
Charleston, WV 25304
(304) 926-0450
(304) 926-0452 fax

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

March 03, 2015

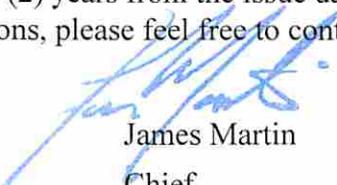
WELL WORK PERMIT
Vertical Well

This permit, API Well Number: 47-3503018, issued to PENNECO OIL COMPANY, INC., is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to all conditions and provisions outlined in the pages attached hereto. Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas inspector.

Please be advised that form WR-35, Well Operators Report of Well Work is to be submitted to this office within 90 days completion of permitted well work, as should form WR-34 Discharge Monitoring Report within 30 days of discharge of pits, if applicable. Failure to abide by all statutory and regulatory provisions governing all duties and operations hereunder may result in suspension or revocation of this permit and, in addition, may result in civil and/or criminal penalties being imposed upon the operators.

In addition to the applicable requirements of this permit, and the statutes and rules governing oil and gas activity in WV, this permit may contain specific conditions which must be followed. Permit conditions are attached to this cover letter.

Per 35CSR-4-5.2.g this permit will expire in two (2) years from the issue date unless permitted well work is commenced. If there are any questions, please feel free to contact me at (304) 926-0499 ext. 1654.



James Martin
Chief

Operator's Well No: KING #1
Farm Name: KING, NANCY J.
API Well Number: 47-3503018
Permit Type: Vertical Well
Date Issued: 03/03/2015

Promoting a healthy environment.

PERMIT CONDITIONS

West Virginia Code §22-6-11 allows the Office of Oil and Gas to place specific conditions upon this permit. Permit conditions have the same effect as law. Failure to adhere to the specified permit conditions may result in enforcement action.

CONDITIONS

1. If the operator encounters an unanticipated void, or an anticipated void at an unanticipated depth, the operator shall notify the inspector within 24 hours. Modifications to the casing program may be necessary to comply with W. Va. Code §22-6-20, which requires drilling to a minimum depth of thirty feet below the bottom of the void, and installing a minimum of twenty (20) feet of casing. Under no circumstance should the operator drill more than fifty (50) feet below the bottom of the void or install less than twenty (20) feet of casing below the bottom of the void.
2. Pursuant to 35 CSR 4-19.1.a, at the request of the surface owner all water wells or springs within 1000 feet of the proposed well that are actually utilized for human consumption, domestic animals or other general use shall be sampled and analyzed.
3. Pursuant to 35 CSR 4-19.1.c, if the operator is unable to sample and analyze any water well or spring with one thousand (1,000) feet of the permitted well location, the Office of Oil and Gas requires the operator to sample, at a minimum, one water well or spring located between one thousand (1,000) feet and two thousand (2,000) feet of the permitted well location.
4. All pits must be lined with a minimum of 20 mil thickness synthetic liner.
5. In the event of an accident or explosion causing loss of life or serious personal injury in or about the well or while working on the well, the well operator or its contractor shall give notice, stating the particulars of the accident or explosion, to the oil and gas inspector and the Chief within twenty-four (24) hours.
6. During the surface casing and cementing process, in the event cement does not return to the surface, or any other casing string that is permitted to circulate cement to the surface and does not return to the surface, the oil and gas inspector shall be notified within twenty-four (24) hours.
7. Well work activities shall not constitute a hazard to the safety of persons.
8. Operator shall provide the Office of Oil & Gas notification of the date that drilling commenced on this well. Such notice shall be provided by sending an email to DEPOOGNotify@wv.gov within 30 days of commencement of drilling.



west virginia department of environmental protection

Oil and Gas Conservation Commission
601 57th Street, SE Charleston, WV 25304
(304)926-0499, Ext 1656

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
dep.wv.gov

July 10, 2014

Department of Environmental Protection
Office of Oil and Gas
Charleston, WV 25304

RE: Application for Deep Well Permit – API #47-035-03018

COMPANY: Penneco Oil Company

FARM: King #1

COUNTY Jackson DISTRICT: Grant QUAD: Pond Fork

The application for the above company is **approved to drill to Juanita formation.**

The applicant has complied with the provision of Chapter 22C-9, of the Code of West Virginia, nineteen hundred and thirty-one (1931), as amended, Oil and Gas Conservation Commission as follows:

1. Provided a certified copy of duly acknowledged and recorded consent and easement form from all surface owners; na
2. Provided a tabulation of all deep wells within one mile of the proposed location, including the API number of all deep wells, well name, and the name and address of the operator; none
3. Provided a plat showing that the proposed location is a distance of 400+ feet from the nearest lease line or **unit boundary** and showing the following wells drilled to or capable of producing from the objective formation within 3,000 feet of the proposed location.

Sincerely,

Cindy Raines
Executive Assistant

CK# 179 11
800⁰⁰
3503018

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
WELL WORK PERMIT APPLICATION

35 1 553

1) Well Operator: Penneco Oil Company

494460033	Jackson	Grant	Pond Creek 7.5'
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Operator ID County District Quadrangle

2) Operator's Well Number: King #1 3) Elevation: 710'

4) Well Type: (a) Oil _____ or Gas X _____
(b) If Gas: Production X / Underground Storage _____
Deep X / Shallow _____

5) Proposed Target Formation(s): Juniata Proposed Target Depth: 6,136'

6) Proposed Total Depth: 6,200 Feet Formation at Proposed Total Depth: Juniata

7) Approximate fresh water strata depths: 45'

8) Approximate salt water depths: 1,230'

9) Approximate coal seam depths: None

10) Approximate void depths,(coal, Karst, other): None listed on offset data

11) Does land contain coal seams tributary to active mine? No

12) Describe proposed well work and fracturing methods in detail (attach additional sheets if needed)

Drill and fracture stimulate new deep, conventional gas well.

13) **CASING AND TUBING PROGRAM**

TYPE	SPECIFICATIONS			FOOTAGE INTERVALS		CEMENT
	Size	Grade	Weight per ft	For Drilling	Left in Well	Fill -up (Cu. Ft.)
Conductor	20"	MC-50	81.3 #	70'	70'	CTS
Fresh Water	13 3/8"	H-40	48.0 #	300'	300'	CTS
Coal	9 5/8"	H-40	32.3 #	1610'	1610'	CTS
Intermediate	7"	J-55	23 #	2040'	2040'	CTS
Production	4 1/2"	MAV65	10.5 #	6200'	6136'	269 sacks 459 cu. ft.
Tubing						
Liners						

Janice Starnes

Received

Packers: Kind: _____ **MAR 31 2014**
 Sizes: _____
 Depths Set _____

WW-2A
(Rev. 6-07)

1.) Date: _____
2.) Operator's Well Number _____ King #1
State _____ County _____ Permit _____
3.) API Well No.: 47- _____ - _____

**STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE AND APPLICATION FOR A WELL WORK PERMIT**

4) Surface Owner(s) to be served:
(a) Name Nancy J. King ✓
Address 200 Pointe West Byway
Parkersburg, WV 26101
(b) Name _____
Address _____
(c) Name _____
Address _____
6) Inspector Jamie Stevens
Address 105 Kentuck Road
Kenna, WV 25248
Telephone 304-206-7775
5) (a) Coal Operator
Name _____
Address _____
(b) Coal Owner(s) with Declaration
Name Nancy J. King ✓
Address 200 Pointe West Byway
Parkersburg, WV 26101
(c) Coal Lessee with Declaration
Name _____
Address _____

TO THE PERSONS NAMED ABOVE TAKE NOTICE THAT:

Included is the lease or leases or other continuing contract or contracts by which I hold the right to extract oil and gas

OR
 Included is the information required by Chapter 22, Article 6, Section 8(d) of the Code of West Virginia (see page 2)

I certify that as required under Chapter 22-6 of the West Virginia Code I have served copies of this notice and application, a location plat, and accompanying documents pages 1 through ___ on the above named parties by:

- _____ Personal Service (Affidavit attached)
- Certified Mail (Postmarked postal receipt attached)
- _____ Publication (Notice of Publication attached)

I have read and understand Chapter 22-6 and 35 CSR 4, and I agree to the terms and conditions of any permit issued under this application.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form 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.

Well Operator Penneco Oil Company
By: Stephen K. Schuman *SK Schuman*
Its: Designated Agent
Address 6608 Route 22
Delmont, PA 15626
Telephone 724-468-8232



Subscribed and sworn before me this 18th day of March, 2014

Lois A. Brown Notary Public
My Commission Expires August 22, 2017
Oil and Gas Privacy Notice

Received

MAR 31 2014

WW-2A Surface Waiver

SURFACE OWNER WAIVER

County Jackson

Operator
Operator well number

Penneco Oil Company
King #1

INSTRUCTIONS TO SURFACE OWNERS NAMED ON PAGE WW2-A

The well operator named on page WW2A is applying for a permit from the State to do oil or gas well work. (Note: If the surface tract is owned by more than three persons, then these materials were served on you because your name appeared on the Sheriff's tax ticket on the land or because you actually occupy the surface tract. In either case, you may be the only owner who will actually receive these materials.) See Chapter 22 of the West Virginia Code. Well work permits are valid for 24 months. If you do not own any interest in the surface tract, please forward these materials to the true owner immediately if you know who it is. Also, please notify the well operator and the Office of Oil and Gas.

NOTE: YOU ARE NOT REQUIRED TO FILE ANY COMMENT.

WHERE TO FILE COMMENTS AND OBTAIN ADDITIONAL INFORMATION:

Chief, Office of Oil and Gas
Department of Environmental Protection
601 57th St. SE
Charleston, WV 25304
(304) 926-0450

Time Limits and methods for filing comments. The law requires these materials to be served on or before the date the operator files his Application. You have **FIFTEEN (15) DAYS** after the filing date to file your comments. Comments must be filed in person or received in the mail by the Chief's office by the time stated above. You may call the Chief's office to be sure of the date. Check with your postmaster to ensure a adequate delivery time or to arrange special expedited handling. If you have been contacted by the well operator and you have signed a "voluntary statement of no objection" to the planned work described in these materials, then the permit may be issued at any time.

Comments must be in writing. Your comments must include your name, address and telephone number, the well operator's name and well number and the approximate location of the proposed well site including district and county from the application. You may add other documents, such as sketches, maps or photographs to support your comments.

The Chief has the power to deny or condition a well work permit based on comments on the following grounds:

- 1) The proposed well work will constitute a hazard to the safety of persons.
- 2) The soil erosion and sediment control plan is not adequate or effective;
- 3) Damage would occur to publicly owned lands or resources;
- 4) The proposed well work fails to protect fresh water sources or supplies;
- 5) The applicant has committed a substantial violation of a previous permit or a substantial violation of one or more of the rules promulgated under Chapter 22, and has failed to abate or seek review of the violation..."

If you want a copy of the permit as it is issued or a copy of the order denying the permit, you should request a copy from the Chief.

List of Water Testing Laboratories. The Office maintains a list of water testing laboratories which you can hire to test your water to establish water quality prior to and after drilling. Contact the Chief to obtain a copy.

VOLUNTARY STATEMENT OF NO OBJECTION

I hereby state that I have read the instructions to surface owners and that I have received copies of a Notice and Application for a Well Work Permit on Form WW2-A, and attachments consisting of pages 1 through ___ including a work order on Form WW2-B, a survey plat, and a soil and erosion plan, all for proposed well work on my surface land as described therein.

I further state that I have no objection to the planned work described in these materials, and I have no objection to a permit being issued on those materials.

FOR EXECUTION BY A NATURAL PERSON

FOR EXECUTION BY A CORPORATION, ETC.

Nancy King
Signature

Date 3/5/2014

Company Name _____
By _____
Its _____
Date _____

Print Name NANCY KING

Received

Signature _____ Date MAR 31 2014

3503018

WW-2A Coal Waiver

COAL OPERATOR, OWNER, OR LESSEE WAIVER

County Jackson
Operator Penneco Oil Company Operator's Well Number King #1

INSTRUCTIONS TO COAL OPERATOR, OWNER, OR LESSEE

To the coal operator, owner, or lessee named on page WW2-A. You are hereby notified that any objection you wish to make or are required to make by WV Code 22-6-15, 16 or 17, must be filed with the Chief of the Office of Oil and Gas within fifteen (15) days after the receipt of this application by the Office. Mail objections to:

Chief, Office of Oil and Gas
Department of Environmental Protection
601 57th St. SE
Charleston, WV 25304
(304) 926-0499 extension 1654

WAIVER

The undersigned coal operator ____/ owner ____/ lessee ____/ of the coal under this well location has examined this proposed well location. If a mine map exists which covers the area of well location, the well location has been added to the mine map. The undersigned has no objection to the work proposed to be done at this location, provided, the well operator has complied with all applicable requirements of the West Virginia Code and the governing regulations.

FOR EXECUTION BY A NATURAL PERSON

FOR EXECUTION BY A CORPORATION, ETC.

Nancy King Date 3/5/2014
Signature

Company Name _____
By _____
Its _____
Signature _____ Date _____

Received

MAR 31 2014

Office of Oil and Gas
WV Dept. of Environmental Protection

**INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE
Chapter 22, Article 6, Section 8(d)
IN LIEU OF FILING LEASE(S) AND OTHER CONTINUING CONTRACT(S)**

Under the oath required to make the verification on page 1 of this Notice and Application, I depose and say that I am the person who signed the Notice and Application for the Applicant, and that –

- (1) the tract of land is the same tract described in this Application, partly or wholly depicted in the accompanying plat, and described in the Construction and Reclamation Plan;
- (2) the parties and recordation data (if recorded) for lease(s) or other continuing contract(s) by which the Applicant claims the right to extract, produce or market the oil or gas are as follows:

Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
Nancy King	Penneco Oil Company	1/8	268/98

**Acknowledgement of Possible Permitting/Approval
In Addition to the Office of Oil and Gas**

The permit applicant for the proposed well work addressed in this application hereby acknowledges the possibility of the need for permits and/or approvals from local, state, or federal entities in addition to the DEP, Office of Oil and Gas, including but not limited to the following:

- WV Division of Water and Waste Management
- WV Division of Natural Resources
- WV Division of Highways
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- County Floodplain Coordinator

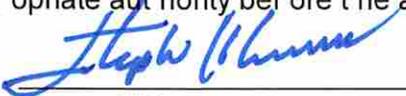
Received

MAR 31 2014

Office of Oil and Gas
WV Dept. of Environmental Protection

The applicant further acknowledges that any Office of Oil and Gas permit in no way overrides, replaces, or nullifies the need for other permits/approvals that may be necessary and further affirms that all needed permits/approvals should be acquired from the appropriate authority before the affected activity is initiated.

Well Operator:
By: Its:



 Penneco Oil Company

 Stephen K. Schuman, Designated Agent

WW-2B1
(5-12)

Well No. King #1

West Virginia Department of Environmental Protection
Office of Oil and Gas

NOTICE TO SURFACE OWNERS

The well operator named below is preparing to file for a permit from the state to drill a new well. Before a well work permit can be filed with the Chief of the Office of Oil and Gas, the well operator is required to have given notice of the right to request water well or spring analytical testing. This notice shall be given to the owners or occupants of land which have a water well or spring being utilized for human consumption, domestic animals, or other general use and which is located within 1000 feet of the proposed well site.

With this form, the operator is giving you notice of your right to request analytical testing. The operator is required to sample and analyze the water wells or springs of all owners or occupants who request it. Therefore, if you wish to have your water well or spring tested, contact the operator named below.

All sampling shall be completed prior to drilling. Within thirty (30) days of the receipt of such sample analyses the operator shall submit the results to the Chief of the Office of Oil and Gas and to the owners or occupants who may have requested them.

Be advised, you have the right to sample and analyze any water supply at your own expense.

Listed below is the laboratory chosen by operator to perform analysis, and contactor chosen to collect sample.

Certified Laboratory Name Reliance Labs
Sampling Contractor Smith Land Surveying, Inc. - Environmental Division

Well Operator Penneco Oil Company
Address 6608 Route 22
Delmont, PA 15626
Telephone 724-468-8230

FOR OPERATOR'S USE ONLY: Below, or on an attached page, list those persons which were given this notice. Place an asterisk beside the one(s) that contacted you and requested sampling and analyses. If there were no requests made, indicate by underling which one you have selected to sample and analyze. If there are no water wells or springs within 1000 feet of the proposed site, the Chief may require the operator to test wells up to 2000 feet from the proposed site.

NOTE: There appears to be 1 +/- potable water sources within 1,000', therefore tests will be offered and samples taken as required.

* MR. WILLIAM PARSONS
831 JESSE RUN ROAD
RAVENSWOOD, WV 26164
gwm 2/20/15

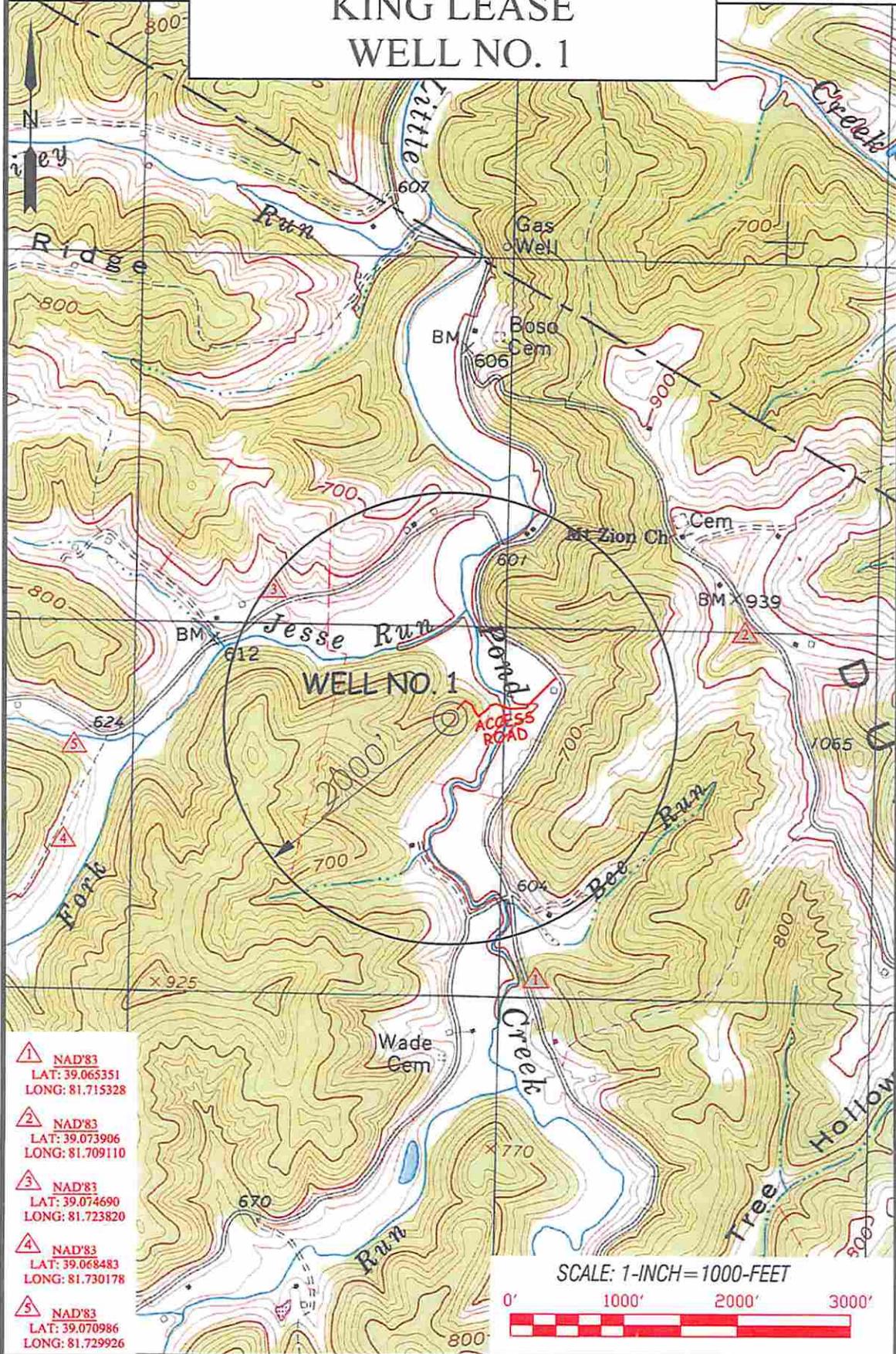
Received

MAR 31 2014

Office of Oil and Gas
WV Dept. of Environmental Protection

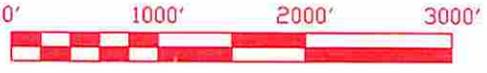
SEE ATTACHED
Jessie
Jessie
3/11/2014

KING LEASE WELL NO. 1



- ▲ NAD'83
LAT: 39.065351
LONG: 81.715328
- ▲ NAD'83
LAT: 39.073906
LONG: 81.709110
- ▲ NAD'83
LAT: 39.074690
LONG: 81.723820
- ▲ NAD'83
LAT: 39.068483
LONG: 81.730178
- ▲ NAD'83
LAT: 39.070986
LONG: 81.729926

SCALE: 1-INCH=1000-FEET



Professional Energy Consultants
A DIVISION OF SETHI (PA) SURVEYING, INC.

SLS
SURVEYORS
ENGINEERS
ENVIRONMENTAL
PROJECT MGMT.

DRAWN BY: K.D.W. FILE NO: 7658 DATE: 12/05/14 CADD FILE: 76506SR2.dwg

TOPO SECTION OF:
POND CREEK, WV 7.5' QUAD

DISTRICT	COUNTY	TAX MAP-PARCEL NO.
GRANT	JACKSON	06-20

OPERATOR:
PENNECO
6608 ROUTE 22
DELMONT, PA 15626

3503018

WELL INFORMATION AND POTENTIAL WATER WELL SAMPLE DATA SHEET

OPERATOR: PENNECO GAS COMPANY
LEASE NAME AND NUMBER: KING #1 WELL PAD

COMMENTS

The initial field and/or mapping review of the area surrounding the proposed well site revealed the below listed surface owner(s) that were potentially utilizing groundwater (potable) for Human Consumption or other purposes within 2500' of the proposed well site. (For location of each site see attached area map.)

INDIVIDUAL CONTACTED OR NOTIFIED

Site: 1 Spacing 2420' Owner/Occupant: Stephen Massey
 Address: 501 Fleming St. APT 60 Ravenswood, WV 26164 Ph: (336)-765-8050
 Field Contact Date: 11/03/2014 Located: Yes Date Located: 11/03/2014 Source: Water Well
 If No, declined by who _____ Letter/Notice Date: 1st 11/03/14 2nd 11/13/14 Certified (3rd) 10/24/14
 Comments: Tax Map 6, Parcel 21
Lat: 39.065351
Long: 81.715328

Site: 2 Spacing 2720' Owner/Occupant: Jennifer Knopp
 Address: 460 Jesse run Rd. Ravenswood, WV 26164 Ph: (304)-273-2360
 Field Contact Date: 11/03/2014 Located: Yes Date Located: 11/03/2014 Source: Water Well
 If No, declined by who _____ Letter/Notice Date: 1st 11/03/14 2nd 11/13/14 Certified (3rd) 10/24/14
 Comments: Tax Map 6, Parcel 6
Lat: 39.073906
Long: 81.709110

* Site: 3 Spacing 1950' Owner/Occupant: William Parsons
 Address: 831 Jesse run Rd. Ravenswood, WV 26164 Ph: _____
 Field Contact Date: 11/03/2014 Located: Yes Date Located: 11/03/2014 Source: Water Well
 If No, declined by who _____ Letter/Notice Date: 1st 11/03/14 2nd 11/13/14 Certified (3rd) 10/24/14
 Comments: Tax Map 6, Parcel 18
Lat: 39.074690
Long: 81.723820

* Site: 4 Spacing 3580' Owner/Occupant: William Parsons
 Address: 831 Jesse run Rd. Ravenswood, WV 26164 Ph: _____
 Field Contact Date: 11/03/2014 Located: Yes Date Located: 11/03/2014 Source: Water Well
 If No, declined by who _____ Letter/Notice Date: 1st 11/03/14 2nd 11/13/14 Certified (3rd) 10/24/14
 Comments: Tax Map 6, Parcel 18
Lat: 39.068483
Long: 81.730178

Site: 5 Spacing 3340' Owner/Occupant: William Lane
 Address: 10684 Ravenswood Rd. Ravenswood, WV 26164 Ph: (304)-273-4524
 Field Contact Date: 11/13/14 Located: Yes Date Located: 11/13/14 Source: Water Well
 If No, declined by who _____ Letter/Notice Date: 1st 11/03/14 2nd 11/13/14 Certified (3rd) 10/24/14
 Comments: Tax Map 6, Parcel 37
Lat: 39.070986
Long: 81.729926

Site: 6 Spacing _____ Owner/Occupant: Donald Rhodaback
 Address: 6375 Spring St. Ravenna, OH 44266 Ph: _____
 Field Contact Date: N/A Located: No Date Located: N/A Source: Unknown
 If No, declined by who Donald Rhodaback Letter/Notice Date: 1st 11/03/14 2nd 11/13/14 Certified (3rd) 10/24/14
 Comments: Tax Map 6, Parcel 22.1
Letter Of Refusal Signed 10/30/14

Site: 7 Spacing _____ Owner/Occupant: Nancy King
 Address: 200 point west byway Parkersburg, WV 26101 Ph: _____
 Field Contact Date: N/A Located: No Date Located: N/A Source: Unknown
 If No, declined by who Nancy King Letter/Notice Date: 1st 11/03/14 2nd 11/13/14 Certified (3rd) 10/24/14
 Comments: Tax Map 6, Parcel 20
Letter Of Refusal Signed 10/27/14

Site: 8 Spacing _____ Owner/Occupant: Richard Brown
 Address: 10682 Ravenswood Rd. Ravenswood, WV 26164 Ph: _____
 Field Contact Date: N/A Located: No Date Located: N/A Source: Unknown
 If No, declined by who Richard Brown Letter/Notice Date: 1st 11/03/14 2nd 11/13/14 Certified (3rd) 10/24/14
 Comments: Tax Map 6, Parcel 24
Letter Of Refusal Signed 10/29/14

Site: 9 Spacing _____ Owner/Occupant: Michael Hiser
 Address: 10356 Chatham Rd. Spencer, OH 44275 Ph: _____
 Field Contact Date: N/A Located: No Date Located: N/A Source: Unknown
 If No, declined by who _____ Letter/Notice Date: 1st 11/03/14 2nd 11/13/14 Certified (3rd) 10/24/14
 Comments: Tax Map 6, Parcels 23, 32, 35, And 36
No response to certified letter as of: 12/09/2014

Site: 10 Spacing _____ Owner/Occupant: Deloris Hiser
 Address: 2407 little pond creek Rd. Murraysville, WV 26164 Ph: _____
 Field Contact Date: N/A Located: No Date Located: N/A Source: Unknown
 If No, declined by who _____ Letter/Notice Date: 1st 11/03/14 2nd 11/13/14 Certified (3rd) 10/24/14
 Comments: Tax Map 6, Parcel 37.1
No response to certified letter as of: 12/09/2014

Site: 11 Spacing _____ Owner/Occupant: Cheryl Midkiff
 Address: 574 Jesse Run Rd. Ravenswood, WV 26164 Ph: _____
 Field Contact Date: N/A Located: No Date Located: N/A Source: Unknown
 If No, declined by who _____ Letter/Notice Date: 1st 11/03/14 2nd 11/13/14 Certified (3rd) 10/24/14
 Comments: Tax Map 6, Parcel 5
No response to certified letter as of: 12/09/2014

Site: 12 Spacing _____ Owner/Occupant: Thomas Mcneal
 Address: 353 hewett Rd. Wyncote, PA 19095 Ph: _____
 Field Contact Date: N/A Located: No Date Located: N/A Source: Unknown
 If No, declined by who _____ Letter/Notice Date: 1st 11/03/14 2nd 11/13/14 Certified (3rd) 10/24/14
 Comments: Tax Map 6, Parcel 7
No response to certified letter as of: 12/09/2014

Site: 13 Spacing _____ Owner/Occupant: Janet King
 Address: 1603 lawrence St. Parkersburg, WV 26101 Ph: _____
 Field Contact Date: N/A Located: No Date Located: N/A Source: Unknown
 If No, declined by who _____ Letter/Notice Date: 1st 11/03/14 2nd 11/13/14 Certified (3rd) 10/24/14
 Comments: Tax Map 6, Parcel 17
No response to certified letter as of: 12/09/2014

Site: 14 Spacing _____ Owner/Occupant: James Boso
 Address: 353 hewett Rd. Wyncote, PA 19095 Ph: _____
 Field Contact Date: N/A Located: No Date Located: N/A Source: Unknown
 If No, declined by who _____ Letter/Notice Date: 1st 11/03/14 2nd 11/13/14 Certified (3rd) 10/24/14
 Comments: Tax Map 6, Parcel 19
No response to certified letter as of: 12/09/2014

Site: 15 Spacing _____ Owner/Occupant: _____
 Address: _____ Ph: _____
 Field Contact Date: _____ Located: _____ Date Located: _____ Source: _____
 If No, declined by who _____ Letter/Notice Date: 1st _____ 2nd _____ Certified (3rd) _____
 Comments: _____

Site: 16 Spacing _____ Owner/Occupant: _____
 Address: _____ Ph: _____
 Field Contact Date: _____ Located: _____ Date Located: _____ Source: _____
 If No, declined by who _____ Letter/Notice Date: 1st _____ 2nd _____ Certified (3rd) _____
 Comments: _____

3503018

RECEIVED NOV 03 2014



To Whom It May Concern:

Smith Land Surveying, Inc. of Glenville, WV has been contracted by:

Penneco Oil Company

To do some preliminary work for a proposed oil and gas well permit application.

Due to 1994 regulations set by the State of West Virginia Division of Environmental Protection, Department of Oil and Gas, operators are required to offer water testing for water wells or other non-public water sources that fall within 1500 feet of the proposed well. The operator is testing within 2000 feet of the well, if they are requested to do so by the resident or owner. This test will only help ensure the water quality control, which in turn benefits you as the resident or landowner.

Since your residence falls within the 2000 foot radius, you are entitled to have your potable water source(s) sampled and analyzed at an independent lab. Your lab analysis results would then be mailed to your home. This is done at no expense to you.

Please notify Smith Land Surveying immediately if you are interested in having your potable water tested. Please have this letter with you at the time of contact so that the client and well number may be referenced.

Thank you for your cooperation in this matter. I look forward to hearing from you at your earliest convenience. If you have any questions, please feel free to contact me at:

Smith Land Surveying, Inc.
PO Box 150
Glenville, WV 26351
(304) 462-5634 (voice)
(304) 462-5656 (fax)
E-Mail DMcKee@slssurveys.com

Date: 10/22/14

Left/sent by: Daniel McKee

Well Number: King Lease Well # 1

Tax Map / Parcel: 6/22.1

Jackson County, WV Grant District

*If you do not have a water well or other non-public water source, please make note of it and include your name and address when you return this sheet.

If you do not feel the need to have your Water well/spring/or other non-public water source sampled, please sign on the line below and return to the above address. This will signify that a sample has been offered to the surface owner and has been declined. Please include printed name along with signature.

Signature: *Donald Larry R. Hochback* Date: 10-30-14

Donald Larry R. Hochback

3503018



To Whom It May Concern:

Smith Land Surveying, Inc. of Glenville, WV has been contracted by:

Penneco Oil Company

To do some preliminary work for a proposed oil and gas well permit application.

Due to 1994 regulations set by the State of West Virginia Division of Environmental Protection, Department of Oil and Gas, operators are required to offer water testing for water wells or other non-public water sources that fall within 1500 feet of the proposed well. The operator is testing within 2000 feet of the well, if they are requested to do so by the resident or owner. This test will only help ensure the water quality control, which in turn benefits you as the resident or landowner.

Since your residence falls within the 2000 foot radius, you are entitled to have your potable water source(s) sampled and analyzed at an independent lab. Your lab analysis results would then be mailed to your home. This is done at no expense to you.

Please notify Smith Land Surveying immediately if you are interested in having your potable water tested. Please have this letter with you at the time of contact so that the client and well number may be referenced.

Thank you for your cooperation in this matter. I look forward to hearing from you at your earliest convenience. If you have any questions, please feel free to contact me at:

Smith Land Surveying, Inc.
PO Box 150
Glenville, WV 26351
(304) 462-5634 (voice)
(304) 462-5656 (fax)
E-Mail DMcKee@slssurveys.com

Date: 10/22/14

Left/sent by: Daniel McKee

Well Number: King Lease Well # 1

Tax Map / Parcel: 6/20

Jackson County, WV Grant District

*If you do not have a water well or other non-public water source, please make note of it and include your name and address when you return this sheet.

If you do not feel the need to have your Water well/spring/or other non-public water source sampled, please sign on the line below and return to the above address. This will signify that a sample has been offered to the surface owner and has been declined. Please include printed name along with signature.

Signature: Nancy King Date: OCT 27, 2014

200 Pointe West ByWay
Parkersburg, WV 26101

RECEIVED OCT 31 2014



To Whom It May Concern:

Smith Land Surveying, Inc. of Glenville, WV has been contracted by:

Penneco Oil Company

To do some preliminary work for a proposed oil and gas well permit application.

Due to 1994 regulations set by the State of West Virginia Division of Environmental Protection, Department of Oil and Gas, operators are required to offer water testing for water wells or other non-public water sources that fall within 1500 feet of the proposed well. The operator is testing within 2000 feet of the well, if they are requested to do so by the resident or owner. This test will only help ensure the water quality control, which in turn benefits you as the resident or landowner.

Since your residence falls within the 2000 foot radius, you are entitled to have your potable water source(s) sampled and analyzed at an independent lab. Your lab analysis results would then be mailed to your home. This is done at no expense to you.

Please notify Smith Land Surveying immediately if you are interested in having your potable water tested. Please have this letter with you at the time of contact so that the client and well number may be referenced.

Thank you for your cooperation in this matter. I look forward to hearing from you at your earliest convenience. If you have any questions, please feel free to contact me at:

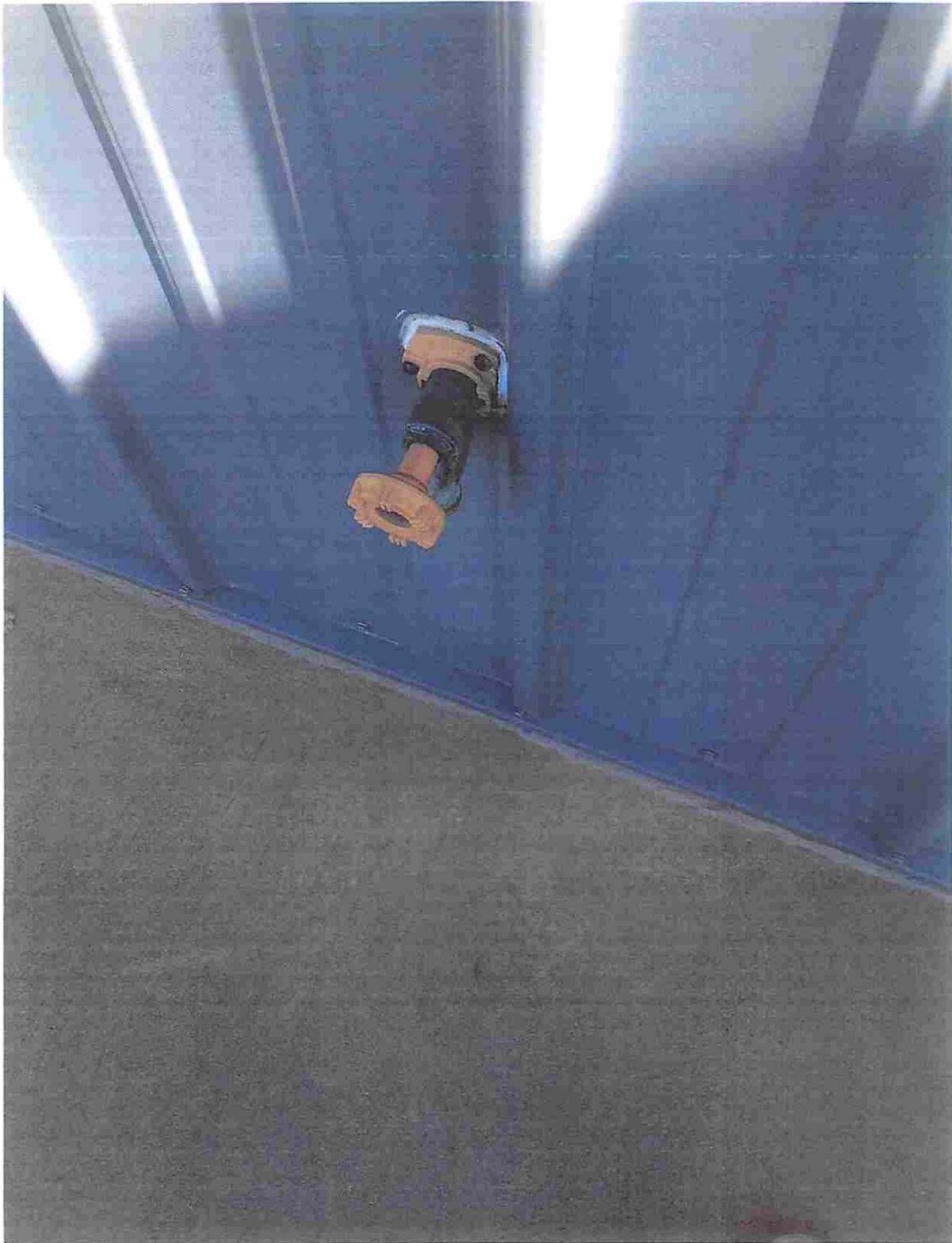
Smith Land Surveying, Inc. Date: 10/22/14
 PO Box 150
 Glenville, WV 26351 Left/sent by: Daniel McKee
 (304) 462-5634 (voice) Well Number: King Lease Well # 1
 (304) 462-5656 (fax) Tax Map / Parcel: 6/24
 E-Mail DMcKee@slssurveys.com **Jackson County, WV Grant District**

*If you do not have a water well or other non-public water source, please make note of it and include your name and address when you return this sheet.

NO WATER WELL ON LAND

If you do not feel the need to have your Water well/spring/or other non-public water source sampled, please sign on the line below and return to the above address. This will signify that a sample has been offered to the surface owner and has been declined. Please include printed name along with signature.

Richard Braun *Janice K. Brown*
 Signature: RICHARD BRAUN JANICE K. BROWN Date: 10-29-14



SITE -1



Reliance Laboratories, Inc.
2044 Meadowbrook Road | P.O. Box 4657
Bridgeport, WV 26330
Phone: 304.842.5285 | Fax: 304.842.5351

Martinsburg Laboratory
Ridgefield Business Center | 25 Crimson Circle
Martinsburg, WV 25403
Phone: 304.596.2084 | Fax: 304.596.2086

Certifications: WV Department of Health # 00354, 00443 | WV Department of Environmental Protection # 158, 181
MD Department of Environment # 336, 337 | US Environmental Protection Agency # WV00042, WV00901

SMITH LAND SURVEYING, INC.
P.O. BOX 150

Monday, November 17, 2014
Page 2 of 9

GLENVILLE, WV 26351-

Lab Number: 221535-2014-DW Sample ID: (7658) MASSEY (1)

Table with 8 columns: Parameter, Value, Units, Method, Date/Time Analyzed, Analyst, MRL, MCL. Rows include parameters like E. Coli, pH, Total Aluminum, Total Arsenic, etc.

Remarks:

Date Sample Collected: 11/2/2014 12:45
Sample Submitted By: D. MCKEE
Date Sample Received: 11/4/2014 8:42
Sample temp. upon receipt: 1.2 Deg C

ND = Not Detected at the MDL or MRL
MRL - Minimum Reporting Limit
MCL - Maximum Contaminant Level, USEPA Regulated
[MCL] = Maximum Contaminant Level, Non-Regulated

*Method Code: STANDARD METHODS 19TH ED; US EPA METHODS FOR THE CHEMICAL ANALYSIS OF WATER AND WASTES, Rev. 83; US EPA METHODS FOR THE DETERMINATION OF METALS IN ENVIRONMENTAL SAMPLES, May 1994; TEST METHODS FOR EVALUATING SOLID WASTE, SW-846, 3rd ED; USEPA Manual for Certification of Laboratories Analyzing Drinking Water, 5th ED. In accordance with EPA Regulations, all reports, including raw data and quality control data, are maintained by the laboratory for a minimum of 5 years.

NOTE: This sample meets standards set for Total Coliform and E. Coli by the State of West Virginia, 64-3-10, Code of State Regulations, adopted July 1, 2002 by the Bureau For Public Health. Sample analyzed by Certified Laboratory #00354CM and #00443M

NOTE: ND or Not Detected indicates that the analytical value obtained is below the minimum reportable limit (MRL) which is equivalent to the lowest standard utilized in preparation of the method calibration curve.

NOTE: #Holding time exceeded for this analysis.

3503018



Reliance Laboratories, Inc.
2044 Meadowbrook Road | P.O. Box 4657
Bridgeport, WV 26330
Phone: 304.842.5285 | Fax: 304.842.5351

Martinsburg Laboratory
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SMITH LAND SURVEYING, INC.
P.O. BOX 150

Monday, November 17, 2014
Page 3 of 9

GLENVILLE, WV 26351-

Lab Number: 221535-2014-DW Sample ID: (7658) MASSEY (1)

Parameter	Value	Units	Method	Date/Time Analyzed	Analyst	MRL	MCL
Analyte Group: Total Petroleum Hydrocarbons							
TPH - DRO	ND	mg/l	SW8015B/3535A	11/7/2014	16:09 MC	1	
TPH - ORO	ND	mg/l	SW8015B/3535A	11/7/2014	16:09 MC	1	
o-Terphenyl (Surrogate)	141	%	SW8015B	11/7/2014	16:09 MC		
Benzene	ND	mg/l	SW8021B/5030B	11/7/2014	13:59 MC	0.0025	0.005
Ethylbenzene	ND	mg/l	SW8021B/5030B	11/7/2014	13:59 MC	0.005	0.70
Toluene	ND	mg/l	SW8021B/5030B	11/7/2014	13:59 MC	0.005	1.0
TPH - GRO	ND	mg/l	SW8015B/5030B	11/7/2014	13:59 MC	0.2	
Xylenes	ND	mg/l	SW8021B/5030B	11/7/2014	13:59 MC	0.005	10
z4-Bromochlorobenzene (Surrogate)	103	%	SW8021B	11/7/2014	13:59 MC		

Remarks:

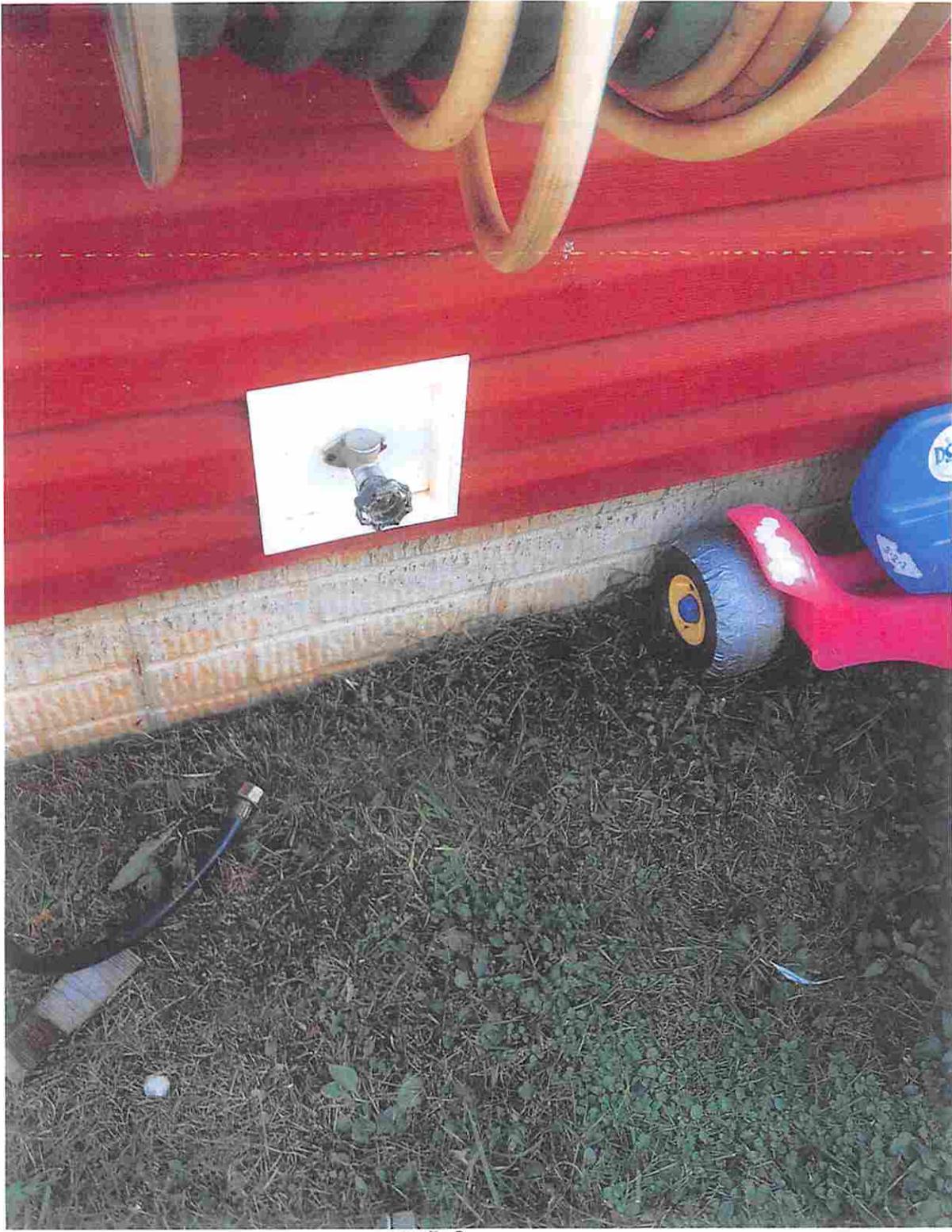
Date Sample Collected: 11/07/2014 12:45
Sample Submitted By: D MCKEE
Date Sample Received: 11/07/2014 8:42
Sample temp. upon receipt: 12 Deg C
MDL - Minimum Detectable Limit
MCL - Maximum Contaminant Level, USEPA Regulated

ND = Not Detected at the MDL or MRL
MRL - Minimum Reporting Limit
[MCL] = Maximum Contaminant Level, Non-Regulated

*Method Code: STANDARD METHODS 19TH ED; US EPA METHODS FOR THE CHEMICAL ANALYSIS OF WATER AND WASTES, Rev. 83; US EPA METHODS FOR THE DETERMINATION OF METALS IN ENVIRONMENTAL SAMPLES, May 1994; TEST METHODS FOR EVALUATING SOLID WASTE, SW-846, 3rd ED; USEPA Manual for Certification of Laboratories Analyzing Drinking Water, 5th ED. In accordance with EPA Regulations, all reports, including raw data and quality control data, are maintained by the laboratory for a minimum of 5 years.
NOTE: This sample meets standards set for Total Coliform and E. Coli by the State of West Virginia, 64-3-10, Code of State Regulations, adopted July 1, 2002 by the Bureau For Public Health. Sample analyzed by Certified Laboratory #00354CM and #00443M.
NOTE: ND or Not Detected indicates that the analytical value obtained is below the minimum reportable limit (MRL) which is equivalent to the lowest standard utilized in preparation of the method calibration curve.
NOTE: #Holding time exceeded for this analysis.

REL 011

3503018



SITE-2

3503018



Reliance Laboratories, Inc.
2044 Meadowbrook Road | P.O. Box 4657
Bridgeport, WV 26330
Phone: 304.842.5285 | Fax: 304.842.5351

Martinsburg Laboratory
Ridgefield Business Center | 25 Crimson Circle
Martinsburg, WV 25403
Phone: 304.596.2084 | Fax: 304.596.2086

Certifications: WV Department of Health # 00354, 00443 | WV Department of Environmental Protection # 158, 181
MD Department of Environment # 336, 337 | US Environmental Protection Agency # WV00042, WV00901

SMITH LAND SURVEYING, INC.
P.O. BOX 150

Monday, November 17, 2014

Page 4 of 9

GLENVILLE, WV 26351-

Lab Number: 221536-2014-DW Sample ID: (7658) KNOPP (2)

Parameter	Value	Units	Method	Date/Time Analyzed	Analyst	MRL	MCL
Analyte Group: <u>Inorganics</u>							
E. Coli (Chromogenic)	ABSENT		SM9223B-97	11/4/2014	15:37 CP		
Total Coliform (Chromogenic)	ABSENT		SM9223B-97	11/4/2014	15:37 CP		
pH	# 7.88	S.U.	SM4500H+B-00	11/4/2014	15:15 KV		
Total Aluminum	ND	mg/l	EPA 200.8 R5.4	11/12/2014	14:11 TH	0.01	[0.05]
Total Arsenic	ND	mg/l	EPA 200.8 R5.4	11/12/2014	14:11 TH	0.005	0.01
Total Barium	0.212	mg/l	EPA 200.8 R5.4	11/12/2014	14:11 TH	0.01	2
Total Calcium	25.7	mg/l	EPA 200.8 R5.4	11/12/2014	14:11 TH	0.01	
Total Chloride	4.34	mg/l	EPA 300.0 R2.1	11/5/2014	1:31 KD	0.15	[250]
Total Dissolved Solids	404	mg/l	SM2540C-97	11/5/2014	10:35 CP	10	[500]
Total Iron	0.16	mg/l	EPA 200.8 R5.4	11/12/2014	14:11 TH	0.1	[0.3]
Total Manganese	ND	mg/l	EPA 200.8 R5.4	11/12/2014	14:11 TH	0.01	[0.05]
Total Sodium	137	mg/l	EPA 200.8 R5.4	11/12/2014	14:11 TH	0.01	[20]
Total Sulfate	24.0	mg/l	EPA 300.0 R2.1	11/5/2014	1:31 KD	0.5	[250]
Total Surfactant	ND	mg/l	SM5540C-00	11/4/2014	13:30 CT	0.2	[0.5]

Remarks:

Date Sample Collected: 11/09/2014 13:30
Sample Submitted By: D. MCKEE
Date Sample Received: 11/14/2014 8:42

Sample temp. upon receipt: 12 Deg C

ND = Not Detected at the MDL or MRL

MDL - Minimum Detectable Limit

MRL - Minimum Reporting Limit

MCL - Maximum Contaminant Level, USEPA Regulated

[MCL] = Maximum Contaminant Level, Non-Regulated

*Method Code: STANDARD METHODS 19TH ED; US EPA METHODS FOR THE CHEMICAL ANALYSIS OF WATER AND WASTES, Rev. 03; US EPA METHODS FOR THE DETERMINATION OF METALS IN ENVIRONMENTAL SAMPLES, May 1994; TEST METHODS FOR EVALUATING SOLID WASTE, SW-846, 3rd ED; USEPA Manual for Certification of Laboratories Analyzing Drinking Water, 5th ED. In accordance with EPA Regulations, all reports, including raw data and quality control data, are maintained by the laboratory for a minimum of 5 years.

NOTE: This sample meets standards set for Total Coliform and E. Coli by the State of West Virginia, 64-3-10, Code of State Regulations,

adopted July 1, 2002 by the Bureau For Public Health. Sample analyzed by Certified Laboratory #00354CM and #00443M

NOTE: ND or Not Detected indicates that the analytical value obtained is below the minimum reportable limit (MRL) which is equivalent to the lowest standard utilized in preparation of the method calibration curve.

NOTE: #Holding time exceeded for this analysis

RL1403

3503018



Reliance Laboratories, Inc.
2044 Meadowbrook Road | P.O. Box 4657
Bridgeport, WV 26330
Phone: 304.842.5285 | Fax: 304.842.5351

Martinsburg Laboratory
Ridgefield Business Center | 25 Crimson Circle
Martinsburg, WV 25403
Phone: 304.596.2084 | Fax: 304.596.2086

Certifications: WV Department of Health # 00354, 00443 | WV Department of Environmental Protection # 158, 181
MD Department of Environment # 336, 337 | US Environmental Protection Agency # WV00042, WV00901

SMITH LAND SURVEYING, INC.
P.O. BOX 150

Monday, November 17, 2014
Page 5 of 9

GLENVILLE, WV 26351

Lab Number: 221536-2014-DW Sample ID: (7658) KNOPP (2)

Table with 8 columns: Parameter, Value, Units, Method, Date/Time Analyzed, Analyst, MRL, MCL. Rows include TPH - DRO, TPH - GRO, o-Terphenyl (Surrogate), Benzene, Ethylbenzene, Toluene, TPH - GRO, Xylenes, and z4-Bromochlorobenzene (Surrogate).

Remarks:

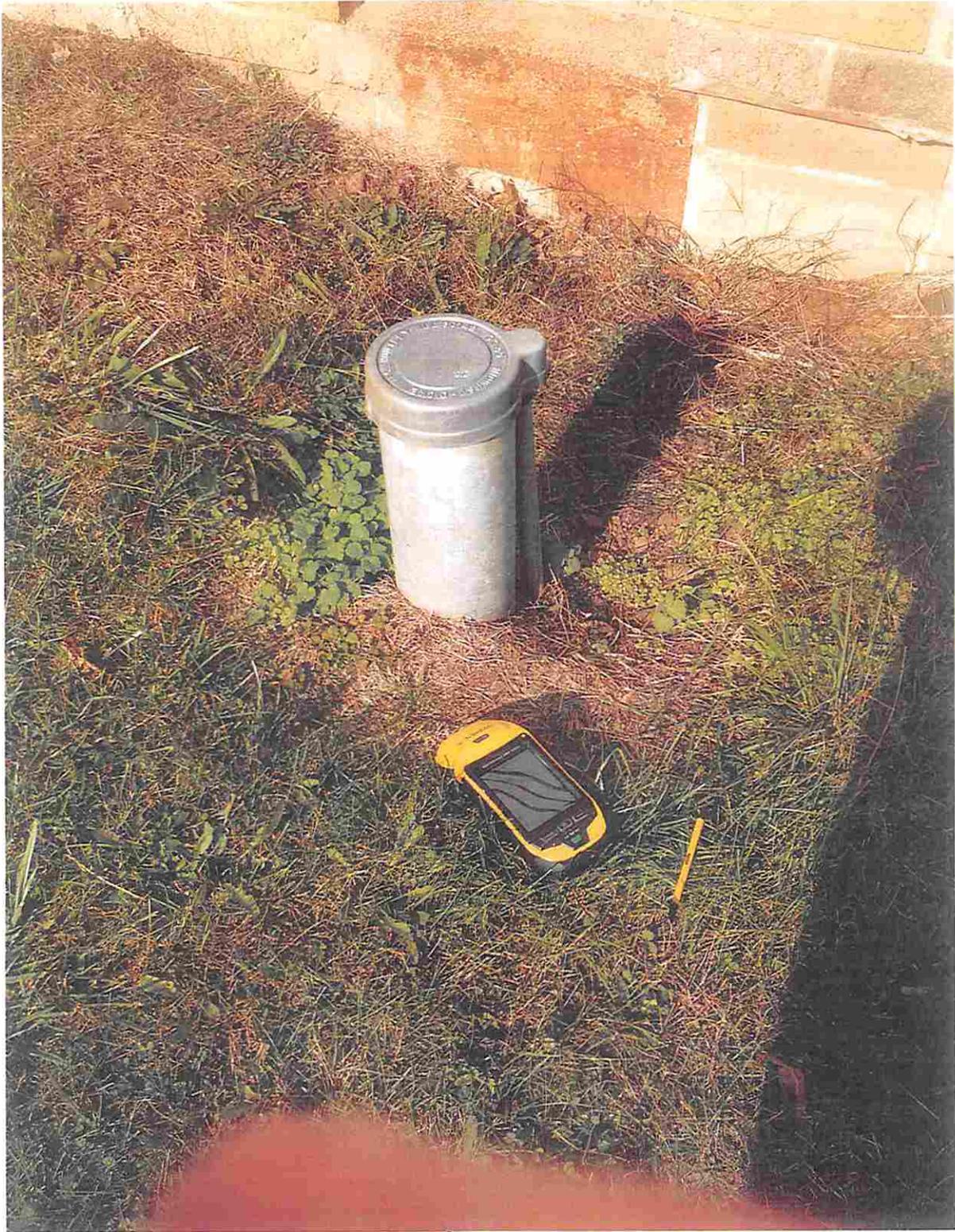
Date Sample Collected: 11/3/2014 13:30
Sample Submitted By: D. MCKEE
Date Sample Received: 11/4/2014 8:42
Sample temp. upon receipt: 1.2 Deg. C

ND = Not Detected at the MDL or MRL
MRL = Minimum Reporting Limit
[MCL] = Maximum Contaminant Level, Non-Regulated

*Method Code: STANDARD METHODS 19TH ED; US EPA METHODS FOR THE CHEMICAL ANALYSIS OF WATER AND WASTES, Rev. 83; US EPA METHODS FOR THE DETERMINATION OF METALS IN ENVIRONMENTAL SAMPLES, May 1994; TEST METHODS FOR EVALUATING SOLID WASTE, SW-846, 3rd ED; USEPA Manual for Certification of Laboratories Analyzing Drinking Water, 5th ED. In accordance with EPA Regulations, all reports, including raw data and quality control data, are maintained by the laboratory for a minimum of 5 years.

NOTE: This sample meets standards set for Total Coliform and E. Coli by the State of West Virginia, 64-3-10, Code of State Regulations, adopted July 1, 2002 by the Bureau For Public Health. Sample analyzed by Certified Laboratory #00354CM and #00443M.
NOTE: ND or Not Detected indicates that the analytical value obtained is below the minimum reportable limit (MRL) which is equivalent to the lowest standard utilized in preparation of the method calibration curve.
NOTE: #Holding time exceeded for this analysis.

3503014



SITE-3



Reliance Laboratories, Inc.
2044 Meadowbrook Road | P.O. Box 4657
Bridgeport, WV 26330
Phone: 304.842.5285 | Fax: 304.842.5351

Martinsburg Laboratory
Ridgefield Business Center | 25 Crimson Circle
Martinsburg, WV 25403
Phone: 304.596.2084 | Fax: 304.596.2066

Certifications: WV Department of Health # 00354, 00443 | WV Department of Environmental Protection # 158, 181
MD Department of Environment # 336, 337 | US Environmental Protection Agency # WV00042, WV00501

SMITH LAND SURVEYING, INC.
P.O. BOX 150

Monday, November 17, 2014

Page 6 of 9

GLENVILLE, WV 26351-

Lab Number: 221537-2014-DW Sample ID: (7658) PARSONS WELL-1 (3)

Parameter	Value	Units	Method	Date/Time Analyzed	Analyst	MRL	MCL
Analyte Group: <u>Inorganics</u>							
E. Coli (Chromogenic)	ABSENT		SM9223B-97	11/4/2014	15:37 CP		
Total Coliform (Chromogenic)	ABSENT		SM9223B-97	11/4/2014	15:37 CP		
pH	# 7.68	S.U.	SM4500H+B-00	11/4/2014	15:17 KV		
Total Aluminum	ND	mg/l	EPA 200.8 R5.4	11/12/2014	14:17 TH	0.01	[0.05]
Total Arsenic	ND	mg/l	EPA 200.8 R5.4	11/12/2014	14:17 TH	0.005	0.01
Total Barium	0.445	mg/l	EPA 200.8 R5.4	11/12/2014	14:17 TH	0.01	2
Total Calcium	44.3	mg/l	EPA 200.8 R5.4	11/12/2014	14:17 TH	0.01	
Total Chloride	5.45	mg/l	EPA 300.0 R2.1	11/5/2014	2:02 KD	0.15	[250]
Total Dissolved Solids	544	mg/l	SM2540C-97	11/5/2014	10:35 CP	10	[500]
Total Iron	0.30	mg/l	EPA 200.8 R5.4	11/12/2014	14:17 TH	0.1	[0.3]
Total Manganese	ND	mg/l	EPA 200.8 R5.4	11/12/2014	14:17 TH	0.01	[0.05]
Total Sodium	142	mg/l	EPA 200.8 R5.4	11/12/2014	14:17 TH	0.01	[20]
Total Sulfate	18.2	mg/l	EPA 300.0 R2.1	11/5/2014	2:02 KD	0.5	[250]
Total Surfactant	ND	mg/l	SM5540C-00	11/4/2014	13:30 CT	0.2	[0.5]

Remarks:

Date Sample Collected: 11/9/2014 13:45

Sample Submitted By: D. MCKEE

Date Sample Received: 11/4/2014 8:42

Sample temp. upon receipt: 1.2 Deg C

MDL - Minimum Detectable Limit

MCL - Maximum Contaminant Level, USEPA Regulated

ND = Not Detected at the MDL or MRL

MRL - Minimum Reporting Limit

[MCL] = Maximum Contaminant Level, Non-Regulated

*Method Code: STANDARD METHODS 19TH ED; US EPA METHODS FOR THE CHEMICAL ANALYSIS OF WATER AND WASTES, Rev. 83; US EPA METHODS FOR THE DETERMINATION OF METALS IN ENVIRONMENTAL SAMPLES, May 1994; TEST METHODS FOR EVALUATING SOLID WASTE, SW-846, 3rd ED; USEPA Manual for Certification of Laboratories Analyzing Drinking Water, 5th ED. In accordance with EPA Regulations, all reports, including raw data and quality control data, are maintained by the laboratory for a minimum of 5 years.

NOTE: This sample meets standards set for Total Coliform and E. Coli by the State of West Virginia, 64-3-10, Code of State Regulations adopted July 1, 2002 by the Bureau For Public Health. Sample analyzed by Certified Laboratory #00354CM and #00443M

NOTE: ND or Not Detected indicates that the analytical value obtained is below the minimum reportable limit (MRL) which is equivalent to the lowest standard utilized in preparation of the method calibration curve

NOTE: #Holding time exceeded for this analysis

REL001



Reliance Laboratories, Inc.
 2044 Meadowbrook Road | P.O. Box 4657
 Bridgeport, WV 26330
 Phone: 304 842 5285 | Fax: 304 842 5351

Martinsburg Laboratory
 Ridgely Business Center | 25 Crimson Circle
 Martinsburg, WV 25403
 Phone: 304 596 2084 | Fax: 304 596 2086

Certifications: WV Department of Health # 00354, 00443 | WV Department of Environmental Protection # 158, 181
 MD Department of Environment # 336, 337 | US Environmental Protection Agency # WV00042, WV00501

SMITH LAND SURVEYING, INC
 P.O. BOX 150

Monday, November 17, 2014
 Page 7 of 9

GLENVILLE, WV 26351-

Lab Number: 221537-2014-DW Sample ID: (7658) PARSONS WELL-1 (3)

Parameter	Value	Units	Method	Date/Time Analyzed	Analyst	MRL	MCL
Analyte Group: Total Petroleum Hydrocarbons							
TPH - DRO	ND	mg/l	SW8015B/3535A	11/10/2014	13:28 MC	1	
TPH - ORO	ND	mg/l	SW8015B/3535A	11/10/2014	13:28 MC	1	
o-Terphenyl (Surrogate)	97.4	%	SW8015B	11/10/2014	13:28 MC		
Benzene	ND	mg/l	SW8021B/5030B	11/10/2014	13:39 MC	0.0025	0.005
Ethylbenzene	ND	mg/l	SW8021B/5030B	11/10/2014	13:39 MC	0.005	0.70
Toluene	ND	mg/l	SW8021B/5030B	11/10/2014	13:39 MC	0.005	1.0
TPH - GRO	ND	mg/l	SW8015B/5030B	11/10/2014	13:39 MC	0.2	
Xylenes	ND	mg/l	SW8021B/5030B	11/10/2014	13:39 MC	0.005	10
z4-Bromochlorobenzene (Surrogate)	103	%	SW8021B	11/10/2014	13:39 MC		

Remarks:

Date Sample Collected: 11/03/2014 13:45
 Sample Submitted By: D. MCKEE
 Date Sample Received: 11/4/2014 8:42
 Sample temp. upon receipt: 12 Deg C
 MDL - Minimum Detectable Limit
 MCL - Maximum Contaminant Level, USEPA Regulated

ND = Not Detected at the MDL or MRL
 MRL - Minimum Reporting Limit
 [MCL] = Maximum Contaminant Level, Non-Regulated

*Method Code: STANDARD METHODS 19TH ED; US EPA METHODS FOR THE CHEMICAL ANALYSIS OF WATER AND WASTES, Rev. 83; US EPA METHODS FOR THE DETERMINATION OF METALS IN ENVIRONMENTAL SAMPLES, May 1994; TEST METHODS FOR EVALUATING SOLID WASTE, SW-846, 3rd ED; USEPA Manual for Certification of Laboratories Analyzing Drinking Water, 5th ED. In accordance with EPA Regulations, all reports, including raw data and quality control data, are maintained by the laboratory for a minimum of 5 years.

NOTE: This sample meets standards set for Total Coliform and E. Coli by the State of West Virginia, 64-3-10, Code of State Regulations, adopted July 1, 2002 by the Bureau For Public Health. Sample analyzed by Certified Laboratory #00354CM and #00443M

NOTE: ND or Not Detected indicates that the analytical value obtained is below the minimum reportable limit (MRL) which is equivalent to the lowest standard utilized in preparation of the method calibration curve

NOTE: #Holding time exceeded for this analysis

3503018



SITE-4

3503018



Reliance Laboratories, Inc.
 2044 Meadowbrook Road | P.O. Box 4657
 Bridgeport, WV 26330
 Phone: 304.842.5285 | Fax: 304.842.5351

Martinsburg Laboratory
 Ridgefield Business Center | 25 Cnmson Circle
 Martinsburg, WV 25403
 Phone: 304.596.2084 | Fax: 304.596.2086

Certifications: WV Department of Health # 00354, 00443 | WV Department of Environmental Protection # 158, 181
 MD Department of Environment # 336, 337 | US Environmental Protection Agency # WV00042, WV00501

SMITH LAND SURVEYING, INC.
 P.O. BOX 150

Monday, November 17, 2014
 Page 8 of 9

GLENVILLE, WV 26351-

Lab Number: 221538-2014-DW Sample ID: (7658) PARSONS WELL-2 (4)

Parameter	Value	Units	Method	Date/Time Analyzed	Analyst	MRL	MCL
Analyte Group: <u>Inorganics</u>							
E. Coli (Chromogenic)	ABSENT		SM9223B-97	11/4/2014	15:37 CP		
Total Coliform (Chromogenic)	ABSENT		SM9223B-97	11/4/2014	15:37 CP		
pH	# 7.45	S.U.	SM4500H+B-00	11/4/2014	15:22 KV		
Total Aluminum	ND	mg/l	EPA 200.8 R5.4	11/12/2014	14:24 TH	0.01	[0.05]
Total Arsenic	ND	mg/l	EPA 200.8 R5.4	11/12/2014	14:24 TH	0.005	0.01
Total Barium	1.66	mg/l	EPA 200.8 R5.4	11/12/2014	14:24 TH	0.01	2
Total Calcium	59.0	mg/l	EPA 200.8 R5.4	11/12/2014	14:24 TH	0.01	
Total Chloride	3.92	mg/l	EPA 300.0 R2.1	11/5/2014	2:34 KD	0.15	[250]
Total Dissolved Solids	346	mg/l	SM2540C-97	11/5/2014	10:35 CP	10	[500]
Total Iron	0.985	mg/l	EPA 200.8 R5.4	11/12/2014	14:24 TH	0.1	[0.3]
Total Manganese	0.133	mg/l	EPA 200.8 R5.4	11/12/2014	14:24 TH	0.01	[0.05]
Total Sodium	25.5	mg/l	EPA 200.8 R5.4	11/12/2014	14:24 TH	0.01	[20]
Total Sulfate	14.9	mg/l	EPA 300.0 R2.1	11/5/2014	2:34 KD	0.5	[250]
Total Surfactant	ND	mg/l	SM5540C-00	11/4/2014	13:30 CT	0.2	[0.5]

Remarks:

Date Sample Collected: 11/3/2014 14:00
 Sample Submitted By: D. MCKEE
 Date Sample Received: 11/4/2014 8:42
 Sample temp. upon receipt: 12 Deg C

ND = Not Detected at the MDL or MRL
 MRL - Minimum Reporting Limit
 [MCL] = Maximum Contaminant Level, Non-Regulated

*Method Code: STANDARD METHODS 19TH ED; US EPA METHODS FOR THE CHEMICAL ANALYSIS OF WATER AND WASTES, Rev. 83; US EPA METHODS FOR THE DETERMINATION OF METALS IN ENVIRONMENTAL SAMPLES, May 1994; TEST METHODS FOR EVALUATING SOLID WASTE, SW-846, 3rd ED; USEPA Manual for Certification of Laboratories Analyzing Drinking Water, 5th ED. In accordance with EPA Regulations, all reports, including raw data and quality control data, are maintained by the laboratory for a minimum of 5 years.

NOTE: This sample meets standards set for Total Coliform and E. Coli by the State of West Virginia, 64-3-10, Code of State Regulations, adopted July 1, 2002 by the Bureau For Public Health. Sample analyzed by Certified Laboratory #00354CM and #00443M.
 NOTE: ND or Not Detected indicates that the analytical value obtained is below the minimum reportable limit (MRL) which is equivalent to the lowest standard utilized in preparation of the method calibration curve.
 NOTE: #Holding time exceeded for this analysis.

3503018



Reliance Laboratories, Inc.
2044 Meadowbrook Road | P O Box 4657
Bridgeport, WV 26330
Phone 304 842 5285 | Fax 304 842 5351

Martinsburg Laboratory
Ridgefield Business Center | 25 Crimson Circle
Martinsburg, WV 25403
Phone 304 596 2084 | Fax 304 596 2086

Certifications: WV Department of Health # 00354 00443 | WV Department of Environmental Protection # 158 181
MD Department of Environment # 336 337 | US Environmental Protection Agency # WV00042, WV00901

SMITH LAND SURVEYING, INC.
P.O. BOX 150

Monday, November 17, 2014

Page 9 of 9

GLENVILLE, WV 26351-

Lab Number: 221538-2014-DW Sample ID: (7658) PARSONS WELL-2 (4)

Parameter	Value	Units	Method	Date/Time Analyzed	Analyst	MRL	MCL
Analyte Group: Total Petroleum Hydrocarbons							
TPH - DRO	ND	mg/l	SW8015B/3535A	11/10/2014 14:24	MC	1	
TPH - ORO	ND	mg/l	SW8015B/3535A	11/10/2014 14:24	MC	1	
o-Terphenyl (Surrogate)	101	%	SW8015B	11/10/2014 14:24	MC		
Benzene	ND	mg/l	SW8021B/5030B	11/10/2014 14:38	MC	0.0025	0.005
Ethylbenzene	ND	mg/l	SW8021B/5030B	11/10/2014 14:38	MC	0.005	0.70
Toluene	ND	mg/l	SW8021B/5030B	11/10/2014 14:38	MC	0.005	1.0
TPH - GRO	ND	mg/l	SW8015B/5030B	11/10/2014 14:38	MC	0.2	
Xylenes	ND	mg/l	SW8021B/5030B	11/10/2014 14:38	MC	0.005	10
z4-Bromochlorobenzene (Surrogate)	96.3	%	SW8021B	11/10/2014 14:38	MC		

Remarks:

Date Sample Collected: 11/3/2014 14:00
Sample Submitted By: D MCKEE
Date Sample Received: 11/4/2014 8:42
Sample temp. upon receipt: 12 Deg C

ND = Not Detected at the MDL or MRL

MRL - Minimum Reporting Limit

MDL - Minimum Detectable Limit

MCL - Maximum Contaminant Level, USEPA Regulated

[MCL] = Maximum Contaminant Level, Non-Regulated

*Method Code: STANDARD METHODS 19TH ED; US EPA METHODS FOR THE CHEMICAL ANALYSIS OF WATER AND WASTES, Rev. 83; US EPA METHODS FOR THE DETERMINATION OF METALS IN ENVIRONMENTAL SAMPLES, May 1994; TEST METHODS FOR EVALUATING SOLID WASTE, SW-846, 3rd ED; USEPA Manual for Certification of Laboratories Analyzing Drinking Water, 5th ED. In accordance with EPA Regulations, all reports, including raw data and quality control data, are maintained by the laboratory for a minimum of 5 years.

NOTE: This sample meets standards set for Total Coliform and E. Coli by the State of West Virginia, 64-3-10, Code of State Regulations.

adopted July 1, 2002 by the Bureau For Public Health. Sample analyzed by Certified Laboratory #00354CM and #00443M

NOTE: ND or Not Detected indicates that the analytical value obtained is below the minimum reportable limit (MRL) which is equivalent to the lowest standard utilized in preparation of the method calibration curve.

NOTE: #Holding time exceeded for this analysis

RL1001



SITE -5

35 03018



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 2044 Meadowbrook Road | P.O. Box 4657
 Bridgeport, WV 26330
 Phone: 304.842.5285 | Fax: 304.842.5351

Martinsburg Laboratory
 Ridgfield Business Center | 25 Crimson Circle
 Martinsburg, WV 25403
 Phone: 304.596.2084 | Fax: 304.596.2086

Certifications: WV Department of Health # 00354, 00443 | WV Department of Environmental Protection # 158, 181
 MD Department of Environment # 336, 337 | US Environmental Protection Agency # WV00042, WV00501

SMITH LAND SURVEYING, INC
 P.O. BOX 150

Wednesday, December 03, 2014
 Page 2 of 3

GLENVILLE, WV 26351

Lab Number: 222256-2014-DW Sample ID: (7658) WILLIAM LANE H2O (3)

Parameter	Value	Units	Method	Date/Time Analyzed	Analyst	MRL	MCL
Analyte Group: Inorganics							
E. Coli (Chromogenic)	PRESENT		SM9223B-97	11/14/2014	15:17 CP		
Total Coliform (Chromogenic)	PRESENT		SM9223B-97	11/14/2014	15:17 CP		
pH	# 7.69	S.U.	SM4500H+B-00	11/18/2014	15:00 KV		
Total Aluminum	0.308	mg/l	EPA 200.8 R5.4	11/26/2014	13:35 TH	0.01	[0.05]
Total Arsenic	ND	mg/l	EPA 200.8 R5.4	11/26/2014	13:35 TH	0.005	0.01
Total Barium	0.186	mg/l	EPA 200.8 R5.4	11/26/2014	13:35 TH	0.01	2
Total Calcium	7.48	mg/l	EPA 200.8 R5.4	11/26/2014	13:35 TH	0.01	
Total Chloride	9.65	mg/l	EPA 300.0 R2.1	11/18/2014	14:42 KD	0.15	[250]
Total Dissolved Solids	385	mg/l	SM2540C-97	11/17/2014	11:10 CP	10	[500]
Total Iron	0.775	mg/l	EPA 200.8 R5.4	11/26/2014	13:35 TH	0.1	[0.3]
Total Manganese	0.152	mg/l	EPA 200.8 R5.4	11/26/2014	13:35 TH	0.01	[0.05]
Total Sodium	123	mg/l	EPA 200.8 R5.4	11/26/2014	13:35 TH	0.01	[20]
Total Sulfate	25.7	mg/l	EPA 300.0 R2.1	11/18/2014	14:42 KD	0.5	[250]
Total Surfactant	ND	mg/l	SM5540C-00	11/14/2014	15:00 CT	0.2	[0.5]

Remarks:

Date Sample Collected: 11/13/2014 11:30
 Sample Submitted By: D MCKEE
 Date Sample Received: 11/14/2014 9:54
 Sample temp. upon receipt: 1.0 Deg C
 MDL - Minimum Detectable Limit
 MCL - Maximum Contaminant Level, USEPA Regulated

ND = Not Detected at the MDL or MRL
 MRL - Minimum Reporting Limit
 [MCL] = Maximum Contaminant Level, Non-Regulated

*Method Code: STANDARD METHODS 19TH ED; US EPA METHODS FOR THE CHEMICAL ANALYSIS OF WATER AND WASTES, Rev. #3, US EPA METHODS FOR THE DETERMINATION OF METALS IN ENVIRONMENTAL SAMPLES, May 1994; TEST METHODS FOR EVALUATING SOLID WASTE, SW-846, 3rd ED; USEPA Manual for Certification of Laboratories Analyzing Drinking Water, 5th ED. In accordance with EPA Regulations, all reports, including raw data and quality control data, are maintained by the laboratory for a minimum of 5 years.

NOTE: This sample does not meet standards set for Total Coliform and E. Coli by the State of West Virginia, 64-3-10, Code of State Regulations, adopted July 1, 2002 by the Bureau For Public Health. Sample Analyzed by Certified Laboratory #00354CM and #0344
 NOTE: ND or Not Detected indicates that the analytical value obtained is below the minimum reportable limit (MRL) which is equivalent to the lowest standard utilized in preparation of the method calibration curve
 NOTE: #Holding time exceeded for this analysis



Reliance Laboratories, Inc.
2044 Meadowbrook Road | P.O. Box 4657
Bridgeport, WV 26330
Phone: 304.842.5285 | Fax: 304.842.5351

Martinsburg Laboratory
Ridgefield Business Center | 25 Crimson Circle
Martinsburg, WV 25403
Phone: 304.596.2084 | Fax: 304.596.2086

Certifications: WV Department of Health # 00354 00443 | WV Department of Environmental Protection # 158 181
MD Department of Environment # 336 337 | US Environmental Protection Agency # WV00042 WV00501

SMITH LAND SURVEYING, INC.
P.O. BOX 150

Wednesday, December 03, 2014
Page 3 of 3

GLENVILLE, WV 26351-

Lab Number: 222256-2014-DW Sample ID: (7658) WILLIAM LANE H2O (3)

Table with 8 columns: Parameter, Value, Units, Method, Date/Time Analyzed, Analyst, MRL, MCL. Includes analyte group 'Total Petroleum Hydrocarbons' and various chemical parameters like TPH, Benzene, Ethylbenzene, Toluene, Xylenes, and z4-Bromochlorobenzene.

Remarks:

Date Sample Collected: 11/13/2014 11:30
Sample Submitted By: D MCKEE
Date Sample Received: 11/14/2014 9:54
Sample temp. upon receipt: 1.0 Deg C

ND = Not Detected at the MDL or MRL
MRL = Minimum Reporting Limit
[MCL] = Maximum Contaminant Level, Non-Regulated

*Method Code: STANDARD METHODS 19TH ED; US EPA METHODS FOR THE CHEMICAL ANALYSIS OF WATER AND WASTES, Rev. 83; US EPA METHODS FOR THE DETERMINATION OF METALS IN ENVIRONMENTAL SAMPLES, May 1994; TEST METHODS FOR EVALUATING SOLID WASTE, SW-846, 3rd ED; USEPA Manual for Certification of Laboratories Analyzing Drinking Water, 5th ED. In accordance with EPA Regulations, all reports, including raw data and quality control data, are maintained by the laboratory for a minimum of 5 years.

NOTE: This sample does not meet standards set for Total Coliform and E. Coli by the State of West Virginia, 64-3-10, Code of State Regulations, adopted July 1, 2002 by the Bureau For Public Health. Sample Analyzed by Certified Laboratory #00354CM and #0044
NOTE: ND or Not Detected indicates that the analytical value obtained is below the minimum reportable limit (MRL) which is equivalent to the lowest standard utilized in preparation of the method calibration curve
NOTE: #Holding time exceeded for this analysis.

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THOMAS M
 AMEY & DI
 353 HEWET
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WW-9
(5/13)

Page _____ of _____
API Number 47 - _____ - _____
Operator's Well No. King #1 _____

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL AND GAS

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name Penneco Oil Company OP Code 494460033

Watershed (HUC 10) Little Pond Creek Quadrangle Pond Creek 7.5'

Elevation 710' County Jackson District Grant

Do you anticipate using more than 5,000 bbls of water to complete the proposed well work? Yes _____ No X

Will a pit be used for drill cuttings? Yes X No _____

If so, please describe anticipated pit waste: Drill water and various formation cuttings

Will a synthetic liner be used in the pit? Yes X No _____ If so, what ml.? 60

Proposed Disposal Method For Treated Pit Wastes:

- Land Application
- Underground Injection (UIC Permit Number _____)
- Reuse (at API Number _____)
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain Solidified with cement and encapsulated and buried)

Will closed loop system be used? No

Drilling medium anticipated for this well? Air, freshwater, oil based, etc. Air/Water

-If oil based, what type? Synthetic, petroleum, etc. _____

Additives to be used in drilling medium? Soap

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. Leave in Pit - Encapsulated and buried

-If left in pit and plan to solidify what medium will be used? (cement, lime, sawdust) Cement

-Landfill or offsite name/permit number? _____

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on August 1, 2005, by the Office of Oil and Gas of the West Virginia Department of Environmental Protection. I understand that the provisions of the permit are enforceable by law. Violations of any term or condition of the general permit and/or other applicable law or regulation can lead to enforcement action.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments thereto 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 or imprisonment.

Company Official Signature *Stephen K. Schuman*

Company Official (Typed Name) Stephen K. Schuman

Company Official Title Designated Agent

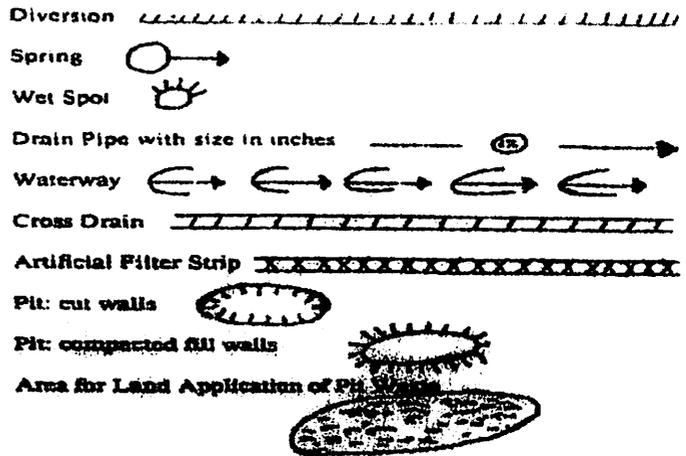
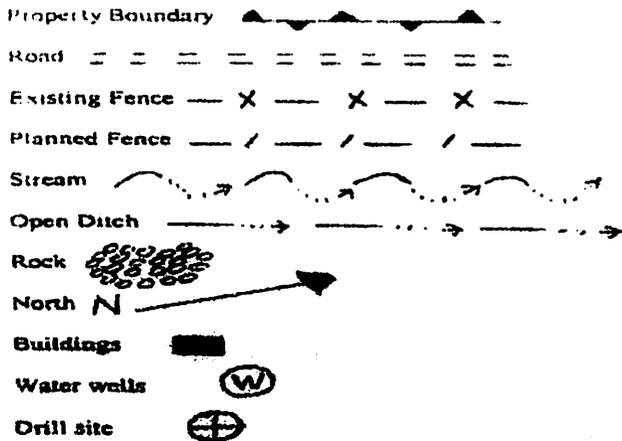
Subscribed and sworn before me this 18th day of March, 20 14

Lois A. Brown Notary Public

My commission expires August 22, 2017



LEGEND



Proposed Revegetation Treatment: Acres Disturbed 1.8 ± Prevegetation pH _____

Lime 3 Tons/acre or to correct to pH 6.5
 Fertilizer (10-20-20 or equivalent) 1/3 TON lbs/acre (500 lbs minimum)
 Mulch HAY 2 Tons/acre

Seed Mixtures

Seed Type	Area I	lbs/acre	Seed Type	Area II	lbs/acre
KY-31		40	ORCHARD GRASS		15
ALSIKE CLOVER		5	ALSIKE CLOVER		5
ANNUAL RYE		15			

Attach: Drawing(s) of road, location, pit and proposed area for land application.

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: *James Stevens*
 Comments:

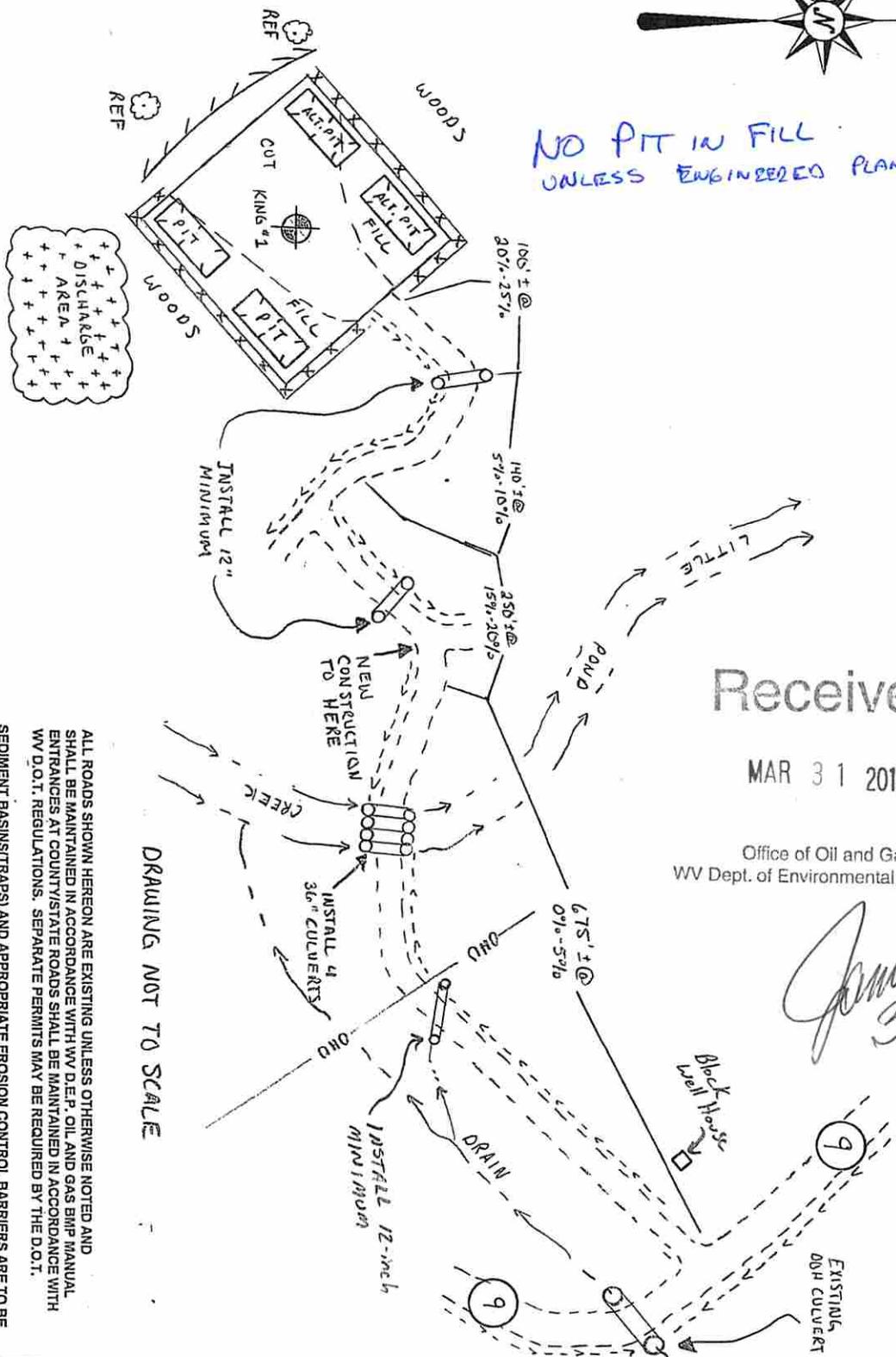
Title: _____ Date: 3/11/2014
 Field Reviewed? () Yes () No
No changes from 2012 OK.

3503018

King Lease Well No. 1



NO PIT IN FILL
UNLESS ENGINEERED PLAN.



Received

MAR 31 2014

Office of Oil and Gas
WV Dept. of Environmental Protection

Janice
3/11/2014
Renovals

DRAWING NOT TO SCALE

ALL ROADS SHOWN HEREON ARE EXISTING UNLESS OTHERWISE NOTED AND SHALL BE MAINTAINED IN ACCORDANCE WITH WV D.E.P. OIL AND GAS BMP MANUAL. ENTRANCES AT COUNTY/STATE ROADS SHALL BE MAINTAINED IN ACCORDANCE WITH WV D.O.T. REGULATIONS. SEPARATE PERMITS MAY BE REQUIRED BY THE D.O.T.

SEDIMENT BASINS (TRAPS) AND APPROPRIATE EROSION CONTROL BARRIERS ARE TO BE CONSTRUCTED AT ALL CULVERT AND CROSS DRAIN INLETS AND OUTLETS AS REQUIRED IN THE WV D.E.P. OIL AND GAS BMP MANUAL. FIELD CONDITIONS/ROCK OUTCROPS AND BEDROCK MAY PROHIBIT INLET TRAPS BEING INSTALLED. WHEN THESE CONDITIONS EXIST ADDITIONAL EROSION CONTROL MEASURES SHALL BE EVALUATED AND UTILIZED AS NEEDED.

EARTHWORK CONTRACTORS ARE RESPONSIBLE FOR NOTIFICATION TO THE OPERATOR AND INSPECTOR PRIOR TO ANY DEVIATION FROM THIS PLAN.

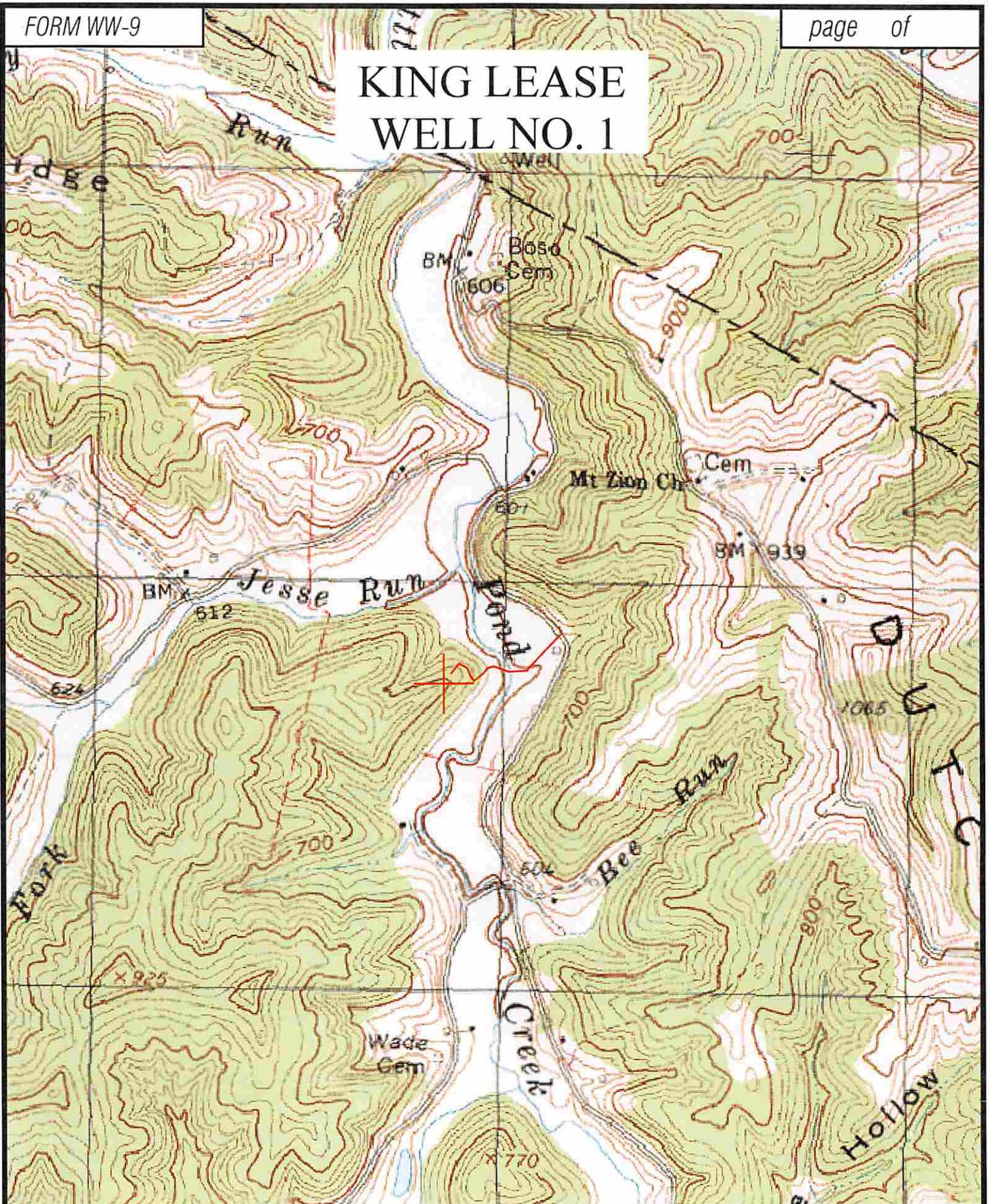
TEMPORARY SEED & MULCH ALL SLOPES AFTER CONSTRUCTION OF LOCATION.

CUT & STACK ALL MARKETABLE TIMBER.

STACK BRUSH BELOW LOCATION FOR SEDIMENT CONTROL.

SMITH LAND SURVEYING, INC. P.O. BOX 150 GLENVILLE, WV. 26351	Phone: (304) 462-5634 Fax: 462-5656 email: sls@slssurveys.com
	UPDATED BY MJH 12-12-13 DRAWN BY DRR DATE 8.15.11 FILE NO. 7658

KING LEASE WELL NO. 1



Professional Energy Consultants
A DIVISION OF SMITH LAND SURVEYING



SURVEYORS PROJECT MGMT. ENGINEERS ENVIRONMENTAL



P.O. Box 110
Columbia, MO 65201
(561) 422-9834
S985 Olive Bottom Road
Shawnee, MO 64151
(781) 671-9811
HONESTY. INTEGRITY. QUALITY.

TOPO SECTIONS OF: POND CREEK 7.5'

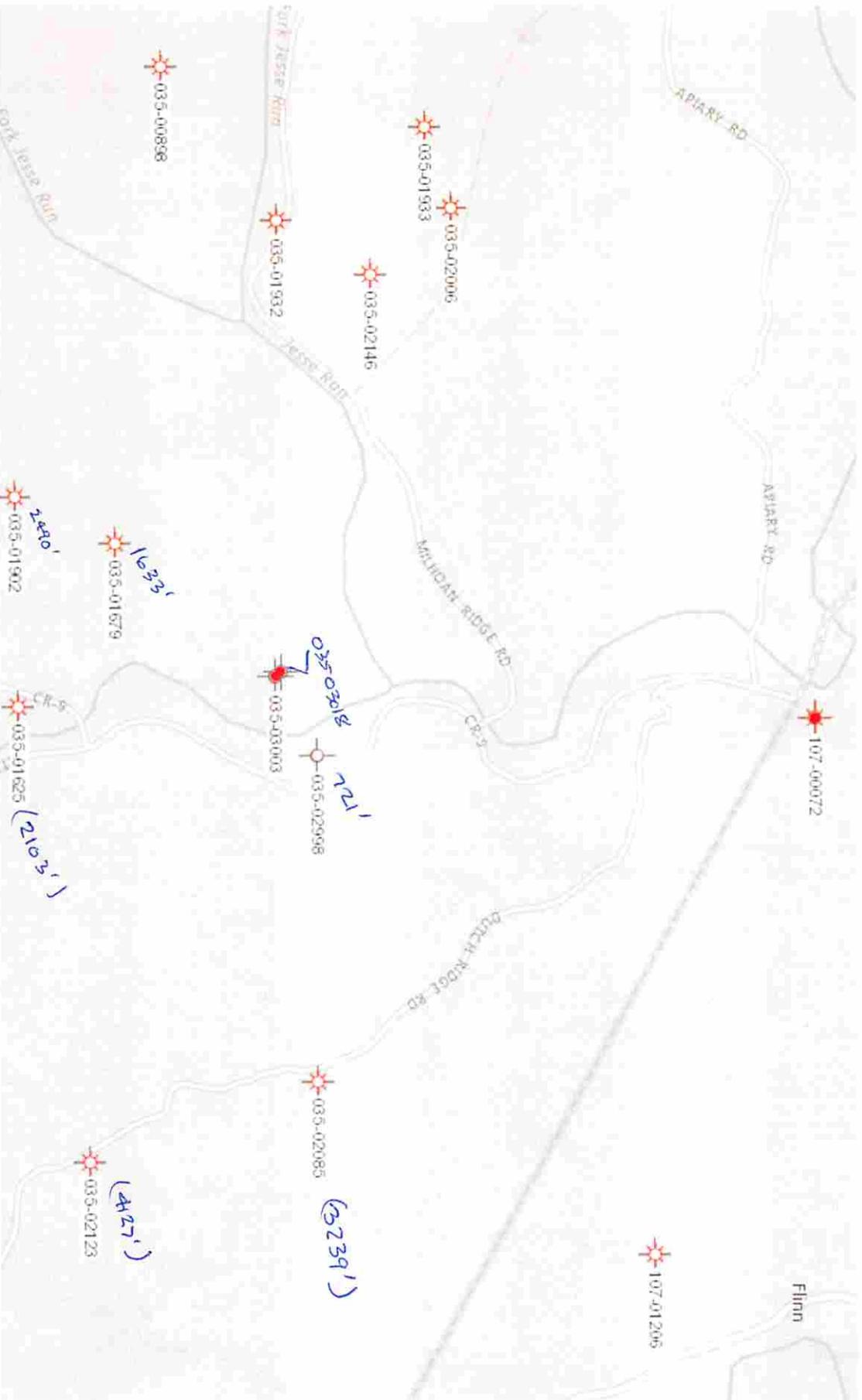
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DATE: 04/03/14

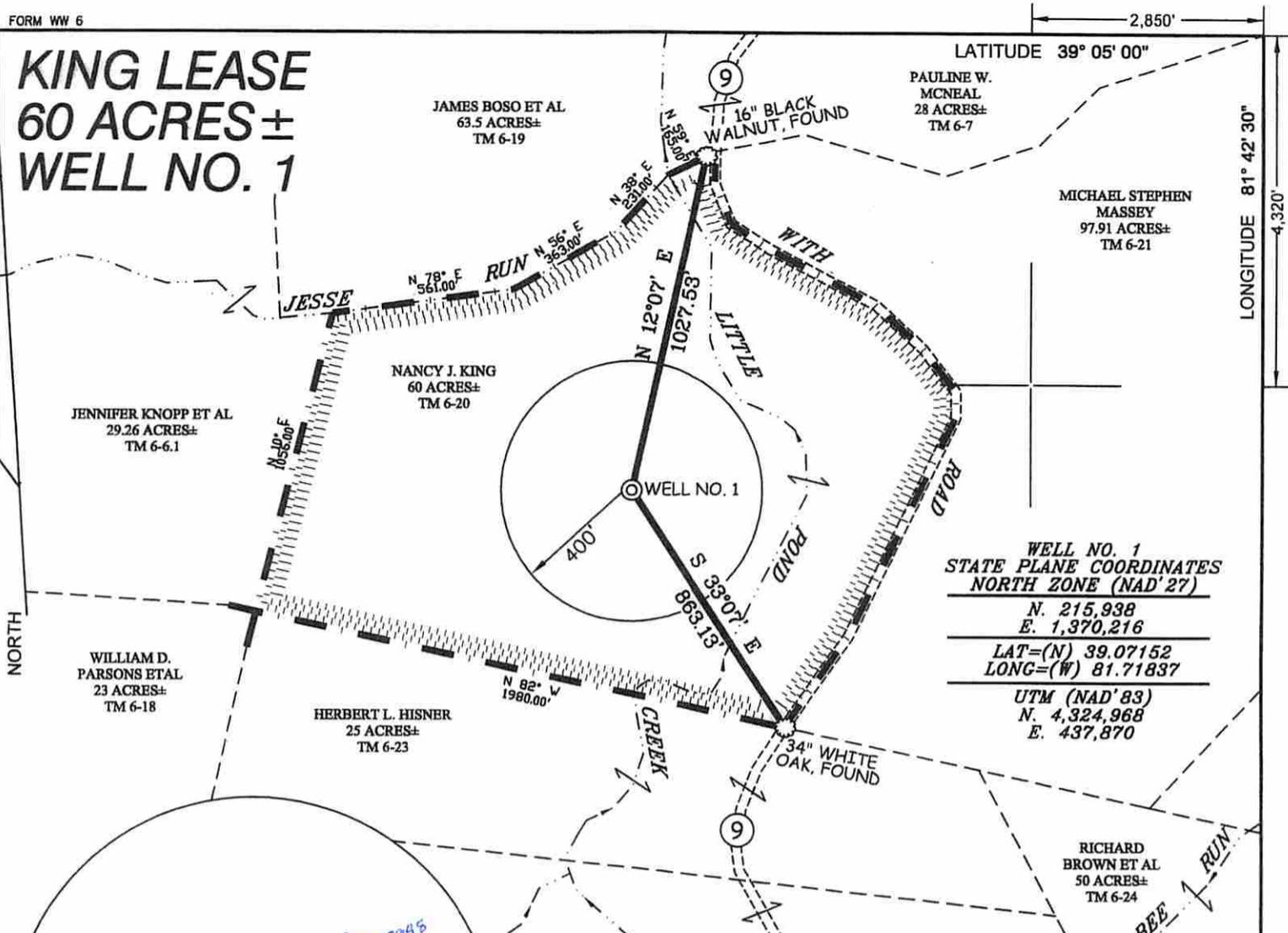
SCALE: 1"=1,000'

1 Feet

Measurement Result



KING LEASE 60 ACRES ± WELL NO. 1



**WELL NO. 1
STATE PLANE COORDINATES
NORTH ZONE (NAD'27)**

N. 215,938
E. 1,370,216

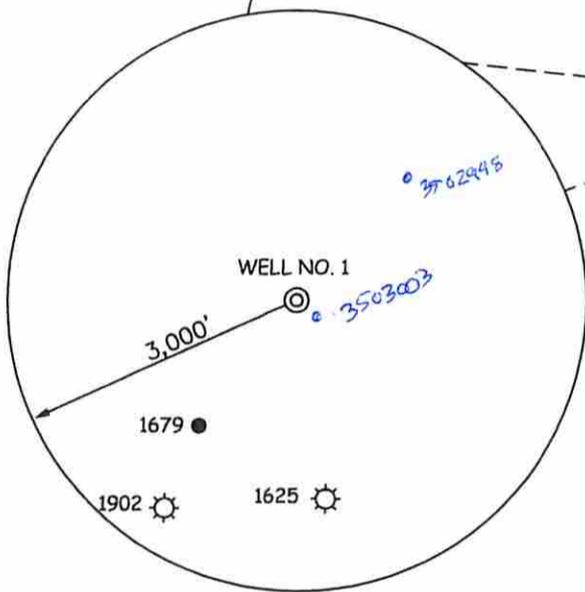
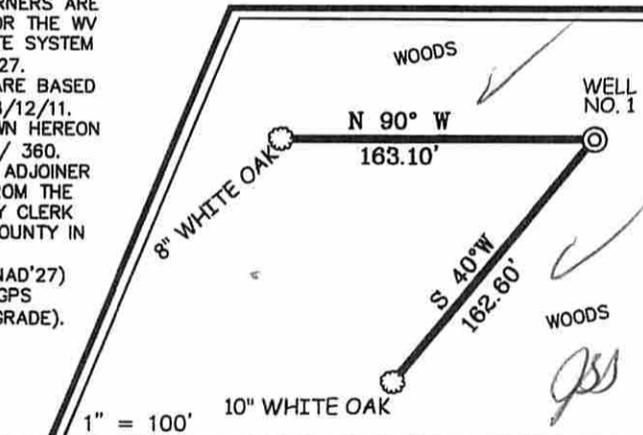
LAT=(N) 39.07152
LONG=(W) 81.71837

UTM (NAD'83)
N. 4,324,968
E. 437,870

NOTES ON SURVEY

1. TIES TO WELLS AND CORNERS ARE BASED ON GRID NORTH FOR THE WV STATE PLANE COORDINATE SYSTEM NORTH ZONE NAD'27.
2. TIES TO REFERENCES ARE BASED ON MAGNETIC NORTH 08/12/11.
3. LEASE BOUNDARY SHOWN HEREON TAKEN FROM DB 276 / 360.
4. SURFACE OWNER AND ADJOINER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF JACKSON COUNTY IN JULY, 2013.
5. WELL LAT./LONG. (NAD'27) ESTABLISHED BY DGPS (SUBMETER MAPPING GRADE).

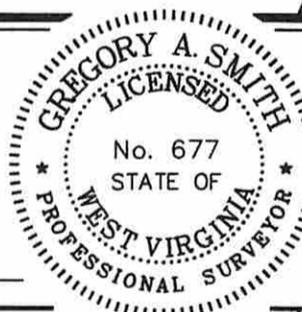
REFERENCES



I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DIVISION OF ENVIRONMENTAL PROTECTION.

P.S. 677

Gregory A. Smith



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.

DATE DECEMBER 31, 20 13

OPERATORS WELL NO. KING #1

API WELL NO. 47 - 35 - 03018

STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 200 FILE NO. 7658P1R2 (346-71)

PROVEN SOURCE OF ELEVATION DGPS (SUBMETER MAPPING GRADE) SCALE 1" = 500'

STATE OF WEST VIRGINIA
DIVISION OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL AND GAS



WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL IF "GAS" PRODUCTION STORAGE DEEP SHALLOW

LOCATION: ELEVATION 710' WATERSHED LITTLE POND CREEK

DISTRICT GRANT COUNTY JACKSON QUADRANGLE POND CREEK 7.5'

SURFACE OWNER NANCY J. KING ACREAGE 60±

ROYALTY OWNER NANCY J. KING LEASE ACREAGE 60±

PROPOSED WORK: LEASE NO. _____

DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION PLUG AND ABANDON CLEAN OUT AND REPLUG OTHER

PHYSICAL CHANGE IN WELL (SPECIFY) _____ TARGET FORMATION JUNIATA

ESTIMATED DEPTH 6,136'

WELL OPERATOR PENNECO OIL COMPANY DESIGNATED AGENT STEPHEN K. SCHUMAN

ADDRESS 6608 ROUTE 22 ADDRESS P.O. BOX 842

DELMONT, PA 15626 MORGANTOWN, WV 26507

COUNTY NAME PERMIT

KING LEASE 60 ACRES± WELL NO. 1



**WELL NO. 1
STATE PLANE COORDINATES
NORTH ZONE (NAD'27)**

N. 215,938
E. 1,370,216

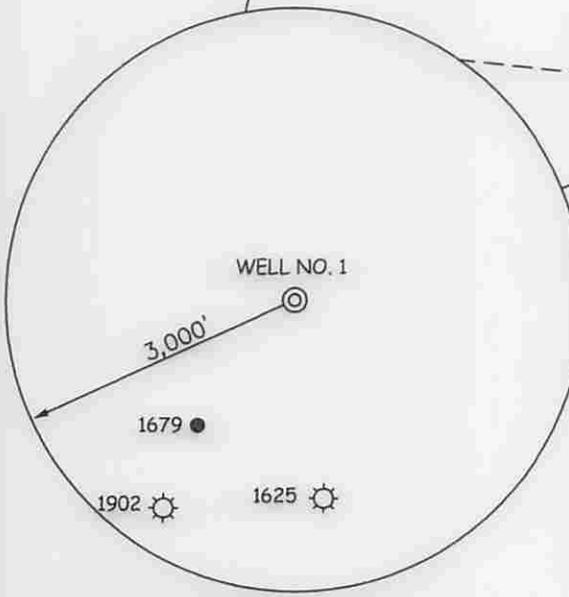
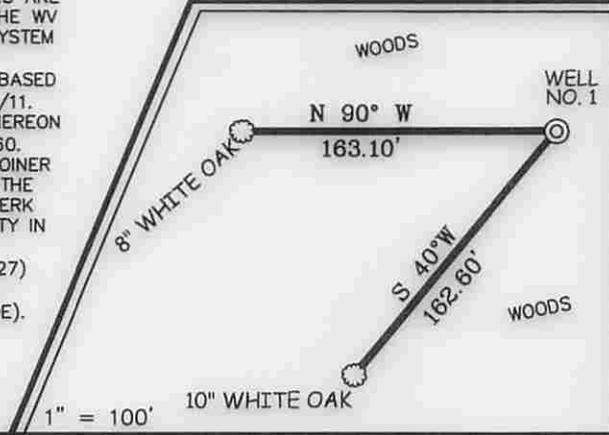
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P.S. *Gregory A. Smith*
677



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.
DATE DECEMBER 31, 20 13
OPERATORS WELL NO. KING #1
API WELL NO. 47 — 35 — 03018
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1/200 FILE NO. 7658P1R2 (346-71)
PROVEN SOURCE OF ELEVATION DGPS (SUBMETER MAPPING GRADE) SCALE 1" = 500'

STATE OF WEST VIRGINIA
DIVISION OF ENVIRONMENTAL PROTECTION
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PROPOSED WORK: LEASE NO. _____

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PHYSICAL CHANGE IN WELL (SPECIFY) _____ TARGET FORMATION JUNIATA
ESTIMATED DEPTH 6,136'

WELL OPERATOR PENNECO OIL COMPANY DESIGNATED AGENT STEPHEN K. SCHUMAN
ADDRESS 6608 ROUTE 22 ADDRESS P.O. BOX 842
DELMONT, PA 15626 MORGANTOWN, WV 26507

COUNTY NAME
PERMIT

3503018



P.O. BOX 150, GLENVILLE, WV 26351
(304) 462-5634 • FAX (304) 462-5656

LETTER OF TRANSMITTAL

TO PENNECO OIL COMPANY
6608 Route 22
Delmont, PA 15626

DATE 12/09/2014	JOB NO 7658
ATTENTION Mr. Dave Smail	
RE Final Water Well Data Info. For the King #1 Well pad	

> WE ARE SENDING YOU Attached Under separate cover via _____ the following items:

- Shop drawings Prints Plans Samples Specifications
 Copy of letter Change order _____

COPIES	DATE	NO	DESCRIPTION
1	12/09/2014	1	Final Water Map
1	12/09/2014	10	Sample results
1	12/09/2014	3 / 13	Letters of Refusal / Copies of certified letters
1	12/09/2014	3	Final water data sheets

THESE ARE TRANSMITTED as checked below:

FOR SAMPLES TAKEN October - December 20 14

- As requested For your use For your file
 Duplicate copy Other (specify) _____

REMARKS

If you have any questions please feel free to contact me at our office. Thank you for your time and cooperation concerning this matter.

Notes: 1. This pre-drilling type of water analysis is used by Smith Land Surveying, Inc. to determine general water quality and does not imply nor should it be relied upon as evidence of the potability or safety of your water supply.

2. Any questions or concerns you may have regarding the present quality of your water supply should be directed to your local Department of Health.

DMcKee@sisssurveys.com

COPY TO SLS Files

7658.PENNECO.KING.TRANSMITTLE

SIGNED: Daniel McKee Environmental Technician

If enclosures are not as noted, kindly notify us at once.

3503018



DEEP WELL DRILLING PROCEDURES AND SITE SAFETY PLAN

Penneco Oil Company

King # 1

API # 47- -

Pond Creek Quad, Grant District - Jackson County, West Virginia

The Following Deep Well Drilling Procedure and Site Safety Plan Approved By:

Rec'd 6/10/2014

By: [Signature]
D. Marc Jacobs, Jr.

Date: 6/5/14

Title: Sr. Vice President, Penneco

By: Cynthia Rainey

Date: 7/10/14

Title: Exe. asst., OGCC WVOOG

Site Safety Plan

Table of contents

- 1. Contacts, Schedules, and Meetings**
 - A. 24 Hour Emergency Point of Contact (1)
 - B. Telephone Numbers for: (1-2)
 1. Operator
 2. Contractors
 3. DEP Office and Oil and Gas Inspector
 4. Local Emergency Response Units
 5. Local ER Personnel
 6. All Schools and Public Facilities Within a One Mile Radius
 - C. Method of Notification to The Public of H₂S Gas Presence and Control (3-4)
 - D. Pre-Spud Meeting (5)
 1. Employees and Those Involved in The Drilling Operations
 2. County Oil and Gas Inspector and or Other OOG Representatives
 3. All Others Involved in the Pre-Spud Meeting
 - E. Safety Meeting Schedule Including Description, Attendance Log, and Sight Sign in/ out Log. (6-7)

- 2. Maps and Diagrams**
 - A. Plan View Map Including; Access Road, Pit's, Flare Lines, Nearby Dwellings also Including The North Direction and Prevailing Wind Direction (8-9)
 - B. Topographic Map of Location to Include (10-11)
 1. 1-Mile Radius of Location
 2. Nad-83 Coordinates of Well Site Entrance
 3. Nad-83 Coordinates of Point Where the Access Road Meets Public Road
 4. Identified Public Rout Names and/ or Numbers
 - C. Evacuation Plan for Personnel From the Drilling Location as well as Residents in the Surrounding Area That can be Potentially Affected by an Emergency (12-13)

- 3. Well Work**
 - A. Description of Well Work as well as Completion and Production Phase Procedures (14-A)

- B. Statement of how a Copy of the Plan Will be Provided to the Local Emergency Planning Committee or County Emergency Services Within 7 Days of Land Disturbance (14-B)

4. Chemical Inventory & MSDS (15)

- A. MSDS for all Chemicals to be Used in all of the Operations
- B. Statement That all MSDS Will be Available at the Well Site and Their Location Indicated in the Safety Plan Including Contact Information for the Person Responsible for Maintaining Them on Site
- C. Inventory of all Materials on Site for Mixing Mud as Well as Numbers and Type of Mixing Units, Mixed Mud Amount and Weight, and Amount of Weighting Material and Volume of Mixing Fluid.

5. BOP and Well Control (16-24)

- A. BOP Equipment and Casing Heads With Type, Sizes and Ratings to be Utilized and Available During the Drilling for Both Intermediate and Lateral Drilling Phases
- B. Procedure and Schedule for BOP Stack Testing, Initial Setup, Annular, Ram Preventers, Bottom and Horizontal Phase, As well as Upon Initial Installation, Weekly, and Finally After Each Bit Trip
- C. BOP Equipment and Assembly Installation Schedule
- D. List of Personnel With Well Control Training
- E. Description of System of Maintaining Records and for Immediate Notification to the OOG Inspector for all Significant Drilling Issues, Including :
 - 1. Lost Circulation
 - 2. Hydrogen Sulfide Gas
 - 3. Fluid Entry
 - 4. Abnormal Pressures
- F. Notification of the Oil and Gas Inspector as Soon as any Unusual Drilling Events Occur
- G. Schematic and Description of the Wellhead Assembly to be Placed on the Well
- H. Method and Type of Kill Procedure Reconized by IADC

6. Hydrogen Sulfide (H2S) (25-26)

- A. Detection, Monitoring and Warning Equipment Including Location of Equipment on Site
- B. Statement of H2S Personnel Training Provided
- C. Method to Notify the OOG of H2S Presence
- D. Establish and Maintain Protection Zones, Describe Written General Procedures Proposed in Drilling Phases

E. List of (PPE) and Amounts of Each to be Maintained and Available on Site

7. Flaring (27)

A. Written Description and Plan Including Schematic of Installation for Duration of Flaring Activities

8. Collision Avoidance (30)

A. Protocol and Established Safeguard to Prevent Underground Collisions During any Drilling on Multi-Well Pads

9. Deep Well (H6A) Additional Requirements

A. List of Anticipated Freshwater, Saltwater, Oil and Gas, Hydrogen Sulfide, Thief Zones, High Pressure and Volume Zones and Their Expected Depths

B. Casing and Cementing Program That Employs a Minimum of Three Strings of Casing That are Sufficient Weight and Quality for the Anticipated Conditions

C. Flaring Activities: Size, Construction and Length of Flare Line-Anchor Method and Choke Assembly Description, Flare Lighting System and Back up Igniters, Notify Local Fire Department (if Possible) Prior to Igniting Flares, Minimum Clearing Distance Beyond Flares

D. List of Names, Addresses, and Telephone Numbers of all Residents, Businesses, Churches, Schools and Emergency Facilities Within a 1-Mile Radius That May be Affected by Specific Events During the Drilling Process

10. Deep (Vertical) Well Requirements Per Policy Statement (Deep Well Drilling Procedures and Site Safety Plan Requirements)

LIST OF EMERGENCY PHONE NUMBERS

24 Hour Emergency Point of Contact

OPERATOR

Penneco Oil Company

	OFFICE	CELL
Penneco Oil Company 6608 Route 2 Delmont, PA. 15626	(724)-468-8232	
Penneco Manager: Bill Baughman	(724)-640-5213	
Penneco Drill Supervisor: Shannon Johnson	*(412)-784-1927*	*(412)-657-5619*

Drilling Contractor

Office Phone Cell

Mountain "V"		
Mike Shaver	(304)-842-6320	(304)-203-7550

DEP OOG INSPECTOR

West Virginia – Department of Environmental Protection Oil and Gas Management 601 57 th Street, SE Charleston, WV 25304	Customer Service Chief: James Martin	Phone (304) 926-0450 Fax (304) 926-0452
West Virginia Department of Environmental Protection Division of Air Quality 601 57 th Street, SE Charleston, WV 25304	Phone Number	(304) 926-0499 Ext. 1227
WV-DEP INSPECTOR <u>Jackson County</u> 105 Kentucky Road Kenna WV 25248	*<u>Jamie Stevens*</u>	(304)-206-7775- CELL (304)-372-7140- Office James.S.Stevens@wv.gov

LOCAL EMERGENCY RESPONSE UNITS

Ambulance Services (911) & LOCAL ER PERSONNEL

Jackson County Ambulance 100 Maple Dr. Evans, WV.26164	Office Dispatch	(304)-372-3462
Camden Clark Memorial		

Hospital 800 Garfield Ave. Parkersburg, WV. 26101	Office Dispatch	(304)-424-2111
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Hospitals (911)

Jackson General Hospital 122 Pinnell St. Ripley, WV. 26164	Main Phone Number (304)-372-2731	Phone: (304)-372-2731
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LAW ENFORCEMENT/ FIRE DEPARTMENT

West Virginia State Police 11344 Ohio River Rd. West Columbia, WV. 25287	Office Number (Dispatcher) Emergency	Phone (304)-675-0850 911
Jackson County Sheriff 100 Maple St. S. Ripley, WV. 25271	Office Number (Dispatcher) Emergency	Phone (304)-373-2290 911
Cattageville Volunteer Fire Department 1 Fire house Lane Cattageville, WV. 25239	Office Number Emergency	Phone (304)-372-5959 911

Hydrogen Sulfide Safety Technicians

Total Safety US, Inc. 2445 West Pike Street Suite 200 Houston, PA 15342	Primary Call #724-745-1919	Phone: 724-745-1919 Fax: 724-745-6088
Total Safety US, Inc. 2445 West Pike Street Suite 200 Houston, PA 15342		Phone: 724-745-1919 Cell: 412-737-3950
H2S RELEASE CALL:	Derek Kaiser	Work Cell: 412-737-3950 Cell: 412-737-3950

METHOD OF NOTIFICATION TO PUBLIC **AND CONTROL OF (H₂S) GAS**

The procedure to be used in alerting nearby persons in the event of any occurrence that could pose a threat to life or property will be arranged and completed with public officials in detail, prior to drilling into the hydrogen sulfide formations.

In the event of an actual emergency, the following steps will be immediately taken:

1. Penneco Oil Company representative will dispatch sufficient personnel to immediately warn each resident and transient's down-wind within radius of exposure from the well site. Then warn all residents in the radius of exposure. Additional evacuation zones may be necessary as the situation warrants.
2. The Penneco Oil Company's representative will immediately notify proper authorities, including the sheriff's office, highway patrol, and any other public officials as described above and will enlist their assistance in warning residents and transients in the calculated radius of exposure.
3. The Penneco Oil Company's representative will dispatch sufficient personnel to divert traffic in the vicinity away from the potentially dangerous area. A guard to the entrance of the well site will be posted to monitor essential and non-essential traffic.
4. General:
 - A. The area included within the radius of exposure is considered to be the zone of maximum potential hazard from a hydrogen sulfide gas escape. Immediate evacuation of public areas, in accordance with the provisions of this contingency plan, is imperative. When it is determined that conditions exist which create an additional area (beyond the initial zone of maximum potential hazard) vulnerable to possible hazard, public areas in the additional hazardous area will be evacuated in accordance with the contingency plan.
 - B. In the event of an emergency, after the public areas have been evacuated and traffic stopped, it is expected that local civil authorities will have arrived and within a few hours will have assumed direction of and control of the public, including all public areas. The Penneco Oil Company will cooperate with these authorities to the fullest extent and will exert every effort by careful advice to such authorities to prevent panic or rumors.

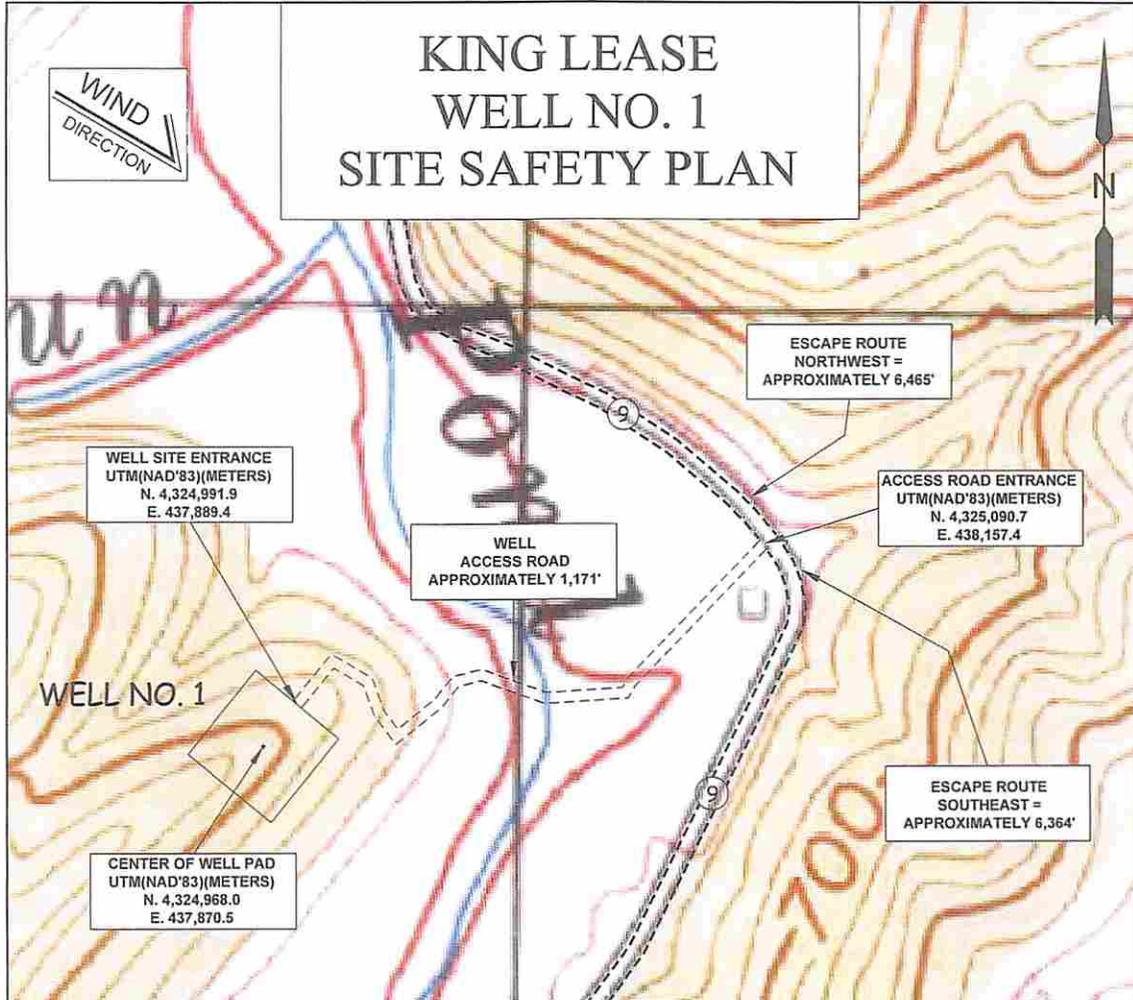
- C. Penneco Oil Company will dispatch appropriate management personnel at the emergency site as soon as possible. The company's personnel will cooperate with and provide such information to civil authorities as they might require.

- D. One of the products of the combustion of hydrogen sulfide is sulfur dioxide (SO₂). Under certain conditions this gas may be equally as dangerous as H₂S. A pump type detector device, which determines the percent of SO₂ in air through concentrations in ppm, will be available. Although normal air movement is sufficient to dissipate this material to safe levels, the SO₂ detector should be utilized to check concentrations in the proximity of the well once every hour, or as necessary and the situation warrants. Also, if any low areas are suspected of having high concentrations, personnel should be made aware of these areas, and steps should be taken to determine whether or not these low areas are hazardous.

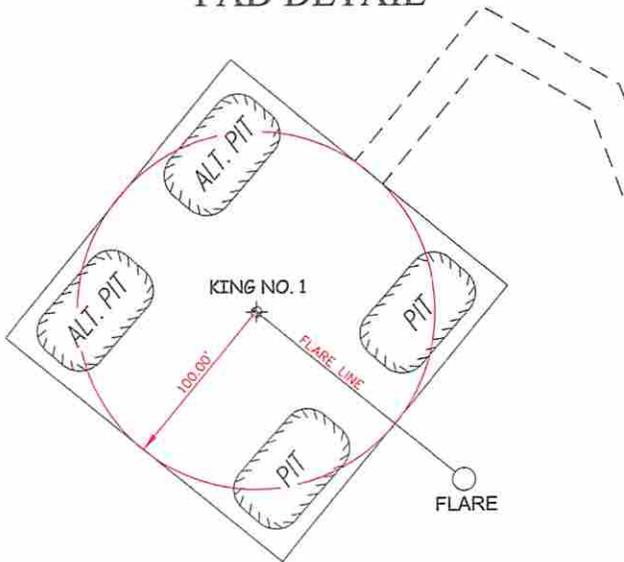
MAPS & DIAGRAMS

PLAN VIEW MAP

KING LEASE WELL NO. 1 SITE SAFETY PLAN



PAD DETAIL



SCALE: 1-INCH = 200-FEET



NOTE

POISONOUS GAS WARNING SIGNS TO BE
INSTALLED ON ANY ROADWAYS AT A ONE
MILE RADIUS FROM PROPOSED GAS WELL,
IN A CASE OF EMERGENCY

NOT TO SCALE

Professional Energy Consultants
A DIVISION OF BATH AND BATHING, INC.

SLS
SURVEYORS
ENGINEERS
ENVIRONMENTAL
PROJECT MANAGERS

10244 402-0624
WWW.SLSURVEYS.COM

DRAWN BY: K.G.M. FILE NO: 7658 DATE: 05/30/14 CADD FILE: 7658401PLAN-SCALE.dwg

TOPO SECTION OF:
POND CREEK, WV 7.5' QUAD.

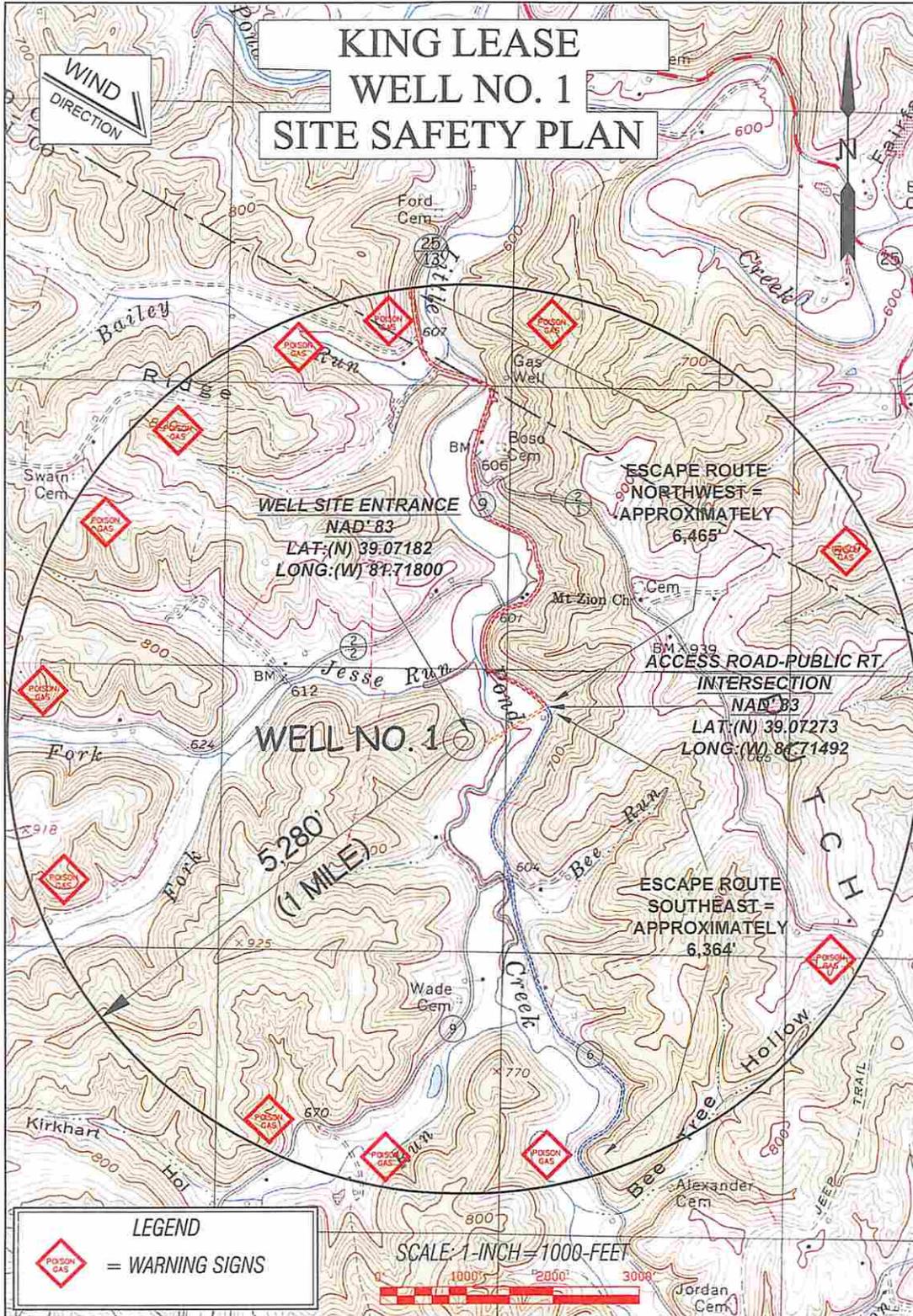
COUNTY	DISTRICT	TAX MAP--PARCEL NO.
JACKSON	GRANT	6-20

OPERATOR:
PENNECO OIL COMPANY
6608 ROUTE 22
DELMONT, PA 15626

MAPS & DIAGRAMS CONT'D

TOPOGRAPHIC MAP

KING LEASE WELL NO. 1 SITE SAFETY PLAN



Professional Energy Consultants
A DIVISION OF BIRTH LAKE SURVEYING, INC.

SLS
SURVEYORS
ENGINEERS
ENVIRONMENTAL
PROJECT MGMT.

1204 W. 10TH ST.
WWW.SLSURVEYS.COM

DRAWN BY: K.G.M. FILE NO. 7858 DATE 05/28/14 CADD FILE: P25047E/PLAN-P2.dwg

TOPO SECTION OF:
POND CREEK, WV 7.5' QUAD.

COUNTY	DISTRICT	TAX MAP-PARCEL NO.
JACKSON	GRANT	6-20

OPERATOR:
PENNECO OIL COMPANY
6608 ROUTE 22
DELMONT, PA 15626

EVACUATION PLAN

METHOD OF EVACUATION OF THE GENERAL PUBLIC AS WELL AS PERSONNEL FROM WELL SITE

The procedure to be used in evacuating nearby persons in the event of any occurrence that could pose a threat to life or property will be arranged and completed with public officials in detail, prior to drilling into the hydrogen sulfide formations.

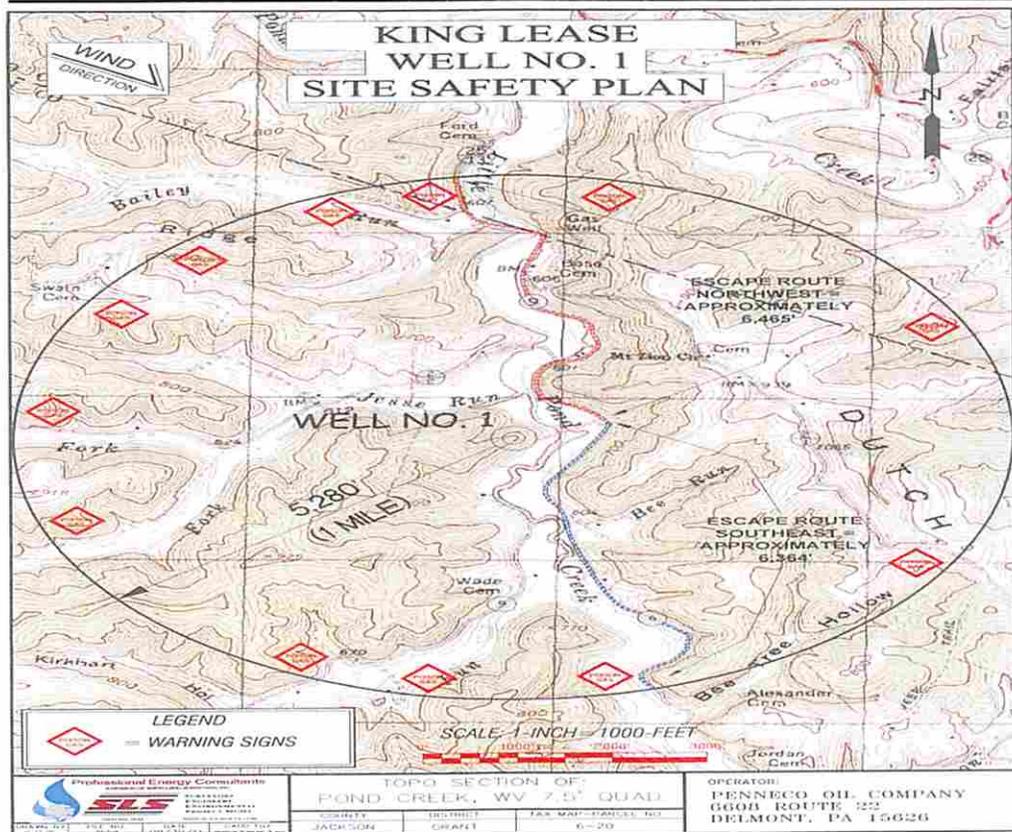
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ALL PRIMARY EXITS ARE LABELED ON SITE SAFETY PLAN MAP



WELL WORK

Description of well work as well as completion and production phase procedures

- A. The well will be drilled using air-rotary techniques. Casings will be cemented to surface (excluding the production casing which will be cemented 500' above the uppermost producing interval). Centralizers will be installed on the casing strings. The plug on the cemented casing strings will not be drilled out until the cement has cured (minimum of 8-hours wait on cement time). Upon reaching the projected total depth, the drill rods and bit will be removed from the well and the well will be logged using open-hole geophysical techniques (Natural Gamma, Induction, Caliper, Temperature, Neutron, and Density). The well will be completed by hydraulic fracturing. This will involve perforating the casing at specific intervals defined by the open-hole geophysical logs, and pumping water and sand into the formation to create fractures. Following the well treatment, a service rig will be brought in to drill out any baffles or plugs, and to swab on the well to remove frac fluids and prepare the well for production. The well may be produced through the 4-1/2" production casing, through 2-3/8" tubing, or using a pump and rods with artificial lift.
- B. A Copy of the site safety plan will be made available on the well site during all phases of the operation and provide an emergency point of contact with 24-hour contact information for the well operator. A copy of the site safety plan shall also be provided to the local emergency planning committee at least 7 days prior to any ground disturbance. The local emergency planning committee must be for the district where the well work will occur or the plan will be provided to the county office of emergency services.

CHEMICAL INVENTORY & MSDS

- A. The site safety plan will cover all aspects of the operation including: well work, completion phase, production phase and work-over activities. The Material Safety Data Sheets (MSDS) will be available for all chemical components used in each phase including those added to hydraulic fracturing fluid.
- B. The material safety data sheets (MSDS) will remain available at the well site throughout all phases of operation. The MSDS will be located in the “Dog-house” attached to the rig, the person responsible for maintaining the MSDS is Shannon Johnson the drill supervisor for Penneco.
- C. There will be enough dry chemicals on location to mix 1000 bbls of 12.5 ppg mud utilizing 450 bbl premix pit equipped with shear hopper. The rig will have a 1000 bbl mud tank capacity.

BOP & WELL CONTROL

Description of BOP's To Be Installed on Each Casing String

<u>Casing String – 13.375"</u> Rotating Head Only Size – 13.375" Pressure Rating – 500 psi	<u>Casing String – 9.625"</u> BOP Type – Annular Size – 9.625" Pressure Rating – 5000 psi
<u>BOP Type – Double Rams</u> Size – 7" Pressure Rating – 10000 psi	<u>BOP Type – Double Rams</u> Size – 4 1/2" Pressure Rating – 10000 psi

CASING AND TUBING PROGRAM

TYPE	SPECIFICATIONS			FOOTAGE	INTERVALS	CEMENT
	Size	Grade	Weight per ft.	For Drilling	Left in Well	Fill -up (Cu. Ft.)
Conductor	20"	MC-50	81.3#	70'	70'	CTS
Fresh Water	13 3/8"	H-40	48.0#	300'	300'	CTS
Coal	9 5/8"	H-40	32.30#	1610'	1610'	CTS
Intermediate	7"	J-55	23#	2040'	2040'	CTS
Production	4 1/2"	MAV65	10.5#	5620'	5570'	By Rule 35 CSR 4-11.1
Tubing						
Liners						

Pressure tests on the BOPE will be conducted at least:

1. Upon installation or prior to running the BOP subsea (stump test).
2. After disconnection or repair of any pressure containment seal in the BOP stack, choke line, choke manifold, or wellhead assembly, but limited to the affected component.
3. At a frequency defined by regulatory agency, but not to exceed 21 days.
4. Pressure and function tests, and the results of same, will be recorded on the Penneco Daily Report.
5. Deviations to the testing requirements must be approved by the area drilling or completion manager and in compliance with the necessary regulatory procedures for non-conformance.

BOP Installation and Pressure Testing

1. The 13.375” Rotating Head will be installed when nipping up on the 13.375” casing. It will divert returns to the pit while air drilling this section.
2. The 9.625” BOP stack will be installed when nipping up on the 9.625” casing. The BOP will be pressure tested using a test plug. The BOP will be tested to a pressure of 250 psi low and 5000 psi high and the annular to 250 psi low and 2500 psi high prior to drilling out 7” casing.
3. When the 10000 psi BOP stack is in use, a 10000 psi upper and lower Kelly cock will be employed. They will be tested when the BOP stack is tested.

WWD&C Standard Operations Guidelines

1. BOPE configuration and testing will comply with State, Federal, or other governmental regulations and API RP 53 guidelines including accumulator testing for every well.
2. Pressure tests shall be performed to the maximum anticipated load.
3. BOP pressure test shall be five minutes low pressure (200 to 300 psi) followed by five minutes at a higher pressure.
4. Acceptance criteria will be less than 1% pressure loss during test period following stabilization. The rate of change of test pressure must be on a decreasing trend.
5. In offshore operations and where required by regulation or risk, all pressure tests will be recorded on a chart. Information detailing what was tested, time, date, and the authority accepting the test shall be recorded.
6. Gas is not allowed as a pressure testing fluid.
7. The Penneco Oil Company Drilling Supervisor will verify all pressure tests of BOP’s, surface lines, seals, casings, and FIT tests. All tests are to be recorded on the IADC and Penneco daily drilling reports.

BOP Trained Personnel

Penneco Oil Company Representative
Penneco Oil Company Representative – Relief
Rig Supervisor
Rig Supervisor – Relief

Tool pusher
Day Tour Driller
Night Tour Driller
Relief Driller

**KING 1
PROPOSED CASING PLAN AND SETTING DEPTH**

	DIAMETER	HOLE SIZE	SETTING DEPTH	GRADE
CONDUCTOR:	20"	24"	70'	0.375 wall, 81.3#, BTC MC50 1,640# internal yield, 890,000# joint strength, 320# collapse rating
SURFACE: (FRESH WATER)	13.375"	16.0"	300'	0.330 wall, 48.0#, ST&C, H40 pipe, H40 cpl., 1,730# int. yield 322,000# joint strength, 740# collapse rating
COAL PROTECTION: (NO COAL)	9.625"	12.25"	1,610'	0.312 wall, 32.30#, ST&C, H40 pipe K55 cpl., 2,270# internal yield 254,000# joint strength 1,370# collapse rating
INTERMEDIATE:	7.00"	8.75"	2,040'	0.317 wall, 23.0#, ST&C, J55 pipe K55 cpl., 4,360# internal yield 313,000# joint strength, 3,270# collapse rating
PRODUCTION:	4.50"	6.25"	as per orders (+ or - 5,570')	0.220 wall, 10.5#, ST&C, MAV65 K55 cpl., 5,560# internal yield 140,000# joint strength, 4,250# collapse rating
TD HOLE:			5,620'	

PURPOSE: TO DRILL AND COMPLETE IN THE SILURIAN BIG SIX, WILLIAMSPORT AND/OR NEWBURG FORMATIONS OR LOWER DEVONIAN ORISKANY AND ABOVE FORMATIONS.

Well Control

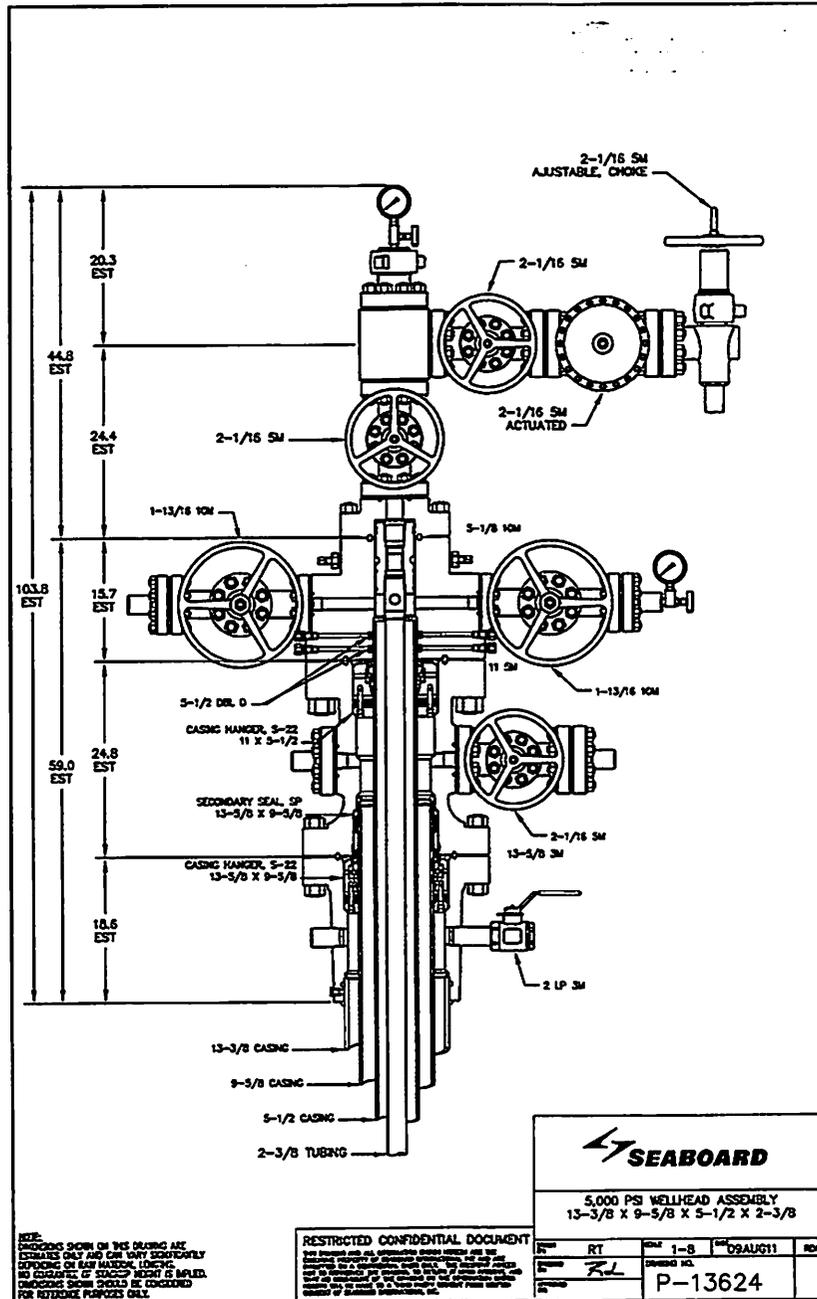
1. Drilling Supervisors, Completion Supervisors, MODU OIM's, Drillers, and Tool Pushers (including all personnel that may be acting in these capacities) must hold a valid well control certificate from an accredited IWCF or Well CAP organization.
2. The working pressure and temperature rating of the BOPE and wellhead will exceed the maximum anticipated surface pressure and temperature. (Note: MASP to be based on Modified Chevron Method of calculating gas hydrostatic unless an alternative method is approved through risk assessment.)
3. BOPE rubber goods, studs, and nuts will be inspected prior to initial rig up. API ring gaskets will be inspected anytime API flanged connections are "broken" on onshore operations and always will be replaced with new gaskets on offshore operations.
4. Hole-filling and pit monitoring procedures will be established by site supervision for every rig operation. The established procedures will be documented and approved by Penneco and the D&C Contractor.
5. Circulating trip tanks are required for all drilling operations.
6. Rams must be installed to fit all sizes of drill pipe and work strings in use.
7. A drill string float valve (ported acceptable) will be installed in all drilling bottom hole assemblies (BHA's). Similar valves should be considered for well intervention and completion operations when reverse circulating is not required.
8. A pressure tested full opening safety valve (FOSV) and opening/closing wrench with appropriate threads or crossover subs for all connections will be available on the rig floor at all times.
9. Accumulator controls will always be left in a power position (i.e. open/closed: not neutral).
10. Surface casing, intermediate casing, and liner shoes will have formation integrity tests (FIT) or leak-off tests (LOT) completed unless risk assessment determines that a shoe test is not required.
11. The "hard shut-in procedure" shall be used on all kicks (other than diverter installations).
12. During drilling operations, slow circulating rates (SCR) should be obtained and recorded for each mud pump at least after BHA or mud weight changes and 500 feet of formation drilled.
13. Drilling BOP space-out and tool joint space-out diagrams shall be posted on the rig floor at all times.
14. Flow checks shall be conducted after drilling breaks, prior to tripping, after or during lost circulation events, pumping out, prior to nipping down BOP's, and any other time when anomalous pit volume readings are observed. Minimum flow check duration shall be 15 minutes. Pipe rotation during the flow check is recommended.
15. Diversers will be rigged up to facilitate installation of straight diverter lines.
16. When securing a well overnight when working "daylight only" operations, BOPE should be closed and locked.

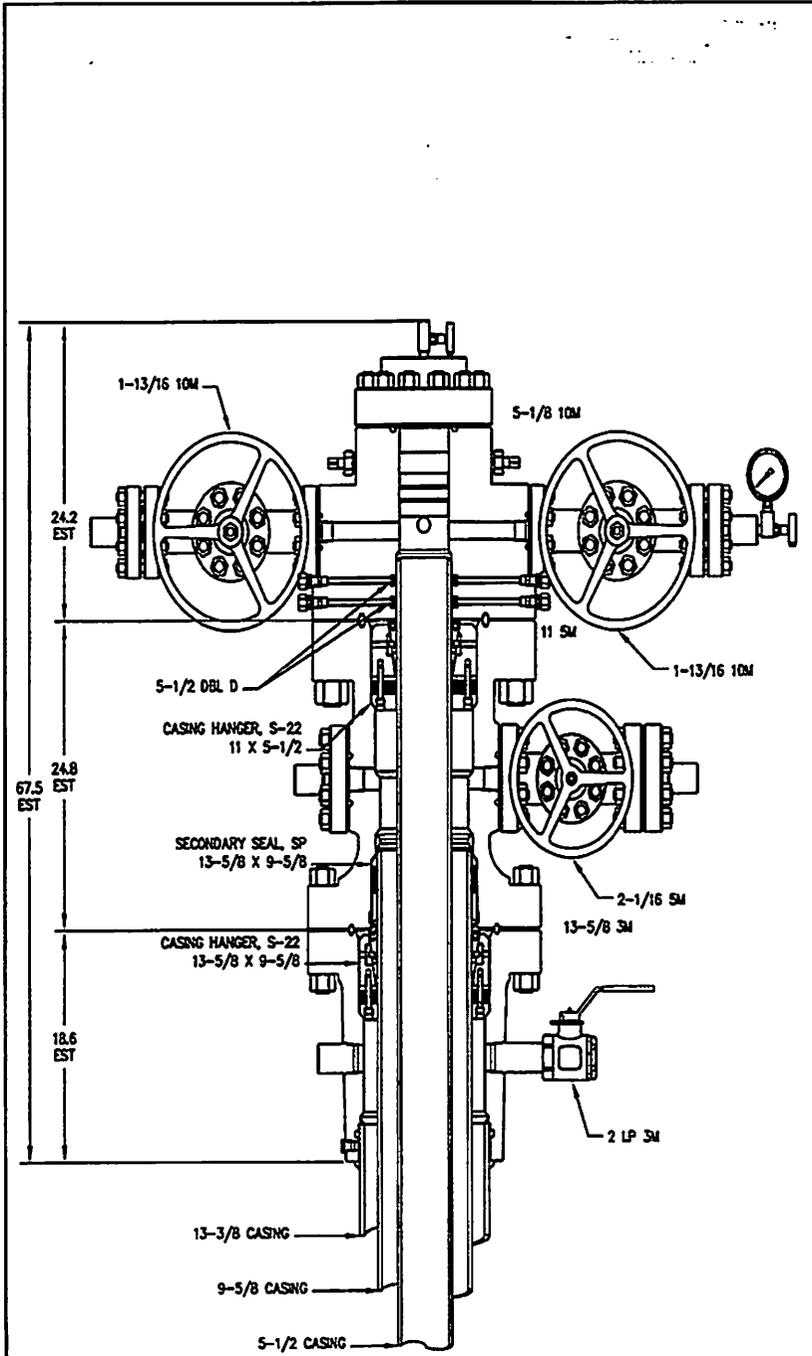
Recording of Significant Drilling Events and Reporting Them to the O.O.G.

A detailed record of significant drilling events will be recorded in Penneco Oil Company's well log book. The office of oil and gas state inspector will be notified immediately upon any significant drilling events such as but not limited to the encounter of Hydrogen Sulfide Gas, loss of circulation, fluid entry and abnormal pressures.

Wellhead Assembly

The Christmas tree section is to be designed depending upon the well completion type (i.e., 7", 4 1/2", tubing, or combination thereof).





5,000 PSI WELLHEAD ASSEMBLY
13-3/8 X 9-5/8 X 5-1/2

NOTE:
DIMENSIONS SHOWN ON THIS DRAWING ARE ESTIMATES ONLY AND CAN VARY SIGNIFICANTLY DEPENDING ON RAW MATERIAL LENGTHS. NO GUARANTEE OF STACKUP HEIGHT IS IMPLIED. DIMENSIONS SHOWN SHOULD BE CONSIDERED FOR REFERENCE PURPOSES ONLY.

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REV	RT	DATE	1-8	BY	09AUG11	APP
1	RL	DATE		BY		
DRAWING NO.		P-13624A				

Well Killing Operations

There will be enough dry chemicals on location to mix 1000 bbls of 12.5 ppg mud utilizing 450 bbl premix pit equipped with shear hopper. We anticipate the rig will have a 1000 bbl mud tank capacity.

Number and Type

There will be two centrifugal pumps serving as the primary mixing pumps. The mud pump will serve as the backup mixing pump. These pumps will use a hopper style mixer.

Well Flaring and Killing Operations

Flare Line Installation

1. The flare line will be 8" flanged pipe, at a minimum length of 100'.
2. 4 1/16" x 3 1/16" 10000 psi double choke manifold will be installed.

Ignition Methods and Notification

1. Primary – electronic igniter and/or propane torch.
 2. Backup – Marine flare pistol
 3. Notification of a flare will be given to the local fire department, if possible.
- The duration of flaring operations shall last no longer than 7 to 10 days maximum.

Minimum Distance of Clearing of Flammable Material

All flammable material within a minimum distance of 50' will be cleared from around the burn pit.

H₂S Safety Equipment (PPE) List

Hydrogen Sulfide Safety Package – Contained on location in Total Safety H₂S Equipment Trailer, unless otherwise noted:

Respiratory Safety Systems

<u>QTY</u>	<u>DESCRIPTION</u>
1	Trailer with 10 bottle cascade system and associated manifolds.
24	30-minute pressure demand SCBA with Pigtail (4 – Primary safe briefing area, 4 – Secondary Safe Briefing Area, 4 – floor with one of these for derrick man)
9	Hose Line 5-minute Work Unit w/Escapes Cylinder (1 in derrick, 6 on drill floor, 1 in mud pit wet area, 1 in shaker area)
1	Breathing air cascade of 8 bottles w/regulator (with hoses and manifolds rigged up to rig floor)
2	Refill lines to refill 30-minute units on location
2	6-man manifold that can be rigged up to work area on floor, if needed
6	25 foot hose lines
2	50 foot hose lines
100	feet of hose line to rig cascade up to 12 man manifold on floor

Detection and Alarm Safety System

1	H ₂ S Fixed Monitor w/8 channels (Location determined at rig up) suggested. (Mud pit area, shaker area, bell nipple area, floor/driller area, & outside quarters)
5	H ₂ S Sensors – located at rig floor, cellar, shakers, drillers console, and pit
3	Explosion Proof Alarms (Light and Siren)
2	Personal H ₂ S monitors
1	Portable Tri-Gas Hand Held Meter (O ₂ , LEL, H ₂ S)
1	Sensidyne/Gastech Manual Pump Type Detector
8	Boxes H ₂ S Tubes Various Ranges
2	Boxes SO ₂ Tubes Various Ranges
1	Calibration Gas
1	Set Paper Work for Records: Training, Cal, Inspection, other
30	H ₂ S Clip-on personnel monitors (Cricket type or similar)

H₂S Training Statement

On site personnel will be trained in H₂S safety by independent training contractors. H₂S qualified personnel will be present during the drilling and/or presence of H₂S. Completion and production activities will include Hydro-Fracing.

METHOD OF NOTIFICATION TO O.O.G

The state office of oil and gas will be notified by telephone and e-mail immediately upon any significant drilling events such as but not limited to the encounter/ presence of Hydrogen Sulfide (H₂S) Gas.

PROTECTION ZONES

A 1-mile radius is established and will continue to be maintained as a safe zone around the well.

Additional Safety (PPE) Related Equipment

<u>QTY</u>	<u>Description</u>
2	Windssocks with Pole and Bracket
1	Set Well Condition Sign w/Green, Yellow, Red Flags
1	Primary Safe Briefing Area Sign
1	Secondary Safe Briefing Area Sign
6	Operating Condition Signs for Work Areas & Living Quarters
*	MSDS sheets shall be posted in the Supervisors trailer and will be readily available to anyone.

Trailer with Breathing Air Cascade Will Also Include the Following

This equipment will be part of the H₂S equipment stored in the trailer, when on location

1	Oxygen Resuscitator
1	Flare Gun, with 10 cartridges
1	First aid kit
1	Eye wash station
1	Litter
2	Safety Harness w/150' Safety line

Well Flaring Operations

Flare Line Installation

1. The flare line will be 8" flanged pipe, at a minimum length of 100'.
2. 4 1/16" x 3 1/16" 10000 psi double choke manifold will be installed.

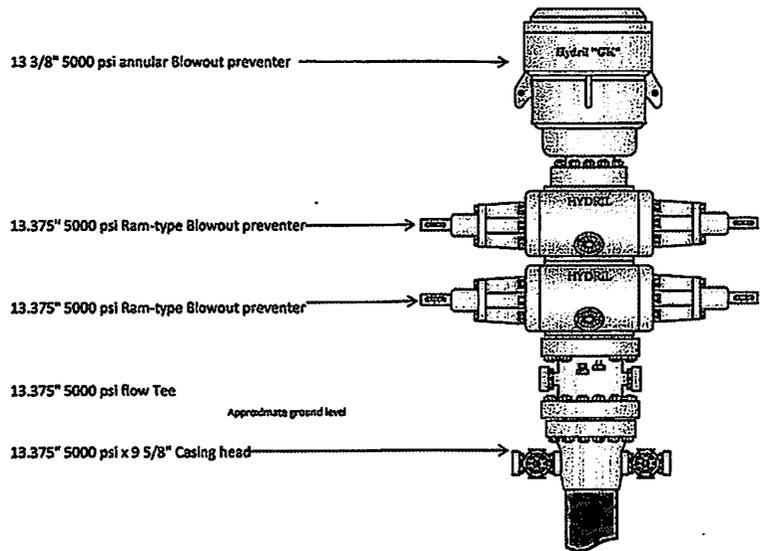
Ignition Methods and Notification

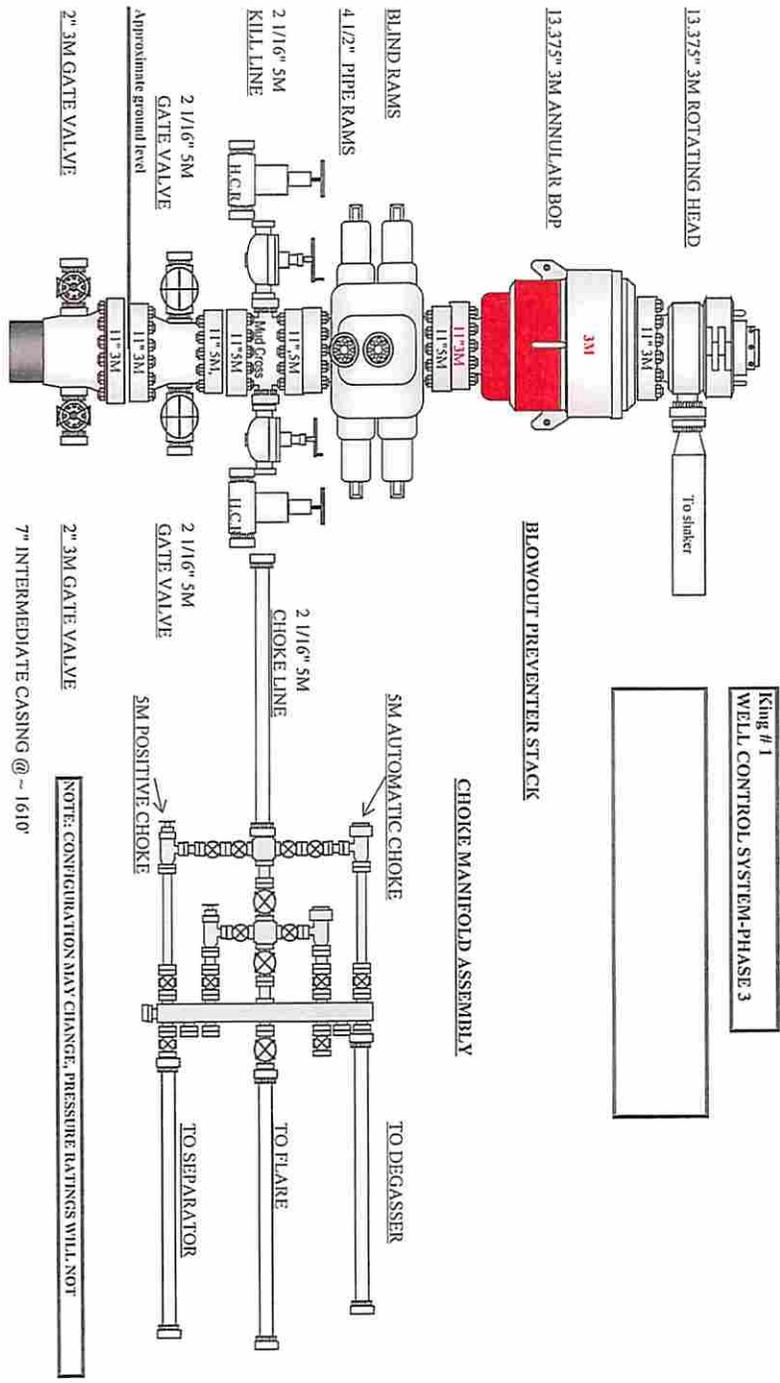
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Penneco
Proposed Blowout Preventer Schematic
King # 1Townsen # 1
Jackson County, West Virginia





King #1
WELL CONTROL SYSTEM-PHASE 3



COLLISION AVOIDANCE

NA

DEEP WELL (H6A) ADDITIONAL REQUIREMENTS

LIST OF RESIDENTS, BUSINESSES AND PUBLIC FACILITIES WITHIN 1-MILE RADIUS

Melton Linn Midkiff Ravenswood, WV. 26164	3010 Jessies Run Rd.	No Listing
Jennifer D. Ramsey Sandyville, WV. 25275	51 RR 3	No Listing
Pauline W. McNeal Murraysville, WV. 26164	1374 Harpers Ln.	No Listing
Michael Stephen Massey Ravenswood, WV. 26164	501 Fleming St. Apt 60	No Listing
Herbert Leon Hiser Murraysville, WV. 26164	2407 Little Pond Creek	(304)-273-5318
MT. Zion Church & cemetery (vacant)	567 Dutch ridge road	No Listing

Deep Well Layout

