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: 47-10701749, 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.

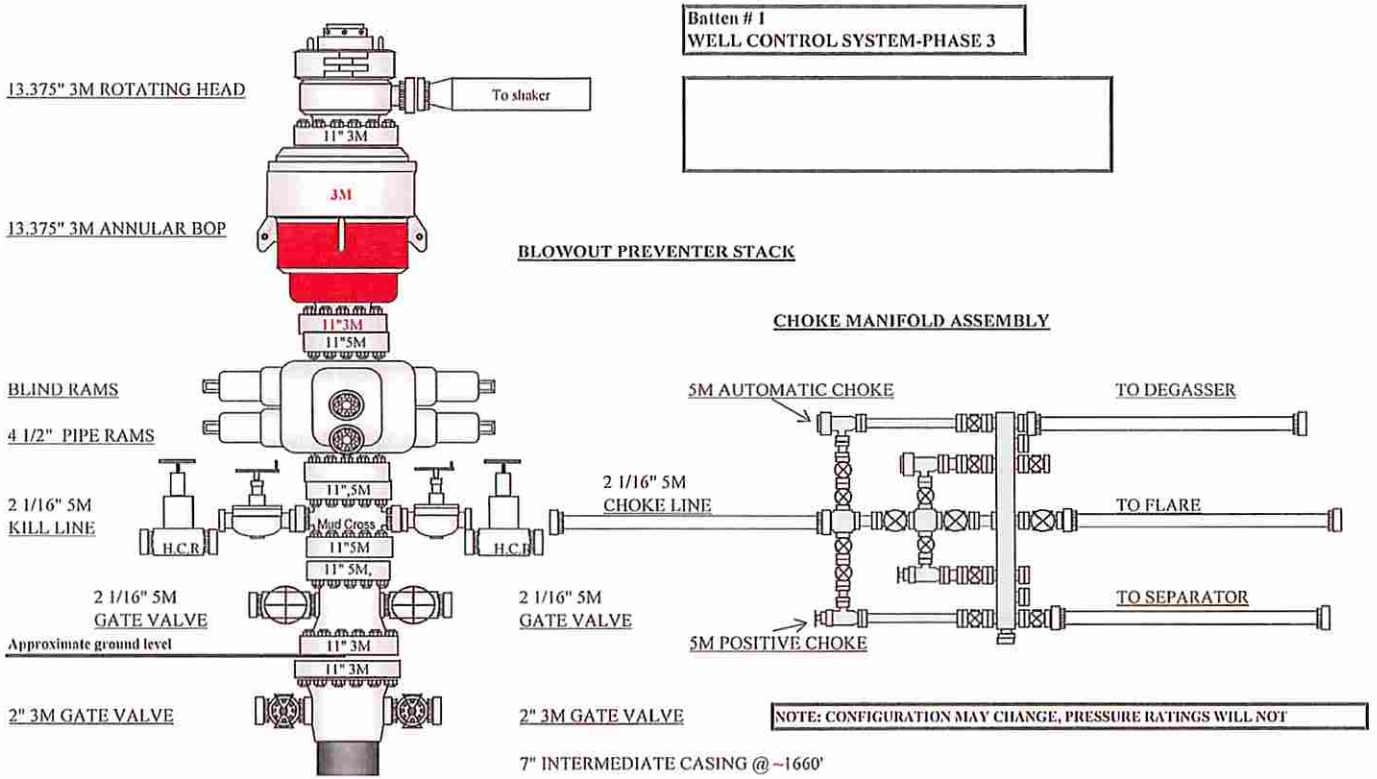
James Martin
Chief

Operator's Well No: BATTEN #1
Farm Name: BATTEN, GARY R.
API Well Number: 47- 10701749
Permit Type: Vertical Well
Date Issued: 03/03/2015

Promoting a healthy environment.

10701749

Batten # 1
WELL CONTROL SYSTEM-PHASE 3



NOTE: CONFIGURATION MAY CHANGE, PRESSURE RATINGS WILL NOT

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Flare Line Installation

1. The flareline 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 shale 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.

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.

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H_2S Safety Services Equipment List

Hydrogen Sulfide Safety Package – Contained on location in Total Safety H_2S Equipment Trailer, unless otherwise noted:

Respiratory Safety Systems

QTY	DESCRIPTION
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/Escape Cylinder (1 in derrick, 6 on drill floor, 1 in mud pit wt 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_2S Fixed Monitor w/8 channels (Loc determined at rig up) suggested. (Mud pit area, shaker area, bell nipple area, floor/driller area, & outside quarters)
5	H_2S Sensors – located at rig floor, cellar, shakers, drillers console, and pit
3	Explosion Proof Alarms (Light and Siren)
2	Personal H_2S monitors
1	Portable Tri-Gas Hand Held Meter (O_2, LEL, H_2S)
1	Sensidyne/Gastech Manual Pump Type Detector
8	Boxes H_2S 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_2S Clip-on personnel monitors (Cricket type or similar)

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Additional Safety Related Equipment

QTY	Description
2	Windsocks 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 shale 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 H_2S 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

H_2S Training Statement

On site personnel will be trained in H_2S safety by independent training contractors. H_2S qualified personnel will be present during the drilling and/or presence of H_2S.

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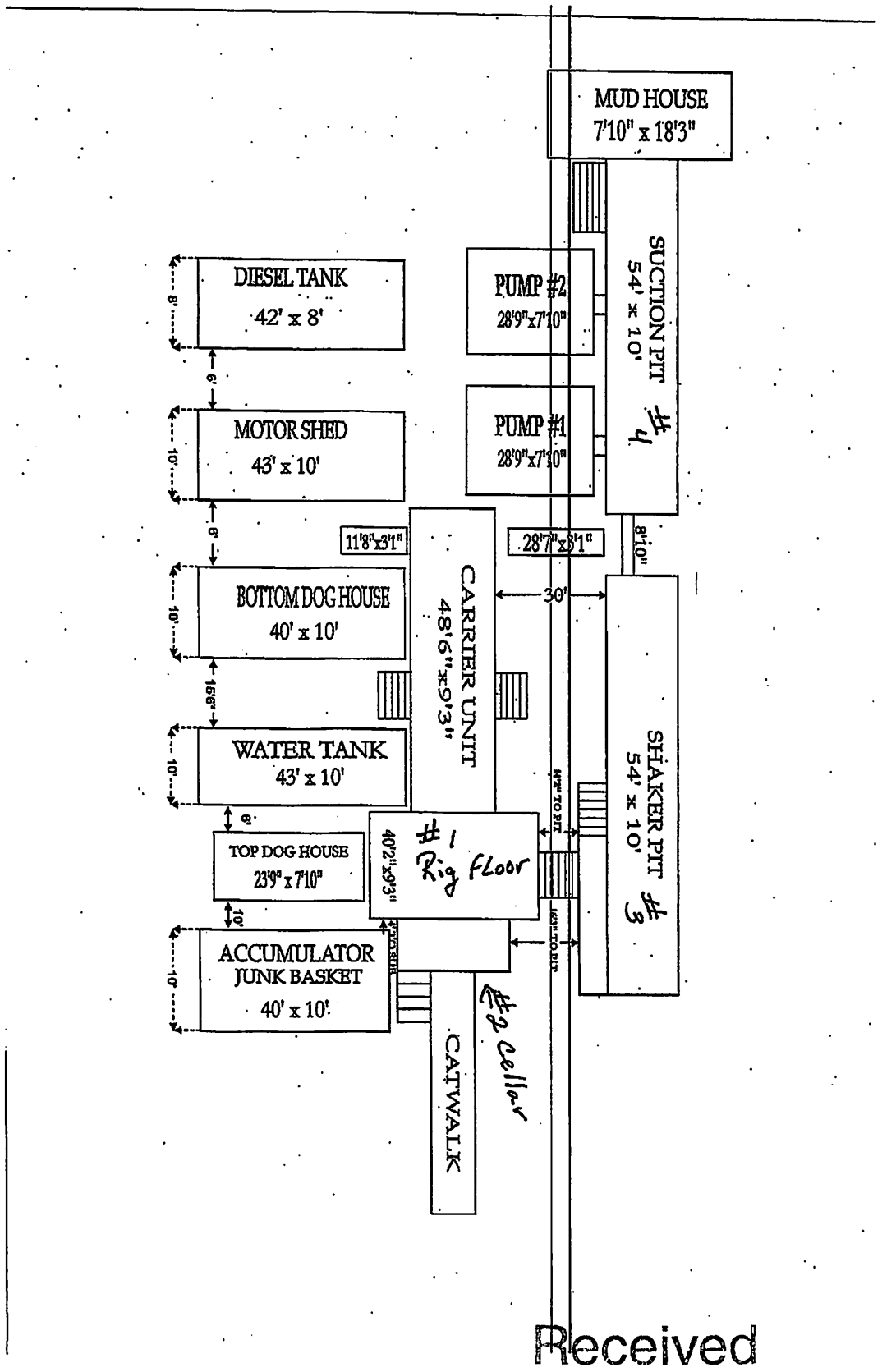
Deep Well Layout



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Listing of Names, Addresses and Telephone Numbers within 1 Mile radius of proposed well bore

Name	Address	Phone Number
Gary R. Batten Map 420 Par # D	1064 Pleasant Home Ridge Rd. Belleville, WV. 26133	(304)-863-6839
Ronald Teska Map 420 Par # F	397 Hewett Run Road Wind Ridge, PA. 15380	(724)-428-5354
James E. White Map 420 Par # H	102 Pleasant Hill Church Rd. Belleville, WV. 26133	No Listing
James N. Kemp Map 420 Par # K	3311 Lee Creek Rd. Belleville, WV. 26133	(304)-863-0442
Gary R. & Mabel P. Batten Map 420 Par # D1	1064 Pleasant Home Ridge Rd. Belleville, WV. 26133	(304)-863-6839
Edward L. McComas Map 420 Par # G1	368 Pleasant Hill Church Rd. Belleville, WV. 26133	(304)-863-6991
David S. Johnson Map 420 Par # H1	60 Pleasant Hill Rd. Belleville, WV. 26133	No Listing
Franklin G. Jones Map 350 Par # A	2103 Middle Folk Lee Creek Rd. Belleville, WV. 26133	No Listing
Jeremy K. Parsons Map 350 Par # B	1605 Pleasant Home Ridge Rd. Belleville, WV. 26133	No Listing
Robert Martin Map 350 Par # D	1381 Pleasant Home Ridge Rd. Belleville, WV. 26133	No Listing
Franklin G. Jones, Jr. Map 350 Par # A2	2103 Middle Fork Rd. Belleville, WV. 26133	No Listing
Franklin G. Jones, Sr. Map 350 Par # A3	2185 Middle Fork Rd. Belleville, WV. 26133	No Listing
Darrell L. Wright Map 430 Par # A	3611 Lee Creek Rd. Belleville, WV. 26133	(304)-863-3036
Judith A. Townsend Map 430 Par # B	3978 Lee Creek Rd. Belleville, WV. 26133	No Listing
Joseph G. Starkey Map 430 Par # G & G1	85 Willow Run Rd. Belleville, WV. 26133	No Listing
Kevin L. Townsend Map 430 Par # B1	3978 Lee Creek Rd. Belleville, WV. 26133	No Listing
Layman E. Flinn Map 340 Par # G & M	1943 Middle Fork Lee Creek Rd. Belleville, WV. 26133	No Listing
H. and Ellen Hofmann Map 340 Par # I	984 Middle Fork Lee Creek Rd. Belleville, WV. 26133	(304)-863-3239
Charles E. Flinn Map 340 Par # K	1708 Middle Fork Lee Creek Rd. Belleville, WV. 26133	(304)-863-6326
John L. Minney Map 340 Par # O	2012 middle Fork Rd. Belleville, WV. 26133	(304)-863-6648
Brent E. Flinn Map 340 Par # G1	1928 Middle Fork Lee Creek Rd. Belleville, WV. 26133	(304)-863-5686
James N. Emrick Map 340 Par # J2 & J4	1444 Middle Fork Rd. Belleville, WV. 26133	No Listing
American Telephone & Telegraph Company Map 340 Par # K2	95 Williams Street Nework, NJ. 07102	(373-596-2100
James E. Sams Map 340 Par # K3	1602 Middle Fork Lee Creek Rd. Belleville, WV. 26133	(304)-863-6827
John E. Hayes Map 340 Par # O3A	2010 Middle Fork Lee Creek Rd. Belleville, WV. 26133	(304)-863-5191

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Theodore K. Miller Map 421 Par # 1 & 2	570 Pleasant Home Ridge Rd. Belleville, WV. 26133	(304)-863-0090
Ronald I. Wigal Map 421 Par # 8	940 Pleasant home Ridge Rd. Belleville, WV. 26133	No Listing
Michael A. Sheppard Map 421 Par # 10	903 Pleasant Home Ridge Rd. Belleville, WV. 26133	(304)-863-5184
James Coss Map 421 Par # 12B	793 Pleasant Home Ridge Rd. Belleville, WV. 26133	(304)-863-8554
Darrell O. Stephens Map 421 Par # 13	733 Pleasant Home Ridge Rd. Belleville, WV. 26133	No Listing
Shirley J. Cottle Map 421 Par # 14	RR 1 Box 205-BB Belleville, WV. 26133	No Listing
Dona R. Wheeler Map 421 Par # 15	553 Pleasant Home Ridge Rd. Belleville, WV. 26133	(304)-863-6224
Jason E. & Rebecca L. Sams Map 440 Par # B	1381 Harris HWY. Parkersburg, WV. 26101	No Listing
Daniel Theodore Townsend Map 480 Par # A	2784 Lee Creek Rd. Belleville, WV. 26133	(304)-863-6973
Bernice E. Townsend Map 480 Par # B	3014 Lee Creek Rd. Belleville, WV. 26133	(304)-863-3457
Randy Townsend Map 480 Par # A1	230 Oak Valley Rd. Belleville, WV. 26133	(304)-863-6268
Douglas W. Buck Map 480 Par # A2	234 Oak Valley Rd Belleville, WV. 26133	(304)-863-8351
Robert D. Bell Map 480 Par # B1	3014 Lee Creek Rd. Belleville, WV. 26133	(304)-863-3457
Charles Coss Map 421 Par # 12	P.O. Box 52 Keystone, IN. 46759	No Listing
Elizabeth Matterson Map 421 Par # 12A	1905 Beaver Street Parkersburg, WV 26101	No Listing

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

LETTER OF TRANSMITTAL

DATE	JOB NO
12/09/2014	7660
ATTENTION: Mr. Dave Smail	
RE: Final Water Well Data Info. For the BATTEN #1 Well pad	

TO PENNECO OIL COMPANY
6608 Route 22
Delmont, PA 15626

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	16	Sample results
1	12/09/2014	9	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@slssurveys.com

COPY TO SLS Files

7660.PENNECO.BATTEN.TRANSMITTLE

SIGNED: Daniel McKee Environmental Technician

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

10701749P

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.

10701749

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 #47-107-01749

COMPANY: Penneco Oil Company

FARM: Batten #1

COUNTY Wood DISTRICT: Harris QUAD: Lubeck

The application for the above company is **approved to drill to Rose Hill 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

Cindy Raines
Executive Assistant

ck # 17911
$ 800.00
10701749

WW - 2B
(Rev. 8/10)

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

1) Well Operator: Penneco Oil Company

494460033	Wood (107)	Harris (2)	Lubeck 7.5' (249)
Operator ID	County	District	Quadrangle

2) Operator's Well Number: Batten #1 3) Elevation: 890'

4) Well Type: (a) Oil_____ or Gas X

(b) If Gas: Production X / Underground Storage _____

Deep X / Shallow _____

5) Proposed Target Formation(s): Rose Hill Proposed Target Depth: 5,835'
6) Proposed Total Depth: 5,885' Feet Formation at Proposed Total Depth: Rose Hill
7) Approximate fresh water strata depths: 122'
8) Approximate salt water depths: 1388', 1587'

9) Approximate coal seam depths: None

10) Approximate void depths,(coal, Karst, other): None

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 Size	Grade	Weight per ft	FOOTAGE INTERVALS For Drilling	Left in Well	CEMENT Fill -up (Cu. Ft.)
Conductor	20"	MC-50	81.3 #	30'	30'	CTS
Fresh Water	13 3/8"	H-40	48.0 #	300'	300'	CTS
Coal	9 5/8"	H-40	32.3 #	1660'	1660'	CTS
Intermediate	7"	J-55	23 #	2245'	2245'	CTS
Production	4 1/2"	MAV65	10.5#	5885'	5835'	301 sacks (515 cu. ft.)
Tubing						
Liners						

Jamie Stevens 3/11/2014

Packers: Kind:
Sizes:
Depths Set

Renew existing permits
Expiring

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WV Dept. of Environmental Protection

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BATTEN 1
PROPOSED CASING PLAN AND SETTING DEPTH

	DIAMETER	HOLE SIZE	SETTING DEPTH	GRADE
CONDUCTOR:	20"	24"	30'	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"	1,660'	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"	2,245'	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 - 5,775')	0.220 wall, 10.5#, ST&C, MAV65 K55 cpl., 5,560# internal yield 140,000# joint strength, 4,250# collapse rating
TD HOLE:			5,835'	

Purpose: To drill and complete in the Rose Hill Formation.

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WV Dept. of Environmental Protection

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Geologic Prognosis

ESTIMATED LOG
Batten No. 1, 47-107-0____
Harris District, Wood County, WV

Elevation (Ground): 890', 900' KB

Formation Tops:	Depth	Thickness	Pay/Show
Big Lime	1713'	45'	-
Big Injun	1758'	462'	-
Sunbury Shale	2220'	18'	
Berea	2238'	4'	Poss Sg
Lo Huron undiff.	2242'	1,107'	Poss Sg 3,245'
Lower Huron	3,349'	533'	Poss Sg 3,638'
Java Fm.	3,882'	385'	
Rhinestreet Sh.	4,267'	193'	
GAS CHECK	4,450'		
Onondaga Ls.	4,460'	96'	poss Sg
Oriskany Ss.	4,556'	30'	poss Sg/pay
Helderberg	4,586'	196'	-
GAS CHECK	4,700'		
Salina	4,782'	535'	-
Newburg Sz.	5,317'	25'	poss Sg/pay
McKenzie	5,337'	298'	poss Sg 5,469'
GAS CHECK	5,600'		
Big Six Ss.	5,635'	34'	poss Sg
Rose Hill Sh.	5,669'	5,835'	
Total Depth		5,835'	

— SEE ATTACHED WRK PERMIT & PLUGGING AFFIDAVIT FOR 107-00443 TOWNSEND 1

Possible freshwater flows: Poss @122'
Possible salt water flows: Poss @ 1,388' and 1,587'

Logging Program:

Gamma Ray: TD to Surface
Temperature: TD to csg. seat
Dual Induction: TD to csg. seat
Compensated Density: TD to casing seat
Sidewall Neutron Porosity: TD to casing seat

Note: 2.68 Matrix Density from csg seat to top Onondaga, 2.71 gm/cm3 from Onondaga Top
Fluid Density air filled hole: 1.00

Other: Mud Log: 4,400' to TD
Samples: every 10 feet from 4450' to 4700'; 5,280' to 5,700'

Casing Program:

Conductor: 20", 30', Range 3, 8 round, 81.3 lb., BTC, 0.375 wall, Grade MC50 pipe,

Surface: 13.375", 300' Range 3, 8 round 48.0 lb., ST&C, 0.330 wall, Grade H40 pipe, H40 cpl.

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Office of Oil and Gas
WV Dept. of Environmental Protection

10700443

FORM OG-8

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS DIVISION

AFFIDAVIT OF PLUGGING AND FILLING WELL

AFFIDAVIT SHOULD BE MADE IN TRIPLICATE. ONE COPY MAILED TO THE DEPARTMENT, ONE COPY TO BE RETAINED BY THE WELL OPERATOR AND THE THIRD COPY (AND EXTRA COPIES IF REQUIRED) SHOULD BE MAILED TO EACH COAL OPERATOR AT THEIR RESPECTIVE ADDRESSES.

COAL OPERATOR OR OWNER

ADDRESS

COAL OPERATOR OR OWNER

ADDRESS

LEASE OR PROPERTY OWNER

ADDRESS

B. H. Putnam
NAME OF WELL OPERATOR

512 Third Street, Marietta, Ohio
COMPLETE ADDRESS

May 16, 1955 19

WELL AND LOCATION

Harris District

Wood County

Well No. 1

C. A. Townsend Farm

STATE INSPECTOR SUPERVISING PLUGGING George I. Simons

AFFIDAVIT

STATE OF WEST VIRGINIA,
County of Wood } ss:

Gerald D. Jones and Hetsel Digman being first duly sworn according to law depose and say that they are experienced in the work of plugging and filling oil and gas wells and were employed by Putnam Drilling Company, well operator, and participated in the work of plugging and filling the above well, that said work was commenced on the 29th day of April, 1955, and that the well was plugged and filled in the following manner:

SAND OR ZONE RECORD	FILLING MATERIAL	PLUGS USED	CASING	
FORMATION		SIZE & KIND	CSG FULLED	CSG LEFT IN
4344-4179	filled with crushed stone and clay	Bridge 2000 feet		
1722	Clay			
1722-1712	Cement	Bridge at 1400 feet		
983	Clay			
983-973	Cement			
	Five feet of stone on cement, plug to seal off salt water	Bridge at 500 feet		
	Stone on bridge			
	Then filled to surface with clay			
	Regulation marker on top			

COAL SEAMS

(NAME)

(NAME)

(NAME)

(NAME)

DESCRIPTION OF MONUMENT

and that the work of plugging and filling said well was completed on the 16th day of May, 1955.

And further deponents saith not.

Gerald D. Jones

Sworn to and subscribed before me this 10th day of December, 1955

James E. Hunnie
Notary Public.

My commission expires: 3/14/62

Permit No. WOO-443-P

DEC 1955 RECEIVED WEST VIRGINIA DEPT. OF MINES

1955 RECEIVED WEST VIRGINIA DEPT. OF MINES

10700443

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS DIVISION 15

WELL RECORD

Quadrangle BELLEVILLE

Permit No. WOO-443

Oil or Gas Well DRY (KIND)

Company B. H. Putnam
Address Box 647 - Marietta, Ohio
Farm C. A. Townsend Acres 187
Location (waters) South Fork of Lee Creek
Well No. 1 Elev. 643
District Harris County Wood
The surface of tract is owned in fee by C. A. Townsend et ux
Belleville, W. Va. Address
Mineral rights are owned by Same
Address
Drilling commenced March 9, 1955
Drilling completed May 13, 1955
Date Shot not shot From To
With
Open Flow /10ths Water in Inch
/10ths Merc. in Inch
Volume Cu. Ft.
Rock Pressure lbs. hrs.
Oil bbls., 1st 24 hrs.
Fresh water feet feet
Salt water 1155' feet 1340' feet

Casing and Tubing	Used in Drilling	Left in Well	Packers
Size			
16	24' 11"		Kind of Packer
13	469'		
10	953'		Size of
8¼	1692'		
6⅝			Depth set
5 3/16			
3			Perf. top
2			Perf. bottom
Liners Used			Perf. top
			Perf. bottom

CASING CEMENTED SIZE No. Ft. Date

COAL WAS ENCOUNTERED AT FEET INCHES
FEET INCHES FEET INCHES
FEET INCHES FEET INCHES

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth Found	Remarks
Surface			0	15			
Sand			15	20			
Red Rock			20	89			
Slate & Shells			89	100			
Red Rock			100	135			
Slate			135	170			
Red Rock			170	190			
Sand			190	245			
Slate			245	250			
Red Rock			250	280			
Slate & Shells			280	300			
Red Rock			300	325			
Lime			325	350			
Red Rock			350	360			
Sand Broken			360	370			
Slate			370	375			
Sand			375	458			
Slate & Shells			458	525			
Black Slate			525	540			
Blue Slate			540	550			
Red Rock			550	715			
Sand			715	730			
Slate			****715****	****730****	730 To 735		
Red Rock			735	760			
Slate & Shells			760	785			
Slate			785	806			
Sand			806	810			
Slate			810	835			
Red Rock			835	845			
Slate % Shells			845	860			
Sand Broken			860	880			
Slate & Shells			880	969			
Sand			969	980			
Slate			980	1025			
Sand Broken			1025	1046			
Slate			1046	1102			
Sand Broken			1102	1128			
Slate & Shells			1128	1145			

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(Over)

10700443

Formation	Color	Hard or Soft	Top 16'	Bottom	Oil, Gas or Water	Depth Found	Remarks
Sand			1145	1225	Water	1155	2 Bailers
Slate % Shells			1225	1240			
Sand			1240	1325			2 Salt
Black Slate			1325	1335			
Sand			1335	1370	Water	1340	3 Bailers Salt
Slate			1370	1374			
Sand			1374	1430			Enjin
Slate & Shells			1430	1475			
Sand			1475	1491			Squaw
Slate			1491	1956			
Sand			1956	1961			Berea
Slate & Shells			1961	2800			
Slate			2800	3385	Show Gas	2920	
Brown Shale			3385	4005	" "	2935	
Black Slate			4005	4199			
Cor. Lime		Hard	4199	4294			
Sand		"	4294	4335			Oriskany
Lime			4335	4344			

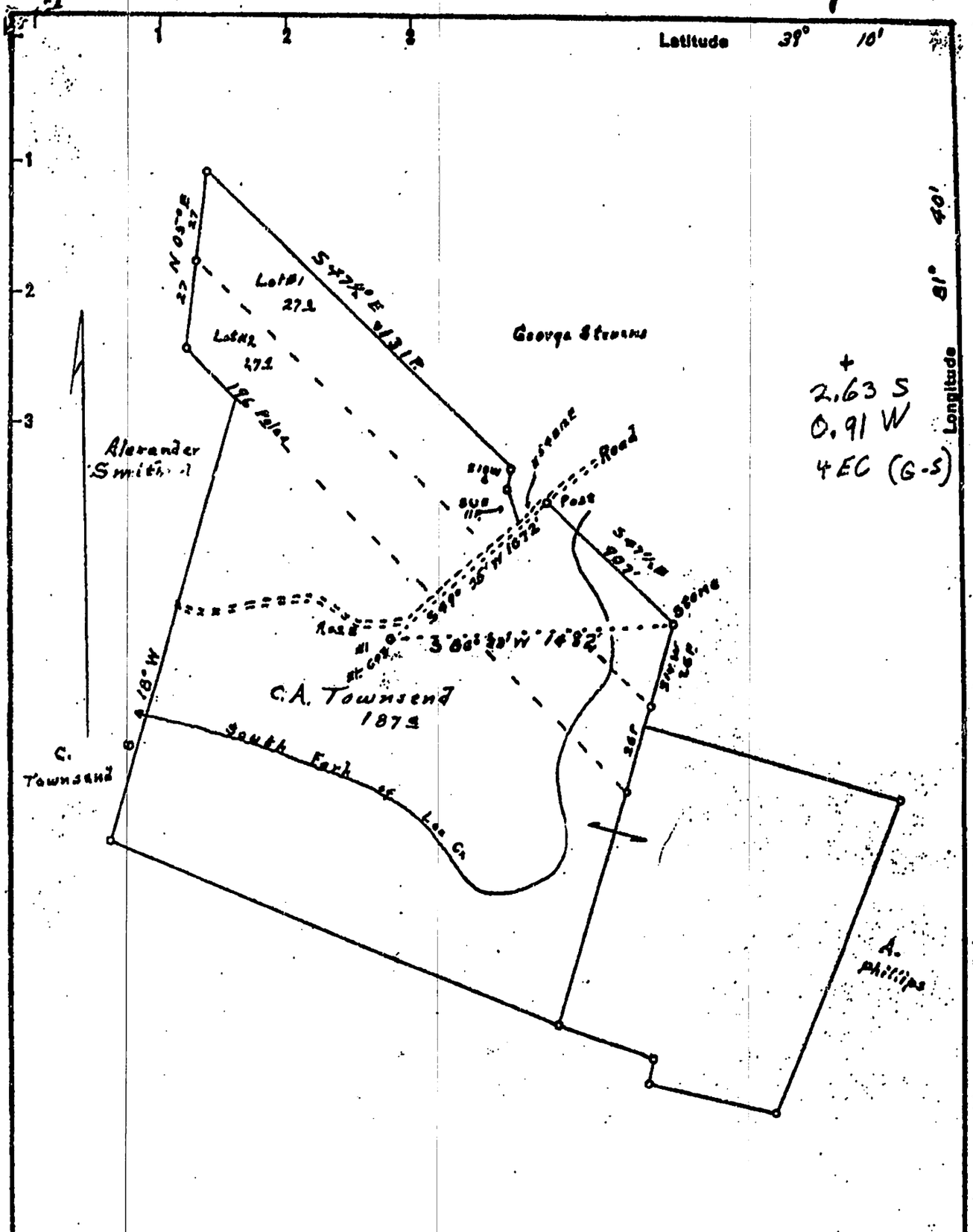
Date_____, 19____

APPROVED_____, Owner

By_____
(Title)

10700443

X P



New Location..☒
Drill Deeper.....☐
Abandonment.....☐

Company B.H. Putnam (operator)
Address Box 647 Marietta, Ohio
Farm C.A. Townsend
Tract _____ Acres 187 Lease No. _____
Well (Farm) No. 1 Serial No. _____
Elevation (Spirit Level) 643'
Quadrangle Belleville — WC
County Wood District Harris
Engineer Robert R. Anderson
by O.H. Meredith
Engineer's Registration No. 296
File No. _____ Drawing No. _____
Date 3/10, 55 Scale 1 in = 40 poles

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS DIVISION
CHARLESTON

WELL LOCATION MAP

FILE NO. WOO-443 P

+ Denotes location of well on United States Topographic Maps, scale 1 to 62,500, latitude and longitude lines being represented by border lines as shown.

— Denotes one inch spaces on border line of original tracing.

Dogwell

10701749

WW-2A
(Rev. 6-07)

1). Date: _____

2.) Operator's Well Number Batten #1

3.) API Well No.: 47- _____ - _____
State County Permit

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 Gary R. Batten W
Address 1220 Pleasant Home Road
Belleville, WV 26133
(b) Name
Address
(c) Name
Address

5) (a) Coal Operator
Name
Address
(b) Coal Owner(s) with Declaration
Name Gary R. Batten W
Address 1220 Pleasant Home Road
Belleville, WV 26133
Name
Address
(c) Coal Lessee with Declaration
Name
Address

6) Inspector Jamie Stevens
Address 105 Kentuck Road
Kenna, WV 25248
Telephone 304-206-7775

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

X 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)
X 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
Its: Designated Agent
Address 6608 Route 22
Delmont, PA 15626
Telephone 724-468-8232

Official Seal
Notary Public, State Of West Virginia
Lois A Brown
1552 Little Sandy Road
Bruceton Mills WV 26525
My commission expires August 22, 2017

Received
MAR 31 2014
Office of Oil and Gas
WV Dept. of Environmental Protection

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

The Office of Oil and Gas processes your personal information, such as name, address and phone number, as a part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use of your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov

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WW-2A Surface Waiver

SURFACE OWNER WAIVER

County Wood

Operator Penneco Oil Company

Operator well number Batten #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 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

Signature Date 3-11-2014

GARY R BATTEN

Print Name

FOR EXECUTION BY A CORPORATION, ETC.

Company Name

By

Its

Date

Received

Signature MAR 3 1 2014 Date

Office of Oil and Gas
WV Dept. of Environmental Protection

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WW-2A Coal Waiver

COAL OPERATOR, OWNER, OR LESSEE WAIVER

County Wood
Operator Penneco Oil Company Operator's Well Number Batten #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

_____ Date 3-10-2014
Signature

FOR EXECUTION BY A CORPORATION, ETC.

Company Name _____
By _____
Its _____ Date

_____
Signature Date

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WW-2A1
(Rev. 1/11)

Operator's Well Number Batten #1

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
Gary L. Batten	Penneco Oil Company	1/8	Please see attached LEASE

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

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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: Penneco Oil Company
By: Its: Stephen K. Schuman, Designated Agent

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OIL AND GAS LEASE

This **AGREEMENT** is made and entered into this 12th day of May, 2011, by and between Gary R. Batten and Mabel P. Batten, husband and wife, whether one or more hereinafter referred to as Lessor, and **Penneco Pipeline Corporation**, a Pennsylvania corporation with its principal office located at 6608 Route 22, Delmont, PA 15626, hereinafter referred to as Lessee.

1. **LEASING CLAUSE.** In consideration of Ten Dollars ($10.00) cash paid to the Lessor, the receipt of which is hereby acknowledged, and the covenants and agreements herein, Lessor grants, demises, leases and lets exclusively to Lessee for the purposes hereinafter stated all that certain tract of land situate in the District of Harris, County of Wood, State of West Virginia, on or near the waters of Middle Fork of Lee Creek, and containing, 119 acres which is more fully described in that certain Deed from Ricky Glen Smith and Deidra Jane Smith to Gary R. Batten and Mabel P. Batten and recorded in said clerk's office in Deed Book 956 at page 182 and and being land depicted by Tax Map 02-420, parcel D, and now or formerly bounded as follows:
On the North by Keith A. Kemerah;
On the South by Carl C. Cochran;
On the East by Thelma Wright; and
On the West by Velma Lou Dillon.
The foregoing property is hereinafter referred to as the premises, leased premises, leased property or the like.

2. **PURPOSES.** This lease is granted for the purposes of exploring for, drilling for, producing and operating for, transporting and marketing oil, gas, natural gasoline, coalbed methane, casing-head gas, condensate, related hydrocarbons, and all products produced therewith or therefrom, ("Oil and Gas") by methods now known or hereafter discovered. Lessor hereby grants Lessee the exclusive right to enter in, on and under the premises to: (i) conduct geological and geophysical surveys and explorations, and seismic testing; (ii) drill vertically, directionally, and horizontally, on, under and through the premises, operate for, treat, produce and market Oil and Gas; (ii) inject gas, air, water, and other substances to recover and produce Oil and Gas; (iii) drill wells, deepen, hydraulic fracture, complete, recomplete, treat and recondition drilled, producing and abandoned wells, and re-abandon wells on said land; (iv) transport through the premises Oil and Gas produced from the premises and from other property; (v) construct, use, maintain, operate, change, replace, repair and remove roads, pipelines, drips, tanks, stations, cathodic protection devices, houses for equipment, gates, meters, separators, regulators, electric lines, transformers and facilities, and other facilities; and (vi) all other rights and privileges necessary, incident to, or convenient for the economical operation of said land alone and conjointly with other lands for the exploration, production and transportation of Oil and Gas.

No well shall be drilled by the Lessee within two hundred feet (200') of any dwelling house now on said land except by the consent of the owner of the house.

Lessor agrees that except with the advanced written consent of Lessee, no house, outbuilding, well, or other structure will be construed or erected within two hundred feet (200') of any well, tank, line or other equipment or facility placed on said premises by Lessee.

3. **TERM.** This lease shall be in force for Five (5) years from the date hereof (herein referred to as "primary term"), and as long after the primary term as operations relating to the search or exploration for oil or gas are conducted on the premises or lands pooled therewith, or as long as oil or gas is capable of production therefrom or from lands pooled therewith, or this lease is maintained in force pursuant to any other provision hereof (the "secondary term"). The term "operations" in this lease means drilling of a well, the re-working, deepening or plugging back of a well or hole, completion, recompletion, fracturing, work in preparation for such activity, or other work conducted in an effort to obtain or re-establish production of Oil and Gas. Operations shall be deemed to be commenced when the first material is placed on the leased premises or when the first work, other than surveying, occurs on the premises which is necessary for such operations, and shall be considered to be "continuously prosecuted" if not more than one hundred eighty (180) days shall elapse between the completion or abandonment of one well or hole and the commencement of operations for another well or hole. If Lessee produces Oil and Gas from the premises or lands pooled therewith, drills a well capable of producing oil and gas on the premises, or pools or unitizes the premises with other property on which a well capable of production is situate, then any such well capable of producing Oil and Gas will continue this lease in force until surrendered. If a well is not producing, shut-in payments shall be made as hereinafter provided, and shut-in payments will continue this lease in full force and effect notwithstanding failure to produce a well or market production. The Lessor agrees that the consideration paid at the time of execution of this Lease, and royalty or shut-in royalty as provided herein, is full and adequate consideration for this Lease. There is no obligation to drill on the premises or to pool the premises with other property.

RIGHT TO EXTEND PRIMARY TERM. Lessee may, at its option, extend the primary term for an additional 0 year period by the tender before the expiration of the initial primary term provided above, of an amount equal to the amount paid Lessor by Lessee at the execution hereof.

4. **OPERATIONS.** If, at the expiration of the primary term, a well capable of producing Oil and Gas is not located on the leased premises or on acreage pooled therewith, but Lessee is then engaged in operations or shall have completed a dry hole thereon within the primary term, this lease shall remain in force so long as operations are prosecuted with no cessation of more than ninety (90) consecutive days and, if operations result in a well capable of production of Oil and Gas this lease shall continue thereafter until abandoned. Lessee is granted the right, but does not have an obligation, to conduct operations on the leased premises. Any roadways and/or pipelines installed during the term of this lease, shall extend beyond the termination of this lease upon payment by Lessee to Lessor, as additional consideration for said easement rights, the amount of One ($1.00) Dollar per foot, for any pipeline installed upon said property or the amount of ($2.00) Dollars, per foot, for any road installed upon said property. The aforesaid easement rights shall be extended so long as the same are maintained and utilized by Lessee, its successors and assigns.

5. **ROYALTIES.** The royalty provided by this Lease is one eighth of the amount sold calculated at the wellhead by subtracting post production expenses from the amount received by Lessee. Lessor shall have the right to take one eighth of production in kind at the wellhead, provided that Lessor does not impede the production of Lessee's Oil and Gas, and Lessor must pay all costs incurred as a result of such election, including all costs to gather, transport, process, and market such production. If Lessor does not elect to take royalty production in kind or impedes Lessee's production, then Lessee will market the royalty production and pay Lessor a royalty as provided herein.

If oil or gas is sold as produced at the wellhead, Lessee will pay Lessor an amount equal to one eighth ($1/8^{th}$) of the price received by Lessee from the sale at the wellhead. The "wellhead" is the place where the well enters the ground at the surface.

If oil or gas is not sold at the wellhead, but transported from the well to another location, then Lessee shall calculate

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the price received at the wellhead by deducting from gross sales proceeds all costs and charges of transporting, treating, and processing the gas from the proceeds received at the point of sale.

Costs of Transportation and Marketing are Deducted from Sale Proceeds. In calculating the price received by Lessee from the sale of gas at the wellhead, the Lessor's royalty shall bear one eighth (1/8th) portion of transportation and processing costs and other costs incurred between the wellhead and the point of sale. When determining the amount of royalty due the actual and reasonable amounts paid or incurred for the following are deductible and will not be included in volumes sold or proceeds received when royalty is calculated:

(i) Gas Gathering and Transportation. All third party costs, losses and charges in connection with transporting gas from the wellhead to the place where the gas is sold. Some of these deductible amounts are sometimes referred to as firm or interruptible gathering or transportation, compression, fuel, shrink, retainage or lost or unaccounted for; and

(ii) Processing and Dehydration. All costs, losses and charges in connection with processing, removing butanes, ethanes and other liquid hydrocarbons, sulfur, water, hydrogen sulfide, and other substances, or otherwise treating any oil or gas produced from the premises, including costs incurred by Lessee that are paid to third parties; and

(iii) Transporting and Storing Oil. Costs, losses and charges in connection with transporting oil to market (whether by truck or pipeline), and of storing oil off of the leased premises before sale.

In some instances the foregoing deductible charges are assessed as an amount or percentage of natural gas in decatherms or thousand cubic feet (volume deductions).

Royalty Payable on Gas Produced, Saved and Marketed. The royalty will be calculated using the amount of Oil and Gas the Lessee sells and is paid for from the premises but not on free gas, liquids lost, used or retained by the processor in connection with processing, gas used as fuel, or amounts that may be used or lost or unaccounted for and for which sales proceeds are not realized. Royalty will not be due on Oil and Gas injected to enhance recovery.

6. **GAS EXCEPTED.** Lessor hereby excepts and reserves from any well on said land producing gas Three Hundred Thousand (300,000) cubic feet of gas per year, or such part thereof as Lessor requires for his own use on said land, at Lessor's own risk; subject, however, to the use, operation, pumping and right of abandonment by Lessee of its wells and pipelines on the premises and the terms of the executed GAS USE RIDER attached hereto and made a part of this lease. In the absence of such GAS USE RIDER, the right to take gas herein shall terminate. Lessor may at his own expense and upon written application, secure such gas by a service line laid to and connected either to any such well on said land or to Lessee's pipeline leading from such well to market, the point of connection to be designated by Lessee.

7. **SHUT-IN PAYMENTS.** If there is an unplugged Oil and Gas well or wells on the leased premises or on lands pooled therewith and oil and gas is not sold therefrom for any period longer than six months, this lease shall not terminate, but the Lessee shall pay as shut-in royalty for constructive production a sum equal to Fifty Dollars per well per month. Such shut-in royalty shall be due within a reasonable time following the shut-in period.

8. **DELAY RENTAL:** Lessee covenants and agrees to pay a rental at the rate of $ 40.00 Dollars per acre annually, in advance, until a well producing oil and/or gas is drilled. The first delay rental payment shall be made within sixty (60) days of this Lease. Any rental paid for the time beyond the date of drilling of a well shall be credited upon the first royalty due upon the same. It is agreed that Lessee may drill or not drill on the leased premises, as it may elect, and that the consideration and rentals paid and to be paid, constitute adequate compensation for such privilege.

9. **PAYMENTS AND SUBDIVISION:** All rental and royalty payments are to be mailed to:

Gary R. Batten and/or Mabel P. Batten, 1064 Pleasant Home Ridge Rd., Belleville, WV 26133 who is (are) hereby appointed agent(s) if designated as "Agent", to receive and receipt for the same and to receive notices given by Lessee. Lessee shall not be obligated to make payments or give notices to more parties than the lessor Agents designated in this paragraph. Lessee shall not be obligated to make payments to any individual payee or agent hereunder until such payments equal the sum of One Hundred Dollars ($100.00), and if a lesser amount is due, payments shall be made at least once each calendar year. Lessee shall not be obligated to see to the application of any monies paid to Lessor or to the Agent(s) designated herein. The depositing of payments hereunder in any post office mail addressed as above set forth shall be deemed payment or tender hereunder. Notwithstanding the death of Lessor, payment or tender to the deceased Lessor shall be binding on the heirs, devisees, executors, administrators and personal representatives of Lessor and its successors in interest.

If the leased premises are now or shall hereafter be owned in severalty or in separate tracts, the leased premises nevertheless shall be developed and operated as one (1) lease, and all rentals, royalties and payments provided for shall be treated as an entirety and shall be divided among, and paid to, such separate owners of the Oil and Gas in the proportion that the acreage owned by each such separate owner bears to the entire leased acreage regardless of the location of any well on the premises. Failure to pay or error in paying any rental or other payment due hereunder shall not constitute a ground for forfeiture of this lease and shall not affect the obligation to make such payment, and Lessee shall not be considered in default on account thereof until Lessor has first given Lessee written notice of the non-payment and Lessee shall have failed to make payment for a period of sixty (60) days after receipt of such notice.

10. **UNITIZATION.** Lessor grants Lessee the right to pool, unitize, or combine all or parts of the premises with other lands, whether contiguous or not contiguous, leased or unleased, whether owned by Lessee, Lessor, or by others, at a time before or after drilling to create drilling or production units either by contract right or pursuant to governmental authorization or order. A well drilled on any land pooled or unitized with land leased hereby shall be considered for all purposes of this lease (excepting only free gas rights, if any) a well drilled on the premises. Where Lessee forms a unit by contract right, it may, at its sole option, place of record a copy of its declaration of unitization. Lessor shall be provided with notice of the formation of unit(s) if required by the appropriate governmental authority. Lessee is granted the right to change the size, shape and conditions of operation or payment of any unit created. Lessor agrees to accept and receive out of the production of the net proceeds realized from the production of such unit, such proportional share of the royalty from each unit well as the number of the lease premises net acres included in the unit bears to the total number of acres in the unit; and for such purposes, Lessee may, at it's option, definitively rely on the acreage calculation of the local property tax assessment authorities. Drilling operations in preparation for drilling, production, or shut-in production from the unit, or payment of royalty or delay rental shall have the same effect upon the term of this lease as if a well were located on the leasehold premises. A well may be drilled on the premises and completed on other property. The rights and obligations of this paragraph are subject to the pooling and spacing orders and provisions of governmental agencies with jurisdiction.

11. **SURRENDER.** Lessee shall have the right to surrender this lease at any time as to all or any part or parts of the premises and with respect to the portion surrendered thereafter shall be released and discharged from all payments, obligations, covenants and conditions herein, and this lease shall be terminated as to the land in respect to which a surrender is made. Recordation of a surrender in the proper county shall be, and be accepted as, full and legal surrender of the Lessee's rights under this lease as to the land in respect to which the surrender is made.

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12. TITLE, CONVEYANCE OF PREMISES. Lessor hereby warrants generally and agrees to defend the title to the property herein leased. Lessor hereby warrants that (i) the leased premises are not encumbered by any enforceable oil or gas lease of record or otherwise and that (ii) Lessor is not currently receiving any bonus, delay or other rental, production royalty or shut-in royalty or other payment as the result of any prior Oil and Gas lease(s) covering any or all of the subject property, and that (iii) any wells drilled upon the leased premises or upon any lands with which the leased premises have been combined or pooled in a drilling or production unit have been plugged and abandoned. Lessor further covenants and agrees that if Lessor's title to the leased premises shall come into dispute or litigation, or, if, in the judgment of Lessee, there are bona fide adverse claims to the Oil and Gas leased hereby or the rentals or royalties herein, then Lessee, at its option, may withhold the payment of rentals or royalties until final adjudication or other settlement of such dispute, litigation, claims or claim, or institute proceedings to resolve the same. Lessee, at its option, may pay and discharge any taxes, mortgages or other lien or liens existing, levied, assessed or which may hereafter come into existence or be levied or assessed on or against the premises, and, in the event it exercises such option, Lessee shall be subrogated to the lien and any and all rights of any holder or holders thereof, and may reimburse itself by applying to the discharge of any such mortgage, tax, or other lien or liens, any rental or royalty accruing hereunder. Lessor further agrees to notify Lessee in case of notice of any adverse claim or suit filed affecting the title to the leased premises or affecting all or any part of the rentals or royalties hereunder, and in the event suit is not pending, Lessee may file same, and in either event Lessee may hold the rentals and royalties until the ownership is determined by final decree of a court of competent jurisdiction without in anywise affecting its rights hereunder. In case of a conveyance of all or a part of the leased premises, Lessee may continue to make payments to Lessor until furnished with a certified copy of any such deed of conveyance or other documents or proof to enable the Lessee to identify the land conveyed and the parties to whom conveyed; or on written notice of any such conveyance the Lessee may hold all payments until furnished with documents or proof, and in case of any division shall apportion the rental according to acreage.

13. FEDERAL AND STATE LAWS, FORCE MAJEURE. All express or implied covenants of this lease shall be subject to all Federal and State Laws, Executive Orders, Rules and Regulations and this lease shall not be terminated, in whole or in part, nor Lessee held liable in damage, for failure to comply herewith, if compliance is prevented by, or if such failure is result of any such law, order, rule or regulation, whether or not subsequently determined to be invalid, or if prevented by an Act of God, of the public enemy, labor disputes, inability to obtain material, failure of transportation, or other cause beyond the control of the Lessee. Lessee's obligations shall be suspended so long as any of the above-mentioned causes persist, and Lessee shall have ninety (90) days after the cessation of such cause in which to resume performance of this lease.

If, during the term of this lease, oil or gas is discovered on the premises, but Lessee is prevented from producing the same by reason of the causes set out in this section, this lease shall nevertheless be considered as producing and shall continue in full force and effect until Lessee is permitted to produce and market the Oil and Gas, and as long thereafter as a well is capable of production, or drilling or re-working operations are continued as elsewhere herein provided.

14. BREACH OF OBLIGATIONS. The breach by Lessee of any obligations arising hereunder shall not work a forfeiture or termination of this lease nor cause a termination or reversion of the estate created hereby nor be grounds for cancellation hereof in whole or in part unless Lessor shall notify Lessee in writing of the facts relied upon in claiming a breach hereof, and Lessee, if in default, shall have sixty (60) days after receipt of such notice in which to commence the compliance with the obligations imposed by virtue of this instrument, and if Lessee shall fail to do so, then Lessor shall have grounds for action in arbitration for such remedy to which Lessor may be entitled.

It is agreed that this lease shall never be terminated, forfeited or cancelled for failure to perform in whole or in part any of its implied covenants, conditions or stipulations, until it shall have been first finally judicially determined such failure exists, and after such final determination, Lessee is given a reasonable time therefrom to comply with any such covenants, conditions or stipulations.

15. OUTSTANDING INTERESTS. The royalty and rents payable hereunder equals the total royalty and rentals payable to all the owners of all the Oil and Gas in place underlying the entire premises. Should Lessor own a lesser interest than the full and complete ownership of all the Oil and Gas, then Lessor shall receive such portion of the rentals or one eighth royalty as Lessor's interest bears to one hundred percent of the Oil and Gas estate. Lessee shall not be required in any event to increase the rental or royalty payments hereunder by reason of any royalty or interest in said oil or gas that may have been heretofore sold, reserved or conveyed by Lessor or predecessors in title or otherwise; and if the Lessor does not have title to one hundred percent of all of the Oil and Gas underlying the leased premises. Lessor shall refund to Lessee such part of all payments made by the Lessee hereunder, as shall be proportionate to the outstanding title, and payments thereafter to be made shall be reduced.

16. METERING, USE OF WATER, OIL AND GAS IN PRODUCTION AND MARKETING. Gas produced from the premises may be measured by a single meter, and that meter need not be on the premises. Gas may be measured by a master meter, and it is not necessary to meter every well on the premises, so long as a reasonable method of allocation is used and the total amount delivered at the master meter is reasonably allocated among all the wells behind the master meter. If a master meter is used and line loss occurs, Lessee may reasonably deduct and allocate line loss, if any, that occurs on or off the premises, to meters behind the master meter and pay royalty on the net amount of gas allocated to the well at the wellhead after allowance for line loss and unaccounted for gas.

Oil and Gas produced from the premises may be used in drilling, producing, compressing, treating, processing, gathering and transporting oil or gas to market on or off the premises, and royalty will not be payable on the amount so used.

Lessee shall have the right to use water on and off the premises in connection with its operations, to construct and use damns and impoundments, and fracture and complete wells.

Lessee shall have the privilege of using Oil and Gas, rock, surface rock from the leased premises to construct roads and run all machinery necessary for drilling and operating for Oil and Gas and the abandoning of any well on said premises, and at any time removing all machinery and fixtures placed on said premises, all without payment therefore. For example, but not by way of limitation, gas may be used for fuel for compression without payment of royalty on the gas used.

17. ARBITRATION. Any and all claims in connection with this lease shall be submitted to arbitration with a panel of three arbitrators, and arbitration shall be the exclusive method of resolving all disputes in connection with this lease, and all rights, obligations and operations pursuant thereto. The Lessor will choose one arbitrator, the Lessee will choose a second arbitrator, and the two arbitrators chosen will choose the third arbitrator. In the event any party fails to choose an arbitrator within forty days of demand for arbitration, one or more arbitrators may be appointed by any state or federal court in West Virginia in any jurisdiction in which any portion of the leased premises is situate. Arbitration shall then occur with reasonable dispatch in accordance with the rules of the American Arbitration Association, and in the county seat of the county where a majority of the leased premises is situate.

Received

MAR 31 2014

Office of Oil and Gas
WV Dept. of Environmental Protection

1070174 9

ADDENDUM TO OIL AND GAS LEASE

THIS ADDENDUM is attached hereto and made a part of that certain OIL AND GAS LEASE dated the 12th day of May, 2011 by and between Gary R. Batten and Mabel P. Batten as LESSOR(S) and **Penneco Pipeline Corporation,** as Lessee.

19.) In the event it is determined by the parties that Lessee's drilling operations have adversely or permanently affected the quality of Lessor's domestic water supply the Lessee shall, at its own expense, use reasonable and customary means to repair or correct such damages.

20.) Any fence or portion thereof, that is removed for access to the leased premises will be replaced by a fence of like quality. If permanent access is deemed necessary a gate will be installed at the point of entry and keys to such gate made available to Lessor.

21.) The surface disturbed areas on the leased premises will be restored as nearly as is practically possible to original contour and condition. Lessee shall maintain all reclaimed areas which were disturbed as a result of Lessee's operations herein in a workmanlike manner consistent with the statutes and regulations then governing such operations.

22.) Lessor and Lessee shall mutually agree to the location of roads drill-sites and pads as well as the location of pipelines and/or flow-lines provided that such approvals from the landowner are not unreasonably withheld.

23.) Lessee agrees to indemnify and hold harmless Lessor from all claims, damages, liabilities, causes of action or demand for personal injury or property damage arising from Lessee's operations on the leased premises excepting such claims that are attributable to Lessor's own intentional conduct or negligence.

24.) In the event of a conflict between the terms of this OIL AND GAS LEASE and the terms of this ADDENDUM TO OIL AND GAS LEASE, the addendum terms shall be deemed to supersede the terms of the OIL AND GAS LEASE.

Witness:

LESSOR:

x Gary R. Batten
Gary R. Batten

x Mabel P. Batten
Mabel P. Batten

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MAR 31 2014

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WV Dept. of Environmental Protection

10701749

18. ENTIRE CONTRACT. This lease and ADDENDUM TO OIL AND GAS LEASE embodies the entire contract and agreement between Lessor and Lessee, and no warranties, representations, promises or inducements not herein expressed have been made or relied upon by either party. The terms and conditions hereof shall extend to respective heirs, executors, administrators, successors and assigns of the parties hereto.

WITNESS the following signatures and seals the day and year first written.

Witness: _____ Lessor: _____
Gary R. Batten

_____ _____
Mabel P. Batten

Attest: _____ PENNECO PIPELINE CORPORATION
_____
Ben L. Wallace, Chief Operating Officer

THIS INSTRUMENT PREPARED BY:
Shannon S. Johnson
Whose Address Is:
6608 Route 22
Delmont, PA 15626

(West Virginia Acknowledgement – Individual)
STATE OF WEST VIRGINIA §
COUNTY OF §

The foregoing instrument was acknowledged before me this 12th day of May, 2011, by Gary R. Batten and Mabel P. Batten.

Given under my hand and Notary Public Seal, this 12th day of May, A.D. 2011.

_____

(Notary Seal) My Commission Expires: 9-3-2012

COMMONWEALTH OF PENNSYLVANIA)
)
COUNTY OF WESTMORELAND)

On this, the 26th day of July, 2011, before me, a Notary Public, the undersigned officer, personally appeared Ben L. Wallace, who acknowledged himself to be the Chief Operating Officer of Penneco Pipeline Corporation, and that as such Chief Operating Officer, being authorized to do so, executed the foregoing instrument for the purpose therein contained by signing the name of the corporation by himself as Chief Operating Officer.

In witness whereof, I hereunto set my hand and official seal.

Eileen M. Staub
Notary Public

COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Eileen M Staub Notary Public
Salem Twp., Westmoreland County
My Commission Expires May 15, 2013
Member, Pennsylvania Association of Notaries

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MAR 31 2014
Office of Oil and Gas
WV Dept. of Environmental Protection

10701749

WW-2B1
(5-12)

Well No. Batten #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 2

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.

Received
MAR 31 2014
Office of Oil and Gas
WV Dept. of Environmental Protection

NOTE: There appears to be 2 +/- potable water sources within 1,000', therefore tests will be offered and samples taken as required.

SEE ATTACHED SHEETS

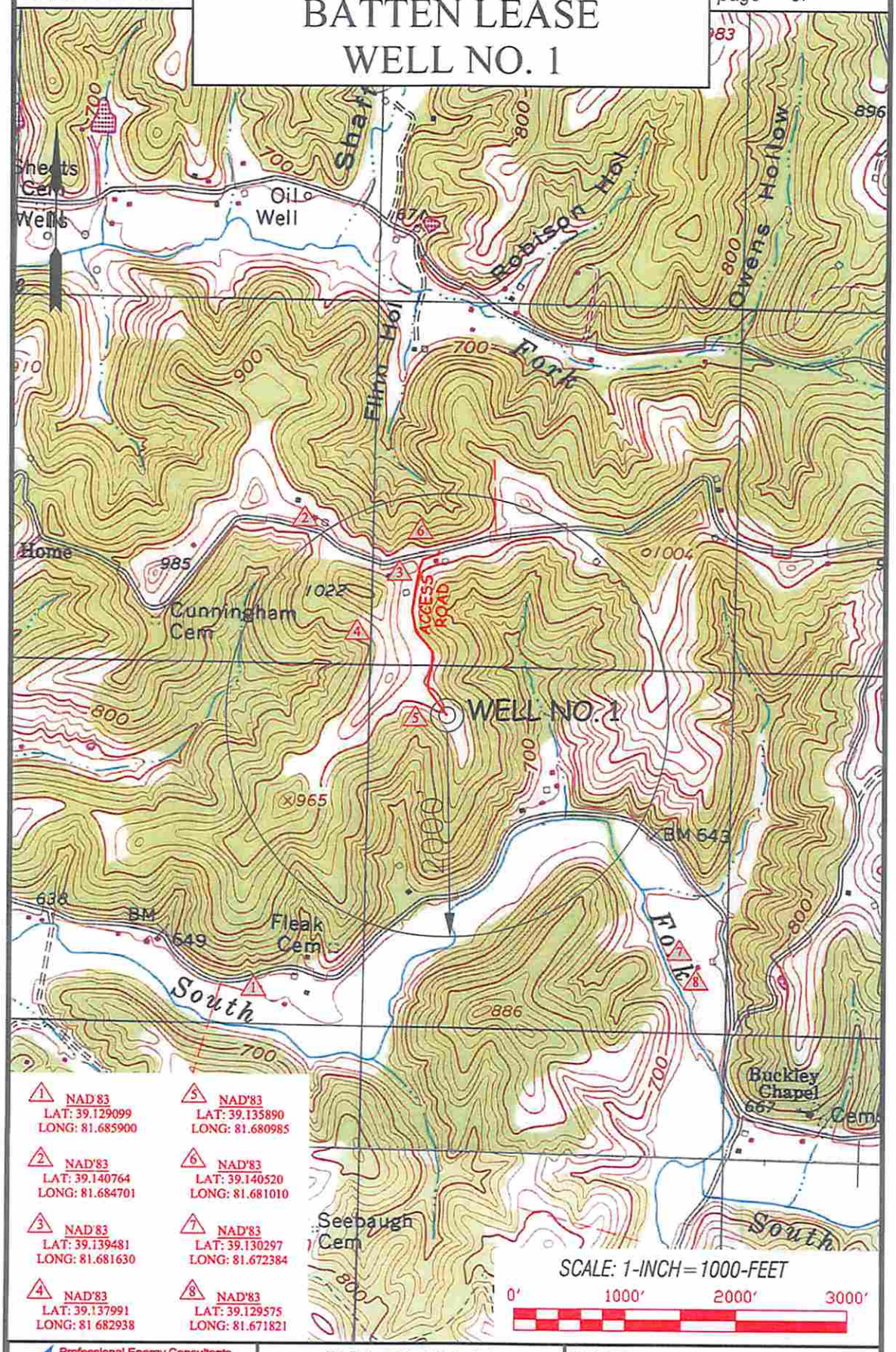
Testing Jamie 3/11/2014

10701749

WATER SAMPLES

BATTEN LEASE
WELL NO. 1

page of



Professional Energy Consultants
A DIVISION OF SMITH LAND SURVEYING INC.
SLS SURVEYORS ENGINEERS ENVIRONMENTAL PROJECT MGMT.

DRAWN BY	FILE NO.	DATE	CADD FILE:
K.D.W.	7660	12/08/14	7660WS.dwg

TOPO SECTION OF:
LUBECK, WV 7.5' QUAD

DISTRICT	COUNTY	TAX MAP-PARCEL NO.
HARRIS	WOOD	420-D

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

10701749

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

WELL INFORMATION AND POTENTIAL WATER WELL SAMPLE DATA SHEET

OPERATOR: *PENNECO GAS COMPANY*
LEASE NAME AND NUMBER: *BATTEN #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 *2995'* Owner/Occupant: *Sharon Bell*
Address: *3014 Lee creek Rd. Belleville, WV 26133* Ph: *(304)-863-3457*
Field Contact Date: *10/28/2014* Located: *Yes* Date Located: *10/28/2014* Source: *Water Well*
If No, declined by who _____ Letter/Notice Date: 1st *10/28/2014* 2nd *10/31/2014* Certified (3rd) *10/24/2014*
Comments: *Tax Map 480, Parcel B*
Lat : 39.129099
Long : 81.685900

Site: *2* Spacing *2215'* Owner/Occupant: *Michael Shepard*
Address: *903 Pleasent home ridge Rd. Belleville, WV 26133* Ph: *(304)-863-5184*
Field Contact Date: *10/31/2014* Located: *Yes* Date Located: *10/31/2014* Source: *Water Well*
If No, declined by who _____ Letter/Notice Date: 1st *10/28/2014* 2nd *10/31/2014* Certified (3rd) *10/24/2014*
Comments: *Tax Map 421, Parcels 9 and 10*
Lat : 39.140764
Long : 81.684701

Site: *3* Spacing *1380'* Owner/Occupant: *Gary Batten*
Address: *1220 Pleasent home Rd. Belleville, WV 26133* Ph: *(304)-863-4788*
Field Contact Date: *10/31/2014* Located: *Yes* Date Located: *10/31/2014* Source: *Water Well*
If No, declined by who _____ Letter/Notice Date: 1st *10/28/2014* 2nd *10/31/2014* Certified (3rd) *10/24/2014*
Comments: *Tax Map 420, Parcels D and D1*
Lat : 39.139481
Long : 81.681630

Site: *4* Spacing *1130'* Owner/Occupant: *Gary Batten*
Address: *1220 Pleasent home Rd. Belleville, WV 26133* Ph: *(304)-863-4788*
Field Contact Date: *10/31/2014* Located: *Yes* Date Located: *10/31/2014* Source: *Pond*
If No, declined by who _____ Letter/Notice Date: 1st *10/28/2014* 2nd *10/31/2014* Certified (3rd) *10/24/2014*
Comments: *Tax Map 420, Parcels D and D1*
Lat : 39.137991
Long : 81.682938

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Site: 5 Spacing 1700' Owner/Occupant: Gary Batten
Address: 1220 Pleasent home Rd. Belleville, WV 26133 Ph: (304)-863-4788
Field Contact Date: 10/31/2014 Located: Yes Date Located: 10/31/2014 Source: Spring
If No, declined by who _____ Letter/Notice Date: 1st 10/28/2014 2nd 10/31/2014 Certified (3rd) 10/24/2014
Comments: Tax Map 420, Parcels D and D1
Lat : 39.135890
Long : 81.680985

Site: 6 Spacing 1700' Owner/Occupant: Gary Batten
Address: 1220 Pleasent home Rd. Belleville, WV 26133 Ph: (304)-863-4788
Field Contact Date: 11/06/2014 Located: Yes Date Located: 11/06/2014 Source: Spring
If No, declined by who _____ Letter/Notice Date: 1st 10/28/2014 2nd 10/31/2014 Certified (3rd) 10/24/2014
Comments: Tax Map 420, Parcels D and D1
Lat : 39.140520
Long : 81.681010

Site: 7 Spacing 2975' Owner/Occupant: Kevin Townsend
Address: 3978 Lee creek Rd. Belleville, WV 26133 Ph: (304)-863-8858
Field Contact Date: 11/13/2014 Located: Yes Date Located: 11/13/2014 Source: Water Well
If No, declined by who _____ Letter/Notice Date: 1st 10/28/2014 2nd 10/31/2014 Certified (3rd) 10/24/2014
Comments: Tax Map 430, Parcel B
Lat : 39.130297
Long : 81.672384

Site: 8 Spacing 3270' Owner/Occupant: Kevin Townsend
Address: 3978 Lee creek Rd. Belleville, WV 26133 Ph: (304)-863-8858
Field Contact Date: 11/13/2014 Located: Yes Date Located: 11/13/2014 Source: Water Well
If No, declined by who _____ Letter/Notice Date: 1st 10/28/2014 2nd 10/31/2014 Certified (3rd) 10/24/2014
Comments: Tax Map 430, Parcel B
Lat : 39.129575
Long : 81.671821

Site: 9 Spacing _____ Owner/Occupant: Darell Wright
Address: 3611 Lee creek Rd. Belleville, WV 26133 Ph: _____
Field Contact Date: N/A Located: No Date Located: N/A Source: Unknown
If No, declined by who _____ Letter/Notice Date: 1st 10/28/2014 2nd 10/31/2014 Certified (3rd) 10/24/2014
Comments: Tax Map 420, Parcel E and Tax Map 430, Parcel A
No response to certified letter as of : 12/09/2014

Site: 10 Spacing _____ Owner/Occupant: James White
Address: 102 Pleasant hill church Rd. Belleville, WV 26133 Ph: _____
Field Contact Date: N/A Located: No Date Located: N/A Source: Unknown
If No, declined by who _____ Letter/Notice Date: 1st 10/28/2014 2nd 10/31/2014 Certified (3rd) 10/24/2014
Comments: Tax Map 420, Parcel C
No response to certified letter as of : 12/09/2014

10701749

Site: 11 Spacing _____ Owner/Occupant: Ronald Wigal
Address: 940 Pleasant home ridge Rd. Belleville, WV 26133 Ph: _____
Field Contact Date: N/A Located: No Date Located: N/A Source: Unknown
If No, declined by who _____ Letter/Notice Date: 1st 10/28/2014 2nd 10/31/2014 Certified (3rd) 10/24/2014
Comments: Tax Map 421, Parcels 3,4,5,6,7 and 8
No response to certified letter as of: 12/09/2014

Site: 12 Spacing _____ Owner/Occupant: Martin Robert
Address: 1381 Pleasant home ridge Rd. Belleville, WV 26133 Ph: _____
Field Contact Date: N/A Located: No Date Located: N/A Source: Unknown
If No, declined by who _____ Letter/Notice Date: 1st 10/28/2014 2nd 10/31/2014 Certified (3rd) 10/24/2014
Comments: Tax Map 350, Parcel D
No response to certified letter as of: 12/09/2014

Site: 13 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: 14 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: 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: _____

10701749

SITE-1

10701749

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

GLENVILLE, WV 26351-

Thursday, November 13, 2014

Lab Number: 221237-2014-DW **Sample ID:** (7660) SHARON BELL

Parameter	Value	Units	Method	Date/Time Analyzed		Analyst	MRL	MCL
Analyte Group: Inorganics								
E. Coli (Chromogenic)	ABSENT		SM9223B-97	10/29/2014	15:51	CP		
Total Coliform (Chromogenic)	ABSENT		SM9223B-97	10/29/2014	15:51	CP		
pH	# 6.98	S.U.	SM4500H+B-00	10/29/2014	15:15	KV		
Total Aluminum	ND	mg/l	EPA 200.8 R5.4	11/6/2014	13:28	MC	0.01	[0.05]
Total Arsenic	0.053	mg/l	EPA 200.8 R5.4	11/6/2014	13:28	MC	0.005	0.01
Total Barium	2.74	mg/l	EPA 200.8 R5.4	11/6/2014	13:28	MC	0.01	2
Total Calcium	46.4	mg/l	EPA 200.8 R5.4	11/6/2014	13:28	MC	0.01	
Total Chloride	11.2	mg/l	EPA 300.0 R2.1	10/30/2014	16:02	KD	0.15	[250]
Total Dissolved Solids	268	mg/l	SM2540C-97	10/31/2014	9:15	CP	10	[500]
Total Iron	0.262	mg/l	EPA 200.8 R5.4	11/6/2014	13:28	MC	0.1	[0.3]
Total Manganese	0.183	mg/l	EPA 200.8 R5.4	11/6/2014	13:28	MC	0.01	[0.05]
Total Sodium	60.7	mg/l	EPA 200.8 R5.4	11/12/2014	11:45	TH	0.01	[20]
Total Sulfate	6.21	mg/l	EPA 300.0 R2.1	10/30/2014	16:02	KD	0.5	[250]
Total Surfactant	ND	mg/l	SM5540C-00	10/30/2014	12:35	CT	0.2	[0.5]

Remarks:

Date Sample Collected: 10/28/2014 14:40
Sample Submitted By: D.MCKEE
Date Sample Received: 10/29/2014 11:31
Sample temp. upon receipt: 5.2 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

10701749

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: 304.596.2085

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

GLENVILLE, WV 26351-

Thursday, November 13, 2014

Lab Number: 221237-2014-DW **Sample ID:** (7660) SHARON BELL

Parameter	Value	Units	Method	Date/Time Analyzed		Analyst	MRL	MCL
Analyte Group: **Total Petroleum Hydrocarbons**								
TPH - DRO	ND	mg/l	SW8015B/3535A	11/6/2014	13:49	MC	1	
TPH - ORO	ND	mg/l	SW8015B/3535A	11/6/2014	13:49	MC	1	
o-Terphenyl (Surrogate)	108	%	SW8015B	11/6/2014	13:49	MC		
Benzene	ND	mg/l	SW8021B/5030B	11/6/2014	12:26	MC	0.0025	0.005
Ethylbenzene	ND	mg/l	SW8021B/5030B	11/6/2014	12:26	MC	0.005	0.70
Toluene	ND	mg/l	SW8021B/5030B	11/6/2014	12:26	MC	0.005	1.0
TPH - GRO	ND	mg/l	SW8015B/5030B	11/6/2014	12:26	MC	0.2	
Xylenes	ND	mg/l	SW8021B/5030B	11/6/2014	12:26	MC	0.005	10
z4-Bromochlorobenzene (Surrogate)	108	%	SW8021B	11/6/2014	12:26	MC		

Remarks:

Date Sample Collected: 10/28/2014 14:40
Sample Submitted By: D.MCKEE
Date Sample Received: 10/29/2014 11:31
Sample temp. upon receipt: 5.2 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

SITE-2

10701749

10701749

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

GLENVILLE, WV 26351-

Thursday, November 13, 2014

Lab Number: 221426-2014-DW **Sample ID:** (7660) SHEPARD H2O WELL (2)

Parameter	Value	Units	Method	Date/Time Analyzed		Analyst	MRL	MCL
Analyte Group: Inorganics								
E. Coli (Chromogenic)	ABSENT		SM9223B-97	10/31/2014	16:35	CP		
Total Coliform (Chromogenic)	PRESENT		SM9223B-97	10/31/2014	16:35	CP		
pH	# 8.00	S.U.	SM4500H+B-00	11/4/2014	14:57	KV		
Total Aluminum	0.015	mg/l	EPA 200.8 R5.4	11/6/2014	14:41	MC	0.01	[0.05]
Total Arsenic	ND	mg/l	EPA 200.8 R5.4	11/6/2014	14:41	MC	0.005	0.01
Total Barium	0.035	mg/l	EPA 200.8 R5.4	11/6/2014	14:41	MC	0.01	2
Total Calcium	43.6	mg/l	EPA 200.8 R5.4	11/6/2014	14:41	MC	0.01	
Total Chloride	34.4	mg/l	EPA 300.0 R2.1	11/4/2014	17:11	KD	0.15	[250]
Total Dissolved Solids	924	mg/l	SM2540C-97	11/3/2014	11:45	CP	10	[500]
Total Iron	2.67	mg/l	EPA 200.8 R5.4	11/6/2014	14:41	MC	0.1	[0.3]
Total Manganese	0.038	mg/l	EPA 200.8 R5.4	11/6/2014	14:41	MC	0.01	[0.05]
Total Sodium	309	mg/l	EPA 200.8 R5.4	11/12/2014	12:10	TH	0.01	[20]
Total Sulfate	196	mg/l	EPA 300.0 R2.1	11/4/2014	17:11	KD	0.5	[250]
Total Surfactant	ND	mg/l	SM5540C-00	10/31/2014	16:00	CT	0.2	[0.5]

Remarks:

Date Sample Collected: 10/31/2014 10:15
Sample Submitted By: D. MCKEE
Date Sample Received: 10/31/2014 13:20
Sample temp. upon receipt: 4.2 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. 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

RLI 001

10701749

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Reliance LABORATORIES

Certifications: WV Department of Health # 00354, 00443 | WV Department of Environmental Protection # 156, 181
MD Department of Environment # 336, 337 | US Environmental Protection Agency # WV00042, WV00901

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GLENVILLE, WV 26351-

Thursday, November 13, 2014

Lab Number: 221426-2014-DW **Sample ID:** (7660) SHEPARD H2O WELL (2)

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	11:58	MC	1	
TPH - ORO	ND	mg/l	SW8015B/3535A	11/7/2014	11:58	MC	1	
o-Terphenyl (Surrogate)	89.8	%	SW8015B	11/7/2014	11:58	MC		
Benzene	ND	mg/l	SW8021B/5030B	11/6/2014	17:45	MC	0.0025	0.005
Ethylbenzene	ND	mg/l	SW8021B/5030B	11/6/2014	17:45	MC	0.005	0.70
Toluene	ND	mg/l	SW8021B/5030B	11/6/2014	17:45	MC	0.005	1.0
TPH - GRO	ND	mg/l	SW8015B/5030B	11/6/2014	17:45	MC	0.2	
Xylenes	ND	mg/l	SW8021B/5030B	11/6/2014	17:45	MC	0.005	10
z4-Bromochlorobenzene (Surrogate)	115	%	SW8021B	11/6/2014	17:45	MC		

Remarks:

Date Sample Collected: 10/31/2014 10:15
Sample Submitted By: D. MCKEE
Date Sample Received: 10/31/2014 13:20
Sample temp. upon receipt: 4.2 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 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

RL1001

SITE-3

10701749

10701749

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Certifications: WV Department of Health # 00354, 00443 | WV Department of Environmental Protection # 158, 161
MD Department of Environment # 336, 337 | US Environmental Protection Agency # WV00042, WV00001

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P.O. BOX 150

GLENVILLE, WV 26351-

Lab Number: 221427-2014-DW **Sample ID:** (7660) BATTEN H2O WELL (3)

Parameter	Value	Units	Method	Date/Time Analyzed	Analyst	MRL	MCL
Analyte Group: Inorganics							
E. Coli (Chromogenic)	ABSENT		SM9223B-97	10/31/2014 16:35	CP		
Total Coliform (Chromogenic)	PRESENT		SM9223B-97	10/31/2014 16:35	CP		
pH	# 7.54	S.U.	SM4500H+B-00	11/4/2014 14:59	KV		
Total Aluminum	0.013	mg/l	EPA 200.8 R5.4	11/6/2014 15:29	MC	0.01	[0.05]
Total Arsenic	ND	mg/l	EPA 200.8 R5.4	11/6/2014 15:29	MC	0.005	0.01
Total Barium	0.070	mg/l	EPA 200.8 R5.4	11/6/2014 15:29	MC	0.01	2
Total Calcium	35.3	mg/l	EPA 200.8 R5.4	11/6/2014 15:29	MC	0.01	
Total Chloride	1.15	mg/l	EPA 300.0 R2.1	11/4/2014 17:43	KD	0.15	[250]
Total Dissolved Solids	252	mg/l	SM2540C-97	11/3/2014 11:45	CP	10	[500]
Total Iron	ND	mg/l	EPA 200.8 R5.4	11/6/2014 15:29	MC	0.1	[0.3]
Total Manganese	ND	mg/l	EPA 200.8 R5.4	11/6/2014 15:29	MC	0.01	[0.05]
Total Sodium	4.72	mg/l	EPA 200.8 R5.4	11/6/2014 15:29	MC	0.01	[20]
Total Sulfate	19.4	mg/l	EPA 300.0 R2.1	11/4/2014 17:43	KD	0.5	[250]
Total Surfactant	ND	mg/l	SM5540C-00	10/31/2014 16:00	CT	0.2	[0.5]

Remarks:

Date Sample Collected: 10/31/2014 10:30
Sample Submitted By: D. MCKEE
Date Sample Received: 10/31/2014 13:20
Sample temp. upon receipt: 4.2 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. 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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10701749

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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

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P.O. BOX 150

GLENVILLE, WV 26351-

Thursday, November 13, 2014

Lab Number: 221427-2014-DW **Sample ID:** (7660) BATTEN H2O WELL (3)

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	12:41	MC	1	
TPH - ORO	ND	mg/l	SW8015B/3535A	11/7/2014	12:41	MC	1	
o-Terphenyl (Surrogate)	164	%	SW8015B	11/7/2014	12:41	MC		
Benzene	ND	mg/l	SW8021B/5030B	11/7/2014	12:02	MC	0.0025	0.005
Ethylbenzene	ND	mg/l	SW8021B/5030B	11/7/2014	12:02	MC	0.005	0.70
Toluene	ND	mg/l	SW8021B/5030B	11/7/2014	12:02	MC	0.005	1.0
TPH - GRO	ND	mg/l	SW8015B/5030B	11/7/2014	12:02	MC	0.2	
Xylenes	ND	mg/l	SW8021B/5030B	11/7/2014	12:02	MC	0.005	10
z4-Bromochlorobenzene (Surrogate)	89.7	%	SW8021B	11/7/2014	12:02	MC		

Remarks:

Date Sample Collected: 10/31/2014 10:30
Sample Submitted By: D. MCKEE
Date Sample Received: 10/31/2014 13:20
Sample temp. upon receipt: 4.2 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.**

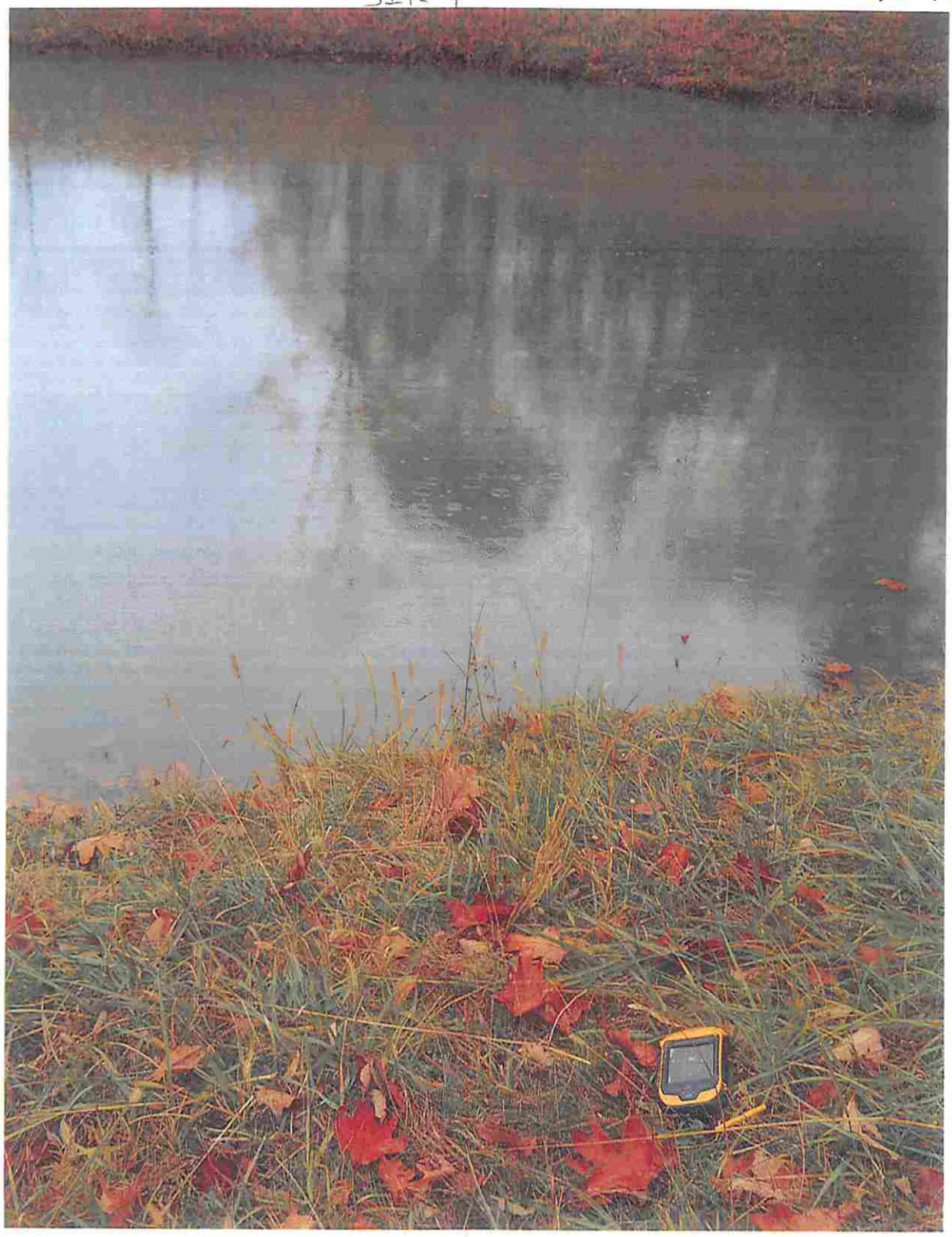
NOTE: This sample does not meet standards set for Total Coliform and E Coli by the State of West Virginia, 64-3-10, Code of State Regulations, adopted July 1, 2002 by the Bureau For Public Health. Sample Analyzed by Certified Laboratory #00354CM and #0044

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

SITE-4

10701749



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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

GLENVILLE, WV 26351-

Lab Number: 221428-2014-DW **Sample ID:** (7660) BATTEN POND (4)

Parameter	Value	Units	Method	Date/Time Analyzed		Analyst	MRL	MCL
Analyte Group: Inorganics								
E. Coli (Chromogenic)	PRESENT		SM9223B-97	10/31/2014	16:35	CP		
Total Coliform (Chromogenic)	PRESENT		SM9223B-97	10/31/2014	16:35	CP		
pH	# 8.11	S.U.	SM4500H+B-00	11/4/2014	15:02	KV		
Total Aluminum	0.178	mg/l	EPA 200.8 R5.4	11/6/2014	15:35	MC	0.01	[0.05]
Total Arsenic	ND	mg/l	EPA 200.8 R5.4	11/6/2014	15:35	MC	0.005	0.01
Total Barium	0.068	mg/l	EPA 200.8 R5.4	11/6/2014	15:35	MC	0.01	2
Total Calcium	27.6	mg/l	EPA 200.8 R5.4	11/6/2014	15:35	MC	0.01	
Total Chloride	2.65	mg/l	EPA 300.0 R2.1	11/4/2014	18:14	KD	0.15	[250]
Total Dissolved Solids	170	mg/l	SM2540C-97	11/3/2014	11:45	CP	10	[500]
Total Iron	0.305	mg/l	EPA 200.8 R5.4	11/6/2014	15:35	MC	0.1	[0.3]
Total Manganese	0.115	mg/l	EPA 200.8 R5.4	11/6/2014	15:35	MC	0.01	[0.05]
Total Sodium	18.5	mg/l	EPA 200.8 R5.4	11/6/2014	15:35	MC	0.01	[20]
Total Sulfate	15.2	mg/l	EPA 300.0 R2.1	11/4/2014	18:14	KD	0.5	[250]
Total Surfactant	ND	mg/l	SM5540C-00	10/31/2014	16:00	CT	0.2	[0.5]

Remarks:

Date Sample Collected: 10/31/2014 10:45
Sample Submitted By: D. MCKEE
Date Sample Received: 10/31/2014 13:20
Sample temp. upon receipt: 4.2 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. 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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MD Department of Environment # 336, 337 | US Environmental Protection Agency # WV00042, WV00901

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GLENVILLE, WV 26351-

Thursday, November 13, 2014

Lab Number: 221428-2014-DW **Sample ID:** (7660) BATTEN POND (4)

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	13:25	MC	1	
TPH - ORO	1.00	mg/l	SW8015B/3535A	11/7/2014	13:25	MC	1	
o-Terphenyl (Surrogate)	109	%	SW8015B	11/7/2014	13:25	MC		
Benzene	ND	mg/l	SW8021B/5030B	11/7/2014	16:17	MC	0.0025	0.005
Ethylbenzene	ND	mg/l	SW8021B/5030B	11/7/2014	16:17	MC	0.005	0.70
Toluene	ND	mg/l	SW8021B/5030B	11/7/2014	16:17	MC	0.005	1.0
TPH - GRO	ND	mg/l	SW8015B/5030B	11/7/2014	16:17	MC	0.2	
Xylenes	ND	mg/l	SW8021B/5030B	11/7/2014	16:17	MC	0.005	10
z4-Bromochlorobenzene (Surrogate)	97.7	%	SW8021B	11/7/2014	16:17	MC		

Remarks:

Date Sample Collected: 10/31/2014 10:45
Sample Submitted By: D. MCKEE
Date Sample Received: 10/31/2014 13:20
Sample temp. upon receipt: 4.2 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 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

10701749

SITE 5 PICTURE UNAVAILABLE DUE TO POOR PHOTOGRAPHY CONDITIONS

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GLENVILLE, WV 26351-

Thursday, November 13, 2014

Lab Number: 221429-2014-DW **Sample ID:** (7660) BATTEN SPRING (5)

Parameter	Value	Units	Method	Date/Time Analyzed		Analyst	MRL	MCL
Analyte Group: Inorganics								
E. Coli (Chromogenic)	ABSENT		SM9223B-97	10/31/2014	16:35	CP		
Total Coliform (Chromogenic)	ABSENT		SM9223B-97	10/31/2014	16:35	CP		
pH	# 8.16	S.U.	SM4500H+B-00	11/4/2014	15:04	KV		
Total Aluminum	0.042	mg/l	EPA 200.8 R5.4	11/6/2014	14:47	MC	0.01	[0.05]
Total Arsenic	ND	mg/l	EPA 200.8 R5.4	11/6/2014	14:47	MC	0.005	0.01
Total Barium	0.103	mg/l	EPA 200.8 R5.4	11/6/2014	14:47	MC	0.01	2
Total Calcium	66.6	mg/l	EPA 200.8 R5.4	11/6/2014	14:47	MC	0.01	
Total Chloride	3.02	mg/l	EPA 300.0 R2.1	11/5/2014	0:29	KD	0.15	[250]
Total Dissolved Solids	494	mg/l	SM2540C-97	11/3/2014	11:45	CP	10	[500]
Total Iron	0.641	mg/l	EPA 200.8 R5.4	11/6/2014	14:47	MC	0.1	[0.3]
Total Manganese	0.036	mg/l	EPA 200.8 R5.4	11/6/2014	14:47	MC	0.01	[0.05]
Total Sodium	84.1	mg/l	EPA 200.8 R5.4	11/12/2014	12:28	TH	0.01	[20]
Total Sulfate	57.3	mg/l	EPA 300.0 R2.1	11/5/2014	0:29	KD	0.5	[250]
Total Surfactant	ND	mg/l	SM5540C-00	10/31/2014	16:00	CT	0.2	[0.5]

Remarks:

Date Sample Collected: 10/31/2014 11:00
Sample Submitted By: D. MCKEE
Date Sample Received: 10/31/2014 13:20
Sample temp. upon receipt: 4.2 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. 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.

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MD Department of Environment # 336, 337 | US Environmental Protection Agency # WV00042, WV00901

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Thursday, November 13, 2014

Lab Number: 221429-2014-DW **Sample ID:** (7660) BATTEN SPRING (5)

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	14:04	MC	1	
TPH - ORO	ND	mg/l	SW8015B/3535A	11/7/2014	14:04	MC	1	
o-Terphenyl (Surrogate)	113	%	SW8015B	11/7/2014	14:04	MC		
Benzene	ND	mg/l	SW8021B/5030B	11/7/2014	13:25	MC	0.0025	0.005
Ethylbenzene	ND	mg/l	SW8021B/5030B	11/7/2014	13:25	MC	0.005	0.70
Toluene	ND	mg/l	SW8021B/5030B	11/7/2014	13:25	MC	0.005	1.0
TPH - GRO	ND	mg/l	SW8015B/5030B	11/7/2014	13:25	MC	0.2	
Xylenes	ND	mg/l	SW8021B/5030B	11/7/2014	13:25	MC	0.005	10
z4-Bromochlorobenzene (Surrogate)	108	%	SW8021B	11/7/2014	13:25	MC		

Remarks:

Date Sample Collected: 10/31/2014 11:00
Sample Submitted By: D. MCKEE
Date Sample Received: 10/31/2014 13:20
Sample temp. upon receipt: 4.2 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.

RL1 001

10701749

SITE 6

10701749

Reliance Laboratories, Inc.
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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

GLENVILLE, WV 26351-

Monday, December 01, 2014

Lab Number: 221807-2014-DW **Sample ID:** (7660) BATTEN SPRING 2 (1)

Parameter	Value	Units	Method	Date/Time Analyzed		Analyst	MRL	MCL
Analyte Group: Inorganics								
E. Coli (Chromogenic)	PRESENT		SM9223B-97	11/7/2014	14:28	CP		
Total Coliform (Chromogenic)	PRESENT		SM9223B-97	11/7/2014	14:28	CP		
pH	# 6.72	S.U.	SM4500H+B-00	11/10/2014	10:39	KV		
Total Aluminum	0.266	mg/l	EPA 200.8 R5.4	11/13/2014	13:03	TH	0.01	[0.05]
Total Arsenic	ND	mg/l	EPA 200.8 R5.4	11/13/2014	13:03	TH	0.005	0.01
Total Barium	0.060	mg/l	EPA 200.8 R5.4	11/13/2014	13:03	TH	0.01	2
Total Calcium	8.24	mg/l	EPA 200.8 R5.4	11/13/2014	13:03	TH	0.01	
Total Chloride	2.83	mg/l	EPA 300.0 R2.1	11/10/2014	13:47	KD	0.15	[250]
Total Dissolved Solids	96	mg/l	SM2540C-97	11/10/2014	11:00	CP	10	[500]
Total Iron	0.319	mg/l	EPA 200.8 R5.4	11/13/2014	13:03	TH	0.1	[0.3]
Total Manganese	3.28	mg/l	EPA 200.8 R5.4	11/13/2014	13:03	TH	0.01	[0.05]
Total Sodium	1.82	mg/l	EPA 200.8 R5.4	11/13/2014	13:03	TH	0.01	[20]
Total Sulfate	17.7	mg/l	EPA 300.0 R2.1	11/10/2014	13:47	KD	0.5	[250]
Total Surfactant	ND	mg/l	SM5540C-00	11/7/2014	14:10	CT	0.2	[0.5]

Remarks:

Date Sample Collected: 11/6/2014 10:15
Sample Submitted By: D MCKEE
Date Sample Received: 11/7/2014 9:29
Sample temp. upon receipt: 0.4 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. 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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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
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GLENVILLE, WV 26351-

Monday, December 01, 2014

Lab Number: 221807-2014-DW **Sample ID:** (7660) BATTEN SPRING 2 (1)

Parameter	Value	Units	Method	Date/Time Analyzed		Analyst	MRL	MCL
Analyte Group: **Total Petroleum Hydrocarbons**								
TPH - DRO	ND	mg/l	SW8015B/3535A	11/26/2014	9:41	MC	1	
TPH - ORO	ND	mg/l	SW8015B/3535A	11/26/2014	9:41	MC	1	
o-Terphenyl (Surrogate)	94.2	%	SW8015B	11/26/2014	9:41	MC		
Benzene	ND	mg/l	SW8021B/5030B	11/11/2014	11:14	MC	0.0025	0.005
Ethylbenzene	ND	mg/l	SW8021B/5030B	11/11/2014	11:14	MC	0.005	0.70
Toluene	ND	mg/l	SW8021B/5030B	11/11/2014	11:14	MC	0.005	1.0
TPH - GRO	ND	mg/l	SW8015B/5030B	11/11/2014	11:14	MC	0.2	
Xylenes	ND	mg/l	SW8021B/5030B	11/11/2014	11:14	MC	0.005	10
z4-Bromochlorobenzene (Surrogate)	99.2	%	SW8021B	11/11/2014	11:14	MC		

Remarks:

Date Sample Collected: 11/6/2014 10:15
Sample Submitted By: D MCKEE
Date Sample Received: 11/7/2014 9:29
Sample temp. upon receipt: 0.4 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 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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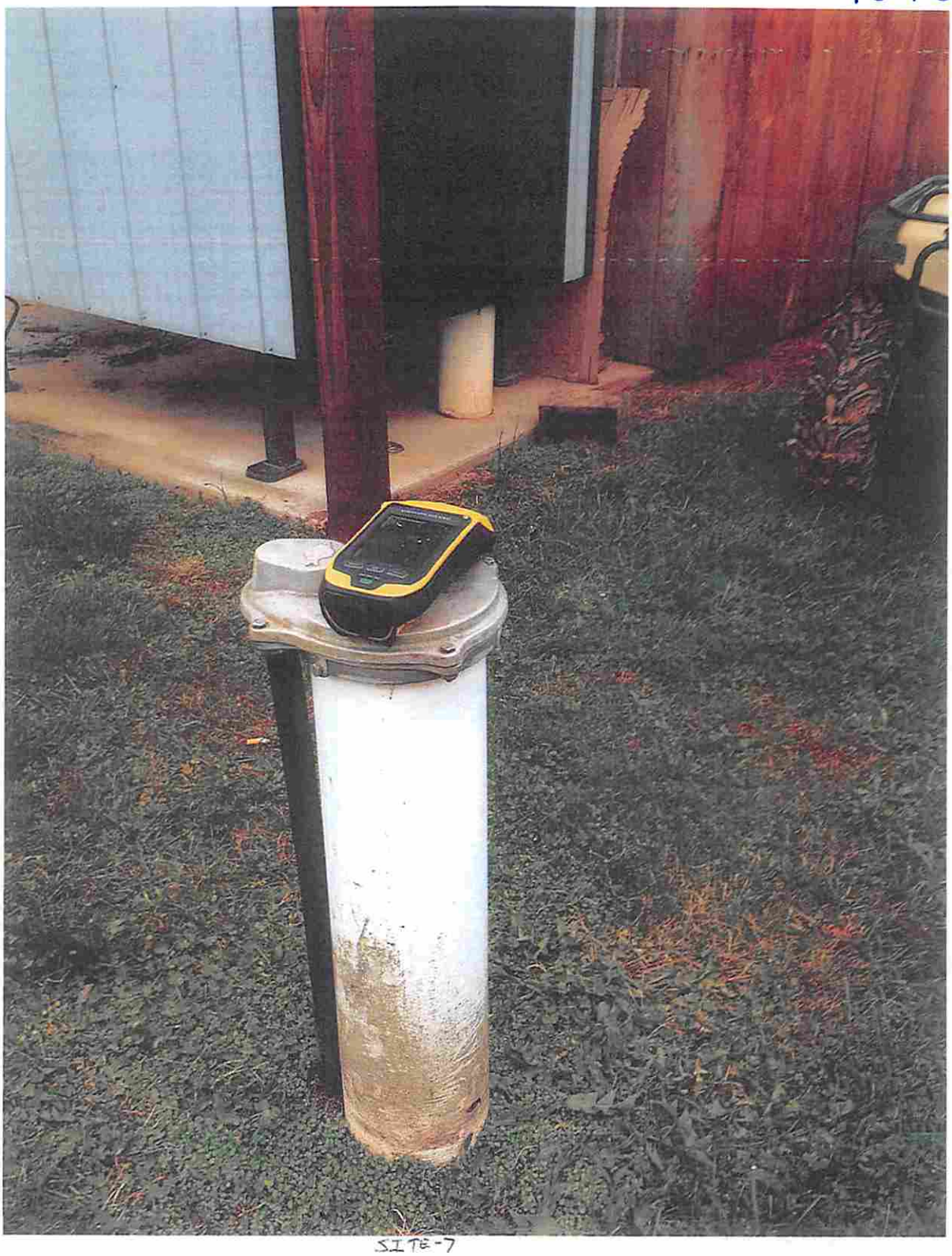

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MD Department of Environment # 336, 337 | US Environmental Protection Agency #: WV00042, WV00901

SMITH LAND SURVEYING, INC
P.O. BOX 150

GLENVILLE, WV 26351-

Wednesday, December 03, 2014

Lab Number: 222254-2014-DW **Sample ID:** (7660) K.TOWNSEND H2O #1 (1)

Parameter	Value	Units	Method	Date/Time Analyzed		Analyst	MRL	MCL
Analyte Group: Inorganics								
E. Coli (Chromogenic)	ABSENT		SM9223B-97	11/14/2014	15:17	CP		
Total Coliform (Chromogenic)	ABSENT		SM9223B-97	11/14/2014	15:17	CP		
pH	# 6.08	S.U.	SM4500H+B-00	11/18/2014	15:00	KD		
Total Aluminum	ND	mg/l	EPA 200.8 R5.4	11/26/2014	13:22	TH	0.01	[0.05]
Total Arsenic	0.055	mg/l	EPA 200.8 R5.4	11/26/2014	13:22	TH	0.005	0.01
Total Barium	0.592	mg/l	EPA 200.8 R5.4	11/26/2014	13:22	TH	0.01	2
Total Calcium	7.76	mg/l	EPA 200.8 R5.4	11/26/2014	13:22	TH	0.01	
Total Chloride	27.1	mg/l	EPA 300.0 R2.1	11/18/2014	13:40	KD	0.15	[250]
Total Dissolved Solids	200	mg/l	SM2540C-97	11/17/2014	11:10	CP	10	[500]
Total Iron	27.6	mg/l	EPA 200.8 R5.4	11/26/2014	13:22	TH	0.1	[0.3]
Total Manganese	1.19	mg/l	EPA 200.8 R5.4	11/26/2014	13:22	TH	0.01	[0.05]
Total Sodium	65.7	mg/l	EPA 200.8 R5.4	11/26/2014	13:22	TH	0.01	[20]
Total Sulfate	45.1	mg/l	EPA 300.0 R2.1	11/18/2014	13:40	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 10:10
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
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. 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

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MD Department of Environment #: 336, 337 | US Environmental Protection Agency #: WV00042, WV00901

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P.O. BOX 150

GLENVILLE, WV 26351-

Wednesday, December 03, 2014

Lab Number: 222254-2014-DW **Sample ID:** (7660) K.TOWNSEND H2O #1 (1)

Parameter	Value	Units	Method	Date/Time Analyzed		Analyst	MRL	MCL
Analyte Group: Total Petroleum Hydrocarbons								
TPH - DRO	ND	mg/l	SW8015B/3535A	12/2/2014	14:08	MC	1	
TPH - ORO	ND	mg/l	SW8015B/3535A	12/2/2014	14:08	MC	1	
o-Terphenyl (Surrogate)	107	%	SW8015B	12/2/2014	14:08	MC		
Benzene	ND	mg/l	SW8021B/5030B	11/19/2014	12:53	MC	0.0025	0.005
Ethylbenzene	ND	mg/l	SW8021B/5030B	11/19/2014	12:53	MC	0.005	0.70
Toluene	ND	mg/l	SW8021B/5030B	11/19/2014	12:53	MC	0.005	1.0
TPH - GRO	ND	mg/l	SW8015B/5030B	11/19/2014	12:53	MC	0.2	
Xylenes	ND	mg/l	SW8021B/5030B	11/19/2014	12:53	MC	0.005	10
z4-Bromochlorobenzene (Surrogate)	94.3	%	SW8021B	11/19/2014	12:53	MC		

Remarks:

Date Sample Collected: 11/13/2014 16:10
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
MDL - Minimum Detectable Limit
MRL - Minimum Reporting Limit
MCL - Maximum Contaminant Level, USEPA Regulated
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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

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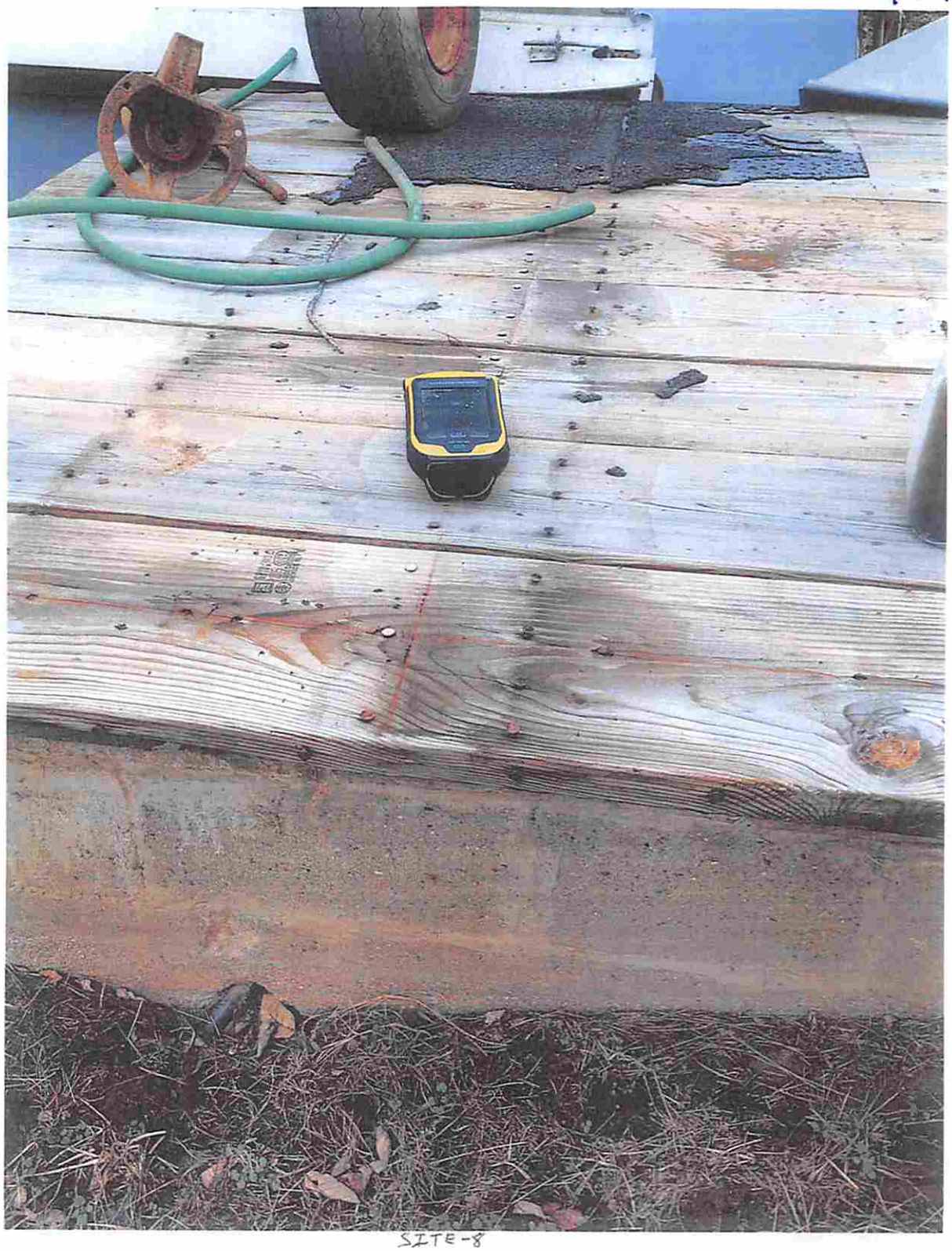

SITE-8

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P.O. BOX 150

GLENVILLE, WV 26351-

Wednesday, December 03, 2014

Lab Number: 222255-2014-DW **Sample ID:** (7660) K.TOWNSEND H2O #2 (2)

Parameter	Value	Units	Method	Date/Time Analyzed		Analyst	MRL	MCL
Analyte Group: Inorganics								
E. Coli (Chromogenic)	ABSENT		SM9223B-97	11/14/2014	15:17	CP		
Total Coliform (Chromogenic)	ABSENT		SM9223B-97	11/14/2014	15:17	CP		
pH	# 5.54	S.U.	SM4500H+B-00	11/18/2014	15:00	KV		
Total Aluminum	ND	mg/l	EPA 200.8 R5.4	11/26/2014	13:29	TH	0.01	[0.05]
Total Arsenic	0.025	mg/l	EPA 200.8 R5.4	11/26/2014	13:29	TH	0.005	0.01
Total Barium	0.575	mg/l	EPA 200.8 R5.4	11/26/2014	13:29	TH	0.01	2
Total Calcium	7.14	mg/l	EPA 200.8 R5.4	11/26/2014	13:29	TH	0.01	
Total Chloride	37.0	mg/l	EPA 300.0 R2.1	11/18/2014	14:11	KD	0.15	[250]
Total Dissolved Solids	187	mg/l	SM2540C-97	11/17/2014	11:10	CP	10	[500]
Total Iron	48.1	mg/l	EPA 200.8 R5.4	11/26/2014	13:29	TH	0.1	[0.3]
Total Manganese	2.67	mg/l	EPA 200.8 R5.4	11/26/2014	13:29	TH	0.01	[0.05]
Total Sodium	36.6	mg/l	EPA 200.8 R5.4	11/26/2014	13:29	TH	0.01	[20]
Total Sulfate	57.8	mg/l	EPA 300.0 R2.1	11/18/2014	14:11	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 10:35
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. 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

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NOTE: #Holding time exceeded for this analysis

RL1001

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MD Department of Environment # 336, 337 | US Environmental Protection Agency # WV00042, WV00901

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GLENVILLE, WV 26351-

Wednesday, December 03, 2014

Lab Number: 222255-2014-DW **Sample ID:** (7660) K.TOWNSEND H2O #2 (2)

Parameter	Value	Units	Method	Date/Time Analyzed		Analyst	MRL	MCL
Analyte Group: **Total Petroleum Hydrocarbons**								
TPH - DRO	ND	mg/l	SW8015B/3535A	12/2/2014	14:48	MC	1	
TPH - ORO	ND	mg/l	SW8015B/3535A	12/2/2014	14:48	MC	1	
o-Terphenyl (Surrogate)	68.3	%	SW8015B	11/20/2014	11:42	MC		
Benzene	ND	mg/l	SW8021B/5030B	11/20/2014	11:42	MC	0.0025	0.005
Ethylbenzene	ND	mg/l	SW8021B/5030B	11/20/2014	11:42	MC	0.005	0.70
Toluene	ND	mg/l	SW8021B/5030B	11/20/2014	11:42	MC	0.005	1.0
TPH - GRO	ND	mg/l	SW8015B/5030B	11/20/2014	11:42	MC	0.2	
Xylenes	ND	mg/l	SW8021B/5030B	11/20/2014	11:42	MC	0.005	10
z4-Bromochlorobenzene (Surrogate)	101	%	SW8021B	11/20/2014	11:42	MC		

Remarks:

Date Sample Collected: 11/13/2014 10:35
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
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***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.**

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NOTE: #Holding time exceeded for this analysis

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WW-9
(5/13)

Page _____ of _____
API Number 47 - _____ - _____
Operator's Well No. Batten #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) South Fork of Lee Creek Quadrangle Lubeck 7.5'

Elevation 890' County Wood District Harris

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:

X 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 _____

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

Official Seal
Notary Public, State Of West Virginia
Lois A Brown
1552 Little Sandy Road
Bruceton Mills WV 26525
My commission expires August 22, 2017

10701749

Form WW-9

Operator's Well No. **BATTEN #1**

LEGEND

Property Boundary
Road
Existing Fence
Planned Fence
Stream
Open Ditch
Rock
North N
Buildings
Water wells W
Drill site

Diversion
Spring
Wet Spot
Drain Pipe with size in inches
Waterway
Cross Drain
Artificial Filter Strip
Pit: cut walls
Pit: compacted fill walls
Area for Land Application of Pit Water

Proposed Revegetation Treatment: Acres Disturbed 2 ± 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

Area I Seed Type	lbs/acre	Area II Seed Type	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: Jamie Harris

Comments:

Title:

Date: 3/11/2014

Field Reviewed? (✓) Yes ( ) No

Previously Reviewed in 2012

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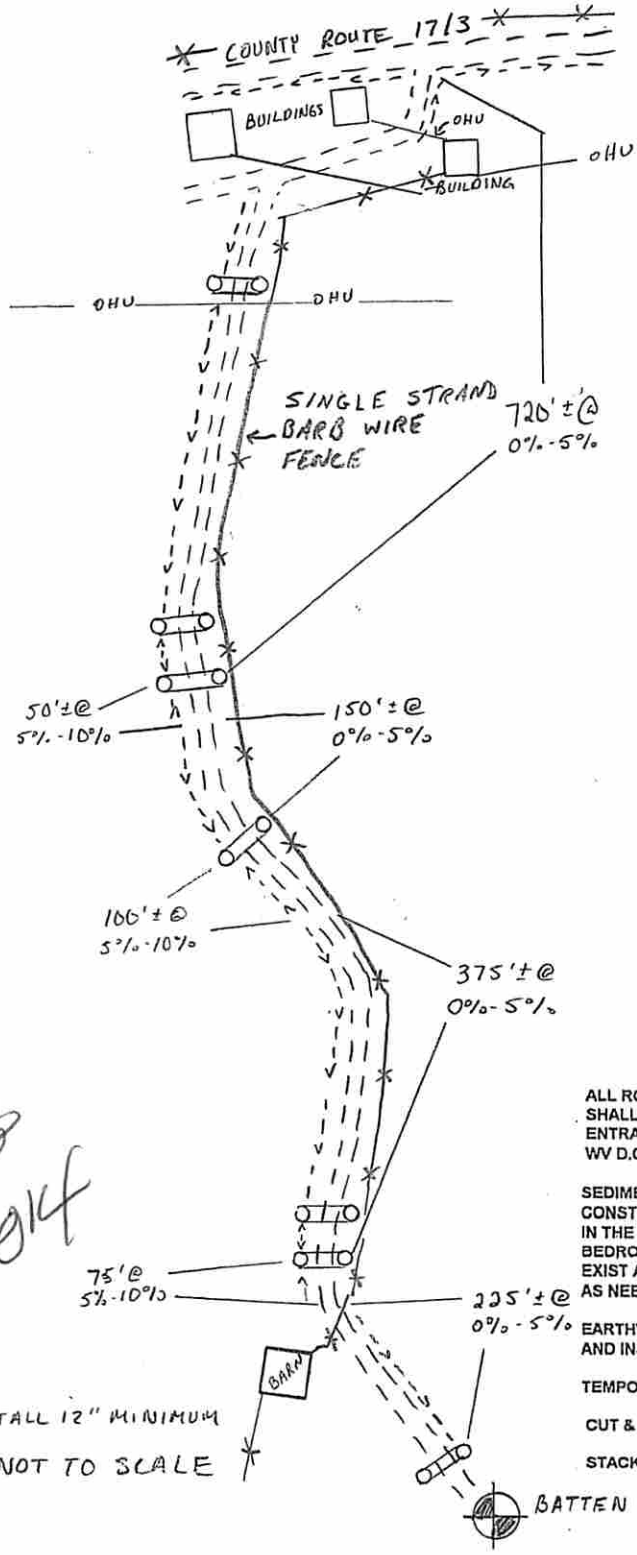
Form WW-9

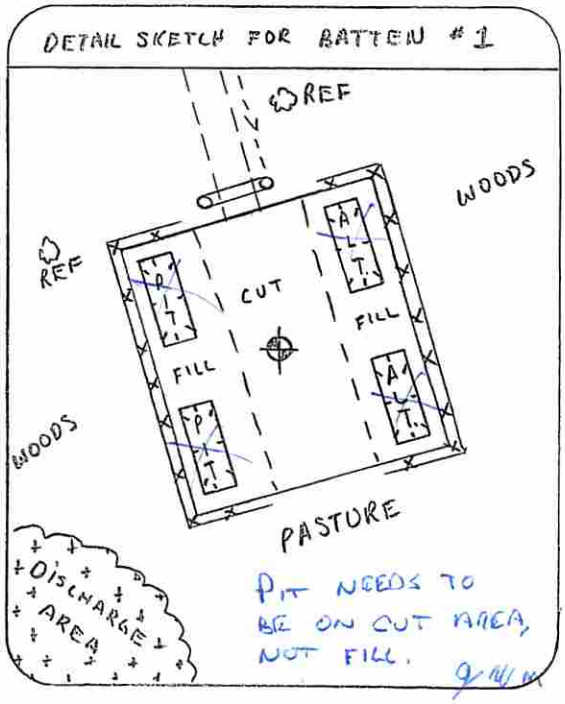
Batten Lease
Well #1

page of



= INSTALL 12" MINIMUM

DRAWING NOT TO SCALE



James Stevens 3/11/2014

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. WITH DEP APPROVAL.

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.

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MAR 31 2014
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WV Dept. of Environmental Protection

SLS SMITH LAND SURVEYING, INC.
P.O.BOX 150 GLENVILLE, WV. 26351
Phone: (304) 462-5634 Fax: 462-5656 email: sls@slssurveys.com

REVISED BY MJH 12-12-13
DRAWN BY DRR DATE 7.25.11 FILE NO. 7660

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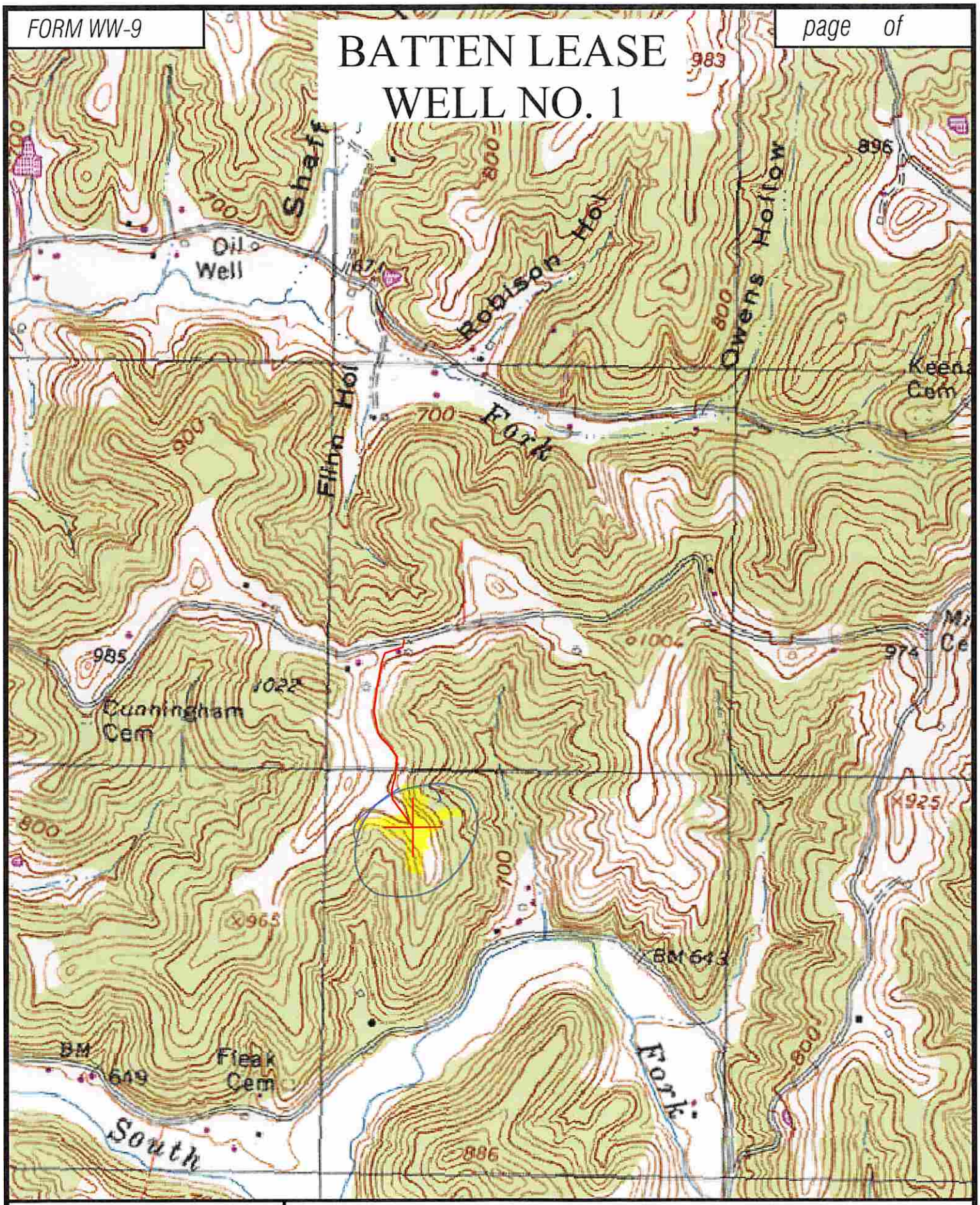
FORM WW-9

BATTEN LEASE
WELL NO. 1

page of



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A DIVISION OF SMITH LAND SURVEYING
SURVEYORS PROJECT MGMT. SLS ENGINEERS ENVIRONMENTAL
P.O. Box 150 Glenville, WV 26351 (304) 462-5634
50085 Dillon Bottom Road Shadyside, OH 43947 (740) 871-0911
HONESTY, INTEGRITY, QUALITY

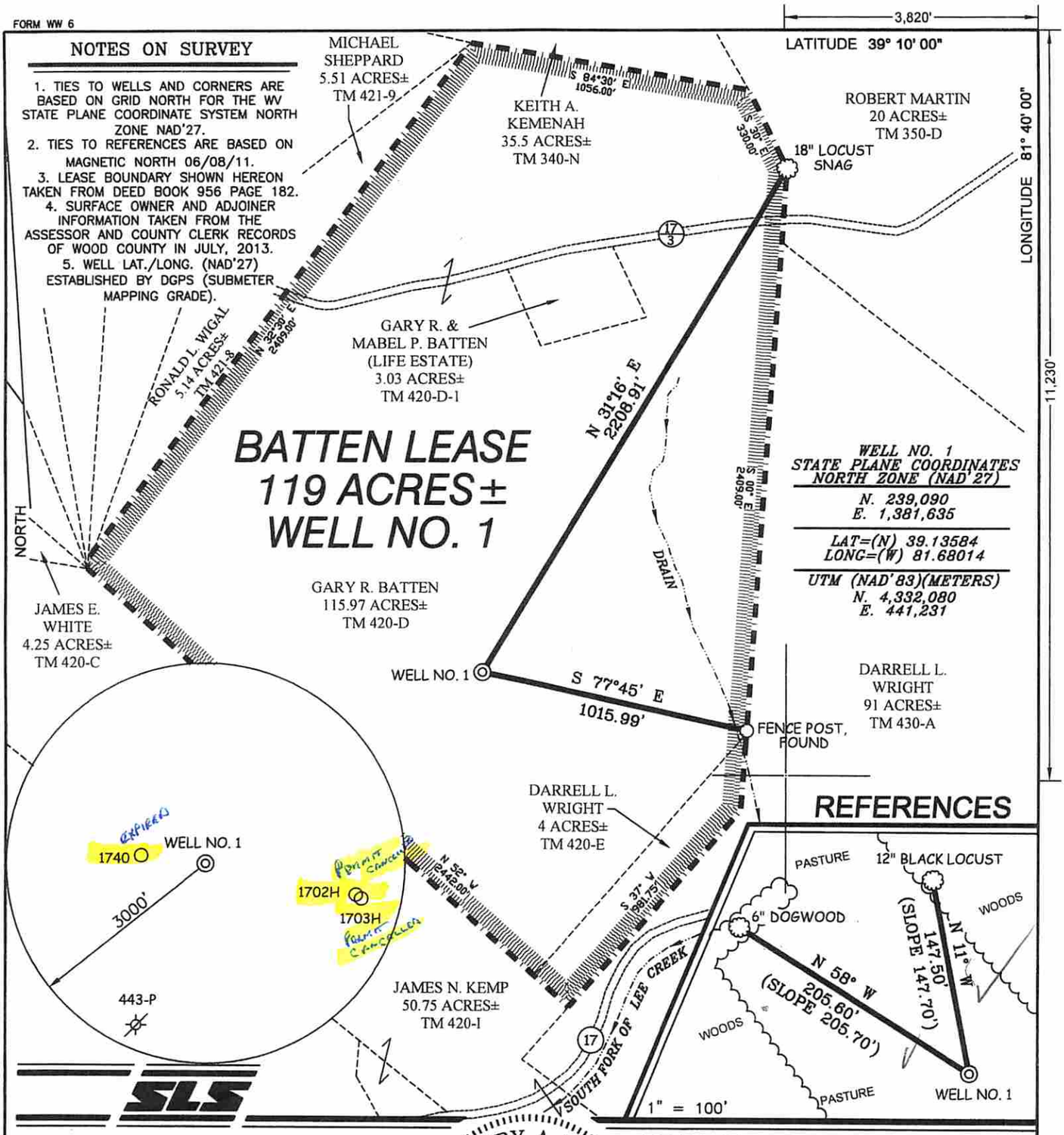
TOPO SECTIONS OF: LUBECK 7.5'

FILE NO. 7660 DATE: 04/03/14 SCALE: 1"=1,000'

FORM WW 6

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 06/08/11.
3. LEASE BOUNDARY SHOWN HEREON TAKEN FROM DEED BOOK 956 PAGE 182.
4. SURFACE OWNER AND ADJOINER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF WOOD COUNTY IN JULY, 2013.
5. WELL LAT./LONG. (NAD'27) ESTABLISHED BY DGPS (SUBMETER MAPPING GRADE).



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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

GREGORY A. SMITH LICENSED No. 677 STATE OF WEST VIRGINIA PROFESSIONAL SURVEYOR

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

DATE DECEMBER 27, 20 13

OPERATORS WELL NO. BATTEN #1

API WELL NO. 47 — 107 — 01749 OGSA
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 200 FILE NO. 7660P1R2 (346-59)

SCALE 1" = 500'

PROVEN SOURCE OF ELEVATION DGPS (SUBMETER MAPPING GRADE)

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

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

LOCATION:

ELEVATION 890' WATERSHED SOUTH FORK OF LEE CREEK

DISTRICT HARRIS COUNTY WOOD QUADRANGLE LUBECK 7.5'

SURFACE OWNER GARY R. BATTEN ACREAGE 115.97±

ROYALTY OWNER GARY R. & MABEL P. BATTEN LEASE ACREAGE 119±

PROPOSED WORK: LEASE NO. ___

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

PHYSICAL CHANGE IN WELL (SPECIFY) ___ TARGET FORMATION ROSE HILL

ESTIMATED DEPTH 5,835'

COUNTY NAME

PERMIT

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

FORM WW 6

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 06/08/11.
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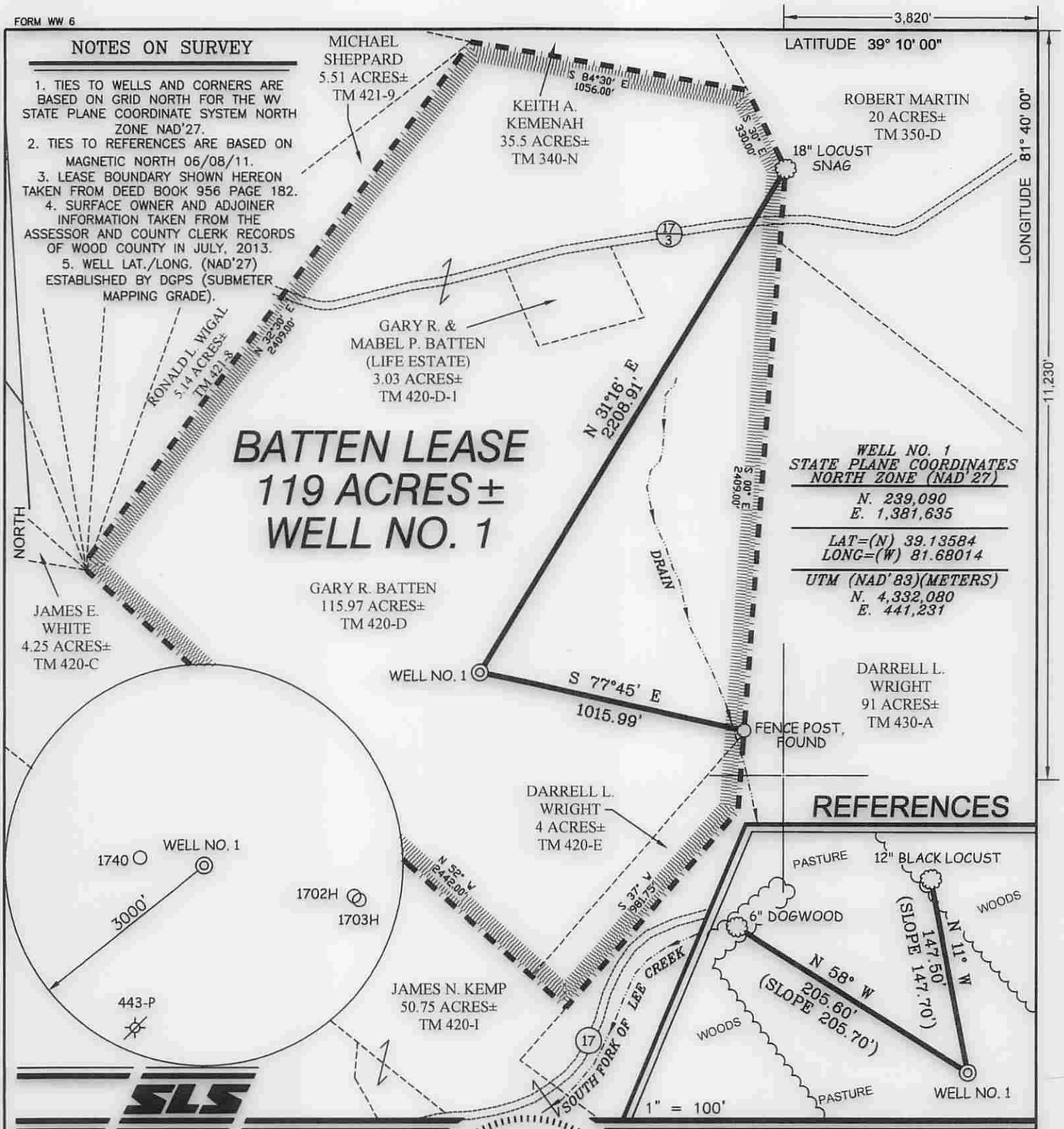

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P.S. 677 Gregory A. Smith

GREGORY A. SMITH LICENSED No. 677 STATE OF WEST VIRGINIA PROFESSIONAL SURVEYOR

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

DATE DECEMBER 27, 20 13

OPERATORS WELL NO. BATTEN #1

API WELL NO. 47 — 107 — 01749
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 200 FILE NO. 7660P1R2 (346-59)

SCALE 1" = 500'

PROVEN SOURCE OF ELEVATION DGPS (SUBMETER MAPPING GRADE)

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

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

LOCATION:

ELEVATION 890' WATERSHED SOUTH FORK OF LEE CREEK

DISTRICT HARRIS COUNTY WOOD QUADRANGLE LUBECK 7.5'

SURFACE OWNER GARY R. BATTEN ACREAGE 115.97±

ROYALTY OWNER GARY R. & MABEL P. BATTEN LEASE ACREAGE 119±

PROPOSED WORK: LEASE NO. ___

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

PHYSICAL CHANGE IN WELL (SPECIFY) ___ TARGET FORMATION ROSE HILL

ESTIMATED DEPTH 5,835'

COUNTY NAME

PERMIT

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

SLS

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10701749

PENNECO
YOUR ENERGY EXPLORATION PARTNER

DEEP WELL DRILLING PROCEDURES AND SITE SAFETY PLAN

Penneco Oil Company

Batten # 1

API # 47- 107-01749

Lubeck Quadrangle, Harris District - Wood County, West Virginia

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

CRainer 7/10/14

By: _____ **Date:** _____

Title: _____, **Penneco**

By: _____ **Date:** _____

Title: _____, **WVOOG**

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WV Dept. of Environmental Protection

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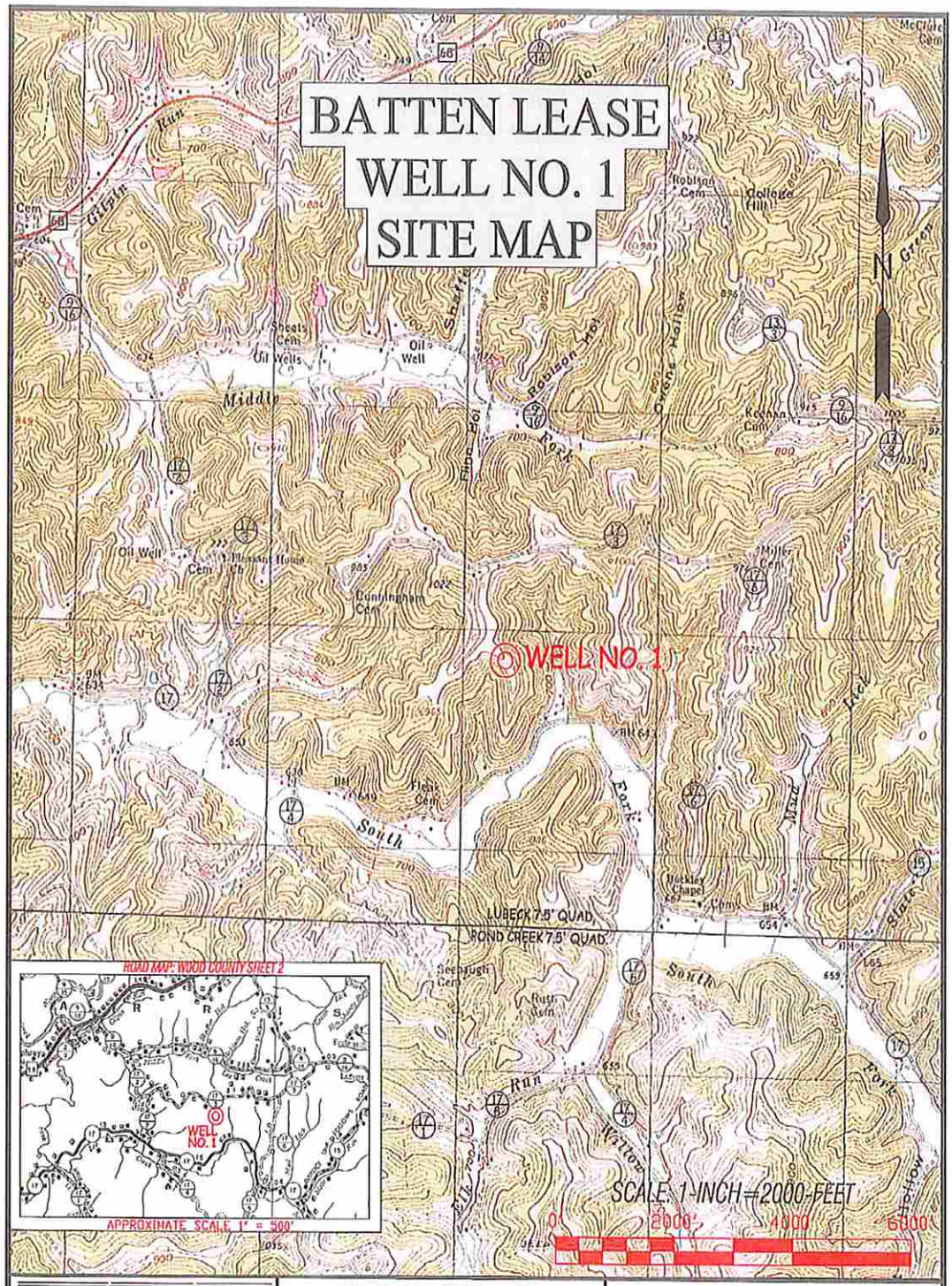
SITING PLAN



SLS SMITH LAND SURVEYING, INC. P.O.BOX 150 GLENVILLE, WV. 26351 PH:(304)462-5634 FAX:(304)462-5656 E-MAIL: sls@slssurveys.com	TOPO SECTION OF: LUBECK, WV 7.5' QUAD.		OPERATOR: PENNECO OIL COMPANY 6608 ROUTE 22 DELMONT, PA 15626
DRAWN BY C.J.P. / FILE NO. 7660 / DATE 08/16/11 / CADD FILE: 7660STEMAP1.DWG	COUNTY: WOOD	DISTRICT: HARRIS	TAX MAP-PARCEL NO.: 420-D

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Pit and Flare Lines

WW-9
Rev. 5/10

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

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

CONSTRUCTION AND RECLAMATION PLAN AND SITE REGISTRATION APPLICATION FORM
GENERAL PERMIT FOR OIL AND GAS PIT WASTE DISCHARGE

Operator Name Permeco Oil Company OP Code 494460033

Watershed South Fork of Lee Creek Quadrangle Lubeck 7.5'

Elevation 890' County Wood District Harris

Description of anticipated Pit Waste: Drill Water and Various Formation Cuttings

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

Will a synthetic liner be used in the pit? Yes. If so, what mil.? 30

Proposed Disposal Method For Treated Pit Wastes:

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

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? Soap

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. Leave in Pit

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

-Landfill or offsite name/permit number? AOP/Belmont, WV – Triad Hunter/Macksburg, OH – Danny Webb/Lochnelly, WV

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 _____

Company Official (Typed Name) Ben L. Wallace

Company Official Title Chief Operating Officer

Subscribed and sworn before me this _____ day of _____, 20____

_____ Notary Public

My commission expires _____

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MAR 31 2014

Office of Oil and Gas
WV Dept. of Environmental Protection

Meeting Date:_____

Drilling Deeper Meeting

Batten # 1

NAME	TITLE
	Penneco DRILLING REPRESENTATIVE
	Penneco SITE SUPERVISOR/REPRESENTATIVE
	STATE INSPECTOR
	DRILLING CONTRACTOR REPRESENTATIVE

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Sign In Sheet

Rig / Well County / State WBS

Date	Name (please print)	Company	Time		Were you injured during your visit?		
			In	Out	Initial	NO	Yes

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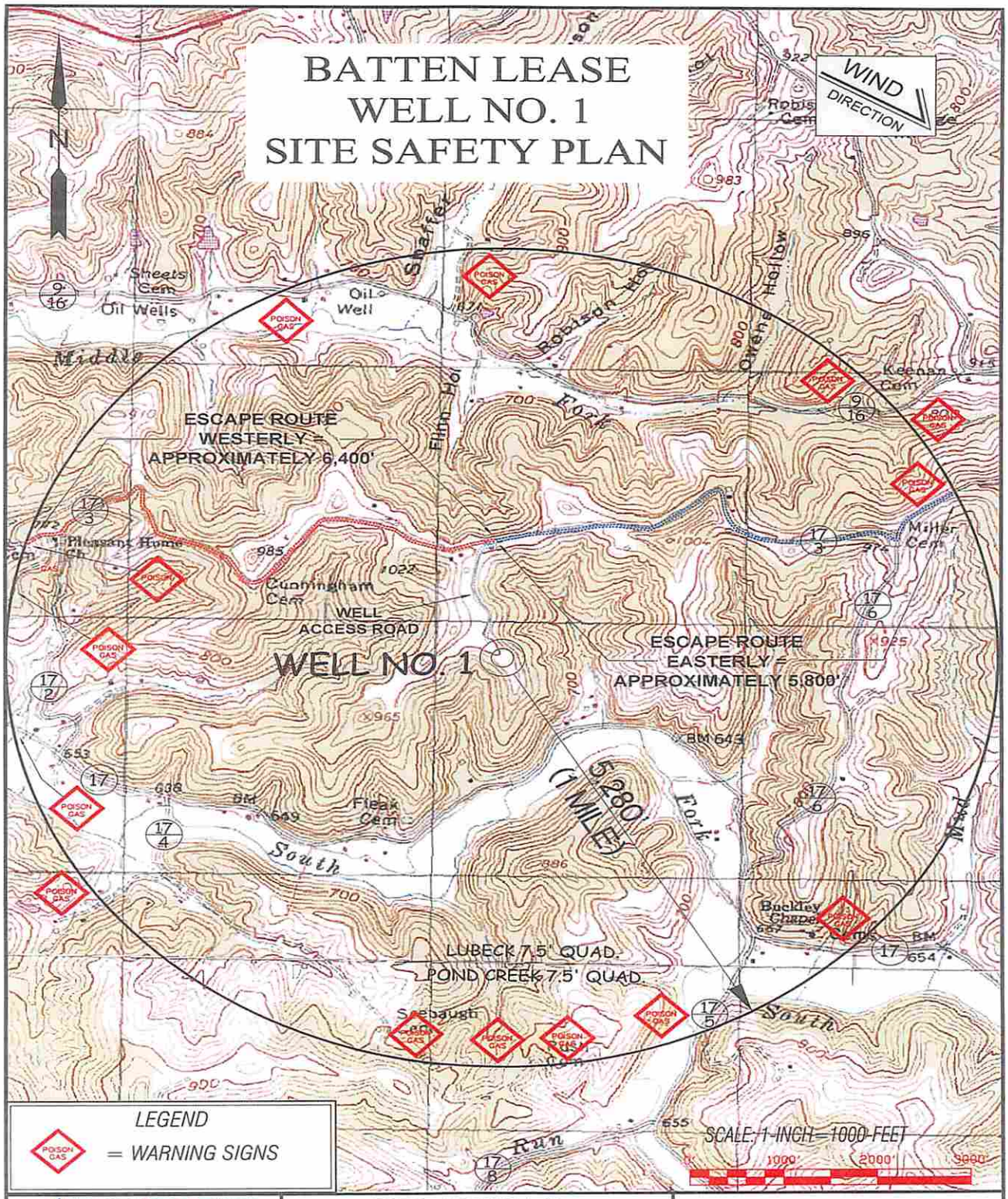
EVACUATION PLAN



Professional Energy Consultants	TOPO SECTION OF: LUBECK, WV 7.5' QUAD.			OPERATOR: PENNECO OIL COMPANY 6608 ROUTE 22 DELMONT, PA 15626
DRAWN BY K.D.W. / FILE NO. 7660 / DATE 01/10/14 / CADD FILE: 7660SAFETYPLAN.WLDWG	COUNTY: WOOD	DISTRICT: HARRIS	TAX MAP–PARCEL NO.: 420–D	

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Evacuation of General Public

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 a disaster, 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.

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C. Penneco Oil Company will dispatch appropriate management personnel at the disaster 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 (SO_2). Under certain conditions this gas may be equally as dangerous as H_2S. A pump type detector device, which determines the percent of SO_2 in air through concentrations in ppm, will be available. Although normal air movement is sufficient to dissipate this material to safe levels, the SO_2 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.

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WV Dept. of Environmental Protection

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SAFETY MEETING SCHEDULE

DATE	Number Of Workers Attended	SAFETY TOPIC DISCUSSED – Batten # 1

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MAR 31 2014

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WV Dept. of Environmental Protection

10701749

LIST OF EMERGENCY PHONE NUMBERS

Penneco Oil Company

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

9/12/14 NO LONGER WITH PENNECO

Drilling Contractor Phone	**Office Phone**	**Cell**
Petty Oilfield Services		
Joseph Petty, Principal	**(304)-824-3432**	

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
H2S RELEASE CALL:	Derek Kaiser	Work Cell: 412-737-3950

Hospitals (911)

Camden Clark Memorial Hospital **800 Garfield Avenue** **Parkersburg, WV. 26101**	**Main Phone Number** **(304)-424-2111**	**Phone:** **(304)-424-2111**

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Ambulance Services (911)

Life Ambulance Service 3602 E. 7th Street Parkersburg, WV. 26104	Office Dispatch	(304)-485-5433
St. Josephs Ambulance Service PO Box 33 Parkersburg, WV. 26102	Office Dispatch	(304)-424-4473

State Police – 911
Local Police – 911
Fire Department – 911

West Virginia State Police 3828 Staunton Turnpike Parkersburg, WV. 26104	Office Number (Dispatcher) Emergency	Phone (304)-420-4600 911
Wood County Sheriff Third floor, One Government Square, Parkersburg, WV. 26104	Office Number (Dispatcher) Emergency	Phone (304)-424-1834 911
East Wood Volunteer Fire Department PO Box 6 Davisville, WV. 26142	Office Number Emergency	Phone (304)-422-4410 911

State Agencies

West Virginia – Department of Environmental Protection Oil and Gas Management 601 57th 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 57th Street, SE Charleston, WV 25304	Phone Number	(304) 926-0499 Ext. 1227

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Driving Directions

Batten # 1

LAT / LONG (NAD 27): 39.13584 / 81.68014

DRIVING DIRECTIONS FROM Charleston, WV.

1). Follow signs for I-64 W/I-77 N and merge onto I-64 W/I-77 N, Continue to follow I-77 N, about 44.9 miles.

2). Take Exit 146, take ramp right for WV-2 South / US-33 /west toward Ravenswood / Silverton, about 0.2 miles.

3). Turn left onto US-33 W/ WV-2, about 2.4 miles.

4). Turn Right onto US-33W/WV-68, about 0.4 miles.

5). Keep straight onto WV-68, about 8.5 miles.

6). Keep left to stay o WV-68, about 9.3 miles.

7). Turn right onto Middle Fork Lee Creek Rd./CR-9/16, about 0.6 miles.

8). Bear right onto Pleasant hill Church Rd./CR-17/2, about 0.7miles.

9). Bear left onto Pleasant home ridge Rd/CR-17/3, about 1.0 miles.

10). Well road will be on the right, travel about 1745 feet to well site.

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BATTEN 1
PROPOSED CASING PLAN AND SETTING DEPTH

	DIAMETER	HOLE SIZE	SETTING DEPTH	GRADE
CONDUCTOR:	20"	24"	30'	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"	1,660'	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"	2,245'	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 - 5,775')	0.220 wall, 10.5#, ST&C, MAV65 K55 cpl., 5,560# internal yield 140,000# joint strength, 4,250# collapse rating
TD HOLE:			5,835'	

Purpose: To drill and complete in the Rose Hill Formation.

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Geologic Prognosis

ESTIMATED LOG
Batten No. 1, 47-107-0____
Harris District, Wood County, WV

Elevation (Ground): 890', 900' KB

Formation Tops:	Depth	Thickness	Pay/Show
Big Lime	1713'	45'	-
Big Injun	1758'	462'	-
Sunbury Shale	2220'	18'	
Berea	2238'	4'	Poss Sg
Lo Huron undiff.	2242'	1,107'	Poss Sg 3,245'
Lower Huron	3,349'	533'	Poss Sg 3,638'
Java Fm.	3,882'	385'	
Rhinestreet Sh.	4,267'	193'	
GAS CHECK	4,450'		
Onondaga Ls.	4,460'	96'	~~poss Sg~~ ?
Oriskany Ss.	4,556'	30'	~~poss Sg/pay~~
Helderberg	4,586'	196'	-
GAS CHECK	4,700'		
Salina	4,782'	535'	-
Newburg Ss.	5,317'	25'	poss Sg/pay
McKenzie	5,337'	298'	poss Sg 5,469'
GAS CHECK	5,600'		
Big Six Ss.	5,635'	34'	poss Sg
Rose Hill Sh.	5,669'	5,835'	
Total Depth		5,835'	

} NO COMPLETION IN THESE ZONES

Possible freshwater flows: Poss @122'
Possible salt water flows: Poss @ 1,388' and 1,587'

Logging Program:

Gamma Ray: TD to Surface
Temperature: TD to csg. seat
Dual Induction: TD to csg. seat
Compensated Density: TD to casing seat
Sidewall Neutron Porosity: TD to casing seat

Note: 2.68 Matrix Density from csg seat to top Onondaga, 2.71 gm/cm3 from Onondaga Top
Fluid Density air filled hole: 1.00

Other: Mud Log: 4,400' to TD
Samples: every 10 feet from 4450' to 4700'; 5,280' to 5,700'

Casing Program:

Conductor: 20", 30', Range 3, 8 round, 81.3 lb., BTC, 0.375 wall, Grade MC50 pipe,

Surface: 13.375", 300' Range 3, 8 round 48.0 lb., ST&C, 0.330 wall, Grade H40 pipe, H40 cpl.

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Coal Protection: 9.625", 1,660' Range 3, 8 round, 32.3 lb., ST&C, 0.312 wall, Grade H40 pipe, K55 cpl.
Note: No coal present

Intermediate: 7.0", 2,245' Range 3, 8 round 23.0 lb., ST&C, 0.317 wall Grade J55 pipe, K55 cpl

Production Casing: 4 1/2", 5,775' Range 3, 8 round, 10.5 lb, ST&C, 0.22 wall, Grade MAV65 pipe, K55 cpl.

Tubing: As per orders.

SERVICES:

Cement and Cementing:	Universal Well Services:
	Brad Rowley, Engineer Cell: (814) 952-0126 Office: (814) 938-2951
Electric Logging:	Weatherford:
	Dave Sommerville, Sales Engineer Office: (724) 354-3050 Cell: 9724) 388-2577
Pipe and Supplies:	McJunkin-Red Man Corporation:
Buckhannon yard: Indiana Office: Don Hudson; cell	(304) 472-3565 (724) 349-6823 (412) 289-2444
Mud Logging:	Geosearch Logging:
H2S Safety: Derek Kaiser: District Manager	Total Safety (724) 745-1919 Office (412) 737-3950 cell

---

CONTACTS:

Oil and Gas Inspector:	JAMIE STEVENS: (304) 205-7775
Rig Phone:	_____
PENNECO:	Office: (724)-468-8232 Fax: (724) 468-8230
Manager: Bill Baughman	Office: (724) 468-8232 Cell: (724) 640-5213
Geologist: Shannon Johnson	Cell: (412) 657-5619 Home: (412) 784-1927
MOUNTAIN V: Mike Shaver, President	Office: (304) 842-6320 Mobile (304) 203-7550 Pager: (304) 987-7550

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WW - 2B
(Rev. 8/10)

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

1) Well Operator	Penneco Oil Company	494460033	Wood	Harris	Lubeck 7.5'
		Operator ID	County	District	Quadrangle

2) Operator's Well Number: Batten #1 3) Elevation: 890'
4) Well Type: (a) Oil_____ or Gas X
(b) If Gas: Production X / Underground Storage_____
Deep X / Shallow _____
5) Proposed Target Formation(s): Rose Hill Proposed Target Depth: 5835'
6) Proposed Total Depth: 5835 Feet Formation at Proposed Total Depth: Rose Hill
7) Approximate fresh water strata depths: 122'
8) Approximate salt water depths: 1388' 1587'
9) Approximate coal seam depths: None
10) Approximate void depths,(coal, Karst, other): None
11) Does land contain coal seams tributary to active mine? No
12) Describe proposed well work in detail To Drill and Complete in the Rose Hill Formation

13) CASING AND TUBING PROGRAM

TYPE	SPECIFICATIONS Size	Grade	Weight per ft	FOOTAGE INTERVALS For Drilling	Left in Well	CEMENT Fill -up (Cu. Ft.)
Conductor	20"	MC-50	81.30#	30'	30'	CTS
Fresh Water	13.375"	H-40	48.00#	300'	300'	CTS
Coal	9.625"	H-40	32.30#	1660'	1660'	CTS
Intermediate	7"	J-55	23.0#	2245'	2245'	CTS
Production	4 ½"	MAV 65	10.5#	5835'	5775'	By Rule 35 CSR 4-11.1
Tubing						
Liners						

Packers: Kind
Sizes
Depths Set

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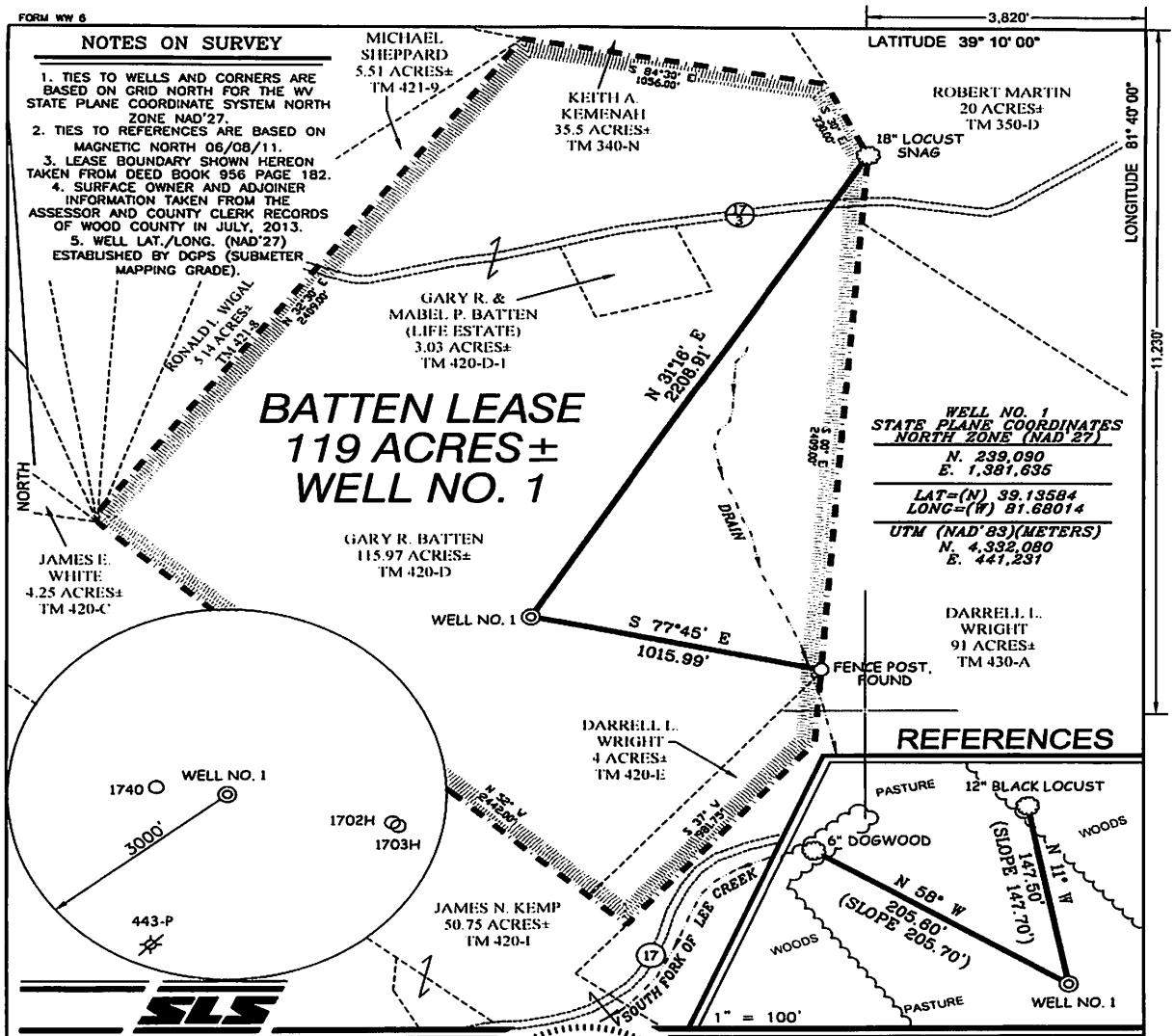
FORM WW 6

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 06/08/11.
3. LEASE BOUNDARY SHOWN HEREON TAKEN FROM DEED BOOK 956 PAGE 182.
4. SURFACE OWNER AND ADJOINER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF WOOD COUNTY IN JULY, 2013.
5. WELL LAT./LONG. (NAD'27) ESTABLISHED BY DGPS (SUBMETER MAPPING GRADE).



SLS

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 LICENSED No. 677 STATE OF WEST VIRGINIA PROFESSIONAL SURVEYOR

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

DATE DECEMBER 27, 20 13

OPERATORS WELL NO. BATTEN #1

API WELL NO. 47 — STATE — COUNTY — PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 200 FILE NO. 7660P1R2 (346-59)

SCALE 1" = 500'

PROVEN SOURCE OF ELEVATION DGPS (SUBMETER MAPPING GRADE)

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

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

LOCATION:
ELEVATION 890' WATERSHED SOUTH FORK OF LEE CREEK
DISTRICT HARRIS COUNTY WOOD QUADRANGLE LUBECK 7.5'
SURFACE OWNER GARY R. BATTEN ACREAGE 115.97±
ROYALTY OWNER GARY R. & MABEL P. BATTEN LEASE ACREAGE 119±
PROPOSED WORK LEASE NO. ___
DRILL X CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION ___ PERFORATE NEW FORMATION ___ PLUG AND ABANDON ___ CLEAN OUT AND REPLUG ___ OTHER ___
PHYSICAL CHANGE IN WELL (SPECIFY) ___ TARGET FORMATION ROSE HILL
ESTIMATED DEPTH 5,835'

COUNTY NAME

PERMIT

WELL OPERATOR PENNECO OIL COMPANY DESIGNATED AGENT STEPHEN K. SCHUMAN
ADDRESS 6608 ROUTE 22 ADDRESS P.O. BOX 844
DELMONT, PA 15626 MORGANTOWN, WV 26507

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BOP Requirements

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

Casing String – 20"	Casing String – 13.375"
Rotating Head Only	BOP Type – Annular
Size – 20"	Size – 13.375"
Pressure Rating – 500 psi	Pressure Rating – 5000 psi
BOP Type – Double Rams	BOP Type – Double Rams
Size – 9.625"	Size – 7"
Pressure Rating – 10000 psi	Pressure Rating – 10000 psi

BOP Installation and Pressure Testing

1. The 20" Rotating Head will be installed when nippling up on the 20" casing. It will divert returns to the pit while air drilling this section.

2. The 13.375" BOP stack will be installed when nippling up on the 13.375" 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 9.625" 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.

Pressure tests on the BOPE should 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.

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BOP Trained Personnel

Penneco Oil Company Representative

Toolpusher

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Penneco Oil Company Representative – Relief
Rig Supervisor
Rig Supervisor – Relief
Day Tour Driller
Night Tour Driller
Relief Driller

WWD&C Standard Operations Guidelines

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 WellCAP 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 nippling 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. Diverters 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.

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Recording of Significant Drilling Events

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A detailed record of significant drilling events will be recorded in Penneco Oil Company's well log book. The state inspector will be notified upon any significant drilling events including the encounter of Hydrogen Sulfide Gas.

Wellhead Assembly

The Christmas tree section is to be designed depending upon the well completion type (i.e., 7", 4 ½", tubing, or combination thereof).

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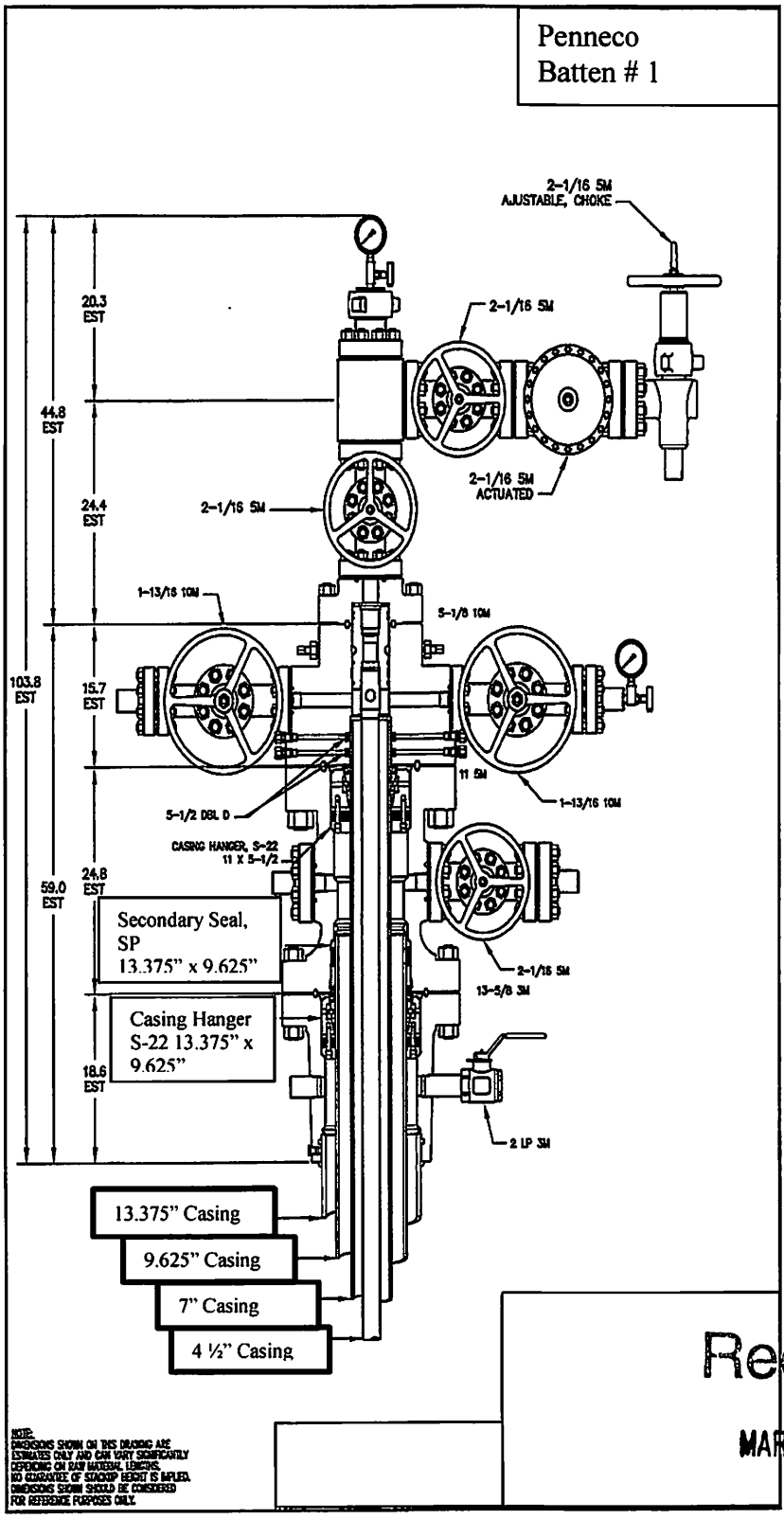
WELLHEAD SCHEMATIC



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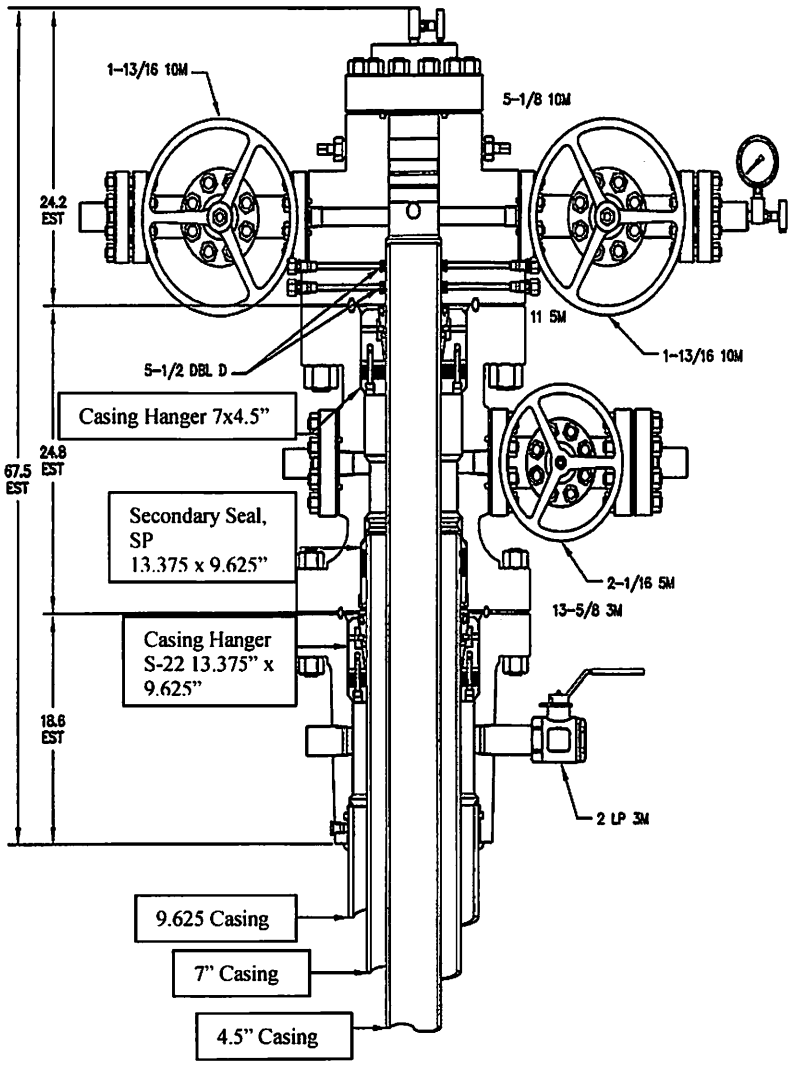
Penneco
Batten # 1



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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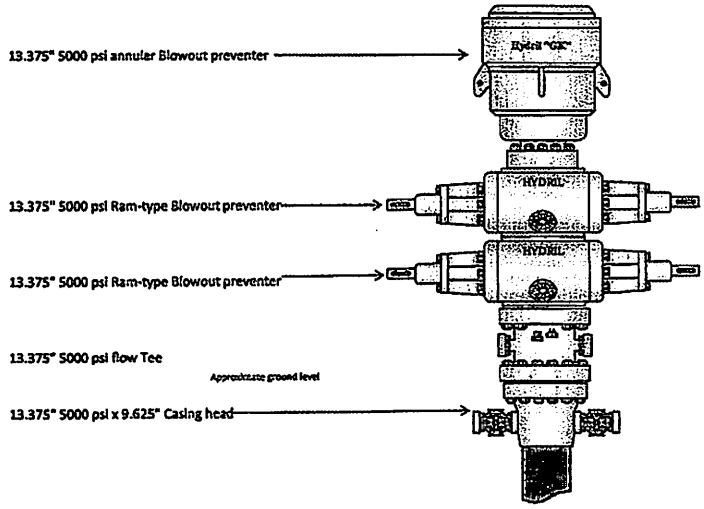
Well Flaring and Killing Operations

Penneco
Proposed Blowout Preventer Schematic
Batten # 1
Grant County, West Virginia



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