05/31/2019

west virginia department of environmental protection

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

Austin Caperton, Cabinet Secretary
www.dep.wv.gov

Friday, May 31, 2019
WELL WORK PERMIT
Vertical / Brine Disposal - 1

JAY-BEE OIL & GAS, INC.
1720 RT. 22 E

UNION, NJ 070830000

Re: Permit approval for PLUTO 1A
47-085-10284-00-00

This well work permit 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 any additional specific 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 of 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.

Per 35 CSR 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- 0450.

James A. Martin
Chief

Operator's Well Number: PLUTO 1A
Farm Name: JAY BEE YARD LLC
U.S. WELL NUMBER: 47-085-10284-00-00
Vertical Brine Disposal - 1
Date Issued: 5/31/2019

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.

9. Operator shall monitor and evaluate wellbore conditions during drilling for evidence of faulting and evaluate well logs for the identification of faulting or any other feature that can be contributed to seismic activity. Identification of any such feature shall be presented to the Office of Oil and Gas prior to well stimulation or operation.

RECEIVED
Office of Oil and Gas

MAY 3 2019

WV Department of
Environmental Protection

47-085-10284B

05/31/2019

FORM WW-3 (B)
1/12

1) Date: 08/22/2016
2) Operator's Well No. Pluto 1A
3) API Well No.: 47 - Ritchie - 47-085-10284
State County Permit
4) UIC Permit No. 2D08510284

STATE OF WEST VIRGINIA
NOTICE OF LIQUID INJECTION OR WASTE DISPOSAL WELL WORK PERMIT APPLICATION
FOR THE DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS

5) WELL TYPE: Liquid Injection [✓] / Gas Injection (not storage) [ ] / Waste Disposal [✓]
6) LOCATION: Elevation: 1004' Watershed: Hushers Run
District: Clay County Ritchie Quadrangle Ellenboro 7 1/2'
7) WELL OPERATOR: Jay-Bee Oil & Gas, Inc.
Address 3570 Shields Hill Rd.
Cairo, WV 26337
8) DESIGNATED AGENT
Address
9) OIL & GAS INSPECTOR TO BE NOTIFIED
Name Mike Goff
Address PO Box 134
Pullman WV 26421
10) DRILLING CONTRACTOR
Name Jay-Bee Oil & Gas, Inc.
Address 3570 Shields Hill Rd.
Cairo, WV 26337
11) PROPOSED WELL WORK SEE ADDENDUM ATTACHED.
Drill [✓] / Drill deeper [ ] / Redrill [ ] / Stimulate [✓]
Plug off old formation [ ] / Perforate new formation [✓] Convert [ ]
Other physical change in well (specify)
12) GEOLOGIC TARGET FORMATION Oriskany, Helderberg, Newberg Depth 6,315 Feet (top) to 7573 Feet (bottom)
13) Estimated Depth of Completed Well, (or actual depth of existing well): 7573 Feet
14) Approximate water strata depths: Fresh 134 Feet Salt 964 Feet
15) Approximate coal seam depths: 503'
16) Is coal being mined in the area? Yes ____ No X
17) Virgin reservoir pressure in target formation 3000 psig Source Geologist - Kesterson
18) Estimated reservoir fracture pressure 4000 psig (BHFP)
19) MAXIMUM PROPOSED INJECTION OPERATIONS: Volume per hour 120bbl Bottom hole pressure 2500#
20) DETAILED IDENTIFICATION OF MATERIALS TO BE INJECTED, INCLUDING ADDITIVES Salt and Brine from well list, acid sticks at 1 stick per 1000bbls, or as needed. See attached sample analysis.
21) FILTERS (IF ANY) 60 micron filtering system
22) SPECIFICATIONS FOR CATHODIC PROTECTION AND OTHER CORROSION CONTROL Insulated Hammer Union at top of well.
23) CASING AND TUBING PROGRAM

CASING OR TUBING TYPE	SPECIFICATIONS Size	Grade	Weight per ft.	New	Used	FOOTAGE INTERVALS For Drilling	Left In Well	CEMENT FILL-UP OR SACKS (CU. FT.)	PACKERS
Conductor	16"	J55	40#	Yes		30'	30'	Grout to Surface	Kinds
Fresh Water	11 3/4"	J55	32#	Yes		310'	310'	147 Cu Ft CTS	Casing Packer
Coal	8 5/8"	J55	24#	Yes		2,050'	2,050'	521 Cu Ft CTS	Sizes
Intermediate	N/A	N/A	N/A	N/A		N/A	N/A	N/A	2 7/8" x 5 1/2"
Production	5 1/2"	HCP-110	17#	Yes		7,725'	7,700'	1,338 Cu Ft CTS	Depths set
Tubing	2 7/8"	J55	6.4#	Yes		N/A	6,348'	N/A	6,348'
Liners	N/A	N/A	N/A	N/A		N/A	N/A	N/A	Perforations
									Top Bottom
								Oriskany	Est. - 6,320' 6,380'
								Helderberg	Est. - 6,420' 6,780'
								Newberg	Est. - 7,550' 7,565'

24) APPLICANT'S OPERATING RIGHTS were acquired from Jay-Bee Yard, LLC by deed x / lease ____ / other contract ____ / dated 05/16/2013 of record in the Ritchie County Clerk's office in Harrisville, WV Book 322 Page 498

CTB 5/31/19

47-085-10284B
05/31/2019

WW3B Addendum

Add to line 11

5/28/19

Randy Broda

After setting 8 5/8 casing

We will drill a 7 7/8 hole to TD on air, if we encounter any fluid, we will add soap to assist the drilling process to clean the hole.

Mud Loggers will be on location to call the formations and to monitor for any gas found as well as faults.

H2S detection will be on location and monitoring the well bore from the Onondaga formation to TD once we reach TD, we will pull up 200' and load the hole with gelled water and circulate to condition the well bore then trip out of the hole.

Log open hole well section – TD to intermediate casing, then run 5 ½ casing and cement as per plan.

We will conduct a pre-spud meeting prior to commencing the well.

Jeff McLaughlin and Cragin Blevins with the DEP, will be notified of this meeting with at least 1 week notice.

RECEIVED
Office of Oil and Gas

MAY 03 2019

WV Department of
Environmental Protection

DEEP WELL ADDITIONAL REQUIREMENT

Below is a list of anticipated freshwater, saltwater, oil and gas, hydrogen sulfide, thief zones, high pressure and volume zones and their expected depths

- Freshwater - 259'
- Saltwater – 1000'
- Big Injun – 1,946'
- Gordon – 2,872'
- Benson – 5,070'
- Marcellus – 6,130'

Possible H2S Zones:

- Onondaga – 6,162'
- Huntersville – 6,220'
- Oriskany – 6,320'
- Helderburg – 6,420'
- Newburg - 7565'

Below is our casing program for this well:

TYPE	Size	New or Used	Grade	Weight per ft.	FOOTAGE: For Drilling	INTERVALS: Left in Well	CEMENT: Fill -up (Cu. Ft.)
Conductor	16	New	J55	40	30	30	Grout to Surface
Fresh Water	11 3/4	New	J55	32	310	310	147cf CTS
Coal	8 5/8	New	J55	24	2,050	2,050	521cf CTS
Intermediate							
Production	5 1/2	New	P110	17	7,725	7,700	1273cf CTS
Tubing	2 7/8	New	J55	6.4	N/A	6,348	N/A
Liners							

TYPE	Size	Wellbore Diameter	Wall Thickness	Burst Pressure	Cement Type	Cement Yield
Conductor	16	17 1/2	.495	3,000#	Class A Cement	1.19CF per Sack
Fresh Water	11 3/4	15	.333	1,500#	Class A Cement	1.26CF per Sack
Coal	8 5/8	11	.264	2,950#	Class A Cement	1.45CF per Sack
Intermediate						
Production	5 1/2	7 7/8	.304	15,000#	Type 1 Cement	1.34CF per Sack
Tubing	2 7/8	5 1/2	.217	7,260#	N/A	N/A
Liners						

47085102848

05/31/2019

FORM WW-3 (A)
1/12

1) Date: 3-29-2016
2) Operator's Well No. Pluto 1A
3) API Well No.: 47 - Ritchie - 47-085-10284
State County Permit
4) UIC Permit No. 2D08510284

STATE OF WEST VIRGINIA
NOTICE OF LIQUID INJECTION OF WASTE DISPOSAL WELL WORK PERMIT APPLICATION
FOR THE DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS,

5) Surface Owner(S) To Be Served
(a) Name Jay-Bee Yard, LLC
Address 3570 Shields Hill Rd
Cairo, WV 26337
(b) Name
Address
(c) Name
Address

6) Inspector Mike Goff
Address PO Box 134
Pullman WV 26421
Telephone 304-549-9823

7) (a) Coal Operator
Name
Address

7) (b) Coal Owner(S) With Declaration Of Record
Name Jay-Bee Yard, LLC
Address 3570 Shields Hill Rd
Cairo, WV 26337
Name
Address

7) (c) Coal Lessee with Declaration Of Record
Name
Address

TO THE PERSONS NAMED ABOVE: You should have received this form and the following documents

(1) The Application For A Liquid Injection or Waste Disposal Well Work Permit on Form WW-3(B), which sets out the parties involved in the drilling or other work;
(2) The plat (surveyor's map) showing the well location on Form WW-6; and
(3) The Construction and Reclamation Plan on Form WW-9 (unless the well work is only to plug a well), which sets out the plan for erosion and sediment control and for reclamation for the site and access road.

The date proposed for the first injection or waste disposal is May 1st. 20 17 .

THE REASON YOU HAVE RECEIVED THESE DOCUMENTS IS THAT YOU HAVE RIGHTS REGARDING THE APPLICATION WHICH ARE SUMMARIZED IN THE "INSTRUCTIONS" ON THE REVERSE SIDE OF THE COPY OF THE APPLICATION [(FORM WW-3(B)] DESIGNATED TO YOU. HOWEVER YOU ARE NOT REQUIRED TO TAKE ACTION AT ALL.

Take notice that under Chapter 22-6 of the West Virginia Code, the undersigned well operator proposes to file or has filed this Notice and Application and accompanying documents for a Well Work Permit with the Chief of the Office of Oil and Gas, West Virginia Department of Environmental Protection, with respect to a well at the location described on the attached Application and depicted on the attached Form WW-6. Copies of this Notice, the Application, the plat, and the Construction and Reclamation Plan have been mailed by registered or certified mail or delivered by hand to the person(s) named above (or by publication in certain circumstances) on or before the day of the mailing or delivery to the Chief.

The person signing this document shall make the following certification:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

Well Operator Jay-Bee Oil & Gas, Inc.
Address 3570 Shields Hill Rd.
Cairo, WV 26337
By: Shane Dowell
Its: Office Manager
Signature:

RECEIVED
Office of Oil and Gas
SEP 8 2017
WV Department of
Environmental Protection

47085102 84 B
05/31/2019

WW-2A / 3A Surface Waiver

SURFACE OWNER WAIVER

County Ritchie Operator Jay-Bee Oil & Gas, Inc.
Operator well number Pluto 1A

INSTRUCTIONS TO SURFACE OWNERS NAMED ON PAGE WW2-A / 3A

The well operator named on page WW-2A / 3A 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 / 3A, and attachments consisting of pages 1 through 7 including a work order on Form WW-2B / 3A, 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.

Received
Office of Oil & Gas
MAR 30 2016

FOR EXECUTION BY A NATURAL PERSON

Signature Date 3-29-2016

Shane Dowell
Print Name

FOR EXECUTION BY A CORPORATION, ETC.

Company Name Jay-Bee Yard, LLC.
By Shane Dowell
Its Office Manager

Signature Date 3-29-2016

4708510384B 05/31/2019

WW-2A / 3A Coal Waiver

COAL OPERATOR, OWNER, OR LESSEE WAIVER

County Ritchie
Operator Jay-Bee Oil & Gas, Inc Operator's Well Number Pluto 1A

INSTRUCTIONS TO COAL OPERATOR, OWNER, OR LESSEE

To the coal operator, owner, or lessee named on page WW-2A / 3A. 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 X / 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 _____
Signature

FOR EXECUTION BY A CORPORATION, ETC.

Company Name Jay-Bee Yard, LLC
By Shane Dowell
Its Office Manager Date
Signature 9-8-17
Date

RECEIVED
Office of Oil and Gas

SEP 8 2017

WV Department of
Environmental Protection

4708510284B
05/31/2019

WW-70
Rev. 7/01

Affidavit of Personal Service

State Of West Virginia

County Of Ritchie

The undersigned, being first duly sworn, says that the undersigned served a true and complete copy of all sides of--

(1) Notice on Form WW-2(A) X / WW-3(A) X / WW-4(A) __/ WW-5(A) __/ WW-6(A) __ WSSP __
(2) Application on Form WW-2(B) __/ WW-3(B) X / WW-4(B) __/ WW-5(B) __/ WW-6(B) __ E&S __
(3) Plat showing the well location on Form WW-6, and x WW-6A5 __ MSDS x
(4) Construction and Reclamation Plan on Form WW-9 X
(5) WW6A1 __ WMP __ WW6RW/AW __

--all with respect to operator's Well No. Pluto 1A located in Clay District, Ritchie County, West Virginia, upon the person or organization named--

Jay-Bee Yard, LLC

--by delivering the same in Ritchie County, State of West Virginia on the 29 day of March, 2016 in the manner specified below.

[COMPLETE THE APPROPRIATE SECTION]

For an individual:

[ ] Handing it to him___/ her___/ or, because he___/ she___/ refused to take it when offered it, by leaving it in his___/ her___/ presence.

[ ] Handing it to a member of his or her family above the age of 16 years named _____who resides at the usual place of abode of the person to be served, and asking the family member to give it to the person to be served as soon as possible.

For a partnership:

[ ] Handing it to _____, a partner of the partnership or, because the partner refused to take it when I handed it over, by leaving it in the presence of the partner.

For a limited partnership:

[ ] Handing it to the general partner, named _____, or, because the general partner refused to take it when I tried to hand it over, by leaving it in the presence of the general partner.

For a corporation:

[X] Handing it to the corporation's employee X / officer___/ director___/ attorney in fact___/ named Theresa Ritter.

(Signature of person executing service)

Taken, subscribed and sworn before me this 29th day of March 2016.
My commission expires Oct 9th 2019.

Teresa R. Hall
Notary Public

(AFFIX SEAL IF NOTARIZED OUTSIDE THE STATE)

Received
Office of Oil & Gas
MAR 30 2016

Official Seal
Notary Public, State Of West Virginia
Teresa R. Hall
174 Concord Street
Harrisville, WV 26362
My commission expires Oct 09, 2019

47-085-10284 B
05/31/2019

WW-2A1
(Rev. 1/11)

Operator's Well Number Pluto 1A

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
Jay-Bee Yard, LLC	Jay-Bee Oil & Gas, Inc.	12.5%	322-498

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

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.

RECEIVED
Office of Oil and Gas

NOV 17 2017

WV Department of
Environmental Protection

Well Operator: Jay-Bee Oil & Gas, Inc.
By: Its: Shane Dowell
Office Manager

4708510284 B 05/31/2019

WW-2B1
(5-12)

Well No. Pluto 1A

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: Contractor

Well Operator: Jay-Bee Oil & Gas, Inc.
Address: 3570 Shields Hill Rd.
Cairo, WV 26337
Telephone: 304-628-3111

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.

SEE ATTACHED CERTIFIED MAIL RECEIPTS.

RECEIVED
Office of Oil and Gas

SEP 8 2017

WV Department of
Environmental Protection

RELIANCE LABORATORIES, INC. - CHAIN OF CUSTODY RECORD

☐ 2044 MEADOWBROOK ROAD
POST OFFICE BOX 4657
BRIDGEPORT, WV 26330
TEL. (304) 842-5285 • FAX (304) 842-5351
E-MAIL reliancelabs@wvdsl.net
INTERNET www.RelianceLabs.net

☐ RIDGEFIELD BUSINESS CENTER
25 CRIMSON CIRCLE
MARTINSBURG, WV 25403
TEL. (304) 596-2084 • FAX (304) 596-2086

*CLIENT NAME Jay Bee Oil & Gas Inc.

*ADDRESS 3570 Shields Hill Rd Cairo WV 26337

CUSTOMER # C06323 *TEL. #304 628 3111 FAX #

*SAMPLER (S) Mike Miller E-MAIL sdowell@jaybeeoil.com paddlermike@gmail.com

SHEET NO. 1 OF 1

LABORATORY #	*DATE	*TIME	GW/DW	SW/WW	MATRIX W, DW, S, O, M	TEMP. ≤ 4°C Yes / No	*# OF CONTAIN.	HNO3	H2SO4	HCL	NaOH	BAC-T	NO PRES.	DRO/GRO/ORO	BTEX 2	Cl, TDS, pH, SO4	Al, As, Ba, Fe, Mn	Methane, Propane, Ethane, Butane	MUG, MBAS	TOC, TSS	*PROJECT/REMARKS
245236	3/9/16	3/9/16 5:00 pm		X	DW	2.4	9	1	1	4		1	2	X	X	X	X	X	X	X	Trenton Energy #1
245237	3/9/16	4:05 pm		X	DW	↓	9	1	1	4		1	2	↓	↓	↓	↓	↓	↓	↓	Mike Lamp
245238	3/9/16	4:30 pm		X	DW	↓	9	1	1	4		1	2	↓	↓	↓	↓	↓	↓	↓	Camp Hope

SAMPLES DO ✓ DO NOT _____ MEET USEPA GUIDELINES FOR HOLDING TIMES
SAMPLES DO ✓ DO NOT _____ MEET USEPA GUIDELINES FOR CHEMICAL PRESERVATIVES
SAMPLES DO ✓ DO NOT _____ MEET USEPA GUIDELINES FOR SAMPLE CONTAINERS
SAMPLES ARE ✓ ARE NOT _____ FOR REGULATORY COMPLIANCE PURPOSES

*RELINQUISHED BY:	*DATE/TIME	*RECEIVED BY:
PRINT: Mike Miller	DATE: 3/10/16	PRINT: K Davis
SIGN:	TIME: 8:05	SIGN:
*RELINQUISHED BY:	*DATE/TIME	*RECEIVED BY:
PRINT:	DATE:	PRINT:
SIGN:	TIME:	SIGN:
*RELINQUISHED BY:	*DATE/TIME	*RECEIVED BY:
PRINT:	DATE:	PRINT:
SIGN:	TIME:	SIGN:
*COURIER:	*DATE/TIME	*RECEIVED BY:
TRACKING #:	DATE:	PRINT:
	TIME:	SIGN:

REMARKS:

PWS# _____

WEATHER/TEMPERATURE:

☐ ***RUSH STATUS*** (INITIAL ACCEPTANCE _____)

*** ADDITIONAL LABORATORY FEES MAY APPLY***

EXTENT OF LIABILITY

SHOULD RELIANCE LABORATORIES, INC. BE AT FAULT AND ANY DISPUTE ARISE REGARDING ANALYTICAL DATA GENERATED BY THE LABORATORY, THE EXTENT OF THE LIABILITY TO RELIANCE WILL BE A DUPLICATE ANALYSIS OF THAT SAMPLE (PROVIDING ADEQUATE SAMPLE REMAINS) OR A REFUND OF THE ANALYTICAL FEE. IN NO EVENT WILL RELIANCE LABORATORIES BE LIABLE FOR DAMAGES INCLUDING BUT NOT LIMITED TO DIRECT, INDIRECT OR CONSEQUENTIAL DAMAGES ARISING FROM SUCH DISPUTE.

NOTE: TYPICAL SAMPLE TURN AROUND FOR ROUTINE SAMPLES IS 5 TO 10 WORKING DAYS. THIS IN NOT A GUARANTEE THAT SAMPLES WILL BE COMPLETED IN THIS TIME FRAME, HOWEVER. NON-ROUTINE SAMPLES MAY REQUIRE ADDITIONAL TIME.

TO BE COMPLETED BY CLIENT

ORIGINAL CHAIN OF CUSTODY DOCUMENT MUST BE EXECUTED IN INK

WHITE - LABORATORY YELLOW - CLIENT

05/31/2019

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

LABORATORY REPORT SUMMARY

Client: C06323

JAY BEE OIL & GAS, INC.
3570 SHIELDS HILL RD.
CAIRO WV 26337-

Monday, March 28, 2016

Total Number of Pages: 7
(Not Including C.O.C.)
Page 1 of 7

Lab ID	Sample ID	Sample ID 2	Sample Date
245236-2016-DW	TRENTON ENERGY #1		3/9/2016
245237-2016-DW	MIKE LAMP		3/9/2016
245238-2016-DW	CAMP HOPE		3/9/2016

The enclosed results have been analyzed according to the referenced method and SOP. Any deviations to the method have been noted on the report. Unless otherwise noted, all results have been verified to meet quality control requirements of the method. All analysis performed by Reliance Laboratories, Bridgeport, WV unless otherwise noted. Parameters analyzed by Reliance Laboratories, Martinsburg, WV are noted with @ on laboratory report.This report may not be reproduced, except in full, without written approval of Reliance Laboratories, Inc.

Report Reviewed By: Tenley Miller

Digitally signed by Tenley Miller
DN: cn=Tenley Miller, o=Reliance Laboratories, Inc., ou, email=tmiller@wvdsl.net, c=US
Date: 2016.03.28 14:55:38 -04'00'

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

JAY BEE OIL & GAS, INC.
3570 SHIELDS HILL RD.

CAIRO, WV 26337-

Monday, March 28, 2016

Lab Number: 245236-2016-DW **Sample ID:** TRENTON ENERGY #1

Parameter	Value	Units	Method	Date/Time Analyzed	Analyst	MRL	MCL
Analyte Group: Inorganics							
Total Organic Carbon	0.67	mg/l	SM5310C-00	3/18/2016 10:17	TH	0.2	
Total Suspended Solids	36	mg/l	SM2540D-97	3/15/2016 9:27	JL	4	
E. coli (Chromogenic)	ABSENT		SM9223B-97	3/10/2016 10:12	CP		
Total Coliform (Chromogenic)	ABSENT		SM9223B-97	3/10/2016 10:12	CP		
pH	# 7.51	S.U.	SM4500H+B-00	3/15/2016 15:00	JL		
Total Aluminum	0.161	mg/l	EPA 200.8 R5.4	3/17/2016 12:00	TH	0.01	[0.05]
Total Arsenic	0.040	mg/l	EPA 200.8 R5.4	3/17/2016 12:00	TH	0.005	0.01
Total Barium	0.606	mg/l	EPA 200.8 R5.4	3/17/2016 12:00	TH	0.01	2
Total Calcium	57.7	mg/l	EPA 200.8 R5.4	3/17/2016 12:00	TH	0.01	
Total Chloride	4.85	mg/l	EPA 300.0 R2.1	3/11/2016 14:30	CH	0.15	[250]
Total Dissolved Solids	322	mg/l	SM2540C-97	3/15/2016 9:27	JL	10	[500]
Total Iron	2.39	mg/l	EPA 200.8 R5.4	3/17/2016 12:00	TH	0.1	[0.3]
Total Manganese	0.582	mg/l	EPA 200.8 R5.4	3/17/2016 12:00	TH	0.01	[0.05]
Total Sodium	13.9	mg/l	EPA 200.8 R5.4	3/17/2016 12:00	TH	0.01	[20]
Total Sulfate	12.1	mg/l	EPA 300.0 R2.1	3/11/2016 14:30	CH	0.5	[250]
Total Surfactant	ND	mg/l	SM5540C-00	3/11/2016 13:00	CH	0.2	[0.5]

Remarks:

Date Sample Collected: 3/9/2016 14:30
Sample Submitted By: M. MILLER
Date Sample Received: 3/10/2016 8:05
Sample temp. upon receipt: 2.4 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 ONLINE 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. This falls outside criteria set by 40CFR136.

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 #: 168, 181
MD Department of Environment #: 336, 337 | US Environmental Protection Agency #: WV00042, WV00901

JAY BEE OIL & GAS, INC.
3570 SHIELDS HILL RD.

CAIRO, WV 26337-

Monday, March 28, 2016

Lab Number: 245236-2016-DW **Sample ID:** TRENTON ENERGY #1

Parameter	Value	Units	Method	Date/Time Analyzed	Analyst	MRL	MCL
Analyte Group: Total Petroleum Hydrocarbons							
TPH - DRO	ND	mg/l	SW8015B/3535A	3/15/2016	15:21 CH	1	
TPH - ORO	ND	mg/l	SW8015B/3535A	3/15/2016	15:21 CH	1	
o-Terphenyl (Surrogate)	88.0	%	SW8015B	3/15/2016	15:21 CH		
Benzene	ND	mg/l	SW8021B/5030B	3/14/2016	11:20 CH	0.0025	0.005
Ethylbenzene	ND	mg/l	SW8021B/5030B	3/14/2016	11:20 CH	0.005	0.70
Toluene	ND	mg/l	SW8021B/5030B	3/14/2016	11:20 CH	0.005	1.0
TPH - GRO	ND	mg/l	SW8015B/5030B	3/14/2016	11:20 CH	0.2	
Xylenes	ND	mg/l	SW8021B/5030B	3/14/2016	11:20 CH	0.005	10
z4-Bromochlorobenzene (Surrogate)	119	%	SW8021B	3/14/2016	11:20 CH		

Remarks:

Date Sample Collected: 3/9/2016 14:30
Sample Submitted By: M. MILLER
Date Sample Received: 3/10/2016 8:05
Sample temp. upon receipt: 2.4 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 ONLINE 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. This falls outside criteria set by 40CFR136.

05/31/2019

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

JAY BEE OIL & GAS, INC.
3570 SHIELDS HILL RD.

CAIRO, WV 26337-

Monday, March 28, 2016

Lab Number: 245237-2016-DW **Sample ID:** MIKE LAMP

Parameter	Value	Units	Method	Date/Time Analyzed	Analyst	MRL	MCL
Analyte Group: Inorganics							
Total Organic Carbon	0.39	mg/l	SM5310C-00	3/18/2016 10:17	TH	0.2	
Total Suspended Solids	10	mg/l	SM2540D-97	3/15/2016 9:27	JL	4	
E. coli (Chromogenic)	ABSENT		SM9223B-97	3/10/2016 10:12	CP		
Total Coliform (Chromogenic)	PRESENT		SM9223B-97	3/10/2016 10:12	CP		
pH	# 8.49	S.U.	SM4500H+B-00	3/15/2016 15:00	JL		
Total Aluminum	ND	mg/l	EPA 200.8 R5.4	3/17/2016 12:14	TH	0.01	[0.05]
Total Arsenic	ND	mg/l	EPA 200.8 R5.4	3/17/2016 12:14	TH	0.005	0.01
Total Barium	0.203	mg/l	EPA 200.8 R5.4	3/17/2016 12:14	TH	0.01	2
Total Calcium	5.45	mg/l	EPA 200.8 R5.4	3/17/2016 12:14	TH	0.01	
Total Chloride	0.25	mg/l	EPA 300.0 R2.1	3/11/2016 15:01	CH	0.15	[250]
Total Dissolved Solids	302	mg/l	SM2540C-97	3/15/2016 9:27	JL	10	[500]
Total Iron	ND	mg/l	EPA 200.8 R5.4	3/17/2016 12:14	TH	0.1	[0.3]
Total Manganese	0.012	mg/l	EPA 200.8 R5.4	3/17/2016 12:14	TH	0.01	[0.05]
Total Sodium	104	mg/l	EPA 200.8 R5.4	3/17/2016 12:14	TH	0.01	[20]
Total Sulfate	0.76	mg/l	EPA 300.0 R2.1	3/11/2016 15:01	CH	0.5	[250]
Total Surfactant	ND	mg/l	SM5540C-00	3/11/2016 13:00	CH	0.2	[0.5]

Remarks:

Date Sample Collected: 3/9/2016 16:05
Sample Submitted By: M. MILLER
Date Sample Received: 3/10/2016 8:05
Sample temp. upon receipt: 2.4 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 ONLINE 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. This falls outside criteria set by 40CFR136.

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

JAY BEE OIL & GAS, INC.
3570 SHIELDS HILL RD.

CAIRO, WV 26337-

Monday, March 28, 2016

Lab Number: 245237-2016-DW **Sample ID:** MIKE LAMP

Parameter	Value	Units	Method	Date/Time Analyzed	Analyst	MRL	MCL
Analyte Group: Total Petroleum Hydrocarbons							
TPH - DRO	ND	mg/l	SW8015B/3535A	3/15/2016 16:01	CH	1	
TPH - ORO	ND	mg/l	SW8015B/3535A	3/15/2016 16:01	CH	1	
o-Terphenyl (Surrogate)	88.1	%	SW8015B	3/15/2016 16:01	CH		
Benzene	ND	mg/l	SW8021B/5030B	3/14/2016 12:46	CH	0.0025	0.005
Ethylbenzene	ND	mg/l	SW8021B/5030B	3/14/2016 12:46	CH	0.005	0.70
Toluene	ND	mg/l	SW8021B/5030B	3/14/2016 12:46	CH	0.005	1.0
TPH - GRO	ND	mg/l	SW8015B/5030B	3/14/2016 12:46	CH	0.2	
Xylenes	ND	mg/l	SW8021B/5030B	3/14/2016 12:46	CH	0.005	10
z4-Bromochlorobenzene (Surrogate)	103	%	SW8021B	3/14/2016 12:46	CH		

Remarks:

Date Sample Collected: 3/9/2016 16:05
Sample Submitted By: M. MILLER
Date Sample Received: 3/10/2016 8:05
Sample temp. upon receipt: 2.4 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 ONLINE 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. This falls outside criteria set by 40CFR136.

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

JAY BEE OIL & GAS, INC.
3570 SHIELDS HILL RD.

CAIRO, WV 26337-

Monday, March 28, 2016

Lab Number: 245238-2016-DW **Sample ID:** CAMP HOPE

Parameter	Value	Units	Method	Date/Time Analyzed	Analyst	MRL	MCL
Analyte Group: Inorganics							
Total Organic Carbon	0.38	mg/l	SM5310C-00	3/18/2016 10:17	TH	0.2	
Total Suspended Solids	ND	mg/l	SM2540D-97	3/15/2016 9:27	JL	4	
E. coli (Chromogenic)	ABSENT		SM9223B-97	3/10/2016 10:12	CP		
Total Coliform (Chromogenic)	PRESENT		SM9223B-97	3/10/2016 10:12	CP		
pH	# 7.67	S.U.	SM4500H+B-00	3/15/2016 15:00	JL		
Total Aluminum	ND	mg/l	EPA 200.8 R5.4	3/17/2016 12:19	TH	0.01	[0.05]
Total Arsenic	ND	mg/l	EPA 200.8 R5.4	3/17/2016 12:19	TH	0.005	0.01
Total Barium	0.170	mg/l	EPA 200.8 R5.4	3/17/2016 12:19	TH	0.01	2
Total Calcium	52.6	mg/l	EPA 200.8 R5.4	3/17/2016 12:19	TH	0.01	
Total Chloride	0.90	mg/l	EPA 300.0 R2.1	3/11/2016 15:32	CH	0.15	[250]
Total Dissolved Solids	226	mg/l	SM2540C-97	3/15/2016 9:27	JL	10	[500]
Total Iron	0.251	mg/l	EPA 200.8 R5.4	3/17/2016 12:19	TH	0.1	[0.3]
Total Manganese	0.045	mg/l	EPA 200.8 R5.4	3/17/2016 12:19	TH	0.01	[0.05]
Total Sodium	16.9	mg/l	EPA 200.8 R5.4	3/17/2016 12:19	TH	0.01	[20]
Total Sulfate	24.7	mg/l	EPA 300.0 R2.1	3/11/2016 15:32	CH	0.5	[250]
Total Surfactant	ND	mg/l	SM5540C-00	3/11/2016 13:00	CH	0.2	[0.5]

Remarks:

Date Sample Collected: 3/9/2016 16:30
Sample Submitted By: M. MILLER
Date Sample Received: 3/10/2016 8:05
Sample temp. upon receipt: 2.4 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 ONLINE 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. This falls outside criteria set by 40CFR136.

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

JAY BEE OIL & GAS, INC.
3570 SHIELDS HILL RD.

CAIRO, WV 26337-

Monday, March 28, 2016

Lab Number: 245238-2016-DW **Sample ID:** CAMP HOPE

Parameter	Value	Units	Method	Date/Time Analyzed	Analyst	MRL	MCL
Analyte Group: Total Petroleum Hydrocarbons							
TPH - DRO	ND	mg/l	SW8015B/3535A	3/15/2016 16:42	CH	1	
TPH - ORO	ND	mg/l	SW8015B/3535A	3/15/2016 16:42	CH	1	
o-Terphenyl (Surrogate)	84.5	%	SW8015B	3/15/2016 16:42	CH		
Benzene	ND	mg/l	SW8021B/5030B	3/14/2016 13:22	CH	0.0025	0.005
Ethylbenzene	ND	mg/l	SW8021B/5030B	3/14/2016 13:22	CH	0.005	0.70
Toluene	ND	mg/l	SW8021B/5030B	3/14/2016 13:22	CH	0.005	1.0
TPH - GRO	ND	mg/l	SW8015B/5030B	3/14/2016 13:22	CH	0.2	
Xylenes	ND	mg/l	SW8021B/5030B	3/14/2016 13:22	CH	0.005	10
z4-Bromochlorobenzene (Surrogate)	111	%	SW8021B	3/14/2016 13:22	CH		

Remarks:

Date Sample Collected: 3/9/2016 16:30
Sample Submitted By: M. MILLER
Date Sample Received: 3/10/2016 8:05
Sample temp. upon receipt: 2.4 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 ONLINE 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. This falls outside criteria set by 40CFR136.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Nashville
2960 Foster Creighton Drive
Nashville, TN 37204
Tel: (615)726-0177

TestAmerica Job ID: 490-99325-1
Client Project/Site: RSK / 245236, 245237, 245238

For:
Reliance Laboratories Inc
PO BOX 4657
Bridgeport, West Virginia 26330

Attn: Tenley Miller

Jennifer Gambill

Authorized for release by:
3/22/2016 12:36:21 PM

Jennifer Gambill, Project Manager I
(615)301-5044
jennifer.gambill@testamericainc.com

Table of Contents

Sample Summary

Client: Reliance Laboratories Inc
Project/Site: RSK / 245236, 245237, 245238

TestAmerica Job ID: 490-99325-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
490-99325-1	245236-2016-DW	Drinking Water	03/09/16 14:30	03/12/16 09:15
490-99325-2	245237-2016-DW	Drinking Water	03/09/16 16:05	03/12/16 09:15
490-99325-3	245238-2016-DW	Drinking Water	03/09/16 16:30	03/12/16 09:15

Case Narrative

Client: Reliance Laboratories Inc
Project/Site: RSK / 245236, 245237, 245238

TestAmerica Job ID: 490-99325-1

Job ID: 490-99325-1

Laboratory: TestAmerica Nashville

Narrative

Job Narrative
490-99325-1

Comments
No additional comments.

Receipt
The samples were received on 3/12/2016 9:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.7° C.

GC Semi VOA
Method(s) RSK-175: Insufficient sample volume was available to perform a matrix spike duplicate (MSD) associated with analytical batch 490-324589.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Definitions/Glossary

Client: Reliance Laboratories Inc
Project/Site: RSK / 245236, 245237, 245238

TestAmerica Job ID: 490-99325-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: Reliance Laboratories Inc
Project/Site: RSK / 245236, 245237, 245238

TestAmerica Job ID: 490-99325-1

Client Sample ID: 245236-2016-DW
Date Collected: 03/09/16 14:30
Date Received: 03/12/16 09:15

Lab Sample ID: 490-99325-1
Matrix: Drinking Water

Method: RSK-175 - Dissolved Gases in Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Butane	ND		5.00	2.50	ug/L			03/16/16 18:21	1
Ethane	ND		5.00	2.50	ug/L			03/16/16 18:21	1
Methane	ND		5.00	2.50	ug/L			03/16/16 18:21	1
Propane	ND		5.00	2.50	ug/L			03/16/16 18:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene (Surr)	*91*		*62 - 124*		*03/16/16 18:21*	*1*

Client Sample Results

Client: Reliance Laboratories Inc
Project/Site: RSK / 245236, 245237, 245238

TestAmerica Job ID: 490-99325-1

Client Sample ID: 245237-2016-DW

Date Collected: 03/09/16 16:05
Date Received: 03/12/16 09:15

Lab Sample ID: 490-99325-2

Matrix: Drinking Water

Method: RSK-175 - Dissolved Gases in Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Butane	ND		5.00	2.50	ug/L			03/16/16 18:24	1
Ethane	80.7		5.00	2.50	ug/L			03/16/16 18:24	1
Methane	484		5.00	2.50	ug/L			03/16/16 18:24	1
Propane	ND		5.00	2.50	ug/L			03/16/16 18:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene (Surr)	*97*		*62 - 124*		*03/16/16 18:24*	*1*

Client Sample Results

Client: Reliance Laboratories Inc
Project/Site: RSK / 245236, 245237, 245238

TestAmerica Job ID: 490-99325-1

Client Sample ID: 245238-2016-DW
Date Collected: 03/09/16 16:30
Date Received: 03/12/16 09:15

Lab Sample ID: 490-99325-3
Matrix: Drinking Water

Method: RSK-175 - Dissolved Gases in Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Butane	ND		5.00	2.50	ug/L			03/16/16 18:40	1
Ethane	ND		5.00	2.50	ug/L			03/16/16 18:40	1
Methane	206		5.00	2.50	ug/L			03/16/16 18:40	1
Propane	ND		5.00	2.50	ug/L			03/16/16 18:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene (Surr)	*99*		*62 - 124*		*03/16/16 18:40*	*1*

QC Sample Results

Client: Reliance Laboratories Inc
Project/Site: RSK / 245236, 245237, 245238

TestAmerica Job ID: 490-99325-1

Method: RSK-175 - Dissolved Gases in Water

Lab Sample ID: MB 490-324589/39
Matrix: Water
Analysis Batch: 324589

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Butane	ND		5.00	2.50	ug/L			03/16/16 17:32	1
Ethane	ND		5.00	2.50	ug/L			03/16/16 17:32	1
Methane	ND		5.00	2.50	ug/L			03/16/16 17:32	1
Propane	ND		5.00	2.50	ug/L			03/16/16 17:32	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene (Surr)	*116*		*62 - 124*		*03/16/16 17:32*	*1*

Lab Sample ID: LCS 490-324589/40
Matrix: Water
Analysis Batch: 324589

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Butane	992	1096		ug/L		110	80 - 120
Ethane	513	567.1		ug/L		111	80 - 120
Methane	279	313.5		ug/L		112	80 - 120
Propane	750	829.8		ug/L		111	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Acetylene (Surr)	*112*		*62 - 124*

Lab Sample ID: 490-99493-U-1 MS
Matrix: Water
Analysis Batch: 324589

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Butane	ND		992	937.9		ug/L		95	70 - 130
Ethane	ND		513	559.0		ug/L		109	71 - 120
Methane	45.9		279	313.5		ug/L		96	46 - 142
Propane	ND		750	713.7		ug/L		95	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Acetylene (Surr)	*104*		*62 - 124*

QC Association Summary

Client: Reliance Laboratories Inc
Project/Site: RSK / 245236, 245237, 245238

TestAmerica Job ID: 490-99325-1

GC VOA

Analysis Batch: 324589

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-99325-1	245236-2016-DW	Total/NA	Drinking Water	RSK-175	
490-99325-2	245237-2016-DW	Total/NA	Drinking Water	RSK-175	
490-99325-3	245238-2016-DW	Total/NA	Drinking Water	RSK-175	
490-99493-U-1 MS	Matrix Spike	Total/NA	Water	RSK-175	
LCS 490-324589/40	Lab Control Sample	Total/NA	Water	RSK-175	
MB 490-324589/39	Method Blank	Total/NA	Water	RSK-175	

Lab Chronicle

Client: Reliance Laboratories Inc
Project/Site: RSK / 245236, 245237, 245238

TestAmerica Job ID: 490-99325-1

Client Sample ID: 245236-2016-DW

Date Collected: 03/09/16 14:30
Date Received: 03/12/16 09:15

Lab Sample ID: 490-99325-1
Matrix: Drinking Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	RSK-175		1	21 mL	21 mL	324589	03/16/16 18:21	SH	TAL NSH

Client Sample ID: 245237-2016-DW

Date Collected: 03/09/16 16:05
Date Received: 03/12/16 09:15

Lab Sample ID: 490-99325-2
Matrix: Drinking Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	RSK-175		1	21 mL	21 mL	324589	03/16/16 18:24	SH	TAL NSH

Client Sample ID: 245238-2016-DW

Date Collected: 03/09/16 16:30
Date Received: 03/12/16 09:15

Lab Sample ID: 490-99325-3
Matrix: Drinking Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	RSK-175		1	21 mL	21 mL	324589	03/16/16 18:40	SH	TAL NSH

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

Method Summary

Client: Reliance Laboratories Inc
Project/Site: RSK / 245236, 245237, 245238

TestAmerica Job ID: 490-99325-1

Method	Method Description	Protocol	Laboratory
RSK-175	Dissolved Gases in Water	RSK	TAL NSH

Protocol References:

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique, RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

Certification Summary

Client: Reliance Laboratories Inc
Project/Site: RSK / 245236, 245237, 245238

TestAmerica Job ID: 490-99325-1

Laboratory: TestAmerica Nashville

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
West Virginia DEP	State Program	3	219	02-28-17

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Nashville, TN

490-99325 Chain of Custody

COOLER RECEIPT FORM

Cooler Received/Opened On 3/12/2016 @ 0915

Time Samples Removed From Cooler _____ Time Samples Placed in Storage _____ (2 Hour Window)

1. Tracking # 5310 (last 4 digits, FedEx) Courier: FedEx

IR Gun ID 12080142 pH Strip Lot HC564992 Chlorine Strip Lot 072815A

2. Temperature of rep. sample or temp blank when opened: 0.7 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO NA

4. Were custody seals on outside of cooler? YES NO NA

If yes, how many and where: _____

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (intial) DA

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry Ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...NA

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence # _____

I certify that I unloaded the cooler and answered questions 7-14 (intial) DA

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (intial) DA

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (intial) DA

I certify that I attached a label with the unique LIMS number to each container (intial) DA

21. Were there Non-Conformance issues at login? YES...NO Was a NCM generated? YES...NO...# _____

BIS = Broken in shipment
Cooler Receipt Form.doc

05/31/2019

RELIANCE LABORATORIES, INC. - CHAIN OF CUSTODY RECORD

2044 MEADOWBROOK ROAD
POST OFFICE BOX 4657
BRIDGEPORT, WV 26330
TEL. (304) 842-5285 • FAX (304) 842-5351
E-MAIL reliancelabs@wvdsl.net
INTERNET www.RelianceLabs.net

☐ RIDGEFIELD BUSINESS CENTER
25 CRIMSON CIRCLE
MARTINSBURG, WV 25403
TEL. (304) 596-2084 • FAX (304) 596-2086

Loc: 490
99325

3/22/2016

*CLIENT NAME Reliance Laboratorie Inc.

*ADDRESS 2044 Meadowbrook Rd. PO Box 4657 Bridgeport WV 26330

CUSTOMER # _____ *TEL.# (304)842-5285 FAX # (304)842-5351

*SAMPLER (S) M. Miller E-MAIL _____

SHEET NO. 1 OF 1

LABORATORY #	*DATE	*TIME	GRAB	COMP	MATRIX W, DW, S, O, M	TEMP. ≤ 4°C Yes No	*# OF CONTAIN.	HN03	H2S04	HCL	NaOH	BAC-T	NO PRES.	Dissolved Methane	Ethane	Butane	Propane	*PROJECT/REMARKS
	3/9/16	14:35		✓	DW		2			2				✓	✓	✓	✓	245236-2016-DW
	↓	16:05		✓	DW		↓			2				✓	✓	✓	✓	245237-2016-DW
	↓	16:30		✓	DW		↓			2				✓	✓	✓	✓	245238-2016-DW

SAMPLES DO ✓ DO NOT _____ MEET USEPA GUIDELINES FOR HOLDING TIMES
SAMPLES DO ✓ DO NOT _____ MEET USEPA GUIDELINES FOR CHEMICAL PRESERVATIVES
SAMPLES DO ✓ DO NOT _____ MEET USEPA GUIDELINES FOR SAMPLE CONTAINERS
SAMPLES ARE ✓ ARE NOT _____ FOR REGULATORY COMPLIANCE PURPOSES

REMARKS:

PWS# _____

*RELINQUISHED BY:	*DATE/TIME	*RECEIVED BY:
PRINT: KDAVIS	DATE: 3/10/16	PRINT: Fedex
SIGN: KDavis	TIME: 16:30	SIGN:
*RELINQUISHED BY:	*DATE/TIME	*RECEIVED BY: TAT
PRINT:	DATE: 3-12-16	PRINT: Daniel Armstrong
SIGN:	TIME: 0915	SIGN:
*RELINQUISHED BY:	*DATE/TIME	*RECEIVED BY:
PRINT:	DATE:	PRINT:
SIGN:	TIME:	SIGN:
*COURIER:	*DATE/TIME	*RECEIVED BY:
TRACKING #:	DATE:	PRINT:
	TIME:	SIGN:

WEATHER/TEMPERATURE: 0.7

☐ ***RUSH STATUS*** (INITIAL ACCEPTANCE _____)

*** ADDITIONAL LABORATORY FEES MAY APPLY***

EXTENT OF LIABILITY

SHOULD RELIANCE LABORATORIES, INC. BE AT FAULT AND ANY DISPUTE ARISE REGARDING ANALYTICAL DATA GENERATED BY THE LABORATORY, THE EXTENT OF THE LIABILITY TO RELIANCE WILL BE A DUPLICATE ANALYSIS OF THAT SAMPLE (PROVIDING ADEQUATE SAMPLE REMAINS) OR A REFUND OF THE ANALYTICAL FEE. IN NO EVENT WILL RELIANCE LABORATORIES BE LIABLE FOR DAMAGES INCLUDING BUT NOT LIMITED TO DIRECT, INDIRECT OR CONSEQUENTIAL DAMAGES ARISING FROM SUCH DISPUTE.

NOTE: TYPICAL SAMPLE TURN AROUND FOR ROUTINE SAMPLES IS 5 TO 10 WORKING DAYS. THIS IN NOT A GUARANTEE THAT SAMPLES WILL BE COMPLETED IN THIS TIME FRAME, HOWEVER. NON-ROUTINE SAMPLES MAY REQUIRE ADDITIONAL TIME.

* TO BE COMPLETED BY CLIENT

ORIGINAL CHAIN OF CUSTODY DOCUMENT MUST BE EXECUTED IN INK

WHITE - LABORATORY YELLOW - CLIENT

RELIANCE LABORATORIES, INC.

Loc: 490
99325

ENVIRONMENTAL ANALYSTS AND CONSULTANTS

BRIDGEPORT, WV www.RelianceLabs.net *MARTINSBURG, WV*

Certifications: WV Department of Health #: 00354, 00433 | WV Department of Environmental Protection #: 158, 181 | MD Department of Environment #: 336, 337 | US Environmental Protection Agency #: WV00042, WV00901

Thursday, March 10, 2016

TestAmerica - Nashville
2960 Foster Creighton Drive
Nashville, TN 37204

Please analyze the following sample(s) for: **Dissolved Methane/Ethane/Butane/Propane**

Please identify as:

245236-2016-DW	DATE/TIME SAMPLED: 3/9/2016 14:30
245237-2016-DW	DATE/TIME SAMPLED: 3/9/2016 16:05
245238-2016-DW	DATE/TIME SAMPLED: 3/9/2016 16:30

Sampled by: M.Miller

PLEASE SEND RESULTS & INVOICE TO:

RELIANCE LABORATORIES, INC.
ATTN: TENLEY MILLER
P.O. BOX 4657
BRIDGEPORT, WV 26330
tmiller@wvdsl.net

Thank You

Login Sample Receipt Checklist

Client: Reliance Laboratories Inc

Job Number: 490-99325-1

Login Number: 99325
List Number: 1
Creator: Armstrong, Daniel

List Source: TestAmerica Nashville

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.7C
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

RELIANCE LABORATORIES, INC. - CHAIN OF CUSTODY RECORD

☐ 2044 MEADOWBROOK ROAD
POST OFFICE BOX 4657
BRIDGEPORT, WV 26330
TEL. (304) 842-5285 • FAX (304) 842-5351
E-MAIL reliancelabs@wvdsl.net
INTERNET www.RelianceLabs.net

☐ RIDGEFIELD BUSINESS CENTER
25 CRIMSON CIRCLE
MARTINSBURG, WV 25403
TEL. (304) 596-2084 • FAX (304) 596-2086

*CLIENT NAME Jay Bee Oil + Gas Inc

*ADDRESS 3570 Shields Hill Rd Cairo WV 26337

CUSTOMER # C06323 *TEL.# 304 628 3111 FAX#

*SAMPLER (S) Dennis Fisher E-MAIL sdowell@jaybeeoil.com paddlermitem@gmail.com

SHEET NO. 1 OF 1

LABORATORY #	*DATE	*TIME	COMP.	GRAB	MATRIX W, DW, S, O, M	TEMP. ≤ 4°C Yes No	*# OF CONTAIN.	HNO3	H2SO4	HCL	NaOH	BAC-T	NO PRES.	DRO/GRO/ORO	BTEX	Cl, TDS, pH, SO4	Al, As, Ba, Fe, Mn, Ca	Methane, Propane Ethane, Butane	MUG, MBAS	TOC, TSS	*PROJECT/REMARKS
243425	1/28/16	10:00 AM		✓	DW	0.2	9	1		4V		1	3	✓	✓	✓	✓	✓	✓	✓	Trenton Energy well #2
243426	1/28/16	3:30 PM		✓	DW	↓	↓	1		4V		1	3	✓	✓	✓	✓	✓	✓	✓	Harold Bunnerg
243427	1/28/16	4:00 PM		✓	DW	↓	↓	1		4V		1	3	✓	✓	✓	✓	✓	✓	✓	William Gilliland
243428	1/28/16	4:30 PM		✓	DW	↓	↓	1		4V		1	3	✓	✓	✓	✓	✓	✓	✓	Kevin Jones

SAMPLES DO ✓ DO NOT ____ MEET USEPA GUIDELINES FOR HOLDING TIMES
SAMPLES DO ✓ DO NOT ____ MEET USEPA GUIDELINES FOR CHEMICAL PRESERVATIVES
SAMPLES DO ✓ DO NOT ____ MEET USEPA GUIDELINES FOR SAMPLE CONTAINERS
SAMPLES ARE ✓ ARE NOT ____ FOR REGULATORY COMPLIANCE PURPOSES

*RELINQUISHED BY:	*DATE/TIME	*RECEIVED BY:
PRINT: Dennis Fisher	DATE: 01/28/16	PRINT: Mike Miller
SIGN: Dennis Fisher	TIME: 5:45 pm	SIGN: Mike Miller
*RELINQUISHED BY:	*DATE/TIME	*RECEIVED BY:
PRINT: Mike Miller	DATE: 1/29/16	PRINT KDAVIS
SIGN: Mike Miller	TIME: 8:23	SIGN: KDavis
*RELINQUISHED BY:	*DATE/TIME	*RECEIVED BY:
PRINT:	DATE:	PRINT:
SIGN:	TIME:	SIGN:
*COURIER:	*DATE/TIME	*RECEIVED BY:
TRACKING#:	DATE:	PRINT:
	TIME:	SIGN:

REMARKS:

PWS# ____

WEATHER/TEMPERATURE:

☐ ***RUSH STATUS*** (INITIAL ACCEPTANCE ____)

*** ADDITIONAL LABORATORY FEES MAY APPLY***

EXTENT OF LIABILITY

SHOULD RELIANCE LABORATORIES, INC. BE AT FAULT AND ANY DISPUTE ARISE REGARDING ANALYTICAL DATA GENERATED BY THE LABORATORY, THE EXTENT OF THE LIABILITY TO RELIANCE WILL BE A DUPLICATE ANALYSIS OF THAT SAMPLE (PROVIDING ADEQUATE SAMPLE REMAINS) OR A REFUND OF THE ANALYTICAL FEE. IN NO EVENT WILL RELIANCE LABORATORIES BE LIABLE FOR DAMAGES INCLUDING BUT NOT LIMITED TO DIRECT, INDIRECT OR CONSEQUENTIAL DAMAGES ARISING FROM SUCH DISPUTE.

NOTE: TYPICAL SAMPLE TURN AROUND FOR ROUTINE SAMPLES IS 5 TO 10 WORKING DAYS. THIS IN NOT A GUARANTEE THAT SAMPLES WILL BE COMPLETED IN THIS TIME FRAME, HOWEVER. NON-ROUTINE SAMPLES MAY REQUIRE ADDITIONAL TIME.

TO BE COMPLETED BY CLIENT

ORIGINAL CHAIN OF CUSTODY DOCUMENT MUST BE EXECUTED IN INK WHITE - LABORATORY YELLOW - CLIENT

05/31/2019

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

LABORATORY REPORT SUMMARY

Client: C06323

JAY BEE OIL & GAS, INC.
3570 SHIELDS HILL RD.
CAIRO WV 26337-

Friday, February 05, 2016

Total Number of Pages: 9
(Not Including C.O.C.)
Page 1 of 9

Lab ID	Sample ID	Sample ID 2	Sample Date
243425-2016-DW	TRENTON ENERGY WELL #2		1/28/2016
243426-2016-DW	HAROLD BUNNERG		1/28/2016
243427-2016-DW	WILLIAM GILLILAND		1/28/2016
243428-2016-DW	KEVIN JONES		1/28/2016

Report Reviewed By: Tenley Miller

Digitally signed by Tenley Miller
DN: cn=Tenley Miller, o=Reliance Laboratories, Inc., ou, email=tmiller@wvdsl.net, c=US
Date: 2016.02.23 15:16:55 -05'00'

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

JAY BEE OIL & GAS, INC.
3570 SHIELDS HILL RD.

CAIRO, WV 26337-

Friday, February 05, 2016

Lab Number: 243425-2016-DW **Sample ID:** TRENTON ENERGY WELL #2

Parameter	Value	Units	Method	Date/Time Analyzed		Analyst	MRL	MCL
Analyte Group: Inorganics								
Total Organic Carbon	0.53	mg/l	SM5310C-00	2/2/2016	9:20	MC	0.2	
Total Suspended Solids	ND	mg/l	SM2540D-97	2/2/2016	11:00	JL	4	
E. coli (Chromogenic)	ABSENT		SM9223B-97	1/29/2016	15:08	CP		
Total Coliform (Chromogenic)	ABSENT		SM9223B-97	1/29/2016	15:08	CP		
pH	# 7.22	S.U.	SM4500H+B-00	2/1/2016	12:01	KV		
Total Aluminum	ND	mg/l	EPA 200.8 R5.4	2/4/2016	13:19	TH	0.01	[0.05]
Total Arsenic	ND	mg/l	EPA 200.8 R5.4	2/4/2016	13:19	TH	0.005	0.01
Total Barium	0.143	mg/l	EPA 200.8 R5.4	2/4/2016	13:19	TH	0.01	2
Total Calcium	49.4	mg/l	EPA 200.8 R5.4	2/4/2016	13:19	TH	0.01	
Total Chloride	13.8	mg/l	EPA 300.0 R2.1	2/2/2016	15:18	MC	0.15	[250]
Total Dissolved Solids	304	mg/l	SM2540C-97	2/2/2016	11:00	JL	10	[500]
Total Iron	0.506	mg/l	EPA 200.8 R5.4	2/4/2016	13:19	TH	0.1	[0.3]
Total Manganese	0.120	mg/l	EPA 200.8 R5.4	2/4/2016	13:19	TH	0.01	[0.05]
Total Sodium	10.0	mg/l	EPA 200.8 R5.4	2/4/2016	13:19	TH	0.01	[20]
Total Sulfate	20.7	mg/l	EPA 300.0 R2.1	2/2/2016	15:18	MC	0.5	[250]
Total Surfactant	ND	mg/l	SM5540C-00	1/29/2016	13:30	CH	0.2	[0.5]

Remarks:

Date Sample Collected: 1/28/2016 10:00
Sample Submitted By: D. FISHER
Date Sample Received: 1/29/2016 8:23
Sample temp. upon receipt: 0.2 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 ONLINE 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. This falls outside criteria set by 40CFR136.

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: 304.596.2088

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

JAY BEE OIL & GAS, INC.
3570 SHIELDS HILL RD.

CAIRO, WV 26337-

Friday, February 05, 2016

Lab Number: 243425-2016-DW **Sample ID:** TRENTON ENERGY WELL #2

Parameter	Value	Units	Method	Date/Time Analyzed	Analyst	MRL	MCL
Analyte Group: Total Petroleum Hydrocarbons							
TPH - DRO	ND	mg/l	SW8015B/3535A	2/2/2016 11:15	CH	1	
TPH - ORO	ND	mg/l	SW8015B/3535A	2/2/2016 11:15	CH	1	
o-Terphenyl (Surrogate)	93.1	%	SW8015B	2/2/2016 11:15	CH		
Benzene	ND	mg/l	SW8021B/5030B	2/1/2016 12:01	CH	0.0025	0.005
Ethylbenzene	ND	mg/l	SW8021B/5030B	2/1/2016 12:01	CH	0.005	0.70
Toluene	ND	mg/l	SW8021B/5030B	2/1/2016 12:01	CH	0.005	1.0
TPH - GRO	ND	mg/l	SW8015B/5030B	2/1/2016 12:01	CH	0.2	
Xylenes	ND	mg/l	SW8021B/5030B	2/1/2016 12:01	CH	0.005	10
z4-Bromochlorobenzene (Surrogate)	98.7	%	SW8021B	2/1/2016 12:01	CH		

Remarks:

Date Sample Collected: 1/28/2016 10:00
Sample Submitted By: D. FISHER
Date Sample Received: 1/29/2016 8:23
Sample temp. upon receipt: 0.2 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 ONLINE 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. This falls outside criteria set by 40CFR136.

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

JAY BEE OIL & GAS, INC.
3570 SHIELDS HILL RD.

CAIRO, WV 26337-

Friday, February 05, 2016

Lab Number: 243426-2016-DW **Sample ID:** HAROLD BUNNERG

Parameter	Value	Units	Method	Date/Time Analyzed	Analyst	MRL	MCL
Analyte Group: Inorganics							
Total Organic Carbon	ND	mg/l	SM5310C-00	2/2/2016	9:20 MC	0.2	
Total Suspended Solids	8	mg/l	SM2540D-97	2/2/2016	11:00 JL	4	
E. coli (Chromogenic)	ABSENT		SM9223B-97	1/29/2016	15:08 CP		
Total Coliform (Chromogenic)	ABSENT		SM9223B-97	1/29/2016	15:08 CP		
pH	#7.11	S.U.	SM4500H+B-00	2/1/2016	12:03 KV		
Total Aluminum	ND	mg/l	EPA 200.8 R5.4	2/4/2016	13:24 TH	0.01	[0.05]
Total Arsenic	ND	mg/l	EPA 200.8 R5.4	2/4/2016	13:24 TH	0.005	0.01
Total Barium	0.440	mg/l	EPA 200.8 R5.4	2/4/2016	13:24 TH	0.01	2
Total Calcium	46.2	mg/l	EPA 200.8 R5.4	2/4/2016	13:24 TH	0.01	
Total Chloride	3.21	mg/l	EPA 300.0 R2.1	2/2/2016	15:49 MC	0.15	[250]
Total Dissolved Solids	232	mg/l	SM2540C-97	2/2/2016	11:00 JL	10	[500]
Total Iron	0.650	mg/l	EPA 200.8 R5.4	2/4/2016	13:24 TH	0.1	[0.3]
Total Manganese	0.023	mg/l	EPA 200.8 R5.4	2/4/2016	13:24 TH	0.01	[0.05]
Total Sodium	31.8	mg/l	EPA 200.8 R5.4	2/4/2016	13:24 TH	0.01	[20]
Total Sulfate	11.4	mg/l	EPA 300.0 R2.1	2/2/2016	15:49 MC	0.5	[250]
Total Surfactant	ND	mg/l	SM5540C-00	1/29/2016	13:30 CH	0.2	[0.5]

Remarks:

Date Sample Collected: 1/28/2016 15:30
Sample Submitted By: D. FISHER
Date Sample Received: 1/29/2016 8:23
Sample temp. upon receipt: 0.2 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 ONLINE 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. This falls outside criteria set by 40CFR136.

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

JAY BEE OIL & GAS, INC.
3570 SHIELDS HILL RD.

CAIRO, WV 26337-

Friday, February 05, 2016

Lab Number: 243426-2016-DW **Sample ID:** HAROLD BUNNERG

Parameter	Value	Units	Method	Date/Time Analyzed	Analyst	MRL	MCL
Analyte Group: Total Petroleum Hydrocarbons							
TPH - DRO	ND	mg/l	SW8015B/3535A	2/2/2016 11:55	CH	1	
TPH - ORO	ND	mg/l	SW8015B/3535A	2/2/2016 11:55	CH	1	
o-Terphenyl (Surrogate)	101	%	SW8015B	2/2/2016 11:55	CH		
Benzene	ND	mg/l	SW8021B/5030B	2/1/2016 12:29	CH	0.0025	0.005
Ethylbenzene	ND	mg/l	SW8021B/5030B	2/1/2016 12:29	CH	0.005	0.70
Toluene	ND	mg/l	SW8021B/5030B	2/1/2016 12:29	CH	0.005	1.0
TPH - GRO	ND	mg/l	SW8015B/5030B	2/1/2016 12:29	CH	0.2	
Xylenes	ND	mg/l	SW8021B/5030B	2/1/2016 12:29	CH	0.005	10
z4-Bromochlorobenzene (Surrogate)	103	%	SW8021B	2/1/2016 12:29	CH		

Remarks:

Date Sample Collected: 1/28/2016 15:30
Sample Submitted By: D. FISHER
Date Sample Received: 1/29/2016 8:23
Sample temp. upon receipt: 0.2 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 ONLINE 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. This falls outside criteria set by 40CFR136.

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

JAY BEE OIL & GAS, INC.
3570 SHIELDS HILL RD.

CAIRO, WV 26337-

Friday, February 05, 2016

Lab Number: 243427-2016-DW **Sample ID:** WILLIAM GILLILAND

Parameter	Value	Units	Method	Date/Time Analyzed	Analyst	MRL	MCL
Analyte Group: Inorganics							
Total Organic Carbon	ND	mg/l	SM5310C-00	2/2/2016 9:20	MC	0.2	
Total Suspended Solids	ND	mg/l	SM2540D-97	2/2/2016 11:00	JL	4	
E. coli (Chromogenic)	ABSENT		SM9223B-97	1/29/2016 16:08	CP		
Total Coliform (Chromogenic)	ABSENT		SM9223B-97	1/29/2016 16:08	CP		
pH	# 6.60	S.U.	SM4500H+B-00	2/1/2016 12:05	KV		
Total Aluminum	0.044	mg/l	EPA 200.8 R5.4	2/4/2016 13:38	TH	0.01	[0.05]
Total Arsenic	ND	mg/l	EPA 200.8 R5.4	2/4/2016 13:38	TH	0.005	0.01
Total Barium	ND	mg/l	EPA 200.8 R5.4	2/4/2016 13:38	TH	0.01	2
Total Calcium	5.88	mg/l	EPA 200.8 R5.4	2/4/2016 13:38	TH	0.01	
Total Chloride	18.4	mg/l	EPA 300.0 R2.1	2/2/2016 16:20	MC	0.15	[250]
Total Dissolved Solids	160	mg/l	SM2540C-97	2/2/2016 11:00	JL	10	[500]
Total Iron	ND	mg/l	EPA 200.8 R5.4	2/4/2016 13:38	TH	0.1	[0.3]
Total Manganese	0.018	mg/l	EPA 200.8 R5.4	2/4/2016 13:38	TH	0.01	[0.05]
Total Sodium	39.8	mg/l	EPA 200.8 R5.4	2/4/2016 13:38	TH	0.01	[20]
Total Sulfate	13.0	mg/l	EPA 300.0 R2.1	2/2/2016 16:20	MC	0.5	[250]
Total Surfactant	ND	mg/l	SM5540C-00	1/29/2016 13:30	CH	0.2	[0.5]

Remarks:

Date Sample Collected: 1/28/2016 16:00
Sample Submitted By: D. FISHER
Date Sample Received: 1/29/2016 8:23
Sample temp. upon receipt: 0.2 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 ONLINE 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. This falls outside criteria set by 40CFR136.

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

JAY BEE OIL & GAS, INC.
3570 SHIELDS HILL RD.

CAIRO, WV 26337-

Friday, February 05, 2016

Lab Number: 243427-2016-DW **Sample ID:** WILLIAM GILLILAND

Parameter	Value	Units	Method	Date/Time Analyzed	Analyst	MRL	MCL
Analyte Group: Total Petroleum Hydrocarbons							
TPH - DRO	ND	mg/l	SW8015B/3535A	2/2/2016 12:35	CH	1	
TPH - ORO	ND	mg/l	SW8015B/3535A	2/2/2016 12:35	CH	1	
o-Terphenyl (Surrogate)	97.7	%	SW8015B	2/2/2016 12:35	CH		
Benzene	ND	mg/l	SW8021B/5030B	2/1/2016 13:39	CH	0.0025	0.005
Ethylbenzene	ND	mg/l	SW8021B/5030B	2/1/2016 13:39	CH	0.005	0.70
Toluene	ND	mg/l	SW8021B/5030B	2/1/2016 13:39	CH	0.005	1.0
TPH - GRO	ND	mg/l	SW8015B/5030B	2/1/2016 13:39	CH	0.2	
Xylenes	ND	mg/l	SW8021B/5030B	2/1/2016 13:39	CH	0.005	10
z4-Bromochlorobenzene (Surrogate)	102	%	SW8021B	2/1/2016 13:39	CH		

Remarks:

Date Sample Collected: 1/28/2016 16:00
Sample Submitted By: D. FISHER
Date Sample Received: 1/29/2016 8:23
Sample temp. upon receipt: 0.2 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 ONLINE 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. This falls outside criteria set by 40CFR136.

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

JAY BEE OIL & GAS, INC.
3570 SHIELDS HILL RD.

CAIRO, WV 26337-

Friday, February 05, 2016

Lab Number: 243428-2016-DW **Sample ID:** KEVIN JONES

Parameter	Value	Units	Method	Date/Time Analyzed	Analyst	MRL	MCL
Analyte Group: Inorganics							
Total Organic Carbon	ND	mg/l	SM5310C-00	2/2/2016 9:20	MC	0.2	
Total Suspended Solids	4	mg/l	SM2540D-97	2/2/2016 11:00	JL	4	
E. coli (Chromogenic)	ABSENT		SM9223B-97	1/29/2016 15:08	CP		
Total Coliform (Chromogenic)	PRESENT		SM9223B-97	1/29/2016 15:08	CP		
pH	# 6.76	S.U.	SM4500H+B-00	2/1/2016 12:09	KV		
Total Aluminum	ND	mg/l	EPA 200.8 R5.4	2/4/2016 13:42	TH	0.01	[0.05]
Total Arsenic	ND	mg/l	EPA 200.8 R5.4	2/4/2016 13:42	TH	0.005	0.01
Total Barium	0.051	mg/l	EPA 200.8 R5.4	2/4/2016 13:42	TH	0.01	2
Total Calcium	9.43	mg/l	EPA 200.8 R5.4	2/4/2016 13:42	TH	0.01	
Total Chloride	5.05	mg/l	EPA 300.0 R2.1	2/2/2016 16:52	MC	0.15	[250]
Total Dissolved Solids	128	mg/l	SM2540C-97	2/2/2016 11:00	JL	10	[500]
Total Iron	ND	mg/l	EPA 200.8 R5.4	2/4/2016 13:42	TH	0.1	[0.3]
Total Manganese	0.020	mg/l	EPA 200.8 R5.4	2/4/2016 13:42	TH	0.01	[0.05]
Total Sodium	19.6	mg/l	EPA 200.8 R5.4	2/4/2016 13:42	TH	0.01	[20]
Total Sulfate	7.34	mg/l	EPA 300.0 R2.1	2/2/2016 16:52	MC	0.5	[250]
Total Surfactant	ND	mg/l	SM5540C-00	1/29/2016 13:30	CH	0.2	[0.5]

Remarks:

Date Sample Collected: 1/28/2016 16:30
Sample Submitted By: D. FISHER
Date Sample Received: 1/29/2016 8:23
Sample temp. upon receipt: 0.2 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 ONLINE 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. This falls outside criteria set by 40CFR136.

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

JAY BEE OIL & GAS, INC.
3570 SHIELDS HILL RD.

CAIRO, WV 26337-

Friday, February 05, 2016

Lab Number: 243428-2016-DW **Sample ID:** KEVIN JONES

Parameter	Value	Units	Method	Date/Time Analyzed	Analyst	MRL	MCL
Analyte Group: **Total Petroleum Hydrocarbons**							
TPH - DRO	ND	mg/l	SW8015B/3535A	2/2/2016	13:15 CH	1	
TPH - ORO	ND	mg/l	SW8015B/3535A	2/2/2016	13:15 CH	1	
o-Terphenyl (Surrogate)	101	%	SW8015B	2/2/2016	13:15 CH		
Benzene	ND	mg/l	SW8021B/5030B	2/1/2016	14:59 CH	0.0025	0.005
Ethylbenzene	ND	mg/l	SW8021B/5030B	2/1/2016	14:59 CH	0.005	0.70
Toluene	ND	mg/l	SW8021B/5030B	2/1/2016	14:59 CH	0.005	1.0
TPH - GRO	ND	mg/l	SW8015B/5030B	2/1/2016	14:59 CH	0.2	
Xylenes	ND	mg/l	SW8021B/5030B	2/1/2016	14:59 CH	0.005	10
z4-Bromochlorobenzene (Surrogate)	95.0	%	SW8021B	2/1/2016	14:59 CH		

Remarks:

Date Sample Collected: 1/28/2016 16:30
Sample Submitted By: D. FISHER
Date Sample Received: 1/29/2016 8:23
Sample temp. upon receipt: 0.2 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 ONLINE 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. This falls outside criteria set by 40CFR136.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Nashville
2960 Foster Creighton Drive
Nashville, TN 37204
Tel: (615)726-0177

TestAmerica Job ID: 490-96737-1
TestAmerica SDG: 243425 243426 243427 243428
Client Project/Site: RSK

For:
Reliance Laboratories Inc
PO BOX 4657
Bridgeport, West Virginia 26330

Attn: Tenley Miller

Heather Baker

Authorized for release by:
2/18/2016 9:39:26 AM
Heather Baker, Project Manager I
(615)301-5043
heather.baker@testamericainc.com

Designee for

Jennifer Gambill, Project Manager I
(615)301-5044
jennifer.gambill@testamericainc.com

Table of Contents

Sample Summary

Client: Reliance Laboratories Inc
Project/Site: RSK

TestAmerica Job ID: 490-96737-1
SDG: 243425 243426 243427 243428

3

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
490-96737-1	243425-2016-DW	Water	01/28/16 10:00	02/02/16 09:30
490-96737-2	243426-2016-DW	Water	01/28/16 15:30	02/02/16 09:30
490-96737-3	243427-2016-DW	Water	01/28/16 16:00	02/02/16 09:30
490-96737-4	243428-2016-DW	Water	01/28/16 16:30	02/02/16 09:30

Case Narrative

Client: Reliance Laboratories Inc
Project/Site: RSK

TestAmerica Job ID: 490-96737-1
SDG: 243425 243426 243427 243428

Job ID: 490-96737-1

Laboratory: TestAmerica Nashville

Narrative

Job Narrative
490-96737-1

Comments
No additional comments.

Receipt
The samples were received on 2/2/2016 9:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.7° C.

GC Semi VOA
Method(s) RSK-175: Insufficient sample volume was available to perform a matrix spike duplicate (MSD) associated with analytical batch 490-316635.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Definitions/Glossary

Client: Reliance Laboratories Inc
Project/Site: RSK

TestAmerica Job ID: 490-96737-1
SDG: 243425 243426 243427 243428

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: Reliance Laboratories Inc
Project/Site: RSK

TestAmerica Job ID: 490-96737-1
SDG: 243425 243426 243427 243428

Client Sample ID: 243425-2016-DW
Date Collected: 01/28/16 10:00
Date Received: 02/02/16 09:30

Lab Sample ID: 490-96737-1
Matrix: Water

Method: RSK-175 - Dissolved Gases in Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Butane	ND		5.00	2.50	ug/L			02/03/16 12:48	1
Ethane	ND		5.00	2.50	ug/L			02/03/16 12:48	1
Methane	38.8		5.00	2.50	ug/L			02/03/16 12:48	1
Propane	ND		5.00	2.50	ug/L			02/03/16 12:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene (Surr)	*113*		*62 - 124*		*02/03/16 12:48*	*1*

Client Sample Results

Client: Reliance Laboratories Inc
Project/Site: RSK

TestAmerica Job ID: 490-96737-1
SDG: 243425 243426 243427 243428

Client Sample ID: 243426-2016-DW

Date Collected: 01/28/16 15:30
Date Received: 02/02/16 09:30

Lab Sample ID: 490-96737-2

Matrix: Water

Method: RSK-175 - Dissolved Gases in Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Butane	ND		5.00	2.50	ug/L			02/03/16 12:51	1
Ethane	ND		5.00	2.50	ug/L			02/03/16 12:51	1
Methane	ND		5.00	2.50	ug/L			02/03/16 12:51	1
Propane	ND		5.00	2.50	ug/L			02/03/16 12:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene (Surr)	*115*		*62 - 124*		*02/03/16 12:51*	*1*

Client Sample Results

Client: Reliance Laboratories Inc
Project/Site: RSK

TestAmerica Job ID: 490-96737-1
SDG: 243425 243426 243427 243428

Client Sample ID: 243427-2016-DW

Date Collected: 01/28/16 16:00
Date Received: 02/02/16 09:30

Lab Sample ID: 490-96737-3

Matrix: Water

Method: RSK-175 - Dissolved Gases in Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Butane	ND		5.00	2.50	ug/L			02/03/16 13:01	1
Ethane	223		5.00	2.50	ug/L			02/03/16 13:01	1
Methane	1730		50.0	25.0	ug/L			02/03/16 13:05	10
Propane	19.2		5.00	2.50	ug/L			02/03/16 13:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene (Surr)	*112*		*62 - 124*		*02/03/16 13:05*	*10*

Client Sample Results

Client: Reliance Laboratories Inc
Project/Site: RSK

TestAmerica Job ID: 490-96737-1
SDG: 243425 243426 243427 243428

Client Sample ID: 243428-2016-DW

Date Collected: 01/28/16 16:30
Date Received: 02/02/16 09:30

Lab Sample ID: 490-96737-4
Matrix: Water

Method: RSK-175 - Dissolved Gases in Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Butane	61.4		5.00	2.50	ug/L			02/03/16 13:16	1
Ethane	658		5.00	2.50	ug/L			02/03/16 13:16	1
Methane	2120		50.0	25.0	ug/L			02/03/16 13:20	10
Propane	305		5.00	2.50	ug/L			02/03/16 13:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene (Surr)	*117*		*62 - 124*		*02/03/16 13:16*	*1*

QC Sample Results

Client: Reliance Laboratories Inc
Project/Site: RSK

TestAmerica Job ID: 490-96737-1
SDG: 243425 243426 243427 243428

Method: RSK-175 - Dissolved Gases in Water

Lab Sample ID: MB 490-316635/5
Matrix: Water
Analysis Batch: 316635

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Butane	ND		5.00	2.50	ug/L			02/03/16 11:57	1
Ethane	ND		5.00	2.50	ug/L			02/03/16 11:57	1
Methane	ND		5.00	2.50	ug/L			02/03/16 11:57	1
Propane	ND		5.00	2.50	ug/L			02/03/16 11:57	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Acetylene (Surr)	*117*		*62 - 124*		*02/03/16 11:57*	*1*

Lab Sample ID: LCS 490-316635/6
Matrix: Water
Analysis Batch: 316635

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Butane	992	1006		ug/L		101	80 - 120
Ethane	513	528.2		ug/L		103	80 - 120
Methane	279	274.9		ug/L		99	80 - 120
Propane	750	751.5		ug/L		100	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Acetylene (Surr)	*108*		*62 - 124*

Lab Sample ID: LCSD 490-316635/7
Matrix: Water
Analysis Batch: 316635

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Butane	992	1009		ug/L		102	80 - 120	0	33
Ethane	513	526.6		ug/L		103	80 - 120	0	30
Methane	279	275.4		ug/L		99	80 - 120	0	33
Propane	750	757.8		ug/L		101	80 - 120	1	33

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Acetylene (Surr)	*105*		*62 - 124*

Lab Sample ID: 490-96731-E-2 MS
Matrix: Water
Analysis Batch: 316635

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Butane	ND		992	1013		ug/L		102	70 - 130
Ethane	2.71	J	513	526.2		ug/L		102	71 - 120
Methane	2.59	J	279	281.7		ug/L		100	46 - 142
Propane	2.91	J	750	764.5		ug/L		102	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Acetylene (Surr)	*122*		*62 - 124*

QC Association Summary

Client: Reliance Laboratories Inc
Project/Site: RSK

TestAmerica Job ID: 490-96737-1
SDG: 243425 243426 243427 243428

GC VOA

Analysis Batch: 316635

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-96731-E-2 MS	Matrix Spike	Total/NA	Water	RSK-175	
490-96737-1	243425-2016-DW	Total/NA	Water	RSK-175	
490-96737-2	243426-2016-DW	Total/NA	Water	RSK-175	
490-96737-3	243427-2016-DW	Total/NA	Water	RSK-175	
490-96737-3	243427-2016-DW	Total/NA	Water	RSK-175	
490-96737-4	243428-2016-DW	Total/NA	Water	RSK-175	
490-96737-4	243428-2016-DW	Total/NA	Water	RSK-175	
LCS 490-316635/6	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 490-316635/7	Lab Control Sample Dup	Total/NA	Water	RSK-175	
MB 490-316635/5	Method Blank	Total/NA	Water	RSK-175	

Lab Chronicle

Client: Reliance Laboratories Inc
Project/Site: RSK

TestAmerica Job ID: 490-96737-1
SDG: 243425 243426 243427 243428

Client Sample ID: 243425-2016-DW

Date Collected: 01/28/16 10:00
Date Received: 02/02/16 09:30

Lab Sample ID: 490-96737-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	RSK-175		1	21 mL	21 mL	316635	02/03/16 12:48	SH	TAL NSH

Client Sample ID: 243426-2016-DW

Date Collected: 01/28/16 15:30
Date Received: 02/02/16 09:30

Lab Sample ID: 490-96737-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	RSK-175		1	21 mL	21 mL	316635	02/03/16 12:51	SH	TAL NSH

Client Sample ID: 243427-2016-DW

Date Collected: 01/28/16 16:00
Date Received: 02/02/16 09:30

Lab Sample ID: 490-96737-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	RSK-175		1	21 mL	21 mL	316635	02/03/16 13:01	SH	TAL NSH
Total/NA	Analysis	RSK-175		10	21 mL	21 mL	316635	02/03/16 13:05	SH	TAL NSH

Client Sample ID: 243428-2016-DW

Date Collected: 01/28/16 16:30
Date Received: 02/02/16 09:30

Lab Sample ID: 490-96737-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	RSK-175		1	21 mL	21 mL	316635	02/03/16 13:16	SH	TAL NSH
Total/NA	Analysis	RSK-175		10	21 mL	21 mL	316635	02/03/16 13:20	SH	TAL NSH

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

Method Summary

Client: Reliance Laboratories Inc
Project/Site: RSK

TestAmerica Job ID: 490-96737-1
SDG: 243425 243426 243427 243428

Method	Method Description	Protocol	Laboratory
RSK-175	Dissolved Gases in Water	RSK	TAL NSH

Protocol References:

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique, RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

Certification Summary

Client: Reliance Laboratories Inc
Project/Site: RSK

TestAmerica Job ID: 490-96737-1
SDG: 243425 243426 243427 243428

Laboratory: TestAmerica Nashville

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
West Virginia DEP	State Program	3	219	02-28-16 *

* Certification renewal pending - certification considered valid.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Nashville, TN

COOLER RECEIPT FORM

490-96737 Chain of Custody

Cooler Received/Opened On 2/2/2016 @ 0930

Time Samples Removed From Cooler 1435 Time Samples Placed In Storage 1514 (2 Hour Window)

1. Tracking # 6903 (last 4 digits, FedEx) Courier: FedEx

IR Gun ID 17960353 pH Strip Lot HC554612 Chlorine Strip Lot 072815A

2. Temperature of rep. sample or temp blank when opened: 4.7 Degrees Celsius

3. If item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO NA

4. Were custody seals on outside of cooler? YES NO NA

If yes, how many and where:

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) AGJ

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry Ice Other None

10. Did all containers arrive in good condition (unbroken)? YES NO NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES NO...NA

b. Was there any observable headspace present in any VOA vial? YES NO NA

14. Was there a Trip Blank in this cooler? YES NO...NA If multiple coolers, sequence #

I certify that I unloaded the cooler and answered questions 7-14 (initial) JEW

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES NO NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) JEW

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) JEW

I certify that I attached a label with the unique LIMS number to each container (initial) JEW

21. Were there Non-Conformance issues at login? YES NO Was a NCM generated? YES NO #

BIS = Broken in shipment
Cooler Receipt Form.doc

LF-1
End of Form

Revised 12/15/15

05/31/2019

RELIANCE LABORATORIES, INC. - CHAIN OF CUSTODY RECORD

2044 MEADOWBROOK ROAD
POST OFFICE BOX 4657
BRIDGEPORT, WV 26330
TEL. (304) 842-5285 • FAX (304) 842-5351
E-MAIL reliancelabs@wvdsl.net
INTERNET www.RelianceLabs.net

☐ RIDGEFIELD BUSINESS CENTER
25 CRIMSON CIRCLE
MARTINSBURG, WV 25403
TEL. (304) 596-2084 • FAX (304) 596-2086

Test America

2/18/2016

*CLIENT NAME Reliance Laboratories Inc.

*ADDRESS 2044 Meadowbrook Rd. PO Box 4657 Bridgeport, WV 26330

CUSTOMER # _____ *TEL. (304) 842-5285 FAX #(304) 842-5351

*SAMPLER (S) D. Fisher E-MAIL _____

SHEET NO. 1 OF 1

LABORATORY #	*DATE	*TIME	COMP.	GRAB	MATRIX W, DW, S, O, M	TEMP. ≤ 4°C Yes No	*# OF CONTAIN.	HNO3	H2SO4	HCL	NaOH	BAC-T	NO PRES.	Dissolved Methane/	Ethane/	Butane/	Propane	*PROJECT/REMARKS
	1/28/16	10:00		✓	DW		1			1				✓	✓	✓	✓ ✓	243425-2016-DW
	1/28/16	15:30		✓	DW		1			1				✓	✓	✓	✓ ✓	243426-2016-DW
	1/28/16	16:00		✓	DW		1			1				✓	✓	✓	✓ ✓	243427-2016-DW
	1/28/16	16:30		✓	DW		1			1				✓	✓	✓	✓ ✓	243428-2016-DW

Loc: 490
96737

Page 16 of 17

SAMPLES DO ✓ DO NOT _____ MEET USEPA GUIDELINES FOR HOLDING TIMES
SAMPLES DO ✓ DO NOT _____ MEET USEPA GUIDELINES FOR CHEMICAL PRESERVATIVES
SAMPLES DO ✓ DO NOT _____ MEET USEPA GUIDELINES FOR SAMPLE CONTAINERS
SAMPLES ARE ✓ ARE NOT _____ FOR REGULATORY COMPLIANCE PURPOSES

*RELINQUISHED BY:	*DATE/TIME	*RECEIVED BY:
PRINT: KDavis	DATE: 2/1/16	PRINT: Fedex
SIGN: KDavis	TIME: 16:30	SIGN:
*RELINQUISHED BY:	*DATE/TIME	*RECEIVED BY:
PRINT:	DATE:	PRINT: TAN 2/2/16@0930
SIGN:	TIME:	SIGN:
*RELINQUISHED BY:	*DATE/TIME	*RECEIVED BY:
PRINT:	DATE:	PRINT:
SIGN:	TIME:	SIGN:
*COURIER:	*DATE/TIME	*RECEIVED BY:
TRACKING #:	DATE:	PRINT:
	TIME:	SIGN:

REMARKS:

PWS# _____

WEATHER/TEMPERATURE:

☐ ***RUSH STATUS*** (INITIAL ACCEPTANCE _____)

*** ADDITIONAL LABORATORY FEES MAY APPLY***

EXTENT OF LIABILITY

SHOULD RELIANCE LABORATORIES, INC. BE AT FAULT AND ANY DISPUTE ARISE REGARDING ANALYTICAL DATA GENERATED BY THE LABORATORY, THE EXTENT OF THE LIABILITY TO RELIANCE WILL BE A DUPLICATE ANALYSIS OF THAT SAMPLE (PROVIDING ADEQUATE SAMPLE REMAINS) OR A REFUND OF THE ANALYTICAL FEE. IN NO EVENT WILL RELIANCE LABORATORIES BE LIABLE FOR DAMAGES INCLUDING BUT NOT LIMITED TO DIRECT, INDIRECT OR CONSEQUENTIAL DAMAGES ARISING FROM SUCH DISPUTE.

NOTE: TYPICAL SAMPLE TURN AROUND FOR ROUTINE SAMPLES IS 5 TO 10 WORKING DAYS. THIS IN NOT A GUARANTEE THAT SAMPLES WILL BE COMPLETED IN THIS TIME FRAME, HOWEVER. NON-ROUTINE SAMPLES MAY REQUIRE ADDITIONAL TIME.

* TO BE COMPLETED BY CLIENT

ORIGINAL CHAIN OF CUSTODY DOCUMENT MUST BE EXECUTED IN INK

WHITE - LABORATORY YELLOW - CLIENT

Login Sample Receipt Checklist

Client: Reliance Laboratories Inc

Job Number: 490-96737-1
SDG Number: 243425 243426 243427 243428

Login Number: 96737
List Number: 1
Creator: Vest, Laura E

List Source: TestAmerica Nashville

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

RECEIVED
Office of Oil and Gas

MAY 3 2019

WV Department of
Environmental Protection

47-085 10284B
05/31/2019

WW-9
(2/15)

API Number 47 - 085 - 10284
Operator's Well No. Pluto 1A

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name Jay-Bee Oil & Gas, Inc OP Code 24610

Watershed (HUC 10) Hushers Run Quadrangle Ellenboro 7 1/2'

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

Will a pit be used? Yes ☐ No ☑

If so, please describe anticipated pit waste:

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

Proposed Disposal Method For Treated Pit Wastes:

_____ Land Application
■ Underground Injection (UIC Permit Number 47-085-10142)
_____ Reuse (at API Number)
_____ Off Site Disposal (Supply form WW-9 for disposal location)
■ Other (Explain Using Jay-Bee Oil & Gas, Inc trucks

Will closed loop system be used? If so, describe: Yes - Centrifuge

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. Air Vertical

-If oil based, what type? Synthetic, petroleum, etc. N/A

Additives to be used in drilling medium? N/A

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

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

-Landfill or offsite name/permit number? Meadowfill/Permit 101219WV

Permittee shall provide written notice to the Office of Oil and Gas of any load of drill cuttings or associated waste rejected at any West Virginia solid waste facility. The notice shall be provided within 24 hours of rejection and the permittee shall also disclose where it was properly disposed.

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 Shane Dowell

Company Official (Typed Name) Shane Dowell

Company Official Title Office Manager

Subscribed and sworn before me this 23rd day of March, 20 17

Teresa R. Hall
Notary Public

My commission expires Oct 9th 2019

Official Seal
Notary Public, State Of West Virginia
Teresa R. Hall
1724 Valley Mill Rd.
Waverly, WV 26184
My Commission Expires Oct. 09, 2019

47-085-10284-B
05/31/2019

Form WW-9

Operator's Well No. Pluto 1A

Jay-Bee Oil & Gas, Inc

Proposed Revegetation Treatment: Acres Disturbed 4.5 Prevegetation pH 5.5-7.5

Lime 2-4 Tons/acre or to correct to pH 5.5-7.5

Fertilizer type 10-20-29

Fertilizer amount 300 lbs/acre

Mulch 2 Tons/acre

Seed Mixtures

Temporary		Permanent	
Seed Type	lbs/acre	Seed Type	lbs/acre
See Page 2 Survey Sheets		See Page 2 Survey Sheets	

Attach:
Drawing(s) of road, location, pit and proposed area for land application (unless engineered plans including this info have been provided)

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: Michael Raff

Comments: Preseed & mulch any disturbed areas per WVDEP regulations.

Received
Office of Oil & Gas
MAR 30 2016

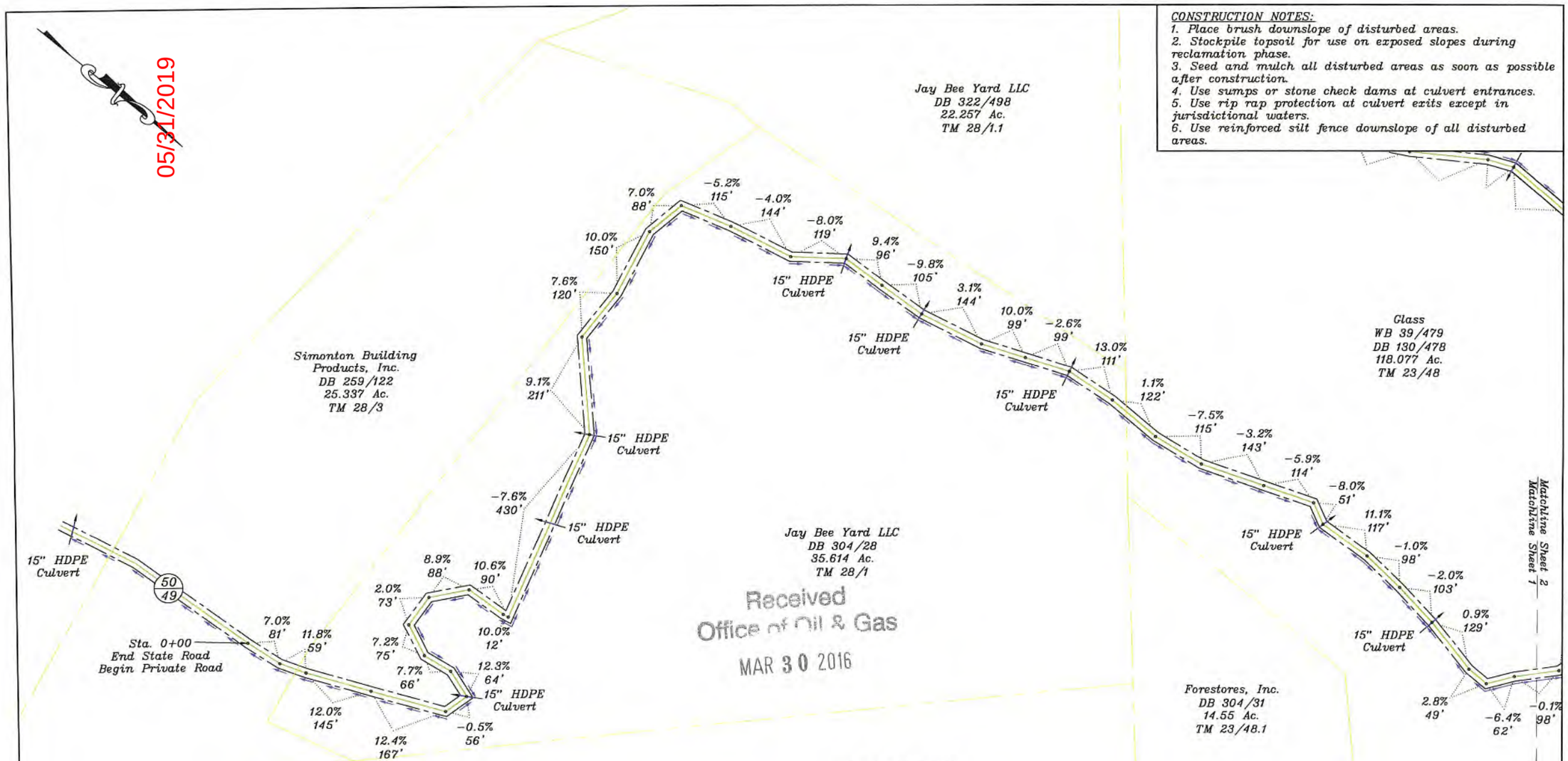
Title: Oil & Gas Inspector Date: 3/29/16

Field Reviewed? (✓) Yes ( ) No

47-085-10284-B

05/31/2019

CONSTRUCTION NOTES:
1. Place brush downslope of disturbed areas.
2. Stockpile topsoil for use on exposed slopes during reclamation phase.
3. Seed and mulch all disturbed areas as soon as possible after construction.
4. Use sumps or stone check dams at culvert entrances.
5. Use rip rap protection at culvert exits except in jurisdictional waters.
6. Use reinforced silt fence downslope of all disturbed areas.



Received
Office of Oil & Gas
MAR 30 2016

Jay Bee Oil & Gas DRILLING into the future

0 100' 200' 400'
Scale: 1" = 200'

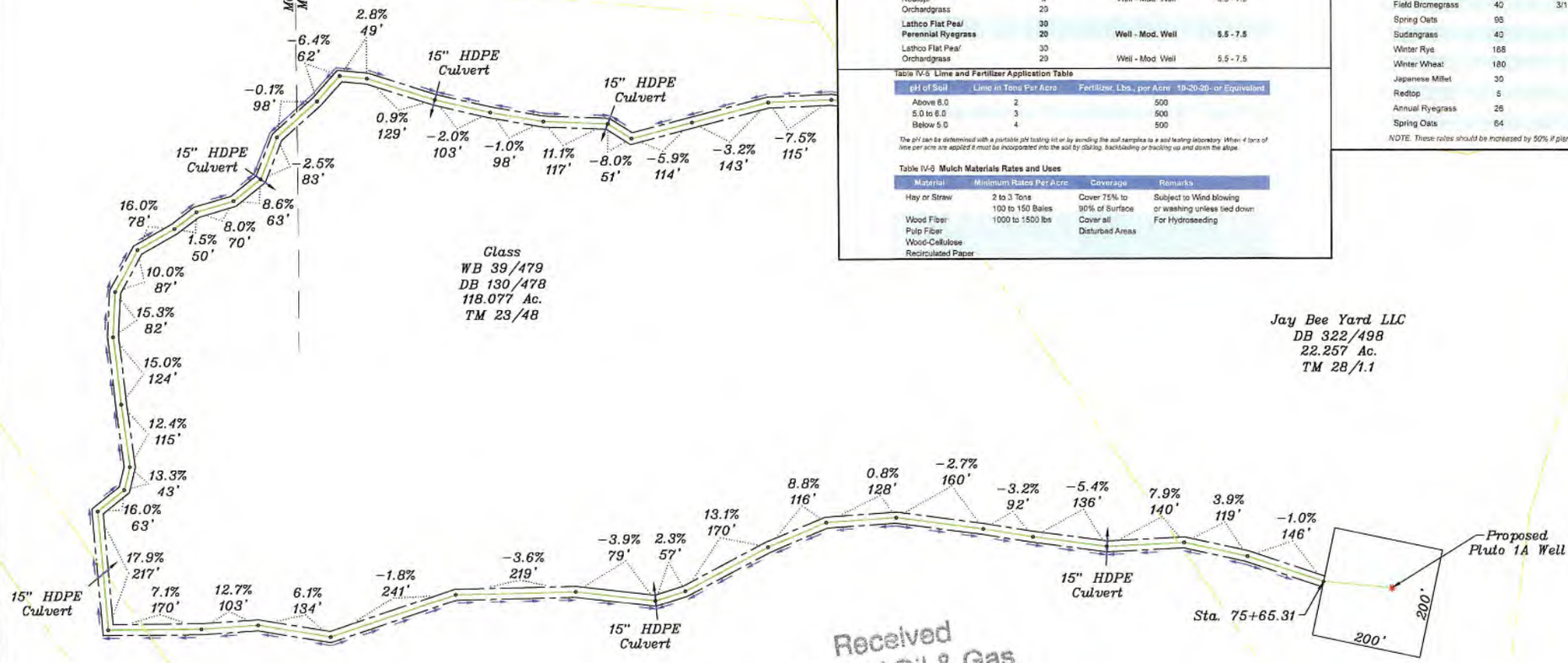
dba. Fisher Engineering
Dennis L. Fisher, RPE
PO Box 281
Philippi, WV 26416
Cell: 304-677-4129
E-Mail: Fisher.Engineering@gmx.com

Jackson Surveying Inc.
677 W. Main St.
Clarksburg, Wv 26301
304-623-5851

PLUTO #1A WELL

47-085-10284B

05/31/2019



Species/Mixture	Seeding Rate (lbs/acre)	Soil Drainage Preference	pH Range
KY Bluegrass/ Redtop/ Ladino Clover or Birdsfoot Trefoil	20 3 2 /10	Well – Mod. Well	5.5 - 7.5
Timothy/ Alfalfa	5 12	Well – Mod. Well	6.5 - 8.0
Timothy/ Birdsfoot Trefoil	5 8	Well - Poorly	5.5 - 7.5 8
Orchardgrass/ Ladino Clover/ Redtop	*10 2 3*	*Well - Mod. Well*	*5.5 - 7.5*
Orchardgrass/ Ladino Clover	*10 2*	*Well - Mod. Well*	*5.5 - 7.5*
Orchardgrass/ Perennial Ryegrass	*20 10*	*Well - Mod. Well*	*5.5 - 7.5*
Creeping Red Fescue/ Perennial Ryegra	**30 10**	**Well - Mod. Well**	**5.5 - 7.5**
Orchardgrass or Kentucky Bluegrass	20	Well - Mod. Well	6.0 - 7.5
Birdsfoot Trefoil/ Redtop/ Orchardgrass	10 5 20	Well - Mod. Well	5.5 - 7.5
Lathco Flat Pea/ Perennial Ryegrass	**30 20**	**Well - Mod. Well**	**5.5 - 7.5**
Lathco Flat Pea/ Orchardgrass	30 20	Well - Mod. Well	5.5 - 7.5

Table IV-5 **Lime and Fertilizer Application Table**

pH of Soil	Lime in Tons Per Acre	Fertilizer, Lbs., per Acre 10-20-20- or Equivalent
Above 6.0	2	500
5.0 to 6.0	3	500
Below 5.0	4	500

The pH can be determined with a portable pH testing kit or by sending the soil samples to a soil testing laboratory. When 4 tons of lime per acre are applied it must be incorporated into the soil by disking, backblading or tracking up and down the slope.

Table IV-6 **Mulch Materials Rates and Uses**

Material	Minimum Rates Per Acre	Coverage	Remarks
Hay or Straw	2 to 3 Tons 100 to 150 Bales	Cover 75% to 90% of Surface	Subject to Wind blowing or washing unless tied down
Wood Fiber Pulp Fiber Wood-Cellulose Recirculated Paper	1000 to 1500 lbs	Cover all Disturbed Areas	For Hydroseeding

Table IV-1 **Recommended seeding dates** for permanent and temporary cover unless otherwise specified.

Planting Dates	Suitability
March 1 – April 15 and August 1 – October 1	Best seeding periods
April 15 – August 1	HIGH RISK -moisture stress likely
October 1 – Dec. 1	HIGH RISK - Freeze damage to young seedings
Dec. 1 – March 1	Good seeding period. Dormant seeding.

Table 2. **Acceptable fertilization recommendation** in absence of a soil test.

Species	N (lbs/ac)	P2O5 (lbs/ac)	K2O(lbs/ac)	Example Rec. (per acre)
Cool Season Grass	40	80	80	400 lbs. 10-20-20
CS Grass & Legume	30	60	60	300 lbs. 10-20-20
Temporary Cover	40	40	40	200 lbs. 19-19-19

Table 3. **Temporary cover** suitable for establishment in West Virginia.

Species	Seeding Rate (lbs/acre)	Optimum Seeding Dates	Drainage	pH Range
Annual Ryegrass	40	3/1 - 5/15 or 8/15 - 9/15	Well - Poorly	5.5 - 7.5
Field Bromegrass	40	3/1 - 5/15 or 8/15 - 9/15	Well – Mod. Well	6.0 - 7.0
Spring Oats	96	3/1 - 6/15	Well - Poorly	5.5 - 7.0
Sudangrass	40	5/15 - 8/15	Well - Poorly	5.5 - 7.5
Winter Rye	168	8/15 - 10/15	Well - Poorly	5.5 - 7.5
Winter Wheat	180	8/15 - 11/15	Well – Mod. Well	5.5 - 7.0
Japanese Millet	30	6/15 - 8/15	Well	4.5 - 7.0
Redtop	5	3/1 - 6/15	Well	4.0 - 7.5
Annual Ryegrass	26	3/1 - 6/15	Well – Poorly	5.5 - 7.5
Spring Oats	64	3/1 - 6/15	Well – Poorly	5.5 - 7.5

NOTE. These rates should be increased by 50% if planted April 15 – August 1 and October 1 – March 1.

Jay Bee Oil & Gas
DRILLING into the future

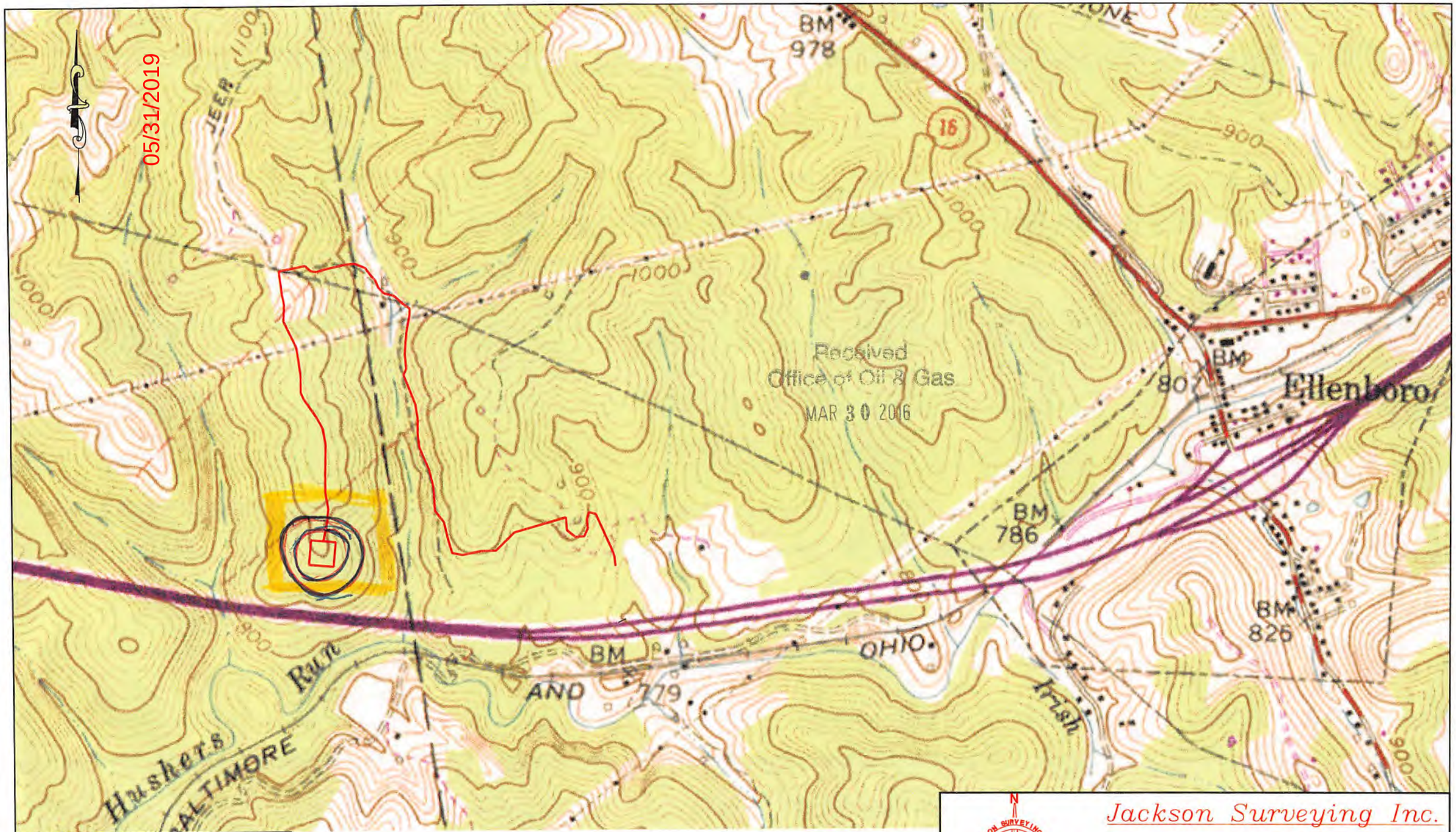
0 100' 200' 400'
Scale: 1" = 200'

dba. Fisher Engineering
Dennis L. Fisher, RPE
PO Box 281
Philippi, WV 26416
Cell: 304-677-4129
E-Mail: Fisher.Engineering@gmx.com

Jackson Surveying Inc.
677 W. Main St.
Clarksburg, Wv 26301
304-623-5851

PLUTO #1A WELL

47-085-10284B



Jay Bee Oil & Gas
DRILLING into the future

0 350' 700' 1400'
Scale: 1" = 700'

dba. Fisher Engineering
Dennis L. Fisher, RPE
PO Box 281
Philippi, WV 26416
Cell: 304-677-4129
E-Mail: Fisher.Engineering@gmx.com

Jackson Surveying Inc.
677 W. Main St.
Clarksburg, Wv 26301
304-623-5851

PLUTO #1A TOPO

FORM WW-6

Surface Hole Location 11,608'

LATITUDE 39-17-30 N

LONGITUDE 81-02-30 W

Surface Hole Location 10,782'

References

S86°17' E 127.4' to 16" Hickory

N46°39' E 256.6' Location to 18" Hickory

L1	S38°02'W	1466'
L2	S51°09'E	280'

Surface Hole Location
UTM NAD 83(Feet)-14257877.0 N, 1617253.7 E
UTM NAD 83(Meters)-4345809.6 N, 492939.9 E
Geo NAD 83 - 39.261592 N, 81.081835 W

05/31/2019

Forestores, Inc.
14.55 Ac.
TM 23/48.1

Jay Bee Yard LLC
13.527 Ac.
p/o TM 28/1
(formerly T.M. 28/ 4.2)

5/8" Rebar Fd.

Class
118.077 Ac.
TM 23/48

Jay Bee Yard LLC
35.614 Ac.
p/o TM 28/1

L1

Jay Bee Yard LLC
22.257 Ac.
TM 28/1.1

3/4" Pipe Fd.

275.4'

L2

Pluto 1A Location

231.7'

7 1/2'

Simonton Building Products, Inc.
25.337 Ac.
TM 28/3

Route 50

NORTH

3,000'

Pluto 1A Location

6804, 244, 188, 6444, 5979, 151, 131, 174, 713, 226, 152, 183, 154, 182, 155, 137, 138, 173, 85,128, 167, 178 (16), 6190 (25), 6978, 1449A, 6148 (25), 175 (16), 6755 (25), 198 (16)

Received
Office of Oil & Gas
MAY 20 2016

Lease Line
Adjoiner Line

Notes: There are no dwellings within 200' of the location or water wells within 250'.

Notes: Ties to wells and corners are based on State Plane Grid North-WV North Zone NAD 83.

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

FILE NO.
DRAWING NO. 1
SCALE 1" = 500'
MINIMUM DEGREE OF ACCURACY 1 in 200
PROVEN SOURCE OF ELEVATION GPS submeter unit

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 RULES ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

(SIGNED) David L Jackson

R.P.E. L.L.S. 708

DAVID JACKSON LICENSED No. 708 STATE OF WEST VIRGINIA PROFESSIONAL SURVEYOR

STATE OF WEST VIRGINIA
Division of Environmental Protection
OFFICE OF OIL AND GAS

DATE December 09, 2015
OPERATOR'S WELL NO. Pluto 1A
API WELL NO.
47 — 085 — 10284-B
STATE COUNTY PERMIT

WELL TYPE: OIL__ GAS__ LIQUID INJECTION X WASTE DISPOSAL X
(IF "GAS") PRODUCTION__ STORAGE__ DEEP__ X SHALLOW__
LOCATION: ELEVATION 1,004' WATER SHED Hushers Run
DISTRICT Clay COUNTY Ritchie
QUADRANGLE Ellenboro 7 1/2'
SURFACE OWNER Jay Bee Yard LLC ACREAGE 22.257 Ac.
OIL & GAS ROYALTY OWNER Jay Bee Yard LLC LEASE ACREAGE 22.257 Ac.
LEASE NO. 1-44A
PROPOSED WORK: DRILL X CONVERT__ DRILL DEEPER__ REDRILL__ FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION__ PERFORATE NEW FORMATION X OTHER PHYSICAL CHANGE IN WELL (SPECIFY)
PLUG AND ABANDON__ CLEAN OUT AND REPLUG__
TARGET FORMATION Newberg ESTIMATED DEPTH TD = 8,130'
WELL OPERATOR Jay Bee Oil & Gas, Inc. DESIGNATED AGENT Randy Broda
ADDRESS 1720 Rt. 22, East Union, NJ 07083 ADDRESS Route 1, Box 5, Cairo, WV 26337

4708510284 B

PLUTO 1A

U.I.C. SITE SAFETY PLAN

JAY-BEE OIL & GAS, INC

RECEIVED
Office of Oil and Gas

MAY 3 2019

WV Department of
Environmental Protection

05/31/2019

4708510284

Table of Contents

47-085- 10284 B

05/31/2019

JAY –BEE OIL & GAS, INC
3570 SHIELDS HILL RD
CAIRO, WV 26337
OFFICE (304) 628-3111
FAX (304) 628-3107

WELL SITE DRILLING PROCEDURES AND SITE SAFETY PLAN
Per 35CSR8/§22-6A

(Any changes or modifications to previously approved plans must be approved by the West Virginia Department of Environmental Protection - Office of Oil and Gas)

Well Name	Pluto 1A (UIC)
Well Pad	Pluto 1A Pad
24hr Emergency Contact	Travis Yost 304-904-7228
Operator Contacts	Aaron Edwards 304-904-8625 Andrew Neill 740-885-9635 Jim Layfield 304-904-2821
Contractor Contacts (updated list will be on file on location)	AES – Titus Robinson 304-871-1805 UWS – Harry Berry 304-552-7264 AOS – Marc Marshall 740-336-1728 Baker Hughes – Bob Todd 304-669-8565 Patterson – Stan Dean 724-491-5028
DEP Contacts	Ritchie DEP Inspector – Michael Goff 304-389-3509
Local Emergency and Hospital Contacts	911 Center Dispatch Center - 304-659-2979 Sheriff - 304-643-2262 LEPC – 304-869-3244 Cairo Fire Department 304-628-3312 Ellenboro Fire Department 304-869-3244 Harrisville Fire Department 304-643-2330 Pennsboro Fire Department 304-659-3969 Smithfield Fire Department 304-477-3423
Schools/Public Facilities (1 mile radius)	Ritchie County Middle and High School 304-869-3512
Notification of Public of H2S	See the Appendix for list of local contacts. When H2S is applicable to our drilling process, the local contacts and the emergency contacts will be notified of such operations.

SAFETY PLAN MEETINGS/SCHEDULES

A pre-spud meeting will be held prior to beginning drilling operations and will include prior notice to the county oil and gas inspector or other designated Office of Oil and Gas representative. The attendance log can be found in the appendix.

Regularly scheduled on site safety meetings will be conducted each morning to discuss the planned daily activity. Documentation will be maintained to keep an accurate record of attendance. There will also be a safety meeting scheduled prior to any critical operation.

An accurate headcount of personnel shall be maintained by the supervisor for each shift. There will be a sign posted at the entrance to the well location advising that any person entering the premises will immediately report to the Jay Bee Oil & Gas representative on site and sign the "Check-In and Check-Out" roster. The company representative will maintain the roster to provide an accurate headcount of personnel and visitors on location at any time.

NOTIFICATION AND PROTECTION ZONES STANDARDS

1. A method of notification to all residents and emergency response personnel who may be affected by specific events during the operation. Such events may include, without limitation, the presence of hydrogen sulfide, blow-outs, and flaring.

As previously mentioned, the site supervisor will maintain a list of all residents in the area which includes their contact information and directions to their houses. The site supervisor will designate an individual to be in charge of contacting area residents in case of an incident. Additionally, the local 911 center will be contacted to ensure proper notification of emergency response personnel.

2. The operator should establish and maintain protection zones during applicable events and working environments.

The site supervisor will establish and maintain above mentioned zones.

LOCATION INFORMATION

Latitude/Longitude Well Location	Northing 4,345,809.6 Easting 492,939.9
Latitude/Longitude Road Entrance	Northing 4,345,656.7 Easting 493,677.5
Public Road	WV50

Directions to Well	From WV 50 and WV16, travel west on WV50 for approximately 1 mile. Turn right onto Simonton Rd (parking lot of Simonton Windows). Continue straight onto our lease road.

EVACUATION PLAN

In the unlikely event an evacuation should become necessary, all personnel will gather at a predetermined safe briefing area. The area for this site is identified as:

There will be signs for two evacuation routes and at the end of each of these routes there will be a gathering area. On the evacuation route signs there will be arrows pointing in the direction to travel.

An ***immediate*** head count will be taken by the site supervisor and the location of each individual will be determined. The situation will be assessed with immediate response and emergency calls as needed. The site supervisor will send an employee or other representative to the nearest county road access to prevent unauthorized personnel from entering the location and to direct emergency response personnel to the site. If required, the site supervisor will send an employee or other representative(s) to contact all surrounding residents and shall also go door-to-door, if necessary.

Jay Bee Oil & Gas Inc will maintain first aid kits on site. Site personnel will maintain current First Aid/CPR training as a requirement of their training process.

LOCATION MAP AND TOPOGRAPHIC MAP

The following pages include the location map and topographic map of the location including the evacuation plan.

WELL WORK DETAILS: DRILLING METHOD

The well will be drilled in one phase: Vertical to Total Depth (TD).

The vertical portion of the well will be drilled following the casing and cementing guidelines found later in this plan. The Conductor, Fresh Water, Intermediate and Production holes will be drilled in this process. The Total Depth (TD) of this well is set at 7,725'.

WELL WORK DETAILS: WELLBORE CASING AND CEMENTING STANDARDS

The location, if applicable, of all freshwater, saltwater, oil and gas producing, hydrogen sulfide producing, thief, and high pressure and volume zones are known to the operator.

Per Casing & Cementing Standards:

- All casings used in the wellbore must be new.
- Centralizers must be used during casing installations.
- Cements must meet API standards.
- A conductor must be cemented to the surface from the bottom if freshwater is behind it and conductor must remain in the well.
- At least 300 feet of surface casing shall be installed (unless, oil, gas or saltwater encountered) and must be cemented to the surface.
- Surface casing that is more than 300 feet deep shall be installed at least 50 feet and no more than 100 feet below the deepest freshwater strata and must be cemented to surface.
- Intermediate casing must be cemented to the surface. Production casing, at a minimum, must be installed and cemented at least from the top of target formation to a point 100 feet up inside the intermediate casing.
- All casings cemented shall not be disturbed for at least 8 hours after cementing operations.
- Surface and coal protection casings must be pressure tested at a pressure 20% greater than is expected to have exerted upon them and a cement quality log is conducted.
- Section of the wellbore for the conductor, surface, and coal protection strings drilled using only air, freshwater, or freshwater based drilling medium.
- No oil or gas production or pressure should exist on the surface or coal protection strings.
- Intermediate casing shall be pressure tested in the same manner as above except a shoe or jug test shall be conducted immediately after drilling resumes.
- Production casing must be pressure tested at a pressure 20% greater than is expected to have exerted upon it during the fracturing operations and have a bond log ran.
- Production casing pressure testing again, after fracturing, at a pressure 20% greater than the expected shut in pressure.

WELL WORK DETAILS: FRACTURING AND STIMULATION METHODS

60-300' per stage 8,000gals of acid, pump at 8 gallons a minute, not to exceed maximum production casing pressure.

A copy of this plan will be provided to the local emergency planning committee or county emergency services offices at least 7 days prior to land disturbance from well work.

CHEMICAL INVENTORY & MSDS

Material Safety Data Sheets (MSDS) for all materials and chemicals on the well site shall be maintained on the well site and will be readily accessible. The MSDS shall be maintained by the site supervisor. The MSDS sheets can also be submitted with this plan electronically.

WELL CONTROL AND BLOW-OUT PREVENTER (BOP) STANDARDS

1. List of BOP equipment and casing heads with types, sizes, and ratings, to be utilized and available during the drilling of the well:

    - 8 5/8" Well Head 5k
    - 11" Flow Cross 5k, with 2 2 9/16" 5k Gate Valves
    - 11" 5k Schaffer Annular
    - Washington Rotating Head

2. The procedure and schedule for testing the BOP stack.

    On each new horizontal well to be drilled, we first lay all pieces of BOP and pressure equipment out and visually inspect each piece for damages. If pieces are damaged or worn, they are immediately replaced. Once BOP and pressure equipment is visually inspected and found to be in good visual condition, it is then nippled up and function tested. After we rig up, we then set a test plug in the 8 5/8" well head and the annular is pressure tested to 70% capacity.

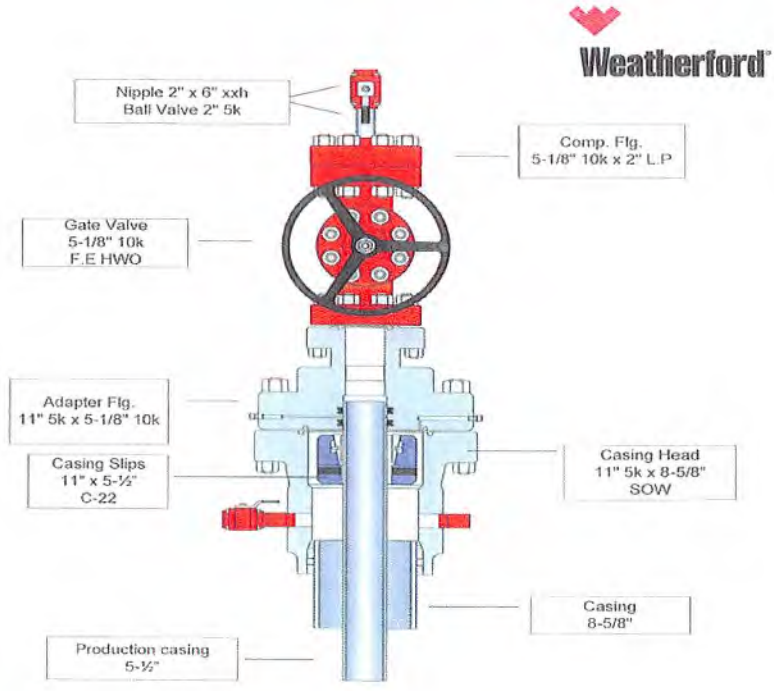
3. A schedule for BOP equipment installation and operation on the applicable casing string. BOP will be installed and tested before horizontal drilling starts, weekly and after each bit trip. The BOP will be tested every 21 days thereafter, to the procedures listed in section 2.

4. A list of all personnel with approved well control training and current certification recognized by the International Association of Drilling Contractors (IADC).

5. A detailed record of significant drilling events, including without limitation lost circulation, the presence of hydrogen sulfide gas, fluid entry, kicks, and abnormal pressures, will be maintained for each 24 hour period. The district oil and gas

inspector or the designated Office of Oil and Gas representative shall be notified as soon as possible of any unusual drilling events such as large kicks that occur during drilling and although the encounter of hydrogen sulfide gas is not anticipated, there will be a mandatory immediate notification of the Office of Oil and Gas in that event.

6. A schematic and description of the wellhead assembly placed on the well upon completion is attached to this packet.



WELL KILLING STANDARDS

1. As stated in our chemical inventory section, an inventory of all material that will be on site for the mixing of mud shall be kept. The inventory shall include the amount of mixed mud, mixed mud weight, amount of additional weighting material (i.e. barite or bentonite), and the volume of water for mixing.

2. The number and type of mixing units that will be used for the mixing of mud are as follows:

- **Equipment**

- 1 – 50hp Mud Pump with hopper loading.
- 1- 30hp Mud Pump with hopper loading.

- **Material**
  - Barazan D Plus 1.75# / bbl – 55 Bags
  - Salt 90# / bbl - 6 Bags
  - Dextrid LT 4# / bbl - 14 Bags
  - Caustic Soda .15# / bbl - 13 Bags
  - Lime .25# / bbl - 22 Bags
  - Barite 190# / bbl
  - Pac-l - 50lb bag - 25 Bags
  - Baroid - 2000lb Super Sacks - 10 Bags
  - Bicarbonate of Soda - 50lb bag - 31 Bags
  - Wall-Nut Medium - 50lb bag - 45 Bags
  - Aldacide G - 5 Gal - 26 Cans
  - Defoamer - 5 Gal
  - EZ-Mud - 5 Gal - 24 Cans
  - Quik-Thin 50 lb - 15 Bags
  - Soda Ash - 50 lb - 45 Bags
  - Torq-Trim II - 55 Gal - 3 Drums
  - 950 BBL of Mixed Mud
  - 12-14# Mud Weight
  - 150 BBL of water to maintain mud.

3. The methodology and type of kill procedures as recognized by the IADC.

- Wait and Weight
- Driller Method (*Preferred, explained below*)
- Circulate and Weight
- Concurrent Method
- Reverse Circulation
- Dynamic Kill procedure
- Bullheading
- Volumetric Method
- Lubricate and Bleed

4. Well Killing Method –

a. Space out the drillstring and sound the alarm
   - Position the Kelly or top drive so that no tool joints are in the preventers
   - If possible, have uppermost tool joint at connection height above rotary table/rig floor

b. Shut down the rotary/top drive and the pumps
   - Stop rotating
   - Stop the mud pumps

c. Check for well flow. If well is flowing, continue with next step (4.)
   - If well is not flowing then mix mud that is at least 1ppg heavier than what is in well bore.
   - Pump heavier mud down well at a rate of 50% of previous pumping rates until the entire well bore has heavier mud in it.
   - Repeat until well is stable.

d. Shut-in the well
- Close the designated BOP (blowout preventer)
- Ensure the choke is closed
- Open the choke line hydraulic opening valve
- Verify the well is shut-in and the flow has stopped

HYDROGEN SULFIDE (H2S) OPERATIONS STANDARDS

We will be penetrating the Onondaga formation, our safety measures when drilling in such formations are as follows:

When drilling in areas of ***known*** H2S, rig crews will:
- Be trained in H2S safety measures
- Have the appropriate safety equipment
- Use equipment the fits guidelines for H2S.
  - H2S Sensors on:
    - Drilling Station
    - Drilling Floor
    - Every 50' in a 50' radius around the rig
    - Clipped on Floor Hand Belts
  - An audible siren alarm that is tripped by the sensors
  - Respirators
  - Wind Sock

Any influx into the wellbore should be assumed to contain H2S. The size of the influx, amount of under balance, formation character, weather conditions, etc. should be considered when deciding to circulate out or pump away the influx. If the decision is made to circulate out the H2S kick, clear the rig floor and restricted area of all unnecessary personnel and take the following additional precautions:

- Rope off the rig substructure – to include BOPs, choke lines, choke manifold and mud return areas – and identify as a restricted area. No one shall enter these areas without proper breathing apparatus, H2S monitor, and specific approval from the Toolpusher.
- Continuously monitor the H2S concentration level in the **mud returns**.
- The drilling supervisor shall alert affected downwind facilities and population.
- The drilling supervisor shall implement any other precautions deemed necessary.
- When circulating, all personnel involved in the well control operation will mask-up at least 30 minutes prior to bottoms up. The flow from the choke should be diverted through the gas buster and the gas should be flared. The mud stream will return to the active system where any remaining gas can be removed by the degasser and the use of an H2S scavenger system.

NOTE: An evacuation plan will be posted on site at all times as mentioned on page 3 of this plan.

A list of emergency contact numbers for the area where the well is located is attached to this document, as mentioned on page 3.

The site supervisor, or an appointed designee, shall work closely with local first responders in the area prior to drilling to familiarize them with potential incidents that are related to oil and gas development so that proper response can be utilized and to help implement the Well Site Safety Plan.

DEEP WELL ADDITIONAL REQUIREMENT

Below is a list of anticipated freshwater, saltwater, oil and gas, hydrogen sulfide, thief zones, high pressure and volume zones and their expected depths

- Freshwater - 259'
- Saltwater – 1000'
- Big Injun – 1,946'
- Gordon – 2,872'
- Benson – 5,070'
- Marcellus – 6,130'

Possible H2S Zones:

- Onondaga – 6,162'
- Huntersville – 6,220'
- Oriskany – 6,320'
- Helderburg – 6,420'
- New Burg - 7565'

Below is our casing program for this well:

TYPE	Size	New or Used	Grade	Weight per ft.	FOOTAGE: For Drilling	INTERVALS: Left in Well	CEMENT: Fill -up (Cu. Ft.)
Conductor	16	New	J55	40	30	30	Grout to Surface
Fresh Water	11 3/4	New	J55	32	310	310	147cf CTS
Coal	8 5/8	New	J55	24	2,050	2,050	521cf CTS
Intermediate							
Production	5 1/2	New	P110	17	7,725	7,700	1273cf CTS
Tubing	2 7/8	New	J55	6.4	N/A	6,348	N/A
Liners							

TYPE	Size	Wellbore Diameter	Wall Thickness	Burst Pressure	Cement Type	Cement Yield
Conductor	16	17 1/2	.495	3,000#	Class A Cement	1.19CF per Sack
Fresh Water	11 3/4	15	.333	1,500#	Class A Cement	1.26CF per Sack
Coal	8 5/8	11	.264	2,950#	Class A Cement	1.45CF per Sack
Intermediate						
Production	5 1/2	7 7/8	.304	15,000#	Type 1 Cement	1.34CF per Sack
Tubing	2 7/8	5 1/2	.217	7,260#	N/A	N/A
Liners						

WELL FLARING OPERATIONS STANDARDS

(Operations and Process Completed by Jay-Bee Oil & Gas Inc.)

We do not anticipate using flaring for flow-back of the well, since it is a UIC focused on non-production. However, in the drilling process flaring may be used in situations required for safely drilling the well.

1. PURPOSE

• This procedure shall apply to the commissioning of Surface Well Testing equipment received at a Well Testing location or base operation. • To clearly define Safe Operating Recommendations for all Jay-Bee employees, Clients and Contractors.

2. SCOPE

This procedure shall apply to the onsite rig up of Surface Well Testing equipment received at a Surface Well Testing location or base operation.

3. RESPONSIBILITY

It shall be the responsibility of the Senior Site Supervisor to ensure equipment either at base or at location is rigged up in accordance with these requirements at a minimum and with safe working practices and procedures. All state or local requirements should also be referenced, and if there are differences between Jay-Bee recommendations and local or state regulations the larger spacing distance should be utilized if possible.

Any issues or deviations with the spacing requirements set forth (due to lack of space on location, etc) should be addressed with local management for approval and properly documented before proceeding.

4. RECOMMENDED EQUIPMENT SPACING & FIRE SAFETY

4.1. Layout Spacing (General Requirements) • Wellhead to heated Separator (with flame arrestor) – 75ft
• Wellhead to Cold Separator – 50ft
• Cold Separator to atmospheric tanks – 50ft
• Heated Separator (with flame arrestor) to atmospheric tanks – 75ft
• Separator to flare stack – 75ft
• Wellhead to tanks – 100ft
• Tanks to flare – 100ft
• Flare to wellhead – 100ft
• Vaporizer to tanks – 100ft
• Vaporizer to separator – 75ft
• Office trailer to wellhead & tanks – 100ft
• Office trailer to separator – 75ft
• Wellhead to Non-certified pressurized Storage tank – 100ft

4.2. Tanks (Detailed)
• Tanks should be a minimum of 50' from a separator, well test unit or other non-fired equipment
• Tanks should be a minimum of 100' from a fired vessel or heater treater

• Tanks shall be a minimum of 100' from a wellhead
• Gauge hatches on atmospheric tanks used to store crude oil shall be closed at all times when not in use
• Flammable liquids should not be stored within 100' of well, except for fuel in tanks of operating equipment
• Liquefied Petroleum Gas tanks larger than 250 gals should be 150' from rig
• ALL tanks will be properly grounded individually, using copper grounding cable with a minimum gauge of 1/0.
• ALL tanks will be individually vented with a 2" x 10' and 4" x 10' vent stack, using the integrated 2" and 4" vent holes.
• ALL return lines will be plumbed into the side of the tanks. A short line will come out horizontally, with a 90 degree elbow at the end pointing, with an additional line going directly to the ground. Then a 90 degree elbow must be placed at ground level, where connections from the contractor can be made. The weight of the line WILL be placed on the line laying on the ground.
• Gas monitor devices will be placed on site near the tank entrances during frac/drill operations.
• ALL employees on site will NOT be allowed near the tanks, during any tank operations.
• Prior to the start of well work, current contracted employees and management will complete vapor awareness, confined space, and associated dangers prior to job start. Jay-Bee Oil & Gas, Inc. employees will also participate in this process.

4.3. Vent Lines
• Vent lines from tanks shall be joined and ultimate discharge shall be directed away from loading racks and fired vessels in accord to API RP 12-R1
• Discharge of oil or gas to atmosphere should be downwind, 100' from wellhead, open flame or other ignition source

4.4. Gas Burning
• Incinerator or flare not less than 100' from wellhead and test tanks
• Gas not to be burned within 100' from well or storage tank

4.5. Engines (Vehicles, Generators, etc.)
• Vehicles not involved in operations should be 100' from wellbore
• Spark arrestors or equivalent shall be provided on all internal combustion engines within 100' of wellbore

4.6. General
• No ignition sources are permitted in any area where smoking is not permitted
• Smoking or open flame not permitted within 20 feet of compressed gas

The following pages list the names, addresses, and telephone numbers of all residents, businesses, churches, schools and emergency facilities within 1 mile radius that may be affected by different specific events during the drilling process:

Name	Address	Phone	TM/P
Pearl Everett II & Nathaniel Lyle Mason, or Tenants	P O BOX 235 ELLENBORO WV 26346 0235	304-869-3892	M13 P31, 37.1, 37.2, 38
Harold & Alice Bunner	723 Dogwood Lane	304-869-3710	M13 P37
Bonds Creek Church	Bonds Creek Rd, Ellenboro, WV 26346	304-869-3542	M18 P4
Bonds Creek Youth Center	Bonds Creek Rd, Ellenboro, WV 26346	304-684-7457	M18 P11
Green Hunter	122 Lonesome Pine Rd. Ellenboro, WV 26346	304-374-2251	M18 P11
Fairmont Ridge Church	Bonds Creek & Fairmont Ridge Rd, Ellenboro, WV 26346	none listed	M18 P10
Luther & Julia Collins	RT1 OX 21 KERMIT WV 25674 9703	540-912-9101	M18 P20.3
Ronald L Casto	136 Casto Dr. Ellenboro, WV 26346	304-869-3353	M28 P29.2
Patrick Ray Keith	78 VALLEY MANOR LN WILLIAMSTOWN WV 26187 9781	none listed	M28 P29
Jacob Paul & Donna Griffith	264 Lost Run Rd. Ellenboro, WV 26346	304-869-3514	M28 P5
Steven Allen & John Wesley Seese Life Estate	RT 1 BOX 42 HARRISVILLE WV 26362 9707	none listed	M28 P15
Charles W Cunningham	P O BOX 116 ELLENBORO WV 26346 0235	none listed	M28 P30.1
Camp Hope	601 E MAIN ST HARRISVILLE WV 26362 6313	304-643-2878	M19 P1.1
First Apostolic Church of Harrisville	601 E MAIN ST HARRISVILLE WV 26362 6313	304-643-2878	M28 P1.3
Charles & Penny Copeland	P O BOX 163 ELLENBORO WV 26346 0235	304-869-3053	M28 P61
C&W Logs & Veneer	250 HEBRON RD. ST MARYS. WV. 26170	304-684-9974	M28 P59
David & Patricia Deak	498 Pike Rd. Ellenboro, WV 26346	304-869-3462	M28 P1.2
Bernard McCormick	97 Sellers Lane. Ellenboro, WV 26346	304-869-3329	M28 P2
Simonton Building Products, Inc	1 COCHRANE AVE PENNSBORO WV 26415 9404	304-659-2901	M28 P3
Gerald & Teresa Hall	P O BOX 399 RT 50 W ELLENBORO WV 26346 0399	304-643-2242	M28 P4
Trenton Energy	RT 50, Ellenboro, WV 26346	304-869-3799	M28 P4
Dennis Sellers	303 FIRST ST PENNSBORO WV 26415 1123	304-659-2255	M28 P4.3
Anthony & Anissa Sellers	P O BOX 247 ELLENBORO WV 26346 0235	none listed	M28 P5.1
Kevin & Kathy Jones	PO BOX 334 ELLENBORO WV 26346	none listed	M28 P5
RITCHIE CO BD OF EDUCATION	217 W MAIN ST HARRISVILLE WV 26362 0001	304-643-4136	M2 P86

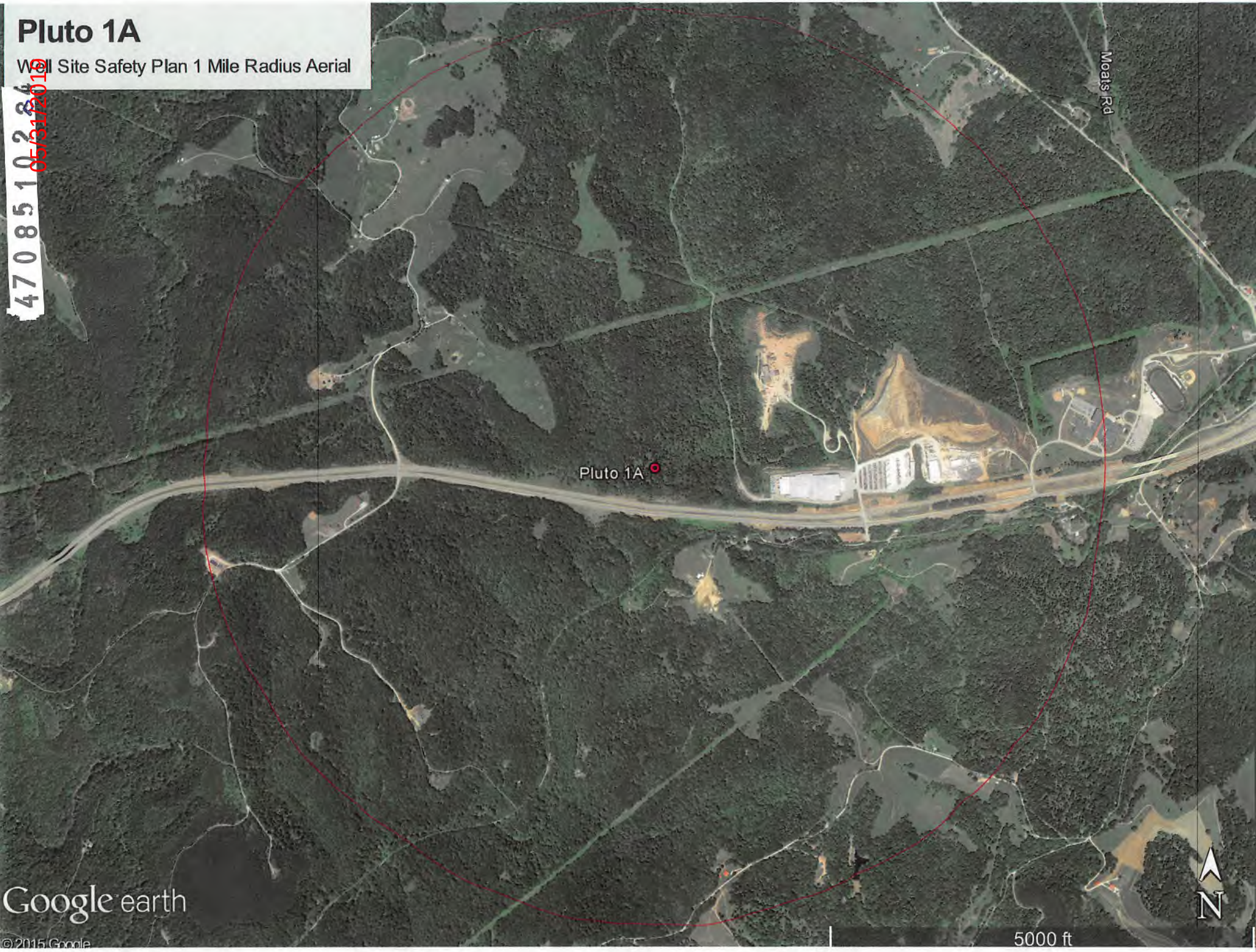
(PAGE 14)
1 MILE RADIUS

47 0 8 5 1 0 2 8 4 B
05/30/2019

Pluto 1A

Well Site Safety Plan 1 Mile Radius Aerial

47085102840000 05/31/2019



APPENDIX

4708510284 B

05/31/2019

SPUD MEETING SIGN IN SHEET

Well:_____

Date:_____

Name	Signature	Company

Doddridge County Emergency Contacts

Entity	Contact	24 Hour Contact	Secondary Contact	Personal Contact	Location	Email
DEP Inspector	Daniel Flack	304-545-0109	304-926-0440	304-545-0109	58 Rive Ave., Buckhannon, WV 26201	Daniel.A.Flack@wv.gov
Warning Point & 911 Center	Central Communications	304-659-3770	304-873-3253		4317 Lamberton Rd., Pennsboro WV	timgreenan@central911.com
Sheriff	Michael Headley	304-873-1944	304-873-2671 or 304-873-1000	304-873-1939	PO Box 219 West Union, WV	
LEPC	Roland Kniceley	304-844-7390	304-623-6260	304-782-2124	Rt.2 Box 1 Salem, WV	doddridgeoes@dishmail.net
DOH	Anthony Lopez	304-873-2771	304-842-1500	304-842-1622	I-79 & Meadowbrook Rd. Clarksburg, WV	
State Police	Detachment	304-873-2101				
Bancs Fire Department	Detachment	304-873-3772				
Greenwood Fire Department	Detachment	304-873-2440				
McClellan Fire Department	Detachment	304-782-2774				
Smithburg Fire Department	Detachment	304-873-1493				
West Union Fire Department	Detachment	304-873-1391				

Tyler County Emergency Contacts

Entity	Contact	24 Hour Contact	Secondary Contact	Personal Contact	Location	Email
DEP Inspector	Cragin Blevins	304-380-7469	304-926-0440	304-380-7469	41407 19th St., Vienna, WV 26105	Cragin.Blevins@wv.gov
Warning Point & 911 Center	Dispatch Center	304-758-2911	304-758-4275	304-771-8678	121 Court St. Middlebourne, WV	sarge_202@hotmail.com
Sheriff	Bob Kendle	304-758-4229	304-758-4275	304-337-9036	PO Bx 7 Middlebourne, WV	sarge_202@hotmail.com
LEPC	Pat Walsh	304-652-6932	740-373-9036		3807 South State Rt.2 Friendly, WV	patrick.walsh@proviron.com
DOH	Doug Hays	304-843-4057	304-843-4000		1 DOT Drive Moundsville, WV	
State Police	Detachment	304-455-0913			RR2 Box 505 New Martinsville, WV	
Alma Fire Department	Johnny Miller	304-758-4066			General Delivery, Alma, WV	
Middlebourne Fire Department	Bryan Taylor	304-758-4349			PO Box 67, Middlebourne, WV	
Shirley Fire Department	James Wade	304-758-2391			HC 74 Box 123A, Alma, WV	
Sistersville Fire Department	Steve Leasure	304-652-7131			121 Maple Lane, Sistersville, WV	

Jay-Bee Emergency Contacts

Entity	Contact	24 Hour Contact	Secondary Contact	Personal Contact	Location	Email
Field Supervisor	Travis Yost	304-904-1035			Lost Creek, WV	tyost@jaybeeoil.com
Office Manager	Tyler dufour	304-904-1700		304-709-9064	Morgantown, WV	Tdufour@jaybeeoil.com
Field Supervisor	Jim Layfield	304-904-2821	304-628-3678		Cairo, WV	jimlayfield@jaybeeoil.com
Frac Supervisor	Curtiss Martin	304-916-0831				cmartin@jaybeeoil.com
Drilling Supervisor	Andrew Neill	304-904-8625	740-885-9635		Marietta, OH	aneil@jaybeeoil.com
Welltender Manager	Justin Whipkey	304-904-3244				jwhipkey@jaybeeoil.com
Vice President of Land	Brian Paugh	304-695-0045			Bridgeport, WV	bpaugh@jaybeeoil.com
Land Manager	Natalie Haddix	304-904-7135			Bridgeport, WV	nhaddix@jaybeeoil.com

Contractor Emergency Contacts

Entity	Contact	24 Hour Contact	Secondary Contact	Personal Contact	Location	Email
Halliburton	William Reed	304-641-0404	304-269-8563	304-462-7975		william.reed2@halliburton.com
Weatherford	James Sherrell		304-203-7266	304-269-2009		james.sherrell@weatherford.com
Javins	Brooks Javins		304-292-3234			brooksjavins@javinscorporation.com
Nabors	Chuck Barnett	304-884-6684	304-377-3365			john.barnett@nabors.com
EDI	Jeff Baker		740-525-7288			
Baker Hughes	Customer Service	713-439-8600				
Newalta	Wayne Clark	403-806-7110				customerservice@newalta.com
HWD	Dave Larson	405-420-8175				dave.larson@hwdrillers.com

Hospital Contacts

Entity	Contact	24 Hour Contact	Secondary Contact	Personal Contact	Location	Email
United Hospital		681-342-1000			327 Medical Park Dr., Bridgeport, WV 26330	
Camden Clark Mem. Hospital		304-424-2111			800 Garfield Ave Parkersburg, WV 26101	

Bus Route

Entity	Contact	24 Hour Contact	Morning Run Hours	Afternoon Run Hours	Location	Email
Tyler County Bus Garage		304-758-2112	6am-8am	315pm-515pm	Middlbourne, WV	

JAY BEE OIL & GAS – EMERGENCY CONTACT NUMBERS

Agency Type	Agency Name	Phone Number
	ALL EMERGENCIES	**DIAL 911**
911 Dispatch Centers	Non Emergency Calls – Doddridge/Ritchie Counties	304-659-3770
	Non Emergency Calls – Tyler County	304-758-4275
Fire Departments Doddridge County	Bancs Fire Department	304-873-3772
	Greenwood Fire Department	304-873-2440
	McClellan Fire Department	304-782-2774
	Smithburg Fire Department	304-873-1493
	West Union Fire Department	304-873-1391
Fire Departments Ritchie County	Cairo Fire Department	304-628-3312
	Ellenboro Fire Department	304-869-3244
	Harrisville Fire Department	304-643-2330
	Pennsboro Fire Department	304-659-3969
	Smithfield Fire Department	304-477-3423
Fire Departments Tyler County	Alma Fire Department	304-758-4066
	Middlebourne Fire Department	304-758-4349
	Shirley Fire Department	304-758-2391
	Sistersville Fire Department	304-652-7131
Law Enforcement	WV State Police – Doddridge County Detachment	304-873-2101
	WV State Police – Ritchie County Detachment	304-643-2101

	WV State Police – Tyler County Detachment	304-455-0913
	Doddridge County Sheriff's Department	304-873-1000
	Ritchie County Sheriff's Department	304-643-2662
	Tyler County Sheriff's Department	304-758-4229
Industry Emergency Contacts	Boots & Coots	1-800-256-9688
	CUDD Well Control	1-800-990-2833
	Wild Well Control	281-784-4700
Other Contacts	Allegheny Power – Electric	1-800-255-3443
	Miss Utility Underground Line Locator	1-800-245-4848
	State Emergency Spills	1-800-642-3074
	Poison Control Center	1-800-222-2222
	WV Office of Oil and Gas	304-926-0499

47 0 8 5 05/01/2014 B

WILD WELL CONTROL

Well Cont ol Accreditation Program

Certificate of Completion

The individual below has successfully completed a course in well control instruction at an institution accredited by the International Association of Drilling Contractors.

Roy Lemasters
Recipient Name

3395
ID Number

Drilling
Course Name

Supervisor
Level

18-Jul-15
Completion Date

18-Jul-17
Expiration Date

Surface
Stack Qualification

Wild Well Control
Training Provider

1.281.784.4700
Telephone Contact

Clarksburg, WV USA
Course Location

WC519
Program ID Number

David Kennedy
Instructor Name

Certificate Number: **WSEC614303**

Authorized Signature (Corporate Official or Instructor)

IADC WELLCAP

4708510484B 05/31/2019

WILD WELL CONTROL

Well Control Accreditation Program

Certificate of Completion

The individual below has successfully completed a course in well control instruction at an institution accredited by the International Association of Drilling Contractors.

Kevin Carpenter
Recipient Name

3394
ID Number

Drilling
Course Name

Supervisor
Level

18-Jul-15
Completion Date

18-Jul-17
Expiration Date

Surface
Stack Qualification

Wild Well Control
Training Provider

1.281.784.4700
Telephone Contact

Clarksburg, WV USA
Course Location

WC519
Program ID Number

David Kennedy
Instructor Name

Certificate Number: **WSEC614302**

Authorized Signature (Corporate Official or Instructor)

IADC WELLCAP

4708510284B 05/31/2019

Certificate of Completion

Certificate No. N155874

Wild Well Control

Aaron Cecil Edwards

ID No. 1608

Has Successfully Completed a Course at the

Fundamental Level
for
Drilling
With Stack Qualification of Surface

Completion Date: 21 August 2013 Expiration Date: 21 August 2015

Buckhannon, WV USA

IADC WellCAP

Certified by IADC Accredited Program WC519
Well Control Training
A Division of Wild Well Control, Inc.

API Training Provider Certification Program

Attested by:

Google 23 E Washington Ave, Ellenboro, WV 26346 to U.S. 50, Ellenboro, WV 26346

Drive 1.2 miles, 2 min

23 E Washington Ave
Ellenboro, WV 26346

1. Head **west** on **E Washington Ave** toward **S Main St**

16 ft

2. Turn **left** onto **S Main St**

4708510284B
05/31/2019

0.2 mi

3. Turn **right** to merge onto **US-50 W**

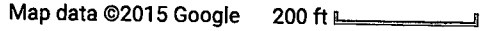
1.0 mi

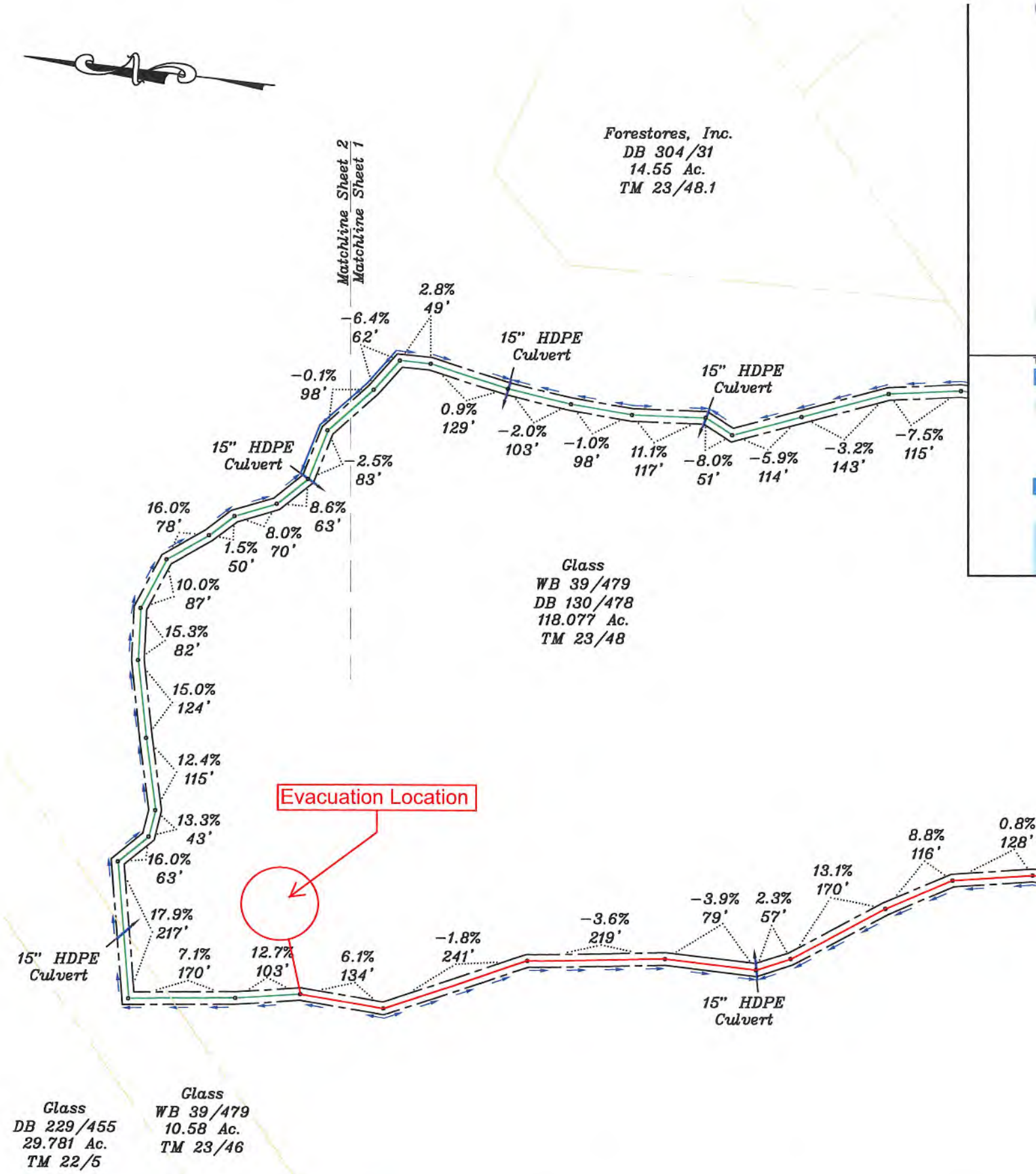
4. Turn **right**

20 ft

U.S. 50
Ellenboro, WV 26346

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.





Jay Bee
Oil & Gas
DRILLING
into the future

0 100' 200' 400'

Scale: 1"= 200'

dba. Fi
Denn
E-Mail:

4708510284 8

Seeding Mixture	Seeding Rate (lbs/acre)	Soil Drainage Preference	pH Range
Bluegrass/	20		
dtop/	3	Well – Mod. Well	5.5 - 7.5
lino Clover or Birdsfoot Trefoil	2 /10		
othy/	5		
alfa	12	Well – Mod. Well	6.5 - 8.0
othy/	5		
dsfoot Trefoil	8	Well - Poorly	5.5 - 7.5 8
chardgrass/	10		
lino Clover/	2	Well - Mod. Well	5.5 - 7.5
dtop	3		
chardgrass/	10		
lino Clover	2	Well - Mod. Well	5.5 - 7.5
chardgrass/	20		
erinial Ryegrass	10	Well - Mod. Well	5.5 - 7.5
eping Red Fescue/	30		
ennial Ryegra	10	Well - Mod. Well	5.5 - 7.5
hardgrass or Kentucky Bluegrass	20	Well - Mod. Well	6.0 - 7.5
dsfoot Trefoil/	10		
dtop/	5	Well - Mod. Well	5.5 - 7.5
hardgrass	20		
hco Flat Pea/	30		
ennial Ryegrass	20	Well - Mod. Well	5.5 - 7.5
hco Flat Pea/	30		
hardgrass	20	Well - Mod. Well	5.5 - 7.5

IV-5 Lime and Fertilizer Application Table

H of Soil	Lime in Tons Per Acre	Fertilizer, Lbs., per Acre 10-20-20- or Equivalent
Above 6.0	2	500
5.0 to 6.0	3	500
Below 5.0	4	500

H can be determined with a portable pH testing kit or by sending the soil samples to a soil testing laboratory. When 4 tons of ner acre are applied it must be incorporated into the soil by disking, backblading or tracking up and down the slope.

e IV-6 Mulch Materials Rates and Uses

Material	Minimum Rates Per Acre	Coverage	Remarks
y or Straw	2 to 3 Tons 100 to 150 Bales	Cover 75% to 90% of Surface	Subject to Wind blowing or washing unless tied down
ood Fiber lp Fiber ood-Cellulose circulated Paper	1000 to 1500 lbs	Cover all Disturbed Areas	For Hydroseeding

Table IV-1 **Recommended seeding dates** for permanent and temporary cover unless otherwise specified.

Planting Dates	Suitability
March 1 – April 15 and August 1 – October 1	Best seeding periods
April 15 – August 1	HIGH RISK -moisture stress likely
October 1 – Dec. 1	HIGH RISK - Freeze damage to young seedlings
Dec. 1 – March 1	Good seeding period. Dormant seeding.

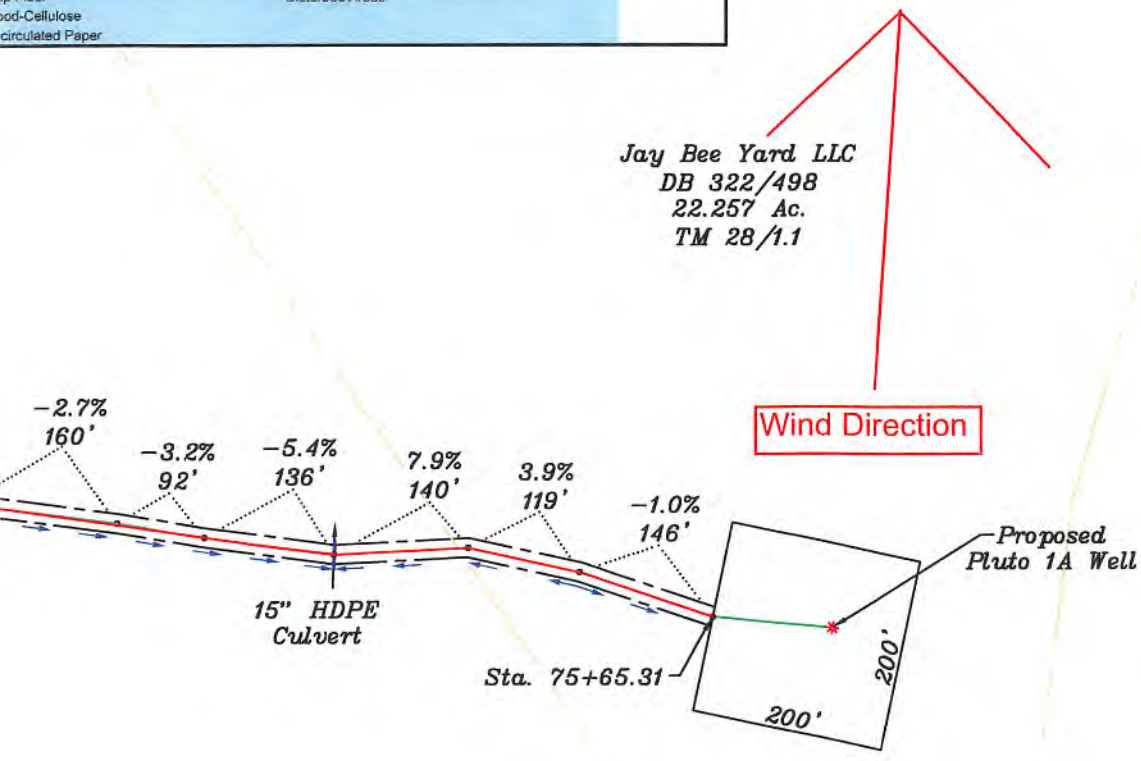
Table 2. **Acceptable fertilization recommendation** in absence of a soil test.

Species	N (lbs/ac)	P2O5 (lbs/ac)	K2O(lbs/ac)	Example Rec. (per acre)
Cool Season Grass	40	60	60	400 lbs. 10-20-20
CS Grass & Legume	30	60	60	300 lbs. 10-20-20
Temporary Cover	40	40	40	200 lbs. 19-19-19

Table 3. **Temporary cover** suitable for establishment in West Virginia.

Species	Seeding Rate (lbs/acre)	Optimum Seeding Dates	Drainage	pH Range
Annual Ryegrass	40	3/1 - 6/15 or 8/15 - 9/15	Well - Poorly	5.5 - 7.5
Field Bromegrass	40	3/1 - 6/15 or 8/15 - 9/15	Well – Mod. Well	6.0 - 7.0
Spring Oats	96	3/1 - 6/15	Well - Poorly	5.5 - 7.0
Sudangrass	40	5/15 - 8/15	Well - Poorly	5.5 - 7.5
Winter Rye	168	8/15 - 10/15	Well - Poorly	5.5 - 7.5
Winter Wheat	160	8/15 - 11/15	Well – Mod. Well	5.5 - 7.0
Japanese Millet	30	6/15 - 8/15	Well	4.5 - 7.0
Redtop	5	3/1 - 6/15	Well	4.0 - 7.5
Annual Ryegrass	26	3/1 - 6/15	Well – Poorly	5.5 - 7.5
Spring Oats	64	3/1 - 6/15	Well – Poorly	5.5 - 7.5

NOTE: These rates should be increased by 50% if planted April 15 – August 1 and October 1 – March 1.



her Engineering
L. Fisher, RPE
PO Box 281
lippi, WV 26416
: 304-677-4129
her Engineering@gmx.com

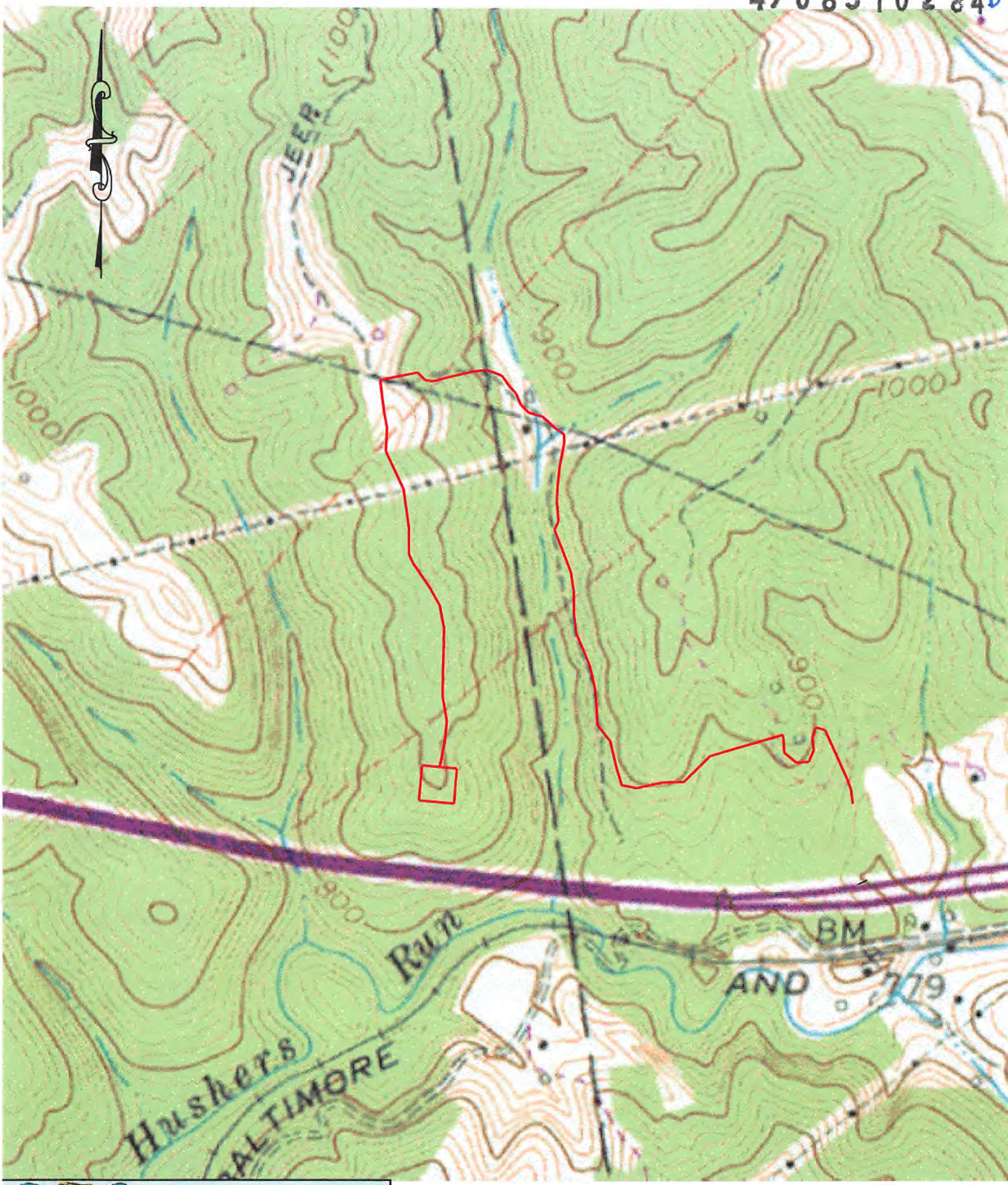
Jackson Surveying Inc.

PLUTO #1A WELL

677 W. Main St.
Clarksburg, Wv 26301

(4)

4708510264B



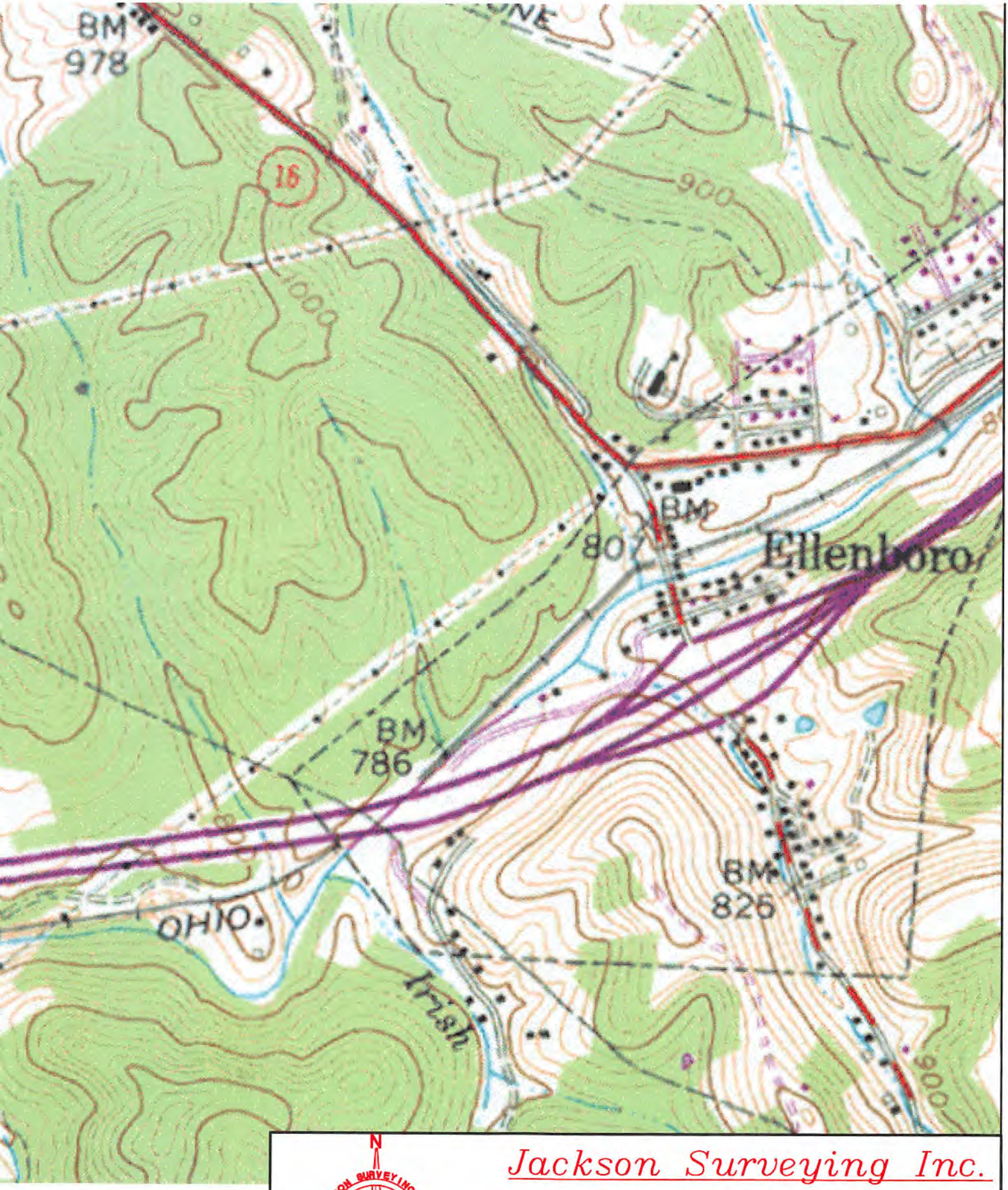
Jay Bee
Oil & Gas
DRILLING
into the future

0 350' 700' 1400'
Scale: 1"= 700'

dba. Fi
Denn

E-Mail:

5



er Engineering
L. Fisher, RPE
O Box 281
ppi, WV 26416
304-677-4129
Engineering@gmx.com

N
W
E
JACKSON SURVEYING, INC.
PROFESSIONAL SURVEYORS

677 W. Main St.
Clarksburg, Wv 26301

Jackson Surveying Inc.

PLUTO #1A TOPO