



 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

Monday, January 14, 2019

WELL WORK PLUGGING PERMIT
 Vertical Plugging

RESERVE OIL & GAS, INC.
 929 CHARLESTON ROAD

SPENCER, WV 252760000

Re: Permit approval for TIGNOR 1
 47-039-06022-00-00

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.

Upon completion of the plugging well work, the above named operator will reclaim the site according to the provisions of WV Code 22-6-30. Please be advised that form WR-38, Affidavit of Plugging and Filling Well, 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: TIGNOR 1
 Farm Name: TIGNOR, RODNEY
 U.S. WELL NUMBER: 47-039-06022-00-00
 Vertical Plugging
 Date Issued: 1/14/2019

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. All pits must be lined with a minimum of 20 mil thickness synthetic liner.
2. 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.
3. Well work activities shall not constitute a hazard to the safety of persons.

1) Date _____, 20____
2) Operator's Well No. Tignor # 1
3) API Well No. 47-39 - 0022

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

APPLICATION FOR A PERMIT TO PLUG AND ABANDON

4) Well Type: Oil ____ / Gas X / Liquid injection ____ / Waste disposal ____ /
(If "Gas, Production X or Underground storage ____) Deep ____ / Shallow ____

5) Location: Elevation 1072' Watershed Newhouse Branch
District Elk County Kanawha Quadrangle Big Chimney

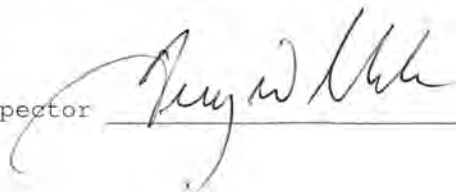
6) Well Operator Reserve Oil & Gas, Inc. 7) Designated Agent J. Scott Freshwater
Address 929 Charleston Road Address 929 Charleston Road
Spencer, WV 25276 Spencer, WV 25276

8) Oil and Gas Inspector to be notified Name Terry Urban
Address P.O. Box 1207
Clendenin, WV 25405
9) Plugging Contractor Name Contractor Services Inc. of WV
Address 929 Charleston Road
Spencer, WV 25276

10) Work Order: The work order for the manner of plugging this well is as follows:
See attached.

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NOV 13 2018
WV Department of
Environmental Protection

Notification must be given to the district oil and gas inspector 24 hours before permitted work can commence.

Work order approved by inspector  Date 11-13-18

Well Plugging Procedures for
Tignor #1 Well
API #47-39-6022

1. Move in, rig up. Blow down well to tank.
2. Rig up wire line truck, run in hole and shoot off 4 ½" pipe at nearest collar to 1656'. Pull pipe. **NOTE- Ran camera down hole on 10/25/18 and found 4 ½" pipe crushed at 1656'.**
3. Set cast iron bridge plug in 7" at cutpoint of 4 ½".
4. Load hole with water, run CBL to check for voids behind 7". Perforate if necessary.
5. Trip in hole with cement string and set solid cement plug in 7" from 1656' to surface. Trip out.
6. Set monument, move off, reclaim.

Arny W. Miller
11-13-18

May set plug then make cut & cement out

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Environmental Protection

State of West Virginia
Department of Environmental Protection
Office of Oil and Gas

Well Operator's Report of Well Work

Farm name: Rodney Tignor Operator Well No.: Tignor #1

LOCATION: Elevation: 1'072 Quadrangle: Big Chimney 7.5 01/18/2019

District: Elk County: Kanawha
Latitude: 11'640 Feet South of 38 Deg. 25 Min. 00 Sec.
Longitude 11'600 Feet West of 81 Deg. 35 Min. 00 Sec.

Company: Reserve Oil & Gas, Inc.

	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Address: <u>929 Charleston Road</u>	<u>13 3/8</u>	<u>20'</u>	<u>20'</u>	<u>cts</u>
<u>Spencer, WV 25276</u>	<u>9 5/8</u>	<u>352.60</u>	<u>352.60</u>	<u>115sks</u>
Agent: <u>J Scott Freshwater</u>	<u>7</u>	<u>2107.10</u>	<u>2107.10</u>	<u>120 sks</u>
Inspector: <u>Carlos Hively</u>	<u>4 1/2</u>	<u>5000.95</u>	<u>5000.95</u>	<u>170 sks</u>
Date Permit Issued: <u>08/03/07</u>				
Date Well Work Commenced: <u>08/14/07</u>				
Date Well Work Completed: <u>08/30/07</u>				
Verbal Plugging:				
Date Permission granted on:				
Rotary Cable Rig				
Total Depth (feet): <u>5011'</u>				
Fresh Water Depth (ft.): <u>60</u>				
Salt Water Depth (ft.): <u>1280</u>				
Is coal being mined in area (N/Y)? <u>No</u>				
Coal Depths (ft.): <u>None</u>				

OPEN FLOW DATA

Producing formation Devonian Shale Pay zone depth (ft) 2816-4972
Gas: Initial open flow 65 MCF/d Oil: Initial open flow None Bbl/d
Final open flow 168 MCF/d Final open flow None Bbl/d
Time of open flow between initial and final tests 24 Hours
Static rock Pressure 520 psig (surface pressure) after 72 Hours

Second producing formation _____ Pay zone depth (ft) _____
Gas: Initial open flow _____ MCF/d Oil: Initial open flow _____ Bbl/d
Final open flow _____ MCF/d Final open flow _____ Bbl/d
Time of open flow between initial and final tests _____ Hours
Static rock Pressure _____ psig (surface pressure) after _____ Hours

NOTE: ON BACK OF THIS FORM PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF ALL FORMATIONS INCLUDING COAL ENCOUNTERED BY THE WELLBORE.

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Office of Oil and Gas

Signed: _____
By: J. Scott Freshwater
Date: _____

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Well Name & Number: Tignor #1
County Kanawha
Elevation: 1072
Permit Number: 47-3906022

Estimated Depths

Sub : 0-10
Rock: 10-25
Sand w/ Shale 26-1192
Salt Sand 1192-1336
Maxton 1337-1768
Big Lime: 1767-2010
Injun: 2010-2070
Sand w/ Shale: 2070-5011

01/18/2019

Frac.

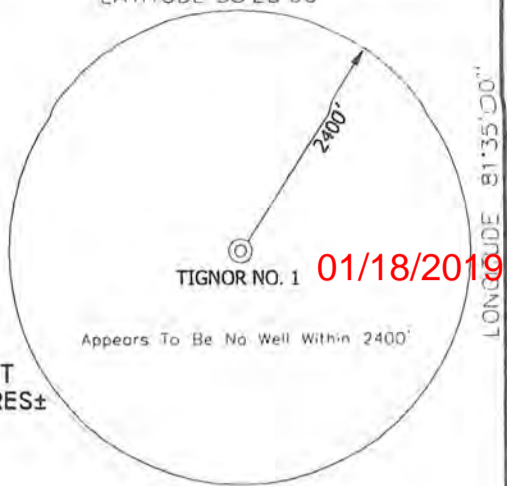
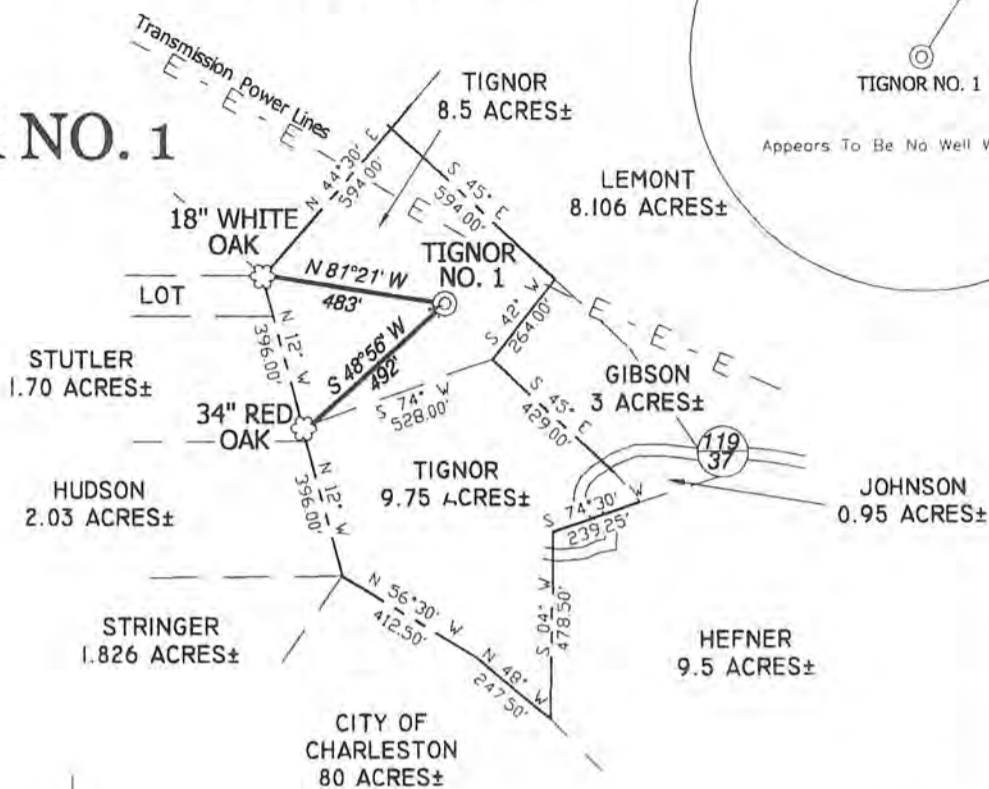
One (1) Stage
N2 Gas Frac. Acid 15% 57 Perforations
4013 to 4972

Two (2) Stage
N2 Gas Frac, Acid 15% 44 Perforations
2816 ft. to 3976 ft.

TIGNOR LEASE

18.25 ACRES±

TIGNOR NO. 1

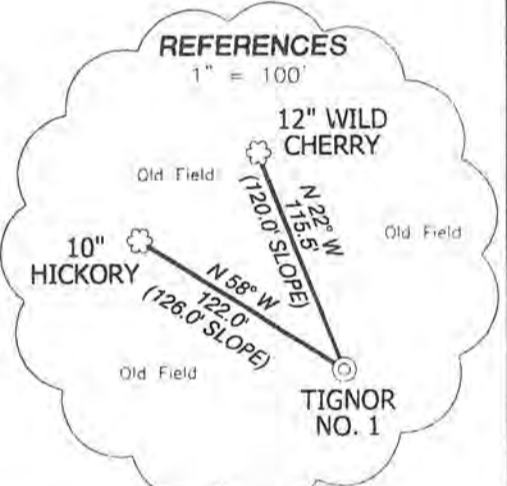


TIGNOR NO. 1
STATE PLANE
COORDINATES
(N) 504868
(E) 1821149

TIGNOR NO. 1
DECIMAL L & L
38.38486
81.62397

NOTES ON SURVEY

TIES TO WELLS AND CORNERS ARE BASED ON STATE PLANE GRID NORTH WV SOUTH ZONE NAD '27. TIES TO REFERENCES ARE BASED ON MAGNETIC NORTH 07-24-07. LEASE BOUNDARY SHOWN HEREON TAKEN FROM A DEED AT DEED BOOK 2323 AT PAGES 665 & 669 AND INFORMATION PROVIDED BY RESERVE OIL & GAS, INC. SURFACE OWNER AND ADJOINER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF KANAWHA COUNTY IN JULY, 2007 AND INFORMATION PROVIDED BY RESERVE OIL & GAS, INC. WELL LAT./LONG. ESTABLISHED BY DGPS(SUBMETER MAPPING GRADE).



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

P.S. 834

Doyle Hupp Jr.

HUPP Surveying & Mapping
P.O. Box 647 Grantsville, WV 26147
(304) 354-7035 EMAIL: hupp@frontiernet.net



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

DATE JULY 27, 2007

OPERATOR'S WELL NO. TIGNOR NO. 1

API WELL NO. 47-039-06022
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1/200 FILE NO. W1652 (BK 33-27)
PROVEN SOURCE OF ELEVATION DGPS (SUBMETER GRADE) SCALE 1" = 500'

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



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

LOCATION : ELEVATION 1,072' WATERSHED NEWHOUSE BRANCH
DISTRICT ELK COUNTY KANAWHA QUADRANGLE BIG CHIMNEY 7 5'

SURFACE OWNER RODNEY TIGNOR ACREAGE 8.5±
ROYALTY OWNER RODNEY TIGNOR LEASE ACREAGE 18.25±

PROPOSED WORK : LEASE NO. _____
DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION PLUG AND ABANDON CLEAN OUT AND REPLUG OTHER _____
PHYSICAL CHANGE IN WELL (SPECIFY) _____ TARGET FORMATION DEVONIAN SHALE
ESTIMATED DEPTH 5,000'

WELL OPERATOR RESERVE OIL & GAS, INC. DESIGNATED AGENT J. SCOTT FRESHWATER
ADDRESS 929 CHARLESTON ROAD SPENCER, WV 25276 ADDRESS 929 CHARLESTON ROAD SPENCER, WV 25276

COUNTY NAME PERMIT

WW-4A
Revised 6-07

1) Date: 11-13-18
2) Operator's Well Number
Tignor #1

3) API Well No.: 47 - 39 - 6022

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE OF APPLICATION TO PLUG AND ABANDON A WELL

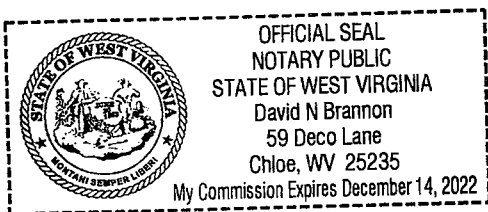
4) Surface Owner(s) to be served:	5) (a) Coal Operator
(a) Name <u>Reserve Oil & Gas, Inc.</u>	Name _____
Address <u>929 Charleston Road</u>	Address _____
<u>Spencer, WV 25276</u>	_____
(b) Name _____	(b) Coal Owner(s) with Declaration
Address _____	Name _____
_____	Address _____
(c) Name _____	Name _____
Address _____	Address _____
_____	_____
6) Inspector <u>Terry Urban</u>	(c) Coal Lessee with Declaration
Address <u>P.O. Box 1207</u>	Name _____
<u>Clendenin, WV 25405</u>	Address _____
Telephone <u>304-549-5915</u>	_____

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

- (1) The application to Plug and Abandon a Well on Form WW-4B, which sets out the parties involved in the work and describes the well its and the plugging work order; and
- (2) The plat (surveyor's map) showing the well location on Form WW-6.

The reason you received these documents is that you have rights regarding the application which are summarized in the instructions on the reverses side. However, you are not required to take any 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 permit to plug and abandon a well with the Chief of the Office of Oil and Gas, West Virginia Department of Environmental Protection, with respect to the well at the location described on the attached Application and depicted on the attached Form WW-6. Copies of this Notice, the Application, and the plat 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 mailing or delivery to the Chief.



Well Operator Reserve Oil & Gas, Inc. **RECEIVED**
 By: [Signature] **Office of Oil and Gas**
 Its: Vice President
 Address 929 Charleston Road
Spencer, WV 25276 **NOV 13 2018**
 Telephone 304-927-5228

WV Department of Environmental Protection

Subscribed and sworn before me this 12th day of November 2018
David N. Brannon Notary Public
 My Commission Expires December 14, 2022

Oil and Gas Privacy Notice

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

SURFACE OWNER WAIVER

Operator's Well
Number

Tignor #1

INSTRUCTIONS TO SURFACE OWNERS NAMED ON PAGE WW4-A

The well operator named on page WW-4A is applying for a permit from the State to plug and abandon a well. (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 **FIVE (5) 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.

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 Permit To Plug And Abandon on Forms WW-4A and WW-4B, and a survey plat.

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

FOR EXECUTION BY A NATURAL PERSON
ETC.

FOR EXECUTION BY A CORPORATION,

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Office of Oil and Gas

NOV 13 2018

WV Department of
Environmental Protection

Signature

Date

Name
By
Its

Reserve Oil & Gas, Inc.

[Signature]
Vice President

Date

Signature

Date

01/18/2019

WW-4B

API No. 47-39-06022 P
Farm Name Rodney Tignor
Well No. Tignor #1

**INSTRUCTIONS TO COAL OPERATORS
OWNERS AND LESSEE**

The well operator named on the obverse side of WW-4 (B) is about to abandon the well described in the enclosed materials and will commence the work of plugging and abandoning said well on the date the inspector is notified. Which date shall not be less than five days after the day on which this notice and application so mailed is received, or in due course should be received by the Department of Environmental Protection Office of Oil & Gas.

This notice and application is given to you in order that your respective representatives may be present at the plugging and filling of said well. You are further notified that whether you are represented or not the operator will proceed to plug and fill said well in the manner required by Section 24, Article 6, Chapter 22 of the Code and given in detail on obverse side of this application.

NOTE: If you wish this well to be plugged according to 22-6-24(d) then as per Regulation 35CSR4-13.9 you must complete and return to this office on form OB-16 "Request by Coal Operator, Owner, or Lessee for plugging" prior to the issuance of this plugging permit.

WAIVER

The undersigned coal operator ____ / owner ____ / lessee ____ / of the coal under this well location has examined this proposed plugging work order. 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.

Date: _____

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Office of Oil and Gas

By: _____ NOV 18 2018

Its _____
WV Department of
Environmental Protection

No known operator, owner,
or lessee of workable
coalbed/seam on this tract.

WW-9
(5/16)

API Number 47 - 39 - 6022
Operator's Well No. Tiger #1

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL AND GAS
FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name Reserve Oil & Gas, Inc. OP Code 310324

Watershed (HUC 10) Newhouse Branch Quadrangle Big Chimney

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

TU

If so, please describe anticipated pit waste: _____

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

Proposed Disposal Method For Treated Pit Wastes:

- Land Application (if selected provide a completed form WW-9-GPP)
- Underground Injection (UIC Permit Number _____)
- Reuse (at API Number _____)
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain _____)

Will closed loop system be used? If so, describe: N/A

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

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

Additives to be used in drilling medium? _____

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. N/A

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

-Landfill or offsite name/permit number? _____

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 April 1, 2016, 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 [Signature]
Company Official (Typed Name) J. Scott Freshwater
Company Official Title Vice President



Subscribed and sworn before me this 12th day of November, 2018

David N. Brannon Notary Public

My commission expires December 14, 2022

Proposed Revegetation Treatment: Acres Disturbed .5 Prevegetation pH 5.5

Lime 3 Tons/acre or to correct to pH 6.5

Fertilizer type _____

Fertilizer amount 0.25 lbs/acre

Mulch Hay 2 Tons/acre

Seed Mixtures

Temporary		Permanent	
Seed Type	lbs/acre	Seed Type	lbs/acre
Orchard Grass	<u>25</u>	Ladino Clover	<u>5</u>
Red Top Clover	<u>15</u>	KY 31	<u>40</u>
_____	_____	_____	_____

Attach:

Maps(s) of road, location, pit and proposed area for land application (unless engineered plans including this info have been provided). If water from the pit will be land applied, provide water volume, include dimensions (L, W, D) of the pit, and dimensions (L, W), and area in acres, of the land application area.

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: [Signature]

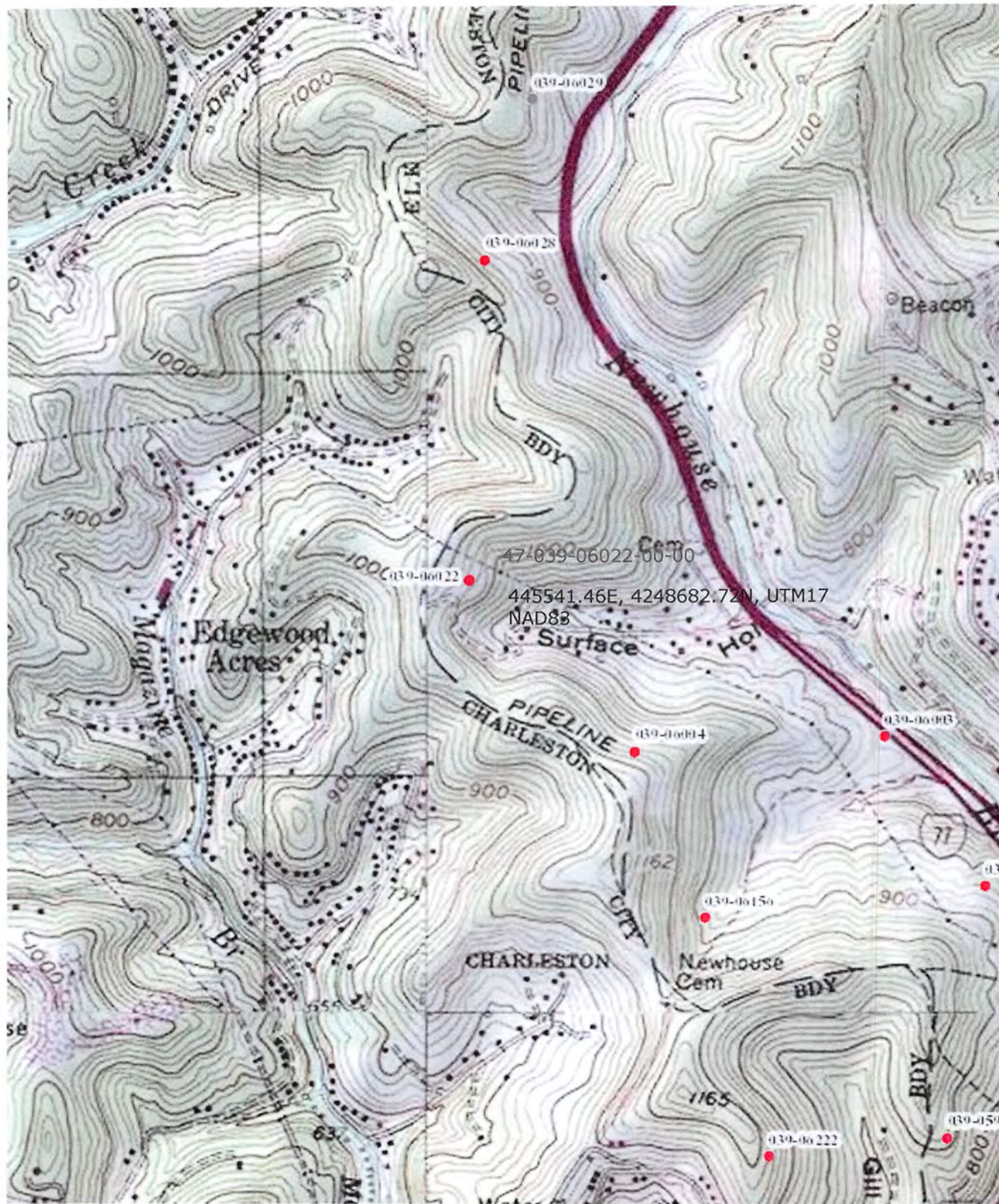
Comments: _____

Title: Inspector Delelos

Date: 11-13-18

Field Reviewed? Yes No

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NOV 13 2018
WV Department of
Environmental Protection



WW-7
8-30-06



West Virginia Department of Environmental Protection
Office of Oil and Gas
WELL LOCATION FORM: GPS

API: 47-39-6022 WELL NO.: Tignor #1
FARM NAME: Rodney Tignor
RESPONSIBLE PARTY NAME: Reserve Oil & Gas, Inc.
COUNTY: Kanawha DISTRICT: Elk
QUADRANGLE: Big Chimney
SURFACE OWNER: Reserve Oil & Gas, Inc.
ROYALTY OWNER: Reserve Oil & Gas, Inc.
UTM GPS NORTHING: 4248682.7
UTM GPS EASTING: 445541.5 E GPS ELEVATION: 1,072

The Responsible Party named above has chosen to submit GPS coordinates in lieu of preparing a new well location plat for a plugging permit or assigned API number on the above well. The Office of Oil and Gas will not accept GPS coordinates that do not meet the following requirements:

- 1. Datum: NAD 1983, Zone: 17 North, Coordinate Units: meters, Altitude: height above mean sea level (MSL) – meters.
- 2. Accuracy to Datum – 3.05 meters
- 3. Data Collection Method:

Survey grade GPS ____; Post Processed Differential ____

Real-Time Differential ____

Mapping Grade GPS ____; Post Processed Differential ____

Real-Time Differential ____

- 4. Letter size copy of the topography map showing the well location.

I the undersigned, hereby certify this data is correct to the best of my knowledge and belief and shows all the information required by law and the regulations issued and prescribed by the Office of Oil and Gas.

Gay Ogden
Signature

Land Manager
Title

11/12/18
Date

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