



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

Thursday, October 3, 2019
WELL WORK PLUGGING PERMIT
Vertical Plugging

ENERVEST OPERATING, L.L.C., A LIMITED LIABILITY COMPANY
1001 FANNIN STREET
SUITE 800
HOUSTON, TX 77002

Re: Permit approval for CATHERS 1 S-761
47-033-03652-00-00

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: CATHERS 1 S-761
Farm Name: FIREMAN, PAYTON D.
U.S. WELL NUMBER: 47-033-03652-00-00
Vertical Plugging
Date Issued: 10/3/2019

I

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.
4. This well is under a consent order and must be plugged under the terms of that agreement.

1) Date August 1, 2019
2) Operator's
Well No. Cathers #1 S-761
3) API Well No. 47-033 - 03652

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 X

5) Location: Elevation 1244' Watershed Simpson Fork
District Coal County Harrison Quadrangle Wolf Summit

6) Well Operator EnerVest Operating, L.L.C. 7) Designated Agent Barry K. Lay
Address 300 Capitol Street, Suite 200 Address Same
Charleston, WV 25301

8) Oil and Gas Inspector to be notified 9) Plugging Contractor
Name Sam Ward Name TBD
Address P.O. Box 2327 Address _____
Buckhannon, WV 26201

10) Work Order: The work order for the manner of plugging this well is as follows:
See Attached Plugging Procedure

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

Work order approved by inspector S. D. Ward Date 8/8/19

Cathers #1 (C. Cathers #1 S-761)
 API# 47-033-03652
 Elevation: 1251.5' KB - ?' KB
 Latitude: 39.289199
 Longitude: -80.41084

Cathers #1 Well Data

Casing: 8-5/8" 20 ppf Surface Csg @ 1282' KB - Cemented to Surface
 4-1/2" 10.5 ppf Production Csg @ 4633' KB - TOC Estimate 2638' (original 4-1/2") - Recomplete squeeze holes (4) at 2520'-2521' - Squeeze Job TOC Estimate 1700'-1800'
 No Tubing in well

TD: 4667'
 Latch Down: 4591'
 Perforations: 3327'-3331' KB, 4460'-4471' KB, 4520'-4524' KB
 Recomplete
 Perforations: 2000'-2060' KB, 2416'-2447' KB
 Coal: 23', 30', 204', 379'-382', 854'-858'
 Fresh Water: 119', 159', 304', 395', 489', 555', 735'
 Salt Water: 1505'

Cathers #1 Procedure:

1. Notify State Inspector, Sam Ward - (304)-389-7583 - Samuel.D.Ward@wv.gov, 24 hours prior to commencing operations.
2. Prep Cathers #1 location.
3. MIRU service rig, steel pits, work string of 5000' 2-3/8" EUE tbg, and other ancillary equipment.
4. Perform csg Freepoint test on 4-1/2". Compare to estimated TOC.
5. RIH w/ 2-3/8" work string to bottom, approx. 4657'.
6. PU 10' off bottom.
7. Use rig tank and pump or MIRU cement crew and circulate hole with 6% gel.
8. TOOH to 4504' and set 150' cement plug F/ 4504' T/ 4354' (perfs @ 4460'-4471' and 4520'-4524'). *WOC, TAC PLUG, ADD CEMENT IF NEEDED.*
9. TOOH to 4320' and ~~circulate hole with 6% gel.~~ *ADD GEL IF NEEDED, TO KEEP GEL ABOVE CEMENT.*
10. TOOH to 3311' and set 150' cement plug F/ 3311' T/ 3161' (perfs @ 3327'-3331'). *WOC, TAC PLUG, ADD CEMENT IF NEEDED.*
11. TOOH to 3130' and ~~circulate hole with 6% gel.~~ *ADD GEL IF NEEDED.*
12. TOOH to 2427' and set 150' cement plug F/ 2427' T/ 2277' (perfs @ 2416'-2447'). *WOC.*
13. TOOH to 2245' and ~~circulate hole with 6% gel.~~ *ADD GEL IF NEEDED.*
14. TOOH to 2040' and set 150' cement plug F/ 2040' T/ 1890' (perfs @ 2000'-2060'). *WOC*
15. TOOH to 1858' and ~~circulate hole with 6% gel.~~ *ADD GEL IF NEEDED.*
16. TOOH w/ 2-3/8" tbg.
17. RIH with 4-1/2" csg ripper and rip csg at Freepoint.
18. Once ripped, PU 3', break circulation and thru 4-1/2" csg set 150' cement plug 75' in/out of cut.
19. TOOH w/ 4-1/2" csg 30' about previous cement plug and circulate hole with 6% gel.
20. TOOH w/ 4-1/2" csg.

*SDW
8/8/19*

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21. MIRU perforaters and perforate all Oil, Coal, FW, and Gas shows below 8-5/8" csg. NONE KNOWN TO EXIST.
22. TIH with 2-3/8" work string to 1357' and set 225' cement plug F/ 1357' T/ 1132'. (75' below 8-5/8" shoe to 119' above elevation).
23. TOOH to 100' and circulate hole with 6% gel.
24. TOOH w/ 2-3/8" work string to 200' and set 200' cement plug F/ 200' T/ Surface (Surface Plug).
25. Erect a monument to WV DEP specifications (CSR 35-4-5.5 – sub "b").
26. Reclaim location and roads to WV DEP Specifications.

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ENERVEST

ENERVEST OPERATING, LLC

WELLBORE SCHEMATIC

Well Information:

Well Name:	Cathers #1	Partnership:	Harvest WV
County/State:	Harrison/WV	API Number:	47-033-03652
Township:		AFE Number:	
Target:		Cost Center:	472112001
Lat:	39.289199	Pool Code:	101
Long:	-80.41084	Logger's TD:	4667'

Surveys	Hole Size	Formations	Depths (KB)	SPUD DATE: TD DATE:	8/27/1989 9/4/1989	Casings	Cement	Shows
				Elevation: 1251.5'				8-5/8" 20 ppf surf. csg @1282' KB (TOC= surface) Primary: Lead - 300 sks 50/50 Poz w/ 2% CaCl2 w/ 1/8# flake/sk Tail - 50 sks Class A w/ 2% CaCl2
		Big Lime 1425' Big Injun 1476' Fifty Foot 1990' (28 Perfs: 2000'-2060') Fifth Sand 2416' (26 Perfs: 2416'-2447')						Well was recompleted in 2004. Cement squeeze done using 156 sks "Serflite" cement through 4 squeeze holes @ 2520'-2521'. Calculated TOC is 1800' w/ 10% excess.
		Balltown 3322' (12 Perfs: 3327'-3331')						
		Benson 4476' (16 Perfs: 4460'-4471')						
		Lower Benson 4500' (12 Perfs: 4520'-4524')						Primary: 355 sks 50/50 Poz w/ 2% gel, 10% salt 4-1/2" R-3 10.5 ppf prod. csg @ 4633' KB (Est. TOC = 2638')
	7 7/8" hole		4667'					

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Completion Information Target: Devonian Completion Date: 9/11/1989

Top Perforation (ft):	3327'	Frac Type/Fluid:	Air	Breakdown:	psi
Bottom Perforation (ft):	4524'	Foam Quality:		Pre-ISIP:	psi
No. of Shots:	40	BD Acid Volume:	gal.	MTP:	psi
Charge (gram):		Treatment Volume:	gal.	ATP:	psi
Perf Diameter:	0.39 in.	Sand mesh size	mesh	ISIP:	psi
Penetration:		Sand Volume	sacks	5-min SIP	psi
Phasing:		Ave. Treatment Rate:	bpm	10-min SIP	psi

Remarks: Perfs: Fifty Foot (2000'-2060'), Fifth Sand (2416'-2447'), Balltown (3327'-3331'), Benson (4460'-4471'), and Lower Benson (4520'-4524'). Coal @ 23', 30', 204', 379'-382', 714', and 854'-858'. FW @ 119', 159', 304', 395', 489', 555', and 735'. Salt Water @ 1505'.

WR-35

18-Aug-
API # 47- 33-03652

State of West Virginia
DEPARTMENT OF ENERGY
Division of Oil and Gas

Well Operator's Report of Well Work

Farm name: GOFF, NATHAN III ESTATE Operator Well No.: CATHERS 1-S-761

LOCATION: Elevation: 1244.00 Quadrangle: WOLF SUMMIT

District: COAL County: HARRISON
Latitude: 1035 Feet South of 39 Deg. 17Min. 30 Sec.
Longitude 10100 Feet West of 80 Deg. 22 Min. 30 Sec.

Company: SCOTT OIL COMPANY
P.O. BOX 112
SALEM, WV 26462-0112

Agent: JOHN T. HASKINS

Inspector: STEVE CASEY
Permit Issued: 08/18/89
Well work Commenced: 08/27/89
Well work Completed: 09/04/89
Verbal Plugging
Permission granted on:
Rotary Cable _____ Rig
Total Depth (feet) 4667
Fresh water depths (ft) 395

Salt water depths (ft) None reported

Is coal being mined in area (Y/N)? N
Coal Depths (ft): 23, 30, 204, 714

Casing & Tubing	Used in Drilling	Left in Well	Cement Fill Cu.
Size			
8 5/8	1282	1282	to sur
4 1/2	4633	4633	355 s

OPEN FLOW DATA

Producing formation L. Benson, Benson, Balltown Pay zone depth (ft) _____
Gas: Initial open flow _____ MCF/d Oil: Initial open flow _____ E
Final open flow 375 MCF/d Final open flow _____ E
Time of open flow between initial and final tests _____ I
Static rock Pressure 1265 psig (surface pressure) after _____ I

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

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

For: SCOTT OIL COMPANY

By: John Haskins
Date: 08/12/89

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Office of Oil & Gas
Chief of Office
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Balltown	3327	3331	12 holes	5,000# 80/100 40,000# 20/40	446 bbls H2O
Benson	4460	4471	16 holes	5,000# 80/100 55,000# 20/40	548 bbls H2O
Lower Benson	4520	4524	12 holes	5,000# 80/100 25,000# 20/40	314 bbls H2O

Soil	0	10	
Shale	10	20	
Coal	20	23	
Shale	23	30	
Coal	30	33	
Shale	33	204	
Coal	204	208	
Sand & Shale	209	714	1/2 stream H2O @ 395
Coal	714	718	
Sand & Shale	718	1454	
Big Lime	1454	1530	
Sand & Shale	1530	3322	
Balltown	3322	3370	
Sand & Shale	3370	4476	
Benson	4476	4500	
Sand & Shale	4500	4667	TI

Gamma Ray

Big Lime	1425	1476
Big Injun	1476	1590
5th Sand	2412	2460
Speechley	3126	3146
Balltown	3322	3374
Benson	4473	4457

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47-033-03652P



Select County: (033) Harrison
Select datatypes: (Check All)
Enter Permit #: 03652
Get Data Reset

- Table Descriptions
County Code Translations
Permit Numbering Series
Usage Notes
Contact Information
Disclaimer
WVGES Main
Pipeline-Plus New

WV Geological & Economic Survey:

Well: County = 33 Permit = 03652

Report Time: Thursday, February 14, 2019 10:45:39 AM

Location Information: View Map

Table with columns: API, COUNTY, PERMIT, TAX, DISTRICT, QUAD_75, QUAD_15, LAT_DD, LON_DD, UTM_E, UTM_N

There is no Bottom Hole Location data for this well

Owner Information:

Table with columns: API, CMP_DT, SUFFIX, STATUS, SURFACE_OWNER, WELL_NUM, CO_NUM, LEASE, LEASE_NUM, MINERAL_OWN, OPERATOR_AT_COMPLETION, PROP_VD, PROP_TRGT_FM, TFM_EST_PR

Completion Information:

Table with columns: API, CMP_DT, SPUD_DT, ELEV, DATUM, FIELD, DEEPEST_FM, DEEPEST_FMT, INITIAL_CLASS, FINAL_CLASS, TYPE, RIG, CMP_MTHD, TVD, TMD, NEW_FTG, ROD, G_BEF, G_AFT, O_BEF

Pay/Show/Water Information:

Table with columns: API, CMP_DT, ACTIVITY, PRODUCT, SECTION, DEPTH_TOP, FM_TOP, DEPTH_BOT, FM_BOT, G_BEF, G_AFT, O_BEF, O_AFT, WATER_QNTY

Production Gas Information: (Volumes in Mcf) * 2018 data are incomplete at this time

Table with columns: API, PRODUCING_OPERATOR, PRD_YEAR, ANN_GAS, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DCM

Production Oil Information: (Volumes in Bbl) ** some operators may have reported NGL under Oil * 2018 data are incomplete at this time

Table with columns: API, PRODUCING_OPERATOR, PRD_YEAR, ANN_OIL, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DCM

Production NGL Information: (Volumes in Bbl) ** some operators may have reported NGL under Oil * 2018 data are incomplete at this time

Table with columns: API, PRODUCING_OPERATOR, PRD_YEAR, ANN_NGL, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DCM

Production Water Information: (Volumes in Gallons) * 2018 data are incomplete at this time

Table with columns: API, PRODUCING_OPERATOR, PRD_YEAR, ANN_WTR, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DCM

Stratigraphy Information:

Table with columns: API, SUFFIX, FM, FM_QUALITY, DEPTH_TOP, DEPTH_QUALITY, THICKNESS, THICKNESS_QUALITY, ELEV, DATUM

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47-033-03652P

4703303652	Original Loc	Big Lime	Drillers E-log pick	1425	Reasonable	51	Reasonable	1244	Ground Level
4703303652	Original Loc	Big Injun (Gmbr)	Drillers E-log pick	1476	Reasonable	114	Reasonable	1244	Ground Level
4703303652	Original Loc	Fith	Drillers E-log pick	2412	Reasonable	48	Reasonable	1244	Ground Level
4703303652	Original Loc	Speechley	Drillers E-log pick	3126	Reasonable	20	Reasonable	1244	Ground Level
4703303652	Original Loc	Balltown	Drillers E-log pick	3322	Reasonable	52	Reasonable	1244	Ground Level
4703303652	Original Loc	Benson	Drillers E-log pick	4473	Reasonable	0	Reasonable	1244	Ground Level

Wireline (E-Log) Information:

API	LOG_TOP	LOG_BOT	DEEPEST_FML	LOGS_AVAIL	SCAN	DIGITIZED	GR_TOP	GR_BOT	D_TOP	D_BOT	N_TOP	N_BOT	L_TOP	L_BOT	T_TOP	T_BOT	S_TOP	S_BOT	O_TOP	O_BOT	INCH2	INCH5	
4703303652	1290	4667		G,D,T,C;	Y	N	1290	4666	1290	4666					1290	4664				1290	4665	Y	Y

Comment: *logs:ccl, ppt, amplitude, tt

Downloadable Log Images: We advise you to save the log image file to your PC for viewing. To do so, right-click the .tif image of interest and select the save option. Then you can direct the file to a location of your choice. Please note these images vary in size and some may take several minutes to download, especially if using a 56k or slower dialup connection.

Quick Reference Guide for Log File Names For more info about WVGES scanned logs click [here](#)

geologic log types:

- d density (includes bulk density, compensated density, density, density porosity, grain density, matrix density, etc.)
- e photoelectric adsorption (PE or Pe, etc.)
- g gamma ray
- i induction (includes dual induction, medium induction, deep induction, etc.)
- l laterolog
- m dipmeter
- n neutron (includes neutron porosity, sidewall neutron-SWN, etc.)
- o other¹
- s sonic or velocity
- t temperature (includes borehole temperature, BHT, differential temperature, etc.)
- z spontaneous potential or potential

mechanical log types:

- b cement bond
- c caliper
- o other¹
- p perforation depth control or perforate

¹other logs may include, but are not limited to, such curves as audio, bit size, CCL-casing collar locator, continuous meter, directional survey, gas detector, guard, NCTL-Nuclear Cement Top Locator, radioactive tracer, tension

There is no Plugging data for this well

There is no Sample data for this well

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WW-4A
Revised 6-07

1) Date: August 1, 2019
2) Operator's Well Number
Cathers #1 S-761
3) API Well No.: 47 - 033 - 03652

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>Payton Despard Fireman</u>	Name _____
Address <u>1380 Fenwick Avenue</u>	Address _____
<u>Morgantown, WV 26505-2165</u>	
(b) Name _____	(b) Coal Owner(s) with Declaration
Address _____	Name _____
	Address _____
(c) Name _____	Name _____
Address _____	Address _____
6) Inspector <u>Sam Ward</u>	(c) Coal Lessee with Declaration
Address <u>P.O. Box 2327</u>	Name _____
<u>Buckhannon, WV 26201</u>	Address _____
Telephone <u>304-389-7583</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	<u>EnerVest Operating, L.L.C.</u>
	By:	<u>Barry K. Lay</u> <i>Barry K. Lay</i>
	Its:	<u>Senior Vice President and General Manager</u>
	Address	<u>300 Capitol Street, Suite 200</u> <u>Charleston, WV 25301</u>
	Telephone	<u>304-343-5505</u>

Subscribed and sworn before me this 6th day of August 2019
[Signature] Notary Public
My Commission Expires May 3, 2022

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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 depprivacyoffier@wv.gov.

47-033-03652P

WW-9
(5/16)

API Number 47 - 033 - 03652
Operator's Well No. _____

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

Operator Name EnerVest Operating, L.L.C. OP Code 30-9999
Watershed (HUC 10) Simpson Fork Quadrangle Wolf Summit

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: No Pit To Be Built (Portable Containment Equipment)

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

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 No Pit To Be Built. Any well effluent will be contained in tanks and properly disposed offsite.)

SDW
8/8/19

Will closed loop system be used? If so, describe: _____

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

-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. At discretion of Contractor.

-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.

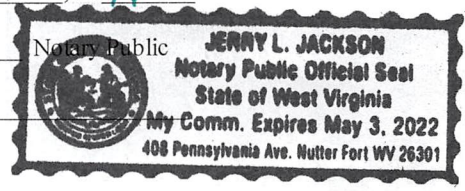
I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is 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 Barry K. Lay
Company Official (Typed Name) Barry K. Lay
Company Official Title Senior Vice President and General Manager

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Subscribed and sworn before me this 6th day of August, 2019

Jerry L. Jackson
My commission expires May 3, 2022



Proposed Revegetation Treatment: Acres Disturbed 2.00 Prevegetation pH 6.5

Lime according to ph test Tons/acre or to correct to pH 7.0

Fertilizer type 10-20-20

Fertilizer amount 500 lbs/acre

Mulch Hay or Straw 2 Tons/acre

Seed Mixtures

Temporary		Permanent	
Seed Type	lbs/acre	Seed Type	lbs/acre
Orchard Grass	25	Orchard Grass	25
Birdsfoot Trefoil	15	Birdsfoot Trefoil	15
Ladino Clover	10	Ladino Clover	10

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: Land Manager [Signature]

Date: 8/8/19
8/01/2019

Field Reviewed? () Yes (X) No

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N/A

WW-9- GPP
Rev. 5/16

Page 1 of 2
API Number 47 - 033 - 03652
Operator's Well No. _____

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

Operator Name: EnerVest Operating, L.L.C.
Watershed (HUC 10): Simpson Fork (Limestone Run) Quad: Wolf Summit
Farm Name: _____

1. List the procedures used for the treatment and discharge of fluids. Include a list of all operations that could contaminate the groundwater.

Plugging of shallow well. All residual fluids will be captured in portable flowback tanks for proper disposal.

2. Describe procedures and equipment used to protect groundwater quality from the list of potential contaminant sources above.

Plugging of shallow well. All residual fluids will be captured in portable flowback tanks for proper disposal.

3. List the closest water body, distance to closest water body, and distance from closest Well Head Protection Area to the discharge area.

Closest Water Body: Limestone Run 1,100' +

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4. Summarize all activities at your facility that are already regulated for groundwater protection.

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Environmental Protection

5. Discuss any existing groundwater quality data for your facility or an adjacent property.

N/A

6. Provide a statement that no waste material will be used for deicing or fill material on the property.

7. Describe the groundwater protection instruction and training to be provided to the employees. Job procedures shall provide direction on how to prevent groundwater contamination.

8. Provide provisions and frequency for inspections of all GPP elements and equipment.

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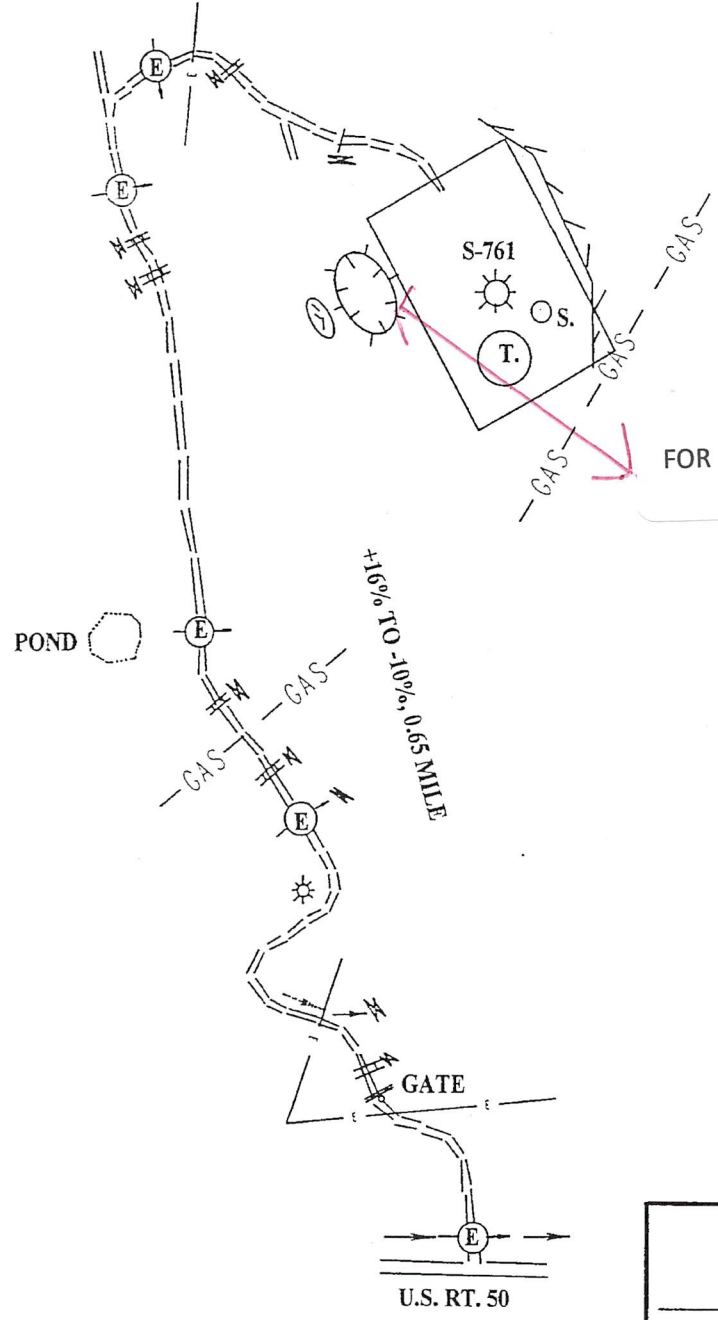
Signature: 

Date: 8/8/2019

SURFACE OWNER: 33-03652

PAYTON D. FIREMAN
1425 SARATOGA AVE.
MORGANTOWN, WV 26505

NORTH



FOR PLUGGING NO PITTS WILL BE BUILT

THIS PLAN IS FOR THE REWORK OF AN EXISTING GAS WELL. ENTIRE LENGTH OF ACCESS ROAD IS EXISTING WELL ROAD. ROCK WILL BE USED WHERE NECESSARY.

DRAWINGS TO ACCOMPANY FORM WW-9

ENERVEST OPERATING, LLC

P. O. DRAWER 1878

CLARKSBURG, WV 26302

WATERSHED: SIMPSON FORK

DISTRICT: COAL COUNTY: HARRISON

QUADRANGLE: WOLF SUMMIT WELL NO.: S-761

DATE: 05/12/04 PAGE of

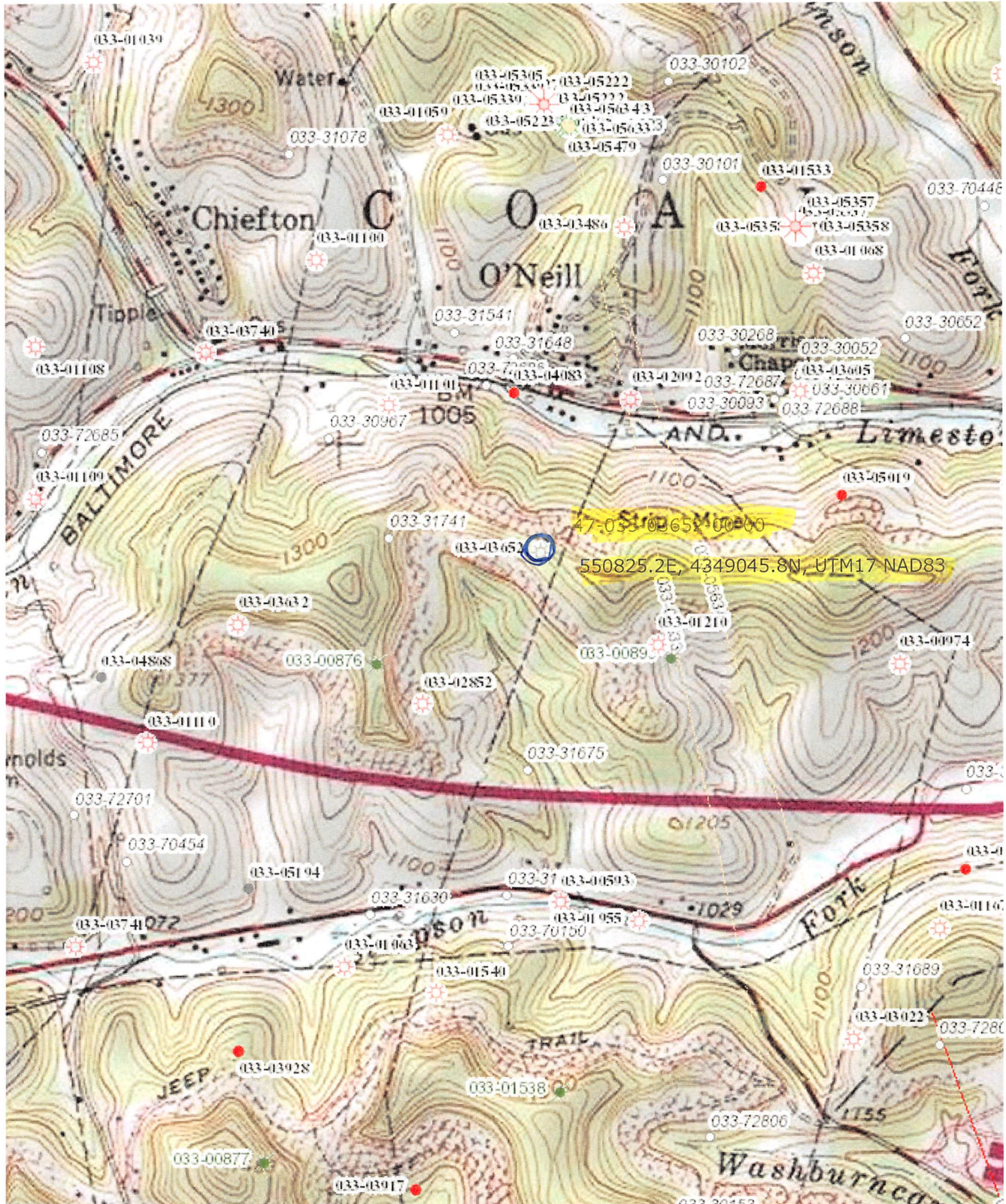
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LAND SURVEYING SERVICES
21 CEDAR LANE
BRIDGEPORT, WV 26330
PHONE: 304-842-2018 OR 5762



47-033-03652 P

WW-7
8-30-06



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

API: 47-033-03652 WELL NO.: Cathers #1 S-761

FARM NAME: Nathan Goff III

RESPONSIBLE PARTY NAME: Jerry L. Jackson

COUNTY: Harrison DISTRICT: Coal

QUADRANGLE: Wolf Summit

SURFACE OWNER: Payton Despard Fireman

ROYALTY OWNER: H. Goff Porter

UTM GPS NORTHING: 4349045.8

UTM GPS EASTING: 550825.2 GPS ELEVATION: 1244'

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.

Signature

Land Manager
Title

8/01/2019
Date

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Environmental Protection