west virginia department of environmental protection

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

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

June 30, 2015

WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-10301540, issued to AMERICAN ENERGY-MARCELLUS, LLC, is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to all conditions and provisions outlined in the pages attached hereto. Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas inspector.

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. The above named operator will also file, as required in WV Code 22-6-23, an affidavit on form WR-38 by two experienced persons in the operator's employment and the Oil and Gas inspector that the work authorized under this permit was performed and a description given. Failure to abide by all statutory and regulatory provisions governing all duties and operations here under may result in suspensions or revocation of this permit and in addition may result in civil and/or criminal penalities being imposed upon the operator.

This permit will expire in two (2) years from date of issue. If there are any questions, please free to contact me at (304) 926-0499 ext. 1654.

James Martin
Chief

Operator's Well No: F. L. HOGE H-14
Farm Name: WVA. PUBLIC LAND CORP.
API Well Number: 47-10301540
Permit Type: Plugging
Date Issued: 06/30/2015

1030154OP

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.

10301540P

WW-4B
Rev. 2/01

1) Date February 27, 2015
2) Operator's Well No. F.L. Hoge H-14
3) API Well No. 47- 103 - 01540

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 X / Gas X / Liquid injection ____ / Waste disposal ____ /
(If "Gas, Production ____ or Underground storage ____) Deep ____ / Shallow X

5) Location: Elevation 1353' Watershed Fishing Creek
District Green County Wetzel Quadrangle Center Point

6) Well Operator American Energy - Marcellus, LLC
Address 3501 NW 63rd
Oklahoma City, OK 73116

7) Designated Agent Eric Gillespie
Address 103 Taryn Lane
Cross Lanes, WV 25313

8) Oil and Gas Inspector to be notified
Name Derek Haught
Address P.O. Box 85
Smithville, WV 26178

9) Plugging Contractor
Name To be determined upon approval of permit.
Address ____

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

See attached plugging procedure and schematic.

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

Work order approved by inspector _____ Date 4-28-15

1030154OP

AMERICAN ENERGY
MARCELLUS

April 27, 2015

West Virginia Department of Environmental Protection
Mr. Jeff McLaughlin
601 57th Street, SE
Charleston, WV 25304

Re: Monument Variance Request
F.L. Hoge H-14

Dear Mr. McLaughlin,

American Energy – Marcellus, LLC (AEM) respectfully requests a Plug and Abandoned Well Monument Variance for the F.L. Hoge H-14 in Wetzel County, West Virginia. AEM requests the authority to cut the wellbore 3 feet below the surface of the roadway.

AEM makes this request in order to proceed with constructing a Marcellus drill site from which to drill the Wiley N GRN WZ 1H, 2H, 3H, 4H, 5H, 6H, 7H, and 8H. The F.L. Hoge H-14 is along the access road to the Marcellus drill site. AEM requests this variance to ensure safety of the environment, employees, and contractors of AEM. Permits to drill these 6A wells were submitted to the West Virginia Department of Environmental Protection, Office of Oil and gas March 13th, 2015.

I have included our proposed construction plans, a location exhibit, and a plug and abandon well survey for your review.

If you need any additional information, please feel free to contact me.

Best Regards,

Trent Carroll
Sr. Regulatory Analyst
trent.carroll@aep-lp.com
Cell 405-693-4931
Office 405-607-5476

RECEIVED
Office of Oil and Gas

APR 28 2015

WV Department of
Environmental Protection

Cc: Derek Haught, Inspector
Coastal Lumber Company, Certified Mail

☆ MONUMENT VARIANCE

1030154OP

The Office of Oil and Gas is ~~considering~~ granting a general variance to the requirements under 35CSR4-5.5b of erecting a monument upon the plugging of certain wells. If granted, the following conditions will be met:

1) the well will be surveyed and a plat constructed as required under 22-6 of the WV Code and 35CSR4,
2) a readily visible, permanent offset marker, in as close proximity as reasonably possible, will be erected and will provide distance and bearing information to the plugged well,
3) the plugging affidavit (form WR-38), will document the absence of a monument at the well location and document the existence and location of the offset marker,
4) a steel plate no smaller that one square foot shall be affixed to the well casing no deeper than three feet below the ground surface and be inscribed with the api number of the well.

To qualify under the general variance, an operator may make a variance request to the Chief of the Office of Oil and Gas for a specific well(s) in conjunction with a showing of good cause by the surface owner.

10301540P

WV – Wetzel – Stringtown Field – HOGE, F L H-14 – API No. 47-103-01540

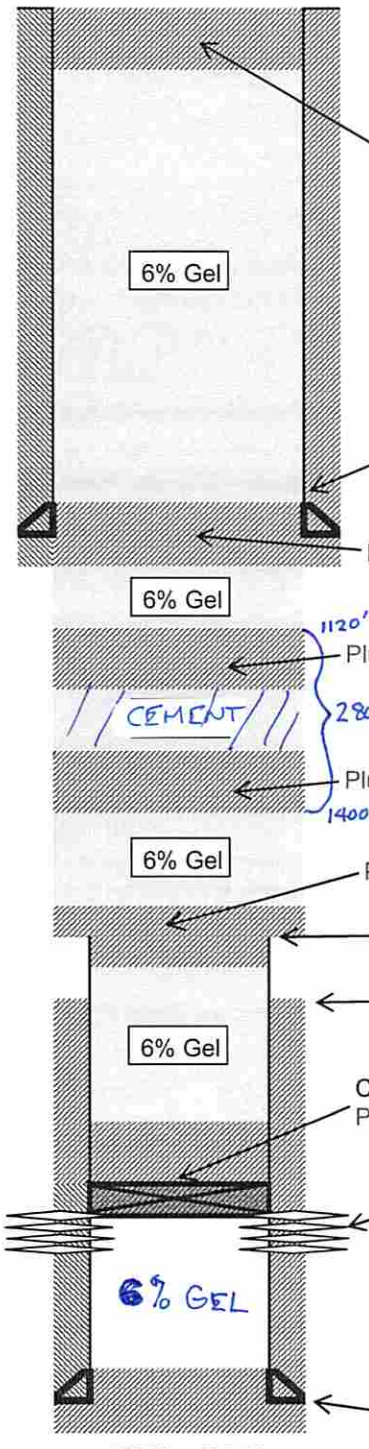
American Energy Marcellus

HOGE, F L H-14 - Proposed WBD

Permit Number 47-103-01540

Wetzel County, WV – Stringtown Field

* LOAD BOTTOM HOLE WITH ENOUGH GEL SO THAT GEL WILL BE IN THE CASING BELOW THE CIBP. JNM



Plug #6: 250' - 0', ~ 76 sks (16 bbls) of Class A + 2% CaCl cement

12-1/2" Bit drilled to 26'
11" Bit drilled from 26' to 493'
Ran 14 jts (606') of 8-5/8", H-40, 20#/ft, casing (set at 616' KB)
Cemented w/ 50 sks 3% Ca Cl, 2% gel, 1/4# FloCele, 150 sxs.
STD 3% CaCl, 1/4# Flocele. Good circulation.

Plug #5: 656' - 556', ~58 sks (12 bbls) of Class A + 2% CaCl cement

Plug #4: 1220' - 1120', ~ 43 sks (9 bbls) of Class A + 2% CaCl cement

Plug #3: 1400' - 1300', ~ 43 sks (9 bbls) of Class A + 2% CaCl cement

COMBINE PLUG 3 & 4, FROM 1120' TO 1400'. JNM

Plug #2: 1770' - 1620', ~47 sks (10 bbls) Class A + 2% CaCl cement

Freepoint, cut & pull 4-1/2", est. 1720'

TOC = 2148' KB (est. w/ 75% eff.)

CIBP set at 3220'
Plug #1: 3220' - 3020', ~17 sks (4 bbls) Class A cement

Perforated Gordon at 3246'- 3254' with 2 holes/ft (16 holes). Treated Gordon perforations via 4 1/2" casing w/ 300 gals 15% HCl acid; 297 bbl gel water & 1500# of 80/100 sand & 3500# of 20/40 sand.

4 1/2" casing (set at 3313.8'), 10.5#/ft, J-55, R-3. Cement w/ 5 bbls. SAP, 300 sks, 50/50 Pozmix w/ 2% gel, 2% CC, 1/8# CelFlake/sk.
Pressure test csg to 2000 psi for 20 min.
Cleaned out to 3276" in April 2014 workover
7-7/8" Bit drilled to 3336'

PBTD = 3276'

TD = 3336'

10301540 P

API # 47-103-01540 S

State of West Virginia
Division of Environmental Protection
Section of Oil and Gas

Well Operator's Report of Well Work

Farm name: WVA. PUBLIC LAND CORP. Operator Well No.: F.L. HOGE H-14

LOCATION: Elevation: 1,359.00 Quadrangle: CENTER POINT

District: GREEN County: WETZEL
Latitude: 9250 Feet South of 39 Deg. 30Min. Sec.
Longitude 7200 Feet West of 80 Deg. 40 Min. Sec.

Company: PENNZOIL PRODUCTS COMPANY
P. O. BOX 5519
VIENNA, WV 26105-5519

Agent: JAMES A. CREWS

Inspector: RANDAL MICK
Permit Issued: 05/12/93
Well work Commenced: 08/23/93
Well work Completed: 09/16/93
Verbal Plugging
Permission granted on: _____
Rotary X Cable _____ Rig
Total Depth (feet) 3336
Fresh water depths (ft) N/A

Salt water depths (ft) N/A

Is coal being mined in area (Y/N)? N
Coal Depths (ft): N/A

Casing & Tubing	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
Size			
8-5/8"	606'	606'	200 sks.
4-1/2"	3313.80'	3313.80'	300 sks.

OPEN FLOW DATA (Water Injection Well)

Producing formation Gordon Pay zone depth (ft) 3240-3285
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

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.

For: PENNZOIL PRODUCTS COMPANY

By: Timothy P. Roush, Suppervisor - Surveying/Mapping
Date: September 15, 1993

10301540P

Treatment

Perforated: Gordon from 3246' - 3254' (16 holes)

Treated: w/290 bbls. of gelled water, 1500# of 80/100 sand and 3500# of 20/40 sand.

Well Log

Sand & Shale	0 - 674
Shale	674 - 795
Sand	795 - 822
Shale	822 - 904
Limestone & Shale	904 - 1008
Limestone	1008 - 1056
Shale	1056 - 1174
Limestone	1174 - 1184
Sand & Shale	1184 - 1394
Shale	1394 - 1594
Sand	1594 - 1650
Shale	1650 - 1775
Sand	1775 - 1838
Sand & Shale	1838 - 1980
Sand	1980 - 2010
Sand & Shale	2010 - 2205
Sand	2205 - 2236
Shale	2236 - 2364
Little Lime	2364 - 2377
Shale	2377 - 2390
Blue Monday	2390 - 2410
Big Lime	2410 - 2464
Big Injun	2464 - 2650
Shale	2650 - 3240
Gordon	3240 - 3285
Total Depth	3390'

1030154OP

WW-4A
Revised 6-07

1) Date: 4/27/15
2) Operator's Well Number
F.L. Hoge H-14

3) API Well No.: 47 - 103 - 01540

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE 0F APPLICATION TO PLUG AND ABANDON A WELL

4) Surface Owner(s) to be served:
(a) Name: Coastal Lumber Company ✓
Address: P.O. Box 979
Buckhannon, WV 26201
(b) Name:
Address:
(c) Name:
Address:

6) Inspector: Derek Haught
Address: P.O. Box 85
Smithfield, WV 26178
Telephone: 304-306-7613

5) (a) Coal Operator
Name:
Address:
(b) Coal Owner(s) with Declaration
Name:
Address:
Name:
Address:
(c) Coal Lessee with Declaration
Name:
Address:

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: American Energy - Marcellus, LLC
By: Trent L Carroll
Its: Senior Regulatory Analyst
Address: 3501 NW 63rd
Oklahoma City, OK 73116
Telephone: 405-607-5476

Subscribed and sworn before me this 27th day of February

Notary Public

My Commission Expires 1/23/18

AMBER KOLLOCK NOTARY PUBLIC # 14000742 EXP. 01/23/18 STATE OF OKLAHOMA

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.

10301540P

7014 2870 0000 8214 9496

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

BUCKHANNON WV 26201

OFFICIAL USE

Postage	$ $0.49	0029
Certified Fee	$3.30	05
Return Receipt Fee (Endorsement Required)	$2.70	Postmark Here
Restricted Delivery Fee (Endorsement Required)	$0.00	FEB 17 2015 OKLAHOMA CITY, OK
Total Postage & Fees	$ $6.49	02/17/2015

Sent To: Coastal Lumber Company
Street & Apt. No., or PO Box No.: PO Box 979
City, State, ZIP+4: Buckhannon, WV 26201

PS Form 3800, July 2014 — See Reverse for Instructions

RECEIVED
Office of Oil and Gas

APR 28 2015

WV Department of
Environmental Protection

10301540 P

WW-9
(9/13)

API Number 47 - 103 - 01540
Operator's Well No. F.L. Hoge H-14

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name American Energy - Marcellus, LLC OP Code 494510050

Watershed (HUC 10) Fishing Creek Quadrangle Center Point

Elevation 1353' County Wetzel District Green

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 ☑

ANY WELL EFFLUENT MUST BE CONTAINED IN TANKS AND DISPOSED OF PROPERLY. DMH

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: DMH 4-28-15

_____ Land Application
_____ Underground Injection (UIC Permit Number _____)
_____ Reuse (at API Number _____)
_____ Off Site Disposal (Supply form WW-9 for disposal location)
■ Other (Explain No expected waste to dispose other than produced water.

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? N/A

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? N/A

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 Trent L. Carroll

Company Official (Typed Name) Trent L. Carroll

Company Official Title Sr. Regulatory Analyst

Subscribed and sworn before me this 27th day of April, 20 15

Notary Public

My commission expires 1/23/18

AMBER KOLLOCK NOTARY PUBLIC # 14000742 EXP. 01/23/18 STATE OF OKLAHOMA

10301540P

Form WW-9

Operator's Well No. F.L. Hoge H-14

American Energy - Marcellus, LLC

Proposed Revegetation Treatment: Acres Disturbed 0.7 acres Prevegetation pH _____

Lime 2 Tons/acre or to correct to pH 6.5

Fertilizer type 10-20-20

Fertilizer amount 500 lbs/acre

Mulch Straw 2 Tons/acre

Seed Mixtures

Temporary		Permanent	
Seed Type	lbs/acre	Seed Type	lbs/acre
Tall Fescue	40	Tall Fescue	40
Ladino Clover	5	Ladino Clover	5

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: [signature]

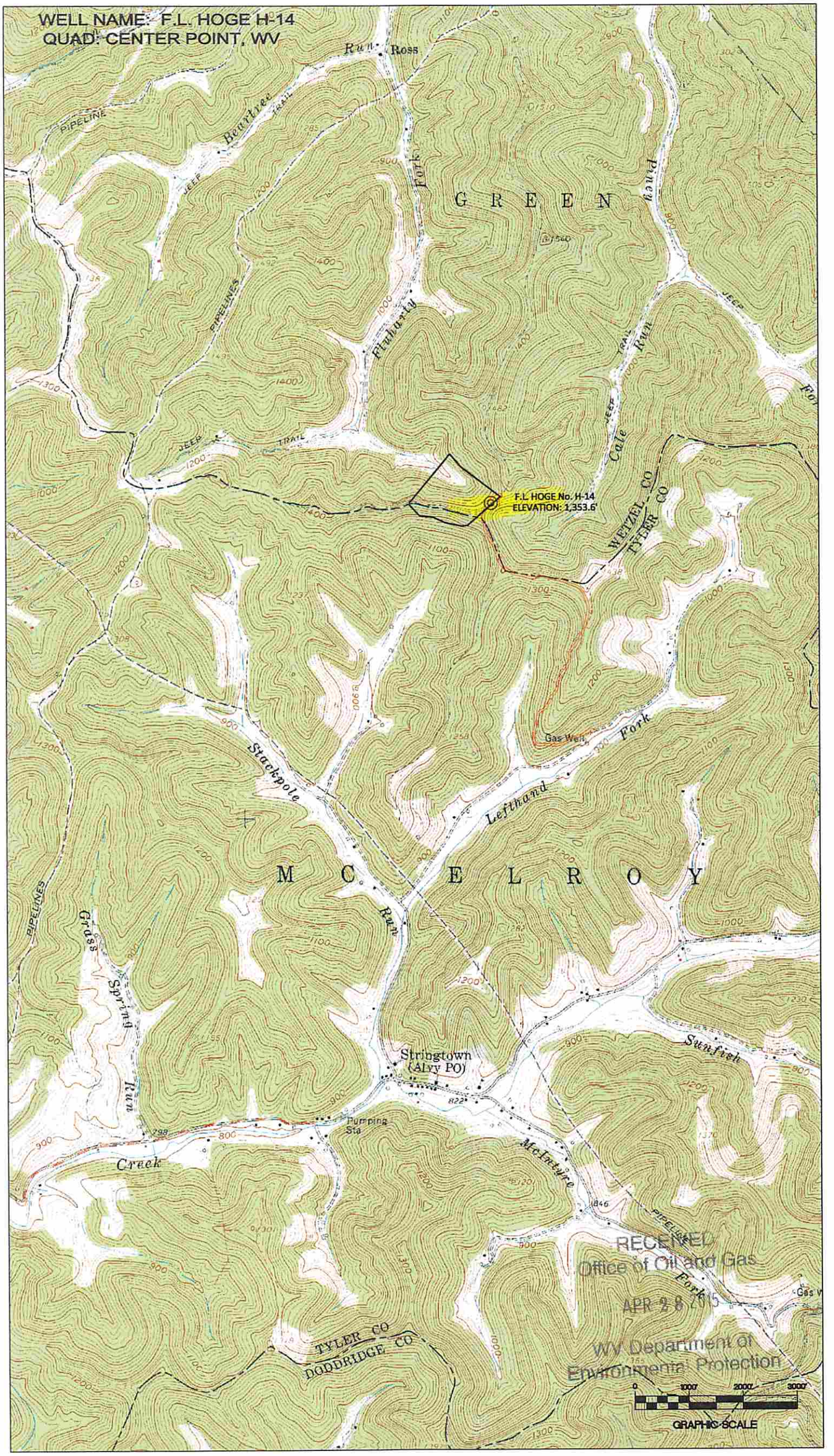
Comments: _____

Title: Oil & Gas Inspector Date: 4-28-15

Field Reviewed? (X) Yes ( ) No

103015401

WELL NAME: F.L. HOGE H-14
QUAD: CENTER POINT, WV



RECEIVED
Office of Oil and Gas
APR 28 2015
WV Department of
Environmental Protection

SURFACE HOLE DEC. LONG: 80.692162
SURVEYED LONG: 80° 41' 31.8"

7,200'

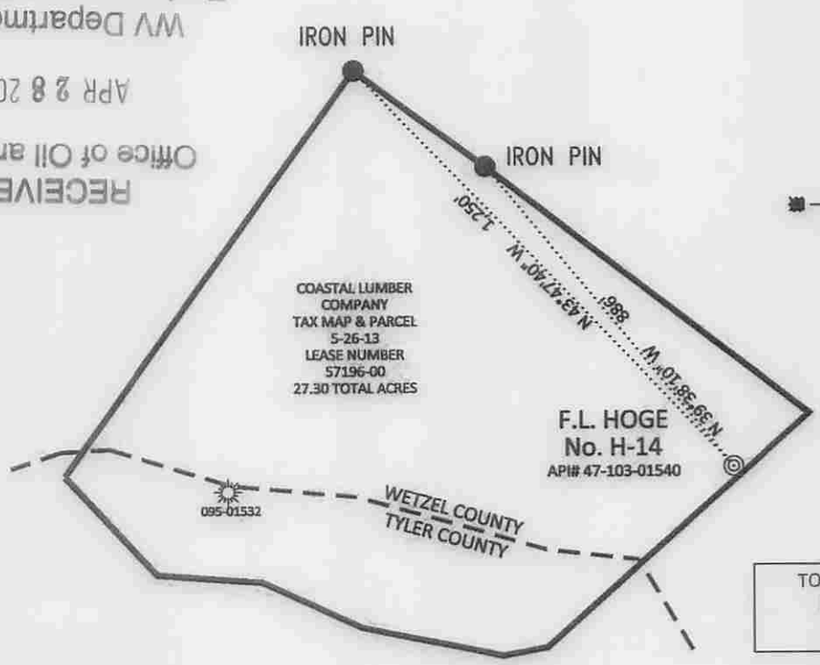
Latitude: 39° 30' 00" (NAD27)

Longitude: 80° 40' 00" (NAD27)

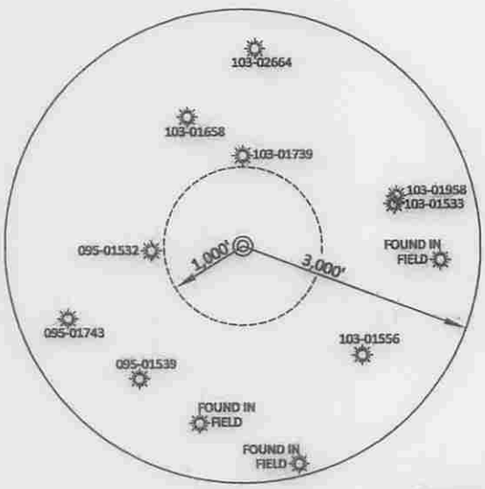
9,270'

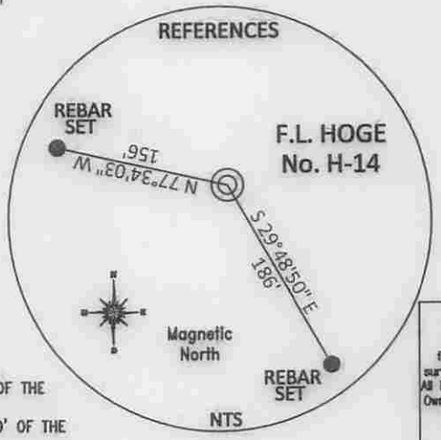
SURFACE HOLE DEC. LAT: 39.474515
SURVEYED LAT: 39° 28' 28.3"

RECEIVED
Office of Oil and Gas
APR 28 2015
WV Department of
Environmental Protection



TOP HOLE (UTM NAD 83)
N) 4369490.5
E) 526492.5





NO DWELLINGS FOUND WITHIN 650' OF THE CENTER OF THE WELL PAD
NO WATER WELLS FOUND WITHIN 250' OF THE CENTER OF WELL PAD

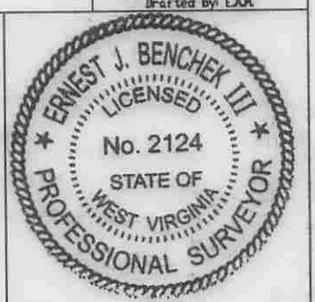
REFERENCE NOTES
Boundaries as shown taken from deeds, tax maps and field locations. A full boundary survey is not expressed nor implied. All bearings are based on true north. Ownership taken from public records Wetzel County, West Virginia JANUARY 2015
State Plane Coordinates & NAD 83 Lat/Long by differential submeter mapping grade GPS
Drafted by: EAM

FILE #: AE003
DRAWING #: 2492
SCALE: PLAT – 1" = 400' TICK MARK – 1" = 2000'
MINIMUM DEGREE OF ACCURACY: 1/200
PROVEN SOURCE OF ELEVATION: SUBMETER MAPPING GRADE GPS

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 DEPARTMENT OF ENVIRONMENTAL PROTECTION.

Signed: _____

L.L.S. #2124 : Ernest J. Benchek III



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

WVDEP
OFFICE OF OIL & GAS
601 57TH STREET
CHARLESTON, WV 25304

DATE: APRIL 16, 2015

OPERATOR'S WELL #: F.L. HOGE No. H-14

API WELL #: 47 (STATE) 103 (COUNTY) 01540 P (PERMIT)

Well Type: ☒ Oil ☐ Waste Diposal ☐ Production ☐ Deep
☐ Gas ☐ Liquid Injection ☐ Storage ☒ Shallow

WATERSHED: FISHING CREEK
ELEVATION: 1353.60'
COUNTY/DISTRICT: WETZEL / GREEN
QUADRANGLE: CENTER POINT, WV
SURFACE OWNER: COASTAL LUMBER COMPANY
ACREAGE: 27.30 +/-
OIL & GAS ROYALTY OWNER: _____
ACREAGE: 27.30 +/-
LEASE NUMBERS: _____

DRILL ☐ CONVERT ☐ DRILL DEEPER ☐ REDRILL ☐ FRACTURE OR STIMULATE ☐
PLUG OFF FORMATION ☐ PERFORATE NEW FORMATION ☐ PLUG & ABANDON ☒
CLEAN OUT & REPLUG ☐ OTHER CHANGE ☐ (SPECIFY): _____

TARGET FORMATION: GORDON
ESTIMATED DEPTH: TVD: 3,410' TMD: 3,410'
WELL OPERATOR: American Energy–Marcellus LLC.
DESIGNATED AGENT: Eric B. Gillespie
ADDRESS: 3501 NW 63rd Street
ADDRESS: 103 Taryn Lane
CITY: Oklahoma City STATE: OK ZIP CODE: 73116
CITY: Cross Lanes STATE: WV ZIP CODE: 25313

10301540

AMERICAN ENERGY
MARCELLUS

April 27, 2015

West Virginia Department of Environmental Protection
Mr. Jeff McLaughlin
601 57th Street, SE
Charleston, WV 25304

Re: Application to Plug and Abandon a Well
F.L. Hoge H -14

Dear Mr. McLaughlin

American Energy – Marcellus, LLC respectfully submits an application to Plug and Abandon the F.L. Hoge H-14 in Wetzel County, West Virginia. Enclosed for your review are:

- Forms WW-9, WW-4(A), WW-4(B), WW-6
- A topographic map and well record
- A copy of the certified mail receipt
- Monument variance request

If you need any additional information, please feel free to contact me.

Best Regards,

Trent Carroll
Sr. Regulatory Analyst
trent.carroll@aep-lp.com
Cell 405-693-4931
Office 405-607-5476

Cc: Derek Haught, Inspector
Coastal Lumber Company, Certified Mail

RECEIVED
Office of Oil and Gas
APR 28 2015
WV Department of
Environmental Protection

10301540P

FRACTURING REPORT

Lease: FL Hogue Well No. #14

T.D. 3336 ' - P.B.D. _____ ' ~~- Ran Gamma Ray Collar Logs.~~

Formation: Gordon Original Completion: (Yes) No

Perf: 3246 ' - 3254 ' - 2 Holes Per Ft. (16 holes).

Treated Perfs. via 4 1/2 csg. w/ 300 gals. 15% HCl acid; 797 Bbls. Delta Wedge & 1500 of 20/40 and 3500 lbs. of 20/40 sand. B.D.P. 2823 psig - Max T.P. 3209 psig - Min. T.P. 2890 psig - Avg. T.P. 3100 psig - Avg. T.R. 99 B.P.M.

ISIP 3119 psig - 5 min. SIP 2247 psig - 10 min. SIP 2042 psig - 15 min. SIP 1922 psig.

Service Company: Howco

Date: 9/14/97 By: RH.

1030154OP

Treatment Prognosis
F.L. Hoge H-14
Stringtown Field- McElroy District
Tyler County, West Virginia
Permit # 047-095-1540
103

T.D.:	3336'
Perfs:	3246-3254'
P.B.T.D.:	3293'
4 1/2" Csg:	3313'

This well has experienced a sharp decline in injectivity. The injection into this well has decreased to less 5 BWPD and appears to be 60 or 70 bbl. below expected rate. We believe that this acid & mutual solvent pump away treatment could greatly improve injectivity.

1. Notify Oil and Gas Inspector that work is to begin.

2. MIRU Service unit and check TD. Have a water truck or a tank available to swab into.

3. Swab 4 1/2" casing until water returned is clean or until at least five runs off bottom. Save samples of material swabbed and label containers.

4. Dump 100 gals 28% HCl Acid w/ 2lbs. L58 Iron Control, 1/2 gal. F75N & 1/2 gal. A261 Inhibitor.

5. Allow Acid to soak for at least 1 hour.

6. Swab casing to remove spent acid & again catch samples of material swabbed and label containers.

7. Pump 750 gals 15% HCl Acid w/ 750 gal Mutual Solvent (Super Solve or U66), 7.5 lb. L58 Iron Control, 2 gal Aquet 835 Penetrant & 2 gal A261 Inhibitor. Run ten ball sealers and pump at matrix rate.

8. Load casing with water from injection line and return well to water injection carefully monitoring rate and pressure.

Jack Sutherland
March 17, 1997

		Approved	Date
TO:	Bill Greenlees		3/27/97
	Phil Ondrusek	PSO	3/20/97
	Leroy Snodgrass		
	Rick Green		
	Victor Stinespring		
	Jeff Keim		
	Dan Sikorski, D-S		
	Curt Reed, Baker		

10301540P

Customer: PENNZOIL PRODUCTS
Well Desc: F.L.HOGE H-17
Formation: GORDON

Date: 16-Sep-1993
Ticket #: 553933.6
Job Type: H20 FRAC

JOB SUMMARY

JOB START TIME: 14:14:27
JOB END TIME: 15:11:21
JOB DURATION: 00:56:54

STAGES AND EVENTS:

Chart	Time	Slurry Rate (bpm)	Clean Stage Volume (bbl)	Casing Press. (psi)	Remark
Event #1	14:14:27	0.00	0	0	Start Job
Event #2	14:17:53	0.00	0	10	Pump Acid
Event #3	14:19:05	5.71	0	31	Pump Water
Event #4	14:29:33	0.37	0	2801	Break Formation
Stage #1	14:29:51	0.04	29	2047	Start Pad
Stage #2	14:32:54	9.84	61	2899	Start Sand
Stage #3	14:34:32	9.83	10	2899	Increase Sand
Stage #4	14:35:32	9.84	25	2928	Increase Sand
Stage #5	14:38:09	9.89	15	3090	Increase Sand
Stage #6	14:39:45	9.93	15	3090	Start Sand
Stage #7	14:41:17	9.89	15	3110	Increase Sand
Stage #8	14:42:48	9.90	15	3179	Increase Sand
Stage #9	14:44:25	9.77	15	3219	Increase Sand
Stage #10	14:46:01	9.87	15	3188	Increase Sand
Stage #11	14:47:36	9.98	76	3174	Increase Sand
Event #5	14:49:44	10.01	0	3256	Start Flush
Event #6	14:55:56	0.27	0	3119	ISIP
Event #7	15:01:00	0.00	0	2251	5 Min Shutin Pres.
Event #8	15:06:05	0.00	0	2040	10 Min Shutin Pres.
Event #9	15:11:00	0.00	0	1922	15 Min Shutin Pres.
Event #10	15:11:21	0.00	0	1916	End Job

I
NOW

Operator: AMERICAN ENERGY-MARCELLUS, LLC

API: 10301540

WELL No: F. L. HOGE H-14

Reviewed by: JWM Date: 6/26/15

15 Day End of Comment: 05/04/15

CHECKLIST FOR FILING A PERMIT

Plugging

- [x] WW-4B
- [x] Inspector signature on WW-4B (Received by email 4/28/15
- [x] Completion / Well Records of Previous Work Received by email 04/28/15
- [x] WW-4A (Notarized)
- [x] Certified Mail Receipts, Waivers, or Affidavits of Personal Service
- [ ] Surface Owner Waiver
- [ ] Coal Owner / Lessee /Operator Waiver
- [x] WW-9 (Page 1) (Notarized)
- [x] Inspector Signature on WW-9 (Optional) (Received by email 04/28/15)
- [x] Topographic Map of location of well
- [x] WW-7

OR

- [x] Mylar Plat (Surface owner on plat matches WW-4A)
- [x] Bond
- [x] Company is Registered with the SOS
- [x] Worker's Compensation / Unemployment Insurance account is OK
- [ ] $100.00 check ($0.00 if no pit)