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

July 22, 2015

WELL WORK PERMIT

Secondary Recovery Well

This permit, API Well Number: 47-4303509, issued to HG ENERGY, 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.

Please be advised that form WR-35, Well Operators Report of Well Work is to be submitted to this office within 90 days completion of permitted well work, as should form WR-34 Discharge Monitoring Report within 30 days of discharge of pits, if applicable. Failure to abide by all statutory and regulatory provisions governing all duties and operations hereunder may result in suspension or revocation of this permit and, in addition, may result in civil and/or criminal penalties being imposed upon the operators.

In addition to the applicable requirements of this permit, and the statutes and rules governing oil and gas activity in WV, this permit may contain specific conditions which must be followed. Permit conditions are attached to this cover letter.

Per 35CSR-4-5.2.g this permit will expire in two (2) years from the issue date unless permitted well work is commenced. If there are any questions, please feel free to contact me at (304) 926-0499 ext. 1654.

James Martin
Chief

Operator's Well No: EDNA MAY # 147
Farm Name: SMITH, DOYLE & JUDY
API Well Number: 47-4303509
Permit Type: Secondary Recovery Well
Date Issued: 07/22/2015

Promoting a healthy environment.

4303509S

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.

4303509S

FORM WW-3 (B)
1/12

1) Date: 05/18/2015
2) Operator's Well No. Edna J. May 147
3) API Well No.: 47 - Lincoln -
State County Permit
4) UIC Permit No. UIC2R04301AP

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: 840' Watershed: Bear Fork
District: Duval County Lincoln Quadrangle Griffithsville 7.5'
7) WELL OPERATOR: HG Energy, LLC
Address 5260 Dupont Road
Parkersburg, WV 26101
8) DESIGNATED AGENT Diane White
Address 5260 Dupont Road
Parkersburg, WV 26101
9) OIL & GAS INSPECTOR TO BE NOTIFIED
Name Ralph Triplett
Address 5539 McClellan Hwy
Branchland, WV 25506
10) DRILLING CONTRACTOR
Name
Address

11) PROPOSED WELL WORK Drill [✓] / Drill deeper [ ] / Redrill [ ] / Stimulate [✓]
Plug off old formation [ ] / Perforate new formation [ ] Convert [ ]
Other physical change in well (specify)
12) GEOLOGIC TARGET FORMATION Berea Depth 2792 Feet (top) to 2809 Feet (bottom)
13) Estimated Depth of Completed Well, (or actual depth of existing well): 3031 TMD Feet
14) Approximate water strata depths: Fresh 230 Feet Salt 1080 Feet
15) Approximate coal seam depths: 280'
16) Is coal being mined in the area? Yes No
17) Virgin reservoir pressure in target formation 1250 psig Source Estimated
18) Estimated reservoir fracture pressure 2650 psig (BHFP)
19) MAXIMUM PROPOSED INJECTION OPERATIONS: Volume per hour 25 BBL Bottom hole pressure 2400 psi
20) DETAILED IDENTIFICATION OF MATERIALS TO BE INJECTED, INCLUDING ADDITIVES Fresh water, produced water, bactericides and other chemicals as needed to maintain water quality and improve oil recovery.
21) FILTERS (IF ANY) Cartridge filters and/or coal bed filters
22) SPECIFICATIONS FOR CATHODIC PROTECTION AND OTHER CORROSION CONTROL

23) CASING AND TUBING PROGRAM

CASING OR TUBING TYPE	SPECIFICATIONS					FOOTAGE INTERVALS		CEMENT FILL-UP OR SACKS (CU. FT.)	PACKERS RDT 05/27/15
	Size	Grade	Weight per ft.	New	Used	For Drilling	Left In Well		
Conductor									Kinds
Fresh Water	7"	LS	17#	X		380'	380'		
Coal									Sizes
Intermediate									2.375" x 4.5"
Production	4 1/2"	J-55	10.5#	X		2981'	2981'		Depths set
Tubing	2 3/8"	J-55	4.6#	X		2592'	2592'		2490'
Liners									Perforations
									Top Bottom

24) APPLICANT'S OPERATING RIGHTS were acquired from E J May
by deed / lease X / other contract / dated 02/07/1983 of record in the
Lincoln County Clerk's office in Lease Book 35 Page 154

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JUN 04 2015

WV Department of
Environmental Protection

CK# 3039 4303509S
650.00

FORM WW-3 (A)
1/12

1) Date: 05/18/2015
2) Operator's Well No. Edna J. May 147
3) API Well No.: 47 - ____ - ____
State County Permit
4) UIC Permit No. UIC2R04301AP

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 Judy Miller Smith
Address 25 Pond Gap Road
Yawkey, WV 25573
(b) Name Arthur & Romaline White
Address 7564 Plum Orchard Road
Munith, MI 49259
(c) Name Justin White
Address 53 Bear Fork Road
Yawkey, WV 25573
6) Inspector Ralph Triplett
Address 5539 McClellan Hwy
Branchland, WV 25506
Telephone 304-389-0350

7) (a) Coal Operator
Name N/A
Address
7) (b) Coal Owner(S) With Declaration Of Record
Name N/A
Address
Name
Address
7) (c) Coal Lessee with Declaration Of Record
Name N/A
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 _____ 20 15 .

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 HG Energy, LLC
Address 5260 Dupont Road
Parkersburg, WV 26101
By: Diane White
Its: Agent

Signature: Diane White

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4303509S

WW-2B1
(5-12)

Well No. Edna J. May 147

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 Sturm Environmental Lab
Sampling Contractor Sturm Environmental Lab

Well Operator HG Energy, LLC
Address 5260 Dupont Road
Parkersburg, WV 26101
Telephone 304-420-1119

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 Form -

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WW-2B1
Page 2 - Continued

Well No. Edna J May 147

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.

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 underlining which one you have selected to sample and analyze. If there are no water wells or springs within 1000 feet of the proposed site please indicate such.

Surface Owners Identified With Water Sources to be Sampled and Tested:

* Mark Adams
  255 Bear Fork Road
  Griffithsville, WV 25521

* Ronald & Debra Tawney
  91 Pond Gap Road
  Yawkey, WV 25573

* Michael Saul
  PO Box 272
  Griffithsville, WV 25521

* Herbert Morgan
  72 Bear Fork Road
  Yawkey, WV 25573

* John Chandler
  62 Bear Fork Road
  Yawkey, WV 25573

* David Lawson
  1 First American Way
  Westlake, TX 76262

* Venita Gail Hager
  38 Bear Fork Road
  Yawkey, WV 25573

* Ruth Jones Smith
  59 Bear Fork Road
  Yawkey, WV 25573

* Judy Miller Smith
  25 Pond Gap Road
  Yawkey, WV 25573

* Vicky Adkins
  5115 Straight Fork Road
  Griffithsville, WV 25521

* Lester Smith
  82 Bear Fork Road
  Yawkey, WV 25573

* Monnie Woodrum
  64 Bear Fork Road
  Yawkey, WV 25573

* Gregory Brisendine
  50 Bear Fork Road
  Yawkey, WV 25573

* Linda Owsley
  P. O. Box 246
  Griffithsville, WV 25521

* Arthur & Romaline White
  7564 Plum Orchard Road
  Munith, MI 49259

* Leonard McCormick
  450 Breedlove Road
  Yawkey, WV 25573

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4303509S

WW-9
Rev. 5/10

Page 154 of _____
API Number 47 - _____ - _____
Operator's Well No. Edna J. May 147

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

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

Operator Name HG Energy, LLC OP Code 494497948

Watershed Bear Fork Quadrangle Griffithsville 7.5'

Elevation 840' County Lincoln District Duval

Description of anticipated Pit Waste: Fluids encountered while drilling subject well.

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

Will a synthetic liner be used in the pit? Yes. If so, what mil.? 20 Mil

Proposed Disposal Method For Treated Pit Wastes:

_____ Land Application
_____ Underground Injection (UIC Permit Number_____)
_____ Reuse (at API Number_____)
X Off Site Disposal (Supply form WW-9 for disposal location)
_____ Other (Explain_____

Drilling medium anticipated for this well? Air, freshwater, oil based, etc. Air, Fresh Water
-If oil based, what type? Synthetic, petroleum, etc. N/A
Additives to be used? Water, Soap, KCl
Will closed loop system be used ? No
Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. Leave in pit
-If left in pit and plan to solidify what medium will be used? Cement, lime, sawdust Native soil, cement. lime
-Landfill or offsite name/permit number? _____

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on August 1, 2005, by the Office of Oil and Gas of the West Virginia Department of Environmental Protection. I understand that the provisions of the permit are enforceable by law. Violations of any term or condition of the general permit and/or other applicable law or regulation can lead to enforcement action.

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

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Company Official Signature Diane White

Company Official (Typed Name) Diane White

Company Official Title Agent

Subscribed and sworn before me this 18 day of May, 2015

Notary Public

My commission expires Oct. 4, 2016

OFFICIAL SEAL
NOTARY PUBLIC
STATE OF WEST VIRGINIA
S. DIANNE DULANEY
5260 Dupont Road
Parkersburg, West Virginia 26101
My Commission Expires Oct. 4, 2016

4303509S

Form WW-9

Operator's Well No. EJ May 147

LEGEND

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

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

Proposed Revegetation Treatment: Acres Disturbed 1.00 acres Prevegetation pH _____

Lime 3 Tons/acre or to correct to pH 6.5

Fertilizer (10-20-20 or equivalent) 500 lbs/acre (500 lbs minimum)

Mulch Straw 2 Tons/acre

Seed Mixtures

Area I		Area II	
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.

Photocopied section of involved 7.5' topographic sheet.

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Plan Approved by: Ralph D. Triplett

Comments: _____

Title: District Inspector Date: May 27, 2015

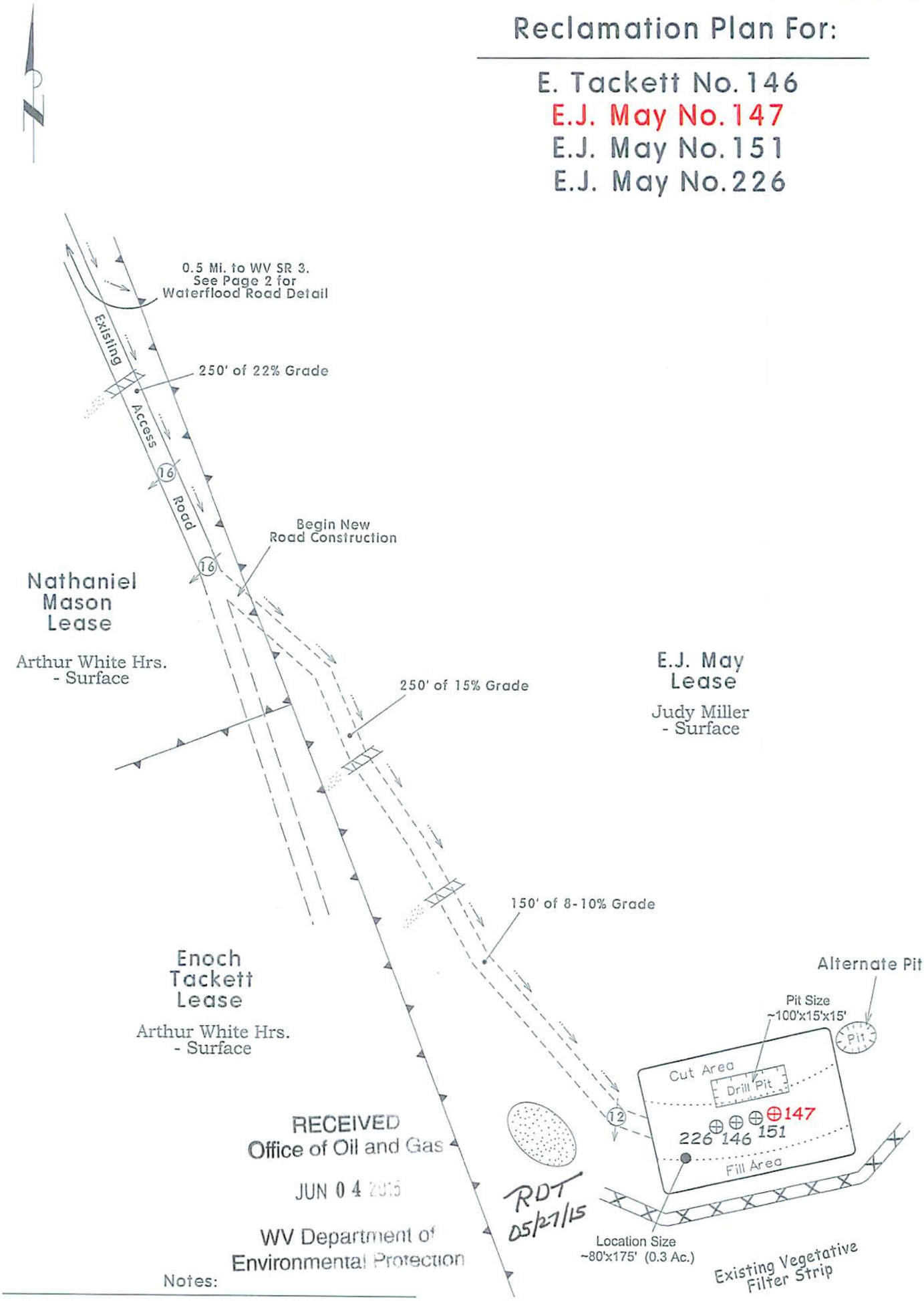
Field Reviewed? (✓) Yes ( ) No

Lincoln

4303509 5

Reclamation Plan For:

E. Tackett No. 146
E.J. May No. 147
E.J. May No. 151
E.J. May No. 226



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RDT
05/27/15

Notes:

- Requested permit is for drilling of new well.
- Some access roads are existing and will be upgraded to WVDEP standards. New structures will be installed as shown.
- Stockpile Topsoil for re-dressing location during reclamation
- All disturbed areas will be re-vegetated as outlined on Form WW-9.
- Maintain sediment barriers and drainage structures.
- All road grades <5% except as noted.
- Location of drill pit may be changed based on as-built considerations.
- Stack brush below disturbed areas for sedimentation control.
- Drawing Not to Scale.

NOTE
Refer to the WVDEP Erosion and Sediment Control Field Manual ver. May 2012 for BMPs controlling erosion and sediment from soil-disturbing operations.

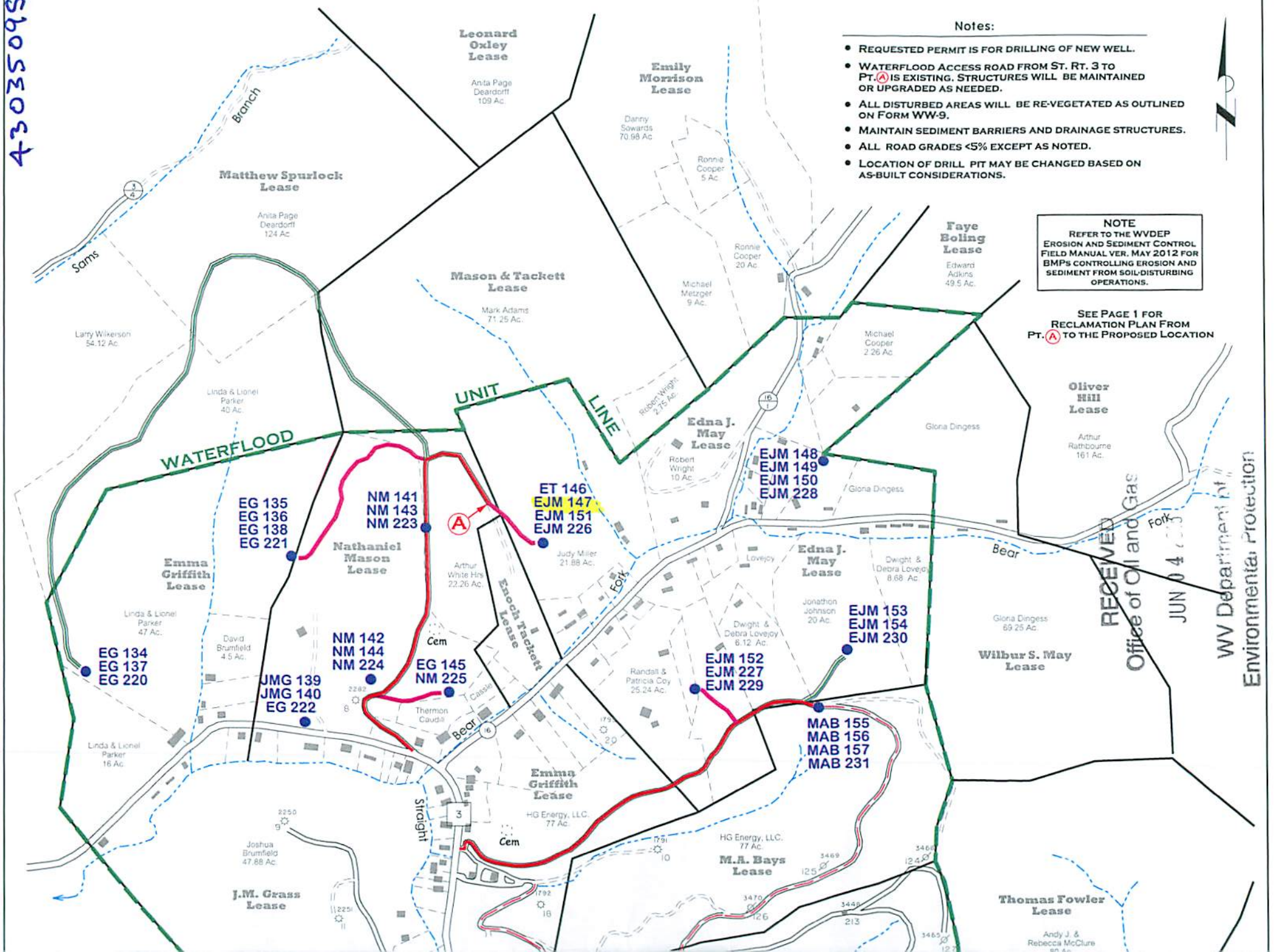
4303509S

Notes:

- REQUESTED PERMIT IS FOR DRILLING OF NEW WELL.
- WATERFLOOD ACCESS ROAD FROM ST. RT. 3 TO PT. (A) IS EXISTING. STRUCTURES WILL BE MAINTAINED OR UPGRADED AS NEEDED.
- ALL DISTURBED AREAS WILL BE RE-VEGETATED AS OUTLINED ON FORM WW-9.
- MAINTAIN SEDIMENT BARRIERS AND DRAINAGE STRUCTURES.
- ALL ROAD GRADES <5% EXCEPT AS NOTED.
- LOCATION OF DRILL PIT MAY BE CHANGED BASED ON AS-BUILT CONSIDERATIONS.

NOTE
REFER TO THE WVDEP EROSION AND SEDIMENT CONTROL FIELD MANUAL VER. MAY 2012 FOR BMPS CONTROLLING EROSION AND SEDIMENT FROM SOIL-DISTURBING OPERATIONS.

SEE PAGE 1 FOR RECLAMATION PLAN FROM PT. (A) TO THE PROPOSED LOCATION



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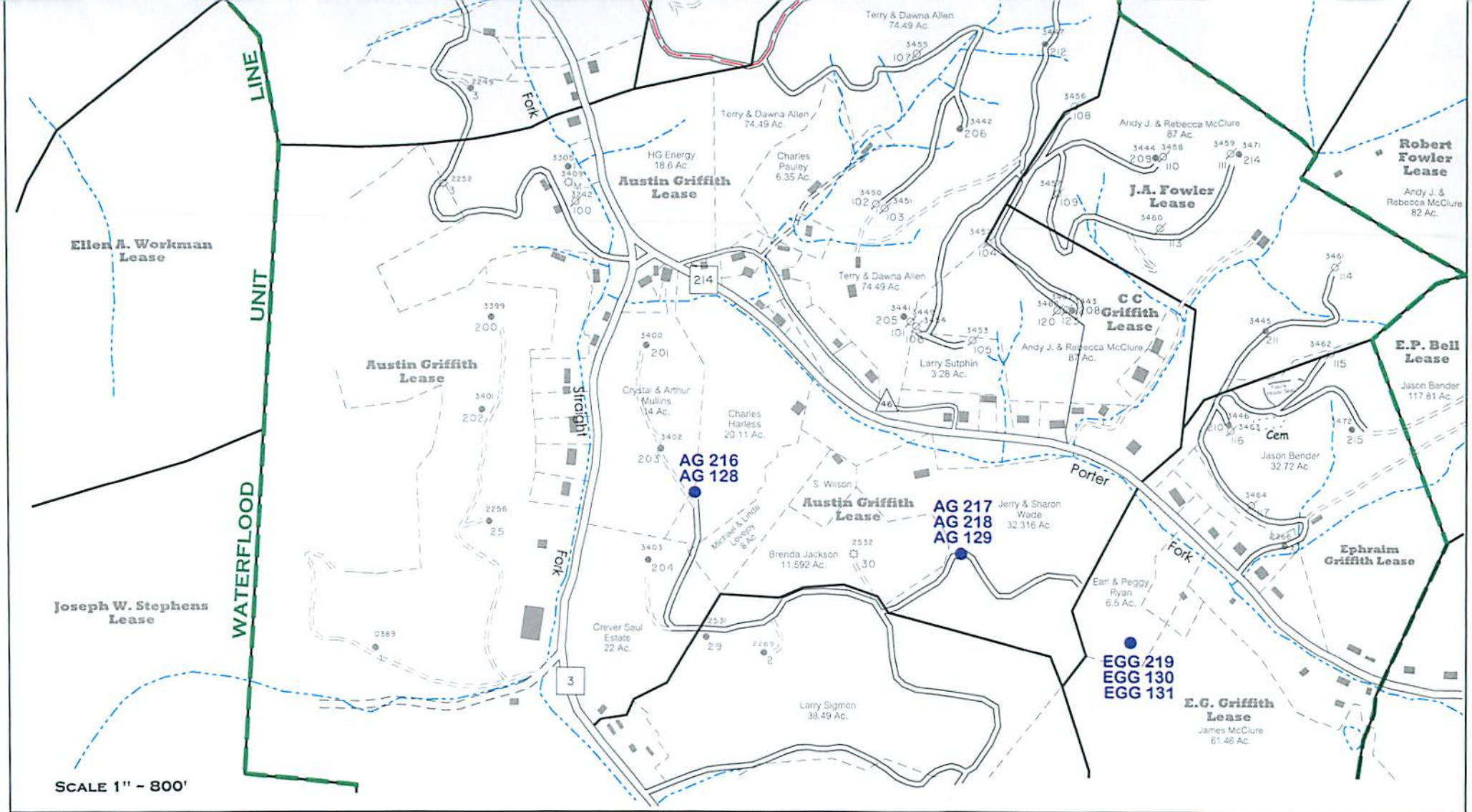
WV Department of Environmental Protection



GRIIFTHSVILLE WATERFLOOD

Lincoln County, W.Va.

RECLAMATION PLAN SHOWING ROAD SYSTEMS TO BE USED FOR 2015 DRILLING PROGRAM (NORTH)

MARCH 3, 2015

PAGE 2

NOTES

1. REFER TO THE WVDEP EROSION AND SEDIMENTATION CONTROL MANUAL (VER. MAY 20, 2013) FOR BMP'S CONTROLLING EROSION AND SEDIMENTATION FROM ALL SOIL-DISTURBING OPERATIONS.

2. SEE PAGE ONE OF RECLAMATION PLAN FOR DETAILS OF NEW ROAD CONSTRUCTION AND ROAD UPGRADES FROM POINT (A) TO DRILL SITE LOCATION.

3. EXISTING WATERFLOOD ACCESS ROADS WILL BE MAINTAINED IN PRESENT CONDITION. THESE ROADS WERE CONSTRUCTED UNDER CONDITIONS SET FORTH IN VARIOUS DRILLING PERMITS ISSUED BY WVDEP-OOG PRIOR TO 2015 (AS SHOWN). SEE PERMITS ON FILE FOR MORE DETAIL.

LEGEND

EXISTING WATERFLOOD ROADS TO BE USED.

OTHER EXISTING MAIN WATERFLOOD ROADS (POSSIBLE ACCESS).

EXISTING LEASE OR FARM ROADS TO BE UPGRADED.

NEW ROADS TO BE CONSTRUCTED.

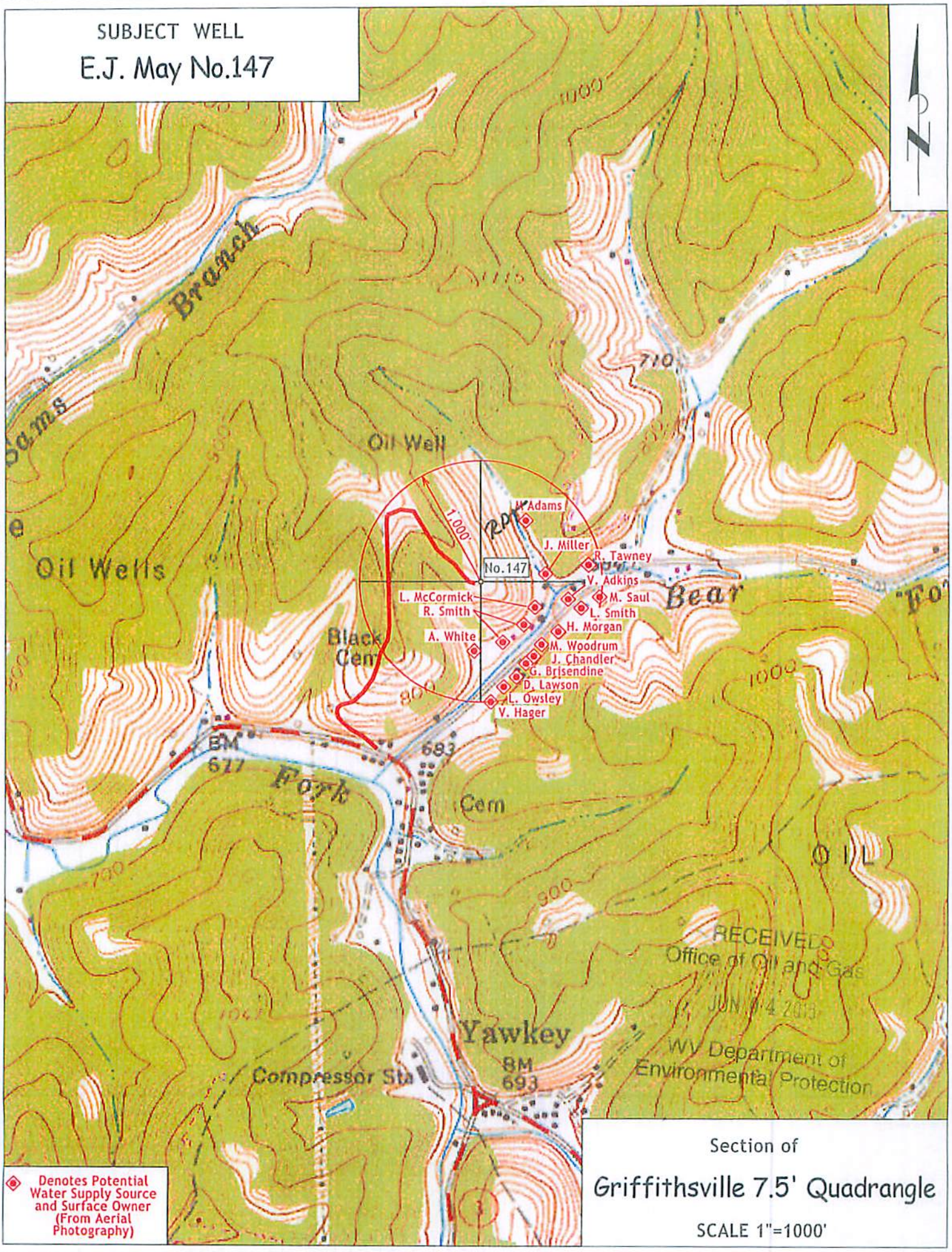
AG 216 — LOCATION FOR PROPOSED WELLS

POTENTIAL WATER SUPPLY SOURCE TO BE SAMPLED (LOC. APPROX.)

4303509S

SUBJECT WELL

E.J. May No.147



Denotes Potential Water Supply Source and Surface Owner (From Aerial Photography)

Section of

Griffithsville 7.5' Quadrangle

SCALE 1"=1000'

4303509 S

(BOT. HL: LON:-81°57'48.7") LON: -81°57'55.5" 2030'

LAT:38°15'00"

LON:81°57'30"

4885'

LAT:38°14'11.7" (BOTTOM HOLE: LAT:38°14'13.9")

MAP OF H.G. ENERGY, LLC -WATERFLOOD UNIT- EDNA MAY 147

SURVEY NOTES

1 - Well ties and Latitude and Longitude were measured by DGPS (Sub-meter Mapping Grade). Bearings are referenced to UTM Grid North (Zone 17 North - NAD 1927).

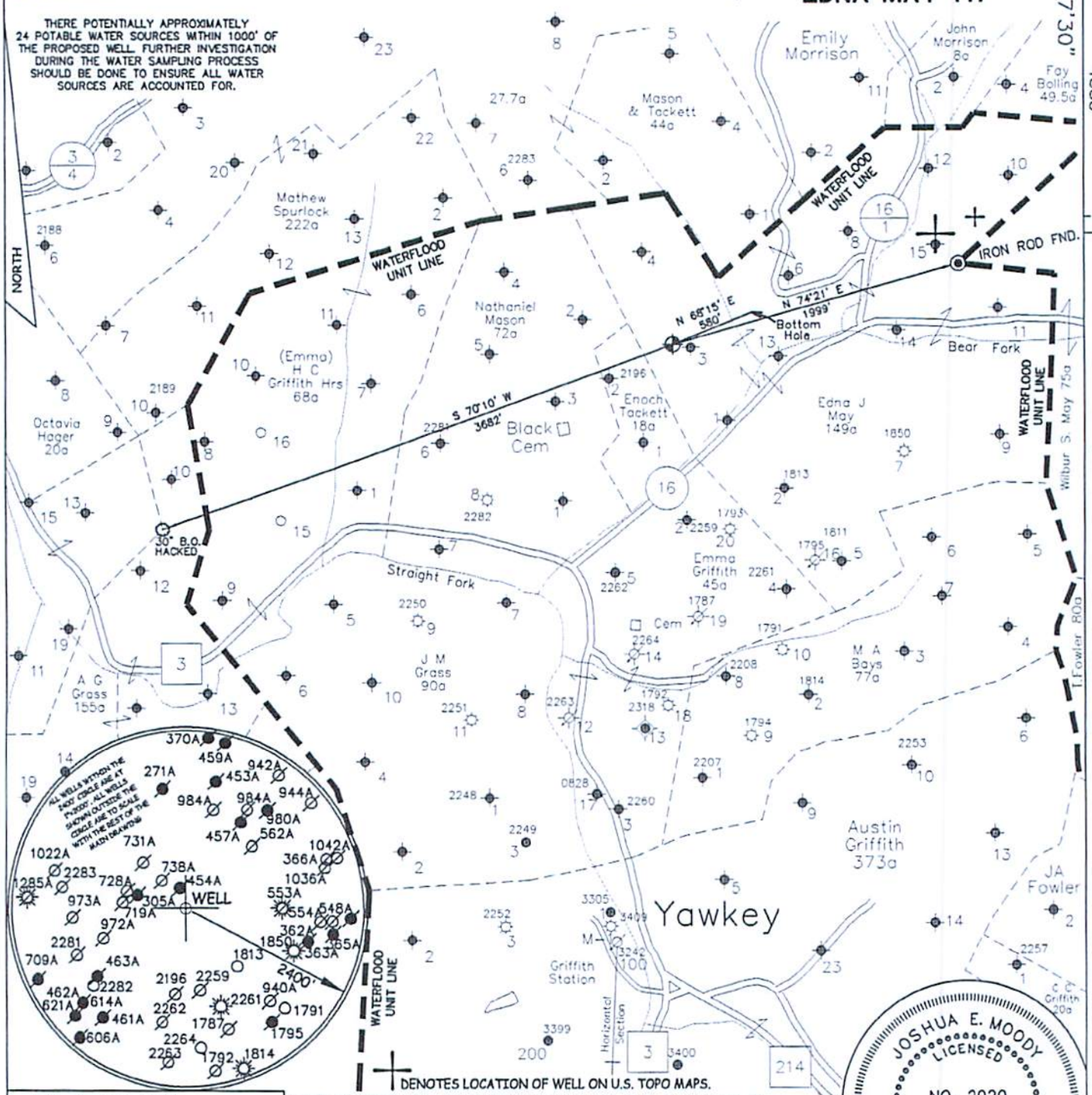
2 - Surface owners and adjoiners information obtained from the Lincoln County Assessor's tax records.

3 - No Title Opinion was provided to the Surveyor during this survey. This survey is subject to a complete Title Opinion.

UTM Coordinates (Zone 17N-NAD 1983)	
Surface	N-4,232,517m. E-415,525m.
Bottom Hole	N-4,232,582m. E-415,689m.

LOCATION REFERENCES
MAGNETIC BEARING
S 78° E 90.7' 12" VIRGINIA PINE
N 05° E 90.7' 12" VIRGINIA PINE

THERE POTENTIALLY APPROXIMATELY 24 POTABLE WATER SOURCES WITHIN 1000' OF THE PROPOSED WELL. FURTHER INVESTIGATION DURING THE WATER SAMPLING PROCESS SHOULD BE DONE TO ENSURE ALL WATER SOURCES ARE ACCOUNTED FOR.



DENOTES LOCATION OF WELL ON U.S. TOPO MAPS.

JOSHUA E. MOODY LICENSED NO. 2020 STATE OF WEST VIRGINIA PROFESSIONAL SURVEYOR

JOB # 14-023
DRAWING # 15HG LC FOLDER
SCALE 1" = 1000'
MINIMUM DEGREE OF ACCURACY 1/200
PROVEN SOURCE OF ELEV. 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 PERSCRIBED BY THE DEPTARTMENT OF ENVIRONMENTAL PROTECTION.

STATE OF WEST VIRGINIA MONTANI SEMPER LIBERI

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

MOODY LAND SURVEYING, LLC
ST. MARYS, WV 26170

JOSHUA E. MOODY, P.S. 2020

DATE 3/10/15
OPERATOR'S WELL
EDNA MAY # 147

WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION OFFICE OF OIL AND GAS

WELL TYPE: OIL ___ GAS ___ LIQUID INJECTION X WASTE DISPOSAL ___ HORIZONTAL ___
(IF "GAS") PRODUCTION ___ STORAGE ___ DEEP ___ SHALLOW ___
LOCATION: ELEVATION 840' WATERSHED BEAR FORK
DISTRICT DUVAL COUNTY LINCOLN
QUADRANGLE GRIFFITHSVILLE 7.5'

API WELL # 47 - 043 - 035095
STATE COUNTY PERMIT

SURFACE OWNER DOYLE & JUDY SMITH ACREAGE 21.88 ACRES +/-
OIL & GAS ROYALTY OWNER HG ENERGY, LLC ET AL LEASE ACREAGE 149 ACRES +/-
PROPOSED WORK: DRILL X CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION ___ PERFORATE NEW FORMATION ___
OTHER PHYSICAL CHANGE IN WELL (SPECIFY) WELL WILL BE DRILLED DIRECTIONALLY (N 68°15' E 580')
PLUG & ABANDON ___ CLEAN OUT & REPLUG ___
TARGET FORMATION BEREA ESTIMATED DEPTH TVD=2,495' MD=3,031'
WELL OPERATOR H.G. ENERGY, LLC DESIGNATED AGENT D. WHITE
ADDRESS 5260 DuPONT ROAD ADDRESS 5260 DuPONT ROAD
PARKERSBURG, WV 26101 PARKERSBURG, WV 26101

COUNTY NAME PERMIT

RECEIVED Office of Oil and Gas JUN 04 2015

FORM WW-6 LEASE # 80221-50

WV Department of Environmental Protection

(BOT. HL: LON:-81°57'48.7") LON: -81°57'55.5" 2030'

LAT:38°15'00"

LON:81°57'30"

4885'

LAT:38°14'11.7" (BOTTOM HOLE: LAT:38°14'13.9")

MAP OF H.G. ENERGY, LLC -WATERFLOOD UNIT- EDNA MAY 147

SURVEY NOTES

1 - Well ties and Latitude and Longitude were measured by DGPS (Sub-meter Mapping Grade). Bearings are referenced to UTM Grid North (Zone 17 North - NAD 1927).

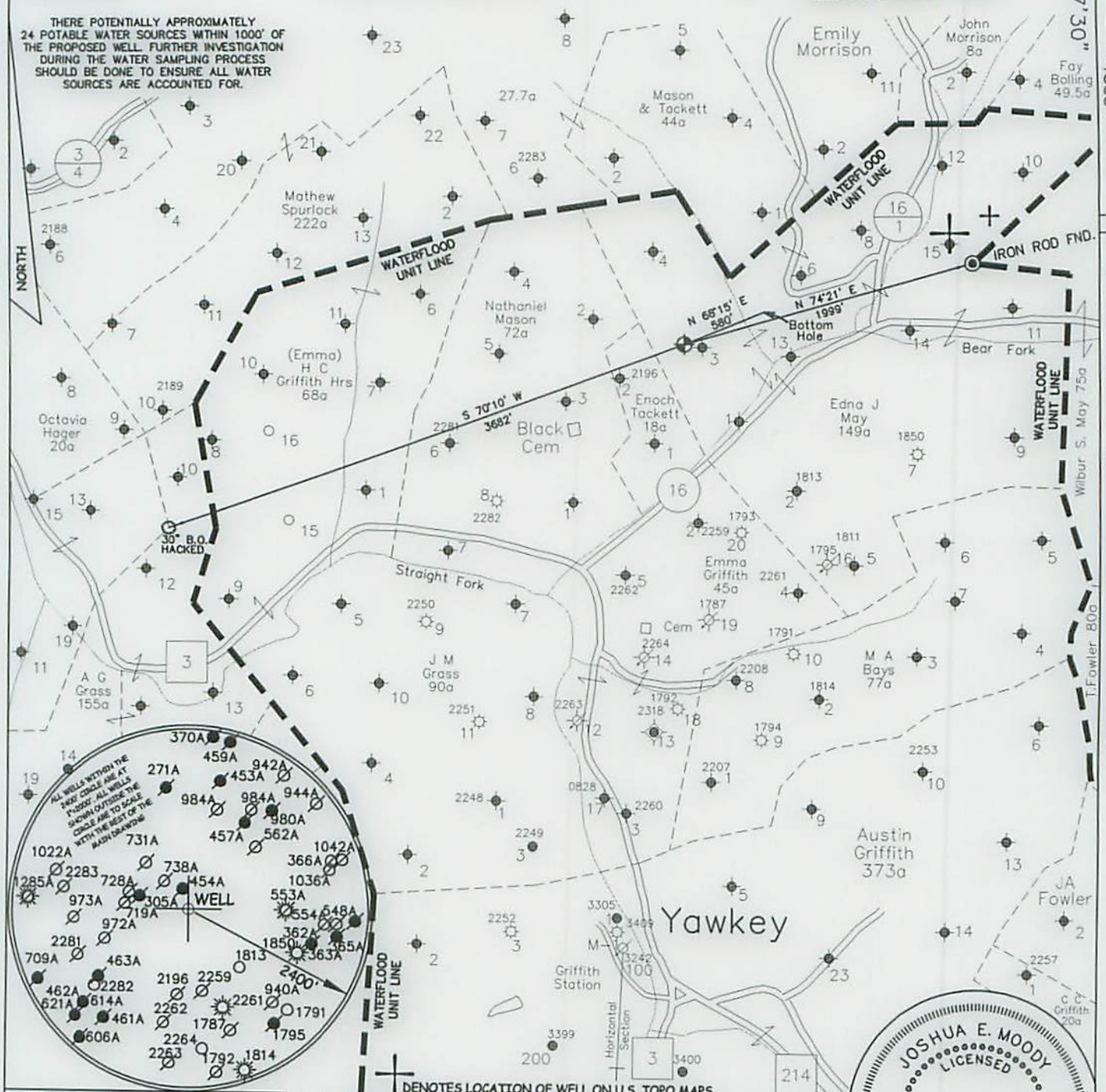
2 - Surface owners and adjoiners information obtained from the Lincoln County Assessor's tax records.

3 - No Title Opinion was provided to the Surveyor during this survey. This survey is subject to a complete Title Opinion.

UTM Coordinates (Zone 17N-NAD 1983)	
Surface	N-4,232,517m. E-415,525m.
Bottom Hole	N-4,232,582m. E-415,689m.

LOCATION REFERENCES	
MAGNETIC BEARING	
S 78° E 90.7'	12" VIRGINIA PINE
N 05° E 90.7'	12" VIRGINIA PINE

THERE POTENTIALLY APPROXIMATELY 24 POTABLE WATER SOURCES WITHIN 1000' OF THE PROPOSED WELL. FURTHER INVESTIGATION DURING THE WATER SAMPLING PROCESS SHOULD BE DONE TO ENSURE ALL WATER SOURCES ARE ACCOUNTED FOR.



JOB # 14-023
DRAWING # 15HG LC FOLDER
SCALE 1" = 1000'
MINIMUM DEGREE OF ACCURACY 1/200
PROVEN SOURCE OF ELEV. 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 PERSCRIBED BY THE DEPTARTMENT OF ENVIRONMENTAL PROTECTION.

STATE OF WEST VIRGINIA — MONTANI SEMPER LIBERI

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

MOODY LAND SURVEYING, LLC
ST. MARYS, WV 26170

JOSHUA E. MOODY LICENSED NO. 2020 STATE OF WEST VIRGINIA PROFESSIONAL SURVEYOR

JOSHUA E. MOODY, P.S. 2020

WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION OFFICE OF OIL AND GAS

DATE 3/10/15
OPERATOR'S WELL EDNA MAY # 147

WELL TYPE: OIL ___ GAS ___ LIQUID INJECTION X WASTE DISPOSAL ___ HORIZONTAL ___
(IF "GAS") PRODUCTION ___ STORAGE ___ DEEP ___ SHALLOW ___
LOCATION: ELEVATION 840' WATERSHED BEAR FORK
DISTRICT DUVAL COUNTY LINCOLN
QUADRANGLE GRIFFITHSVILLE 7.5'

API WELL # 47 - 043 - 035095
STATE COUNTY PERMIT

SURFACE OWNER DOYLE & JUDY SMITH ACREAGE 21.88 ACRES +/-
OIL & GAS ROYALTY OWNER HG ENERGY, LLC ET AL LEASE ACREAGE 149 ACRES +/-
PROPOSED WORK: DRILL X CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION ___ PERFORATE NEW FORMATION ___
OTHER PHYSICAL CHANGE IN WELL (SPECIFY) WELL WILL BE DRILLED DIRECTIONALLY (N 68°15' E 580')
PLUG & ABANDON ___ CLEAN OUT & REPLUG ___
TARGET FORMATION BEREA ESTIMATED DEPTH TVD=2,495' MD=3,031'
WELL OPERATOR H.G. ENERGY, LLC DESIGNATED AGENT D. WHITE
ADDRESS 5260 DuPONT ROAD ADDRESS 5260 DuPONT ROAD
PARKERSBURG, WV 26101 PARKERSBURG, WV 26101

COUNTY NAME PERMIT

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