



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

April 15, 2013

WELL WORK PERMIT

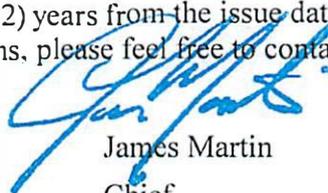
Horizontal 6A Well

This permit, API Well Number: 47-6900161, issued to CHESAPEAKE APPALACHIA, L.L.C., 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: CHARLES FRYE OHI IH
Farm Name: FRYE, CHARLES AND DOROTHY

API Well Number: 47-6900161

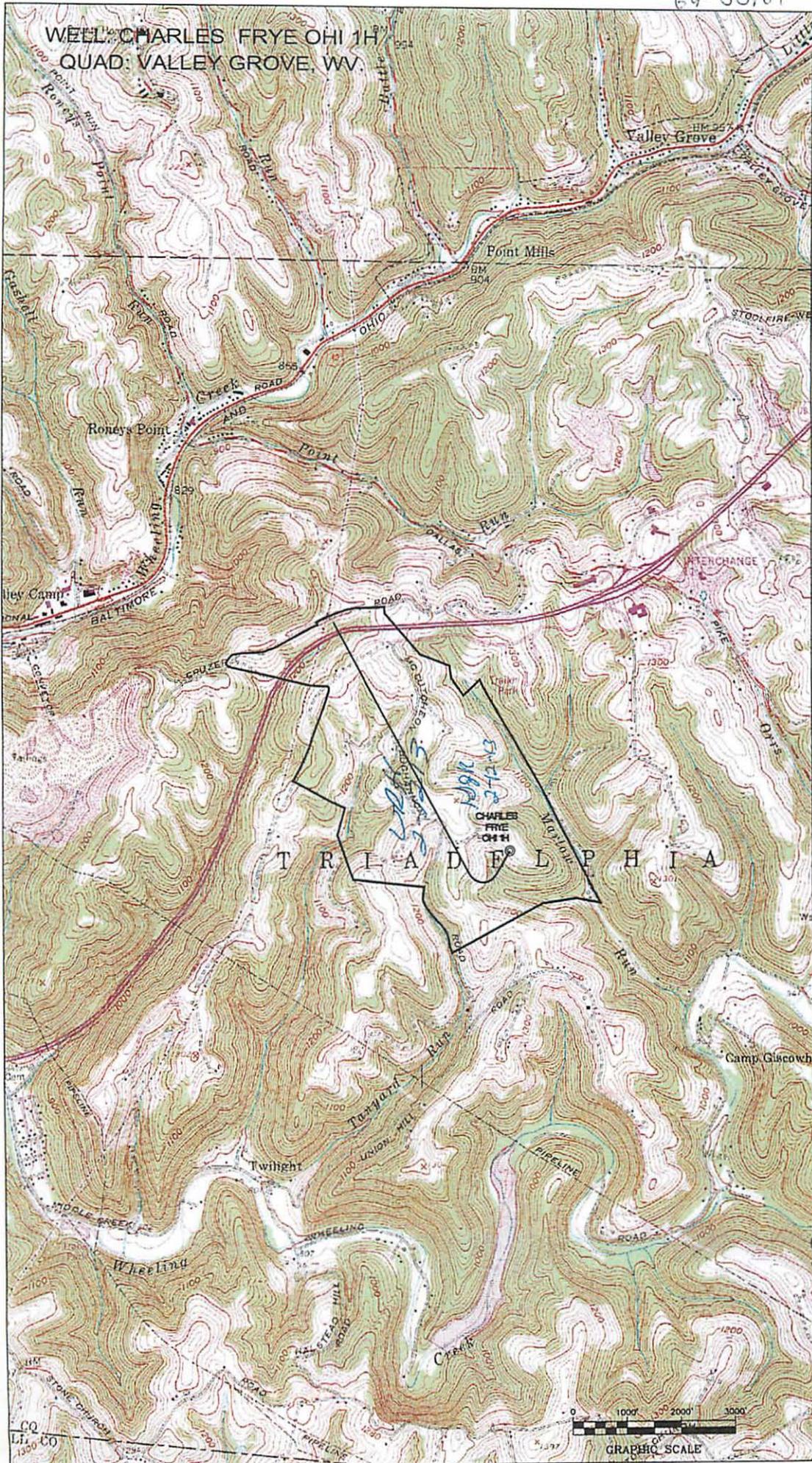
Permit Type: Horizontal 6A Well

Date Issued: 04/15/2013

Promoting a healthy environment.

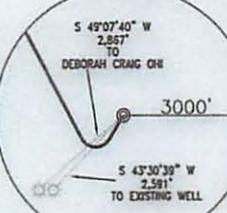
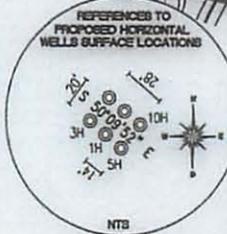
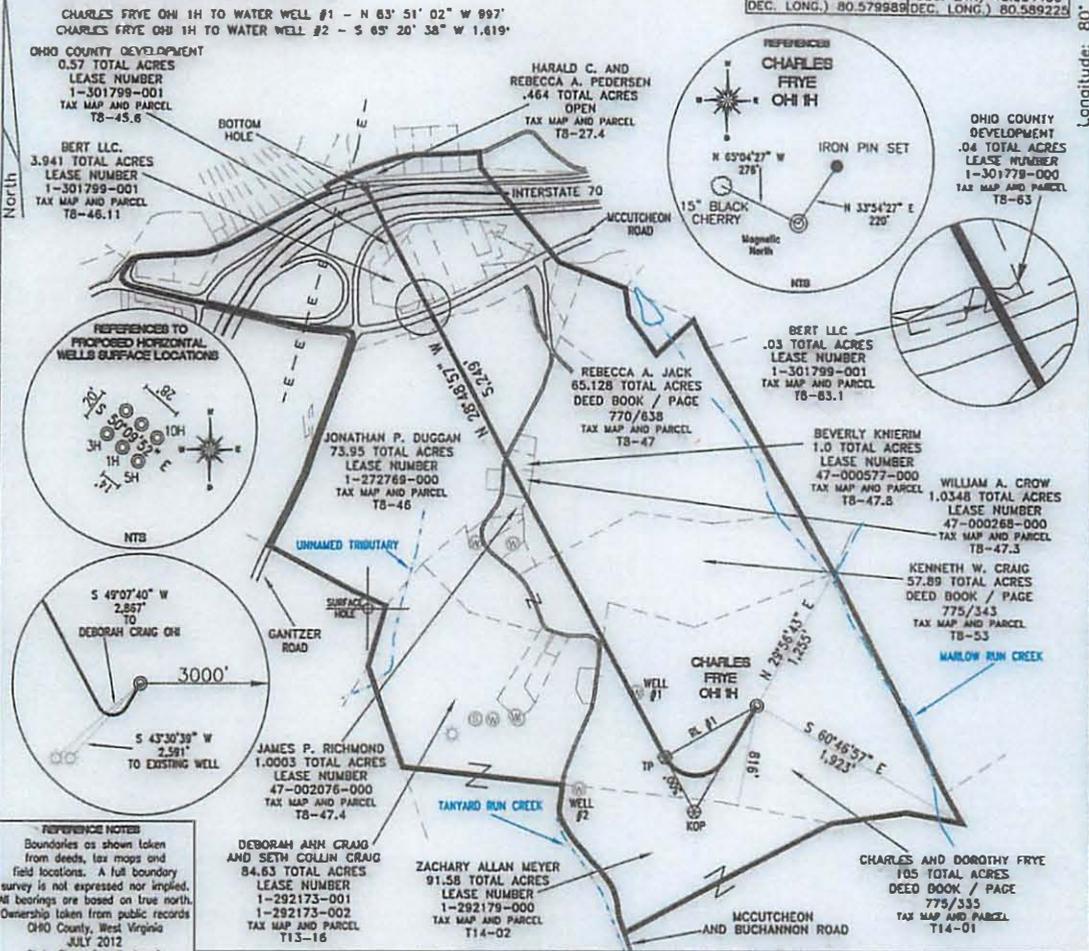
69-00161

WELL: CHARLES FRYE OHI 1H
QUAD: VALLEY GROVE, WV.



69-00161 H6A

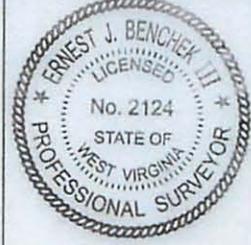
TOP HOLE (NAD 83) N) 567504.9 E) 1666984.9 LAT.) 40°03'11.2" LONG.) 80°34'37.6" DEC. LAT.) 40.053102 DEC. LONG.) 80.577107	KOP (NAD 83) N) 566651.8 E) 1666471.4 LAT.) 40°03'02.7" LONG.) 80°34'44.1" DEC. LAT.) 40.050744 DEC. LONG.) 80.578905	TH (UTM-NAD 83) N) 4433736.8 E) 536070.0	REFERENCE LINES RL #1 S 61°11'03" W 861'	TP (NAD 83) N) 567089.9 E) 1666230.4 LAT.) 40°03'07.0" LONG.) 80°34'47.2" DEC. LAT.) 40.051938 DEC. LONG.) 80.579784	BOTTOM HOLE (NAD 83) N) 571695.1 E) 1663700.3 LAT.) 40°03'52.1" LONG.) 80°35'20.5" DEC. LAT.) 40.064479 DEC. LONG.) 80.589021
TOP HOLE (NAD 83) N) 567468.0 E) 1698419.4 LAT.) 40°03'10.9" LONG.) 80°34'38.3" DEC. LAT.) 40.053029 DEC. LONG.) 80.577312	KOP (NAD 83) N) 566614.8 E) 1697906.0 LAT.) 40°03'02.4" LONG.) 80°34'44.8" DEC. LAT.) 40.050670 DEC. LONG.) 80.579109	TH (UTM-NAD 83) N) 4434994.8 E) 535048.0		TP (NAD 83) N) 567052.9 E) 1697665.0 LAT.) 40°03'08.7" LONG.) 80°34'43.0" DEC. LAT.) 40.051865 DEC. LONG.) 80.579989	BOTTOM HOLE (NAD 83) N) 571652.2 E) 1695134.9 LAT.) 40°03'51.9" LONG.) 80°35'21.2" DEC. LAT.) 40.064006 DEC. LONG.) 80.589228



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 Ohio County, West Virginia JULY 2012
 State Plane Coordinates & NAD 83 Lat/Long by differential submeter mapping grade GPS
 Drafted by EAM

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



FILE #: CHE 046
 DRAWING #: 2089
 SCALE: 1" = 1200'
 MINIMUM DEGREE OF ACCURACY: 1/200
 PROVEN SOURCE OF ELEVATION: SUBMETER MAPPING GRADE GPS

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS
 WYDEP
 OFFICE OF OIL & GAS
 601 57TH STREET
 CHARLESTON, WV 25304

DATE: AUGUST 6, 2012
 OPERATOR'S WELL #: CHARLES FRYE OHI 1H
 API WELL #: 47 69 0016146A
 STATE COUNTY PERMIT

Well Type: Oil Waste Dposal Production Deep
 Gas Liquid Injection Storage Shallow

WATERSHED: UPPER OHIO SOUTH ELEVATION: 1,260'
 COUNTY/DISTRICT: OHIO / TRIADDELPHIA QUADRANGLE: VALLEY GROVE, WV.
 SURFACE OWNER: CHARLES AND DOROTHY FRYE ACREAGE: 105.00 +/-
 OIL & GAS ROYALTY OWNER: CHARLES AND DOROTHY FRYE ACREAGE: 368.8581 +/-
 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: MARCELLUS ESTIMATED DEPTH: TVD: 6,500' TMD: 12,145'
 WELL OPERATOR: CHESAPEAKE APPALACHIA, LLC. DESIGNATED AGENT: ERIC GILLESPIE
 ADDRESS: PO BOX 18496 ADDRESS: PO BOX 6070
 CITY: OKLAHOMA CITY STATE: OK ZIP CODE: 73154-0496 CITY: CHARLESTON STATE: WV ZIP CODE: 25301

Longitude: 80° 32' 30" (NAD 27)
 SURFACE HOLE DEC. LAT: 40.053029
 SURVEYED LAT: 40° 03' 10.9"



west virginia department of environmental protection

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

April 15, 2013

WELL WORK PERMIT

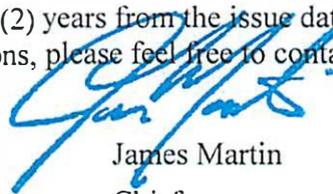
Horizontal 6A Well

This permit, API Well Number: 47-6900156, issued to CHESAPEAKE APPALACHIA, L.L.C., 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: HOWARD SHACKELFORD OHI 1
Farm Name: SHACKELFORD, HOWARD L. AN

API Well Number: 47-6900156

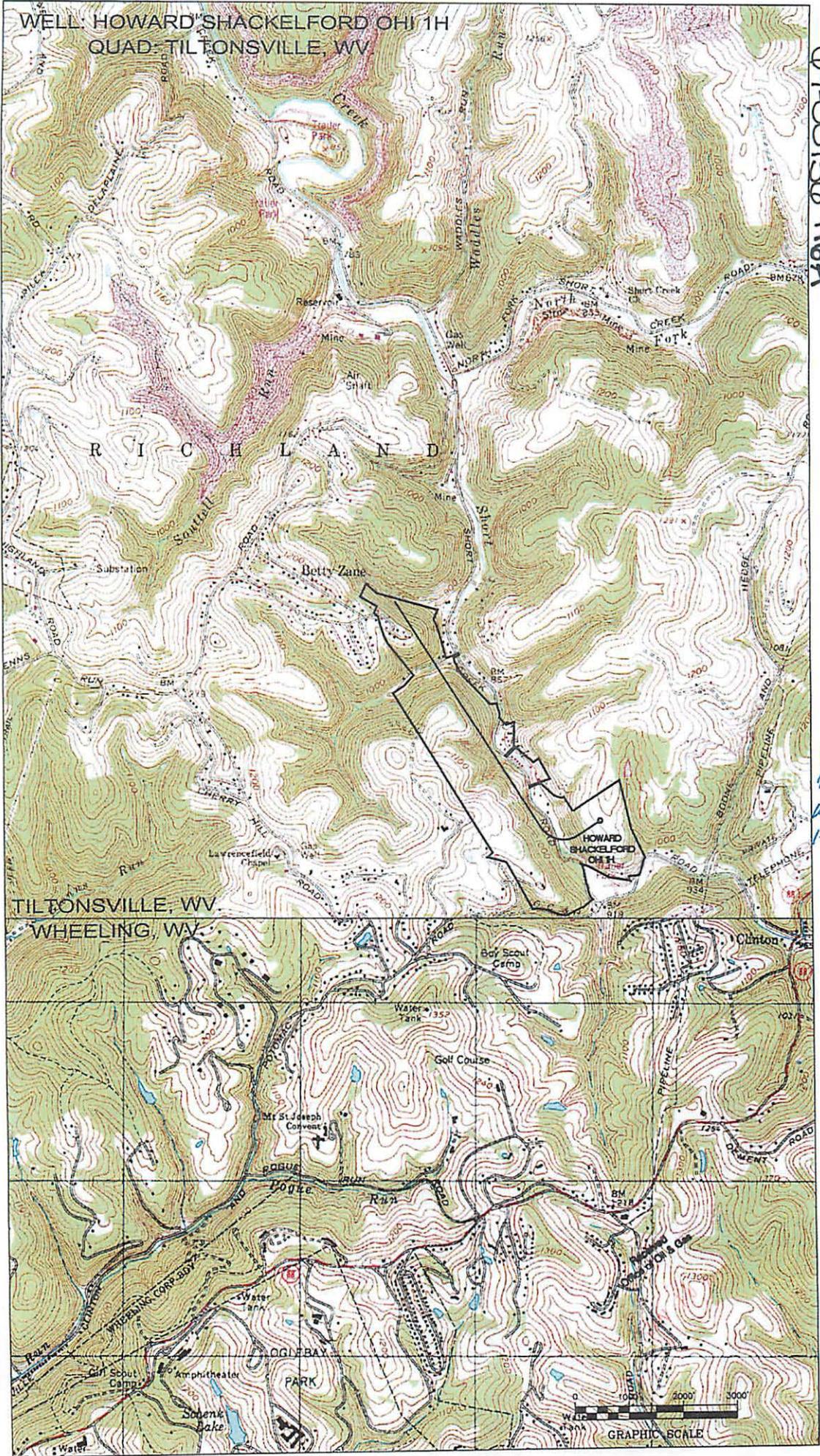
Permit Type: Horizontal 6A Well

Date Issued: 04/15/2013

Promoting a healthy environment.

WELL: HOWARD SHACKELFORD OHI 1H
QUAD: TILTONSVILLE, WV

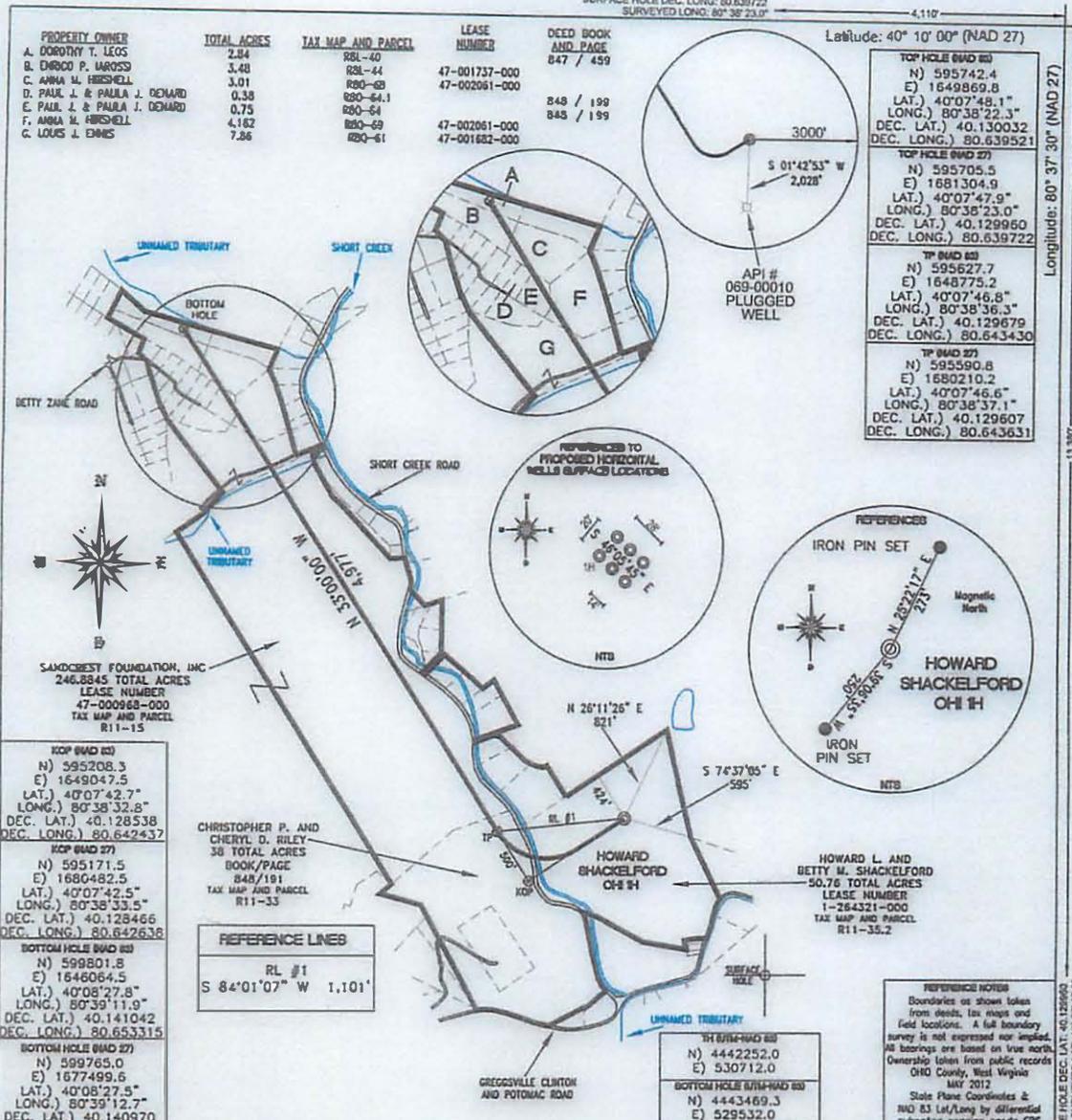
69-00156 H6A



pgk
1/8/2013
6:28 PM
1-8-13

TILTONSVILLE, WV
WHEELING, WV

GRAPHIC SCALE



PROPERTY OWNER	TOTAL ACRES	TAX MAP AND PARCEL	LEASE NUMBER	DEED BOOK AND PAGE
A. DOROTHY T. LEOS	2.84	R8L-40		
B. DERRICK P. HARROSS	3.48	R2L-44	47-001737-000	847 / 459
C. ANNA M. HIRSHMELL	3.01	R80-68	47-002061-000	
D. PAUL J. & PAULA J. DENARD	0.38	R20-64.1		848 / 199
E. PAUL J. & PAULA J. DENARD	0.75	R20-64		845 / 199
F. ANNA M. HIRSHMELL	4.162	R80-69	47-002061-000	
G. LOUIS J. EMMS	7.86	R20-61	47-001682-000	

TOP HOLE (HMD 83)
N) 595742.4
E) 1649869.8
LAT.) 40°07'48.1"
LONG.) 80°38'22.3"
DEC. LAT.) 40.130032
DEC. LONG.) 80.639521
TOP HOLE (HMD 27)
N) 595705.5
E) 1681304.9
LAT.) 40°07'47.9"
LONG.) 80°38'23.0"
DEC. LAT.) 40.129960
DEC. LONG.) 80.639722
TP (HMD 27)
N) 595627.7
E) 1648775.2
LAT.) 40°07'46.8"
LONG.) 80°38'36.3"
DEC. LAT.) 40.129679
DEC. LONG.) 80.643430
TP (HMD 27)
N) 595590.8
E) 1680210.2
LAT.) 40°07'46.6"
LONG.) 80°38'37.1"
DEC. LAT.) 40.129607
DEC. LONG.) 80.643631

KOP (HMD 83)
N) 595208.3
E) 1649047.5
LAT.) 40°07'42.7"
LONG.) 80°38'32.8"
DEC. LAT.) 40.128538
DEC. LONG.) 80.642437
KOP (HMD 27)
N) 595171.5
E) 1680482.5
LAT.) 40°07'42.5"
LONG.) 80°38'33.5"
DEC. LAT.) 40.128466
DEC. LONG.) 80.642638
BOTTOM HOLE (HMD 83)
N) 599801.8
E) 1646064.5
LAT.) 40°08'27.8"
LONG.) 80°39'11.0"
DEC. LAT.) 40.141042
DEC. LONG.) 80.653515
BOTTOM HOLE (HMD 27)
N) 599765.0
E) 1677499.6
LAT.) 40°08'27.5"
LONG.) 80°39'12.7"
DEC. LAT.) 40.140970
DEC. LONG.) 80.653515

REFERENCE LINES
RL #1
S 84°01'07" W 1.101'

TH (HMD-HMD 83)
N) 4442252.0
E) 530712.0
BOTTOM HOLE (HMD-HMD 83)
N) 4443469.3
E) 529532.0

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 OHIO County, West Virginia MAY 2012
State Plane Coordinates ± NAD 83 Lat/Long by differential submeter mapping grade GPS Drafted by EAM

FILE #: CHE 104
DRAWING #: 2070
SCALE: 1" = 1200'
MINIMUM DEGREE OF ACCURACY: 1/200
PROVEN SOURCE: SUBMETER MAPPING GRADE GPS

I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAN 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. Benckek III



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS WYDEP
OFFICE OF OIL & GAS
601 57TH STREET
CHARLESTON, WY 25304

DATE: DECEMBER 07, 2012
OPERATOR'S WELL #: HOWARD SHACKELFORD OHI 1
API WELL #: 47 69 00156 H6A
STATE COUNTY PERMIT

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

WATERSHED: UPPER OHIO SOUTH ELEVATION: 1,090'
COUNTY/DISTRICT: OHIO / RICHLAND QUADRANGLE: TILTONSVILLE, WV.
SURFACE OWNER: HOWARD L. AND BETTY M. SHACKELFORD ACREAGE: 50.76 +/-
OIL & GAS ROYALTY OWNER: HOWARD L. AND BETTY M. SHACKELFORD ACREAGE: 358.1265 +/-
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: MARCELLUS ESTIMATED DEPTH: TVD: 5,855' TMD: 11,200'
WELL OPERATOR: CHESAPEAKE APPALACHIA, LLC. DESIGNATED AGENT: ERIC GILLESPIE
ADDRESS: PD BOX 18496 ADDRESS: PO BOX 6070
CITY: OKLAHOMA CITY STATE: OK ZIP CODE: 73154-0496 CITY: CHARLESTON STATE: WV ZIP CODE: 25301

Latitude: 40° 10' 00" (NAD 27)
Longitude: 80° 37' 30" (NAD 27)
SURFACE HOLE DEC. LAT. 40.130032 SURVEYED LAT. 40° 07' 47.7"



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

April 15, 2013

WELL WORK PERMIT

Horizontal 6A Well

This permit, API Well Number: 47-5101621, issued to GASTAR EXPLORATION USA, INC., 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.

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James Martin
Chief

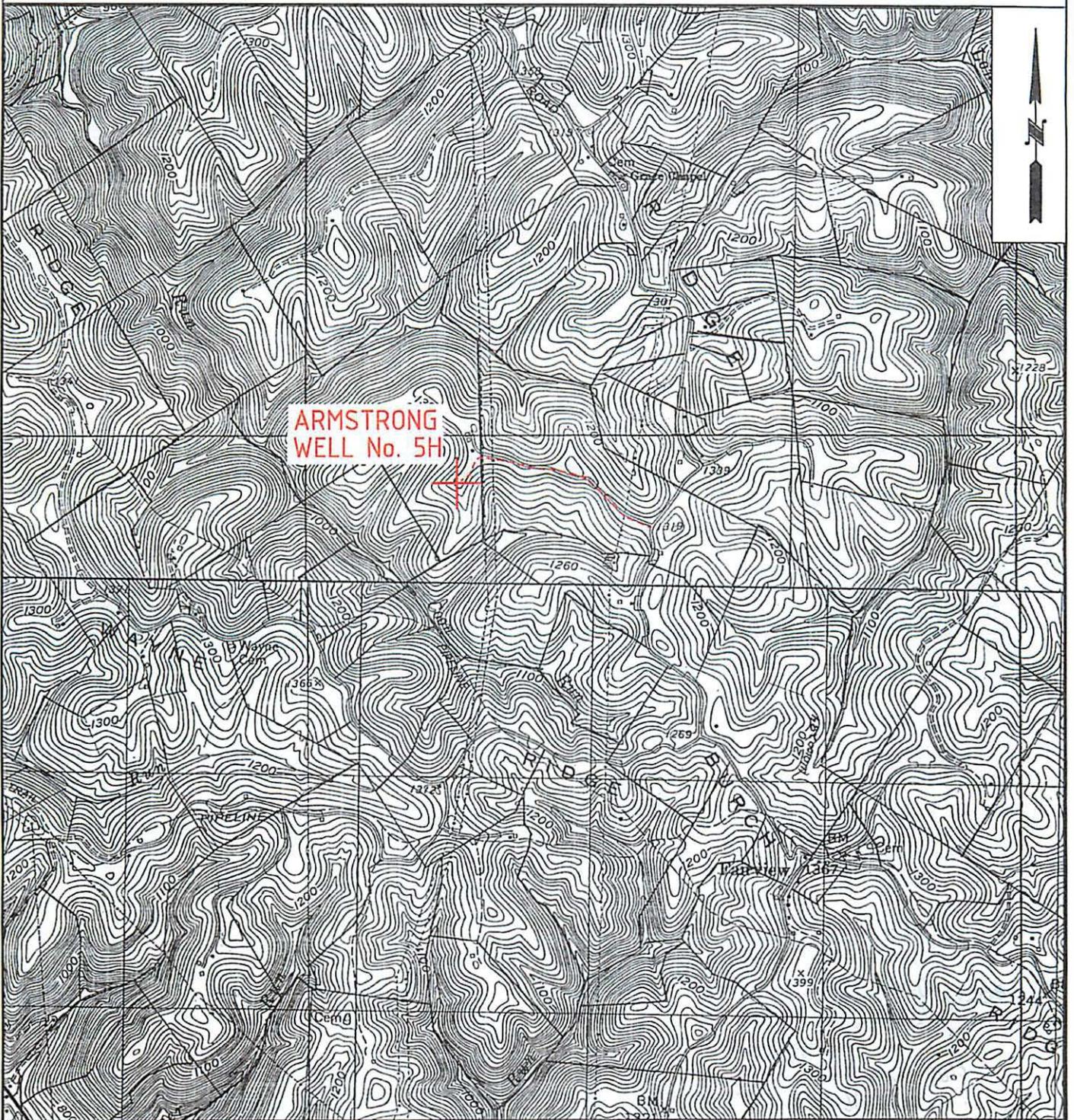
Operator's Well No: ARMSTRONG NO. 51
Farm Name: CNX GAS COMPANY
API Well Number: 47-5101621
Permit Type: Horizontal 6A Well
Date Issued: 04/15/2013

Promoting a healthy environment.

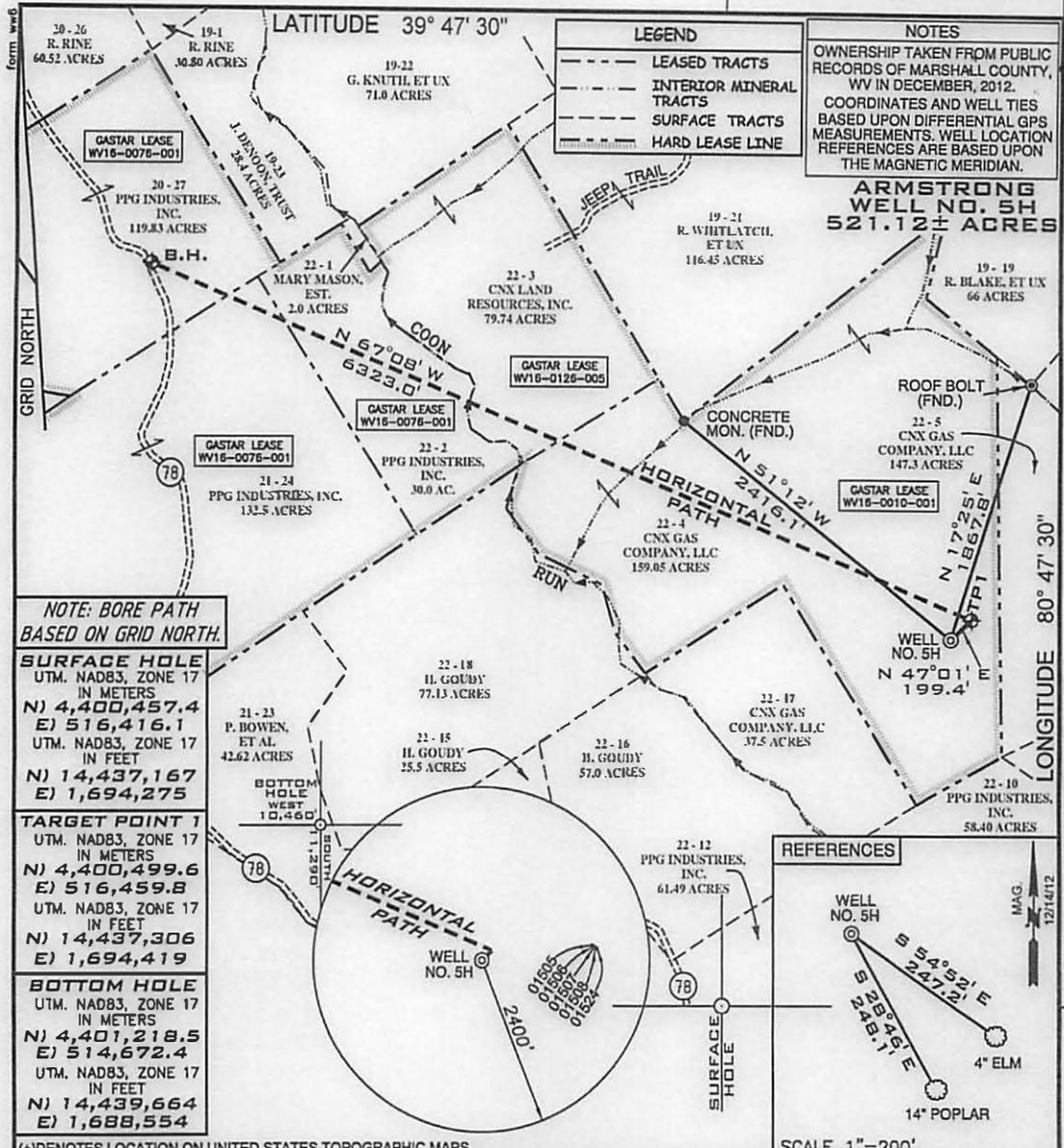
WW-9

PROPOSED ARMSTRONG
WELL No. 5H

SUPPLEMENT PG 2



<p><i>Case</i> 1-25-13</p> <p><i>DMH</i> 1-25-13</p>	<p>OPERATOR</p> <p>GASTAR EXPLORATION USA, Inc. 229 W Main Street, Suite 301 Clarksburg, WV 26301</p>	<p>TOPO SECTION</p> <p>POWHATAN POINT 7.5'</p>	<p>LEASE NAME</p> <p>ARMSTRONG</p>
	<p>WO120316</p>	<p>SCALE:</p> <p>1"=2000'</p>	<p>DATE:</p> <p>DATE: 12/27/12</p>

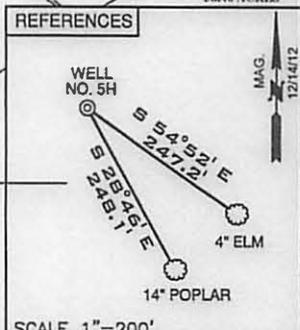


NOTE: BORE PATH BASED ON GRID NORTH.

SURFACE HOLE
 UTM. NAD83, ZONE 17
 IN METERS
 N) 4,400,457.4
 E) 516,416.1
 UTM. NAD83, ZONE 17
 IN FEET
 N) 14,437,167
 E) 1,694,275

TARGET POINT 1
 UTM. NAD83, ZONE 17
 IN METERS
 N) 4,400,499.6
 E) 516,459.8
 UTM. NAD83, ZONE 17
 IN FEET
 N) 14,437,306
 E) 1,694,419

BOTTOM HOLE
 UTM. NAD83, ZONE 17
 IN METERS
 N) 4,401,218.5
 E) 514,672.4
 UTM. NAD83, ZONE 17
 IN FEET
 N) 14,439,664
 E) 1,688,554



FILE NUMBER W0120316 (WB1-56)

DRAWING NUMBER ARMSTRONG_WP_5H

SCALE 1" = 1000'

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

P.S. Jonathan N. White



WVDEP
 OFFICE OF OIL & GAS
 601 5TH STREET
 CHARLESTON, WV 25304



DATE: DECEMBER 27, 2012

OPERATORS WELL NO. ARM TRONG NO. 5H

API WELL NO. 47-051-1621 H6A

STATE COUNTY PERMIT

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

LOCATION ELEVATION 1278' WATERSHED TRIBUTARY OF COON RUN

DISTRICT FRANKLIN COUNTY MARSHALL

QUADRANGLE POWHATAN POINT 7.5' LEASE NUMBER WV16-0010-001, WV16-0076-001, WV16-0126-005

SURFACE OWNER CNX GAS COMPANY, LLC ACREAGE 159.05

OIL & GAS ROYALTY OWNER CNX GAS COMPANY, LLC LEASE ACREAGE 521.12

PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE (SPECIFY) _____

TARGET FORMATION MARCELLUS ESTIMATED DEPTH 6458 + Horizontal Leg

WELL OPERATOR GASTAR EXPLORATION USA, INC. DESIGNATED AGENT MICHAEL McCOWN

ADDRESS 229 W MAIN STREET, SUITE 301 ADDRESS 229 W MAIN STREET, SUITE 301
CLARKSBURG WV, 26301 CLARKSBURG WV, 26301

COUNTY NAME

PERMIT



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

April 15, 2013

WELL WORK PERMIT
Horizontal 6A Well

This permit, API Well Number: 47-5101620, issued to GASTAR EXPLORATION USA, INC., 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.

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James Martin
Chief

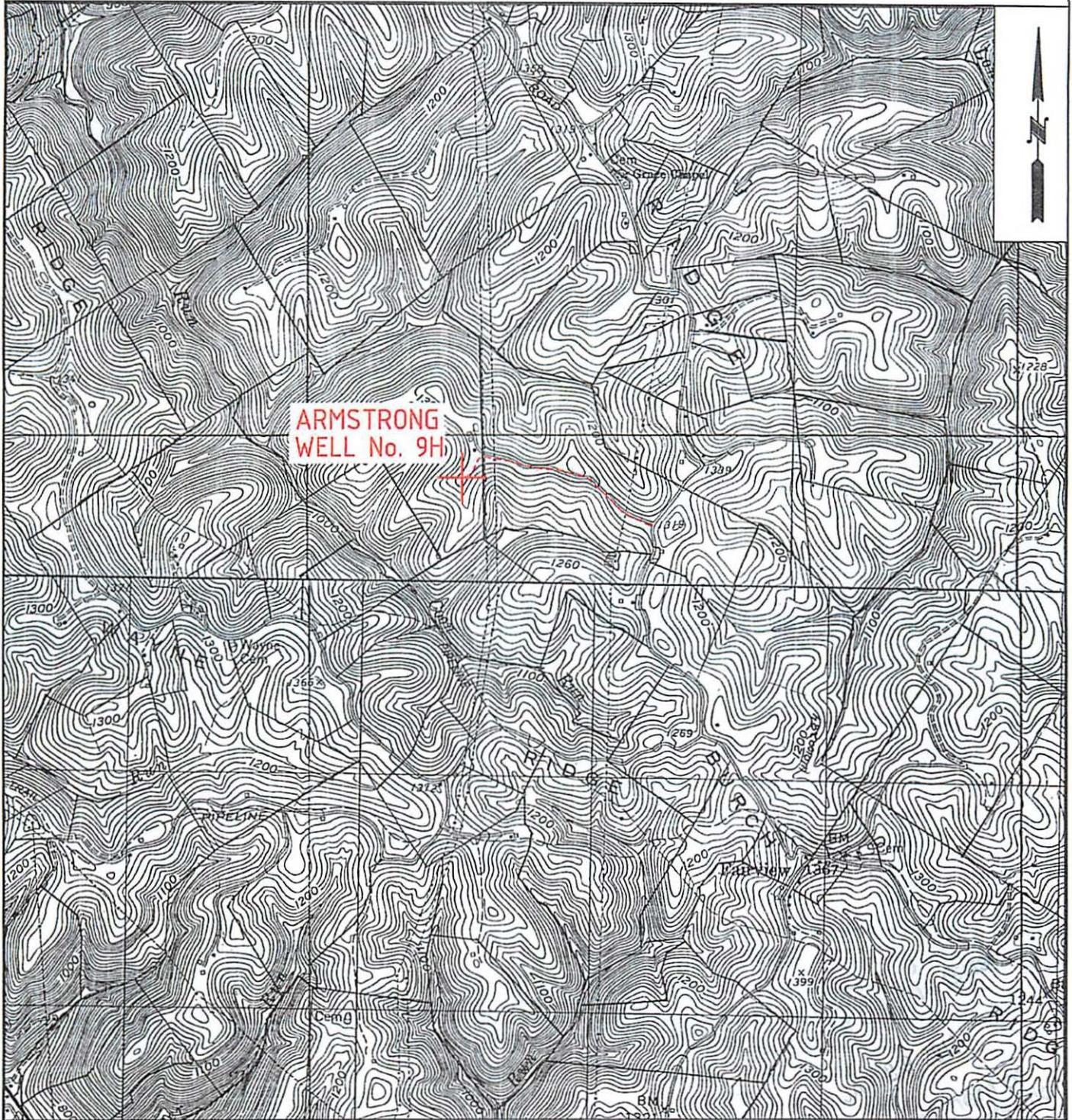
Operator's Well No: ARMSTRONG NO. 9H
Farm Name: CNX GAS COMPANY
API Well Number: 47-5101620
Permit Type: Horizontal 6A Well
Date Issued: 04/15/2013

Promoting a healthy environment.

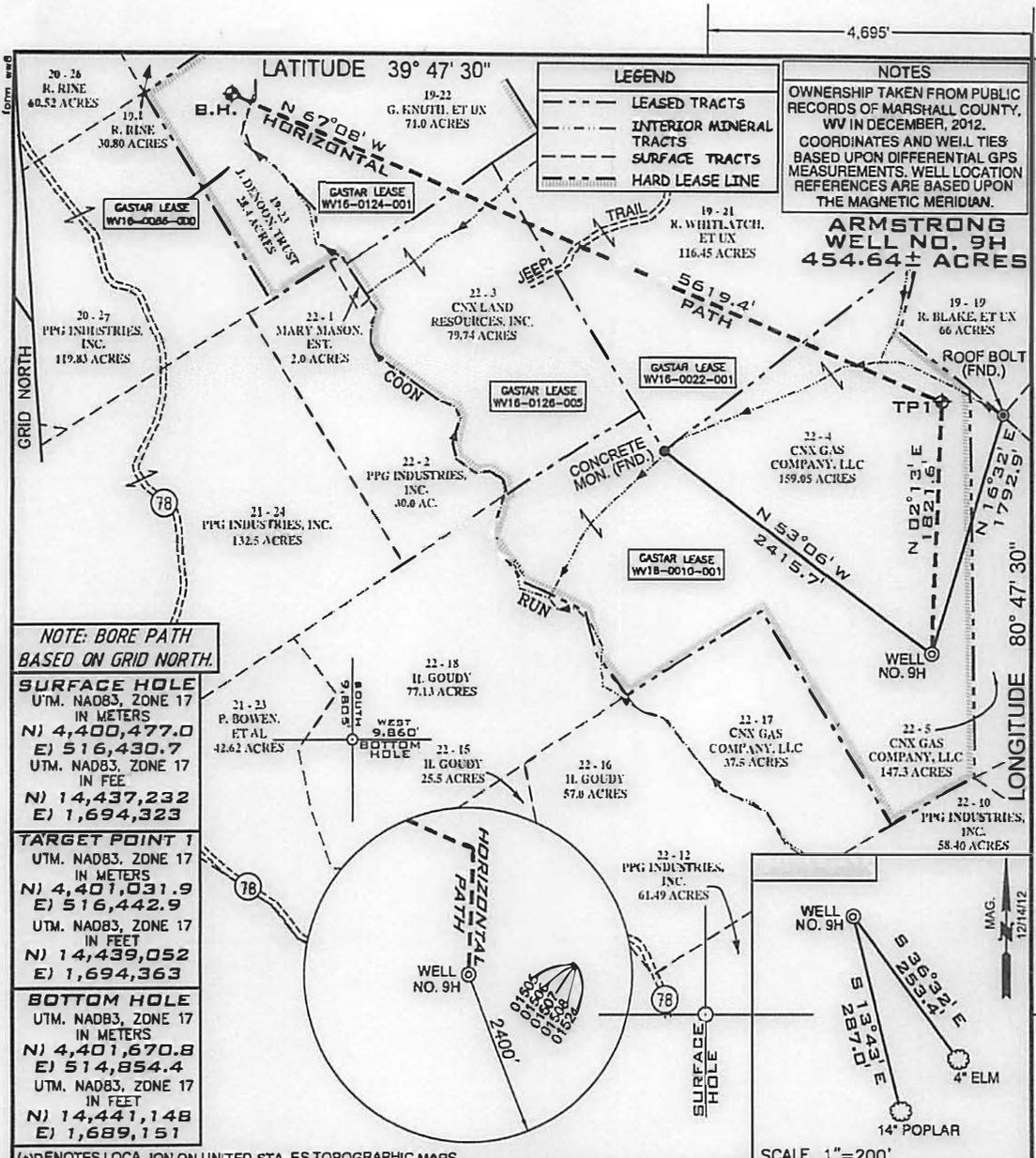
WW-9

PROPOSED ARMSTRONG WELL No. 9H

SUPPLEMENT PG 2



<p><i>Case 1-25-13</i></p> <p><i>DMH 1-25-13</i></p>	<p>OPERATOR GASTAR EXPLORATION USA, Inc. 229 W Main Street, Suite 301 Clarksburg, WV 26301</p>	<p>TOPO SECTION POWHATAN POINT 7.5'</p>	<p>LEASE NAME ARMSTRONG</p>
		<p>SCALE: 1"=2000'</p>	<p>DATE: DATE: 12/27/12</p>
<p>W0120316</p>			



(*) DENOTES LOCATION ON UNITED STATES TOPOGRAPHIC MAPS

FILE NUMBER W0120316 (WB1-56)

DRAWING NUMBER ARMSTRONG_WP_9H

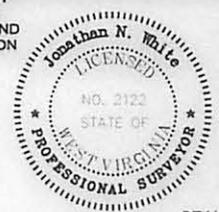
SCALE 1" = 1000'

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

P.S. Jonathan N. White



WVDEP
OFFICE OF OIL & GAS
601 5TH STREET
CHARLESTON, WV 25304



DATE: DECEMBER 27, 2012

OPERATORS WELL NO. ARMSTRONG NO. 9H

API WELL NO. 47-051-01620 H6A

STATE WV COUNTY MARSHALL PERMIT 01620 H6A

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

LOCATION ELEVATION 1278' WATERSHED FRANKLIN TRIBUTARY OF COON RUN

DISTRICT FRANKLIN COUNTY MARSHALL

QUADRANGLE POWATAN POINT 7.5' LEASE NUMBER WV16-0086-000, WV16-0124-001, WV16-0010-001, WV16-0022-001, WV16-0126-005

SURFACE OWNER CNX GAS COMPANY, LLC ACREAGE 159.05

OIL & GAS ROYALTY OWNER CNX GAS COMPANY, LLC LEASE ACREAGE 454.64

PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FOR ATION OTHER PHYSICAL CHANGE (SPECIFY)

TARGET FORMATION MARCELLUS PLUG & ABANDON CLEAN OUT & REPLUG

ESTIMATED DEPTH 6458 + Horizontal Leg

WELL OPERATOR GASTAR EXPLORATION USA, INC. DESIGNATED AGENT MICHAEL McCOWN

ADDRESS 229 W MAIN STREET, SUITE 301 ADDRESS 229 W MAIN STREET, SUITE 301

CLARKSBURG WV, 26301 CLARKSBURG WV, 26301



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

April 15, 2013

WELL WORK PERMIT
Horizontal 6A Well

This permit, API Well Number: 47-5101619, issued to GASTAR EXPLORATION USA, INC., 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

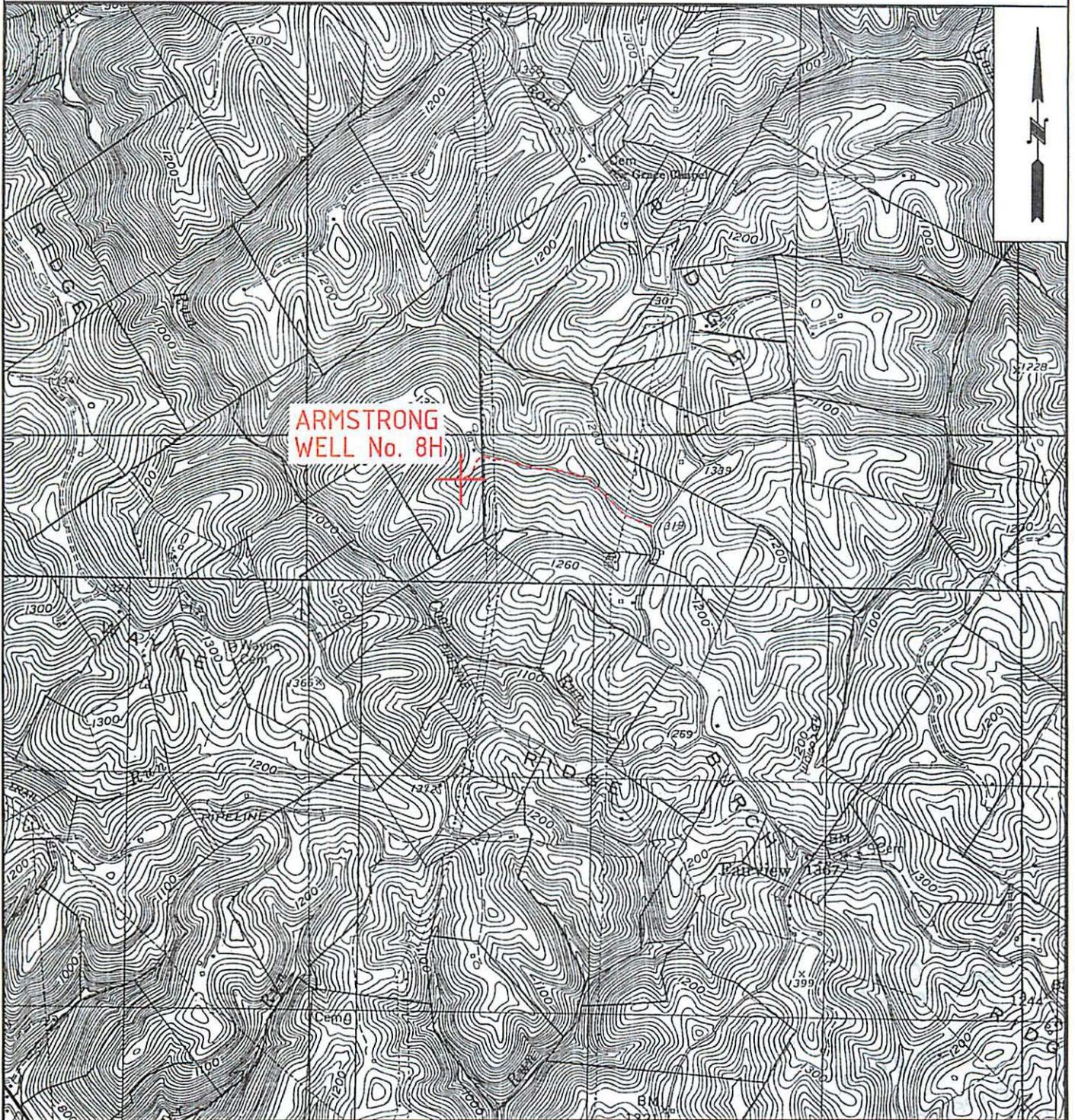
Operator's Well No: ARMSTRONG NO. 8H
Farm Name: CNX GAS COMPANY, LLC
API Well Number: 47-5101619
Permit Type: Horizontal 6A Well
Date Issued: 04/15/2013

Promoting a healthy environment.

WW-9

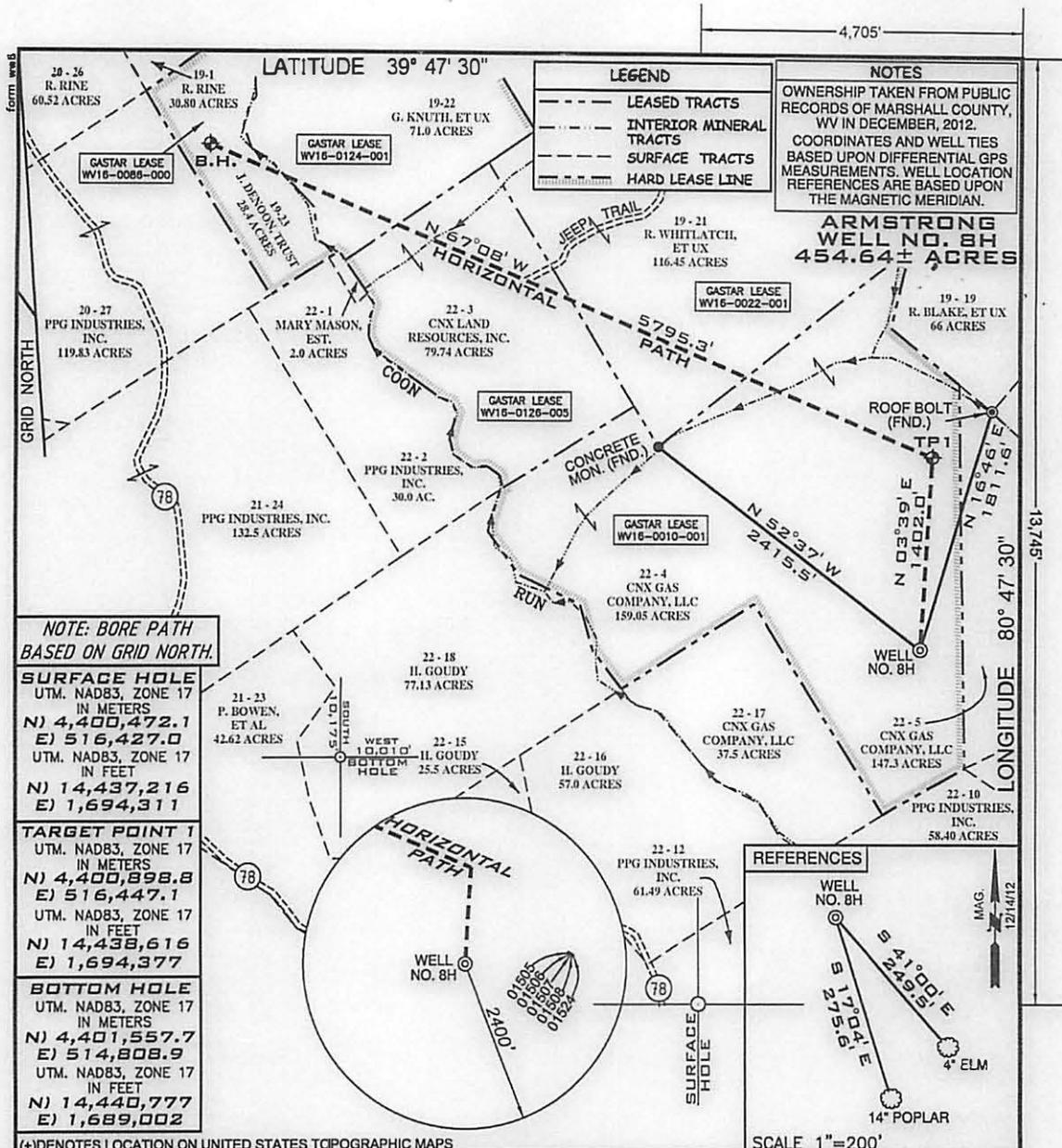
PROPOSED ARMSTRONG WELL No. 8H

SUPPLEMENT PG 2



<p><i>Celle</i> 1-25-13</p> <p><i>PMH</i> 1-25-13</p>	<p>OPERATOR</p> <p>GASTAR EXPLORATION USA, Inc. 229 W Main Street, Suite 301 Clarksburg, WV 26301</p>	<p>TOPO SECTION</p> <p>POWHATAN POINT 7.5'</p>	<p>LEASE NAME</p> <p>ARMSTRONG</p>
	<p>SCALE:</p> <p>1" = 2000'</p>	<p>DATE:</p> <p>DATE: 12/27/12</p>	

W0120316



NOTE: BORE PATH BASED ON GRID NORTH.

SURFACE HOLE
 UTM. NAD83, ZONE 17
 IN METERS
 N) 4,400,472.1
 E) 516,427.0
 UTM. NAD83, ZONE 17
 IN FEET
 N) 14,437,216
 E) 1,694,311

TARGET POINT 1
 UTM. NAD83, ZONE 17
 IN METERS
 N) 4,400,898.8
 E) 516,447.1
 UTM. NAD83, ZONE 17
 IN FEET
 N) 14,438,616
 E) 1,694,377

BOTTOM HOLE
 UTM. NAD83, ZONE 17
 IN METERS
 N) 4,401,557.7
 E) 514,808.9
 UTM. NAD83, ZONE 17
 IN FEET
 N) 14,440,777
 E) 1,689,002



(*) DENOTES LOCATION ON UNITED STATES TOPOGRAPHIC MAPS

FILE NUMBER W0120316 (WB1-56)

DRAWING NUMBER ARMSTRONG_WP_8H

SCALE 1" = 1000'

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

P.S. Jonathan N. White



WVDEP
 OFFICE OF OIL & GAS
 601 5TH STREET
 CHARLESTON, WV 25304



DATE: DECEMBER 27, 2012

OPERATORS WELL NO. ARMSTRONG NO. 8H

API WELL NO. 47-051-01619 H6A

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

LOCATION ELEVATION 1278' WATERSHED TRIBUTARY OF COON RUN

DISTRICT RANKLIN COUNTY MARSHALL

QUADRANGLE POWHATAN POINT 7.5' LEASE NUMBER WV16-0088-000, WV16-0124-001, WV16-0010-001, WV16-0022-001, WV16-0126-005

SURFACE OWNER CNX GAS COMPANY, LLC ACREAGE 159.05

OIL & GAS ROYALTY OWNER CNX GAS COMPANY, LLC LEASE ACREAGE 454.64

PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE (SPECIFY) _____

TARGET FOR ATION MARCELLUS PLUG & ABANDON CLEAN OUT & REPLUG

ESTIMATED DEPTH 6458 + Horizontal Leg

WELL OPERATOR GASTAR EXPLORATION USA, INC. DESIGNATED AGENT MICHAEL McCOWN

ADDRESS 229 W MAIN STREET, SUITE 301 CLARKSBURG WV, 26301 ADDRESS 229 W MAIN STREET, SUITE 301 CLARKSBURG WV, 26301

COUNTY NAME
 PERMIT



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

April 15, 2013

WELL WORK PERMIT

Horizontal 6A Well

This permit, API Well Number: 47-5101618, issued to GASTAR EXPLORATION USA, INC., 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: ARMSTRONG NO. 7H
Farm Name: CNX GAS COMPANY, LLC

API Well Number: 47-5101618

Permit Type: Horizontal 6A Well

Date Issued: 04/15/2013

Promoting a healthy environment.

WW-9

PROPOSED ARMSTRONG WELL No. 7H

SUPPLEMENT PG 2



ARMSTRONG
WELL No. 7H

Clave
1-25-17

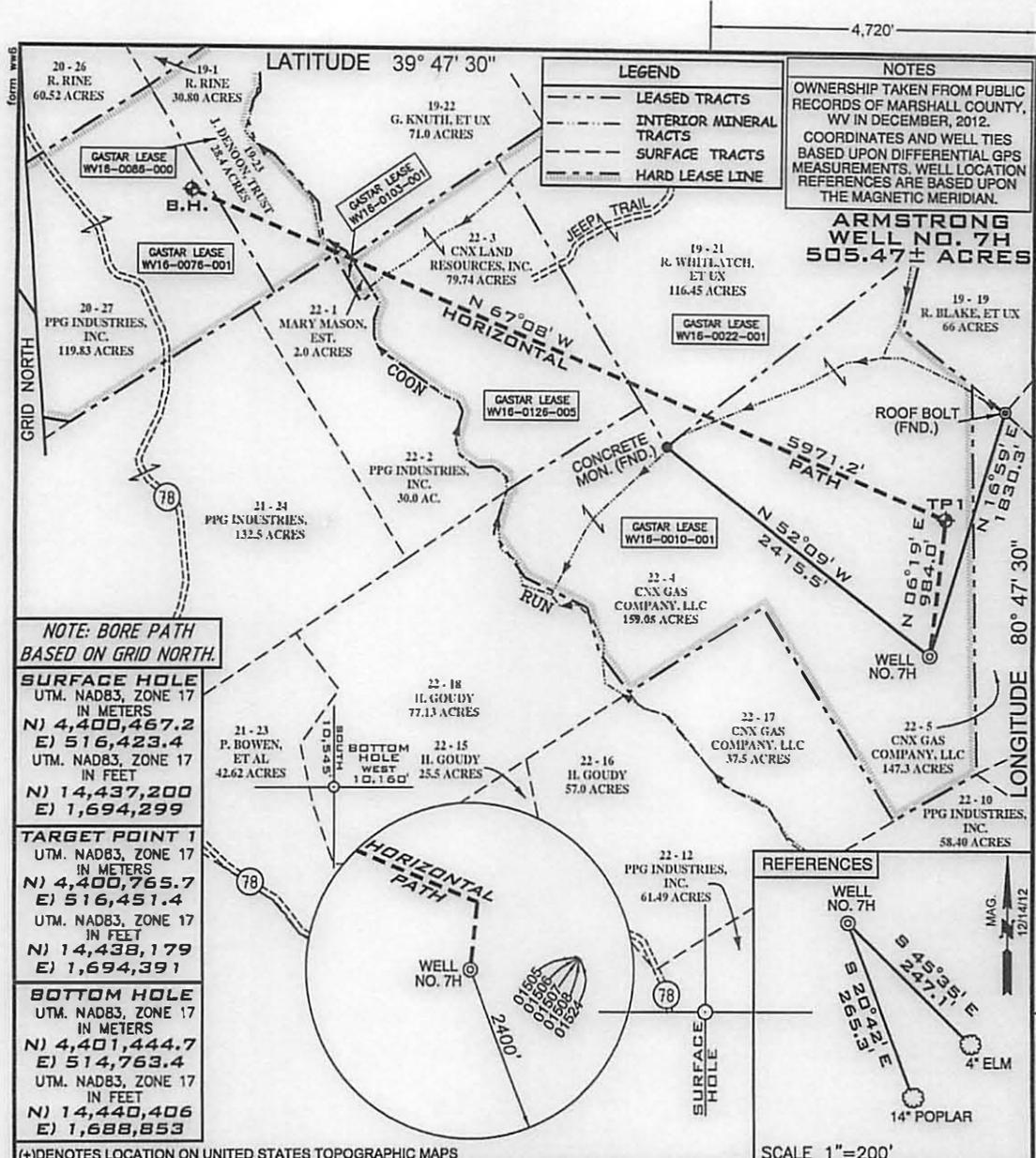
DMH
1-25-13

W0120316

OPERATOR
GASTAR EXPLORATION
USA, Inc.
229 W Main Street, Suite 301
Clarksburg, WV 26301

TOPO SECTION
POWHATAN POINT 7.5'
SCALE:
1"=2000'

LEASE NAME
ARMSTRONG
DATE:
DATE: 12/27/12



NOTE: BORE PATH BASED ON GRID NORTH.

SURFACE HOLE
 UTM. NAD83, ZONE 17
 IN METERS
 N) 4,400,467.2
 E) 516,423.4
 UTM. NAD83, ZONE 17
 IN FEET
 N) 14,437,200
 E) 1,694,299

TARGET POINT 1
 UTM. NAD83, ZONE 17
 IN METERS
 N) 4,400,765.7
 E) 516,451.4
 UTM. NAD83, ZONE 17
 IN FEET
 N) 14,438,179
 E) 1,694,391

BOTTOM HOLE
 UTM. NAD83, ZONE 17
 IN METERS
 N) 4,401,444.7
 E) 514,763.4
 UTM. NAD83, ZONE 17
 IN FEET
 N) 14,440,406
 E) 1,688,853

REFERENCES

WELL NO. 7H
 5 45°35' E
 247.7'

5 26°51' E
 204.2'

4' ELM
 14" POPLAR

SCALE 1"=200'

FILE NUMBER W0120316 (WB1-56)

DRAWING NUMBER ARMSTRONG_WP_7H

SCALE 1" = 1000'

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

P.S. Jonathan N. White



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



DATE: DECEMBER 27, 2012

OPERATORS WELL NO. ARMSTRONG NO. 7H

API WELL NO. 47-051-01618 H6A

STATE COUNTY PERMIT

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

LOCATION ELEVATION 1278' WATERSHED TRIBUTARY OF COON RUN

DISTRICT RANKLIN COUNTY MARSHALL

QUADRANGLE POWATAN POINT 7.5' LEASE NUMBER WV16-0086-000, WV16-0103-001, WV16-0022-001, WV16-0010-001, WV16-0076-001, WV16-0126-005

SURFACE OWNER CNX GAS COMPANY, LLC ACREAGE 159.05

OIL & GAS ROYALTY OWNER CNX GAS COMPANY, LLC LEASE ACREAGE 505.47

PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE (SPECIFY) _____

TARGET FORMATION MARCELLUS ESTIMATED DEPTH 6458 + Horizontal Leg

WELL OPERATOR GASTAR EXPLORATION USA, INC. DESIGNATED AGENT MICHAEL McCOWN

ADDRESS 229 W MAIN STREET, SUITE 301 CLARKSBURG WV, 26301 ADDRESS 229 W MAIN STREET, SUITE 301 CLARKSBURG WV, 26301

COUNTY NAME
 PERMIT



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

April 15, 2013

WELL WORK PERMIT
Horizontal 6A Well

This permit, API Well Number: 47-5101617, issued to GASTAR EXPLORATION USA, INC., 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

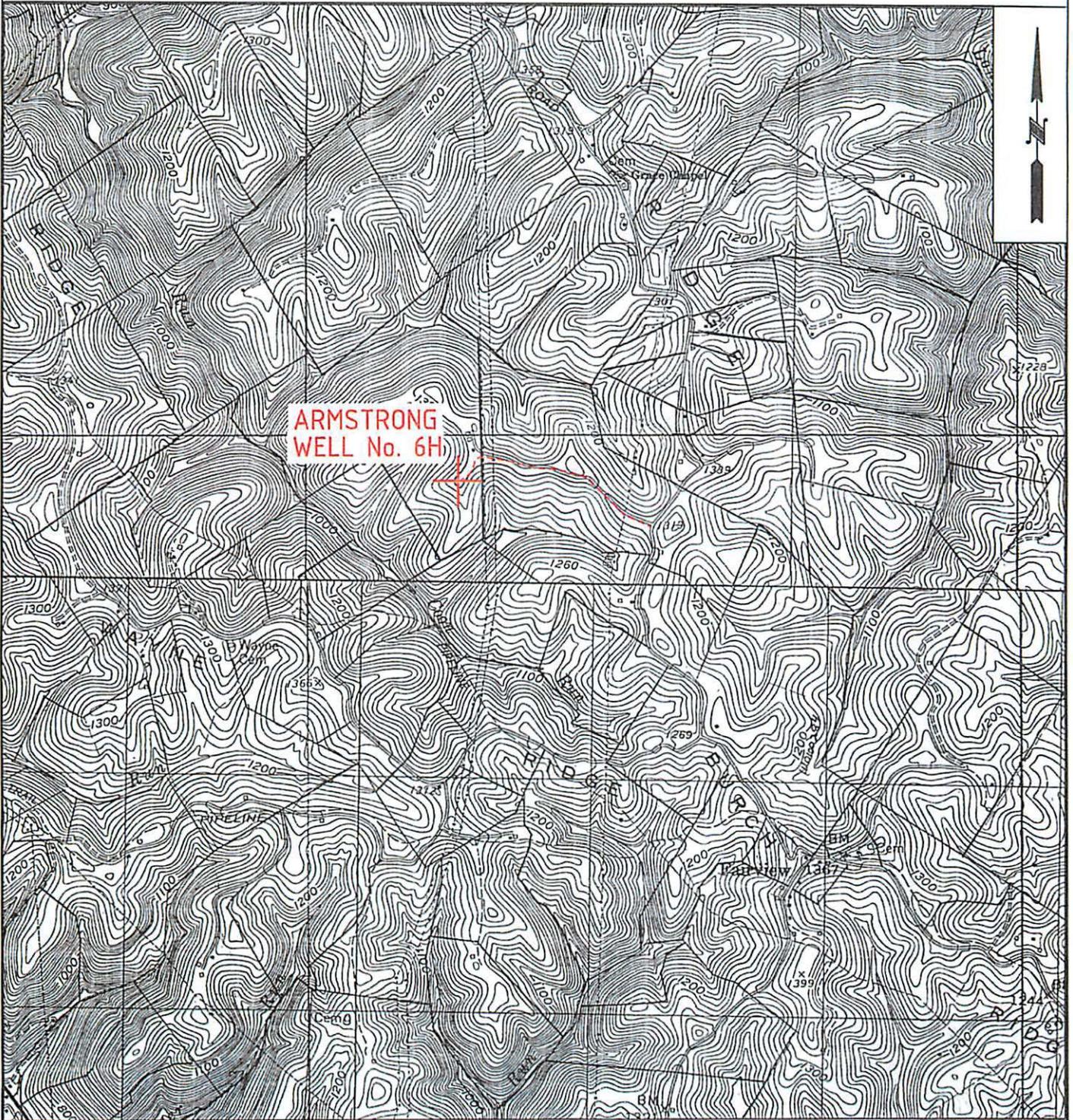
Operator's Well No: ARMSTRONG NO. 6H
Farm Name: CNX GAS COMPANY, LLC
API Well Number: 47-5101617
Permit Type: Horizontal 6A Well
Date Issued: 04/15/2013

Promoting a healthy environment.

WW-9

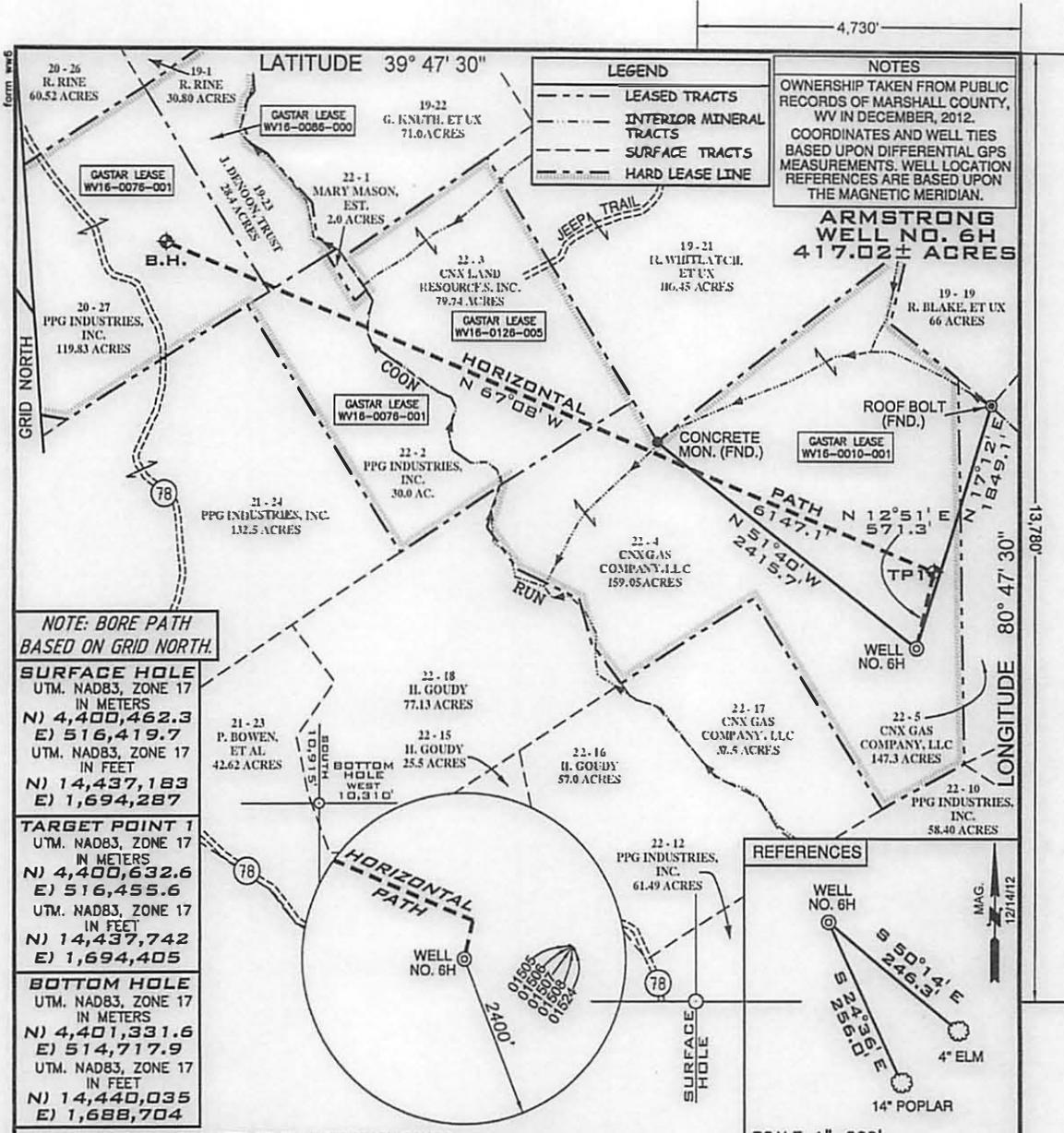
PROPOSED ARMSTRONG WELL No. 6H

SUPPLEMENT PG 2



<p><i>Case</i> 1-25-13</p> <p><i>DWH</i> 1-25-13</p>	<p>OPERATOR</p> <p>GASTAR EXPLORATION USA, Inc. 229 W Main Street, Suite 301 Clarksburg, WV 26301</p>	<p>TOPO SECTION</p> <p>POWHATAN POINT 7.5'</p>	<p>LEASE NAME</p> <p>ARMSTRONG</p>
	<p>SCALE:</p> <p>1"=2000'</p>	<p>DATE:</p> <p>DATE: 12/27/12</p>	

W0120316



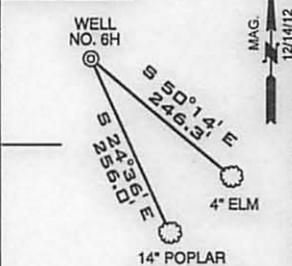
NOTE: BORE PATH BASED ON GRID NORTH.

SURFACE HOLE
UTM. NAD83, ZONE 17
IN METERS
N) 4,400,462.3
E) 516,419.7
UTM. NAD83, ZONE 17
IN FEET
N) 14,437,183
E) 1,694,287

TARGET POINT 1
UTM. NAD83, ZONE 17
IN METERS
N) 4,400,632.6
E) 516,455.6
UTM. NAD83, ZONE 17
IN FEET
N) 14,437,742
E) 1,694,405

BOTTOM HOLE
UTM. NAD83, ZONE 17
IN METERS
N) 4,401,331.6
E) 514,717.9
UTM. NAD83, ZONE 17
IN FEET
N) 14,440,035
E) 1,688,704

REFERENCES



SCALE 1"=200'

(*) DENOTES LOCATION ON UNITED STATES TOPOGRAPHIC MAPS

FILE NUMBER W0120316 (WB1-56)
DRAWING NUMBER ARMSTRONG_WP_6H
SCALE 1" = 1000'
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

P.S. Jonathan N. White
2122



SEAL

WVDEP
OFFICE OF OIL & GAS
801 57TH STREET
CHARLESTON, WV 25304



DATE: DECEMBER 27, 2012

OPERATORS WELL NO. ARMSTRONG NO. 6H
API WELL NO.

47-051-01617-H6A
STATE COUNTY PERMIT

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
(IF "GAS") PRODUCTION STORAGE DEEP SHALLOW
LOCATION ELEVATION 1278' WATERSHED FRANKLIN TRIBUTARY OF COON RUN
DISTRICT FRANKLIN COUNTY MARSHALL
QUADRANGLE POWATAN POINT 7.5' LEASE NUMBER WV16-0086-000, WV16-0010-001, WV16-0076-001, WV16-0126-005

SURFACE OWNER CNX GAS COMPANY, LLC ACREAGE 159.05
OIL & GAS ROYALTY OWNER CNX GAS COMPANY, LLC LEASE ACREAGE 417.02
PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE (SPECIFY) _____
TARGET FORMATION MARCELLUS ESTIMATED DEPTH 6458 + Horizontal Leg
WELL OPERATOR GASTAR EXPLORATION USA, INC. DESIGNATED AGENT MICHAEL McCOWN
ADDRESS 229 W MAIN STREET, SUITE 301 CLARKSBURG WV, 26301 ADDRESS 229 W MAIN STREET, SUITE 301 CLARKSBURG WV, 26301

COUNTY NAME
PERMIT



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

April 15, 2013

WELL WORK PERMIT

Horizontal 6A Well

This permit, API Well Number: 47-5101616, issued to GASTAR EXPLORATION USA, INC., 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.

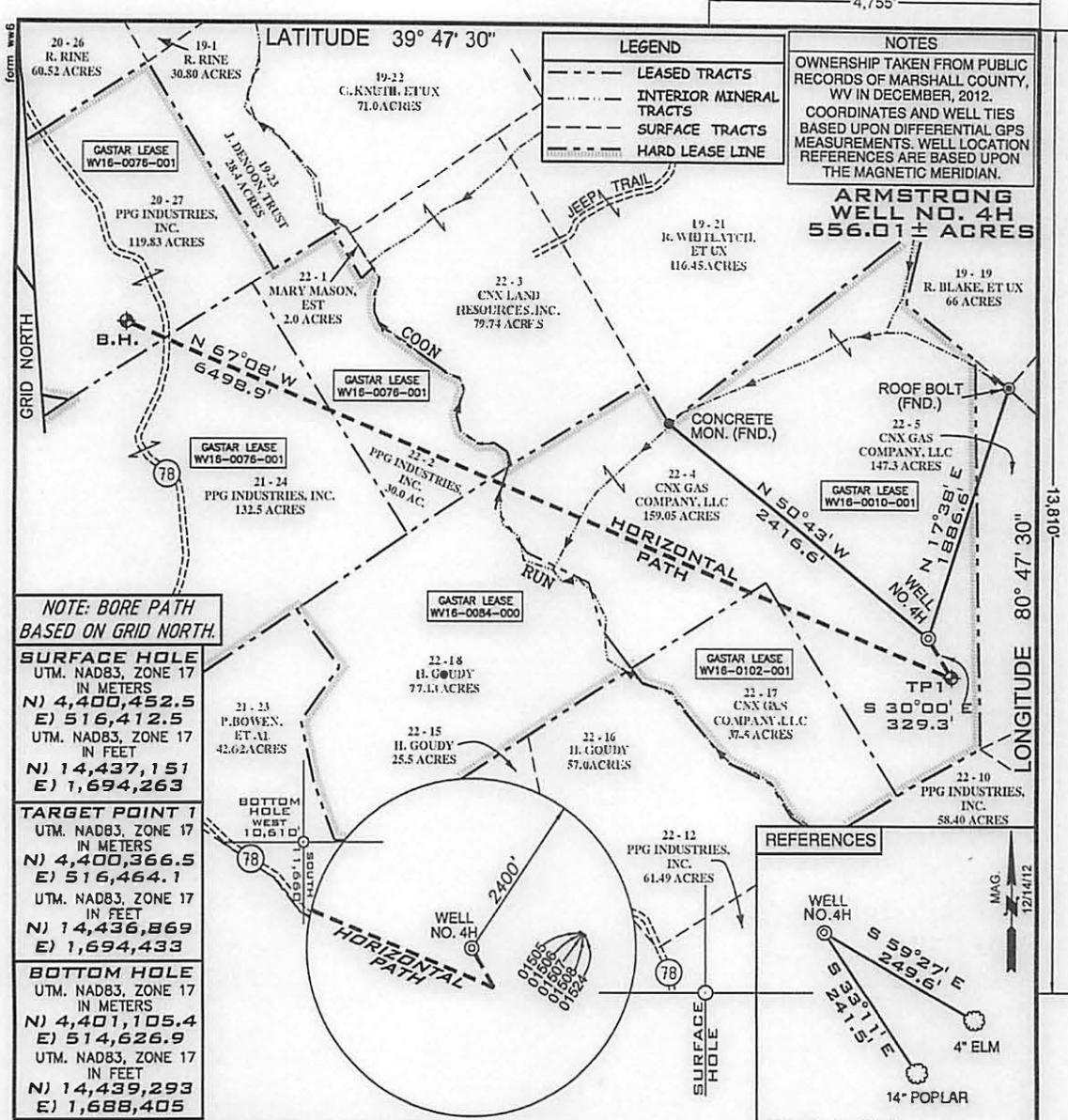
In addition to the applicable requirements of this permit, and the statutes and rules governing oil and gas activity in WV, this permit may contain specific conditions which must be followed. Permit conditions are attached to this cover letter.

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: ARMSTRONG NO. 4H
Farm Name: CNX GAS COMPANY, LLC
API Well Number: 47-5101616
Permit Type: Horizontal 6A Well
Date Issued: 04/15/2013

Promoting a healthy environment.



(+) DENOTES LOCATION ON UNITED STATES TOPOGRAPHIC MAPS

FILE NUMBER <u>W0120316 (WB1-56)</u>	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
DRAWING NUMBER <u>ARMSTRONG_WP_4H</u>	P.S. 2122 <i>Jonathan N. White</i>
SCALE <u>1" = 1000'</u>	
MINIMUM DEGREE OF ACCURACY <u>1/200</u>	
PROVEN SOURCE OF ELEVATION <u>SUBMETER MAPPING</u> <u>GRADE GPS</u>	
WVDEP OFFICE OF OIL & GAS 601 5TH STREET CHARLESTON, WV 25304	DATE: <u>DECEMBER 27, 2012</u> OPERATORS WELL NO. <u>ARMSTRONG NO. 4H</u> API/WELL NO. <u>47-051-01616 HGA</u> STATE <u>WV</u> COUNTY <u>MARSHALL</u> PERMIT <u> </u>
WELL TYPE: OIL <u> </u> GAS <u>X</u> LIQUID INJECTION <u> </u> WASTE DISPOSAL <u> </u> (IF "GAS") PRODUCTION <u>X</u> STORAGE <u> </u> DEEP <u> </u> SHALLOW <u>X</u>	COUNTY NAME
LOCATION ELEVATION <u>1278'</u> WATERSHED <u> </u> TRIBUTARY OF <u>COON RUN</u>	
DISTRICT <u>FRANKLIN</u> COUNTY <u>MARSHALL</u> QUADRANGLE <u>POWHATAN POI T 7.5'</u> LEASE NUMBER <u>WV16-0102-001</u> <u>WV16-0010-001, WV16-0076-001, WV16-0084-000</u>	PERMIT
SURFACE OWNER <u>CNX GAS COMPANY, LLC</u> ACREAGE <u>159.05</u> OIL & GAS ROYALTY OWNER <u>CNX GAS COMPANY, LLC</u> LEASE ACREAGE <u>556.01</u> PROPOSED WORK: DRILL <u>X</u> CONVERT <u> </u> DRILL DEEPER <u> </u> REDRILL <u> </u> FRACTURE OR STIMULATE <u>X</u> PLUG OFF OLD FORMATION <u> </u> <u>PERF RATE NEW FORMATION</u> OTHER PHYSICAL CHANGE (SPECIFY) <u> </u> <u>PLUG & ABANDON</u> <u> </u> CLEANOUT & REPLUG <u> </u>	
TARGET FORMATION <u>MARCELLUS</u> ESTIMATED DEPTH <u>6458 + Horizontal Leg</u>	
WELL OPERATOR <u>GASTAR EXPLORATION USA, INC.</u> DESIGNATED AGENT <u>MICHAEL McCOWN</u> ADDRESS <u>229 W MAIN STREET, SUITE 301</u> ADDRESS <u>229 W MAIN STREET, SUITE 301</u> <u>CLARKSBURG WV, 26301</u> <u>CLARKSBURG WV, 26301</u>	



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

April 15, 2013

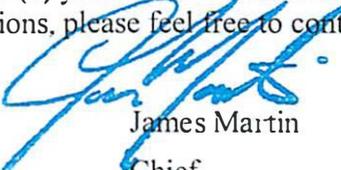
WELL WORK PERMIT
Horizontal 6A Well

This permit, API Well Number: 47-5101615, issued to GASTAR EXPLORATION USA, INC., 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: ARMSTRONG NO. 3H
Farm Name: CNX GAS COMPANY, LLC
API Well Number: 47-5101615
Permit Type: Horizontal 6A Well
Date Issued: 04/15/2013

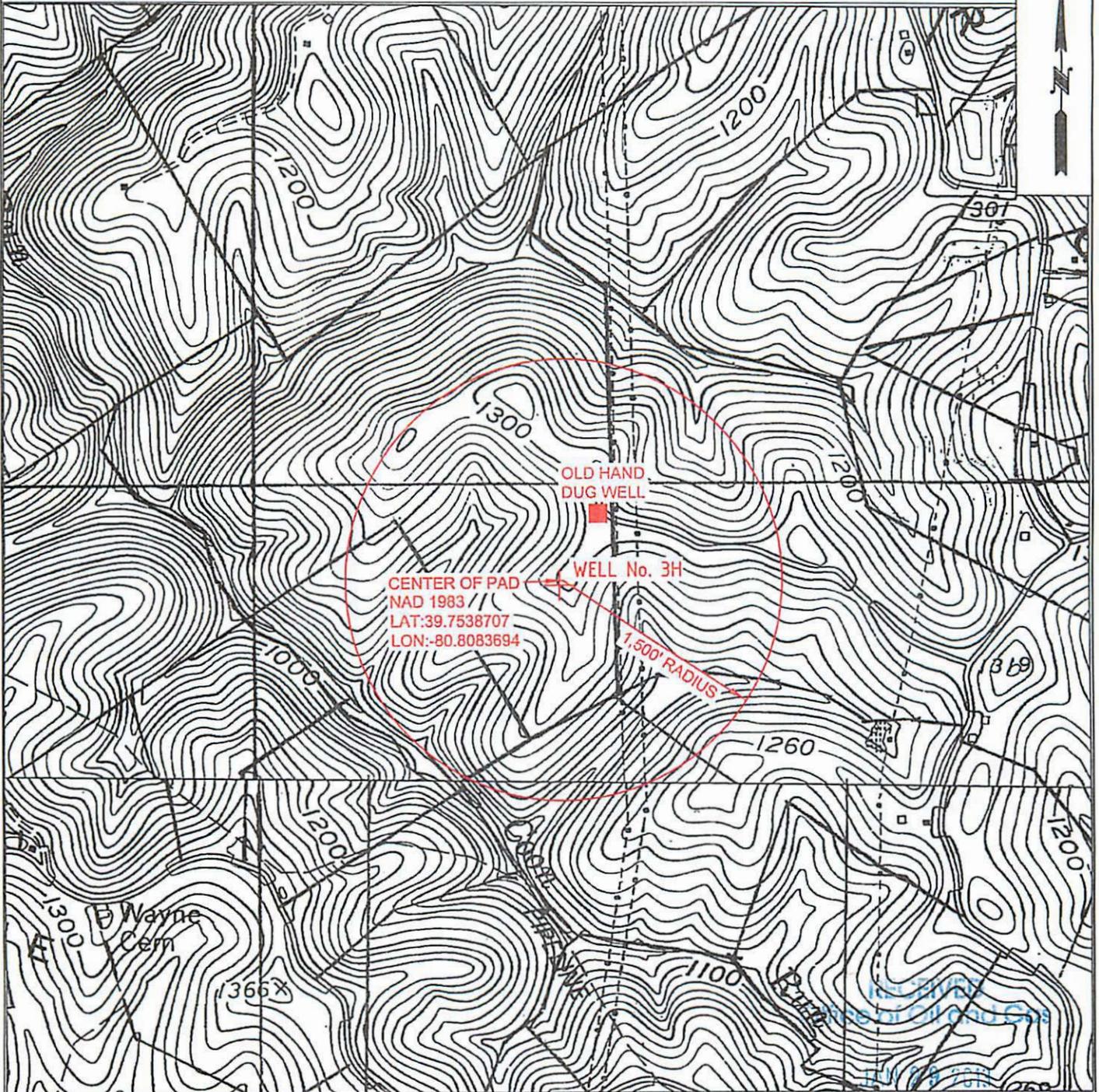
Promoting a healthy environment.

WW-6A

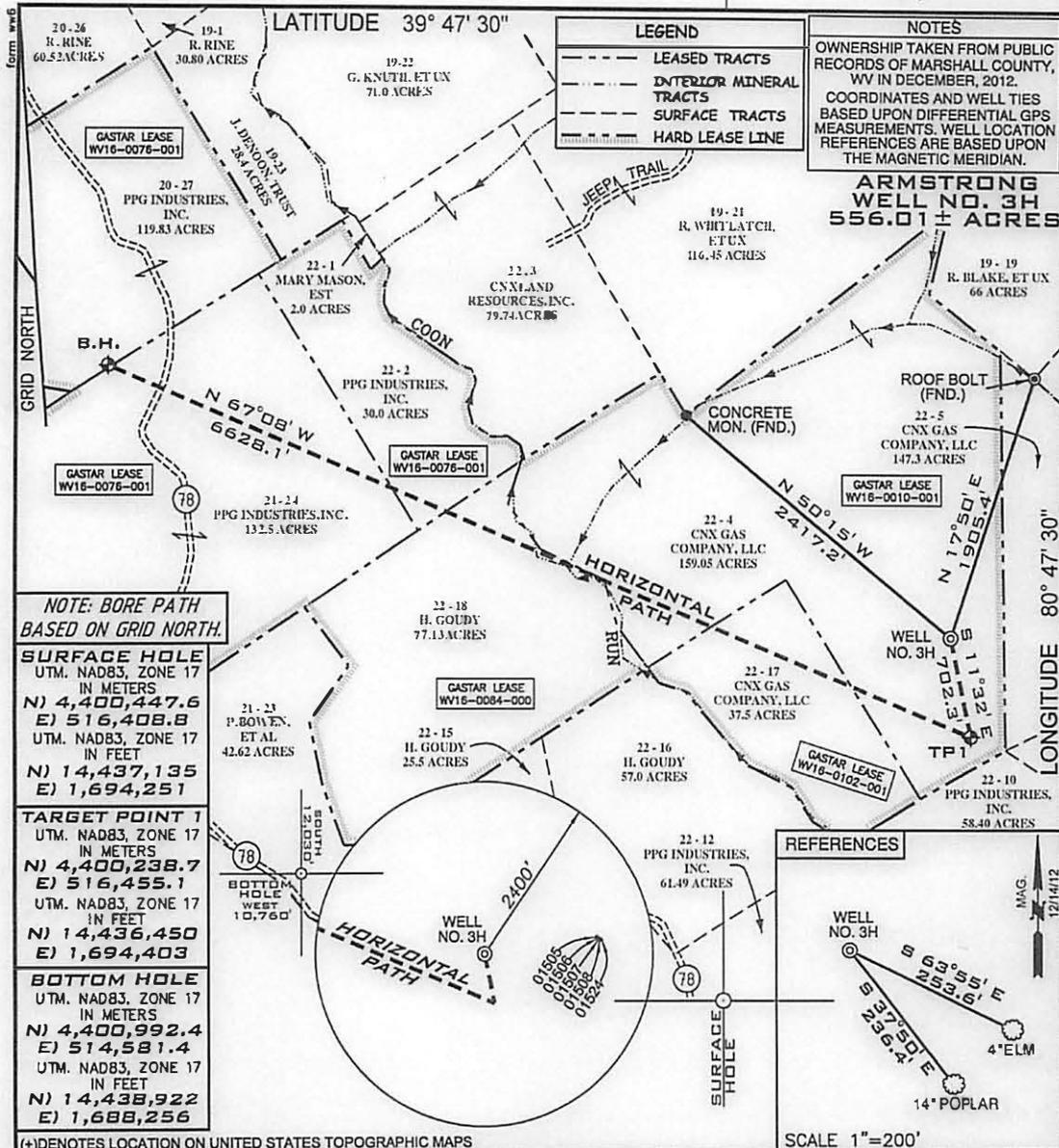
PROPOSED ARMSTRONG WELL No. 3H

SUPPLEMENT PG 2

There appears to be one (1) water source within 1,500'.



W0120316	OPERATOR	TOPO SECTION	LEASE NAME
	GASTAR EXPLORATION USA, Inc. 229 W Main Street, Suite 301 Clarksburg, WV 26301	POWHATAN POINT 75' SCALE: 1"=1000'	ARMSTRONG DATE: DATE: 12/27/12

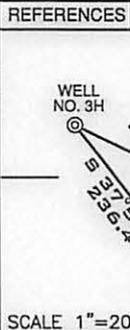


NOTE: BORE PATH BASED ON GRID NORTH.

SURFACE HOLE
 UTM. NAD83, ZONE 17
 IN METERS
 N) 4,400,447.6
 E) 516,408.8
 UTM. NAD83, ZONE 17
 IN FEET
 N) 14,437,135
 E) 1,694,251

TARGET POINT 1
 UTM. NAD83, ZONE 17
 IN METERS
 N) 4,400,238.7
 E) 516,455.1
 UTM. NAD83, ZONE 17
 IN FEET
 N) 14,436,450
 E) 1,694,403

BOTTOM HOLE
 UTM. NAD83, ZONE 17
 IN METERS
 N) 4,400,992.4
 E) 514,581.4
 UTM. NAD83, ZONE 17
 IN FEET
 N) 14,438,922
 E) 1,688,256



(+) DENOTES LOCATION ON UNITED STATES TOPOGRAPHIC MAPS

FILE NUMBER W0120316 (WB1-56)

DRAWING NUMBER ARMSTRONG_WP_3H

SCALE 1" = 1000'

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

P.S. Jonathan N. White

2122



WVDEP
 OFFICE OF OIL & GAS
 801 57TH STREET
 CHARLESTON, WV 25304



DATE: DECEMBER 27, 2012

OPERATORS WELL NO. ARMSTRONG NO. 3H

API WELL NO. 47-051-1615 H6A

STATE WV COUNTY MARSHALL PERMIT

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

LOCATION ELEVATION 1278' WATERSHED FRANKLIN TRIBUTARY OF COON RUN

DISTRICT FRANKLIN COUNTY MARSHALL

QUADRANGLE POWHATAN POI T 7.5' LEASE NUMBER WV16-0102-001
WV16-0010-001, WV16-0076-001, WV16-0084-000

SURFACE OWNER CNX GAS COMPANY, LLC ACREAGE 159.05

OIL & GAS ROYALTY OWNER CNX GAS COMPANY, LLC LEASE ACREAGE 556.01

PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE (SPECIFY) _____

TARGET FORMATION MARCELLUS ESTIMATED DEPTH 6458 + Horizontal Leg

WELL OPERATOR GASTAR EXPLORATION USA, INC. DESIGNATED AGENT MICHAEL McCOWN

ADDRESS 229 W MAIN STREET, SUITE 301 ADDRESS 229 W MAIN STREET, SUITE 301
CLARKSBURG WV, 26301 CLARKSBURG WV, 26301

COUNTY NAME

PERMIT



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

April 15, 2013

WELL WORK PERMIT
Horizontal 6A Well

This permit, API Well Number: 47-5101614, issued to GASTAR EXPLORATION USA, INC., 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: ARMSTRONG NO. 2H
Farm Name: CNX GAS COMPANY, LLC
API Well Number: 47-5101614
Permit Type: Horizontal 6A Well
Date Issued: 04/15/2013

Promoting a healthy environment.

WW-9

PROPOSED ARMSTRONG WELL No. 2H

SUPPLEMENT PG 2



**ARMSTRONG
WELL No. 2H**

DMH
1-25-13

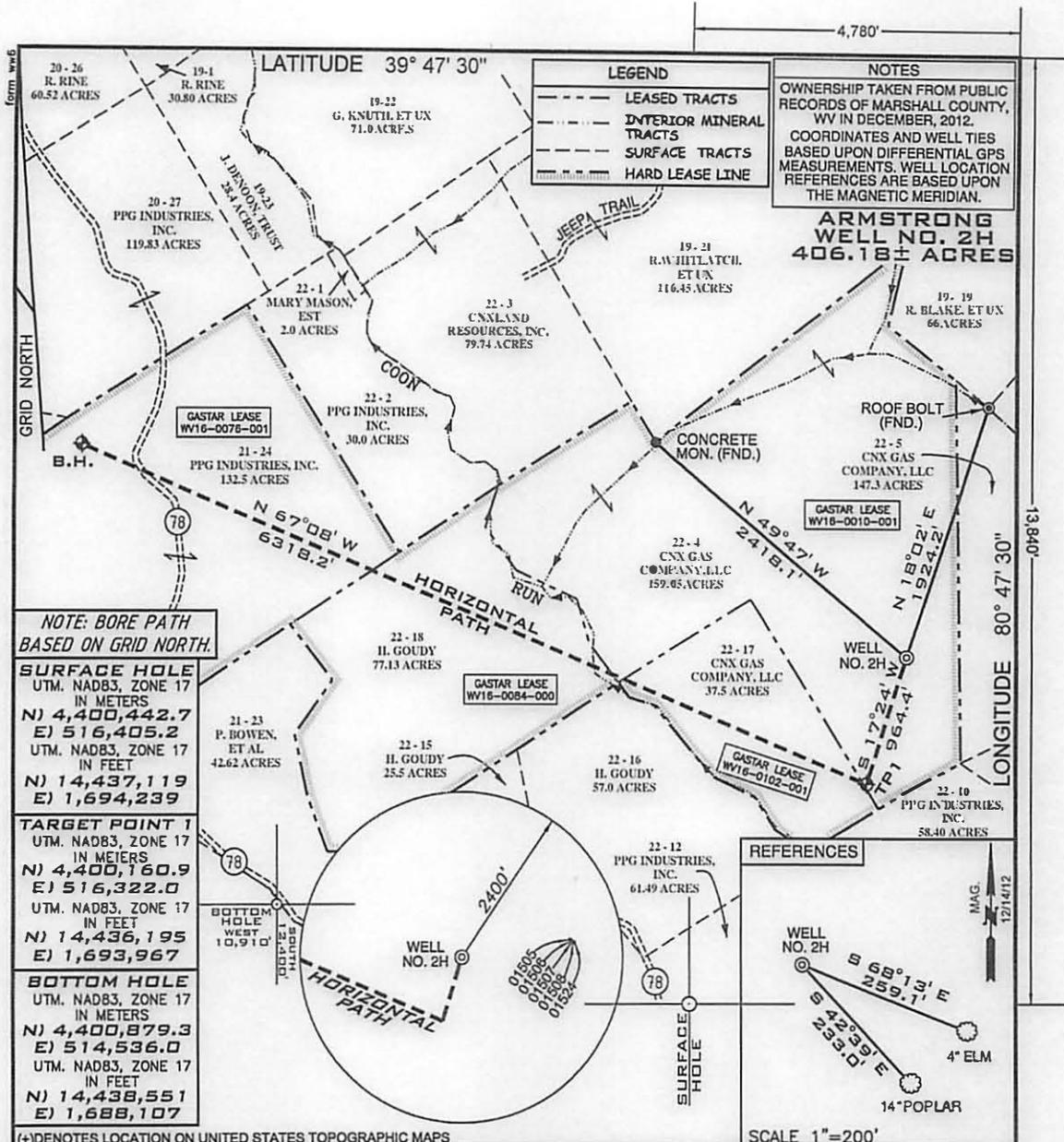
W0120316

OPERATOR
GASTAR EXPLORATION
USA, Inc.
229 W Main Street, Suite 301
Clarksburg, WV 26301

TOPO SECTION
POWHATAN POINT 75
SCALE:
1"=2000'

LEASE NAME
ARMSTRONG
DATE:
DATE: 12/27/12

WV Department of Environmental Protection

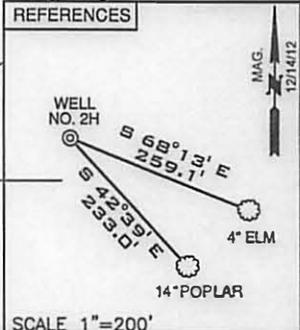


NOTE: BORE PATH BASED ON GRID NORTH.

SURFACE HOLE
UTM. NAD83, ZONE 17
IN METERS
N) 4,400,442.7
E) 516,405.2
UTM. NAD83, ZONE 17
IN FEET
N) 14,437,119
E) 1,694,239

TARGET POINT 1
UTM. NAD83, ZONE 17
IN METERS
N) 4,400,160.9
E) 516,322.0
UTM. NAD83, ZONE 17
IN FEET
N) 14,436,195
E) 1,693,967

BOTTOM HOLE
UTM. NAD83, ZONE 17
IN METERS
N) 4,400,879.3
E) 514,536.0
UTM. NAD83, ZONE 17
IN FEET
N) 14,438,551
E) 1,688,107



FILE NUMBER W0120316 (WB1-56)

DRAWING NUMBER ARMSTRONG_WP_2H

SCALE 1" = 1000'

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

P.S. 2122 *Jonathan N. White*



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



DATE: DECEMBER 27, 2012

OPERATORS WELL NO. ARMSTRONG NO. 2H

API WELL NO. 47-051-01614 H6A

STATE WV COUNTY MARSHALL PERMIT

LOCATION ELEVATION 1278' WATERSHED TRIBUTARY OF COON RUN

DISTRICT FRANKLIN COUNTY MARSHALL

QUADRANGLE POWHATAN POINT 7.5' LEASE NUMBER WV16-0102-001
WV16-0010-001, WV16-0076-001, WV16-0084-000

SURFACE OWNER CNX GAS COMPANY, LLC ACREAGE 159.05

OIL & GAS ROYALTY OWNER CNX GAS COMPANY, LLC LEASE ACREAGE 406.18

PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE (SPECIFY)

TARGET FORMATION MARCELLUS PLUG & ABANDON CLEAN OUT & REPLUG

ESTIMATED DEPTH 6458 + Horizontal Leg

WELL OPERATOR GASTAR EXPLORATION USA, INC. DESIGNATED AGENT MICHAEL McCOWN

ADDRESS 229 W MAIN STREET, SUITE 301 ADDRESS 229 W MAIN STREET, SUITE 301
CLARKSBURG WV, 26301 CLARKSBURG WV, 26301

COUNTY NAME
PERMIT



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

April 15, 2013

WELL WORK PERMIT

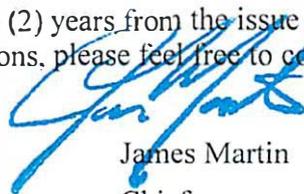
Horizontal 6A Well

This permit, API Well Number: 47-5101613, issued to GASTAR EXPLORATION USA, INC., 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.



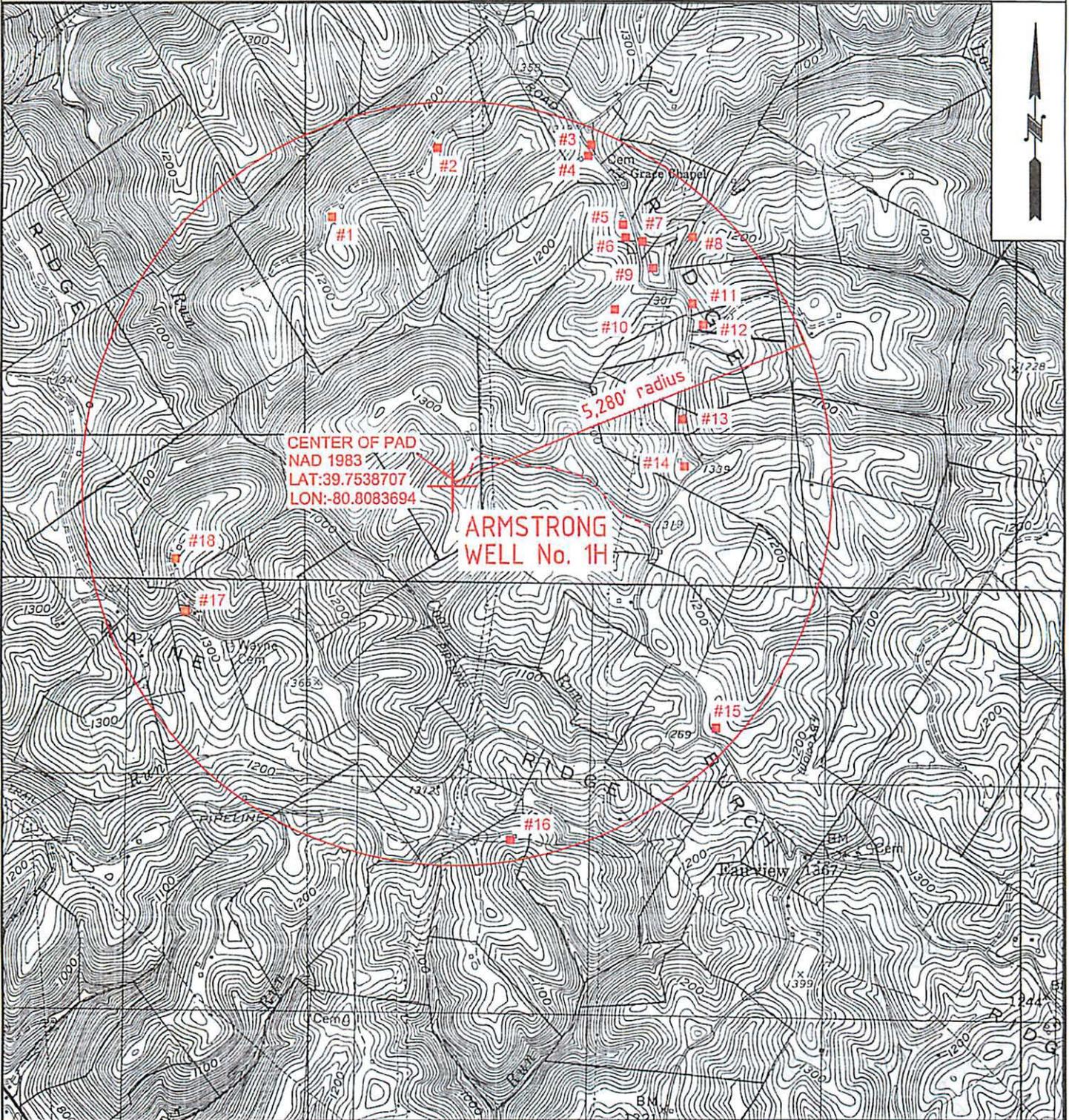
James Martin
Chief

Operator's Well No: ARMSTRONG NO. 1H
Farm Name: CNX GAS COMPANY, LLC
API Well Number: 47-5101613
Permit Type: Horizontal 6A Well
Date Issued: 04/15/2013

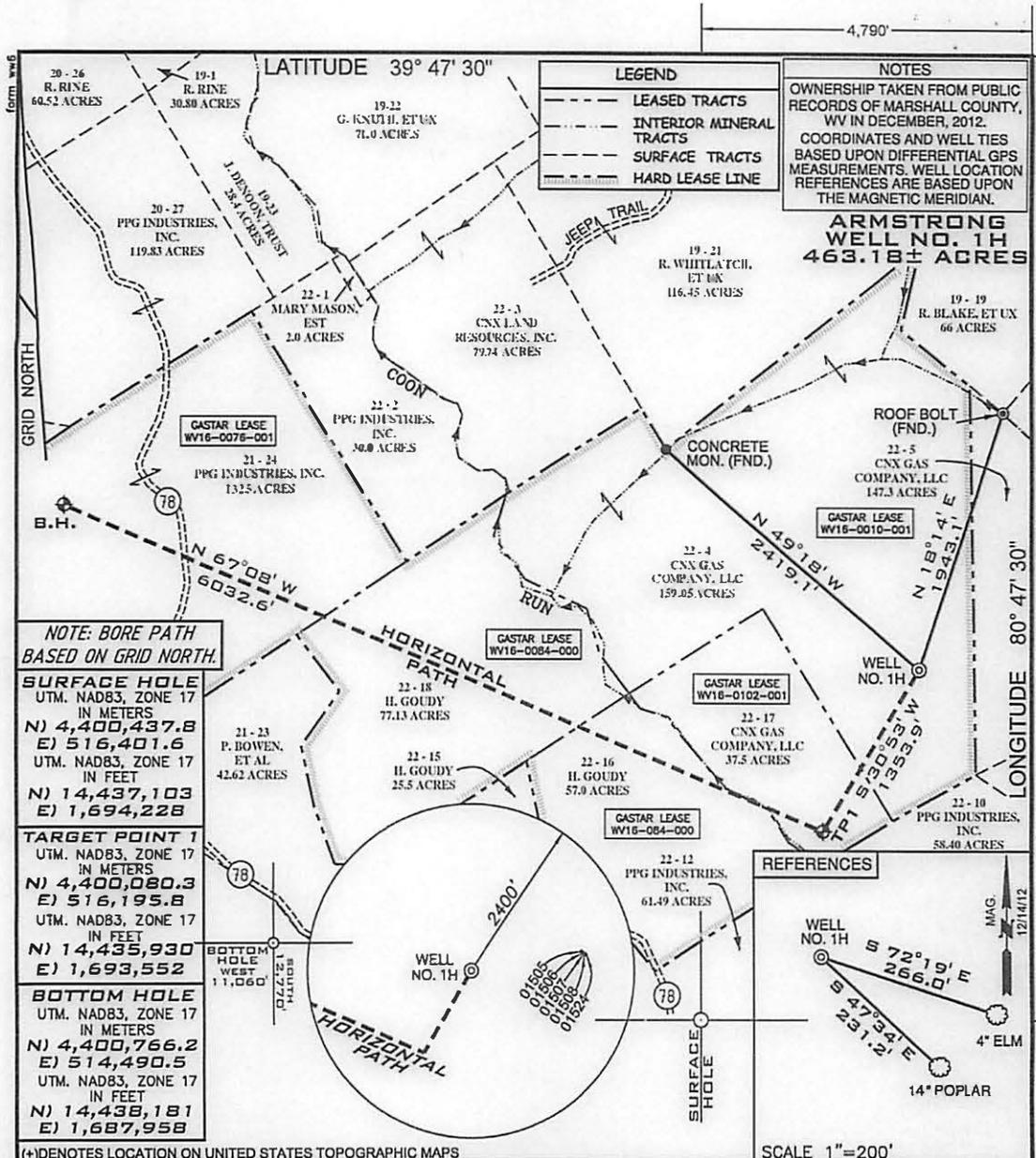
Promoting a healthy environment.

PROPOSED ARMSTRONG WELL No. 1H

There are Eighteen (18) residences within 5,280'.



	OPERATOR	TOPO SECTION	LEASE NAME
	GASTAR EXPLORATION USA, Inc. 229 W Main Street, Suite 301 Clarksburg, WV 26301	POWHATAN POINT 7.5'	ARMSTRONG
		SCALE: 1"=2000'	DATE: DATE: 12/27/12
W0120316			



NOTE: BORE PATH BASED ON GRID NORTH.

SURFACE HOLE
 UTM. NAD83, ZONE 17
 IN METERS
 N) 4,400,437.8
 E) 516,401.6
 UTM. NAD83, ZONE 17
 IN FEET
 N) 14,437,103
 E) 1,694,228

TARGET POINT 1
 UTM. NAD83, ZONE 17
 IN METERS
 N) 4,400,080.3
 E) 516,195.8
 UTM. NAD83, ZONE 17
 IN FEET
 N) 14,435,930
 E) 1,693,552

BOTTOM HOLE
 UTM. NAD83, ZONE 17
 IN METERS
 N) 4,400,766.2
 E) 514,490.5
 UTM. NAD83, ZONE 17
 IN FEET
 N) 14,438,181
 E) 1,687,958

(+) DENOTES LOCATION ON UNITED STATES TOPOGRAPHIC MAPS

SCALE 1"=200'

FILE NUMBER W0120316 (WB1-56)

DRAWING NUMBER ARMSTRONG_WP_1H

SCALE 1" = 1000'

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

P.S. 2122
Jonathan N. White



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



DATE: DECEMBER 27, 2012

OPERATORS WELL NO. ARM TRONG NO. 1H

API WELL NO. 47-051-01613 H6A

STATE COUNTY PERMIT

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
 (IF "GAS") PRODUCT ON STORAGE DEEP SHALLOW

LOCATION ELEVATION 1278' WATERSHED FRANKLIN TRIBUTARY OF COON RUN

DISTRICT FRANKLIN COUNTY MARSHALL
 QUADRANGLE POWHATAN POINT 7.5' LEASE NUMBER WV16-0102-001
WV16-0010-001, WV16-0076-001, WV16-0084-000

SURFACE OWNER CNX GA COMPAN, LLC ACREAGE 159.05

OIL & GAS ROYALTY OWNER CNX GAS COMPANY, LLC LEASE ACREAGE 463.18

PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE (SPECIFY) _____

TARGET FORMATION MARCELLUS ESTIMATED DEPTH 6458 + Horizontal Leg

WELL OPERATOR GASTAR EXPLORATION USA, INC. DESIGNATED AGENT MICHAEL McCOWN
 ADDRESS 229 W MAIN STREET, SUITE 301 ADDRESS 229 W MAIN STREET, SUITE 301
CLARKSBURG WV, 26301 CLARKSBURG WV, 26301

COUNTY NAME PERMIT



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

April 18, 2013

**WELL WORK PERMIT
Horizontal 6A Well**

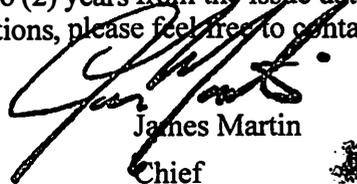
This permit, API Well Number: 47-8510031, issued to NOBLE ENERGY, INC., is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as 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

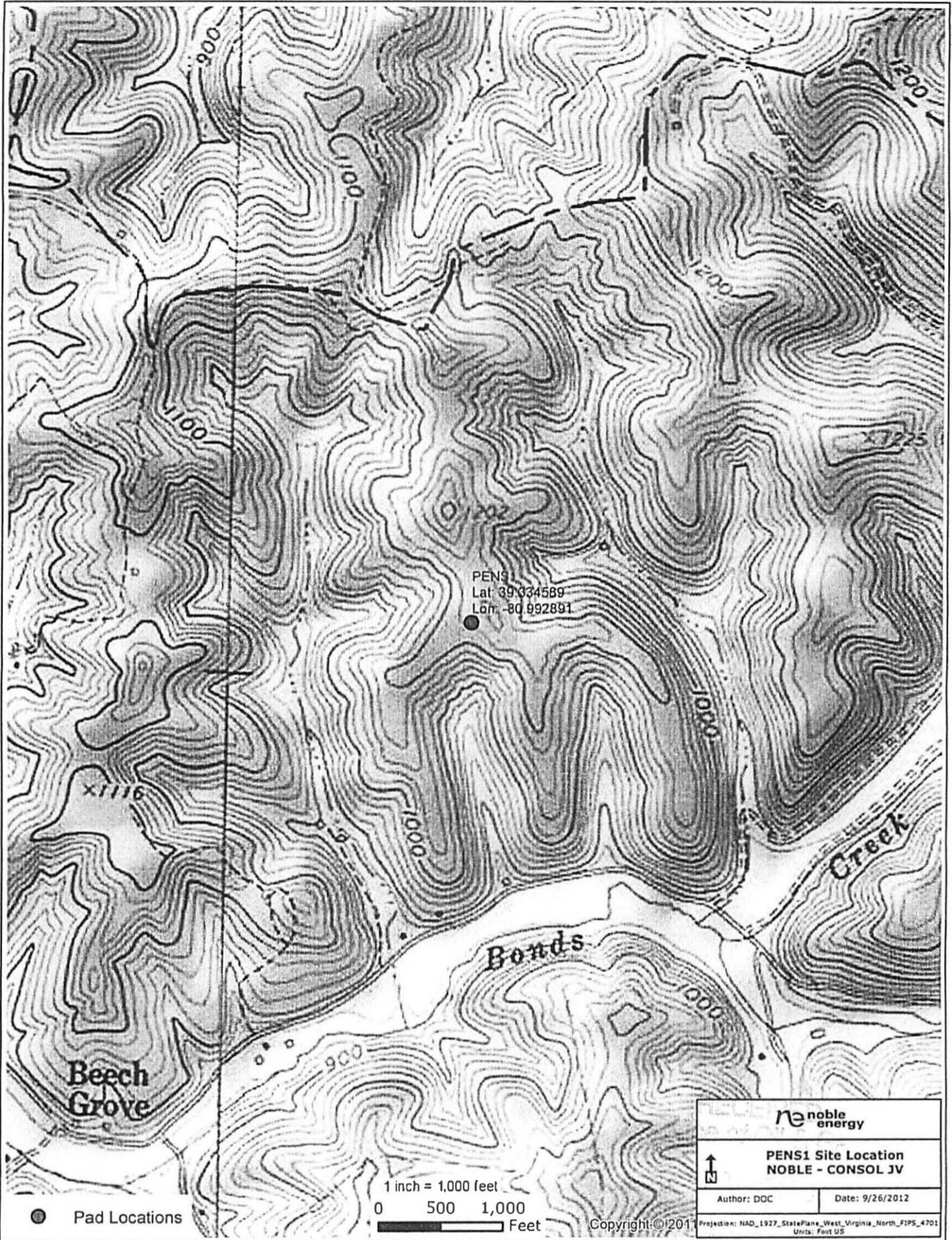
Operator's Well No: PENS 1 FHS
Farm Name: NOBLE ENERGY, INC.

API Well Number: 47-8510031

Permit Type: Horizontal 6A Well

Date Issued: 04/18/2013

Promoting a healthy environment.



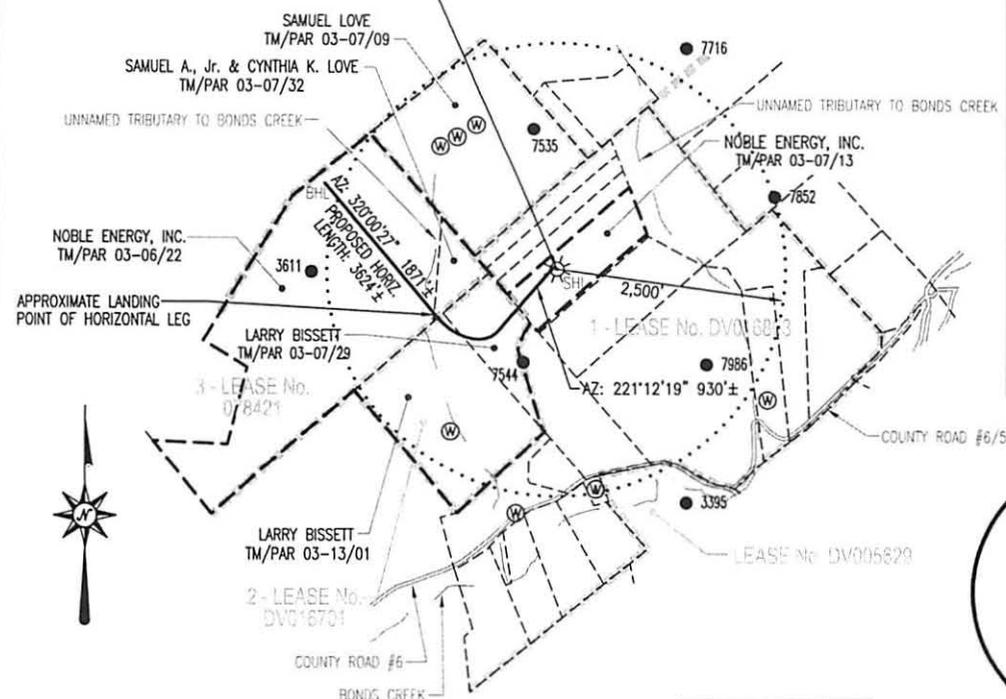
AppalachiaBU\Marcellus\Maps\Majorsville\PENS1_Site_Location_DC

Disclaimer: All data is licensed for use by Noble Energy Inc. use only

Well is located on topo map 14.612' feet south of Latitude: 39°22'30"

Well is located on topo map 9.829' feet west of Longitude: 80°57'30"

WELL PENS1FHS

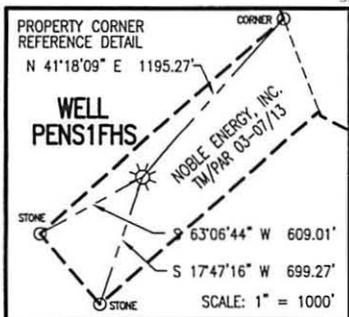
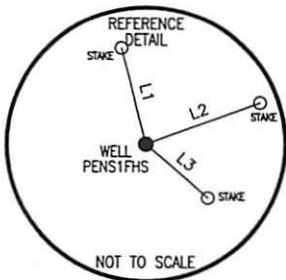


LEGEND

- TOPO MAP POINT
- PROPOSED GAS WELL
- ALL ARE POINTS UNLESS OTHERWISE NOTED.
- WATER SOURCE
- SURFACE BOUNDARY
- LEASE BOUNDARY
- PARCEL LINES
- WELL REFERENCE
- PROPOSED HORIZONTAL WELL
- ROAD
- STREAM CENTER LINE

WELLS WITHIN 3000'

- EXISTING WELLS
- PLUGGED WELLS



SURFACE HOLE LOCATION (SHL)

UTM 17-NAD83
N:4353949.073
E:500612.699
LAT/LOG DATUM: NAD27
N:307591.67
E:1577698.16

LINE	BEARING	DISTANCE
L1	N 14°14'26" W	217.46'
L2	N 69°23'15" E	261.56'
L3	S 48°39'04" E	177.91'

APPROX. LANDING POINT

UTM 17-NAD83
N:4353790.01
E:500212.21
NAD27, WV NORTH
N:307091.70
E:1576375.23

BOTTOM HOLE LOCATION (BHL)

UTM 17-NAD83
N:4354220.54
E:499838.63
NAD27, WV NORTH
N:308524.97
E:1575172.89

NOTES:

- There are no water wells or developed springs within 250' of proposed well.
- There are no existing buildings within 625' of proposed well.
- Proposed well is greater than 100' from perennial stream, wetland, pond, reservoir or lake.
- There are no native trout streams within 300' of proposed well.
- Proposed well is greater than 1000' from surface/groundwater intake or public water supply.
- It is not the purpose or intention of this plat to represent surveyed locations of the surface or mineral parcels depicted hereon. The location of the boundary lines, as shown, are based on record deed descriptions, field evidence found and/or tax map position, unless otherwise noted.

Blue Mountain Engineering
11023 MASON DIXON HIGHWAY
BURTON, WV 26562
PHONE: (304) 662-6486

FILE #: PENS1FHS
DRAWING #: PENS1FHS
SCALE: 1" = 2000'
MINIMUM DEGREE OF ACCURACY: 1/2500
PROVEN SOURCE OF ELEVATION: U.S.G.S. MONUMENT THOMAS 1498.81'

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: [Signature]
R.P.E.: _____ L.L.S.: P.S. No. 2000

PLACE SEAL HERE

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS WVDEP
OFFICE OF OIL & GAS
601 57TH STREET
CHARLESTON, WV 25304



DATE: MARCH 1, 2013
OPERATOR'S WELL #: PENS1FHS
API WELL #: 47 85 10031 H6A
STATE COUNTY PERMIT

Well Type: Oil Waste Disposal Production Deep
 Gas Liquid Injection Storage Shallow

WATERSHED: BONDS CREEK ELEVATION: 1116.40'
COUNTY/DISTRICT: RITCHIE / CLAY QUADRANGLE: PENNSBORO, WV 7.5'
SURFACE OWNER: NOBLE ENERGY, INC. ACREAGE: 19.759±
OIL & GAS ROYALTY OWNER: SEE ATTACHED WW-6A1 ACREAGE: 225.831±

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

TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: TVD: 6,359'± TMD: 8,900'±
WELL OPERATOR NOBLE ENERGY, INC. DESIGNATED AGENT STEVEN M. GREEN
Address 333 TECHNOLOGY DRIVE, SUITE 110 Address 500 VIRGINIA STREET EAST, UNITED CENTER SUITE 1001
City CANONSBURG State PA Zip Code 15317 City CHARLESTON State WV Zip Code 25301



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

April 18, 2013

WELL WORK PERMIT

Vertical Well

This permit, API Well Number: 47-2105755, issued to DOMINION TRANSMISSION INC, 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.

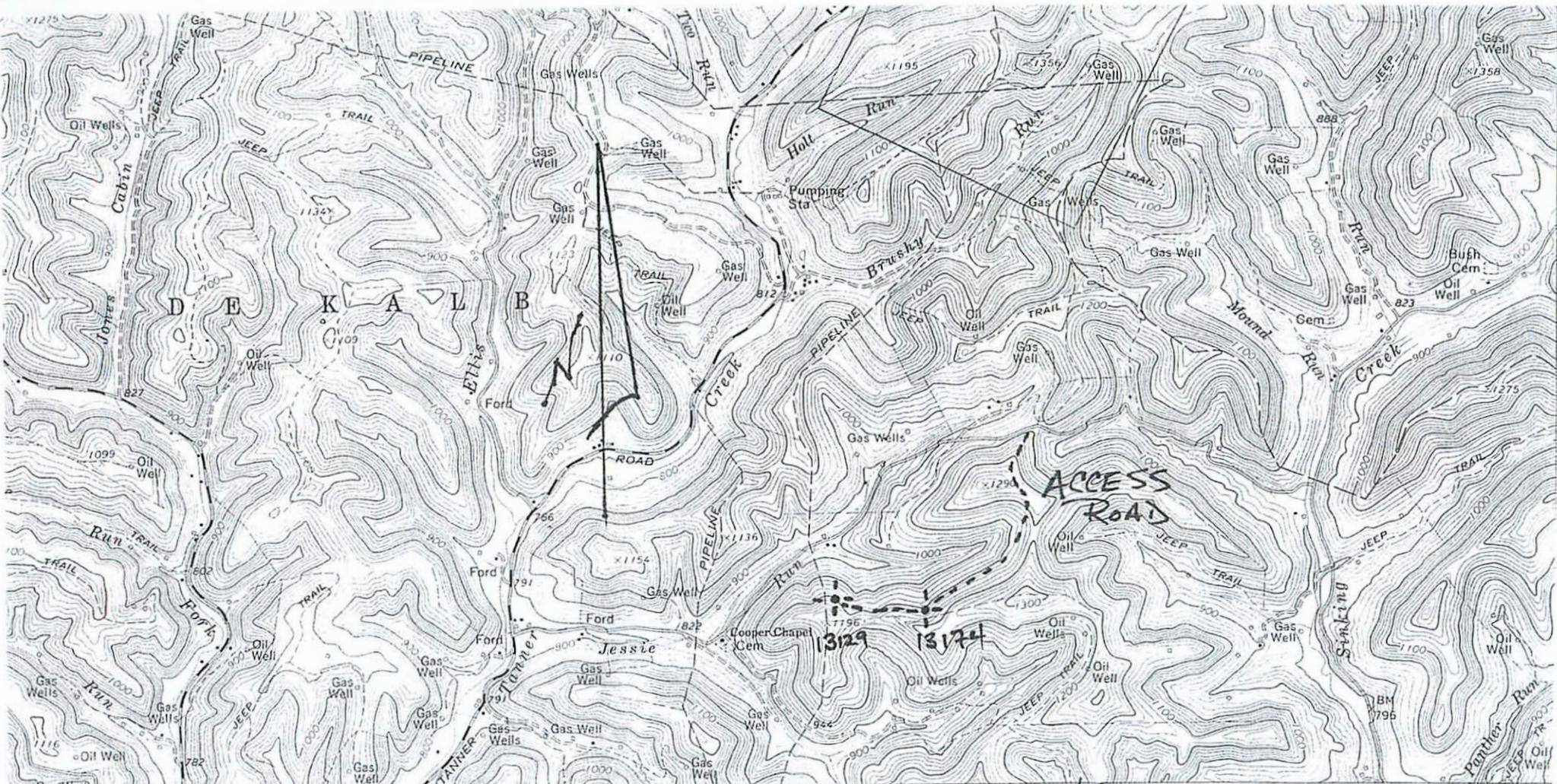
In addition to the applicable requirements of this permit, and the statutes and rules governing oil and gas activity in WV, this permit may contain specific conditions which must be followed. Permit conditions are attached to this cover letter.

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.

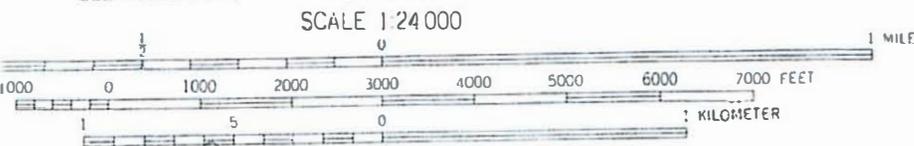
James Martin
Chief

Operator's Well No: 13174
Farm Name: HILL, RODNEY W. & GREGORY C
API Well Number: 47-2105755
Permit Type: Vertical Well
Date Issued: 04/18/2013

Promoting a healthy environment.



TANNER 0.8 MI | 505 (TANNER) 4861 IV NW | 506 | 507 55' | 508 | 509 | INTERIOR—GEOLOGICAL SURVEY, RESTON, VIRGINIA—1978 | 2 030 000 FEET (SOUTH) | 510000m E | 80° 5'



CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

*AM Cont
3-27-13*

ROAD CLASSIFICATION

Heavy-duty		Light-duty	
Medium-duty		Unimproved dirt	
		State Route	

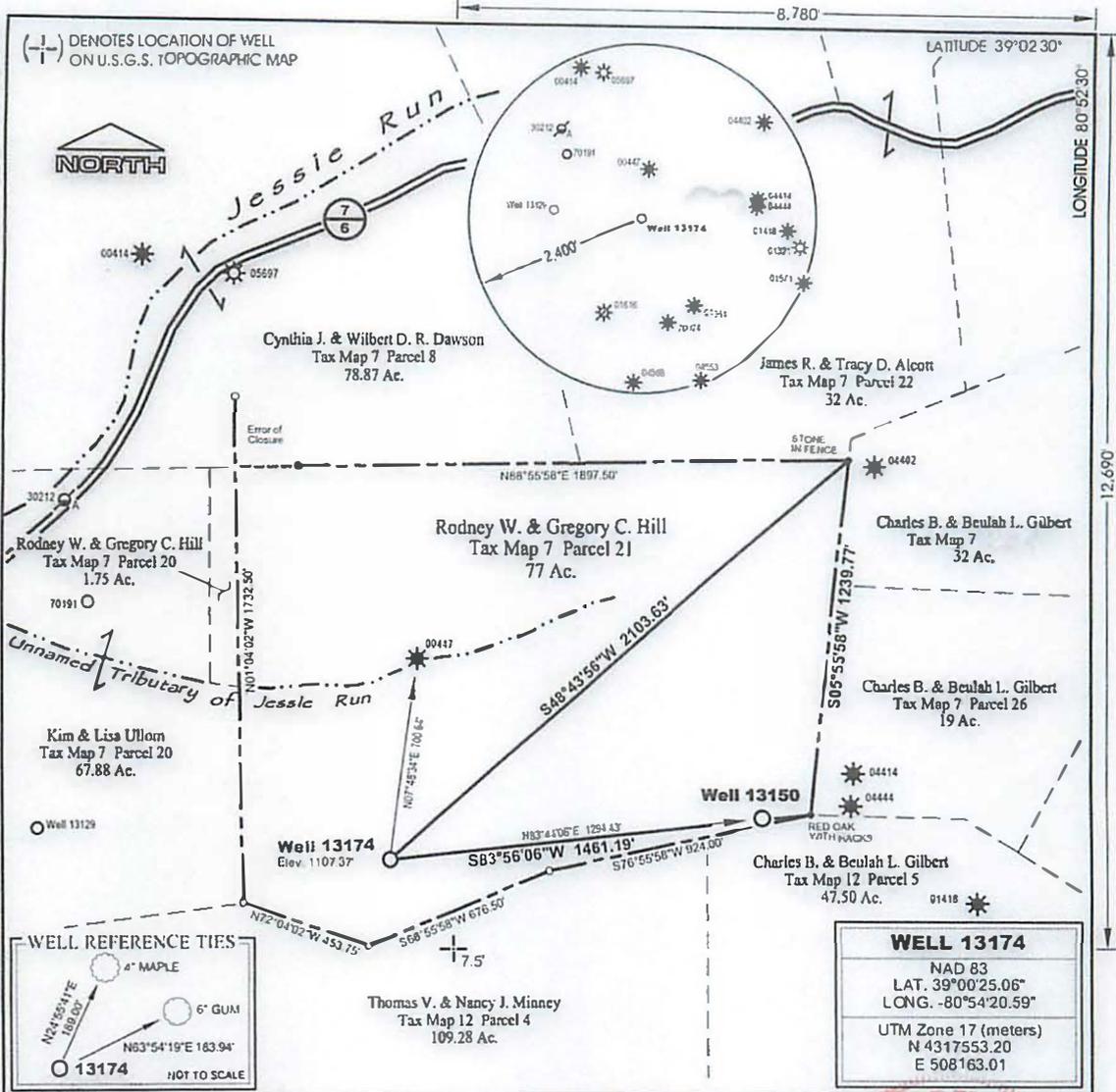


BURNT HOUSE, W. VA.
SW/4 HOLBROOK 15' QUADRANGLE
N3900—W8052.5/7.5
1964
PHOTOREVISED 1976
AMS 4862 III SW—SERIES V85+

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U. S. GEOLOGICAL SURVEY, RESTON, VIRGINIA 22092
FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

*Office of Oil & Gas
APF
1-28*

2105755



MSES consultants, inc.
 FILE NO. 12-502-Well13174-WellPlat
 DRAWN BY SARC
 SCALE 1" = 500'
 MIN. DEGREE OF ACCURACY 1 IN 2500
 PROVEN SOURCE OF ELEVATION:
DGPS (SUBMETER MAPPING GRADE)

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

(SIGNED) [Signature]
 R.P.E. _____ P.S. 2029



STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
OIL AND GAS DIVISION

DATE JANUARY 16 20 13
 OPERATOR'S WELL NO. 13174
 API WELL NO. _____

47 **021** **05755**
 STATE COUNTY PERMIT NO.

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

LOCATION: ELEVATION 1107.37' WATERSHED JESSIE RUN
 DISTRICT DeKALB COUNTY GILMER
 QUADRANGLE BURNT HOUSE, WV 7.5' NEAREST TOWN LUCERNE
 SURFACE OWNER RODNEY W. & GREGORY C. HILL ACREAGE 77
 OIL & GAS ROYALTY OWNER JANICE BRINK (1/2) & EDITH ELLYSON (1/2) LEASE ACREAGE 77
 LEASE NO. RN 060413

PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE
 PLUG OFF OLD FORMATION PERFORATE NEW FORMATION
 OTHER PHYSICAL CHANGE IN WELL (SPECIFY)
 PLUG AND ABANDON CLEAN OUT AND REPLUG

TARGET FORMATION ALEXANDER ESTIMATED DEPTH 4,925'
 WELL OPERATOR DOMINION TRANSMISSION, INC. DESIGNATED AGENT MR. JAMES D. BLASINGAME
 ADDRESS 445 WEST MAIN STREET ADDRESS 445 WEST MAIN STREET
CLARKSBURG, WV 26301 CLARKSBURG, WV 26301

FORM IV-6

COUNTY **021** PERMIT NO.



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

April 18, 2013

WELL WORK PERMIT

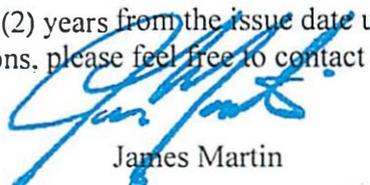
Vertical Well

This permit, API Well Number: 47-8510038, issued to KEY OIL COMPANY, 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.

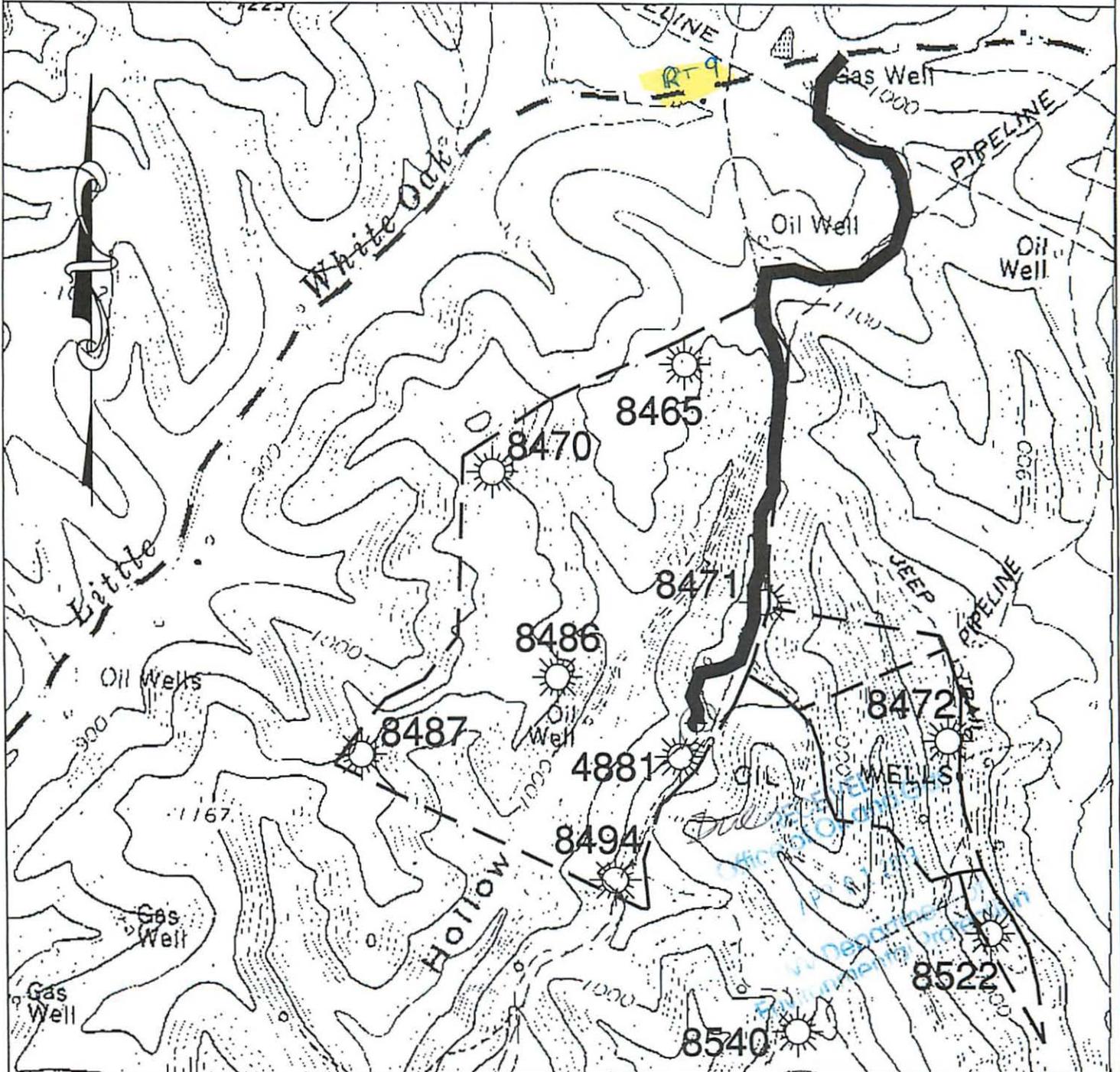


James Martin
Chief

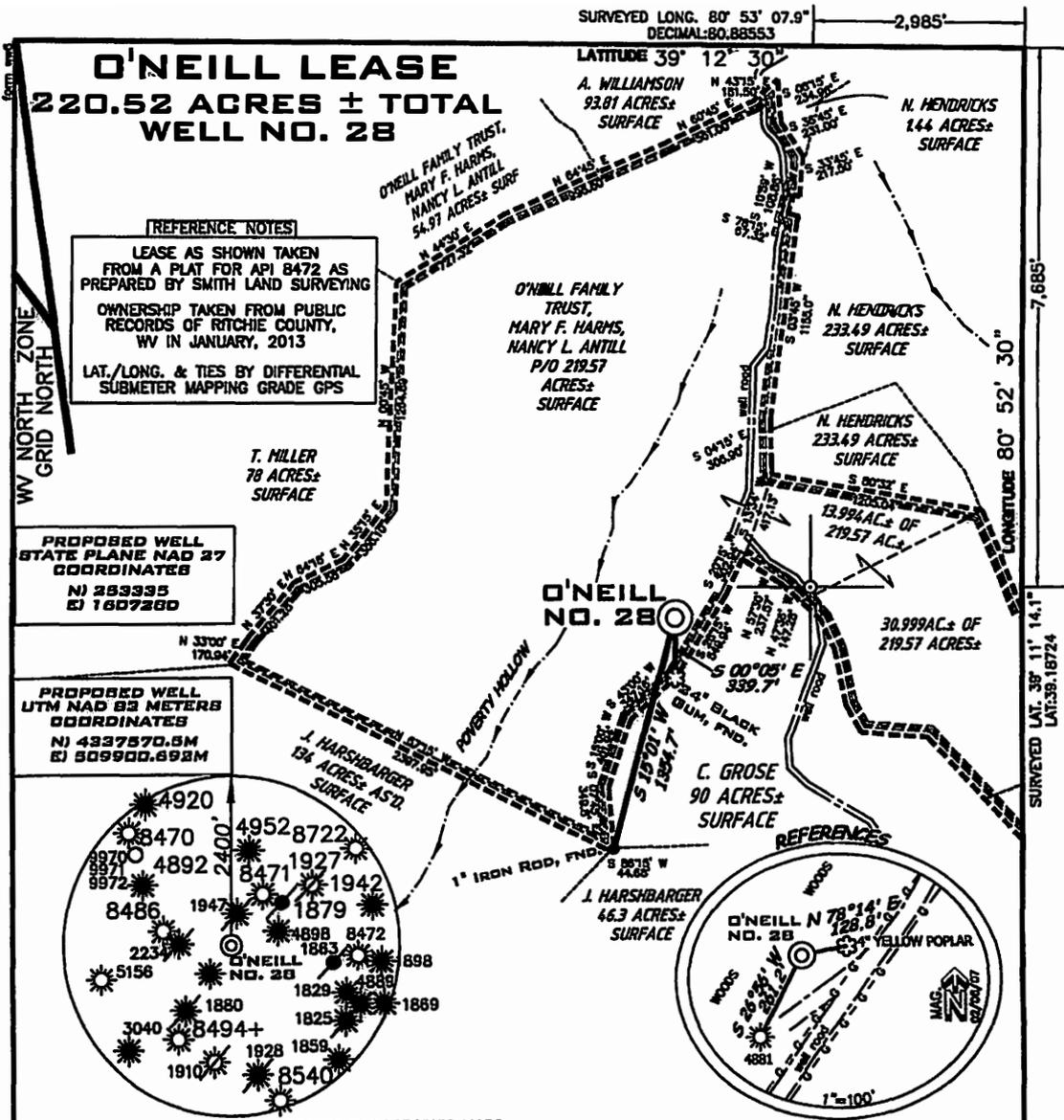
Operator's Well No: O'NEIL NO. 28
Farm Name: O'NEIL TRUST, MARY HARMS, N/
API Well Number: 47-8510038
Permit Type: Vertical Well
Date Issued: 04/18/2013

Promoting a healthy environment.

O'NEILL LEASE WELL NO. 28



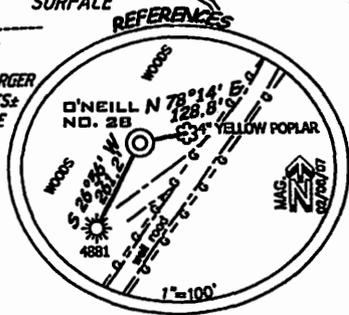
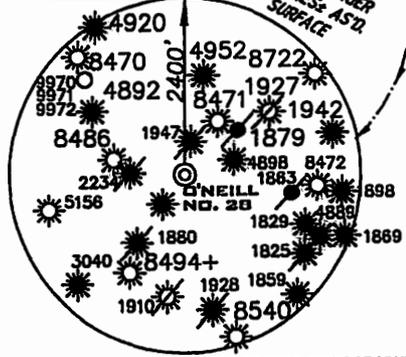
ANGLE RIGHT LAND SURVEYING, LLC PO BOX 681 GRANTSVILLE, WV 26147 (304) 354-0065 070327	OPERATOR	TOPO SECTION	WELL NAME
	KEY OIL COMPANY 22 GARTON PLAZA WESTON, WV 26452	PULLMAN 7.5'	O'NEILL #28
		SCALE: 1"=1000'	DATE: 01/28/2013



[REFERENCE NOTES]
 LEASE AS SHOWN TAKEN FROM A PLAT FOR API 8472 AS PREPARED BY SMITH LAND SURVEYING
 OWNERSHIP TAKEN FROM PUBLIC RECORDS OF RITCHIE COUNTY, WV IN JANUARY, 2013
 LAT./LONG. & TIES BY DIFFERENTIAL SUBMETER MAPPING GRADE GPS

PROPOSED WELL STATE PLANE NAD 27 COORDINATES
 N) 283395
 E) 1607380

PROPOSED WELL UTM NAD 83 METERS COORDINATES
 N) 4327570.5M
 E) 809900.692M

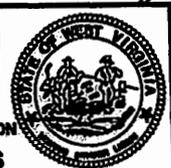


(X) DENOTES LOCATION ON UNITED STATES TOPOGRAPHIC MAPS

FILE NUMBER 070327
 DRAWING NUMBER WP28(WB-28)
 SCALE 1"=800'
 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

P.S. *Terry A. Shreve*
 1006



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

DATE JANUARY 28, 2013
 OPERATORS WELL NO. O'NEILL NO. 28
 API WELL NO. _____
47-085 10038
 STATE COUNTY PERMIT

WELL TYPE OIL GAS LIQUID INJECTION WASTE DISPOSAL
 (OF "GAS") PRODUCTION STORAGE DEEP SHALLOW
 LOCATION ELEVATION 1079' WATERSHED _____ TRIBUTARY OF WHITE OAK CREEK
 DISTRICT _____ UNION _____ COUNTY _____ RITCHIE
 QUADRANGLE PULLMAN 7.5 LEASE NUMBER _____

SURFACE OWNER O'NEILL FAMILY TRUST, MARY F. HARMS, NANCY L. ANTILL ACREAGE 173.191± OF 219.57
 OIL & GAS ROYALTY OWNER O'NEILL FAMILY TRUST, MARY F. HARMS, NANCY L. ANTILL LEASE ACREAGE 173.191± OF 220.52

PROPOSED WORK DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE (SPECIFY) _____
 _____ PLUG & ABANDON CLEAN OUT & REPLUG

TARGET FORMATION ALEXANDER ESTIMATED DEPTH 5,600'
 WELL OPERATOR KEY OIL COMPANY DESIGNATED AGENT JAN CHAPMAN
 ADDRESS 22 GARTON PLAZA WESTON, WV 26452 ADDRESS 22 GARTON PLAZA WESTON, WV 26452

A.R.L.B.

COURTNEY ALMOND SURVEYOR



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

April 18, 2013

WELL WORK PERMIT

Vertical Well

This permit, API Well Number: 47-2105754, issued to DOMINION TRANSMISSION INC, 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.

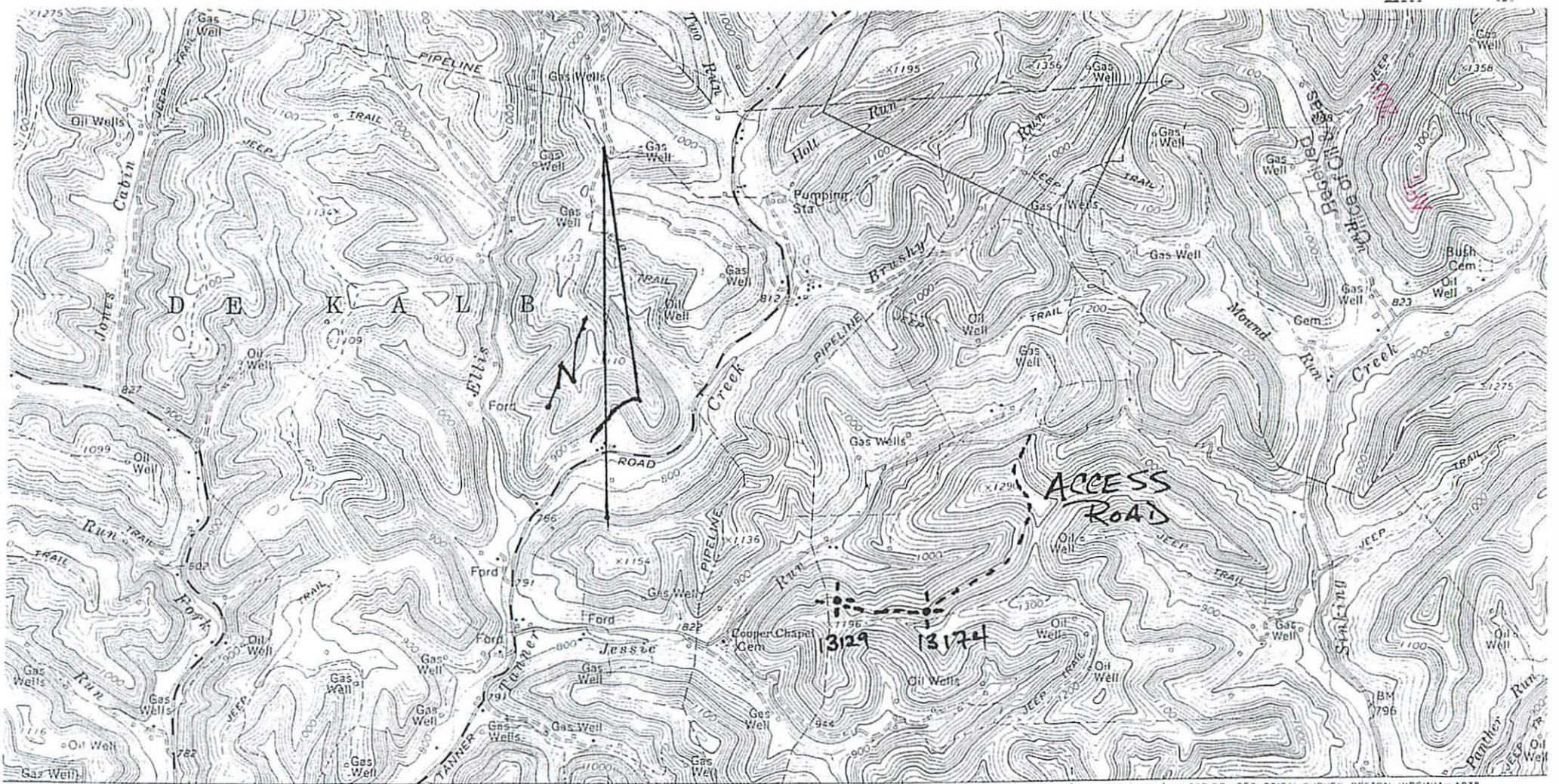
In addition to the applicable requirements of this permit, and the statutes and rules governing oil and gas activity in WV, this permit may contain specific conditions which must be followed. Permit conditions are attached to this cover letter.

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

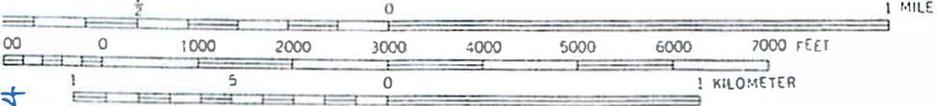
Operator's Well No: 13129
Farm Name: ULLOM, KIM & LISA
API Well Number: 47-2105754
Permit Type: Vertical Well
Date Issued: 04/18/2013

Promoting a healthy environment.



TANNER 0.8 MI GLENVILLE 9 MI '05 (TANNER) 4861 IV NW '06 '07 55' '08 '09 INTERIOR—GEOLOGICAL SURVEY, RESTON, VIRGINIA—1978 2 030 000 FEET (SOUTH) 510000m E. 80° 5'

SCALE 1:24000



CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

2105754

JMC Cont
3-27-13

W VA

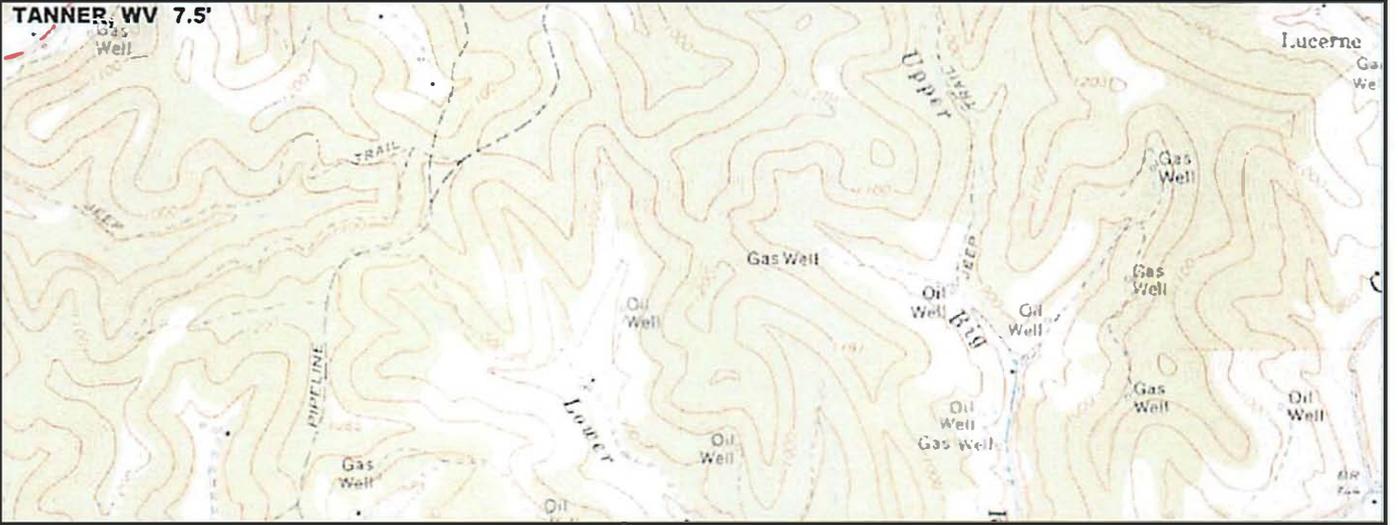
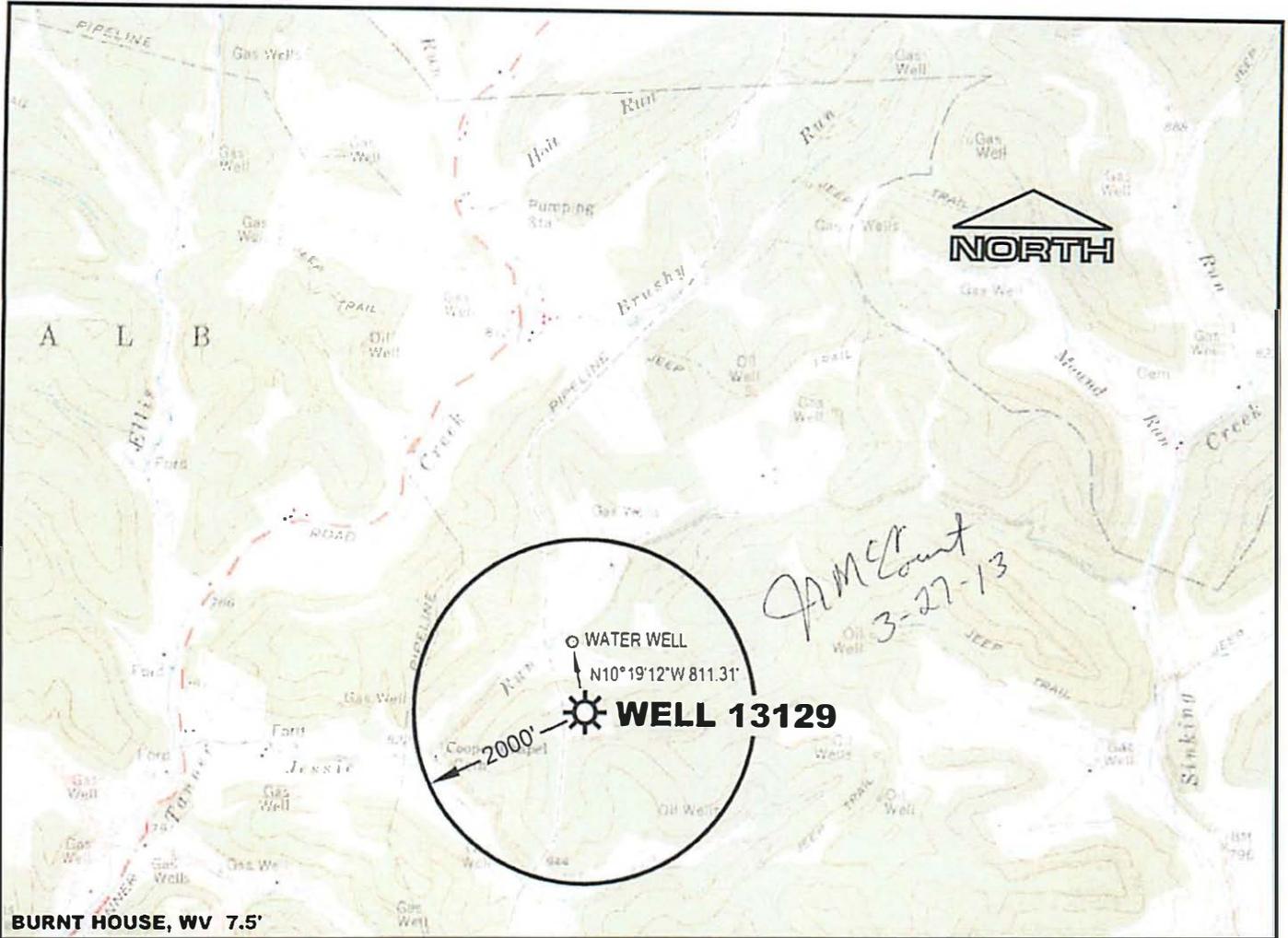
QUADRANGLE LOCATION

ROAD CLASSIFICATION	
Heavy-duty	—————
Medium-duty	- - - - -
Light-duty	—————
Unimproved dirt	- - - - -
State Route	○

BURNT HOUSE, W. VA.
SW/4 HOLBROOK 15' QUADRANGLE
N3900—W8052.5/7.5

1964
PHOTOREVISED 1976
AMS 4862 III SW—SERIES V854

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U. S. GEOLOGICAL SURVEY, RESTON, VIRGINIA 22092
FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST



0 2000' 4000'

SCALE : 1" = 2000'

REFERENCE

U.S.G.S. 7.5' TOPOGRAPHIC QUADRANGLE(S):
 BURNT HOUSE, W V 1964 (P.R. 1976)
 TANNER, WV 1965

11-109-Well13129-WaterWellExhibit

DOMINION TRANSMISSION, INC.

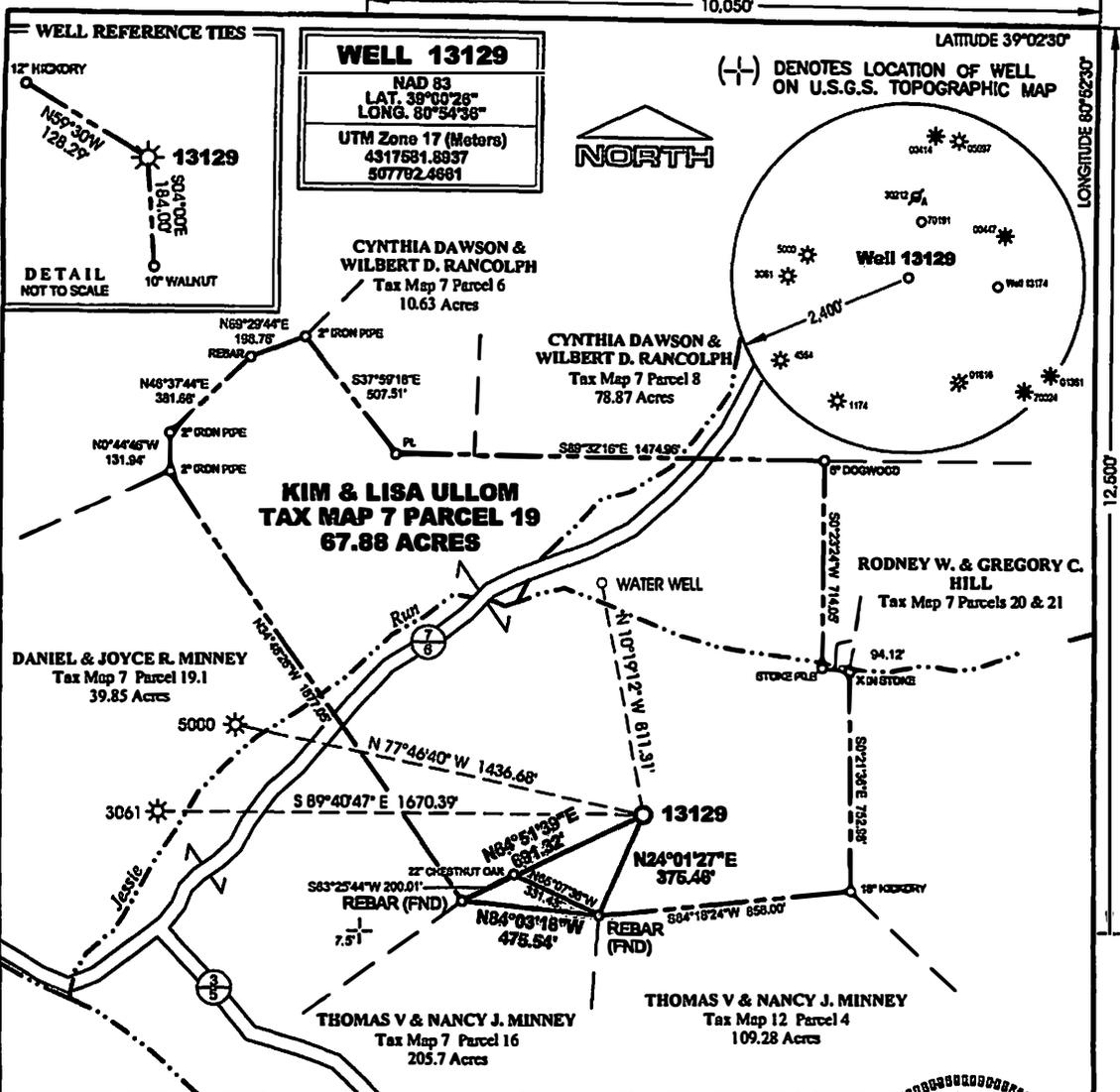
Proposed Gas Well 13129
 & Existing Water Wells within 2000' Radius

Drawn by	SARC	1/13
Engineer	DTT	1/13
Checked by	RVS	1/13
		Data

Prepared by **MSES consultants, inc.**

Scale AS SHOWN

1 of 1



MSES consultants, inc
 FILE NO. 11-109-Well13129-WellPlat
 DRAWN BY KLA/RRC
 SCALE 1" = 500'
 MIN. DEGREE OF ACCURACY 1 IN 2500
 PROVEN SOURCE OF ELEVATION:
DGPS (SUBMETER MAPPING GRADE)

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

(SIGNED) Hershel Dale Ward
 R.P.E. _____ L.L.S. 885

HERSHEL D. WARD
 LICENSED
 No. 885
 STATE OF
 WEST VIRGINIA
 PROFESSIONAL SURVEYOR

STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
OIL AND GAS DIVISION

DATE JANUARY 15, 2D 13
 OPERATOR'S WELL NO. 13129
 API WELL NO. _____
47 **021** **05754**
 STATE COUNTY PERMIT NO.

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

LOCATION: ELEVATION 1078.88' WATERSHED JESSIE RUN
 DISTRICT DEKALB COUNTY GILMER
 QUADRANGLE BURNT HOUSE 7.5' NEAREST TOWN TANNER

SURFACE OWNER KIM & LISA ULLOM ACREAGE 97.88
 OIL & GAS ROYALTY OWNER CORALEE ELLYSON HEIRS LEASE ACREAGE 116.00
 LEASE NO. RN 020337

PROPOSED WORK: DRILL CONVERT DRILL DEEPER REBRILL FRACTURE OR STIMULATE
 PLUG OFF OLD FORMATION PERFORATE NEW FORMATION
 OTHER PHYSICAL CHANGE IN WELL (SPECIFY) _____
 PLUG AND ABANDON CLEAN OUT AND REPLUG

TARGET FORMATION ALEXANDER ESTIMATED DEPTH 4.895'
 WELL OPERATOR DOMINION TRANSMISSION, INC. DESIGNATED AGENT MR. JAMES D. BLASINGAME
 ADDRESS 445 WEST MAIN STREET ADDRESS 445 WEST MAIN STREET
CLARKSBURG, WV 26301 CLARKSBURG, WV 26301

FORM IV-B

COUNTY **021**
 PERMIT NO.



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

April 15, 2013

WELL WORK PERMIT

Fracture

This permit, API Well Number: 47-4103520, issued to CONTINENTAL PETROLEUM, 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.

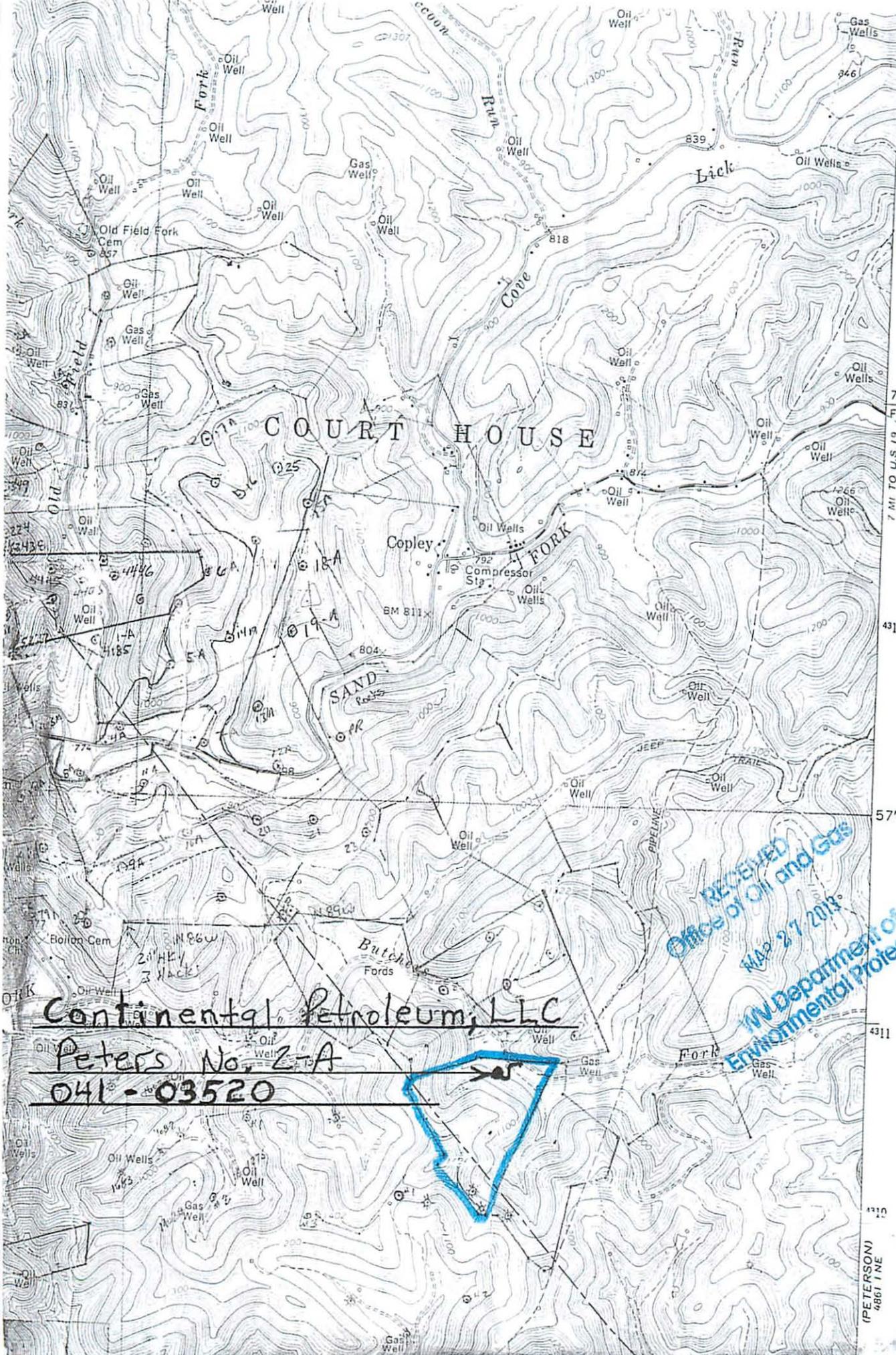
James Martin
Chief

Operator's Well No: PETERS 2-A
Farm Name: COASTAL FOREST RESOURCES
API Well Number: 47-4103520
Permit Type: Fracture
Date Issued: 04/15/2013

Promoting a healthy environment.

4103520F

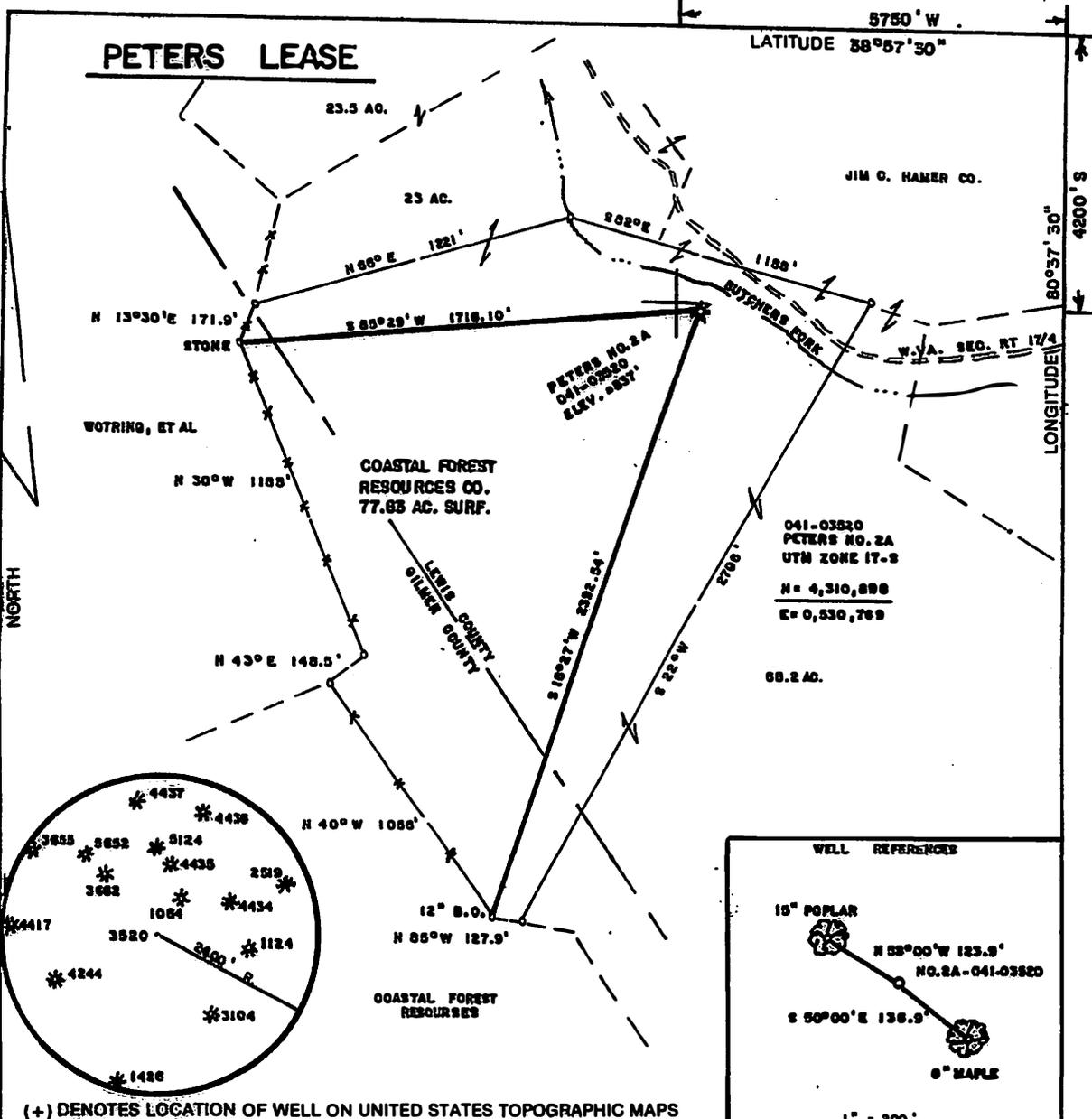
Wells
10 130
14, 190



4316
4315
720 000 FEET
7 MI TO U.S. 19
4313
57'30"
4311
4310
(PETERSON)
4881 1 NE

RECEIVED
Office of Oil and Gas
MAR 27 2013
TN Department of
Environmental Protection

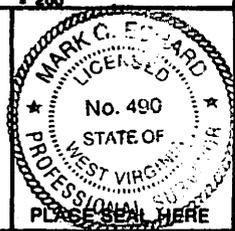
Continental Petroleum, LLC
Peters No. 2-A
041-03520



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

FILE NO. _____
 DRAWING NO. _____
 SCALE 1" = 500'
 MINIMUM DEGREE OF ACCURACY 1/200
 PROVEN SOURCE OF ELEVATION TOP OF KNOB SOUTH OF LOCATION ELEV. = 1434'

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 ENERGY.
 (SIGNED) Mark C. Echard
 R.P.E. _____ I.L.S. 490



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

DATE FEBRUARY 28, 2015
 OPERATOR'S WELL NO. PETERS NO. 2A
 API WELL NO. 47 041 03520 F

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
 (IF "GAS," PRODUCTION STORAGE DEEP SHALLOW
 LOCATION: ELEVATION 857 WATER SHED BUTCHERS FORK
 DISTRICT COURT HOUSE COUNTY LEWIS
 QUADRANGLE GILMER 7.5

SURFACE OWNER COASTAL FOREST RESOURCES COMPANY ACREAGE 77.65
 OIL & GAS ROYALTY OWNER DON W. PETERS, ET AL LEASE ACREAGE 78.23
 LEASE NO. _____

PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) _____

PLUG AND ABANDON CLEAN OUT AND REPLUG
 TARGET FORMATION GORDON - BIG INJUN ESTIMATED DEPTH 2650'
 WELL OPERATOR CONTINENTAL PETROLEUM, LLC DESIGNATED AGENT ROBERT R. JONES
 ADDRESS SAND FORK ROAD BOX 1 ADDRESS SAND FORK ROAD BOX 1
SAND FORK, WV 26430 SAND FORK, WV 26430

FORM WV-6

COUNTY NAME PERMIT



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

April 18, 2013

WELL WORK PERMIT

Fracture

This permit, API Well Number: 47-10302813, 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: L. J. FLUHARTY 7
Farm Name: HG ENERGY, LLC.

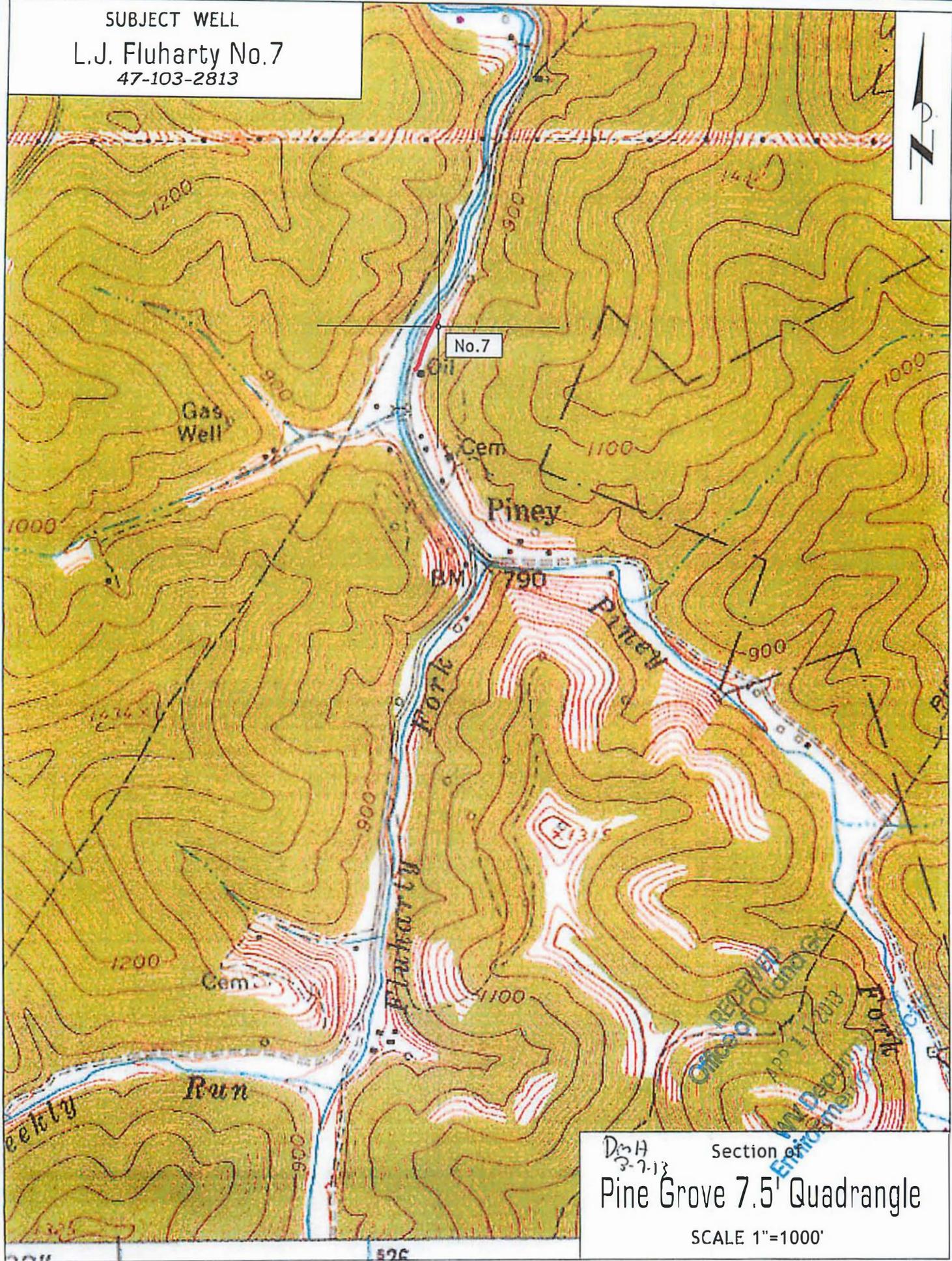
API Well Number: 47- 10302813

Permit Type: Fracture

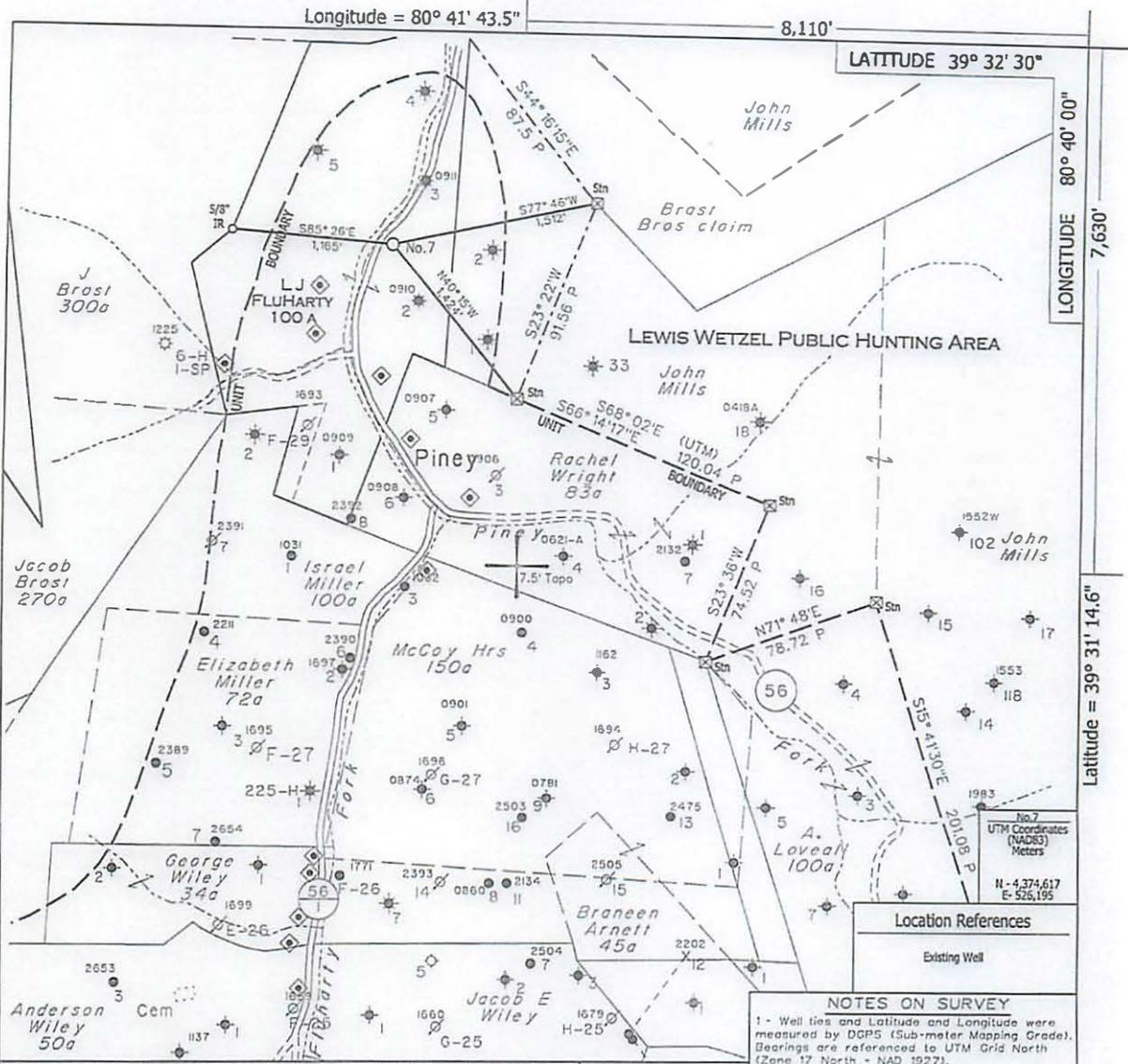
Date Issued: 04/18/2013

Promoting a healthy environment.

SUBJECT WELL
L.J. Fluharty No.7
47-103-2813



Section of
DmH
3-7-13
Pine Grove 7.5' Quadrangle
SCALE 1"=1000'

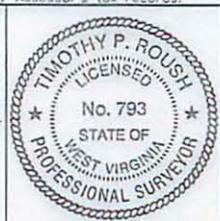


◆ - DENOTES A POSSIBLE WATER SUPPLY SOURCE LOCATED FROM CIRCA 2003 AERIAL PHOTOGRAPHY - NOT BY SURVEY. OTHER SOURCES MAY BE PRESENT.
 + - DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.

NOTES ON SURVEY
 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 - Unit Boundary description from survey of the John Mills property by H.M. Stansberry, PE of Sistersville, WV (1907-08).
 3 - Surface owner information obtained from the Wetzel County Assessor's tax records.

FILE NO. 1046-42
 MAP NO. N S E W
 SCALE 1" = 1000'
 MINIMUM DEGREE OF ACCURACY Sub-Meter
 PROVEN SOURCE OF ELEVATION DGPS Survey (Sub-Meter 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 DEPARTMENT OF MINES.
 (SIGNED) [Signature]
 TIMOTHY P. ROUSH PS 793



WEST VIRGINIA
 Division of Environmental Protection
 Office of Oil and Gas
 601 57th Street
 Charleston, West Virginia 25301



DATE January 29, 2013
 FARM L.J. Fluharty No.7
 API WELL NO. 47-103-02813 F

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
 (IF "GAS") PRODUCTION STORAGE DEEP SHALLOW
 LOCATION: ELEVATION 781' WATERSHED Piney Fork
 DISTRICT Green COUNTY Wetzel
 QUADRANGLE Pine Grove 7.5'
 SURFACE OWNER HG Energy, LLC. ACREAGE 14.56 ac.
 OIL & GAS ROYALTY OWNER HG Energy, LLC., et al LEASE ACREAGE 100 ac.
 LEASE NO. 16103-50
 PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) Complete Big Injun Sand
 PLUG AND ABANDON CLEAN OUT AND REPLUG
 TARGET FORMATION Big Injun ESTIMATED DEPTH 1,994'
 WELL OPERATOR HG Energy LLC. DESIGNATED AGENT Mike Kirsch
 ADDRESS 5260 DuPont Road Parkersburg, WV 26101 ADDRESS 5260 DuPont Road Parkersburg, WV 26101

FORM IV-6



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

April 15, 2013

WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-4902255, issued to CONSOLIDATION COAL COMPANY, 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.

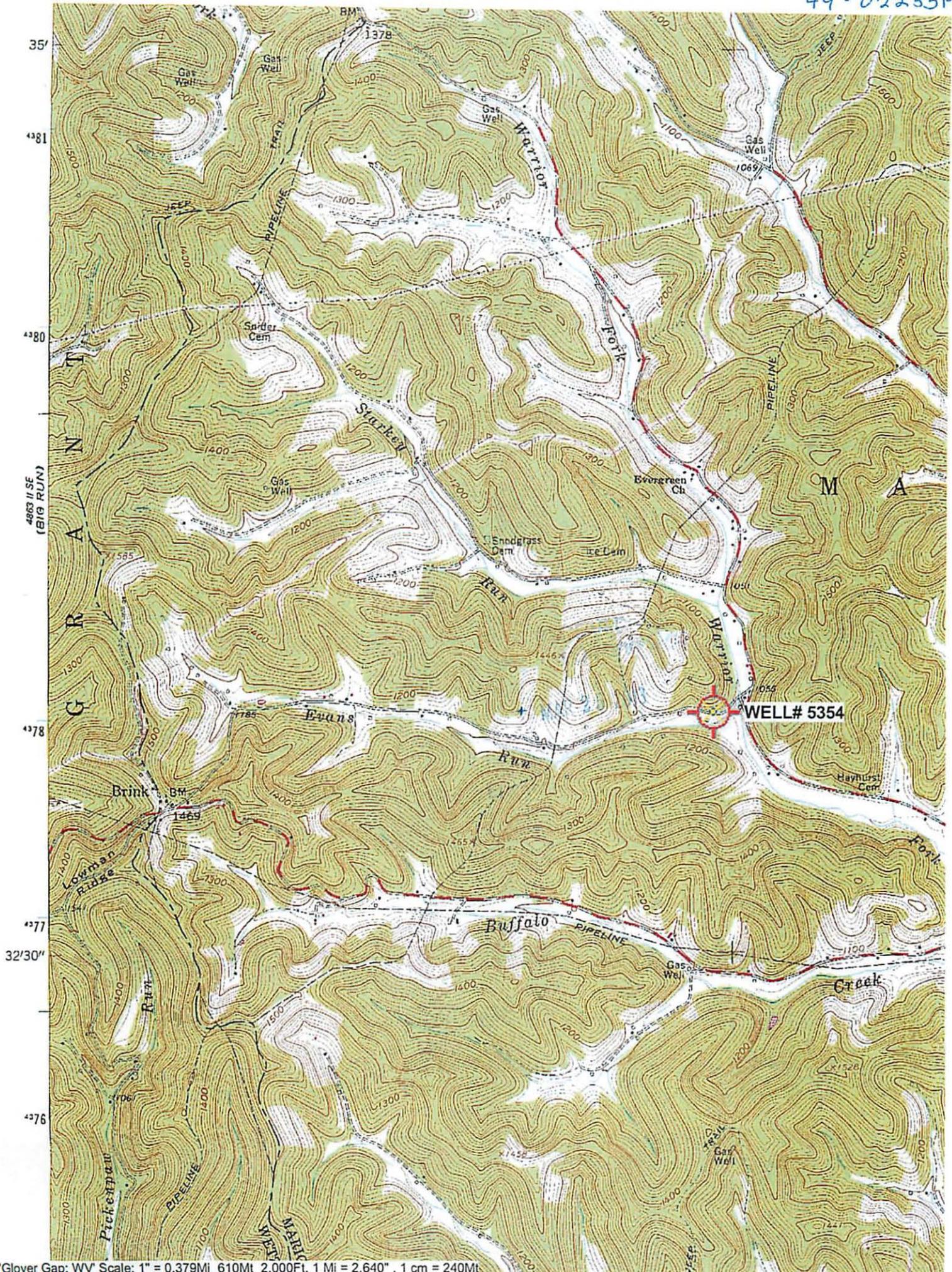
Upon completion of the plugging well work, the above named operator will reclaim the site according to the provisions of WV Code 22-6-30. The above named operator will also file, as required in WV Code 22-6-23, an affidavit on form WR-38 by two experienced persons in the operator's employment and the 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 penalties 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: 5354
Farm Name: LUCAS, WILLIAM C.
API Well Number: 47-4902255
Permit Type: Plugging
Date Issued: 04/15/2013

Promoting a healthy environment.



'Glover Gap; WV Scale: 1" = 0.379Mi 610Mt 2,000Ft, 1 Mi = 2.640" , 1 cm = 240Mt

WW-7
8-30-06



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

API: 47-049- 02255 WELL NO.: 5354

FARM NAME: Joseph Hayhurst #3

RESPONSIBLE PARTY NAME: _____

COUNTY: Marion DISTRICT: Mannington

QUADRANGLE: Glover Gap

SURFACE OWNER: William C. Lucas

ROYALTY OWNER: _____

UTM GPS NORTHING: 4,378,266 m

UTM GPS EASTING: 546,461 m GPS ELEVATION: 329 m 1078.60 FT

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:

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

Survey grade GPS _____: Post Processed Differential _____
Real-Time Differential _____

Mapping Grade GPS X: Post Processed Differential X
Real-Time Differential _____

- 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

Professional Surveyor
Title

March 15, 2013
Date

RECEIVED
MAR 23 2013
ENVIRONMENTAL PROTECTION REGION



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.dcp.wv.gov

April 15, 2013

WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-9900919, issued to CHESAPEAKE APPALACHIA, L.L.C., 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 penalties 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: 808279

Farm Name: US OF A C/O US ARMY CORPS. C

API Well Number: 47-9900919

Permit Type: Plugging

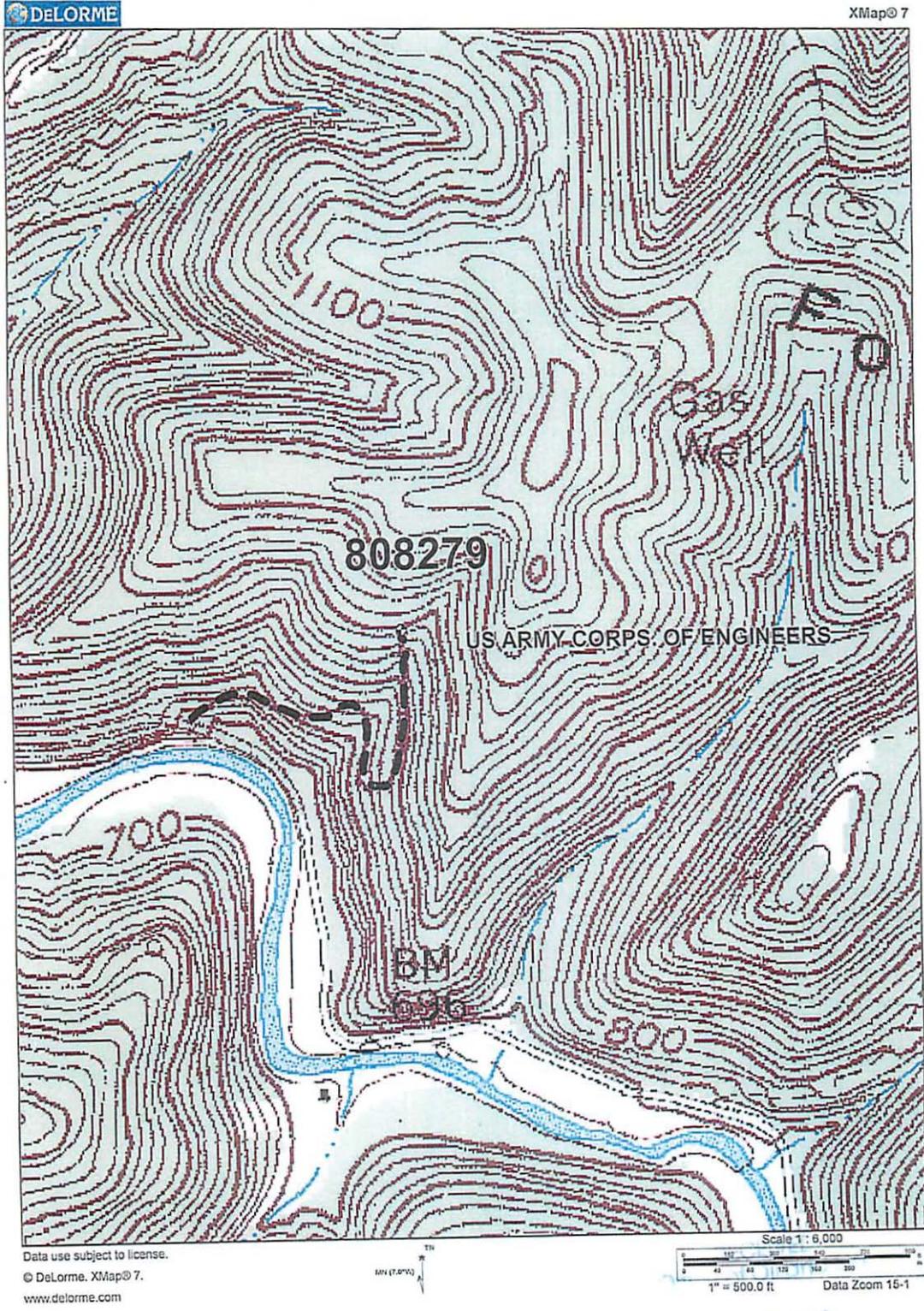
Date Issued: 04/15/2013

Promoting a healthy environment.

CHESAPEAKE APPALACHIA, L.L.C.

Topographical Map of Access and
Well Location 808279
API 47-099-00919
Field Office - Branchland
County - Wayne

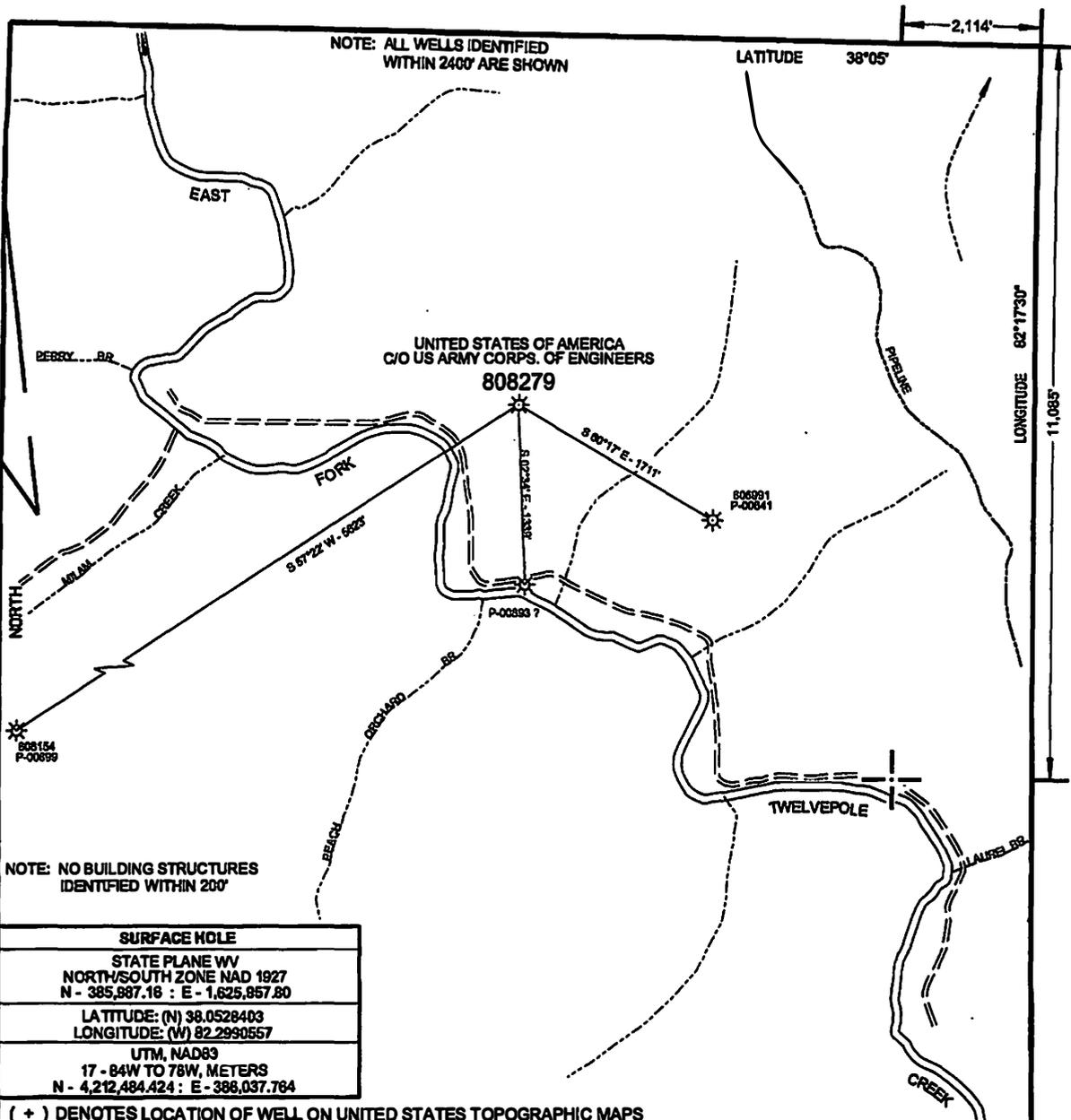
99 00919 A



Data use subject to license.
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www.delorme.com

Chesapeake Energy Corporation - Eastern Division
P.O. Box 579 • 8165 Court Avenue • Hamlin, WV 25523
304.824.5141 • fax 304.824.2247

100 21 283
Energy Services



SURFACE HOLE
STATE PLANE WV NORTH/SOUTH ZONE NAD 1927 N - 385,887.16 : E - 1,625,857.80
LATITUDE: (N) 38.0528403 LONGITUDE: (W) 82.2990557
UTM, NAD83 17 - 84W TO 78W, METERS N - 4,212,484.424 : E - 388,037.764

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

FILE NO. 808278P&A.DGN
 DRAWING NO. 808279 P&A
 SCALE 1" = 1000'
 MINIMUM DEGREE OF ACCURACY 1:200
 PROVEN SOURCE OF ELEVATION 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) Paul E. Miller
 R.P.E. _____ L.L.S. 647



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

DATE JANUARY 24, 2013
 OPERATOR'S WELL NO. 808279
 API WELL NO. 47 099 00919 P
 STATE COUNTY PERMIT

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
 (IF "GAS,") PRODUCTION STORAGE DEEP SHALLOW

LOCATION: ELEVATION 928' WATER SHED EAST FORK OF TWELVEPOLE CREEK
 DISTRICT STONEWALL COUNTY WAYNE
 QUADRANGLE KIAHSVILLE, WV 7.5'

SURFACE OWNER UNITED STATES OF AMERICA C/O US ARMY CORPS. OF ENGINEERS ACREAGE -
 OIL & GAS ROYALTY OWNER CHESAPEAKE APPALACHIA, LLC LEASE ACREAGE _____
 LEASE NO. _____ FEE LANDS _____

PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR
 STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW
 FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) _____

PLUG AND ABANDON CLEAN OUT AND REPLUG

TARGET FORMATION _____ ESTIMATED DEPTH _____

WELL OPERATOR CHESAPEAKE APPALACHIA, LLC DESIGNATED AGENT ERIC B. GILLESPIE
 ADDRESS PO BOX 18486, OKLAHOMA CITY, OK 73154-0486 ADDRESS PO BOX 6070, CHARLESTON, WV 25382

FORM WW-6

COUNTY NAME
 PERMIT



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

April 16, 2013

WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-4902256, issued to CONSOLIDATION COAL COMPANY, 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.

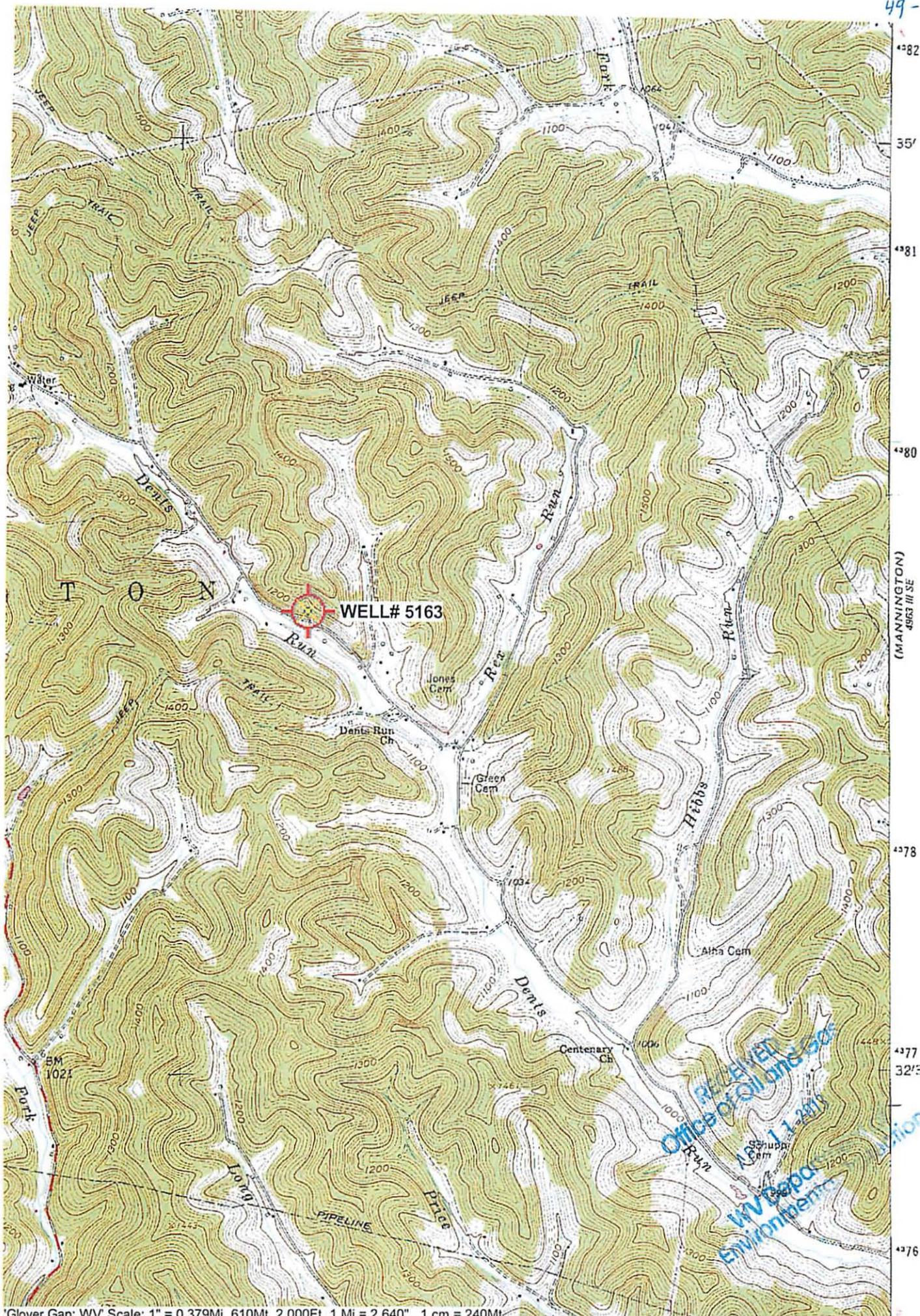
Upon completion of the plugging well work, the above named operator will reclaim the site according to the provisions of WV Code 22-6-30. The above named operator will also file, as required in WV Code 22-6-23, an affidavit on form WR-38 by two experienced persons in the operator's employment and the 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 penalties 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: 5163
Farm Name: CALL, MATTHEW M.
API Well Number: 47-4902256
Permit Type: Plugging
Date Issued: 04/16/2013

Promoting a healthy environment.



4382
35'
4381
4380
(MANNINGTON) 4963 III SE
4378
4377
32'30"
4376

WW-7
8-30-06



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

API: 47-049- 02256 WELL NO.: 5163

FARM NAME: Elias L. Ryan

RESPONSIBLE PARTY NAME: _____

COUNTY: Marion DISTRICT: Mannington

QUADRANGLE: Glover Gap

SURFACE OWNER: Matthew M. Call

ROYALTY OWNER: _____

UTM GPS NORTHING: 4,379,352 m

UTM GPS EASTING: 550,782 m GPS ELEVATION: 357 m 1170.71 FT

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:

- Datum: NAD 1983, Zone: 17 North, Coordinate Units: meters, Altitude: height above mean sea level (MSL) – meters.
- Accuracy to Datum – 3.05 meters
- Data Collection Method:
Survey grade GPS ____: Post Processed Differential ____
Real-Time Differential ____
Mapping Grade GPS X: Post Processed Differential X
Real-Time Differential ____

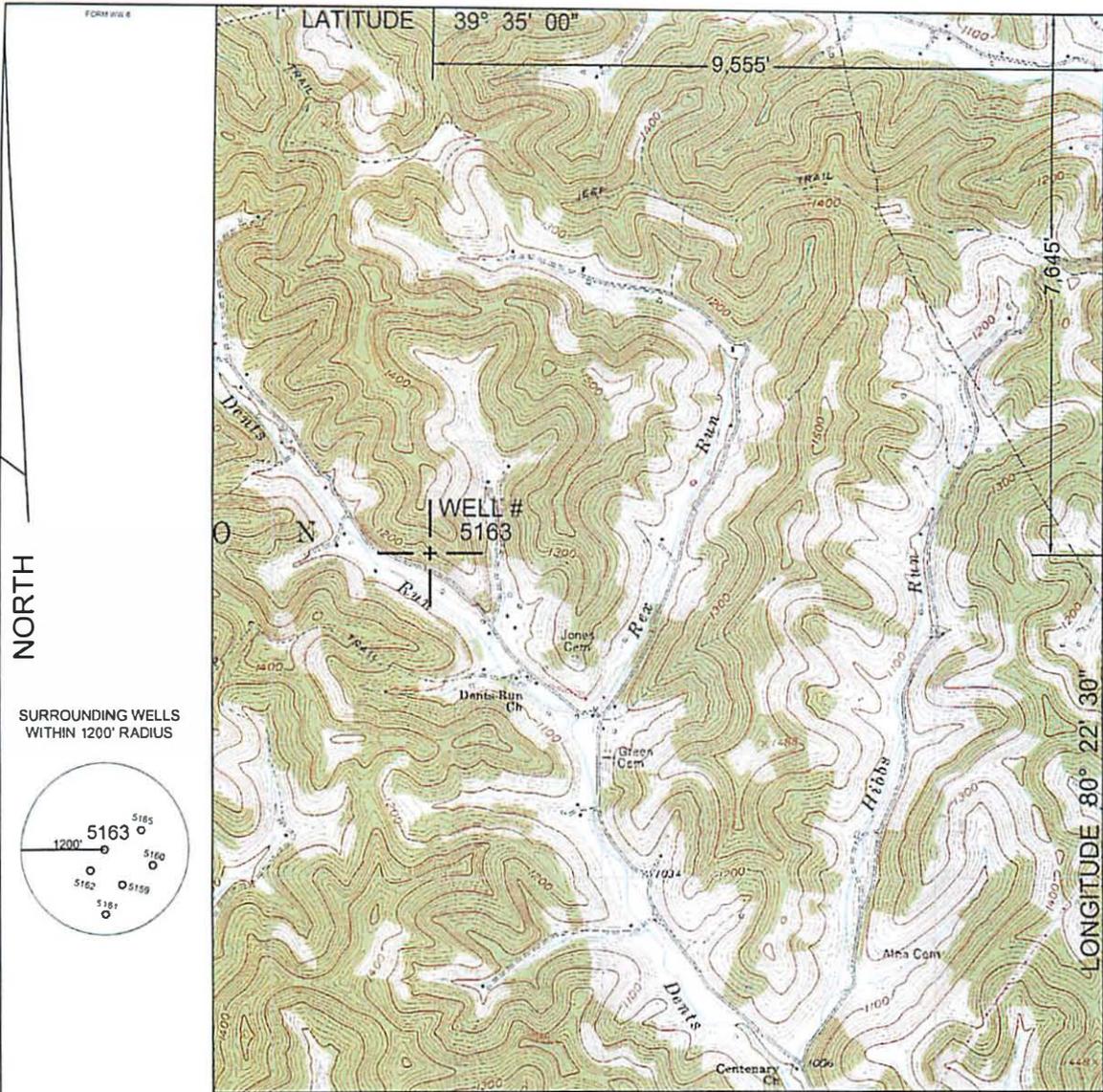
4. Letter size copy of the topography map showing the well location.

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]
Signature
April 5, 2013
Date

Professional Surveyor
Title

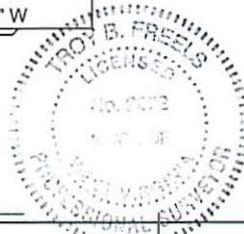
RECEIVED
Office of Oil and Gas
April 11 2013
WV Department of Environmental Protection



UTM ZONE 17N NAD83 CONUS	LAT/LONG NAD27 CONUS
NORTHING 4,379,352 METERS	39° 33' 44.4" N
EASTING 550,782 METERS	80° 24' 32.6" W

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.

P.S. 2002



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

DATE APRIL 5, 20 13

OPERATORS WELL NO. 5163

API WELL NO. 47 - 49 - 02256 P

STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY: 1 / 2500 FILE NO.: GLOVER GAP 6 DWG

PROVEN SOURCE OF ELEVATION: GPS METAQATA OR COMPANY NETWORK TIED INTO U.S.G.S. SCALE: 1" = 2000'

WV DEP
OFFICE OF OIL AND GAS
601 57TH ST., CHARLESTON, WV 25305

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL *GAS* PRODUCTION STORAGE DEEP SHALLOW

LOCATION: ELEVATION: 1170.71' WATERSHED: DENTS RUN OF BUFFALO CREEK

DISTRICT: MANNINGTON COUNTY: MARION QUADRANGLE: GLOVER GAP, WV 7.5'

SURFACE OWNER: MATTHEW M. CALL ACREAGE: 40.19± ACRES

ROYALTY OWNER: _____ LEASE ACREAGE: _____

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: NONE

ESTIMATED DEPTH: _____

WELL OPERATOR: CONSOLIDATION COAL COMPANY DESIGNATED AGENT: RONNIE HARSH

ADDRESS: 1 BRIDGE ST., MONONGAH, WV 26554 ADDRESS: 1 BRIDGE ST., MONONGAH, WV 26554



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. Hufman, Cabinet Secretary
www.dep.wv.gov

April 17, 2013

WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-4301130, issued to CHESAPEAKE APPALACHIA, L.L.C., 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 penalties 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

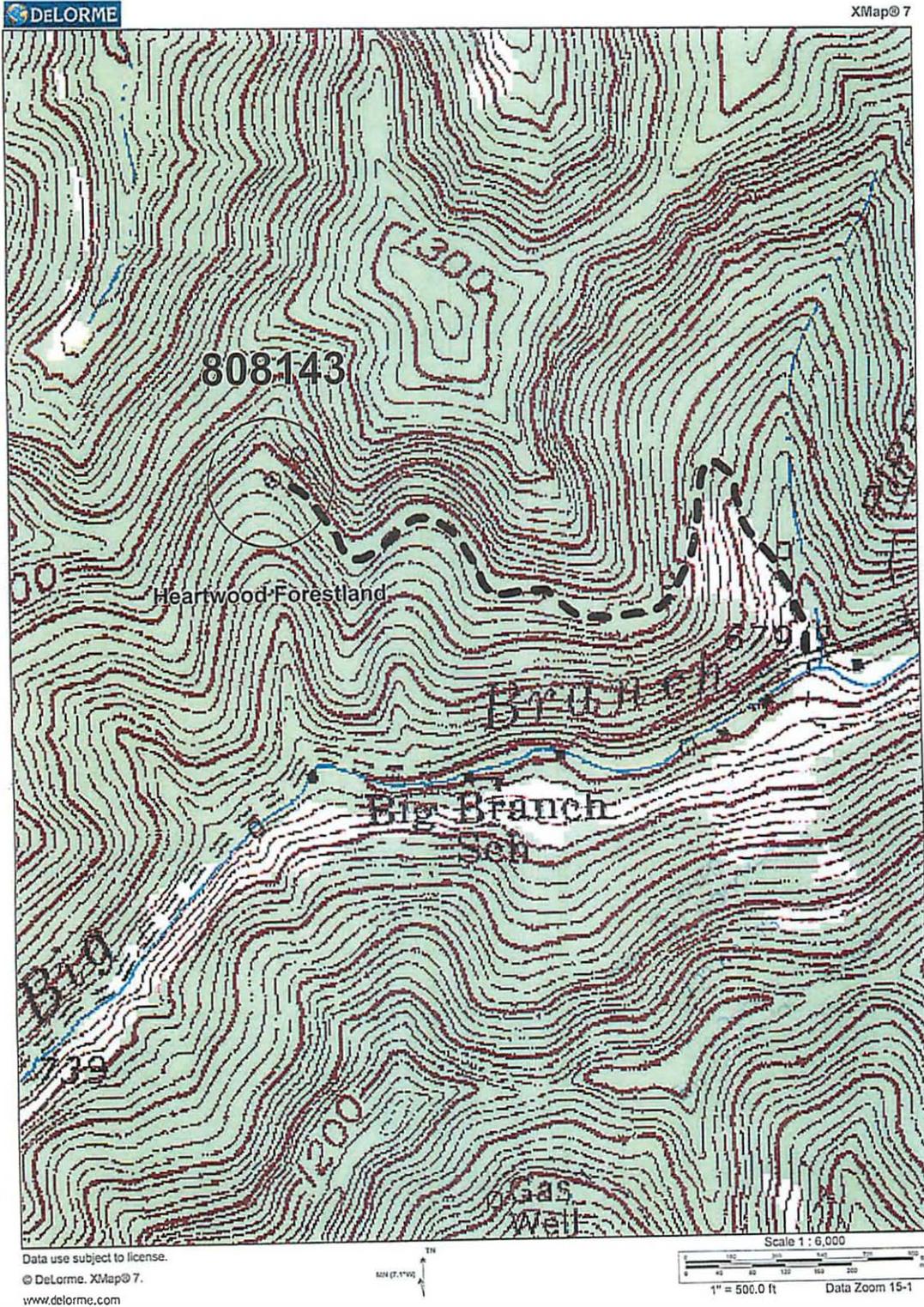
Operator's Well No: 808143
Farm Name: HEARTWOOD FORESTLAND
API Well Number: 47-4301130
Permit Type: Plugging
Date Issued: 04/17/2013

Promoting a healthy environment.

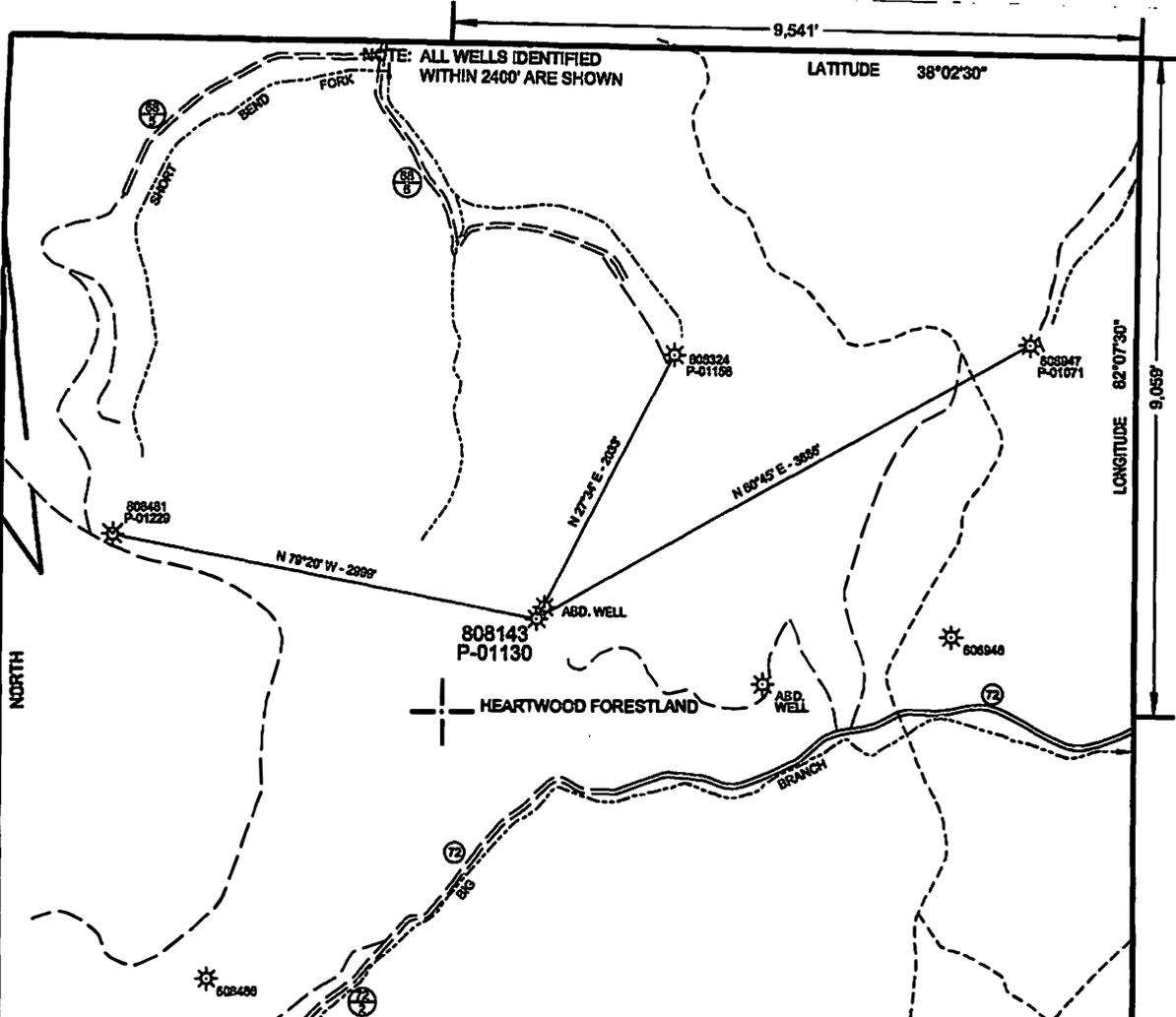
CHESAPEAKE APPALACHIA, L.L.C.

Topographic Map of Access Road and
Well 808143 Location
API 47-043-01130
Field Office - Branchland
County - Lincoln

43 01130P



Data use subject to license.
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www.delorme.com



WELL SITE
 STATE PLANE WV
 SOUTH ZONE NAD 1927
 N - 372,324.77 : E - 1,688,374.07
 LATITUDE: (N) 38.0187941°
 LONGITUDE: (W) 82.1581118°
 UTM NAD83
 17 - 84W TO 78W, METERS
 N - 4,208,321.745 : E - 398,354.913

NOTE: NO BUILDING STRUCTURES IDENTIFIED WITHIN 200'

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

FILE NO. CA808143P&A.DGN
 DRAWING NO. 8143 P&A.DGN
 SCALE 1" = 1000'
 MINIMUM DEGREE OF ACCURACY 1:200
 PROVEN SOURCE OF ELEVATION 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) Paul E. Miller
 R.P.E. _____ L.L.S. 647



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

DATE MARCH 14, 2013
 OPERATOR'S WELL NO. 808143
 API WELL NO. _____

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___
 (IF "GAS,") PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X

LOCATION: ELEVATION 888' WATER SHED BIG BRANCH OF BIG HARTS CREEK
 DISTRICT HARTS CREEK COUNTY LINCOLN
 QUADRANGLE RANGER WV 7 F

SURFACE OWNER HEARTWOOD FORESTLAND ACREAGE _____
 OIL & GAS ROYALTY OWNER CHESAPEAKE APPALACHIA, L.L.C. LEASE ACREAGE _____
 LEASE NO. _____ FEE LAND _____

PROPOSED WORK: DRILL ___ CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR
 STIMULATE ___ PLUG OFF OLD FORMATION ___ PERFORATE NEW
 FORMATION ___ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) _____

PLUG AND ABANDON X CLEAN OUT AND REPLUG ___
 TARGET FORMATION _____ ESTIMATED DEPTH _____

WELL OPERATOR CHESAPEAKE APPALACHIA, L.L.C. DESIGNATED AGENT ERIC B. GILLESPIE
 ADDRESS P.O. BOX 18498, OKLAHOMA CITY, OK 73154-0498 ADDRESS CHESAPEAKE APPALACHIA, L.L.C. PO BOX 0070, CHARLESTON, WV 25302

FORM WW-6

COUNTY NAME
 PERMIT



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

April 18, 2013

WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-8504381, issued to DEEM, J. F. OIL & GAS, 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 penalties 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.

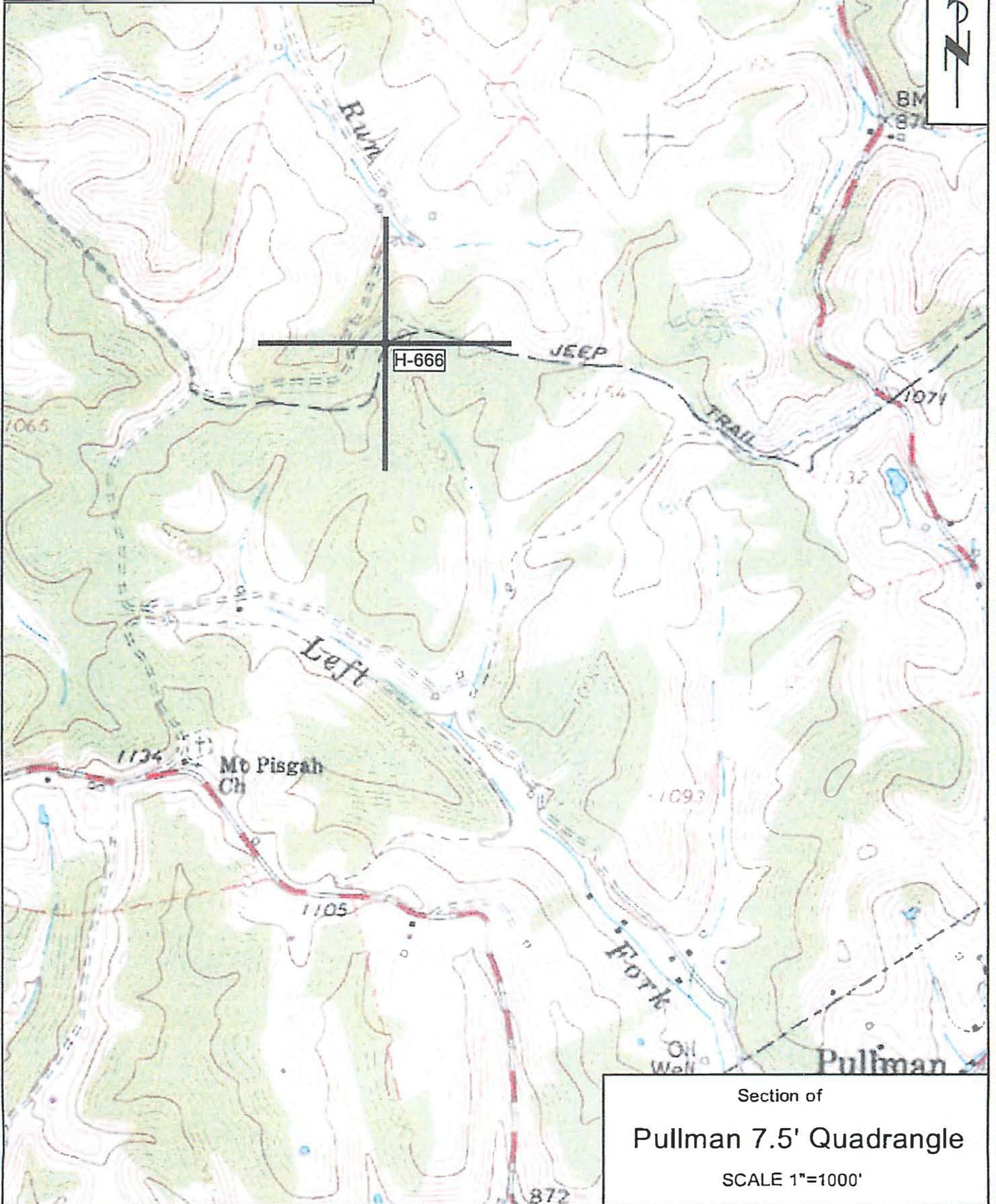
James Martin
Chief

Operator's Well No: H-666
Farm Name: RAMSEY, KENNETH C.
API Well Number: 47-8504381
Permit Type: Plugging
Date Issued: 04/18/2013

Promoting a healthy environment.

Wedekamm H-666

47-085-4381



Section of
Pullman 7.5' Quadrangle

SCALE 1"=1000'

WW-7
8-30-06



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

API: 47-085-04381 WELL NO.: Wedekamm H-666Kennet

FARM NAME: Kenneth C Ramsey

RESPONSIBLE PARTY NAME: JF Dem Oil & Gas Co

COUNTY: Ritchie DISTRICT: Union

QUADRANGLE: Pullman

SURFACE OWNER: Kenneth C Ramsey

ROYALTY OWNER: _____

UTM GPS NORTHING: 4,339,397

UTM GPS EASTING: 502,993 GPS ELEVATION: 330 1080'

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 X: Post Processed Differential _____
Real-Time Differential X

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]
Signature

Owner
Title

3/21/13
Date



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

April 18, 2013

WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-8504333, issued to DEEM, J. F. OIL & GAS, 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 penalties 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

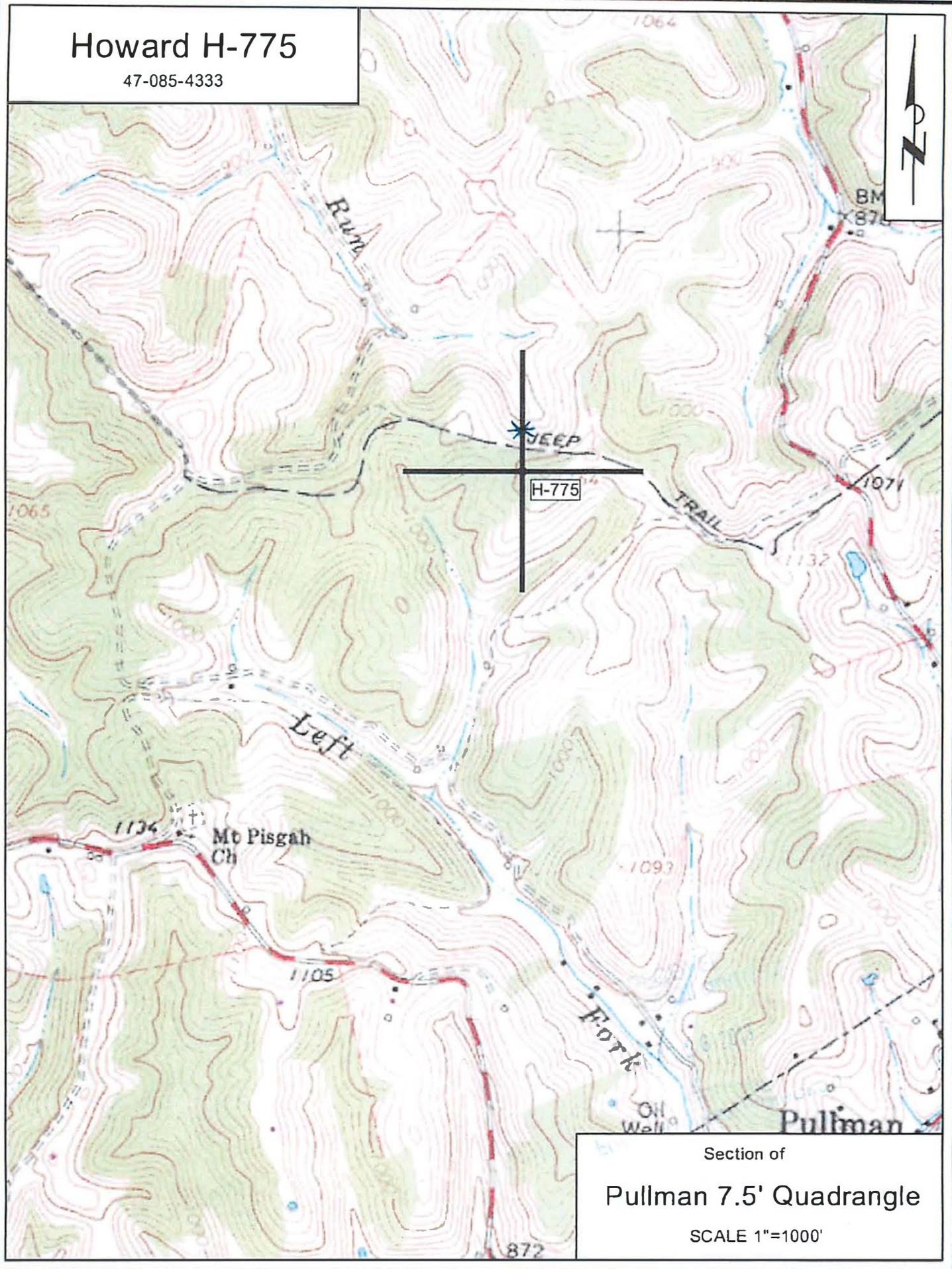
Operator's Well No: H-775
Farm Name: HOWARD, JOSEPH A.
API Well Number: 47-8504333
Permit Type: Plugging
Date Issued: 04/18/2013

Promoting a healthy environment.

85 04333P

Howard H-775

47-085-4333



Section of
Pullman 7.5' Quadrangle
SCALE 1"=1000'

WW-7
8-30-06



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

API: 47-085-04333 WELL NO.: Howard H-775

FARM NAME: Joseph A Howard

RESPONSIBLE PARTY NAME: JF Dem Oil & Gas Co

COUNTY: Ritchie DISTRICT: Union

QUADRANGLE: Pullman

SURFACE OWNER: Joseph A Howard

ROYALTY OWNER: _____

UTM GPS NORTHING: 4,339,385

UTM GPS EASTING: 503,384 GPS ELEVATION: 336 1101 FT.

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:

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

Survey grade GPS _____: Post Processed Differential _____

Real-Time Differential _____

Mapping Grade GPS X: Post Processed Differential _____

Real-Time Differential X

- 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.

JF Deem
Signature

Owner
Title

3/21/13
Date

MAR 26 2013



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

April 17, 2013

WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-8504332, issued to DEEM, J. F. OIL & GAS, 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.

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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

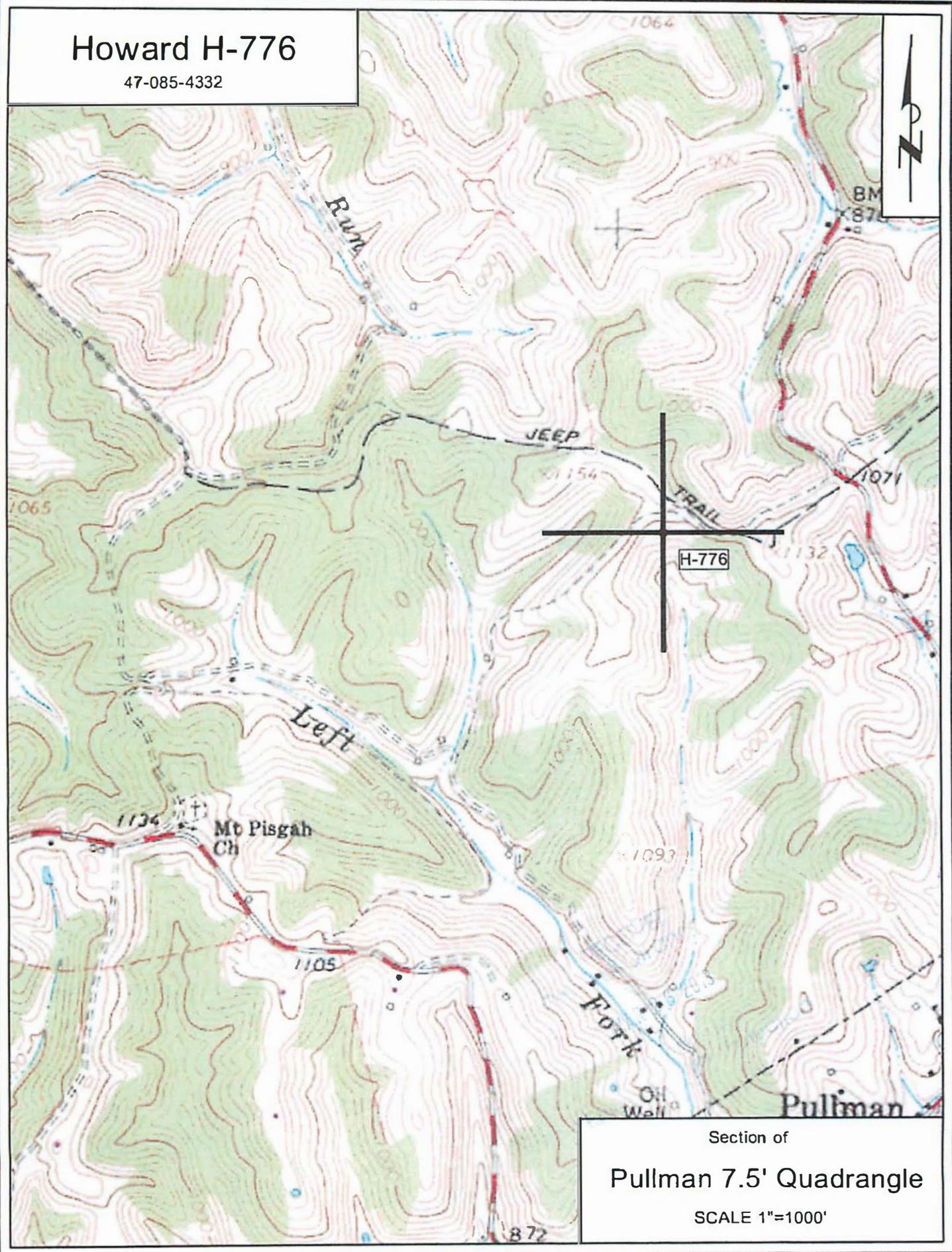
Operator's Well No: H-776
Farm Name: HOWARD, JOSEPH A.
API Well Number: 47-8504332
Permit Type: Plugging
Date Issued: 04/17/2013

Promoting a healthy environment.

8504332P

Howard H-776

47-085-4332



Section of
 Pullman 7.5' Quadrangle
 SCALE 1"=1000'

WW-7
8-30-06



West Virginia Department of Environmental Protection
Office of Oil and Gas

WELL LOCATION FORM: GPS

API: 47-085-04332 WELL NO.: Howard H-776

FARM NAME: Joseph A Howard

RESPONSIBLE PARTY NAME: JF Dem Oil & Gas Co

COUNTY: Ritchie DISTRICT: Union

QUADRANGLE: Pullman

SURFACE OWNER: Joseph A Howard

ROYALTY OWNER: _____

UTM GPS NORTHING: 4,339,142

UTM GPS EASTING: 503,744 GPS ELEVATION: 336 1069'

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 X : Post Processed Differential ____

Real-Time Differential X

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.

JF Dem
Signature

Owner
Title

3/21/13
Date

REC'D
MAR 26 2013



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

April 18, 2013

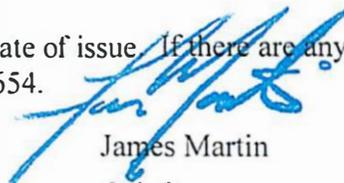
WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-6100554, 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.

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 penalties 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.

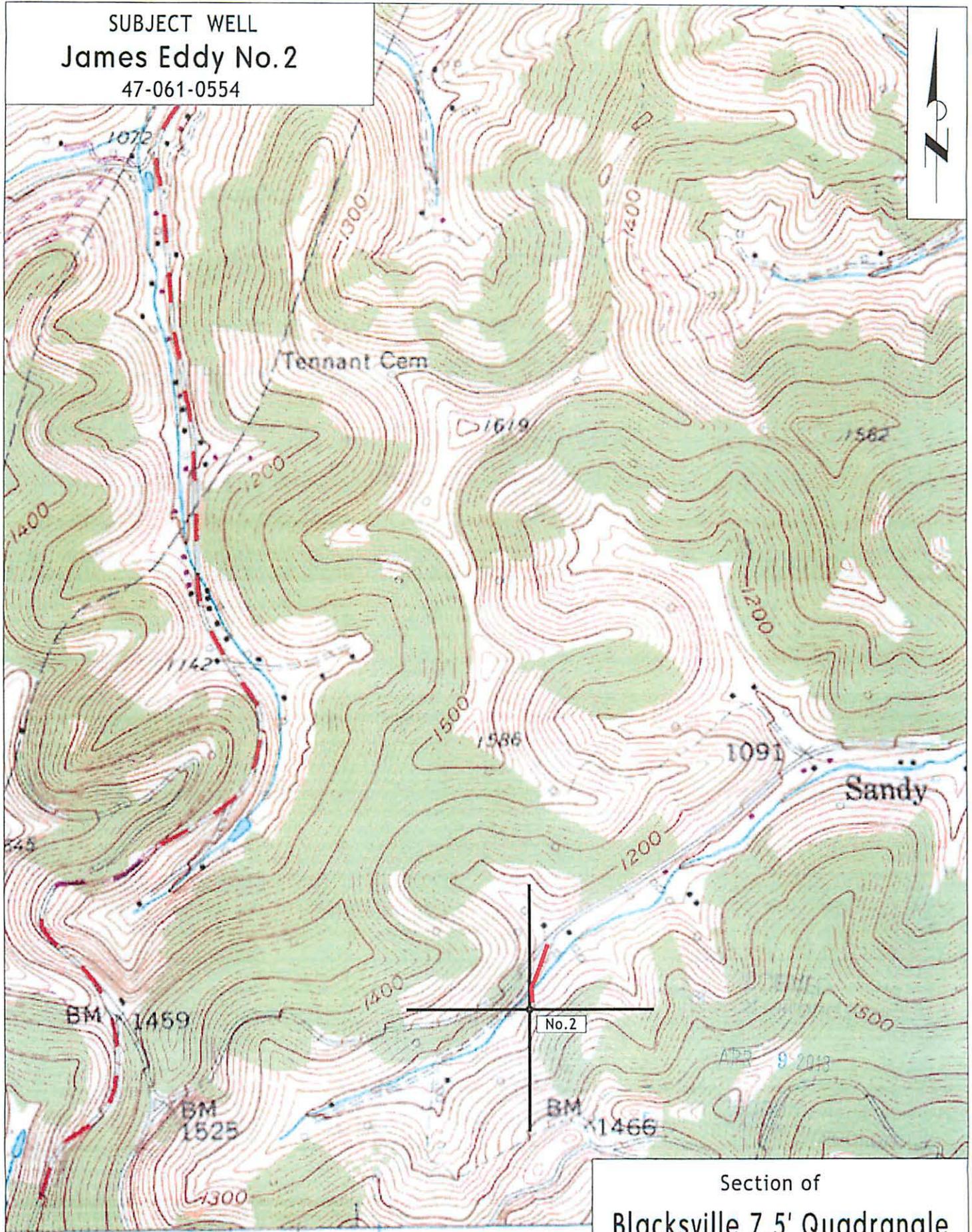


James Martin
Chief

Operator's Well No: 2
Farm Name: EDDY, DARRELL & ALMEADA
API Well Number: 47-6100554
Permit Type: Plugging
Date Issued: 04/18/2013

Promoting a healthy environment.

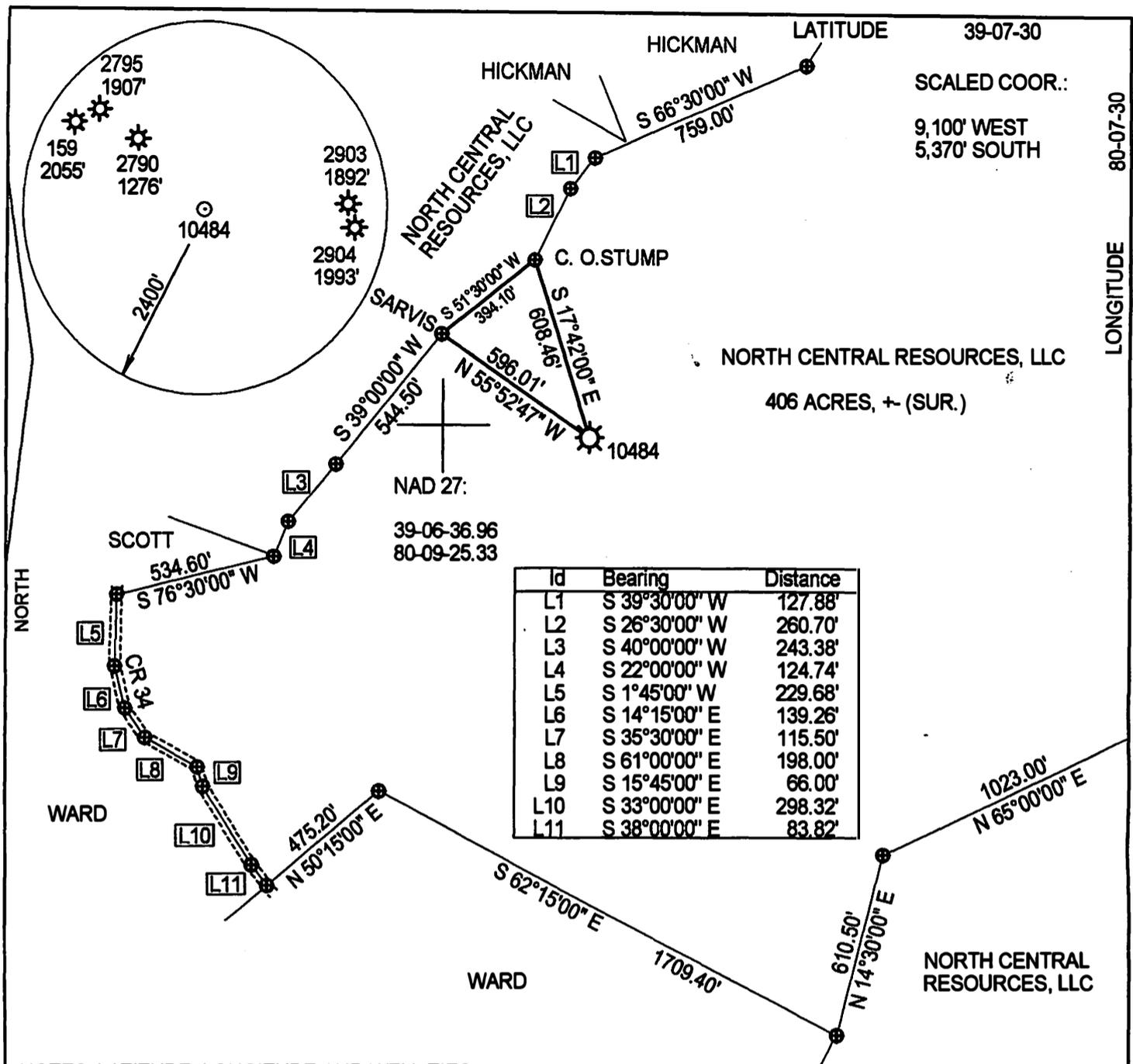
SUBJECT WELL
James Eddy No.2
47-061-0554



7 FAIRVIEW 2.7 MI.
GRANT TOWN 7.3 MI

12'30"

Section of
Blacksville 7.5' Quadrangle
SCALE 1"=1000'



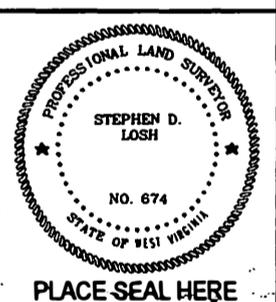
NOTES: LATITUDE, LONGITUDE AND WELL TIES FROM DGPS SUBMETER SURVEY. CORNER TIES FROM PLAT DATED 03/15/63 FOR WELL 47-001-00139 PREPARED BY JACKSON M. JARVIS, PE #2397. SURFACE, BOUNDARY AND ADJOINING INFORMATION TAKEN FROM COURT HOUSE.

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

FILE NUMBER: _____
 DRAWING NUMBER: DTI10484.PCS
 SCALE: 1" = 500'
 MINIMUM DEGREE OF ACCURACY: SUBMETER
 PROVEN SOURCE OF ELEVATION: DGPS SURVEY
SUBMETER SYSTEM

I THE UNDERSIGNED, HEREBY STATE 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 ENERGY.

(SIGNED) _____
 STEPHEN D. LOSH, P.S. #674



STATE OF WEST VIRGINIA
 DIVISION OF ENVIRONMENTAL PROTECTION
 OFFICE OF OIL AND GAS
 #10 McJUNKIN ROAD
 NITRO, WV 25143-2506

FORM WW-6

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

DATE: SEPTEMBER 01, 2008
 OPERATORS WELL NO.: 10484
 API WELL NO. 47-001-00139-F
 STATE WV PERMIT CANCELLED

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___ CBM ___
 (IF "GAS") PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X

LOCATION: ELEVATION 1649.37' WATERSHED BIG RUN
 DISTRICT UNION COUNTY BARBOUR
 QUADRANGLE CENTURY LEASE NUMBER 59142

SURFACE OWNER NORTH CENTRAL RESOURCES, LLC ACREAGE 406.00 (09-08)
 OIL & GAS ROYALTY OWNER CREED C. WARD LEASE ACREAGE 420.00

PROPOSED WORK: DRILL ___ CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION ___
 PERFORATE NEW FORMATION ___ OTHER PHYSICAL CHANGE (SPECIFY) _____
 PLUG & ABANDON ___ CLEAN OUT & REPLUG ___

TARGET FORMATION _____ ESTIMATED DEPTH _____

WELL OPERATOR DOMINION TRANSMISSION, INC. DESIGNATED AGENT JAMES D. BLASINGAME
 ADDRESS 445 W. MAIN ST., CLARKSBURG, WV 26301 ADDRESS 445 W. MAIN ST., CLARKSBURG, WV 26301

LONGITUDE 80-07-30

COUNTY NAME

PERMIT

West Virginia Department of Environmental Protection
Office of Oil & Gas

CANCELLED

WELL LOCATION FORM: GPS

API: 47- 043 - 1471 P WELL NO: No.4

FARM NAME: E.T. Spurlock

RESPONSIBLE PARTY NAME: East Resources, Inc.

COUNTY: Lincoln DISTRICT: Duval

QUADRANGLE: Garrett's Bend 7.5'

SURFACE OWNER: Vernon & Michael Adams

ROYALTY OWNER: East Resources, Inc. et al.

UTM GPS NORTHING: 4,237,418

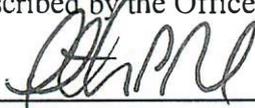
UTM GPS EASTING: 421,764 GPS ELEVATION: 253 m.

The Responsible Party named above has chosen to submit GPS coordinates in lieu of preparing a new well location plat for a plugging permit on the above well. The Office of Oil & 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	<input type="checkbox"/>	Post Processed Differential	<input type="checkbox"/>
		Real-Time Differential	<input type="checkbox"/>
Mapping Grade GPS	<input checked="" type="checkbox"/>	Post Processed Differential	<input checked="" type="checkbox"/>
		Real-Time Differential	<input type="checkbox"/>

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

Timothy P. Roush

Professional Surveyor
Title

Date

June 13, 2012

JUL 06 2012

West Virginia Department of Environmental Protection
Office of Oil & Gas

CANCELLED

WELL LOCATION FORM: GPS

API: 47- 043 - 1473^P WELL NO: No.5

FARM NAME: E.T. Spurlock

RESPONSIBLE PARTY NAME: East Resources, Inc.

COUNTY: Lincoln DISTRICT: Duval

QUADRANGLE: Garrett's Bend 7.5'

SURFACE OWNER: Sandra Rogers Broyles

ROYALTY OWNER: East Resources, Inc. et al.

UTM GPS NORTHING: 4,238,145

UTM GPS EASTING: 421,804 GPS ELEVATION: 234 m.

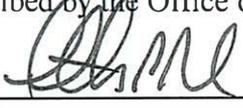
The Responsible Party named above has chosen to submit GPS coordinates in lieu of preparing a new well location plat for a plugging permit on the above well. The Office of Oil & Gas will not accept GPS coordinates that do not meet the following requirements:

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	<input type="checkbox"/>	Post Processed Differential	<input type="checkbox"/>
		Real-Time Differential	<input type="checkbox"/>
Mapping Grade GPS	<input checked="" type="checkbox"/>	Post Processed Differential	<input checked="" type="checkbox"/>
		Real-Time Differential	<input type="checkbox"/>

JUL 06 2012

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 Timothy P. Roush

Professional Surveyor
Title

June 13, 2012
Date

West Virginia Department of Environmental Protection
Office of Oil & Gas

WELL LOCATION FORM: GPS

CANCELLED

API: 47- 043 - 1482 P WELL NO: No.4

FARM NAME: A.A. Woodrum

RESPONSIBLE PARTY NAME: East Resources, Inc.

COUNTY: Lincoln DISTRICT: Duval

QUADRANGLE: Garrett's Bend 7.5'

SURFACE OWNER: James E. Hughes

ROYALTY OWNER: East Resources, Inc. et al.

UTM GPS NORTHING: 4,236,364

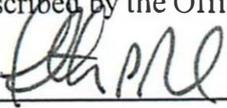
UTM GPS EASTING: 421,470 GPS ELEVATION: 283 m.

The Responsible Party named above has chosen to submit GPS coordinates in lieu of preparing a new well location plat for a plugging permit on the above well. The Office of Oil & 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	<input type="checkbox"/> Post Processed Differential	<input type="checkbox"/>
	<input type="checkbox"/> Real-Time Differential	<input type="checkbox"/>
Mapping Grade GPS	<input checked="" type="checkbox"/> Post Processed Differential	<input checked="" type="checkbox"/>
	<input type="checkbox"/> Real-Time Differential	<input type="checkbox"/>

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 Timothy P. Roush

Title Professional Surveyor

Date June 13, 2012

JUL 9 2012

West Virginia Department of Environmental Protection
Office of Oil & Gas

WELL LOCATION FORM: GPS

CANCELLED

API: 47- 043 - 1483 P WELL NO: No.6

FARM NAME: E.T. Spurlock

RESPONSIBLE PARTY NAME: East Resources, Inc.

COUNTY: Lincoln DISTRICT: Duval

QUADRANGLE: Garrett's Bend 7.5'

SURFACE OWNER: Sandra Rogers Broyles et al.

ROYALTY OWNER: East Resources, Inc. et al.

UTM GPS NORTHING: 4,237,661

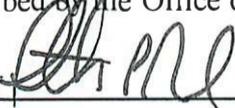
UTM GPS EASTING: 421,611 GPS ELEVATION: 248 m.

The Responsible Party named above has chosen to submit GPS coordinates in lieu of preparing a new well location plat for a plugging permit on the above well. The Office of Oil & 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	<input type="checkbox"/> Post Processed Differential	<input type="checkbox"/>
	<input type="checkbox"/> Real-Time Differential	<input type="checkbox"/>
Mapping Grade GPS	<input checked="" type="checkbox"/> Post Processed Differential	<input checked="" type="checkbox"/>
	<input type="checkbox"/> Real-Time Differential	<input type="checkbox"/>

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.

 Timothy P. Roush
Signature

Professional Surveyor
Title

June 13, 2012
Date

JUL 5 2012

West Virginia Department of Environmental Protection
Office of Oil & Gas

CANCELLED

WELL LOCATION FORM: GPS

API: 47- 043 - 1484^P WELL NO: No.7

FARM NAME: E.T. Spurlock

RESPONSIBLE PARTY NAME: East Resources, Inc.

COUNTY: Lincoln DISTRICT: Duval

QUADRANGLE: Garrett's Bend 7.5'

SURFACE OWNER: Sandra Rogers Broyles et al.

ROYALTY OWNER: East Resources, Inc. et al.

UTM GPS NORTHING: 4,237,884

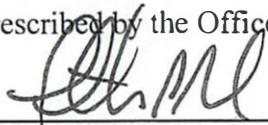
UTM GPS EASTING: 421,488 GPS ELEVATION: 270 m.

The Responsible Party named above has chosen to submit GPS coordinates in lieu of preparing a new well location plat for a plugging permit on the above well. The Office of Oil & 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	<input type="checkbox"/>	Post Processed Differential	<input type="checkbox"/>
		Real-Time Differential	<input type="checkbox"/>
Mapping Grade GPS	<input checked="" type="checkbox"/>	Post Processed Differential	<input checked="" type="checkbox"/>
		Real-Time Differential	<input type="checkbox"/>

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

Timothy P. Roush

Title

Date

June 13, 2012

JUL 06 2012

West Virginia Department of Environmental Protection
Office of Oil & Gas

CANCELLED

WELL LOCATION FORM: GPS

API: 47- 043 - 1487 P WELL NO: No.8

FARM NAME: E.T. Spurlock

RESPONSIBLE PARTY NAME: East Resources, Inc.

COUNTY: Lincoln DISTRICT: Duval

QUADRANGLE: Garrett's Bend 7.5'

SURFACE OWNER: Sandra Rogers Broyles

ROYALTY OWNER: East Resources, Inc. et al.

UTM GPS NORTHING: 4,238,206

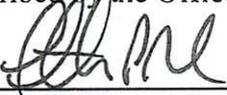
UTM GPS EASTING: 422,057 GPS ELEVATION: 275 m.

The Responsible Party named above has chosen to submit GPS coordinates in lieu of preparing a new well location plat for a plugging permit on the above well. The Office of Oil & 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	<input type="checkbox"/>	Post Processed Differential	<input type="checkbox"/>
		Real-Time Differential	<input type="checkbox"/>
Mapping Grade GPS	<input checked="" type="checkbox"/>	Post Processed Differential	<input checked="" type="checkbox"/>
		Real-Time Differential	<input type="checkbox"/>

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 Timothy P. Roush

Professional Surveyor
Title

June 13, 2012
Date

West Virginia Department of Environmental Protection
Office of Oil & Gas

WELL LOCATION FORM: GPS

CANCELLED

API: 47- 043 - 1546 f WELL NO: No.3

FARM NAME: Roxie Pauley

RESPONSIBLE PARTY NAME: East Resources, Inc.

COUNTY: Lincoln DISTRICT: Duval

QUADRANGLE: Garrett's Bend 7.5'

SURFACE OWNER: Terry Mosteller et al.

ROYALTY OWNER: East Resources, Inc. et al.

UTM GPS NORTHING: 4,238,129

UTM GPS EASTING: 422,381 GPS ELEVATION: 259 m.

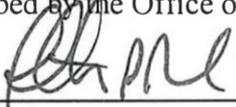
The Responsible Party named above has chosen to submit GPS coordinates in lieu of preparing a new well location plat for a plugging permit on the above well. The Office of Oil & Gas will not accept GPS coordinates that do not meet the following requirements:

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	<input type="checkbox"/>	Post Processed Differential	<input type="checkbox"/>
		Real-Time Differential	<input type="checkbox"/>
Mapping Grade GPS	<input checked="" type="checkbox"/>	Post Processed Differential	<input checked="" type="checkbox"/>
		Real-Time Differential	<input type="checkbox"/>

JUL 8 2011

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 Timothy P. Roush

Professional Surveyor
Title

June 13, 2012
Date

West Virginia Department of Environmental Protection
Office of Oil & Gas

WELL LOCATION FORM: GPS

CANCELLED

API: 47- 043 - 1697^f WELL NO: No.5

FARM NAME: A.A. Woodrum

RESPONSIBLE PARTY NAME: East Resources, Inc.

COUNTY: Lincoln DISTRICT: Duval

QUADRANGLE: Garrett's Bend 7.5'

SURFACE OWNER: James E. Hughes

ROYALTY OWNER: East Resources, Inc. et al.

UTM GPS NORTHING: 4,236,350

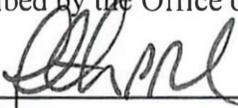
UTM GPS EASTING: 422,040 GPS ELEVATION: 270 m.

The Responsible Party named above has chosen to submit GPS coordinates in lieu of preparing a new well location plat for a plugging permit on the above well. The Office of Oil & 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	<input type="checkbox"/>	Post Processed Differential	<input type="checkbox"/>
		Real-Time Differential	<input type="checkbox"/>
Mapping Grade GPS	<input checked="" type="checkbox"/>	Post Processed Differential	<input checked="" type="checkbox"/>
		Real-Time Differential	<input type="checkbox"/>

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

Timothy P. Roush

Title

June 13, 2012
Date

West Virginia Department of Environmental Protection
Office of Oil & Gas

WELL LOCATION FORM: GPS

CANCELLED

API: 47- 043 - 2126 F WELL NO: No.6

FARM NAME: R.L. Huffman

RESPONSIBLE PARTY NAME: East Resources, Inc.

COUNTY: Lincoln DISTRICT: Duval

QUADRANGLE: Griffithsville 7.5'

SURFACE OWNER: David & Pamela Litz

ROYALTY OWNER: East Resources, Inc. et al.

UTM GPS NORTHING: 4,233,122 (NAD 27)

UTM GPS EASTING: 417,005 (NAD 27) GPS ELEVATION: 285 m.

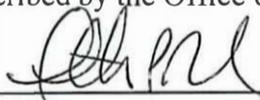
The Responsible Party named above has chosen to submit GPS coordinates in lieu of preparing a new well location plat for a plugging permit on the above well. The Office of Oil & Gas will not accept GPS coordinates that do not meet the following requirements:

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	<input type="checkbox"/>	Post Processed Differential	<input type="checkbox"/>
		Real-Time Differential	<input type="checkbox"/>
Mapping Grade GPS	<input checked="" type="checkbox"/>	Post Processed Differential	<input checked="" type="checkbox"/>
		Real-Time Differential	<input type="checkbox"/>

RECEIVED
Office of Oil & Gas
DEC 08 2010
WV Department of
Environmental Protection

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.

 Timothy P. Roush
Signature

Professional Surveyor
Title

December 2, 2010
Date

West Virginia Department of Environmental Protection
Office of Oil & Gas

WELL LOCATION FORM: GPS **CANCELLED**

API: 47- 043 - 2166 P WELL NO: No.1

FARM NAME: T.J. McDowell

RESPONSIBLE PARTY NAME: East Resources, Inc.

COUNTY: Lincoln DISTRICT: Duval

QUADRANGLE: Garrett's Bend 7.5'

SURFACE OWNER: Gary & Dwight McClure

ROYALTY OWNER: East Resources, Inc. et al.

UTM GPS NORTHING: 4,236,733 (NAD 27)

UTM GPS EASTING: 418,004 (NAD 27) GPS ELEVATION: 233 m.

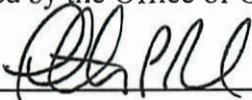
The Responsible Party named above has chosen to submit GPS coordinates in lieu of preparing a new well location plat for a plugging permit on the above well. The Office of Oil & Gas will not accept GPS coordinates that do not meet the following requirements:

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	<input type="checkbox"/> Post Processed Differential	<input type="checkbox"/>
	<input type="checkbox"/> Real-Time Differential	<input type="checkbox"/>
Mapping Grade GPS	<input checked="" type="checkbox"/> Post Processed Differential	<input checked="" type="checkbox"/>
	<input type="checkbox"/> Real-Time Differential	<input type="checkbox"/>

RECEIVED
Office of Oil & Gas
AUG 29 2011
WV Department of
Environmental Protection

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.

 Timothy P. Roush
Signature

Professional Surveyor
Title

August 5, 2011
Date

West Virginia Department of Environmental Protection
Office of Oil & Gas

WELL LOCATION FORM: GPS

CANCELLED

API: 47- 043 - 2326 P WELL NO: No.6

FARM NAME: Stowers Heirs

RESPONSIBLE PARTY NAME: East Resources, Inc.

COUNTY: Lincoln DISTRICT: Duval

QUADRANGLE: Garrett's Bend 7.5'

SURFACE OWNER: Barbara Stowers

ROYALTY OWNER: East Resources, Inc. et al.

UTM GPS NORTHING: 4,238,984

UTM GPS EASTING: 422,042 GPS ELEVATION: 268 m.

The Responsible Party named above has chosen to submit GPS coordinates in lieu of preparing a new well location plat for a plugging permit on the above well. The Office of Oil & 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:

JUL 06 2012

Survey Grade GPS	<input type="checkbox"/>	Post Processed Differential	<input type="checkbox"/>
		Real-Time Differential	<input type="checkbox"/>
Mapping Grade GPS	<input checked="" type="checkbox"/>	Post Processed Differential	<input checked="" type="checkbox"/>
		Real-Time Differential	<input type="checkbox"/>

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.

Timothy P. Roush

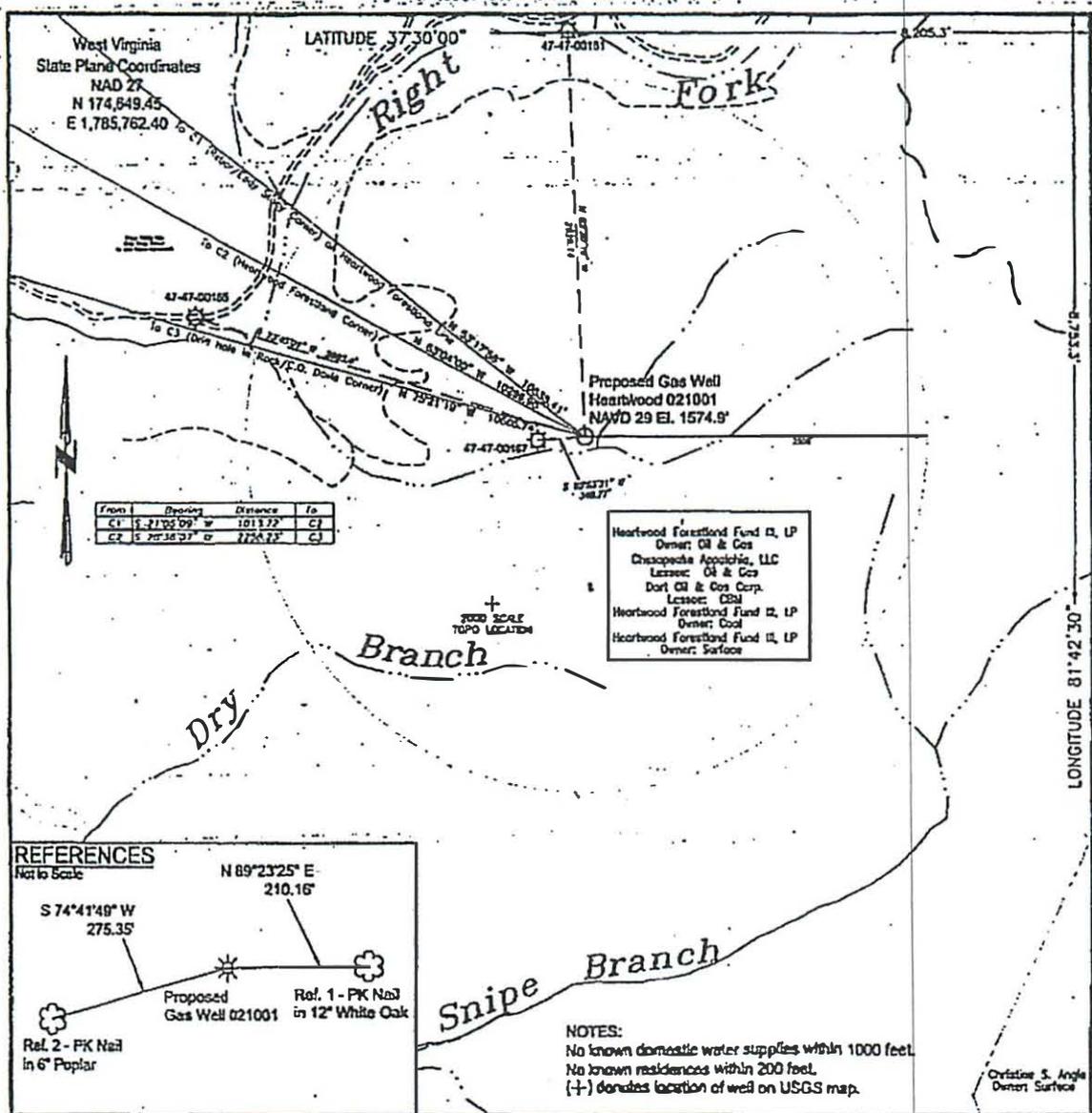
Professional Surveyor

Signature

Title

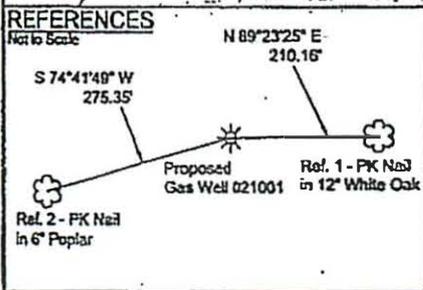
June 13, 2012

Date



From	Bearing	Distance	To
C1	S 21°02'09\" W	101.72'	C2
C2	S 27°38'27\" W	272.25'	C3

Heartwood Forestland Fund II, LP
 Owner: Oil & Gas
 Chesapeake Appalachia, LLC
 Lessee: Oil & Gas
 Dart Oil & Gas Corp.
 Lessee: CBM
 Heartwood Forestland Fund II, LP
 Owner: Coal
 Heartwood Forestland Fund III, LP
 Owner: Surface



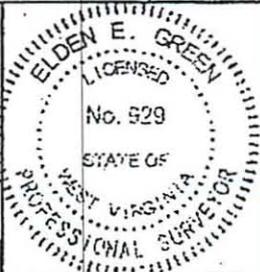
NOTES:
 No known domestic water supplies within 1000 feet.
 No known residences within 200 feet.
 (+) denotes location of well on USGS map.

Orientation S. Angle
 Owner: Surface

File No. 001-634
 Drawing Name F:\001-634\Draw
 Drawing Name Plat 021001
 Scale 1" = 1000'
 Minimum Degree of Accuracy 1:2500
 Proven Source of Elevation NGS BM P176 on Johnnycake Mountain

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, OFFICE OF OIL AND GAS.

(SIGNED) _____
 R.P.E. R.P.S. 929



STATE OF WEST VIRGINIA
 DEPARTMENT OF ENVIRONMENTAL PROTECTION
 OFFICE OF OIL AND GAS
 CHARLESTON, WV

DATE July 25, 2007
 OPERATOR'S WELL NO. Heartwood 021001
 API WELL NO. _____

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL CBM
 (IF "GAS"), PRODUCTION STORAGE DEEP SHALLOW

LOCATION: ELEVATION 1574.9' WATERSHED Unnamed Tributary of Right Fork of Sandy Huff Branch of Turn Fork
 DISTRICT Sandy River COUNTY McDowell
 QUADRANGLE Davy

SURFACE OWNER Heartwood Forestland Fund III, LP ACREAGE 3497.32
 ROYALTY OWNER Heartwood Forestland Fund III, LP LEASE ACREAGE 3497.32
 LEASE NO. 405-000003

PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) _____

PLUG AND ABANDON CLEANOUT AND REPLUG

TARGET FORMATION Pennsylvania Coal ESTIMATED DEPTH 2100'
 WELL OPERATOR Dart Oil & Gas Corporation DESIGNATED AGENT Jackie Hatfield
 ADDRESS 999 Executive Park Blvd, Suite 320 ADDRESS HC Box 98

Prepared By:

CANCELLED

McDowell 2474 C



CANCELLED

West Virginia Department of Environmental Protection
Office of Oil and Gas

WELL LOCATION FORM: GPS

API: 47-081-01178-P WELL NO.: Beaver Coal 303C

FARM NAME: Beaver Coal Co. LTD

RESPONSIBLE PARTY NAME: EXCO Resources (WV), Inc.

COUNTY: Raleigh DISTRICT: Slab Fork

QUADRANGLE: Lester

SURFACE OWNER: Beaver Coal Co. LTD

ROYALTY OWNER: Beaver Coal Co. LTD

UTM GPS NORTHING: 4338122.6

UTM GPS EASTING: 587743.0 GPS ELEVATION: 2425

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]
Signature

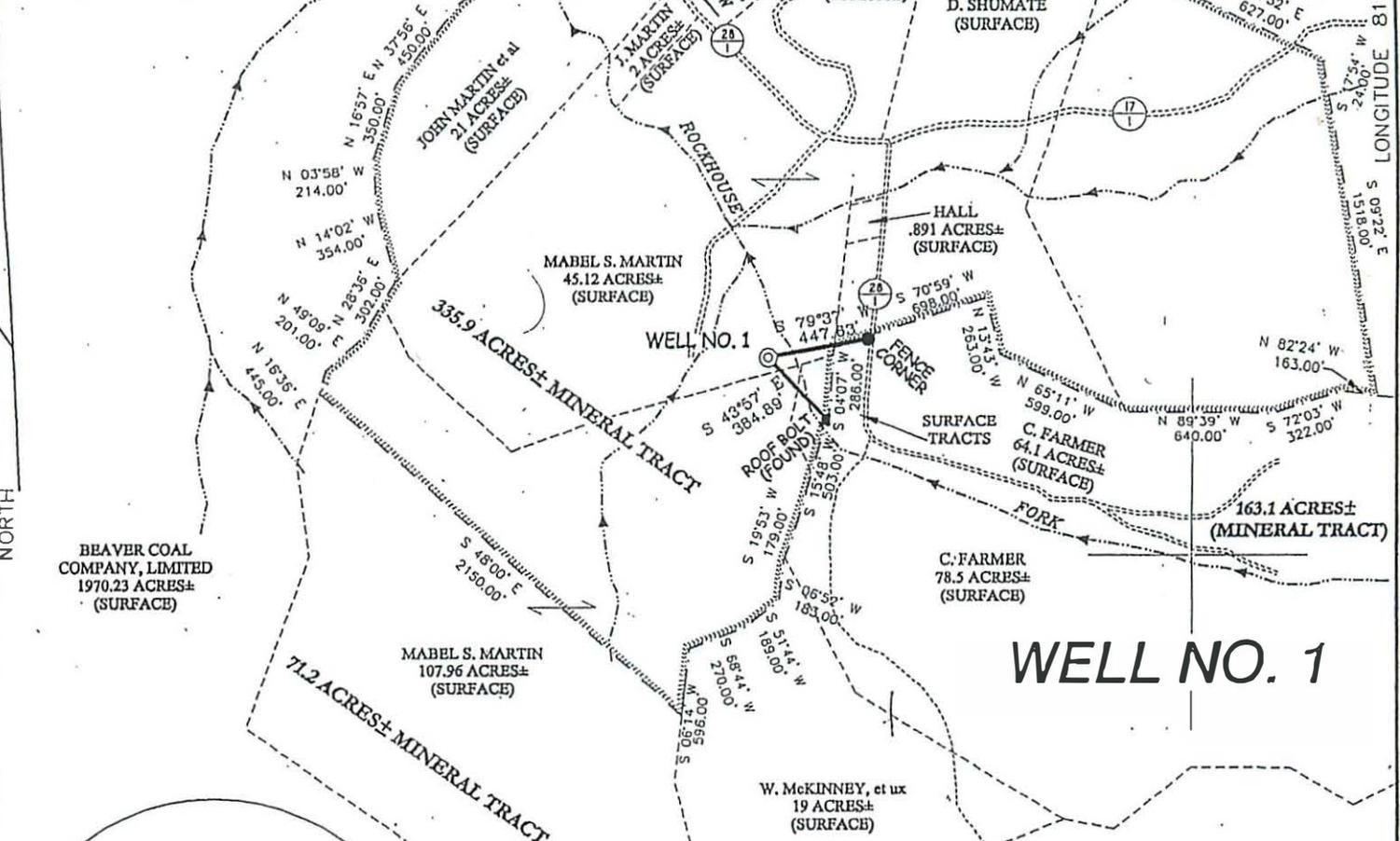
Landman
Title

2/15/2011
Date

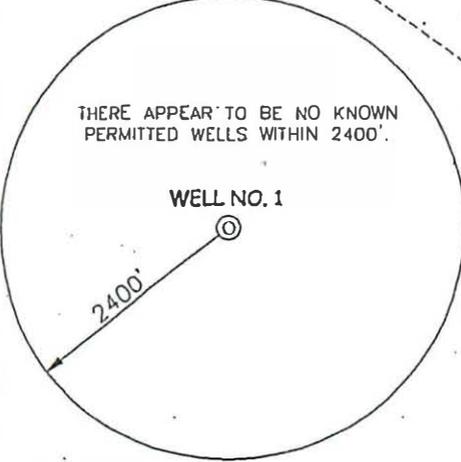
RECEIVED
Office of Oil & Gas
MAR 31 2011
Department of Environmental Protection

WESTERN POCAHONTAS LEASE

335.9 OF 499.0 ACRES ±



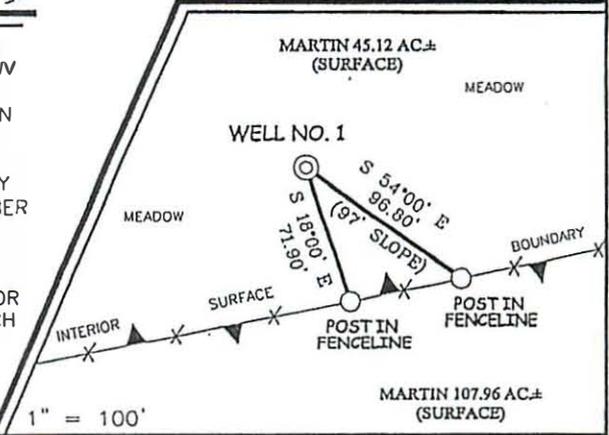
WELL NO. 1



NOTES ON SURVEY

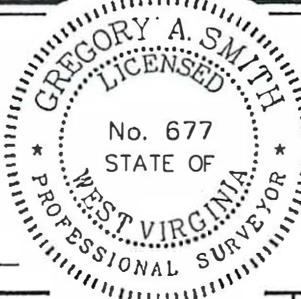
1. TIES TO WELLS AND CORNERS ARE BASED ON STATE PLANE GRID NORTH WV SOUTH ZONE NAD '27.
2. TIES TO REFERENCES ARE BASED ON MAGNETIC NORTH 01/30/01.
3. LEASE BOUNDARY SHOWN HEREON TAKEN FROM AN ABSTRACT OF TITLE BY EDWARD P. STANSBERRY DATED SEPTEMBER 29, 1965 AS PROVIDED BY ENERGY SEARCH, INCORPORATED.
4. SURFACE OWNER AND ADJOINER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF WHICH COUNTY IN JANUARY, 2001.
5. WELL LAT./LONG. ESTABLISHED BY DGPS(SUBMETER MAPPING GRADE).

REFERENCES



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 ENERGY.

P.S. 677 Gregory A. Smith



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.
 DATE JANUARY 31, 20 01
 OPERATORS WELL NO. POCAHONTAS NO. 1
 API WELL NO. 47-081-01223CP
 STATE COUNTY PERMIT

CANCELLED

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 4590P1(97-53)
 PROVEN SOURCE OF ELEVATION BENCHMARK ELEVATION 1933' SCALE 1"=800'

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

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

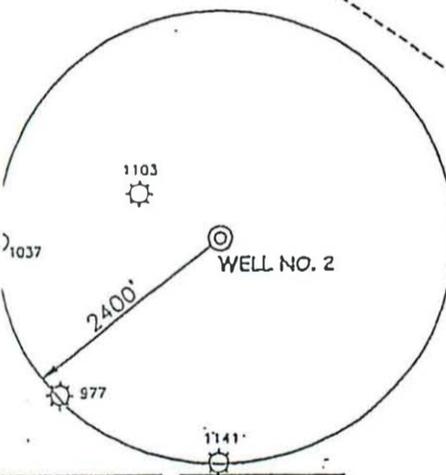
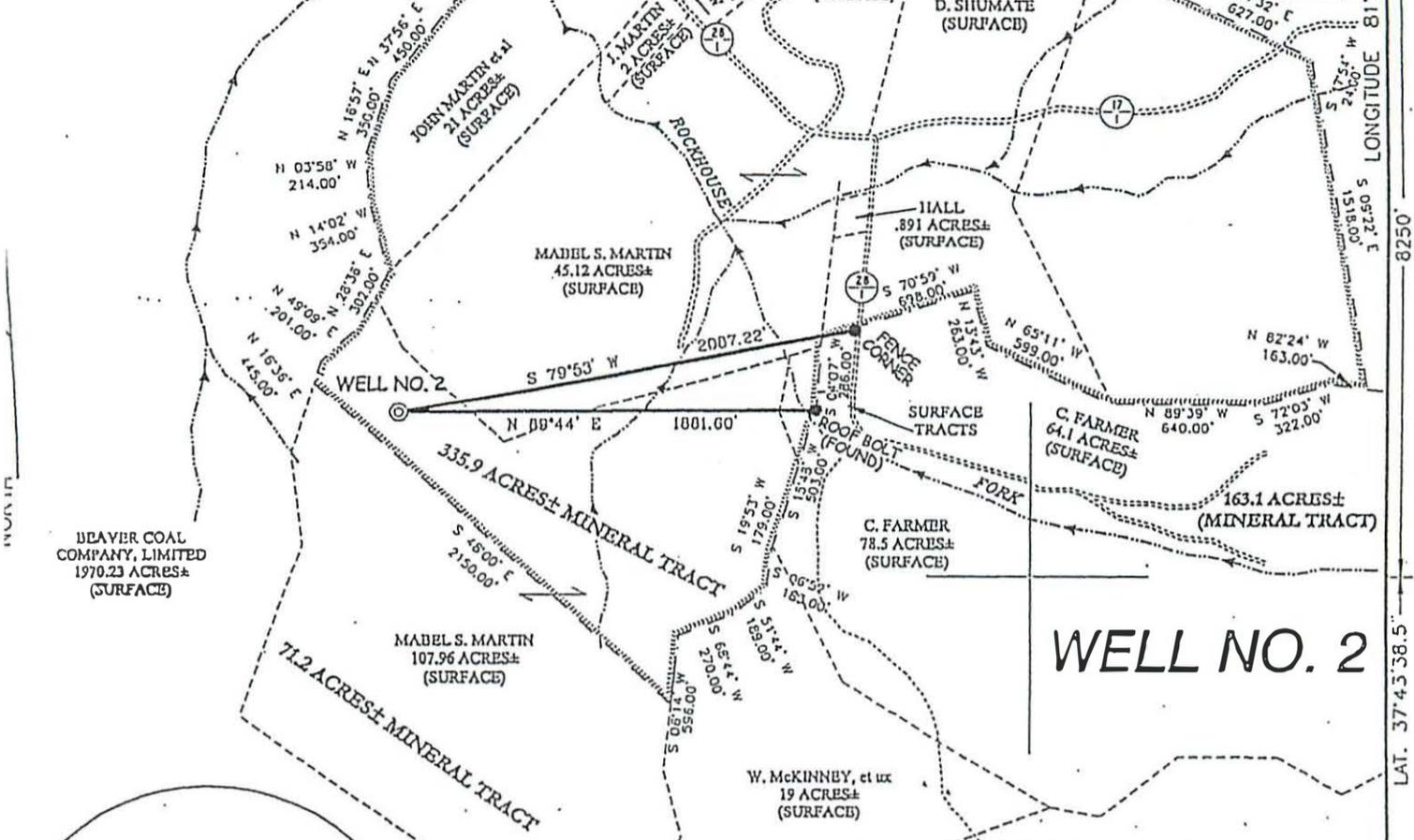
LOCATION : ELEVATION 1955' WATERSHED ROCKHOUSE FORK
 DISTRICT TRAP HILL COUNTY RALEIGH QUADRANGLE LESTER 7.5'
 SURFACE OWNER MABEL S. MARTIN ACREAGE 45.12±
 ROYALTY OWNER WESTERN POCAHONTAS LIMITED PARTNERSHIP LEASE ACREAGE 335.9 OF 499.0±
 PROPOSED WORK : LEASE NO. _____
 DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION PLUG AND ABANDON CLEAN OUT AND REPLUG OTHER
 PHYSICAL CHANGE _____ TARGET FORMATION POCAHONTAS #3
 ESTIMATED DEPTH 1300'

WELL OPERATOR EXCO RESOURCES (WV), INC DESIGNATED AGENT DIANA STAMPER
 ADDRESS PO BOX 8 RAVENSWOOD, WV. 26164 ADDRESS 5400 D BIG TYLER ROAD CHARLESTON, WV. 25313

COUNTY NAME PERMIT

WESTERN POCAHONTAS LEASE

335.9 OF 499.0 ACRES±



NOTES ON SURVEY

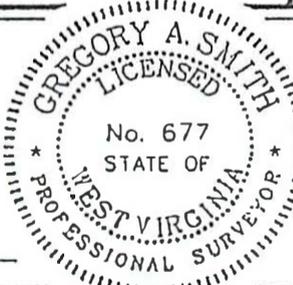
1. TIES TO WELLS AND CORNERS ARE BASED ON STATE PLANE GRID NORTH WV SOUTH ZONE NAD '27.
2. TIES TO REFERENCES ARE BASED ON MAGNETIC NORTH 01/30/01.
3. LEASE BOUNDARY SHOWN HEREON TAKEN FROM AN ABSTRACT OF TITLE BY EDWARD P. STANSBERRY DATED SEPTEMBER 29, 1965 AS PROVIDED BY ENERGY SEARCH, INCORPORATED.
4. SURFACE OWNER AND ADJOINER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF WHICH COUNTY IN JANUARY, 2001.
5. WELL LAT./LONG. ESTABLISHED BY DGPS(SUBMETER. MAPPING GRADE).

REFERENCES



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 ENERGY.

Gregory A. Smith
 P.S. 577



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.
 DATE FEBRUARY 5, 20 01
 OPERATORS WELL NO. POCAHONTAS NO. 2
 API WELL NO. 47-081-012240P
 STATE COUNTY PERMIT

CANCELLED

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

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 4590P2(97-53)
 PROVEN SOURCE OF ELEVATION BENCHMARK ELEVATION 1 SCALE 1"=800'

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

LOCATION : ELEVATION 2124' WATERSHED TRIBUTARY OF ROCKHOUSE FORK
 DISTRICT TRAP HILL COUNTY RALEIGH QUADRANGLE LESTER 7.5'

SURFACE OWNER MABEL S. MARTIN ACREAGE 107.96±
 ROYALTY OWNER WESTERN POCAHONTAS LIMITED PARTNERSHIP LEASE ACREAGE 335.9 OF 499.0±

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 POCAHONTAS #3
 ESTIMATED DEPTH 1300'

WELL OPERATOR FXCO RESOURCES(WV), INC DESIGNATED AGENT DIANA STAMPER
 ADDRESS PO BOX 8 RAVENSWOOD, WV. 26164 ADDRESS 5400 D BIG TYLER ROAD CHARLESTON, WV. 25313

COUNTY NAME RA1
 PERMIT 1224 C

LONG. 81°19'58.7"

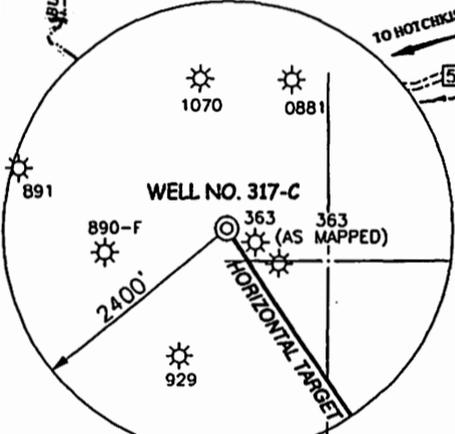
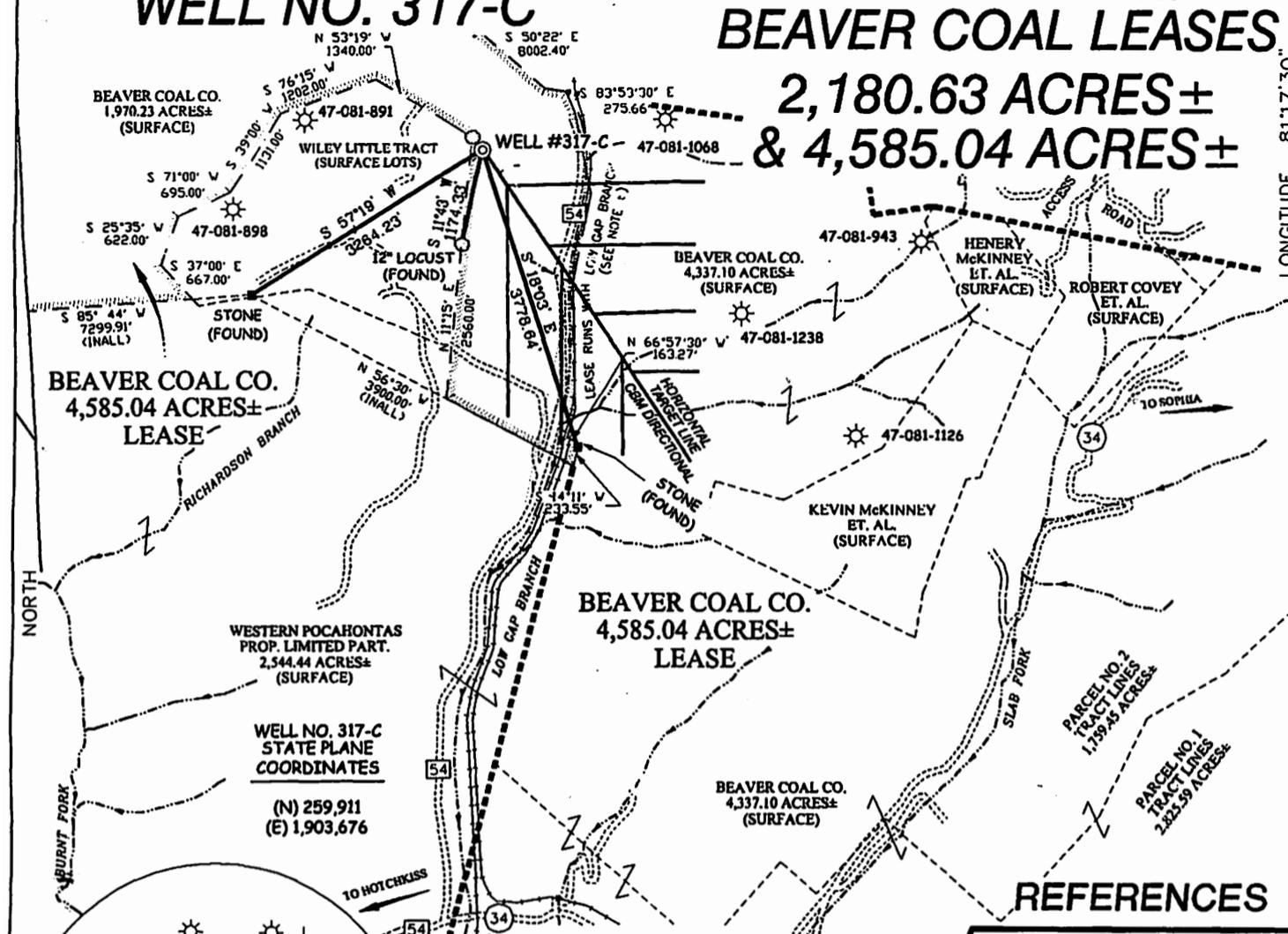
11,950'

LATITUDE 37°45'00"

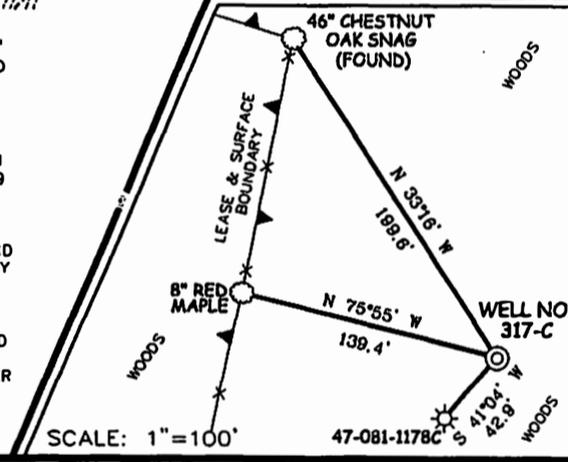
WELL NO. 317-C

BEAVER COAL LEASES

2,180.63 ACRES± & 4,585.04 ACRES±

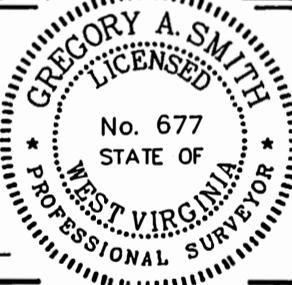


- NOTES ON SURVEY**
1. TIES TO WELLS AND CORNERS ARE BASED ON STATE PLANE GRID NORTH WV SOUTH ZONE NAD '27.
 2. TIES TO REFERENCES ARE BASED ON MAGNETIC NORTH 8/21/02.
 3. LEASE BOUNDARY SHOWN HEREON TAKEN FROM A PLAT RECORDED IN LEASE BOOK 29 PAGE 374A RECORDED IN THE RALEIGH COUNTY CLERKS.
 4. SURFACE OWNER AND ADJOINER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF RALEIGH COUNTY IN DECEMBER, 2001.
 5. WELL LAT./LONG. ESTABLISHED BY DGPS(SUBMETER MAPPING GRADE).
 6. HORIZONTAL TARGET DRILLING LINES FOR PROPOSED CBM DIRECTIONAL DRILLING SHOWN HEREON CROSS THE SHADED LEASE LINES FOR BEAVER COALS LEASE OF 2,180.63 ACRES± ON TO BEAVER COALS 4,585.04 ACRES± LEASE SHOWN IN BOLD DASHED LINES.



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.

P.S. 677 *Gregory A. Smith*



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

DATE AUGUST 21, 20 02
 OPERATORS WELL NO. 317-C
 API WELL NO. 47-081-01288C
 STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 3639P317C (72-56&115-75)
 PROVEN SOURCE OF ELEVATION BENCH MARK ELEVATION 1955' SCALE 1" = 2000'

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

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

LOCATION :
 ELEVATION 2,418' WATERSHED LOW GAP BRANCH
 DISTRICT SLAB FORK COUNTY RALEIGH QUADRANGLE LESTER 7.5'

SURFACE OWNER BEAVER COAL COMPANY ACREAGE 1,970.23±
 ROYALTY OWNER BEAVER COAL COMPANY LEASE ACREAGE 2,180.63± & 4,585.04
 PROPOSED WORK :
 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 POCAHONTAS NO. 3
 ESTIMATED DEPTH 1300'

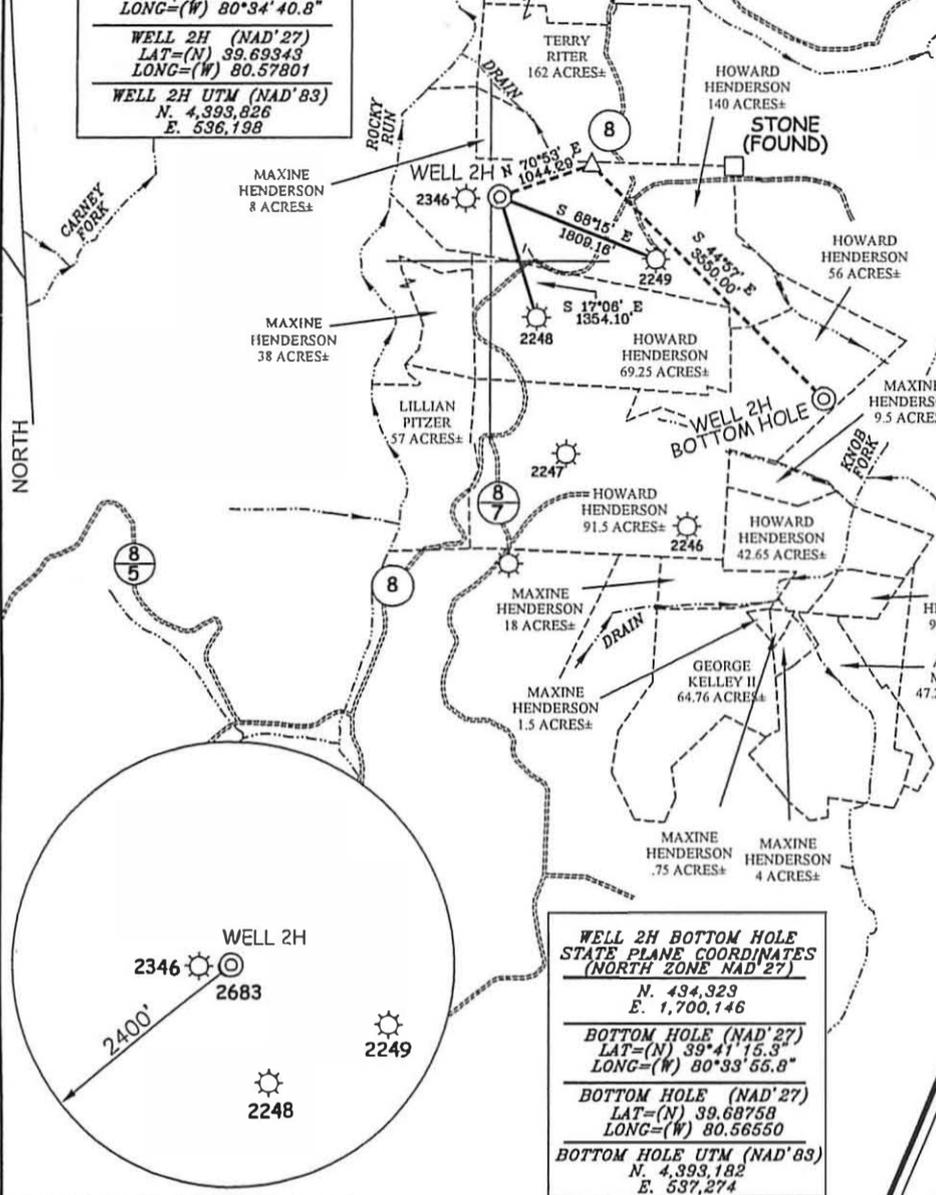
WELL OPERATOR ENERGY SEARCH, INC. DESIGNATED AGENT DAVE PERKINSON
 ADDRESS ROUTE 11, BOX 41 ADDRESS 377 EASTVIEW DRIVE
MARIETTA, OH 45750 PARKERSBURG, WV 26104

COUNTY NAME PERMIT

NORTH HENDERSON UNIT 2H

WE 2H STATE PLANE COORDINATES (NORTH ZONE NAD 27)
 N. 436,494
 E. 1,696,652
WELL 2H (NAD'27)
 LAT=(N) 39°41'36.3"
 LONG=(W) 80°34'40.8"
WELL 2H (NAD'27)
 LAT=(N) 39.69343
 LONG=(W) 80.57801
WELL 2H UTM (NAD'83)
 N. 4,393,826
 E. 536,198

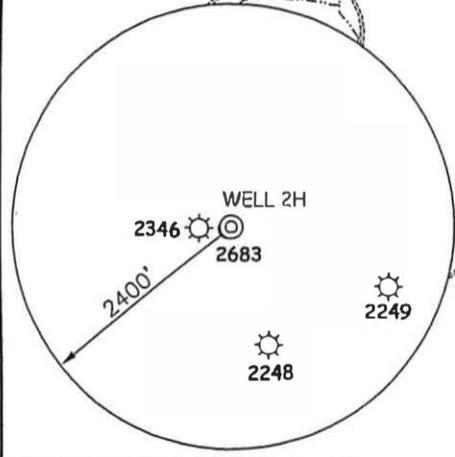
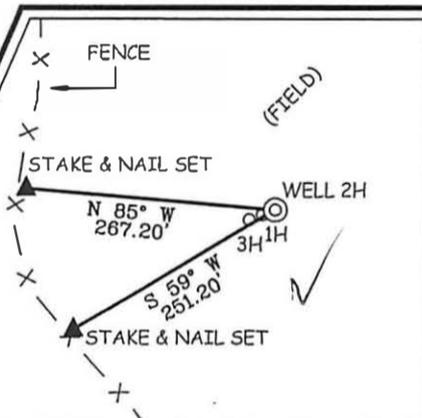
WELL 2H PENETRATION STATE PLANE COORDINATES (NORTH ZONE NAD 27)
 N. 436,836
 E. 1,697,639
PENETRATION POINT (NAD'27)
 LAT=(N) 39°41'39.8"
 LONG=(W) 80°34'28.3"
PENETRATION POINT (NAD'27)
 LAT=(N) 39.69440
 LONG=(W) 80.57452
PENETRATION POINT UTM (NAD'83)
 N. 4,393,935
 E. 536,497



NOTES ON SURVEY

1. TIES TO WELLS, REFERENCES, AND CORNERS ARE BASED ON GRID NORTH FOR THE WV STATE PLANE COORDINATE SYSTEM NORTH ZONE NAD 27.
2. TRACT BOUNDARY SHOWN HEREON TAKEN FROM DEED BOOK 77 PAGE 189 AND ADJOINING DEEDS.
3. SURFACE OWNER AND ADJOINER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF WETZEL COUNTY IN JULY, 2010.
4. WELL COORDINATES ESTABLISHED BY DGPS(SURVEY GRADE).

REFERENCES



WELL 2H BOTTOM HOLE STATE PLANE COORDINATES (NORTH ZONE NAD 27)
 N. 434,323
 E. 1,700,146
BOTTOM HOLE (NAD'27)
 LAT=(N) 39°41'15.3"
 LONG=(W) 80°33'55.8"
BOTTOM HOLE (NAD'27)
 LAT=(N) 39.68758
 LONG=(W) 80.56550
BOTTOM HOLE UTM (NAD'83)
 N. 4,393,182
 E. 537,274



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. 677 *Gregory A. Smith*



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.
 DATE AUGUST 29, 20 11
 OPERATORS WELL NO. NORTH HENDERSON UNIT 2H
 API WELL NO. 47-103-02749
 STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1/200 FILE NO. 7578P2H(343-49)
 PROVEN SOURCE OF ELEVATION DGPS (SUBMETER MAPPING GRADE) SCALE 1" = 2,000'

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

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

LOCATION: ELEVATION 1356' WATERSHED ROCKY RUN
 DISTRICT CENTER COUNTY WETZEL QUADRANGLE LITTLETON 7.5'

SURFACE OWNER HOWARD HENDERSON ACREAGE 140±
 ROYALTY OWNER MAXINE HENDERSON ET AL LEASE ACREAGE 140, 162, 69.25, & 56±

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 MARCELLUS
 ESTIMATED DEPTH 7,597' HORIZONTAL LEG

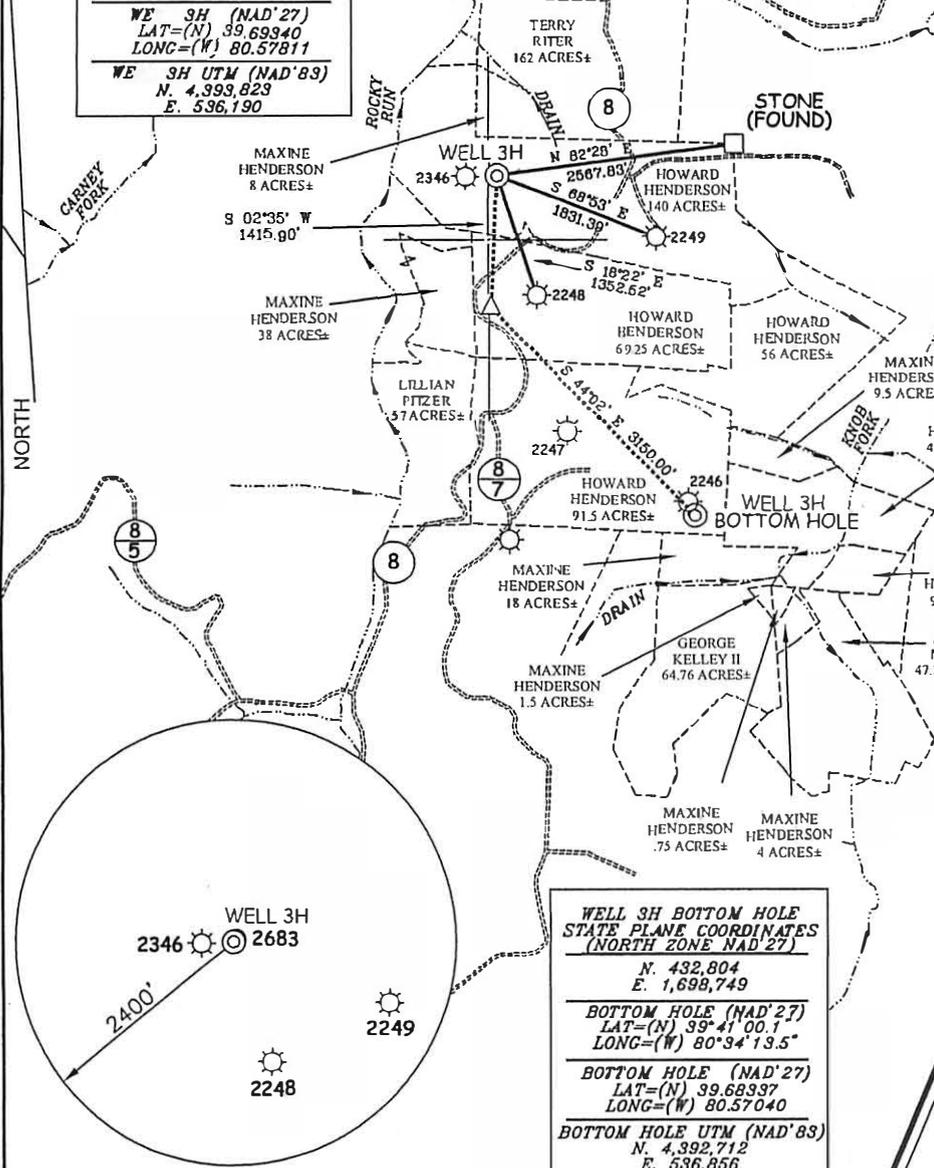
WELL OPERATOR GRENADIER ENERGY PARTNERS, LLC DESIGNATED AGENT SHARON BARTH-CT CORP.
 ADDRESS 1610 WOODSTEAD COURT, SUITE 330 ADDRESS 707 VIRGINIA ST. EAST 15TH FL.
THE WOODLANDS, TX 77380 CHARLESTON, WV 25301



NORTH HENDERSON UNIT 3H

**WELL 3H
STATE PLANE COORDINATES
(NORTH ZONE NAD '27)**
N. 436,483
E. 1,696,624
WELL 3H (NAD'27)
LAT=(N) 39°41'36.2"
LONG=(W) 80°34'41.2"
WE 3H (NAD'27)
LAT=(N) 39.69340
LONG=(W) 80.57811
WE 3H UTM (NAD'83)
N. 4,393,823
E. 536,190

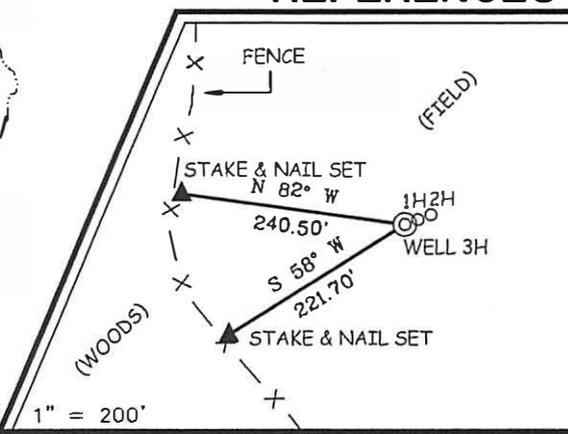
**WELL 3H PENETRATION POINT
STATE PLANE COORDINATES
(NORTH ZONE NAD '27)**
N. 435,069
E. 1,696,560
PENETRATION POINT (NAD'27)
LAT=(N) 39°41'22.2"
LONG=(W) 80°34'41.8"
PENETRATION POINT (NAD'27)
LAT=(N) 39.68951
LONG=(W) 80.57828
PENETRATION POINT UTM (NAD'83)
N. 4,393,391
E. 536,177



NOTES ON SURVEY

1. TIES TO WELLS, REFERENCES, AND CORNERS ARE BASED ON GRID NORTH FOR THE WV STATE PLANE COORDINATE SYSTEM NORTH ZONE NAD '27.
2. TRACT BOUNDARY SHOWN HEREON TAKEN FROM DEED BOOK 77 PAGE 189 AND ADJOINING DEEDS.
3. SURFACE OWNER AND ADJOINER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF WETZEL COUNTY IN JULY, 2010.
4. WELL COORDINATES ESTABLISHED BY DGPS(SURVEY GRADE).

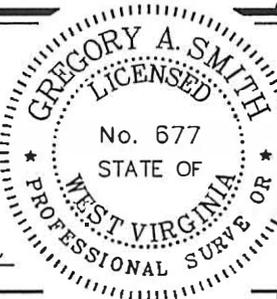
REFERENCES



**WELL 3H BOTTOM HOLE
STATE PLANE COORDINATES
(NORTH ZONE NAD '27)**
N. 432,804
E. 1,698,749
BOTTOM HOLE (NAD'27)
LAT=(N) 39°41'00.1"
LONG=(W) 80°34'13.5"
BOTTOM HOLE (NAD'27)
LAT=(N) 39.68337
LONG=(W) 80.57040
BOTTOM HOLE UTM (NAD'83)
N. 4,392,712
E. 536,856



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. 677 *Gregory A. Smith*

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.
DATE AUGUST 29, 20 11
OPERATORS WELL NO. NORTH HENDERSON UNIT 3H
API WELL NO. 47-103-02750 H
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 200 FILE NO. 7578P3HR(343-49)
PROVEN SOURCE OF ELEVATION DGPS (SUBMETER MAPPING GRADE) SCALE 1" = 2,000'

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

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL IF "GAS" PRODUCTIVE SHALLOW

LOCATION: ELEVATION 1356' WATERSHED ROCKY RUN
DISTRICT CENTER COUNTY WETZEL RANGE LITTLETON 7.5'

SURFACE OWNER HOWARD HENDERSON ACREAGE 140±

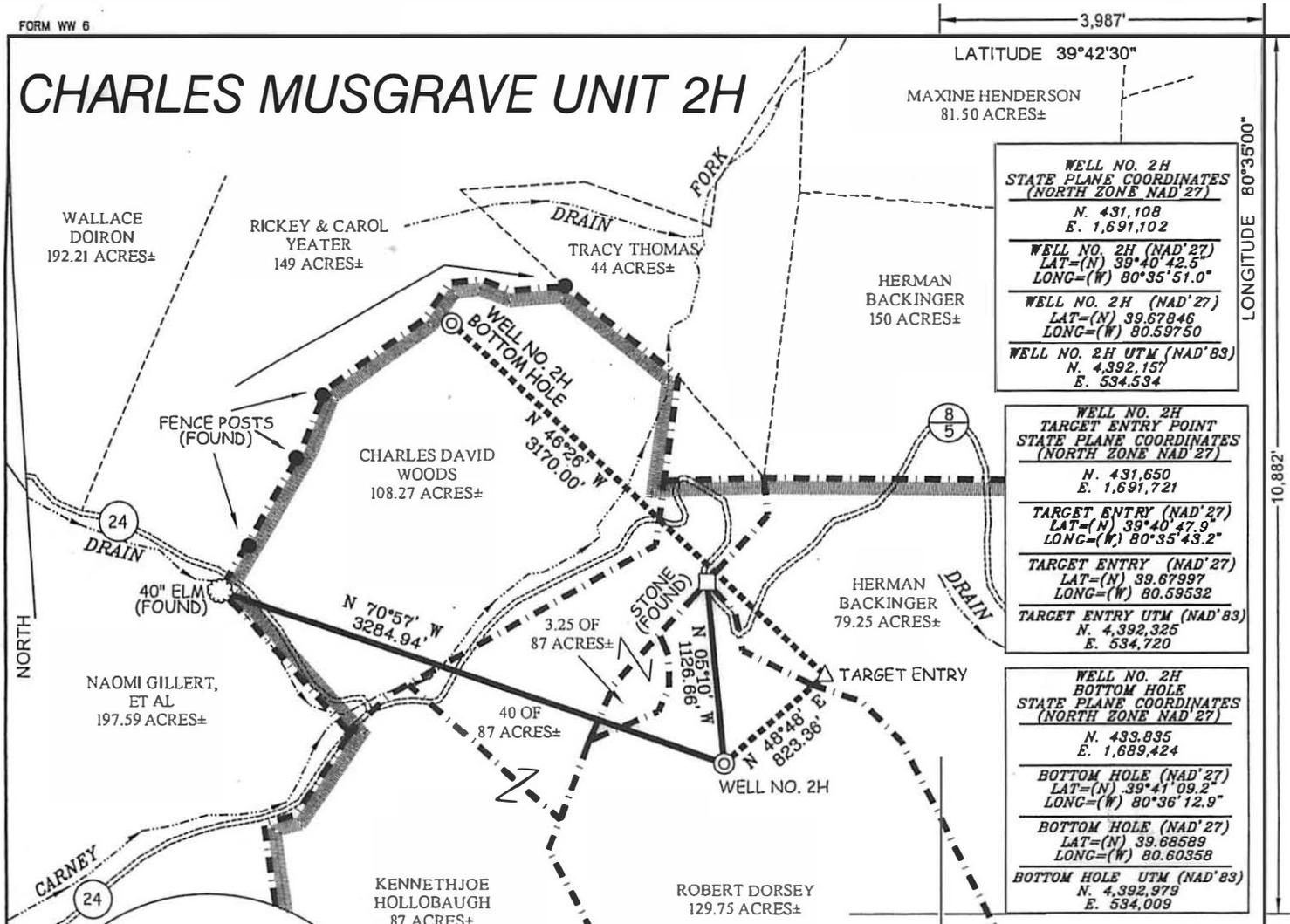
ROYALTY OWNER MAXINE HENDERSON ET AL LEASE ACREAGE 140, 69.25, 91.5, 42.65, 18, 64.76, 1.5, .75, 4, & 47.25±

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 MARCELLUS
ESTIMATED DEPTH 7,597' HORIZONTAL LEG _____

WELL OPERATOR GRENADIER ENERGY PARTNERS, LLC DESIGNATED AGENT SHARON BARTH-CT CORP.
ADDRESS 1610 WOODSTEAD COURT, SUITE 330 ADDRESS 707 VIRGINIA ST. EAST 15TH FL.
THE WOODLANDS, TX 77380 CHARLESTON, WV 25301

COUNTY NAME PERMIT

CHARLES MUSGRAVE UNIT 2H

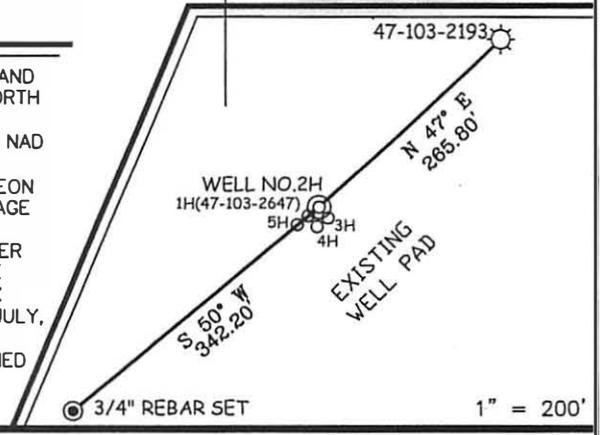
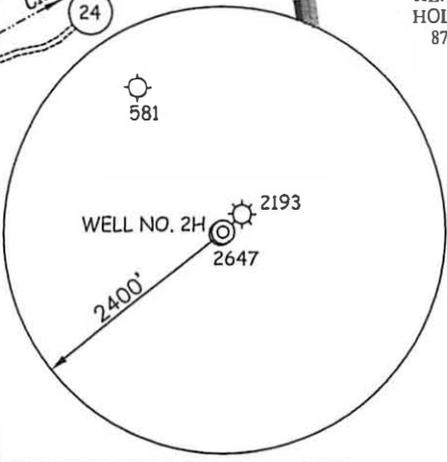


WELL NO. 2H STATE PLANE COORDINATES (NORTH ZONE NAD 27) N. 431,108 E. 1,691,102 <hr/> WELL NO. 2H (NAD'27) LAT=(N) 39°40'42.5" LONG=(W) 80°35'51.0" <hr/> WELL NO. 2H (NAD'27) LAT=(N) 39.67846 LONG=(W) 80.59750 <hr/> WELL NO. 2H UTM (NAD'83) N. 4,392,157 E. 534,534
WELL NO. 2H TARGET ENTRY POINT STATE PLANE COORDINATES (NORTH ZONE NAD 27) N. 431,650 E. 1,691,721 <hr/> TARGET ENTRY (NAD'27) LAT=(N) 39°40'47.9" LONG=(W) 80°35'43.2" <hr/> TARGET ENTRY (NAD'27) LAT=(N) 39.67987 LONG=(W) 80.59532 <hr/> TARGET ENTRY UTM (NAD'83) N. 4,392,325 E. 534,720
WELL NO. 2H BOTTOM HOLE STATE PLANE COORDINATES (NORTH ZONE NAD 27) N. 433,835 E. 1,689,424 <hr/> BOTTOM HOLE (NAD'27) LAT=(N) 39°41'09.2" LONG=(W) 80°36'12.9" <hr/> BOTTOM HOLE (NAD'27) LAT=(N) 39.68589 LONG=(W) 80.60358 <hr/> BOTTOM HOLE UTM (NAD'83) N. 4,392,979 E. 534,009

REFERENCES

NOTES ON SURVEY

1. TIES TO WELLS, REFERENCES, AND CORNERS ARE BASED ON GRID NORTH FOR THE WV STATE PLANE COORDINATE SYSTEM NORTH ZONE NAD '27.
2. LEASE BOUNDARY SHOWN HEREON TAKEN FROM DEED BOOK 142 PAGE 50 AND ADJOINING DEEDS.
3. SURFACE OWNER AND ADJOINER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF WETZEL COUNTY IN JULY, 2010.
4. WELL COORDINATES ESTABLISHED BY DGPS(SURVEY 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. 677
Gregory A. Smith



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.
 DATE SEPTEMBER 15, 20 11
 OPERATORS WELL NO. CHARLES MUSGRAVE 2H
 API WELL NO. 47-103-02751H
 STATE CANCELLED COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1/200 FILE NO. 7507P2H(340-09)
 PROVEN SOURCE OF ELEVATION DGPS (SURVEY GRADE) SCALE 1" = 1,000'

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

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

LOCATION:
 ELEVATION 1,344' WATERSHED MILLER RUN & CARNEY FORK
 DISTRICT CENTER COUNTY WETZEL QUADRANGLE LITTLETON 7.5'

SURFACE OWNER ROBERT DORSEY ACREAGE 129.75±
 ROYALTY OWNER CHARLES E. MUSGRAVE, ET AL LEASE ACREAGE 129.75, 79.25±, 87, & 108.27±

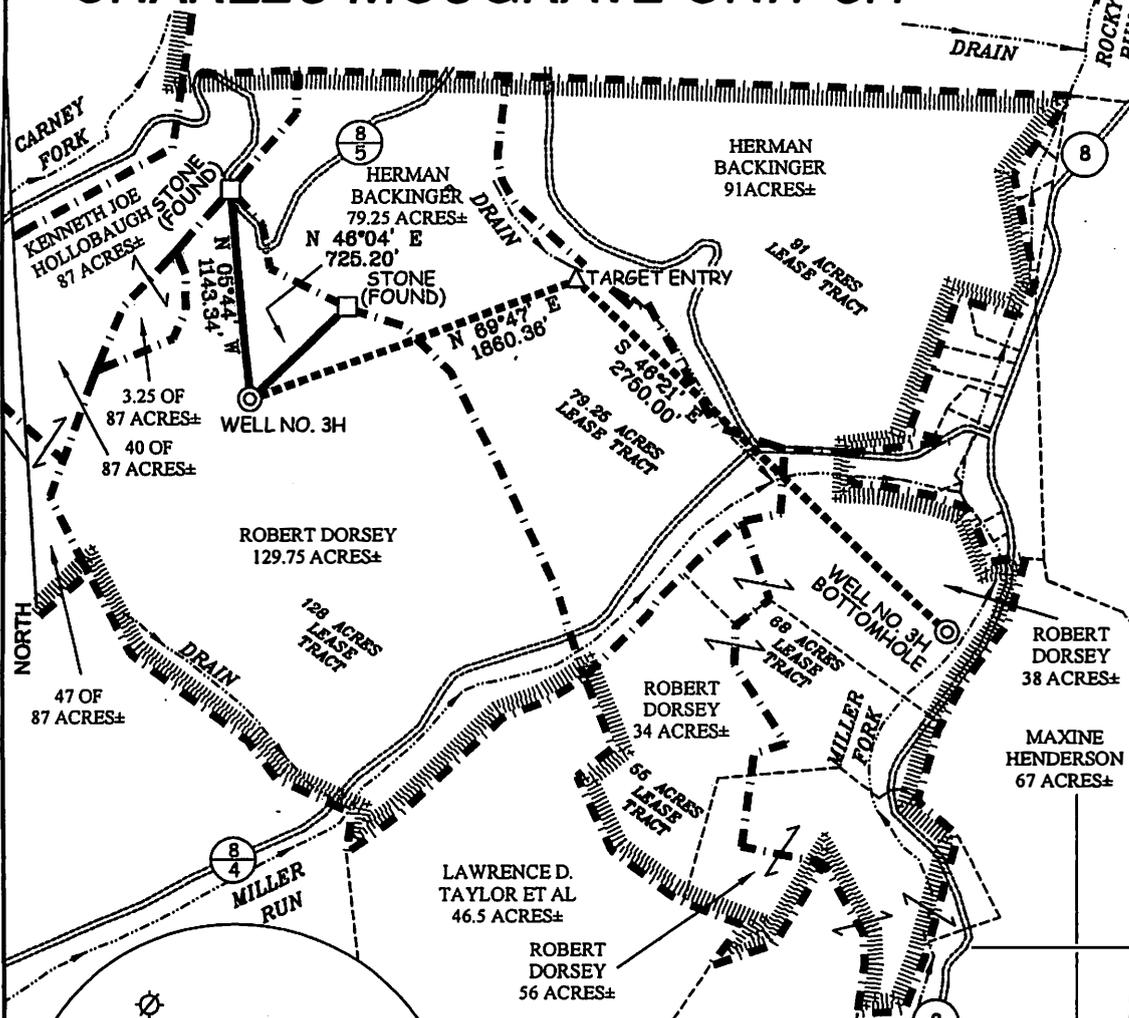
PROPOSED WORK:
 DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD
 FORMATION PERFORATE NEW FORMATION PLUG AND ABANDON CLEAN OUT AND REPLUG OTHER
 PHYSICAL CHANGE IN WELL (SPECIFY) _____ TARGET FORMATION MARCELLUS
 ESTIMATED DEPTH 7,472' + HORIZONTAL LEG

WELL OPERATOR GRENADIER ENERGY PARTNERS, LLC DESIGNATED AGENT SHARON BARTH-CT CORP.
 ADDRESS 1610 WOODSTEAD COURT, SUITE 330 ADDRESS 707 VIRGINIA ST. EAST 15TH FL.
THE WOODLANDS, TX 77380 CHARLESTON, WV 25301

CHARLES MUSGRAVE UNIT 3H

LATITUDE 39°42'30"

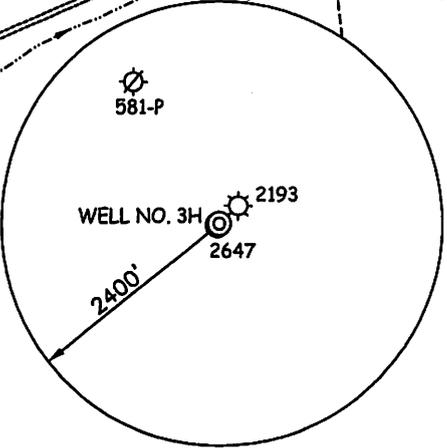
LONGITUDE 80°35'00"



WELL NO. 3H STATE PLANE COORDINATES (NORTH ZONE NAD '27) N. 431,092 E. 1,691,114 WELL NO. 3H (NAD '27) LAT=(N) 39°40'42.3" LONG=(W) 80°36'50.8" WELL NO. 3H (NAD '27) LAT=(N) 39.67842 LONG=(W) 80.59745 WELL NO. 3H UTM (NAD '83) N. 4,392,152 E. 634,538

WELL NO. 3H TARGET ENTRY POINT STATE PLANE COORDINATES (NORTH ZONE NAD '27) N. 431,735 E. 1,692,880 TARGET ENTRY (NAD '27) LAT=(N) 39°40'48.9" LONG=(W) 80°36'28.6" TARGET ENTRY (NAD '27) LAT=(N) 39.68024 LONG=(W) 80.59128 TARGET ENTRY UTM (NAD '83) N. 4,392,357 E. 635,967
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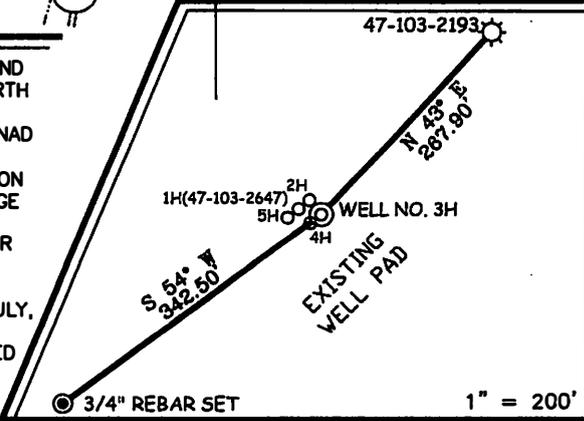
WELL NO. 3H BOTTOM HOLE STATE PLANE COORDINATES (NORTH ZONE NAD '27) N. 429,837 E. 1,694,850 BOTTOM HOLE (NAD '27) LAT=(N) 39°40'30.3" LONG=(W) 80°36'02.9" BOTTOM HOLE (NAD '27) LAT=(N) 39.67510 LONG=(W) 80.58413 BOTTOM HOLE UTM (NAD '83) N. 4,391,789 E. 635,883
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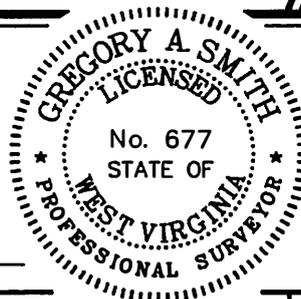
NOTES ON SURVEY

1. TIES TO WELLS, REFERENCES, AND CORNERS ARE BASED ON GRID NORTH FOR THE WV STATE PLANE COORDINATE SYSTEM NORTH ZONE NAD '27.
2. LEASE BOUNDARY SHOWN HEREON TAKEN FROM DEED BOOK 142 PAGE 50 AND ADJOINING DEEDS.
3. SURFACE OWNER AND ADJOINER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF WETZEL COUNTY IN JULY, 2010.
4. WELL COORDINATES ESTABLISHED BY DGPS(SURVEY GRADE).

REFERENCES



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. 677 *Gregory A. Smith*

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.
 DATE SEPTEMBER 15, 20 11

MINIMUM DEGREE OF ACCURACY 1/200 FILE NO. 7507P3HR(340-09)
 PROVEN SOURCE OF ELEVATION DGPS (SURVEY GRADE) SCALE 1" = 1,000'

OPERATORS WELL NO. CHARLES MUSGRAVE UNIT 3H
 API WELL NO. 47-103-02752
 STATE WV COUNTY WETZEL PERMIT 4

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

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

LOCATION: ELEVATION 1,344' WATERSHED MILLER RUN & CARNEY FORK
 DISTRICT CENTER COUNTY WETZEL QUADRANGLE LITTLETON 7.5'

SURFACE OWNER ROBERT DORSEY ACREAGE 129.75±
 ROYALTY OWNER CHARLES E. MUSGRAVE, ET AL LEASE ACREAGE 129.75, 79.25, 91, 55, & 68±

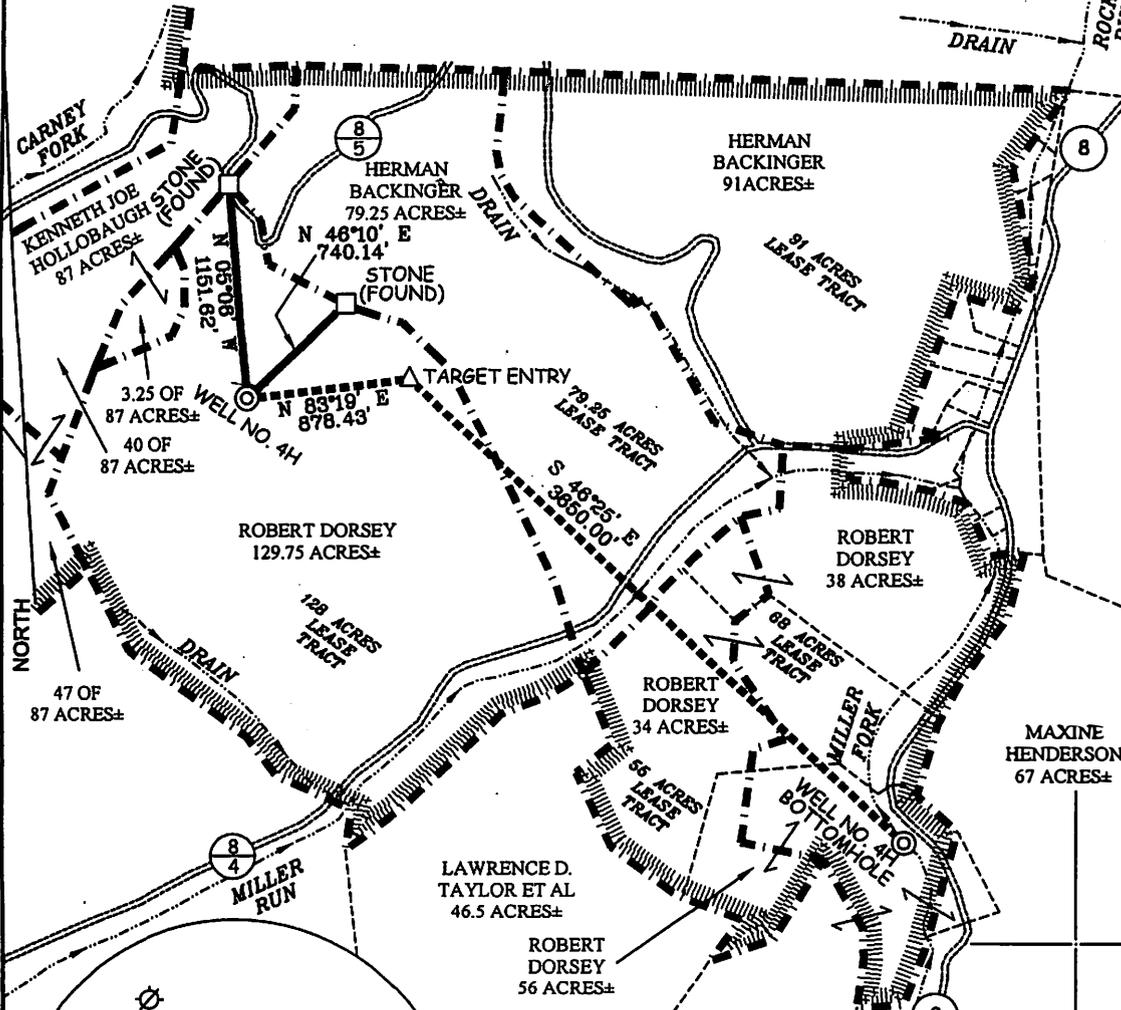
PROPOSED WORK: LEASE NO. _____
 DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION PLUG AND ABANDON CLEAN OUT AND REPLUG OTHER
 PHYSICAL CHANGE IN WELL (SPECIFY) _____ TARGET FORMATION MARCELLUS
 ESTIMATED DEPTH 7,472' + HORIZONTAL LEG

WELL OPERATOR GRENADIER ENERGY PARTNERS, LLC DESIGNATED AGENT SHARON BARTH-CT CORP.
 ADDRESS 1610 WOODSTEAD COURT, SUITE 330 ADDRESS 707 VIRGINIA ST. EAST 15TH FL.
THE WOODLANDS, TX 77380 CHARLESTON, WV 25301

COUNTY NAME
 PERMIT

CANCELLED

CHARLES MUSGRAVE UNIT 4H



WELL NO. 4H
STATE PLANE COORDINATES
 (NORTH ZONE NAD '27)
 N. 431,083
 E. 1,691,103

WELL NO. 4H (NAD '27)
 LAT=(N) 39°40'49.2"
 LONG=(W) 80°35'51.0"

WELL NO. 4H (NAD '27)
 LAT=(N) 39.67839
 LONG=(W) 80.59750

WELL NO. 4H UTM (NAD '83)
 N. 4,392,149
 E. 534,535

WELL NO. 4H
TARGET ENTRY POINT
STATE PLANE COORDINATES
 (NORTH ZONE NAD '27)
 N. 431,185
 E. 1,691,975

TARGET ENTRY (NAD '27)
 LAT=(N) 39°40'49.3"
 LONG=(W) 80°35'51.8"

TARGET ENTRY (NAD '27)
 LAT=(N) 39.67870
 LONG=(W) 80.59440

TARGET ENTRY UTM (NAD '83)
 N. 4,392,185
 E. 534,800

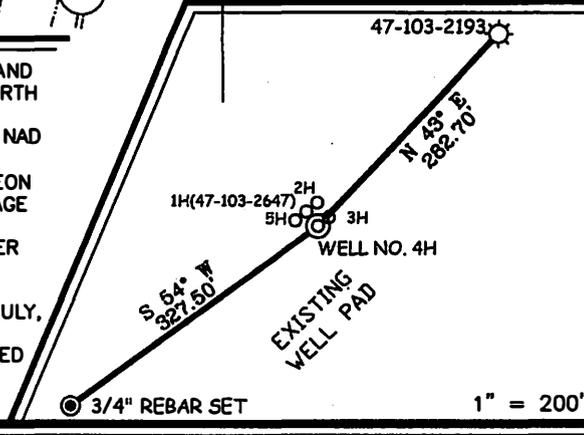
WELL NO. 4H
BOTTOM HOLE
STATE PLANE COORDINATES
 (NORTH ZONE NAD '27)
 N. 428,689
 E. 1,694,819

BOTTOM HOLE (NAD '27)
 LAT=(N) 39°40'18.8"
 LONG=(W) 80°35'05.6"

BOTTOM HOLE (NAD '27)
 LAT=(N) 39.67188
 LONG=(W) 80.58490

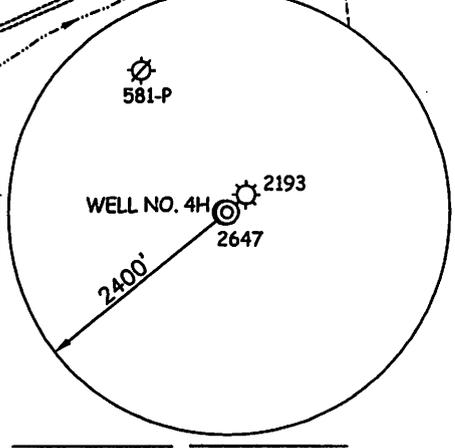
BOTTOM HOLE UTM (NAD '83)
 N. 4,391,432
 E. 535,618

REFERENCES



NOTES ON SURVEY

1. TIES TO WELLS, REFERENCES, AND CORNERS ARE BASED ON GRID NORTH FOR THE WV STATE PLANE COORDINATE SYSTEM NORTH ZONE NAD '27.
2. LEASE BOUNDARY SHOWN HEREON TAKEN FROM DEED BOOK 142 PAGE 50 AND ADJOINING DEEDS.
3. SURFACE OWNER AND ADJOINER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF WETZEL COUNTY IN JULY, 2010.
4. WELL COORDINATES ESTABLISHED BY DGPS(SURVEY 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. *Gregory A. Smith*
 677



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.
 DATE SEPTEMBER 6, 20 10
 OPERATORS WELL NO. CHARLES MUSGRAVE UNIT 4H
 API WELL NO. 47-103-02753 H
 STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1/200 FILE NO. 7507P4HR(340-09)
 PROVEN SOURCE OF ELEVATION DGPS (SURVEY GRADE) SCALE 1" = 1,000'

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

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

LOCATION:
 ELEVATION 1,344' WATERSHED MILLER RUN & CARNEY FORK
 DISTRICT CENTER COUNTY WETZEL QUADRANGLE LITTLETON 7.5'
 SURFACE OWNER ROBERT DORSEY ACREAGE 129.75±
 ROYALTY OWNER CHARLES E. MUSGRAVE, ET AL LEASE ACREAGE 129.75, 79.25, 55, & 68±
 PROPOSED WORK:
 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 MARCELLUS
 ESTIMATED DEPTH 7,472' + HORIZONTAL LEG

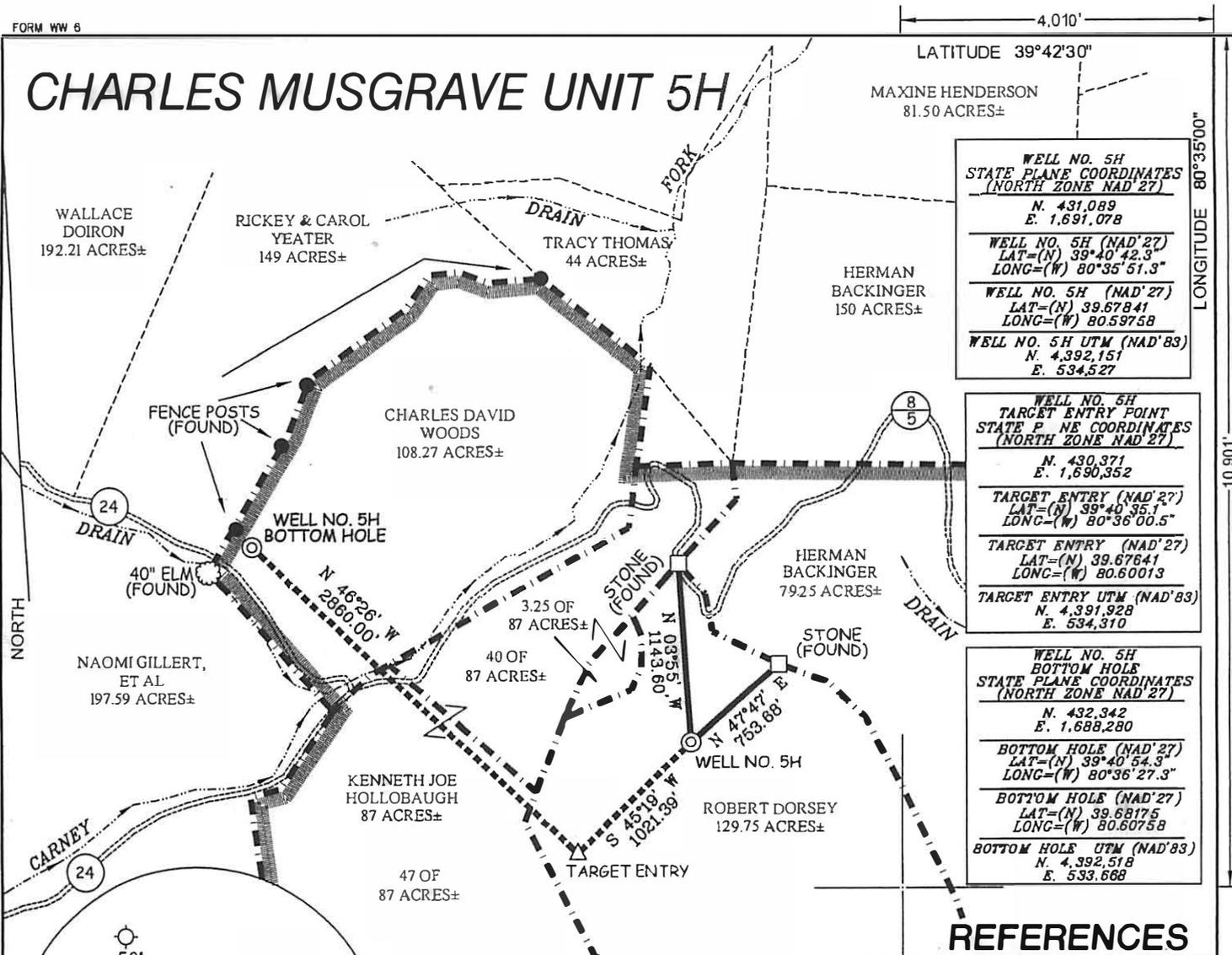
WELL OPERATOR GRENADEER ENERGY PARTNERS, LLC DESIGNATED AGENT SHARON BARTH-CT CORP.
 ADDRESS 1610 WOODSTEAD COURT, SUITE 330 ADDRESS 707 VIRGINIA ST. EAST 15TH FL.
THE WOODLANDS, TX 77380 CHARLESTON, WV 25301

COUNTY NAME
 PERMIT

CANCELLED

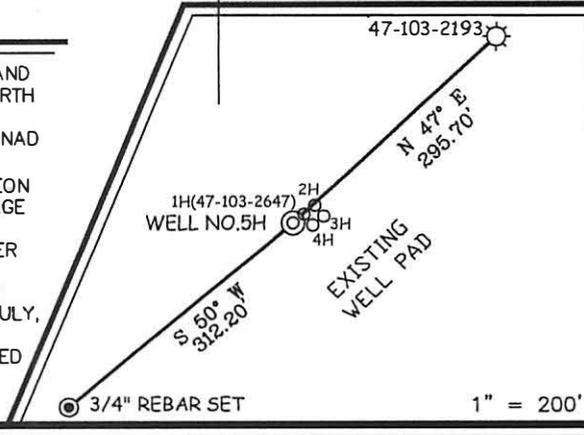


CHARLES MUSGRAVE UNIT 5H



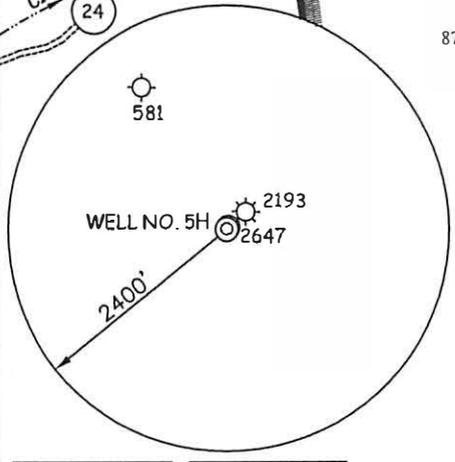
WELL NO. 5H STATE PLANE COORDINATES (NORTH ZONE NAD '27) N. 431,089 E. 1,691,078 <hr/> WELL NO. 5H (NAD'27) LAT=(N) 39°40'42.3" LONG=(W) 80°35'51.3" <hr/> WELL NO. 5H (NAD'27) LAT=(N) 39.67841 LONG=(W) 80.59758 <hr/> WELL NO. 5H UTM (NAD'83) N. 4,392,151 E. 534,527
WELL NO. 5H TARGET ENTRY POINT STATE PLANE COORDINATES (NORTH ZONE NAD '27) N. 430,371 E. 1,690,352 <hr/> TARGET ENTRY (NAD'27) LAT=(N) 39°40'42.3" LONG=(W) 80°36'00.5" <hr/> TARGET ENTRY (NAD'27) LAT=(N) 39.67841 LONG=(W) 80.60013 <hr/> TARGET ENTRY UTM (NAD'83) N. 4,391,928 E. 534,310
WELL NO. 5H BOTTOM HOLE STATE PLANE COORDINATES (NORTH ZONE NAD '27) N. 432,342 E. 1,688,280 <hr/> BOTTOM HOLE (NAD'27) LAT=(N) 39°40'54.3" LONG=(W) 80°36'27.3" <hr/> BOTTOM HOLE (NAD'27) LAT=(N) 39.68175 LONG=(W) 80.60758 <hr/> BOTTOM HOLE UTM (NAD'83) N. 4,392,518 E. 533,688

REFERENCES



NOTES ON SURVEY

1. TIES TO WELLS, REFERENCES, AND CORNERS ARE BASED ON GRID NORTH FOR THE WV STATE PLANE COORDINATE SYSTEM NORTH ZONE NAD '27.
2. LEASE BOUNDARY SHOWN HEREON TAKEN FROM DEED BOOK 142 PAGE 50 AND ADJOINING DEEDS.
3. SURFACE OWNER AND ADJOINER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF WETZEL COUNTY IN JULY, 2010.
4. WELL COORDINATES ESTABLISHED BY DGPS(SURVEY 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.

Gregory A. Smith
 P.S. 677



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.
 DATE AUGUST 30 20 10
 OPERATORS WELL NO. CHARLES MUSGRAVE UNIT 5H
 API WELL NO. 47-103-02754 H
 STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1/200 FILE NO. 7507P5H(340-09)
 PROVEN SOURCE OF ELEVATION DGPS (SURVEY GRADE) SCALE 1" = 1,000'

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

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

LOCATION: ELEVATION 1,344' WATERSHED MILLER RUN & CARNEY FORK
 DISTRICT CENTER COUNTY WETZEL QUADRANGLE LITTLETON 7.5'

SURFACE OWNER ROBERT DORSEY ACREAGE 129.75±
 ROYALTY OWNER CHARLES E. MUSGRAVE, ET AL LEASE ACREAGE 129.75, 87, & 108.27±

PROPOSED WORK: 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 MARCELLUS
 ESTIMATED DEPTH 7,472' + HORIZONTAL LEG

WELL OPERATOR GRENADIER ENERGY PARTNERS, LLC DESIGNATED AGENT SHARON BARTH-CT CORP.
 ADDRESS 1610 WOODSTEAD COURT, SUITE 330 ADDRESS 707 VIRGINIA ST. EAST 15TH FL.
THE WOODLANDS, TX 77380 CHARLESTON, WV 25301

COUNTY NAME PERMIT

CANCELLED



LATITUDE 39° 42' 30"

REFERENCE NOTES

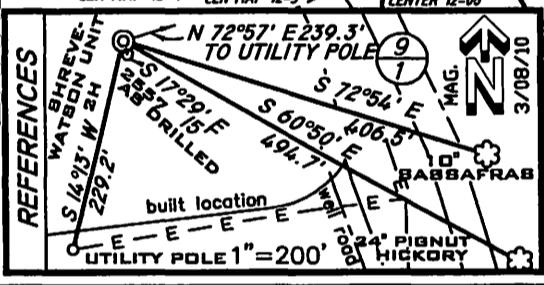
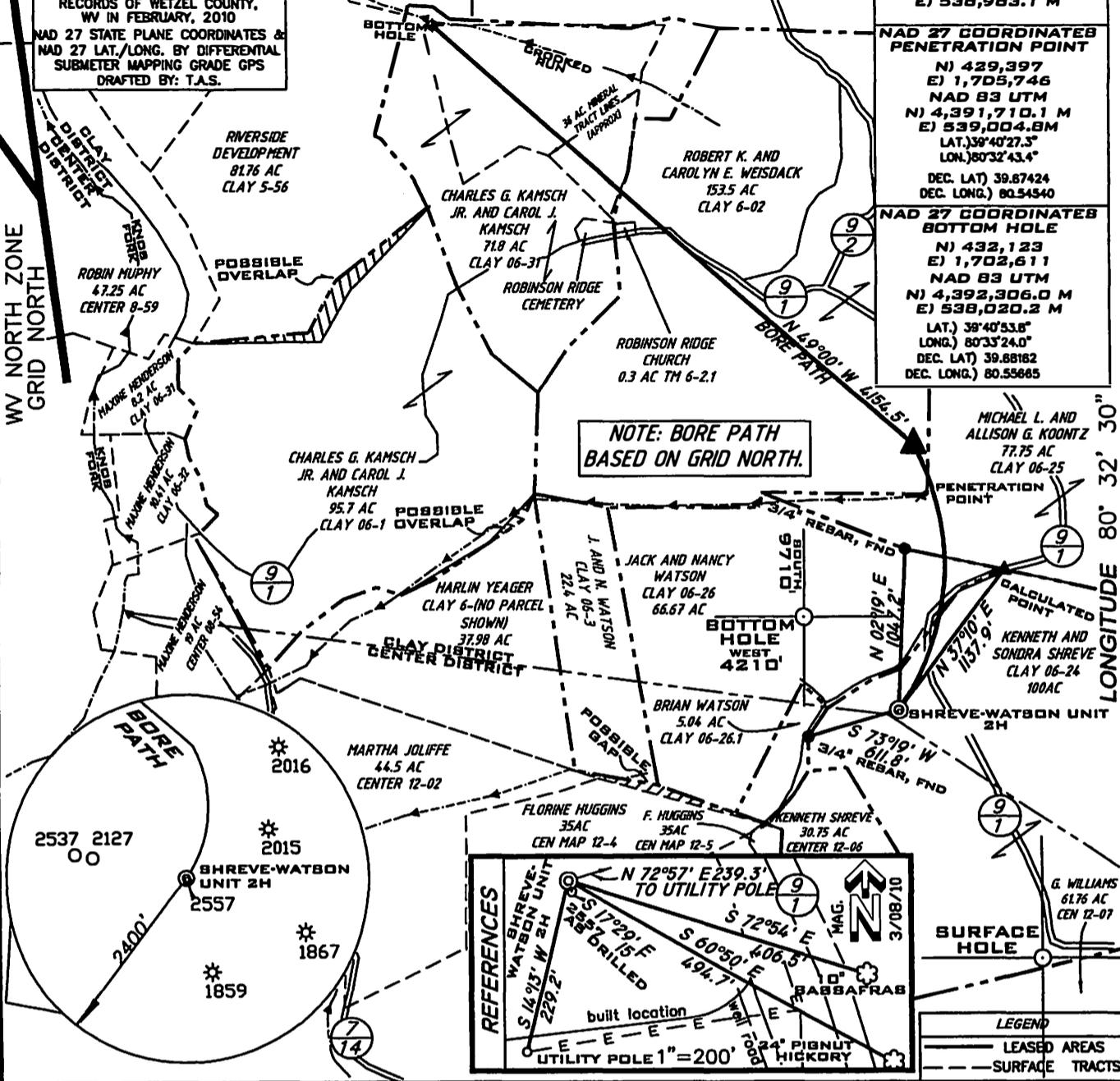
LEASE AS SHOWN TAKEN FROM DESCRIPTION RECORDED IN DEED BOOK 297 PAGE 567 AND OTHERS.
 OWNERSHIP TAKEN FROM PUBLIC RECORDS OF WETZEL COUNTY, WV IN FEBRUARY, 2010
 NAD 27 STATE PLANE COORDINATES & NAD 27 LAT./LONG. BY DIFFERENTIAL SUBMETER MAPPING GRADE GPS
 DRAFTED BY: T.A.S.

**SHREVE-WATSON UNIT 2H
 K. SHREVE LEASE
 100.0 ACRES ±**

NAD 27 COORDINATES SURFACE HOLE
 N) 427,672
 E) 1,705,646
NAD 83 UTM
 N) 4,391,184.1 M
 E) 538,983.1 M

NAD 27 COORDINATES PENETRATION POINT
 N) 429,397
 E) 1,705,746
NAD 83 UTM
 N) 4,391,710.1 M
 E) 539,004.8 M
 LAT.) 39°40'27.3"
 LONG.) 80°32'43.4"
 DEC. LAT) 39.67424
 DEC. LONG.) 80.54540

NAD 27 COORDINATES BOTTOM HOLE
 N) 432,123
 E) 1,702,611
NAD 83 UTM
 N) 4,392,306.0 M
 E) 538,020.2 M
 LAT.) 39°40'53.8"
 LONG.) 80°33'24.0"
 DEC. LAT) 39.68182
 DEC. LONG.) 80.55685



FILE NUMBER G100473(WB9-51)
 DRAWING NUMBER G100473WP2H.dwg
 SCALE 1" = 1000'
 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

P.S. 1006 *Terry A. Shreve*



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

DATE: OCTOBER 26, 2011

OPERATORS WELL NO. SHREVE-WATSON

API WELL NO. UNIT 2H

47-103-02755 H

STATE WV COUNTY WETZEL PERMIT CANCELLED

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
 (IF "GAS") PRODUCTION STORAGE DEEP SHALLOW
 LOCATION ELEVATION 1471' WATERSHED KNOB FORK AND LISTON HOLLOW OF SUGAR RUN
 DISTRICT CLAY COUNTY WETZEL LEASE NUMBER
 QUADRANGLE LITTLETON 7.5'

SURFACE OWNER KENNETH AND SONDR A SHREVE ACREAGE 100±
 OIL & GAS ROYALTY OWNER KENNETH AND SONDR A SHREVE et al LEASE ACREAGE 100, 77.95, 152.75, 38.0

PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE (SPECIFY)

TARGET FORMATION MARCELLUS ESTIMATED DEPTH 7650' + Horizontal Leg

WELL OPERATOR GRENADIER ENERGY PARTNERS, LLC. DESIGNATED AGENT SHARON BARTH - CT CORPORATION
 ADDRESS 1610 WOODSTEAD CT. SUITE 330 THE WOODLANDS, TEXAS 77380 ADDRESS 707 VIRGINIA STREET EAST 15TH FLOOR CHARLESTON, WV 25301

SURFACE HOLE SURVEYED LAT. 39° 40' 10.2" DECIMAL LAT. 39.66950

form wv6

LATITUDE 39° 42' 30"

**SHREVE-WATSON UNIT 6H
K. SHREVE LEASE
100.0 ACRES±**

REFERENCE NOTES

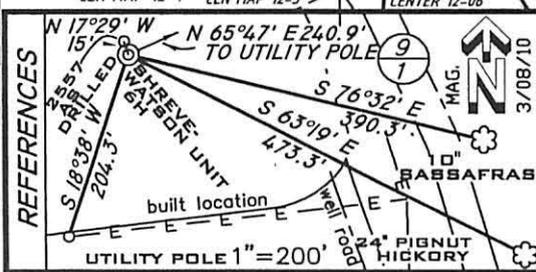
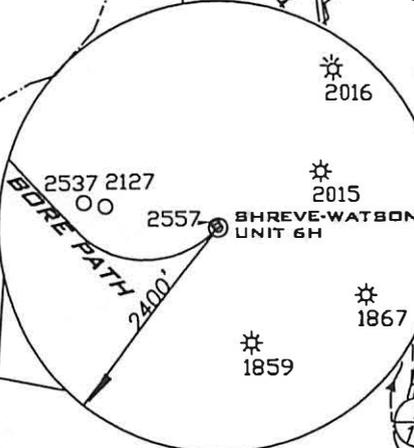
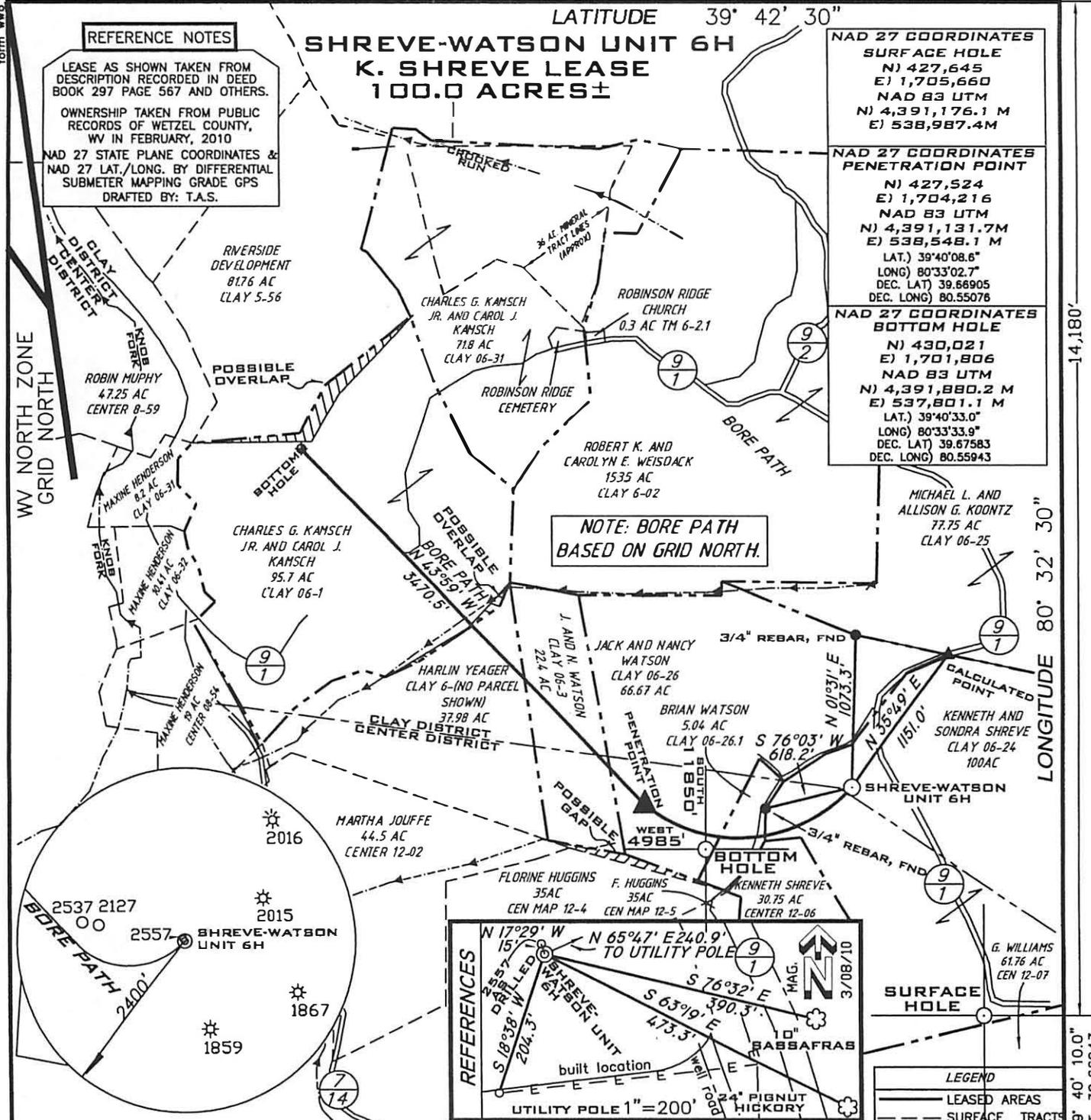
LEASE AS SHOWN TAKEN FROM DESCRIPTION RECORDED IN DEED BOOK 297 PAGE 567 AND OTHERS.
OWNERSHIP TAKEN FROM PUBLIC RECORDS OF WETZEL COUNTY, WV IN FEBRUARY, 2010
NAD 27 STATE PLANE COORDINATES & NAD 27 LAT./LONG. BY DIFFERENTIAL SUBMETER MAPPING GRADE GPS
DRAFTED BY: T.A.S.

NAD 27 COORDINATES SURFACE HOLE
N) 427,645
E) 1,705,660
NAD 83 UTM
N) 4,391,176.1 M
E) 538,987.4 M

NAD 27 COORDINATES PENETRATION POINT
N) 427,524
E) 1,704,216
NAD 83 UTM
N) 4,391,131.7 M
E) 538,548.1 M
LAT.) 39°40'08.6"
LONG) 80°33'02.7"
DEC. LAT) 39.66905
DEC. LONG) 80.55078

NAD 27 COORDINATES BOTTOM HOLE
N) 430,021
E) 1,701,806
NAD 83 UTM
N) 4,391,880.2 M
E) 537,801.1 M
LAT.) 39°40'33.0"
LONG) 80°33'33.9"
DEC. LAT) 39.67583
DEC. LONG) 80.55943

**NOTE: BORE PATH
BASED ON GRID NORTH.**



LEGEND	
	LEASED AREAS
	SURFACE TRACTS

FILE NUMBER G100473(WB9-51)
DRAWING NUMBER G100473WP6H.dwg
SCALE 1" = 1000'
MINIMUM DEGREE OF ACCURACY 1/200
PROVEN SOURCE OF ELEVATION SUBMETER MAPPING GRADE GPS

I THE UNDERSIGNED HEREBY CERTIFY THAT THIS PLAN 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

P.S. 1006
Terry A. Shreve



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

DATE: OCTOBER 24, 2011
OPERATORS WELL NO. SHREVE-WATSON
API WELL NO. UNIT 6H
47-103-02756 H
STATE WV

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

LOCATION ELEVATION 1471' WATERSHED KNOB FORK AND LISTON HOLLOW OF SUGAR RUN
DISTRICT CLAY COUNTY WETZEL
QUADRANGLE LITTLETON 7.5' LEASE NUMBER

SURFACE OWNER KENNETH AND SONDR A SHREVE 100±
OIL&GAS ROYALTY OWNER KENNETH AND SONDR A SHREVE et al LEASE ACREAGE 100, 5.04, 66.67, 22.4, 37.15, 95.7

PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE (SPECIFY)
 PLUG & ABANDON CLEAN OUT & REPLUG

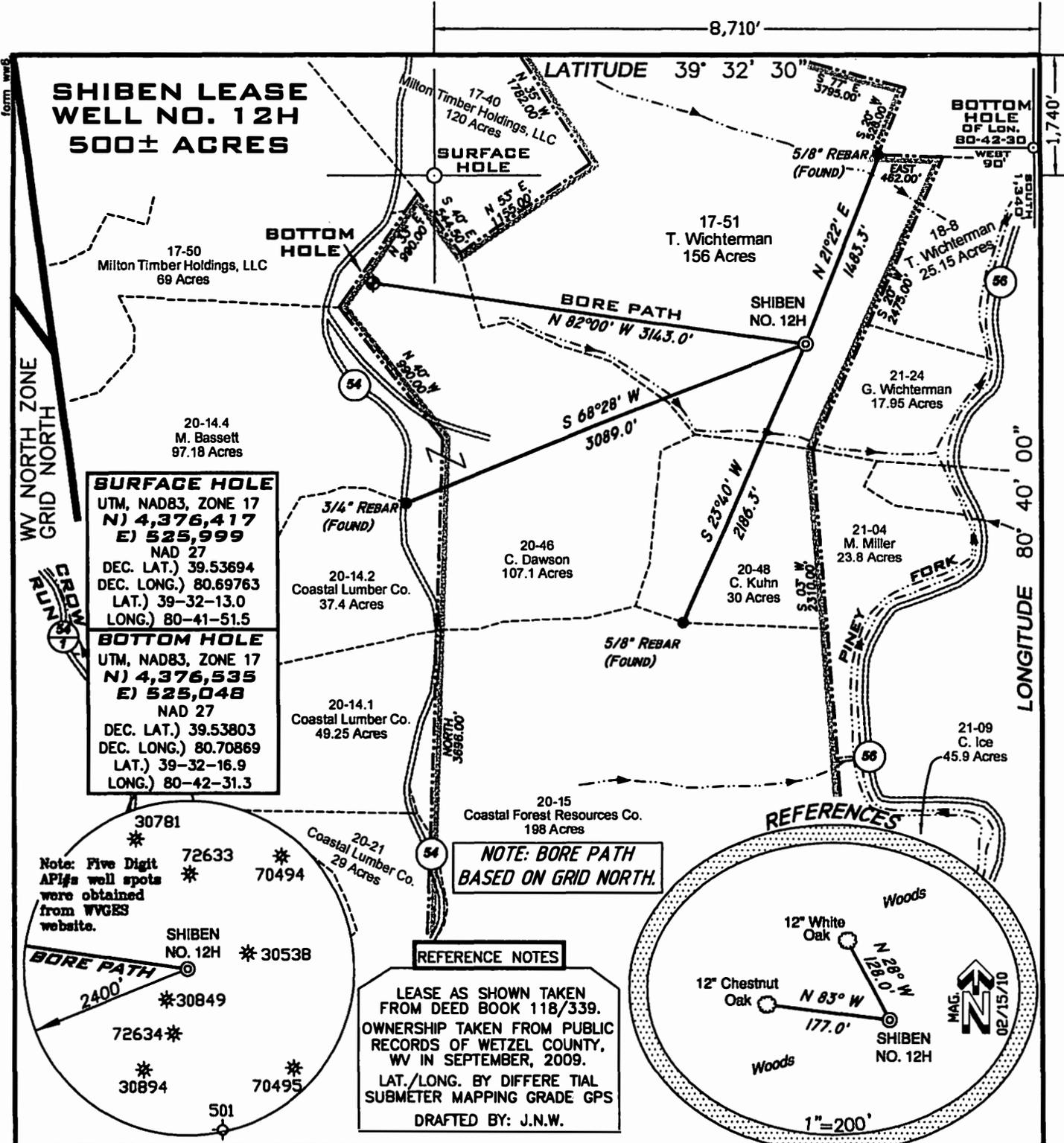
TARGET FORMATION MARCELLUS ESTIMATED DEPTH 7650' + Horizontal Leg

WELL OPERATOR GRENADIER ENERGY PARTNERS, LLC. DESIGNATED AGENT SHARON BARTH - CT CORPORATION
ADDRESS 1610 WOODSTEAD CT. SUITE 330 THE WOODLANDS, TEXAS 77380 ADDRESS 707 VIRGINIA STREET EAST 15TH FLOOR CHARLESTON, WV 25301

CANCELLED

SURFACE HOLE SURVEYED LAT. 39° 40' 10.0" DECIMAL LAT. 39.66943

A.R.L.B. form wv6

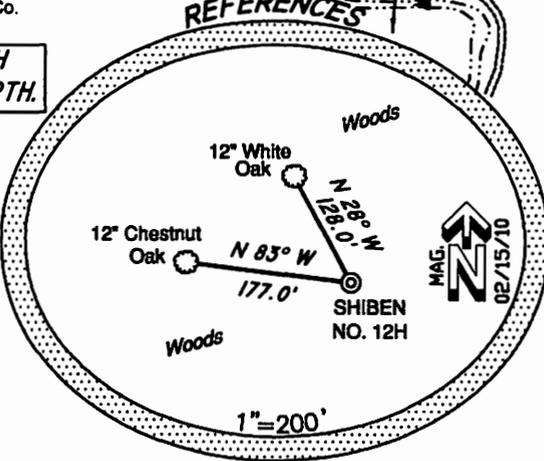
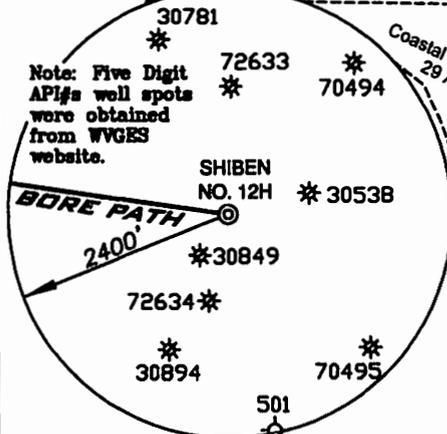


SURFACE HOLE
 UTM, NAD83, ZONE 17
 N) 4,376,417
 E) 525,999
 NAD 27
 DEC. LAT.) 39.53694
 DEC. LONG.) 80.69763
 LAT.) 39-32-13.0
 LONG.) 80-41-51.5

BOTTOM HOLE
 UTM, NAD83, ZONE 17
 N) 4,376,535
 E) 525,048
 NAD 27
 DEC. LAT.) 39.53803
 DEC. LONG.) 80.70869
 LAT.) 39-32-16.9
 LONG.) 80-42-31.3

**NOTE: BORE PATH
 BASED ON GRID NORTH.**

REFERENCE NOTES
 LEASE AS SHOWN TAKEN
 FROM DEED BOOK 118/339.
 OWNERSHIP TAKEN FROM PUBLIC
 RECORDS OF WETZEL COUNTY,
 WV IN SEPTEMBER, 2009.
 LAT./LONG. BY DIFFERENTIAL
 SUBMETER MAPPING GRADE GPS
 DRAFTED BY: J.N.W.



FILENUMBER W090215 (WB16-35)
 DRAWING NUMBER W090215_SHIBEN_12H
 SCALE 1" = 1000'
 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

P.S. 2122 *Jonathan N. White*

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

DATE: MAY 10, 2010
 OPERATORS WELL NO. SHIBEN NO. 12H
 API WELL NO. _____

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___
 (IF "GAS") PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X
 LOCATION ELEVATION 1071' WATERSHED _____ TRIBUTARY OF PINEY FORK

47-103-02610H
 STATE COUNTY PERMIT
CANCELLED

DISTRICT GREEN COUNTY WETZEL
 QUADRANGLE PINE GROVE 7.5' LEASE NUMBER _____

SURFACE OWNER THELMA WICHTERMAN ACREAGE 156
 OIL & GAS ROYALTY OWNER SHIBEN ESTATES INC. LEASE ACREAGE 500

PROPOSED WORK: DRILL X CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION ___
 PERFORATE NEW FORMATION ___ OTHER PHYSICAL CHANGE (SPECIFY) _____

TARGET FORMATION MARCELLUS PLUG & ABANDON ___ CLEANOUT & REPLUG ___
 ESTIMATED DEPTH 7053' + Horizontal Leg

WELL OPERATOR GASTAR EXPLORATION USA, INC. DESIGNATED AGENT WILLIAM M. HERLIHY
 ADDRESS 1331 LAMAR, SUITE 1080, HOUSTON, TX 77010 ADDRESS P.O. BOX 273, CHARLESTON, WV 25301-0273

A.R.L.B.

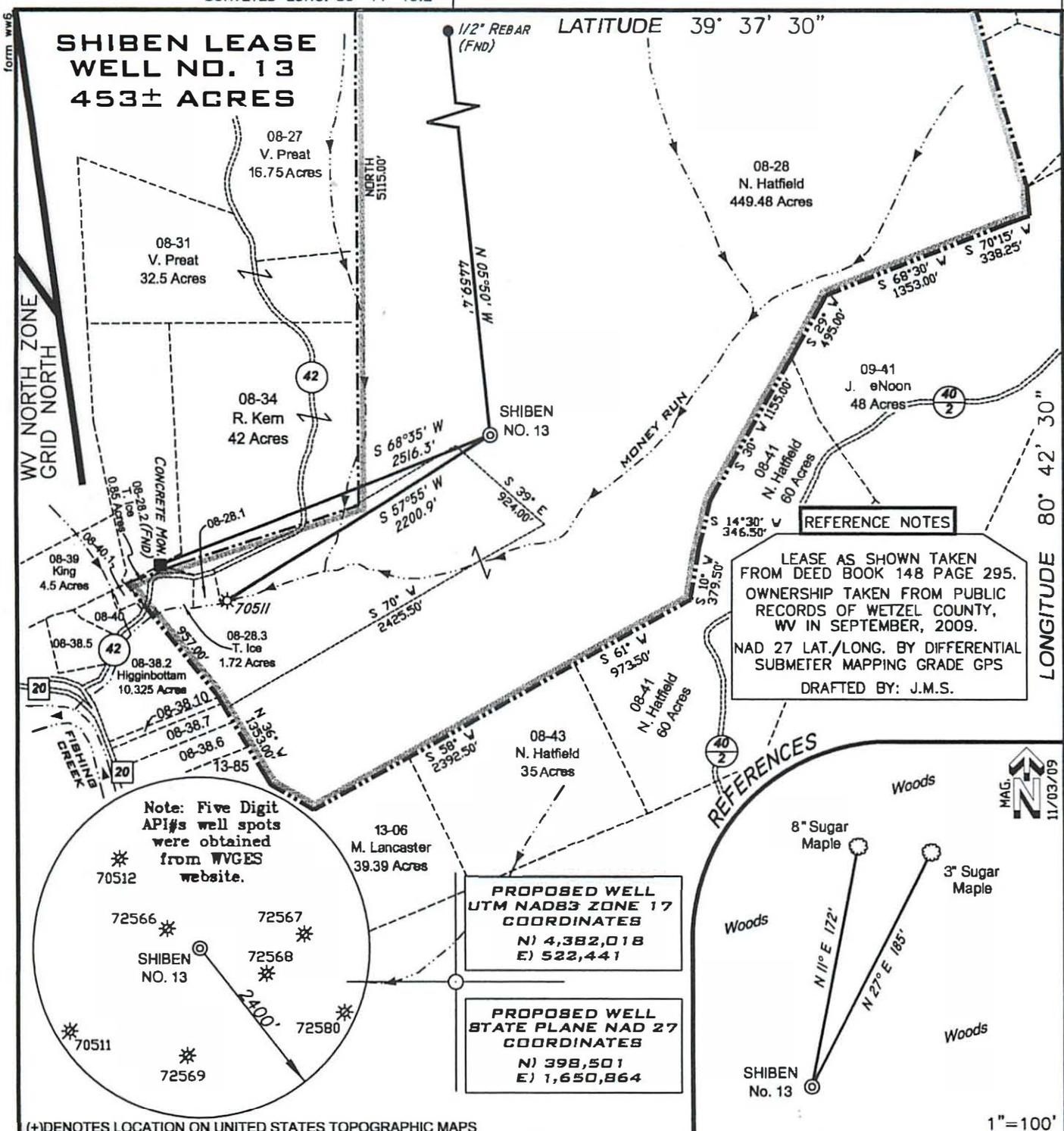
COUNTY NAME PERMIT

DECIMAL LONG: 80.73867
SURVEYED LONG. 80° 44' 19.2"

8,600'

LATITUDE 39° 37' 30"

**SHIBEN LEASE
WELL NO. 13
453± ACRES**



REFERENCE NOTES
LEASE AS SHOWN TAKEN FROM DEED BOOK 148 PAGE 295. OWNERSHIP TAKEN FROM PUBLIC RECORDS OF WETZEL COUNTY, WV IN SEPTEMBER, 2009. NAD 27 LAT./LONG. BY DIFFERENTIAL SUBMETER MAPPING GRADE GPS. DRAFTED BY: J.M.S.

Note: Five Digit API#s well spots were obtained from WVGES website.

(+) DENOTES LOCATION ON UNITED STATES TOPOGRAPHIC MAPS

1" = 100'

FILE NUMBER W090213 (WB 16-15)
DRAWING NUMBER W090213_SHIBEN13_REV1
SCALE 1" = 1000'
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 ON

P.S. 2122 *Jonathan N. White*



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

DATE: MAY 11, 2010

OPERATORS WELL NO. SHIBEN WELL NO. 13

API WELL NO. 47-103-02611
STATE COUNTY PERMIT

CANCELLED

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
(IF "GAS") PRODUCTION STORAGE DEEP SHALLOW
LOCATION ELEVATION 1126' WATERSHED MONEY RUN
DISTRICT GREEN COUNTY WETZEL
QUADRANGLE PINE GROVE 7.5' LEASE NUMBER _____
SURFACE OWNER NANCY B. HATFIELD ACREAGE 449.48
OIL&GAS ROYALTY OWNER SHIBEN ESTATES, INC., ET AL LEASE ACREAGE 453
PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE (SPECIFY) _____
TARGET FORMATION MARCELLUS PLUG & ABANDON CLEAN OUT & REPLUG
WELL OPERATOR GASTAR EXPLORATION USA, INC. ESTIMATED DEPTH _____
DESIGNATED AGENT WILLIAM M. HERLIHY
ADDRESS 1331 LAMAR, SUITE 1080, HOUSTON, TX 77010 ADDRESS P.O. BOX 273, CHARLESTON, WV 25301-0273

LONGITUDE 80° 42' 30" SURVEYED LAT. 39° 35' 15.3" DECIMAL LAT. 39.58759

form ww6

A.R.L.B

DECIMAL LONG: 80.52711
80° 31' 37.6"

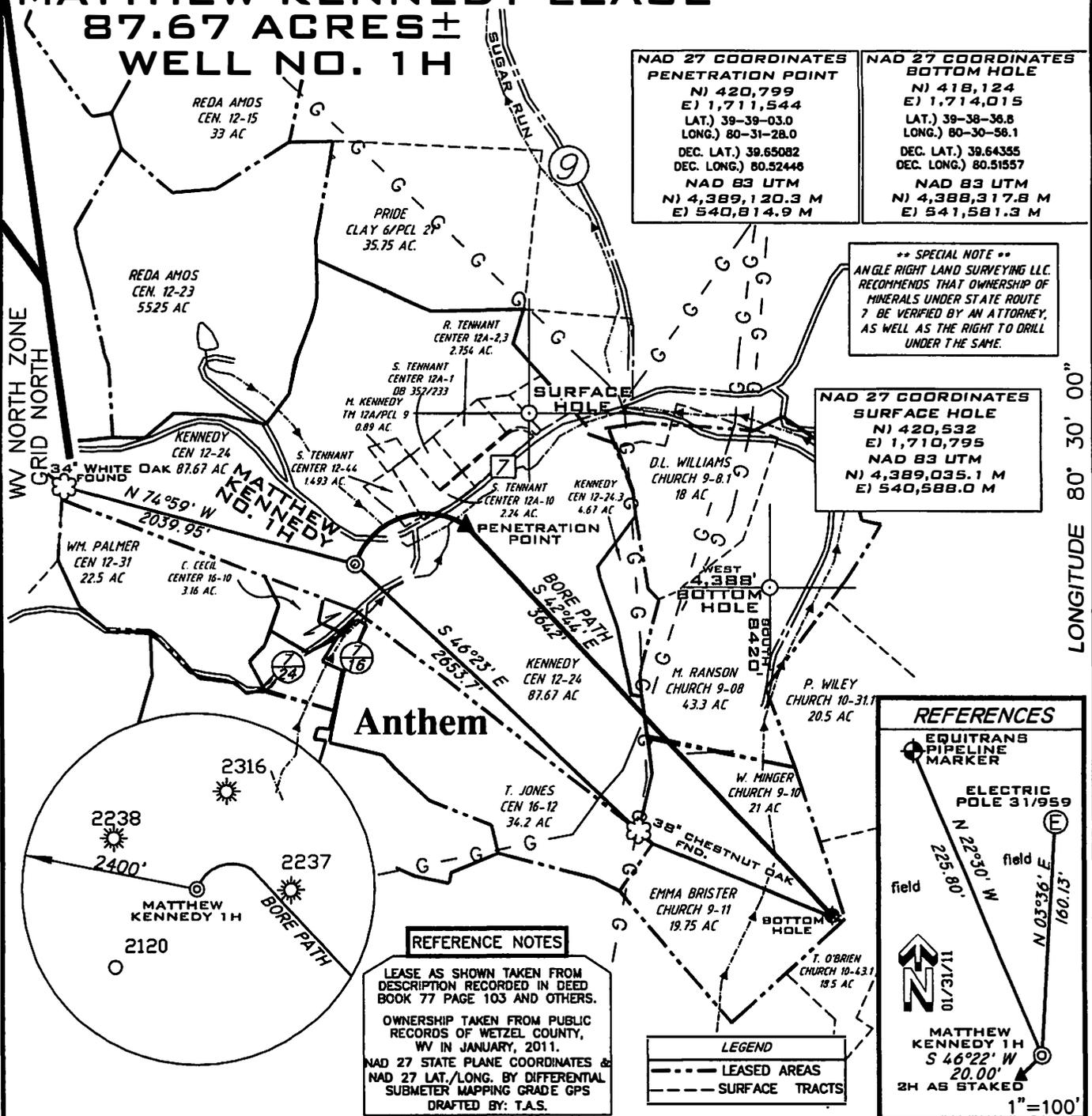
7,640'

MATTHEW KENNEDY LEASE

LATITUDE 39° 40' 00"

87.67 ACRES ± WELL NO. 1H

form WVG



LONGITUDE 80° 30' 00"
SURFACE HOLE SURVEYED LAT. 39° 39' 00.2"
DECIMAL LAT. 39.65006

FILE NUMBER G100498(WB9-65)

DRAWING NUMBER G100498WP1rev041811.dwg

SCALE 1" = 1000'

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

P.S. 1006 *Terry A. Shreve*



ANGLE RIGHT LAND SURVEYING, LLC.
GRANTSVILLE, WV 26147 WESTON, WV 26452
(304) 354-0065 (304) 269-5808



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

DATE: APRIL 18, 2011

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
(IF "GAS") PRODUCTION STOPPAGE DEEP SHALLOW

LOCATION ELEVATION 1156' WATERSHED TERRITORY OF SUGAR RUN

DISTRICT CENTER COUNTY WETZEL

QUADRANGLE LITTLETON, 7.5' LEASE NUMBER _____

OPERATORS WELL NO. MATTHEW KENNEDY 1H
API WELL NO. 47-103-02662 H
STATE WV PERMIT CANCELLED

SURFACE OWNER MATTHEW L. KENNEDY ACREAGE 87.67±

OIL & GAS ROYALTY OWNER MATTHEW L. KENNEDY LEASE ACREAGE 87.67±

PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE (SPECIFY) _____

TARGET FORMATION MARCELLUS ESTIMATED DEPTH 7650' + Horizontal Leg

WELL OPERATOR GRENADIER ENERGY PARTNERS, LLC. DESIGNATED AGENT SHARON PARTH - CT CORPORATION

ADDRESS 1610 WOODSTEAD CT. SUITE 330 THE WOODLANDS, TEXAS 77380 ADDRESS 707 VIRGINIA STREET EAST 15TH FLOOR CHARLESTON, WV 25301

A.R.L.B

COUNTY NAME
PERMIT

DECIMAL LONG: 80.54160
SURFACE LON: 80° 32' 29.8"

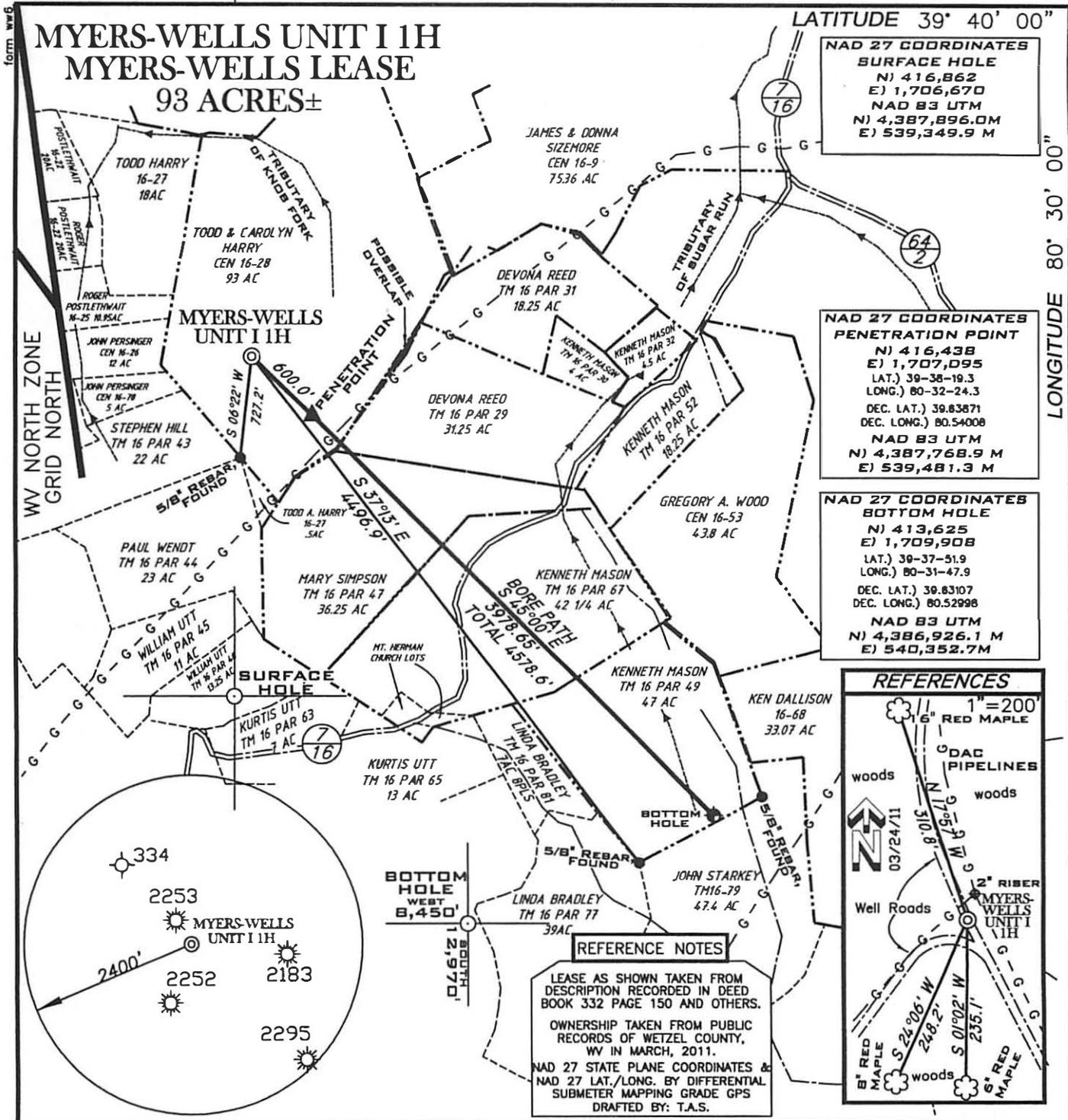
11,720'

LATITUDE 39° 40' 00"

LONGITUDE 80° 30' 00"

SURFACE HOLE SURVEYED LAT. 39° 38' 23.5"
DECIMAL LAT. 39.63986

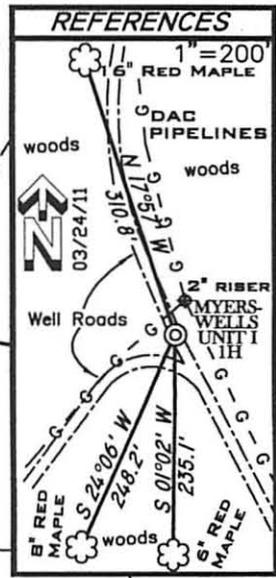
MYERS-WELLS UNIT I 1H MYERS-WELLS LEASE 93 ACRES±



**NAD 27 COORDINATES
SURFACE HOLE**
N) 416,862
E) 1,706,670
NAD 83 UTM
N) 4,387,896.0M
E) 539,349.9 M

**NAD 27 COORDINATES
PENETRATION POINT**
N) 416,438
E) 1,707,095
LAT.) 39-38-19.3
LONG.) 80-32-24.3
DEC. LAT.) 39.63871
DEC. LONG.) 80.54008
NAD 83 UTM
N) 4,387,768.9 M
E) 539,481.3 M

**NAD 27 COORDINATES
BOTTOM HOLE**
N) 413,625
E) 1,709,908
LAT.) 39-37-51.9
LONG.) 80-31-47.9
DEC. LAT.) 39.63107
DEC. LONG.) 80.52998
NAD 83 UTM
N) 4,386,926.1 M
E) 540,352.7M



REFERENCE NOTES
LEASE AS SHOWN FROM DESCRIPTION RECORDED IN DEED BOOK 332 PAGE 150 AND OTHERS.
OWNERSHIP TAKEN FROM PUBLIC RECORDS OF WETZEL COUNTY, WV IN MARCH, 2011.
NAD 27 STATE PLANE COORDINATES & NAD 27 LAT./LONG. BY DIFFERENTIAL SUBMETER MAPPING GRADE GPS
DRAFTED BY: T.A.S.

FILE NUMBER G110503(WB9-66)
DRAWING NUMBER G110503WP1H.dwg
SCALE 1" = 1000'
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

P.S. 1006
Terry A. Shreve



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

DATE: JUNE 13, 2011
REV. DATE: OCTOBER 19, 2011 NOVEMBER 12, 2011
OPERATORS WELL NO. MYERS-WELLS UNIT I 1H
API WELL NO. _____

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___
(IF "GAS") PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X
LOCATION ELEVATION 1435' WATERSHED _____ TRIBUTARY OF KNOB FORK

DISTRICT _____ CENTER _____ COUNTY WETZEL
QUADRANGLE LITTLETON 7.5' LEASE NUMBER _____

SURFACE OWNER TODD AND CAROLYN HARRY ACREAGE 93±
OIL & GAS ROYALTY OWNER TODD AND CAROLYN HARRY et al LEASE ACREAGE 240.98±, 47.5±, 36.75±, 111±

PROPOSED WORK: DRILL X CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION ___
PERFORATE NEW FORMATION ___ OTHER PHYSICAL CHANGE (SPECIFY) _____

TARGET FORMATION MARCELLUS ESTIMATED DEPTH 7650' + Horizontal Leg

WELL OPERATOR GRENADIER ENERGY PARTNERS, LLC. DESIGNATED AGENT SHARON BARTH - CT CORPORATION
ADDRESS 1610 WOODSTEAD CT. SUITE 330 THE WOODLANDS, TEXAS 77380 ADDRESS 707 VIRGINIA STREET EAST 15TH FLOOR CHARLESTON, WV 25301

A.R.L.B.

COUNTY NAME
PERMIT

CANCELLED