

GEARY LEASE

189.93 of 341.89 ACRES±

A.P.I. #47-023-0034

WELL NO. 1 ST

**WELL NO. 1 ST
STATE PLANE COORDINATES
(NORTH ZONE)**

N. 251,662
E. 2,071,774

LAT=(N) 39.19041
LONG=(W) 79.24878

UTM, NAD83

N. 4,339,383
E. 651,432

**MOUNT
STORM
LAKE**

SUNDIAL
DEVELOPERS,
LLC.
18.91 ACRES±

**WELL NO. 1 ST
LANDING POINT
STATE PLANE COORDINATES
(NORTH ZONE)**

N. 251,047
E. 2,071,830

LAT=(N) 39.18899
LONG=(W) 79.24659

UTM, NAD83

N. 4,339,226
E. 651,452

NORTH

3/4" REBAR FOUND @
FENCE CORNER

N 11°19'18" E
1442.25'

N 14°18'03" E
2581.98'

N 33°40' W
2069.23'

N 16°26' E
704.50'

S 58°33' W
1631.97'

S 06°14' E
517.95'

S 03°03' E
1293.09'

N 57°30' E
1499.59'

N 16°26' E
704.50'

N 57°30' E
1499.59'

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704.50'

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1499.59'

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1499.59'

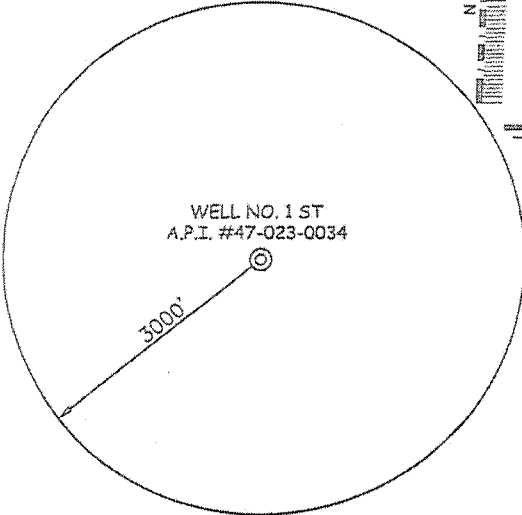
N 16°26' E
704.50'

N 57°30' E
1499.59'

N 16°26' E
704.50'

N 57°30' E
1499.59'

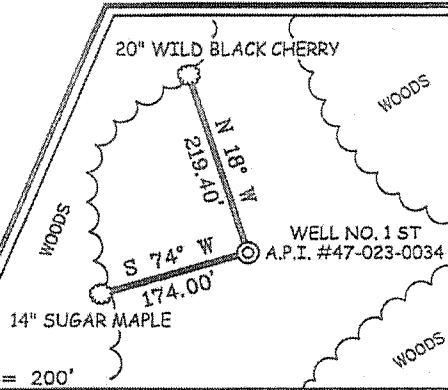
N 16°26' E
704.50'



NOTES ON SURVEY

1. TIES TO WELLS AND CORNERS ARE BASED ON GRID NORTH FOR THE WV STATE PLANE COORDINATE SYSTEM NORTH ZONE NAD '27.
2. TIES TO REFERENCES ARE BASED ON MAGNETIC NORTH 07/01/10.
3. LEASE BOUNDARY SHOWN HEREON TAKEN FROM DEED BOOK 170 PAGE 380.
4. SURFACE OWNER AND ADJOINER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF GRANT COUNTY IN JULY, 2010.
5. WELL LAT./LONG. (NAD'27) ESTABLISHED BY DGPS(SUBMETER MAPPING GRADE).
6. PROPOSED WELL J.P. GEARY #1 ST IS OVER 400' FROM ANY LEASE BOUNDARY.

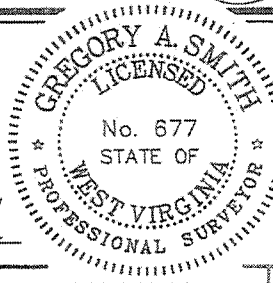
REFERENCES



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 JULY 26, 20 10

OPERATORS WELL NO. J.P. GEARY #1 ST

API WELL NO. 47-023-00034P
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1/2500 FILE NO. 7232P1ST-R (306-71)
PROVEN SOURCE OF ELEVATION DGPS (SUBMETER MAPPING GRADE) 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 3,427' WATERSHED LAUREL RUN

DISTRICT UNION COUNTY GRANT QUADRANGLE GREENLAND GAP 7.5'

SURFACE OWNER JAMES PAUL GEARY & JAMES PAUL GEARY, II ACREAGE 212.46±

ROYALTY OWNER JAMES PAUL GEARY, ET AL LEASE ACREAGE 189.93 of 341.89±

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) DRILL & COMPLETE AS HORIZONTAL TARGET FORMATION MARCELLUS

ESTIMATED DEPTH 10,200' (TVD) 11,750' (MD)

WELL OPERATOR CARRIZO (MARCELLUS), LLC. DESIGNATED AGENT SHARON BARTH

ADDRESS 1000 LOUISIANA, SUITE 1500 ADDRESS 707 VIRGINIA STREET, EAST

HOUSTON, TX 77002 CHARLESTON, WV 25301

COUNTY NAME

PERMIT

23 000349

**GEARY LEASE
WELL NO. 1 ST**

GREENLAND GAP 7.5' QUAD
MOUNT STORM LAKE 7.5' QUAD



**PROPOSED GAS
WELL NO. 1 ST 610' @ 5-10%
GRADE**

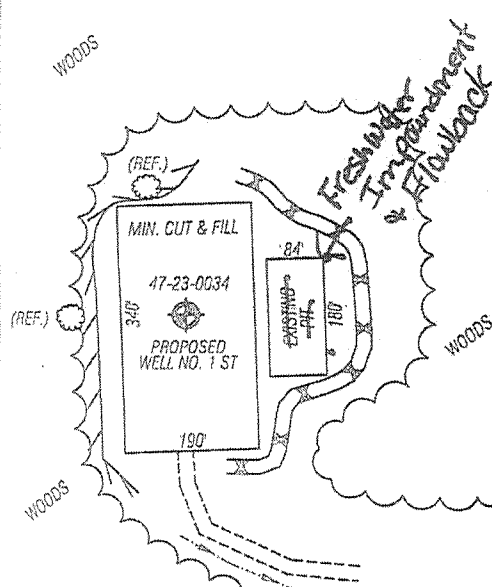
*Bill Wattfall
8-12-2010*

EXISTING
GRAVEL BASED
ACCESS ROAD



Detail Sketch for Proposed Well No. 1 ST

NOT TO SCALE



SCALE: 1" = 500'



TOPO SECTION OF USGS
GREENLAND GAP 7.5' QUADRANGLE

PROPOSED CULVERT INVENTORY
(FOR BID PURPOSES ONLY)

15" (MINIMUM) CULVERTS	0 CUL.
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ADDITIONAL CULVERTS AND/OR OTHER DRAINAGE STRUCTURES & SEDIMENT CONTROL DEVICES MAY BE REQUIRED BY THE WV D.E.P. OIL & GAS INSPECTOR. OPERATOR IS RESPONSIBLE FOR COORDINATION WITH CONTRACTOR AND SLS REGARDING ANY CHANGES OR ADDITIONS THE STATE MAY REQUIRE.

Projected Earthen Disturbance Area

Well Location Site	0.00 ac. +/-
Access Road	0.00 ac. +/-
Approximate Total Disturbance	0.00 ac. +/-

ALL ROADS SHOWN HEREON ARE EXISTING UNLESS OTHERWISE NOTED AND SHALL BE MAINTAINED IN ACCORDANCE WITH WV D.E.P. OIL AND GAS BMP MANUAL ENTRANCES AT COUNTY/STATE ROADS SHALL BE MAINTAINED IN ACCORDANCE WITH WV D.O.T. REGULATION. SEPARATE PERMITS MAY BE REQUIRED BY THE D.O.T.

SEDIMENT BASINS (TRAPS) AND APPROPRIATE EROSION CONTROL BARRIERS ARE TO BE CONSTRUCTED AT ALL CULVERT AND CROSS DRAIN INLETS AND OUTLETS AS REQUIRED IN THE WV D.E.P. OIL AND GAS BMP MANUAL. FIELD CONDITIONS (ROCK OUTCROPS AND BEDROCK) MAY PROHIBIT INLET TRAPS BEING INSTALLED. WHEN THESE CONDITIONS EXIST ADDITIONAL EROSION CONTROL MEASURES SHALL BE EVALUATED AND UTILIZED AS NEEDED.

EARTHWORK CONTRACTORS ARE RESPONSIBLE FOR NOTIFICATION TO THE OPERATOR AND INSPECTOR PRIOR TO ANY DEVIATION FROM THIS PLAN.

TEMPORARY SEED & MULCH ALL SLOPES AFTER CONSTRUCTION OF LOCATION.

CUT & STACK ALL MARKETABLE TIMBER.

STACKED BRUSH MAY BE USED FOR SEDIMENT CONTROL. (IF AVAILABLE)

APPLICATIONS FOR SEPARATE PLC PERMITS ON THE ACCESS ROAD STREAM CROSSINGS HAVE BEEN PREPARED (IF APPLIES).

⊖ = EXISTING CULVERT ⊕ = PROPOSED CULVERT 12" MIN. UNLESS OTHERWISE NOTED

⊗ = PROPOSED STREAM CROSSING (IF APPLIES)
*SEE TABLE FOR CULVERT DETAIL

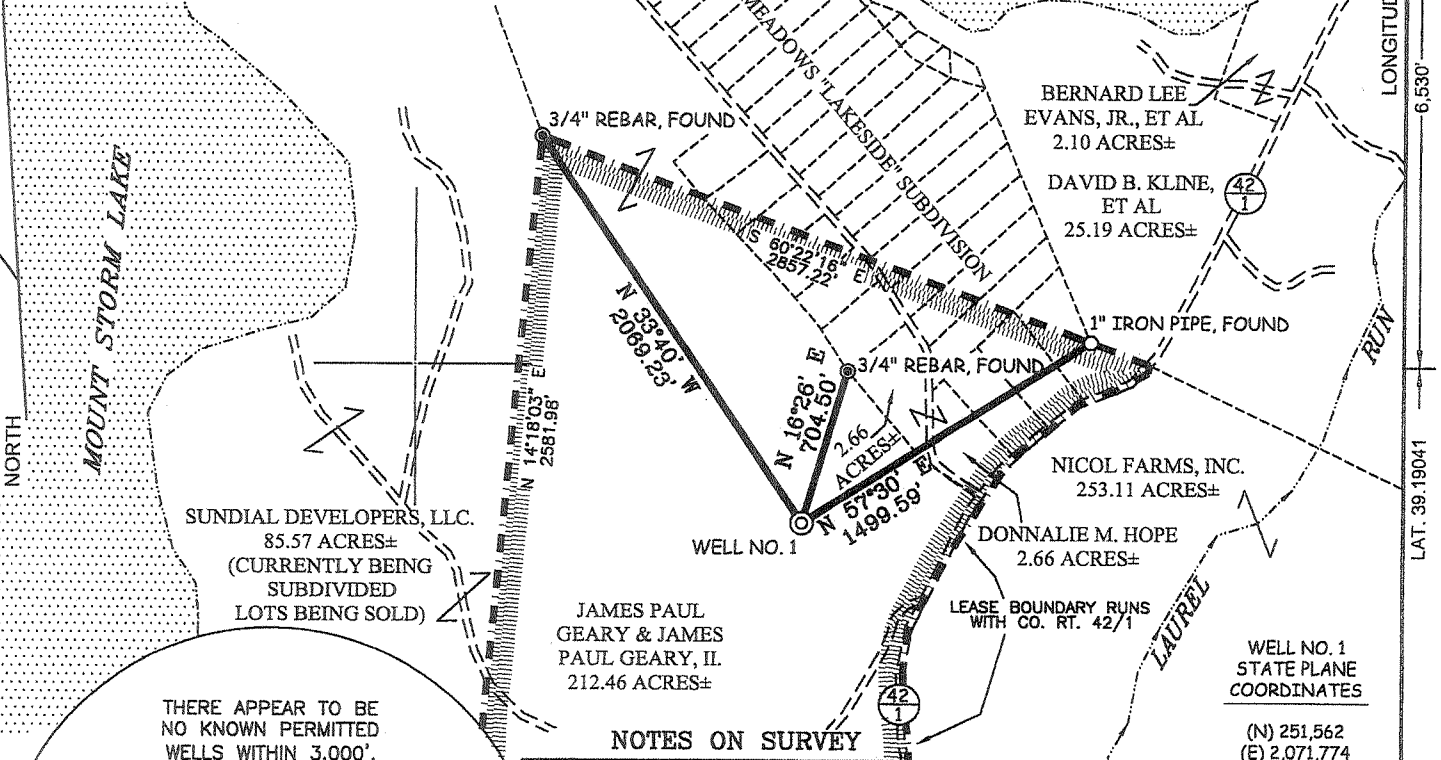


SMITH LAND SURVEYING, INC.
P.O. BOX 150 GLENVILLE, WV. 26351

PH: (304)462-5634 FAX: (304)462-5656 E-MAIL: sls@slssurveys.com

DRAWN BY K.E.S.	FILE NO. 7232	DATE 07/26/10	CADD FILE: 7232RECT.DWG
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GEARY LEASE 189.93 of 341.89 ACRES± WELL NO. 1

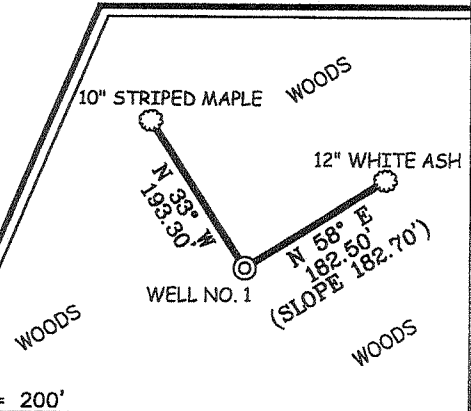


THERE APPEAR TO BE NO KNOWN PERMITTED WELLS WITHIN 3,000'.

NOTES ON SURVEY

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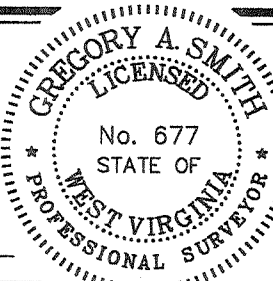
REFERENCES



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P.S. 677

Gregory A. Smith



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

DATE SEPTEMBER 17, 20 09

OPERATORS WELL NO. J.P. GEARY #1

API WELL NO. 47-023-00034

STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1/2500 FILE NO. 7232P1R (272-62)

PROVEN SOURCE OF ELEVATION DGPS (SUBMETER MAPPING GRADE) 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 3,433' WATERSHED LAUREL RUN

DISTRICT UNION COUNTY GRANT QUADRANGLE GREENLAND GAP 7.5'

SURFACE OWNER JAMES PAUL GEARY & JAMES PAUL GEARY, II. ACREAGE 212.46±

ROYALTY OWNER JAMES PAUL GEARY, ET AL LEASE ACREAGE 189.93 of 341.89±

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 ORISKANY

ESTIMATED DEPTH 11,500'

WELL OPERATOR CARRIZO (MARCELLUS), LLC. DESIGNATED AGENT SHARON BARTH SEP 25 2009

ADDRESS 1000 LOUISIANA, SUITE 1500 ADDRESS 707 VIRGINIA STREET, EAST

HOUSTON, TX 77002 CHARLESTON, WV 25301

COUNTY NAME PERMIT

WIL
1603

WR-35
Rev (9-11)

State of West Virginia
Department of Environmental Protection
Office of Oil and Gas
Well Operator's Report of Well Work

DATE: 09/26/12
API #: 47-023-00034 PHR

Farm name: J. P. GEARY Operator Well No.: 1 ST

LOCATION: Elevation: 3,427' Quadrangle: GREENLAND GAP 7.5'

District: UNION County: GRANT
Latitude: 39.19041 N Feet South of _____ Deg. _____ Min. _____ Sec.
Longitude 79.24678 E Feet West of _____ Deg. _____ Min. _____ Sec.

Company: CARRIZO (MARCELLUS) WV LLC

Address:	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
<u>500 DALLAS ST., SUITE 2300</u> <u>HOUSTON, TX 77002</u>	<u>13-3/8"</u>	<u>360'</u>	<u>360'</u>	<u>SURFACE</u>
Agent:	<u>9-5/8"</u>	<u>3,286'</u>	<u>3,285'</u>	<u>SURFACE</u>
Inspector:	<u>5-1/2"</u>	<u>10,814'</u>	<u>10,814'</u>	<u>6,000' TOC</u>
Date Permit Issued: <u>8/17/10</u>	<u>3-1/2" liner</u>	<u>9,129' -</u>	<u>9,129' -</u>	<u>148 cu ft</u>
Date Well Work Commenced: <u>8/25/10</u>		<u>11,496'</u>	<u>11,496'</u>	
Date Well Work Completed: <u>rig release 9/23/10</u>				
Verbal Plugging:				
Date Permission granted on:				
Rotary <input checked="" type="checkbox"/> Cable <input type="checkbox"/> Rig <input type="checkbox"/>	<u>UDI #21</u>			
Total Vertical Depth (ft): <u>11,496'</u>				
Total Measured Depth (ft): <u>9,952'</u>				
Fresh Water Depth (ft.): <u>100'</u>				
Salt Water Depth (ft.):				
Is coal being mined in area (N/Y)? <u>NO</u>				
Coal Depths (ft.):				
Void(s) encountered (N/Y) Depth(s)				

OPEN FLOW DATA (If more than two producing formations please include additional data on separate sheet)

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

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

SEP 20 2012

Environmental Protection

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

CAROL A. PUGH
Signature

9/26/12
Date

10/05/2012

Jordan Run (370) G-0

Were core samples taken? Yes _____ No X

Were cuttings caught during drilling? Yes X No _____

Were Electrical, Mechanical or Geophysical logs recorded on this well? If yes, please list MWD - GAMMA RAY

NOTE: IN THE AREA BELOW PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF THE TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE FROM SURFACE TO TOTAL DEPTH.

Perforated Intervals, Fracturing, or Stimulating:

4/3/11 - 6/20/11: PERFORATED 9,947' - 11,414', FRAC'D W/ 739,300 LBS SAND
+ 18,680 BBLs FLUID + 30 BBLs 15% HCL ACID
NO PRODUCTION RECOVERED, WELL SHUT-IN, TEMPORARILY ABANDONED

Plug Back Details Including Plug Type and Depth(s): * SEE NOTE BELOW

Formations Encountered: _____ Top Depth _____ / _____ Bottom Depth _____
Surface: _____

MARCELLUS SHALE 9,938' TD @ 11,496
HORIZONTAL LATERAL DRILLED IN THE MARCELLUS SHALE FORMATION

* NOTE: SPOT CEMENT PLUG 9,770'-10,627' W/ 89 SX (105 CU FT) CLASS A. CIBP SET @ 9,662'
RUN & SET WHIPSTOCK. MILLED WINDOW IN 5-1/2" CASING @ 9,658' AND DRILLED
HORIZONTAL LATERAL TO TD @ 11,496. SET 3-1/2" LINER 9,129' - 11,496' & CEMENTED W/
108 SX CLASS A



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

December 12, 2012

WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-2300034, issued to CARRIZO (MARCELLUS), LLC, is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to all conditions and provisions outlined in the pages attached hereto. Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas inspector.

Upon completion of the plugging well work, the above named operator will reclaim the site according to the provisions of WV Code 22-6-30. The above named operator will also file, as required in WV Code 22-6-23, an affidavit on form WR-38 by two experienced persons in the operator's employment and the Oil and Gas inspector that the work authorized under this permit was performed and a description given. Failure to abide by all statutory and regulatory provisions governing all duties and operations here under may result in suspensions or revocation of this permit and in addition may result in civil and/or criminal 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.

A handwritten signature in black ink, appearing to read 'James Martin', is written over a printed name and title.

James Martin
Chief

Operator's Well No: J. P. GEARY I
Farm Name: GEARY, JAMES PAUL I & II
API Well Number: 47-2300034
Permit Type: Plugging
Date Issued: 12/12/2012

Promoting a healthy environment.

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

AFFIDAVIT OF PLUGGING AND FILLING WELL

AFFIDAVIT SHOULD BE IN TRIPLICATE, one copy mailed to the Department, one copy to be retained by the Well Operator and the third copy (and extra copies if required) should be mailed to each coal operator at their respective addresses.

Farm name: J. P. GEARY Operator Well No.: 1

LOCATION: Elevation: 3,427' Quadrangle: GREENLAND GAP 7.5'
District: UNION County: GRANT
Latitude: _____ Feet South of 39 Deg. 19 Min. .041 Sec.
Longitude: _____ Feet West of 79 Deg. 24 Min. .678 Sec.

Well Type: OIL _____ GAS X

Company CARRIZO (MARCELLUS) WV LLC Coal Operator JAMES PAUL GEARY
500 DALLAS ST., SUITE 2300 or Owner P. O. BOX 218
HOUSTON, TX 77002 PETERSBURG, WV 26847
Agent SHARON BARTH Coal Operator JAMES PAUL GEARY II
Permit Issued Date 01/04/2012 or Owner P. O. BOX 218
PETERSBURG, WV 26847

AFFIDAVIT

STATE OF TEXAS
County of HARRIS ss:

COY E. SMITH and MARK SCHUMACHER being first duly sworn according to law depose and say that they are experienced in the work of plugging and filling oil and gas wells and were employed by the above named well operator, and participated in the work of plugging and filling the above well say that said work was commenced on the 11th day of SEPTEMBER, 2013, and the well was plugged and filled in the following manner:

TYPE	FROM	TO	PIPE REMOVED	LEFT
SEE				
ATTACHMENT				

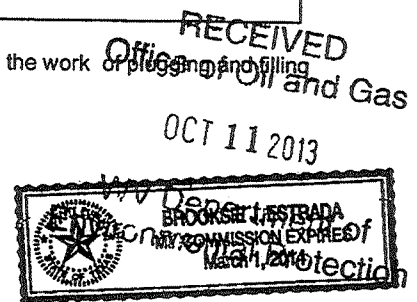
Description of monument: 5' VENT PIPE WELDED W/ API NO. & NAME and that the work of plugging and filling said well was completed on the 18th day of SEPTEMBER, 2013.

And further deponents saith not.

Sworn and subscribe before me this 8 day of OCTOBER, 2013

My commission expires: 3/1/14

Brook L Estrada
Notary Public



Affidavit reviewed by the Office of Oil and Gas: Bill Hatfield

Title: oil & gas inspector -11/22/2013

23.00034P

ARIZO MARCELLUS (WV) LLC

J.P. GEARY #1
API 47-023-00034

Attachment to Form WR-38, Affidavit of Plugging and Filling Well

TYPE	FROM	TO	PIPE REMOVED	LEFT
CIBP	9,087'	9,086'	None	10,814'
Class A Cement	9,072'	8,872'	None	10,814'
Class A Cement	5,923'	5,723'	5,930'	4,884'
6% Gel	5,311'	3,350'	0	4,884'
Class A Cement	3,342'	3,242'	0	4,884'
6% Gel	3,118'	1,280'	0	4,884'
Class A Cement	1,250'	1,153'	0	4,884'
CIBP	1,085'	1,084'	0	4,884'
Class A Cement	1,064'	964'	0	4,884'
Class A Cement	404'	304'	0	4,884'
Class A Cement	122'	0'	0	4,884'

WR-35
Rev (1-10)

State of West Virginia
Department of Environmental Protection
Office of Oil and Gas
Well Operator's Report of Well Work

DATE: 8/9/2010
API #: 47-023-0034

CK
18

RECEIVED
Office of Oil & Gas

Farm name: J.P. Geary Operator Well No.: 1

AUG 10 2010

LOCATION: Elevation: 3,427' Quadrangle: Greenland Gap 7.5'

District: Union County: Grant
Latitude: 39.19041N Feet South of _____ Deg. _____ Min. _____ Sec.
Longitude 79.24678W Feet West of _____ Deg. _____ Min. _____ Sec.

WV Department of
Environmental Protection

Company:

Address:	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Carrizo (Marcellus) LLC	13-3/8"	360'	360'	Surface
1000 Louisiana, Suite 1500, Houston, TX 77002	9-5/8"	3,285'	3,285'	Surface
Agent: Sharon Barth	5-1/2"	10,814'	10,814'	6000' TOC
Inspector: Bill Hatfield				
Date Permit Issued: 9-18-2009				
Date Well Work Commenced: 10-15-2009				
Date Well Work Completed: 12-15-2009				
Verbal Plugging: None				
Date Permission granted on: None				
Rotary <input checked="" type="checkbox"/> Cable <input type="checkbox"/> Rig UDI 21				
Total Vertical Depth (ft): 10,814'				
Total Measured Depth (ft): 10,814'				
Fresh Water Depth (ft.): 100'				
Salt Water Depth (ft.): None				
Is coal being mined in area (N/Y)? No				
Coal Depths (ft.):				

OPEN FLOW DATA (If more than two producing formations please include additional data on separate sheet)

Producing formation None Pay zone depth (ft) NA

Gas: Initial open flow NA MCF/d Oil: Initial open flow NA Bbl/d

Final open flow NA MCF/d Final open flow NA Bbl/d

Time of open flow between initial and final tests NA Hours

Static rock Pressure NA psig (surface pressure) after NA Hours

Second producing formation None Pay zone depth (ft) NA

Gas: Initial open flow NA MCF/d Oil: Initial open flow NA Bbl/d

Final open flow NA MCF/d Final open flow NA Bbl/d

Time of open flow between initial and final tests NA Hours

Static rock Pressure NA psig (surface pressure) after NA Hours

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.


Signature

8-10-10
Date

NOTE: IN THE AREA BELOW PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF THE TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE FROM SURFACE TO TOTAL DEPTH.

Perforated Intervals, Fracturing, or Stimulating:

Well was not perforated or fracture stimulated.

<u>Formations Encountered:</u>	<u>Top Depth</u>		<u>Bottom Depth</u>
<u>Surface:</u>			

Big Lime 1982-2425

Hampshire 3215-5905

Scherr 5905-8398

Brallier 8398 - 9314

Harrell 9314 - 9400

Tully 9400 - 9400

Mahantango 9411- 9938

Upper Marcellus 9938 - 10046

Purcell 10046 - 10155

Lower Marcellus 10155 - 10346

Onondaga 10346 - 10425

Needmore 10425 - 10702

Oriskany 10702 - TD
