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west virginia department of environmental protection

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Office of Oil and Gas  
601 57<sup>th</sup> Street, S.E.  
Charleston, WV 25304  
(304) 926-0450  
fax: (304) 926-0452

Austin Caperton, Cabinet Secretary  
[www.dep.wv.gov](http://www.dep.wv.gov)

Wednesday, March 27, 2019  
PERMIT MODIFICATION APPROVAL  
Horizontal 6A / New Drill

AMERICAN PETROLEUM PARTNERS OPERATING, LLC  
4600 J. BARRY COURT SUITE 310

CANONSBURG, PA 15317

Re: Permit Modification Approval for CASTERLY ROCK-5UH  
47-051-02071-00-00

Lateral Extension of Deep Well Bore

AMERICAN PETROLEUM PARTNERS OPERATING, LLC

The Office of Oil and Gas has reviewed the attached permit modification for the above referenced permit. The attached modification has been approved and well work may begin. Please be reminded that the oil and gas inspector is to be notified twenty-four (24) hours before permitted well work is commenced.

If there are any questions, please feel free to contact me at (304) 926- 0450.

James A. Martin  
Chief

Operator's Well Number: CASTERLY ROCK-5UH  
Farm Name: LESLIE B. & LORI D. SCHABER  
U.S. WELL NUMBER: 47-051-02071-00-00  
Horizontal 6A New Drill  
Date Modification Issued: March 27, 2019

Promoting a healthy environment.

03/29/2019



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west virginia department of environmental protection

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Oil and Gas Conservation Commission  
601 57<sup>th</sup> Street SE, Charleston, WV 25304  
304-926-0499 Ext 1274

Barry K. Lay, Chairman  
dep.wv.gov

February 22, 2019

Department of Environmental Protection  
Office of Oil and Gas  
Charleston, WV 25304

RE: Application for Deep Well Permit – API #47-051-02071

COMPANY: American Petroleum Partners Operating, LLC

FARM: Leslie B. & Lori D. Schaber Casterly Rock-5UH

COUNTY: Marshall DISTRICT: Union QUAD: Moundsville

The deep well review of the application for the above company is **Approved to drill to Point Pleasant for completion. Pooling Docket No. 271-256**

The applicant has complied with the provision of Chapter 22C-9, of the Code of West Virginia, nineteen hundred and thirty-one (1931), as amended, Oil and Gas Conservation Commission as follows:

1. Comments to Notice of Deviation filed? Yes, withdrawn prior to hearing.
2. Provided a certified copy of duly acknowledged and recorded consent and easement form from all surface owners? Yes
3. Provided a tabulation of all deep wells within one mile of the proposed location, including the API number of all deep wells: \*yes, 47-051-02018, 47-051-02046, 47-051-02047, 47-051-02072, 47-051-02073, and 47-051-02135.
4. Provided a plat showing that the proposed location is a distance of 400+ feet from the nearest lease line or unit boundary with the exception of the toe of the well which is 200+ feet from the nearest lease line or unit boundary (see Pooling Docket 271-256) and showing the following wells drilled to or capable of producing from the objective formation within 3,000 feet of the proposed location.

Sincerely,

A handwritten signature in blue ink that reads "Susan Rose".

Susan Rose  
Administrator

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
WELL WORK PERMIT APPLICATION

1) Well Operator: American Petroleum Partners Operator ID: 494521257 County: Marshall District: Union Quadrangle: Moundsville

2) Operator's Well Number: Casterly Rock-5UH Well Pad Name: Casterly Rock

3) Farm Name/Surface Owner: Leslie B. & Lori D. Schaber Public Road Access: State Route 88

4) Elevation, current ground: 1,338.53' Elevation, proposed post-construction: 1311.38

5) Well Type (a) Gas x Oil Underground Storage Other

(b) If Gas Shallow Deep x

Horizontal x

6) Existing Pad: Yes or No No

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):  
Point Pleasant Formation 11,395' / 130' thick 10,141 or .89 psi per foot / Utica Formation 11,212 150' thick / 10,000 psi or .89 psi per foot.

8) Proposed Total Vertical Depth: 11,395'

9) Formation at Total Vertical Depth: Point Pleasant

10) Proposed Total Measured Depth: 20,754'

11) Proposed Horizontal Leg Length: 7,648'

12) Approximate Fresh Water Strata Depths: 130', 1125'

13) Method to Determine Fresh Water Depths: Nearest offset well

14) Approximate Saltwater Depths: Na

15) Approximate Coal Seam Depths: 625', 825'

16) Approximate Depth to Possible Void (coal mine, karst, other): None anticipated. Mine maps attached.

17) Does Proposed well location contain coal seams directly overlying or adjacent to an active mine? Yes X No

(a) If Yes, provide Mine Info: Name: The Ohio County Mine  
Depth: 625' - 825'  
Seam: Sewickley and Pittsburgh  
Owner: Murray American Energy & Consolidation Coal Company

WW-6B  
(04/15)

Revised  
Office of Oil and Gas

4705102071  
API NO. 47-051 - 03/29/2019

JAN 7 REC'D

OPERATOR WELL NO. Casterly Re 5H  
Well Pad Name: Casterly Rock

18)

CASING AND TUBING PROGRAM  
WV Department of Environmental Protection

TYPE	Size (in)	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: For Drilling (ft)	INTERVALS: Left in Well (ft)	CEMENT: Fill-up (Cu. Ft.)/CTS
Conductor	30"	New	LS	81.3#	60'	60'	CTS
Fresh Water	20"	New	J-55	94#	1248'	1248'	CTS15.6ppg
Coal	13 3/8"	New	J-55	54.5#	2660'	2660'	CTS15.2ppg
Intermediate	9 5/8"	New	HCP-1 1/2"	43.5#	10070'	10070'	CTS15.4ppg
Production	5 1/2"	New	HCP-1 1/2"	23#	20,754'	20,754'	14.8ppg TOC
Tubing	2 7/8"	New	J-55	6.5#	11,400	11,400'	CTS
Liners							

*JW 1/7/19*

TYPE	Size (in)	Wellbore Diameter (in)	Wall Thickness (in)	Burst Pressure (psi)	Anticipated Max. Internal Pressure (psi)	Cement Type	Cement Yield (cu. ft./k)
Conductor	30"	36"		300		Type 1	Lead yield 2.3
Fresh Water	20"	24"	.438	2110	400	Class A	Lead yield 2.3
Coal	13 3/8"	17.5"	.380	2730	688	Class A	Lead Yield 2.3
Intermediate	9 5/8"	12.38"	.435	8700	3166	Class A	Lead Yield 1.2
Production	5 1/2"	8.75"	.415	16,510	13000	Class H	Lead Yield 1.2
Tubing	2 7/8"	5.14"	.217	10570	8000		
Liners							

PACKERS

Kind:				
Sizes:				
Depths Set:				

WW-6B  
(10/14)

API NO. 47-051 -  
OPERATOR WELL NO. Casterly Re 5H  
Well Pad Name: Casterly Rock

JAN 7 REC'D

WV Department of  
Environmental Protection

*Handwritten signature*  
3/29/19

19) Describe proposed well work, including the drilling and plugging back of any pilot hole:

Drill the vertical depth to the Point Pleasant/Utica at an estimated total vertical depth of approximately 11,395'. Drill the horizontal leg- stimulate and produce the Point Pleasant/Utica formation. Should we encounter a unanticipated void we will install a minimum of 20' of casing below the void but not more than 100' below the void, set a basket and grout to surface.

20) Describe fracturing/stimulating methods in detail, including anticipated max pressure and max rate:

The stimulation will be in multiple stages divided over the lateral length of the well. Stage spacing is dependent upon engineering design. Slickwater fracturing technique will be utilized on each stage using sand, water, and chemicals. Our maximum pressure is not to exceed 10,000 lbs.

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 22.5 acres

22) Area to be disturbed for well pad only, less access road (acres): 9.9 acres

23) Describe centralizer placement for each casing string:

Conductor- No centralizers used. Freshwater/Surface- Bow Spring centralizers every 3 joints to 100' from surface. 1st Intermediate - Bow Spring centralizers every 3 joints to 100' from surface. 2nd Intermediate - Bow Spring centralizers every 3 joints to 100' from surface. Production - Rigid bow springs every third joint from KOP to TOC. Rigid every joint to KOP.

24) Describe all cement additives associated with each cement type:

Type 1 to Surface. Surface/Freshwater - 15.6 Class A +2% CaCl, 30% OH Excess Yield =1.18. 1st Intermediate - 15.6 ppg Class A +2% CaCl, 0.25 Lost Circ. 30% Yield =1.27. 2nd Intermediate- 2 Stage cement job with 15.4 ppg Class A lead + additives (antisetling, antifoam, fluid loss retarder, salt, viscosifer) & 15.4 Class A tail with additives (antisetling, antifoam, fluid loss retarder, salt, dispersant or

25) Proposed borehole conditioning procedures:

Conductor - The hole is drilled w/ air and casing is run on air. Apart from insuring hole is clean via air circulation at TD, there are no other conditioning procedures. Freshwater/Surface- The hole is drilled w/air or Freshwater based mud and casing is run on air. Once casing is at setting depth, fill with KCl water circulate a minimum of one hole volume prior to pumping cement. First Intermediate- Drilled on Air. Once casing is at a setting depth, circulate a minimum of one hole volume prior to pumping cement. Second Intermediate - Drilled on air. Fill with salt saturated water once drilled to TD. Once casing is at setting depth, circulate a minimum of one hole volume prior to pumping cement. Production- drilled on

\*Note: Attach additional sheets as needed.



**DRILLING WELL PLAN**

**Casterly Rock-5UH  
Utica Horizontal  
Marshall Co, WV**

**Horizontal Well Plan with Cemented Long String Completion**

HOLE	RIG	CASING	GEOLOGY	Top TVD	MD	MUD	CEMENT	DIRECTIONAL	LOGS	BITS	COMMENTS
36"	Conductor Rig	30" 81.3# LS				AIR	To Surface	N/A	N/A		Stabilize surface fill/soil
			<b>Conductor</b>	60	60						
			Sewickley Coal	770	774						
24"	Top-Hole	20" 94# J-55 BTC	Pittsburgh Coal	840	848	AIR	15.6ppg to surface 521sx w/ 30% OH excess	20" Air Hammer Totco at TD	CBL Log Cased hole NPHI, GR at Pilot TD in Pilot Well only	Carbide hammer bit	Protect fresh groundwater
			Surf. Casing	1248	1248						
			Big Lime	1940	2140						
17.5"	Top-Hole	13-3/8" 54.5# J-55 BTC				AIR	15.2ppg to surface 556sx w/ 30% OH excess	Center Rock 15" Air Hammer Gyro above Coal, (Mine Approval) Totco at TD		Hammer bit w/ diamond gage Test casing to 800psi	
			Big Injun	2140	2360						
			<b>Int. Casing</b>	2660	2660						
12.375" 12.25"	Horizontal Rig	9-5/8" 43.5# P-110 BTC	Berea	4063	4078	AIR	15.4ppg to surface 942sx w/ 30% OH excess	12" Air Hammer Totco every 400ft	MWD surveys Mud Logger - 90 ft samples	Hammer bit w/ full face diamond Test casing to 1000psi	<p style="writing-mode: vertical-rl; transform: rotate(180deg);">           WV Department of Environmental Protection            PU clean assembly, dress and            displace to 1200psi            SOBM, PU Curve Log            time drill / KO center bit            Expect Seepage         </p>
			Burkett	6338	6363						
			Tully LS	6363	6413						
			Hamilton	6413	6438						
			Marcellus Shale	6438	6488						
			Onondaga Ls	6488	6713						
			Oriskany Sandstone	6713	6750						
			Salina Group	7163	7904						
			Lockport Dolomite	8288	8610						
			Clinton Group	9013	9138						
			Medina Group	9138	9213						
Queenston Shale	9218	9970									
		<b>Int. Casing</b>	10070	10070							
8.5" Curve/Lateral	Horizontal Rig	5-1/2" 23# HCP-110 BPN	Utica Shale	11212		+/- 14.5 ppg SOB	14.8ppg TOC >= 200' Above 9.625 shoe 3918sx w/ 15% OH excess	6.75" PDM & MWD 2.38" ADJ Bend (10" Build DLS)	MWD Surveys Mud Logger - 30 ft samples (Curve) 90 ft samples (Lateral)	PDC 5 - 25 WOB 100 - 120 RPM 450 - 500 GPM	Geosteering
			Point Pleasant Formation	11395							
			Curve LP								
			<b>TARGET</b>								
		<b>Production Casing</b>									

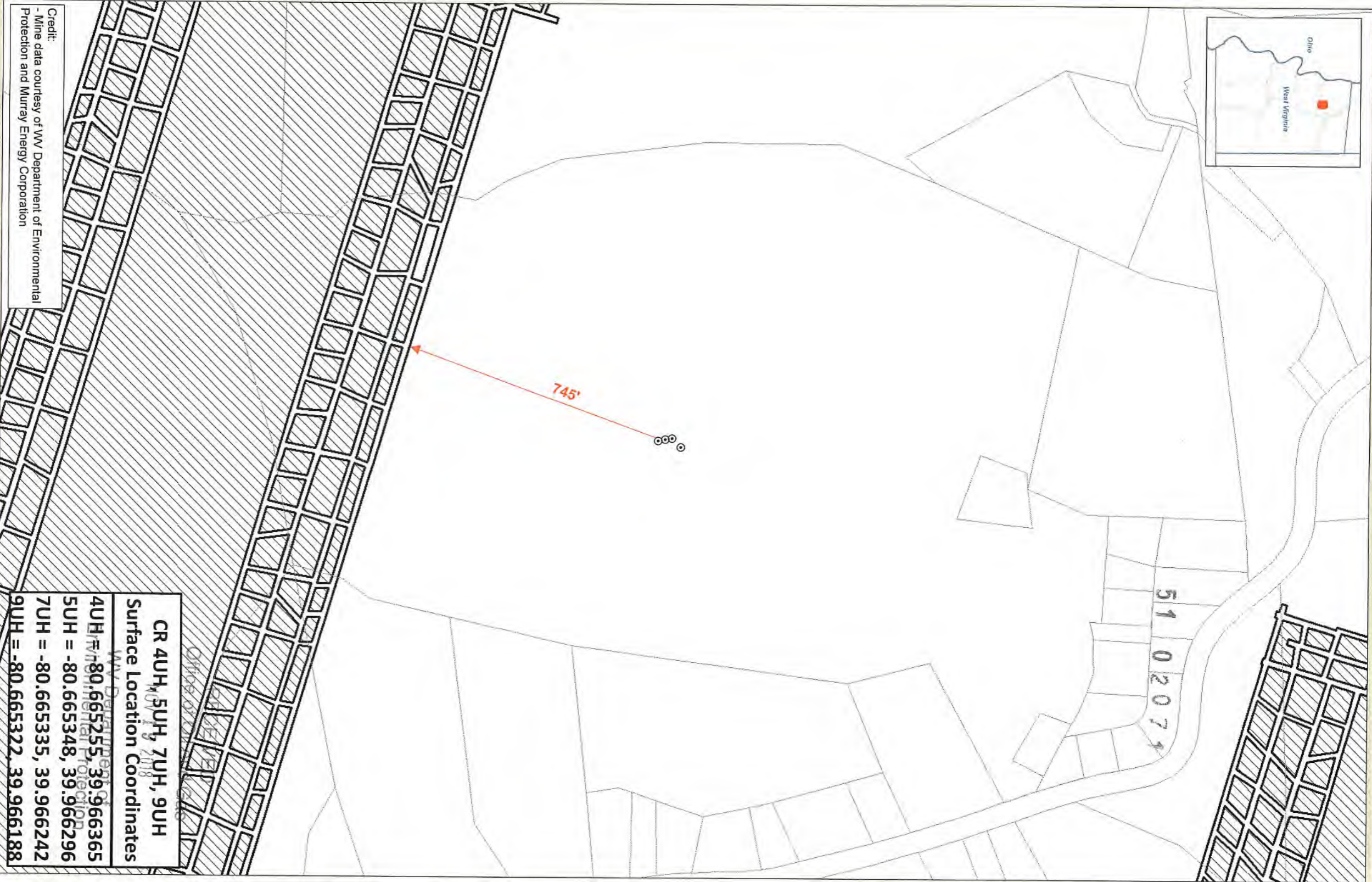
8.5 Hole - Cemented Long String 5-1/2" 23# HCP-110 BPN

Lateral Targets	Landing Point 11395 TVD 13106 MD	89.5 Inc 145 Az	7648 ft Lateral Length	89.5 Inc 145 Az	Total Depth 11395 TVD 20754 TD
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*[Handwritten Signature]*

JAN 7 REC'D

RECEIVED 4705102071  
 Office of Oil and Gas  
 Casterly Rock 5UH  
 1/14/19



Credit:  
- Mine data courtesy of WV Department of Environmental Protection and Murray Energy Corporation

**CR 4UH, 5UH, 7UH, 9UH - Coal Areas**  
Marshall County  
West Virginia  
Coordinate System: NAD 83 UTM Zone 18N  
System: UTM  
Datum: North American 1983  
Map Scale Units: 1:3,000  
Map Author: JRS  
Map Date: 10/17/2018

Well SHL  
Approximate Well to Coal length  
Coal Pillars

CR 4UH, 5UH, 7UH, 9UH  
Surface Location Coordinates

4UH =	-80.665255, 39.966365
5UH =	-80.665348, 39.966296
7UH =	-80.665335, 39.966242
9UH =	-80.665322, 39.966188

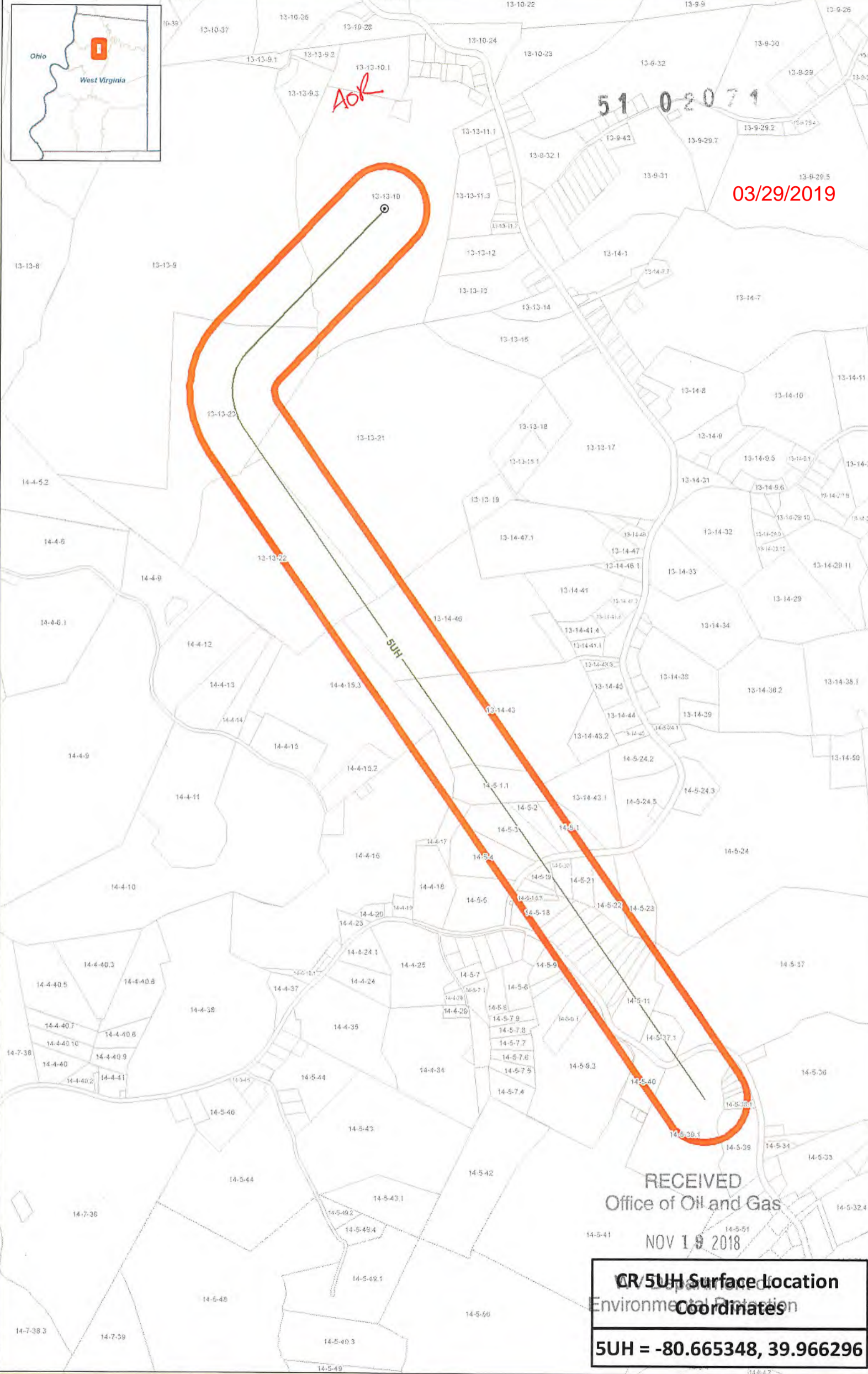




AOK

51 0 20 71

03/29/2019



RECEIVED  
Office of Oil and Gas

NOV 19 2018

**CR 5UH Surface Location  
Environmental Protection  
Coordinates**  
**5UH = -80.665348, 39.966296**



### CR 5UH - 400' Buffer

Marshall County  
West Virginia  
Coordinate System: NAD 1983 UTM Zone 18N  
Projection: Transverse Mercator  
Datum: North American 1983  
Map Scale Units: 1:12,000  
1 inch = 2,000 feet  
Map Author: JKS  
Map Date: 11/1/2018

- Well SHL
- Laterals
- Parcels
- Well Pad
- 400' buffer





Surface Hole Well is located on topo map 12,278 feet south of Latitude: 40° 00' 00"  
 Bottom Hole Well is located on topo map 5,432 feet south of Latitude: 39° 57' 30"

**Sheffler & Company, Inc.**  
 ENGINEERING • SURVEYING

1712 Mount Nebo Road Phone: 412-219-4509  
 Sewickley, PA 15143 Email: info@shefflerco.com

**LEGEND**

- TOPO MAP POINT
- PROPOSED WELL
- PRIVATE WATER WELL SPRING LOCATION
- LEASED NUMBER BASED ON ATTACHED WMA#1
- ALL ARE POINTS UNLESS OTHERWISE NOTED
- MINERAL TRACT BOUNDARY
- UNIT BOUNDARY
- PARCEL LINES
- MINERAL PARCEL LINES
- PROPOSED HORIZONTAL WELL
- WELL REFERENCE
- STREAM/POND/WATERWAY
- ROAD
- FORCE POOLED PARCEL

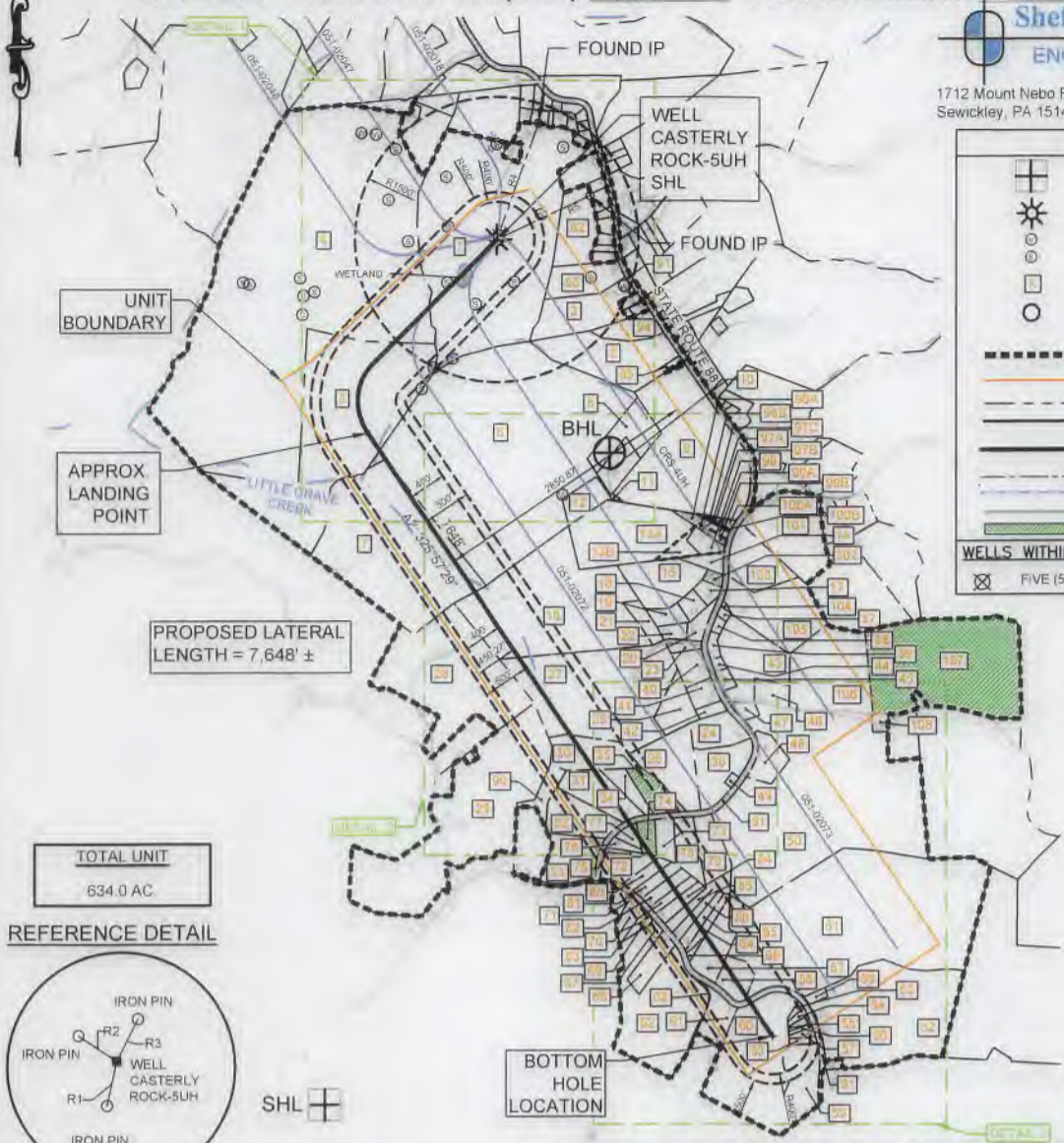
**WELLS WITHIN 3000'**

- FIVE (5) DEEP WELLS WITHIN 3000 FT

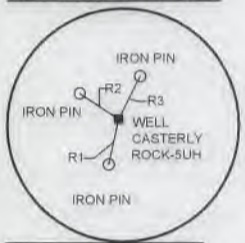
- NOTES**
- There are no water wells or developed springs within 250' of proposed well
  - There are no existing buildings within 625' of proposed well
  - Proposed well is greater than 100' from perennial stream, wetland, pond, reservoir or lake
  - There are no native trout streams within 300' of proposed 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.
  - Mineral and Surface parcel lines are the same except for #13, #96, #97, #99 & #100 above.

Well is located on topo map 11,309 feet west of Longitude: 80° 37' 30"  
 Well is located on topo map 8,286 feet west of Longitude: 80° 37' 30"

03/29/2019



**TOTAL UNIT**  
634.0 AC



LINE	BEARING	DISTANCE
R1	N12°28'58"E	358.50
R2	S56°41'32"E	364.39
R3	S26°45'16"W	371.86
R4	S19°43'18"W	1296.47
R5	S64°43'00"W	1087.09

SURFACE HOLE LOCATION (SHL)	APPROXIMATE LANDING POINT	BOTTOM HOLE LOCATION (BHL)
UTM 17 - NAD83 N: 4424069.977(m) E: 528579.881(m) NAD27, WV NORTH N: 536157.541(ft) E: 1673310.507(ft) LAT/LON - NAD83 LAT: N39 9662955(d) LON: W80.6653478(d)	UTM 17 - NAD83 N: 4423443.750(m) E: 528175.178(m) NAD27, WV NORTH N: 534124.786(ft) E: 1671948.175(ft) LAT/LON - NAD83 LAT: N39 9606670(d) LON: W80.6701136(d)	UTM 17 - NAD83 N: 4421534.9036(m) E: 529511.767(m) NAD27, WV NORTH N: 527787.445(ft) E: 1676229.429(ft) LAT/LON - NAD83 LAT: N39 9434233(d) LON: W80.6545511(d)

FILE # CASTERLY ROCK-5UH  
 DRAWING # CRSW-5UH-LONG-R4.DWG  
 SCALE 1"=2000'  
 MINIMUM DEGREE OF ACCURACY: 1/2500  
 PROVEN SOURCE: USGS MONUMENT  
 OF ELEVATION: JX0787: 1319.9'

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.: 21452 L.L.S.: P.S. NO.



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

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

WATERSHED: SHORT CREEK - OHIO RIVER ELEVATION: 1,338.53'  
 COUNTY/DISTRICT: MARSHALL / UNION QUADRANGLE: MOUNDSVILLE, WV  
 SURFACE OWNER: LESLIE B. & LORI D. SCHABER ACREAGE: 73.79  
 OIL & GAS ROYALTY OWNER: CAROL A. WENSYEL A/K/A CAROL A. MILLER, ACTING AS TRUSTEE FOR THE CAROL A. WENSYEL IRREVOCABLE TRUST DATED OCTOBER 28, 2010 AND JOHN F. MILLER, SR. TRUSTEE OF THE JOHN F. MILLER, SR. IRREVOCABLE TRUST, DATED OCTOBER 28, 2010. ACREAGE: 73.79

DATE: November 14, 2018 - REV - December 13, 2018  
 OPERATOR'S WELL #: CASTERLY ROCK-5UH  
 API WELL # 47 051 02071 STATE COUNTY PERMIT

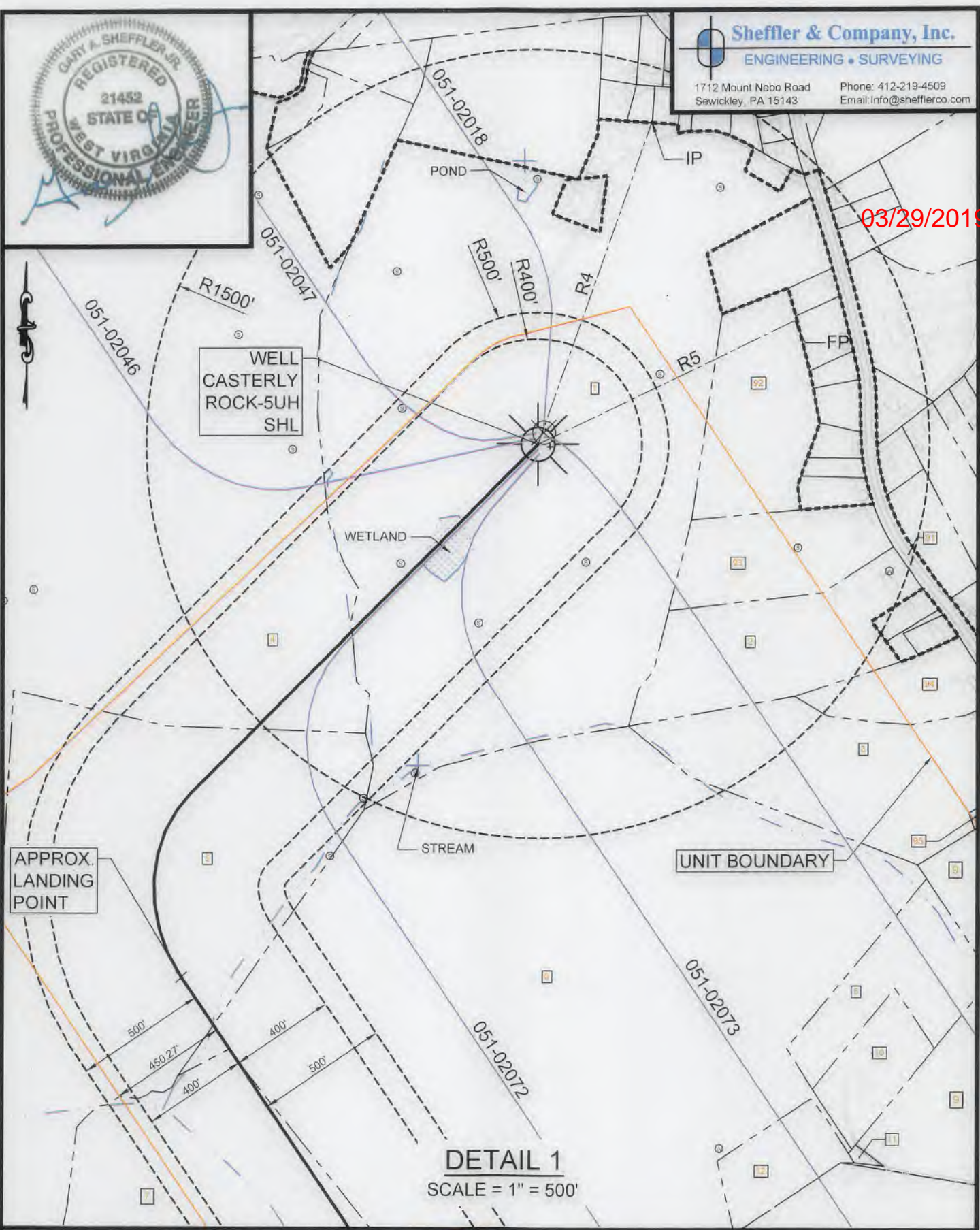
DRILL  CONVERT  DRILL DEEPER  REDRILL  FRACTURE OR STIMULATE   
 PLUG OFF OLD FORMATION PERFORATE NEW FORMATION PLUG AND ABANDON  
 CLEAN OUT & REPLUG  OTHER CHANGE  (SPECIFY)

TARGET FORMATION: POINT PLEASANT ESTIMATED DEPTH: TVD: 11,395' ± TMD: 20,754' ±  
 WELL OPERATOR: AMERICAN PETROLEUM PARTNERS OPERATING, LLC DESIGNATED AGENT: STEVEN GREEN  
 Address: 4600 J. BARRY COURT, SUITE 310 Address: 300 SUMMERS ST, SUITE 1000  
 City CANONSBURG State PA Zip Code 15317 City CHARLESTON State WV Zip Code 25301



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03/29/2019



**DETAIL 1**  
 SCALE = 1" = 500'

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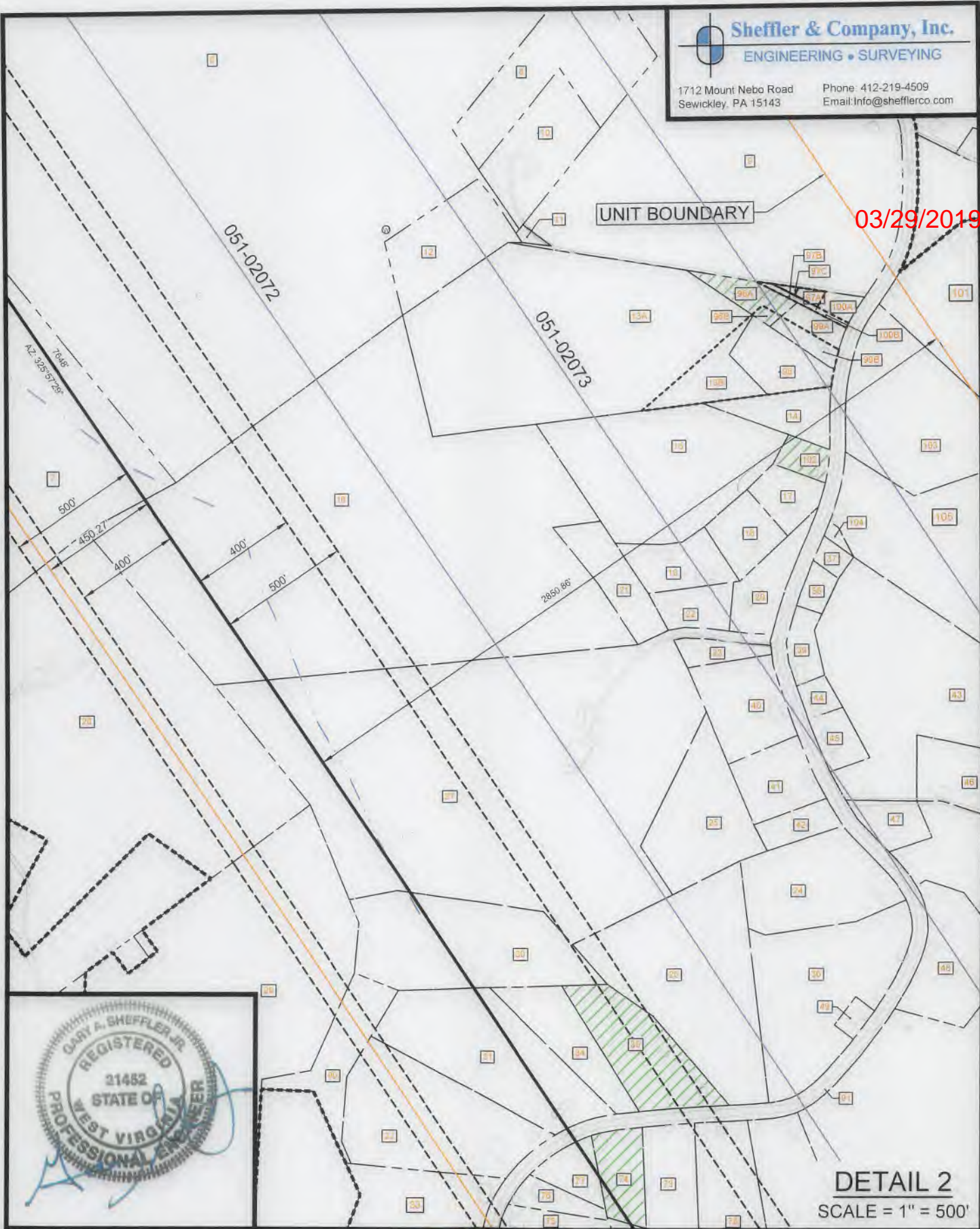
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 Address: 4600 J. BARRY COURT, SUITE 310 Address: 300 SUMMERS ST, SUITE 1000  
 City: CANONSBURG State: PA Zip Code: 15317 City: CHARLESTON State: WV Zip Code: 25301



**DETAIL 2**  
SCALE = 1" = 500'

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OFFICE OF OIL & GAS  
601 57TH STREET  
CHARLESTON, WV 25304  
Well Type:  Oil  Waste Disposal  Production  Deep  
 Gas  Liquid Injection  Storage  Shallow



DATE: November 14, 2018 - REV - December 13, 2018

OPERATOR'S WELL #: CASTERLY ROCK-5UH

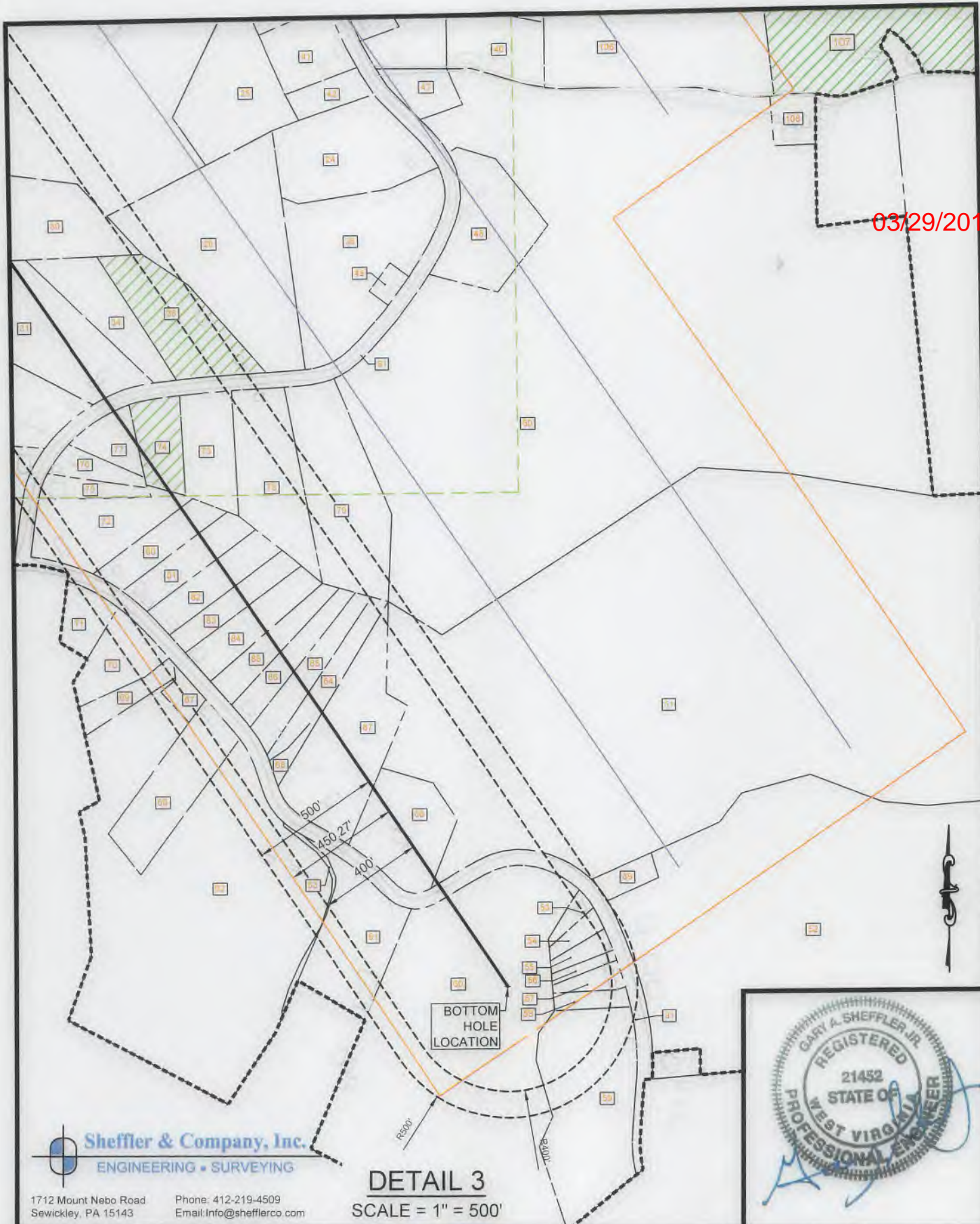
API WELL #	47	051	02071
	STATE	COUNTY	PERMIT

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03/29/2019



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OPERATOR'S WELL #: CASTERLY ROCK-5UH

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STATE COUNTY PERMIT

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COUNTY/DISTRICT: MARSHALL / UNION QUADRANGLE: MOUNDSVILLE, WV

SURFACE OWNER: LESLIE B. & LORI D. SCHABER ACREAGE: 73.79

OIL & GAS ROYALTY OWNER: CAROL A. WENSYEL A/K/A CAROL A. MILLER, ACTING AS TRUSTEE FOR THE CAROL A. WENSYEL IRREVOCABLE TRUST DATED OCTOBER 28, 2010 AND JOHN F. MILLER, SR. TRUSTEE OF THE JOHN F. MILLER, SR. IRREVOCABLE TRUST, DATED OCTOBER 28, 2010. TRUST ACREAGE: 73.79

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

TARGET FORMATION: POINT PLEASANT ESTIMATED DEPTH: TVD: 11,395' ± TMD: 20,754' ±

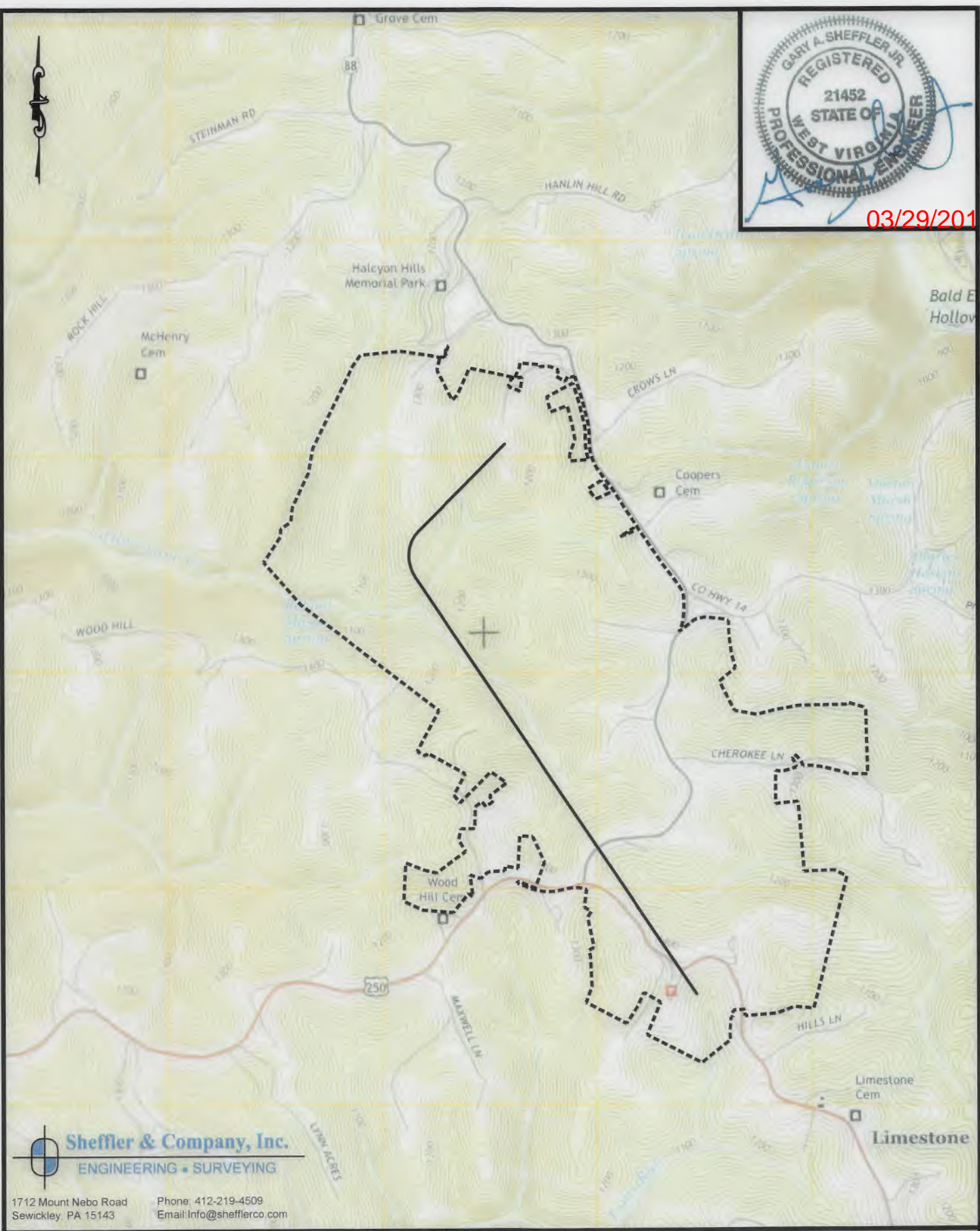
WELL OPERATOR: AMERICAN PETROLEUM PARTNERS OPERATING, LLC DESIGNATED AGENT: STEVEN GREEN

Address: 4600 J. BARRY COURT, SUITE 310 Address: 300 SUMMERS ST, SUITE 1000

City CANONSBURG State PA Zip Code 15317 City CHARLESTON State WV Zip Code 25301



03/29/2019



**Sheffler & Company, Inc.**  
ENGINEERING • SURVEYING

1712 Mount Nebo Road Phone: 412-219-4509  
Sewickley, PA 15143 Email: info@shefflerco.com

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



DATE: November 14, 2018 - REV - December 13, 2018

OPERATOR'S WELL #: CASTERLY ROCK-5UH

API WELL # 47 051 H6A 02071

STATE COUNTY PERMIT

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

WATERSHED: SHORT CREEK - OHIO RIVER ELEVATION: 1,338.53'

COUNTY/DISTRICT: MARSHALL / UNION QUADRANGLE: MOUNDSVILLE, WV

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03/29/2019

TAX MAP NO.  
13-0013-0010-0000-0000  
ASSESSED ACREAGE = 73.79 AC.

SURFACE OWNERS:  
SCHABER, LESLIE B. & LORI D.

MINERAL OWNERS:  
CAROL A. WENSYEL A/K/A CAROL A. MILLER,  
ACTING AS TRUSTEE FOR THE CAROL A. WENSYEL  
IRREVOCABLE TRUST DATED OCTOBER 28, 2010.

JOHN F. MILLER, SR. ACTING AS TRUSTEE  
OF THE JOHN F. MILLER, SR. IRREVOCABLE TRUST,  
DATED OCTOBER 28, 2010

TAX MAP NO.  
13-0013-0013-0000-0000  
ASSESSED ACREAGE = 15.74 AC.

SURFACE & MINERAL OWNERS:  
COBER R.; BEVERLY GROSS; STROMATOS

TAX MAP NO.  
13-0013-0015-0000-0000  
ASSESSED ACREAGE = 13.705 AC.

SURFACE & MINERAL OWNERS:  
BROWN, ROSEMARY M.

TAX MAP NO.  
13-0013-0009-0000-0000  
ASSESSED ACREAGE = 156.14 AC.

SURFACE & MINERAL OWNERS:  
HELLER, EDGAR

TAX MAP NO.  
13-0013-0023-0000-0000  
ASSESSED ACREAGE = 48 AC.

SURFACE OWNERS:  
HELLER, EDGAR

MINERAL OWNERS:  
HELLER, EDGAR;  
FAITH UNITED METHODIST CHURCH

TAX MAP NO.  
13-0013-0021-0000-0000  
ASSESSED ACREAGE = 91.21 AC.

SURFACE OWNERS:  
HELLER JR., EDGAR

MINERAL OWNERS:  
HELLER, JEANNIE

TAX MAP NO.  
13-0013-0022-0000-0000  
ASSESSED ACREAGE = 47.26 AC.

SURFACE OWNERS:  
HILL, CHARLES DOUGLAS ET UX.

MINERAL OWNERS:  
HILLCREEK CONSULTING, LLC;  
FAITH UNITED METHODIST CHURCH

TAX MAP NO.  
13-0013-0018-0000-0000  
ASSESSED ACREAGE = 7.00 AC.

SURFACE & MINERAL OWNERS:  
BLACK, TIMOTHY JON

TAX MAP NO.  
13-0013-0017-0000-0000  
ASSESSED ACREAGE = 33.16 AC.

SURFACE & MINERAL OWNERS:  
LILLEY, PAUL THOMAS

TAX MAP NO.  
13-0013-0018-0001-0000  
ASSESSED ACREAGE = 3.00

SURFACE & MINERAL OWNERS:  
BLACK, TIMOTHY JON

TAX MAP NO.  
13-0013-0020-0000-0000  
ASSESSED ACREAGE = 0.11 AC.

SURFACE & MINERAL OWNERS:  
CHAD L. CUNNINGHAM  
JEFFREY H. CUNNINGHAM

TAX MAP NO.  
13-0013-0019-0000-0000  
ASSESSED ACREAGE = 2 AC.

SURFACE & MINERAL OWNERS:  
CHAD L. CUNNINGHAM  
JEFFREY H. CUNNINGHAM

TAX MAP NO.  
13-0014-0047-0001-0000  
ASSESSED ACREAGE = 16.43 AC.

SURFACE OWNERS:  
CUNNINGHAM, CHAD L. & JEFFREY H.

MINERAL OWNERS:  
CHAD L. CUNNINGHAM  
JEFFREY H. CUNNINGHAM

TAX MAP NO.  
13-0014-0047-0001-0000  
ASSESSED ACREAGE = 16.43 AC.

SURFACE OWNERS:  
CUNNINGHAM, CHAD L. & JEFFREY H.

MINERAL OWNERS:  
LATRICIA TRIGG  
CAROLYN M. PIATT  
ROBERT LEE OSTRANDER  
JESS BLAINE, JR. OSTRANDER  
JOHN WAYNE OSTRANDER  
PHYLLIS JEAN OSTRANDER  
LINDA S. OSTRANDER  
CHAD L. CUNNINGHAM  
JEFFREY H. CUNNINGHAM  
SHARON HEATH

TAX MAP NO.  
13-0014-0046-0001-0000  
ASSESSED ACREAGE = 1.47 AC.

SURFACE & MINERAL OWNERS:  
BOWIE, CHRISTOPHER E.

TAX MAP NO.  
13-0014-0041-0000-0000  
ASSESSED ACREAGE = 6.73 AC.

SURFACE & MINERAL OWNERS:  
ROSS, JASON C. & MELISSA S.

TAX MAP NO.  
13-0014-0046-0000-0000  
ASSESSED ACREAGE = 38.409 AC.

SURFACE & MINERAL OWNERS:  
HULL, JUSTIN ANDREW

TAX MAP NO.  
13-0014-0041-0002-0000  
ASSESSED ACREAGE = 1.08 AC.

SURFACE & MINERAL OWNERS:  
HOLMES, THOMAS J. & CHRISTINE M.

TAX MAP NO.  
13-0014-0041-0005-0000  
ASSESSED ACREAGE = 1.28 AC.

SURFACE OWNERS:  
DAGUE, WILLIAM D. & ANN R.

MINERAL OWNERS:  
KATHY J. YANNERELLA

TAX MAP NO.  
13-0014-0041-0004-0000  
ASSESSED ACREAGE = 1.55 AC.

SURFACE & MINERAL OWNERS:  
ROSS, JASON C. & MELISSA S.

TAX MAP NO.  
13-0014-0041-0003-0000  
ASSESSED ACREAGE = 1.77 AC.

SURFACE & MINERAL OWNERS:  
SCHERRER, EUGENE A. JR.

TAX MAP NO.  
13-0014-0046-0003-0000  
ASSESSED ACREAGE = 1.726 AC.

SURFACE & MINERAL OWNERS:  
OWENS, DAVID N. & PATRICIA A.

TAX MAP NO.  
13-0014-0043-0001-0000  
ASSESSED ACREAGE = 1.02 AC.

SURFACE & MINERAL OWNERS:  
OWENS, DAVID N. & PATRICIA A.

TAX MAP NO.  
13-0014-0043-0003-0000  
ASSESSED ACREAGE = 0.59 AC.

SURFACE & MINERAL OWNERS:  
HULL, JUSTIN ANDREW

TAX MAP NO.  
14-0005-0024-0002-0000  
ASSESSED ACREAGE = 4.28 AC.

SURFACE OWNERS:  
WOODS, JOHN E. SR. & FRANCES J.

MINERAL OWNERS:  
CARL E. JR. KOONTZ  
CATHY A. EBERT  
BONNIE J. MASTERS  
JOYCE E. GEORGE  
VICKI Y. WRIGHT  
MEGAN S. LAKE  
HELEN M. KOONTZ  
GLEN O. RICHMOND

JOHN E., SR. & FRANCES J. WOODS

TAX MAP NO.  
13-0014-0043-0002-0000  
ASSESSED ACREAGE = 3.82 AC.

SURFACE & MINERAL OWNERS:  
DAVID L. SNYDER (LIFE ESTATE)  
JILL ANN BEVERIDGE (REMAINDERMAN)

TAX MAP NO.  
13-0014-0043-0001-0000  
ASSESSED ACREAGE = 8.23 AC.

SURFACE & MINERAL OWNERS:  
SMITH, MAXINE

TAX MAP NO.  
13-0014-0043-0000-0000  
ASSESSED ACREAGE = 31.065 AC.

SURFACE & MINERAL OWNERS:  
HULL, JUSTIN ANDREW

TAX MAP NO.  
14-0004-0015-0003-0000  
ASSESSED ACREAGE = 29.38 AC.

SURFACE & MINERAL OWNERS:  
COLE, ELAINE

TAX MAP NO.  
14-0004-0016-0000-0000  
ASSESSED ACREAGE = 42.86 AC.

SURFACE & MINERAL OWNERS:  
GEORGE E. & BONNIE BETH BERTRAM

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



DATE: November 14, 2018 - REV - December 13, 2018

OPERATOR'S WELL #: CASTERLY ROCK-5UH

API WELL # 47 051 02071  
STATE COUNTY PERMIT

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COUNTY/DISTRICT: MARSHALL / UNION QUADRANGLE: MOUNDSVILLE, WV

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03/29/2019

**14** TAX MAP NO. 14-0005-0001-0001-0000  
ASSESSED ACREAGE: 6.17 ACRES  
SURFACE OWNERS:  
SMITH, MAXINE  
MINERAL OWNERS:  
SMITH, MAXINE

**15** TAX MAP NO. 14-0005-0003-0000-0000  
ASSESSED ACREAGE: 6.077 ACRES  
SURFACE OWNERS:  
KARR, MARGUERITE P. - LIFE  
MINERAL OWNERS:  
BETTY V., REMAINDERMAN WORKMAN  
MARGUERITE P., LIFE ESTATE KARR

**16** TAX MAP NO. 14-0005-0004-0000-0000  
ASSESSED ACREAGE: 6.16 ACRES  
SURFACE OWNERS:  
HART, JUSTIN M. & SARAH J.  
MINERAL OWNERS:  
JAMES E. CURRY

**17** TAX MAP NO. 14-0005-0005-0000-0000  
7.12 ACRES  
SURFACE OWNERS:  
FECAT, DANIEL & SHERRY  
MINERAL OWNERS:  
TERESA ANN MCCOLEY

**18** TAX MAP NO. 14-0005-0002-0000-0000  
ASSESSED ACREAGE: 2.49 ACRES  
SURFACE OWNERS:  
WORKMAN, BETTY V.  
MINERAL OWNERS:  
BETTY V., REMAINDERMAN WORKMAN  
MARGUERITE P., LIFE ESTATE KARR

**19** TAX MAP NO. 14-0005-0001-0000-0000  
ASSESSED ACREAGE: 3.36 ACRES  
SURFACE OWNERS:  
SMITH, MAXINE  
MINERAL OWNERS:  
SIMPSON METHODIST CHURCH  
AMERICAN HEART ASSOCIATION, INC.  
CHEVRON  
SALVATION ARMY, MOUNDSVILLE, CORPS  
WESBANCO BANK, INC., TRUSTEE

**20** TAX MAP NO. 14-0005-0024-0005-0000  
ASSESSED ACREAGE: 6.86 ACRES  
SURFACE OWNERS:  
COFFIELD, DIANNA L. KOONTZ & JACK W.  
MINERAL OWNERS:  
CARL E., JR. KOONTZ  
CATHY A. EBERT  
BONNIE J. MASTERS  
VICKI Y. WRIGHT  
MEGAN S. LAKE  
DIANNA LOU COFFIELD  
GLEN O. RICHMOND  
JOYCE E. GEORGE  
HELEN M. KOONTZ

**21** TAX MAP NO. 13-0014-0035-0000-0000  
ASSESSED ACREAGE: 0.325 ACRES  
SURFACE OWNERS:  
THOMAS J. JR. & KATHY ANN WEST  
MINERAL OWNERS:  
THOMAS J. JR. & KATHY ANN WEST

**22** TAX MAP NO. 13-0014-0036-0000-0000  
ASSESSED ACREAGE: 0.51 ACRES  
SURFACE OWNERS:  
THOMAS J. JR. & KATHY ANN WEST  
MINERAL OWNERS:  
THOMAS J. JR. & KATHY ANN WEST

**23** TAX MAP NO. 13-0014-0037-0000-0000  
ASSESSED ACREAGE: 0.93 ACRES  
SURFACE OWNERS:  
CHRISTINA H. GUMP  
MINERAL OWNERS:  
CHRISTINA H. GUMP

**24** TAX MAP NO. 13-0014-0045-0000-0000  
ASSESSED ACREAGE: 2.62 ACRES  
SURFACE OWNERS:  
WALTER R. & LYNN ANNE YATES  
MINERAL OWNERS:  
WALTER R. & LYNN ANNE YATES

**25** TAX MAP NO. 13-0014-0044-0000-0000  
ASSESSED ACREAGE: 1.982 ACRES  
SURFACE OWNERS:  
BEVERAGE, JILL ANN  
MINERAL OWNERS:  
DAVID L. (LIFE ESTATE) & JILL ANN (REMAINDERMAN)  
SNYDER & BEVERIDGE

**26** TAX MAP NO. 13-0014-0040-0000-0000  
ASSESSED ACREAGE: 0.75 ACRES  
SURFACE OWNERS:  
BEVERAGE, JILL ANN  
MINERAL OWNERS:  
DAVID L. (LIFE ESTATE) & JILL ANN (REMAINDERMAN)  
SNYDER, BEVERIDGE

**27** TAX MAP NO. 13-0014-0038-0000-0000  
ASSESSED ACREAGE: 10.02 ACRES  
SURFACE OWNERS:  
DANA F. & VINCENT WALTER, LORETTO  
MINERAL OWNERS:  
DANA F. & VINCENT WALTER, LORETTO

**28** TAX MAP NO. 13-0014-0038-0004-0000  
ASSESSED ACREAGE: 0.54 ACRES  
SURFACE OWNERS:  
CARROLYN A. SMITH  
MINERAL OWNERS:  
CARROLYN A. SMITH

**29** TAX MAP NO. 13-0014-0038-0003-0000  
ASSESSED ACREAGE: 0.80 ACRES  
SURFACE OWNERS:  
MARTIN O. & TERRI L. HEWITT  
MINERAL OWNERS:  
MARTIN O. & TERRI L. HEWITT

**30** TAX MAP NO. 13-0014-0039-0000-0000  
ASSESSED ACREAGE: 2.06 ACRES  
SURFACE OWNERS:  
JOSEPH P. HOWARD  
MINERAL OWNERS:  
JOSEPH P. HOWARD

**31** TAX MAP NO. 14-0005-0024-0001-0000  
ASSESSED ACREAGE: 1.00 ACRES  
SURFACE OWNERS:  
KOONTZ, CARL E. JR.  
MINERAL OWNERS:  
BONNIE J. MASTERS  
CATHY A. EBERT  
CARL E. JR. KOONTZ

**32** TAX MAP NO. 14-0005-0024-0003-0000  
ASSESSED ACREAGE: 3.54 ACRES  
SURFACE OWNERS:  
KOONTZ, JOHN R.  
MINERAL OWNERS:  
CARL E. JR. KOONTZ  
APP MINERALS, LLC  
CATHY A. EBERT  
BONNIE J. MASTERS  
LINDA J. KOONTZ  
DIANNA LOU COFFIELD  
JOHN R. KOONTZ  
GLEN O. RICHMOND  
JOYCE E. GEORGE  
HELEN M. KOONTZ

**33** TAX MAP NO. 14-0005-0024-0004-0000  
ASSESSED ACREAGE: 0.31 ACRES  
SURFACE OWNERS:  
COFFIELD, DIANNA L.  
MINERAL OWNERS:  
CARL E., JR. KOONTZ  
APP MINERALS, LLC  
CATHY A. EBERT  
BONNIE J. MASTERS  
VICKI Y. WRIGHT  
MEGAN S. LAKE  
LINDA J. KOONTZ  
DIANNA LOU COFFIELD  
JOHN R. KOONTZ  
GLEN O. RICHMOND  
JOYCE E. GEORGE  
HELEN M. KOONTZ

**34** TAX MAP NO. 14-0005-0024-0000-0000  
ASSESSED ACREAGE: 72.097 ACRES  
SURFACE OWNERS:  
KOONTZ, CARL E. SR. EST.  
MINERAL OWNERS:  
APP MINERALS, LLC  
LINDA J. KOONTZ  
DIANNA KOONTZ COFFIELD  
JOHN R. KOONTZ  
BONNIE J. MASTERS  
CATHY A. EBERT  
CARL E. JR. KOONTZ

**35** TAX MAP NO. 14-0005-0037-0000-0000  
ASSESSED ACREAGE: 72.63 ACRES  
SURFACE OWNERS:  
THE RICHARD H. FRANCIS TRUST  
MINERAL OWNERS:  
LISA JANE FRANCIS, TRUSTEE, OR ANY SUCCESSORS IN TRUST, UNDER  
THE RICHARD H. FRANCIS TRUST DATED JULY 01, 2015 AND ANY  
AMENDMENTS THERETO

**36** TAX MAP NO. 14-0005-0036-0000-0000  
ASSESSED ACREAGE: 31.71 ACRES  
SURFACE OWNERS:  
DANIEL EDWARD TATICH IRREVOCABLE TRUST  
MINERAL OWNERS:  
DANIEL EDWARD TATICH, TRUSTEE OF THE DANIEL EDWARD TATICH  
IRREVOCABLE TRUST DATED APRIL 27, 2016

(+) DENOTES LOCATION OF  
WELL ON UNITED STATES  
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03/29/2019

TAX MAP NO.  
14-0005-0038-0005-0000  
ASSESSED ACREAGE: 0.30 ACRES

SURFACE OWNERS:  
DANA F. WALTER

MINERAL OWNERS:  
DANA F. WALTER

TAX MAP NO.  
14-0005-0040-0000-0000  
ASSESSED ACREAGE: 3.00 ACRES

SURFACE OWNERS:  
LIMESTONE COMMUNITY ASSOC INC.

MINERAL OWNERS:  
LIMESTONE COMMUNITY VOLUNTEER FIRE DEPARTMENT

TAX MAP NO.  
14-0005-0009-0004-0000  
ASSESSED ACREAGE: 0.78 ACRES

SURFACE OWNERS:  
HART, JOHN JOSEPH, ET UX.

MINERAL OWNERS:  
JOHN J. & RENEE HART  
CATHY B. MARIN AND DENNIS MARIN  
WILLIAM J. OKEL DECLARATION OF TRUST DATED MARCH 20, 2008  
MARCIA MERCER

TAX MAP NO.  
14-0005-0038-0004-0000  
ASSESSED ACREAGE: 0.37 ACRES

SURFACE OWNERS:  
DANA F. WALTER

MINERAL OWNERS:  
DANA F. WALTER

TAX MAP NO.  
14-0005-0009-0003-0000  
ASSESSED ACREAGE: 21.37 ACRES

SURFACE OWNERS:  
HART, JOHN JOSEPH, ET UX.

MINERAL OWNERS:  
JOHN J. & RENEE HART  
CATHY B. MARIN AND DENNIS MARIN  
WILLIAM J. OKEL DECLARATION OF TRUST DATED MARCH 20, 2008  
MARCIA MERCER

TAX MAP NO.  
14-0005-0009-0000-0000  
ASSESSED ACREAGE: 1.61 ACRES

SURFACE OWNERS:  
HART, JOHN JOSEPH & RENEE

MINERAL OWNERS:  
JOHN J. & RENEE HART  
CATHY B. MARIN AND DENNIS MARIN  
WILLIAM J. OKEL DECLARATION OF TRUST DATED MARCH 20, 2008  
MARCIA MERCER

TAX MAP NO.  
14-0005-0038-0003-0000  
ASSESSED ACREAGE: 0.40 ACRES

SURFACE OWNERS:  
MARTIN C. & SUSAN A. BANE

MINERAL OWNERS:  
MARTIN C. & SUSAN A. BANE

TAX MAP NO.  
14-0005-0009-0002-0000  
ASSESSED ACREAGE: 0.30 ACRES

SURFACE OWNERS:  
ALLEN, JAMES RONALD, ET UX.

MINERAL OWNERS:  
JOHN JOSEPH HART  
CATHY B. MARIN AND DENNIS MARIN  
WILLIAM J. OKEL DECLARATION OF TRUST DATED MARCH 20, 2008  
MARCIA MERCER

TAX MAP NO.  
14-0005-0006-0001-0000  
ASSESSED ACREAGE: 1.083 ACRES

SURFACE OWNERS:  
BAKER, MERTIE M

MINERAL OWNERS:  
MERTIE M. BAKER

TAX MAP NO.  
14-0005-0038-0002-0000  
ASSESSED ACREAGE: 0.25 ACRES

SURFACE OWNERS:  
MARTIN C. & SUSAN A. BANE

MINERAL OWNERS:  
MARTIN C. & SUSAN A. BANE

TAX MAP NO.  
14-0005-0011-0003-0000  
ASSESSED ACREAGE: 1.19 ACRES

SURFACE OWNERS:  
TURNER, BETTY I., EST

MINERAL OWNERS:  
MARY LEE HIGBY

TAX MAP NO.  
14-0005-0018-0000-0000  
ASSESSED ACREAGE: 3.36 ACRES

SURFACE OWNERS:  
WORKMAN, JOHN D., ET UX

MINERAL OWNERS:  
JOHN D. & BETTY V. WORKMAN

TAX MAP NO.  
14-0005-0038-0000-0000  
ASSESSED ACREAGE: 0.47 ACRES

SURFACE OWNERS:  
MARTIN C. & SUSAN A. BANE

MINERAL OWNERS:  
MARTIN C. & SUSAN A. BANE

TAX MAP NO.  
14-0005-0011-0002-0000  
ASSESSED ACREAGE: 1.43 ACRES

SURFACE OWNERS:  
TURNER, BETTY I., EST

MINERAL OWNERS:  
MARY LEE HIGBY

TAX MAP NO.  
14-0005-0021-0000-0000  
ASSESSED ACREAGE: 2.15 ACRES

SURFACE OWNERS:  
HOLMES, RONALD & AGNES MARLENE

MINERAL OWNERS:  
AGNES MARLENE HOLMES

TAX MAP NO.  
14-0005-0038-0001-0000  
ASSESSED ACREAGE: 0.47 ACRES

SURFACE OWNERS:  
MARTIN C. & SUSAN A. BANE

MINERAL OWNERS:  
MARTIN C. & SUSAN A. BANE

TAX MAP NO.  
14-0005-0009-0001-0000  
ASSESSED ACREAGE: 2.90 ACRES

SURFACE OWNERS:  
HART, JOHN JOSEPH, ET UX.

MINERAL OWNERS:  
JOHN J. & RENEE HART  
CATHY B. MARIN AND DENNIS MARIN  
WILLIAM J. OKEL DECLARATION OF TRUST DATED MARCH 20, 2008  
MARCIA MERCER

TAX MAP NO.  
14-0005-0020-0000-0000  
ASSESSED ACREAGE: 1.57 ACRES

SURFACE OWNERS:  
HOLMES, RONALD & AGNES MARLENE

MINERAL OWNERS:  
SIMPSON METHODIST CHURCH  
AMERICAN HEART ASSOCIATION  
CHEVRON  
SALVATION ARMY, MOUNDSVILLE CORPS  
WESBANCO BANK, INC., TRUSTEE

TAX MAP NO.  
14-0005-0038-0000-0000  
ASSESSED ACREAGE: 5.78 ACRES

SURFACE OWNERS:  
SAMUEL R. & ANGELA R. DERROW

MINERAL OWNERS:  
SAMUEL R. & ANGELA R. DERROW

TAX MAP NO.  
14-0005-0010-0000-0000  
ASSESSED ACREAGE: 0.43 ACRES

SURFACE OWNERS:  
HART, JOHN JOSEPH, ET UX.

MINERAL OWNERS:  
JOHN JOSEPH & RENEE ANNETTE HART  
CATHY B. MARIN AND DENNIS MARIN  
WILLIAM J. OKEL DECLARATION OF TRUST DATED MARCH 20, 2008  
MARCIA MERCER

TAX MAP NO.  
14-0005-0018-0003-0000  
ASSESSED ACREAGE: 0.74 ACRES

SURFACE OWNERS:  
ROBERT E., JR. GAMES

MINERAL OWNERS:  
ROBERT E., JR. GAMES

TAX MAP NO.  
14-0005-0038-0001-0000  
ASSESSED ACREAGE: 21.79 ACRES

SURFACE OWNERS:  
PENNY S. & RAYMOND D. BISHOP

MINERAL OWNERS:  
PENNY S. & RAYMOND D. BISHOP

TAX MAP NO.  
14-0005-0011-0004-0000  
ASSESSED ACREAGE: 0.30 ACRES

SURFACE OWNERS:  
HARRY LODGE GALLOWAY

MINERAL OWNERS:  
HARRY LODGE GALLOWAY

TAX MAP NO.  
14-0005-0018-0002-0000  
ASSESSED ACREAGE: 0.80 ACRES

SURFACE OWNERS:  
MARK C. & LOIS A. EDISON

MINERAL OWNERS:  
MARK C. & LOIS A. EDISON

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



DATE: November 14, 2018 - REV - December 13, 2018

OPERATOR'S WELL #: CASTERLY ROCK-5UH **HGA**

API WELL # 47 051 02071  
STATE COUNTY PERMIT

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

WATERSHED: SHORT CREEK - OHIO RIVER ELEVATION: 1,338.53'

COUNTY/DISTRICT: MARSHALL / UNION QUADRANGLE: MOUNDSVILLE, WV

SURFACE OWNER: LESLIE B. & LORI D. SCHABER ACREAGE: 73.79

OIL & GAS ROYALTY OWNER: CAROL A. WENSYEL A/K/A CAROL A. MILLER, ACTING AS TRUSTEE FOR THE CAROL A. WENSYEL IRREVOCABLE TRUST DATED OCTOBER 28, 2010

AND JOHN F. MILLER, SR. TRUSTEE OF THE JOHN F. MILLER, SR. IRREVOCABLE TRUST, DATED OCTOBER 28, 2010. TRUST ACREAGE: 73.79

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

TARGET FORMATION: POINT PLEASANT ESTIMATED DEPTH: TVD: 11,395' ± TMD: 20,754' ±

WELL OPERATOR: AMERICAN PETROLEUM PARTNERS OPERATING, LLC DESIGNATED AGENT: STEVEN GREEN

Address: 4600 J. BARRY COURT, SUITE 310 Address: 300 SUMMERS ST, SUITE 1000

City: CANONSBURG State: PA Zip Code: 15317 City: CHARLESTON State: WV Zip Code: 25301



03/29/2019

TAX MAP NO.  
14-0005-0019-0000-0000  
ASSESSED ACREAGE: 1.14 ACRES

SURFACE OWNERS:  
LONG, EVAN M.

MINERAL OWNERS:  
LONG, EVAN M.

TAX MAP NO.  
14-0005-0022-0000-0000  
ASSESSED ACREAGE: 3.62 ACRES

SURFACE OWNERS:  
HOLMES, RONALD & AGNES MARLENE

MINERAL OWNERS:  
AGNES MARLENE HOLMES

TAX MAP NO.  
14-0005-0023-0000-0000  
ASSESSED ACREAGE: 5.039 ACRES

SURFACE OWNERS:  
MARK ALLEN & LINDA J. SMITH

MINERAL OWNERS:  
MARK ALLEN & LINDA J. SMITH

TAX MAP NO.  
14-0005-0017-0000-0000  
ASSESSED ACREAGE: 1.41 ACRES

SURFACE OWNERS:  
DACODA BOLES

MINERAL OWNERS:  
DACODA BOLES

TAX MAP NO.  
14-0005-0016-0000-0000  
ASSESSED ACREAGE: 1.49 ACRES

SURFACE OWNERS:  
WILLIAM H., II DIPPEL

MINERAL OWNERS:  
WILLIAM H., II DIPPEL

TAX MAP NO.  
14-0005-0015-0000-0000  
ASSESSED ACREAGE: 1.53 ACRES

SURFACE OWNERS:  
JASON W. & AMANDA K. JOHNSON

MINERAL OWNERS:  
JASON W. & AMANDA K. JOHNSON

TAX MAP NO.  
14-0005-0014-0000-0000  
ASSESSED ACREAGE: 1.18 ACRES

SURFACE OWNERS:  
DOLIN, TODD E. II

MINERAL OWNERS:  
ROGER DAVID & JUDY LYNN WHIPKEY

TAX MAP NO.  
14-0005-0013-0000-0000  
ASSESSED ACREAGE: 1.74 ACRES

SURFACE OWNERS:  
WHIPKEY, ROGER & DEBORAH D.

MINERAL OWNERS:  
ROGER DAVID & JUDY LYNN WHIPKEY

TAX MAP NO.  
14-0005-0012-0000-0000  
ASSESSED ACREAGE: 1.24 ACRES

SURFACE OWNERS:  
MELINDA MURPHY

MINERAL OWNERS:  
MELINDA MURPHY

TAX MAP NO.  
14-0005-0011-0001-0000  
ASSESSED ACREAGE: 1.34 ACRES

SURFACE OWNERS:  
MELINDA MURPHY

MINERAL OWNERS:  
MELINDA MURPHY

TAX MAP NO.  
14-0005-0011-0000-0000  
ASSESSED ACREAGE: 4.72 ACRES

SURFACE OWNERS:  
HARRY LODGE GALLOWAY

MINERAL OWNERS:  
HARRY LODGE GALLOWAY

TAX MAP NO.  
14-0005-0037-0001-0000  
ASSESSED ACREAGE: 3.06 ACRES

SURFACE OWNERS:  
FRANCIS, RICHARD H.

MINERAL OWNERS:  
LISA JANE FRANCIS, TRUSTEE, OR ANY SUCCESSORS IN TRUST, UNDER THE RICHARD H. FRANCIS TRUST DATED JULY 01, 2015 AND ANY AMENDMENTS THERETO

TAX MAP NO.  
14-0005-0036-0002-0000  
ASSESSED ACREAGE: 0.59 ACRES

SURFACE OWNERS:  
THE RICHARD H. FRANCIS TRUST

MINERAL OWNERS:  
LISA JANE FRANCIS, TRUSTEE, OR ANY SUCCESSORS IN TRUST, UNDER THE RICHARD H. FRANCIS TRUST DATED JULY 01, 2015 AND ANY AMENDMENTS THERETO

TAX MAP NO.  
14-0004-0017-0000-0000  
ASSESSED ACREAGE: 1.64 ACRES

SURFACE OWNERS:  
MAXINE SMITH

MINERAL OWNERS:  
MAXINE SMITH

TAX MAP NO.  
99-9999-9999-9999-9999  
P/O STATE ROUTE 88 & US ROUTE 250  
ACREAGE: 10.80 ACRES

SURFACE OWNERS:  
STATE OF WEST VIRGINIA

MINERAL OWNERS:  
STATE OF WEST VIRGINIA

TAX MAP NO.  
13-0013-0011-0003-0000  
ASSESSED ACREAGE = 6.95 AC.

SURFACE OWNERS:  
W. JAMES SHANNON

MINERAL OWNERS:  
W. JAMES SHANNON

TAX MAP NO.  
13-0013-0012-0000-0000  
ASSESSED ACREAGE = 5.10 AC.

SURFACE OWNERS:  
W. JAMES SHANNON

MINERAL OWNERS:  
MARGARET A. & LLOYD E. JR. WALKER

TAX MAP NO.  
13-0013-0014-0000-0000  
ASSESSED ACREAGE = 3.61 AC.

SURFACE OWNERS:  
MICHAEL L. ANDERSON

MINERAL OWNERS:  
MICHAEL L. ANDERSON

TAX MAP NO.  
13-0013-0016-0000-0000  
ASSESSED ACREAGE = 0.53 AC.

SURFACE OWNERS:  
RUSSELL E. & MICHELE L. GODDARD

MINERAL OWNERS:  
RUSSELL E. & MICHELE L. GODDARD

TAX MAP NO.  
13-0014-0048-0002-0000  
ASSESSED ACREAGE = 0.84 AC.

SURFACE OWNERS:  
KOONTZ, RICHARD

MINERAL OWNERS:  
HELEN M. KOONTZ

TAX MAP NO.  
13-0014-0048-0002-0000  
ASSESSED ACREAGE = 0.84 AC.

SURFACE OWNERS:  
KOONTZ, RICHARD

MINERAL OWNERS:  
LATRICIA ROSE TRIGG  
CAROLYN M. PIATT  
JOHN WAYNE OSTRANDER  
ROBERT LEE OSTRANDER  
JESS BLAINE, JR. OSTRANDER  
PHYLLIS JEAN OSTRANDER  
LINDA S. OSTRANDER  
SHARON HEATH  
HELEN M. KOONTZ

TAX MAP NO.  
13-0014-0048-0001-0000  
ASSESSED ACREAGE = 0.24 AC.

SURFACE OWNERS:  
TOYA A. CUNNINGHAM

MINERAL OWNERS:  
INDEPENDENT ORDER OF ODD FELLOWS 9 WHEELING LODGE

TAX MAP NO.  
13-0014-0048-0001-0000  
ASSESSED ACREAGE = 0.24 AC.

SURFACE OWNERS:  
TOYA A. CUNNINGHAM

MINERAL OWNERS:  
LATRICIA TRIGG  
CAROLYN M. PIATT  
ROBERT LEE OSTRANDER  
JESS BLAINE, JR. OSTRANDER  
JOHN WAYNE OSTRANDER  
PHYLLIS JEAN OSTRANDER  
LINDA S. OSTRANDER  
SHARON HEATH  
LORRAINE E. HARTWELL

TAX MAP NO.  
13-0014-0048-0001-0000  
ASSESSED ACREAGE = 0.24 AC.

SURFACE OWNERS:  
TOYA A. CUNNINGHAM

MINERAL OWNERS:  
TOYA A. CUNNINGHAM

TAX MAP NO.  
13-0014-0047-0000-0000  
ASSESSED ACREAGE = 1.57 AC.

SURFACE OWNERS:  
CUNNINGHAM, CHAD

MINERAL OWNERS:  
LATRICIA TRIGG  
CAROLYN M. PIATT  
ROBERT LEE OSTRANDER  
JESS BLAINE, JR. OSTRANDER  
JOHN WAYNE OSTRANDER  
PHYLLIS JEAN OSTRANDER  
LINDA S. OSTRANDER  
CHAD L. CUNNINGHAM  
SHARON HEATH

TAX MAP NO.  
13-0014-0048-0000-0000  
ASSESSED ACREAGE = 0.96 AC.

SURFACE OWNERS:  
RANDALL C. & DONNA C. SCOTT

MINERAL OWNERS:  
RANDALL C. & DONNA C. SCOTT

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



DATE: November 14, 2018 - REV - December 13, 2018

OPERATOR'S WELL #: CASTERLY ROCK-5UH

API WELL # 47 051 02071  
STATE COUNTY PERMIT

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

WATERSHED: SHORT CREEK - OHIO RIVER ELEVATION: 1,338.53'

COUNTY/DISTRICT: MARSHALL / UNION QUADRANGLE: MOUNDVILLE, WV

SURFACE OWNER: LESLIE B. & LORI D. SCHABER ACREAGE: 73.79

OIL & GAS ROYALTY OWNER: CAROL A. WENSYEL A/K/A CAROL A. MILLER, ACTING AS TRUSTEE FOR THE CAROL A. WENSYEL IRREVOCABLE TRUST DATED OCTOBER 28, 2010 AND JOHN F. MILLER, SR. TRUSTEE OF THE JOHN F. MILLER, SR. IRREVOCABLE TRUST, DATED OCTOBER 28, 2010. TRUST ACREAGE: 73.79

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

TARGET FORMATION: POINT PLEASANT ESTIMATED DEPTH: TVD: 11,395' ± TMD: 20,754' ±

WELL OPERATOR: AMERICAN PETROLEUM PARTNERS OPERATING, LLC DESIGNATED AGENT: STEVEN GREEN

Address: 4600 J. BARRY COURT, SUITE 310 Address: 300 SUMMERS ST, SUITE 1000

City: CANONSBURG State: PA Zip Code: 15317 City: CHARLESTON State: WV Zip Code: 25301

03/29/2019

**1000** TAX MAP NO.  
13-0014-0048-0000-0000  
ASSESSED ACREAGE = 0.96 AC.  
SURFACE OWNERS:  
RANDALL C. & DONNA C. SCOTT  
MINERAL OWNERS:  
LATRICIA ROSE TRIGG  
RANDALL C. & DONNA C. SCOTT  
CAROLYN M. PIATT  
ROBERT LEE OSTRANDER  
JESS BLAINE, JR. OSTRANDER  
JOHN WAYNE OSTRANDER  
PHYLLIS JEAN OSTRANDER  
LINDA S. OSTRANDER  
SHARON HEATH

**100A** TAX MAP NO.  
13-0014-0049-0000-0000  
ASSESSED ACREAGE = 0.40 AC.  
SURFACE OWNERS:  
DARYL J. GRAY  
MINERAL OWNERS:  
DARYL J. GRAY

**100B** TAX MAP NO.  
13-0014-0049-0000-0000  
ASSESSED ACREAGE = 0.40 AC.  
SURFACE OWNERS:  
DARYL J. GRAY  
MINERAL OWNERS:  
LATRICIA TRIGG  
CAROLYN M. PIATT  
ROBERT LEE OSTRANDER  
JESS BLAINE, JR. OSTRANDER  
JOHN WAYNE OSTRANDER  
PHYLLIS JEAN OSTRANDER  
LINDA S. OSTRANDER  
SHARON HEATH  
LORRAINE E. HARTWELL

**101** TAX MAP NO.  
13-0014-0032-0000-0000  
ASSESSED ACREAGE = 12.70 AC.  
SURFACE OWNERS:  
GRAYDON H., III HENRY  
MINERAL OWNERS:  
GRAYDON H., III HENRY

**102** TAX MAP NO.  
13-0014-0046-0002-0000  
ASSESSED ACREAGE = 0.63 AC.  
SURFACE OWNERS:  
FERDA, BRIAN T., ET AL.  
MINERAL OWNERS:  
SAMUEL F. HENRY

**103** TAX MAP NO.  
13-0014-0033-0000-0000  
ASSESSED ACREAGE = 7.18 AC.  
SURFACE OWNERS:  
KAREN K. OLDFIELD  
MINERAL OWNERS:  
KAREN K. OLDFIELD

**104** TAX MAP NO.  
13-0014-0034-0001-0000  
ASSESSED ACREAGE = 0.158 AC.  
SURFACE OWNERS:  
THOMAS J., JR. & KATHY ANN WEST  
MINERAL OWNERS:  
THOMAS J., JR. & KATHY ANN WEST

**105** TAX MAP NO.  
13-0014-0034-0000-0000  
ASSESSED ACREAGE = 12.39 AC.  
SURFACE OWNERS:  
GUNTO, CARL M., ET UX.  
MINERAL OWNERS:  
MARY MARDELL ROGERSON, TRUSTEE OF THE MARY M.  
ROGERSON IRREVOCABLE TRUST DATED SEPTEMBER 1, 2010  
JAMES ROGERSON  
JEFFREY ROGERSON  
TINA M. TORDELLA  
CAROL ANNE WENSYL

**106** TAX MAP NO.  
13-0014-0038-0002-0000  
ASSESSED ACREAGE = 15.42 AC.  
SURFACE OWNERS:  
FOSTER, CHARLES S., ET UX.  
MINERAL OWNERS:  
RESOURCE MINERALS HEADWATER I, LP

**107** TAX MAP NO.  
13-0014-0038-0001-0000  
ASSESSED ACREAGE = 36.24 AC.  
SURFACE OWNERS:  
CHARLES S. & BRENDA K. FOSTER  
MINERAL OWNERS:  
CHARLES S. & BRENDA K. FOSTER

**108** TAX MAP NO.  
14-0005-0024-0006-0000  
ASSESSED ACREAGE = 0.71 AC.  
SURFACE OWNERS:  
WILSON, ROBERT J. & REBECCA S.  
MINERAL OWNERS:  
APP MINERALS, LLC  
DIANNA KOONTZ COFFIELD  
JOHN R. KOONTZ  
LINDA J. KOONTZ  
CATHY A. & DONALD F. EBERT  
CARL, JR. & SONDRON J. KOONTZ  
BONNIE J. MASTERS

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



DATE: November 14, 2018 - REV - December 13, 2018

OPERATOR'S WELL #: CASTERLY ROCK-5UH *HGA*

API WELL # 47 051 02071  
STATE COUNTY PERMIT

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

WATERSHED: SHORT CREEK - OHIO RIVER ELEVATION: 1,338.53'

COUNTY/DISTRICT: MARSHALL / UNION QUADRANGLE: MOUNDSVILLE, WV

SURFACE OWNER: LESLIE B. & LORI D. SCHABER ACREAGE: 73.79

OIL & GAS ROYALTY OWNER: CAROL A. WENSYEL A/K/A CAROL A. MILLER, ACTING AS TRUSTEE FOR THE CAROL A. WENSYEL IRREVOCABLE TRUST DATED OCTOBER 28, 2010  
AND JOHN F. MILLER, SR. TRUSTEE OF THE JOHN F. MILLER, SR. IRREVOCABLE TRUST, DATED OCTOBER 28, 2010. TRUST ACREAGE: 73.79

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

TARGET FORMATION: POINT PLEASANT ESTIMATED DEPTH: TVD: 11,395' ± TMD: 20,754' ±

WELL OPERATOR: AMERICAN PETROLEUM PARTNERS OPERATING, LLC DESIGNATED AGENT: STEVEN GREEN

Address: 4600 J. BARRY COURT, SUITE 310 Address: 300 SUMMERS ST, SUITE 1000

City CANONSBURG State PA Zip Code 15317 City CHARLESTON State WV Zip Code 25301

FORCE PULL TRACTS

**35** TAX MAP NO.  
14-0005-0001-0000-0000  
ASSESSED ACREAGE: 3.36 ACRES

SURFACE OWNERS:  
SMITH, MAXINE

MINERAL OWNERS:  
SIMPSON METHODIST CHURCH  
AMERICAN HEART ASSOCIATION, INC.  
CHEVRON  
SALVATION ARMY, MOUNDSVILLE, CORPS  
WESBANCO BANK, INC., TRUSTEE

**74** TAX MAP NO.  
14-0005-0020-0000-0000  
ASSESSED ACREAGE: 1.87 ACRES

SURFACE OWNERS:  
HOLMES, RONALD & AGNES MARLENE

MINERAL OWNERS:  
SIMPSON METHODIST CHURCH  
AMERICAN HEART ASSOCIATION  
CHEVRON  
SALVATION ARMY, MOUNDSVILLE CORPS  
WESBANCO BANK, INC., TRUSTEE

**95A** TAX MAP NO.  
13-0014-0048-0002-0000  
ASSESSED ACREAGE = 0.84 AC.

SURFACE OWNERS:  
KOONTZ, RICHARD

MINERAL OWNERS:  
HELEN M. KOONTZ

**95B** TAX MAP NO.  
13-0014-0048-0002-0000  
ASSESSED ACREAGE = 0.84 AC.

SURFACE OWNERS:  
KOONTZ, RICHARD

MINERAL OWNERS:  
LATRICIA ROSE TRIGG  
CAROLYN M. PIATT  
JOHN WAYNE OSTRANDER  
ROBERT LEE OSTRANDER  
JESS BLAINE, JR. OSTRANDER  
PHYLLIS JEAN OSTRANDER  
LINDA S. OSTRANDER  
SHARON HEATH  
HELEN M. KOONTZ

**102** TAX MAP NO.  
13-0014-0048-0002-0000  
ASSESSED ACREAGE = 0.83 AC.

SURFACE OWNERS:  
FERDA, BRIAN T., ET AL.

MINERAL OWNERS:  
SAMUEL F. HENRY

**107** TAX MAP NO.  
13-0014-0038-0001-0000  
ASSESSED ACREAGE = 36.24 AC.

SURFACE OWNERS:  
CHARLES S. & BRENDA K. FOSTER

MINERAL OWNERS:  
CHARLES S. & BRENDA K. FOSTER

03/29/2019

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



DATE: November 14, 2018 - REV - December 13, 2018

OPERATOR'S WELL #: CASTERLY ROCK-5UH

API WELL # 47 051 02071  
STATE COUNTY PERMIT

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

WATERSHED: SHORT CREEK - OHIO RIVER ELEVATION: 1,338.53'

COUNTY/DISTRICT: MARSHALL / UNION QUADRANGLE: MOUNDSVILLE, WV

SURFACE OWNER: LESLIE B. & LORI D. SCHABER ACREAGE: 73.79

OIL & GAS ROYALTY OWNER: CAROL A. WENSYEL A/K/A CAROL A. MILLER, ACTING AS TRUSTEE FOR THE CAROL A. WENSYEL IRREVOCABLE TRUST DATED OCTOBER 28, 2010

AND JOHN F. MILLER, SR. TRUSTEE OF THE JOHN F. MILLER, SR. IRREVOCABLE TRUST, DATED OCTOBER 28, 2010, TRUST ACREAGE: 73.79

DRILL  CONVERT  DRILL DEEPER  REDRILL  FRACTURE OR STIMULATE

PLUG OFF OLD FORMATION PERFORATE NEW FORMATION PLUG AND ABANDON

CLEAN OUT & REPLUG  OTHER CHANGE  (SPECIFY)

TARGET FORMATION: POINT PLEASANT ESTIMATED DEPTH: TVD: 11,395' ± TMD: 20,754' ±

WELL OPERATOR: AMERICAN PETROLEUM PARTNERS OPERATING, LLC DESIGNATED AGENT: STEVEN GREEN

Address: 4600 J. BARRY COURT, SUITE 310 Address: 300 SUMMERS ST, SUITE 1000

City CANONSBURG State PA Zip Code 15317 City CHARLESTON State WV Zip Code 25301

**INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE  
Chapter 22, Article 6A, Section 5(a)(5)  
IN LIEU OF FILING LEASE(S) AND OTHER CONTINUING CONTRACT(S)**

Under the oath required to make the verification on page 1 of this Notice and Application, I depose and say that I am the person who signed the Notice and Application for the Applicant, and that –

- (1) the tract of land is the same tract described in this Application, partly or wholly depicted in the accompanying plat, and described in the Construction and Reclamation Plan;
- (2) the parties and recordation data (if recorded) for lease(s) or other continuing contract(s) by which the Applicant claims the right to extract, produce or market the oil or gas are as follows:

Lease Name or Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
See attached sheet				

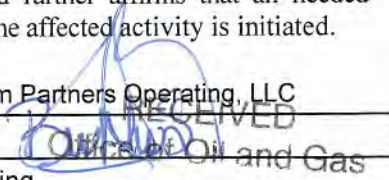
**Acknowledgement of Possible Permitting/Approval  
In Addition to the Office of Oil and Gas**

The permit applicant for the proposed well work addressed in this application hereby acknowledges the possibility of the need for permits and/or approvals from local, state, or federal entities in addition to the DEP, Office of Oil and Gas, including but not limited to the following:

- WV Division of Water and Waste Management
- WV Division of Natural Resources WV Division of Highways
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- County Floodplain Coordinator

The applicant further acknowledges that any Office of Oil and Gas permit in no way overrides, replaces, or nullifies the need for other permits/approvals that may be necessary and further affirms that all needed permits/approvals should be acquired from the appropriate authority before the affected activity is initiated.

Well Operator: American Petroleum Partners Operating, LLC  
 By: Braulio Silva  
 Its: Vice President-Drilling



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**Casterly Rock South West 5UH Well Bore Tracts**

Map #	Lease #	Lessor	Current Lessee	Royalty	Recording#	Parcel
1 ✓	WV-MAR-0685	Carol A. Wensyel a/k/a Carol A. Miller, acting as Trustee for the Carol A. Wensyel Irrevocable Trust dated October 28, 2010	American Petroleum Partners Operating, LLC	Not Less than 1/8th	773-596, 777-21	13-13-10
1 ✓	WV-MAR-0686	John F. Miller, Sr., acting as Trustee of the John F. Miller, Sr. Irrevocable Trust, dated October 28, 2010	American Petroleum Partners Operating, LLC	Not Less than 1/8th	777-30	13-13-10
6 ✓	WV-MAR-1148	Jeanie Heller	American Petroleum Partners Operating, LLC	Not Less than 1/8th	873-140	13-13-22
7 ✓	WV-MAR-1175	Charles Douglas Hill & Martha K. Hill	American Petroleum Partners Operating, LLC	Not Less than 1/8th	877-219	13-13-22
7 ✓	WV-MAR-1157	Faith United Methodist Church	American Petroleum Partners Operating, LLC	Not Less than 1/8th	775-65	13-13-22
5 ✓	WV-MAR-1149	Edgar Heller	American Petroleum Partners Operating, LLC	Not Less than 1/8th	879-272	13-13-23
5 ✓	WV-MAR-1157	Faith United Methodist Church	American Petroleum Partners Operating, LLC	Not Less than 1/8th	775-65	13-13-23
4 ✓	WV-MAR-1149	Edgar Heller	American Petroleum Partners Operating, LLC	Not Less than 1/8th	879-272	13-13-9
27 ✓	WV-MAR-0037	Justin Andrew Hull	American Petroleum Partners Operating, LLC	Not Less than 1/8th	822-196	13-14-43
16 ✓	WV-MAR-0037	Justin Andrew Hull	American Petroleum Partners Operating, LLC	Not Less than 1/8th	822-196	13-14-46
30 ✓	WV-MAR-1437	Maxine Smith	American Petroleum Partners Operating, LLC	Not Less than 1/8th	1014-166	14-5-1.1
87 ✓	WV-MAR-0059	Harry L. Galloway & Kelly R. Galloway	American Petroleum Partners Operating, LLC	Not Less than 1/8th	972-540	14-5-11
86 ✓	WV-MAR-0831	Melinda Murphy	American Petroleum Partners Operating, LLC	Not Less than 1/8th	950-516	14-5-11.1

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65 ✓	WV-MAR-1526	Mary Lee Higby	American Petroleum Partners Operating, LLC	Not Less than 1/8th	1020-54	14-5-11.2
64 ✓	WV-MAR-1526	Mary Lee Higby	American Petroleum Partners Operating, LLC	Not Less than 1/8th	1020-54	14-5-11.3
85 ✓	WV-MAR-0831	Melinda Murphy	American Petroleum Partners Operating, LLC	Not Less than 1/8th	950-516	14-5-12
84 ✓	WV-MAR-0367	Roger David & Judy Lynn Whipkey	American Petroleum Partners Operating, LLC	Not Less than 1/8th	924-233	14-5-13
83 ✓	WV-MAR-0367	Roger David & Judy Lynn Whipkey	American Petroleum Partners Operating, LLC	Not Less than 1/8th	924-233	14-5-14
82 ✓	WV-MAR-0933	Jason W. & Amanda K. Johnson	American Petroleum Partners Operating, LLC	Not Less than 1/8th	959-607	14-5-15
81 ✓	WV-MAR-1513	William H. Dippel, II & Lysabeth E. Dippel	American Petroleum Partners Operating, LLC	Not Less than 1/8th	949-246	14-5-16
80 ✓	WV-MAR-0369	Dacoda Boles	American Petroleum Partners Operating, LLC	Not Less than 1/8th	924-241	14-5-17
72 ✓	WV-MAR-1188	John D. & Betty V. Workman	American Petroleum Partners Operating, LLC	Not Less than 1/8th	706-331	14-5-18
77 ✓	WV-MAR-0919	Evan M. Long & Melissa E. Long	American Petroleum Partners Operating, LLC	Not Less than 1/8th	958-522	14-5-19
74 ✓		Chevron USA, Inc.	Chevron USA, Inc.	Not Less than 1/8th		14-5-20
74 ✓		Salvation Army, Moundsville Corps	Salvation Army, Moundsville Corps	Not Less than 1/8th		14-5-20
74 ✓	WV-MAR-1066	American Heart Association	American Petroleum Partners Operating, LLC	Not Less than 1/8th	976-503	14-5-20
74 ✓	WV-MAR-1567	Marjorie F. Manion, Testamentary Trust by WesBanco Trust and Investment Services, a division of WesBanco Bank, Inc.	American Petroleum Partners Operating, LLC	Not Less than 1/8th	1021-302	14-5-20

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74 ✓	WV-MAR-1467	Simpson Methodist Church	American Petroleum Partners Operating, LLC	Not Less than 1/8th	1013-388	14-5-20
31 ✓	WV-MAR-1172	Marguerite P. Karr & Betty V. Workman	American Petroleum Partners Operating, LLC	Not Less than 1/8th	706-619	14-5-20
51 ✓	WV-MAR-0176	Richard Harold Francis	American Petroleum Partners Operating, LLC	Not Less than 1/8th	879-317	14-5-20
88 ✓	WV-MAR-1156	Jeffrey H. Francis	American Petroleum Partners Operating, LLC	Not Less than 1/8th	702-405	14-5-20
60 ✓	WV-MAR-1286	Penny S. & Raymond D. Bishop	American Petroleum Partners Operating, LLC Pelican Energy, LLC	Not Less than 1/8th	692-109	14-5-39.1
91 ✓	WV-MAR-1473	West Virginia Department of Transportation, Division of Highways	American Petroleum Partners Operating, LLC	Not Less than 1/8th	1014-511	State Rte. 88 US Rte. 250

Note: The parcels that have no lease number or recording information we will be pursuing force pooling procedures. Attempts were made to negotiate with the Current Owner to give APP an assignment or lease. APP will be pursuing force pooling options.

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**Casterly Rock South West 5UH 400' Buffer Tracts**

Map #	Lease #	Lessor	Current Lessee	Royalty	Recording	Parcel
28	WV-MAR-1163	Roger S. Cole & Elaine S. Cole	American Petroleum Partners Operating, LLC	Not Less than 1/8th	684-321	14-4-15.3
29	WV-MAR-1146	George E. Bertram & Bonnie Beth Bertram	American Petroleum Partners Operating, LLC	Not Less than 1/8th	682-53	14-4-16
90	WV-MAR-0173	Donald W. Smith & Maxine Smith	American Petroleum Partners Operating, LLC	Not Less than 1/8th	876-91	14-4-17
35		Chevron USA, Inc.	Chevron USA, Inc.	Not Less than 1/8th		14-5-1
35		Salvation Army, Moundsville Corps	Salvation Army, Moundsville Corps	Not Less than 1/8th		14-5-1
35	WV-MAR-1066	American Heart Association, Inc.	American Petroleum Partners Operating, LLC	Not Less than 1/8th	976-503	14-5-1
35	WV-MAR-1567	Marjorie F. Manion, Testamentary Trust by WesBanco Trust and Investment Services, a division of WesBanco Bank, Inc.	American Petroleum Partners Operating, LLC	Not Less than 1/8th	1021-302	14-5-1
35	WV-MAR-1467	Simpson Methodist Church	American Petroleum Partners Operating, LLC	Not Less than 1/8th	1013-388	14-5-1
67	WV-MAR-1564	Cathy B. Marin and Dennis Marin	American Petroleum Partners Operating, LLC	Not Less than 1/8th	1021-311	14-5-10
67	WV-MAR-0790	John Joseph Hart and Renee Annette Hart	American Petroleum Partners Operating, LLC	Not Less than 1/8th	948-5	14-5-10
67	WV-MAR-1562	Marcia Mercer	American Petroleum Partners Operating, LLC	Not Less than 1/8th	1021-324	14-5-10
67	WV-MAR-1563	William J. Okel Declaration of Trust dated March 20, 2008	American Petroleum Partners Operating, LLC	Not Less than 1/8th	1021-306	14-5-10
68	WV-MAR-0059	Harry L. Galloway & Kelly R. Galloway	American Petroleum Partners Operating, LLC	Not Less than 1/8th	972-540	14-5-11.4

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76	WV-MAR-0932	Mark C. Edison & Lois A. Edison	American Petroleum Partners Operating, LLC	Not Less than 1/8th	958-482	14-5-18.2
75	WV-MAR-1247	Robert E. Games, Jr.	American Petroleum Partners Operating, LLC	Not Less than 1/8th	970-282	14-5-18.3
34	WV-MAR-1172	Marguerite P. Karr & Betty V. Workman	American Petroleum Partners Operating, LLC	Not Less than 1/8th	706-619	14-5-2
73	WV-MAR-1174	Ronald Holmes & Agnes Marlene Holmes	American Petroleum Partners Operating, LLC	Not Less than 1/8th	696-190	14-5-21
78	WV-MAR-1174	Ronald Holmes & Agnes Marlene Holmes	American Petroleum Partners Operating, LLC	Not Less than 1/8th	696-190	14-5-22
79	WV-MAR-1514	Mark Allen Smith & Linda J. Smith	American Petroleum Partners Operating, LLC	Not Less than 1/8th	962-514	14-5-23
57	WV-MAR-1289	Martin C. Bane & Susan A. Bane	American Petroleum Partners Operating, LLC Pelican Energy, LLC	Not Less than 1/8th	692-486	14-5-38
58	WV-MAR-1289	Martin C. Bane & Susan A. Bane	American Petroleum Partners Operating, LLC Pelican Energy, LLC	Not Less than 1/8th	692-486	14-5-38.1
56	WV-MAR-1289	Martin C. Bane & Susan A. Bane	American Petroleum Partners Operating, LLC Pelican Energy, LLC	Not Less than 1/8th	692-486	14-5-38.2
55	WV-MAR-1289	Martin C. Bane & Susan A. Bane	American Petroleum Partners Operating, LLC Pelican Energy, LLC	Not Less than 1/8th	692-486	14-5-38.3
54	WV-MAR-1306	Dana F. Walter	American Petroleum Partners Operating, LLC Pelican Energy, LLC	Not Less than 1/8th	695-37	14-5-38.4
53	WV-MAR-1306	Dana F. Walter	American Petroleum Partners Operating, LLC Pelican Energy, LLC	Not Less than 1/8th	695-37	14-5-38.5
59	WV-MAR-0177	Samuel R. Darrow & Angela R. Darrow	American Petroleum Partners Operating, LLC	Not Less than 1/8th	859-401	14-5-39
32	WV-MAR-1158	James E. Curry	American Petroleum Partners Operating, LLC	Not Less than 1/8th	727-195	14-5-4

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33	WV-MAR-1170	Donald S. McMahon & Martha V. McMahon	American Petroleum Partners Operating, LLC	Not Less than 1/8th	706-629	14-5-5
61	WV-MAR-0185	Limestone Community Volunteer Fire Department	American Petroleum Partners Operating, LLC	Not Less than 1/8th	936-1	14-5-40
70	WV-MAR-1564	Cathy B. Marin and Dennis Marin	American Petroleum Partners Operating, LLC	Not Less than 1/8th	1021-311	14-5-9
70	WV-MAR-0180	John J. Hart and Renee Hart	American Petroleum Partners Operating, LLC	Not Less than 1/8th	935-631	14-5-9
70	WV-MAR-1562	Marcia Mercer	American Petroleum Partners Operating, LLC	Not Less than 1/8th	1021-324	14-5-9
70	WV-MAR-1563	William J. Okel Declaration of Trust dated March 20, 2008	American Petroleum Partners Operating, LLC	Not Less than 1/8th	1021-306	14-5-9
66	WV-MAR-1564	Cathy B. Marin and Dennis Marin	American Petroleum Partners Operating, LLC	Not Less than 1/8th	1021-311	14-5-9.1
66	WV-MAR-0180	John J. Hart and Renee Hart	American Petroleum Partners Operating, LLC	Not Less than 1/8th	935-631	14-5-9.1
66	WV-MAR-1562	Marcia Mercer	American Petroleum Partners Operating, LLC	Not Less than 1/8th	1021-324	14-5-9.1
66	WV-MAR-1563	William J. Okel Declaration of Trust dated March 20, 2008	American Petroleum Partners Operating, LLC	Not Less than 1/8th	1021-306	14-5-9.1
63	WV-MAR-1564	Cathy B. Marin and Dennis Marin	American Petroleum Partners Operating, LLC	Not Less than 1/8th	1021-311	14-5-9.2
63	WV-MAR-0180	John J. Hart and Renee Hart	American Petroleum Partners Operating, LLC	Not Less than 1/8th	935-631	14-5-9.2
63	WV-MAR-1562	Marcia Mercer	American Petroleum Partners Operating, LLC	Not Less than 1/8th	1021-324	14-5-9.2
63	WV-MAR-1563	William J. Okel Declaration of Trust dated March 20, 2008	American Petroleum Partners Operating, LLC	Not Less than 1/8th	1021-306	14-5-9.2

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69	WV-MAR-1564	Cathy B. Marin and Dennis Marin	American Petroleum Partners Operating, LLC	Not Less than 1/8th	1021-311	14-5-9.4
69	WV-MAR-0180	John J. Hart and Renee Hart	American Petroleum Partners Operating, LLC	Not Less than 1/8th	935-631	14-5-9.4
69	WV-MAR-1562	Marcia Mercer	American Petroleum Partners Operating, LLC	Not Less than 1/8th	1021-324	14-5-9.4
69	WV-MAR-1563	William J. Okel Declaration of Trust dated March 20, 2008	American Petroleum Partners Operating, LLC	Not Less than 1/8th	1021-306	14-5-9.4
62	WV-MAR-1564	Cathy B. Marin and Dennis Marin	American Petroleum Partners Operating, LLC	Not Less than 1/8th	1021-311	14-5-9.3
62	WV-MAR-0180	John J. Hart and Renee Hart	American Petroleum Partners Operating, LLC	Not Less than 1/8th	935-631	14-5-9.3
62	WV-MAR-1562	Marcia Mercer	American Petroleum Partners Operating, LLC	Not Less than 1/8th	1021-324	14-5-9.3
62	WV-MAR-1563	William J. Okel Declaration of Trust dated March 20, 2008	American Petroleum Partners Operating, LLC	Not Less than 1/8th	1021-306	14-5-9.3

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Note: The parcels that have no lease number or recording information we will be pursuing force pooling procedures. Attempts were made to negotiate with the Current Owner to give APP an assignment or lease. APP will be pursuing force pooling options.

MEMORANDUM OF LEASE

This MEMORANDUM OF LEASE, utilized to indicate the existence of a PAID-UP OIL AND GAS LEASE (hereinafter, "Lease") executed the 25<sup>th</sup> day of OCTOBER, 2018, but effective for all purposes as of the date set out below, by and between Salvation Army, Moundsville Corps, whose address is P.O. Box 6627, Wheeling, West Virginia 26003 (hereinafter, "Lessor" whether one or more), and AMERICAN PETROLEUM PARTNERS OPERATING, LLC, a Delaware limited liability company, whose address is at 4600 J Barry Court, Suite 310, Canonsburg, Pennsylvania 15317 (hereinafter, "Lessee").

WHEREAS, Lessor and Lessee have entered into that certain Lease whereby Lessor has LEASED, LET, GRANTED AND DEMISED exclusively unto Lessee certain oil and gas estates, interests and appurtenant rights, more particularly described in said Lease and hereinafter below; and

WHEREAS, in lieu of recording that certain Lease, Lessor and Lessee have executed, acknowledged and delivered this MEMORANDUM OF LEASE in accordance with W. VA. CODE § 40-1-8,

NOW, THEREFORE, Lessor and Lessee, intending to be legally bound, hereby publish and give notice of the tenancy and estate(s) created, and certain of the rights granted by and obligations under the Lease as follows:

DESCRIPTION / LEASED PREMISES

In the District of Washington, Marshall County, West Virginia, and bound substantially by lands now or formerly owned as follows: See Exhibit "A"

Tax Parcel ID: 14-5-20; 14-5-1

being the same land acquired by Lessor in that instrument recorded in See Exhibit "A", of the County Clerk's Office in which the Leased Premises is located. The Leased Premises is estimated to comprise 4,9300 gross acres, whether the tract or tracts contain more or less. This Lease includes all accreted or submerged lands contiguous to the Leased Premises claimed or owned by Lessor as well as all strips or parcels of land or interests therein now owned or hereafter acquired by Lessor which adjoin the lands described above.

TERM OF LEASE:

Said Lease shall be in force for a primary term of five (5) years from the effective date of the Lease of OCTOBER 25, 2018 (hereinafter, "Primary Term") and shall continue beyond the Primary Term as to the entirety of the Leased Premises for so long as any of the following is satisfied: (i) operations are conducted on the Leased Premises in search of production of oil, gas or other substances covered hereby; (ii) a well capable of production is located on the Leased Premises or on lands unitized or combined with the Leased Premises; (iii) the Lease is maintained pursuant to other provisions herein; (iv) the Leased Premises or lands unitized or combined with the Leased Premises is used for the underground storage of gas or for the protection of stored gas; or (v) prescribed payments are made.

RENEWAL OR EXTENSION RIGHTS

At Lessee's option, Lessee may extend the Primary Term of said Lease for one (1) additional period equal to the initial Primary Term of five (5) years by paying or tendering to Lessor an extension payment at any time prior to the expiration of the initial Primary Term.

THIS MEMORANDUM OF LEASE IS NOT A COMPLETE SUMMARY OF SAID PAID-UP OIL AND GAS LEASE ("LEASE" HEREIN). IN THE EVENT OF A CONFLICT BETWEEN THE TERMS OF THIS MEMORANDUM AND SAID LEASE, THE TERMS, CONDITIONS AND PROVISIONS OF SAID LEASE SHALL GOVERN AND CONTROL.

See Exhibit "A" attached hereto and by reference made a part hereof.

[Remainder of Page Intentionally Left Blank; Signatures to Follow]


Marshall County  
Jan Pest, Clerk  
Instrument 1448938  
12/18/2018 @ 11:53:57 AM  
OIL & GAS LEASE  
Book 1025 @ Page 568  
Pages Recorded 4  
Recording Cost \$ 11.00

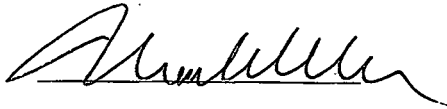
IN WITNESS WHEREOF, the Parties, intending to be legally bound, have executed this instrument effective the date set out above. This Memorandum of Lease may be executed either as one instrument or in several partially executed counterparts, and the original and all counterparts shall be construed together, and shall constitute one Memorandum of Lease.

**LESSOR:**

Salvation Army, Moundsville Corps

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 \_\_\_\_\_  
 James H. Seiler  
 \_\_\_\_\_  
 ASSISTANT SECRETARY  
 \_\_\_\_\_  
**LESSEE:**  
 AMERICAN PETROLEUM PARTNERS OPERATING, LLC



By: \_\_\_\_\_ **Mark Acree**  
 As: Vice President Vice President of Land

*[Remainder of Page Intentionally Left Blank; Acknowledgment Page to Follow]*

CORPORATE ACKNOWLEDGEMENT

COMMONWEALTH/ STATE OF GEORGIA §

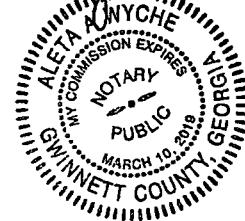
COUNTY OF GWINNETT §

On this 25<sup>th</sup> day of October, 2018, before me, the undersigned authority, personally appeared James H. Seiler who acknowledged himself to be the TREASURER/ASSISTANT SECRETARY of Salvation Army, Moundsville Corps, and that he as such TREASURER/ASSISTANT SECRETARY, being authorized to do so, executed the foregoing instrument for the purposes therein contained by signing the name of the corporation by himself as TREASURER/ASSISTANT SECRETARY.  
In witness thereof, I hereunto set my hand and affixed my official seal.

MY COMMISSION EXPIRES:

Notary Public, Gwinnett County, Georgia  
My Commission Expires March 10, 2019

Aleta A. Wyrche  
Notary Public



CORPORATE ACKNOWLEDGEMENT

COMMONWEALTH OF PENNSYLVANIA §  
COUNTY OF WASHINGTON §

On this 13<sup>th</sup> day of December, 2018, before me, the undersigned authority, personally appeared Mark Acree who acknowledged himself to be the Vice President of American Petroleum Partners Operating LLC, and that he as such Vice President, being authorized to do so, executed the foregoing instrument for the purposes therein contained by signing the name of the corporation by himself as Vice President.

In witness thereof, I hereunto set my hand and affixed my official seal.

MY COMMISSION EXPIRES:

COMMONWEALTH OF PENNSYLVANIA  
NOTARIAL SEAL  
Earline Bugay, Notary Public  
New Sewickley Twp., Beaver County  
My Commission Expires Jan. 23, 2020  
MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES

Earline Bugay  
Notary Public

PREPARED BY AND UPON RECORDATION RETURN TO:  
Land Department  
AMERICAN PETROLEUM PARTNERS OPERATING, LLC  
4600 J Barry Court, Suite 310  
Canonsburg, PA 15317

EXHIBIT "A" TO MEMORANDUM OF OIL AND GAS LEASE  
DATED \_\_\_\_\_, 2018

SALVATION ARMY, MOUNDSVILLE CORPS, AS LESSOR,  
AND AMERICAN PETROLEUM PARTNERS OPERATING, LLC, AS LESSEE

1. DESCRIPTION: The Leased Premises is located, all or part, in the District of Washington, County of Marshall, in the State of West Virginia, generally bounded now or formerly:

- On the North by: M. Karr,
- On the East by: R. Holmes,
- On the South by: J. Workman,
- On the West by: M. Elson,

being the same lands described in that instrument recorded in the Office of the Clerk of the County Commission of Marshall County, West Virginia, at Will Book 51; 51, Page 12; 603, said land being further identified as Tax Parcel Number 14-5-20, on this date, and stipulated to contain for the purpose of calculating all payments required hereunder 1.5700 acres, more or less.

2. DESCRIPTION: The Leased Premises is located, all or part, in the District of Washington, County of Marshall, in the State of West Virginia, generally bounded now or formerly:

- On the North by: J. Hull,
- On the East by: M. Smith,
- On the South by: M. Karr,
- On the West by: G. Bertram,

being the same lands described in that instrument recorded in the Office of the Clerk of the County Commission of Marshall County, West Virginia, at Will Book 51; 51, Page 12; 603, said land being further identified as Tax Parcel Number 14-5-1, on this date, and stipulated to contain for the purpose of calculating all payments required hereunder 3.3600 acres, more or less.

LESSOR: Salvation Army, Moundsville Corps

James H. Seifert  
ASSISTANT SECRETARY

LESSEE:

AMERICAN PETROLEUM PARTNERS OPERATING, LLC

By: \_\_\_\_\_ Mark Acree  
As: Vice President Vice President of Land

STATE OF WEST VIRGINIA, MARSHALL COUNTY, SCT.:

I, JAN PEST, Clerk of the County Commission of said County, do hereby certify that the annexed writing, bearing date on the 25<sup>th</sup> day of October, 2018, was presented for and by me, admitted to record in my office upon the above certificate as to the parties therein named this 18<sup>th</sup> day of December, 2018 at 11:53 o'clock A. M.

TESTE: Jan Pest Clerk

American Petroleum Partners Operating, LLC

Proposed Revegetation Treatment: Acres Disturbed 22.5 Prevegetation pH 6.0

Lime 2-3 Tons/acre or to correct to pH \_\_\_\_\_

Fertilizer type 10-20-20 or Equal

Fertilizer amount 500 lbs/acre

Mulch Hay or Straw at 2 Tons/acre

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Seed Mixtures

Temporary		Permanent	
Seed Type	lbs/acre	Seed Type	lbs/acre
Annual Rye Grass	40	Crownvetch	10-15
Filed Bromegrass	40	Tall Fescue	30
Spring Oats	96	Perennial Ryegrass	20

\*Refer to attached Reclamation Plan for further detail.

Attach:

Maps(s) of road, location, pit and proposed area for land application (unless engineered plans including this info have been provided). If water from the pit will be land applied, include dimensions (L x W x D) of the pit, and dimensions (L x W), and area in acreage, of the land application area.

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: *[Signature]*

Comments: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Title: WV DEP Oil and Gas Inspector  Date: 1/7/19

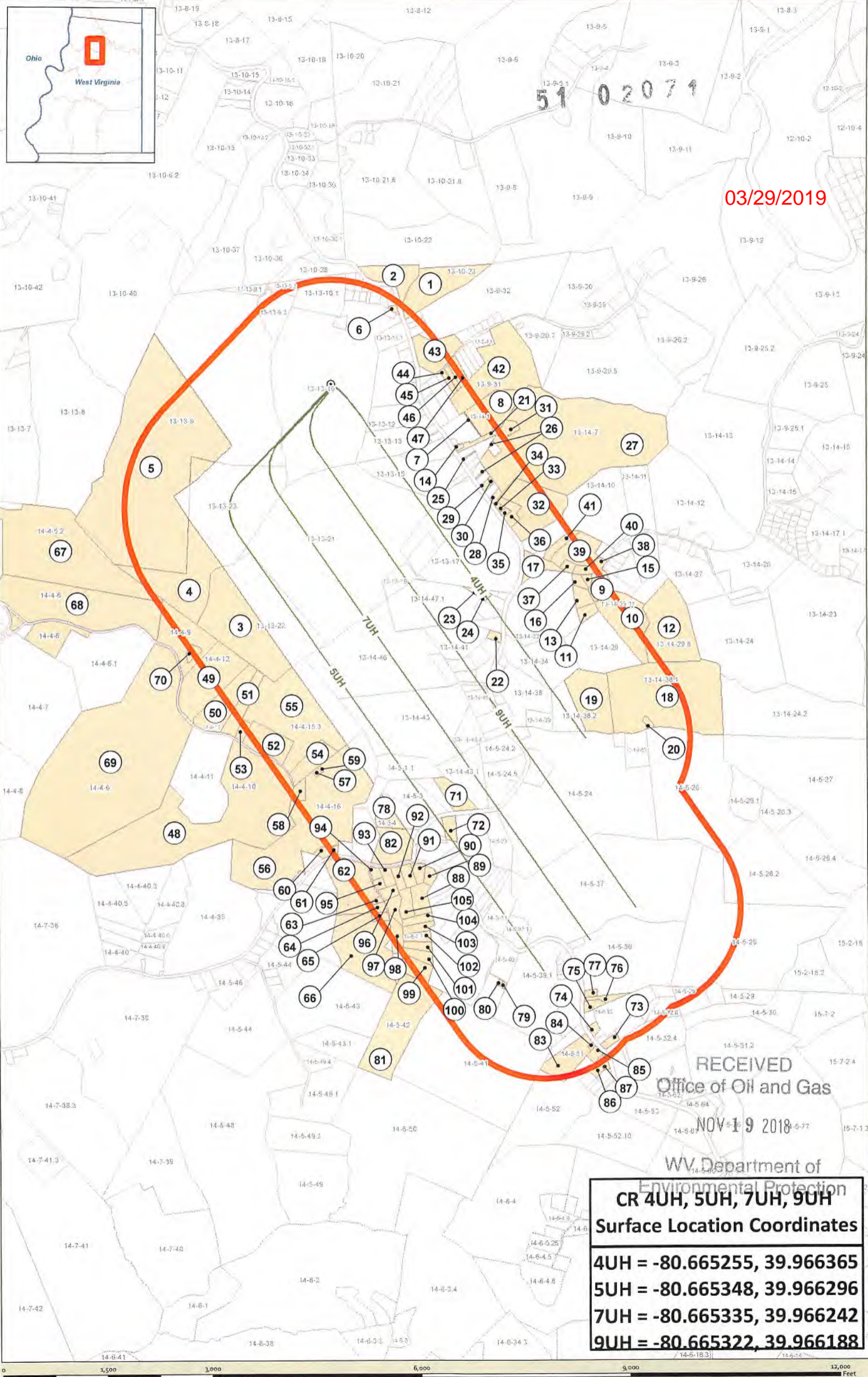
Field Reviewed? (  ) Yes (  ) No





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**CR 4UH, 5UH, 7UH, 9UH  
Surface Location Coordinates**

**4UH = -80.665255, 39.966365**  
**5UH = -80.665348, 39.966296**  
**7UH = -80.665335, 39.966242**  
**9UH = -80.665322, 39.966188**

<b>CR 4UH, 5UH, 7UH, 9UH - Offset Operators</b>			
Marshall County	Coordinate System: NAD 1983 UTM Zone 17N Projection: Transverse Mercator Datum: North American 1983	Map Scale Units: 1:18,000 1 inch = 1,500 feet	Map Author: JKS Map Date: 01/13/2018
West Virginia	<ul style="list-style-type: none"> <li>Well SHL</li> <li>Laterals</li> <li>1500' Buffer</li> </ul>	<ul style="list-style-type: none"> <li>Parcels</li> <li>Offset Operators</li> </ul>	



03/29/2019

**Well Site Entrance**  
**E=528540.1**  
**N=4424056.4**  
**(UTM NAD83)**

**Intersection with Public Road**  
**E=529146**  
**N=4423748.5**  
**(UTM NAD83)**

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<b>CR 4UH, 5UH, 7UH, 9UH</b>
<b>Surface Location Coordinates</b>
4UH = -80.665255, 39.966365
5UH = -80.665348, 39.966296
7UH = -80.665335, 39.966242
9UH = -80.665322, 39.966188

**CR 4UH, 5UH, 7UH, 9UH - Well Site**

Marshall County West Virginia  
 Coordinate System: NAD 83 UTM Zone 17N  
 Projection: Transverse Mercator  
 Datum: North American 1983  
 Map Scale Units: 1:18,000  
 1 inch = 1,500 feet  
 Map Author: JKS  
 Map Date: 11/7/2018

- Well SHL
- Laterals
- Well Pad
- Access Rd Intersection
- Access Road
- US Route





03/29/2019  
BLACK HILL



- Church
- Hospital
- Public Building
- School

CR 4UH, 5UH, 7UH, 9UH Surface Location Coordinates	
4UH =	-80.665255, 39.966365
5UH =	-80.665348, 39.966296
7UH =	-80.665335, 39.966242
9UH =	-80.665322, 39.966188

### CR 4UH, 5UH, 7UH, 9UH - Site Evacuation Plan

Marshall County  
West Virginia

Coordinate System: NAD 83 UTM Zone 17N  
Projection: Transverse Mercator  
Datum: North American 1983

Map Scale Units: 1:18,000  
1 inch = 1,500 feet

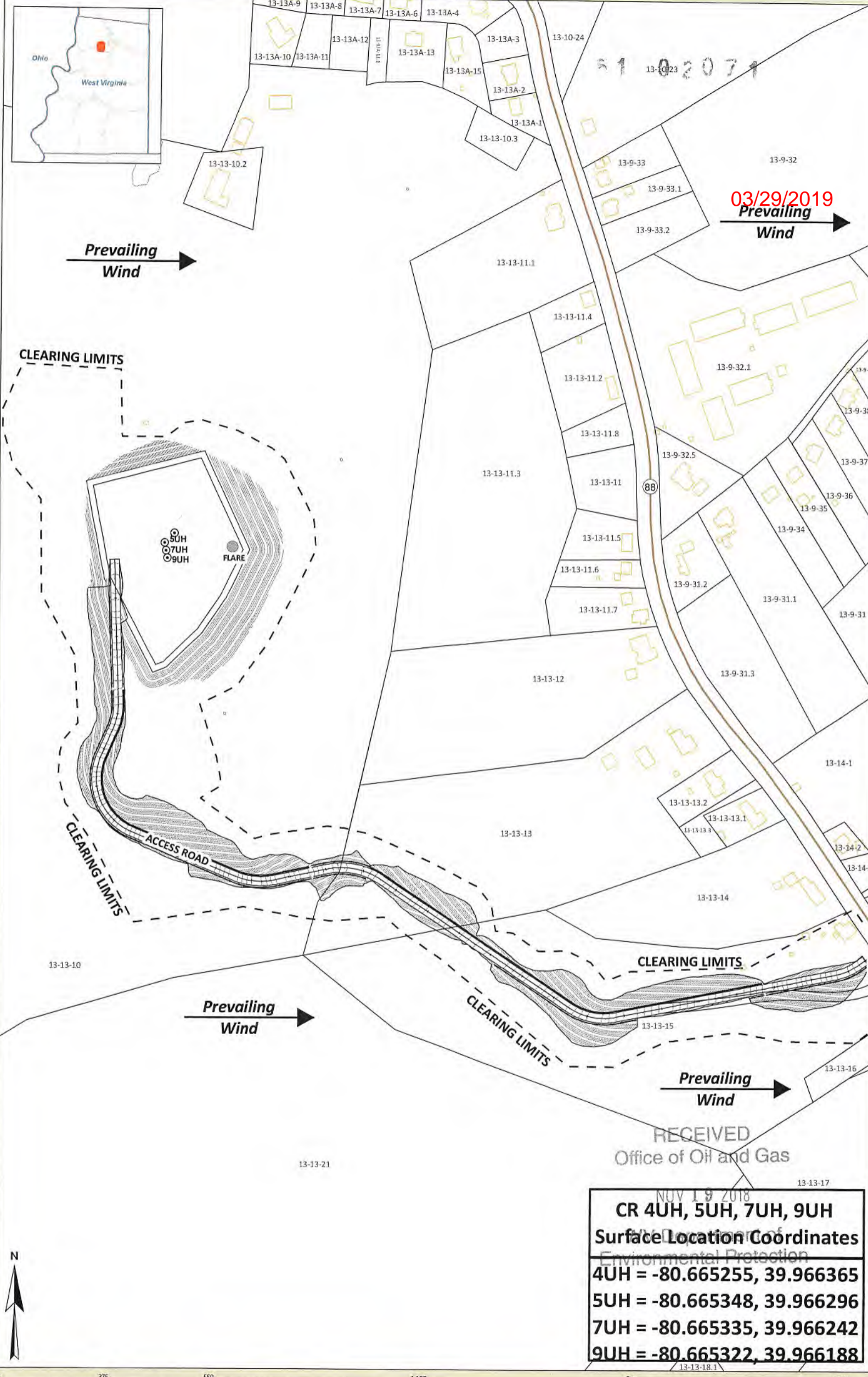
Map Author: JKS  
Map Date: 11/7/2018

- Well SHL
- Well Pad
- 1 mile buffer
- Access Road
- Interstate
- US Route
- State Route
- County Road

**SITE EVACUATION ROUTE DIRECTIONS**  
Casterly Rock North Well Pad

Exit the Pad Site heading South via the Access Road. Travel 0.54 Miles down Access Road to Intersection of Access Road and WV Highway 88.





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 Office of Oil and Gas  
 NOV 19 2018  
**CR 4UH, 5UH, 7UH, 9UH**  
 Surface Location Coordinates  
 Environmental Protection  
**4UH = -80.665255, 39.966365**  
**5UH = -80.665348, 39.966296**  
**7UH = -80.665335, 39.966242**  
**9UH = -80.665322, 39.966188**

# CR 4UH, 5UH, 7UH, 9UH - Plan View

Marshall County  
 West Virginia  
 Coordinate System: NAD 83 UTM Zone 18N  
 Projection: Transverse Mercator  
 Datum: North American 83  
 Map Scale Units: 1:3,300  
 1 inch = 275 feet  
 Map Author: JKS  
 Map Date: 11/7/2018

- Well SHL
- Well Pad
- State Route
- Building





# 5 AREA WELLS WITHIN 500'

4705102018  
 4705102046  
 4705102047  
 4705102071  
 4705102072  
 4705102073

51 02071

03/29/2019



RECEIVED  
 Office of Oil and Gas

NOV 16 2018  
 WV Department of Environmental Protection  
**CR 4UH, 5UH, 7UH, 9UH**  
**Surface Location Coordinates**  
**4UH = -80.665255, 39.966365**  
**5UH = -80.665348, 39.966296**  
**7UH = -80.665335, 39.966242**  
**9UH = -80.665322, 39.966188**

## CR 4UH, 5UH, 7UH, 9UH - All Area Wells

Marshall County  
 West Virginia

Well SHL	Well Pad	500' buffer	Other	Marcellus Well	Shutin
Laterals	Parcels	Abandoned Well	Active Well	Permit / Future Use	Utica Permit
		Marcellus Permit	Plugged	Utica Well	

Coordinate System: NAD 83 UTM Zone 18N  
 Projection: Transverse Mercator  
 Datum: North American 1983  
 Linear Units: Meter

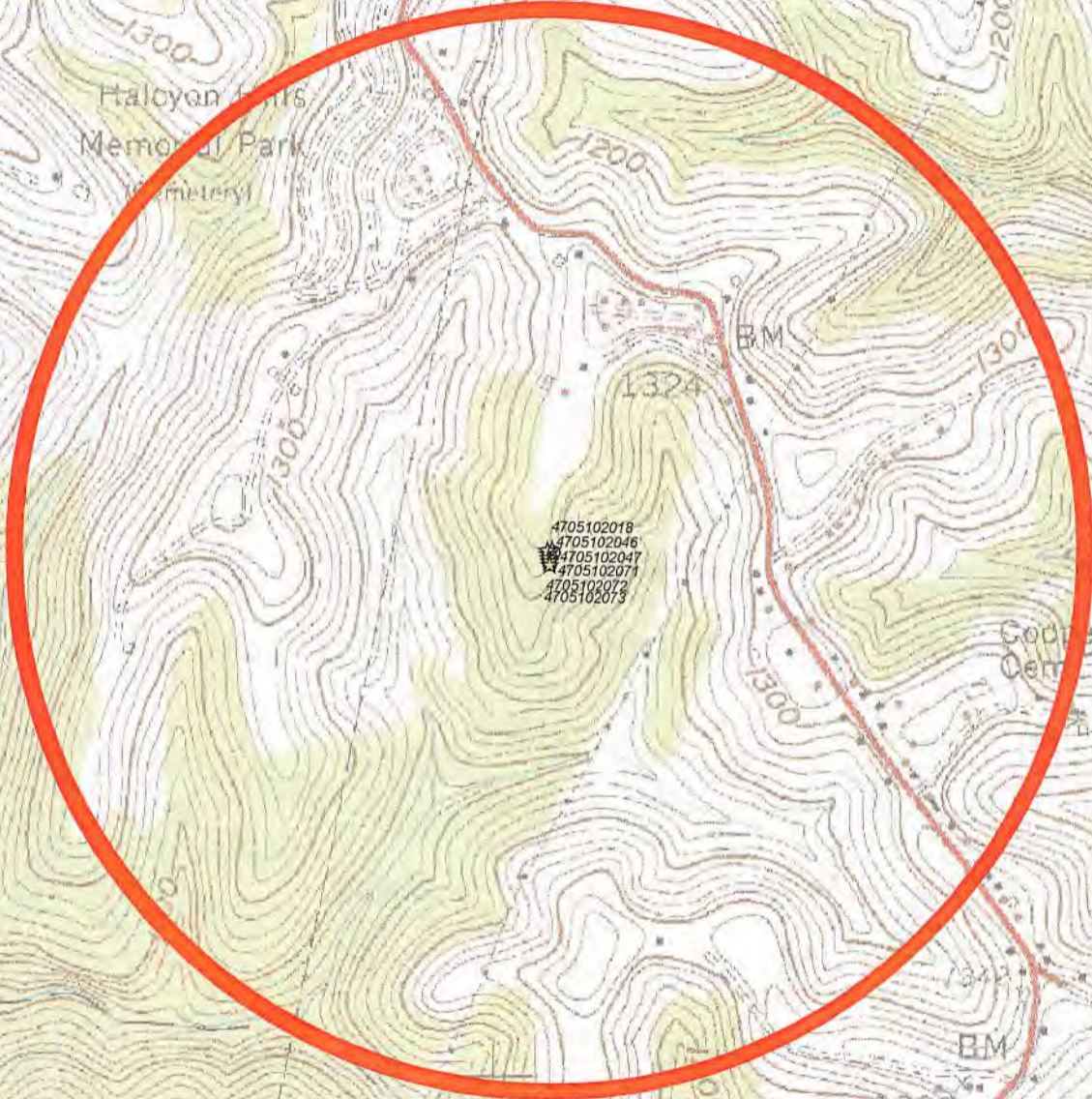
Map Scale Units: 1:12,000  
 1 inch = 1,000 feet

Map Author: JKS  
 Map Date: 11/16/2018

**5 UTICA / PP WELLS WITHIN 3,000'**



03/29/2019



<b>CR 4UH, 5UH, 7UH, 9UH</b>
<b>Surface Location Coordinates</b>
4UH = -80.665255, 39.966365
5UH = -80.665348, 39.966296
7UH = -80.665335, 39.966242
9UH = -80.665322, 39.966188

**CR 4UH, 5UH, 7UH, 9UH - Utica/PP 3000'**

Marshall County West Virginia	Coordinate System: NAD 1983 UTM Zone 18N Projection: Transverse Mercator Datum: North American 1983 Linear Units: Meter	Map Scale Units: 1:12,000 1 inch = 3,000 feet	Map Author: JKS Map Date: 12/26/2018
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- Well SHL
- 3000' buffer
- Utica Permit
- Utica Well

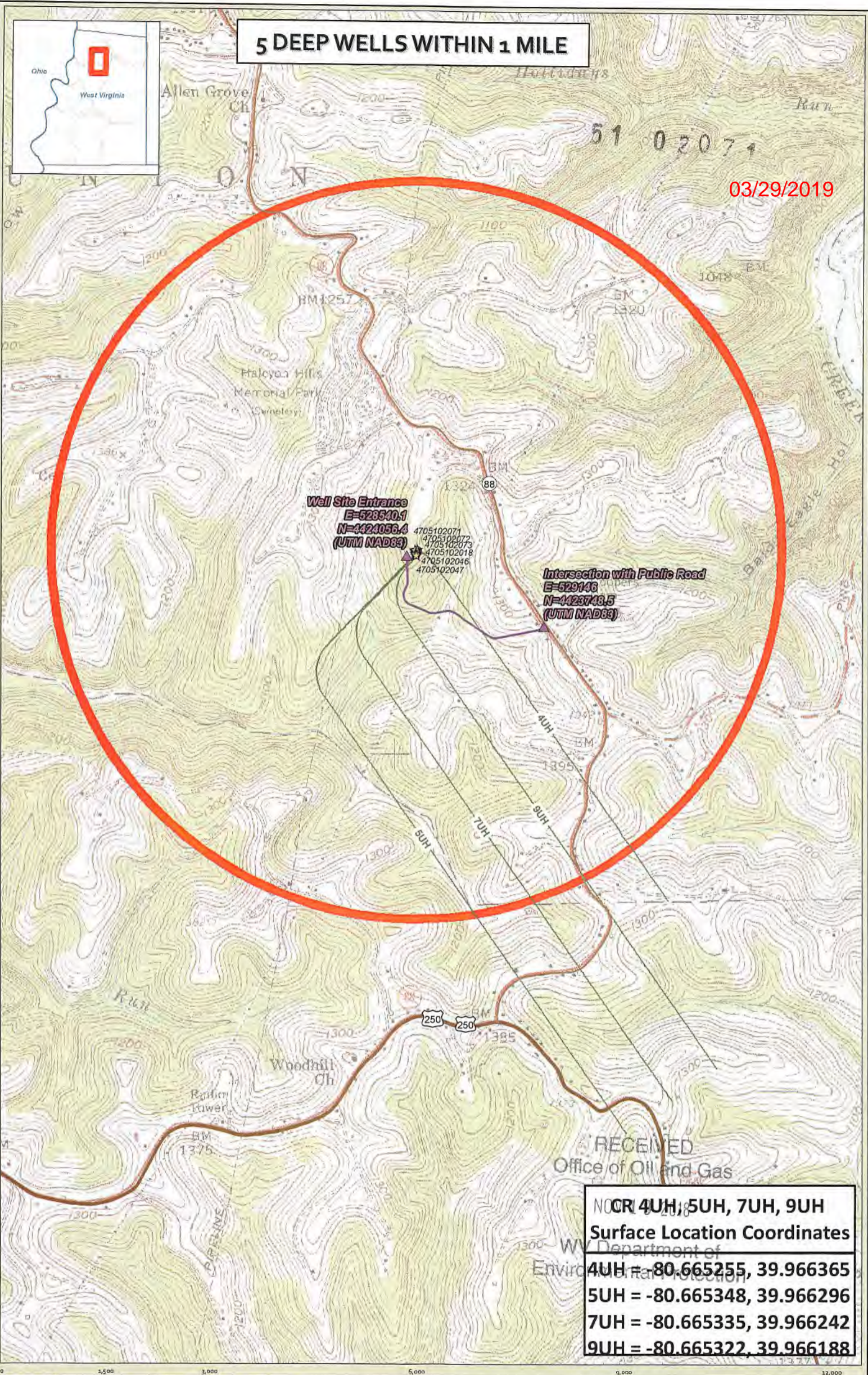


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# 5 DEEP WELLS WITHIN 1 MILE



03/29/2019



**Well Site Entrance**  
**E=628540.1**  
**N=4424056.4**  
**(UTM NAD83)**

4705102071  
 4705102072  
 4705102073  
 4705102018  
 4705102046  
 4705102047

**Intersection with Public Road**  
**E=529146**  
**N=4423743.5**  
**(UTM NAD83)**

**CR 4UH, 5UH, 7UH, 9UH**  
**Surface Location Coordinates**

4UH = -80.665255, 39.966365  
 5UH = -80.665348, 39.966296  
 7UH = -80.665335, 39.966242  
 9UH = -80.665322, 39.966188

**CR 4UH, 5UH, 7UH, 9UH - Deep Wells 1 Mile**

Marshall County  
 West Virginia

Coordinate System: Coordinate System: NAD 2011 UTM Zone 17N  
 Projection: Transverse Mercator  
 Datum: North American 1983  
 Linear Units: Meter

Map Scale Units:  
 1:18,000  
 1 inch = 1,500 feet

Map Author: JKS  
 Map Date: 3/26/2019

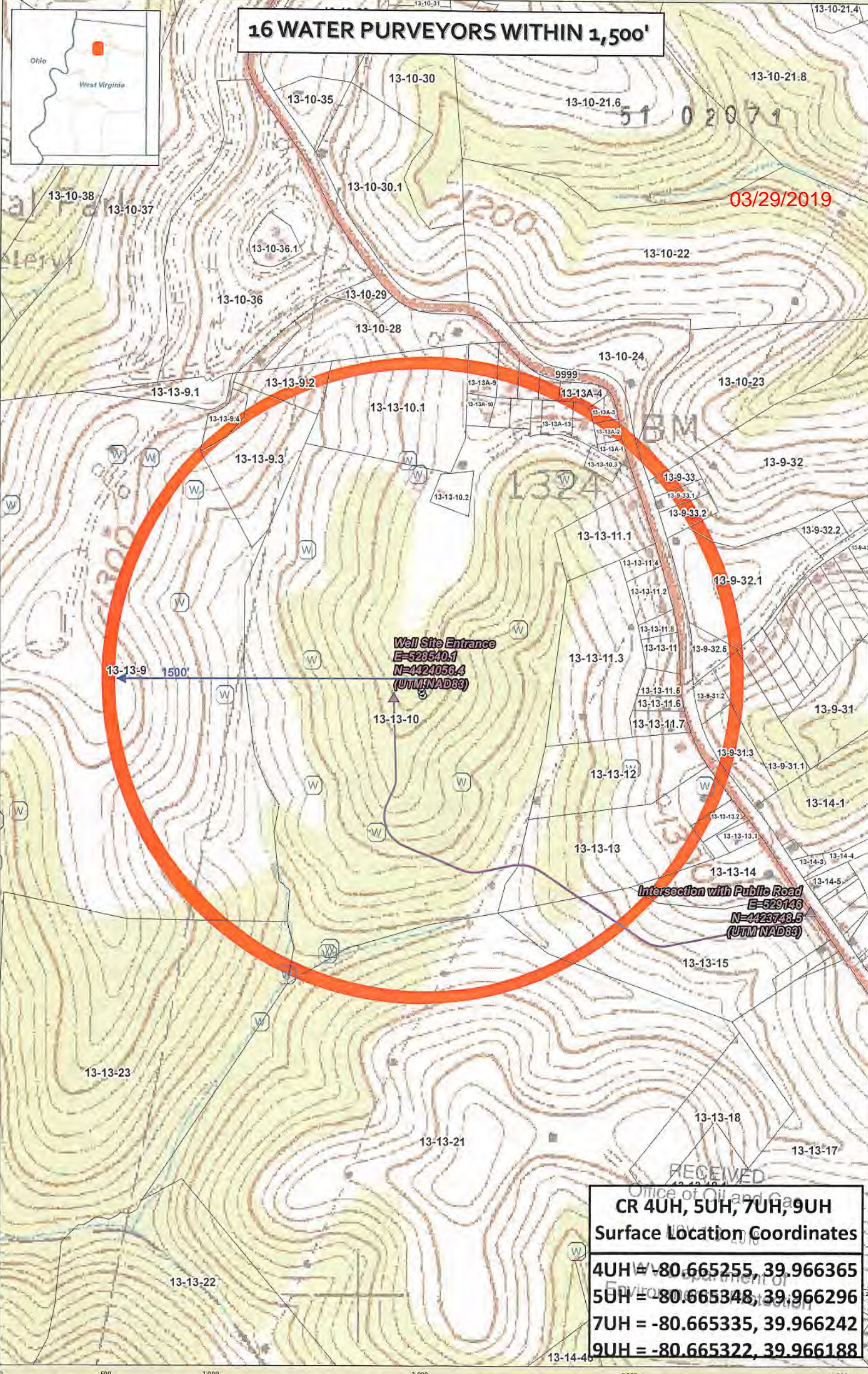
- Well SHL
- Laterals
- 1 mile buffer
- ☆ Utica Permit
- ☆ Utica Well
- ▲ Access Rd Intersection
- Access Road
- US Route
- State Route



**16 WATER PURVEYORS WITHIN 1,500'**



03/29/2019



**CR 4UH, 5UH, 7UH, 9UH**  
**Surface Location Coordinates**

4UH =	-80.665255, 39.966365
5UH =	-80.665348, 39.966296
7UH =	-80.665335, 39.966242
9UH =	-80.665322, 39.966188

**CR 4UH, 5UH, 7UH, 9UH - Water Source**

Marshall County West Virginia  
 Coordinate System: NAD 83 UTM Zone 17N  
 Projection: Transverse Mercator  
 Datum: North American 1983  
 Map Scale Units: 1:8,000  
 1 inch = 660 feet  
 Map Author: JKS  
 Map Date: 11/2/2018

Well SHL	Access Rd Intersection	Water Well
Well Pad	Access Road	1,500' Buffer
Parcels		





03/29/2019

**Well Site Entrance**  
**E=528540.1**  
**N=4424056.4**  
**(UTM NAD83)**

**Intersection with Public Road**  
**E=529146**  
**N=4423746.5**  
**(UTM NAD83)**

**CR 4UH, 5UH, 7UH, 9UH  
 Surface Location Coordinates**

4UH = -80.665255, 39.966365  
 5UH = -80.665348, 39.966296  
 7UH = -80.665335, 39.966242  
 9UH = -80.665322, 39.966188

**CR 4UH, 5UH, 7UH, 9UH - Floodplain**

Marshall County West Virginia  
 Coordinate System: Coordinate System: NAD 1983 UTM Zone 17N  
 Projection: Transverse Mercator  
 Datum: North American 1983  
 Map Scale Units: 1:18,000  
 1 inch = 1,500 feet  
 Map Author: JKS  
 Map Date: 12/7/2018

Well SHL	Access Rd Intersection	Streams
Unit	Access Road	Floodplain