

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

API 47-033-05869 County Harrison District Grant
Quad Mount Clare Pad Name Tony's Bridge Field/Pool Name _____
Farm name Lynch Farms, LLC Well Number 211
Operator (as registered with the OOG) Mountaineer Keystone, LLC
Address 6031 Wallace Rd Ext., Suite 300 City Wexford State PA Zip 15090

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4342411.57 Easting 555523.82
Landing Point of Curve Northing 4342191.52 Easting 555113.27
Bottom Hole Northing 4344141.10 Easting 554403.31

Elevation (ft) 1141.0 GL Type of Well New Existing Type of Report Interim Final
Permit Type Deviated Horizontal Horizontal 6A Vertical Depth Type Deep Shallow
Type of Operation Convert Deepen Drill Plug Back Redrilling Rework Stimulate
Well Type Brine Disposal CBM Gas Oil Secondary Recovery Solution Mining Storage Other _____
Type of Completion Single Multiple Fluids Produced Brine Gas NGL Oil Other _____
Drilled with Cable Rotary

Drilling Media Surface hole Air Mud Fresh Water Intermediate hole Air Mud Fresh Water Brine
Production hole Air Mud Fresh Water Brine

Mud Type(s) and Additive(s)
Synthetic Oil-based Mud

Date permit issued 12/5/2016 Date drilling commenced 2/17/2017 Date drilling ceased 2/28/2017
Date completion activities began 04/03/2017 Date completion activities ceased _____
Verbal plugging (Y/N) NA Date permission granted NA Granted by NA

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Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug

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Freshwater depth(s) ft _____ Open mine(s) (Y/N) depths N
Salt water depth(s) ft _____ Void(s) encountered (Y/N) depths N
Coal depth(s) ft _____ Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

APPROVED

NAME: Sam Ward

DATE: 8/24/17

Reviewed by:

296
09/15/2017

API 47- 033 - 05869

Farm name Lynch Farms, LLC

Well number 211

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/ N) * Provide details below*
Conductor	30"	24"	80'	New	94.00	NA	Y
Surface	17.5"	13 3/8"	372'	New	54.50	120'	Y
Coal							
Intermediate 1	12 1/4"	9 5/8"	2,410'	New	40.00	NA	Y
Intermediate 2							
Intermediate 3							
Production	8 1/2"	5 1/2"	14,814'	New	20.00	NA	Y
Tubing							
Packer type and depth set							

Comment Details Cement to surface on Conductor, Surface, and Intermediate. Top of Cement at 1,220ft

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft ³ /sks)	Volume (ft ³)	Cement Top (MD)	WOC (hrs)
Conductor	A	230	15.60	1.20	276	Surface	8+
Surface	A	400	15.6	1.18	472	Surface	8+
Coal							
Intermediate 1	A	489/172	14.5/15.7	1.55/1.29	758/222	Surface	8
Intermediate 2							
Intermediate 3							
Production	A	2,496	13.80	1.27	3170	1220	8+
Tubing							

Drillers TD (ft) 14,590

Loggers TD (ft) NA

Deepest formation penetrated Marcellus

Plug back to (ft) NA

Plug back procedure NA

Kick off depth (ft) KOP of Curve at 6,859 ft, No Plug

Check all wireline logs run caliper density deviated/directional induction
 neutron resistivity gamma ray temperature sonic

Well cored Yes No Conventional Sidewall Were cuttings collected Yes No

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING

24" - No centralizers 13 3/8" - one bow spring centralizer on every other joint 9 5/8" - one bow spring centralizer every third joint from TD to surface 5 1/2" - one semi rigid centralizer on every joint from TD of casing to end of curve. Then every other joint to KOP. Every third joint from KOP to 400' then

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WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS Well completed in 35 Stages, 1400 perforations WV Department of Environmental Protection

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

WERE TRACERS USED Yes No TYPE OF TRACER(S) USED _____

09/15/2017

API 47-033 - 05869 Farm name Lynch Farms, LLC Well number 211

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
		See Attached			

Please insert additional pages as applicable.

STIMULATION INFORMATION PER STAGE

Complete a separate record for each stimulation stage.

Stage No.	Stimulations Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/other (units)
			See Attached					

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Please insert additional pages as applicable.

Stage No.	Perforation Date	Perforated from MD Ft.	Perforated to MD Ft.	Number of Perforations	Formation(s)
1	5/10/2017	7768	7930	40	Marcellus Shale
2	5/10/2017	7968	8130	40	Marcellus Shale
3	5/9/2017	8168	8330	40	Marcellus Shale
4	5/9/2017	8368	8530	40	Marcellus Shale
5	5/9/2017	8568	8730	40	Marcellus Shale
6	5/9/2017	8768	8930	40	Marcellus Shale
7	5/8/2017	8968	9130	40	Marcellus Shale
8	5/8/2017	9168	9330	40	Marcellus Shale
9	5/7/2017	9368	9530	40	Marcellus Shale
10	5/7/2017	9568	9730	40	Marcellus Shale
11	5/6/2017	9768	9930	40	Marcellus Shale
12	5/6/2017	9968	10130	40	Marcellus Shale
13	5/6/2017	10168	10330	40	Marcellus Shale
14	5/6/2017	10368	10530	40	Marcellus Shale
15	5/5/2017	10568	10722	40	Marcellus Shale
16	5/5/2017	10758	10912	40	Marcellus Shale
17	5/5/2017	10948	11110	40	Marcellus Shale
18	5/4/2017	11148	11298	40	Marcellus Shale
19	5/4/2017	11338	11492	40	Marcellus Shale
20	5/4/2017	11528	11682	40	Marcellus Shale
21	5/2/2017	11720	11872	40	Marcellus Shale
22	5/2/2017	11908	12062	40	Marcellus Shale
23	5/1/2017	12098	12252	40	Marcellus Shale
24	5/1/2017	12288	12442	40	Marcellus Shale
25	4/30/2017	12478	12632	40	Marcellus Shale
26	4/30/2017	12668	12822	40	Marcellus Shale
27	4/30/2017	12858	13012	40	Marcellus Shale
28	4/29/2017	13048	13202	40	Marcellus Shale
29	4/29/2017	13238	13392	40	Marcellus Shale
30	4/29/2017	13590	13744	40	Marcellus Shale
31	4/28/2017	13780	13934	40	Marcellus Shale
32	4/28/2017	13970	14129	40	Marcellus Shale
33	4/27/2017	14167	14329	40	Marcellus Shale
34	4/27/2017	14367	14529	40	Marcellus Shale
35	4/8/2017	14567	14573	40	Marcellus Shale
36	4/8/2017	14618	14624	40	Marcellus Shale
37	4/8/2017	14670	14676	40	Marcellus Shale
38	4/8/2017	14722	14728	40	Marcellus Shale

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Stage Number	Stimulations Date	Average Rate (bpm)	Average Pressure (psi)	Breakdownr ISIP Pressure (psi)	Sand Volume lbs	Water Volume Bbls	
1	4/27/2017	80	7716	5089	5104	499580	11505
2	4/27/2017	80	7856	6165	4526	497800	12556
3	4/28/2017	80	7617	6563	4903	500720	10278
4	4/28/2017	80	7706	6464	5134	504200	10169
5	4/28/2017	80	7519	6114	5006	504540	10310
6	4/29/2017	81	7943	6386	4973	468400	12487
7	4/29/2017	81	7784	6220	5159	502440	10295
8	4/29/2017	79	7920	6230	4955	502560	11936
9	4/30/2017	81	7833	6390	5104	510340	11003
10	4/30/2017	80	7932	6287	5643	503540	10511
11	4/30/2017	79	7920	6356	5071	500160	10264
12	5/1/2017	81	7846	6600	5075	503100	10373
13	5/2/2017	81	7836	6253	5042	489280	10732
14	5/2/2017	80	7767	6151	5364	362800	9269
15	5/3/2017	80	7731	6103	4986	502000	11376
16	5/4/2017	73	8028	6104	5003	507200	15677
17	5/4/2017	81	7632	6443	5096	501620	12365
18	5/4/2017	78	8158	6291	5303	305300	11381
19	5/5/2017	80	7598	6055	5206	510340	10399
20	5/5/2017	81	7566	6234	4981	504720	10502
21	5/5/2017	80	7716	6144	5003	503120	12098
22	5/6/2017	80	7623	6259	5032	457360	9248
23	5/6/2017	79	7449	6002	5413	292600	6439
24	5/6/2017	79	7444	6151	4782	500260	11963
25	5/7/2017	77	7317	6074	4833	504080	10591
26	5/7/2017	81	7242	6824	4652	501440	10580
27	5/8/2017	80	7349	6706	5311	507160	9554
28	5/8/2017	76	7550	6097	5173	460660	10372
29	5/8/2017	80	7211	5780	5315	503740	9333
30	5/9/2017	76	7218	5992	5254	287680	6880
31	5/9/2017	75	7355	5919	4976	506080	11951
32	5/9/2017	80	7222	6116	5217	501840	9300
33	5/10/2017	78	7624	6211	4934	500520	10126
34	5/10/2017	78	7504	5860	5449	505860	9123
35	5/10/2017	81	7335	6252	5305	511160	10023

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API 47- 033 - 05869 Farm name Lynch Farms, LLC Well number 211

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>			
<u>Marcellus Shale</u>	<u>7,235'</u>	<u>TVD</u>	<u>7,576</u>	<u>MD</u>
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface _____ psi Bottom Hole _____ psi DURATION OF TEST _____ hrs

OPEN FLOW Gas _____ mcfpd Oil _____ bpd NGL _____ bpd Water _____ bpd GAS MEASURED BY Estimated Orifice Pilot

LITHOLOGY/ FORMATION	TOP	BOTTOM	TOP	BOTTOM	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H ₂ S, ETC)
	DEPTH IN FT NAME TVD	DEPTH IN FT TVD	DEPTH IN FT MD	DEPTH IN FT MD	
Sand/silt	0	1080	0	1080	Sand/silt
Pittsburgh Coal	1080	1110	1080	1110	Coal
Big Lime	1560	1620	1560	1620	Limestone
Thirty Foot Sand	2130	2160	2130	2160	Sandstone, gas
Balltown	3320	4020	3320	4020	Sandstone
Bradford	4020	4590	4020	4590	Sandstone
Benson	4590	4830	4590	4830	Sandstone
Elk	4830	6931	4830	6931	Siltstone
Burkett	6898	6946	7216	7270	Shale
Tully	6946	6999	7270	7333	Limestone
Mahantango	6999	7163	7333	7576	Shale
Marcellus	7163	7208	7576	7669	Shale, gas
Purcell	7208	7212	7669	7678	Limestone
Lower Marcellus	7212	7225	7678	14825	Shale, gas

Please insert additional pages as applicable.

Drilling Contractor H&P
Address 1437 South Boulder Ave. City Tulsa State OK Zip 74119

Logging Company NA
Address _____ City _____ State _____ Zip _____

Cementing Company Universal Well Services
Address 18360 Technology Dr Box 4 City Meadville State PA Zip 16335

Stimulating Company Keane Group
Address 2121 Sage Road City Houston, State TX Zip 77056

Please insert additional pages as applicable.

Completed by Arsenal Resources Telephone _____
Signature [Signature] Title ADMINISTRATIVE MANAGER Date 8-10-17

Submission of Hydraulic Fracturing Chemical Disclosure Information Attach copy of FRACFOCUS Registry

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Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	4/27/2017
Job End Date:	5/10/2017
State:	West Virginia
County:	Harrison
API Number:	47-033-05869-00-00
Operator Name:	Arsenal Resources
Well Name and Number:	Tonys Bridge 211H
Latitude:	39.22901000
Longitude:	-80.35701000
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	7,242
Total Base Water Volume (gal):	15,850,128
Total Base Non Water Volume:	0



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Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
Water	Ascent	Carrier/Base Fluid	Water	7732-18-5	100.00000	88.30317	None
Sand (Proppant)	Keane	Proppant	Crystalline silica: Quartz (SiO2)	14808-60-7	100.00000	11.16673	None
Hydrochloric Acid (7.5%)	Keane	Acid Inhibitor	Water	7732-18-5	92.50000	0.37690	None
			Hydrochloric Acid	7647-01-0	7.50000	0.03056	None
KFR-16FW	Keane	Friction Reducer	Water	7732-18-5	60.00000	0.05943	None
			Distillates (petroleum), hydrotreated light	64742-47-8	20.00000	0.01981	None
			ammonium chloride	12125-02-9	1.50000	0.00149	None
			oleic acid diethanolamide	93-83-4	1.50000	0.00149	None
			alcohols, C12-16, ethoxylated	68551-12-2	1.00000	0.00099	None
MBC-516	Keane	Biocide	Water	7732-18-5	56.70000	0.00515	None
			Glutaral	111-30-8	26.70000	0.00243	None

			didecyldimethylammonium chloride	7173-51-5	8.00000	0.00072	None
			quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	5.30000	0.00048	None
			ethonal	64-17-5	2.80000	0.00025	None
KLSI-21	Keane	Scale Inhibitor					
			polyphosphoric acids, esters with triethanolamine, sodium salts	68131-72-6	30.00000	0.00379	None
KAI-12	Keane	Acid Inhibitor					
			Ethylene glycol	107-21-1	40.00000	0.00075	None
			dipropylene glycol, monomethyl ether	34590-94-8	20.00000	0.00037	None
			Ethoxylated alcohol	68131-39-5	10.00000	0.00019	None
			Tar bases, quinoline derivs., benzyl chloride-quaternized	72480-70-7	10.00000	0.00019	None
			formic acid	64-18-6	10.00000	0.00019	None
			Cinnamaldehyde	104-55-2	10.00000	0.00019	None
			isopropyl alcohol	67-63-0	5.00000	0.00009	None
Ingredients shown above are subject to 29 CFR 1910.1200(i) and appear on Material Safety Data Sheets (MSDS). Ingredients shown below are Non-MSDS.							
Other Chemical(s)	Listed Above	See Trade Name(s) List					
			Water	7732-18-5	92.50000	0.37690	
			Distillates (petroleum), hydrotreated light	64742-47-8	20.00000	0.01981	
			Glutaral	111-30-8	26.70000	0.00243	
			oleic acid diethanolamide	93-83-4	1.50000	0.00149	
			ammonium chloride	12125-02-9	1.50000	0.00149	
			alcohols, C12-16, ethoxylated	68551-12-2	1.00000	0.00099	
			didecyldimethylammonium chloride	7173-51-5	8.00000	0.00072	
			quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	5.30000	0.00048	
			dipropylene glycol, monomethyl ether	34590-94-8	20.00000	0.00037	
			ethonal	64-17-5	2.80000	0.00025	
			Tar bases, quinoline derivs., benzyl chloride-quaternized	72480-70-7	10.00000	0.00019	
			Ethoxylated alcohol	68131-39-5	10.00000	0.00019	
			Cinnamaldehyde	104-55-2	10.00000	0.00019	
			formic acid	64-18-6	10.00000	0.00019	
			isopropyl alcohol	67-63-0	5.00000	0.00009	
			Water	7732-18-5	85.00000		

* Total Water Volume sources may include fresh water, produced water, and/or recycled water

** Information is based on the maximum potential for concentration and thus the total may be over 100%

Note: For Field Development Products (products that begin with FDP), MSDS level only information has been provided.

Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)

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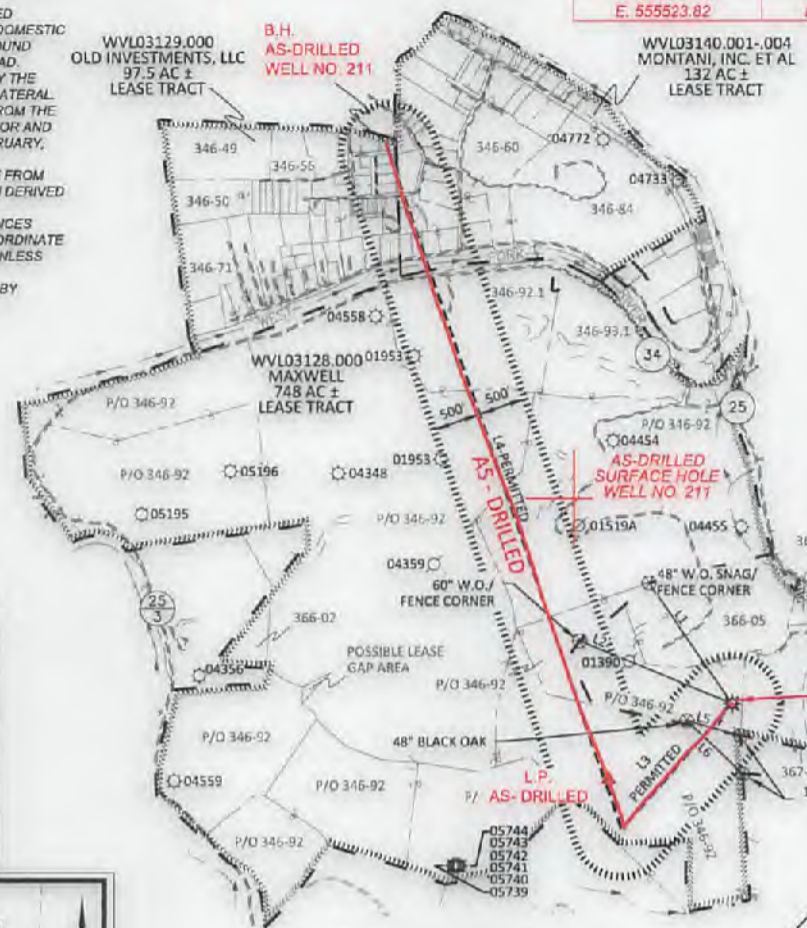
WV Department of
Environmental Protection

BOTTOM HOLE SURVEYED LONGITUDE 80°22'10.76" SURFACE HOLE SURVEYED LONGITUDE 80°21'24.15" 10,287' 6,622' LATITUDE: 39°15'00"

MOUNTAINEER KEYSTONE, LLC
WELL NO. 211 - TONY'S BRIDGE
47-033-05869

MOUNTAINEER KEYSTONE, LLC WELL NO. 211 (AS-DRILLED 47-033-05869)		
TOP HOLE (T.H.)	LANDING POINT (L.P.)	BOTTOM HOLE (B.H.)
LAT. / LON. (WGS 84): LAT. 39°13'45.21" LON. -80°21'24.15" UTM ZONE 17 (NAD 83) METERS): N. 4342411.57 E. 555523.82	LAT. / LON. (WGS 84): LAT. 39°13'37.32" LON. -80°21'40.43" UTM ZONE 17 (NAD 83) METERS): N. 4342165.47 E. 555135.13	LAT. / LON. (WGS 84): LAT. 39°14'42.55" LON. -80°22'10.76" UTM ZONE 17 (NAD 83) METERS): N. 4344171.25 E. 554394.05

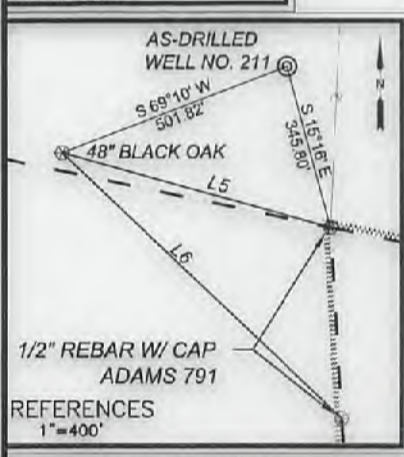
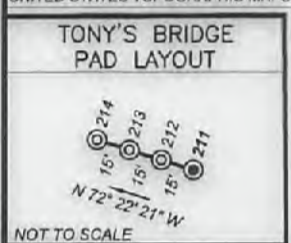
- NOTES ON SURVEY
- NO OCCUPIED DWELLINGS OR BUILDINGS 2500 SQUARE FEET OR LARGER USED TO HOUSE OR SHELTER DAIRY CATTLE OR POULTRY HUSBANDRY WITHIN 625 FEET OF THE CENTER OF THE WELL PAD WERE OBSERVED.
 - NO WATER WELLS OR DEVELOPED SPRINGS USED FOR HUMAN OR DOMESTIC ANIMAL CONSUMPTION WERE FOUND WITHIN 625 FEET OF THE WELL PAD.
 - NO ADJACENT LOTS ADJACENT TO THE PROPOSED TONY'S BRIDGE 211 LATERAL SURFACE OWNERSHIP TAKEN FROM THE HARRISON COUNTY TAX ASSESSOR AND COUNTY CLERK OFFICES IN FEBRUARY, 2015.
 - WELL LATITUDE AND LONGITUDE FROM SURVEY GRADE OPUS SOLUTION DERIVED ON FEBRUARY 20, 2015.
 - TIES TO CORNERS AND REFERENCES BASED ON WV STATE PLANE COORDINATE SYSTEM, NAD '83 NORTH ZONE UNLESS OTHERWISE NOTED.
 - LEASE INFORMATION PROVIDED BY MOUNTAINEER KEYSTONE, LLC.



SYMBOL	DESCRIPTION
--- ---	LEASE BOUNDARY
--- ---	OUTER LEASE BOUNDARY
--- ---	SURFACE BOUNDARY
---	CREEK/STREAM
---	ROADS
---	AS-DRILLED LATERAL
---	PROPOSED LATERAL
---	500' LATERAL OFFSET
○	EXISTING GAS WELL (active)
○	EXISTING GAS WELL (plugged)
○	EXISTING GAS WELL (never permitted)
○	FOUND MONUMENT (as noted)
○	TAX MAP AND PARCEL NO.
○	WHITE OAK FOUND

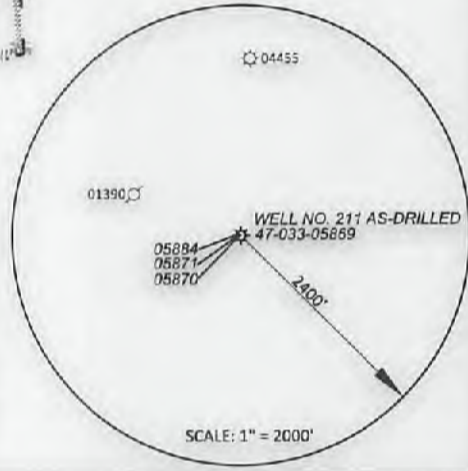
ID	BEARING	DISTANCE
L1	N 34°44' W	1522.90'
L2	N 27°46' W	1716.97'
L3	S 41°30' W	1737.63'
L4	N 19°03' W	6826.38'
L5	S 74°31' E	581.08'
L6	S 46°35' E	803.05'

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



MOUNTAINEER KEYSTONE, LLC WELL NO. 211		
LEASE NO.	LESSOR	LEASE AC.
WV03130.001-002	ALMETA L. DAWSON, ET AL	100
WV03129.000	FRANK J. MAXWELL	748
WV03140.001-004	MONTANI, INC. ET AL	132
WV03129.000	OLD INVESTMENTS, LLC	97.5

MOUNTAINEER KEYSTONE, LLC WELL NO. 211 (AS-PERMITTED)		
TOP HOLE (T.H.)	LANDING POINT (L.P.)	BOTTOM HOLE (B.H.)
LAT. / LON. (WGS 84): LAT. 39°13'45.21" LON. -80°21'24.15" UTM ZONE 17 (NAD 83) METERS): N. 4342411.57 E. 555523.82	LAT. / LON. (WGS 84): LAT. 39°13'38.17" LON. -80°21'41.34" UTM ZONE 17 (NAD 83) METERS): N. 4342191.52 E. 555113.27	LAT. / LON. (WGS 84): LAT. 39°14'41.57" LON. -80°22'10.38" UTM ZONE 17 (NAD 83) METERS): N. 4344141.10 E. 554403.31



600 Marketplace Avenue, Suite 200
 Bridgeport, WV 26330
 Toll Free 855-488-9539
 Fax 304-933-3327
Civil & Environmental Consultants, Inc.



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 rules issued and prescribed by the Division of Environmental Protection.

[Signature]

DATE JULY 11, 2017
 SCALE 1" = 2,000' ACCURACY 1:200
 OPERATORS WELL No. 211 AS-DRILLED
47-033-05869
 API No.

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



TYPE OF WELL:
 GAS:
 Production Storage *Deep *Shallow

PROPOSED WORK ON LOCATION:
 Drill Drill Deeper Redrill Convert
 Fracture/ Stimulate *Plug off to Formation
 Perforate New Formation Plug and Abandon
 Clean/ Replug Other Than Above
 If "Other" Please see Details below
 DETAILS OF PROPOSED WORK AS-DRILLED
 *TARGET FORMATION MARCELLUS
 ESTIMATED DEPTH TVD: ~7,226', TMD: ~14,825'

WELL AREA & LOCATION INFORMATION:
 ELEVATION SOURCE DGPS (OPUS)
 ELEVATION 1141.0' (GROUND), 1140.5' (PROPOSED)
 WATERSHED BROWN'S CREEK OF WEST FORK RIVER DISTRICT GRANT
 COUNTY HARRISON TOPO QUAD MOUNT CLARE
 SURFACE OWNER LYNCH FARM, LLC
 ACREAGE P/O 662.80 AC±
 ROYALTY OWNER ALMETA L. DAWSON & PATRICIA ANN VORE KOHLER
 LEASE ACREAGE 748, 132, 97.5, 100±

WELL OPERATOR MOUNTAINEER KEYSTONE, LLC
 ADDRESS 6031 WALLACE RD. EXT. SUITE 300
WEXFORD, PA 15090

DESIGNATED AGENT NATHAN SKEEN
 ADDRESS 45 PROFESSIONAL PLACE
BRIDGEPORT, WV 26330

LONGITUDE: 80°20'00" 1,766' BOTTOM HOLE SURVEYED LATITUDE 39°14'42.55" SURFACE HOLE SURVEYED LATITUDE 39°13'45.21"

MEXFORD, VA 20280

ADDRESS 8031 WATKINS RD, EXT. SUITE 300

METT OPERATOR MOUNTAINEER KEYSTONE, LLC

BRIDGEPORT, VA 20230

ADDRESS #2 PROFESSIONAL PLACE

DESIGNATED AGENT MATTHEW SKEEN

ESTIMATED DEPTH LWD: ~1,350', BWD: ~1,475',
*TARGET FORMATION MARCELLUS

DETAILS OF PROPOSED WORK V2-DRILLED
If "Other," please see Details below—
Cleanly Replug—Other than Above X
Refracture New Formation—Plug and Abandon—
Fracture Stimulate—*Plug off to Formation—
Drill—Drill Deeper—Re-drill—Convert—

LEASE ACREAGE 148, 135, 812, 1007
ROYALTY OWNER ANNEA L. DAWSON & PATRICIA ANN KONGER
ACREAGE 670 882.80 AC±
SURFACE OWNER GLYNN FARM, LLC
COUNTY HARRISON TOPO QUAD MOUNT 374E
WATERSHED BROMIUS CREEK OF WEST FORK RIVER DISTRICT CRAWF
ELEVATION 1141.0, (GROUND) 1140.2, (PROPOSED)
ELEVATION SOURCE DCBS (DBNS)

PROPOSED WORK ON LOCATION:

METT AREA & LOCATION INFORMATION:

Production X Storage *Deep *Shallow
CAS:

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



TYPE OF METT:

VBI NO.

47 - 033 - 02800

METT NO. 511 V2-DRILLED

SCALE 1" = 3,000', ACCURACY 1:500

Civil & Environmental Consultants, Inc.

Fax 304-833-3351
Tel 1666 822-488-8230
Bridgeport, VA 20230
800 Marketplace Avenue, Suite 500



Environmental Protection
and prescribed by the Division of
required by law and the rules issued
and belief and shows all the information
that is correct to the best of my knowledge
I, the undersigned, hereby certify that this

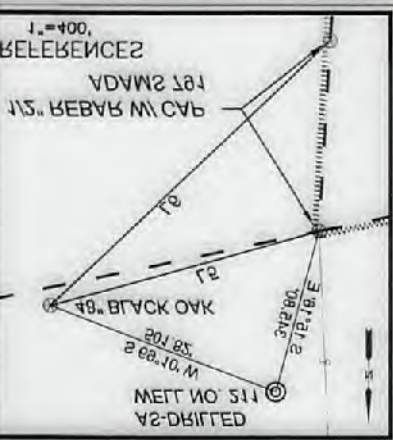


Table with 3 columns: METT NO. 511 (V2-DRILLED), METT NO. 511 (V2-DRILLED), METT NO. 511 (V2-DRILLED). Columns contain coordinates (UTM Zone, Easting, Northing) and elevations (Top Hole, Landing Point, Bottom Hole).

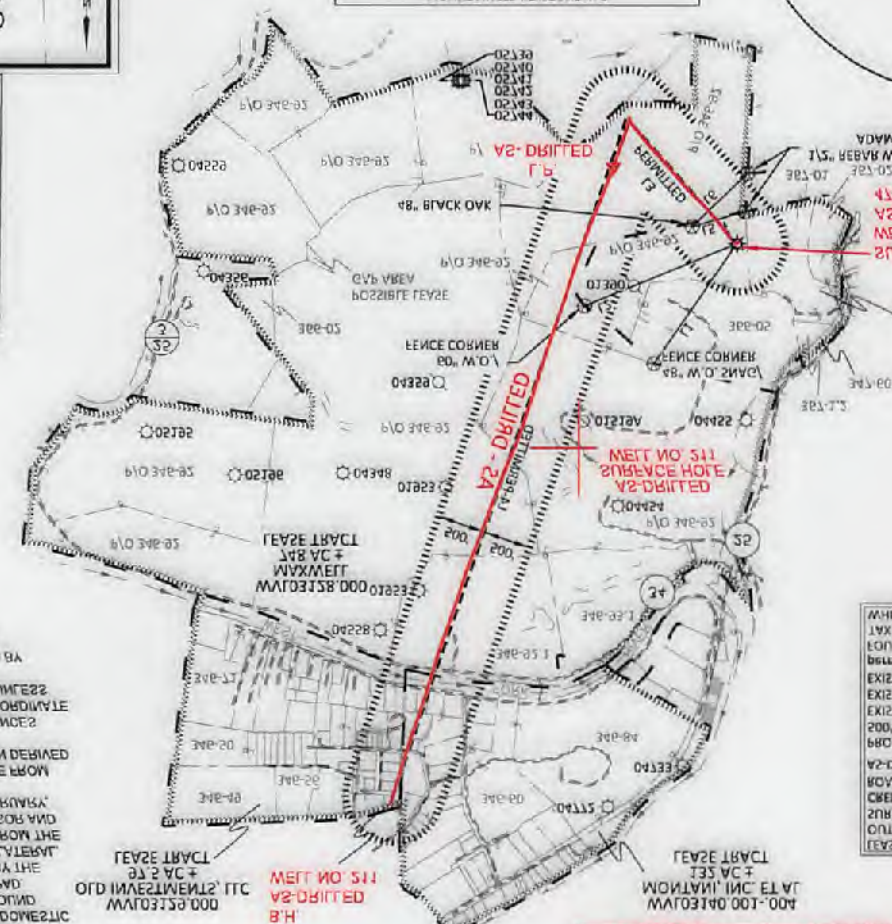
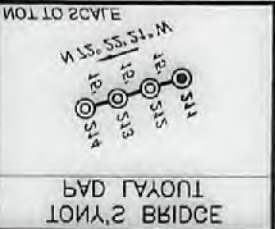
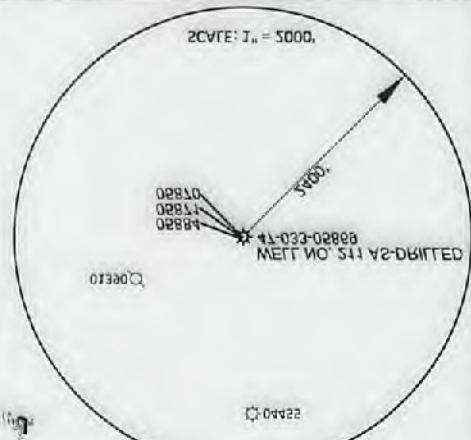
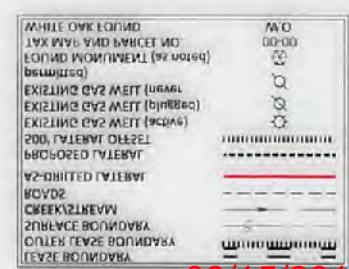


Table with 2 columns: METT NO. 511 (V2-DRILLED), METT NO. 511 (V2-DRILLED). Columns contain coordinates (UTM Zone, Easting, Northing) and elevations (Top Hole, Landing Point, Bottom Hole).



- 1. MOUNTAINEER KEYSTONE, LLC
LEASE INFORMATION PROVIDED BY
OTHERWISE NOTED
SYSTEM AND IS NOT TO BE USED
BASED ON VA STATE PLANE COORDINATE
TIES TO CORNERS AND REFERENCES
ON FEBRUARY 20, 2012
2. SURFACE EASEMENT SOLUTION DERIVED
METT LATITUDE AND LONGITUDE FROM
304E
3. COUNTY CLERK OFFICE IN HARRISON
HARRISON COUNTY TAX ASSESSORS AND
SURFACE OWNERSHIP TAKEN FROM THE
PROPOSED TONGS BRIDGE 511 LAYOUT
4. NO EASEMENTS ARE CROSSED BY THE
WITHIN 500 FEET OF THE METT AND
MINUT COMPASSION WERE FOUND
SERVICES USED FOR HUMAN OR DOMESTIC
5. NO WATER METTS OR DELETED
OBSERVED
OF THE CENTER OF THE METT PAD WERE
WENT THE HORIZONTAL WITHIN 50 FEET
HOLE OR SHELTER DIVERS CUTS OR
3000 SURFACE FEET OR NUMBER USED TO
1. NO OCCUPIED BUILDINGS OR BUILDINGS

47-033-02800
METT NO. 511 - TONGS BRIDGE
MOUNTAINEER KEYSTONE, LLC

Table with 3 columns: METT NO. 511 (V2-DRILLED), METT NO. 511 (V2-DRILLED), METT NO. 511 (V2-DRILLED). Columns contain coordinates (UTM Zone, Easting, Northing) and elevations (Top Hole, Landing Point, Bottom Hole).

BOTTOM HOLE SURVEYED LONGITUDE 80.55401381, SURFACE HOLE SURVEYED LONGITUDE 80.545412, LONGITUDE: 80.5000, 1.000, 38.4200, LATITUDE: 38.4200

SURFACE HOLE SURVEYED (LATITUDE 38.434251) (LONGITUDE: 80.5000, 1.000, 38.4200)

09/15/2017

**State of West Virginia
Department of Environmental Protection
Office of Oil and Gas**

**Well Operator's Report of
Initial Gas-Oil Ratio**

Well Operator Arsenal Resources LLC
Address 6031 Wallace Road Ext. Suite 300
Wexford, PA 15090

Designated Agent William Veigel
Address 65 Professional Place, Suite 200
Bridgeport, WV 26330

Geological Target Formation: Marcellus Depth 7550 MD feet
Perforation Interval 7768-14728 MD feet

Guidelines for testing:

1. A minimum of gas vented or flared.
2. A 24 hour pre-flow into pipelines or tanks.
3. Uniform producing rate during the 24 hour test per test period.
4. Measurement standards as for Form WR-39, "Report of Annual Production" (see 35CSR4-15)
5. Separate Form WR-36 for each producing formation in a multiple completion.

RECEIVED
Office of Oil and Gas

AUG 16 2017

WV Department of
Environmental Protection

TEST DATA

Start of Test Date 6/25/17	Time 09:00	End of Test Date 6/26/17	Time 08:00	Duration of Test 24 hrs
Tubing Pressure NA	Casing Pressure 1179	Separator Pressure 621	Separator Temperature 77	
Oil Production During Test 0 BBLs	Gas Production During Test 8718 MCF	Water Production During Test 561 BBLs 80,770 -Salinity		
Oil Gravity NA API	Producing Method (flowing, pumping, gas lift etc.) Flowing			

GAS PRODUCTION

Measurement Method Flange Tap <input checked="" type="checkbox"/> Pipe Tap <input type="checkbox"/> L-10 <input type="checkbox"/>		Positive Choke <input type="checkbox"/>
		Positive flow prover <input checked="" type="checkbox"/>
Orifice diameter	Pipe Diameter (inside)	Nominal Choke Size inches 48/64"
Differential Pressure range	Max. Static pressure range	Prover and Orifice diameter - inches 4" run with 2.75" orifice
Differential 40" H2O		Static
Gas Gravity (Air = 1.0) Measured .576 Estimated	Flowing Temperature 77	Gas Temperature 60
24 Hour Coefficient	24 Hour coefficient pressure PSIA	

TEST RESULTS

Daily Oil 0	Daily Water 561 BBL	Daily Gas 8718 MCF	Gas-Oil Ratio NA
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Arsenal Resources LLC

BY  Well Operator

ITS: Designated Agent