

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

API 47 - 033 - 05884 County Harrison District Grant  
Quad Mount Clare Pad Name Tony's Bridge Field/Pool Name \_\_\_\_\_  
Farm name Lynch Farms, LLC Well Number 214  
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 4342415.43 Easting 555510.46  
Landing Point of Curve Northing 4342414.34 Easting 555671.99  
Bottom Hole Northing 4344371.40 Easting 554958.32

Elevation (ft) 1139.6 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 2/10/2016 Date drilling commenced 3/01/2017 Date drilling ceased 03/10/2017  
Date completion activities began 4/3/2017 Date completion activities ceased \_\_\_\_\_  
Verbal plugging (Y/N) NA Date permission granted \_\_\_\_\_ Granted by \_\_\_\_\_

RECEIVED  
Office of Oil and Gas  
AUG 16 2017  
WV Department of  
Environmental Protection

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

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: Jee  
09/15/2017

API 47- 033 - 05884 Farm name Lynch Farms, LLC Well number 214

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"	373'	New	54.50	120'	Y
Coal							
Intermediate 1	12 1/4"	9 5/8"	2,419'	New	40.00	NA	Y
Intermediate 2							
Intermediate 3							
Production	8 1/2"	5 1/2"	14,566'	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 2150ft

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft <sup>3</sup> /sks)	Volume (ft <sup>3</sup> )	Cement Top (MD)	WOC (hrs)
Conductor	A	230	15.60	1.20	276	Surface	8+
Surface	A	420	15.60	1.20	504	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	2,454	13.8	1.33	3263	2150	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 6,674 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 2,500' the

RECEIVED  
Office of Oil and Gas

AUG 16 2017

WAS WELL COMPLETED AS SHOT HOLE  Yes  No DETAILS Completed 31 stages, 1,240 perforations WV Department of Environmental Protection

WAS WELL COMPLETED OPEN HOLE?  Yes  No DETAILS \_\_\_\_\_

WERE TRACERS USED  Yes  No TYPE OF TRACER(S) USED \_\_\_\_\_



Stage No.	Perforation Date	Perforated from MD Ft.	Perforated to MD Ft.	Number of Perforations	Formation(s)
1	4/25/2017	7718	7880	40	Marcellus Shale
2	4/25/2017	7918	8080	40	Marcellus Shale
3	4/24/2017	8118	8280	40	Marcellus Shale
4	4/24/2017	8318	8480	40	Marcellus Shale
5	4/24/2017	8518	8680	40	Marcellus Shale
6	4/24/2017	8718	8880	40	Marcellus Shale
7	4/23/2017	8918	9080	40	Marcellus Shale
8	4/23/2017	9118	9280	40	Marcellus Shale
9	4/23/2017	9318	9480	40	Marcellus Shale
10	4/22/2017	9518	9680	40	Marcellus Shale
11	4/22/2017	9718	9880	40	Marcellus Shale
12	4/22/2017	9918	10080	40	Marcellus Shale
13	4/21/2017	10118	10280	40	Marcellus Shale
14	4/21/2017	10321	10480	40	Marcellus Shale
15	4/21/2017	10518	10680	40	Marcellus Shale
16	4/20/2017	10718	10880	40	Marcellus Shale
17	4/20/2017	10918	11080	40	Marcellus Shale
18	4/20/2017	11118	11272	40	Marcellus Shale
19	4/19/2017	11308	11462	40	Marcellus Shale
20	4/19/2017	11498	11652	40	Marcellus Shale
21	4/19/2017	12300	12462	40	Marcellus Shale
22	4/18/2017	12502	12664	40	Marcellus Shale
23	4/18/2017	12704	12866	40	Marcellus Shale
24	4/18/2017	12906	13068	40	Marcellus Shale
25	4/17/2017	13108	13270	40	Marcellus Shale
26	4/17/2017	13310	13472	40	Marcellus Shale
27	4/17/2017	13512	13674	40	Marcellus Shale
28	4/16/2017	13714	13876	40	Marcellus Shale
29	4/16/2017	13916	14078	40	Marcellus Shale
30	4/15/2017	14120	14278	40	Marcellus Shale
31	4/11/2017	14320	14480	40	Marcellus Shale

RECEIVED  
Office of Oil and Gas  
AUG 16 2017  
WV Department of  
Environmental Protection

09/15/2017

Stage	Stimulation	Average	Average	Breakdown	ISIP	Sand	Water
Number	Date	Rate	Pressure	Pressure		Volume	Volume
		(bpm)	(psi)	(psi)	(psi)	lbs	Bbls
1	4/11/2017	67	8211	7176	4252	430920	8138
2	4/15/2017	72	8576	7263	5332	376680	11708
3	4/16/2017	75	8559	5919	4660	500720	12112
4	4/16/2017	70	8577	6282	4611	504020	13791
5	4/17/2017	73	8620	6220	5044	500540	10573
6	4/17/2017	74	8780	6069	4570	412200	11999
7	4/17/2017	75	8547	6097	5099	500240	10282
8	4/18/2017	79	8358	5904	4843	492100	10494
9	4/18/2017	78	8478	6508	4783	501960	12967
10	4/18/2017	79	8198	6081	5161	500640	11966
11	4/19/2017	81	8160	5894	5143	421460	8561
12	4/19/2017	79	7727	6371	4764	504300	9031
13	4/19/2017	78	8063	5816	5365	503060	12349
14	4/20/2017	80	7897	6078	4813	499380	9457
15	4/20/2017	79	7916	6124	4510	507280	11724
16	4/20/2017	79	7737	6012	4595	500260	11497
17	4/21/2017	80	7777	6022	4862	318700	7480
18	4/21/2017	79	7894	6215	5642	504300	12442
19	4/21/2017	81	7471	7557	4736	501000	10219
20	4/22/2017	80	7617	6363	4657	504600	9803
21	4/22/2017	81	7493	6215	4856	507100	9638
22	4/22/2017	81	7436	6589	5036	500140	9528
23	4/23/2017	78	8062	6279	4814	503440	14026
24	4/23/2017	80	7822	6599	4929	503660	10269
25	4/23/2017	74	7676	6629	4781	500280	12004
26	4/24/2017	80	7606	6697	4532	502400	11478
27	4/24/2017	81	7444	6955	4929	500140	9395
28	4/24/2017	80	7395	6449	4800	500280	9949
29	4/25/2017	80	7138	6946	5056	501500	9561
30	4/25/2017	80	7413	6782	4756	503100	9242
31	4/25/2017	80	7347	6614	5039	503820	9826

RECEIVED  
Office of Oil and Gas  
AUG 16 2017  
WV Department of  
Environmental Protection

09/15/2017

API 47- 033 - 05884 Farm name Lynch Farms, LLC Well number 214

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
<u>Marcellus Shale</u>	<u>7,150</u> TVD	<u>7,505</u> MD
_____	_____	_____
_____	_____	_____
_____	_____	_____

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 DEPTH IN FT NAME TVD	BOTTOM DEPTH IN FT TVD	TOP DEPTH IN FT MD	BOTTOM DEPTH IN FT MD	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H <sub>2</sub> S, ETC)
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	6906	6940	7110	7151	Shale
Tully	6940	6994	7151	7222	Limestone
Mahantango	6994	7116	7222	7422	Shale
Marcellus	7116	7150	7422	7505	Shale, gas
Purcell	7150	7167	7505	7554	Limestone
Lower Marcellus	7167	7235	7554	14590	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 PERMITTING MANAGER Date 8-10-17

RECEIVED  
Office of Oil and Gas  
AUG 16 2017  
WV Department of  
Environmental Protection

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

09/15/2017

## Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	4/11/2017
Job End Date:	4/25/2017
State:	West Virginia
County:	Harrison
API Number:	47-033-05884-00-00
Operator Name:	Arsenal Resources
Well Name and Number:	Tonys Bridge 214H
Latitude:	39.22923200
Longitude:	-80.35686000
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	7,246
Total Base Water Volume (gal):	14,233,842
Total Base Non Water Volume:	0

RECEIVED  
Office of Oil and Gas

AUG 16 2017

WV Department of  
Environmental Protection



### 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	88.26573	None
Sand (Proppant)	Keane	Proppant					
			Crystalline silica: Quartz (SiO2)	14808-60-7	100.00000	11.22191	None
Hydrochloric Acid (7.5%)	Keane	Acid Inhibitor					
			Water	7732-18-5	92.50000	0.36815	None
			Hydrochloric Acid	7647-01-0	7.50000	0.02985	None
KFR-16FW	Keane	Friction Reducer					
			Water	7732-18-5	60.00000	0.05699	None
			Distillates (petroleum), hydrotreated light	64742-47-8	20.00000	0.01900	None
			oleic acid diethanolamide	93-83-4	1.50000	0.00142	None
			ammonium chloride	12125-02-9	1.50000	0.00142	None
			alcohols, C12-16, ethoxylated	68551-12-2	1.00000	0.00095	None
MBC-516	Keane	Biocide					
			Water	7732-18-5	56.70000	0.00513	None
			Glutaral	111-30-8	26.70000	0.00241	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
KAI-12	Keane	Acid Inhibitor					
			Ethylene glycol	107-21-1	40.00000	0.00079	None
			dipropylene glycol, monomethyl ether	34590-94-8	20.00000	0.00039	None
			formic acid	64-18-6	10.00000	0.00020	None
			Cinnamaldehyde	104-55-2	10.00000	0.00020	None
			Tar bases, quinoline derivs., benzyl chloride-quaternized	72480-70-7	10.00000	0.00020	None
			Ethoxylated alcohol	68131-39-5	10.00000	0.00020	None
			isoproyl alcohol	67-63-0	5.00000	0.00010	None
KFR-17	Keane	Friciton Reducer					
			Distillates (petroleum), hydrotreated light	64742-47-8	45.00000	0.00133	None
			ethanediol	107-21-1	10.00000	0.00030	None
			Fatty alcohols ethoxylated	Proprietary	2.00000	0.00006	None
KSI-19	Keane	Scale Inhibitor					
			Methanol	67-56-1	30.00000	0.00162	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	0.36815	
			Distillates (petroleum), hydrotreated light	64742-47-8	20.00000	0.01900	
			Glutaral	111-30-8	26.70000	0.00241	
			oleic acid diethanolamide	93-83-4	1.50000	0.00142	
			ammonium chloride	12125-02-9	1.50000	0.00142	
			alcohols, C12-16, ethoxylated	68551-12-2	1.00000	0.00095	
			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	0.00039	
			ethanediol	107-21-1	10.00000	0.00030	
			ethonal	64-17-5	2.80000	0.00025	
			Ethoxylated alcohol	68131-39-5	10.00000	0.00020	
			Cinnamaldehyde	104-55-2	10.00000	0.00020	
			Tar bases, quinoline derivs., benzyl chloride-quaternized	72480-70-7	10.00000	0.00020	
			formic acid	64-18-6	10.00000	0.00020	
			isoproyl alcohol	67-63-0	5.00000	0.00010	
			Fatty alcohols ethoxylated	Proprietary	2.00000	0.00006	
			Water	7732-18-5	85.00000	0.00001	



\* 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(f) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)

RECEIVED  
Office of Oil and Gas  
AUG 16 2017  
WV Department of  
Environmental Protection

09/15/2017

**MOUNTAINEER KEYSTONE, LLC**  
**WELL NO. 214 - TONY'S BRIDGE**  
**47-033-05884**

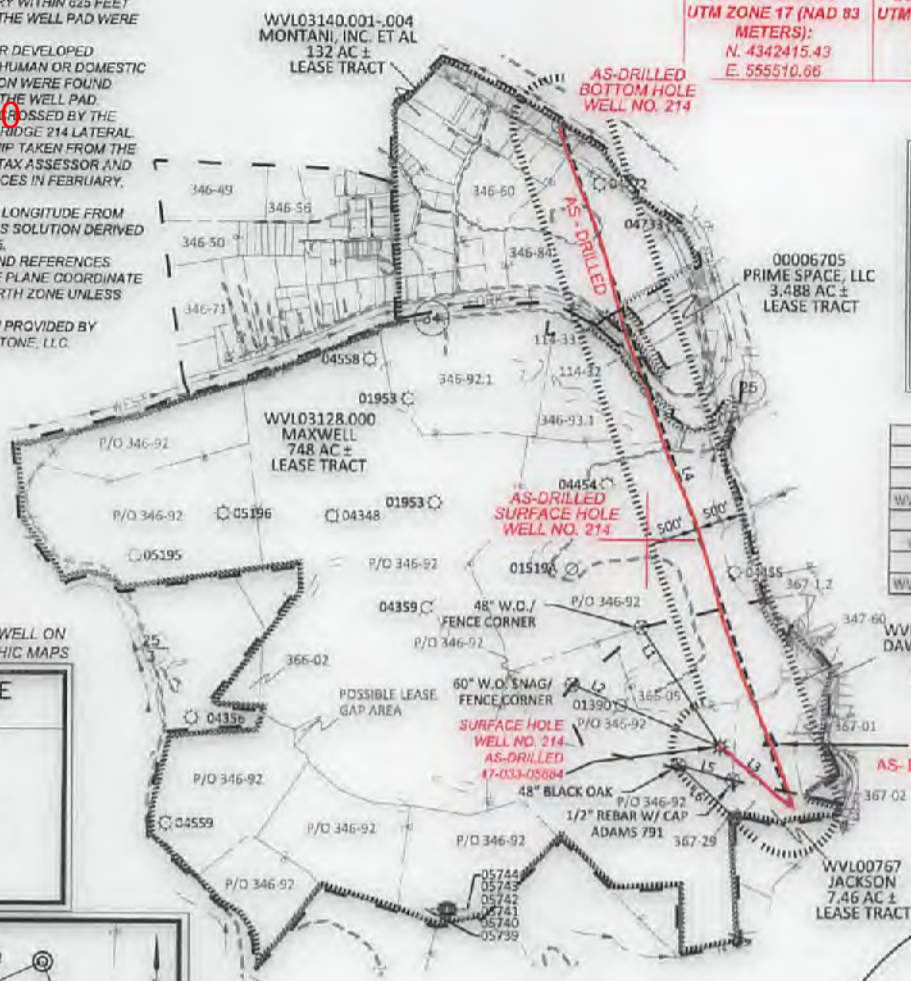
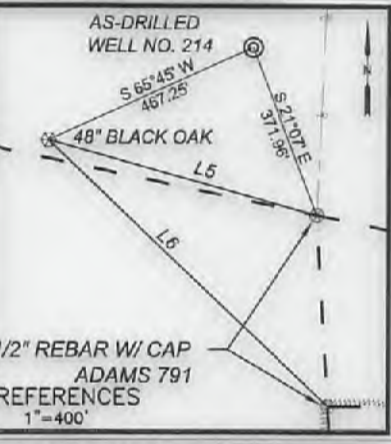
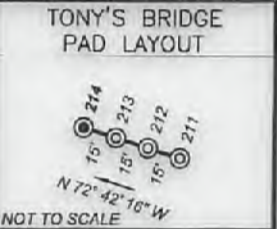
**MOUNTAINEER KEYSTONE, LLC**  
**WELL NO. 214 (AS-DRILLED 47-033-05884)**

TOP HOLE (T.H.)	LANDING POINT (L.P.)	BOTTOM HOLE (B.H.)
LAT. / LON. (WGS 84): LAT. 39°13'45.34" LON. -80°21'24.70" UTM ZONE 17 (NAD 83) METERS): N. 4342415.43 E. 555510.86	LAT. / LON. (WGS 84): LAT. 39°13'45.96" LON. -80°21'18.03" UTM ZONE 17 (NAD 83) METERS): N. 4342435.85 E. 555670.34	LAT. / LON. (WGS 84): LAT. 39°14'48.90" LON. -80°21'47.45" UTM ZONE 17 (NAD 83) METERS): N. 4344370.85 E. 554951.38

- 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 250 FEET OF THE WELL PAD.
  - 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 250 FEET OF THE WELL PAD.
  - 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.

ID	BEARING	DISTANCE
L1	N 33°41' W	1487.74'
L2	N 67°38' W	1572.14'
L3	S 50°05' E	956.48'
L4	N 19°05' W	6836.63'
L5	S 34°32' E	581.02'
L6	S 46°35' E	803.05'

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

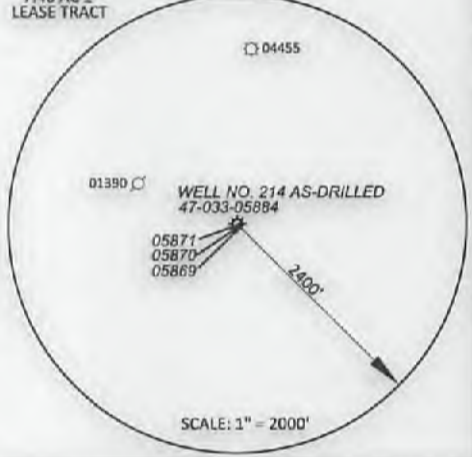


**LEASING INFORMATION**

LEASE NO.	LESSOR	LEASE AC.
WV103130.001-002	ALMETA L. DAWSON, ET AL	100
WV100767	MICHAEL L. JACKSON, ET UX	7.46
WV103128.000	FRANK J. MAXWELL	748
00006705	PRIME SPACE, LLC	3.488
WV103140.001-004	MONTANI, INC. ET AL	132

**MOUNTAINEER KEYSTONE, LLC**  
**WELL NO. 214 (AS-PERMITTED)**

TOP HOLE (T.H.)	LANDING POINT (L.P.)	BOTTOM HOLE (B.H.)
LAT. / LON. (WGS 84): LAT. 39°13'45.34" LON. -80°21'24.70" UTM ZONE 17 (NAD 83) METERS): N. 4342415.43 E. 555510.86	LAT. / LON. (WGS 84): LAT. 39°13'45.27" LON. -80°21'17.97" UTM ZONE 17 (NAD 83) METERS): N. 4342414.34 E. 555571.99	LAT. / LON. (WGS 84): LAT. 39°14'48.91" LON. -80°21'47.16" UTM ZONE 17 (NAD 83) METERS): N. 4344371.40 E. 554958.32



600 Marketplace Avenue, Suite 200  
 Bridgeport, WV 26330  
 Toll Free 855-488-9539  
 Fax 304-933-3327



**Civil & Environmental Consultants, Inc.**

DATE JULY 11, 2017  
 SCALE 1" = 2,000' ACCURACY 1:200  
 OPERATORS  
 WELL No. 214 AS-DRILLED  
47-033-05884  
 API No.

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: ~7,235', TMD: ~14,590'



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.

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



WELL AREA & LOCATION INFORMATION:  
 ELEVATION SOURCE DGPS (OPUS)  
 ELEVATION 1141.9' (GROUND), 1140.8' (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, 100, 7.46, 3.488 ±

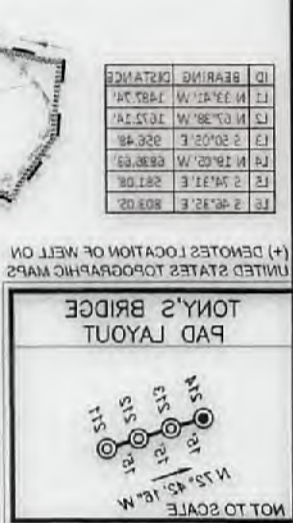
WELL OPERATOR MOUNTAINEER KEYSTONE, LLC  
 ADDRESS 6031 WALLACE RD. EXT. SUITE 300  
WEXFORD, PA 15090

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

LONGITUDE: 80°20'00" 1124' 7.554" SURFACE HOLE SURVEYED LATITUDE 39°14'48.90" SURFACE HOLE SURVEYED LATITUDE 39°13'45.34"

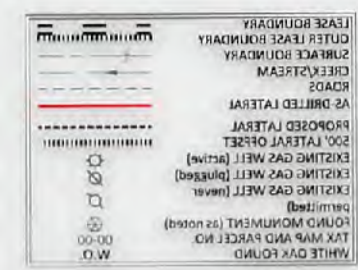
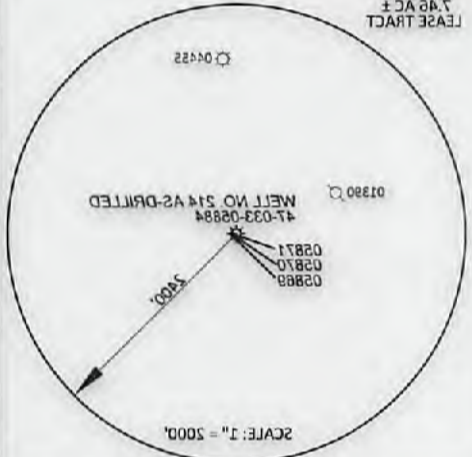
WELL NO. 214 - TONY'S BRIDGE  
 47-033-05884  
 MOUNTAINEER KEYSTONE, LLC

- NOTES ON SURVEY
1. NO OCCUPIED DWELLING OR BUILDING
  2. 2500 SQUARE FEET OR LARGER USED TO HOUSE OR SHELTER DAIRY CATTLE OR POLY-TURN HUSBANDRY WITHIN 525 FEET OF THE CENTER OF THE WELL PAD WERE OBSERVED
  3. NO WATER WELLS OR DEVELOPED SPRINGS USED FOR HUMAN OR DOMESTIC ANIMAL CONSUMPTION WERE FOUND WITHIN 250 FEET OF THE WELL PAD
  4. NO RAILROADS ARE CROSSED BY THE PROPOSED TONY'S BRIDGE 214 LATERAL SURFACE OWNERSHIP TAKEN FROM THE HARRISON COUNTY TAX ASSESSOR AND COUNTY CLERK OFFICES IN FEBRUARY, 2015
  5. WELL LATITUDE AND LONGITUDE FROM SURVEY GRADE OPUS SOLUTION DERIVED ON FEBRUARY 20, 2015
  6. BASED ON WV STATE PLANE COORDINATE SYSTEM, AND 83 NORTH ZONE NAD83 OTHERWISE NOTED
  7. LEASE INFORMATION PROVIDED BY MOUNTAINEER KEYSTONE, LLC



MOUNTAINEER KEYSTONE, LLC  
 WELL NO. 214 (AS-PERMITTED)

TOP HOLE (T.H.)	LANDING POINT (L.P.)	BOTTOM HOLE (B.H.)
LAT. 11.0N (WGS 84): LAT. 39°13'48.34" LON. -80°21'17.97" UTM ZONE 17 (NAD 83) METERS: N 4342414.34 E 888271.98	LAT. 11.0N (WGS 84): LAT. 39°13'48.34" LON. -80°21'17.97" UTM ZONE 17 (NAD 83) METERS: N 4342414.34 E 888271.98	LAT. 11.0N (WGS 84): LAT. 39°13'48.34" LON. -80°21'17.97" UTM ZONE 17 (NAD 83) METERS: N 4342414.34 E 888271.98



MOUNTAINEER KEYSTONE, LLC  
 WELL NO. 214

LEASE NO.	LESSOR	LEASE AC.
WV03130.001-005	ALMETA J. DAWSON, ET AL.	100
WV03130.006	MICHAEL J. JACKSON, ET AL.	7.48
WV03130.007	FRANK J. MAXWELL	7.48
00006702	PRIME SPACE LLC	3.488
WV03130.001-004	MOUNTAIN, INC. ET AL.	135

MOUNTAINEER KEYSTONE, LLC  
 WELL NO. 214 (AS-DRILLED 47-033-05884)

TOP HOLE (T.H.)	LANDING POINT (L.P.)	BOTTOM HOLE (B.H.)
LAT. 11.0N (WGS 84): LAT. 39°13'48.34" LON. -80°21'17.97" UTM ZONE 17 (NAD 83) METERS: N 4342414.34 E 888271.98	LAT. 11.0N (WGS 84): LAT. 39°13'48.34" LON. -80°21'17.97" UTM ZONE 17 (NAD 83) METERS: N 4342414.34 E 888271.98	LAT. 11.0N (WGS 84): LAT. 39°13'48.34" LON. -80°21'17.97" UTM ZONE 17 (NAD 83) METERS: N 4342414.34 E 888271.98

Civil & Environmental Consultants, Inc.  
 800 Marketplace Avenue, Suite 200  
 Bridgeport, WV 26330  
 Toll Free 855-488-8538  
 Fax 304-933-3357

DATE: JULY 11, 2017  
 SCALE: 1" = 2,000' ACCURACY: 1:200  
 OPERATORS: 214 AS-DRILLED  
 WELL No. 47-033-05884

APL No. \_\_\_\_\_  
 TYPE OF WELL: \_\_\_\_\_  
 GAS: \_\_\_\_\_  
 Production  Storage  \*Deep  \*Shallow   
 PROPOSED WORK ON LOCATION:  
 Drill — Drill Deeper — Redrill — Convert —  
 Fracture / Stimulate — \*Plug off to Formation —  
 Perform New Formation — Plug and Abandon —  
 Clean / Seal / Other Than Above   
 if "Other" Please see Details below —  
 DETAILS OF PROPOSED WORK AS-DRILLED  
 ESTIMATED DEPTH: TVD: ~7,235'; TMD: ~14,590'  
 \*TARGET FORMATION: MARCELLUS

WELL OPERATOR: MOUNTAINEER KEYSTONE, LLC  
 ADDRESS: 8031 WALLACE RD. EXT. SUITE 300  
 WEXFORD, PA 15090

I, the undersigned, hereby certify that this plot 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.

DENNIS E. MILLER  
 LICENSED PROFESSIONAL SURVEYOR  
 No. 981  
 STATE OF WEST VIRGINIA

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

WELL AREA & LOCATION INFORMATION:  
 LEASE ACRES: 748.132, 100.746, 3.488 ±  
 ROYALTY OWNER: ALMETA J. DAWSON & PATRICIA ANN VORE KOHLER  
 ACREAGE: P/O 662.80 AC ±  
 SURFACE OWNER: LYNCH FARM, LLC  
 COUNTY: HARRISON  
 TOPO QUAD: MOUNT CLARE  
 WATERSHED: BROWN'S CREEK OF WEST FORK RIVER DISTRICT GRANT  
 ELEVATION 1141.9' (GROUND), 1140.8' (PROPOSED)  
 ELEVATION SOURCE: DGPS (OPUS)

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

BOTTOM HOLE SURVEYED LATITUDE 39.141890, LONGITUDE 80.350000  
 SURFACE HOLE SURVEYED LATITUDE 39.134234, LONGITUDE 80.350000

BOTTOM HOLE SURVEYED LONGITUDE 80.211745, SURFACE HOLE SURVEYED LONGITUDE 80.211740

1151

**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 7400 feet  
Perforation Interval 7718-14480 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.

**TEST DATA**

Start of Test Date <b>6/22/17</b>	Time <b>21:00</b>	End of Test Date <b>6/23/17</b>	Time <b>20:00</b>	Duration of Test <b>24 hrs</b>
Tubing Pressure <b>NA</b>	Casing Pressure <b>1048</b>	Separator Pressure <b>570</b>	Separator Temperature <b>77</b>	
Oil Production During Test <b>0</b> BBLs	Gas Production During Test <b>8681</b> MCF	Water Production During Test <b>386</b> BBLs <b>87,790</b> -Salinity		
Oil Gravity <b>NA</b> API	Producing Method (flowing, pumping, gas lift etc.) <b>Flowing</b>			

**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 <b>48/64"</b>
Differential Pressure range	Max. Static pressure range	Prover and Orifice diameter - inches <b>4" run with 2.625" orifice</b>
Differential <b>58" H2O</b>		Static
Gas Gravity (Air = 1.0) Measured <b>.5767</b> Estimated	Flowing Temperature <b>77</b>	Gas Temperature <b>60</b>
24 Hour Coefficient	24 Hour coefficient pressure PSIA	

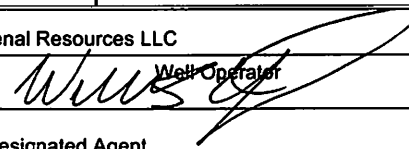
**TEST RESULTS**

Daily Oil <b>0</b>	Daily Water <b>386 BBL</b>	Daily Gas <b>8681 MCF</b>	Gas-Oil Ratio <b>NA</b>
-----------------------	-------------------------------	------------------------------	----------------------------

RECEIVED  
Office of Oil and Gas

**AUG 16 2017**

WV Department of  
Environmental Protection

Arsenal Resources LLC  
Well Operator  
BY:   
ITS: Designated Agent

09/15/2017