

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

API 47 - 091 - 01343 County Taylor District Courthouse
Quad Grafton Pad Name Coalquest 2 Field/Pool Name _____
Farm name Coalquest Development LLC Well Number 201
Operator (as registered with the OOG) Arsenal Resources
Address 6031 Wallace Rd. Ext 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 4350295.936 Easting 576711.553
Landing Point of Curve Northing 4350152.160 Easting 577318.744
Bottom Hole Northing 4347919.814 Easting 578102.764

Elevation (ft) 1265 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 muds

Date permit issued 9/19/2017 Date drilling commenced 10/09/2017 Date drilling ceased 10/20/2017
Date completion activities began 12/23/2017 Date completion activities ceased 02/27/2018
Verbal plugging (Y/N) N/A Date permission granted N/A Granted by N/A

Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug **RECEIVED**
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Freshwater depth(s) ft 400' Open mine(s) (Y/N) depths JUN 4 2018
Salt water depth(s) ft 1110' Void(s) encountered (Y/N) depths N
Coal depth(s) ft 552', 630', 712', 753', 847', 881', 910' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed by: ZCC

Reviewed

Sam Joseph 6-11-18

07/20/2018

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API 47-091 - 01343 Farm name Coalquest Development LLC Well number 201

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"	687' GL	New	54.50	120'	Y
Coal	NA	NA	NA	NA	NA	NA	NA
Intermediate 1	12 1/4"	9 5/8"	1,623' GL	New	40.00	NA	Y
Intermediate 2	NA	NA	NA	NA	NA	NA	NA
Intermediate 3	NA	NA	NA	NA	NA	NA	NA
Production	8 1/2"-8 3/4"	5.5"	16,284' GL	New	20.00	NA	N
Tubing	NA	NA	NA	NA	NA	NA	NA
Packer type and depth set		NA					

Comment Details Cement to surface on Conductor, Surface, and Intermediate. Top of production cement at 1,372 (GL)ft.

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	450	15.6	1.2	540	Surface	8+
Surface	A	635	15.6	1.2	762	Surface	8+
Coal	NA	NA	NA	NA	NA	NA	NA
Intermediate 1	A	203/315	15.2/15.7	1.26/1.28	256/403	Surface	8+
Intermediate 2	NA	NA	NA	NA	NA	NA	NA
Intermediate 3	NA	NA	NA	NA	NA	NA	NA
Production	A	1209/1934	13.8/15.0	1.34/1.29	1620/2495	1,372(GL)'	8+
Tubing	NA	NA	NA	NA	NA	NA	NA

Drillers TD (ft) 16,330 (GL) ft 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 7,325 (GL)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 20" - 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 1,400'; there will be no centralizers from 1,400' to surface.

WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS 39 Stages and 1,560 perforations

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS NA

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

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Perforation Record					
Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations (s)
Stage #39 of 39	2/27/2018 5:47	8,477.00	8,639.00	40	Marcellus Shale
Stage #38 of 39	2/26/2018 22:26	8,677.00	8,839.00	40	Marcellus Shale
Stage #37 of 39	2/26/2018 13:43	8,877.00	9,039.00	40	Marcellus Shale
Stage #36 of 39	2/26/2018 6:17	9,077.00	9,239.00	40	Marcellus Shale
Stage #35 of 39	2/25/2018 22:55	9,277.00	9,439.00	40	Marcellus Shale
Stage #34 of 39	2/25/2018 10:52	9,477.00	9,639.00	40	Marcellus Shale
Stage #33 of 39	2/25/2018 2:46	9,677.00	9,839.00	40	Marcellus Shale
Stage #32 of 39	2/24/2018 18:01	9,877.00	10,039.00	40	Marcellus Shale
Stage #31 of 39	2/24/2018 5:58	10,077.00	10,239.00	40	Marcellus Shale
Stage #30 of 39	2/23/2018 22:00	10,277.00	10,439.00	40	Marcellus Shale
Stage #29 of 39	2/23/2018 11:33	10,477.00	10,639.00	40	Marcellus Shale
Stage #28 of 39	2/23/2018 2:10	10,677.00	10,839.00	40	Marcellus Shale
Stage #27 of 39	2/22/2018 17:52	10,877.00	11,039.00	40	Marcellus Shale
Stage #26 of 39	2/22/2018 9:14	11,077.00	11,239.00	40	Marcellus Shale
Stage #25 of 39	2/22/2018 1:00	11,277.00	11,439.00	40	Marcellus Shale
Stage #24 of 39	2/21/2018 12:18	11,477.00	11,639.00	40	Marcellus Shale
Stage #23 of 39	2/21/2018 2:45	11,677.00	11,839.00	40	Marcellus Shale
Stage #22 of 39	2/20/2018 11:57	11,877.00	12,039.00	40	Marcellus Shale
Stage #21 of 39	2/20/2018 2:21	12,077.00	12,239.00	40	Marcellus Shale
Stage #20 of 39	2/19/2018 17:21	12,277.00	12,439.00	40	Marcellus Shale
Stage #19 of 39	2/19/2018 9:25	12,477.00	12,639.00	40	Marcellus Shale
Stage #18 of 39	2/18/2018 23:40	12,677.00	12,839.00	40	Marcellus Shale
Stage #17 of 39	2/18/2018 15:26	12,877.00	13,039.00	40	Marcellus Shale
Stage #16 of 39	2/17/2018 21:05	13,077.00	13,239.00	40	Marcellus Shale
Stage #15 of 39	2/17/2018 4:23	13,277.00	13,439.00	40	Marcellus Shale
Stage #14 of 39	2/16/2018 15:32	13,477.00	13,639.00	40	Marcellus Shale
Stage #13 of 39	2/15/2018 19:55	13,677.00	13,839.00	40	Marcellus Shale
Stage #12 of 39	2/14/2018 23:13	13,877.00	14,039.00	40	Marcellus Shale
Stage #11 of 39	2/13/2018 22:48	14,077.00	14,239.00	40	Marcellus Shale
Stage #10 of 39	2/12/2018 22:39	14,277.00	14,439.00	40	Marcellus Shale
Stage #9 of 39	2/11/2018 23:01	14,477.00	14,639.00	40	Marcellus Shale
Stage #8 of 39	2/10/2018 23:01	14,677.00	14,839.00	40	Marcellus Shale
Stage #7 of 39	2/6/2018 23:39	14,877.00	15,039.00	40	Marcellus Shale
Stage #6 of 39	2/6/2018 11:20	15,077.00	15,239.00	40	Marcellus Shale
Stage #5 of 39	2/6/2018 3:55	15,277.00	15,439.00	40	Marcellus Shale
Stage #4 of 39	2/5/2018 3:49	15,477.00	15,639.00	40	Marcellus Shale
Stage #3 of 39	2/4/2018 11:46	15,677.00	15,839.00	40	Marcellus Shale
Stage #2 of 39	2/3/2018 18:55	15,877.00	16,039.00	40	Marcellus Shale
1 of 39	1/21/2018 2:30	16,077.00	16,239.00	40	Marcellus Shale

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Stimulation Information Per 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)
1	02/03/2018	76.00	7,898	5884	4,705	495,040	12,408
2	02/04/2018	69.00	8,489	7860	4,887	497,720	14,006
3	02/04/2018	67.00	7,937	7110	4,667	500,100	12,707
4	02/05/2018	68.00	8,027	7660	4,848	503,040	12,579
5	02/06/2018	71.00	8,062	7218	4,922	500,000	12,905
6	02/06/2018	68.00	8,121	7337	5,152	500,100	13,944
7	02/10/2018	68.80	7,850	7437	5,369	499,840	12,451
8	02/11/2018	65.60	8,086	7592	5,603	499,780	12,844
9	02/12/2018	70.80	7,966	6599	5,342	496,880	11,656
10	02/13/2018	71.40	7,904	7710	5,448	499,100	11,752
11	02/14/2018	72.30	8,046	6373	5,267	500,360	12,320
12	02/15/2018	66.80	8,577	7528	5,576	498,080	14,317
13	02/16/2018	76.00	8,490	7391	5,212	482,220	14,964
14	02/16/2018	66.40	8,162	7156	5,576	503,520	12,741
15	02/17/2018	70.70	8,180	7260	5,697	497,460	12,757
16	02/18/2018	62.50	8,498	6769	6,242	347,340	13,971
17	02/18/2018	69.60	8,338	6684	5,661	502,100	13,798
18	02/19/2018	77.00	8,382	6226	4,970	502,180	11,518
19	02/19/2018	71.00	8,578	6565	5,455	499,540	12,523
20	02/19/2018	73.80	8,280	6601	5,939	495,260	11,767
21	02/20/2018	74.00	8,534	6789	5,273	550,940	12,603
22	02/20/2018	69.10	8,091	6644	5,091	501,820	12,045
23	02/21/2018	73.00	8,252	7560	5,030	495,360	10,475
24	02/21/2018	74.00	7,887	7306	5,012	497,500	11,006
25	02/22/2018	72.00	8,220	7081	5,030	500,760	10,506
26	02/22/2018	77.00	8,307	7171	5,394	501,820	10,126
27	02/22/2018	69.00	7,972	7988	5,082	500,500	10,907
28	02/23/2018	76.00	8,175	7048	5,576	495,180	10,803
29	02/23/2018	74.00	7,904	7572	5,247	498,040	10,633
30	02/24/2018	73.00	8,101	6985	5,064	500,800	10,947
31	02/24/2018	71.00	7,510	7774	5,879	504,960	12,810
32	02/24/2018	76.00	7,782	6506	5,564	499,500	11,279
33	02/25/2018	74.00	8,023	6893	5,450	495,960	11,908
34	02/25/2018	63.00	8,310	7039	6,547	368,600	15,677
35	02/26/2018	70.00	7,822	6592	5,374	495,540	12,435
36	02/26/2018	74.00	7,754	6890	4,970	495,260	12,443
37	02/26/2018	68.00	7,814	6832	4,711	498,710	12,432
38	02/27/2018	72.00	7,449	7395	4,594	500,360	10,982
39	02/27/2018	81.00	7,712	6856	5,333	500,360	10,982

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PRODUCING FORMATION(S)	DEPTHS	
Marcellus Shale	7,777'	TVD 16,330' 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 ₂ S, ETC)
Sand/Silt	0	552	0	552	Freshwater @ 400'
Sand/Silt/Coal	552	711	552	712	Bakerstown Coal @ 552' TVD, Brush Creek Coal @ 630'TVD
Sand/Silt/Coal	711	846	712	847	Upper Freeport @ 711' TVD, Lower Freeport @ 753' TVD
Sand/Silt/Coal	846	1662	847	1665	Upper Kittanning @ 846' TVD, Middle Kittanning @ 880' TVD, Lower Kittanning @ 909' TVD, Saltwater @ 1,100'
Big Lime	1662	1777	1665	1780	Limestone
Balltown	3265	3315	3320	3370	Sandstone
Elk Siltstone	4830	4883	4970	5023	Siltstone
Burkett	7435	7468	7766	7810	Shale
Tully	7471	7526	7810	7880	Limestone
Mahantango	7526	7700	7880	8184	Shale
Marcellus	7700	7752	8184	8372	Shale
Purcell	7752	7756	8372	8376	Limestone
Lower Marcellus	7756	7789*	8376	16330	Shale - Gas shows through lateral
Onondaga	7789*				*Onondaga not penetrated - top estimated based on 4709101108 thickness

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 C&J Energy Services, Inc.
Address 1650 Hackers Creek City Jane Lew State WV Zip 26044

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 304-629-6309 **WV Department of Environmental Protection**
Signature [Signature] Title Permitting Manager Date JUN 04 2018

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

07/20/2018

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	2/3/2018
Job End Date:	2/27/2018
State:	West Virginia
County:	Taylor
API Number:	47-091-01343-00-00
Operator Name:	Arsenal Resources
Well Name and Number:	Coal Quest II 201H
Latitude:	39.29864800
Longitude:	-80.11035600
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	7,687
Total Base Water Volume (gal):	20,551,188
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	89.47338	None
Sand (Proppant)	Keane	Proppant					
			Crystalline silica: Quartz (SiO2)	14808-60-7	100.00000	10.02545	None
Hydrochloric Acid (7.5%)	Keane	Acid Inhibitor					
			Water	7732-18-5	92.50000	0.35053	None
			Hydrochloric Acid	7647-01-0	7.50000	0.02842	None
KFR-16FW	Keane	Friction Reducer					
			Water	7732-18-5	60.00000	0.05869	None
			Distillates (petroleum), hydrotreated light	64742-47-8	20.00000	0.01956	None
			oleic acid diethanolamide	93-83-4	1.50000	0.00147	None
			ammonium chloride	12125-02-9	1.50000	0.00147	None
			alcohols, C12-16, ethoxylated	68551-12-2	1.00000	0.00098	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
KLSI-21	Keane	Scale Inhibitor	ethonal	64-17-5	2.80000	0.00025	None
			polyphosphoric acids, esters with triethanolamine, sodium salts	68131-72-6	30.00000	0.00408	None
KAI-12	Keane	Acid Inhibitor					
			Ethylene glycol	107-21-1	40.00000	0.00069	None
			dipropylene glycol, monomethyl ether	34590-94-8	20.00000	0.00035	None
			Ethoxylated alcohol	68131-39-5	10.00000	0.00017	None
			Tar bases, quinoline derivs., benzyl chloride-quaternized	72480-70-7	10.00000	0.00017	None
			formic acid	64-18-6	10.00000	0.00017	None
			Cinnamaldehyde	104-55-2	10.00000	0.00017	None
			isoproyl 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	0.35053	
			Distillates (petroleum), hydrotreated light	64742-47-8	20.00000	0.01956	
			Glutaral	111-30-8	26.70000	0.00243	
			oleic acid diethanolamide	93-83-4	1.50000	0.00147	
			ammonium chloride	12125-02-9	1.50000	0.00147	
			alcohols, C12-16, ethoxylated	68551-12-2	1.00000	0.00098	
			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	0.00035	
			ethonal	64-17-5	2.80000	0.00025	
			Cinnamaldehyde	104-55-2	10.00000	0.00017	
			formic acid	64-18-6	10.00000	0.00017	
			Tar bases, quinoline derivs., benzyl chloride-quaternized	72480-70-7	10.00000	0.00017	
			Ethoxylated alcohol	68131-39-5	10.00000	0.00017	
			isoproyl alcohol	67-63-0	5.00000	0.00009	
			Water	7732-18-5	85.00000	0.00000	

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* 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)

THRASHER

THE THRASHER GROUP, INC.
600 WHITE OAKS BLVD.
BRIDGEPORT, WV 26330
PHONE 304-624-4108

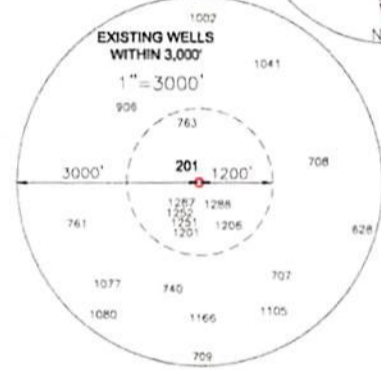
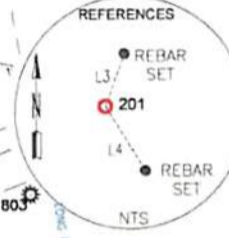
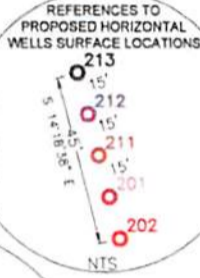
NOTES ON SURVEY

- COORDINATES SYSTEM IS UTM, NAD 83 DATUM, ZONE 17, U.S. FOOT AND WELL COORDINATES ESTABLISHED USING SURVEY GRADE GPS.
- EXISTING OIL & GAS ROYALTY OWNER INFORMATION AND THEIR LOCATIONS SHOWN HEREON WERE PLOTTED FROM DEEDS AND/OR TAX PARCEL MAPS PROVIDED BY CLIENT AND FIELD LOCATIONS.
- THIS PLAT DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARCELS SHOWN HEREON.
- NO DWELLINGS AND BUILDINGS WITHIN 625 FEET OF PROPOSED OF CENTER OF PAD.
- NO WATER WELLS OR DEVELOPED SPRINGS WITHIN 250 FEET OF PROPOSED WELL.
- NO PERENNIAL STREAMS, LAKES, PONDS, RESERVOIRS OR WETLANDS WITHIN 100 FEET OF THE LIMITS OF DISTURBANCE.
- NO NATURALLY PRODUCING TROUT STREAM WITHIN 300 FEET OF LIMITS OF DISTURBANCE.

8/20/2018

TRACT	SURFACE OWNER	TAX PARCEL	ACRES
1	COALQUEST DEVELOPMENT LLC	5-8-10-2	10
2	COALQUEST DEVELOPMENT LLC	5-8-26	1.14
3	RICOTTI C & P & SURV 1/2 INB T CORROTHERS & R RAGER	5-8-10-3	214.97
4	PHILLIPS DONALD H & WILLIAM	5-13-5-1	2.35
5	GERARD ELIZABETH/LEROY TRUSTEES	5-13A-13	0.20
6	KAMPAS LED & GERALDINE & SURV	5-13A-14	0.34
7	OCMAHRR LLC	5-13A-15	0.69
8	MOLLOHAN ROBERT WY SERVICE COMPANY	5-13A-9	0.23
9	KNOTT'S JAMES E (LIFE) TOBY L & SONYA A MOORE (LIFE)	5-13A-8-1	0.51
10	KNOTT'S JAMES E	5-13A-8	0.67
11	HELMICK MARY (LIFE) & NATHANIEL J MOORE	5-13A-7-1	0.35
12	MCDANIEL JEANNE LOETA	5-13A-4	1.69
13	LUCKEY DAVID C & JACQUELYN C & SURV	5-13-34	20.00
14	BOGESS ESTA A & WARREN L MULLAN & SURV	5-13-31-1	4.02
15	GREGORY HOLLIS	5-13-29	43.55
16	COALQUEST DEVELOPMENT, LLC	5-13-60	35.16

TRACT	ADJOINER	TAX PARCEL
A	SHEPP	5-13A-28
B	BALL	5-13A-28
C	COALQUEST DEV. LLC	5-13A-15.1
D	COALQUEST DEV. LLC	5-13A-16
E	MCDANIEL	5-13A-6
F	LUCKEY	5-13A-5
G	MYRLE	5-13A-19
H	MCDANIEL	5-13A-10
I	MCDANIEL	5-13A-11
J	MCDANIEL	5-13A-12

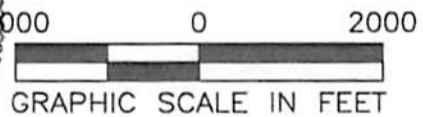


SURFACE HOLE LOCATION (SHL):		SURFACE HOLE LOCATION (SHL):	
UTM (NAD83, ZONE 17, METERS):	NORTHING: 4,350,295.936	UTM (NAD83, ZONE 17, METERS):	NORTHING: 4,350,295.936
	EASTING: 576,711.553		EASTING: 576,711.553
LANDING POINT LOCATION (LPL):		LANDING POINT LOCATION (LPL):	
UTM (NAD83, ZONE 17, METERS):	NORTHING: 4,350,165.339	UTM (NAD83, ZONE 17, METERS):	NORTHING: 4,350,165.339
	EASTING: 577,332.378		EASTING: 577,318.744
BOTTOM HOLE LOCATION (BHL):		BOTTOM HOLE LOCATION (BHL):	
UTM (NAD83, ZONE 17, METERS):	NORTHING: 4,347,905.749	UTM (NAD83, ZONE 17, METERS):	NORTHING: 4,347,919.814
	EASTING: 578,109.256		EASTING: 578,102.764

LINE	DESCRIPTION	DISTANCE	DESCRIPTION	MONUMENT
L1	S 77°34'55\" W	1039.13	SHL TO LANDMARK	FENCE POST CORNER
L2	S 04°47'43\" E	558.78	SHL TO LANDMARK	WELL # 1252
L3	N 20°03'55\" E	200.00	SHL TO LANDMARK	REBAR SET
L4	S 31°48'02\" E	273.40	SHL TO LANDMARK	REBAR SET

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 REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

P.S. 2270



<p>(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS</p> <p>WVDEP OFFICE OF OIL & GAS 601 57TH STREET CHARLESTON, WV 25034</p>	<p>MINIMUM DEGREE OF ACCURACY: 1/200</p> <p>PROVEN SURVEY SOURCE OF GRADE GPS ELEVATION: (NAVD 88, US FT)</p>	<p>COALQUEST 2</p> <p>OPERATOR'S WELL #: 201</p> <p>API WELL #: 47 91</p> <p>STATE COUNTY PERMIT</p>
	<p>WELL TYPE: OIL <input type="checkbox"/> WASTE DISPOSAL <input type="checkbox"/> PRODUCTION <input type="checkbox"/> DEEP <input type="checkbox"/> GAS <input checked="" type="checkbox"/> LIQUID INJECTION <input type="checkbox"/> STORAGE <input type="checkbox"/> SHALLOW <input checked="" type="checkbox"/></p> <p>WATERSHED: SAND LICK RUN OF SIMPSON CREEK</p> <p>DISTRICT: COURTHOUSE COUNTY: TAYLOR</p> <p>SURFACE OWNER: COALQUEST DEVELOPMENT LLC</p> <p>OIL & GAS ROYALTY OWNER: PATRIOT MINING, INC.</p> <p>DRILL <input type="checkbox"/> DRILL DEEPER <input type="checkbox"/> REDRILL <input type="checkbox"/> FRACTURE OR STIMULATE <input type="checkbox"/> PLUG OFF OLD FORMATION <input type="checkbox"/> PERFORATE NEW FORMATION <input type="checkbox"/></p> <p>CONVERT <input type="checkbox"/> PLUG & ABANDON <input type="checkbox"/> CLEAN OUT & REPLUG <input type="checkbox"/> OTHER CHANGE <input checked="" type="checkbox"/> (SPECIFY) AS-DRILLED</p> <p>TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: 7,777' TVD 16,330' TVD</p>	<p>DESIGNATED AGENT: WILLIAM VEIGEL</p> <p>ADDRESS: 65 PROFESSIONAL PLACE SUITE 20</p> <p>CITY: BRIDGEPORT STATE: WV ZIP CODE: 26330</p>
<p>LEGEND:</p> <ul style="list-style-type: none"> AS-DRILLED SURFACE HOLE / BOTTOM HOLE EXISTING / PRODUCING WELLHEAD LPL: LANDING POINT LOCATION EXISTING WATER WELL EXISTING SPRING SURVEYED BOUNDARY DRILLING UNIT LEASE BOUNDARY AS-DRILLED PATH PROPOSED PATH 500' BUFFER 	<p>REVISIONS:</p> <p>DATE: 01-10-2018</p> <p>DRAWN BY: R. DOERR</p> <p>SCALE: 1" = 2000'</p> <p>DRAWING NO: 030-3042</p> <p>WELL LOCATION PLAT</p>	

AS-DRIILLED SURFACE HOLE / BOTTOM HOLE	○
EXISTING / PRODUING WELLS	●
LANDING POINT LOCATION	⊗
EXISTING WATER WELL	⊙
EXISTING SPRING	⊕
500' BUFFER	—
PROPOSED PATH	—
AS-DRIILLED PATH	—
LEASE BOUNDARY	==
DRILLING UNIT	—
SURVEYED BOUNDARY	—

LEGEND:

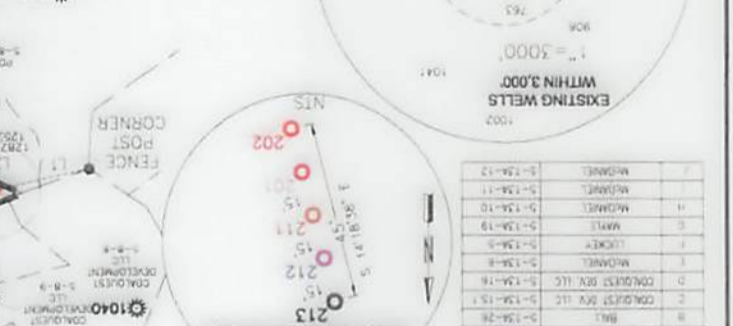
WELL OPERATOR: ARSENAL RESOURCES
 CITY: WEXFORD STATE: PA ZIP CODE: 15090
 ADDRESS: 6031 WALLACE ROAD EXTENSION #300
 DESIGNATED AGENT: WILLIAM VEIGEL
 CITY: BRIDGEPORT STATE: WV ZIP CODE: 26330

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

WELL LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS
 DEGREE OF ACCURACY: 1/200
 PROVEN SOURCE OF GRADE GPS ELEVATION: (NAVD 88, US FT)
 WDEP OFFICE OF OIL & GAS
 601 57TH STREET
 CHARLESTON, WV 25034

LINE	DESCRIPTION	DISTANCE
L1	SHL TO LANDMARK FENCE POST CORNER	1039.12
L2	SHL TO LANDMARK WELLS 1252	568.78
L3	SHL TO LANDMARK REBAR SET	200.00
L4	SHL TO LANDMARK	273.40

UTM (NAD83, ZONE 17, METERS)	NORTHING	EASTING
SURFACE HOLE LOCATION (SHL)	4,350,295.936	576,711.553
LANDING POINT LOCATION (LPL)	4,350,165.339	577,318.744
BOTTOM HOLE LOCATION (BHL)	4,350,152.160	577,318.744
UTM (NAD83, ZONE 17, METERS)	4,347,905.749	578,102.764



TRACT	ADJACENT TAX PARCEL	AREA
1	COALQUEST DEV. LLC	0.15
2	COALQUEST DEV. LLC	0.15
3	COALQUEST DEV. LLC	0.15
4	COALQUEST DEV. LLC	0.15
5	COALQUEST DEV. LLC	0.15
6	COALQUEST DEV. LLC	0.15
7	COALQUEST DEV. LLC	0.15
8	COALQUEST DEV. LLC	0.15
9	COALQUEST DEV. LLC	0.15
10	COALQUEST DEV. LLC	0.15
11	COALQUEST DEV. LLC	0.15
12	COALQUEST DEV. LLC	0.15
13	COALQUEST DEV. LLC	0.15
14	COALQUEST DEV. LLC	0.15
15	COALQUEST DEV. LLC	0.15
16	COALQUEST DEV. LLC	0.15

NOTES ON SURVEY:
 1. COORDINATES SYSTEM IS UTM, NAD 83 DATUM, ZONE 17, U.S. FOOT AND WELL COORDINATES ESTABLISHED USING SURVEY BOUNDARIES SHOWN HEREON WERE PLOTTED FROM DEEDS
 2. SURFACE AND ROYALTY OWNER INFORMATION AND THEIR GRADE GPS
 3. THIS PLAN DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARCELS SHOWN HEREON
 4. NO DRAINAGE AND BUILDINGS WITHIN 625 FEET OF PROPOSED WELLS
 5. NO WATER WELLS OR DEVELOPED SPRINGS WITHIN 250 FEET OF CENTER OF PAD
 6. NO PERENNIAL STREAMS, LAKES, PONDS, RESERVOIRS OR WETLANDS WITHIN 100 FEET OF THE LIMITS OF DISTURBANCE
 7. NO NATURALLY PRODUCING ABOUT STREAM WITHIN 300 FEET OF LIMITS OF DISTURBANCE

REVISIONS:
 DATE: 01-10-2018
 DRAWN BY: R. DOERR
 SCALE: 1" = 2000'
 DRAWING NO: 030-3042
 WELL LOCATION PLAN

CONVERT PLUG & ABANDON
 DRILL DEEPER
 REDRILL
 FRACTURE OR STIMULATE
 PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION

COALQUEST 2
 OPERATOR'S WELL #:
 STATE: 91
 COUNTY PERMIT

APL WELL #:
 STATE: 47
 COUNTY PERMIT

DESIGNATED AGENT: WILLIAM VEIGEL
 CITY: BRIDGEPORT STATE: WV ZIP CODE: 26330
 ADDRESS: 65 PROFESSIONAL PLACE SUITE 20

WATERSHED: SAND LICK RUN OF SIMPSON CREEK
 DISTRICT: COURTHOUSE
 COUNTY: TAYLOR
 SURFACE OWNER: COALQUEST DEVELOPMENT LLC
 OIL & GAS ROYALTY OWNER: PATRIOT MINING, INC.
 DRILL DEEPER
 REDRILL
 FRACTURE OR STIMULATE
 PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION

ESTIMATED DEPTH:
 TARGET FORMATION: MARCELLUS
 CONVERT PLUG & ABANDON
 DRILL DEEPER
 REDRILL
 FRACTURE OR STIMULATE
 PLUG OFF OLD FORMATION
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