

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

RECEIVED
Office of Oil and Gas
JUN 30 2017
WV Department of
Environmental Protection

API 47-91-01305 County Taylor District Fetterman
Quad Gladesville Pad Name Pysell Field/Pool Name _____
Farm name Orthodox Education Society/Charles & Laverne Macdonald, ET AL Well Number 3HM
Operator (as registered with the OOG) PDC Mountaineer, LLC
Address 6031 Wallace Road Extension, 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 4,365,328.5 Easting 589,772.4
Landing Point of Curve Northing 4,365,480.1 Easting 590,228.5
Bottom Hole Northing 4,367,029.0 Easting 589,696.8

Elevation (ft) 1,886.25' 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 9/19/2014 Date drilling commenced 5/10/2015 Date drilling ceased 5/21/2015
Date completion activities began 8/18/2015 Date completion activities ceased 12/12/2015
Verbal plugging (Y/N) _____ Date permission granted _____ Granted by _____

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

Freshwater depth(s) ft 300' Open mine(s) (Y/N) depths N
Salt water depth(s) ft 910' Void(s) encountered (Y/N) depths N
Coal depth(s) ft 96', 278', 339', 401', 446', 478' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

APPROVED

NAME: Ernest Cheppoldt
DATE: 7-26-17

Reviewed by: EC
09/15/2017

API 47-91 - 01305 Farm name Orthodox Education Society/Charles & Laverne Macdonald, ET AL Well number 3HM

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"	20"	90'	New	94	N/A	Y
Surface	17.5"	13 3/8"	605'	New	54.5	N/A	Y
Coal							
Intermediate 1	12 1/4"	9 5/8"	2,569.6'	New	40	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8 3/4" & 8 1/2"	5 1/2"	13,970.0	New	20	N/A	N
Tubing							
Packer type and depth set							

Comment Details Top of cement for production string brought to 2,350'MD

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	Grout					Surface	8
Surface	Class A 2% CaCl ₂	540	15.6	1.2	648	Surface	8
Coal							
Intermediate 1	Class A	510/172	14.50/15.70	1.55/1.29	1012.38	Surface	8
Intermediate 2							
Intermediate 3							
Production	Type 1 4% Gel/Type 1 2% Gel	883/1,222	13.8/15.0	1.65/1.32	3069.99	2350'	8
Tubing							

Drillers TD (ft) 13,980'

Loggers TD (ft) 13,980'

Deepest formation penetrated Marcellus

Plug back to (ft) _____

Plug back procedure None

Kick off depth (ft) 7,478' MD

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 _____

13 3/8": 1 bow spring centralizer placed on every joint

9 5/8": 1 bow spring centralizer placed on every third joint

5 1/2": 1 rigid poly centralizer every joint in the lateral, 1 rigid poly centralizer every other joint through the curve, 1 rigid poly centralizer every third joint from kick off point to estimated TOC

WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS The well was completed in 27 stages with 1080 .45" entry hole 22.7 gram perforating charges.

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

WERE TRACERS USED Yes No TYPE OF TRACER(S) USED Protechnics fluid chemical tracers.

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PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
1	8/18/2015	13884	13722	40	Marcellus
2	8/21/2015	13684	13522	40	Marcellus
3	8/22/2015	13484	13322	40	Marcellus
4	8/27/2015	13284	13122	40	Marcellus
5	8/27/2015	13084	12922	40	Marcellus
6	8/28/2015	12884	12722	40	Marcellus
7	8/28/2015	12684	12522	40	Marcellus
8	8/29/2015	12484	12322	40	Marcellus
9	8/29/2015	12284	12122	40	Marcellus
10	8/30/2015	12084	11922	40	Marcellus
11	8/31/2015	11884	11722	40	Marcellus
12	8/31/2015	11684	11522	40	Marcellus
13	9/1/2015	11484	11322	40	Marcellus
14	9/1/2015	11284	11122	40	Marcellus
15	9/2/2015	11084	10922	40	Marcellus
16	9/2/2015	10884	10722	40	Marcellus

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)
1	8/21/15	68	7256	7000	4760	400121	9524	0
2	8/22/15	73	7914	7335	4942	427097	11187	0
3	8/27/15	72	8114	6489	5550	501902	15157	0
4	8/27/15	72	7676	6677	6069	500722	10182	0
5	8/28/15	75	7927	6291	6162	505522	11366	0
6	8/28/15	77	8014	6480	6348	501862	10900	0
7	8/29/15	77	7837	6362	6244	500262	12225	0
8	8/29/15	78	7997	6977	6337	500622	11492	0
9	8/30/15	71	8176	6534	6047	505962	13040	0
10	8/31/15	76	8141	7131	5279	481602	11931	0
11	8/31/15	76	8110	6516	4994	444161	11985	0
12	9/1/15	80	8188	7321	5565	504542	13172	0
13	9/1/15	79	8230	7145	5909	461202	12546	0
14	9/2/15	79	8047	8837	6949	501222	10751	0
15	9/2/15	76	8129	7485	5636	453482	11299	0
16	9/3/15	79	8218	6952	6198	506682	12452	0

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Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
17	9/3/2015	10684	10522	40	Marcellus
18	9/3/2015	10484	10322	40	Marcellus
19	9/3/2015	10284	10122	40	Marcellus
20	9/4/2015	10084	9922	40	Marcellus
21	9/5/2015	9884	9722	40	Marcellus
22	9/5/2015	9684	9522	40	Marcellus
23	9/6/2015	9484	9322	40	Marcellus
24	9/6/2015	9284	9122	40	Marcellus
25	9/7/2015	9084	8922	40	Marcellus
26	9/7/2015	8884	8722	40	Marcellus
27	9/7/2015	8684	8522	40	Marcellus

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17	9/3/15	81	7903	6863	5901	502142	9303	0
18	9/3/15	80	8237	7085	6137	500142	12001	0
19	9/5/15	82	8032	6795	6380	505322	9912	0
20	9/5/15	81	7855	6677	5811	503142	9035	0
21	9/5/15	82	7974	6992	5386	508282	11800	0
22	9/6/15	80	7987	6969	5506	500142	11208	0
23	9/6/15	77	8228	7070	4731	502702	14112	0
24	9/7/15	81	8074	7163	6348	502712	10235	0
25	9/7/15	80	7929	6967	6201	502712	9814	0
26	9/7/15	76	7533	6881	6051	500522	9576	0
27	9/8/15	76	7921	7052	4710	519660	12501	0

Please insert additional pages as applicable.

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<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	<u>TVD</u>	<u>MD</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

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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)
Sands, Silts, and Coals	0	1042	0	1042	Sand, Silt, and Coal
Big Lime	1042	2778	1042	2779	Sandstone
Balltown	2778	2848	2779	2849	Sandstone
Bradford	3508	3558	3509	3559	Sandstone
Benson	4197	4267	4199	4269	Sandstone
Elk	4543	4593	4544	4594	Siltstone
Burkett	7545	7555	7864	7875	Shale- Gas Show at 7865' MD
Tully	7555	7616	7875	7976	Limestone
Mahantango	7616	7811	7976	8300	Shale- Gas Show at 8090' MD
Marcellus	7811	7902	8300	13980	Shale-Gas shows through lateral
Purcell	7866	7869	8499	8505	Limestone
Onondaga	7902		N/A*		Limestone
					*Onondaga MD not listed- lateral drilled in Marcellus**Onondaga top estimated from 4709101126 thickness
					**Big Lime through Elk from 47091201126, Burkett to Lower Marcellus taken from mudlog

Please insert additional pages as applicable.

Drilling Contractor Sidewinder Drilling
Address 952 Echo Land, Suite 460 City Houston State TX Zip 77024

Logging Company _____
Address _____ City _____ State _____ Zip _____

Cementing Company Universal Well Services
Address _____ City Buckhannon State WV Zip 26201

Stimulating Company US Well Services
Address 770 South Post Oak Lane Suite 410 City Houston State TX Zip 77056

Please insert additional pages as applicable.

Completed by EDDIE CARROLL Telephone 724-980-1264
Signature [Signature] Title Permitting Manager Date 4-19-17

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

Hydraulic Fracturing Fluid Product Component Information Disclosure

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 JUN 9 2017
 Department of Environmental Protection
 WV

Job Start Date:	8/21/2015
Job End Date:	9/8/2015
State:	West Virginia
County:	Taylor
API Number:	47-091-01305-00-00
Operator Name:	Arsenal Resources
Well Name and Number:	Pysell 3HM
Latitude:	39.43283000
Longitude:	-79.95690000
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	7,707
Total Base Water Volume (gal):	12,965,316
Total Base Non Water Volume:	



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
Sand	U.S. Well Services, Inc.	Proppant					
				Listed Below			
Water	Arsenal Resources	Base Fluid					
				Listed Below			

SI-1100	U.S. Well Services, Inc.	Scale Inhibitor					
				Listed Below			
HCL Acid (3%-7.5%)	U.S. Well Services, Inc.	Bulk Acid					
				Listed Below			
HCL Acid (28%)	U.S. Well Services, Inc.	Bulk Acid					
				Listed Below			
AI-302	U.S. Well Services, Inc.	Acid Corrosion Inhibitors					
				Listed Below			
HCL Acid (12.6%-18.0%)	U.S. Well Services, Inc.	Bulk Acid					
				Listed Below			
K-BAC 1020	U.S. Well Services, Inc.	Anti-Bacterial Agent					
				Listed Below			
WFRA-1000	U.S. Well Services, Inc.	Friction Reducer					
				Listed Below			

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Items above are Trade Names with the exception of Base Water . Items below are the individual ingredients.							
			H2O	7732-18-5	100.00000	86.05649	
			Crystalline Silica, Quartz	14808-60-7	100.00000	13.32186	
			Water	7732-18-5	97.00000	0.44658	
			Hydrogen Chloride	7647-01-0	7.50000	0.04009	
			Water	7732-18-5	87.50000	0.03525	

			Water	7732-18-5	60.00000	0.03239	
			2-Propenoic acid, polymer with propenamide	9003-06-9	30.00000	0.01620	
			Hydrated light distillate (petroleum)	64742-47-8	30.00000	0.01328	
			Water	7732-18-5	80.00000	0.00983	
			Hydrogen Chloride	7647-01-0	18.00000	0.00842	
			2,2-dibromo-3-nitrilopropionamide	10222-01-2	20.00000	0.00426	
			Ethylene Glycol	107-21-1	25.00000	0.00347	
			Water	7732-18-5	72.00000	0.00290	
			Deionized Water	7732-18-5	28.00000	0.00244	
			Copolymer of Maleic and Acrylic Acid	52255-49-9	10.00000	0.00145	
			Hydrogen Chloride	7647-01-0	28.00000	0.00131	
			Potassium Salt of diethylene triamine penta (methylene phosphonic acid)	15827-60-8	7.50000	0.00124	
			Hexamethylene tramine penta (methylene phosphonic acid)	34690-00-1	5.00000	0.00080	
			Phosphino carboxylic acid polymer	71050-62-9	5.00000	0.00080	
			Water	7732-18-5	95.00000	0.00053	
			Hexamethylene diamine penta (methylene phosphonic acid)	23605-74-5	2.00000	0.00032	
			2-Propyn-1-olcompound with methyloxirane	38172-91-7	15.00000	0.00008	

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* Total Water Volume sources may include various types of water including fresh water, produced water, and recycled water
 ** Information is based on the maximum potential for concentration and thus the total may be over 100%
 *** If you are calculating a percentage of total ingredients do not add the water volume below the green line to the water volume above the green line

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.
- SURFACE AND ROYALTY OWNER INFORMATION AND THEIR BOUNDARIES 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 DEPTH 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.

AS-DRILLED COORDINATES:	
SURFACE HOLE LOCATION (SHL):	
UTM (NAD83, ZONE 17, METERS):	NORTHING: 4,365,328.47
	EASTING: 589,772.36
LANDING POINT LOCATION (LPL):	
UTM (NAD83, ZONE 17, METERS):	NORTHING: 4,365,483.69
	EASTING: 590,225.51
BOTTOM HOLE LOCATION (BHL):	
UTM (NAD83, ZONE 17, METERS):	NORTHING: 4,367,022.72
	EASTING: 589,689.23

PROPOSED COORDINATES:	
SURFACE HOLE LOCATION (SHL):	
UTM (NAD83, ZONE 17, METERS):	NORTHING: 4,365,328.5
	EASTING: 589,772.4
LANDING POINT LOCATION (LPL):	
UTM (NAD83, ZONE 17, METERS):	NORTHING: 4,365,480.8
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BOTTOM HOLE LOCATION (BHL):	
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	EASTING: 589,696.8

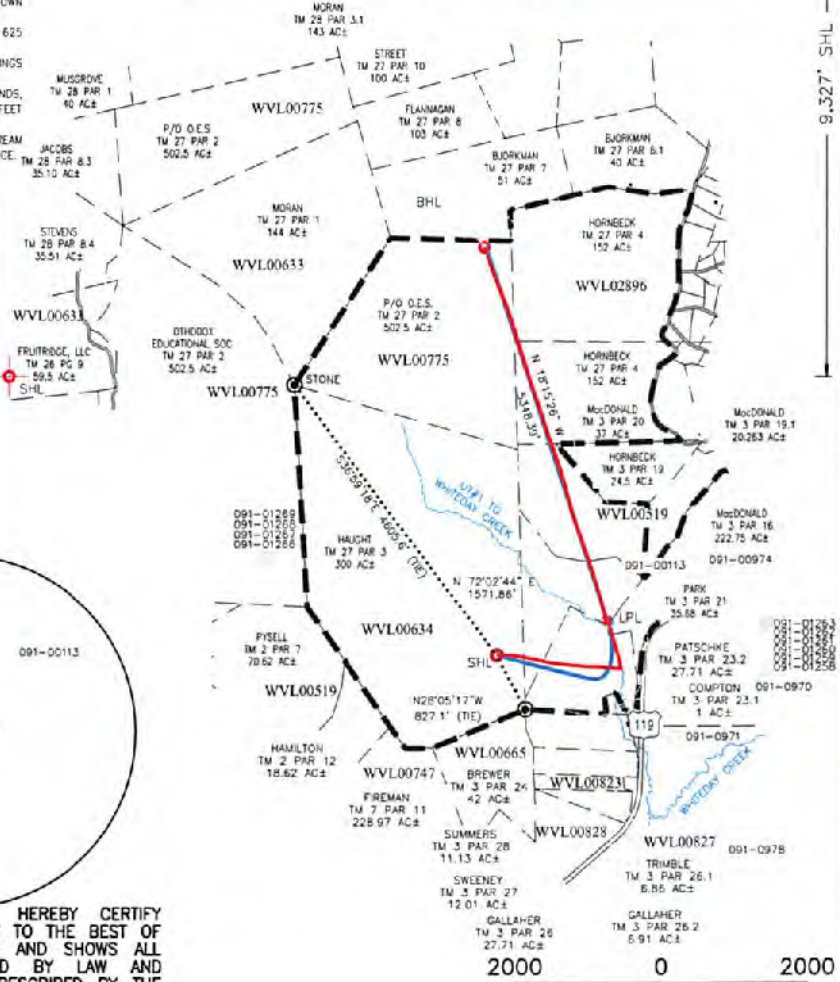
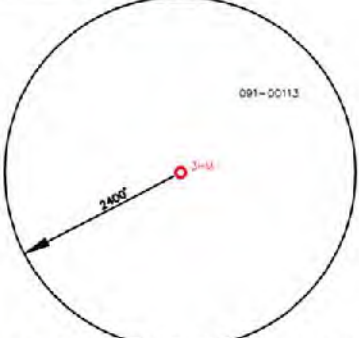
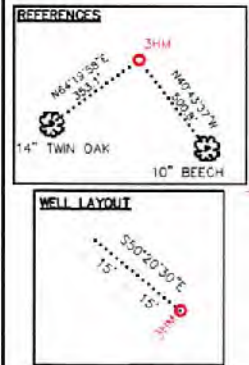
Longitude: 39°27'30"

Longitude: 79°55'00"

3,764' BHL

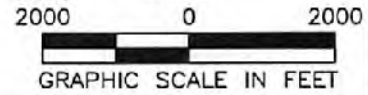
9,327' SHL

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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



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS WVDEP OFFICE OF OIL & GAS 601 57TH STREET CHARLESTON, WV 25034	MINIMUM DEGREE OF ACCURACY: 1 IN 2500 PROVEN SURVEY SOURCE OF ELEVATION: GRADE GPS (NAVD 88, US FT)	OPERATOR'S WELL #: PYSELL PAD 3HM API WELL #: 47 091 STATE COUNTY PERMIT
---	--	--

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

WATERSHED: WHITE DAY CREEK ELEVATION: 1886.25
 DISTRICT: FETTERMAN COUNTY: TAYLOR QUADRANGLE: GLADESVILLE 7.5'
 SURFACE OWNER: RUTH E. HAUGHT ACREAGE: 300 ±
 OIL & GAS ROYALTY OWNER: ORTHODOX EDUCATIONAL SOCIETY/CHARLES & LEVERNE MACDONALD/ CHARLES & LEVERNE MACDONALD, ET AL ACREAGE: 946.5 ± (LEASE)
 ESTIMATED DEPTH: 7,707 TVD 13,980 TMD

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

TARGET FORMATION: MARCELLUS SHALE

WELL OPERATOR: ARSENAL RESOURCES ADDRESS: 6031 WALLACE ROAD EXTENSION #300 CITY: WEXFORD STATE: WV ZIP CODE: 15090	DESIGNATED AGENT: WILLIAM VEIGEL ADDRESS: 65 PROFESSIONAL PLACE, SUITE 200 CITY: BRIDGEPORT STATE: WV ZIP CODE: 26330
--	---

LEGEND: ○ PROPOSED SURFACE HOLE / BOTTOM HOLE ○ EXISTING / PRODUCING WELLHEAD ○ ABANDONED WELL ○ PLUGGED & ABANDONED WELL △ OUT CONDUCTOR --- LEASE BOUNDARY --- 500' DHP BUFFER --- AS-DRILLED PATH --- PROPOSED PATH	REVISIONS: DATE: 05-30-2017 DRAWN BY: R. DOERR SCALE: 1" = 2000' DRAWING NO: 030-3245 WELL LOCATION PLAT
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09/15/2017

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11,427' SHL

11,632' BHL

Latitude: 39°27'30"

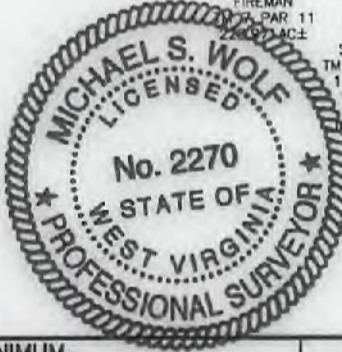
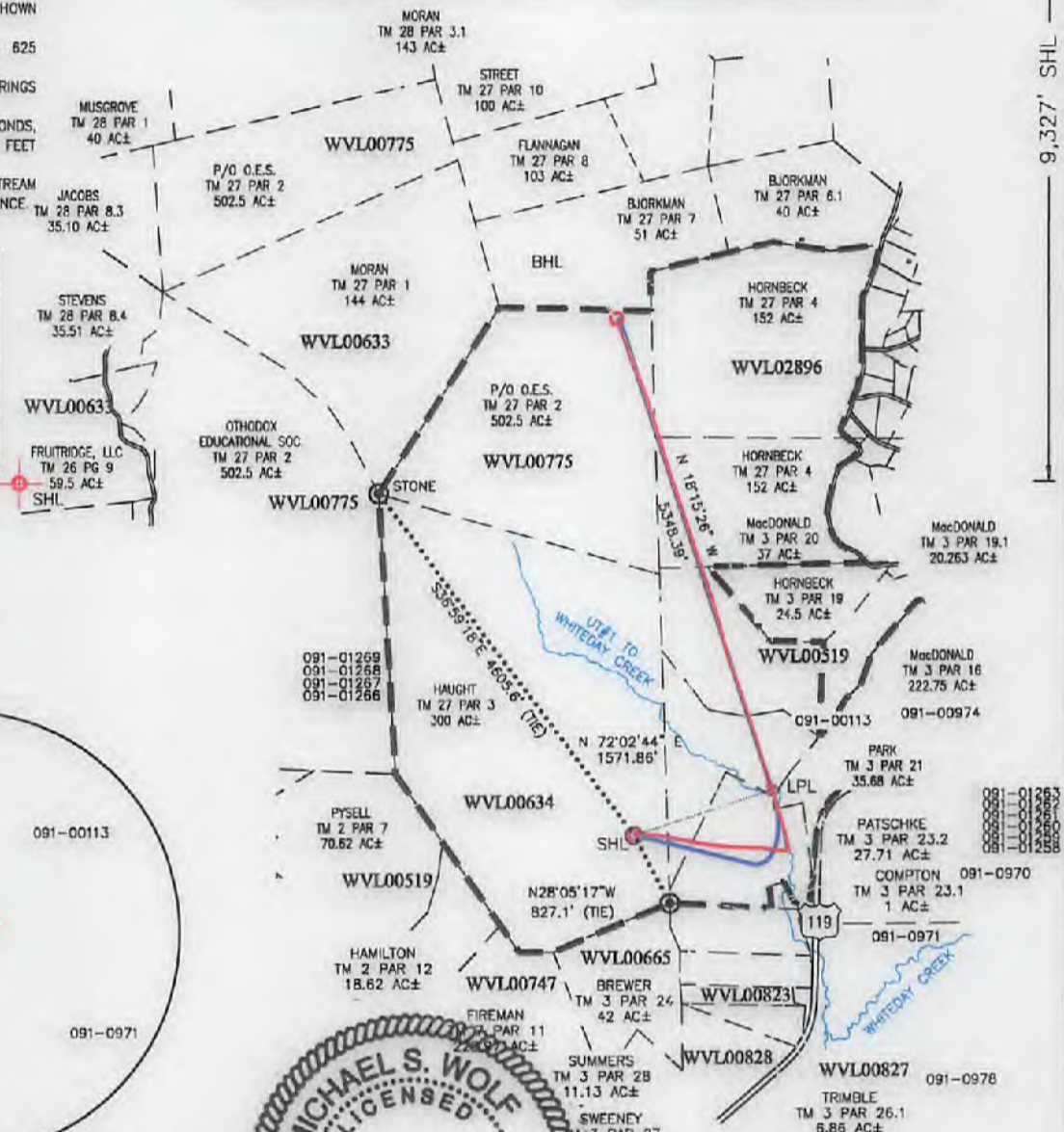
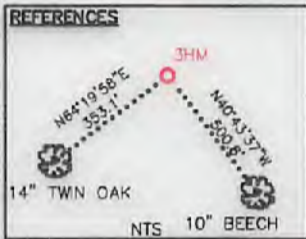
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9,327' SHL

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UTM (NAD83, ZONE 17, METERS):	NORTHING: 4,367,029.0
	EASTING: 589,696.8



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 *M.S.W. 6/23/17*

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS WVDEP OFFICE OF OIL & GAS 601 57TH STREET CHARLESTON, WV 25034	MINIMUM DEGREE OF ACCURACY: 1 IN 2500 PROVEN SOURCE OF ELEVATION: SURVEY GRADE GPS (NAVD 88, US FT)	OPERATOR'S WELL #: PYSELL PAD 3HM API WELL #: 47 091 01305 STATE COUNTY PERMIT
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WELL TYPE: OIL <input type="checkbox"/> WASTE DISPOSAL <input type="checkbox"/> PRODUCTION <input type="checkbox"/> DEEP <input type="checkbox"/> GAS <input type="checkbox"/> LIQUID INJECTION <input type="checkbox"/> STORAGE <input type="checkbox"/> SHALLOW <input type="checkbox"/>	ELEVATION: 1886.25
WATERSHED: WHITE DAY CREEK	QUADRANGLE: GLADESVILLE 7.5'
DISTRICT: FETTERMAN COUNTY: TAYLOR	ACREAGE: 300 ±
SURFACE OWNER: RUTH E. HAUGHT	OIL & GAS ROYALTY OWNER: ORTHODOX EDUCATIONAL SOCIETY/CHARLES & LEVERNE MACDONALD/ CHARLES & LEVERNE MACDONALD, ET AL ACREAGE: 946.5 ± (LEASE)
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"/>	ESTIMATED DEPTH: 7,707 TVD 13,980 TMD
CONVERT <input type="checkbox"/> PLUG & ABANDON <input type="checkbox"/> CLEAN OUT & REPLUG <input type="checkbox"/> OTHER CHANGE <input checked="" type="checkbox"/> (SPECIFY) AS-DRILLED	
TARGET FORMATION: MARCELLUS SHALE	

WELL OPERATOR: ARSENAL RESOURCES ADDRESS: 6031 WALLACE ROAD EXTENSION #300 CITY: WEXFORD STATE: WV ZIP CODE: 15090	DESIGNATED AGENT: WILLIAM VEIGEL ADDRESS: 65 PROFESSIONAL PLACE, SUITE 200 CITY: BRIDGEPORT STATE: WV ZIP CODE: 26330
LEGEND: <input type="circle"/> PROPOSED SURFACE HOLE / BOTTOM HOLE <input type="circle"/> EXISTING / PRODUCING WELLHEAD <input type="circle"/> ABANDONED WELL <input type="circle"/> PLUGGED & ABANDONED WELL <input type="circle"/> CUT CONDUCTOR --- LEASE BOUNDARY --- 500' DHP BUFFER --- AS-DRILLED PATH --- PROPOSED PATH	REVISIONS: DATE: 06-21-2017 DRAWN BY: R. DOERR SCALE: 1" = 200' DRAWING NO: 030-3245 WELL LOCATION PLAT

THRASHER

THE THRASHER GROUP, INC.
800 WHITE OAKS BLVD.
BRIDGEPORT, WV 26330
PHONE 304-824-4108

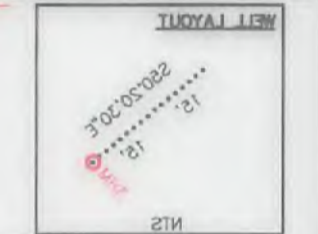
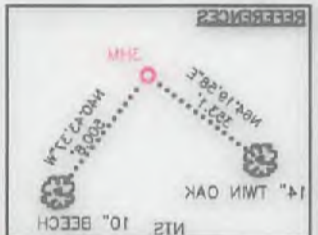
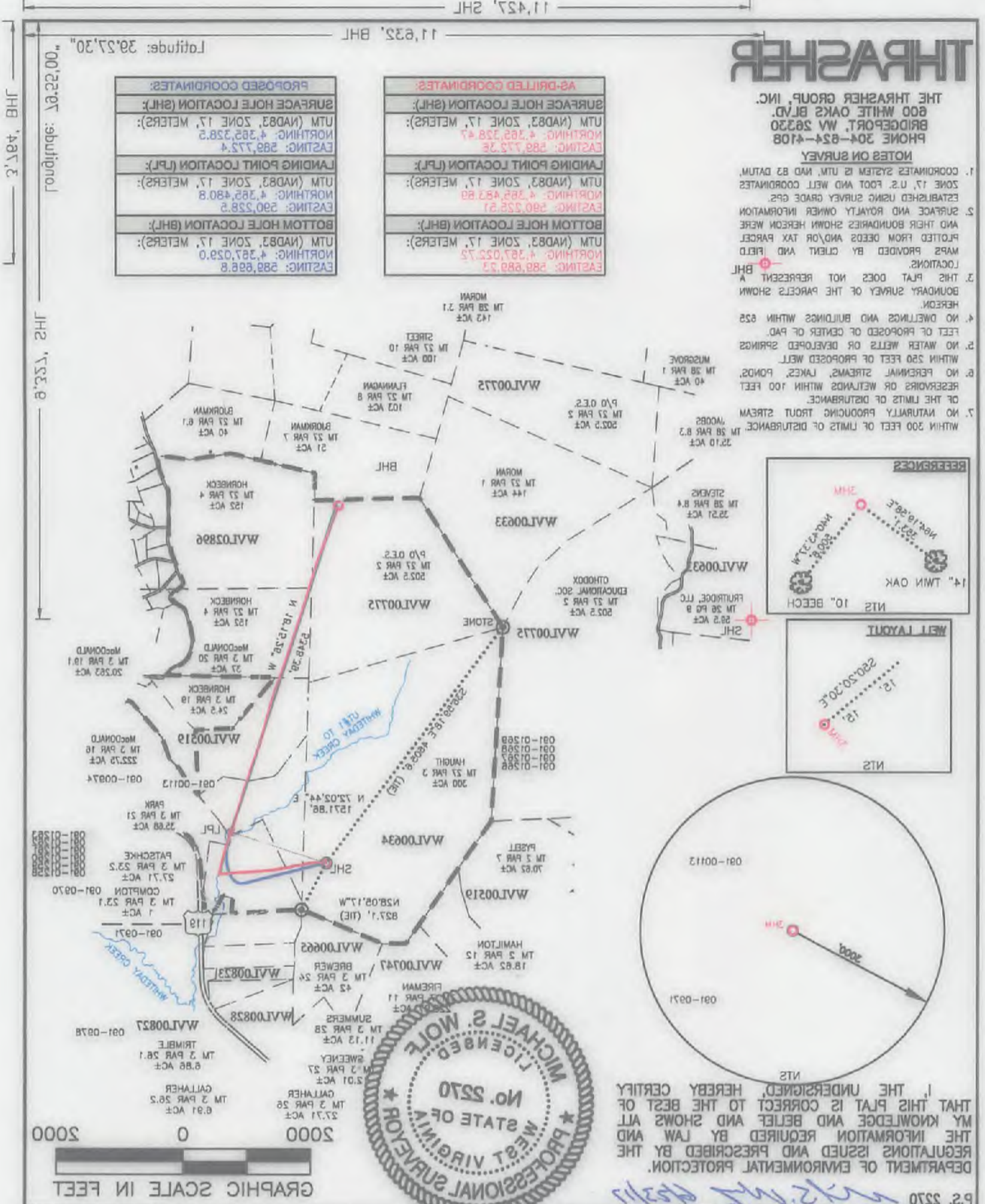
- NOTES ON SURVEY**
- COORDINATES SYSTEM IS UTM AND 83 DATUM.
 - ZONE 17, U.S. FOOT AND WELL COORDINATES ESTABLISHED USING SURVEY GRADE GPS.
 - SURFACE AND ROYALTY OWNER INFORMATION AND THEIR BOUNDARIES SHOWN HEREON WERE PLOTTED FROM DEEDS AND/OR TAX PARCEL MAPS PROVIDED BY CLIENT AND FIELD LOCATIONS.
 - THIS PLAN DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARCELS SHOWN HEREON.
 - NO DWELLINGS AND BUILDINGS WITHIN 825 FEET OF PROPOSED OR 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 TIGHT STREAM WITHIN 300 FEET OF LIMITS OF DISTURBANCE.

PROPOSED COORDINATES:

SURFACE HOLE LOCATION (SHL):	UTM (NAD83, ZONE 17, METERS): NORTHING: +385,328.5 EASTING: 589,773.4
LANDING POINT LOCATION (LPL):	UTM (NAD83, ZONE 17, METERS): NORTHING: +385,480.8 EASTING: 590,528.5
BOTTOM HOLE LOCATION (BHL):	UTM (NAD83, ZONE 17, METERS): NORTHING: +387,029.0 EASTING: 589,893.8

AS-DRILLED COORDINATES:

SURFACE HOLE LOCATION (SHL):	UTM (NAD83, ZONE 17, METERS): NORTHING: +385,328.47 EASTING: 589,773.36
LANDING POINT LOCATION (LPL):	UTM (NAD83, ZONE 17, METERS): NORTHING: +385,483.89 EASTING: 590,528.51
BOTTOM HOLE LOCATION (BHL):	UTM (NAD83, ZONE 17, METERS): NORTHING: +387,025.75 EASTING: 589,893.53



I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAN 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. 25270

WELL OPERATOR: ARSENAL RESOURCES ADDRESS: 8031 WALLACE ROAD EXTENSION #300 CITY: WEXFORD STATE: WV ZIP CODE: 15090		
OFFICE OF OIL & GAS 601 57TH STREET CHARLESTON, WV 25304		
WELL TYPE: OIL <input type="checkbox"/> WASTE DISPOSAL <input type="checkbox"/> PRODUCTION <input type="checkbox"/> DEEP <input type="checkbox"/> GAS <input type="checkbox"/> LIQUID INJECTION <input type="checkbox"/> STORAGE <input type="checkbox"/> SHALLOW <input type="checkbox"/>		WATERSHED: WHITE DAY CREEK DISTRICT: FETTERMAN SURFACE OWNER: RUTH E. HAUGHT OIL & GAS ROYALTY OWNER: OTHROCK EDUCATIONAL SOCIETY/CHARLES & LEVINE MACDONALD, ET AL. ACREAGE: 948.5 ± (LEASE)
WELL DEPTH: ESTIMATED DEPTH: 1,707 TMD 1,980 TMD OTHER CHANGE (SPECIFY) AS-DRILLED <input checked="" type="checkbox"/> CLEAN OUT & REPLUG <input type="checkbox"/> PLUG & ABANDON <input type="checkbox"/> REDRILL <input type="checkbox"/> DEEPER <input type="checkbox"/> FRACURE OR STIMULATE <input type="checkbox"/> PLUG OFF OLD FORMATION <input type="checkbox"/> PERFORATE NEW FORMATION <input type="checkbox"/>		
APR WELL #: 47 STATE: COUNTY PERMIT: 091 01305 OPERATOR'S WELL #: 3HM PYSELL PAD		DESIGNATED AGENT: WILLIAM VEJEL ADDRESS: 85 PROFESSIONAL PLACE SUITE 200 CITY: BRIDGEPORT STATE: WV ZIP CODE: 26330
ACCURACY: 1 IN 2500 DEGREE OF PROVEN SURVEY: SOURCE OF GRADE GPS ELEVATION: (NAD 83, US FT)		
REVISIONS: DATE: 08-21-2017 DRAWN BY: R. DOERR SCALE: 1" = 2000' DRAWING NO: 030-3245 WELL LOCATION PLAN		LEGEND: ○ PROPOSED SURFACE HOLE \ BOTTOM HOLE * EXISTING \ PRODUCING WELLHEAD ✕ ABANDONED WELL ✕ PLUGGED & ABANDONED WELL △ CUT CONDUCTOR --- LEASE BOUNDARY --- 500' DHP BUFFER --- AS-DRILLED PATH --- PROPOSED PATH

09/15/2017