

Well Operator's Report of Well Work



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Well Number: 512501

API: 47 - 085 - 10086

Submission: Initial Amended

Notes: Stimulation ops commenced on 7/23/17, stages 1-7 were completed by U.S. Well Services, then suspended due to tubing operations.

FTSI Stage 8-51 stimulation began 2/4/18

09/07/2018

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

API 47-085-10086 County RITCHIE District UNION
Quad OXFORD 7.5' Pad Name OXF122 Field/Pool Name N/A
Farm name RICHARD L. & SHERYL A. RAY Well Number 512501

Operator (as registered with the OOG) EQT Production Company
Address 625 Liberty Ave. EQT Plaza, Suite 1700 City Pittsburgh State PA Zip 15222

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As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4,331,478.34 Easting 514,622.03
Landing Point of Curve Northing 4,331,237.38 Easting 514,378.48
Bottom Hole Northing 4,328,357.48 Easting 515,422.23

Elevation (ft) 1111' 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) Water base Mud 11.5 ppg, Synthetic Base Mud 11.5 ppg, barium sulfate, sodium chloride, xanthan gum, polyanionic cellulose, modified starch, sodium hydroxide, phosphonates and alkyl phosphates, glutaraldehyde solution, calcium hydroxide, partially hydrolyzed polyacrylamide/polyacrylate, potassium chloride, sodium carbonate, ground walnut shells, alcohol and modified fatty acid, ferrochrome lignosulfonate, calcium carbonate, fibrous cellulose

Date permit issued 04/11/2014 Date drilling commenced 10/20/2015 Date drilling ceased 05/17/2016
Date completion activities began 7/23/2017 Date completion activities ceased 2/23/2018
Verbal plugging (Y/N) N 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

Freshwater depth(s) ft 190', 236' Open mine(s) (Y/N) depths N
Salt water depth(s) ft No salt water shows Void(s) encountered (Y/N) depths N
Coal depth(s) ft 233', 923' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed
Michael Daff
9-5-18

Reviewed by:
09/07/2018

API 47-085 - 10086 Farm name RICHARD L. & SHERYL A. RAY Well number 512501

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	24"	20"	40'	NEW	A-500	N/A	Y
Surface	17 1/2"	13 3/8"	385'	NEW	J-55	N/A	Y
Coal							
Intermediate 1	12 3/8" / 12 1/4"	9 5/8"	2995'	NEW	A-500	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8.5"	5.5"	17,330'	NEW	P-110	None	N
Tubing							
Packer type and depth set							

Comment Details _____

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	CLASS A	38	15.6	1.18	44.84	0	8
Surface	CLASS A	405	15.6	1.20	486	0	8
Coal							
Intermediate 1	CLASS A	881 / 194	15.6 / 15.6	1.18 / 1.20	1272	0	8
Intermediate 2							
Intermediate 3							
Production	Class H/Class H	227/561/1417	12.5/15.2/15.6	1.72/1.10/1.84	3,614	2915	72
Tubing							

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Drillers TD (ft) 17,333' Loggers TD (ft) N/A
 Deepest formation penetrated MARCELLUS Plug back to (ft) N/A
 Plug back procedure N/A

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Kick off depth (ft) 4971

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 _____
 CONDUCTOR: NONE
 SURFACE: 3 CENTRALIZERS AROUND EVERY 150'
 INTERMEDIATE: 23 CENTRALIZERS AROUND EVERY 150'
 PRODUCTION: Composite body centralizers run every joint from shoe to 4450' and one at 2927'.

WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS _____

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

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

API 47- 085 - 10086 Farm name RICHARD L. & SHERYL A. RAY Well number 512501

Drilling Contractor Pioneer Drilling
Address 1083 N. Eighty Eight Rd City Rices Landing State PA Zip 15357

Logging Company Professional Directional
Address 103 Suds Run Rd City Mt Clare State WV Zip 26408

Logging Company _____
Address _____ City _____ State _____ Zip _____

Cementing Company Allied Oil and Gas Services, LLC
Address 333 Technology Drive, Suite 290 City Canonsburg State PA Zip 15317

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OXF122 512501 API# 47-085-10086

Final Formations				
Formation Name	Final Top MD (ftGL) (ft)	Final Top TVD (ft)	Final Btm MD (ftGL) (ft)	Final Btm TVD (ft)
SAND/SHALE	1	1	939	939
COAL	939	939	942	942
SAND/SHALE	942	942	1698	1698
MAXTON	1698	1698	1881	1881
BIG LIME	1881	1881	2156	2156
WEIR	2156	2156	2370	2370
BEREA	2370	2370	2381	2381
GANTZ	2381	2381	2475	2475
50F	2475	2475	2631	2631
GORDON	2631	2631	2894	2894
BAYARD	2894	2894	3214	3214
WARREN	3214	3214	3272	3272
SPEECHLEY	3272	3272	3771	3771
BALLTOWN A	3771	3771	4349	4349
RILEY	4349	4349	4689	4689
BENSON	4689	4689	5021	5020.6
ALEXANDER	5021	5020.6	6405	6132
SONYEA	6405	6132	6615	6277.5
MIDDLESEX	6615	6277.5	6692	6327.4
GENESSEE	6692	6327.4	6842	6406.2
GENESE0	6842	6406.2	6944	6443.2
TULLY	6944	6443.2	6981	6453.8
HAMILTON	6981	6453.8	7020	6463.5
MARCELLUS	7020	6463.5	17333	6558

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512501.47-085-10086-0000 - Perforations

Stage Number	Perforation Date	Top Perf Depth (ftKB)	Bottom Perf Depth (ftKB)	Number of Shots	Formation
Initiation Sleeve					
1	6/15/2016	17,303	17,333	10	MARCELLUS
2	7/24/2017	17,142	17,265	32	MARCELLUS
3	7/24/2017	16,942	17,104	40	MARCELLUS
4	7/25/2017	16,742	16,904	40	MARCELLUS
5	7/25/2017	16,542	16,704	40	MARCELLUS
6	7/25/2017	16,344	16,506	40	MARCELLUS
7	7/26/2017	16,142	16,304	40	MARCELLUS
8	7/26/2017	15,942	16,104	40	MARCELLUS
9	2/5/2018	15,742	15,904	40	MARCELLUS
10	2/5/2018	15,542	15,704	40	MARCELLUS
11	2/6/2018	15,342	15,504	40	MARCELLUS
12	2/7/2018	15,142	15,304	40	MARCELLUS
13	2/7/2018	14,942	15,104	40	MARCELLUS
14	2/7/2018	14,742	14,904	40	MARCELLUS
15	2/8/2018	14,542	14,704	40	MARCELLUS
16	2/8/2018	14,342	14,504	40	MARCELLUS
17	2/9/2018	14,142	14,304	40	MARCELLUS
18	2/9/2018	13,942	14,104	40	MARCELLUS
19	2/10/2018	13,742	13,904	40	MARCELLUS
20	2/10/2018	13,542	13,704	40	MARCELLUS
21	2/10/2018	13,342	13,504	40	MARCELLUS
22	2/10/2018	13,142	13,304	40	MARCELLUS
23	2/11/2018	12,942	13,104	40	MARCELLUS
24	2/11/2018	12,742	12,904	40	MARCELLUS
25	2/12/2018	12,542	12,704	40	MARCELLUS
26	2/12/2018	12,342	12,504	40	MARCELLUS
27	2/13/2018	12,142	12,304	40	MARCELLUS
28	2/13/2018	11,942	12,104	40	MARCELLUS
29	2/13/2018	11,742	11,904	40	MARCELLUS
30	2/14/2018	11,542	11,704	40	MARCELLUS
31	2/14/2018	11,342	11,504	40	MARCELLUS
32	2/14/2018	11,142	11,304	40	MARCELLUS
33	2/15/2018	10,942	11,105	40	MARCELLUS
34	2/15/2018	10,722	10,904	40	MARCELLUS
35	2/16/2018	10,542	10,704	40	MARCELLUS
36	2/16/2018	10,342	10,504	40	MARCELLUS
37	2/16/2018	10,142	10,304	40	MARCELLUS
38	2/18/2018	9,942	10,104	40	MARCELLUS
39	2/18/2018	9,742	9,904	40	MARCELLUS
40	2/18/2018	9,542	9,704	40	MARCELLUS
41	2/18/2018	9,342	9,504	40	MARCELLUS
42	2/19/2018	9,142	9,305	40	MARCELLUS
43	2/19/2018	8,942	9,104	40	MARCELLUS
44	2/20/2018	8,742	8,904	40	MARCELLUS
45	2/20/2018	8,542	8,704	40	MARCELLUS
46	2/21/2018	8,342	8,504	40	MARCELLUS
47	2/21/2018	8,142	8,304	40	MARCELLUS
48	2/22/2018	7,942	8,104	40	MARCELLUS
49	2/22/2018	7,742	7,904	40	MARCELLUS
50	2/22/2018	7,539	7,704	40	MARCELLUS
51	2/22/2018	7,342	7,504	40	MARCELLUS
		7,142	7,304	40	MARCELLUS

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512501 47-085-10086-0000 - Stimulated Stages

Stage Number	Stimulation 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	7/23/2017	29	8,264	9,147	5,284	0	960	0
1	7/24/2017	77	8,626	8,829	3,537	447,900	9,875	0
2	7/24/2017	80	8,537	8,778	3,907	448,800	8,389	0
3	7/25/2017	84	8,607	8,831	3,975	450,200	7,810	0
4	7/25/2017	79	8,844	9,119	3,927	450,500	9,450	0
5	7/25/2017	81	8,608	9,031	4,254	449,500	9,500	0
6	7/25/2017	83	8,591	8,877	4,007	450,000	7,846	0
7	7/26/2017	83	8,588	8,815	4,382	447,500	7,794	0
8	2/4/2018	16	4,971	6,605	0	0	1,119	0
8	2/5/2018	86	8,552	8,813	1,970	450,535	9,766	0
9	2/5/2018	81	8,512	9,084	4,460	43,365	3,844	0
9	2/6/2018	82	8,816	9,154	4,090	407,076	7,239	0
10	2/6/2018	88	8,862	9,208	3,642	449,888	7,871	0
11	2/7/2018	82	8,837	9,120	4,074	450,231	7,924	0
12	2/7/2018	89	8,777	9,290	5,003	451,112	7,853	0
13	2/7/2018	86	9,051	9,288	4,736	450,520	8,706	0
14	2/8/2018	87	8,825	9,271	3,413	450,500	8,043	0
15	2/8/2018	86	8,657	9,583	3,144	450,420	7,870	0
16	2/9/2018	88	8,882	9,334	3,045	450,420	7,888	0
17	2/9/2018	89	8,735	9,197	3,540	450,620	7,920	0
18	2/10/2018	89	8,828	9,168	3,616	450,660	7,808	0
19	2/10/2018	90	8,722	9,127	3,784	450,440	7,733	0
20	2/10/2018	94	8,671	8,899	3,586	450,080	7,823	0
21	2/11/2018	90	8,697	8,836	3,345	449,885	8,163	0
22	2/11/2018	97	8,807	9,025	1,636	450,461	7,846	0
23	2/12/2018	94	8,564	9,329	2,998	449,097	7,810	0
24	2/12/2018	93	8,471	8,719	1,401	450,073	7,796	0
25	2/12/2018	98	8,772	8,998	1,479	450,419	7,694	0
26	2/13/2018	85	8,657	8,868	4,575	449,789	7,797	0
27	2/13/2018	94	8,494	8,912	3,839	449,747	7,673	0
28	2/13/2018	93	8,670	9,064	3,792	450,062	7,681	0
29	2/14/2018	99	8,301	8,522	3,907	451,600	7,665	0
30	2/14/2018	96	8,645	9,250	3,748	449,736	7,668	0
31	2/15/2018	98	8,017	8,289	4,027	450,189	7,675	0
32	2/15/2018	100	8,093	8,641	3,866	450,976	7,474	0
33	2/15/2018	99	8,487	9,128	3,630	451,029	7,525	0
34	2/16/2018	99	7,835	8,122	4,016	449,936	7,691	0
35	2/16/2018	101	7,954	8,846	3,714	450,461	9,212	0
36	2/17/2018	100	8,051	8,754	3,853	449,527	7,326	0
37	2/18/2018	100	7,966	8,229	4,081	450,891	7,393	0
38	2/18/2018	97	8,140	8,444	4,249	450,189	7,574	0
39	2/18/2018	101	8,037	8,341	3,880	451,196	7,371	0
40	2/19/2018	100	8,166	8,396	3,869	450,094	7,508	0
41	2/19/2018	100	7,952	8,281	3,792	449,189	7,425	0
42	2/20/2018	100	7,793	8,241	3,780	449,337	7,597	0
43	2/20/2018	99	8,025	8,346	3,798	450,294	8,827	0
44	2/21/2018	100	7,971	8,238	4,007	450,094	7,710	0
45	2/21/2018	100	7,746	8,267	3,671	449,600	8,204	0
46	2/21/2018	100	7,442	7,704	3,729	450,282	7,107	0
47	2/21/2018	100	7,402	7,540	4,219	415,849	7,302	0
48	2/22/2018	100	7,511	7,869	3,857	450,934	7,219	0
49	2/22/2018	101	7,306	7,860	3,523	449,117	7,074	0
50	2/22/2018	101	7,323	7,763	3,673	450,041	7,022	0
51	2/23/2018	99	7,327	7,934	3,793	449,937	7,302	0

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Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	7/23/2017
Job End Date:	2/23/2018
State:	West Virginia
County:	Ritchie
API Number:	47-085-10086-00-00
Operator Name:	EQT Production
Well Name and Number:	512501
Latitude:	39.13227000
Longitude:	-80.83110000
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,551
Total Base Water Volume (gal):	17,151,204
Total Base Non Water Volume:	0



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	FTS International	Carrier/Base Fluid					
			Water	7732-18-5	100.00000	85.92788	None
Other Chemical (s)	Listed Above	See Trade Name (s) List					
			Water	7732-18-5	15.00000	0.00001	

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LT Flush System I	U.S. Well Services	Base/Flush Oil					
			Water	7732-18-5	15.00000	0.00001	None
Hydrochloric Acid (15%)	FTS International	Acidizing					
				Listed Below			
MX-8-2544	Multi-Chem	Bacteria Treatment					
				Listed Below			
Sand (Proppant)	FTS International	Proppant					
				Listed Below			
SI-1200S	U.S. Well Services	Mixture					
				Listed Below			
MX-8-4543	Multi-Chem	Bacteria Treatment					
				Listed Below			
MX-5-3886	Multi-Chem	Bacteria Treatment					
				Listed Below			
NWA-200s	U.S. Well Services	FR Activator					
				Listed Below			
CI-150	FTS International	Acid Corrosion Inhibitor					

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				Listed Below			
Silver 7500 POP	Silverback	Mixture					
				Listed Below			
CS-500-SI	FTS International	Scale Inhibitor					
				Listed Below			
FRW-1450	FTS International	Mixture					
				Listed Below			
WFRC-2100	U.S. Well Services	Friction Reducer					
				Listed Below			

Items above are Trade Names with the exception of Base Water . Items below are the individual ingredients.

			Silica Substrate	14808-60-7	100.00000	13.76047	None
			Calcium Nitrate.4H2O	13477-34-4	100.00000	0.04795	None
			Hydrochloric Acid	7647-01-0	15.00000	0.02394	None
			Distillates (petroleum), hydrotreated light	64742-47-8	30.00000	0.01828	None
			Cationic copolymer of acrylamide	69418-26-4	30.00000	0.00380	
			Hydrotreated light distillate (petroleum)	64742-47-8	30.00000	0.00380	
			Cationic copolymer of acrylamide	69418-26-4	30.00000	0.00380	None
			Hydrotreated light distillate (petroleum)	64742-47-8	30.00000	0.00380	None
			Alcohols, C-11-14-iso, C13-rich, ethoxylated	78330-21-9	5.00000	0.00305	None
			Hydrotreated light distillate (petroleum)	64742-47-8	100.00000	0.00214	None

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			Hydrotreated light distillate (petroleum)	64742-47-8	100.00000	0.00214	
			Contains no hazardous substances in concentrations above cut-off values according to the competent authority	Proprietary	100.00000	0.00207	
			Contains no hazardous substances in concentrations above cut-off values according to the competent authority	Proprietary	100.00000	0.00207	None
			Ethylene Glycol	107-21-1	10.00000	0.00205	None
			Sodium Chloride	7647-14-5	100.00000	0.00141	None
			Sodium Chloride	7647-14-5	100.00000	0.00141	
			Alcohols, C 12-16, ethoxylated	68551-12-2	5.00000	0.00063	None
			Alcohols, C 12-16, ethoxylated	68551-12-2	5.00000	0.00063	
			Proprietary Ingredient	Proprietary	5.00000	0.00063	None
			Proprietary Ingredient	Proprietary	5.00000	0.00063	
			Alkyl Phosphonic Acid	Proprietary	5.00000	0.00019	None
			Alkyl Phosphonic Acid	Proprietary	5.00000	0.00019	
			Proprietary Activating Agent	Proprietary	30.00000	0.00009	None
			Proprietary Activating Agent	Proprietary	30.00000	0.00009	
			Sodium Nitrate	7631-99-4	5.00000	0.00007	None
			Organic Amine Resin Salt	Proprietary	30.00000	0.00007	None
			Ethylene Glycol	107-21-1	30.00000	0.00007	None
			Isopropanol	67-63-0	30.00000	0.00007	None
			Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based	72623-87-1	45.00000	0.00003	

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			Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based	72623-87-1	45.00000	0.00003	None
			Trade secret	Proprietary	40.00000	0.00003	None
			Trade secret	Proprietary	40.00000	0.00003	
			Dimethylformamide	68-12-2	10.00000	0.00002	None
			Quaternary Ammonium Compound	Proprietary	10.00000	0.00002	None
			Aromatic Aldehyde	Proprietary	10.00000	0.00002	None
			Ammonia	7664-41-7	0.50000	0.00002	
			Ammonia	7664-41-7	0.50000	0.00002	None
			Trade secret	Proprietary	15.00000	0.00001	
			Trade secret	Proprietary	15.00000	0.00001	None
			Trade secret	Proprietary	5.00000	0.00000	
			Trade secret	Proprietary	5.00000	0.00000	None
			Trade secret	Proprietary	1.00000	0.00000	
			Trade secret	Proprietary	1.00000	0.00000	None

* 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)

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LATITUDE 39°10'00"

EQT PRODUCTION COMPANY

W.M. ADAMS LEASE

402 ACRES ±

WELL NO. W-512501

(OXF122 HS)

AS DRILLED COORDINATES

(S.P.C. NORTH ZONE) (UTM) ZONE 17 NORTH)

NAD27 S.P.C.(FT) N. 233,093.81 E. 1,622,499.81

NAD83 UTM (M) N. 4,331,478.94 E. 514,522.03

NAD27 S.P.C.(FT) N. 232,306.44 E. 1,621,827.40

NAD83 UTM (M) N. 4,331,297.98 E. 514,578.48

NAD27 S.P.C.(FT) N. 222,798.46 E. 1,624,894.85

NAD83 UTM (M) N. 4,328,957.48 E. 515,422.23

LAT-(N) 39.130105 LONG-(W) 80.833819

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LEGEND

- PERMITTED WELL
- EXISTING WELL
- PROPOSED WELL
- COUNTY ROUTE
- FENCE LINE
- ROAD
- CREEK
- THE LINE
- OFFSET LINE
- AS DRILLED PATH
- SURFACE LINE
- LEASE LINE

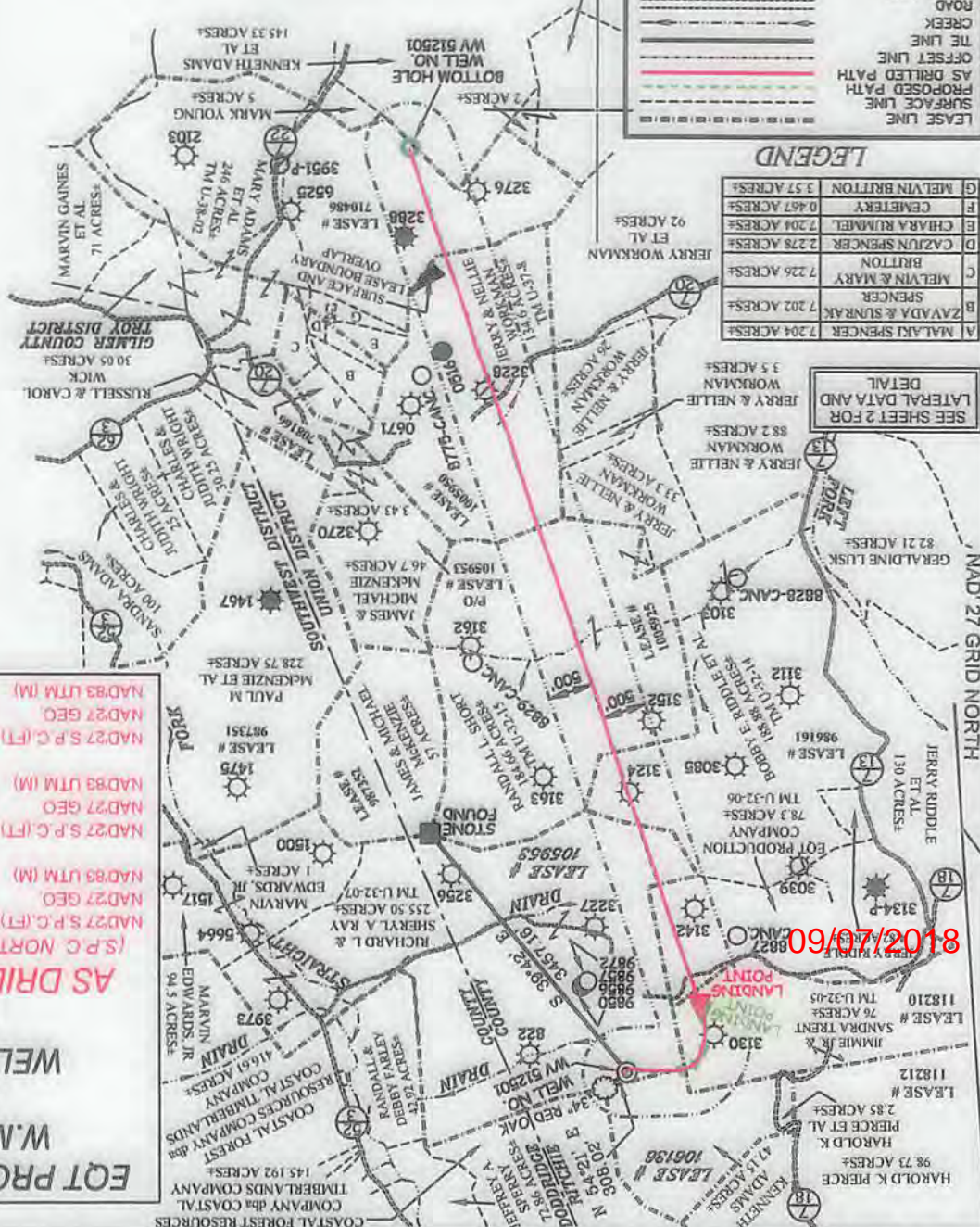
TM U-00-00

A	MALAMI SPENCER	7.204 ACRES
B	ZAVADA & SUNRAK SPENCER	7.202 ACRES
C	MELVIN & MARY BRITTON	7.226 ACRES
D	CAZUN SPENCER	2.278 ACRES
E	CHARA RUMMEL	7.201 ACRES
F	CHEMTERY	0.467 ACRES
G	MELVIN BRITTON	3.37 ACRES

SEE SHEET 2 FOR LATERAL DATA AND DETAIL

ROYALTY OWNERS

ADLE MCDUGAL ET AL	53 AC.	LEASE NO. 108138
BONNIE L BROWN ET AL	84.50 AC.	LEASE NO. 118210
JACK W. BYERS, ET AL	272 AC.	LEASE NO. 988181
LENE BECKETT ET AL	183.18 AC.	LEASE NO. 1008925
MARY J SMITH ET AL	134 AC.	LEASE NO. 1008950
JAME L GARRISON ET AL	248 AC.	LEASE NO. 710489



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

MINIMUM DEGREE OF ACCURACY 1 / 2500
FILE NO. 6811AD512501
SCALE 1" = 2000'
CONTROL DETERMINED BY DGPS (SURVEY GRADE TIE TO CORS NETWORK)

DATE NOVEMBER 18, 2009
REVISED 05/23/16 & 06/15/16
OPERATORS WELL NO. WV 512501

WELL NO. 47
STATE 47
COUNTY OXFORD

PERMIT NO. 10086H

STATE TOPOGRAPHIC MAPS

NOTES ON SURVEY

1. NO WATER WELLS WERE FOUND WITHIN 250' OF PROPOSED GAS WELL NO AGRICULTURAL BUILDINGS ≥ 2500 SQ. FT. OR DWELLINGS WERE FOUND WITHIN 625' OF THE CENTER OF PROPOSED WELL PAD.

2. AS DRILLED INFORMATION PROVIDED BY EQT.

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

DATE NOVEMBER 18, 2009

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**EQT PRODUCTION COMPANY
W.M. ADAMS LEASE
402 ACRES±
WELL NO. WV 512501
(OXF122 H5)**

AS DRILLED COORDINATES

(S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH)

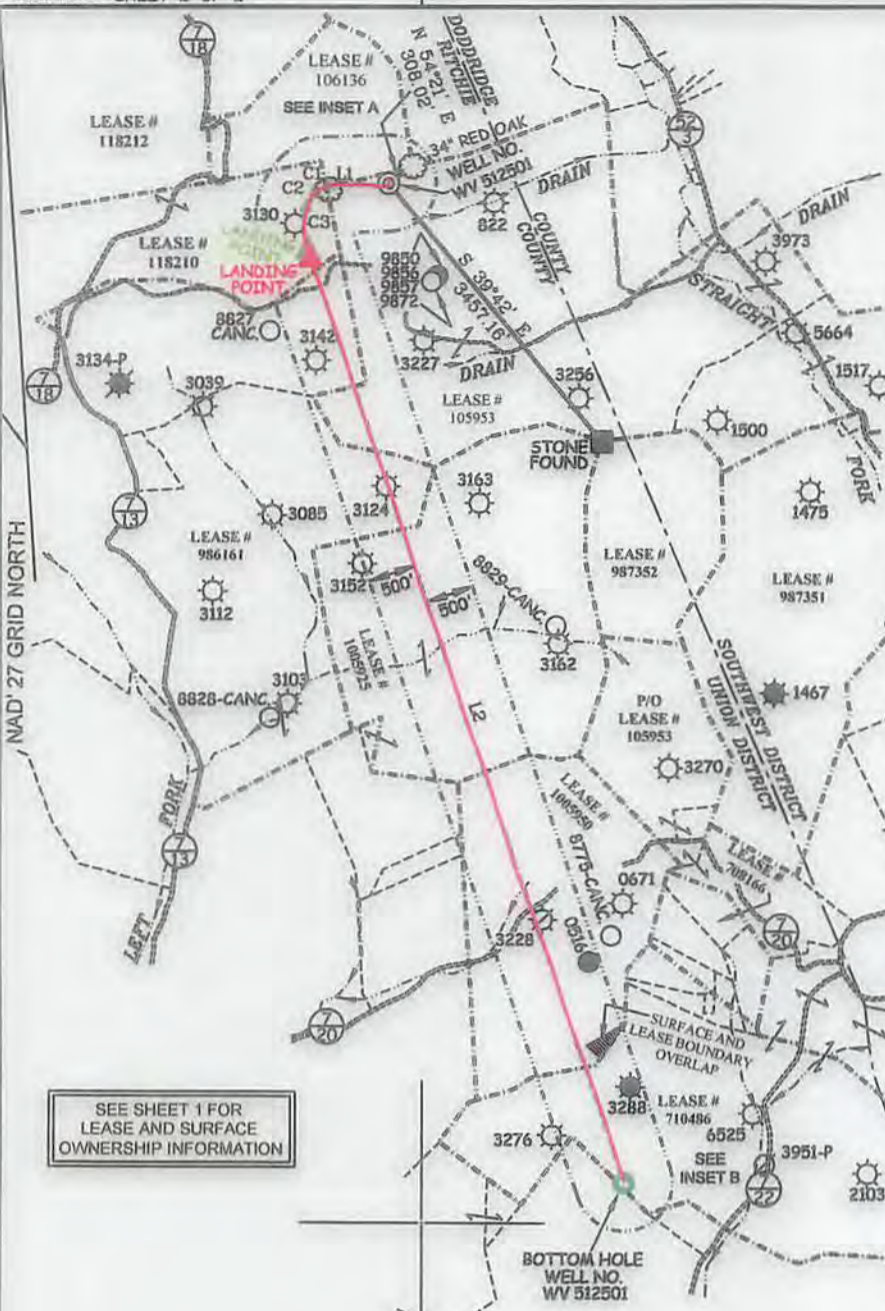
NAD'27 S.P.C.(FT)	N. 233,083.81	E. 1,622,439.81
NAD'27 GEO	LAT-(N) 39.132273	LONG-(W) 80.830998
NAD'83 UTM (M)	N. 4,331,478.34	E. 514,622.03

LANDING POINT

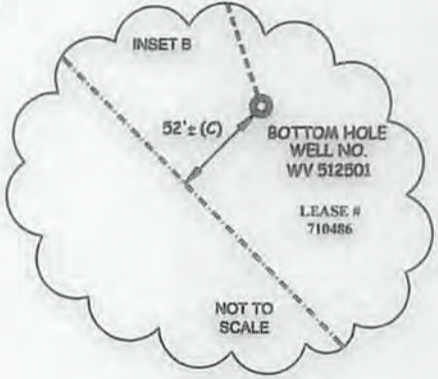
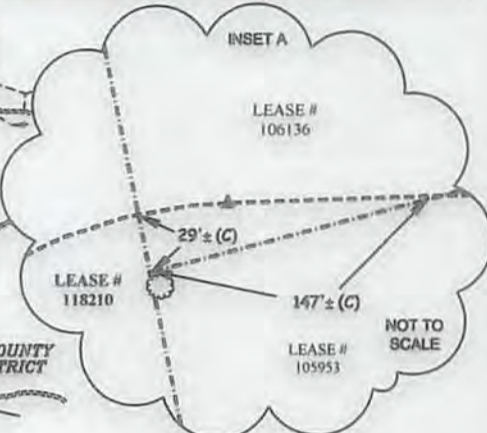
NAD'27 S.P.C.(FT)	N. 232,306.44	E. 1,621,627.40
NAD'27 GEO	LAT-(N) 39.130105	LONG-(W) 80.833819
NAD'83 UTM (M)	N. 4,331,237.38	E. 514,378.48

BOTTOM HOLE

NAD'27 S.P.C.(FT)	N. 222,798.46	E. 1,624,894.85
NAD'27 GEO	LAT-(N) 39.104136	LONG-(W) 80.821809
NAD'83 UTM (M)	N. 4,328,357.48	E. 515,422.23



SEE SHEET 1 FOR LEASE AND SURFACE OWNERSHIP INFORMATION



BUILD OUT DATA

ID	BEARING	DISTANCE
L1	N 88°04' W	606.00'

CURVE	ARC LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH
C1	180.29'	240.14'	S 66°39'17" W	176.08'
C2	185.83'	373.18'	S 29°55'13" W	183.92'
C3	451.80'	736.10'	S 02°53'53" W	444.75'

LATERAL

ID	BEARING	DISTANCE
L2	S 18°53' E	10,137.07'

FILE NO. 6811P512501R5



Land & Energy Development
Solutions from the ground up.
P.O. Box 150 • 12 Vanhorn Drive • Glenville, WV 26351 • (304) 482-5634
www.slsurveyors.com



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LEGEND

- LEASE LINE
- SURFACE LINE
- PROPOSED PATH
- AS DRILLED PATH
- OFFSET LINE
- TIE LINE
- CREEK
- ROAD
- FENCE LINE
- COUNTY ROUTE
- PROPOSED WELL
- EXISTING WELL
- PERMITTED WELL

SCALE 1" = 2000'
DATE NOVEMBER 18, 20 09
REVISED 11/18/13, 12/12/13, 11/05/14, 07/10/15, 05/23/16 & 06/15/16
OPERATORS WELL NO. WV 512501
API WELL NO. 47-085-10086H
NO. STATE COUNTY PERMIT

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

09/07/2018

WELL OPERATOR **EQT PRODUCTION COMPANY** DESIGNATED AGENT **REX C. RAY**
ADDRESS **115 PROFESSIONAL PLACE P.O. BOX 280 BRIDGEPORT, WV 26330** ADDRESS **115 PROFESSIONAL PLACE P.O. BOX 280 BRIDGEPORT, WV 26330**

COUNTY NAME PERMIT