

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

API 47 - 103 - 02881 County Wetzel District Grant
Quad Pine Grove 7.5' Pad Name Long Field/Pool Name Willeyville
Farm name Francis D & Freeda M Brown (Surface Hole) Well Number 409 S 4H
Operator (as registered with the OOG) Ascent Resources - Marcellus, LLC
Address 3501 NW 63rd Street City Oklahoma City State OK Zip 73116

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4381630 Easting 527871
Landing Point of Curve Northing 4381841.6 Easting 528294.4
Bottom Hole Northing 4380859 Easting 529727

Elevation (ft) 1340' 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 based salt polymer mud

Date permit issued 5/28/2013 Date drilling commenced 6/29/2013 Date drilling ceased 12/19/2013
Date completion activities began 5/19/2014 Date completion activities ceased 7/31/2014
Verbal plugging (Y/N) n/a 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 470' Open mine(s) (Y/N) depths N
Salt water depth(s) ft 2000' Void(s) encountered (Y/N) depths N
Coal depth(s) ft 1180' Cavern(s) encountered (Y/N) depths Received
Is coal being mined in area (Y/N) N

Office of Oil & Gas
Reviewed by:
JUL 05 2016

APPROVED

NAME: Jackie Shurita
DATE: 7/5/16

AX 07/21/16

API 47- 103 - 02881 Farm name Francis D & Freeda M Brown (Surface Hole) Well number 409 S 4H

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	20"	20"	60'	New	H40/94	n/a	No cement - drilled in
Surface	17-1/2"	13-3/8"	1303'	New	J-55/54.5	n/a	Cement to surface
Coal							
Intermediate 1	12-1/4"	9-5/8"	3545'	New	J-55/40	n/a	Cement to surface
Intermediate 2							
Intermediate 3							
Production	8-1/2"	5-1/2"	13730'	New	P110-20	n/a	Cement to surface
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	Drilled in						
Surface	Class A	238 lead/832 tail	14.6/15.6	1.37/1.18	99.5	Surface	12
Coal							
Intermediate 1	Type 1	367 lead/713 tail	15.0	1.29	1407	Surface	12
Intermediate 2							
Intermediate 3							
Production	50/50 PNE/ASC 1	1427 lead/1095 tail	14.3/14.7	1.23/1.5	3446	Surface	12
Tubing							

Drillers TD (ft) 13759' Loggers TD (ft) 13759'
 Deepest formation penetrated Marcellus Plug back to (ft) n/a
 Plug back procedure n/a

Kick off depth (ft) 3800'

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 _____

Surface casing - Ran 20 (1 every 2 joints)
 Intermediate casing - Ran 26 (1 every 3 joints)
 Production casing - Ran 92 (1 every 3 joints)

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 _____

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PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
1	6/27/2014	13643		50	Marcellus
2	6/27/2014	13413	13574	50	Marcellus
3	6/28/2014	13208	13349	50	Marcellus
4	6/30/2014	13003	13144	50	Marcellus
5	7/1/2014	12798	12939	50	Marcellus
6	7/2/2014	12593	12734	50	Marcellus
7	7/3/2014	12388	12829	50	Marcellus
8	7/7/2014	12183	12324	50	Marcellus
9	7/8/2014	11978	12119	50	Marcellus
10	7/9/2014	11773	11914	50	Marcellus
11	7/10/2014	11568	11709	50	Marcellus
12	7/14/2014	11363	11504	50	Marcellus
13	7/15/2014	11158	11299	50	Marcellus
14	7/16/2014	10653	10814	50	Marcellus
15	7/17/2014	10423	10584	50	Marcellus
	Con't	on	Page	4	

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	6/27/14	79.8	6997	n/a	4348	1619	5166	n/a
2	6/27/14	77.6	6822	5787	4604	2731	6513	n/a
3	6/28/14	77.6	6975	6023	4565	3585	7748	n/a
4	6/30/14	75.7	7444	5539	4804	3585	7422	n/a
5	7/1/14	73.8	7367	5292	4684	3355	6774	n/a
6	7/2/14	76.4	7174	5528	4334	3585	6581	n/a
7	7/3/14	77.1	7307	5585	5537	3304	6588	n/a
8	7/7/14	79.3	6968	n/a	4863	3585	6701	n/a
9	7/8/14	76.7	6984	5843	4770	3585	7420	n/a
10	7/9/14	76.8	7059	5606	4227	3585	6554	n/a
11	7/10/14	75.8	6875	5319	5340	3585	7090	n/a
12	7/14/14	78.2	6858	5626	4710	3585	6687	n/a
13	7/15/14	73.3	7076	5583	4979	3585	7290	n/a
14	7/16/14	76.3	6748	5101	5094	3585	7373	n/a
15	7/17/14	72.3	6865	5413	5440	3585	7031	n/a
	Con't	on	Page	4				

Please insert additional pages as applicable.

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PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
16	7/18/2014	10193	10354	50	Marcellus
17	7/19/2014	9963	10124	50	Marcellus
18	7/21/2014	9733	9894	50	Marcellus
19	7/22/2014	9503	9664	50	Marcellus
20	7/23/2014	9273	9434	50	Marcellus
21	7/24/2014	9043	9204	50	Marcellus
22	7/25/2014	8813	8974	50	Marcellus
23	7/26/2014	8583	8744	50	Marcellus
24	7/28/2014	8353	8514	50	Marcellus
25	7/29/2014	8123	8284	50	Marcellus
26	7/30/2014	7893	8054	50	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)
16	7/18/14	74.7	6629	5070	4374	3585	6625	n/a
17	7/19/14	74.1	6825	5441	4359	3585	6497	n/a
18	7/21/14	73.5	6529	5590	4830	3585	6762	n/a
19	7/22/14	74.2	6448	5627	4736	3585	6861	n/a
20	7/23/14	74.3	6302	5384	4661	3585	6721	n/a
21	7/24/14	73.6	6520	5523	4858	3585	6644	n/a
22	7/25/14	72.2	6336	5388	4626	3585	6663	n/a
23	7/26/14	72.9	6413	6049	4735	3585	6903	n/a
24	7/28/14	74.9	6313	5378	5128	3585	6461	n/a
25	7/29/14	73	6585	5510	4192	3585	6523	n/a
26	7/30/14	74	6364	5222	4290	3560	6414	n/a

Please insert additional pages as applicable.

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PRODUCING FORMATION(S)	DEPTHS		
Marcellus	7355'	TVD	13759' 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 24 hrs

OPEN FLOW Gas 2347 mcfpd Oil 0 bpd NGL _____ bpd Water 0 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)
	0		0		
Sand/Shale	0	2305'	0	2305'	
Big Lime	2305'	2392'	2305'	2392'	
Big Injun	2392'	2590'	2392'	2590'	
Shale	2590'	3160'	2590'	3160'	
Gordon Sand	3160'	3204'	3160'	3204'	
Dev Shale	3204'	7169'	3204'	7750'	
Tully Lime	7169'	7174'	7550'	7560'	
Hamilton Shale	7174'	7274'	7560'	7772'	
Marcellus Shale	7274'		7772'	13759'	

Please insert additional pages as applicable.

Drilling Contractor Dallas-Morris Drilling Inc
Address 103 South Kendall City Bradford State PA Zip 16701

Logging Company ALS Empirca Surface Logging
Address 6360 W. Sam Houston Pkwy N Suite 100 City Houston State TX Zip 77401

Cementing Company Baker Hughes
Address PO Box 301057 City Dallas State TX Zip 75303

Stimulating Company Producers Service Corporation
Address PO Box 2277 City Zanesville State OH Zip 43702

Please insert additional pages as applicable.

Completed by Arnel Bravo Telephone 405-252-7642
Signature [Signature] Title Regulatory Analyst Date 2/22/2016

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

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Long 409 S 94H Frac Summary

Stage	# of Perfs	Total Acid (gal)	Total Water (bbl)	Total Sand (tks)	Total Slurry (bbl)	Prod Vol (bbl)	100 Mesh (tks)	40/70 Mesh (tks)	40/70 CRCS (tks)	20/60 White (tks)	20/60 CRCS (tks)	20/40 White (tks)	20/40 CRCS (tks)	GDP (psi)	ISIP (psi)	1 Min SIP (psi)	2 Min SIP (psi)	5 Min SIP (psi)	ATP (psi)	Avg Rate (bbl/min)	PLUP DOWN (bbl)	Produced Water (bbl)
1	50	1500	6168	1810	5574	780	502	1117	0	0	0	0	0	N/A	4348	3837	3703	3584	6887	79.8	0	0
2	50	1500	6513	2721	7052	828	502	2229	0	0	0	0	0	5787	4604	4221	4207	3734	6622	77.8	453	0
3	50	1500	7748	3585	8108	882	502	2888	418	0	0	0	0	6023	4585	4300	4107	3801	6976	77.8	377	1016
4	50	1500	7422	3585	7868	854	502	2888	418	0	0	0	0	5539	4804	4349	4111	3758	7444	75.7	383	1880
5	50	1500	6774	3355	7240	832	502	2688	185	0	0	0	0	5282	4884	4113	3801	3837	7387	73.8	298	0
6	30	1500	6581	3585	7021	803	502	2688	415	0	0	0	0	5528	4334	4040	3937	3738	7174	78.4	317	0
7	50	1500	6588	3304	7085	878	502	2888	134	0	0	0	0	6585	5537	4823	4624	4327	7307	77.1	511	0
8	50	1500	8701	3585	7058	845	502	2888	415	0	0	0	0	N/A	4883	4808	4374	4054	6888	73.3	288	0
9	50	1500	7420	3385	7846	871	502	2888	415	0	0	0	0	5843	4778	4350	4201	3855	6884	78.7	244	1538
10	50	1500	6554	3385	7048	875	502	2888	415	0	0	0	0	5606	4227	4068	3952	3800	7059	78.8	281	845
11	50	1500	7090	3585	7553	894	502	2888	415	0	0	0	0	5319	5340	4817	4849	4388	6875	76.8	241	1110
12	50	1500	6687	3585	7186	885	502	2888	415	0	0	0	0	9525	4710	4308	4217	3885	6858	78.2	230	1093
13	50	1500	7280	3585	7758	898	502	2888	415	0	0	0	0	5583	4878	4874	4478	4172	7078	73.3	208	1236
14	50	1500	7373	3585	7838	888	502	2888	418	0	0	0	0	8101	5094	4720	4520	4240	8748	76.3	218	1023
15	50	1500	7031	3585	7625	873	502	2888	415	0	0	0	0	5413	5440	4711	4488	4194	6885	73.3	171	1080
16	50	1500	6525	3585	7093	888	502	2888	415	0	0	0	0	5070	4374	4158	3989	3746	6829	71.7	132	1130
17	50	1500	6487	3585	6980	920	502	2888	415	0	0	0	0	5441	4358	4058	3888	3828	6825	74.1	148	958
18	50	1500	8782	3585	7246	884	502	2888	418	0	0	0	0	5588	4838	4378	4424	4151	6828	73.5	141	0
19	50	1500	6861	3585	7259	904	502	2888	415	0	0	0	0	5627	4728	4430	4285	4023	6440	72.2	118	0
20	50	1500	6721	3585	7038	928	502	3088	415	0	0	0	0	5394	4801	4280	4084	3753	6382	71.3	108	0
21	50	1500	6644	3585	6988	919	502	2888	415	0	0	0	0	5323	4858	4548	4341	3988	6520	73.8	93	0
22	50	1500	6663	3585	7024	938	502	2888	415	0	0	0	0	5388	4828	4882	3875	3888	6338	72.2	171	0
23	50	1500	8903	3585	7304	822	502	2688	418	0	0	0	0	6048	4735	4582	4228	3882	6413	72.9	72	0
24	50	1500	8481	3585	6745	987	502	2888	418	0	0	0	0	5378	5128	4771	4581	4252	6313	72.9	58	888
25	50	1500	6523	3585	7088	891	502	2888	415	0	0	0	0	5810	4182	3781	3812	3352	6885	73	50	874
26	50	1500	6414	3588	6988	888	477	2888	415	0	0	0	0	5222	4388	3881	3883	3435	6384	74	47	585
TOTAL / AVG	1388	38888	178812	88884	187444	23112	13827	67378	8449	0	0	0	0	5817782	4724154	4358.5	4171846	3888.82	8788248	75.116	528	15875

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Long 409S 4H Perforating Detail

Perforating Detail

Stage 1						
Plug Setting Depth	1st Cluster	2nd Cluster	3rd Cluster	4th Cluster	5th Cluster	Perf Method
N/A	13643	N/A	N/A	N/A	N/A	RDV
Stage 2						
Plug Setting Depth	1st Cluster	2nd Cluster	3rd Cluster	4th Cluster	5th Cluster	Perf Method
13613	13573-74	13533-34	13493-94	13453-54	13413-14	PD
Stage 3						
Plug Setting Depth	1st Cluster	2nd Cluster	3rd Cluster	4th Cluster	5th Cluster	Perf Method
13383	13348-49	13313-14	13278-79	13243-44	13208-09	PD
Stage 4						
Plug Setting Depth	1st Cluster	2nd Cluster	3rd Cluster	4th Cluster	5th Cluster	Perf Method
13178	13143-44	13108-09	N/A - No Fire	13038-39	13003-04	PD
Stage 5						
Plug Setting Depth	1st Cluster	2nd Cluster	3rd Cluster	4th Cluster	5th Cluster	Perf Method
12973	12938-39	12903-04	12868-69	12833-34	12798-99	PD
Stage 6						
Plug Setting Depth	1st Cluster	2nd Cluster	3rd Cluster	4th Cluster	5th Cluster	Perf Method
12768	12733-34	12698-99	12663-64	12628-29	12593-94	PD
Stage 7						
Plug Setting Depth	1st Cluster	2nd Cluster	3rd Cluster	4th Cluster	5th Cluster	Perf Method
12563	12528-29	12493-94	12458-59	12423-24	12388-89	PD
Stage 8						
Plug Setting Depth	1st Cluster	2nd Cluster	3rd Cluster	4th Cluster	5th Cluster	Perf Method
12358	12323-24	12288-89	12253-54	12218-19	12183-84	PD
Stage 9						
Plug Setting Depth	1st Cluster	2nd Cluster	3rd Cluster	4th Cluster	5th Cluster	Perf Method
12153	12118-19	12083-84	12048-49	12013-14	11978-79	PD
Stage 10						
Plug Setting Depth	1st Cluster	2nd Cluster	3rd Cluster	4th Cluster	5th Cluster	Perf Method
11948	11913-14	11878-79	11843-44	11808-09	11773-74	PD
Stage 11						
Plug Setting Depth	1st Cluster	2nd Cluster	3rd Cluster	4th Cluster	5th Cluster	Perf Method
11743	11708-09	11673-74	11638-39	11603-04	11568-69	PD
Stage 12						
Plug Setting Depth	1st Cluster	2nd Cluster	3rd Cluster	4th Cluster	5th Cluster	Perf Method
11538	11503-04	11468-69	11433-34	11398-99	11363-64	PD

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Stage 13						
Plug Setting Depth	1st Cluster	2nd Cluster	3rd Cluster	4th Cluster	5th Cluster	Perf Method
11333	11298-99	11263-64	11228-29	11193-94	11158-59	PD
Stage 14						
Plug Setting Depth	1st Cluster	2nd Cluster	3rd Cluster	4th Cluster	5th Cluster	Perf Method
10853	10813-14	10773-74	10733-34	10693-94	10653-54	PD
Stage 15						
Plug Setting Depth	1st Cluster	2nd Cluster	3rd Cluster	4th Cluster	5th Cluster	Perf Method
10623	10583-84	10543-44	10503-04	10463-64	10423-24	PD
Stage 16						
Plug Setting Depth	1st Cluster	2nd Cluster	3rd Cluster	4th Cluster	5th Cluster	Perf Method
10393	10353-54	10313-14	10273-74	10233-34	10193-94	PD
Stage 17						
Plug Setting Depth	1st Cluster	2nd Cluster	3rd Cluster	4th Cluster	5th Cluster	Perf Method
10163	10123-24	10083-84	10043-44	10003-04	9963-64	PD
Stage 18						
Plug Setting Depth	1st Cluster	2nd Cluster	3rd Cluster	4th Cluster	5th Cluster	Perf Method
9933	9893-94	9853-54	9813-14	9773-74	9733-34	PD
Stage 19						
Plug Setting Depth	1st Cluster	2nd Cluster	3rd Cluster	4th Cluster	5th Cluster	Perf Method
9703	9663-64	9623-24	9583-84	9543-44	9503-04	PD
Stage 20						
Plug Setting Depth	1st Cluster	2nd Cluster	3rd Cluster	4th Cluster	5th Cluster	Perf Method
9473	9433-34	9393-94	9353-54	9313-14	9273-74	PD
Stage 21						
Plug Setting Depth	1st Cluster	2nd Cluster	3rd Cluster	4th Cluster	5th Cluster	Perf Method
9243	9203-04	9163-64	9123-24	9083-84	9043-44	PD
Stage 22						
Plug Setting Depth	1st Cluster	2nd Cluster	3rd Cluster	4th Cluster	5th Cluster	Perf Method
9013	8973-74	8933-34	8893-94	8853-54	8813-14	PD
Stage 23						
Plug Setting Depth	1st Cluster	2nd Cluster	3rd Cluster	4th Cluster	5th Cluster	Perf Method
8783	8743-44	8703-04	8663-64	8623-24	8583-84	PD
Stage 24						
Plug Setting Depth	1st Cluster	2nd Cluster	3rd Cluster	4th Cluster	5th Cluster	Perf Method
8553	8513-14	8473-74	8433-34	8393-94	8353-54	PD
Stage 25						
Plug Setting Depth	1st Cluster	2nd Cluster	3rd Cluster	4th Cluster	5th Cluster	Perf Method
8323	8283-84	8243-44	8203-04	8163-64	8123-24	PD
Stage 26						
Plug Setting Depth	1st Cluster	2nd Cluster	3rd Cluster	4th Cluster	5th Cluster	Perf Method
8093	8053-54	8013-14	7973-74	7933-34	7893-94	PD

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(BOTTOM HOLE: 80°39'14.7")

LON: -80°40'32.3"

2525'

LAT: 39°37'30"

LON: 80°40'00"

1. All 1943 1:48 and Latitude and Longitude were measured by DGPS (Sub-meter Mapping Grade). Bearings are referenced to UTM Grid North (Zone 17 North - NAD 1983).

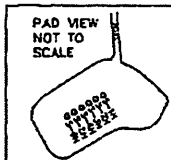
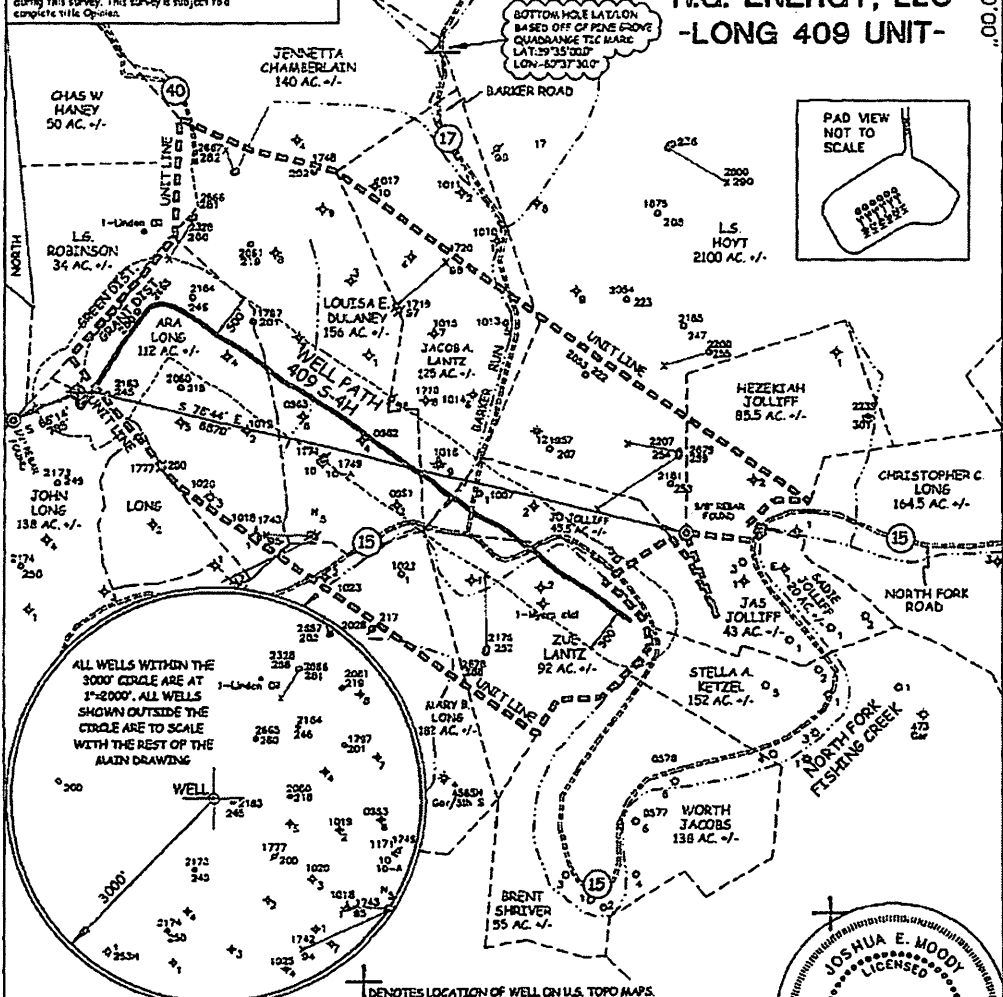
2. Surface owners and adjacent information obtained from the West Virginia Assessor's tax records.

3. No Title Opinion was provided to the Surveyor during this survey. This survey is subject to complete title Opinion.

SURVEY NOTES	
UTM Coordinates (Zone 17N-NAD 1983)	
Surface	N=4,381,630m. E=527,871m.
Bottom	N=4,380,857m. E=529,725m.

LOCATION REFERENCES	
NAD 1983	
N 89°33' W 200' UTILITY POLE	
N 40°39' E 22' 5/22E	

MAP OF H.G. ENERGY, LLC -LONG 409 UNIT-

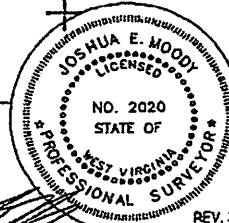


JOB # 12-025
DRAWING # 12HG409FOLDER
SCALE 1" = 1500'
MINIMUM DEGREE OF ACCURACY SUB-METER
PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS

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 REGULATIONS ISSUED AND PERSCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.



WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
MOODY LAND SURVEYING, LLC
ST. MARYS, WV 26170



JOSHUA E. MOODY, P.S. 2020
DATE 12/08/14
OPERATOR'S WELL # 409 S-4H

WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION OFFICE OF OIL AND GAS

WELL TYPE: OIL GAS LIQUID INJECTION _____ WASTE DISPOSAL _____ HORIZONTAL
 (IF "GAS") PRODUCTION STORAGE _____ DEEP _____ SHALLOW API WELL # _____
 LOCATION: ELEVATION 1340' WATERSHED NORTH FOR, FISHING CREEK 47 - 103
 DISTRICT GRANT _____ COUNTY WETZEL STATE COUNTY PERMIT
 QUADRANGLE PINE GROVE 7.5'
 SURFACE OWNER FRANCIS D. & FREDIA M. BROWN (surface hole) ACREAGE 103 ACRES +/-
 OIL & GAS ROYALTY OWNER ROBERT B. MYERS ET AL LEASE ACREAGE 580 ACRES +/-
 PROPOSED WORK: DRILL CONVERT _____ DRILL DEEPER _____ REDRILL _____ FRACTURE OR
 STIMULATE PLUG OFF OLD FORMATION _____ PERFORATE NEW FORMATION _____
 OTHER PHYSICAL CHANGE IN WELL (SPECIFY) AS DRILLED LOCATION
 PLUG & ABANDON _____ CLEAN OUT & REPLUG _____
 TARGET FORMATION MARCELLUS
 WELL OPERATOR H.G. ENERGY, LLC ESTIMATED DEPTH TVD= 7,355.71' MD= 13,759'
 ADDRESS 5260 DuPONT ROAD DESIGNATED AGENT DIANE WHITE
 PARKERSBURG, WV 26101 ADDRESS 5260 DuPONT ROAD PARKERSBURG, WV 26101
 LEASE # 31950-50 et al

FORM WW-6

received
Office of Oil & Gas
JUL 05 2016

(BOTTOM HOLE: 80°39'14.7")

LON: -80°40'32.3"

2525'

LAT: 39°37'30"

LON: 80°40'00"

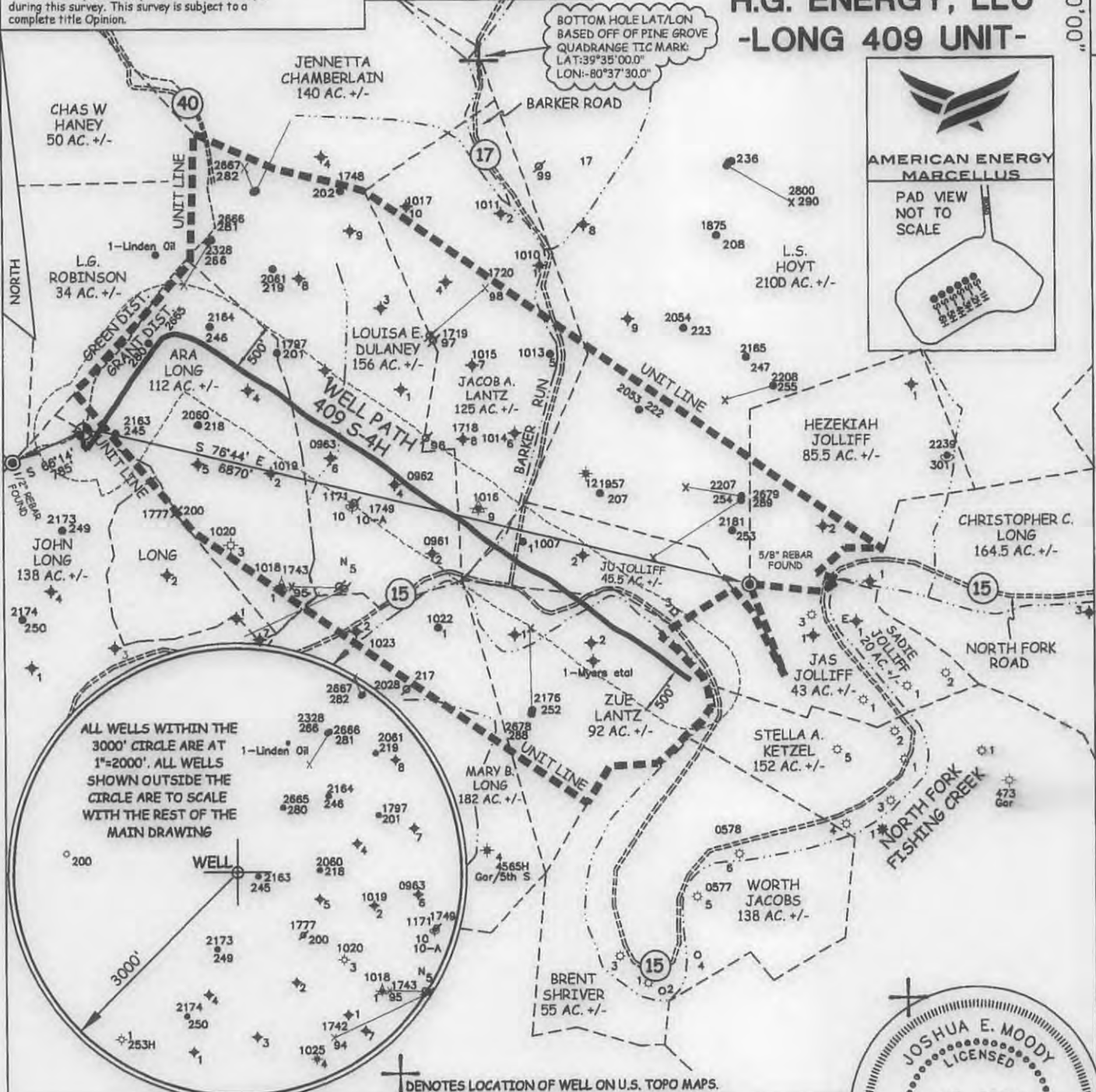
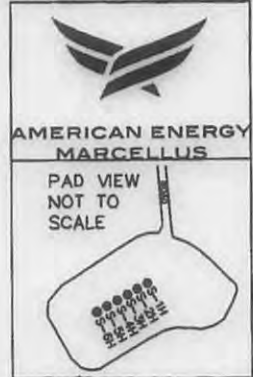
- 1 - Well ties and Latitude and Longitude were measured by DGPS (Sub-meter Mapping Grade). Bearings are referenced to UTM Grid North (Zone 17 North - NAD 1927).
- 2 - Surface owners and adjoiners information obtained from the Wetzel County Assessor's tax records.
- 3 - No Title Opinion was provided to the Surveyor during this survey. This survey is subject to a complete title Opinion.

SURVEY NOTES

UTM Coordinates (Zone 17N-NAD 1983)	
Surface	N-4,381,630m. E-527,871m.
Bottom Hole	N-4,380,857m. E-529,725m.

LOCATION REFERENCES	
NAD 1983	
N 80°30' W 260' UTILITY POLE	
N 46°39' E 222' SPIKE	

MAP OF H.G. ENERGY, LLC -LONG 409 UNIT-



14,992'

LAT: 39°35'01.9"

(BOTTOM HOLE: 39°34'36.6")

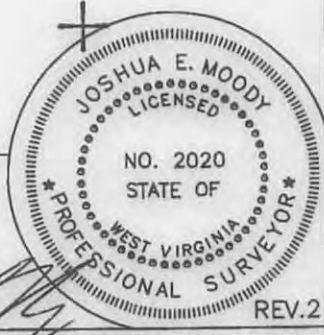
COUNTY NAME PERMIT

JOB # 12-025
 DRAWING # 12HG409FOLDER
 SCALE 1" = 1500'
 MINIMUM DEGREE OF ACCURACY SUB-METER
 PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS

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 REGULATIONS ISSUED AND PERSCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.



WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
 MOODY LAND SURVEYING, LLC
 ST. MARYS, WV 26170



JOSHUA E. MOODY, P.S. 2020
 DATE 12/08/14
 OPERATOR'S WELL # 409 S-4H

WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION OFFICE OF OIL AND GAS

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 (IF "GAS") PRODUCTION STORAGE DEEP SHALLOW
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 OTHER PHYSICAL CHANGE IN WELL (SPECIFY) AS DRILLED LOCATION
 PLUG & ABANDON CLEAN OUT & REPLUG
 TARGET FORMATION MARCELLUS ESTIMATED DEPTH TVD= 7,355.71' MD= 13,759'
 WELL OPERATOR AMERICAN ENERGY-MARCELLUS DESIGNATED AGENT BRANDON MCKINLEY
 ADDRESS 3501 NW 63rd STREET ADDRESS 3501 NW 63rd STREET
 OKLAHOMA CITY, OK 73116 OKLAHOMA CITY, OK 73116
 LEASE # 31950-50 et al

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(Zone 17N-NAD 1983)

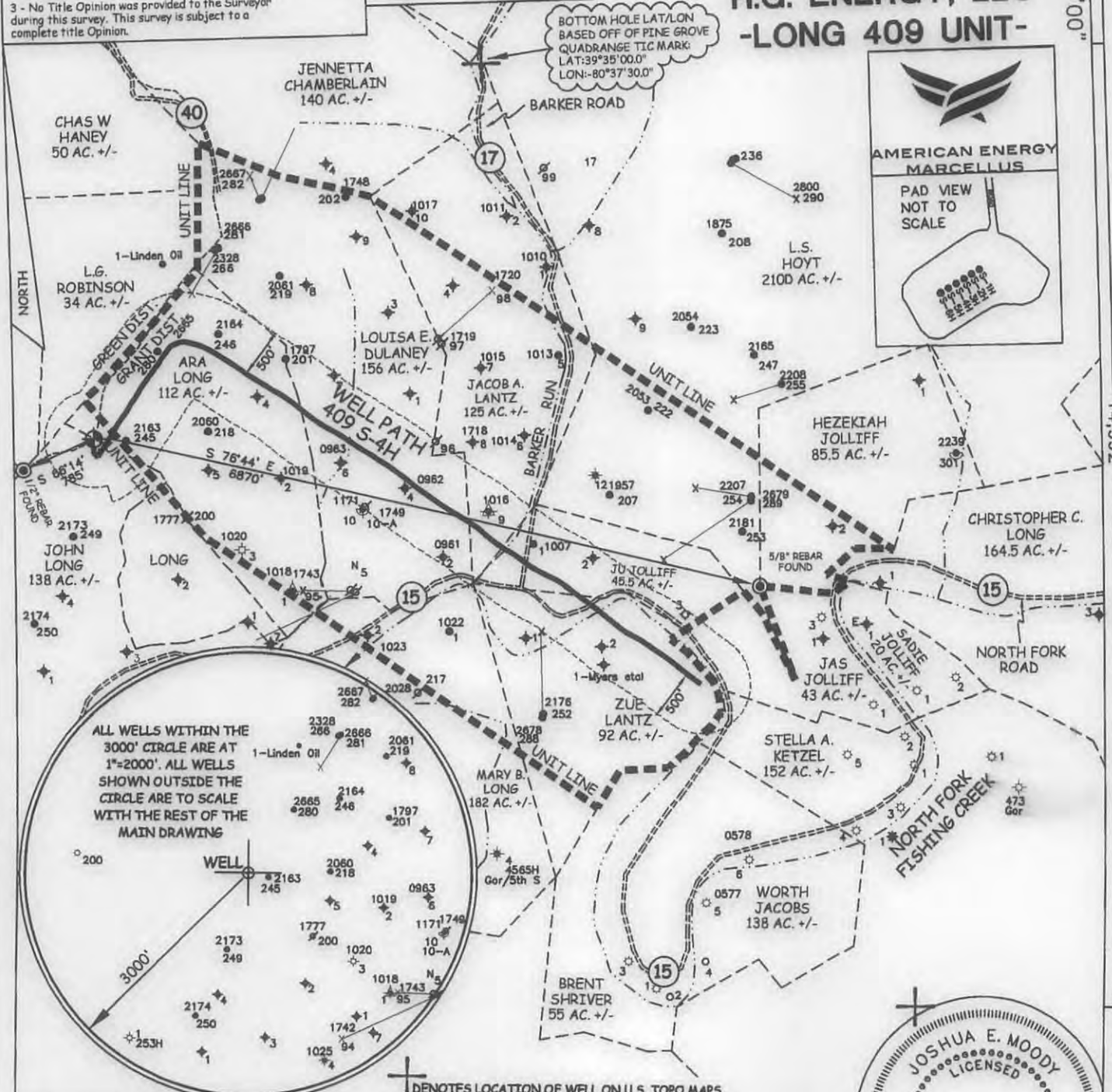
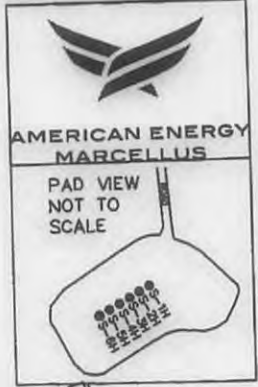
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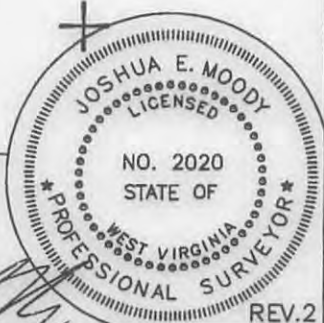
LOCATION REFERENCES

NAD 1983
N 80°30' W 260' UTILITY POLE
N 46°39' E 222' SPIKE

MAP OF H.G. ENERGY, LLC -LONG 409 UNIT-



⊕ DENOTES LOCATION OF WELL ON U.S. TOPO MAPS.



JOB # 12-025
DRAWING # 12HG409FOLDER
SCALE 1" = 1500'
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WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
MOODY LAND SURVEYING, LLC
ST. MARYS, WV 26170

JOSHUA E. MOODY, P.S. 2020
DATE 12/08/14
OPERATOR'S WELL # 409 S-4H

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(IF "GAS") PRODUCTION STORAGE DEEP SHALLOW
LOCATION: ELEVATION 1340' WATERSHED NORTH FOR, FISHING CREEK API WELL # HGA
DISTRICT GRANT COUNTY WETZEL 47 - 103 - 02881
QUADRANGLE PINE GROVE 7.5' STATE COUNTY PERMIT

SURFACE OWNER FRANCIS D. & FREEDA M. BROWN (surface hole) ACREAGE 103 ACRES +/-
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PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION
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