

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

API 47-095-02137 County Tyler District McElroy
Quad Shirley Pad Name Maddie Mae Field/Pool Name _____
Farm name Joseph Boyd Well Number Maddie Mae 1
Operator (as registered with the OOG) Jay-Bee Oil & Gas, Inc.
Address 3570 Shields Hill Rd. City Cairo State WV Zip 26337

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4,365,366.1 Easting 516,688.0
Landing Point of Curve Northing 4,365,293.7 Easting 517,734.0
Bottom Hole Northing 4,364,767.9 Easting 518,378.8

Elevation (ft) 1040.9 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)
ABS 40

Date permit issued 2/28/2014 Date drilling commenced 11/20/2015 ^{2014 DM4} Date drilling ceased 2/20/2015
Date completion activities began 3/11/2015 Date completion activities ceased 4/30/2015
Verbal plugging (Y/N) N Date permission granted N/A Granted by RECEIVED
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Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug MAR 08 2016

Freshwater depth(s) ft N/A Open mine(s) (Y/N) depths WV Department of
Salt water depth(s) ft N/A Void(s) encountered (Y/N) depths Environmental Protection
Coal depth(s) ft N/A Cavern(s) encountered (Y/N) depths Office of Oil & Gas N
Is coal being mined in area (Y/N) N

Reviewed
J. Craig Blodgett
8/21/2015

Reviewed by:
JCB
AX 06/14/16
WS

Received
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OCT 13 2015

API 47-095 - 02137 Farm name Joseph Boyd Well number Maddie Mae 1

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	17"	16"	<u>30</u>	New	20/32/24		N *
Surface	15"	11 3/4"	449	New	20/23/24	50'	Y
Coal							
Intermediate 1	11"	8 5/8"	2263	New	20/17/24	1500'	Y
Intermediate 2							
Intermediate 3							
Production	7 7/8"	5 1/2"	12478	New	20		Y
Tubing							
Packer type and depth set							

Comment Details *Conductor string grouted to surface.

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							
Surface	Class A	253	15.6	1.26	213	CTS	8
Coal							
Intermediate 1	Class A	585	14.7	1.42	572	CTS	8
Intermediate 2							
Intermediate 3							
Production	Class A	1620	14.4	1.30	2106	332' from surface	8
Tubing							

Drillers TD (ft) 12489 Loggers TD (ft) 12489

Deepest formation penetrated Marcellus Plug back to (ft) N/A

Plug back procedure N/A

Kick off depth (ft) 5900

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 Spiral centralizer every joint from TD back to start of
90 degree.
90 - 70 degree every second joint.
70 degree - KOP every third joint.
KOP - Surface centralizer placed every 500'.

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	3/11/15	12461	12280	96	Marcellus
2	4/15/15	12245	12132	72	Marcellus
3	4/15/15	12096	11912	72	Marcellus
4	4/15/15	11868	11694	72	Marcellus
5	4/15/15	11659	11456	72	Marcellus
6	4/15/15	11356	11190	72	Marcellus
7	4/16/15	11158	10993	72	Marcellus
8	4/16/15	10948	10774	72	Marcellus
9	4/16/15	10772	10548	72	Marcellus
10	4/16/15	10496	10352	72	Marcellus
11	4/16/15	10318	10206	72	Marcellus
12	4/17/15	10155	10008	72	Marcellus
13	4/17/15	9936	9730	72	Marcellus
14	4/17/15	9694	9522	72	Marcellus
15	4/17/15	9472	9296	72	Marcellus
16	4/18/15	9260	9129	72	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	4/14/15	76.8	6704	7009	4733	180351	7866	N/A
2	4/15/15	77.2	6651	6902	3211	180516	6669	N/A
3	4/15/15	76.4	6704	7219	4146	181062	6664	N/A
4	4/15/15	76.0	6446	6922	4870	181627	6789	N/A
5	4/15/15	76.5	6262	6633	4868	181122	6723	N/A
6	4/15/15	76.4	6238	6960	4417	179699	6704	N/A
7	4/16/15	77.2	6311	6590	4599	180349	6373	N/A
8	4/16/15	76.2	6340	7045	4394	180481	6359	N/A
9	4/16/15	73.2	6323	7055	4593	178795	5973	N/A
10	4/16/15	76.5	6343	6739	4695	180316	6177	N/A
11	4/16/15	76.3	6310	6685	5018	180417	6250	N/A
12	4/17/15	77.3	6151	6645	4752	181050	6142	N/A
13	4/17/15	77.7	6250	6827	4013	180332	6142	N/A
14	4/17/15	77.4	6142	7511	4076	181885	6089	N/A
15	4/17/15	77.4	6106	6623	4464	180202	6089	N/A
16	4/18/15	77.4	6367	7348	3790	180520	6089	N/A

Please insert additional pages as applicable.

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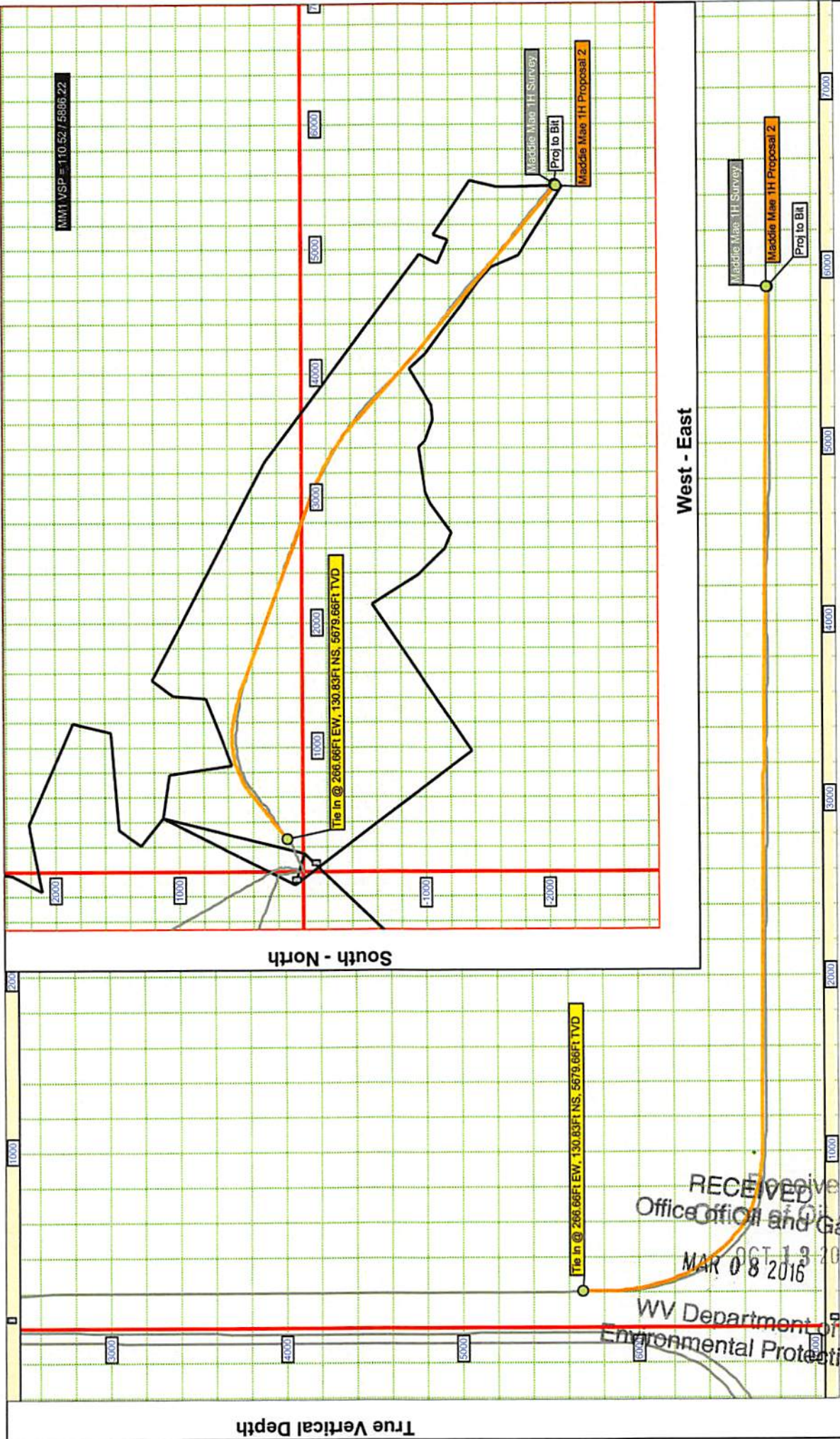
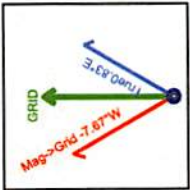
Lithology

Maddie Mae 1 47-095-02137

FORMATION	TOP	BOTTOM
MISC. RED ROCK & SHALES	0	2138
LIME	2138	2238
INJUN	2238	2355
SHALE	2355	2702
GORDON STRAY	2702	2722
SHALE	2722	2918
GORDON	2918	2948
SHALE	2948	3227
BAYARD	3227	3236
SHALE	3236	3565
WARREN	3565	3663
SHALE	3663	3899
BALLTOWN	3899	4062
SHALE	4062	4500
2ND RILEY	4500	4608
SHALE	4608	4759
3RD RILEY	4759	4800
SHALE	4800	4857
BENSON	4857	4860
SHALE	4860	5102
ALEXANDER	5102	5273
SHALE	5273	5518
ELK	5518	5566
SHALE	5566	5792
HAMILTON	5792	5966
SHALE	5966	6622
UPPER Marcellus	6622	6628
PARCELL LIME	6628	6663
SHALE	6663	6698
LOWER MARCELLUS	6698	

Job Number: Maddie Mae 1H Svy
 Company: Jay Bee Oil & Gas
 Lease/Well: Maddie Mae 1H
 Location: Northern
 Rig Name:
 State/Country: West Virginia/ Tyler
 Country: USA
 API Number:

Elevation (To MSL): 1042.00 ft
 RKB: 16.00 ft
 Projection System: US State Plane 1927 (Exact solution)
 Projection Group: West Virginia North 4701
 Projection Datum: CLARKE 1866
 Magnetic Declination: -8.50
 Grid Convergence: -0.83303 W
 Date: Monday, February 16, 2015



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Vertical Section (1000 Ft/Div) VSP: 110.52°

Performance Drilling Technology, Inc. - HawkEye™ ©2014



Job Number: Maddie Mae 1H Svy
Company: Jay Bee Oil & Gas
Lease/Well: Maddie Mae 1H
Location: Northern
Rig Name:
State/County: West Virginia/ Tyler
Country: USA

Elev. GL: 1042.00 ft **RKB:** 16.00 ft
System: US State Plane 1927 (Exact solution)
Group: West Virginia North 4701
Datum: CLARKE 1866
Mag. Decl.: -8.50° (C:\HawkEye\IGRF2010.MIF)
Grid Conv.: -0.83303 W
Date: Monday, February 16, 2015



Calculated by HawkEye Software
 Minimum Curvature Method
 Vertical Section Plane 110.52°
 Northing (US ft): 344174.60 Easting (US ft): 1631075.60
 Latitude: 39°26'15.3541" N Longitude: -80°48'22.5025" W
 Direction Reference: Grid North



#	Measured Depth (Ft)	INC Deg	AZM Deg	CL (Ft)	TVD (Ft)	VS (Ft)	NS (Ft)	EW (Ft)	Northing (US ft)	Easting (US ft)	DLS */100 Ft	LR/EW From-Plan (Ft)	UD/NS From-Plan (Ft)
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	344174.60	1631075.60	0.00	-	-
2	100.00	1.04	157.45	100.00	99.99	0.62	-0.84	0.35	344173.76	1631075.95	1.04	-	-
3	200.00	1.49	197.95	100.00	199.97	1.30	-2.91	0.30	344171.69	1631075.90	0.97	-	-
4	300.00	0.82	211.90	100.00	299.95	1.21	-4.76	-0.48	344169.84	1631075.12	0.72	-	-
5	400.00	0.34	82.72	100.00	399.95	1.34	-5.33	-0.57	344169.27	1631075.03	1.07	-	-
6	500.00	1.23	53.15	100.00	499.94	2.18	-4.65	0.59	344169.95	1631076.19	0.95	-	-
7	600.00	1.93	63.32	100.00	599.90	3.90	-3.25	2.95	344171.35	1631078.55	0.75	-	-
8	700.00	2.91	67.98	100.00	699.81	6.91	-1.54	6.81	344173.06	1631082.41	1.00	-	-
9	800.00	3.72	66.83	100.00	799.64	11.13	0.69	12.14	344175.29	1631087.74	0.81	-	-
10	900.00	4.96	69.67	100.00	899.35	16.75	3.47	19.18	344178.07	1631094.78	1.26	-	-
11	1000.00	5.60	68.21	100.00	998.93	23.63	6.78	27.76	344181.38	1631103.36	0.65	-	-
12	1100.00	6.37	66.48	100.00	1098.38	31.22	10.81	37.38	344185.41	1631112.98	0.79	-	-
13	1200.00	6.95	65.50	100.00	1197.71	39.49	15.53	47.97	344190.13	1631123.57	0.59	-	-
14	1300.00	7.41	63.54	100.00	1296.92	48.16	20.91	59.25	344195.51	1631134.85	0.52	-	-
15	1400.00	8.03	63.18	100.00	1396.02	57.29	26.94	71.26	344201.54	1631146.86	0.62	-	-
16	1500.00	8.45	63.86	100.00	1494.98	67.07	33.32	84.09	344207.92	1631159.69	0.43	-	-
17	1600.00	8.88	64.39	100.00	1593.84	77.46	39.90	97.64	344214.50	1631173.24	0.44	-	-
18	1700.00	9.05	62.58	100.00	1692.62	88.08	46.86	111.58	344221.46	1631187.18	0.33	-	-
19	1800.00	9.56	63.16	100.00	1791.30	98.97	54.23	125.97	344228.83	1631201.57	0.52	-	-
20	1900.00	9.97	66.83	100.00	1889.86	110.86	61.38	141.34	344235.98	1631216.94	0.75	-	-
21	2000.00	10.38	66.89	100.00	1988.28	123.64	68.32	157.59	344242.92	1631233.19	0.41	-	-
22	2100.00	10.87	67.05	100.00	2086.57	137.00	75.54	174.56	344250.14	1631250.16	0.49	-	-
23	2200.00	11.31	69.05	100.00	2184.72	151.13	82.69	192.32	344257.29	1631267.92	0.51	-	-
24	2300.00	10.89	68.00	100.00	2282.86	165.37	89.70	210.15	344264.30	1631285.75	0.38	-	-
25	2400.00	8.61	66.44	100.00	2381.41	177.72	96.23	225.77	344270.83	1631301.37	2.30	-	-
26	2500.00	6.42	65.64	100.00	2480.55	187.06	101.53	237.73	344276.13	1631313.33	2.19	-	-
27	2600.00	4.11	65.31	100.00	2580.12	193.54	105.34	246.08	344279.94	1631321.68	2.31	-	-
28	2700.00	2.85	59.56	100.00	2679.93	197.63	108.09	251.48	344282.69	1631327.08	1.31	-	-
29	2800.00	1.94	62.38	100.00	2779.84	200.33	110.14	255.12	344284.74	1631330.72	0.92	-	-
30	2900.00	1.10	63.69	100.00	2879.81	202.12	111.35	257.48	344285.95	1631333.08	0.84	-	-

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#	Measured Depth (Ft)	INC Deg	AZM Deg	CL (Ft)	TVD (Ft)	VS (Ft)	NS (Ft)	EW (Ft)	Northing (US ft)	Easting (US ft)	DLS %/100 Ft	LR/EW From-Plan (Ft)	UD/NS From-Plan (Ft)
31	3000.00	0.42	58.70	100.00	2979.80	203.00	111.96	258.66	344286.56	1631334.26	0.68	-	-
32	3100.00	0.27	216.56	100.00	3079.80	203.16	111.96	258.83	344286.56	1631334.43	0.68	-	-
33	3200.00	0.45	334.74	100.00	3179.80	202.81	112.13	258.52	344286.73	1631334.12	0.62	-	-
34	3300.00	0.23	353.81	100.00	3279.80	202.44	112.69	258.33	344287.29	1631333.93	0.24	-	-
35	3400.00	0.22	356.51	100.00	3379.79	202.27	113.08	258.30	344287.68	1631333.90	0.01	-	-
36	3500.00	0.34	1.36	100.00	3479.79	202.10	113.56	258.29	344288.16	1631333.89	0.12	-	-
37	3600.00	0.14	324.51	100.00	3579.79	201.90	113.96	258.23	344288.56	1631333.83	0.24	-	-
38	3700.00	0.31	326.84	100.00	3679.79	201.58	114.29	258.01	344288.89	1631333.61	0.17	-	-
39	3800.00	0.37	330.15	100.00	3779.79	201.11	114.79	257.70	344289.39	1631333.30	0.06	-	-
40	3900.00	0.45	329.83	100.00	3879.79	200.56	115.41	257.35	344290.01	1631332.95	0.08	-	-
41	4000.00	0.32	342.26	100.00	3979.79	200.08	116.02	257.06	344290.62	1631332.66	0.15	-	-
42	4100.00	1.05	355.60	100.00	4079.78	199.52	117.20	256.91	344291.80	1631332.51	0.74	-	-
43	4200.00	0.88	355.78	100.00	4179.76	198.82	118.88	256.78	344293.48	1631332.38	0.17	-	-
44	4300.00	0.87	12.56	100.00	4279.75	198.39	120.38	256.89	344294.98	1631332.49	0.26	-	-
45	4400.00	0.66	19.53	100.00	4379.74	198.28	121.67	257.25	344296.27	1631332.85	0.23	-	-
46	4500.00	1.12	30.86	100.00	4479.73	198.44	123.05	257.94	344297.65	1631333.54	0.49	-	-
47	4600.00	0.79	44.83	100.00	4579.72	198.90	124.38	258.93	344298.98	1631334.53	0.40	-	-
48	4700.00	0.76	33.99	100.00	4679.71	199.34	125.42	259.78	344300.02	1631335.38	0.15	-	-
49	4800.00	0.84	37.55	100.00	4779.70	199.71	126.55	260.60	344301.15	1631336.20	0.09	-	-
50	4900.00	0.71	55.65	100.00	4879.69	200.28	127.48	261.56	344302.08	1631337.16	0.28	-	-
51	5000.00	0.52	63.58	100.00	4979.68	200.95	128.03	262.48	344302.63	1631338.08	0.21	-	-
52	5100.00	0.45	59.39	100.00	5079.68	201.50	128.43	263.22	344303.03	1631338.82	0.08	-	-
53	5200.00	0.51	50.29	100.00	5179.68	201.97	128.92	263.90	344303.52	1631339.50	0.10	-	-
54	5300.00	0.48	55.87	100.00	5279.67	202.43	129.44	264.59	344304.04	1631340.19	0.06	-	-
55	5400.00	0.46	58.81	100.00	5379.67	202.92	129.88	265.28	344304.48	1631340.88	0.03	-	-
56	5500.00	0.24	57.77	100.00	5479.67	203.30	130.20	265.80	344304.80	1631341.40	0.22	-	-
57	5600.00	0.29	53.00	100.00	5579.67	203.56	130.46	266.18	344305.06	1631341.78	0.05	-	-
58	5700.00	0.40	51.60	100.00	5679.66	203.88	130.83	266.66	344305.43	1631342.26	0.11	0.00 (W)	0.00 (N)
59	5817.00	0.40	30.80	117.00	5796.66	204.16	131.44	267.19	344306.04	1631342.79	0.12	-0.39 (W)	-0.12 (S)
60	5861.00	1.10	7.00	44.00	5840.66	204.09	131.99	267.32	344306.59	1631342.92	1.71	-2.28 (W)	-1.17 (S)
61	5905.00	2.60	64.80	44.00	5884.64	204.69	132.83	268.27	344307.43	1631343.87	5.04	-5.67 (W)	-3.76 (S)
62	5950.00	6.90	51.00	45.00	5929.47	206.77	134.97	271.30	344309.57	1631346.90	9.82	-0.49 (L)	-11.20 (D)
63	5995.00	10.80	50.90	45.00	5973.93	210.28	139.33	276.67	344313.93	1631352.27	8.67	-0.65 (L)	-15.43 (D)
64	6039.00	15.40	54.40	44.00	6016.77	215.62	145.33	284.63	344319.93	1631360.23	10.60	0.64 (R)	-18.72 (D)
65	6083.00	16.10	60.70	44.00	6059.12	222.82	151.72	294.70	344326.32	1631370.30	4.20	4.48 (R)	-22.58 (D)
66	6128.00	19.40	59.20	45.00	6101.98	231.52	158.60	306.56	344333.20	1631382.16	7.40	6.47 (R)	-27.73 (D)
67	6172.00	23.30	58.70	44.00	6142.95	241.46	166.87	320.28	344341.47	1631395.88	8.87	8.74 (R)	-32.61 (D)
68	6217.00	25.10	58.40	45.00	6183.99	252.83	176.49	336.01	344351.09	1631411.61	4.01	11.35 (R)	-38.17 (D)
69	6261.00	27.90	57.10	44.00	6223.36	264.70	186.98	352.61	344361.58	1631428.21	6.50	13.08 (R)	-44.50 (D)
70	6306.00	31.90	56.60	45.00	6262.37	277.98	199.25	371.38	344373.85	1631446.98	8.91	15.09 (R)	-50.81 (D)
71	6350.00	36.80	57.80	44.00	6298.68	292.82	212.68	392.25	344387.28	1631467.85	11.24	18.59 (R)	-55.44 (D)

WV Department of Environmental Protection
 Office of Oil and Gas
 MAR 09 2015

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#	Measured Depth (Ft)	INC Deg	AZM Deg	CL (Ft)	TVD (Ft)	VS (Ft)	NS (Ft)	EW (Ft)	Northing (US ft)	Easting (US ft)	DLS */100 Ft	LR/EW From-Plan (Ft)	UD/NS From-Plan (Ft)
72	6394.00	40.60	59.40	44.00	6333.02	309.79	226.99	415.74	344401.59	1631491.34	8.93	23.35 (R)	-59.28 (D)
73	6439.00	42.90	58.20	45.00	6366.59	328.35	242.52	441.36	344417.12	1631516.96	5.41	26.33 (R)	-64.34 (D)
74	6483.00	46.90	56.10	44.00	6397.75	346.86	259.38	467.44	344433.98	1631543.04	9.69	27.50 (R)	-69.32 (D)
75	6527.00	51.50	54.10	44.00	6426.49	365.74	278.45	494.73	344453.05	1631570.33	11.01	27.70 (R)	-73.46 (D)
76	6572.00	55.90	53.60	45.00	6453.13	385.65	299.84	524.01	344474.44	1631599.61	9.82	28.56 (R)	-75.55 (D)
77	6616.00	60.10	52.90	44.00	6476.44	405.82	322.16	553.89	344496.76	1631629.49	9.64	28.96 (R)	-74.84 (D)
78	6659.00	62.00	52.30	43.00	6497.25	425.80	345.02	583.78	344519.62	1631659.38	4.58	29.14 (R)	-71.90 (D)
79	6704.00	62.20	51.90	45.00	6518.31	446.63	369.45	615.16	344544.05	1631690.76	0.90	29.20 (R)	-67.76 (D)
80	6746.00	62.90	48.90	42.00	6537.67	465.19	393.20	643.88	344567.80	1631719.48	6.55	26.81 (R)	-64.35 (D)
81	6791.00	63.20	53.20	45.00	6558.08	485.56	418.41	675.06	344593.01	1631750.66	8.54	26.79 (R)	-58.94 (D)
82	6835.00	63.50	57.90	44.00	6577.82	508.13	440.64	707.48	344615.24	1631783.08	9.57	27.22 (R)	-54.52 (D)
83	6879.00	64.40	62.20	44.00	6597.15	533.28	460.37	741.72	344634.97	1631817.32	9.01	27.69 (R)	-51.12 (D)
84	6924.00	65.10	65.50	45.00	6616.35	561.21	478.30	778.25	344652.90	1631853.85	6.81	27.73 (R)	-48.64 (D)
85	6968.00	66.90	70.60	44.00	6634.26	590.85	493.31	815.52	344667.91	1631891.12	11.35	28.68 (R)	-46.39 (D)
86	7012.00	70.00	73.50	44.00	6650.42	622.89	505.90	854.45	344680.50	1631930.05	9.34	29.28 (R)	-44.19 (D)
87	7056.00	71.80	76.40	44.00	6664.82	656.71	516.69	894.59	344691.29	1631970.19	7.45	29.40 (R)	-41.67 (D)
88	7101.00	73.70	79.00	45.00	6678.16	692.82	525.84	936.58	344700.44	1632012.18	6.95	29.12 (R)	-39.27 (D)
89	7145.00	77.00	81.60	44.00	6689.29	729.60	533.01	978.53	344707.61	1632054.13	9.43	28.27 (R)	-36.72 (D)
90	7190.00	79.90	86.80	45.00	6698.31	769.11	537.45	1022.37	344712.05	1632097.97	13.03	28.34 (R)	-32.97 (D)
91	7234.00	82.30	92.00	44.00	6705.12	809.64	537.90	1065.82	344712.50	1632141.42	12.89	29.68 (R)	-29.16 (D)
92	7276.00	86.00	94.40	42.00	6709.40	849.52	535.56	1107.53	344710.16	1632183.13	10.48	31.49 (R)	-25.11 (D)
93	7320.00	89.10	94.80	44.00	6711.28	891.79	532.04	1151.34	344706.64	1632226.94	7.10	32.01 (R)	-20.29 (D)
94	7365.00	88.00	95.80	45.00	6712.42	935.20	527.88	1196.13	344702.48	1632271.73	3.30	31.06 (R)	-15.98 (D)
95	7409.00	87.50	96.70	44.00	6714.15	977.80	523.10	1239.83	344697.70	1632315.43	2.34	28.43 (R)	-14.42 (D)
96	7453.00	87.10	99.00	44.00	6716.22	1020.68	517.09	1283.37	344691.69	1632358.97	5.30	25.00 (R)	-14.81 (D)
97	7497.00	86.90	99.60	44.00	6718.52	1063.78	509.99	1326.73	344684.59	1632402.33	1.44	21.24 (R)	-16.69 (D)
98	7542.00	88.60	101.70	45.00	6720.29	1108.08	501.68	1370.92	344676.28	1632446.52	6.00	18.22 (R)	-18.05 (D)
99	7586.00	88.90	101.60	44.00	6721.25	1151.54	492.80	1414.00	344667.40	1632489.60	0.72	15.02 (R)	-18.62 (D)
100	7631.00	89.20	104.80	45.00	6722.00	1196.16	482.53	1457.80	344657.13	1632533.40	7.14	11.98 (R)	-18.96 (D)
101	7675.00	89.50	104.70	44.00	6722.50	1239.94	471.33	1500.35	344645.93	1632575.95	0.72	9.09 (R)	-19.08 (D)
102	7719.00	89.80	108.20	44.00	6722.76	1283.82	458.87	1542.54	344633.47	1632618.14	7.98	6.58 (R)	-18.96 (D)
103	7764.00	89.90	107.70	45.00	6722.88	1328.77	445.00	1585.35	344619.60	1632660.95	1.13	4.66 (R)	-18.68 (D)
104	7808.00	89.40	109.00	44.00	6723.15	1372.74	431.15	1627.11	344605.75	1632702.71	3.17	3.09 (R)	-18.57 (D)
105	7853.00	89.40	109.00	45.00	6723.62	1417.72	416.50	1669.66	344591.10	1632745.26	0.00	2.00 (R)	-18.65 (D)
106	7897.00	89.50	109.60	44.00	6724.04	1461.71	401.23	1710.92	344575.83	1632786.52	5.91	1.94 (R)	-18.69 (D)
107	7942.00	89.70	112.00	45.00	6724.36	1506.70	384.52	1752.70	344559.12	1632828.30	0.99	3.04 (R)	-18.61 (D)
108	7986.00	89.60	111.80	44.00	6724.63	1550.69	368.11	1793.52	344542.71	1632869.12	0.51	4.20 (R)	-18.49 (D)
109	8030.00	89.50	110.50	44.00	6724.97	1594.68	352.24	1834.56	344526.84	1632910.16	2.96	4.78 (R)	-18.45 (D)
110	8075.00	89.20	110.00	45.00	6725.48	1639.68	336.66	1876.77	344511.26	1632952.37	1.30	4.67 (R)	-18.57 (D)
111	8119.00	89.50	109.20	44.00	6725.98	1683.67	321.90	1918.22	344496.50	1632993.82	1.94	4.06 (R)	-18.69 (D)
112	8163.00	91.30	110.50	44.00	6725.68	1727.66	306.97	1959.60	344481.57	1633035.20	5.05	3.65 (R)	-18.01 (D)

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113	8208.00	91.30	110.00	45.00	6724.65	1772.65	291.39	2001.81	344465.99	1633077.41	1.11	3.54 (R)	-16.59 (D)
114	8252.00	91.00	109.80	44.00	6723.77	1816.64	276.42	2043.17	344451.02	1633118.77	0.82	3.16 (R)	-15.32 (D)
115	8297.00	90.90	109.50	45.00	6723.03	1861.63	261.29	2085.55	344435.89	1633161.15	0.70	2.58 (R)	-14.18 (D)
116	8341.00	90.70	109.80	44.00	6722.41	1905.62	246.50	2126.98	344421.10	1633202.58	0.82	2.01 (R)	-13.18 (D)
117	8385.00	90.90	108.90	44.00	6721.80	1949.61	231.92	2168.49	344406.52	1633244.09	2.10	1.21 (R)	-12.19 (D)
118	8429.00	89.40	108.30	44.00	6721.68	1993.58	217.88	2210.19	344392.48	1633285.79	3.67	-0.17 (L)	-11.68 (D)
119	8474.00	89.20	108.10	45.00	6722.23	2038.54	203.83	2252.94	344378.43	1633328.54	0.63	-1.90 (L)	-11.84 (D)
120	8518.00	89.20	107.70	44.00	6722.85	2082.49	190.31	2294.80	344364.91	1633370.40	0.91	-3.81 (L)	-12.07 (D)
121	8562.00	89.20	106.80	44.00	6723.46	2126.41	177.26	2336.82	344351.86	1633412.42	2.05	-6.23 (L)	-12.30 (D)
122	8607.00	88.10	109.70	45.00	6724.52	2171.36	163.18	2379.54	344337.78	1633455.14	6.89	-7.90 (L)	-12.97 (D)
123	8651.00	88.20	109.60	44.00	6725.94	2215.33	148.39	2420.96	344322.99	1633496.56	0.32	-8.47 (L)	-14.01 (D)
124	8695.00	88.60	109.80	44.00	6727.17	2259.31	133.56	2462.36	344308.16	1633537.96	1.02	-8.99 (L)	-14.85 (D)
125	8740.00	88.20	109.50	45.00	6728.43	2304.29	118.43	2504.73	344293.03	1633580.33	1.11	-9.58 (L)	-15.72 (D)
126	8785.00	88.20	109.30	45.00	6729.84	2349.26	103.49	2547.15	344278.09	1633622.75	0.44	-10.36 (L)	-16.74 (D)
127	8826.00	89.20	111.80	41.00	6730.77	2390.24	89.11	2585.53	344263.71	1633661.13	6.57	-10.23 (L)	-17.31 (D)
128	8871.00	89.20	111.60	45.00	6731.40	2435.23	72.47	2627.34	344247.07	1633702.94	0.44	-9.21 (L)	-17.55 (D)
129	8915.00	88.60	111.90	44.00	6732.24	2479.21	56.17	2668.19	344230.77	1633743.79	1.52	-8.16 (L)	-18.01 (D)
130	8959.00	88.50	111.00	44.00	6733.36	2523.19	40.08	2709.13	344214.68	1633784.73	2.06	-7.35 (L)	-18.74 (D)
131	9004.00	89.70	110.70	45.00	6734.06	2568.18	24.07	2751.18	344198.67	1633826.78	2.75	-6.99 (L)	-19.05 (D)
132	9048.00	89.80	110.30	44.00	6734.25	2612.18	8.66	2792.39	344183.26	1633867.99	0.94	-6.91 (L)	-18.86 (D)
133	9092.00	89.90	109.80	44.00	6734.37	2656.18	-6.42	2833.73	344168.18	1633909.33	1.16	-7.17 (L)	-18.59 (D)
134	9137.00	90.10	110.70	45.00	6734.37	2701.18	-22.00	2875.95	344152.60	1633951.55	2.05	-7.28 (L)	-18.20 (D)
135	9181.00	88.50	113.00	44.00	6734.91	2745.16	-38.37	2916.78	344136.23	1633992.38	6.37	-6.15 (L)	-18.36 (D)
136	9226.00	88.60	113.00	45.00	6736.05	2790.10	-55.95	2958.19	344118.65	1634033.79	0.22	-4.10 (L)	-19.10 (D)
137	9271.00	88.60	113.10	45.00	6737.15	2835.04	-73.56	2999.58	344101.04	1634075.18	0.22	-2.01 (L)	-19.81 (D)
138	9315.00	88.80	113.50	44.00	6738.14	2878.98	-90.96	3039.98	344083.64	1634115.58	1.02	0.12 (R)	-20.42 (D)
139	9357.00	89.30	114.30	42.00	6738.84	2920.90	-107.98	3078.38	344066.62	1634153.98	2.25	1.97 (R)	-20.75 (D)
140	9402.00	90.20	117.20	45.00	6739.04	2965.71	-127.52	3118.90	344047.08	1634194.50	6.75	4.32 (R)	-20.55 (D)
141	9444.00	90.50	117.20	42.00	6738.78	3007.42	-146.72	3156.26	344027.88	1634231.86	0.71	6.65 (R)	-19.92 (D)
142	9489.00	90.20	117.00	45.00	6738.51	3052.13	-167.22	3196.32	344007.38	1634271.92	0.80	8.04 (R)	-19.25 (D)
143	9533.00	90.10	116.30	44.00	6738.39	3095.87	-186.96	3235.64	343987.64	1634311.24	1.61	8.03 (R)	-18.75 (D)
144	9578.00	90.80	117.70	45.00	6738.04	3140.58	-207.38	3275.73	343967.22	1634351.33	3.48	7.25 (R)	-18.00 (D)
145	9620.00	91.50	119.30	42.00	6737.19	3182.17	-227.42	3312.64	343947.18	1634388.24	4.16	6.63 (R)	-16.79 (D)
146	9665.00	91.50	119.20	45.00	6736.02	3226.63	-249.40	3351.88	343925.20	1634427.48	0.22	5.59 (R)	-15.21 (D)
147	9709.00	91.00	121.40	44.00	6735.06	3269.98	-271.59	3389.86	343903.01	1634465.46	5.13	4.26 (R)	-13.85 (D)
148	9754.00	89.90	121.30	45.00	6734.70	3314.17	-295.00	3428.29	343879.60	1634503.89	2.45	2.76 (R)	-13.09 (D)
149	9799.00	89.30	123.30	45.00	6735.02	3358.22	-319.05	3466.32	343855.55	1634541.92	4.64	0.87 (R)	-13.01 (D)
150	9841.00	88.90	122.40	42.00	6735.68	3399.25	-341.83	3501.60	343832.77	1634577.20	2.34	-1.37 (L)	-13.30 (D)
151	9886.00	88.30	124.90	45.00	6736.78	3443.06	-366.75	3539.05	343807.85	1634614.65	5.71	-4.27 (L)	-14.01 (D)
152	9930.00	88.30	124.90	44.00	6738.08	3485.66	-391.92	3575.12	343782.68	1634650.72	0.00	-7.07 (L)	-14.92 (D)
153	9975.00	88.70	127.90	45.00	6739.26	3528.92	-418.61	3611.32	343755.99	1634686.92	6.72	-9.86 (L)	-15.71 (D)

Environmental Protection
 Department of Oil & Gas
 REGULATION AND SAFETY
 DIVISION
 2015

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154	10019.00	88.80	127.80	44.00	6740.22	3570.91	-445.60	3646.06	343729.00	1634721.66	0.32	-12.40 (L)	-16.29 (D)
155	10063.00	87.40	130.50	44.00	6741.68	3612.58	-473.36	3680.16	343701.24	1634755.76	6.91	-14.28 (L)	-17.38 (D)
156	10108.00	87.00	131.10	45.00	6743.88	3654.74	-502.73	3714.18	343671.87	1634789.78	1.60	-14.94 (L)	-19.19 (D)
157	10152.00	88.50	132.90	44.00	6745.60	3695.65	-532.15	3746.85	343642.45	1634822.45	5.32	-14.64 (L)	-20.52 (D)
158	10197.00	90.10	133.70	45.00	6746.15	3737.13	-563.00	3779.60	343611.60	1634855.20	3.98	-13.36 (L)	-20.68 (D)
159	10241.00	89.80	134.70	44.00	6746.19	3777.43	-593.68	3811.14	343580.92	1634886.74	2.37	-11.40 (L)	-20.34 (D)
160	10286.00	90.00	135.50	45.00	6746.27	3818.35	-625.55	3842.91	343549.05	1634918.51	1.83	-8.69 (L)	-20.02 (D)
161	10330.00	92.40	134.60	44.00	6745.35	3858.37	-656.68	3873.98	343517.92	1634949.58	5.83	-6.10 (L)	-18.74 (D)
162	10375.00	93.50	133.00	45.00	6743.03	3899.65	-687.79	3906.42	343486.81	1634982.02	4.31	-4.39 (L)	-16.05 (D)
163	10419.00	92.40	134.10	44.00	6740.77	3940.08	-718.06	3938.26	343456.54	1635013.86	3.53	-2.92 (L)	-13.38 (D)
164	10463.00	92.70	133.80	44.00	6738.81	3980.42	-748.57	3969.91	343426.03	1635045.51	0.96	-1.15 (L)	-11.04 (D)
165	10508.00	90.20	134.40	45.00	6737.67	4021.64	-779.87	4002.21	343394.73	1635077.81	5.71	0.80 (R)	-9.49 (D)
166	10552.00	89.90	134.60	44.00	6737.63	4061.85	-810.71	4033.59	343363.89	1635109.19	0.82	3.00 (R)	-9.07 (D)
167	10597.00	89.30	132.00	45.00	6737.95	4103.33	-841.57	4066.34	343333.03	1635141.94	5.93	4.30 (R)	-8.99 (D)
168	10641.00	89.50	132.40	44.00	6738.41	4144.22	-871.13	4098.93	343303.47	1635174.53	1.02	4.73 (R)	-9.07 (D)
169	10685.00	89.10	131.70	44.00	6738.95	4185.14	-900.59	4131.60	343274.01	1635207.20	1.83	5.41 (R)	-9.22 (D)
170	10730.00	89.30	131.70	45.00	6739.57	4227.10	-930.53	4165.20	343244.07	1635240.80	0.44	6.50 (R)	-9.46 (D)
171	10774.00	88.40	130.10	44.00	6740.46	4268.33	-959.33	4198.45	343215.27	1635274.05	4.17	6.98 (R)	-9.96 (D)
172	10818.00	88.70	130.20	44.00	6741.57	4309.76	-987.69	4232.07	343186.91	1635307.67	0.72	6.89 (R)	-10.69 (D)
173	10863.00	87.20	127.50	45.00	6743.18	4352.45	-1015.90	4267.09	343158.70	1635342.69	6.86	5.75 (R)	-11.92 (D)
174	10907.00	86.60	127.20	44.00	6745.56	4394.50	-1042.55	4302.01	343132.05	1635377.61	1.52	3.50 (R)	-13.92 (D)
175	10952.00	86.40	127.30	45.00	6748.31	4437.52	-1069.74	4337.77	343104.86	1635413.37	0.50	1.12 (R)	-16.28 (D)
176	10996.00	88.30	128.10	44.00	6750.34	4479.51	-1096.62	4372.54	343077.98	1635448.14	4.68	-0.82 (L)	-17.91 (D)
177	11041.00	88.40	128.30	45.00	6751.64	4522.36	-1124.43	4407.89	343050.17	1635483.49	0.50	-2.44 (L)	-18.81 (D)
178	11086.00	88.70	126.70	45.00	6752.78	4565.38	-1151.82	4443.58	343022.78	1635519.18	3.62	-4.63 (L)	-19.56 (D)
179	11130.00	88.30	126.50	44.00	6753.93	4607.65	-1178.04	4478.89	342996.56	1635554.49	1.02	-7.47 (L)	-20.33 (D)
180	11174.00	88.60	126.70	44.00	6755.12	4649.91	-1204.27	4514.20	342970.33	1635589.80	0.82	-10.28 (L)	-21.13 (D)
181	11219.00	88.50	129.40	45.00	6756.26	4692.80	-1231.99	4549.62	342942.61	1635625.22	6.00	-11.98 (L)	-21.88 (D)
182	11263.00	88.00	129.20	44.00	6757.60	4734.44	-1259.85	4583.66	342914.75	1635659.26	1.22	-12.73 (L)	-22.85 (D)
183	11307.00	88.00	128.70	42.00	6759.03	4774.26	-1286.23	4616.30	342888.37	1635691.90	1.21	-13.71 (L)	-23.91 (D)
184	11349.00	88.70	130.20	44.00	6760.26	4815.87	-1314.18	4650.26	342860.42	1635725.86	3.67	-14.31 (L)	-24.75 (D)
185	11394.00	89.30	131.00	45.00	6761.04	4858.13	-1343.46	4684.42	342831.14	1635760.02	2.22	-14.05 (L)	-25.14 (D)
186	11438.00	91.30	134.40	44.00	6760.81	4898.86	-1373.29	4716.75	342801.31	1635792.35	8.96	-12.26 (L)	-24.55 (D)
187	11482.00	91.00	133.50	44.00	6759.93	4939.22	-1403.82	4748.42	342770.78	1635824.02	2.16	-9.40 (L)	-23.27 (D)
188	11527.00	90.80	133.00	45.00	6759.22	4980.72	-1434.65	4781.20	342739.95	1635856.80	1.20	-7.04 (L)	-22.17 (D)
189	11571.00	90.60	133.00	44.00	6758.69	5021.38	-1464.66	4813.37	342709.94	1635888.97	0.45	-4.94 (L)	-21.25 (D)
190	11616.00	90.30	133.00	45.00	6758.33	5062.96	-1495.35	4846.28	342679.25	1635921.88	0.67	-2.79 (L)	-20.50 (D)
191	11658.00	90.20	132.00	42.00	6758.15	5101.90	-1523.72	4877.25	342650.88	1635952.85	2.39	-1.15 (L)	-19.95 (D)
192	11703.00	89.40	131.50	45.00	6758.31	5143.85	-1553.69	4910.82	342620.91	1635986.42	2.10	0.02 (R)	-19.71 (D)
193	11747.00	88.40	130.10	44.00	6759.15	5185.11	-1582.43	4944.12	342592.17	1636019.72	3.91	0.42 (R)	-20.18 (D)
194	11791.00	87.80	130.30	44.00	6760.61	5226.52	-1610.81	4977.71	342563.79	1636053.31	1.44	0.37 (R)	-21.26 (D)

Environmental Protection
 WV Department of
 Office of Oil and Gas
 13 2015

#	Measured Depth (Ft)	INC Deg	AZM Deg	CL (Ft)	TVD (Ft)	VS (Ft)	NS (Ft)	EW (Ft)	Northing (US ft)	Easting (US ft)	DLS */100 Ft	LR/EW From-Plan (Ft)	UD/NS From-Plan (Ft)
195	11836.00	89.60	130.10	45.00	6761.63	5268.88	-1639.85	5012.07	342534.75	1636087.67	4.02	0.32 (R)	-21.88 (D)
196	11880.00	89.50	129.00	44.00	6761.98	5310.47	-1667.87	5046.00	342506.73	1636121.60	2.51	-0.24 (L)	-21.84 (D)
197	11924.00	90.40	128.30	44.00	6762.02	5352.29	-1695.35	5080.36	342479.25	1636155.96	2.59	-1.48 (L)	-21.50 (D)
198	11969.00	90.30	128.60	45.00	6761.74	5395.10	-1723.33	5115.60	342451.27	1636191.20	0.70	-2.91 (L)	-20.83 (D)
199	12013.00	90.20	128.20	44.00	6761.55	5436.97	-1750.66	5150.08	342423.94	1636225.68	0.94	-4.34 (L)	-20.25 (D)
200	12057.00	90.30	129.30	44.00	6761.36	5478.76	-1778.20	5184.39	342396.40	1636259.99	2.51	-5.51 (L)	-19.67 (D)
201	12102.00	89.80	128.30	45.00	6761.32	5521.49	-1806.40	5219.46	342368.20	1636295.06	2.48	-6.67 (L)	-19.24 (D)
202	12146.00	89.70	129.30	44.00	6761.51	5563.27	-1833.97	5253.75	342340.63	1636329.35	2.28	-7.80 (L)	-19.05 (D)
203	12188.00	89.10	129.00	42.00	6761.95	5603.07	-1860.48	5286.32	342314.12	1636361.92	1.60	-8.62 (L)	-19.12 (D)
204	12233.00	90.40	129.70	45.00	6762.15	5645.66	-1889.01	5321.12	342285.59	1636396.72	3.28	-9.33 (L)	-18.93 (D)
205	12277.00	90.50	129.40	44.00	6761.80	5687.25	-1917.03	5355.05	342257.57	1636430.65	0.72	-9.89 (L)	-18.20 (D)
206	12321.00	91.10	130.60	44.00	6761.19	5728.73	-1945.31	5388.75	342229.29	1636464.35	3.05	-10.10 (L)	-17.21 (D)
207	12366.00	91.90	131.10	45.00	6760.01	5770.91	-1974.73	5422.78	342199.87	1636498.38	2.10	-9.65 (L)	-15.65 (D)
208	12408.00	92.00	131.30	42.00	6758.58	5810.18	-2002.38	5454.36	342172.22	1636529.96	0.53	-8.97 (L)	-13.85 (D)
209	12435.00	92.00	131.00	27.00	6757.64	5835.43	-2020.14	5474.68	342154.46	1636550.28	1.11	-8.55 (L)	-12.67 (D)
Proj to Bit													
210	12489.00	92.00	131.00	54.00	6755.75	5885.99	-2055.54	5515.41	342119.06	1636591.01	0.00	-7.86 (L)	-10.31 (D)

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 Office of Oil and Gas
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 T 1 3 2

Hydraulic Fracturing Fluid Product Component Information Disclosure



Job Start Date:	4/14/2015
Job End Date:	4/19/2015
State:	West Virginia
County:	Tyler
API Number:	47-095-02137-00-00
Operator Name:	Jay-Bee Oil & Gas, Inc.
Well Name and Number:	Maddie Mae #1
Longitude:	-80.80607900
Latitude:	39.43768000
Datum:	NAD83
Federal/Tribal Well:	NO
True Vertical Depth:	6,720
Total Base Water Volume (gal):	6,691,524
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	Operator	Carrier	Water	7732-18-5	100.00000	92.09730	
Sand, White	Baker Hughes	Proppant	Listed with Chemical Ingredients	NA		7.42032	SmartCare Product
HCl, 20.1 - 28%	Baker Hughes	Acidizing	Listed with Chemical Ingredients	NA		0.29869	SmartCare Product
GW-3LDF	Baker Hughes	Gelling Agent	Listed with Chemical Ingredients	NA		0.04255	SmartCare Product
FRW-18	Baker Hughes	Friction Reducer	Listed with Chemical Ingredients	NA		0.02158	SmartCare Product
Alpha 1427	Baker Hughes	Biocide	Listed with Chemical Ingredients	NA		0.01165	SmartCare Product
InFlo 250G	Baker Hughes	Surfactant	Listed with Chemical Ingredients	NA		0.00340	SmartCare Product
Enzyme G-NE	Baker Hughes	Breaker	Listed with Chemical Ingredients	NA		0.00045	SmartCare Product
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 Chemicals	Crystalline Silica (Quartz)	14808-60-7		7.42190	

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		Hydrochloric Acid	7647-01-0		0.08363
		Petroleum Distillates	64742-47-8		0.03103
		Poly (acrylamide-co-acrylic acid) partial sodium salt	62649-23-4		0.02158
		Guar Gum	9000-30-0		0.01891
		Paraffinic Petroleum Distillate	64742-55-8		0.00945
		Ethylene Glycol	107-21-1		0.00839
		Glutaraldehyde	111-30-8		0.00699
		2-propenoic, polymer with sodium phosphinate, sodium salt	71050-62-9		0.00559
		Sodium Chloride	7647-14-5		0.00388
		Didecyl Dimethyl Ammonium Chloride	7173-51-5		0.00233
		Ammonium Chloride	12125-02-9		0.00216
		Isotridecanol, ethoxylated	9043-30-5		0.00158
		Oleamide DEA	93-83-4		0.00144
		Ethoxylated Alcohol	68551-12-2		0.00144
		Calcium Chloride	10043-52-4		0.00140
		Methanol	67-56-1		0.00117
		Ethanol	64-17-5		0.00116
		Quaternary Ammonium Compound	68424-85-1		0.00116
		Surfactant	9016-45-9		0.00059
		Polyoxyethylene Sorbitan Monooleate	9005-65-6		0.00036
		Sorbitan Monooleate	1338-43-8		0.00036
		Surfactant	68551-12-2		0.00031
		Potassium Chloride	7447-40-7		0.00028
		Surfactant	68155-39-5		0.00016
		2-Butoxy-1-Propanol	15821-83-7		0.00003
		Hemicellulase Enzyme Concentrate	9025-56-3		0.00002

* 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)

RECEIVED
 Office of Oil and Gas
 MAR 08 2016
 WV Department of Environmental Protection
 OCT 13 2015

References
 Location $S84^{\circ}04'W$
 $02137H$ 354'
 16"
 Poplar
 Fd. 13"x
 6"x 13"
 Stone

- A- Joseph A. Boyd 21.25 ac. p/o TM 10/12
- B- Joseph A. Boyd 28.25 ac. TM 10/12.1
- C- Garrison 32.5 ac. TM 10/14
- D- R. Boyd 2.5 ac. TM 10/ 14.1
- E- Stanley 50.26 ac. TM 11/ 47.2
- F- Ricketts 48.438 ac. TM 11/47
- G- Thomas 55.4 ac. TM 11/24
- H- Canton 9.7 ac. TM 11/47.1
- I- R. Thomas 0.99 ac. TM 11/24.1
- J- J. Thomas 1.21 ac. TM 11/24.2
- K- Frey 85 ac. TM 10/11

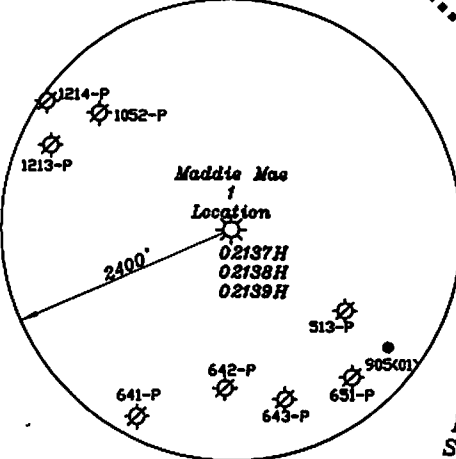
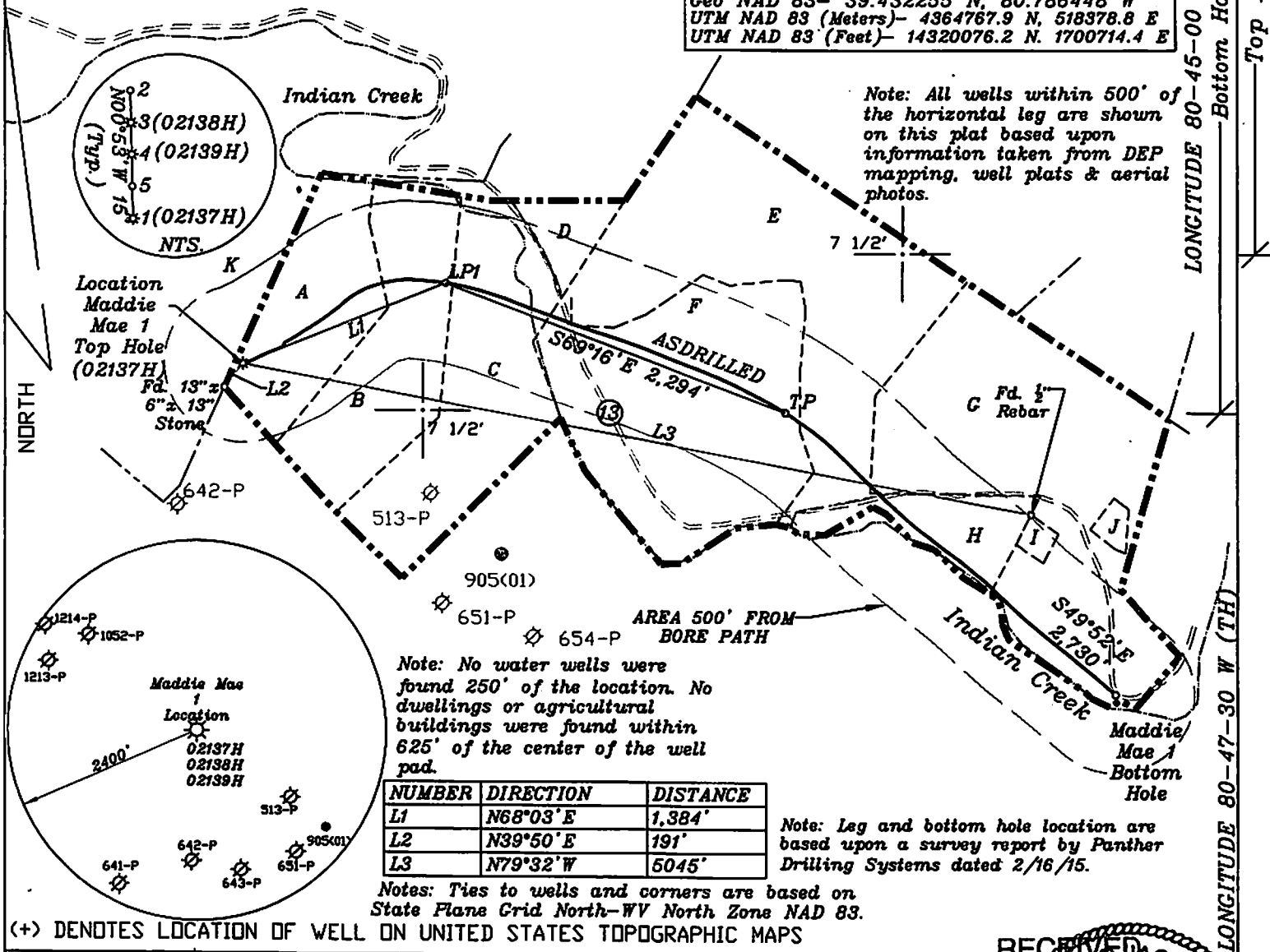
Bottom Hole 10,292'
 LATITUDE 39-27-30 N

Top Hole
 Geo NAD 83- 39.437680 N, 80.806079 W
 UTM NAD 83 (Meters)- 4365366.1 N, 516688.0 E
 UTM NAD 83 (Feet)- 14322038.7 N, 1695167.4 E

LPI
 Geo NAD 83- 39.439150 N, 80.801562 W
 UTM NAD 83 (Meters)- 4365530.2 N, 517076.4 E
 UTM NAD 83 (Feet)- 14322577.0 N, 1696441.5 E

TP
 Geo NAD 83- 39.437006 N, 80.793927 W
 UTM NAD 83 (Meters)- 4365293.7 N, 517734.0 E
 UTM NAD 83 (Feet)- 14321801.1 N, 1698598.9 E

Bottom Hole
 Geo NAD 83- 39.432255 N, 80.786448 W
 UTM NAD 83 (Meters)- 4364767.9 N, 518378.8 E
 UTM NAD 83 (Feet)- 14320076.2 N, 1700714.4 E



NUMBER	DIRECTION	DISTANCE
L1	N68°03' E	1,384'
L2	N39°50' E	191'
L3	N79°32' W	5045'

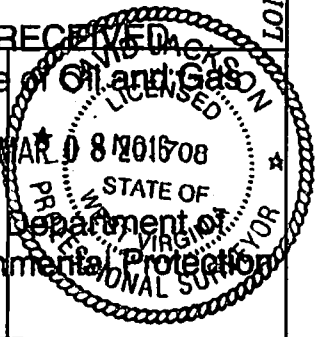
Note: Leg and bottom hole location are based upon a survey report by Panther Drilling Systems dated 2/16/15.

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

FILE NO. _____
 DRAWING NO. 1
 SCALE 1" = 1000'
 MINIMUM DEGREE OF ACCURACY 1 in 200
 PROVEN SOURCE OF ELEVATION GPS
submeter unit

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 PRESCRIBED BY THE DEPARTMENT OF ENERGY.

(SIGNED) David L Jackson R.P.E. _____ L.L.S. 708



STATE OF WEST VIRGINIA
 Division of Environmental Protection
 OFFICE OF OIL AND GAS

DATE September 22, 2015
 OPERATOR'S WELL NO. Maddie Mae 1
 API WELL NO. 47-095-02137H
 STATE WV COUNTY McElroy PERMIT Receiver
 WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL (IF 'GAS') PRODUCTION X STORAGE DEEP SHALLOW
 LOCATION: ELEVATION 1,040.9' WATER SHED Indian Creek
 DISTRICT McElroy COUNTY Tyler
 QUADRANGLE Shirley 7 1/2'

SURFACE OWNER Joseph Boyd (T.M. 10/12) Lonnie C. & Debbie K. Frey (TM 10/11) ACREAGE 21.25 ac. & 85 ac.
 OIL & GAS ROYALTY OWNER Joseph Boyd (TM.10/12, 12.1), Karen & Delano Brummett (TM.10/14, 14.1), Michael Benadum of Blackrock Enterprises, LLC (TM.11/ 24), Michael Benadum of Blackrock Enterprises, LLC (TM.11/47, 47.1, 47.2)
 LEASE NO. & ACREAGE W668C 21.25Ac., W668A 28.25Ac., T3201 35Ac., Four T30B 57.5 Ac. Four T30A 104.5Ac.

PROPOSED WORK: DRILL X CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION PERFORATE NEW FORMATION X OTHER PHYSICAL CHANGE IN WELL (SPECIFY) ASDRILLED

PLUG AND ABANDON CLEAN OUT AND REPLUG
 TARGET FORMATION Marcellus ESTIMATED DEPTH TVD 6,762' + TMD 12,489'
 WELL OPERATOR Jay-Bee Oil & Gas, Inc. DESIGNATED AGENT Randy Broda
 ADDRESS 1720 Rt. 22, East Union, NJ 07083 ADDRESS Route 1, Box 5, Cairo, WV 26337

References
 Location $S84^{\circ}04'W$
 $02137H$ 354' 16"
 Poplar
 Fd. 13"x
 6"x 13"
 Stone

- A- Joseph A. Boyd 21.25 ac. p/o TM 10/12
- B- Joseph A. Boyd 28.25 ac. TM 10/12.1
- C- Garrison 32.5 ac. TM 10/14
- D- R. Boyd 2.5 ac. TM 10/14.1
- E- Stanley 50.26 ac. TM 11/47.2
- F- Ricketts 48.438 ac. TM 11/47
- G- Thomas 55.4 ac. TM 11/24
- H- Canton 9.7 ac. TM 11/47.1
- I- R. Thomas 0.99 ac. TM 11/24.1
- J- J. Thomas 1.21 ac. TM 11/24.2
- K- Frey 85 ac. TM 10/11

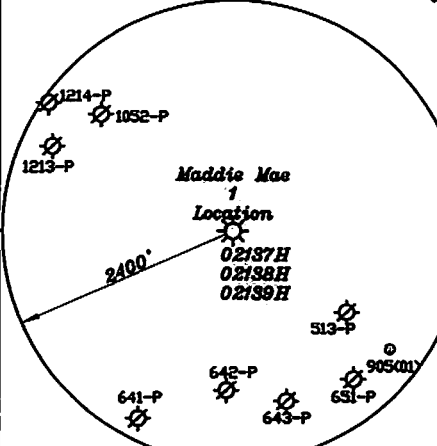
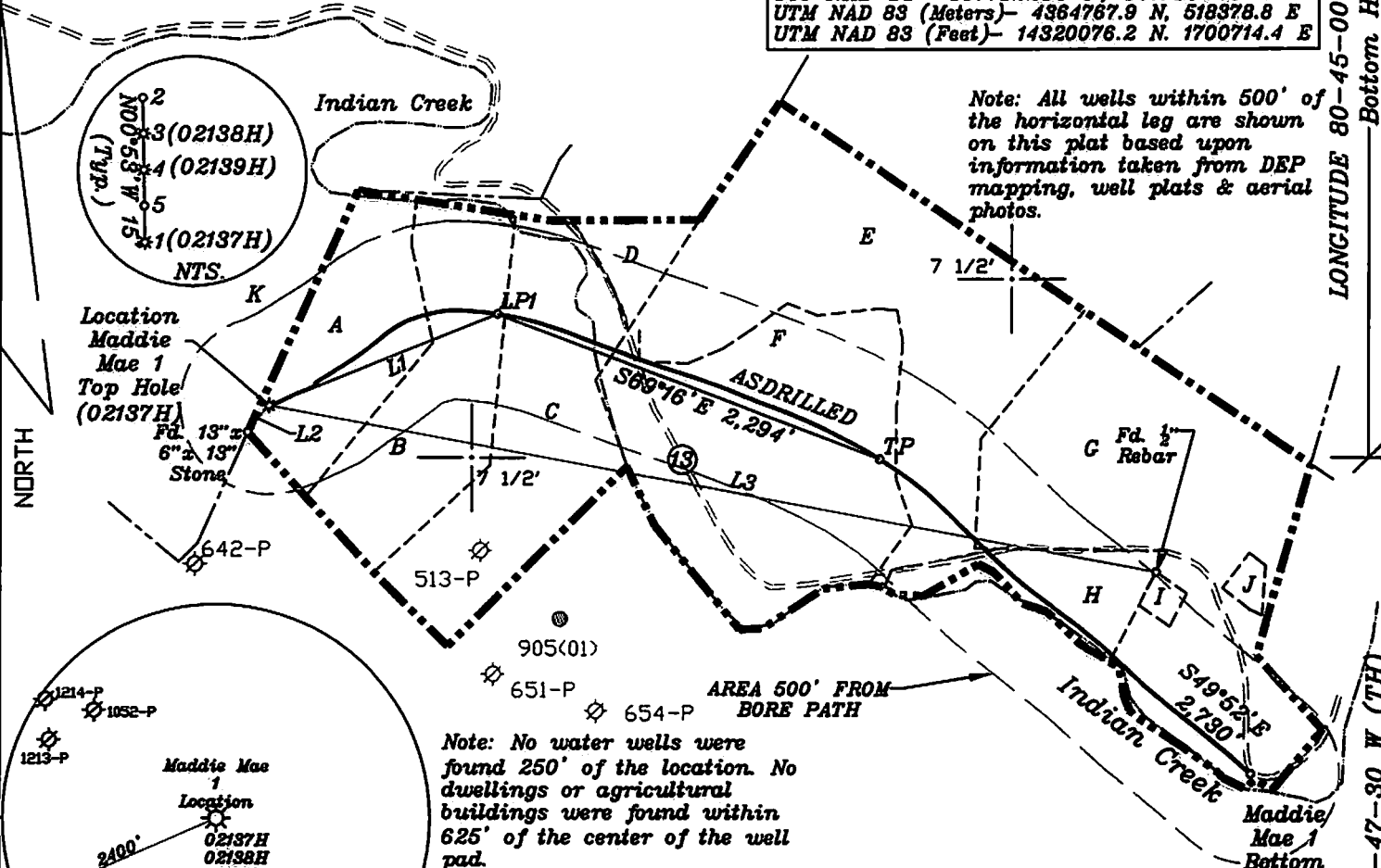
Bottom Hole 10,292'
 LATITUDE 39-27-30 N

Top Hole
 Geo NAD 83- 39.437680 N, 80.806079 W
 UTM NAD 83 (Meters)- 4365386.1 N, 516688.0 E
 UTM NAD 83 (Feet)- 14322038.7 N, 1695167.4 E

LPI
 Geo NAD 83- 39.439150 N, 80.801562 W
 UTM NAD 83 (Meters)- 4365530.2 N, 517076.4 E
 UTM NAD 83 (Feet)- 14322577.0 N, 1696441.5 E

TP
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 UTM NAD 83 (Meters)- 4365293.7 N, 517734.0 E
 UTM NAD 83 (Feet)- 14321801.1 N, 1698598.9 E

Bottom Hole
 Geo NAD 83- 39.432255 N, 80.786448 W
 UTM NAD 83 (Meters)- 4364787.9 N, 518378.8 E
 UTM NAD 83 (Feet)- 14320076.2 N, 1700714.4 E



Note: No water wells were found 250' of the location. No dwellings or agricultural buildings were found within 625' of the center of the well pad.

NUMBER	DIRECTION	DISTANCE
L1	N68°03' E	1,384'
L2	N39°50' E	191'
L3	N79°32' W	5045'

Note: Leg and bottom hole location are based upon a survey report by Panther Drilling Systems dated 2/16/15.

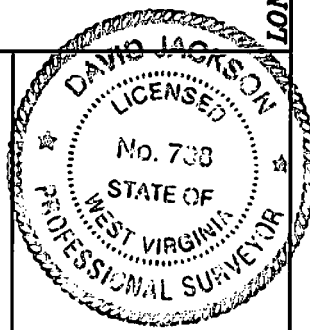
Notes: Ties to wells and corners are based on State Plane Grid North-WV North Zone NAD 83.

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

FILE NO. _____
 DRAWING NO. 1
 SCALE 1" = 1000'
 MINIMUM DEGREE OF ACCURACY 1 in 200
 PROVEN SOURCE OF ELEVATION GPS
submeter unit

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 PRESCRIBED BY THE DEPARTMENT OF ENERGY.

(SIGNED) David S Jackson
 R.P.E. _____ L.L.S. 708



STATE OF WEST VIRGINIA
 Division of Environmental Protection
 OFFICE OF OIL AND GAS

DATE September 22, 2015
 OPERATOR'S WELL NO. Maddie Mae 1
 API WELL NO. _____

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL STATE 47 COUNTY 095 PERMIT 02137H
 (IF 'GAS') PRODUCTION X STORAGE DEEP SHALLOW X

LOCATION: ELEVATION 1,040.9' WATER SHED Indian Creek
 DISTRICT McElroy COUNTY Tyler
 QUADRANGLE Shirley 7 1/2'

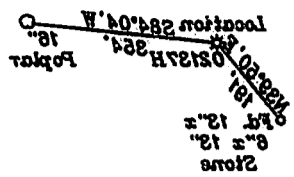
SURFACE OWNER Joseph Boyd (T.M. 10/12) Lonnie C. & Debbie K. Frey (TM 10/11) ACREAGE 21.25 ac. & 85 ac.
 OIL & GAS ROYALTY OWNER Joseph Boyd (TM.10/12, 12.1), Karen & Delano Brummett (TM.10/14, 14.1), Michael Benadum of Blackrock Enterprises, LLC (TM.11/24), Michael Benadum of Blackrock Enterprises, LLC (TM.11/47, 47.1, 47.2)
 LEASE NO. & ACREAGE W668C 21.25Ac., W668A 28.26Ac., T3201 35Ac., FoidT30B 57.5 Ac., FoidT30A 104.5Ac.

PROPOSED WORK: DRILL X CONVERT DRILL DEEPER REDRILL FRACTURE DR
 STIMULATE X PLUG OFF OLD FORMATION PERFORATE NEW
 FORMATION X OTHER PHYSICAL CHANGE IN WELL (SPECIFY) ASDRILLED

PLUG AND ABANDON CLEAN OUT AND REPLUG
 TARGET FORMATION Marcellus ESTIMATED DEPTH TVD 6,762'+ TMD 12,489'
 WELL OPERATOR Jay-Bee Oil & Gas, Inc. DESIGNATED AGENT Randy Broda
 ADDRESS 1720 Rt. 22, East Union, NJ 07083 ADDRESS Route 1, Box 5, Cairo, WV 26337

LONGITUDE 80-45-00 W (BH) Bottom Hole 9,499'

LONGITUDE 80-47-30 W (TH) Bottom Hole 7,492'



- A- Joseph A. Boyd 21.25 ac.
- B- Joseph A. Boyd 28.25 ac.
- C- Garrison 32.5 ac. TM 10/14
- D- R. Boyd 2.5 ac. TM 10/14.1
- E- Stanley 50.28 ac. TM 11/47.2
- F- Roberts 48.438 ac. TM 11/47
- G- Thomas 52.4 ac. TM 11/24
- H- Cantor 9.7 ac. TM 11/47.1
- I- R. Thomas 0.89 ac. TM 11/24.1
- J- J. Thomas 1.21 ac. TM 11/24.2
- K- Frey 85 ac. TM 10/11

Top Hole Geo NAD 83 - 39437680 N, 80806079 W UTM NAD 83 (Meters) - 4362382.1 N, 516688.0 E UTM NAD 83 (Feet) - 14322037.7 N, 168217.4 E
Bottom Hole Geo NAD 83 - 39437680 N, 8080152 W UTM NAD 83 (Meters) - 4362382.1 N, 517078.4 E UTM NAD 83 (Feet) - 14322277.0 N, 168241.2 E
TP Geo NAD 83 - 39437680 N, 8079327 W UTM NAD 83 (Meters) - 4362382.1 N, 517340.0 E UTM NAD 83 (Feet) - 14321801.1 N, 168289.9 E
Bottom Hole Geo NAD 83 - 3943252 N, 8078648 W UTM NAD 83 (Meters) - 4364787.9 N, 518278.8 E UTM NAD 83 (Feet) - 14320072.6 N, 170071.4 E

Note: All wells within 500' of the horizontal leg are shown on this plat based upon information taken from DEP mappings, well plats & certain photos.

Bottom Hole 80-42-00 W (BH)
Longitude 80-42-00 W (BH)

Longitude 80-42-00 W (BH)



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 PRESCRIBED BY THE DEPARTMENT OF ENERGY.
(SIGNED) David Jackson
L.J. 708 R.P.E.

FILE NO.	_____
DRAWING NO.	1
SCALE	1" = 1000'
MINIMUM DEGREE OF ACCURACY	1 in 200
PROVEN SOURCE OF ELEVATION	GPS
submeter unit	_____

STATE OF WEST VIRGINIA
Division of Environmental Protection
OFFICE OF OIL AND GAS

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
(IF 'GAS') PRODUCTION STORAGE DEEP SHALLOW X
LOCATION ELEVATION: 1040.9' WATER SHED Indian Creek
DISTRICT: Marion COUNTY: Tyler
QUADRANGLE: Sheet 7 1/2
SURFACE OWNER: Joseph Boyd (T.M. 10/12) Lennie C & Debbie K Frey (T.M. 10/11) ACREAGE 21.25 ac. & 85 ac.
OIL & GAS ROYALTY OWNER: Joseph Boyd (T.M. 10/12, 12.1), Karen & Delano Brummett (T.M. 10/14, 14.1), Michael Brummett & Barbara Brummett LLC (T.M. 11/24), Michael Brummett & Barbara Brummett LLC (T.M. 11/47, 47.2), LEASE NO. & ACREAGE: WV88C 21.25 ac. FORTY-ONE 27.5 ac. FORTY-TWO 27.5 ac.

PROPOSED WORK: DRILL X CONVERT DRILL DEEPER REDRILL X FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION PERFORATE NEW FORMATION X OTHER PHYSICAL CHANGE IN WELL (SPECIFY) ASDRILLED

WELL OPERATOR: Jay-Bee Oil & Gas, Inc. DESIGNATED AGENT: Randy Brody
ADDRESS: 2222 Route 1, Box 2, Carro, WV 26037

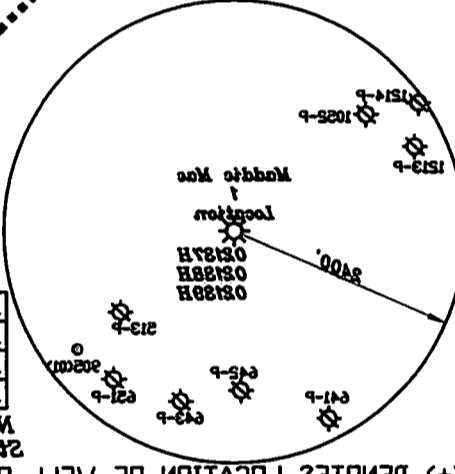
TARGET FORMATION: Marcellus ESTIMATED DEPTH: TVD 6,762' + TMD 12,489'
PLUG AND ABANDON CLEAN OUT AND REPLUG

DATE: September 22, 2015
OPERATOR'S WELL NO.: Madzie Mae 1
API WELL NO.: 47-095-02137H
STATE COUNTY PERMIT: PERMIT

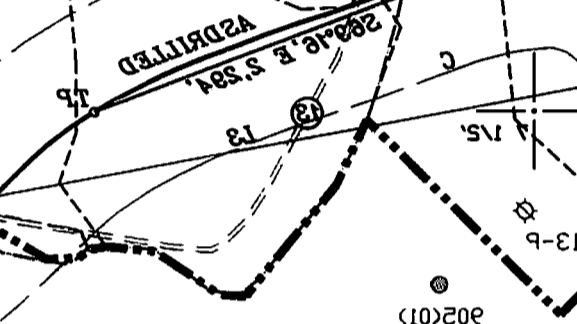
NUMBER	DIRECTION	DISTANCE
13	N79.32°W	204.6
12	N38.50°E	191
11	N68.03°E	138.4

Note: No water wells were found 250' of the location. No dwellings or agricultural buildings were found within 625' of the center of the well pad.

Notes: Ties to wells and corners are based on State Plane Grid North-WV North Zone NAD 83. Drilling Systems dated 2/8/15. Based upon a survey report by Panther based upon a survey report by Panther dated 2/8/15.



AREA 500' FROM BORE PATH



Note: Leg and bottom hole location are based upon a survey report by Panther Drilling Systems dated 2/8/15.

Bottom Hole

Madzie Mae 1

Indian Creek

AREA 500' FROM BORE PATH

Location

Madzie Mae 1

Top Hole

Location

Madzie Mae 1

Top Hole

Location

Madzie Mae 1

Top Hole

Location

Madzie Mae 1

Top Hole

Location

Madzie Mae 1

Top Hole

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