

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

API 47-095-02138 County Tyler District McElroy  
Quad Shirley Pad Name Maddie Mae Field/Pool Name \_\_\_\_\_  
Farm name Boyd, Joseph Well Number Maddie Mae 3  
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 4,365,379.4 Easting 516,687.8  
Landing Point of Curve Northing 4,365,632.0 Easting 516,574.5  
Bottom Hole Northing 4,367,480.9 Easting 515,152.3

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 12/11/2014 Date drilling ceased 1/26/2014  
Date completion activities began 3/5/2015 Date completion activities ceased 4/25/2015  
Verbal plugging (Y/N) N Date permission granted N/A Granted by N/A

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

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Freshwater depth(s) ft N/A Open mine(s) (Y/N) depths N  
Salt water depth(s) ft N/A Void(s) encountered (Y/N) depths N  
Coal depth(s) ft N/A Cavern(s) encountered (Y/N) depths N  
Is coal being mined in area (Y/N) N

APPROVED

NAME: [Signature]

DATE: 5/8/16

Reviewed by: \_\_\_\_\_

10/28/2016

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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"	30'	New	20/32/24		Y
Surface	15"	11 3/4"	449'	New	20/23/24	50'	Y
Coal							
Intermediate 1	11"	8 5/8"	2254'	New	20/17/24	1500'	Y
Intermediate 2							
Intermediate 3							
Production	7 7/8"	5 1/2"	14797'	New	20#		Y
Tubing							
Packer type and depth set							

Comment Details \_\_\_\_\_

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft <sup>3</sup> /sks)	Volume (ft <sup>3</sup> )	Cement Top (MD)	WOC (hrs)
Conductor							
Surface	Class A	235	15.2	1.24	213	CTS	8
Coal							
Intermediate 1	Class A	575	14.7	1.36	572	CTS	8
Intermediate 2							
Intermediate 3							
Production	Class A	1965	14.4	1.30	2554.64	52' from surface	8
Tubing							

Drillers TD (ft) 14806

Loggers TD (ft) 14806

Deepest formation penetrated Marcellus

Plug back to (ft) N/A

Plug back procedure N/A

Kick off depth (ft) 5920

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 \_\_\_\_\_

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WAS WELL COMPLETED OPEN HOLE?  Yes  No    DETAILS \_\_\_\_\_

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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	14776	14600	96	Marcellus
2	3/24/15	14556	14418	72	Marcellus
3	3/24/15	14368	14226	72	Marcellus
4	3/25/15	14189	14040	72	Marcellus
5	3/25/15	14000	13846	72	Marcellus
6	3/25/15	13811	13669	72	Marcellus
7	3/26/15	13620	13462	72	Marcellus
8	3/26/15	13400	13226	72	Marcellus
9	3/26/15	13164	13018	72	Marcellus
10	3/26/15	12975	12784	72	Marcellus
11	3/26/15	12742	12573	72	Marcellus
12	3/26/15	12516	12366	72	Marcellus
13	3/27/15	12310	12113	72	Marcellus
14	3/27/15	12056	11908	72	Marcellus
15	3/27/15	11872	11692	72	Marcellus
16	3/28/15	11633	11464	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	3/24/15	74.9	7403	7770	4980	174156	7660	N/A
2	3/24/15	75.1	7101	7393	4700	180000	7500	N/A
3	3/24/15	75.4	7155	7411	5011	180783	7720	N/A
4	3/25/15	75.8	6948	7276	4986	178932	7776	N/A
5	3/25/15	75.8	6543	6910	4951	184021	7712	N/A
6	3/25/15	76.2	6542	6683	4292	180447	7519	N/A
7	3/26/15	76.3	6700	6984	5120	181186	7450	N/A
8	3/26/15	75.2	6653	7149	4880	182171	7073	N/A
9	3/26/15	75.5	6482	6650	4798	180334	6482	N/A
10	3/26/15	75.2	6404	6655	5008	179465	6911	N/A
11	3/26/15	75.5	6400	6700	5000	185369	7097	N/A
12	3/26/15	75.9	6313	6446	4489	180731	7086	N/A
13	3/27/15	75.4	6583	6904	4778	178690	6756	N/A
14	3/27/15	75.0	6720	6916	4097	182413	6913	N/A
15	3/27/15	75.8	6669	7105	4956	181551	6773	N/A
16	3/28/15	75.0	6700	6805	4950	181250	6800	N/A

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)
17	3/28/15	11424	11298	72	Marcellus
18	3/28/15	11244	11076	72	Marcellus
19	3/28/15	11038	10854	72	Marcellus
20	3/28/15	10804	10662	72	Marcellus
21	3/28/15	10618	10440	72	Marcellus
22	3/29/15	10402	10242	72	Marcellus
23	3/29/15	10186	10014	72	Marcellus
24	3/29/15	9974	9839	72	Marcellus
25	3/29/15	9790	9611	72	Marcellus
26	3/30/15	9574	9426	72	Marcellus
27	3/30/15	9360	9206	72	Marcellus
28	3/30/15	9170	8998	72	Marcellus
29	3/30/15	8962	8777	72	Marcellus
30	3/30/15	8730	8584	72	Marcellus
31	3/31/15	8540	8369	72	Marcellus
32	3/31/15	8332	8218	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)
17	3/28/15	75.8	6670	7100	4956	181500	6700	N/A
18	3/28/15	75.3	6469	6801	4870	180344	6939	N/A
19	3/28/15	75.0	6391	6712	4826	179379	6768	N/A
20	3/28/15	74.9	6401	6608	4959	181696	6735	N/A
21	3/28/15	75.0	6348	6477	4972	180863	6682	N/A
22	3/29/15	75.2	6480	8054	4210	182000	7112	N/A
23	3/29/15	75.3	6449	6704	4339	180418	6561	N/A
24	3/29/15	75.7	6589	6833	5156	183378	6620	N/A
25	3/29/15	75.7	6357	6619	4757	181589	6492	N/A
26	3/30/15	76.5	6296	6929	4140	181326	6405	N/A
27	3/30/15	75.7	6573	7277	4768	181975	6412	N/A
28	3/30/15	75.2	6227	7157	5065	182058	6376	N/A
29	3/30/15	74.6	6267	6959	4641	181619	6281	N/A
30	3/30/15	76.0	6345	6710	5010	180808	6409	N/A
31	3/31/15	75.4	6161	6495	4780	180783	6220	N/A
32	3/31/15	75.4	6312	6766	5082	179564	6233	N/A

Please insert additional pages as applicable.

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**Lithology**

Maddie Mae 3 47-095-02138

<b>FORMATION</b>	<b>TOP</b>	<b>BOTTOM</b>
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	6678
LOWER MARCELLUS	6678	

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# Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	3/24/2015
Job End Date:	4/14/2015
State:	West Virginia
County:	Tyler
API Number:	47-095-02138-00-00
Operator Name:	Jay-Bee Oil & Gas, Inc.
Well Name and Number:	Maddie Mae #3
Longitude:	-80.80608100
Latitude:	39.43780000
Datum:	NAD83
Federal/Tribal Well:	NO
True Vertical Depth:	6,700
Total Base Water Volume (gal):	10,429,188
Total Base Non Water Volume:	0



## Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Service Abstract 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	92.47586	
Sand, White	Baker Hughes	Proppant	Listed with Other Chemicals	NA		7.06845	SmartCare Product
HCl, 20.1 - 28%	Baker Hughes	Acidizing	Listed with Other Chemicals	NA		0.07900	SmartCare Product
GW-3LDF	Baker Hughes	Gelling Agent	Listed with Other Chemicals	NA		0.04461	SmartCare Product
FRW-18	Baker Hughes	Friction Reducer	Listed with Other Chemicals	NA		0.01795	SmartCare Product
Alpha 1427	Baker Hughes	Biocide	Listed with Other Chemicals	NA		0.01197	SmartCare Product
InFlo 250G	Baker Hughes	Surfactant	Listed with Other Chemicals	NA		0.00222	SmartCare Product
Enzyme GNE	Baker Hughes	Breaker	Listed with Other Chemicals	NA		0.00076	SmartCare Product
Ingredients shown above are subject to 29 CFR 1910.1201 and appear on Material Safety Data Sheets (MSDS). Ingredients shown below are Non-MSDS.							
Other Chemicals	Other Chemicals	Other Chemicals	Other Chemicals	14808-60-7		7.07010	

Baker Hughes

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	Hydrochloric Acid	7647-01-0	0.07940
	Petroleum Distillates	64742-47-8	0.02787
	Guar Gum	9000-30-0	0.01963
	Poly (acrylamide-co-acrylic acid) partial sodium salt	62649-23-4	0.01795
	Paraffinic Petroleum Distillate	64742-55-8	0.00991
	Ethylene Glycol	107-21-1	0.00833
	Glutaraldehyde	111-30-8	0.00718
	2-propanoic, polymer with sodium phosphinate, sodium salt	71050-62-9	0.00555
	Sodium Chloride	7647-14-5	0.00327
	Didecyl Dimethyl Ammonium Chloride	7173-51-5	0.00239
	Ammonium Chloride	12125-02-9	0.00180
	Isodecanol, ethoxylated	9043-30-5	0.00165
	Calcium Chloride	10043-52-4	0.00139
	Oleamide DEA	93-83-4	0.00120
	Ethoxylated Alcohol	68551-12-2	0.00120
	Ethanol	64-17-5	0.00120
	Quaternary Ammonium Compound	68424-65-1	0.00120
	Methanol	67-56-1	0.00079
	Surfactant	9016-45-9	0.00039
	Sorbitan Monooleate	1338-43-8	0.00030
	Polyoxyethylene Sorbitan Monooleate	9005-65-5	0.00030
	Potassium Chloride	7447-40-7	0.00028
	Surfactant	68551-12-2	0.00021
	Surfactant	68155-39-5	0.00010
	Hemicellulose Enzyme Concentrate	9025-56-3	0.00004
	2-Butoxy-1-Propanol	15821-83-7	0.00003
	Ammonium Persulfate	7727-54-0	

\* 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)

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References

Location N88°50'W 02138H 352.2' 16" Poplar  
Fd. 13" x 6" x 13" Stone

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

Location Maddie Mae 3 Bottom Hole

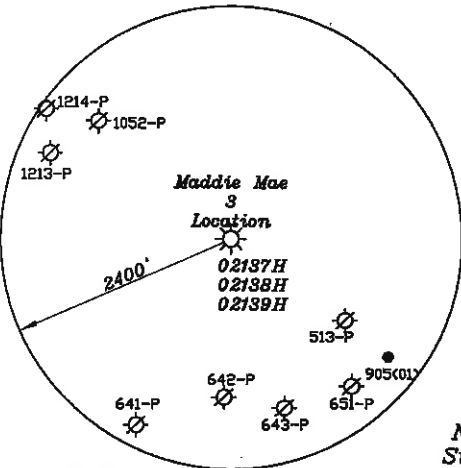
Top Hole  
Geo NAD 83- 39.437800 N, 80.806081 W  
UTM NAD 83 (Meters)- 4365379.4 N, 516687.8 E  
UTM NAD 83 (Feet)- 14322082.4 N, 1695166.7 E  
Landing Point  
Geo NAD 83- 39.440078 N, 80.807391 W  
UTM NAD 83 (Meters)- 4365632.0 N, 516574.5 E  
UTM NAD 83 (Feet)- 14322911.1 N, 1694794.9 E  
Bottom Hole  
Geo NAD 83- 39.456763 N, 80.823876 W  
UTM NAD 83 (Meters)- 4367480.9 N, 515152.3 E  
UTM NAD 83 (Feet)- 14328976.8 N, 1690128.9 E

- A- Joseph Boyd TM 10/12 21.25 ac.
- B- Frey TM 10/11 85 ac.
- C- McMahon 55 ac. TM 10/10
- D- Donahue 30 ac. TM 10/13.1
- E- Donahue 18 ac. TM 10/9
- F- R. Warner 14.862 ac. TM 10/2.5
- G- McMahon 0.36 ac. TM 10/48
- H- Miller 27.25 ac. TM 10/3
- I- Wright 2 ac. TM 10/47
- J- Starcher 60.832 ac. TM 10/2.14
- K- Haught 80.85 ac. TM 10/43
- L- Kile 29.62 ac. TM 10/8
- M- Dillon 0.452 ac. TM 10/8.1
- N- Zills 72.942 ac. TM 10/2.11
- O- Zills 30 ac. TM 10/2.12
- P- C. Warner 6.875 ac. TM 10/2.8
- Q- Potoczny 11.14 ac. TM 10/2.7
- R- Gargas 20.997 ac. TM 10/2
- S- Earnley Owens et al 75 ac. TM 5/5
- T- O.P. Gattrell Estate 72.5 ac. TM 5/6
- U- West 11.36 ac. TM 10/55

NUMBER	DIRECTION	DISTANCE
L1	N32°45' E	226.4'
L2	N23°12' W	909'

NORTH

LONGITUDE 80-47-30 N



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.

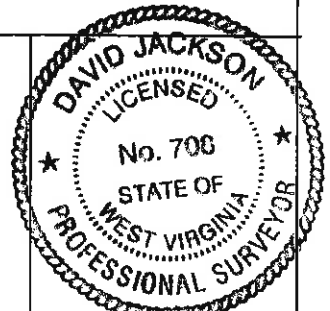
Notes: Ties to wells and corners are based on State Plane Grid North-WV North Zone NAD 83.

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

FILE NO. \_\_\_\_\_  
DRAWING NO. 1  
SCALE 1" = 2000'  
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.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 3  
API WELL NO. ASDRILLED

WELL TYPE: OIL X GAS X LIQUID INJECTION WASTE DISPOSAL 47 - 095 - 02138H  
(IF 'GAS') PRODUCTION X STORAGE DEEP SHALLOW X  
STATE COUNTY PERMIT

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), Michael Benedum of Blackrock Enterprises, LLC (TM.10/10, 11), Cathleen Donahue (TM.10/9), Donald Coleman (TM.10/2.11, 2.14), JB Exploration I, LLC (TM.10/2.12), Robert K. Owens (TM.5/5), Thelma Nichols (TM.5/6)

LEASE NO. & ACREAGE: W668C 21.25 Ac., W699 705 109 Ac., T5003A 18 Ac., Exco144C 30 Ac., Exco144124B 60.832 Ac., Exco144124A 72.942 Ac., T5005 75 Ac., T3131A W683 72.5 Ac.

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 6,705'+ TMD 14,810'

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

10/28/2016