

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

Received

APR 27 2015

API 47-095-02083 County Tyler District McElroy Office of Oil and Gas
Quad Shirley 7.5' Pad Name RPT8 Field/Pool Name _____ WV Dept. of Environmental Protection
Farm name Jack Hair et al Well Number RPT8-3
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 4,370,421.7 Easting 518,383.5
Landing Point of Curve Northing 4,370,254.5 Easting 518,312.9
Bottom Hole Northing 4,368,168.7 Easting 518,893.5

Elevation (ft) 1244' 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)
EZ-MUD® (hydrotreated light petroleum distillate)

Date permit issued 2/5/2013 Date drilling commenced 4/19/2013 Date drilling ceased 6/22/2013
Date completion activities began 1/12/2014 Date completion activities ceased 2/20/2014
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 420' - 480' Open mine(s) (Y/N) depths N
Salt water depth(s) ft 2120' - 2310' 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

Reviewed by:
AL. S/26/15

06/12/2015

API 47-095 - 02083 Farm name Jack Hair et al Well number RPT8-3

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"	40'	New	20/32/24		Yes
Surface	15"	11 3/4"	527'	New	20/23/24	50'	Yes
Coal							
Intermediate 1	11"	8 5/8"	2,301'	New	20/17/24	1500'	Yes
Intermediate 2							
Intermediate 3							
Production	7 7/8"	5 1/2"	14,168'	New	20/24/24		Yes
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							
Surface	Class A	330	15.6	1.26	416	CTS	0
Coal							
Intermediate 1	Class A	860	14.3	1.45	1,247	CTS	0
Intermediate 2							
Intermediate 3							
Production	Class A	1,730	14.3	1.35	2,336	1000' from surface	0
Tubing							

Drillers TD (ft) 14,200' Loggers TD (ft) 14,200'
 Deepest formation penetrated Marcellus Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 5,800'

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 bow 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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 WPA Dept. of Environmental Protection

API 47- 095 - 02083

Farm name Jack Hair et al

Well number RPT8-3

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
1	10-18-2014	13982	14162	72	Marcellus
2	1/13/2014	13754	13938	72	Marcellus
3	1/14/2014	13500	13694	72	Marcellus
4	1/15/2014	13242	13458	48	Marcellus
5	1/16/2014	12866	13102	48	Marcellus
6	1/17/2014	12636	12838	48	Marcellus
7	1/18/2014	12307	12522	48	Marcellus
8	1/19/2014	12046	12262	48	Marcellus
9	2/2/2014	11816	11998	48	Marcellus
10	2/2/2014	11604	11772	48	Marcellus
11	2/4/2014	11369	11560	48	Marcellus
12	2/4/2014	11066	11320	48	Marcellus
13	2/5/2014	10728	10962	48	Marcellus
14	2/5/2014	10440	10682	48	Marcellus
15	2/6/2014	10149	10391	48	Marcellus
16	2/7/2014	9881	10076	48	Marcellus

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Please insert additional pages as applicable.

STIMULATION INFORMATION PER STAGE

Office of Oil and Gas
WV Dept. of Environmental Protection

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	1/13/14	71.8	7143	6952	4056	1474	10217	N/A
2	1/14/14	72.9	7618	6255	4799	1648	8553	N/A
3	1/15/14	72.3	7202	7122	5158	1846	7703	N/A
4	1/16/14	71.8	6867	5474	5018	1790	7787	N/A
5	1/17/14	70.2	7029	5127	5711	1803	7470	N/A
6	1/18/14	69.7	6997	5088	4349	1622	7680	N/A
7	2/2/14	69.5	6609	5944	4913	1659	6117	N/A
8	2/2/14	69.6	6404	4998	4971	1760	8321	N/A
9	2/4/14	71.0	6801	5544	5151	1490	6269	N/A
10	2/5/14	71.7	6600	6067	5976	1790	9529	N/A
11	2/5/14	70.2	6546	5339	5677	1700	7002	N/A
12	2/6/14	70.1	6709	5171	5736	1850	7024	N/A
13	2/6/14	69.6	6591	5310	4902	1600	7347	N/A
14	2/6/14	69.8	6431	5842	5053	1788	7136	N/A
15	2/7/14	70.0	6534	5420	5047	1786	6737	N/A
16	2/7/14	69.5	6312	5017	4497	1820	6709	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	2/7/2014	9596	9816	48	Marcellus
18	2/7/2014	9345	9548	48	Marcellus
19	2/8/2014	9086	9292	48	Marcellus
20	2/8/2014	8838	9038	48	Marcellus
21	2/9/2014	8534	8780	48	Marcellus
22	2/12/2014	8250	8478	48	Marcellus
23	2/15/2014	7969	8204	48	Marcellus
24	2/16/2014	7740	7916	48	Marcellus
25	2/18/2014	7560	7704	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	2/8/14	70.5	6339	5136	5322	1660	7254	N/A
18	2/8/14	69.8	6174	4921	5149	1812	6816	N/A
19	2/8/14	70.4	6401	5203	4722	1722	6953	N/A
20	2/9/14	70.6	6375	5544	4685	1825	6647	N/A
21	2/9/14	69.6	6214	5084	5048	1818	6933	N/A
22	2/17/14	69.8	6288	5303	4968	1716	6157	N/A
23	2/17/14	70.2	6218	5880	5269	1771	6071	N/A
24	2/17/14	70.1	6237	4900	5171	1793	6816	N/A
25	2/18/14	69.5	6014	6161	5147	1878	5869	N/A

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Please insert additional pages as applicable.

rpt 8 pad		
	rpt 8-1	47-095-02085
	rpt 8-2	47-095-02084
	rpt 8-3	47-095-02083
	ELEVATION	1244
FORMATION	TOP	BOTTOM
MISC. RED ROCK & SHALES	0	2137
LIME	2137	2237
INJUN	2137	2254
SHALE	2254	2601
GORDON STRAY	2601	2621
SHALE	2621	2817
GORDON	2817	2847
SHALE	2847	3126
BAYARD	3126	3135
SHALE	3135	3464
WARREN	3464	3562
SHALE	3562	3798
BALLTOWN	3798	3961
SHALE	3961	4399
2ND RILEY	4399	4507
SHALE	4507	4658
3RD RILEY	4658	4699
SHALE	4699	4756
BENSON	4756	4759
SHALE	4759	5001
ALEXANDER	5001	5172
SHALE	5172	5417
ELK	5417	5465
SHALE	5465	6161
HAMILTON	6161	6335
SHALE	6155	6811
UPPER Marcellus	6811	6840
PARCELL LIME	6840	6875
SHALE	6875	6922
LOWER MARCELLUS	6922	

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Environmental Protection
06/12/2015

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	1/13/2014
Job End Date:	2/28/2014
State:	West Virginia
County:	Tyler
API Number:	47-095-02083-00-00
Operator Name:	Jay-Bee Oil & Gas, Inc.
Well Name and Number:	RPT8-3
Longitude:	-80.78612100
Latitude:	39.48319900
Datum:	NAD83
Federal/Tribal Well:	NO
True Vertical Depth:	6,922
Total Base Water Volume (gal):	7,606,914
Total Base Non Water Volume:	



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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	Jay-Bee Oil & Gas, Inc.	Water	Water	7732-18-5	100.00000	92.85979	
100 Mesh	Nabors Completion and Production Services	Sand - Bulk - West Virginia	Crystalline Silica	14808-60-7	99.90000	2.86394	
			Aluminum Oxide	1344-28-1	1.10000	0.03154	
			Iron Oxide	1309-37-1	0.10000	0.00287	
			Titanium Oxide	13463-67-7	0.10000	0.00287	
30/50 Mesh	Nabors Completion and Production Services	Sand - Bulk - West Virginia	Crystalline Silica	14808-60-7	99.90000	2.75720	
			Aluminum Oxide	1344-28-1	1.10000	0.03036	
			Iron Oxide	1309-37-1	0.10000	0.00276	
			Titanium Oxide	13463-67-7	0.10000	0.00276	
20/40 Mesh	Nabors Completion and Production Services	Sand - Bulk - West Virginia	Crystalline Silica	14808-60-7	99.90000	0.72688	
			Aluminum Oxide	1344-28-1	1.10000	0.00800	

					Titanium Oxide	13463-67-7		0.10000	0.00073	
HCL Acid 22 Baume					Iron Oxide	1309-37-1		0.10000	0.00073	
Nabors Completion and Production Services		Bulk Acid								
					Water	7732-18-5		87.50000	0.55543	
					Hydrogen Chloride	7641-01-1		18.00000	0.11426	
WFR-3B		Friction Reducer								
Nabors Completion and Production Services					Hydrotreated Light Distillate	64742-47-8		30.00000	0.02556	
					Mineral Spirits	8052-41-3		10.00000	0.00852	
					Ethoxylated Alcohols	68551-12-2		4.00000	0.00341	
KR-153-SL		Biocides								
Nabors Completion and Production Services					Polyethylene Glycol	25322-68-3		50.00000	0.01160	
					2,2-Dibromo-3-nitrilo-propionamide	10222-01-2		20.00000	0.00464	
Super TSC LT		Paraffin & Scale Additives								
Nabors Completion and Production Services					Water	7732-18-5		60.00000	0.01340	
Super Max II		Surfactant & Foamer								
Nabors Completion and Production Services					Ethylhexanol	104-76-7		40.00000	0.00396	
					Isopropyl Alcohol	67-63-0		30.00000	0.00297	
					Glycol Ethers	111-76-2		7.00000	0.00069	
LSG-100L		Petroleum Distillates								
Nabors Completion and Production Services					Petroleum Distillates	64742-47-8		60.00000	0.00549	
Acid Inhibitor AL-2		Acid Corrosion Inhibitors								
Nabors Completion and Production Services					Propargyl Alcohol	107-19-7		40.00000	0.00051	
					Isopropyl Alcohol	67-63-0		40.00000	0.00051	
					Glycol Ethers	111-76-2		40.00000	0.00051	
					Ethoxylated Nonylphenol	68412-54-4		13.00000	0.00017	
					Tar bases	72480-70-7		10.00000	0.00013	
<p style="text-align: center;">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.</p>										
WFR-3B NON-MSDS		Friction Reducer								
Nabors Completion and Production Services					Propylene Glycol	57-55-6		25.00000	0.02130	
Super TSC LT NON-MSDS		Paraffin & Scale Additives								
Nabors Completion and Production Services					proprietary	proprietary		15.00000	0.00335	
					proprietary	proprietary		15.00000	0.00335	

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			proprietary		proprietary	15.00000	0.00335
LSG-100L NON-MSDS	Nabors Completion and Production Services	Gelling Agents	proprietary		proprietary	15.00000	0.00335
			Guar Gum		9000-30-0	50.00000	0.00458
			Suspending Agent		14808-60-7	2.00000	0.00018
			Surfactant		68439-51-0	2.00000	0.00018
Super Max II NON-MSDS	Nabors Completion and Production Services	Surfactant & Foamer	proprietary		proprietary	7.00000	0.00069

* 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)

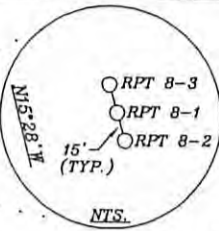
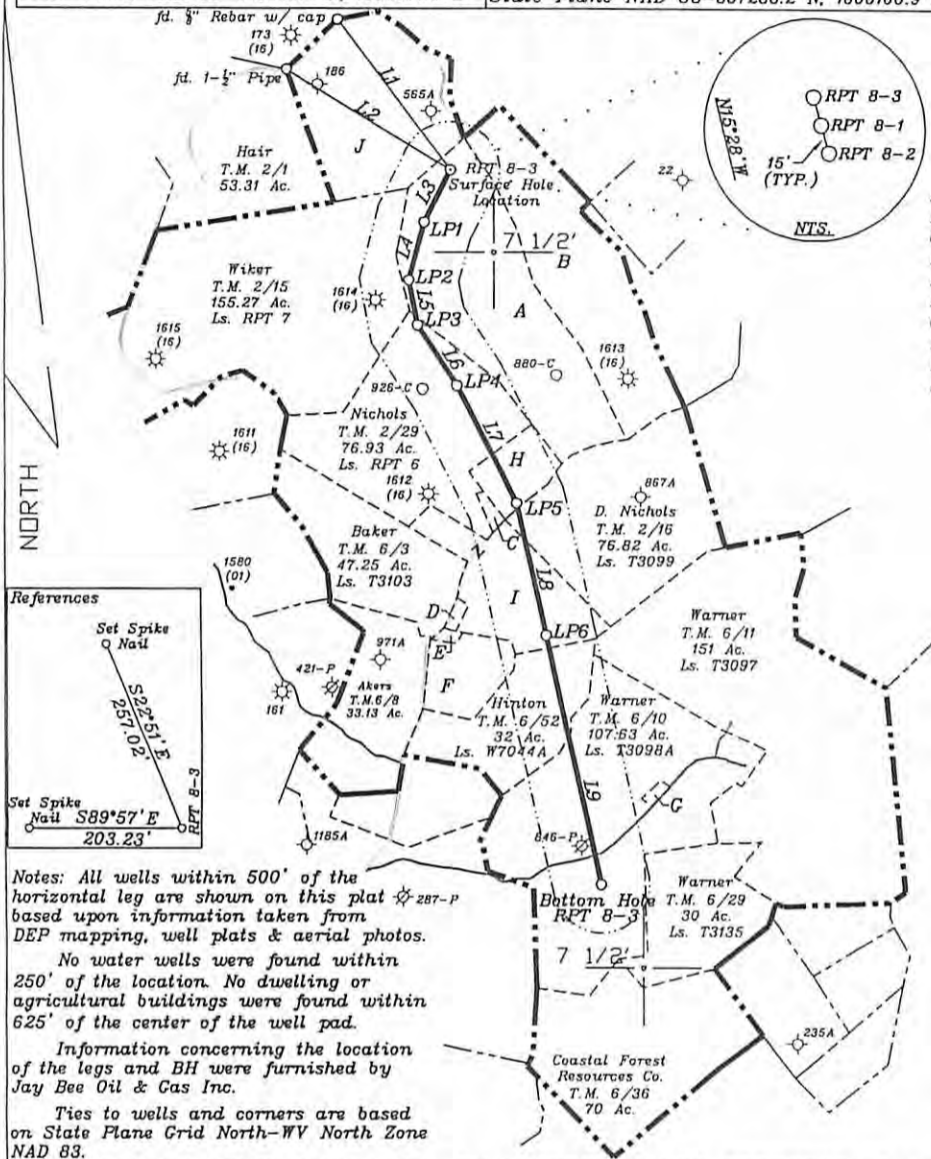
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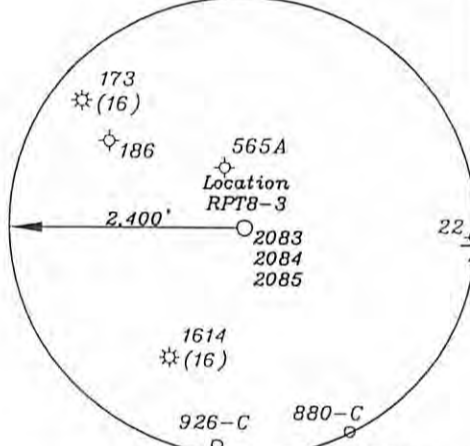
06/12/2015

Surface Hole Location UTM NAD 83(Meters)-4370421.7 N, 518393.5 E Geo. NAD 83-39.483199 N, 80.786121 W State Plane NAD 83-360706.7 N, 1605507.6 E	Landing Point 3 UTM NAD 83(Meters)-4369923.2 N, 518295.9 E Geo. NAD 83-39.478709 N, 80.787270 W State Plane NAD 83-359076.2 N, 1605159.9 E	Landing Point 6 UTM NAD 83(Meters)-4368953.9 N, 518712.2 E Geo. NAD 83-39.469966 N, 80.782457 W State Plane NAD 83-355872.6 N, 1606472.9 E
Landing Point 1 UTM NAD 83(Meters)-4370254.5 N, 518312.9 E Geo. NAD 83-39.481694 N, 80.787063 W State Plane NAD 83-360162.3 N, 1605234.0 E	Landing Point 4 UTM NAD 83(Meters)-4369733.8 N, 518421.2 E Geo. NAD 83-39.477000 N, 80.785818 W State Plane NAD 83-358447.8 N, 1605560.8 E	Bottom Hole Location UTM NAD 83(Meters)-4368168.7 N, 518893.5 E Geo. NAD 83-39.462887 N, 80.780372 W State Plane NAD 83-353285.9 N, 1607024.7 E
Landing Point 2 UTM NAD 83(Meters)-4370066.6 N, 518266.6 E Geo. NAD 83-39.480002 N, 80.787607 W State Plane NAD 83-359548.4 N, 1605071.5 E	Landing Point 5 UTM NAD 83(Meters)-4369368.4 N, 518612.0 E Geo. NAD 83-39.473703 N, 80.783610 W State Plane NAD 83-357238.2 N, 1606166.9 E	



- A-Hair T.M. 2/17 85 Ac. Ls. RPT 8
- B-Sherwood T.M. 2/18 62.5 Ac.
- C-Nichols T.M. 6/4 1.25 Ac.
- D-Cole T.M. 6/5 1 Ac.
- E-Hostuttler T.M. 6/6 0.38 Ac.
- F-Catrell T.M. 6/7 14.62 Ac.
- G-Warner T.M. 6/10.1 0.368 Ac.
- H-D. Nichols, et al T.M. 2/19 12.5 Ac. Ls. T3099A
- I-Liller T.M. 6/3.1 15 Ac. Ls. T3180
- J-Hair T.M. 2/2 53.75 Ac. Ls. TI-13

NUMBER	DIRECTION	DISTANCE
L1	S37°31'E	1,904'
L2	S58°44'E	1,988'
L3	S26°41'W	609'
L4	S14°50'W	635'
L5	S10°36'E	480'
L6	S32°32'E	745'
L7	S26°37'E	1,353'
L8	S12°38'E	1,399'
L9	S12°02'E	2,645'



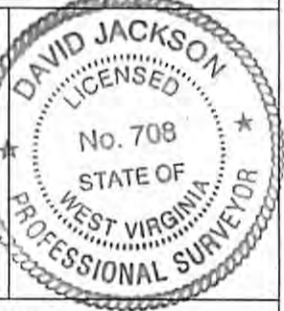
Notes: All wells within 500' of the horizontal leg are shown on this plat based upon information taken from DEP mapping, well plats & aerial photos. No water wells were found within 250' of the location. No dwelling or agricultural buildings were found within 625' of the center of the well pad. Information concerning the location of the legs and BH were furnished by Jay Bee Oil & Gas Inc. 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 RULES ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

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



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

DATE April 21, 2015
 OPERATOR'S WELL NO. RPT 8-3
 API WELL NO. _____

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL STATE 47 COUNTY 095 PERMIT 02083
 (IF 'GAS') PRODUCTION X STORAGE DEEP SHALLOW X

LOCATION: ELEVATION 1,244.5' WATER SHED Big Run
 DISTRICT McElroy COUNTY Tyler
 QUADRANGLE Shirley 7 1/2'

SURFACE OWNER Jack Hair et al ACREAGE 85 ac
 OIL & GAS ROYALTY OWNER Jack Hair(85 Ac.), Cecil Nichols(76.93 Ac.), Lester Nichols(12.5 Ac.), Duane G. Nichols(76.82 Ac.), Linda Liller(15 Ac.), Thomas E. Hilton(32 Ac.) & Richard Warner(107.63 Ac.)

LEASE NO. RPT 8, RPT 6, T3098A, T3180, W7044A & T3099A

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) _____

PLUG AND ABANDON CLEAN OUT AND REPLUG
 TARGET FORMATION Marcellus ESTIMATED DEPTH 7,500'+ Horizontal leg
 WELL OPERATOR Jay Bee Oil & Gas, Inc. DESIGNATED AGENT Randy Broda
 ADDRESS 1720 Rt. 22 East Union, NJ 07083 ADDRESS Rt. 1 Box 5 Cairo, WV 26337

06/12/2015

LONGITUDE 80-45-00 W BH Bottom Hole 13,424'

LONGITUDE 80-47-00 W TH Top Hole 6,004'