

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

RECEIVED  
Office of Oil and Gas

MAR 04 2019

WV Department of  
Environmental Protection

API 47 - 095 - 02229 County Tyler District McElroy  
Quad Shirley Pad Name Happy Field/Pool Name Happy  
Farm name Bloom, Arthur & Lois Well Number Happy 5  
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 4368950.7 Easting 521434.6  
Landing Point of Curve Northing 4369131.4 Easting 521411.9  
Bottom Hole Northing 4370725.2 Easting 520940.5

Elevation (ft) 1253.5 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)  
Synthetic OBM

Date permit issued 6/23/2015 Date drilling commenced 10/14/2016 Date drilling ceased 3/20/2017  
Date completion activities began 6/7/2017 Date completion activities ceased 7/14/2017  
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 60-90' 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

Reviewed

Reviewed by:

JOB  
3/14/2019

WR-35  
Rev. 8/23/13

API 47-095 - 02229 Farm name Bloom, Arthur & Lois Well number Happy 5

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	J-55 40 lb./ft		Y
Surface	15"	11 3/4"	457'	New	J-55 32 lb./ft	50'	Y
Coal							
Intermediate 1	11"	8 5/8"	2485'	New	J-55 24 lb./ft	1500'	Y
Intermediate 2							
Intermediate 3							
Production	7 7/8"	5 1/2"	12849'	New	P-110 17 lb./ft		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	382	15.6	1.21	462.2	CTS	8
Coal							
Intermediate 1	Class A	709	15.2	1.27	900.4	CTS	8
Intermediate 2							
Intermediate 3							
Production	Class A	1842	14.5	1.17	2155.1	CTS	8
Tubing							

Drillers TD (ft) 12,853 Loggers TD (ft) 12,853  
 Deepest formation penetrated Marcellus Plug back to (ft) N/A  
 Plug back procedure N/A

Kick off depth (ft) 6500

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 \_\_\_\_\_ RECEIVED  
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WERE TRACERS USED  Yes  No TYPE OF TRACER(S) USED \_\_\_\_\_ MAR 04 2019

API 47- 095 - 02229

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Well number Happy 5

## PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
1	6/7/17	12800	12719	95	Marcellus
2	6/7/17	12684	12450	72	Marcellus
3	6/7/17	12415	12252	72	Marcellus
4	6/8/17	12217	12067	72	Marcellus
5	6/8/17	12032	11870	72	Marcellus
6	6/8/17	11835	11646	72	Marcellus
7	6/8/17	11611	11454	72	Marcellus
8	6/9/17	11419	11257	72	Marcellus
9	6/9/17	11222	11052	72	Marcellus
10	6/10/17	11017	10870	72	Marcellus
11	6/10/17	10835	10658	72	Marcellus
12	6/10/17	10623	10492	72	Marcellus
13	6/10/17	10457	10269	72	Marcellus
14	6/11/17	10234	10069	72	Marcellus
15	6/11/17	10019	9881	72	Marcellus
16	6/11/17	9843	9685	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	6/7/17	80	7694	8978	4805	170300	5154	N/A
2	6/7/17	79	7177	6594	4974	184300	4623	N/A
3	6/7/17	81	7016	6677	4642	180200	1211	N/A
4	6/8/17	79	6945	6556	3906	176300	4699	N/A
5	6/8/17	79	7393	6535	4122	181100	4724	N/A
6	6/8/17	79	7048	6495	5054	177900	4476	N/A
7	6/8/17	80	6884	6606	3825	180600	4107	N/A
8	6/9/17	80	6877	6089	4525	179400	4258	N/A
9	6/9/17	79	6921	6793	4572	178300	4396	N/A
10	6/10/17	80	6926	6289	4025	181400	4149	N/A
11	6/10/17	79	7136	7271	3761	178200	3849	N/A
12	6/10/17	80	6996	7181	3791	183900	4719	N/A
13	6/10/17	79	7216	7767	5626	178200	3924	N/A
14	6/11/17	79	6628	6591	4312	179200	3920	N/A
15	6/11/17	79	6967	7267	4080	181600	4307	N/A
16	6/11/17	78	6564	7254	4562	180600	4001	RECEIVED

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Please insert additional pages as applicable.

MAR 04 2019

API 47- 095 - 02229

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Well number Happy 5

## PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
17	6/12/17	9650	9505	72	Marcellus
18	6/12/17	9449	9282	72	Marcellus
19	6/12/17	9234	9095	72	Marcellus
20	6/12/17	9060	8884	72	Marcellus
21	6/13/17	8830	8662	72	Marcellus
22	6/13/17	8608	8476	72	Marcellus
23	6/13/17	8429	8264	72	Marcellus
24	6/14/17	8227	8100	72	Marcellus
25	6/14/17	8058	7881	72	Marcellus
26	6/17/17	7821	7704	72	Marcellus
27	6/18/17	7662	7546	72	Marcellus
28	6/18/17	7488	7332	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	6/12/17	79	7157	7779	4337	180800	4158	N/A
18	6/12/17	80	6460	7065	4311	182900	6248	N/A
19	6/12/17	81	7172	6932	4248	191400	4025	N/A
20	6/12/17	81	7040	6301	3955	181700	4122	N/A
21	6/13/17	80	6246	7761	4734	174100	4782	N/A
22	6/13/17	80	7099	7763	4865	186100	4494	N/A
23	6/13/17	80	6838	7532	4517	181700	4352	N/A
24	6/14/17	79	6988	6753	5090	176100	3937	N/A
25	6/14/17	80	6744	6878	5041	177500	3550	N/A
26	6/17/17	79	6793	6571	3880	184200	4412	N/A
27	6/18/17	81	7106	7400	4402	175400	4446	N/A
28	6/18/17	80	6541	7455	4553	181300	4608	N/A

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WR-35  
Rev. 8/23/13

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PRODUCING FORMATION(S)	DEPTHS		
Marcellus	7,064	TVD	12,853 MD

Please insert additional pages as applicable.

GAS TEST  Build up  Drawdown  Open Flow OIL TEST  Flow  Pump

SHUT-IN PRESSURE Surface 2300 psi Bottom Hole N/A psi DURATION OF TEST 24 hrs

OPEN FLOW Gas 5400 mcfpd Oil 8 bpd NGL bpd Water 50 bpd GAS MEASURED BY  Estimated  Orifice  Pilot

LITHOLOGY/ FORMATION	TOP	BOTTOM	TOP	BOTTOM	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H <sub>2</sub> S, ETC)
	DEPTH IN FT NAME TVD	DEPTH IN FT TVD	DEPTH IN FT MD	DEPTH IN FT MD	
See Attached.	0		0		

Please insert additional pages as applicable.

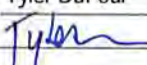
Drilling Contractor Nomac  
Address 3400 South Radio Road City El Reno State OK Zip 73036

Logging Company Stratagraph Northeast, Inc.  
Address 116 Ellsworth Ave. Marietta City Marietta State OH Zip 45750

Cementing Company Baker Hughes  
Address 717 17th Street Suite 2000 City Denver State CO Zip 80202

Stimulating Company Producers Service Corporation  
Address 107 South Graham St. City Zanesville State OH Zip 43822

Please insert additional pages as applicable.

Completed by Tyler DuFour Telephone 304-628-3111  
Signature  Title Office Manager Date 3-1-19

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

**Lithology**

Happy 5

47-095-02229

<b>FORMATION</b>	<b>TOP</b>	<b>BOTTOM</b>
MISC. RED ROCK & SHALES	0	2349
LIME	2349	2449
INJUN	2449	2566
SHALE	2566	2913
GORDON STRAY	2913	2933
SHALE	2933	3129
GORDON	3129	3159
SHALE	3159	3438
BAYARD	3438	3447
SHALE	3447	3776
WARREN	3776	3874
SHALE	3874	4110
BALLTOWN	4110	4273
SHALE	4273	4711
2ND RILEY	4711	4819
SHALE	4819	4970
3RD RILEY	4970	5011
SHALE	5011	5068
BENSON	5068	5071
SHALE	5071	5313
ALEXANDER	5313	5484
SHALE	5484	5729
ELK	5729	5777
SHALE	5777	6141
HAMILTON	6141	6315
SHALE	6315	6971
UPPER MARCELLUS	6971	6977
PARCELL LIME	6977	7012
SHALE	7012	7042
LOWER MARCELLUS	7042	

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# Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	6/7/2017
Job End Date:	6/18/2017
State:	West Virginia
County:	Tyler
API Number:	47-095-02229-00-00
Operator Name:	Jay-Bee Oil & Gas, Inc.
Well Name and Number:	Happy 5
Latitude:	39.46987300
Longitude:	-80.75081000
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	7,052
Total Base Water Volume (gal):	7,167,300
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	Company 1	Carrier/Base Fluid	Water	7732-18-5	100.00000	91.74268	None
Sand (Proppant)	Producers Service Corp	Proppant	Silica Substrate	14808-60-7	100.00000	7.73793	None
15% IC Acid	Producers Service Corp	Acidizing	Hydrochloric Acid	7647-01-0	15.00000	0.05957	None
STIMLUBE F	Producers Service Corp	Friction Reducer	Petroleum Distallates	64742-47-8	30.00000	0.01979	None
			Alcohols, ethoxylated	68439-50-9	3.10000	0.00205	None
			Alcohols, ethoxylated	68551-12-2	3.10000	0.00205	None
			Alcohols, ethoxylated	68002-97-1	3.10000	0.00205	None
PRO GEL 4.0L	Producers Service Corp	Gel	Guar Gum Blend	9000-30-0	100.00000	0.01730	None
SCALECLEAR 112	Producers Service Corp	Scale Inhibitor	Ethylene Glycol	107-21-1	40.00000	0.00932	None

BIOCLEAR 1430	Producers Service Corp	Biocide					
			Glutaraldehyde	111-30-8	20.00000	0.00313	None
			Alkyl dimethyl benzyl ammonium chloride	68424-85-1	5.00000	0.00078	None
			Dimethylamine	68439-70-3	0.50000	0.00008	None
PRO BREAK 4	Producers Service Corp	Gel Breaker					
			Surcose	57-50-1	46.00000	0.00002	None
			Ethylene Glycol	107-21-1	14.00000	0.00001	None
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 Chemical(s)	Listed Above	See Trade Name(s) List					
			Alcohols, ethoxylated	68002-97-1	3.10000	0.00205	
			Alcohols, ethoxylated	68439-50-9	3.10000	0.00205	
			Alcohols, ethoxylated	68551-12-2	3.10000	0.00205	
			Alkyl dimethyl benzyl ammonium chloride	68424-85-1	5.00000	0.00078	
			Dimethylamine	68439-70-3	0.50000	0.00008	
			Ethylene Glycol	107-21-1	14.00000	0.00001	

\* 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)



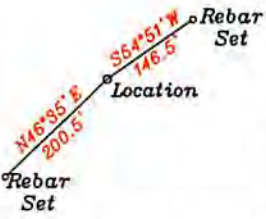
LATITUDE 39-30-00 N

Bottom Hole 1,833'

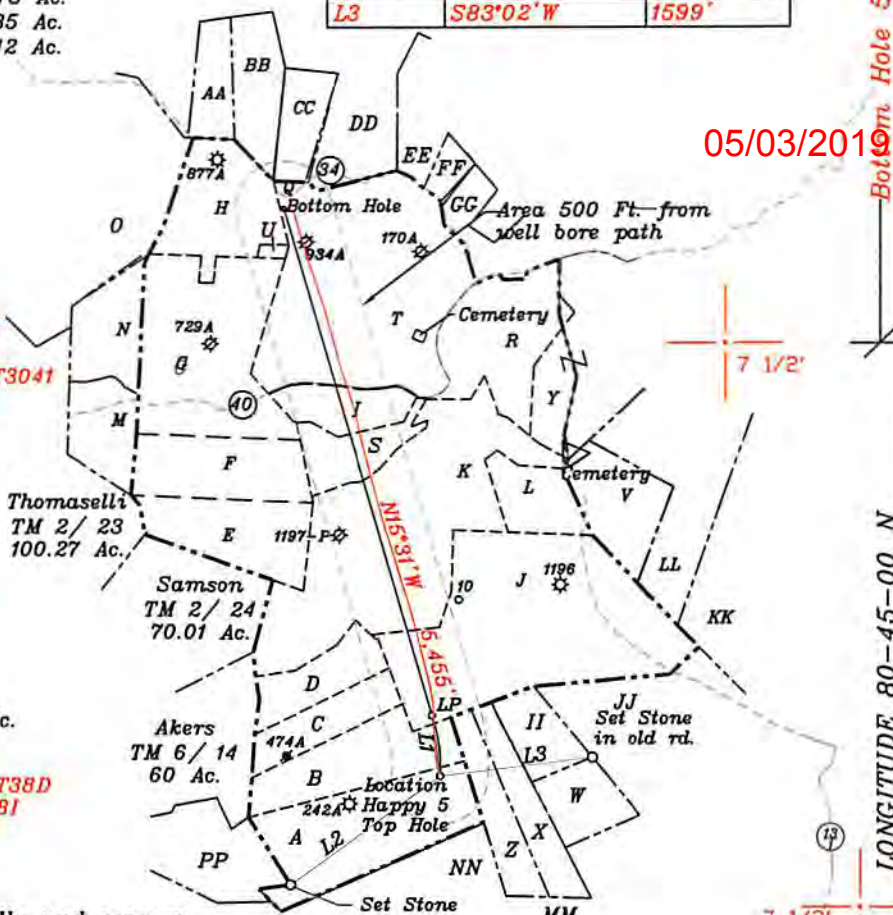
References

- II- Thompson TM 7-4 11.66 Ac.
- JJ- Jay Bee Royalty TM 7-1 46.84 Ac.
- KK- Weimer TM 3-23 102 Ac.
- LL- Weimer TM 3-22 6.22 Ac.
- MM- Thompson TM 7/23 15.34 Ac.
- NN- Eidle TM 7/17 23.73 Ac.
- OO- Samson TM 6/20 85 Ac.
- PP- Samson TM 6/19 42 Ac.

NUMBER	DIRECTION	DISTANCE
L1	N06°12'W	598'
L2	N53°54'E	1929'
L3	S83°02'W	1599'



- A- Bloom TM 6/18 59.76 Ac. T3042A1
- B- Eidle TM 6/17 26.36 Ac. T3042A1
- C- Bouser TM 6/16 15.82 Ac.
- D- McHenry TM 6/15 15.81 Ac.
- E- Thomaselli TM 2/14 29 Ac.
- F- Jones p/o TM 2/12 31 Ac.
- G- Jones p/o TM 2/12 61 Ac. T3087A
- H- Ferrell & Doak TM 2/11 31 Ac. T3085 T6-A
- I- Pettit TM 2/31 11.5 Ac. T3209A
- J- Jay-Bee Oil & Gas, Inc TM 7/1.1 93.6 Ac. T3041
- K- R.Lemasters TM 2/26 87.06 Ac. T3086T4
- L- Bryant & Alpheus Tennent Hrs. TM 3/20 15 Acs. T3076A
- M- Rush TM 2-13 8.88 Ac. Ls. T3089
- N- Rush TM 2-13.1 23.56 Ac. Ls. T3089
- O- Parr TM 2-10 104.75 Ac. Ls. T3203
- Q- H.Lemasters TM. 2-32 1 Ac.
- R- H.Lemasters TM. 3-1 40.84 Ac.
- S- D.Lemasters TM. 2-25 29 Ac. T3209
- T- Hannen TM. 2-27 98.86 Ac. T3086A1
- U- Reservation from tract H (Bailey) 1 Ac.
- V- Bryant TM 3-21 18.66 Ac.
- W- Thompson TM 7-5 11.66 Ac.
- X- Thompson TM 7/3 17.5 Ac.
- Y- Alma Bees & Trees Farm TM 3-2 51.86 Ac.
- Z- Thompson TM 7/2 17.5 Ac.
- AA- Rick Staley et al TM 23-16 13 Ac
- BB- Rick Staley et al TM 23-17 15.5 Ac. FoutT38D
- CC- Rick Staley et al TM 23-18 13 Ac. FoutT38I
- DD- L. Lemasters TM 23-19 14.75 Ac. T6805B
- EE- Eidle TM 23-26 26.36 Ac.
- FF- Anderson TM 3-26 6.65 Ac.
- GG- Eidle TM 24-7 31.64 Ac.



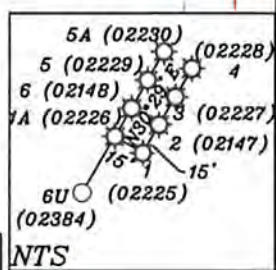
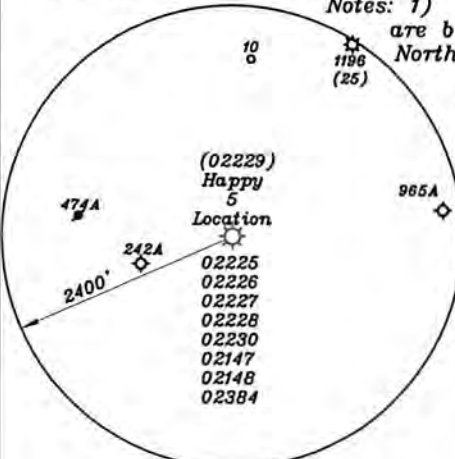
05/03/2019

Top Hole 10,997'

LONGITUDE 80-45-00 N

NORTH

- Notes: 1) Ties to wells and corners are based on State Plane Grid North-WV North Zone NAD 27.
- 2) All wells within 500' of the horizontal leg are shown on this plat based upon information taken from DEP mapping, well plats & aerial photos.
- 3) No water wells were found within 250' of the location. No dwellings or agricultural buildings were found within 625' of the center of the well pad.



AS-DRILLED LEG  
PROPOSED LEG

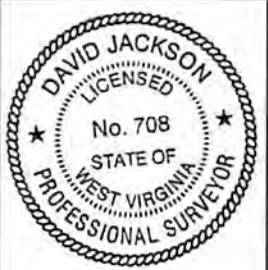
AsDrilled	Proposed
Top Hole UTM NAD 83(Meters)- 4368950.7 N, 521434.6 E	Top Hole UTM NAD 83(Meters)- 4368950.7 N, 521434.4 E
Landing Point UTM NAD 83(Meters)- 4369131.4 N, 521411.9 E	Landing Point UTM NAD 83(Meters)- 4369254.8 N, 521370.2 E
Bottom Hole UTM NAD 83(Meters)- 4370725.2 N, 520940.5 E	Bottom Hole UTM NAD 83(Meters)- 4370734.9 N, 520908.7 E

(+) 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. \_\_\_\_\_ P.S. 708



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

DATE December 29, 2017  
 OPERATOR'S WELL NO. Happy 5  
 API WELL NO. AsDrilled

WELL TYPE: OIL X GAS X LIQUID INJECTION     WASTE DISPOSAL     47     095     02229  
 (IF 'GAS') PRODUCTION     STORAGE     DEEP     SHALLOW X STATE COUNTY PERMIT

LOCATION: ELEVATION 1256.6' WATER SHED Walnut Fork & Woodburn Run  
 DISTRICT McElroy COUNTY Tyler  
 QUADRANGLE TH Shirley 7 1/2', BH Center Point 7 1/2'

SURFACE OWNER Arthur & Lois Bloom ACREAGE 59.76 ac.  
 OIL & GAS ROYALTY OWNER John Lambert Ice LEASE ACREAGE 498.14 ac.

LEASE NO. & ACREAGE: "See ownership list above for lease numbers"

PROPOSED WORK: DRILL     CONVERT     DRILL DEEPER     REDRILL     FRACTURE OR STIMULATE     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 TVD=7.064' - TMD=12.853'

WELL OPERATOR Jay-Bee Oil & Gas, Inc. DESIGNATED AGENT Randy Broda  
 ADDRESS 1720 Rt, 22, East Union, NJ 07083 ADDRESS 3570 Shields Hill Rd., Cairo, WV 26337

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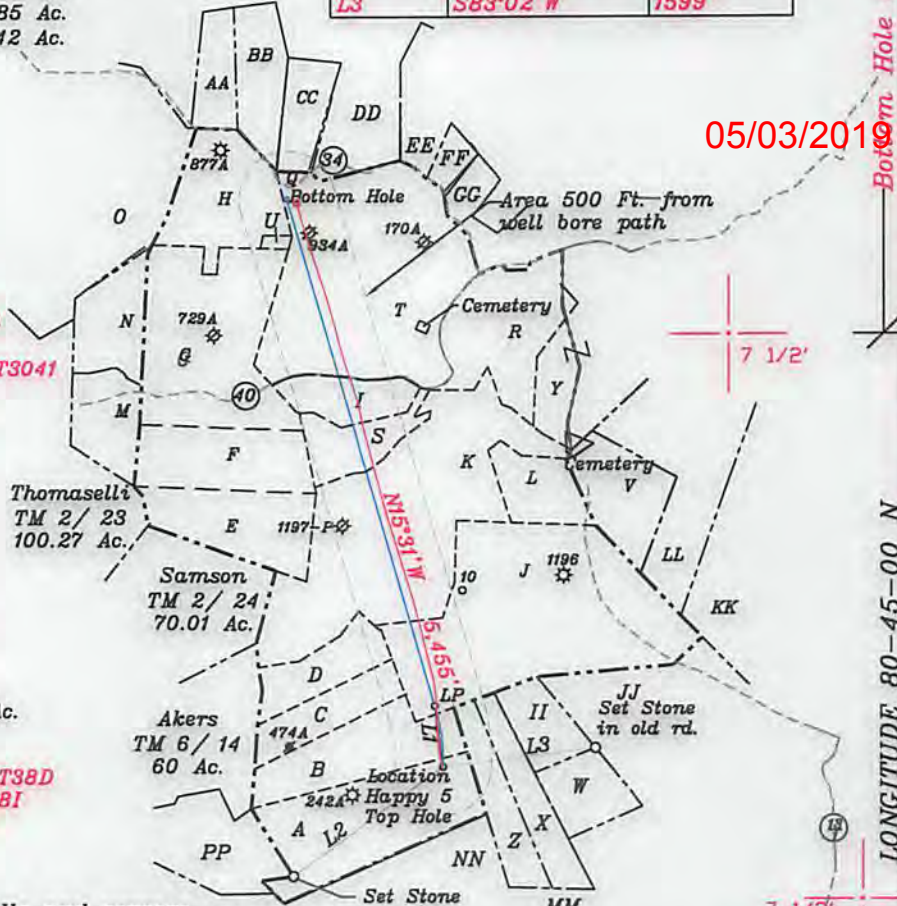
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- N- Rush TM 2-13.1 23.56 Ac. Ls. T3089
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- U- Reservation from tract H (Bailey) 1 Ac.
- V- Bryant TM 3-21 18.66 Ac
- W- Thompson TM 7-5 11.66 Ac.
- X- Thompson TM 7/3 17.5 Ac.
- Y- Alma Bees & Trees Farm TM 3-2 51.86 Ac.
- Z- Thompson TM 7/2 17.5 Ac.
- AA- Rick Staley et al TM 23-16 13 Ac.
- BB- Rick Staley et al TM 23-17 15.5 Ac. FoutT38D
- CC- Rick Staley et al TM 23-18 13 Ac. FoutT38I
- DD- L. Lemasters TM 23-19 14.75 Ac. T6805B
- EE- Eidle TM 23-26 26.36 Ac.
- FF- Anderson TM 3-26 6.65 Ac.
- GG- Eidle TM 24-7 31.64 Ac.



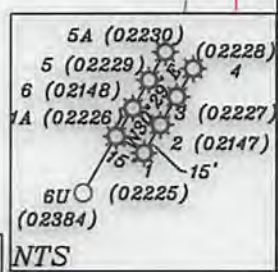
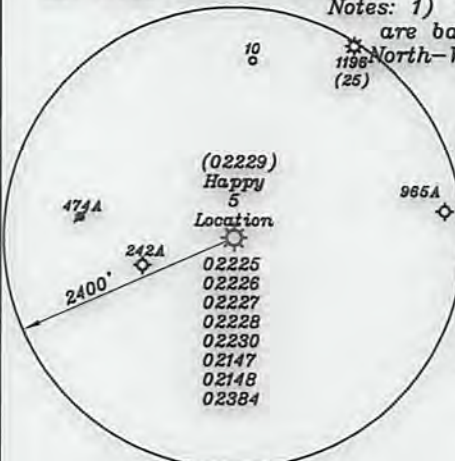
05/03/2019

Bottom Hole 5,145'

Top Hole 10,997'

LONGITUDE 80-45-00 N

- Notes: 1) Ties to wells and corners are based on State Plane Grid North-WV North Zone NAD 27.
- 2) All wells within 500' of the horizontal leg are shown on this plat based upon information taken from DEP mapping, well plats & aerial photos.
- 3) No water wells were found within 250' of the location. No dwellings or agricultural buildings were found within 625' of the center of the well pad.



AS-DRILLED LEG  
PROPOSED LEG

As Drilled	Proposed
Top Hole UTM NAD 83(Meters)- 4368950.7 N, 521434.6 E	Top Hole UTM NAD 83(Meters)- 4368950.7 N, 521434.4 E
Landing Point UTM NAD 83(Meters)- 4369131.4 N, 521411.9 E	Landing Point UTM NAD 83(Meters)- 4369254.8 N, 521370.2 E
Bottom Hole UTM NAD 83(Meters)- 4370725.2 N, 520940.5 E	Bottom Hole UTM NAD 83(Meters)- 4370734.9 N, 520908.7 E

(+) 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. \_\_\_\_\_ P.S. 708



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

DATE December 29, 2017  
OPERATOR'S WELL NO. Happy 5  
API WELL NO. As Drilled

WELL TYPE: OIL GAS X LIQUID INJECTION WASTE DISPOSAL 47 095 02229  
(IF 'GAS') PRODUCTION STORAGE DEEP SHALLOW X STATE COUNTY PERMIT

LOCATION: ELEVATION 1256.6' WATER SHED Walnut Fork & Woodburn Run  
DISTRICT McElroy COUNTY Tyler  
QUADRANGLE TH Shirley 7 1/2', BH Center Point 7 1/2'

SURFACE OWNER Arthur & Lois Bloom ACREAGE 59.76 ac.  
OIL & GAS ROYALTY OWNER John Lambert Ice LEASE ACREAGE 498.14 ac.

LEASE NO. & ACREAGE: "See ownership list above for lease numbers"

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

PLUG AND ABANDON CLEAN OUT AND REPLUG \_\_\_\_\_  
TARGET FORMATION Marcellus ESTIMATED DEPTH TVD=7,064' - TMD=12,853'  
WELL OPERATOR Jay-Bee Oil & Gas, Inc. DESIGNATED AGENT Randy Broda  
ADDRESS 1720 Rt. 22, East Union, NJ 07083 ADDRESS 3570 Shields Hill Rd., Cairo, WV 26337

References  
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LATITUDE 39-30-00 N

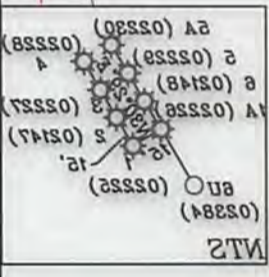
Bottom Hole 1,833'

Top Hole 431'

NUMBER	DIRECTION	DISTANCE
L1	N08°13'W	588'
L2	N83°54'E	1828'
L3	S83°02'W	1583'

Job Hole 10' x 88.0'

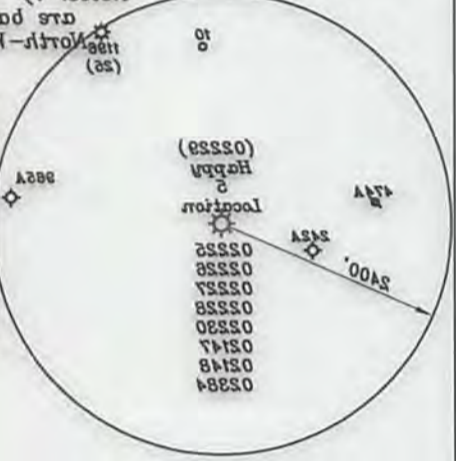
LONGITUDE 80-42-00 W



Proposed	As-Drilled
Top Hole UTM NAD 83 (Meters) - 438820.7 N 52434.8 E	Top Hole UTM NAD 83 (Meters) - 438820.7 N 52434.8 E
Landing Point UTM NAD 83 (Meters) - 438826.8 N 52130.3 E	Landing Point UTM NAD 83 (Meters) - 438826.8 N 52130.3 E
Bottom Hole UTM NAD 83 (Meters) - 437074.8 N 52080.7 E	Bottom Hole UTM NAD 83 (Meters) - 437074.8 N 52080.7 E

PROPOSED LEC  
AS-DRILLED LEC

Notes: 1) Ties to wells and corners are based on State Plane Grid North Zone NAD 83.  
2) All wells within 500' of the horizontal leg are shown on this plat based upon information taken from DEP mapping, well plat & aerial photos.  
3) No water wells were found within 250' of the location. No dwellings or agricultural buildings were found within 625' of the center of the well pad.



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(SIGNED) David S. Jackson  
P.E. No. 708

FILE NO. \_\_\_\_\_  
DRAWING NO. 1  
SCALE 1" = 2000'  
MINIMUM DEGREE OF ACCURACY 1 in 200  
PROVEN SOURCE OF ELEVATION GPS  
SUBMITTER UNIT

STATE OF WEST VIRGINIA  
Division of Environmental Protection  
OFFICE OF OIL AND GAS  
WELL TYPE: OIL GAS X LIQUID INJECTION WASTE DISPOSAL  
(IF GAS) PRODUCTION STORAGE DEEP SHALLOW X  
LOCATION: ELEVATION 1356.6' WATER SHED Walnut Fork & Woodburn Run  
DISTRICT McElroy  
QUADRANGLE TH Shirley 7 1/2', BH Center Point 7 1/2'  
SURFACE OWNER Arthur & Lois Bloom  
OIL & GAS ROYALTY OWNER John Lambert Ice  
LEASE NO. & ACREAGE: "See ownership list above for lease numbers"  
PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR  
STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW  
FORMATION X OTHER PHYSICAL CHANGE IN WELL (SPECIFY) As Drilled  
PLUG AND ABANDON CLEAN OUT AND REPLUG  
TARGET FORMATION Marcellus ESTIMATED DEPTH TVD=7,064' - TMD=12,853'  
DESIGNATED AGENT Randy Brode ADDRESS 3570 Shields Hill Rd., Cairo, WV 26337  
WELL OPERATOR Jay-Bee Oil & Gas, Inc.  
DATE December 29, 2017  
OPERATOR'S WELL NO. Happy 2  
API WELL NO. As Drilled  
PERMIT 02229  
COUNTY Tyler  
WATER SHED Walnut Fork & Woodburn Run  
STATE COUNTY PERMIT  
47 - 092 - 02229  
OFFICE OF OIL AND GAS  
Division of Environmental Protection  
STATE OF WEST VIRGINIA