

05/03/2019

WR-35  
Rev. 8/23/13

Page 1 of 6

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 47-095-02225 County Tyler District McElroy  
Quad Shirley Pad Name Happy Field/Pool Name Happy  
Farm name Bloom, Arthur & Lois Well Number Happy 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 4368940.03 Easting 521433.91  
Landing Point of Curve Northing 4368696.01 Easting 521102.40  
Bottom Hole Northing 4366641.73 Easting 521728.46

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 06/23/2015 Date drilling commenced 10/7/16 Date drilling ceased 5/9/17  
Date completion activities began 6/25/17 Date completion activities ceased 7/18/17  
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:

JEB  
3/14/2019

WR-35  
Rev. 8/23/13

API 47-095 - 02225 Farm name Bloom, Arthur & Lois Well number Happy 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"	30'	New			Y
Surface	15"	11 3/4"	461'	New		50'	Y
Coal							
Intermediate 1	11"	8 5/8"	2478'	New		1500'	Y
Intermediate 2							
Intermediate 3							
Production	7 7/8"	5 1/2"	15220	New			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	372	15.6	1.21	450	CTS	8
Coal							
Intermediate 1	Class A	711	15.2	1.26	896	CTS	8
Intermediate 2							
Intermediate 3							
Production	Class A	2221	14.5	1.17	2599	CTS	8
Tubing							

Drillers TD (ft) 15224 Loggers TD (ft) 15224

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

Plug back procedure N/A

Kick off depth (ft) 6320

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 - ROP every third joint.

ROP - 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 \_\_\_\_\_

API 47- 095 - 02225

Farm name Bloom, Arthur &amp; Lois

Well number Happy 1

## PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
1	6/25/17	15163	15052	97	Marcellus
2	6/25/17	15017	14828	72	Marcellus
3	6/25/17	14793	14600	72	Marcellus
4	6/25/17	14565	14410	72	Marcellus
5	6/26/17	14155	14190	72	Marcellus
6	6/26/17	14155	13975	72	Marcellus
7	6/26/17	13940	13800	72	Marcellus
8	6/26/17	13765	13616	72	Marcellus
9	6/27/17	13581	13431	72	Marcellus
10	6/27/17	13396	13233	72	Marcellus
11	6/27/17	13198	13017	72	Marcellus
12	6/27/17	12982	12835	72	Marcellus
13	6/28/17	12800	12654	72	Marcellus
14	6/28/17	12619	12438	72	Marcellus
15	6/28/17	12372	12206	72	Marcellus
16	6/29/17	12154	12018	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	6/25/17	75	7380	8327	3571	180000	4984	N/A
2	6/25/17	80	7469	6874	3914	179400	4566	N/A
3	6/25/17	80	7437	6897	4175	182700	4645	N/A
4	6/25/17	81	7284	6964	4178	177200	4773	N/A
5	6/26/17	80	7064	7526	4378	179000	4624	N/A
6	6/26/17	77	7790	7503	4150	177900	4109	N/A
7	6/26/17	78	7674	7713	4595	186900	4529	N/A
8	6/26/17	79	7180	7064	4762	171500	4333	N/A
9	6/27/17	78	7533	6703	4517	183600	4442	N/A
10	6/27/17	80	6891	6529	4643	176900	4395	N/A
11	6/27/17	82	7104	6284	4945	178700	4382	N/A
12	6/27/17	80	6751	6845	4059	178200	4440	N/A
13	6/28/17	80	7172	6617	4523	172500	4362	N/A
14	6/28/17	79	6796	6870	4340	181800	5062	N/A
15	6/28/17	80	7143	7042	3687	178600	4389	N/A
16	6/29/17	80	7065	6880	3894	177600	4431	N/A

Please insert additional pages as applicable.

WR-35  
Rev. 8/23/13

Page 4 of 6

API 47- 095 - 02225

Farm name Bloom, Arthur &amp; Lois

Well number Happy 1

## PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
17	6/29/17	11971	11826	72	Marcellus
18	6/29/17	11782	11607	72	Marcellus
19	6/29/17	11566	11423	72	Marcellus
20	6/30/17	11380	11234	72	Marcellus
21	6/30/17	11182	11034	72	Marcellus
22	6/30/17	10994	10822	72	Marcellus
23	7/1/17	10775	10611	72	Marcellus
24	7/1/17	10572	10418	72	Marcellus
25	7/1/17	10368	10236	72	Marcellus
26	7/2/17	10192	10024	72	Marcellus
27	7/2/17	9979	9830	72	Marcellus
28	7/2/17	9774	9612	72	Marcellus
29	7/2/17	9572	9436	72	Marcellus
30	7/3/17	9404	9218	72	Marcellus
31	7/3/17	9178	9012	72	Marcellus
32	7/3/17	8976	8838	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	6/29/17	81	7519	6420	5163	185100	4484	N/A
18	6/29/17	81	7964	79332	3887	179300	4525	N/A
19	6/29/17	80	7206	6267	4536	183600	4532	N/A
20	6/30/17	80	6896	6345	4375	189900	4452	N/A
21	6/30/17	80	7082	6758	4363	175400	4388	N/A
22	6/30/17	75	7274	7867	4367	179700	5436	N/A
23	7/1/17	71	7580	7989	4901	187000	5623	N/A
24	7/1/17	79	6728	6722	4108	181800	4393	N/A
25	7/1/17	81	6763	6756	4360	181000	4455	N/A
26	7/2/17	82	7127	6731	4440	177900	4421	N/A
27	7/2/17	80	7038	7247	5184	175700	4052	N/A
28	7/2/17	81	7020	7692	4205	178600	4190	N/A
29	7/2/17	78	7047	6825	4514	177300	4424	N/A
30	7/3/17	80	6772	6712	4538	184600	4389	N/A
31	7/3/17	79	7157	6266	4380	185900	4825	N/A
32	7/3/17	78	6571	6481	3970	179400	4155	N/A

Please insert additional pages as applicable.







**Lithology**

Happy 1

47-095-02225

<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	7028
LOWER MARCELLUS	7028	

# Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	6/25/2017
Job End Date:	7/5/2017
State:	West Virginia
County:	Tyler
API Number:	47-095-02225-00-00
Operator Name:	Jay-Bee Oil & Gas, Inc.
Well Name and Number:	Happy 1
Latitude:	39.46970100
Longitude:	-80.75099000
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	7,053
Total Base Water Volume (gal):	10,068,408
Total Base Non Water Volume:	0



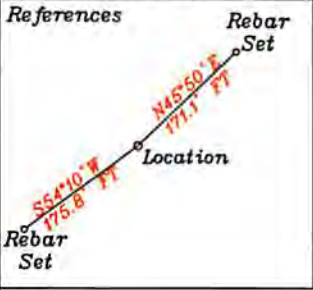
## Hydraulic Fracturing Fluid Composition:

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	91.98609	None
Sand (Proppant)	Producers Service Corp	Proppant	Silica Substrate	14808-60-7	100.00000	7.49785	None
15% IC Acid	Producers Service Corp	Acidizing	Hydrochloric Acid	7647-01-0	15.00000	0.05843	None
STIMLUBE F	Producers Service Corp	Friction Reducer	Petroleum Distillates	64742-47-8	30.00000	0.02047	None
			Alcohols, ethoxylated	68551-12-2	3.10000	0.00212	None
			Alcohols, ethoxylated	68002-97-1	3.10000	0.00212	None
			Alcohols, ethoxylated	68439-50-9	3.10000	0.00212	None
PRO GEL 4.0L	Producers Service Corp	Gel	Guar Gum Blend	9000-30-0	100.00000	0.02199	None
SCALECLEAR 112	Producers Service Corp	Scale Inhibitor	Ethylene Glycol	107-21-1	40.00000	0.00843	None







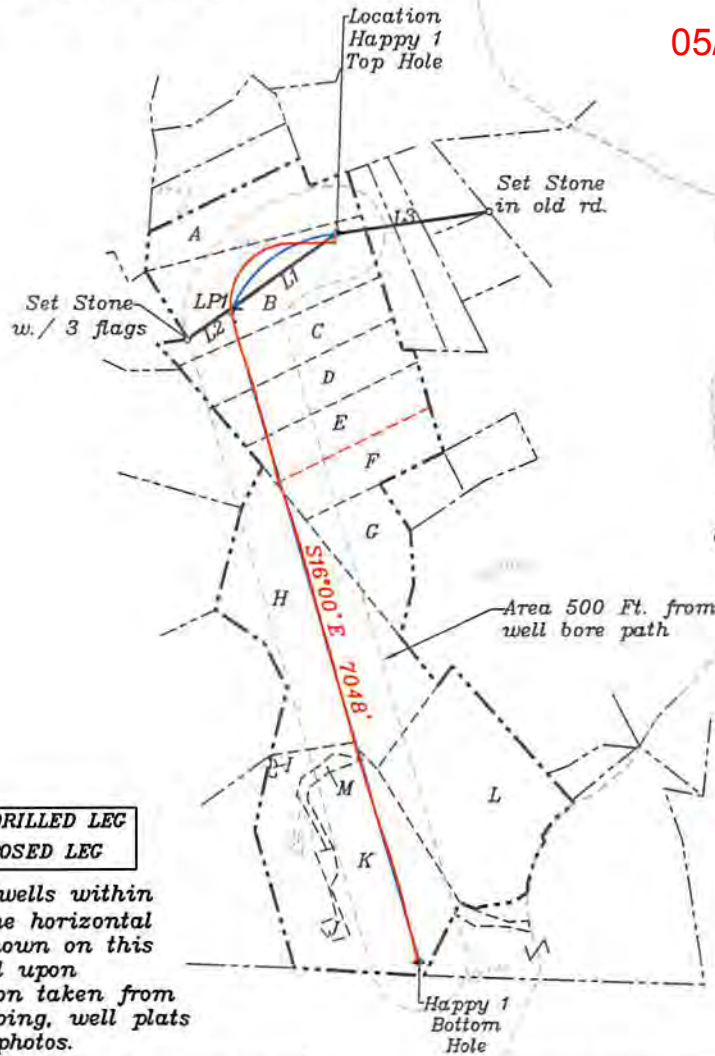


**Bottom Hole 11,050'**  
 LATITUDE 39-30-00 N (TH)  
 LATITUDE 39-27-30 N (BH)

Note: 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.

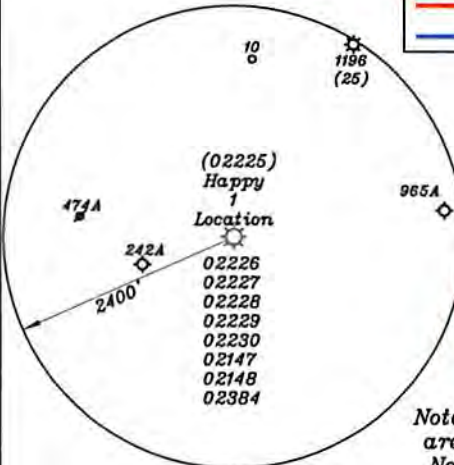
05/03/2019

- A- Eidle TM 6/17 26.36 Ac.
- B- Bloom TM 6/18 59.76 Ac. Ls. # T3042A1
- C- Eidle TM 7/17 23.73 Ac. Ls. # T3042A1
- D- Bessinger TM 7/18 26.36 Ac. Ls. # T3039E
- E- Hufford TM 7/19 22.85 Ac. Ls. # T3039E
- F- Hufford TM 7/20 20.21 Ac. Ls. # T3039E
- G- Hufford TM 7/21 20 Ac.
- H- Hufford TM 7/37 80 Ac. Ls. # T3046
- I- Reali TM 6/55 0.262 Ac.
- J- Reali TM 7/46.1 2.734 Ac.
- K- Butcheck TM 7/46 81 Ac. Ls. # RPT1
- L- Hufford TM 7/39 & 49 52.88 Ac.
- M- Reali TM. 7-46.2 3 Ac. Ls. # RPT1



Proposed	
Top Hole	UTM NAD 83(Meters)- 4368940.5 N, 521433.9 E
Landing Point	UTM NAD 83(Meters)- 4368887.3 N, 521100.8 E
Bottom Hole	UTM NAD 83(Meters)- 4366642.9 N, 521732.4 E
AsDrilled	
Top Hole	UTM NAD 83(Meters)- 4368940.03 N, 521433.91 E
Landing Point	UTM NAD 83(Meters)- 4368696.01 N, 521102.40 E
Bottom Hole	UTM NAD 83(Meters)- 4366641.73 N, 521728.46 E

NORTH



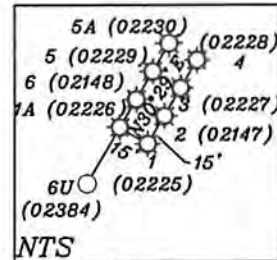
AS-DRILLED LEG  
 PROPOSED LEG

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.

NUMBER	DIRECTION	DISTANCE
L1	S54°36'W	1351'
L2	N54°42'E	1906'
L3	S81°49'W	1607'

Notes: Ties to wells and corners are based on State Plane Grid North-WV North Zone NAD 27.

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



LONGITUDE 80-45-00 N (TH)  
 LONGITUDE 80-42-30 N (BH)

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.L.S. 708



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

DATE December 22, 2017  
 OPERATOR'S WELL NO. Happy 1  
 API WELL NO. AsDrilled

WELL TYPE: OIL GAS  LIQUID INJECTION WASTE DISPOSAL 47 095 02225  
 (IF 'GAS') PRODUCTION STORAGE DEEP SHALLOW  STATE COUNTY PERMIT

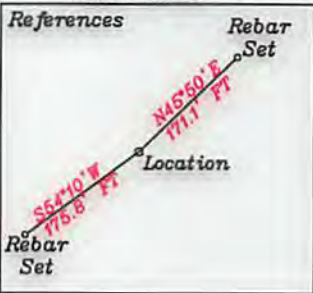
LOCATION: ELEVATION 1256.6' WATER SHED Walnut Fork & Woodburn Run  
 DISTRICT McElroy COUNTY Tyler  
 QUADRANGLE TH Shirley 7 1/2', BH Center Point 7 1/2'

SURFACE OWNER Arther & Lois Bloom ACREAGE 59.76 ac.  
 OIL & GAS ROYALTY OWNER John Lambert Ice LEASE ACREAGE 316.91 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  OTHER PHYSICAL CHANGE IN WELL (SPECIFY) AsDrilled  
 PLUG AND ABANDON CLEAN OUT AND REPLUG  
 TARGET FORMATION Marcellus ESTIMATED DEPTH TVD= 7,050' - TMD= 15,224'  
 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



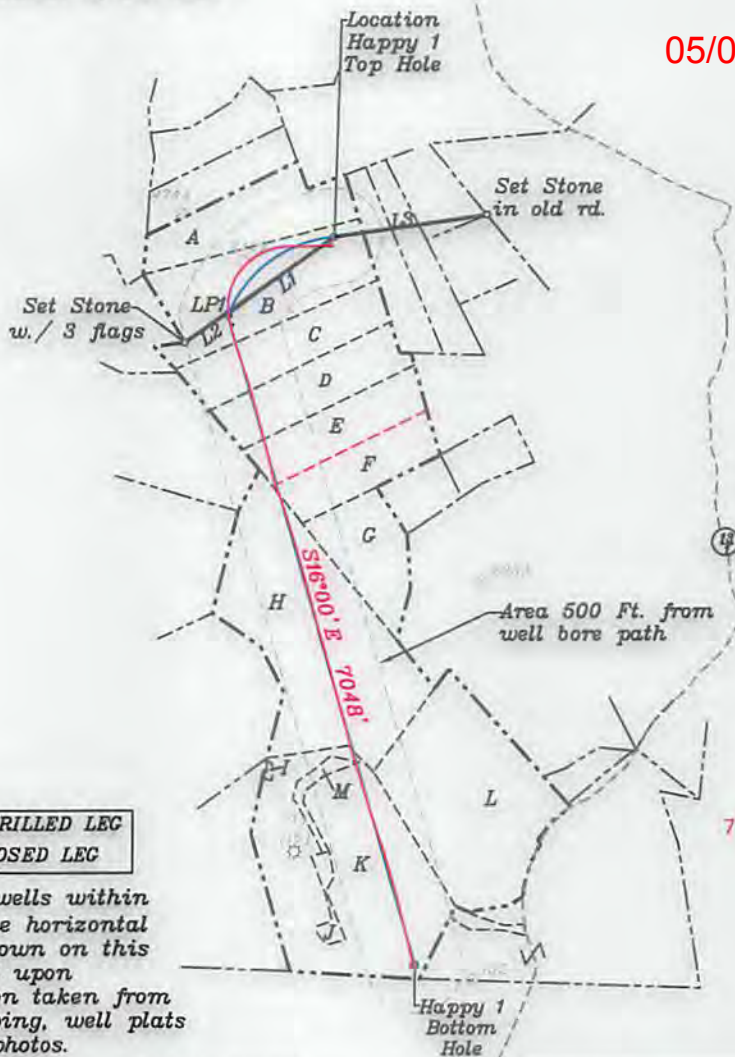


Bottom Hole 11,050'  
 LATITUDE 39-30-00 N (TH)  
 LATITUDE 39-27-30 N (BH)

Note: 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.

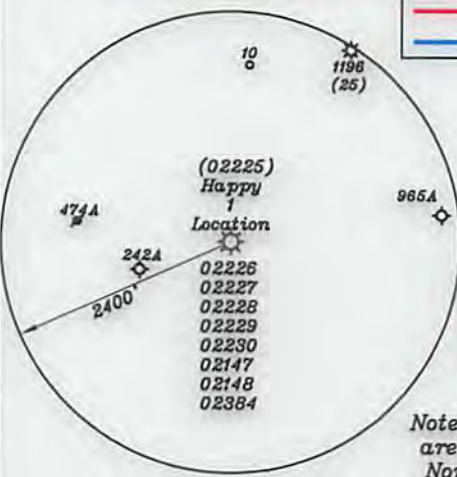
05/03/2019

- A- Eidle TM 6/17 26.36 Ac.
- B- Bloom TM 6/18 59.76 Ac. Ls. # T3042A1
- C- Eidle TM 7/17 23.73 Ac. Ls. # T3042A1
- D- Bessinger TM 7/18 26.36 Ac. Ls. # T3039E
- E- Hufford TM 7/19 22.85 Ac. Ls. # T3039E
- F- Hufford TM 7/20 20.21 Ac. Ls. # T3039E
- G- Hufford TM 7/21 20 Ac.
- H- Hufford TM 7/37 80 Ac. Ls. # T3046
- I- Reali TM 6/55 0.262 Ac.
- J- Reali TM 7/46.1 2.734 Ac.
- K- Butcheck TM 7/46 81 Ac. Ls. # RPT1
- L- Hufford TM 7/39 & 49 52.88 Ac.
- M- Reali TM. 7-46.2 3 Ac. Ls. # RPT1



Proposed	
Top Hole	UTM NAD 83(Meters)- 4368940.5 N, 521433.9 E
Landing Point	UTM NAD 83(Meters)- 4368687.3 N, 521100.8 E
Bottom Hole	UTM NAD 83(Meters)- 4368642.9 N, 521732.4 E
As Drilled	
Top Hole	UTM NAD 83(Meters)- 4368940.03 N, 521433.91 E
Landing Point	UTM NAD 83(Meters)- 4368696.01 N, 521102.40 E
Bottom Hole	UTM NAD 83(Meters)- 4366641.73 N, 521726.46 E

NORTH



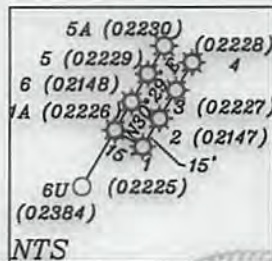
AS-DRILLED LEG  
 PROPOSED LEG

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.

NUMBER	DIRECTION	DISTANCE
L1	S54°36'W	1351'
L2	N54°42'E	1906'
L3	S81°49'W	1607'

Notes: Ties to wells and corners are based on State Plane Grid North-WV North Zone NAD 27.

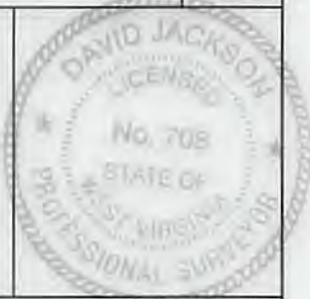
(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS



LONGITUDE 80-45-00 N (TH)  
 LONGITUDE 80-42-30 N (BH)

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.L.S. 708



STATE OF WEST VIRGINIA  
 Division of Environmental Protection  
 OFFICE OF OIL AND GAS  
 DATE December 22, 2017  
 OPERATOR'S WELL NO. Happy 1  
 API WELL NO. AsDrilled  
 WELL TYPE: OIL GAS X LIQUID INJECTION WASTE DISPOSAL 47 - 095 - 02225  
 (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 Arther & Lois Bloom ACREAGE 59.76 ac.  
 OIL & GAS ROYALTY OWNER John Lambert Ice LEASE ACREAGE 316.91 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) AsDrilled  
 PLUG AND ABANDON CLEAN OUT AND REPLUG \_\_\_\_\_  
 TARGET FORMATION Marcellus ESTIMATED DEPTH TVD= 7,050' - TMD= 15,224'  
 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



