

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

JUN 15 2018

WV Department of  
Environmental Protection

API 47-073-02565 County Pleasants District Union  
Quad Ben's Run 7.5' Pad Name P2 Field/Pool Name \_\_\_\_\_  
Farm name Morgan Valley Farms Well Number P2N2U  
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 4,365,101.98 Easting 496,340.50  
Landing Point of Curve Northing 4,365,488.37 Easting 496,506.29  
Bottom Hole Northing 4,367,951.00 Easting 495,175.44

Elevation (ft) 712.4' 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 6-15-2017 Date drilling commenced 7/16/2017 Date drilling ceased 8/17/2017  
Date completion activities began 11/19/2017 Date completion activities ceased 1/21/2018  
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 150' 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:  
[Signature]  
3/14/2019

WR-35  
Rev. 8/23/13

API 47-073 - 02565 Farm name Morgan Valley Farms Well number P2N2U

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	30"	26"	30'	New	J55 - 85#		Y
Surface	22"	18 5/8"	401'	New	J55 - 94#	50'	Y
Coal							
Intermediate 1	17 1/2"	13 3/8"	1884'	New	J55 - 61#	1500'	Y
Intermediate 2	12 1/4"	9 5/8"	9307'	New	P110 - 47#		
Intermediate 3							
Production	8 1/2"	5 1/2"	19903'	New	P110 - 23#		Y
Tubing							
Packer type and depth set							

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

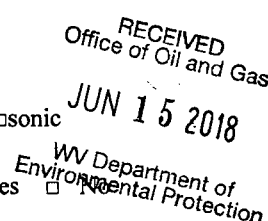
CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft <sup>3</sup> /sks)	Volume (ft <sup>3</sup> )	Cement Top (MD)	WOC (hrs)
Conductor							
Surface	Class A	374	15.6	1.20	449	CTS	8
Coal							
Intermediate 1	Class A	Lead 1051/ Tail 342	Lead 15/ Tail 15.5	Lead 1.30/ Tail 1.19	Lead 1366/ Tail 407	CTS	8
Intermediate 2	Class A	Lead 1279/ Tail 468	Lead 12.5/ Tail 15.0	Lead 2.32/ Tail 1.34	Lead 2967/ Tail 627		
Intermediate 3							
Production	Class A	3901	15.6	1.18	4603	CTS	8
Tubing							

Drillers TD (ft) 19,906' Loggers TD (ft) 19,882'  
 Deepest formation penetrated Pt. Pleasant Plug back to (ft) N/A  
 Plug back procedure N/A

Kick off depth (ft) 9,425'

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 \_\_\_\_\_

API 47- 073 - 02565

Farm name Morgan Valley Farms

Well number P2N2U

## PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
1	11/20/17	19813	19710	97	Pt. Pleasant
2	11/21/17	19675	19512	84	Pt. Pleasant
3	11/22/17	19477	19304	84	Pt. Pleasant
4	11/22/17	19269	19126	84	Pt. Pleasant
5	11/22/17	19091	18925	84	Pt. Pleasant
6	11/26/17	18890	18716	84	Pt. Pleasant
7	11/27/17	18683	18530	84	Pt. Pleasant
8	11/27/17	18495	18344	84	Pt. Pleasant
9	11/27/17	18309	18126	84	Pt. Pleasant
10	11/28/17	18091	17948	84	Pt. Pleasant
11	11/28/17	17913	17756	84	Pt. Pleasant
12	11/30/17	17721	17574	84	Pt. Pleasant
13	11/30/17	17539	17369	84	Pt. Pleasant
14	12/1/17	17334	17178	84	Pt. Pleasant
15	12/1/17	17136	16983	84	Pt. Pleasant
16	1/4/18	16940	16800	84	Pt. Pleasant

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	11/20/17	75	10270	11103	6324	303380	10439	N/A
2	11/21/17	70	10594	11174	6683	322060	8142	N/A
3	11/22/17	71	10611	11922	6344	323140	7885	N/A
4	11/22/17	72	10791	11329	6775	305630	6893	N/A
5	11/22/17	75	10685	11116	6760	310450	6589	N/A
6	11/26/17	72	10390	11644	3806	347000	8287	N/A
7	11/27/17	77	10878	11646	6761	351760	8247	N/A
8	11/27/17	66	10903	11280	6976	355220	8210	N/A
9	11/27/17	73	10930	11984	6589	347960	9791	N/A
10	11/28/17	69	10812	11077	6846	348740	8035	N/A
11	11/28/17	62	10825	11417	6737	352900	8112	N/A
12	11/30/17	55	10881	12124	6951	348460	8235	N/A
13	11/30/17	71	10730	11505	6766	348850	10246	N/A
14	12/1/17	67	10659	11412	6840	353350	7929	N/A
15	12/1/17	70	10838	11465	6226	229860	6684	N/A
16	1/4/18	52	10359	11983	7006	271780	9009	N/A

Please insert additional pages as applicable.

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Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
17	1/5/18	16748	16579	84	Pt. Pleasant
18	1/6/18	16526	16414	84	Pt. Pleasant
19	1/6/18	16372	16232	84	Pt. Pleasant
20	1/7/18	16179	16011	84	Pt. Pleasant
21	1/7/18	15960	15806	84	Pt. Pleasant
22	1/9/18	15765	15619	84	Pt. Pleasant
23	1/10/18	15580	15459	84	Pt. Pleasant
24	1/10/18	15422	15238	84	Pt. Pleasant
25	1/10/18	15198	15035	84	Pt. Pleasant
26	1/11/18	14978	14830	84	Pt. Pleasant
27	1/11/18	14786	14830	84	Pt. Pleasant
28	1/11/18	14606	14490	84	Pt. Pleasant
29	1/11/18	14444	14296	84	Pt. Pleasant
30	1/15/18	14233	14095	84	Pt. Pleasant
31	1/16/18	14040	13886	84	Pt. Pleasant
32	1/16/18	13840	13698	84	Pt. Pleasant

Please insert additional pages as applicable.

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## 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	1/5/18	73	9983	11990	6623	352620	8330	N/A
18	1/6/18	70	10476	11590	6812	355800	7985	N/A
19	1/6/18	71	10294	11258	6849	335600	7955	N/A
20	1/7/18	71	10502	11525	6632	362160	8126	N/A
21	1/7/18	74	10734	11289	7787	336080	7760	N/A
22	1/9/18	74	10764	11879	6969	366380	8143	N/A
23	1/10/18	77	10844	12063	7122	351240	7732	N/A
24	1/10/18	75	10805	11145	7466	356340	7780	N/A
25	1/10/18	78	10980	11611	6901	356040	8033	N/A
26	1/11/18	78	10881	11812	6972	350620	8009	N/A
27	1/11/18	72	10617	11150	6854	355000	7810	N/A
28	1/11/18	73	10745	11785	7014	328880	8868	N/A
29	1/11/18	75	11038	12133	7153	367200	10361	N/A
30	1/15/18	75	11028	12275	7386	345680	7693	N/A
31	1/16/18	79	10852	11085	7510	318820	7442	N/A
32	1/16/18	73	11154	12375	7320	331390	7655	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)
33	1/17/18	13652	13513	84	Pt. Pleasant
34	1/17/18	13460	13322	84	Pt. Pleasant
35	1/18/18	13276	13124	84	Pt. Pleasant
36	1/18/18	13081	12928	84	Pt. Pleasant
37	1/19/18	12889	12726	84	Pt. Pleasant
38	1/19/18	12686	12532	84	Pt. Pleasant
39	1/19/18	12484	12367	84	Pt. Pleasant
40	1/19/18	12322	12144	84	Pt. Pleasant
41	1/19/18	12104	11967	84	Pt. Pleasant
42	1/20/18	11928	11778	84	Pt. Pleasant
43	1/20/18	11742	11574	84	Pt. Pleasant
44	1/20/18	11536	11380	84	Pt. Pleasant
45	1/21/18	11344	11188	84	Pt. Pleasant
46	1/21/18	11140	10990	84	Pt. Pleasant
47	1/21/18	10944	10832	84	Pt. Pleasant
48	1/21/18	10796	10611	84	Pt. Pleasant

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)
33	1/17/18	77	10774	11216	7945	340640	7470	N/A
34	1/17/18	80	10492	9267	8580	357980	8072	N/A
35	1/18/18	79	9926	9544	8066	343840	7613	N/A
36	1/18/18	80	10007	9207	7019	353760	7825	N/A
37	1/19/18	80	9590	9619	7250	352180	7815	N/A
38	1/19/18	80	9384	8745	7029	355540	7688	N/A
39	1/19/18	80	9728	9522	7029	346440	7590	N/A
40	1/19/18	80	9619	9529	7505	358360	7945	N/A
41	1/19/18	80	9787	9074	7098	360320	7993	N/A
42	1/20/18	80	9618	9398	7236	358680	7602	N/A
43	1/20/18	80	9714	9215	6913	353380	7382	N/A
44	1/20/18	80	9982	9114	7161	358900	9782	N/A
45	1/21/18	78	9681	9289	6935	359720	8084	N/A
46	1/21/18	80	9896	9183	7053	359380	8129	N/A
47	1/21/18	78	10137	10252	7302	355660	7725	N/A
48	1/21/18	80	9835	10058	6994	359710	7868	N/A

Please insert additional pages as applicable.

WR-35  
Rev. 8/23/13

API 47- 073 - 02565 Farm name Morgan Valley Farms Well number P2N2U

PRODUCING FORMATION(S)	DEPTHS		
Pt Pleasant	10,251'	TVD	19,882' MD

Please insert additional pages as applicable.

GAS TEST  Build up  Drawdown  Open Flow OIL TEST  Flow  Pump

SHUT-IN PRESSURE Surface 6700 psi Bottom Hole N/A psi DURATION OF TEST 24 hrs

OPEN FLOW Gas 10700 mcfpd Oil N/A bpd NGL N/A bpd Water 100 bpd GAS MEASURED BY  Estimated  Orifice  Pilot

LITHOLOGY/ FORMATION	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	DEPTH IN FT TVD	DEPTH IN FT MD	DEPTH IN FT MD	
See Attached.	0		0		

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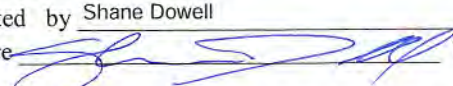
Drilling Contractor Patterson-UTI Energy Inc  
Address 10713 West Sam Houston Parkway North Suite 800 City Houston State TX Zip 77064

Logging Company StrataGraph NE Inc.  
Address 116 Ellsworth Ave City Marietta State OH Zip 45750

Cementing Company BJ Services  
Address 1036 E Main St City Bridgeport State WV Zip 26330

Stimulating Company US Well Services  
Address 533 Industrial Park Rd City Jane Lew State WV Zip 26378

Please insert additional pages as applicable.

Completed by Shane Dowell Telephone 304-628-3111  
Signature  Title Office Manager Date 6-5-2018

**Lithology**

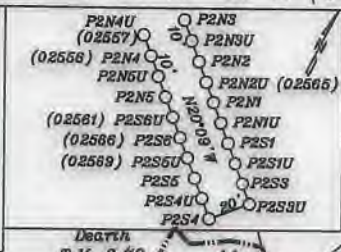
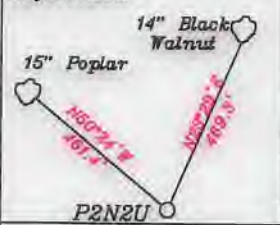
P2N2U 47-073-02565

<b>FORMATION</b>	<b>TOP</b>	<b>BOTTOM</b>
MISC. RED ROCK & SHALES	0	1734
LIME	1734	1834
INJUN	1834	1951
SHALE	1951	2298
GORDON STRAY	2298	2318
SHALE	2318	2514
GORDON	2514	2544
SHALE	2544	2823
BAYARD	2823	2832
SHALE	2832	3161
WARREN	3161	3259
SHALE	3259	3495
BALLTOWN	3495	3658
SHALE	3658	4096
2ND RILEY	4096	4204
SHALE	4204	4355
3RD RILEY	4355	4396
SHALE	4396	4453
BENSON	4453	4456
SHALE	4456	4698
ALEXANDER	4698	4869
SHALE	4869	5114
ELK	5114	5162
SHALE	5162	5344
HAMILTON	5344	5518
SHALE	5518	5616
UPPER MARCELLUS	5616	5635
PARCELL LIME	5635	5670
SHALE	5670	5723
LOWER MARCELLUS	5723	5778
ONONDAGA	5778	5875
HUNTERSVILLE CHERT	5875	5972
ORISKANY	5972	6010

HELDERBERG	6010	6442
BASS ISLAND	6442	6495
SALINA	6495	7431
LOCKPORT	7431	7719
ROSE HILL	7719	8008
PACKER SHELL	8008	8096
CLINTON	8096	8305
QUEENSTON	8305	9106
REEDSVILLE	9106	10079
UTICA	10079	10227
POINT PLEASANT	10227	0

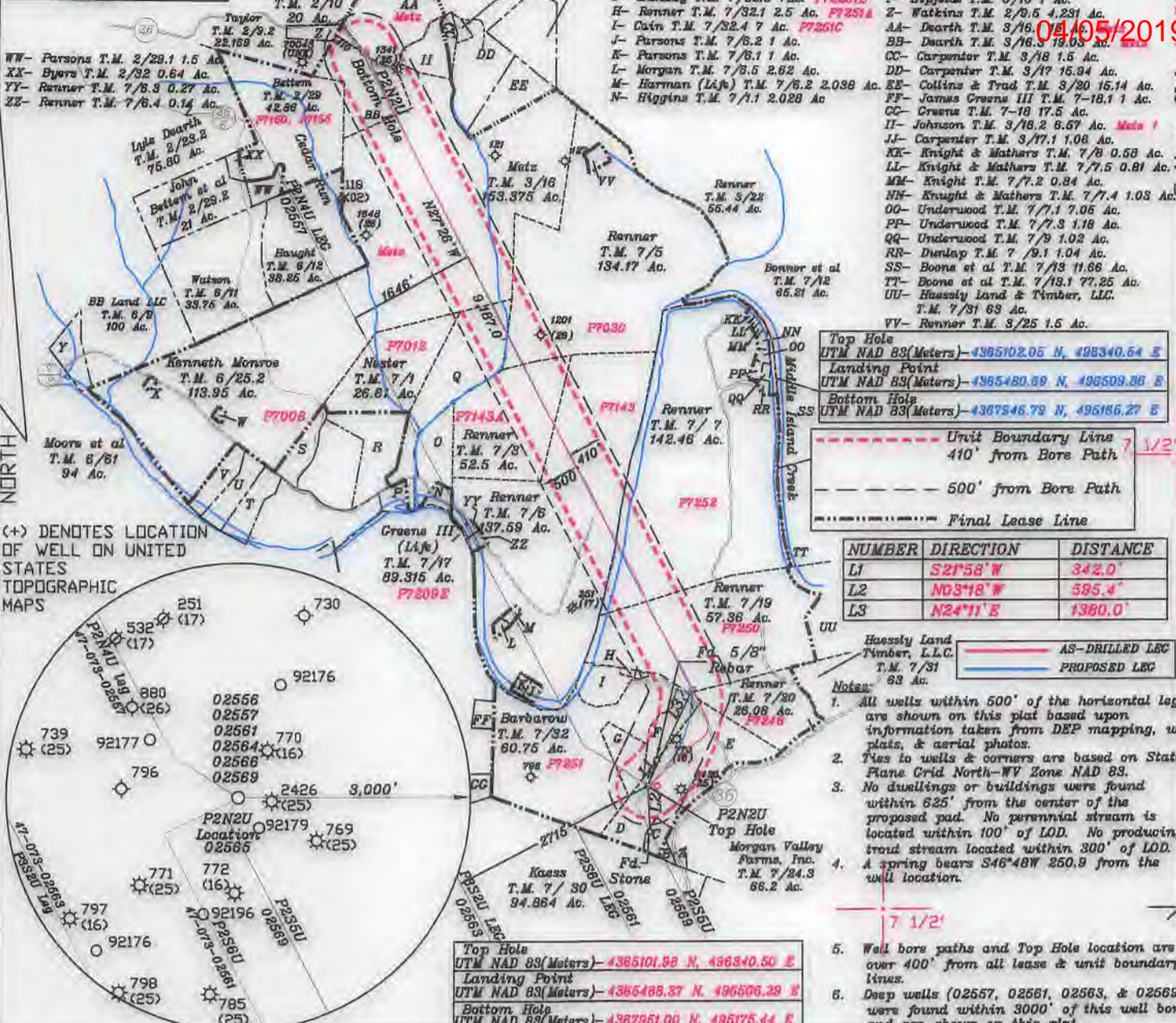


References:



- A- Cornell T.M. 7/24.4 0.723 Ac.
- B- Dunner, Williams & Dairymple T.M. 7/24.5 0.5 Ac.
- C- Beach Run T.M. 7/24.1 2 Ac. P7220A, P7220D
- D- Morgan Valley Farms, Inc. T.M. 7/24 27.451 Ac. P7220
- E- Morgan Valley Farms, Inc. T.M. 7/24.2 9.125 Ac. P7220
- F- Barbarou T.M. 7/32.2 6.254 Ac. P7251
- G- Munday T.M. 7/32.3 7 Ac. P7251B
- H- Renner T.M. 7/32.1 2.5 Ac. P7251A
- I- Cain T.M. 7/32.4 7 Ac. P7251C
- J- Parsons T.M. 7/6.2 1 Ac.
- K- Parsons T.M. 7/6.1 1 Ac.
- L- Morgan T.M. 7/6.5 2.62 Ac.
- M- Horman (Life) T.M. 7/6.2 2.038 Ac.
- N- Higgins T.M. 7/1.1 2.028 Ac.

- O- Kaplan & Nester T.M. 7 /1.4 10.783 Ac. P7017
- P- Kaplan & Nester T.M. 7 /1.3 2.78 Ac.
- Q- Kaplan & Nester T.M. 7 /1.2 P7016
- R- Young T.M. 7/1.5 14.803 Ac. P7007
- S- Perkins T.M. 6/102.6 6.802 Ac.
- T- Perkins T.M. 6/102.4 6.888 Ac.
- U- Perkins T.M. 6/102.3 6.378 Ac.
- V- Perkins T.M. 6/102.1 5.594 Ac.
- W- Monroe T.M. 6/25.2 0.54 Ac.
- X- Monroe T.M. 2/25.1 0.51 Ac.
- Y- Zipfetal T.M. 6/10 1 Ac.
- Z- Watkins T.M. 2/9.5 4.231 Ac.
- AA- Dearth T.M. 3/16.3 19.05 Ac.
- BB- Dearth T.M. 3/16.3 19.05 Ac.
- CC- Carpenter T.M. 3/18 1.5 Ac.
- DD- Carpenter T.M. 3/17 15.94 Ac.
- EE- Collins & Trud T.M. 3/20 15.14 Ac.
- FF- James Greens III T.M. 7-18.1 1 Ac.
- CC- Greens T.M. 7-18 17.5 Ac.
- II- Johnson T.M. 3/16.2 6.67 Ac. Meta 1
- JJ- Carpenter T.M. 3/17.1 1.08 Ac.
- KK- Knight & Mathers T.M. 7/8 0.68 Ac.
- LL- Knight & Mathers T.M. 7/7.5 0.81 Ac.
- MM- Knight T.M. 7/7.2 0.84 Ac.
- NN- Knight & Mathers T.M. 7/7.4 1.03 Ac.
- OO- Underwood T.M. 7/7.1 7.05 Ac.
- PP- Underwood T.M. 7/7.3 1.18 Ac.
- QQ- Underwood T.M. 7/9 1.02 Ac.
- RR- Dunlap T.M. 7 /9.1 1.04 Ac.
- SS- Boone et al T.M. 7/13 11.66 Ac.
- TT- Boone et al T.M. 7/13.1 77.25 Ac.
- UU- Haessly Land & Timber, LLC. T.M. 7/31 63 Ac.
- VV- Renner T.M. 3/25 1.5 Ac.



Top Hole	UTM NAD 83(Meters)-4365102.05 N, 496340.64 E
Landing Point	UTM NAD 83(Meters)-4365480.89 N, 496509.86 E
Bottom Hole	UTM NAD 83(Meters)-4367546.79 N, 496186.27 E

NUMBER	DIRECTION	DISTANCE
L1	S21°58'W	342.0'
L2	N03°18'W	595.4'
L3	N24°11'E	1380.0'

Unit Boundary Line  
410' from Bore Path  
500' from Bore Path  
Final Lease Line

AS-DRILLED LEG  
PROPOSED LEG

- All wells within 500' of the horizontal leg are shown on this plat based upon information taken from DEP mapping, well plats, & aerial photos.
- Ties to wells & corners are based on State Plane Grid North-WV Zone NAD 83.
- No dwellings or buildings were found within 625' from the center of the proposed pad. No perennial stream is located within 100' of LOD. No producing trout stream located within 300' of LOD.
- A spring bears S46°48'W 250.9 from the well location.

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 L Jackson  
R.P.E. \_\_\_\_\_ P.S. 708



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

DATE February 6, 2018  
OPERATOR'S WELL NO. P2N2U  
API WELL NO. \_\_\_\_\_

WELL TYPE: OIL GAS LIQUID INJECTION \_\_\_\_\_ WASTE DISPOSAL \_\_\_\_\_  
(IF "GAS") PRODUCTION X STORAGE \_\_\_\_\_ DEEP X SHALLOW \_\_\_\_\_

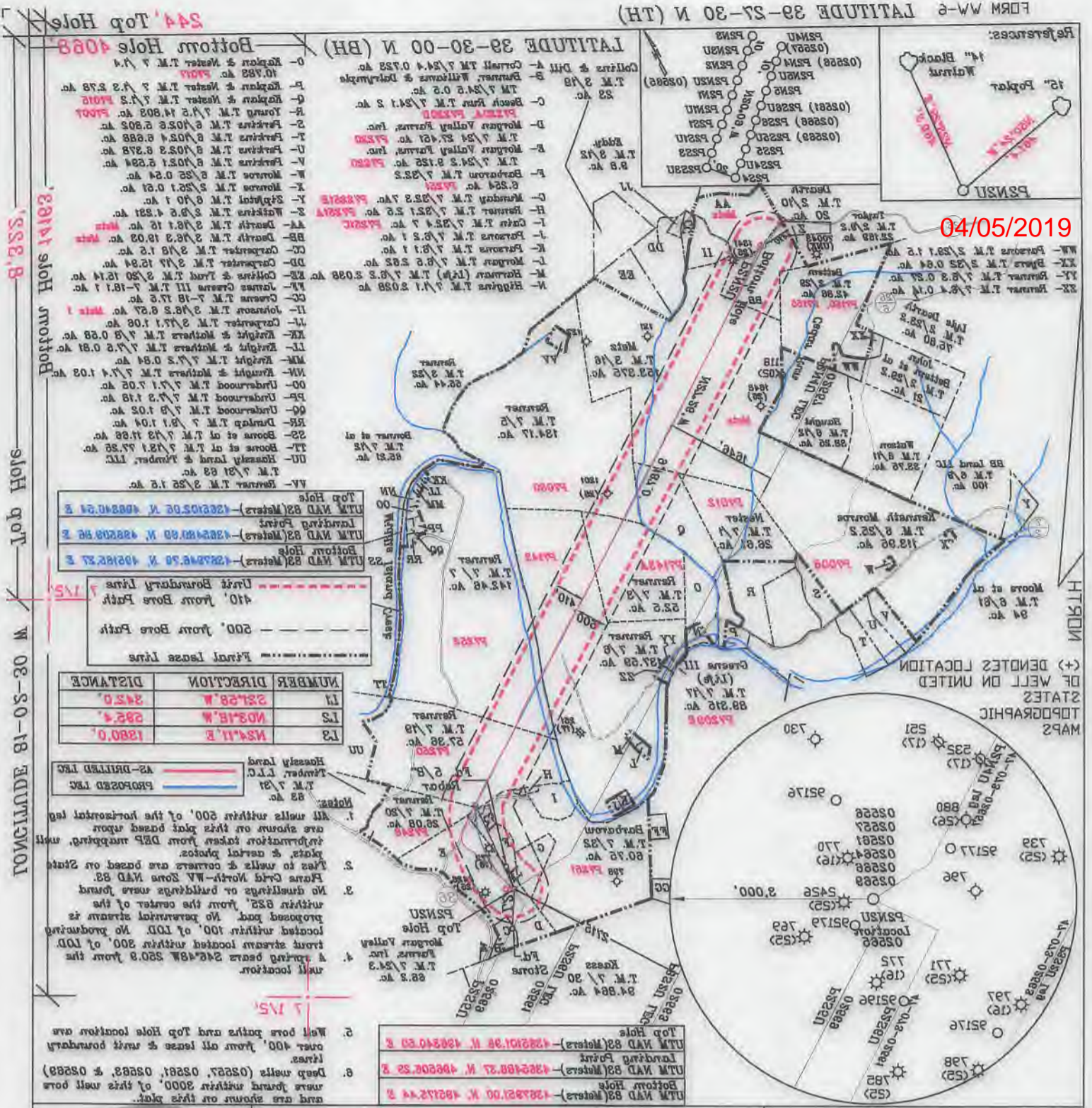
LOCATION: ELEVATION 712.4' WATER SHED Middle Island Creek  
DISTRICT Union COUNTY Pleasants  
QUADRANGLE Bens Run 7 1/2'

SURFACE OWNER Morgan Valley Farms, Inc. ACREAGE 27.451  
OIL & GAS ROYALTY OWNER Morgan Valley Farms, Inc. LEASE ACREAGE 102.777  
LEASE NO. P7220

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 Point Pleasant ESTIMATED DEPTH TVD = 9,518'; TMD = 19,882'  
WELL OPERATOR Jay-Bee Oil & Gas, Inc. DESIGNATED AGENT Randy Broda  
ADDRESS 1720 Route 22 E, Union, NJ 07083 ADDRESS 3570 Shields Hill Rd., Cairo, WV 26337

04/05/2019



Longitude 81-08-30 W

Latitude 39-27-30 N (TH)

Bottom Hole 14183

Bottom Hole 4088

244' Top Hole

NUMBER	DIRECTION	DISTANCE
L1	S21°E8'W	342.0
L2	N03°18'W	282.4
L3	N54°11'E	1280.0

Final lease lines  
410' from bore path  
500' from bore path

- All wells within 500' of the horizontal leg are shown on this plan based upon information taken from DEP mapping, well logs and aerial photos.
- Lines to wells & corners are based on State Plane Grid North-WV Zone NAD 83. No adjustments or adjustments were found within 825' from the center of the proposed pad. No potential streams are located within 100' of LOD. No producing front streams located within 300' of LOD. A spring bears S46°49'W 250.8' from the well location.
- Well bore paths and Top Hole location are over 100' from all lease & well boundaries lines.
- Deep wells (02527, 02581, 02582, & 02583) were found within 3000' of this well bore and are shown on this plan.

Top Hole (UTM NAD 83 Meters) - 428201.38 N, 498240.54 E  
 Landing Point (UTM NAD 83 Meters) - 432548.37 N, 486202.22 E  
 Bottom Hole (UTM NAD 83 Meters) - 428252.00 N, 482122.44 E



I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAN 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. P.2. 708

FILE NO.	1
DRAWING NO.	1
SCALE	1" = 200'
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 X STORAGE DEEP X SHALLOW

LOCATION: ELEVATION 715.4' WATER SHED Middle Island Creek

DISTRICT Union  
 QUADRANGLE Bears Run 7 1/2'  
 SURFACE OWNER Morgan Valley Farms, Inc.  
 OIL & GAS ROYALTY OWNER Morgan Valley Farms, Inc.  
 LEASE NO. P2320

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

PLUG AND ABANDON CLEAN OUT AND REPLUG  
 TARGET FORMATION Fort Pleasant  
 ESTIMATED DEPTH TVD = 8,218'; TMD = 19,882'

DESIGNATED AGENT Randy Broda  
 WELL OPERATOR Jay-Bee Oil & Gas, Inc.  
 ADDRESS 3270 Shields Hill Rd., Carro, WV 26037

DATE February 6, 2018  
 OPERATOR'S WELL NO. P2320  
 API WELL NO. 47-073-02582  
 STATE COUNTY PERMIT

# Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	10/28/2017
Job End Date:	11/18/2017
State:	West Virginia
County:	Pleasants
API Number:	47-073-02566-00-00
Operator Name:	Jay-Bee Oil & Gas, Inc.
Well Name and Number:	P2S6
Latitude:	39.43538200
Longitude:	-81.04256250
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	5,748
Total Base Water Volume (gal):	10,287,272
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	JayBee Oil & Gas	Carrier/Base Fluid	Water	7732-18-5	100.00000	92.01957	
Sand	U.S. Well Services, LLC	Proppant	Crystalline Silica, quartz	14808-60-7	100.00000	6.97919	
HCL Acid (3% to 7.5%)	U.S. Well Services, LLC	Bulk Acid	Water	7732-18-5	97.00000	0.67914	
			Hydrogen Chloride	7647-01-0	7.50000	0.06097	
HCL Acid (12.6%-17.5%)	U.S. Well Services, LLC	Bulk Acid	Water	7732-18-5	87.40000	0.09763	
			Hydrogen Chloride	7647-01-0	17.50000	0.02270	
LGC-15	U.S. Well Services, LLC	Gelling Agents	Guar Gum	9000-30-0	50.00000	0.02494	
			Petroleum Distillates	64742-47-8	60.00000	0.02362	
			Suspending agent (solid)	14808-60-7	3.00000	0.00381	
			Surfactant	68439-51-0	3.00000	0.00150	

RECEIVED  
Office of Oil and Gas  
JUN 15 2018  
WV Department of Environmental Protection

Product Name	Manufacturer	Function	Chemical Name	Chemical ID	Concentration	MSDS ID
WFRA-405	U.S. Well Services, LLC	Friction Reducer	2-Propenoic acid, polymer with propenamide	29003-06-9	30.00000	0.01190
HCL Acid (22.6%-28%)	U.S. Well Services, LLC	Bulk Acid	Hydrated light distillate (petroleum)	64742-47-8	30.00000	0.00958
WFRA-1000	U.S. Well Services, LLC	Friction Reducer	Water	7732-18-5	77.40000	0.01383
SI-1200	U.S. Well Services, LLC	Scale Inhibitor	Hydrogen Chloride	7647-01-0	28.00000	0.00581
Bioclear 5000	U.S. Well Services, LLC	Anti-Bacterial Agent	2-Propenoic acid, polymer with propenamide	29003-06-9	30.00000	0.01076
NWA-200s	U.S. Well Services, LLC	Surfactants & Foamers	Hydrated light distillate (petroleum)	64742-47-8	30.00000	0.00882
AP One	U.S. Well Services, LLC	Gel Breakers	Ethylene Glycol	107-21-1	40.00000	0.01207
AI-303	U.S. Well Services, LLC	Acid Corrosion Inhibitors	Proprietary Scale Inhibitor	Proprietary	10.00000	0.00323
			2,2-Dibromo-3-nitripropionamide	10222-01-2	10.00000	0.00536
			Proprietary Activating Agent	Proprietary	50.00000	0.00415
			Ammonium Persulfate	7727-54-0	100.00000	0.00110
			Ethylene glycol	107-21-1	40.00000	0.00014
			Cinnamaldehyde	104-55-2	20.00000	0.00005
			Formic acid	64-18-6	20.00000	0.00005
			Butyl cellosolve	111-76-2	20.00000	0.00005
			Polyether	60828-78-6	10.00000	0.00003
			Acetophenone, thiourea, formaldehyde polymer	68527-49-1	5.00000	0.00001

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.

\* 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)