

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

JUL 26 2023

API 47 - 051 - 02393 County Marshall District Liberty
Quad Glen Easton 7.5' Pad Name Fitzgerald Field/Pool Name WV Department of Environmental Protection
Farm name Danny and Frances Kerns Estate Well Number Fitzgerald S-3HM

Operator (as registered with the OOG) Tug Hill Operating, LLC
Address 380 Southpointe Boulevard, Plaza II, Suite 200 City Canonsburg State PA Zip 15317

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4,405,757.15 Easting 530,708.12
Landing Point of Curve Northing 4,405,608.0 Easting 529,409.5
Bottom Hole Northing 4,403,289.4 Easting 530,761.6

Elevation (ft) 1,293' 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)
SOBM; Base oil, osmotic inhibitor, weighting agent, viscosifier, emulsifier, hardness buffer, fluid loss additive, LCM, Shale inhibitor, de-foamer, soaping agent, coagulant, flocculant; specific additives per WSSP and Permit.

Date permit issued 8/26/2021 Date drilling commenced spud:10/15/2021 big rig: 12/14/2021 Date drilling ceased 1/1/2023
Date completion activities began 5/8/2023 Date completion activities ceased 6/26/2023
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 1062' Open mine(s) (Y/N) depths N
Salt water depth(s) ft 1501' Void(s) encountered (Y/N) depths N
Coal depth(s) ft 958-964', 1056-1062' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

APPROVED

Reviewed by:
[Signature]
~~10/27/2023~~

API 47- 051 - 02393 Farm name Danny and Frances Kerns Estate Well number Fitzgerald S-3HM

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	36"	30"	120'	NEW	94.5#	N/A	Y
Surface	17 1/2"	13 3/8"	1,159'	NEW	54.5#	N/A	Y
Coal	17 1/2"	13 3/8"	1,159'	NEW	54.5#	N/A	Y
Intermediate 1	12 1/4"	9 5/8"	2,998'	NEW	36#	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8 3/4"	5 1/2"	17,981'	NEW	20#	N/A	Y
Tubing		2 3/8"	8,999'	NEW	4.7#	N/A	Y
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	A	65	15.6	1.21	78	0	8
Surface	A	1203	15.6	1.18	1,419.54	0	8
Coal	A	1203	15.6	1.18	1,419.54	0	8
Intermediate 1	A	1006	15.6	1.18	1,187.08	0	8
Intermediate 2							
Intermediate 3							
Production	A	3725	14.5	1.23	4,581.75	0	8
Tubing							

Drillers TD (ft) 18,010' Loggers TD (ft) n/a
 Deepest formation penetrated Marcellus Plug back to (ft) n/a
 Plug back procedure n/a

Kick off depth (ft) 7,674'

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 3 centralizers on surface casing at equal distance.
Intermediate - 1 centralizer every other joint.
Production - one centralizer every other joint in lateral, one centralizer every joint through curve, one centralizer every other joint to surface.

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 _____

**FITZGERALD S-3HM
PEFORATION RECORD**

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD. Ft.	Number of Perforations	Formation(s)
1	5/8/2023	17,795	17,843	16	Marcellus
2	5/9/2023	17,596	17,742	48	Marcellus
3	5/9/2023	17,422	17,568	48	Marcellus
4	5/10/2023	17,248	17,394	48	Marcellus
5	5/11/2023	17,074	17,220	48	Marcellus
6	4/1/2019	16,900	17,046	48	Marcellus
7	5/12/2023	16,726	16,872	48	Marcellus
8	5/13/2023	16,552	16,698	48	Marcellus
9	5/14/2023	16,378	16,524	48	Marcellus
10	5/15/2023	16,204	16,350	48	Marcellus
11	5/15/2023	16,030	16,176	48	Marcellus
12	5/16/2023	15,856	16,002	48	Marcellus
13	5/17/2023	15,682	15,828	48	Marcellus
14	5/18/2023	15,508	15,654	48	Marcellus
15	5/19/2023	15,334	15,480	48	Marcellus
16	5/20/2023	15,160	15,306	48	Marcellus
17	5/21/2023	14,986	15,132	48	Marcellus
18	5/21/2023	14,812	14,958	48	Marcellus
19	5/22/2023	14,638	14,784	48	Marcellus
20	5/23/2023	14,464	14,610	48	Marcellus
21	5/24/2023	14,290	14,436	48	Marcellus
22	5/25/2023	14,290	14,436	48	Marcellus
23	5/26/2023	13,942	14,088	48	Marcellus
24	5/27/2023	13,768	13,914	48	Marcellus
25	5/27/2023	13,594	13,740	48	Marcellus
26	5/28/2023	13,420	13,566	48	Marcellus
27	5/29/2023	13,246	13,392	48	Marcellus
28	5/30/2023	13,072	13,218	48	Marcellus
29	5/31/2023	12,898	13,044	48	Marcellus
30	6/1/2023	12,724	12,870	48	Marcellus
31	6/2/2023	12,550	12,696	48	Marcellus
32	6/3/2023	12,376	12,522	48	Marcellus
33	6/4/2023	12,202	12,348	48	Marcellus
34	6/5/2023	12,028	12,174	48	Marcellus
35	6/6/2023	11,854	12,000	48	Marcellus
36	6/7/2023	11,680	11,826	48	Marcellus
37	6/8/2023	11,506	11,652	48	Marcellus
38	6/9/2023	11,332	11,478	48	Marcellus
39	6/10/2023	11,158	11,304	48	Marcellus
40	6/11/2023	10,984	11,130	48	Marcellus
41	6/12/2023	10,810	10,956	48	Marcellus

10/27/2023

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD. Ft.	Number of Perforations	Formation(s)
42	6/13/2023	10,636	10,782	48	Marcellus
43	6/15/2023	10,462	10,608	48	Marcellus
44	6/16/2023	10,288	10,434	48	Marcellus
45	6/18/2023	10,114	10,260	48	Marcellus
46	6/19/2023	9,940	10,086	48	Marcellus
47	6/21/2023	9,766	9,912	48	Marcellus
48	6/22/2023	9,592	9,738	48	Marcellus
49	6/24/2023	9,418	9,564	48	Marcellus
50	6/25/2023	9,244	9,390	48	Marcellus
51	6/26/2023	9,070	9,216	48	Marcellus

10/27/2023

FITZGERALD S-3HM
STIMULATION INFORMATION PER STAGE

Stage No.	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	78.00	8400	7037	3836	249940	6,568	0
2	84.00	7959	6104	5214	434820	8,566	0
3	80.00	7381	5336	5832	438580	8,481	0
4	85.00	7659	5246	5991	438460	8,484	0
5	85.00	7753	5231	5511	445440	8,355	0
6	85.00	7848	5219	5767	445300	8,773	0
7	85.00	7530	5402	5539	443780	8,711	0
8	85.00	7545	5085	5205	435340	8,576	0
9	85.00	7518	5200	4661	445080	8,323	0
10	86.00	7578	5341	5175	444060	8,454	0
11	85.00	7538	5450	5501	434160	8,198	0
12	90.00	7734	5457	5067	440040	8,545	0
13	85.00	7798	5314	4900	442260	8,460	0
14	85.00	7438	5198	4788	445000	8,541	0
15	85.00	7515	5128	5180	446020	8,452	0
16	85.00	7567	5255	5032	442980	8,413	0
17	84.00	7272	5156	4754	397740	7,946	0
18	85.00	7651	5115	5551	445940	8,554	0
19	85.00	7432	5083	5163	444100	8,452	0
20	86.00	7495	5395	5231	444700	8,514	0
21	86.00	7304	4990	4739	445300	8,415	0
22	85.00	7166	5026	5232	440640	8,415	0
23	86.00	7199	5292	4701	444880	8,643	0
24	85.00	7070	5007	4952	447440	8,568	0
25	85.00	6798	5190	5089	446580	8,465	0
26	85.00	7126	5006	5090	444260	8,464	0
27	84.00	7091	5204	5422	440060	8,283	0
28	85.00	7019	5076	4882	446560	8,548	0
29	85.00	7008	5023	5101	443100	8,222	0
30	86.00	7094	5016	5344	449120	8,525	0
31	85.00	6914	4922	5148	445820	8,497	0
32	86.00	7171	4819	5210	446940	8,489	0

Stage No.	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	86.00	6992	5179	5691	445640	8,346	0
34	85.00	7022	4873	4922	446860	8,353	0
35	85.00	6992	5146	5156	444120	8,418	0
36	81.00	6802	4986	4906	443720	8,407	0
37	86.00	6938	5137	5139	448740	8,546	0
38	85.00	7104	5147	5250	454260	8,404	0
39	85.00	6996	5188	5314	450140	8,544	0
40	85.00	6836	4941	5595	440200	8,240	0
41	86.00	6769	5189	5191	448040	8,444	0
42	85.00	6674	6036	5119	445860	8,161	0
43	88.00	7073	4653	5560	446280	8,058	0
44	88.00	7087	0	5214	444160	8,034	0
45	88.00	7072	5076	5398	442680	8,238	0
46	88.00	6946	5140	4734	446920	8,024	0
47	82.00	6738	4838	4981	445560	7,984	0
48	88.00	6933	4832	5011	449520	8,056	0
49	88.00	7090	4958	4596	442300	9,974	0
50	88.00	6791	4818	5084	421000	10,397	0
51	88.00	6802	5222	4511	445220	10,652	0

FITZGERALD S-3HM

LITHOLOGY/FORMATION	TOP DEPTH IN FT/ Name TVD	BOTTOM DEPTH IN FT TVD	TOP DEPTH IN FT MD	BOTTOM DEPTH IN FT MD	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID
Maxton	1855	2069	1857	2077	Sandstone
Big Lime	2069	2206	2077	2222	Limestone
Big Injun	2206	2478	2222	2524	Sandstone
Weir	2478	2698	2524	2786	Sandstone
Berea	2698	2956	2786	3135	Sandstone
Gordon	2956	3111	3135	3362	Sandstone
Fifty Foot	3111	3616	3362	4093	Sandstone
Speechley	3616	5106	4093	6250	Sandstone
Benson	5106	5531	6250	6863	Sandstone
Alexander	5531	6190	6863	7818	Siltstone
Rhinestreet	6190	6701	7818	8524	Black Shale
Middlesex	6701	6772	8524	8638	Black Shale
Geneseo/Burkett	6772	6806	8638	8698	Black Shale
Tully	6806	6832	8698	8746	Limestone
Hamilton	6832	6921	8746	8975	Gray Shale
Marcellus	6921	-	8975	-	Black Shale

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	5/8/2023
Job End Date:	6/26/2023
State:	West Virginia
County:	Marshall
API Number:	47-051-02393-00-00
Operator Name:	Tug Hill Operating, LLC
Well Name and Number:	Fitzgerald S 3HM
Latitude:	39.80122586
Longitude:	-80.64128873
Datum:	NAD27
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,978
Total Base Water Volume (gal):	18,151,560
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	Tug Hill Operating	Carrier/Base Fluid	Water	7732-18-5	100.00000	86.76843	None
Sand (40/70 White Proppant)	Tug Hill Operating	Proppant	Silica Substrate	14808-60-7	100.00000	8.45555	None
Sand (100 Mesh Proppant)	Tug Hill Operating	Proppant	Silica Substrate	14808-60-7	100.00000	3.18961	None
Sand (30/50 White Proppant)	Tug Hill Operating	Proppant	Silica Substrate	14808-60-7	100.00000	1.18362	None
Hydrochloric Acid (7.5%)	CNR	Acidizing	Water	7732-18-5	85.00000	0.22753	None
			Hydrochloric Acid (Hydrogen Chloride)	7647-01-0	37.00000	0.09904	None
StimStream FR 9800	Chemstream	Friction Reducer	Butene, homopolymer	9003-29-6	25.00000	0.02197	None
			Alkanes, C16-20-iso-	90622-59-6	25.00000	0.02197	None
			Ethoxylated alcohols (C12-18)	68213-23-0	3.00000	0.00264	None

MC MX 5-3886	Multi-Chem	Biocide					
			Calcium nitrate	13477-34-4	60.00000	0.02189	None
LD-7750W	Multi-Chem	Scale Inhibitor					
			Methanol	67-56-1	60.00000	0.00535	None
			Phosphonic Acid Salt	Proprietary	5.00000	0.00045	None
ProHib 100	CNR	Acid Inhibitor					
			2-Butoxyethanol	111-76-2	60.00000	0.00050	None
			Proprietary material	Proprietary	30.00000	0.00025	None
			Proprietary non-ionic surfactant	Proprietary	20.00000	0.00017	None
			Proprietary ethoxylated alcohol	Proprietary	10.00000	0.00008	None
			Proprietary corrosion inhibitor	Proprietary	10.00000	0.00008	None
ProFE 105	CNR	Iron Control					
			Citric Acid	77-92-9	20.00000	0.00020	None
			Acetic Acid	64-19-7	5.00000	0.00005	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					
			Water	7732-18-5	85.00000	0.22753	
			Butene, homopolymer	9003-29-6	25.00000	0.02197	
			Ethoxylated alcohols (C12-18)	68213-23-0	3.00000	0.00264	
			Phosphonic Acid Salt	Proprietary	5.00000	0.00045	
			Proprietary material	Proprietary	30.00000	0.00025	
			Proprietary non-ionic surfactant	Proprietary	20.00000	0.00017	
			Proprietary ethoxylated alcohol	Proprietary	10.00000	0.00008	
			Proprietary corrosion inhibitor	Proprietary	10.00000	0.00008	
			Acetic Acid	64-19-7	5.00000	0.00005	

* 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)

4.435' B.H.A.D. 4.576' T.H.A.D.

**FITZGERALD S LEASE
WELL 3HM
TUG HILL OPERATING**

T.H. LATITUDE 39°50'00"
B.H. LATITUDE 39°47'30"

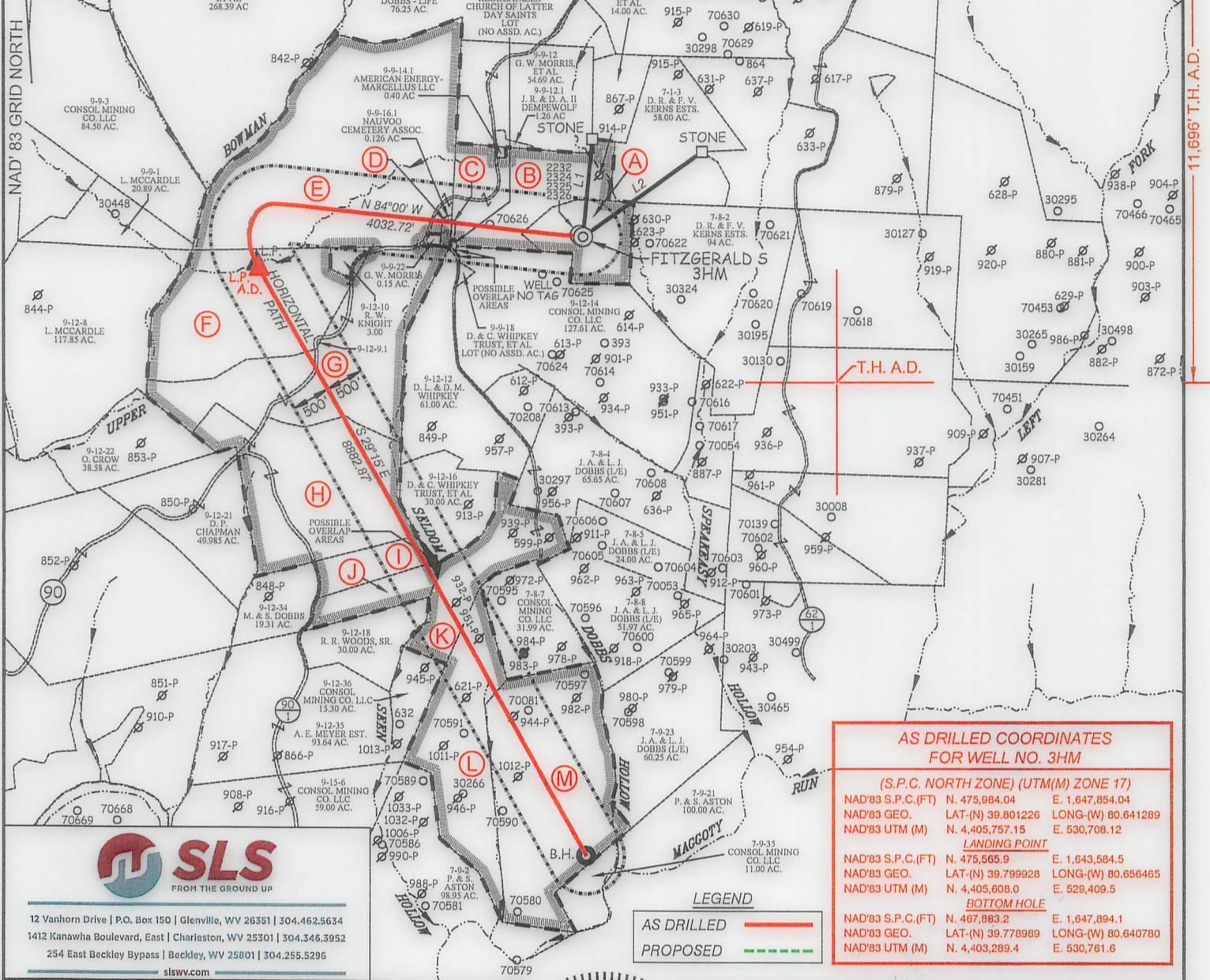
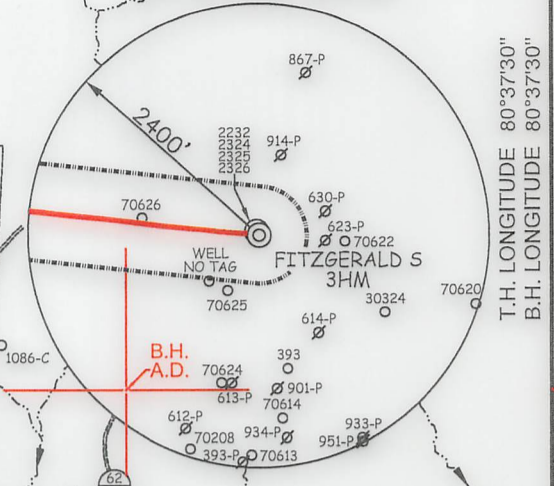
T.H. LONGITUDE 80°37'30"
B.H. LONGITUDE 80°37'30"

CURVE TABLE

CURVE	ARC LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH
C1	171.15'	371.63'	S 84°36' W	169.64'
C2	196.94'	311.17'	S 51°34' W	193.67'
C3	223.38'	470.27'	S 18°52' W	221.29'
C4	223.96'	654.84'	S 04°51' E	222.87'
C5	218.76'	880.36'	S 21°59' E	218.20'

LINE TABLE

LINE	BEARING	DISTANCE
L1	N 05°29' E	1284.24'
L2	N 54°28' E	1929.60'



12 Vanhorn Drive | P.O. Box 150 | Glenview, WV 26351 | 304.462.5634
 1412 Kanawha Boulevard, East | Charleston, WV 25301 | 304.346.3952
 254 East Beckley Bypass | Beckley, WV 25801 | 304.255.5296
 slsvw.com

AS DRILLED COORDINATES FOR WELL NO. 3HM

(S.P.C. NORTH ZONE) (UTM(M) ZONE 17)

NAD'83 S.P.C.(FT)	N. 475,984.04	E. 1,647,854.04
NAD'83 GEO.	LAT-(N) 39.801226	LONG-(W) 80.641289
NAD'83 UTM (M)	N. 4,405,757.15	E. 530,708.12

LANDING POINT

NAD'83 S.P.C.(FT)	N. 475,565.9	E. 1,643,584.5
NAD'83 GEO.	LAT-(N) 39.799928	LONG-(W) 80.656465
NAD'83 UTM (M)	N. 4,405,608.0	E. 529,409.5

BOTTOM HOLE

NAD'83 S.P.C.(FT)	N. 467,883.2	E. 1,647,894.1
NAD'83 GEO.	LAT-(N) 39.778989	LONG-(W) 80.640780
NAD'83 UTM (M)	N. 4,403,289.4	E. 530,761.6

LEGEND

AS DRILLED	
PROPOSED	

(S.P.C. NORTH ZONE) (UTM(M) ZONE 17)

NAD'83 S.P.C.(FT)	N. 475,984.04	E. 1,647,854.04
NAD'83 GEO.	LAT-(N) 39.801226	LONG-(W) 80.641289
NAD'83 UTM (M)	N. 4,405,757.15	E. 530,708.12

LANDING POINT

NAD'83 S.P.C.(FT)	N. 475,635.3	E. 1,643,551.8
NAD'83 GEO.	LAT-(N) 39.800118	LONG-(W) 80.656584
NAD'83 UTM (M)	N. 4,405,629.0	E. 529,399.2

BOTTOM HOLE

NAD'83 S.P.C.(FT)	N. 467,885.2	E. 1,647,892.5
NAD'83 GEO.	LAT-(N) 39.778995	LONG-(W) 80.640786
NAD'83 UTM (M)	N. 4,403,290.0	E. 530,761.1



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

P.S. 677 *Gregory A. Smith*

SCALE 1" = 2000' FILE NO. 8910P3HMR2-AD.dwg
 FITZGERALD S 3HM REV4
 DATE MARCH 10, 20 23
 REVISED _____
 OPERATORS WELL NO. FITZGERALD S 3HM
 API WELL NO. 47 — 051 — 02393
 NO. STATE COUNTY PERMIT

STATE OF WEST VIRGINIA
 DIVISION OF ENVIRONMENTAL PROTECTION
 OFFICE OF OIL AND GAS

LEGEND

LEASE LINE	
SURFACE LINE	
WELL LATERAL	
OFFSET LINE	
TIE LINE	
CREEK	
ROAD	
COUNTY ROUTE	
PROPOSED WELL	
EXISTING WELL	
PERMITTED WELL	
TAX MAP-PARCEL	00-00
SURFACE OWNER (SEE TABLE)	(A)
LEASE # (SEE WW-6A1)	

WELL OPERATOR TUG HILL OPERATING, LLC DESIGNATED AGENT DARREN BROWN - CT CORPORATION
 ADDRESS 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 ADDRESS 5098 WASHINGTON ST. W, STE 407
 FORT WORTH, TX 76107 CHARLESTON, WV 25313-1561

COUNTY NAME PERMIT

10/27/2023

**FITZGERALD S LEASE
WELL 3HM
TUG HILL OPERATING**

TAG	SURFACE OWNER	PARCEL	ACRES
A	DANNY R. & FRANCES V. KERNS ESTATE	7-8-1	27.00
B	DANNY R. & FRANCES V. KERNS ESTATE	9-9-14	48.308
C	NAUVOO CEMETERY ASSOCIATION, INC.	9-9-14.2	0.292
D	NAUVOO CEMETERY ASSOCIATION, INC.	9-9-17	1.00
E	TODD L. SCHERICH, ET AL	9-9-16	168.204
F	CHARLES WILLIAM DOBBS, ET AL	9-12-9	82.18
G	MARK D. & SHERYL CHAMBERS	9-12-11	91.00
H	RONALD E. & MARY L. DOBBS - LIFE	9-12-20	90.963
I	RONALD EUGENE & MARY LEE DOBBS	9-12-19.1	14.924
J	RAYMOND D. DOBBS, ET AL	9-12-19	15.076
K	DAVID & CAROL WHIPKEY TRUST, ET AL	9-12-17	37.27
L	CONSOL MINING CO., LLC	7-9-1	59.00
M	CONSOL MINING CO., LLC	7-9-22	101.36

PARCEL	SURFACE ADJOINER	ACRES
9-12-9.1	WV DEPT OF TRANSPORTATION DOH	0.079

4,435' B.H.A.D.
4,576' T.H.A.D.

T.H. LATITUDE 39°50'00"
B.H. LATITUDE 39°47'30"

(S.P.C. NORTH ZONE) (UTM(M) ZONE 17)

NAD'83 S.P.C.(FT)	N. 475,984.04	E. 1,647,854.04
NAD'83 GEO.	LAT-(N) 39.801226	LONG-(W) 80.641289
NAD'83 UTM (M)	N. 4,405,757.15	E. 530,708.12

LANDING POINT

NAD'83 S.P.C.(FT)	N. 475,635.3	E. 1,643,551.8
NAD'83 GEO.	LAT-(N) 39.800118	LONG-(W) 80.656584
NAD'83 UTM (M)	N. 4,405,629.0	E. 529,399.2

BOTTOM HOLE

NAD'83 S.P.C.(FT)	N. 467,885.2	E. 1,647,892.5
NAD'83 GEO.	LAT-(N) 39.778995	LONG-(W) 80.640786
NAD'83 UTM (M)	N. 4,403,290.0	E. 530,761.1

T.H. LONGITUDE 80°37'30"
B.H. LONGITUDE 80°37'30"

B.H. A.D.

11,696' T.H. A.D.

4,618' B.H.A.D.

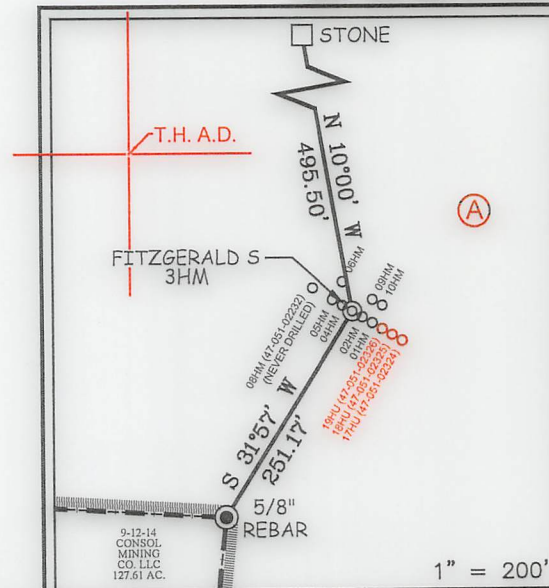
NOTES ON SURVEY

- NO WATER WELLS WERE FOUND WITHIN 250' OF PROPOSED GAS WELL. NO AGRICULTURAL BUILDINGS OR DWELLINGS > 2500 SQ. FT. WERE FOUND WITHIN 625' OF THE CENTER OF PROPOSED WELL PAD.
- WELL SPOT CIRCLE & TOPO MARK SCALE IS 1"=2000'.
- BASED ON WV DOT COUNTY ROUTE 74 IS A 40' STRIP OF LAND ACQUIRED IN NUMEROUS DEEDS.
- PLAT UPDATED TO SHOW AS-DRILLED PATH.
- AS DRILLED DATA PROVIDED BY TUG HILL OPERATING.



12 Vanhorn Drive | P.O. Box 150 | Glenville, WV 26351 | 304.462.5634
1412 Kanawha Boulevard, East | Charleston, WV 25301 | 304.346.3952
254 East Beckley Bypass | Beckley, WV 25801 | 304.255.5296
slsw.com

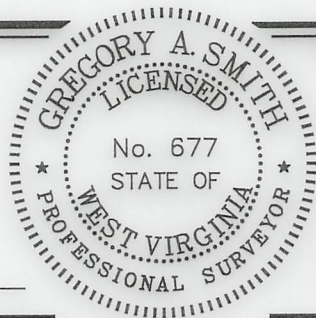
REFERENCES



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 DIVISION OF ENVIRONMENTAL PROTECTION.

P.S. 677

Gregory A. Smith



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

DATE MARCH 10, 20 23

REVISED _____

OPERATORS WELL NO. FITZGERALD S 3HM

API WELL NO. 47 - 051 - 02393
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500
FILE NO. 8910P3HMR2-AD.dwg
FITZGERALD S 3HM REV4
HORIZONTAL & VERTICAL CONTROL DETERMINED BY DGPS (SURVEY GRADE TIE TO CORS NETWORK)
SCALE 1" = 2000'

STATE OF WEST VIRGINIA
DIVISION OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL AND GAS



WELL TYPE: OIL ___ GAS LIQUID INJECTION ___ WASTE DISPOSAL ___ IF "GAS" PRODUCTION STORAGE ___ DEEP ___ SHALLOW

LOCATION: ELEVATION 1,293.00' WATERSHED SPEAKEASY HOLLOW OF MAGGOTY RUN

DISTRICT LIBERTY COUNTY MARSHALL QUADRANGLE GLEN EASTON 7.5'

SURFACE OWNER DANNY AND FRANCES KERNS ESTATE ACREAGE 27.00±

ROYALTY OWNER DANNY S. KERNS, ET AL ACREAGE 27.00±

PROPOSED WORK: LEASE NO. SEE WWV-6A1

DRILL CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE PLUG OFF OLD

FORMATION ___ PERFORATE NEW FORMATION ___ PLUG AND ABANDON ___ CLEAN OUT AND REPLUG ___ OTHER ___

PHYSICAL CHANGE IN WELL (SPECIFY) TARGET FORMATION MARCELLUS

ESTIMATED DEPTH TVD: 7,023' / TMD: 18,004'

WELL OPERATOR TUG HILL OPERATING, LLC DESIGNATED AGENT DARREN BROWN - CT CORPORATION
ADDRESS 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 ADDRESS 5098 WASHINGTON ST. W, STE 407
FORT WORTH, TX 76107 CHARLESTON, WV 25313-1561

COUNTY NAME

PERMIT

10/27/2023