

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
WV Department of
Environmental Protection

API 47 - 051 - 02385 County Marshall District Liberty
Quad Glen Easton 7.5' Pad Name Fitzgerald Field/Pool Name _____
Farm name Danny and Frances Kerns Estate Well Number Fitzgerald S-9HM
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 4,405,760.94 Easting 530,714.44
Landing Point of Curve Northing 4,406,638.0 Easting 530,415.4
Bottom Hole Northing 4,404,485.6 Easting 531,567.4

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 7/24/2019 Date drilling commenced 3/31/2023 spud:10/15/2021 big rig: 11/15/2021 Date drilling ceased 10/23/2022
Date completion activities began 3/31/2023 Date completion activities ceased 4/21/2023
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:
S. Blizak
09/22/2023

API 47- 051 - 02385 Farm name Danny and Frances Kerns Estate Well number Fitzgerald S-9HM

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"	1,160'	NEW	54.5#	N/A	Y
Coal	17 1/2"	13 3/8"	1,160'	NEW	54.5#	N/A	Y
Intermediate 1	12 1/4"	9 5/8"	2,978'	NEW	36#	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8 3/4"	5 1/2"	16,943'	NEW	20#	N/A	Y
Tubing		2 3/8"	8,472'	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	921	15.6	1.18	1087	0	8
Coal	A	921	15.6	1.18	1087	0	8
Intermediate 1	A	1005	15.6	1.18	1186	0	8
Intermediate 2							
Intermediate 3							
Production	A	3515	14.5	1.23	4323	0	8
Tubing							

Drillers TD (ft) 16,986' Loggers TD (ft) n/a
 Deepest formation penetrated Marcellus Plug back to (ft) n/a
 Plug back procedure n/a

Kick off depth (ft) 7,198'

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-9HM
PEFORATION RECORD**

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD. Ft.	Number of Perforations	Formation(s)
1	3/31/2023	16,762	16,809	12	MARCELLUS
2	4/1/2023	16,558	16,712	48	MARCELLUS
3	4/1/2023	16,383	16,537	48	MARCELLUS
4	4/2/2023	16,208	16,362	48	MARCELLUS
5	4/2/2023	15,858	16,012	48	MARCELLUS
6	4/3/2023	15,858	16,012	48	MARCELLUS
7	4/4/2023	15,683	15,837	48	MARCELLUS
8	4/4/2023	15,508	15,662	48	MARCELLUS
9	4/5/2023	15,333	15,487	48	MARCELLUS
10	4/5/2023	15,158	15,312	48	MARCELLUS
11	4/6/2023	14,983	15,137	48	MARCELLUS
12	4/6/2023	14,808	14,962	48	MARCELLUS
13	4/7/2023	14,633	14,787	48	MARCELLUS
14	4/7/2023	14,458	14,612	48	MARCELLUS
15	4/9/2023	14,283	14,437	48	MARCELLUS
16	4/8/2023	14,108	14,262	48	MARCELLUS
17	4/9/2023	13,933	14,087	48	MARCELLUS
18	4/9/2023	13,758	13,912	48	MARCELLUS
19	4/9/2023	13,583	13,737	48	MARCELLUS
20	4/10/2023	13,408	13,562	48	MARCELLUS
21	4/10/2023	13,233	13,387	48	MARCELLUS
22	4/11/2023	13,058	13,212	48	MARCELLUS
23	4/11/2023	12,883	13,037	48	MARCELLUS
24	4/12/2023	12,708	12,862	48	MARCELLUS
25	4/12/2023	12,533	12,687	48	MARCELLUS
26	4/13/2023	12,358	12,512	48	MARCELLUS
27	4/14/2023	12,183	12,337	48	MARCELLUS
28	4/14/2023	12,008	12,162	48	MARCELLUS
29	4/14/2023	11,833	11,987	48	MARCELLUS
30	4/15/2023	11,658	11,812	48	MARCELLUS
31	4/15/2023	11,483	11,637	48	MARCELLUS
32	4/16/2023	11,308	11,462	48	MARCELLUS
33	4/16/2023	11,133	11,287	48	MARCELLUS
34	4/16/2023	10,958	11,112	48	MARCELLUS
35	4/17/2023	10,783	10,937	48	MARCELLUS
36	4/17/2023	10,608	10,762	48	MARCELLUS
37	4/17/2023	10,433	10,587	48	MARCELLUS
38	4/18/2023	10,258	10,412	48	MARCELLUS
39	4/18/2023	10,083	10,237	48	MARCELLUS
40	4/19/2023	9,908	10,062	48	MARCELLUS
41	4/19/2023	9,733	9,887	48	MARCELLUS

09/22/2023

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD. Ft.	Number of Perforations	Formation(s)
42	4/19/2023	9,558	9,712	48	MARCELLUS
43	4/20/2023	9,383	9,537	48	MARCELLUS
44	4/20/2023	9,208	9,362	48	MARCELLUS
45	4/20/2023	9,033	9,187	48	MARCELLUS
46	4/21/2023	8,858	9,012	48	MARCELLUS

FITZGERALD S-9HM
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	76.00	7954	6428	3930	254160	6,228	0
2	81.00	7611	5245	4250	439820	8,535	0
3	82.00	7738	5494	4852	446060	8,464	0
4	83.00	7621	5444	4990	436860	8,487	0
5	85.00	7762	7596	4756	436280	8,042	0
6	82.00	7481	5688	5624	440320	8,255	0
7	85.00	7767	5415	4997	444880	8,494	0
8	82.00	7651	6126	5092	443780	8,457	0
9	83.00	7771	5714	5639	448680	8,677	0
10	88.00	7888	5572	5392	441400	8,615	0
11	85.00	7809	5459	5535	436580	8,220	0
12	89.00	8075	5460	5389	445140	8,434	0
13	88.00	7818	0	5005	440060	8,442	0
14	89.00	7703	5294	4927	442920	8,224	0
15	88.00	7722	5250	4898	442280	8,274	0
16	87.00	7630	5508	5030	446320	8,393	0
17	88.00	7431	5255	5268	435580	8,248	0
18	85.00	7559	5474	5021	441000	8,286	0
19	86.00	7718	5534	5034	446080	9,650	0
20	85.00	7348	5340	5220	448160	8,323	0
21	88.00	7796	5442	5166	367640	7,394	0
22	85.00	7229	5112	5224	439720	8,252	0
23	85.00	7110	5503	4833	441560	8,320	0
24	90.00	7614	5384	4975	445280	8,374	0
25	90.00	7407	5192	4866	445620	8,573	0
26	85.00	7220	5344	5012	433530	8,134	0
27	91.00	7405	5266	5005	443220	8,264	0
28	90.00	7307	5255	5064	438260	8,121	0
29	90.00	7055	5219	5073	438540	8,043	0
30	91.00	7158	5246	4936	440000	8,227	0
31	89.00	7452	5196	4888	443440	8,000	0
32	91.00	7173	5354	4833	434760	8,063	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	90.00	7322	5334	4750	436500	8,188	0
34	90.00	7294	5270	4955	440520	7,938	0
35	90.00	7544	5054	4248	433120	7,917	0
36	85.00	6940	5001	5019	433840	8,104	0
37	90.00	7103	5286	4744	434900	7,929	0
38	88.00	7132	0	4633	433320	7,944	0
39	90.00	6904	5136	5384	440600	7,966	0
40	91.00	7061	5236	5012	437240	7,743	0
41	90.00	7141	5063	4681	440140	8,077	0
42	90.00	7102	5513	5164	431980	8,057	0
43	87.00	6921	5196	5164	436240	8,737	0

FITZGERALD S-9HM

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 QUQUANTITY AND TYPE OF FLUID
Maxton	1924	2136	1925	2143	Sandstone
Big Lime	2136	2274	2143	2291	Limestone
Big Injun	2274	2553	2291	2604	Sandstone
Weir	2553	2769	2604	2858	Sandstone
Berea	2769	3023	2858	3184	Sandstone
Gordon	3023	3179	3184	3399	Sandstone
Fifty Foot	3179	3691	3399	4153	Sandstone
Speechley	3691	5152	4153	6323	Sandstone
Benson	5152	5573	6323	6944	Sandstone
Alexander	5573	6227	6944	7741	Siltstone
Rhinestreet	6227	6710	7741	8258	Black Shale
Middlesex	6710	6785	8258	8355	Black Shale
Geneseo/Burkett	6785	6814	8355	8396	Black Shale
Tully	6814	6838	8396	8227	Limestone
Hamilton	6838	6929	8227	8462	Gray Shale
Marcellus	6929	-	8462	-	Black Shale

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	3/31/2023
Job End Date:	4/21/2023
State:	West Virginia
County:	Marshall
API Number:	47-051-02385-00-00
Operator Name:	Tug Hill Operating, LLC
Well Name and Number:	Fitzgerald S 9HM
Latitude:	39.80125980
Longitude:	-80.64121474
Datum:	NAD27
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	7,011
Total Base Water Volume (gal):	15,853,950
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	86.51361	None
Sand (40/70 White Proppant)	Tug Hill Operating	Proppant	Silica Substrate	14808-60-7	100.00000	8.67812	None
Sand (100 Mesh Proppant)	Tug Hill Operating	Proppant	Silica Substrate	14808-60-7	100.00000	3.20651	None
Sand (30/50 White Proppant)	Tug Hill Operating	Proppant	Silica Substrate	14808-60-7	100.00000	1.18631	None
Hydrochloric Acid (7.5%)	CNR	Acidizing	Water	7732-18-5	85.00000	0.23640	None
			Hydrochloric Acid (Hydrogen Chloride)	7647-01-0	37.00000	0.10290	None
StimStream FR 9800	Chemstream	Friction Reducer	Butene, homopolymer	9003-29-6	25.00000	0.02181	None
			Alkanes, C16-20-iso-	90622-59-6	25.00000	0.02181	None
			Ethoxylated alcohols (C12-18)	68213-23-0	3.00000	0.00262	None

MC MX 5-3886	Multi-Chem	Biocide					
			Calcium nitrate	13477-34-4	60.00000	0.02355	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	0.00052	None
			Proprietary material	Proprietary	30.00000	0.00026	None
			Proprietary non-ionic surfactant	Proprietary	20.00000	0.00017	None
			Proprietary ethoxylated alcohol	Proprietary	10.00000	0.00009	None
			Proprietary corrosion inhibitor	Proprietary	10.00000	0.00009	None
ProFE 105	CNR	Iron Control					
			Citric Acid	77-92-9	20.00000	0.00021	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	0.23640	
			Butene, homopolymer	9003-29-6	25.00000	0.02181	
			Ethoxylated alcohols (C12-18)	68213-23-0	3.00000	0.00262	
			Phosphonic Acid Salt	Proprietary	5.00000	0.00045	
			Proprietary material	Proprietary	30.00000	0.00026	
			Proprietary non-ionic surfactant	Proprietary	20.00000	0.00017	
			Proprietary ethoxylated alcohol	Proprietary	10.00000	0.00009	
			Proprietary corrosion inhibitor	Proprietary	10.00000	0.00009	
			Acetic Acid	64-19-7	5.00000	0.00005	

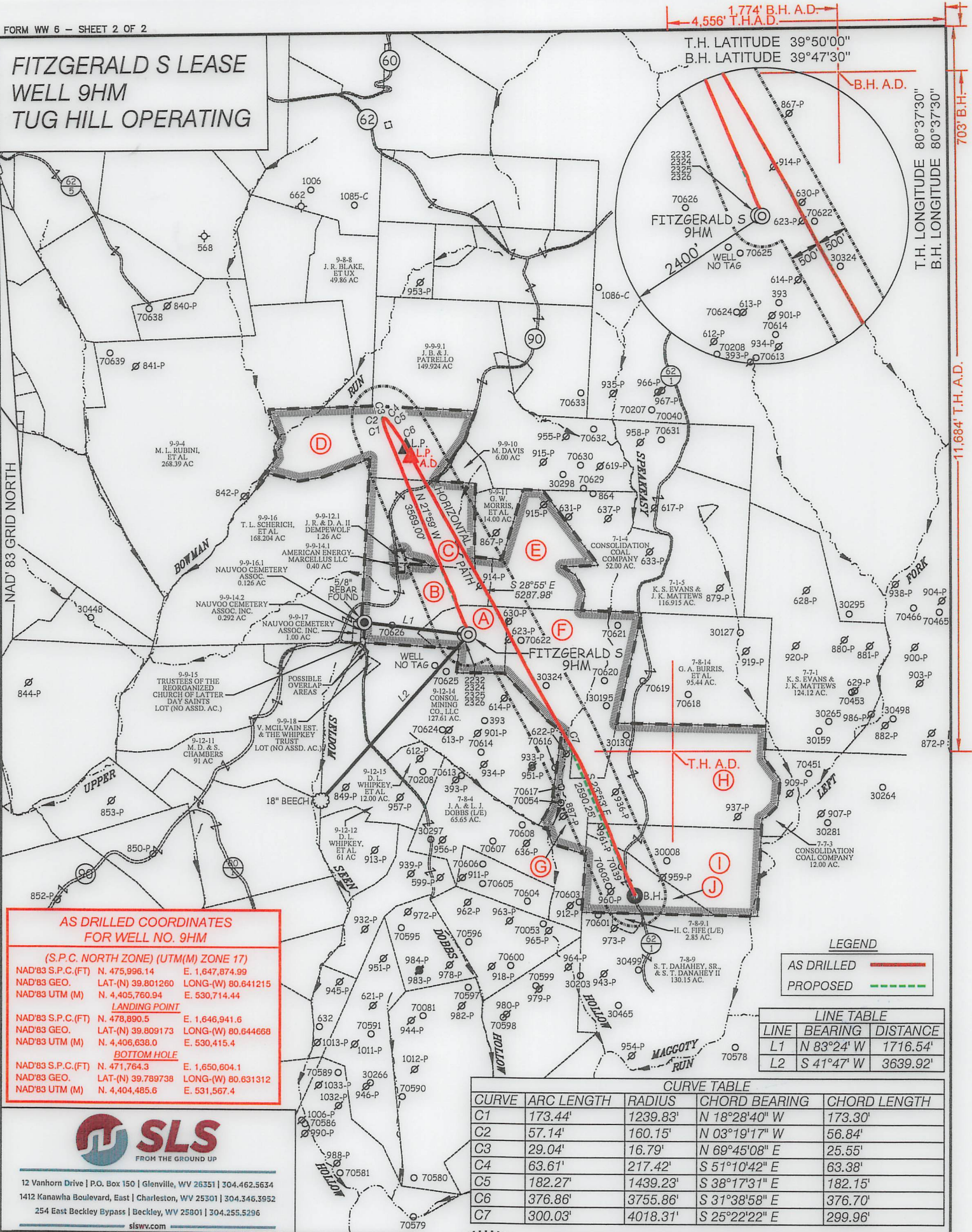
* Total Water Volume sources may include fresh water, produced water, and/or recycled water

** 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)

**FITZGERALD S LEASE
WELL 9HM
TUG HILL OPERATING**



**AS DRILLED COORDINATES
FOR WELL NO. 9HM**

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

NAD'83 S.P.C.(FT) N. 475,996.14 E. 1,647,874.99
 NAD'83 GEO. LAT-(N) 39.801260 LONG-(W) 80.641215
 NAD'83 UTM (M) N. 4,405,760.94 E. 530,714.44

LANDING POINT

NAD'83 S.P.C.(FT) N. 478,890.5 E. 1,646,941.6
 NAD'83 GEO. LAT-(N) 39.809173 LONG-(W) 80.644668
 NAD'83 UTM (M) N. 4,406,638.0 E. 530,415.4

BOTTOM HOLE

NAD'83 S.P.C.(FT) N. 471,764.3 E. 1,650,604.1
 NAD'83 GEO. LAT-(N) 39.789738 LONG-(W) 80.631312
 NAD'83 UTM (M) N. 4,404,485.6 E. 531,567.4

LEGEND

AS DRILLED ———
 PROPOSED - - - - -

LINE TABLE

LINE	BEARING	DISTANCE
L1	N 83°24' W	1716.54'
L2	S 41°47' W	3639.92'

CURVE TABLE

CURVE	ARC LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH
C1	173.44'	1239.83'	N 18°28'40" W	173.30'
C2	57.14'	160.15'	N 03°19'17" W	56.84'
C3	29.04'	16.79'	N 69°45'08" E	25.55'
C4	63.61'	217.42'	S 51°10'42" E	63.38'
C5	182.27'	1439.23'	S 38°17'31" E	182.15'
C6	376.86'	3755.86'	S 31°38'58" E	376.70'
C7	300.03'	4018.31'	S 25°22'22" E	299.96'



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
 slsvv.com

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 NAD'83 GEO. LAT-(N) 39.809559 LONG-(W) 80.644948
 NAD'83 UTM (M) N. 4,406,680.8 E. 530,391.2

BOTTOM HOLE

NAD'83 S.P.C.(FT) N. 471,764.5 E. 1,650,599.7
 NAD'83 GEO. LAT-(N) 39.789738 LONG-(W) 80.631328
 NAD'83 UTM (M) N. 4,404,485.6 E. 531,566.1



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

P.S. 677 *Gregory A. Smith*

LEGEND

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

SCALE 1" = 2000' FILE NO. 8910P9HMR2-AD.dwg
 FITZGERALD S 9HM REV6

DATE MARCH 10, 20 23

REVISED _____

OPERATORS WELL NO. FITZGERALD S 9HM

API WELL NO. 47 — 051 — 02385

NO. STATE COUNTY PERMIT

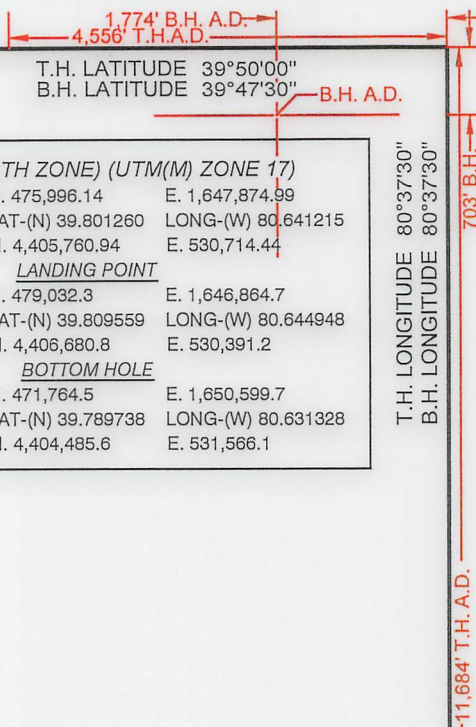
STATE OF WEST VIRGINIA
 DIVISION OF
 ENVIRONMENTAL PROTECTION
 OFFICE OF OIL AND GAS

WELL OPERATOR TUG HILL OPERATING, LLC ADDRESS 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 FORT WORTH, TX 76107

DESIGNATED AGENT DARREN BROWN - CT CORPORATION ADDRESS 5098 WASHINGTON ST. W, STE 407 CHARLESTON, WV 25313-1561

COUNTY NAME _____
 PERMIT _____

09/22/2023



**FITZGERALD S LEASE
WELL 9HM
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	GARY W. MORRIS & CYNTHIA PATRELLO	9-9-12	54.69
D	MARVIN D. & ADA C. DOBBS (L/E)	9-9-5	76.25
E	DANNY R. & FRANCES V. KERNS ESTATE	7-1-3	58.00
F	DANNY R. & FRANCES V. KERNS ESTATE	7-8-2	94.00
G	CONSOL MINING CO., LLC	9-12-14	127.61
H	DANNY R. & FRANCES V. KERNS ESTATE	9-9-13	25 AC. 47 POLES
I	BLAINE E. STERN, JR.	7-8-13	104.92
J	BLAINE E. STERN, JR.	7-8-11	60.62
K	BLAINE E. STERN, JR.	7-8-12	33.00

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T.H. LONGITUDE 80°37'30"
B.H. LONGITUDE 80°37'30"
703' B.H.
11,684' T.H. A.D.

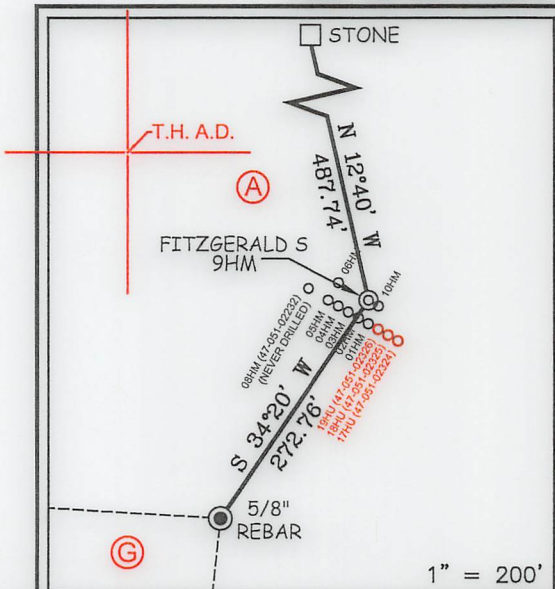
NOTES ON SURVEY

- 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
slsvw.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. Gregory A. Smith
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(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.
DATE MARCH 10, 2023
REVISED _____
OPERATORS WELL NO. FITZGERALD S 9HM
API WELL NO. 47 - 051 - 02385
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 8910P9HMR2-AD.dwg
FITZGERALD S 9HM REV6
HORIZONTAL & VERTICAL SCALE 1" = 2000'
CONTROL DETERMINED BY DGPS (SURVEY GRADE TIE TO CORS NETWORK)

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: 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: 7,027' / TMD: 16,990'

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