

Well Operator's Report of Well Work



Where energy meets innovation.

Well Number: Longworth M09H

API: 47 - 051 - 02129

Submission: Initial Amended

Notes:

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

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API 47 - 051 - 02129 County Marshall District Clay
Quad Glen Easton Pad Name Longworth Field/Pool Name N/A
Farm name Graham H. Longworth Jr. Well Number Longworth M09H
Operator (as registered with the OOG) EQT CHAP LLC
Address 2400 Ansys Drive, 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 4,410,835.51 Easting 523,406.08
Landing Point of Curve Northing 4,410,571.13 Easting 523,541.16
Bottom Hole Northing 4,408,437.80 Easting 525,273.18

Elevation (ft) 1270' 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 Oil Based Mud 13.5 ppg barium sulfate, sodium chloride, xanthan gum, polyanionic cellulose, modified starch, sodium hydroxide, phosphonates and alkyl phosphates, glutaraldehyde solution, calcium hydroxide, partially hydrolyzed polyacrylamide/polyacrylate, potassium chloride, sodium carbonate, ground walnut shells, alcohol and modified fatty acid, ferrochrome lignosulfonate, calcium carbonate, fibrous cellulose

Date permit issued 01/25/2019 Date drilling commenced 04/12/2019 Date drilling ceased 11/9/2019
Date completion activities began 06/11/2022 Date completion activities ceased 08/19/2022
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 99,605 Open mine(s) (Y/N) depths N
Salt water depth(s) ft 1576,1998,2102,2139 Void(s) encountered (Y/N) depths N
Coal depth(s) ft 583,853 Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

APPROVED

Reviewed by:

[Signature]
12-13-2022
12/16/2022

API 47- 051 - 02129 Farm name Graham H. Longworth Jr. Well number Longworth M09H

CASING STRINGS	Hole Size	Casing Size	Depth (GL)	New or Used	Grade wt/ft	Basket Depth(s) (GL)	Did cement circulate (Y/ N) * Provide details below*
Conductor	30"	20"	43'	NEW	X-52 78.6#	N/A	Y
Surface	17-1/2"	13-3/8"	626'	NEW	J-55 54.5#	N/A	Y
Coal							
Intermediate 1	12-3/8"	9-5/8"	2157'	NEW	L-80 40#	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-1/2"	5-1/2"	16,113'	NEW	P-110 20#	N/A	N
Tubing							
Packer type and depth set							

Comment Details Production Cement job has a calculated TOC of 1791' GL, which is greater than 500' TVD above the producing formation. No issues during cement job.

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft ³ /sks)	Volume (ft ³)	Cement Top (GL)	WOC (hrs)
Conductor	CLASS A	12BBLS	15.6	N/A	N/A	0	8+
Surface	CLASS A	521	15.6	1.19	620	0	8
Coal							
Intermediate 1	CLASS A	858	15.6	1.19	1021	0	8
Intermediate 2							
Intermediate 3							
Production	CLASS A	2527	15.0	1.23	3108	1791	8+
Tubing							

Drillers TD (ft) 16,133' Loggers TD (ft) N/A
 Deepest formation penetrated MARCELLUS Plug back to (ft) N/A
 Plug back procedure _____

Kick off depth (ft) 5726'

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 _____

CONDUCTOR- NONE
 SURFACE- ON SHOE TRACK AND EVERY 500' TO SURFACE
 INTERMEDIATE: ON SHOE TRACK AND EVERY 500' FEET TO SURFACE
 PRODUCTION: ON SHOE TRACK AND EVERY JOINT TO ABOVE TOC

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WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS _____

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WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

WERE TRACERS USED Yes No TYPE OF TRACER(S) USED _____

API 47- 051 - 02129 Farm name Graham H. Longworth Jr. Well number Longworth M09H

Drilling Contractor Precision Drilling (Rig 560)
Address 10350 Richmond Ave. Suite 700 City Houston State TX Zip 77042

Logging Company Scientific Drilling International
Address 124 Vista Drive City Charleroi State PA Zip 15022

Logging Company _____
Address _____ City _____ State _____ Zip _____

Stimulation Contractor US Well Services LLC
Address 770 S Post Oak Ln Ste 405 City Houston State TX Zip 77056

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Well # Longworth M09H Final Formations API# 47-051-02129				
Formation Name	Drill Top MD (ftGRD)	Drill Top (TVD) (ftGRD)	Drill Btm MD (ftGRD)	Drill Btm (TVD) (ftGRD)
Sand/Shale	1	1	583	583
Waynesburg Coal	583	583	583	583
Sand/Shale	583	583	853	853
Pittsburgh Coal	853	853	858	858
Sand/Shale	858	858	1,872	1,869
Big Lime	1,872	1,869	2,100	2,095
Big Injun	2,100	2,095	2,182	2,176
Sand/Shale	2,182	2,176	2,819	2,812
Gantz	2,819	2,812	2,880	2,873
Gordon	2,880	2,873	2,960	2,953
50F	2,960	2,953	3,009	3,002
Sand/Shale	3,009	3,002	3,088	3,081
Bayard	3,088	3,081	3,453	3,446
Sand/Shale	3,453	3,446	5,255	5,248
Alexander	5,255	5,248	5,692	5,685
Elks	5,692	5,685	6,235	6,203
Sonyea	6,235	6,203	6,340	6,286
Middlesex	6,340	6,286	6,376	6,312
Genesee	6,376	6,312	6,453	6,363
Geneseo	6,453	6,363	6,493	6,386
Tully	6,493	6,386	6,586	6,433
Hamilton	6,586	6,433	6,778	6,498
Marcellus	6,778	6,498	16,133	6,659

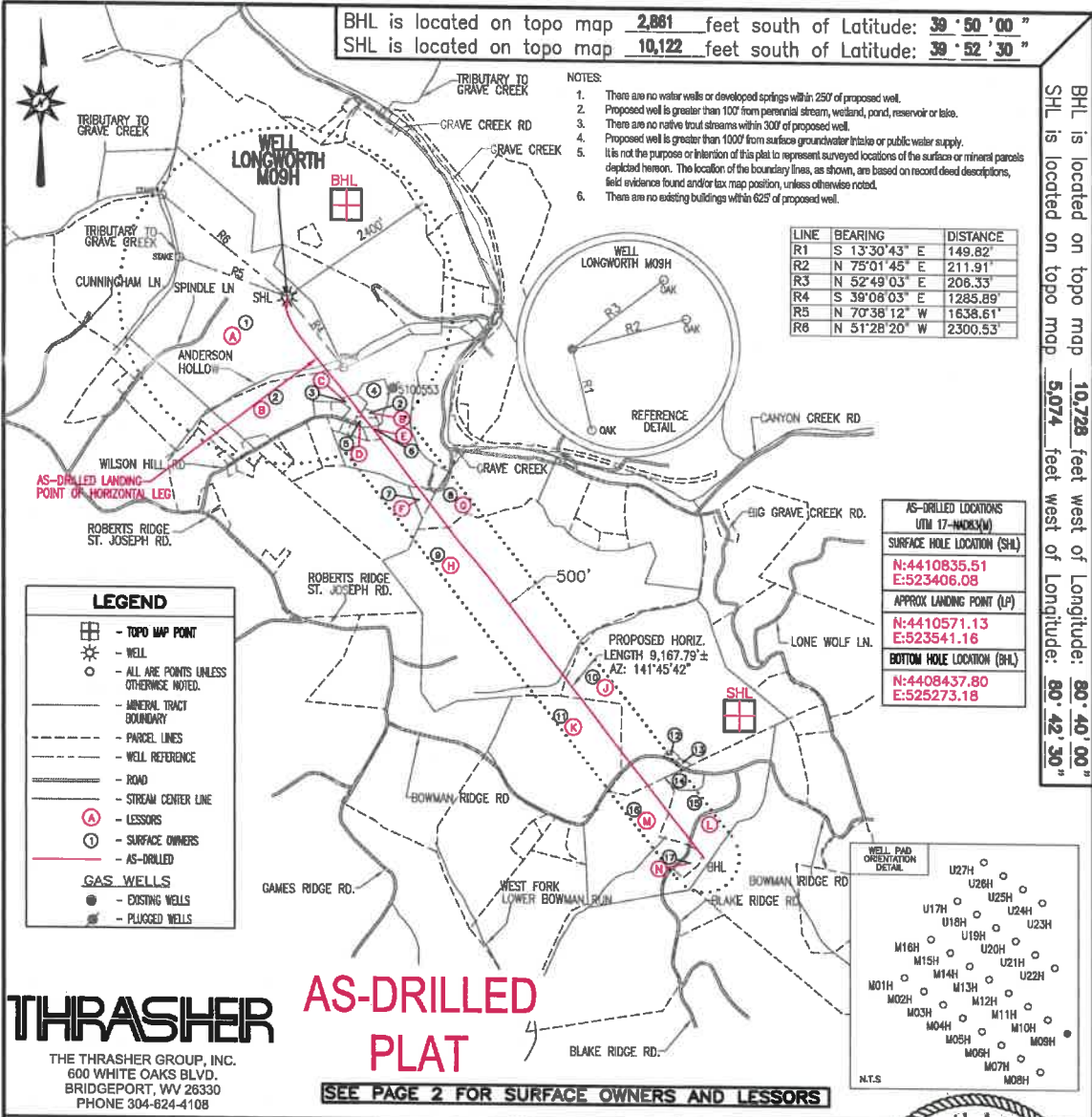
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BHL is located on topo map 2,881 feet south of Latitude: 39° 50' 00"
 SHL is located on topo map 10,122 feet south of Latitude: 39° 52' 30"



BHL is located on topo map 10,728 feet west of Longitude: 80° 40' 00"
 SHL is located on topo map 5,074 feet west of Longitude: 80° 42' 30"

THRASHER
 THE THRASHER GROUP, INC.
 600 WHITE OAKS BLVD.
 BRIDGEPORT, WV 26330
 PHONE 304-624-4108

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 ENVIRONMENTAL PROTECTION.

Signed: *Joseph H. Lowther*
 F.P.E.: _____ L.L.S.: P.S. No. 2346



FILE #: LONGWORTH M09H
 DRAWING #: LONGWORTH M09H
 SCALE: 1" = 2000'
 MINIMUM DEGREE OF ACCURACY: 1/2500
 PROVEN SOURCE OF ELEVATION: U.S.G.S. MONUMENT THOMAS 1498.81'

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS WVDEP
 OFFICE OF OIL & GAS
 601 57TH STREET
 CHARLESTON, WV 25304

DATE: FEBRUARY 23, 2021
 OPERATOR'S WELL #: LONGWORTH M09H - AS-DRILLED
 API WELL #: 47 51 02129
 STATE COUNTY PERMIT

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Well Type: Oil Waste Disposal Production Deep Gas Liquid Injection Storage Shallow

WATERSHED: MIDDLE GRAVE CREEK-GRAVE CREEK ELEVATION: 1295'

COUNTY/DISTRICT: MARSHALL / CLAY QUADRANGLE: GLEN EASTON, WV 7.5'

SURFACE OWNER: GRAHAM H. LONGWORTH JR. ACREAGE: 123.589±

OIL & GAS ROYALTY OWNER: GRAHAM H. LONGWORTH JR. ACREAGE: 655.458±

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

PERFORATE NEW FORMATION PLUG & ABANDON CLEAN OUT & REPLUG OTHER CHANGE

(SPECIFY): AS-DRILLED PLAT

TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: TVD: 6,684± TMD: 16,158±

WELL OPERATOR: EQT CHAP LLC DESIGNATED AGENT: JOSEPH C. MALLOW
 Address: 400 WOODCLIFF DRIVE Address: 115 PROFESSIONAL PLACE, PO BOX 280
 City: CANONSBURG State: PA Zip Code: 15317 City: BRIDGEPORT State: WV Zip Code: 26330

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LONGWORTH M09H PAGE 2 OF 2 AS-DRILLED

	LESSOR	DIST-TM/PAR
A	GRAHAM H. LONGWORTH JR. ET AL	4-11/1
B	DELORES J. FOX	4-11/54
C	DELORES J. FOX	4-11/54.13
D	JAMES C. & MELISSA S. THATCHER	4-11/54.9
E	MARY A. STUCKEY	4-11/54.7
F	CNX GAS COMPANY LLC	4-11/57.1
G	JOE PAUL WELLMAN	9-1/2
	WILLIAM R. LEVASSEUR, JR.	
	FRANCIS THOMAS KROL, JR.	
	CHRISTINA L. BOARDWINE	
	DIANA L. WELLMAN	
	MARGARET ANN BONNETT	
	DOROTHY SEDOSKY	
	MARGARET E. DAKAN	
	DOLLYE GUZEK	
	LINDSEY R. FOSTER	
	NANCY DAKAN RACKLEY ET VIR	
	CNX GAS COMPANY LLC	
	RONALD W. DAKAN	
	DAVID H. DAKAN	
	SUZANNE SWIFT	
	BARBARA D. FURFARI	
	DIANE CLARE WILLIS ET VIR	
	LESLIE MARIE BUTTS	
	JOSEPH G. DAKAN	
	ELAINE A. FONTES	
	DIANA K. COSLICK	
	LESLEY D. BALLA	
H	HOWARD E. & SUSAN C. YOUNG	9-1/18
J	DANIEL L. DOBBS ET UX	9-1/16
K	DEAN B. COLVIN	9-1/22
	MARGARET KINNEY	
	PATRICIA COLVIN GRANDSTAFF	
	MARILYN PYLES SNYDER	
	JAMES E. PYLES	
	SUSAN ASTON	
	CAROL HULL	
	DAVID GEORGE MOORE	
	BETTY LOU DELLGET KERNS	
	MARILYN SOUTH	
	HOWARD GUMP ET UX	
	JUDY REILLEY FEIERSTEIN	
	RICHARD O'HARA	
	CATHY J. COLVIN	
	ALICE FAYE VAN DINE	
	LORA FORNSHELL	
	KEITH PYLES	
	WANDA L. PYLES	
	SHERLEY M. WHITE FKA SHERLEY M. VAN DINE	
	VERENDA STOKES	
	DOMINAE VESICO-RAMIREZ	
	KRISTA L. VAN DINE	
	ROBERT P. COLVIN	
	RONALD PYLES	
	DONALD COOK POA CAROL HULL	
	KEVIN O'HARA	
	CATHY LUDWIG GARRETT	
	ROBERT R. D'ERAMO JR., ET AL	
	DEBRA FORDYCE	
	KEITH JOEL VAN DINE	
	GLADYS PETRELLE BY AIF SHIRLEY BUFFONE	
	RODNEY COLVIN	
	PAULA REILLEY	
	VICKIE EISENHAEUER	
	KIM YOHO	
	JASON COLVIN	
	BRENDA WILLINGHAM	
	DONALD COLVIN	
	MICHAEL COLVIN	
	STACY PANYKO	
	HAROLD E. VAN DINE	
	JOHN E. VAN DINE	
L	PETER MILLER	9-1/24
M	JOHN K. MASON JR.	9-1/23
N	ROGER DUNHAM	9-1/24.2

	SURFACE OWNER	DIST-TM/PAR
1	GRAHAM H. LONGWORTH JR.	4-11/1
2	DUNCAN OR SUSAN ARNETT	4-11/54
3	JEFFREY STUCKEY	4-11/54.13
4	JESSE E. & LEAH A. YOHO	4-11/54.12
5	JAMES C. & MELISSA S. THATCHER	4-11/54.9
6	MARY STUCKEY	4-11/54.7
7	HARRY & DONNA ROUSH	4-11/57.1
8	HARRY & DONNA ROUSH	9-1/2
9	CNX LAND RESOURCES INC	9-1/18
10	CNX LAND RESOURCES INC	9-1/18
11	CNX LAND RESOURCES INC	9-1/22
12	MACK A. CROW ET UX	9-1/17
13	MACK A. CROW ET UX	9-1/18.1
14	VICKIE CROW	9-1/24.1
15	PETER A. MILLER	9-1/24
16	JOHN K. MASON JR.	9-1/23
17	KAREN LOUISE BELL & ROGER L. DUNHAM	9-1/24.2

AS-DRILLED LOCATIONS	
UTM 17-WA083(W)	
SURFACE HOLE LOCATION (SH)	
N:4410835.51	E:523406.08
APPROX LANDING POINT (LP)	
N:4410571.13	E:523541.16
BOTTOM HOLE LOCATION (BH)	
N:4408437.80	E:525273.18

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Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	6/11/2022
Job End Date:	8/1/2022
State:	West Virginia
County:	Marshall
API Number:	47-051-02129-00-00
Operator Name:	EQT Production
Well Name and Number:	Longworth A 9H
Latitude:	39.84721410
Longitude:	-80.72640370
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,684
Total Base Water Volume (gal):	18,782,820
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	EQT	Carrier/Base Fluid	Water	7732-18-5	100.00000	88.40885	None
Sand (Proppant)	EQT	Proppant	Silica Substrate	14808-60-7	100.00000	11.49645	None
Clearal 268	ChemStream	Biocide	Non-hazardous substances	Proprietary	80.00000	0.00899	None
StimSTREAM SC-398	ChemStream	Scale Inhibitor	Non-hazardous substances	Proprietary	90.00000	0.00758	None
StimSTREAM FR 9800	ChemStream	Friction Reducer	Copolymer of 2-propenamide	Proprietary	30.00000	0.00323	None
StimSTREAM FR 9800	ChemStream	Friction Reducer	Petroleum Distillate	64742-47-8	20.00000	0.00144	None
15% HCl	US Well Services	Acid	Hydrogen Chloride	7647-01-0	15.00000	0.00079	None
Clearal 268	ChemStream	Biocide	Glutaraldehyde	111-30-8	20.00000	0.00056	None
StimSTREAM SC-398	ChemStream	Scale Inhibitor					

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			Bis(HexaMethylene Triamine Penta(Methylene Phosphonic Acid)(BHMT)	34690-00-1	10.00000	0.00009	None
StimSTREAM FR 9800	ChemStream	Friction Reducer					
			Oleic Acid Diethanolamide	93-83-4	2.00000	0.00001	None
StimSTREAM FR 9800	ChemStream	Friction Reducer					
			Alcohols, C12-16, ethoxylated	68551-12-2	2.00000	0.00001	None
Clearal 268	ChemStream	Biocide					
			Quaternary Ammonium Compounds	68424-85-1	3.00000	0.00001	None
Clearal 268	ChemStream	Biocide					
			Didecyl dimethyl ammonium chloride	7173-51-5	3.00000	0.00001	None
OPTIINHIBIT PLUS	USWS	Corrosion Inhibitor					
			Pyridinium, 1-(phenylmethyl)-, ethyl methyl derivs., chlorides	68909-18-2	25.00000	0.00001	None
OPTIINHIBIT PLUS	USWS	Corrosion Inhibitor					
			Methanol	67-56-1	25.00000	0.00001	None
OPTIINHIBIT PLUS	USWS	Corrosion Inhibitor					
			Ethoxylated Alcohols	68439-50-9	15.00000	0.00000	None
OPTIINHIBIT PLUS	USWS	Corrosion Inhibitor					
			Ethanoic Acid	64-19-7	15.00000	0.00000	None
StimSTREAM FR 9800	ChemStream	Friction Reducer					
			Ammonium chloride ((NH4)Cl)	12125-02-9	1.00000	0.00000	None
Clearal 268	ChemStream	Biocide					
			Ethanol	64-17-5	1.50000	0.00000	None
OPTIINHIBIT PLUS	USWS	Corrosion Inhibitor					
			Proprietary	Proprietary	10.00000	0.00000	None
OPTIINHIBIT PLUS	USWS	Corrosion Inhibitor					
			Proprietary	Proprietary	10.00000	0.00000	None
OPTIINHIBIT PLUS	USWS	Corrosion Inhibitor					
			Ethoxylated Nonylphenols	127087-87-0	5.00000		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.

* 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)

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Perforation Data

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Stage No.	Perforation Date	Stage Perforated From TMD Ft.	Stage Perforated To TMD Ft.	# of Perforations/Stage	Formation(s)
2	07/02/2022	15865	15686	40	Marcellus
3	07/03/2022	15667	15487	40	Marcellus
4	07/04/2022	15468	15289	40	Marcellus
5	07/04/2022	15270	15090	40	Marcellus
6	07/04/2022	15071	14892	40	Marcellus
7	07/05/2022	14873	14693	40	Marcellus
8	07/05/2022	14674	14495	40	Marcellus
9	07/06/2022	14476	14296	40	Marcellus
10	07/06/2022	14277	14098	40	Marcellus
11	07/06/2022	14079	13899	40	Marcellus
12	07/06/2022	13880	13701	40	Marcellus
13	07/07/2022	13682	13502	40	Marcellus
14	07/07/2022	13483	13304	40	Marcellus
15	07/07/2022	13285	13105	40	Marcellus
16	07/08/2022	13086	12907	40	Marcellus
17	07/08/2022	12888	12708	40	Marcellus
18	07/08/2022	12689	12510	40	Marcellus
19	07/08/2022	12491	12311	40	Marcellus
20	07/09/2022	12292	12113	40	Marcellus
21	07/09/2022	12094	11914	40	Marcellus
22	07/09/2022	11895	11716	40	Marcellus
23	07/10/2022	11697	11517	40	Marcellus
24	07/10/2022	11498	11319	40	Marcellus
25	07/11/2022	11300	11120	40	Marcellus
26	07/12/2022	11101	10922	40	Marcellus
27	07/12/2022	10903	10723	40	Marcellus
28	07/12/2022	10704	10525	40	Marcellus
29	07/13/2022	10506	10326	40	Marcellus
30	07/13/2022	10307	10128	40	Marcellus
31	07/13/2022	10109	9929	40	Marcellus
32	07/13/2022	9910	9731	40	Marcellus
33	07/14/2022	9712	9532	40	Marcellus
34	07/14/2022	9513	9334	40	Marcellus
35	07/15/2022	9315	9135	40	Marcellus
36	07/15/2022	9116	8937	40	Marcellus
37	07/15/2022	8918	8738	40	Marcellus
38	07/16/2022	8719	8540	40	Marcellus
39	07/16/2022	8521	8341	40	Marcellus
40	07/17/2022	8322	8143	40	Marcellus
41	07/17/2022	8124	7944	40	Marcellus
42	07/17/2022	7925	7746	40	Marcellus

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43	07/18/2022	7727	7547	40	Marcellus
44	07/18/2022	7528	7349	40	Marcellus
45	07/18/2022	7330	7150	40	Marcellus
46	07/19/2022	7131	6952	40	Marcellus
47	07/19/2022	6933	6813	40	Marcellus

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Stimulation Data

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Well_UID	Stage #	Stimulation 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/oth (units)
-015633	1	07/02/2022	100	8528	6107	3984	264100	6188	
-015633	2	07/03/2022	100	8698	4125	4455	440100	9849	
-015633	3	07/04/2022	100	8637	3992	4545	440180	9796	
-015633	4	07/04/2022	100	8681	3420	4479	440160	9836	
-015633	5	07/04/2022	100	8720	3158	5592	440100	10096	
-015633	6	07/05/2022	100	8810	5070	5372	440075	9838	
-015633	7	07/05/2022	99	9122	3857	5241	440100	9823	
-015633	8	07/06/2022	100	8902	4493	4568	440150	9770	
-015633	9	07/06/2022	100	8881	4892	5133	440080	9802	
-015633	10	07/06/2022	100	8811	4489	5183	440180	9756	
-015633	11	07/07/2022	100	8788	5615	5166	440100	9741	
-015633	12	07/07/2022	100	8814	5534	5490	440150	9732	
-015633	13	07/07/2022	99	8755	3792	5183	440160	9729	
-015633	14	07/07/2022	100	9027	5273	4666	440160	9728	
-015633	15	07/08/2022	100	8899	4909	5119	440040	9716	
-015633	16	07/08/2022	100	8865	5006	4946	440180	9731	
-015633	17	07/08/2022	98	8725	4906	5393	440200	9695	
-015633	18	07/09/2022	98	8653	3752	5125	440120	9686	
-015633	19	07/09/2022	100	8214	7887	5291	440100	9683	
-015633	20	07/09/2022	99	8394	3228	2962	440180	9705	
-015633	21	07/10/2022	100	8212	4618	4668	440040	9671	
-015633	22	07/10/2022	100	8026	3866	4847	440220	9644	
-015633	23	07/10/2022	99	8162	4671	4834	440100	9650	
-015633	24	07/11/2022	98	7901	3410	5002	440040	9644	
-015633	25	07/12/2022	100	7964	4254	4927	440200	9637	
-015633	26	07/12/2022	95	7609	4888	5121	440180	9488	
-015633	27	07/12/2022	99	7701	5938	4740	440300	9621	
-015633	28	07/13/2022	100	7881	4459	4922	440500	9472	
-015633	29	07/13/2022	100	7952	7703	4800	440200	9631	
-015633	30	07/13/2022	100	7990	7633	4711	440160	9600	
-015633	31	07/13/2022	100	7881	7935	5049	440300	9598	
-015633	32	07/14/2022	100	7824	7801	5016	440160	9575	
-015633	33	07/14/2022	100	7757	4703	5041	440200	9616	
-015633	34	07/15/2022	100	7580	4619	4674	440100	9561	
-015633	35	07/15/2022	100	7819	4976	4747	440280	9554	
-015633	36	07/15/2022	98	7837	6895	4925	440600	9590	
-015633	37	07/16/2022	101	7644	4877	5098	440100	9539	
-015633	38	07/16/2022	99	7769	6949	4645	440260	9532	
-015633	39	07/17/2022	101	7521	5181	5002	440600	9528	
-015633	40	07/17/2022	100	7469	5385	4920	440180	9520	
-015633	41	07/18/2022	101	7347	5342	4928	440600	9513	

RECEIVED
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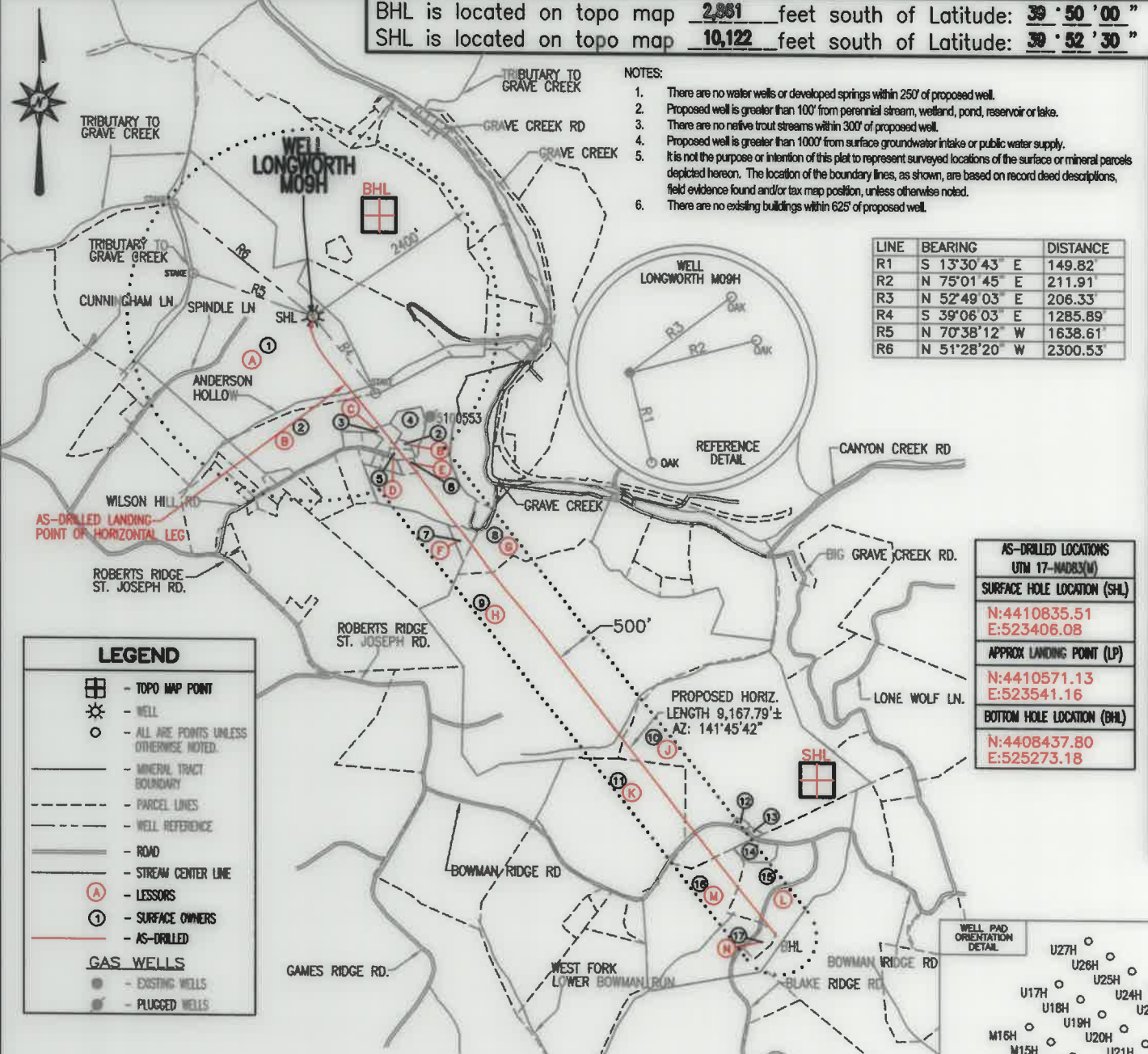
WV Department of
Environmental Protection

12/16/2022

-015633	42	07/18/2022	99	7175	6417	4683	440600	9503
-015633	43	07/18/2022	100	7202	7022	4790	440200	9499
-015633	44	07/19/2022	101	7133	4419	5170	440600	9582
-015633	45	07/19/2022	100	6952	3942	4724	440600	9475
-015633	46	07/19/2022	100	7169	6839	4851	440260	9473
-015633	47	07/19/2022	101	7396	4998	5124	308200	6594

RECEIVED
Office of Oil and Gas
NOV 18 2022
WV Department of
Environmental Protection

BHL is located on topo map 2,881 feet south of Latitude: 39° 50' 00"
 SHL is located on topo map 10,122 feet south of Latitude: 39° 52' 30"



- NOTES:
1. There are no water wells or developed springs within 250' of proposed well.
 2. Proposed well is greater than 100' from perennial stream, wetland, pond, reservoir or lake.
 3. There are no native trout streams within 300' of proposed well.
 4. Proposed well is greater than 1000' from surface groundwater intake or public water supply.
 5. It is not the purpose or intention of this plat to represent surveyed locations of the surface or mineral parcels depicted hereon. The location of the boundary lines, as shown, are based on record deed descriptions, field evidence found and/or tax map position, unless otherwise noted.
 6. There are no existing buildings within 625' of proposed well.

LINE	BEARING	DISTANCE
R1	S 13°30'43" E	149.82
R2	N 75°01'45" E	211.91
R3	N 52°49'03" E	206.33
R4	S 39°06'03" E	1285.89
R5	N 70°38'12" W	1638.61
R6	N 51°28'20" W	2300.53

AS-DRILLED LOCATIONS UTM 17-NAD83(M)	
SURFACE HOLE LOCATION (SHL)	N:4410835.51 E:523406.08
APPROX LANDING POINT (LP)	N:4410571.13 E:523541.16
BOTTOM HOLE LOCATION (BHL)	N:4408437.80 E:525273.18

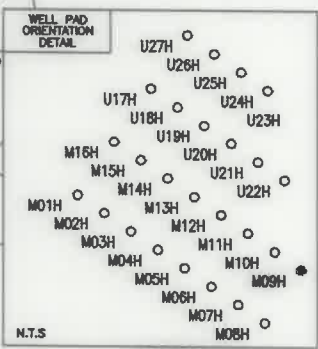
LEGEND

- TOPO MAP POINT
- WELL
- ALL ARE POINTS UNLESS OTHERWISE NOTED.
- MINERAL TRACT BOUNDARY
- PARCEL LINES
- WELL REFERENCE
- ROAD
- STREAM CENTER LINE
- LESSORS
- SURFACE OWNERS
- AS-DRILLED
- GAS WELLS
 - EXISTING WELLS
 - PLUGGED WELLS

THRASHER
 THE THRASHER GROUP, INC.
 600 WHITE OAKS BLVD.
 BRIDGEPORT, WV 26330
 PHONE 304-624-4108

AS-DRILLED PLAT

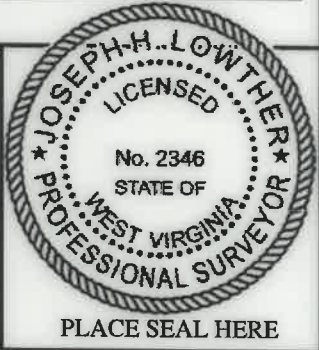
SEE PAGE 2 FOR SURFACE OWNERS AND LESSORS



FILE #: LONGWORTH M09H
 DRAWING #: LONGWORTH M09H
 SCALE: 1" = 2000'
 MINIMUM DEGREE OF ACCURACY: 1/2500
 PROVEN SOURCE OF ELEVATION: U.S.G.S. MONUMENT THOMAS 1498.81'

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 ENVIRONMENTAL PROTECTION.

Signed: Joseph H. Lowther
 R.P.E.: _____ L.L.S.: P.S. No. 2346



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS WVDEP
 OFFICE OF OIL & GAS
 601 57TH STREET
 CHARLESTON, WV 25304

DATE: FEBRUARY 23, 2021
 OPERATOR'S WELL #: LONGWORTH M09H - AS-DRILLED
 API WELL #: 47 51 02129
 STATE COUNTY PERMIT

Well Type: Oil Waste Disposal Production Deep Gas Liquid Injection Storage Shallow

WATERSHED: MIDDLE GRAVE CREEK-GRAVE CREEK ELEVATION: 1295'
 COUNTY/DISTRICT: MARSHALL / CLAY QUADRANGLE: GLEN EASTON, WV 7.5'
 SURFACE OWNER: GRAHAM H. LONGWORTH JR. ACREAGE: 123.589±
 OIL & GAS ROYALTY OWNER: GRAHAM H. LONGWORTH JR. ACREAGE: 655.458± 12/16/2022

DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION PLUG & ABANDON CLEAN OUT & REPLUG OTHER CHANGE
 (SPECIFY): AS-DRILLED PLAT

TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: TVD: 6,684± TMD: 16,158±
 WELL OPERATOR EQT CHAP LLC DESIGNATED AGENT JOSEPH C. MALLOW
 Address 400 WOODCLIFF DRIVE Address 115 PROFESSIONAL PLACE, PO BOX 280
 City CANONSBURG State PA Zip Code 15317 City BRIDGEPORT State WV Zip Code 26330

BHL is located on topo map 10,728 feet west of Longitude: 80° 40' 00"
 SHL is located on topo map 5,074 feet west of Longitude: 80° 42' 30"

LONGWORTH M09H PAGE 2 OF 2 AS-DRILLED

	LESSOR	DIST-TM/PAR
A	GRAHAM H. LONGWORTH JR. ET AL	4-11/1
B	DELORES J. FOX	4-11/54
C	DELORES J. FOX	4-11/54.13
D	JAMES C. & MELISSA S. THATCHER	4-11/54.9
E	MARY A. STUCKEY	4-11/54.7
F	CNX GAS COMPANY LLC	4-11/57.1
G	JOE PAUL WELLMAN	9-1/2
	WILLIAM R. LEVASSEUR, JR.	
	FRANCIS THOMAS KROL, JR.	
	CHRISTINA L. BOARDWINE	
	DIANA L. WELLMAN	
	MARGARET ANN BONNETT	
	DOROTHY SEDOSKY	
	MARGARET E. DAKAN	
	DOLLYE GUZEK	
	LINDSEY R. FOSTER	
	NANCY DAKAN RACKLEY ET VIR	
	CNX GAS COMPANY LLC	
	RONALD W. DAKAN	
	DAVID H. DAKAN	
	SUZANNE SWIFT	
	BARBARA D. FURFARI	
	DIANE CLARE WILLIS ET VIR	
	LESLIE MARIE BUTTS	
	JOSEPH G. DAKAN	
	ELAINE A. FONTES	
	DIANA K. COSLUCK	
	LESLEY D. BALLA	
H	HOWARD E. & SUSAN C. YOUNG	9-1/18
J	DANIEL L. DOBBS ET UX	9-1/16
K	DEAN B. COLVIN	9-1/22
	MARGARET KINNEY	
	PATRICIA COLVIN GRANDSTAFF	
	MARILYN PYLES SNYDER	
	JAMES E. PYLES	
	SUSAN ASTON	
	CAROL HULL	
	DAVID GEORGE MOORE	
	BETTY LOU DELLGET KERNS	
	MARILYN SOUTH	
	HOWARD GUMP ET UX	
	JUDY REILLEY FEIERSTEIN	
	RICHARD O'HARA	
	CATHY J. COLVIN	
	ALICE FAYE VAN DINE	
	LORA FORNSHELL	
	KEITH PYLES	
	WANDA L. PYLES	
	SHERLEY M. WHITE FKA SHERLEY M. VAN DINE	
	VERENDA STOKES	
	DOMINAE VESICO-RAMIREZ	
	KRISTA L. VAN DINE	
	ROBERT P. COLVIN	
	RONALD PYLES	
	DONALD COOK POA CAROL HULL	
	KEVIN O'HARA	
	CATHY LUDWIG GARRETT	
	ROBERT R. D'ERAMO JR., ET AL	
	DEBRA FORDYCE	
	KEITH JOEL VAN DINE	
	GLADYS PETRELLE BY AIF SHIRLEY BUFFONE	
	RODNEY COLVIN	
	PAULA REILLEY	
	VICKIE EISENHAUER	
	KIM YOHO	
	JASON COLVIN	
	BRENDA WILLINGHAM	
	DONALD COLVIN	
	MICHAEL COLVIN	
	STACY PANYKO	
	HAROLD E. VAN DINE	
	JOHN E. VAN DINE	
L	PETER MILLER	9-1/24
M	JOHN K. MASON JR.	9-1/23
N	ROGER DUNHAM	9-1/24.2

	SURFACE OWNER	DIST-TM/PAR
1	GRAHAM H. LONGWORTH JR.	4-11/1
2	DUNCAN OR SUSAN ARNETT	4-11/54
3	JEFFREY STUCKEY	4-11/54.13
4	JESSE E. & LEAH A. YOHO	4-11/54.12
5	JAMES C. & MELISSA S. THATCHER	4-11/54.9
6	MARY STUCKEY	4-11/54.7
7	HARRY & DONNA ROUSH	4-11/57.1
8	HARRY & DONNA ROUSH	9-1/2
9	CNX LAND RESOURCES INC	9-1/18
10	CNX LAND RESOURCES INC	9-1/16
11	CNX LAND RESOURCES INC	9-1/22
12	MACK A. CROW ET UX	9-1/17
13	MACK A. CROW ET UX	9-1/16.1
14	VICKIE CROW	9-1/24.1
15	PETER A. MILLER	9-1/24
16	JOHN K. MASON JR.	9-1/23
17	KAREN LOUISE BELL & ROGER L. DUNHAM	9-1/24.2

AS-DRILLED LOCATIONS UTM 17-NAD83(M)	
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APPROX LANDING POINT (LP)	
N:4410571.13	E:523541.16
BOTTOM HOLE LOCATION (BHL)	
N:4408437.80	E:525273.18

12/16/2022



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FEBRUARY 23, 2021