

Well Operator's Report of Well Work



Where energy meets innovation.

Well Number: Longworth M12H

API: 47 - 051 - 02132

Submission: Initial Amended

Notes:

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12/16/2022

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

API 47 - 051 - 02132 County Marshall District Clay
Quad Glen Easton Pad Name Longworth Field/Pool Name N/A
Farm name Graham H. Longworth Jr. Well Number Longworth M12H
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 4,410,843.05 Easting 523,394.63
Landing Point of Curve Northing 4,409,989.94 Easting 522,862.56
Bottom Hole Northing 4,407,713.41 Easting 524,688.26

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 Brine
Production hole Air Mud Fresh Water Brine

Mud Type(s) and Additive(s) _____
Synthetic Oil Based Mud 13.6 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

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Date permit issued 01/25/2019 Date drilling commenced 04/15/2019 Date drilling ceased 10/09/2019
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 - 02132 Farm name Graham H. Longworth Jr. Well number Longworth M12H

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"	40'	NEW	X-52 78.6#	N/A	Y
Surface	17-1/2"	13-3/8"	621'	NEW	J-55 54.5#	N/A	Y
Coal							
Intermediate 1	12-3/8"	9-5/8"	2173'	NEW	L-80 40#	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-1/2"	5-1/2"	17,754'	NEW	P-110 20#	N/A	N
Tubing							
Packer type and depth set							

Comment Details Production Cement job has a calculated TOC of 1743' 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	18BBLS	15.6	N/A	N/A	0	8+
Surface	CLASS A	521	15.6	1.19	620	0	8
Coal							
Intermediate 1	CLASS A	898	15.6	1.19	1068	0	8
Intermediate 2							
Intermediate 3							
Production	CLASS A	2884	15.0	1.23	3547	1743	8+
Tubing							

Drillers TD (ft) 17,774' Loggers TD (ft) N/A
 Deepest formation penetrated MARCELLUS Plug back to (ft) N/A
 Plug back procedure _____

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Kick off depth (ft) 2671'

Check all wireline logs run caliper density deviated/directional induction neutron resistivity gamma ray temperature sonic
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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 _____

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- 051 - 02132 Farm name Graham H. Longworth Jr. Well number Longworth M12H

Drilling Contractor Precision Drilling
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 M12H Final Formations API# 47-051-02132				
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	2,096
Big Injun	2,100	2,096	2,182	2,178
Sand/Shale	2,182	2,178	2,819	2,798
Gantz	2,819	2,798	2,880	2,855
Gordon	2,880	2,855	2,960	2,930
50F	2,960	2,930	3,009	2,976
Sand/Shale	3,009	2,976	3,088	3,049
Bayard	3,088	3,049	3,453	3,389
Sand/Shale	3,453	3,389	5,255	5,079
Alexander	5,255	5,079	5,692	5,487
Elks	5,692	5,487	7,190	6,528
Sonyea	7,190	6,528	7,313	6,532
Middlesex	7,313	6,532	7,354	6,534
Genesee	7,354	6,534	7,443	6,538
Geneseo	7,443	6,538	7,486	6,538
Tully	7,486	6,538	7,579	6,538
Hamilton	7,579	6,538	7,740	6,539
Marcellus	7,740	6,539	17,774	6,665

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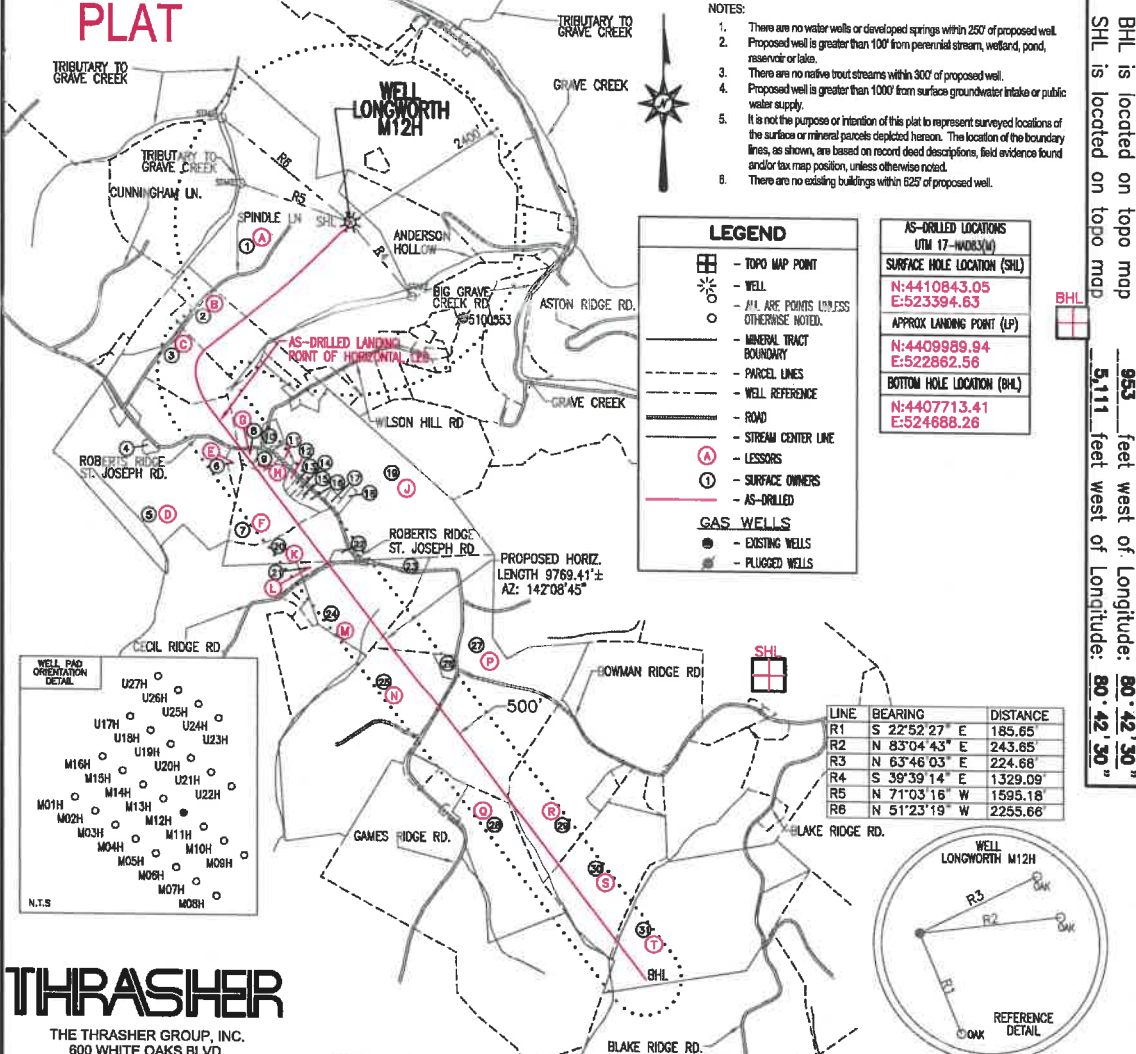
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AS-DRILLED PLAT

BHL is located on topo map **5,232** feet south of Latitude: **39° 50' 00"**
 SHL is located on topo map **10,097** feet south of Latitude: **39° 52' 30"**



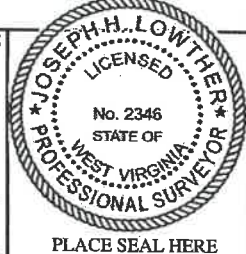
THRASHER
 THE THRASHER GROUP, INC.
 600 WHITE OAKS BLVD.
 BRIDGEPORT, WV 26330
 PHONE 304-624-4108

SEE PAGE 2 FOR SURFACE OWNERS AND LESSORS

FILE #: LONGWORTH M12H - AS-DRILLED
 DRAWING #: LONGWORTH M12H - AS-DRILLED
 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*
 F.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 M12H - AS-DRILLED
 API WELL #: 47 51 02132
 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: 813.518±
 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: 6,690'± TMD: 17,779'±
 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

12/16/2022

LONGWORTH

M12H

PAGE 2 OF 2

AS-DRILLED

	LESSOR	DIST-TM/PAR
A	GRAHAM H. LONGWORTH JR., ET AL	4-11/1
B	HOLMES CWC LEGACY LLC	4-11/55
C	MARY W. HOLMES ET AL	4-13/39
D	MICHAEL W. DERROW ET AL	5-3/13
E	*KAREN M. CARNEY *ABRAHAM S. NEMURAS	5-3/13.3
F	GEORGE R. LIGHTNER, SR.	5-3/41
G	RICHARD M. & CRYSTAL M. HUGGINS	5-3/36
H	GEORGE R. LIGHTNER SR.	5-3/41.1
J	CLINT E. FLOWERS AND BRENT L. FLOWERS	4-11/56
K	LLOYD BAKER	5-3/17
L	LLOYD BAKER	5-3/18
M	PIKEWOOD ENERGY CORP.	9-1/19
N	CNX GAS COMPANY LLC	9-1/20.1
P	SHANNON R. & LYLIA L. HUBBS	9-1/21
Q	*JOHN D. ROBERTS	9-4/8
R	DEAN B. COLVIN 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	9-1/22.2

	LESSOR	DIST-TM/PAR
R	ROBERT P. COLVIN	9-1/22.2
	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	
S	THOMAS B. CLARK ET UX	9-4/9.1
T	THOMAS B. CLARK ET UX	9-5/2

AS-DRILLED LOCATIONS UTM 17-NAD83(M)	
SURFACE HOLE LOCATION (SHL)	N:4410843.05 E:523394.63
APPROX LANDING POINT (LP)	N:4409989.94 E:522862.56
BOTTOM HOLE LOCATION (BHL)	N:4407713.41 E:524688.26

	SURFACE OWNER	DIST-TM/PAR
1	GRAHAM H. LONGWORTH JR.	4-11/1
2	HOLMES-CWC-LEGACY LLC	4-11/55
3	MARY HOLMES - LIFE	4-13/39
4	TRACY MERCER	5-3/13.2
5	DOUGLAS G., MICHAEL W. & STEVEN S. DERROW	5-3/13
6	*KAREN M. CARNEY & ABRAHAM S. NEMURAS	5-3/13.3
7	GEORGE R. LIGHTNER SR.	5-3/41
8	JORDAN M. & ASHLEY J. WALLACE	5-3/36
9	ASHLEY J. & JORDAN M. WALLACE	5-3/41.1
10	CLINT E. & BRENT L. FLOWERS	4-11/56.13
11	CLINT E. & BRENT L. FLOWERS	4-11/56.6
12	MARK DAVID MILLER	5-3/41.2
13	MARK DAVID MILLER	5-3/37
14	MARK DAVID MILLER	5-3/38
15	JOHN D. JR. & CATHY L. LIGHTNER	5-3/39
16	CAMDEN M. CHAMBERS II	5-3/40
17	DAVID A. & BONNIE LYNN FOX	4-11/56.8
18	THOMAS O. RICHMOND ET UX	4-11/56.1
19	CLINT E. & BRENT B. FLOWERS	4-11/56
20	LLOYD BAKER	5-3/17
21	LLOYD BAKER	5-3/18
22	LLOYD BAKER	5-3/19
23	KENNETH A. MAYHUGH II & SHELBY E. HARRIS	4-11/58
24	CHAS R. & EDITH V. KERNAN	9-1/19
25	CNX LAND RESOURCES INC	9-1/20.1
26	CNX LAND RESOURCES INC	9-1/20
27	CNX LAND RESOURCES INC	9-1/21
28	*JOHN D. & MARSHA ROBERTS	9-4/8
29	GEORGE CHRIS LAGOS ET UX	9-1/22.2
30	THOMAS B. & ANNETTE K. CLARK	9-4/9.1
31	THOMAS B. & ANNETTE K. CLARK	9-5/2

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THRASHER

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

FEBRUARY 23, 2021

12/16/2022

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:	47-051-02132-00-00
Operator Name:	EQT Production
Well Name and Number:	Longworth A 12H
Latitude:	39.84728240
Longitude:	-80.72653730
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,690
Total Base Water Volume (gal):	20,242,026
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	88.52739	None
Sand (Proppant)	EQT	Proppant	Silica Substrate	14808-60-7	100.00000	11.34910	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	0.00760	None
StimSTREAM FR 9800	ChemStream	Friction Reducer	Copolymer of 2-propenamide	Proprietary	30.00000	0.00362	None
StimSTREAM FR 9800	ChemStream	Friction Reducer	Petroleum Distillate	64742-47-8	20.00000	0.00161	None
15% HCl	US Well Services	Acid	Hydrogen Chloride	7647-01-0	15.00000	0.00134	None
Clearal 268	ChemStream	Biocide	Glutaraldehyde	111-30-8	0.00000	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
OPTIINHIBIT PLUS	USWS	Corrosion Inhibitor					
			Methanol	67-56-1	25.00000	0.00002	None
OPTIINHIBIT PLUS	USWS	Corrosion Inhibitor					
			Pyridinium, 1-(phenylmethyl)-, ethyl methyl derivs., chlorides	68909-18-2	25.00000	0.00002	None
StimSTREAM FR 9800	ChemStream	Friction Reducer					
			Alcohols, C12-16, ethoxylated	68551-12-2	2.00000	0.00002	None
StimSTREAM FR 9800	ChemStream	Friction Reducer					
			Oleic Acid Diethanolamide	93-83-4	2.00000	0.00002	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					
			Ethoxylated Alcohols	68439-50-9	15.00000	0.00001	None
OPTIINHIBIT PLUS	USWS	Corrosion Inhibitor					
			Ethanoic Acid	64-19-7	15.00000	0.00001	None
StimSTREAM FR 9800	ChemStream	Friction Reducer					
			Ammonium chloride ((NH4)Cl)	12125-02-9	1.00000	0.00000	None
OPTIINHIBIT PLUS	USWS	Corrosion Inhibitor					
			Proprietary	Proprietary	10.00000	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					
			Ethoxylated Nonylphenols	127087-87-0	5.00000	0.00000	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)

Perforation Data

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12/16/2022

Stage No.	Perforation Date	Stage Perforated From TMD Ft.	Stage Perforated To TMD Ft.	# of Perforations/Stage	Formation(s)
2	06/28/2022	17442	17262	40	Marcellus
3	06/28/2022	17243	17163	15	Marcellus
4	06/28/2022	17144	17063	20	Marcellus
5	06/28/2022	17044	16964	15	Marcellus
6	06/28/2022	16945	16864	20	Marcellus
7	06/29/2022	16845	16765	15	Marcellus
8	06/29/2022	16746	16665	20	Marcellus
9	06/29/2022	16646	16466	40	Marcellus
10	06/29/2022	16447	16267	40	Marcellus
11	06/30/2022	16248	16068	40	Marcellus
12	06/30/2022	16049	15869	40	Marcellus
13	06/30/2022	15850	15670	40	Marcellus
14	07/01/2022	15651	15471	40	Marcellus
15	07/02/2022	15452	15272	40	Marcellus
16	07/02/2022	15253	15073	40	Marcellus
17	07/03/2022	15054	14874	40	Marcellus
18	07/03/2022	14855	14675	40	Marcellus
19	07/03/2022	14656	14476	40	Marcellus
20	07/03/2022	14457	14277	40	Marcellus
21	07/04/2022	14258	14078	40	Marcellus
22	07/04/2022	14059	13879	40	Marcellus
23	07/04/2022	13860	13680	40	Marcellus
24	07/04/2022	13661	13481	40	Marcellus
25	07/05/2022	13462	13282	40	Marcellus
26	07/05/2022	13263	13083	40	Marcellus
27	07/05/2022	13064	12884	40	Marcellus
28	07/05/2022	12865	12685	40	Marcellus
29	07/05/2022	12666	12486	40	Marcellus
30	07/06/2022	12467	12287	40	Marcellus
31	07/06/2022	12268	12088	40	Marcellus
32	07/06/2022	12069	11889	40	Marcellus
33	07/06/2022	11870	11690	40	Marcellus
34	07/07/2022	11671	11491	40	Marcellus
35	07/07/2022	11472	11292	40	Marcellus
36	07/07/2022	11273	11093	40	Marcellus
37	07/07/2022	11074	10894	40	Marcellus
38	07/08/2022	10875	10695	40	Marcellus
39	07/08/2022	10676	10496	40	Marcellus
40	07/08/2022	10477	10297	40	Marcellus
41	07/09/2022	10278	10098	40	Marcellus
42	07/09/2022	10079	9899	40	Marcellus

43	07/09/2022	9880	9700	40	Marcellus
44	07/10/2022	9681	9501	40	Marcellus
45	07/10/2022	9482	9302	40	Marcellus
46	07/10/2022	9283	9103	40	Marcellus
47	07/11/2022	9084	8904	40	Marcellus
48	07/12/2022	8885	8705	40	Marcellus
49	07/12/2022	8686	8506	40	Marcellus
50	07/12/2022	8487	8307	40	Marcellus
51	07/13/2022	8288	8108	40	Marcellus
52	07/13/2022	8089	7909	40	Marcellus
53	07/13/2022	7890	7770	28	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/other (units)
-015635	1	06/28/2022	80	9236	6162	4573	220400	5270	
-015635	2	06/28/2022	100	8900	4786	4916	440250	10071	
-015635	3	06/28/2022	100	9005	5358	4301	220040	5662	
-015635	4	06/28/2022	99	9242	5538	4554	220100	5347	
-015635	5	06/29/2022	100	9230	5129	4443	220075	5305	
-015635	6	06/29/2022	100	8926	5018	4586	220150	5365	
-015635	7	06/29/2022	100	8882	5313	4546	220020	5397	
-015635	8	06/29/2022	100	8332	4955	4972	220040	5402	
-015635	9	06/29/2022	100	9033	4680	4982	440100	9902	
-015635	10	06/30/2022	100	9014	4483	5060	440075	9924	
-015635	11	06/30/2022	100	9021	5633	4749	440040	9899	
-015635	12	06/30/2022	100	9019	3580	5166	440140	9820	
-015635	13	07/01/2022	100	9178	7083	5434	440150	9884	
-015635	14	07/02/2022	100	8982	4477	5206	440100	9853	
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-015635	17	07/03/2022	100	8942	4622	4777	440000	9823	
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-015635	22	07/04/2022	100	9120	5996	4864	440200	10218	
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-015635	25	07/05/2022	100	8566	3332	5081	440080	9739	
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-015635	28	07/06/2022	100	8699	5753	4955	440075	9723	
-015635	29	07/06/2022	100	8688	7333	5162	440120	9732	
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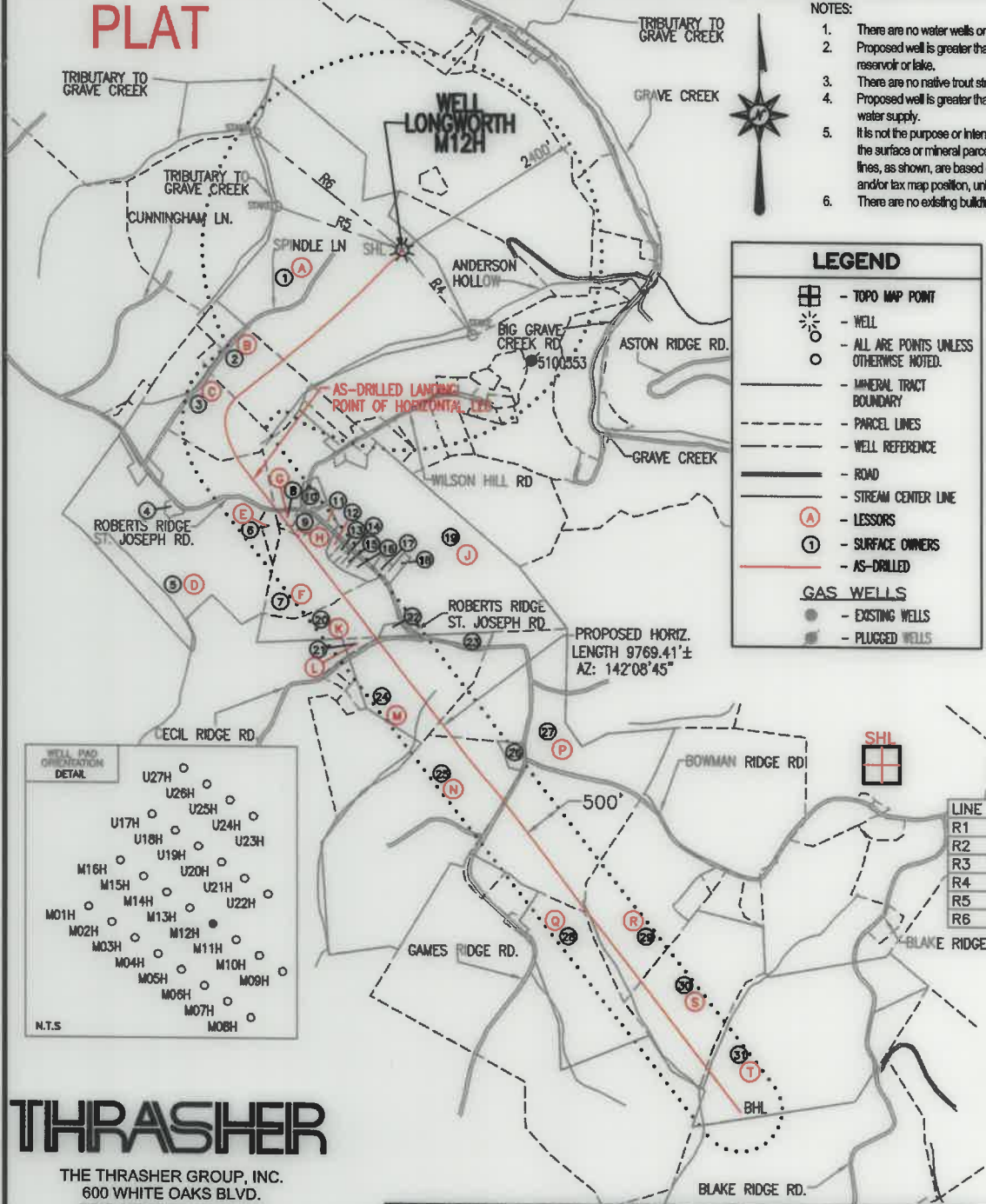
RECEIVED
Office of Oil and Gas
NOV 18 2022
WV Department of
Environmental Protection

-015635	42	07/09/2022	100	8331	7199	4829	440120	9610
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RECEIVED
Office of Oil and Gas
NOV 18 2022
NY Department of
Environmental Conservation

AS-DRILLED PLAT

BHL is located on topo map 5,232 feet south of Latitude: 39° 50' 00"
 SHL is located on topo map 10,097 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.

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

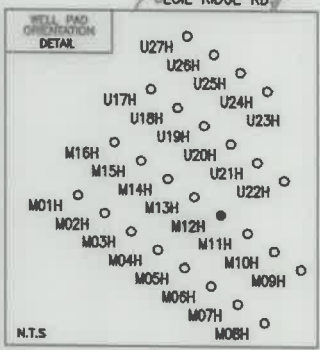
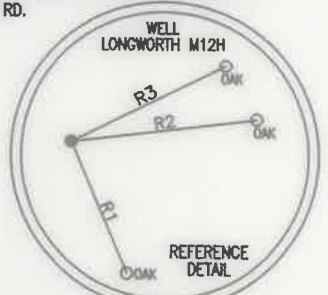
AS-DRILLED LOCATIONS
UTM 17-44083(M)

SURFACE HOLE LOCATION (SHL)
N:4410843.05
E:523394.63

APPROX LANDING POINT (LP)
N:4409989.94
E:522862.56

BOTTOM HOLE LOCATION (BHL)
N:4407713.41
E:524688.26

LINE	BEARING	DISTANCE
R1	S 22°52' 27" E	185.65'
R2	N 83°04' 43" E	243.65'
R3	N 63°46' 03" E	224.68'
R4	S 39°39' 14" E	1329.09'
R5	N 71°03' 16" W	1595.18'
R6	N 51°23' 19" W	2255.66'



BHL is located on topo map 953 feet west of Longitude: 80° 42' 30"
 SHL is located on topo map 5,111 feet west of Longitude: 80° 42' 30"

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

SEE PAGE 2 FOR SURFACE OWNERS AND LESSORS

FILE #: LONGWORTH M12H - AS-DRILLED
 DRAWING #: LONGWORTH M12H - AS-DRILLED
 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*
 F.P.E.: _____ L.L.S.: P.S. No. 2346

PLACE SEAL HERE

(+) 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 M12H - AS-DRILLED
 API WELL #: 47 51 02132
 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: 813.518± **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: 6,690± TMD: 17,779±
 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

LONGWORTH M12H PAGE 2 OF 2 AS-DRILLED

	LESSOR	DIST-TM/PAR
A	GRAHAM H. LONGWORTH JR., ET AL	4-11/1
B	HOLMES CWC LEGACY LLC	4-11/55
C	MARY W. HOLMES ET AL	4-13/39
D	MICHAEL W. DERROW ET AL	5-3/13
E	*KAREN M. CARNEY *ABRAHAM S. NEMURAS	5-3/13.3
F	GEORGE R. LIGHTNER, SR.	5-3/41
G	RICHARD M. & CRYSTAL M. HUGGINS	5-3/36
H	GEORGE R. LIGHTNER SR.	5-3/41.1
J	CLINT E. FLOWERS AND BRENT L. FLOWERS	4-11/56
K	LLOYD BAKER	5-3/17
L	LLOYD BAKER	5-3/18
M	PIKEWOOD ENERGY CORP.	9-1/19
N	CNX GAS COMPANY LLC	9-1/20.1
P	SHANNON R. & LYLA L. HUBBS	9-1/21
Q	*JOHN D. ROBERTS	9-4/8
R	DEAN B. COLVIN 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	9-1/22.2

	LESSOR	DIST-TM/PAR
R	ROBERT P. COLVIN	9-1/22.2
	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	
S	THOMAS B. CLARK ET UX	9-4/9.1
T	THOMAS B. CLARK ET UX	9-5/2

AS-DRILLED LOCATIONS UTM 17-MAN83(M)	
SURFACE HOLE LOCATION (SHL)	N:4410843.05 E:523394.63
APPROX LANDING POINT (LP)	N:4409989.94 E:522862.56
BOTTOM HOLE LOCATION (BHL)	N:4407713.41 E:524688.26

	SURFACE OWNER	DIST-TM/PAR
1	GRAHAM H. LONGWORTH JR.	4-11/1
2	HOLMES-CWC-LEGACY LLC	4-11/55
3	MARY HOLMES - LIFE	4-13/39
4	TRACY MERCER	5-3/13.2
5	DOUGLAS G., MICHAEL W. & STEVEN S. DERROW	5-3/13
6	*KAREN M. CARNEY & ABRAHAM S. NEMURAS	5-3/13.3
7	GEORGE R. LIGHTNER SR.	5-3/41
8	JORDAN M. & ASHLEY J. WALLACE	5-3/36
9	ASHLEY J. & JORDAN M. WALLACE	5-3/41.1
10	CLINT E. & BRENT L. FLOWERS	4-11/56.13
11	CLINT E. & BRENT L. FLOWERS	4-11/56.6
12	MARK DAVID MILLER	5-3/41.2
13	MARK DAVID MILLER	5-3/37
14	MARK DAVID MILLER	5-3/38
15	JOHN D. JR. & CATHY L. LIGHTNER	5-3/39
16	CAMDEN M. CHAMBERS II	5-3/40
17	DAVID A. & BONNIE LYNN FOX	4-11/56.8
18	THOMAS O. RICHMOND ET UX	4-11/56.1
19	CLINT E. & BRENT B. FLOWERS	4-11/56
20	LLOYD BAKER	5-3/17
21	LLOYD BAKER	5-3/18
22	LLOYD BAKER	5-3/19
23	KENNETH A. MAYHUGH II & SHELBY E. HARRIS	4-11/58
24	CHAS R. & EDITH V. KERNAN	9-1/19
25	CNX LAND RESOURCES INC	9-1/20.1
26	CNX LAND RESOURCES INC	9-1/20
27	CNX LAND RESOURCES INC	9-1/21
28	*JOHN D. & MARSHA ROBERTS	9-4/8
29	GEORGE CHRIS LAGOS ET UX	9-1/22.2
30	THOMAS B. & ANNETTE K. CLARK	9-4/9.1
31	THOMAS B. & ANNETTE K. CLARK	9-5/2

12/16/2022

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FEBRUARY 23, 2021