

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

DEC 11 2025

WV Department of
Environmental Protection

API 47-051-02523 County Marshall District Sand Hill
Quad Valley Grove Pad Name Michael Southworth Field/Pool Name Panhandle Field - Wet
Farm name Michael Southworth MSH Well Number 410H
Operator (as registered with the OOG) Expand Operating LLC
Address PO Box 12359 City Spring State TX Zip 77391

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4,429,247.784 Easting 532,875.792
Landing Point of Curve Northing 4,428,375.648 Easting 534,065.014
Bottom Hole Northing 4,424,788.136 Easting 535,528.398

Elevation (ft) 1271 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

Date permit issued 2024-10-17 Date drilling commenced 2025-02-13 Date drilling ceased 2025-02-26
Date completion activities began 2025-07-26 Date completion activities ceased 2025-08-22
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 632 Open mine(s) (Y/N) depths N
Salt water depth(s) ft 1403 Void(s) encountered (Y/N) depths N
Coal depth(s) ft 734 Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed by:

08/08/2026

API 47-051 - 02523 Farm name Michael Southworth MSH Well number 410H

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	24.000	20.000	110		J-55/94.00		Y
Surface	17.500	13.375	826		J-55/54.50		Y
Coal							
Intermediate 1	12.250	9.625	2,127		J-55/36.00		Y
Intermediate 2							
Intermediate 3							
Production	8.500	5.500	21,260		P-110/20.00		Y
Tubing							
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	Class A	Grout to Surface				Surface	24
Surface	Class A	824	15.6	1.19	0	Surface	8
Coal							
Intermediate 1	Class A	753	15.6	1.18	0	Surface	8
Intermediate 2							
Intermediate 3							
Production	Class A	3,905	14.5	1.26	0	Surface	24
Tubing							

Drillers TD (ft) 21,260 Loggers TD (ft) 21,260 **RECEIVED**
 Deepest formation penetrated Marcellus Plug back to (ft) _____ **Office of Oil and Gas**
 Plug back procedure N/A **DEC 11 2025**

Kick off depth (ft) 6,260 **WV Department of Environmental Protection**

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 _____

SURFACE: CENTRALIZERS - EVERY THIRD JOINT OF CASING
 INTERMEDIATE: CENTRALIZERS - EVERY THIRD JOINT OF CASING
 PRODUCTION: CENTRALIZERS - EVERY THIRD JOINT FROM SURFACE TO TOP OF CURVE, THEN EVERY JOINT UNTIL TD

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 - 02523 Farm name Michael Southworth MSH Well number 410H

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
	SEE ATTACH				

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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 (bbbls)	Amount of Nitrogen/other (units)
	SEE AT							

Please insert additional pages as applicable.

03/13/2026

API 47- 051 - 02523 Farm name Michael Southworth MSH Well number 410H

PRODUCING FORMATION(S)	DEPTHS		
Marcellus	6,442	TVD	8,313 MD

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Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 1,034 psi Bottom Hole 4,936 psi DURATION OF TEST 24 hrs

OPEN FLOW Gas 10,687 mcfpd Oil 468 bpd NGL 0 bpd Water 1,987 bpd GAS MEASURED BY Estimated Orifice Pilot

LITHOLOGY/ FORMATION	TOP	BOTTOM	TOP	BOTTOM	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H ₂ S, ETC)
	DEPTH IN FT NAME TVD	DEPTH IN FT TVD	DEPTH IN FT MD	DEPTH IN FT MD	
	0		0		
	SEE ATTACHMENT 3				

Please insert additional pages as applicable.

Drilling Contractor SWN Drilling Company
Address PO Box 12395 City Spring State TX Zip 77391-2359

Logging Company Baker Hughes
Address 9110 Grogans Mill Road City The Woodlands State TX Zip 77380

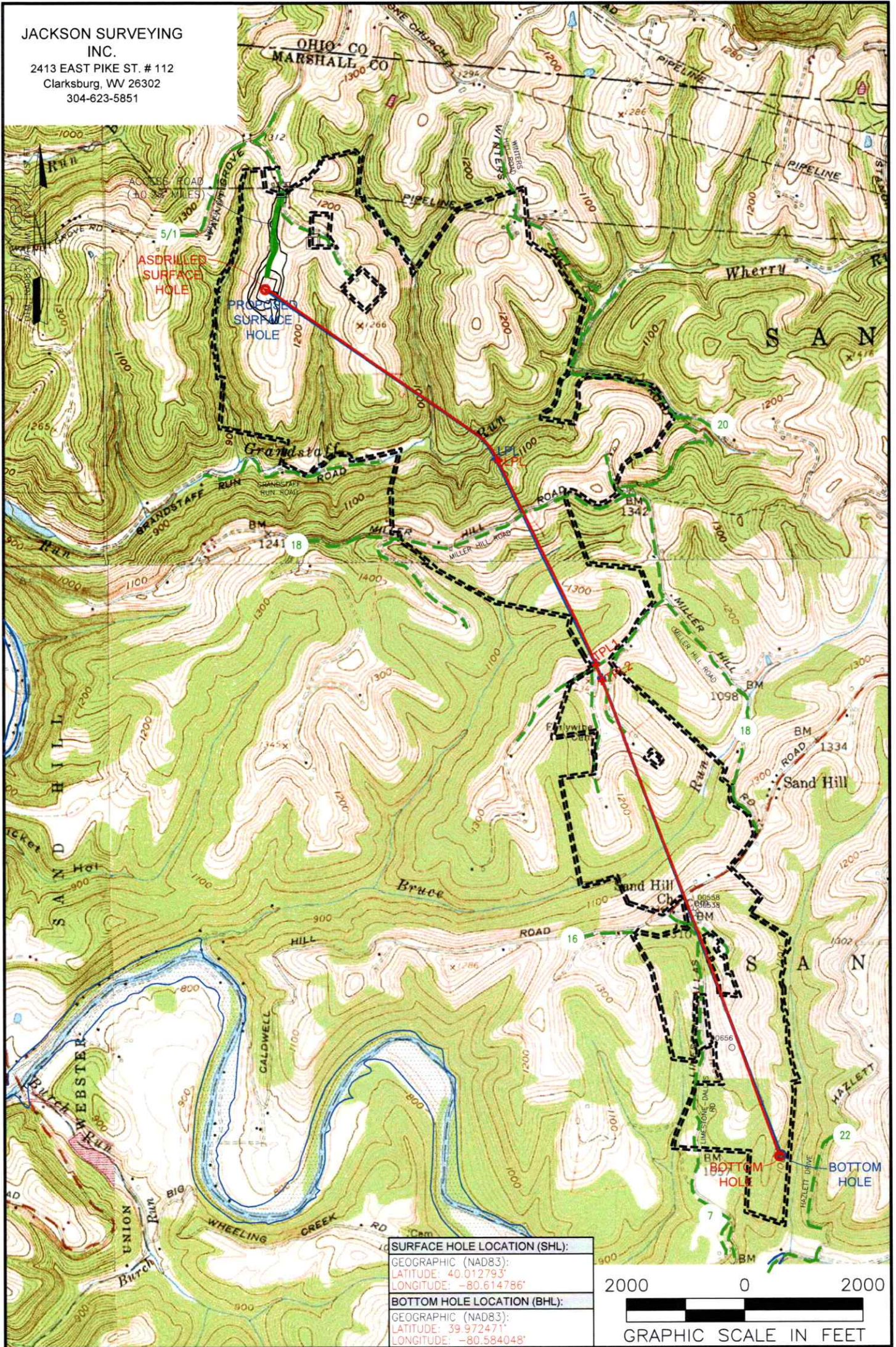
Cementing Company Schlumberger
Address 110 Schlumberger Drive City Sugar Land State TX Zip 77478

Stimulating Company SWN Drilling Company
Address PO Box 12395 City Spring State TX Zip 77391

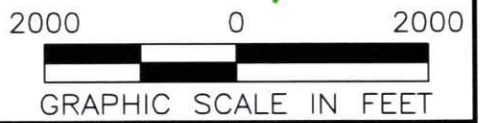
Please insert additional pages as applicable.

Completed by Eric Haskins Telephone 570 290-8837
Signature  Title Regulatory Manager Date 10/9/2025

JACKSON SURVEYING
 INC.
 2413 EAST PIKE ST. # 112
 Clarksburg, WV 26302
 304-623-5851



SURFACE HOLE LOCATION (SHL):
GEOGRAPHIC (NAD83):
LATITUDE: 40.012793'
LONGITUDE: -80.614786'
BOTTOM HOLE LOCATION (BHL):
GEOGRAPHIC (NAD83):
LATITUDE: 39.972471'
LONGITUDE: -80.584048'



NOTES ON SURVEY
 1. SURFACE AND ROYALTY OWNER INFORMATION AND THEIR BOUNDARIES SHOWN HEREON WERE PLOTTED FROM DEEDS AND/OR TAX PARCEL MAPS PROVIDED BY CLIENT AND/OR FIELD LOCATIONS.
 2. THIS PLAT DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARCELS SHOWN HEREON.
 4. ALL INSETS ARE GRID NORTH UNLESS OTHERWISE DEPICTED.

LEGEND:	03/13/2026
○ PROPOSED SURFACE HOLE / BOTTOM HOLE	— PUBLIC ROAD
⊙ EXISTING / PRODUCING WELLHEAD	— ACCESS ROAD TO PREV. SITE
LPL * LANDING POINT LOCATION	— LEASE BOUNDARY
— FLOOD PLAN	— PROPOSED PATH
	— ASDRILLED PATH

WELL OPERATOR: EXPAND OPERATING LLC	WELL (FARM) NAME: MICHAEL SOUTHWORTH MSH	WELL # 410H	SERIAL #
ADDRESS: 1300 FORT PIERPONT ROAD, SUITE 200 MORGANTOWN, WV 26508	COUNTY - CODE MARSHALL - 051	DISTRICT; SANDHILL	
SURFACE OWNER: BARRY A. & KIMBERLY S. LITMAN	USGS 7 1/2 QUADRANGLE MAP NAME VALLEY GROVE, WV	API #: 47-051-02523	

Latitude: 40°02'30"

SURFACE HOLE 8,806'

Latitude: 40°00'00" BOTTOM HOLE

BOTTOM HOLE 200'

JACKSON SURVEYING INC.

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GRID NORTH
UTM, NAD83 DATUM, ZONE 17, US FT

SURFACE HOLE LOCATION (SHL):

UTM (NAD83, ZONE 17, METERS):
NORTHING: 4,429,247.784
EASTING: 532,875.792

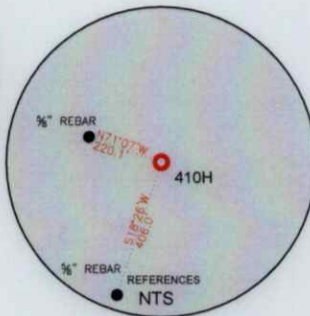
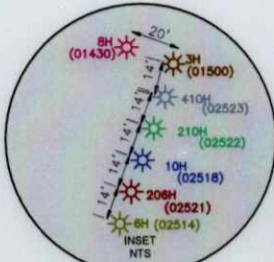
LANDING POINT (LPL):

UTM (NAD83, ZONE 17, METERS):
NORTHING: 4,428,375.648
EASTING: 534,065.014

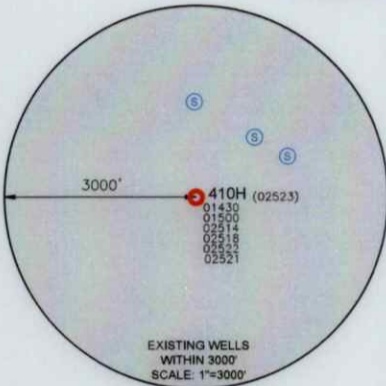
BOTTOM HOLE LOCATION (BHL):

UTM (NAD83, ZONE 17, METERS):
NORTHING: 4,424,788.136
EASTING: 535,528.398

LINE	BEARING	DISTANCE	DESCRIPTION	MONUMENT
L1	N 10°06'34" E	1677.07'	SHL TO LANDMARK	5/8" REBAR FOUND
L2	N 45°28'25" E	1115.19'	SHL TO LANDMARK	5/8" REBAR FOUND
LINE	BEARING	DISTANCE	CURVE LENGTH	DESCRIPTION
L3	S 53°43'57" E	4886.03'	4919.90'	SHL TO LPL
L4	S 20°52'42" E	285.87'	285.87'	AZL1 TO AZL2



SURFACE HOLE LOCATION (SHL):	
UTM (NAD83, ZONE 17, METERS):	NORTHING: 4,429,248.205 EASTING: 532,875.680
LANDING POINT (LPL):	
UTM (NAD83, ZONE 17, METERS):	NORTHING: 4,428,367.222 EASTING: 534,076.420
BOTTOM HOLE LOCATION (BHL):	
UTM (NAD83, ZONE 17, METERS):	NORTHING: 4,424,784.589 EASTING: 535,519.813



WELL RESTRICTIONS

1. THERE ARE TWO OCCUPIED DWELLINGS > 2500 SQ FT. WITHIN 625 FEET OF CENTER OF PAD.
2. NO AGRICULTURE BUILDINGS > 2500 SQ FT. WITHIN 625 FEET OF CENTER OF PAD.
3. NO WATER WELLS OR DEVELOPED SPRINGS ARE WITHIN 250 FEET OF PROPOSED WELL.
4. NO PERENNIAL STREAMS, LAKES, PONDS, OR RESERVOIRS WITHIN 100 FEET OF THE LIMITS OF DISTURBANCE.
5. NO NATURALLY PRODUCING TROUT STREAM WITHIN 300 FEET OF LIMITS OF DISTURBANCE.
6. NO GROUND INTAKE OR PUBLIC WATER SUPPLY WITHIN 1000 FEET OF WELL PAD, LIMITS OF DISTURBANCE, E & S CONTROLS OR PUBLIC WATER SUPPLY.

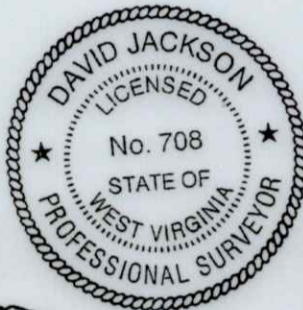
NOTES ON SURVEY

1. SURFACE AND ROYALTY OWNER INFORMATION AND THEIR BOUNDARIES SHOWN HEREON WERE PLOTTED FROM DEEDS AND/OR TAX PARCEL MAPS PROVIDED BY CLIENT AND/OR FIELD LOCATIONS.
2. THIS PLAT DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARCELS SHOWN HEREON.
3. ALL INSETS ARE GRID NORTH UNLESS OTHERWISE DEPICTED.

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 REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

P.S. 708

David L Jackson



COMPANY:

expand



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS
 WVDEP
 OFFICE OF OIL & GAS
 601 57TH STREET
 CHARLESTON, WV 25034

MINIMUM DEGREE OF ACCURACY: 1/200
 PROVEN SOURCE OF ELEVATION: SURVEY GRADE GPS (NAVD 88, US FT)

MICHAEL SOUTHWORTH MSH
 OPERATOR'S WELL #: 410H
 API WELL #: 47 051 02523
 STATE COUNTY PERMIT

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

WATERSHED: GRANDSTAFF RUN OF WHEELING CREEK (HUC-10) ELEVATION: 1271.4'

DISTRICT: SANDHILL COUNTY: MARSHALL QUADRANGLE: VALLEY GROVE, WV

SURFACE OWNER: BARRY A. & KIMBERLY S. LITMAN ACREAGE: ±159.776

OIL & GAS ROYALTY OWNER: BARRY A. & KIMBERLY S. LITMAN ACREAGE: ±159.776

DRILL DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION

CONVERT PLUG & ABANDON CLEAN OUT & REPLUG OTHER CHANGE (SPECIFY) ASDRILLED 03/13/2026

TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: 6,585 TVD 21,260 TMD

WELL OPERATOR: EXPAND OPERATING LLC DESIGNATED AGENT: BRITTANY WOODY
 ADDRESS: 1300 FORT PIERPONT ROAD, SUITE 200 ADDRESS: 1300 FORT PIERPONT ROAD, SUITE 200
 CITY: MORGANTOWN STATE: WV ZIP CODE: 26508 CITY: MORGANTOWN STATE: WV ZIP CODE: 26508

LEGEND:	REVISIONS:	DATE:
● PROPOSED SURFACE HOLE / BOTTOM HOLE	— SURVEYED BOUNDARY	03-25-2025
★ EXISTING / PRODUCING WELLHEAD	— DRILLING UNIT	
LPL★ LANDING POINT LOCATION	— LEASE BOUNDARY	
⊙ EXISTING WATER WELL	— ASDRILLED PATH	
⊙ EXISTING SPRING	— PROPOSED PATH	
		DRAWN BY: N. MANO
		SCALE: 1" = 2000'
		DRAWING NO:
		WELL LOCATION PLAT

Longitude: 80°35'00"
Longitude: 80°35'00"
SURFACE HOLE 10,520'
BOTTOM HOLE 10,028'

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P.S. 708

David L Jackson

03/13/2026

REVISIONS:		COMPANY:		expand	
		OPERATOR'S MICHAEL SOUTHWORTH MSH		API #:	DATE: 03-25-2025
		WELL #:		47-051-02523	DRAWN BY: N. MANO
		DISTRICT:		410H	SCALE: N/A
		SANDHILL		COUNTY:	DRAWING NO:
				MARSHALL	WELL LOCATION PLAT 2
				STATE:	
				WV	

JACKSON SURVEYING
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ADJOINING OWNERS TABLE		
TRACT	SURFACE OWNER	TAX PARCEL
A	EDGE WILLIAM F JR - TOD ET AL	12-2-16
B	LITMAN JAMES M & LUCY A	12-2-16.1
C	VELLENOWETH SCOTT U ET UX	12-2-1.1
D	LITMAN BARRY A	12-2-10.2
E	RADCLIFFE JOHN D & ANNA M	12-2-10.1
F	BLATT THERESA L	12-2-23
G	BAIRD FAMILY TRUST	12-2-2
H	GREGORY JOHN W ET UX	12-2-9.1
I	REINEKE RICHARD S	12-2-9.2
J	MCFARLAND DANIEL W & VICKI L	12-2-24
K	MCFARLAND DANIEL W JR	12-2-4.1
L	HUNTER RODNEY J	12-3-14
M	HUNTER MARILYN DARLENE	12-3-14.2
N	MCFARLAND BRIAN MATTHEW	12-3-12.1
O	GANTZER GREGORY	12-3-12
P	PARKER PETER	12-2-6
Q	GANTZER GREGORY	12-3-11.1
R	MCVICKER R G JR	12-3-11
S	TOTH JOHN J SR & ALICE J REVOCABLE TRUST	12-8-11
T	TOTH JOHN J SR & ALICE J REVOCABLE TRUST	12-8-12
U	GODDARD THERESA M	12-8-9
V	GODDARD THERESA M	12-8-8
W	SCHULTZ CHARLES E & CLAUDIA M - TOD	12-8-29.1
X	SCHULTZ CHARLES E & CLAUDIA M - TOD	12-8-29
Y	FONNER TRAVIS R & STACEY L	12-8-26
Z	STORCH LOIS M	12-8-25
A2	WILSON TERRY WAYNE	12-8-24
B2	MCGINNIS ROY EUGENE EST - MCGINNIS TRAVIS	12-8-23
C2	STORCH LOIS M	12-11-12.2
D2	STORCH JOSEPH WILLIAM ET UX	12-11-13
E2	ULLOM BRIAN KEITH & SARAH ANN	12-11-14.3
F2	KLAGES RONALD N	12-11-10.3
G2	HAZLETT KELLI	12-11-10.1
H2	HILLBERRY BRANDON	12-11-9.4
I2	STRAWN JENNIFER	12-11-14.2
J2	WHEELING CREEK WATERSHED COMM	12-16-22
K2	CONSOL LAND DEVELOPMENT CO	12-16-18
L2	THOMAS RICHARD LEE BARTON	12-11-16
M2	HILLBERRY PAUL E JR	12-11-9.3
N2	LOUGHERY JAMES P JR & BROCK ROBIN M	12-11-9.2
O2	HOWARD JOYCE	12-11-9.1
P2	GRAY DONALD G - TOD & GRAY WYATT MATTHEW	12-11-8
Q2	RUNKLE MICHELL LEE	12-11-8.7
R2	GRAY DONALD G ET UX - TOD	12-11-8.2
S2	GRAY WYATT MATTHEW	12-11-8.6
T2	SANDHILL CEMETERY TRUS	12-11-10.2
U2	M E CHURCH	12-11-17
V2	M E CHURCH TRUSTEES	12-11-11
W2	GRAY DONALD G - TOD & GRAY WYATT MATTHEW	12-11-8
X2	TEMPLE TERRY L & BEVERLY J - TOD	12-11-4
Y2	TOLAND WILLIAM EUGENE ET AL	12-8-33
Z2	TOLAND MARGARET	12-8-32
A3	WINTERS BEVERLY DIANE	12-8-31.2
B3	KENT PERRY L	12-8-30.1
C3	TOLAND CARRIE M	12-8-33.1
D3	RICHEY RANDY ET UX	12-8-35
E3	TOTH JOHN J SR & ALICE - TRUST	12-8-4.1
F3	PORTER CARLA S	12-9-13
G3	G F P CORP	12-2-7
H3	G F P CORP	12-2-12
I3	WV BRIGHTMONT LLC	12-2-14
J3	EDGE WILLIAM F JR - TOD ET AL	12-2-15

WELL BORE TRACTS		
TRACT	SURFACE OWNER (S) / ROYALTY OWNER (R)	TAX PARCEL
1	LITMAN BARRY A & KIMBERLY S (S/R)	12-2-10
TRACT	SURFACE OWNER (S)	TAX PARCEL
2	REINEKE RICHARD S (S)	12-2-9
3	TDL&G LLC (S)	12-2-8
4	TUBAUGH NORMA HUNTER ET AL (S)	12-2-5
5	TOTH JOHN J SR & ALICE J REVOCABLE TRUST (S)	12-8-1
6	W VA DEPT OF HIGHWAYS (S)	Miller Hill Rd
7	TOTH JOHN J SR & ALICE - TRUST (S)	12-8-4
8	CORNELL SALLY SEIBERT & ROBERT (S)	12-8-5
9	SCHULTZ CHARLES E & CLAUDIA M - TOD (S)	12-8-6
10	JOHNSON LONI M & JAMES A (S)	12-8-31.1
11	ALAMINSKI LUCINDA RUTH (S)	12-8-31.3
12	GRAY ZANDE C (S)	12-8-30
13	WINTERS BEVERLY DIANE (S)	12-11-6
14	STORCH JOSEPH WILLIAM ET UX (S)	12-11-7
15	STORCH JOSEPH WILLIAM ET UX (S)	12-11-12
16	W VA DEPT OF HIGHWAYS (S)	Sand Hill Rd
17	KLAGES MARY ANN (S)	12-11-10
18	KEYSER MARY ANN (S)	12-11-10.4
19	HILLBERRY GARRY L (S)	12-11-9
20	JUNKINS RONALD D JR ET AL (S)	12-11-15

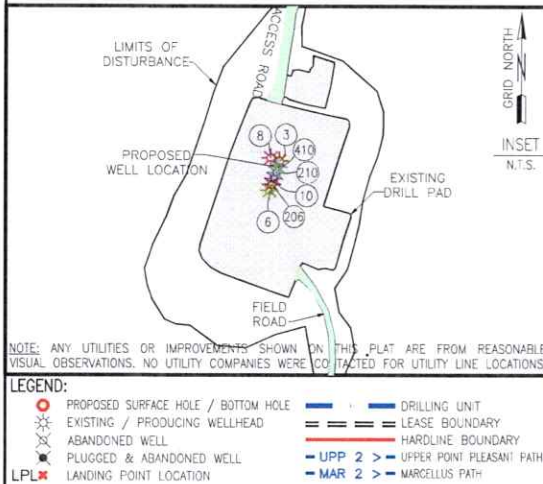
03/13/2026

REVISIONS:	COMPANY:		
	OPERATOR'S MICHAEL SOUTHWORTH MSH	API #:	DATE: 03-25-2025
	WELL #:	410H	47-051-02523
	DISTRICT:	COUNTY:	DRAWN BY: N. MANO
	SANDHILL	MARSHALL	SCALE: N/A
		STATE:	DRAWING NO:
		WV	WELL LOCATION PLAT 3

JACKSON SURVEYING
 INC.
 2413 EAST PIKE ST. # 112
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 304-623-5851

SURFACE HOLE LOCATION (SHL):
GEOGRAPHIC (NAD27): LATITUDE: 40.012715° LONGITUDE: -80.614888°
STATE PLANE (NAD 27), WVN, FT.: NORTHING: 552,912.678 EASTING: 1,687,691.214
TURNING POINT LOCATION-1 (TPL1):
GEOGRAPHIC (NAD27): LATITUDE: 40.011834° LONGITUDE: -80.613326°
STATE PLANE (NAD 27), WVN, FT.: NORTHING: 552,585.891 EASTING: 1,688,152.380
TURNING POINT LOCATION-2 (TPL2):
GEOGRAPHIC (NAD27): LATITUDE: 40.011621° LONGITUDE: -80.612925°
STATE PLANE (NAD 27), WVN, FT.: NORTHING: 552,507.040 EASTING: 1,688,263.653
TURNING POINT LOCATION-3 (TPL3):
GEOGRAPHIC (NAD27): LATITUDE: 40.009954° LONGITUDE: -80.602238°
STATE PLANE (NAD 27), WVN, FT.: NORTHING: 550,403.835 EASTING: 1,691,231.643
LANDING POINT LOCATION (LPL):
GEOGRAPHIC (NAD27): LATITUDE: 40.004810° LONGITUDE: -80.601099°
STATE PLANE (NAD 27), WVN, FT.: NORTHING: 549,965.415 EASTING: 1,691,515.685
AZIMUTH POINT LOCATION-1 (AZL1):
GEOGRAPHIC (NAD27): LATITUDE: 39.995321° LONGITUDE: -80.595173°
STATE PLANE (NAD 27), WVN, FT.: NORTHING: 549,908.717 EASTING: 1,693,163.328
AZIMUTH POINT LOCATION-2 (AZL2):
GEOGRAPHIC (NAD27): LATITUDE: 39.994637° LONGITUDE: -80.594797°
STATE PLANE (NAD 27), WVN, FT.: NORTHING: 546,258.349 EASTING: 1,693,265.752
BOTTOM HOLE LOCATION (BHL):
GEOGRAPHIC (NAD27): LATITUDE: 39.972427° LONGITUDE: -80.584151°
STATE PLANE (NAD 27), WVN, FT.: NORTHING: 538,132.473 EASTING: 1,696,150.834

SURFACE HOLE LOCATION (SHL):
GEOGRAPHIC (NAD27): LATITUDE: 40.012719° LONGITUDE: -80.614588°
STATE PLANE (NAD 27), WVN, FT.: NORTHING: 552,914.068 EASTING: 1,687,680.877
LANDING POINT LOCATION (LPL):
GEOGRAPHIC (NAD27): LATITUDE: 40.004734° LONGITUDE: -80.600568°
STATE PLANE (NAD 27), WVN, FT.: NORTHING: 549,957.136 EASTING: 1,691,582.632
AZIMUTH POINT LOCATION-1 (AZL1):
GEOGRAPHIC (NAD27): LATITUDE: 39.995253° LONGITUDE: -80.595113°
STATE PLANE (NAD 27), WVN, FT.: NORTHING: 546,483.701 EASTING: 1,693,175.910
AZIMUTH POINT LOCATION-2 (AZL2):
GEOGRAPHIC (NAD27): LATITUDE: 39.994518° LONGITUDE: -80.594754°
STATE PLANE (NAD 27), WVN, FT.: NORTHING: 546,214.631 EASTING: 1,693,277.343
BOTTOM HOLE LOCATION (BHL):
GEOGRAPHIC (NAD27): LATITUDE: 39.972396° LONGITUDE: -80.584251°
STATE PLANE (NAD 27), WVN, FT.: NORTHING: 538,121.306 EASTING: 1,696,122.467

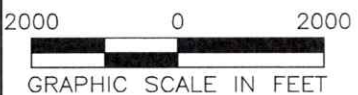
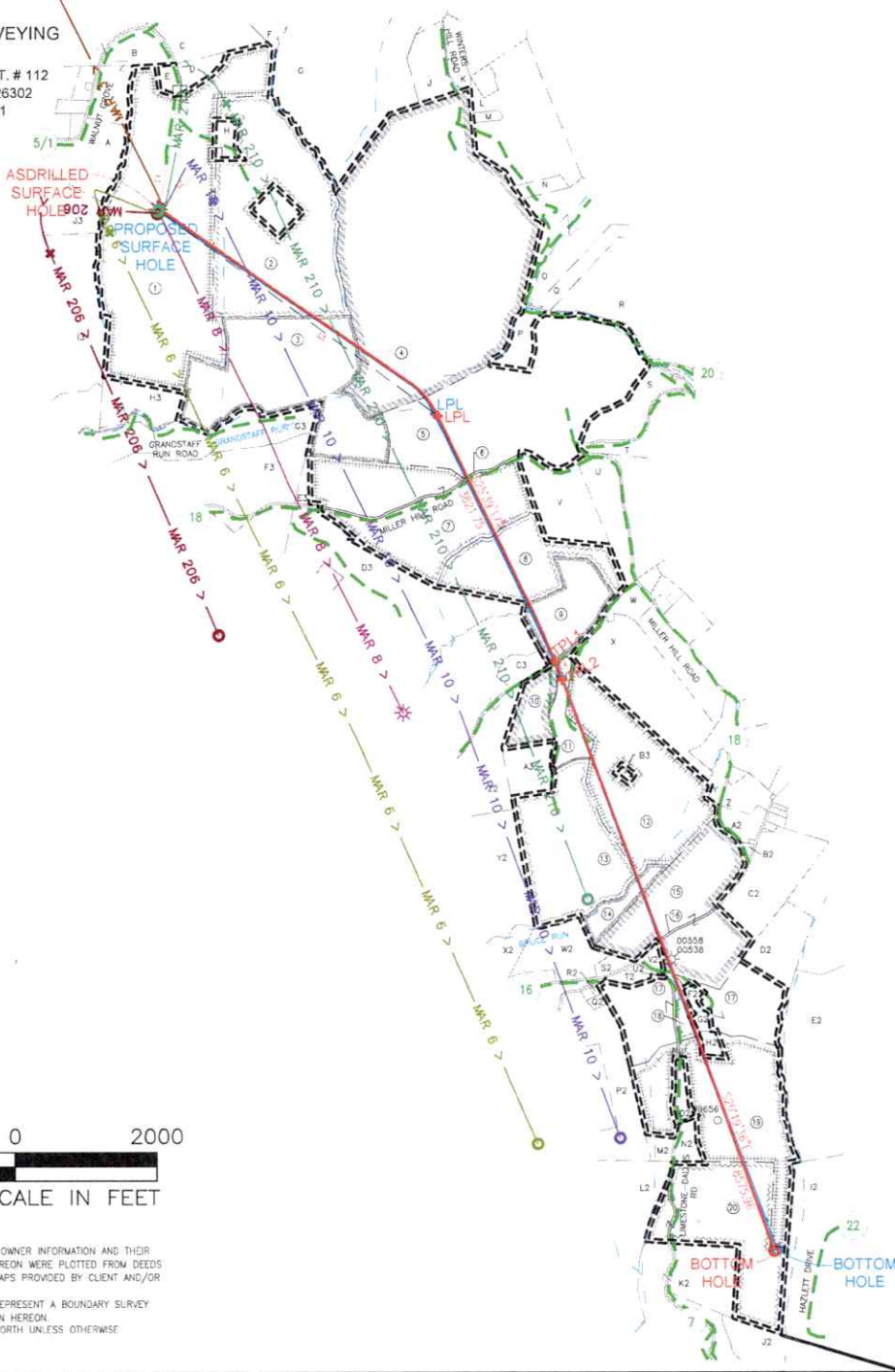


COMPANY:	
OPERATOR'S MICHAEL SOUTHWORTH MSH	
WELL #:	410H
DISTRICT:	SANDHILL
COUNTY:	MARSHALL
STATE:	WV
API #:	47-051-02523
EXPAND OPERATING LLC SURFACE HOLES	
3. "MICHAEL SOUTHWORTH MSH 3H"	
6. "MICHAEL SOUTHWORTH MSH 6H"	
8. "MICHAEL SOUTHWORTH MSH 8H"	
10. "MICHAEL SOUTHWORTH MSH 10H"	
206. "MICHAEL SOUTHWORTH MSH 206H"	
210. "MICHAEL SOUTHWORTH MSH 210H"	
410. "MICHAEL SOUTHWORTH MSH 410H"	
REVISIONS:	
DATE:	03-25-2025
DRAWN BY:	N. MANO
SCALE:	1" = 2000'
DRAWING NO.:	
INTERNAL WELL PLAT:	

03/13/2026

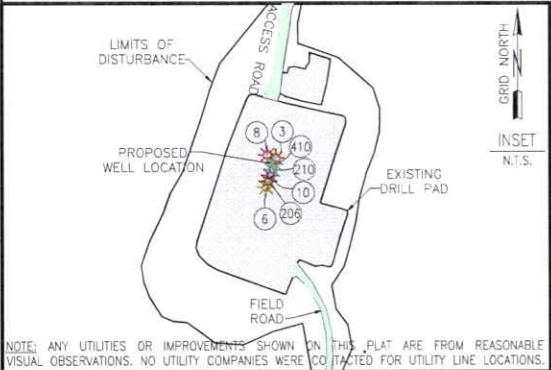
JACKSON SURVEYING
INC.
2413 EAST PIKE ST. # 112
Clarksburg, WV 26302
304-623-5851

GRID NORTH
UTM, NAD83 DATUM, ZONE 17, US FT



NOTES ON SURVEY

1. SURFACE AND ROYALTY OWNER INFORMATION AND THEIR BOUNDARIES SHOWN HEREON WERE PLOTTED FROM DEEDS AND/OR TAX PARCEL MAPS PROVIDED BY CLIENT AND/OR FIELD LOCATIONS.
2. THIS PLAT DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARCELS SHOWN HEREON.
3. ALL INSERTS ARE GRID NORTH UNLESS OTHERWISE DEPICTED.



NOTE: ANY UTILITIES OR IMPROVEMENTS SHOWN ON THIS PLAT ARE FROM REASONABLE VISUAL OBSERVATIONS. NO UTILITY COMPANIES WERE CONTACTED FOR UTILITY LINE LOCATIONS.

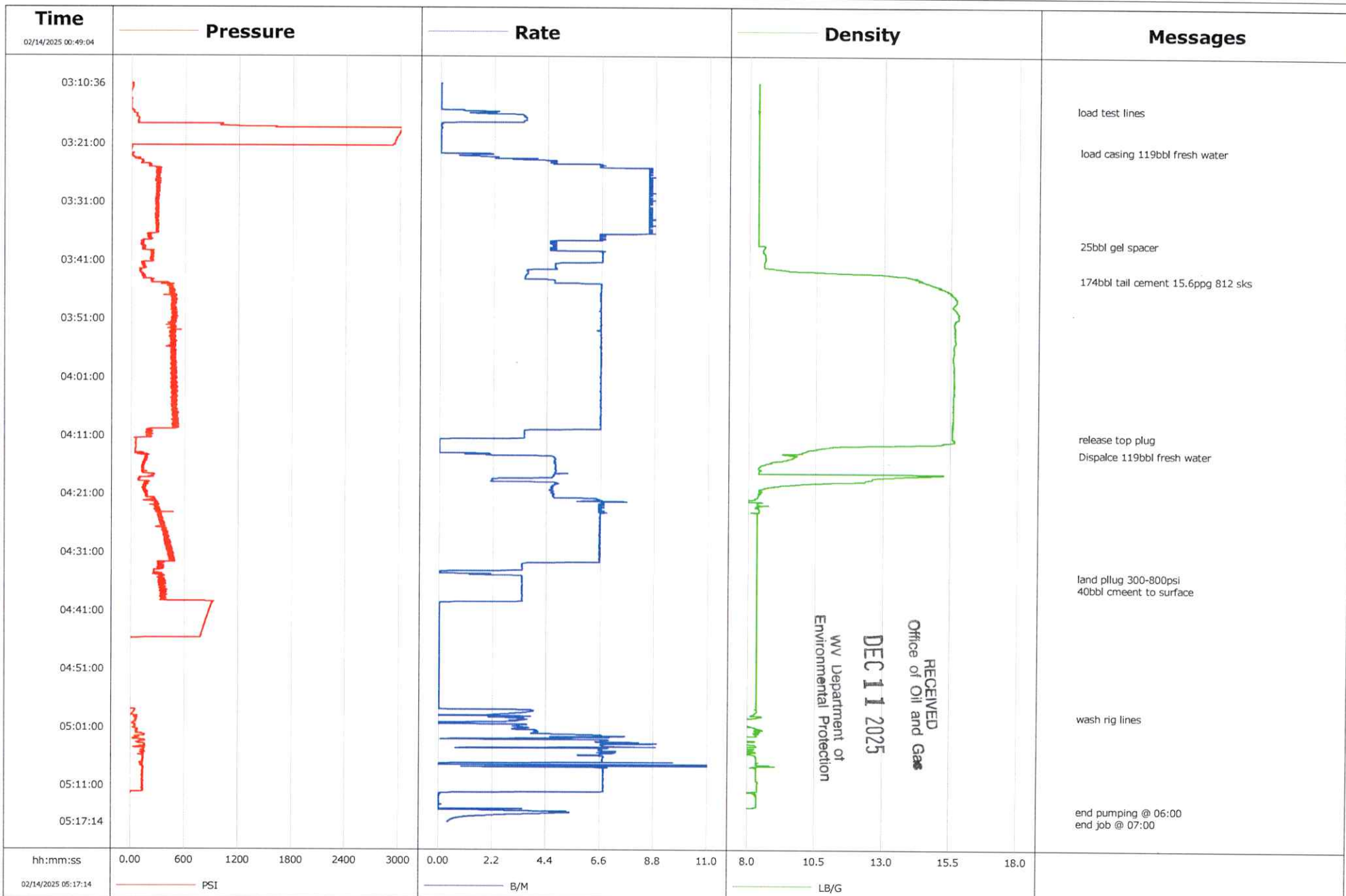
LEGEND:

	PROPOSED SURFACE HOLE / BOTTOM HOLE		DRILLING UNIT
	EXISTING / PRODUCING WELLHEAD		LEASE BOUNDARY
	ABANDONED WELL		HARDLINE BOUNDARY
	PLUGGED & ABANDONED WELL		UPPER POINT PLEASANT PATH
	LANDING POINT LOCATION		MARCELLUS PATH

COMPANY:		
OPERATOR'S MICHAEL SOUTHWORTH MSH		API #:
WELL #:	410H	47-051-02523
DISTRICT:	SANDHILL	COUNTY:
		MARSHALL
		STATE:
		WV
EXPAND OPERATING LLC SURFACE HOLES		
3. "MICHAEL SOUTHWORTH MSH 3H"		
6. "MICHAEL SOUTHWORTH MSH 6H"		
8. "MICHAEL SOUTHWORTH MSH 8H"		
10. "MICHAEL SOUTHWORTH MSH 10H"		
206. "MICHAEL SOUTHWORTH MSH 206H"		
210. "MICHAEL SOUTHWORTH MSH 210H"		
410. "MICHAEL SOUTHWORTH MSH 410H"		
REVISIONS:	DATE: 03-25-2025	
	DRAWN BY: N. MANO	
	SCALE: 1" = 2000'	
	DRAWING NO:	
	INTERNAL WELL PLAN	

03/13/2026

Well	Michael Southworth 410H	Client	Expand Energy
Field	Panhandle	SIR No.	1059713.12.21
Engineer		Job Type	Surface
Country		Job Date	



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 DEC 11 2025
 WV Department of
 Environmental Protection



Cementing Service Report

Customer Expand Energy				Job Number 1059713.12.21										
Well Michael Southworth 410H 410H			Location (legal) 47-051-02523-00-00			Schlumberger Location		Job Start Feb/14/2025						
Field Panhandle		Formation Name/Type		Deviation deg		Bit Size 17.5 in		Well MD 810.0 ft		Well TVD 810.0 ft				
County Marshall		State/Province West Virginia		BHP psi		BHST degF		BHCT degF		Pore Press. Gradient lb/gal				
Well Master 0067413960		API/UWI 47-051-02523-00-00												
Rig Name 41		Drilled For Gas		Service Via Land		Casing/Liner								
						Depth, ft		Size, in		Weight, lb/ft	Grade	Thread		
Offshore Zone		Well Class New		Well Type Development		110.0		20.0		90.0		N/A	BUTT	
						810.0		13.4		48.0		110	BUTT	
Drilling Fluid Type		Max. Density lb/gal		Plastic Viscosity cP		Tubing/Drill Pipe								
						T/D		Depth, ft		Size, in		Weight, lb/ft	Grade	Thread
Service Line Cementing		Job Type Surface												
Max. Allowed Tub. Press psi		Max. Allowed Ann. Press psi		WH Connection Single Cement head		Perforations/Open Hole								
						Top, ft		Bottom, ft		shot/ft		No. of Shots	Total Interval ft	
Service Instructions						ft		ft					Diameter in	
						ft		ft						
						Treat Down Casing		Displacement 119.0 bbl		Packer Type		Packer Depth ft		
						Tubing Vol. bbl		Casing Vol. 126.0 bbl		Annular Vol. bbl		Openhole Vol. bbl		
Casing/Tubing Secured <input checked="" type="checkbox"/>		1 Hole Vol. Circulated prior to Cement <input type="checkbox"/>		Casing Tools				Squeeze Job						
Lift Pressure psi		Shoe Type Float		Squeeze Type		Pipe Rotated <input type="checkbox"/>		Pipe Reciprocated <input type="checkbox"/>		Shoe Depth 810.0 ft		Tool Type		
No. Centralizers		Top Plugs 1		Bottom Plugs		Stage Tool Type		Tool Depth ft		Cement Head Type		Stage Tool Depth ft	Tail Pipe Size in	
Job Scheduled For Feb/13/2025 21:00		Arrived on Location Feb/13/2025 21:00		Leave Location Feb/14/2025 07:00		Collar Type Float		Tail Pipe Depth ft		Collar Depth 758.0 ft		Sqz. Total Vol. bbl		
Date		Time 24-hr clock		Treating Pressure PSI		Flow Rate B/M		Density LB/G		Volume BBL		Message		
02/14/2025		00:49:04		-0		25.0		0.01		0.0				
02/14/2025		00:49:34		0		25.0		0.01		0.0				
02/14/2025		00:50:04		0		25.0		0.01		0.0				
02/14/2025		00:50:34		0		25.0		0.01		0.0		RECEIVED Office of Oil and Gas		
02/14/2025		00:51:04		0		25.0		0.01		0.0				
02/14/2025		00:51:34		-1		25.0		0.02		0.0		DEC 11 2025		
02/14/2025		00:52:04		-1		25.0		0.01		0.0				
02/14/2025		00:52:34		0		25.0		0.01		0.0		WV Department of Environmental Protection		
02/14/2025		00:53:04		-1		25.0		0.01		0.0				
02/14/2025		00:53:34		-0		25.0		0.01		0.0				
02/14/2025		00:54:04		0		25.0		0.01		0.0				
02/14/2025		00:54:34		1		25.0		0.01		0.0				
02/14/2025		00:55:04		0		25.0		0.01		0.0				
02/14/2025		00:55:34		0		25.0		0.01		0.0				
02/14/2025		00:56:04		0		25.0		0.01		0.0				
02/14/2025		00:56:34		-1		25.0		0.01		0.0				
02/14/2025		00:57:04		-0		25.0		0.01		0.0				
02/14/2025		00:57:34		1		25.0		0.01		0.0				
02/14/2025		00:58:04		0		25.0		0.01		0.0				
02/14/2025		00:58:34		-0		25.0		0.01		0.0				
02/14/2025		00:59:04		-0		25.0		0.01		0.0				

03/13/2026

Well		Field		Job Start		Customer		Job Number	
Michael Southworth 410H 410h		Panhandle		Feb/14/2025		Expand Energy		1059713.12.21	
Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message			
02/14/2025	01:00:04	0	25.0	0.01	0.0				
02/14/2025	01:00:34	-1	25.0	0.01	0.0				
02/14/2025	01:01:04	0	25.0	0.01	0.0				
02/14/2025	01:01:34	-1	25.0	0.01	0.0				
02/14/2025	01:02:04	-1	25.0	0.01	0.0				
02/14/2025	01:02:34	-1	25.0	0.01	0.0				
02/14/2025	01:03:04	-1	25.0	0.01	0.0				
02/14/2025	01:03:34	-1	25.0	0.01	0.0				
02/14/2025	01:04:04	-1	25.0	0.01	0.0				
02/14/2025	01:04:34	-0	25.0	0.01	0.0				
02/14/2025	01:05:04	-1	25.0	0.01	0.0				
02/14/2025	01:05:34	-1	25.0	0.01	0.0				
02/14/2025	01:06:04	-0	25.0	0.01	0.0				
02/14/2025	01:06:34	-1	25.0	0.01	0.0				
02/14/2025	01:07:04	-1	25.0	0.01	0.0				
02/14/2025	01:07:34	-1	25.0	0.01	0.0				
02/14/2025	01:08:04	-2	25.0	0.01	0.0				
02/14/2025	01:08:34	-1	25.0	0.01	0.0				
02/14/2025	01:09:04	-1	25.0	0.01	0.0				
02/14/2025	01:09:34	-2	25.0	0.01	0.0				
02/14/2025	01:10:04	-1	25.0	0.01	0.0				
02/14/2025	01:10:34	-1	25.0	0.01	0.0				
02/14/2025	01:11:04	-1	25.0	0.01	0.0				
02/14/2025	01:11:34	-2	25.0	0.01	0.0				
02/14/2025	01:12:04	-2	25.0	0.01	0.0				
02/14/2025	01:12:34	-1	25.0	0.01	0.0				
02/14/2025	01:13:04	-1	25.0	0.01	0.0				
02/14/2025	01:13:34	-1	25.0	0.01	0.0				
02/14/2025	01:14:04	-1	25.0	0.02	0.0				
02/14/2025	01:14:34	-1	25.0	0.02	0.0				
02/14/2025	01:15:04	-1	25.0	0.01	0.0				
02/14/2025	01:15:34	-1	25.0	0.01	0.0	RECEIVED Office of Oil and Gas DEC 11 2025 WV Department of Environmental Protection			
02/14/2025	01:16:04	-1	25.0	0.01	0.0				
02/14/2025	01:16:34	-1	25.0	0.01	0.0				
02/14/2025	01:17:04	-1	25.0	0.01	0.0				
02/14/2025	01:17:34	-1	25.0	0.01	0.0				
02/14/2025	01:18:04	-1	25.0	0.01	0.0				
02/14/2025	01:18:34	-1	25.0	0.01	0.0				
02/14/2025	01:19:04	-2	25.0	0.01	0.0				
02/14/2025	01:19:34	-1	25.0	0.01	0.0				
02/14/2025	01:20:04	-1	25.0	0.01	0.0				
02/14/2025	01:20:34	-2	25.0	0.01	0.0				
02/14/2025	01:21:04	-1	25.0	0.02	0.0				
02/14/2025	01:21:34	-1	25.0	0.01	0.0				
02/14/2025	01:22:04	-1	25.0	0.01	0.0				
02/14/2025	01:22:34	-1	25.0	0.01	0.0				
02/14/2025	01:23:04	-1	25.0	0.01	0.0				
02/14/2025	01:23:34	-1	25.0	0.01	0.0				
02/14/2025	01:24:04	-2	25.0	0.01	0.0				
02/14/2025	01:24:34	-1	25.0	0.01	0.0				
02/14/2025	01:25:04	-2	25.0	0.01	0.0				
02/14/2025	01:25:34	-2	25.0	0.01	0.0				
02/14/2025	01:26:04	-1	25.0	0.01	0.0				
02/14/2025	01:26:34	-2	25.0	0.01	0.0				

Well		Field		Job Start		Customer		Job Number	
Michael Southworth 410H 410h		Panhandle		Feb/14/2025		Expand Energy		1059713.12.21	
Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message			
02/14/2025	01:27:34	-1	25.0	0.01	0.0				
02/14/2025	01:28:04	-2	25.0	0.01	0.0				
02/14/2025	01:28:34	-1	25.0	0.01	0.0				
02/14/2025	01:29:04	-1	25.0	0.01	0.0				
02/14/2025	01:29:34	-1	25.0	0.01	0.0				
02/14/2025	01:30:04	-1	25.0	0.01	0.0				
02/14/2025	01:30:34	-1	25.0	0.01	0.0				
02/14/2025	01:31:04	-1	25.0	0.01	0.0				
02/14/2025	01:31:34	-1	25.0	0.01	0.0				
02/14/2025	01:32:04	0	25.0	0.01	0.0				
02/14/2025	01:32:34	-1	25.0	0.01	0.0				
02/14/2025	01:33:34	-1	25.0	0.01	0.0				
02/14/2025	01:34:04	-1	25.0	0.01	0.0				
02/14/2025	01:34:34	-1	25.0	0.01	0.0				
02/14/2025	01:35:04	-0	25.0	0.01	0.0				
02/14/2025	01:35:34	-1	25.0	0.01	0.0				
02/14/2025	01:36:04	-1	25.0	0.01	0.0				
02/14/2025	01:36:34	-1	25.0	0.01	0.0				
02/14/2025	01:37:04	-1	25.0	0.01	0.0				
02/14/2025	01:37:34	-1	25.0	0.01	0.0				
02/14/2025	01:38:04	-1	25.0	0.01	0.0				
02/14/2025	01:38:34	-1	25.0	0.01	0.0				
02/14/2025	01:39:04	-2	25.0	0.01	0.0				
02/14/2025	01:40:04	-1	25.0	0.01	0.0				
02/14/2025	01:40:34	-1	25.0	0.01	0.0				
02/14/2025	01:41:04	-1	25.0	0.01	0.0	RECEIVED Office of Oil and Gas			
02/14/2025	01:41:34	-2	25.0	0.01	0.0				
02/14/2025	01:42:04	-1	25.0	0.01	0.0	DEC 11 2025			
02/14/2025	01:42:34	-1	25.0	0.01	0.0				
02/14/2025	01:43:04	-1	25.0	0.01	0.0	WV Department of Environmental Protection			
02/14/2025	01:43:34	-1	25.0	0.01	0.0				
02/14/2025	01:44:04	-1	25.0	0.01	0.0				
02/14/2025	01:44:34	-1	25.0	0.01	0.0				
02/14/2025	01:45:04	-1	25.0	0.01	0.0				
02/14/2025	01:45:34	-1	25.0	0.01	0.0				
02/14/2025	01:46:04	-1	25.0	0.01	0.0				
02/14/2025	01:46:34	-1	25.0	0.01	0.0				
02/14/2025	01:47:04	-1	25.0	0.01	0.0				
02/14/2025	01:47:34	-1	25.0	0.01	0.0				
02/14/2025	01:48:04	-1	25.0	0.02	0.0				
02/14/2025	01:48:34	-1	25.0	0.01	0.0				
02/14/2025	01:49:04	-1	25.0	0.01	0.0				
02/14/2025	01:49:34	-1	25.0	0.01	0.0				
02/14/2025	01:50:04	-1	25.0	0.01	0.0				
02/14/2025	01:50:34	-1	25.0	0.01	0.0				
02/14/2025	01:51:04	-1	25.0	0.02	0.0				
02/14/2025	01:51:34	-1	25.0	0.01	0.0				
02/14/2025	01:52:04	-1	25.0	0.01	0.0				
02/14/2025	01:52:34	0	25.0	0.01	0.0				
02/14/2025	01:53:04	-0	25.0	0.01	0.0				
02/14/2025	01:53:34	-0	25.0	0.01	0.0				
02/14/2025	01:54:04	-1	25.0	0.01	0.0				
02/14/2025	01:54:34	-1	25.0	0.01	0.0				
02/14/2025	01:55:04	-1	25.0	0.01	0.0				

Well		Field		Job Start		Customer		Job Number	
Michael Southworth 410H 410h		Panhandle		Feb/14/2025		Expand Energy		1059713.12.21	
Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message			
02/14/2025	01:56:04	-1	25.0	0.01	0.0				
02/14/2025	01:56:34	-1	25.0	0.01	0.0				
02/14/2025	01:57:04	-1	25.0	0.01	0.0				
02/14/2025	01:57:34	-1	25.0	0.01	0.0				
02/14/2025	01:58:04	0	25.0	0.01	0.0				
02/14/2025	01:58:34	-1	25.0	0.01	0.0				
02/14/2025	01:59:04	-0	25.0	0.01	0.0				
02/14/2025	01:59:34	-1	25.0	0.01	0.0				
02/14/2025	02:00:04	-1	25.0	0.01	0.0				
02/14/2025	02:00:34	-1	25.0	0.01	0.0				
02/14/2025	02:01:04	-1	25.0	0.01	0.0				
02/14/2025	02:01:34	0	25.0	0.01	0.0				
02/14/2025	02:02:04	-1	25.0	0.01	0.0				
02/14/2025	02:02:34	0	25.0	0.01	0.0				
02/14/2025	02:03:04	-0	25.0	0.01	0.0				
02/14/2025	02:03:34	0	25.0	0.01	0.0				
02/14/2025	02:04:04	-1	25.0	0.01	0.0				
02/14/2025	02:04:34	0	25.0	0.01	0.0	RECEIVED Office of Oil and Gas DEC 11 2025 WV Department of Environmental Protection			
02/14/2025	02:05:04	-1	25.0	0.01	0.0				
02/14/2025	02:05:34	-1	25.0	0.01	0.0				
02/14/2025	02:06:04	-1	25.0	0.02	0.0				
02/14/2025	02:06:34	-0	25.0	0.01	0.0				
02/14/2025	02:07:04	-1	25.0	0.01	0.0				
02/14/2025	02:07:34	-1	25.0	0.01	0.0				
02/14/2025	02:08:04	-1	25.0	0.01	0.0				
02/14/2025	02:08:34	-1	25.0	0.01	0.0				
02/14/2025	02:09:04	-1	25.0	0.01	0.0				
02/14/2025	02:09:34	-0	25.0	0.02	0.0				
02/14/2025	02:10:04	-1	25.0	0.01	0.0				
02/14/2025	02:10:34	-0	25.0	0.01	0.0				
02/14/2025	02:11:04	-1	25.0	0.01	0.0				
02/14/2025	02:11:34	-0	25.0	0.01	0.0				
02/14/2025	02:12:04	-0	25.0	0.01	0.0				
02/14/2025	02:12:34	1	25.0	0.01	0.0				
02/14/2025	02:13:04	0	25.0	0.01	0.0				
02/14/2025	02:13:34	0	25.0	0.01	0.0				
02/14/2025	02:14:04	0	25.0	0.01	0.0				
02/14/2025	02:14:34	-0	25.0	0.02	0.0				
02/14/2025	02:15:04	-0	25.0	0.01	0.0				
02/14/2025	02:15:34	0	25.0	0.01	0.0				
02/14/2025	02:16:04	0	25.0	0.01	0.0				
02/14/2025	02:16:34	0	25.0	0.01	0.0				
02/14/2025	02:17:04	0	25.0	0.01	0.0				
02/14/2025	02:17:34	-0	25.0	0.01	0.0				
02/14/2025	02:18:04	1	25.0	0.02	0.0				
02/14/2025	02:18:34	-0	25.0	0.01	0.0				
02/14/2025	02:19:04	0	25.0	0.02	0.0				
02/14/2025	02:19:34	0	25.0	0.01	0.0				
02/14/2025	02:20:04	0	25.0	0.01	0.0				
02/14/2025	02:20:34	0	25.0	0.02	0.0				
02/14/2025	02:21:04	-1	25.0	0.01	0.0				
02/14/2025	02:21:34	0	25.0	0.01	0.0				
02/14/2025	02:22:04	0	25.0	0.02	0.0				
02/14/2025	02:22:34	0	25.0	0.01	0.0				

03/13/2026

Well		Field		Job Start		Customer		Job Number	
Michael Southworth 410H 410h		Panhandle		Feb/14/2025		Expand Energy		1059713.12.21	
Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message			
02/14/2025	02:23:34	0	25.0	0.02	0.0				
02/14/2025	02:24:04	0	25.0	0.01	0.0				
02/14/2025	02:24:34	0	25.0	0.01	0.0				
02/14/2025	02:25:04	0	25.0	0.02	0.0				
02/14/2025	02:25:34	0	25.0	0.01	0.0				
02/14/2025	02:26:04	-0	25.0	0.02	0.0				
02/14/2025	02:26:34	0	25.0	0.02	0.0				
02/14/2025	02:27:04	-0	25.0	0.01	0.0				
02/14/2025	02:27:34	-0	25.0	0.01	0.0				
02/14/2025	02:28:04	-1	25.0	0.01	0.0				
02/14/2025	02:28:34	0	25.0	0.01	0.0				
02/14/2025	02:29:04	0	25.0	0.02	0.0				
02/14/2025	02:29:34	-0	25.0	0.02	0.0				
02/14/2025	02:30:04	-1	25.0	0.01	0.0				
02/14/2025	02:31:04	-1	25.0	0.01	0.0				
02/14/2025	02:31:34	-1	25.0	0.01	0.0				
02/14/2025	02:32:04	-1	25.0	0.01	0.0				
02/14/2025	02:32:34	-0	25.0	0.01	0.0				
02/14/2025	02:33:04	-1	25.0	0.02	0.0				
02/14/2025	02:33:34	-0	25.0	0.01	0.0				
02/14/2025	02:34:04	0	25.0	0.02	0.0				
02/14/2025	02:34:34	0	25.0	0.02	0.0				
02/14/2025	02:35:04	-1	25.0	0.01	0.0	RECEIVED Office of Oil and Gas DEC 11 2025 WV Department of Environmental Protection			
02/14/2025	02:35:34	0	25.0	0.01	0.0				
02/14/2025	02:36:04	-0	25.0	0.01	0.0				
02/14/2025	02:36:34	0	25.0	0.01	0.0				
02/14/2025	02:37:34	-0	25.0	0.01	0.0				
02/14/2025	02:38:04	0	25.0	0.01	0.0				
02/14/2025	02:38:34	-0	25.0	0.01	0.0				
02/14/2025	02:39:04	-1	25.0	0.01	0.0				
02/14/2025	02:39:34	0	25.0	0.02	0.0				
02/14/2025	02:40:04	-0	25.0	0.01	0.0				
02/14/2025	02:40:34	1	25.0	0.01	0.0				
02/14/2025	02:41:04	-1	25.0	0.01	0.0				
02/14/2025	02:41:34	-1	25.0	0.01	0.0				
02/14/2025	02:42:04	0	25.0	0.01	0.0				
02/14/2025	02:42:34	-1	25.0	0.01	0.0				
02/14/2025	02:43:04	-1	25.0	0.01	0.0				
02/14/2025	02:43:34	-1	25.0	0.01	0.0				
02/14/2025	02:44:04	-0	25.0	0.01	0.0				
02/14/2025	02:44:34	-0	25.0	0.01	0.0				
02/14/2025	02:45:04	-1	25.0	0.01	0.0				
02/14/2025	02:45:34	0	25.0	0.01	0.0				
02/14/2025	02:46:04	-1	25.0	0.02	0.0				
02/14/2025	02:46:34	-1	25.0	0.01	0.0				
02/14/2025	02:47:04	-1	25.0	0.01	0.0				
02/14/2025	02:47:34	0	25.0	0.01	0.0				
02/14/2025	02:48:04	-1	25.0	0.01	0.0				
02/14/2025	02:48:34	-1	25.0	0.02	0.0				
02/14/2025	02:49:04	-1	25.0	0.01	0.0				
02/14/2025	02:49:34	-1	25.0	0.02	0.0				
02/14/2025	02:50:04	-1	25.0	0.01	0.0				
02/14/2025	02:50:34	-1	25.0	0.02	0.0				
02/14/2025	02:51:04	-1	25.0	0.01	0.0				

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Well		Field		Job Start		Customer		Job Number	
Michael Southworth 410H 410h		Panhandle		Feb/14/2025		Expand Energy		1059713.12.21	
Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message			
02/14/2025	02:52:04	-1	25.0	0.01	0.0				
02/14/2025	02:52:34	-1	25.0	0.01	0.0				
02/14/2025	02:53:04	-1	25.0	0.01	0.0				
02/14/2025	02:53:34	-1	25.0	0.01	0.0				
02/14/2025	02:54:04	-1	25.0	0.02	0.0				
02/14/2025	02:54:34	-0	25.0	0.01	0.0				
02/14/2025	02:55:04	-1	25.0	0.01	0.0				
02/14/2025	02:55:34	-1	25.0	0.02	0.0				
02/14/2025	02:56:04	-1	25.0	0.01	0.0				
02/14/2025	02:56:34	-1	25.0	0.01	0.0				
02/14/2025	02:57:04	-1	25.0	0.01	0.0				
02/14/2025	02:57:34	-1	25.0	0.02	0.0				
02/14/2025	02:58:04	-2	25.0	0.02	0.0				
02/14/2025	02:58:34	-1	25.0	0.01	0.0				
02/14/2025	02:59:04	-1	25.0	0.01	0.0				
02/14/2025	02:59:34	-1	25.0	0.02	0.0				
02/14/2025	03:00:04	-0	25.0	0.01	0.0				
02/14/2025	03:00:34	-13	0.1	8.36	0.0	RECEIVED Office of Oil and Gas			
02/14/2025	03:01:04	-13	0.1	8.36	0.0				
02/14/2025	03:01:34	-13	0.0	8.32	0.0	DEC 11 2025			
02/14/2025	03:02:04	-12	10.0	10.02	0.0				
02/14/2025	03:02:34	-18	0.0	8.32	0.0	WV Department of Environmental Protection			
02/14/2025	03:03:04	41	17.6	8.70	0.0				
02/14/2025	03:03:34	1	21.0	8.37	0.0				
02/14/2025	03:04:04	-16	0.0	8.35	0.0				
02/14/2025	03:04:34	-16	0.0	8.34	0.0				
02/14/2025	03:05:04	-17	0.0	8.35	0.0				
02/14/2025	03:05:34	50	1.9	8.35	0.0				
02/14/2025	03:06:04	-13	0.0	8.35	0.0				
02/14/2025	03:06:34	-16	0.0	8.34	0.0				
02/14/2025	03:07:04	-15	1.8	8.34	0.0				
02/14/2025	03:07:34	-14	0.0	8.34	0.0				
02/14/2025	03:08:04	105	1.8	8.34	0.0				
02/14/2025	03:08:34	53	4.8	8.34	0.0				
02/14/2025	03:09:04	410	4.2	8.35	0.0				
02/14/2025	03:09:34	72	3.0	8.34	0.0				
02/14/2025	03:10:04	857	5.6	8.34	0.0				
02/14/2025	03:10:34	25	0.1	8.34	0.0				
02/14/2025	03:11:04	17	0.0	8.34	0.0				
02/14/2025	03:11:34	6	0.0	8.35	0.0				
02/14/2025	03:12:04	-5	0.0	8.34	0.0				
02/14/2025	03:12:34	-7	0.0	8.34	0.0				
02/14/2025	03:13:04	-8	0.0	8.34	0.0				
02/14/2025	03:13:34	-2	0.0	8.34	0.0				
02/14/2025	03:14:04	-1	0.0	8.34	0.0				
02/14/2025	03:14:34	-7	0.0	8.34	0.0				
02/14/2025	03:15:00	-7	0.0	8.34	0.0	load test lines			
02/14/2025	03:15:04	-8	0.0	8.34	0.0				
02/14/2025	03:15:34	28	2.2	8.33	0.0				
02/14/2025	03:16:04	58	3.4	8.34	0.0				
02/14/2025	03:16:34	81	3.5	8.34	0.0				
02/14/2025	03:17:04	71	3.4	8.34	0.0				
02/14/2025	03:17:34	75	0.0	8.34	0.0				
02/14/2025	03:18:04	1274	0.0	8.34	0.0				

Well		Field		Job Start		Customer		Job Number		
Michael Southworth 410H 410h		Panhandle		Feb/14/2025		Expand Energy		1059713.12.21		
Date	Time 24-hr clock	Treating Pressure PST	Flow Rate B/M	Density LB/G	Volume BBL	Message				
02/14/2025	03:19:04		2994	0.0	8.34	0.0				
02/14/2025	03:19:34		2976	0.0	8.34	0.0				
02/14/2025	03:20:04		2956	0.0	8.34	0.0				
02/14/2025	03:20:34		2940	0.0	8.34	0.0				
02/14/2025	03:21:04		2926	0.0	8.34	0.0				
02/14/2025	03:21:34		5	0.0	8.34	0.0				
02/14/2025	03:22:00		-4	0.0	8.34	0.0	load casing 119bbl fresh water			
02/14/2025	03:22:04		-5	0.0	8.34	0.0				
02/14/2025	03:22:34		-4	0.0	8.34	0.0				
02/14/2025	03:23:04		6	1.4	8.34	0.0				
02/14/2025	03:23:34		68	3.6	8.34	0.0				
02/14/2025	03:24:04		121	4.6	8.34	0.0				
02/14/2025	03:24:34		194	6.6	8.34	0.0				
02/14/2025	03:25:04		203	6.6	8.34	0.0				
02/14/2025	03:25:34		305	8.5	8.34	0.0				
02/14/2025	03:26:04		288	8.5	8.34	0.0				
02/14/2025	03:26:34		303	8.5	8.34	0.0				
02/14/2025	03:27:04		305	8.5	8.34	0.0				
02/14/2025	03:27:34		278	8.5	8.34	0.0				
02/14/2025	03:28:04		301	8.6	8.34	0.0				
02/14/2025	03:28:34		311	8.5	8.34	0.0				
02/14/2025	03:29:04		297	8.5	8.34	0.0				
02/14/2025	03:29:34		280	8.5	8.34	0.0				
02/14/2025	03:30:04		306	8.5	8.34	0.0				
02/14/2025	03:30:34		294	8.5	8.34	0.0				
02/14/2025	03:31:04		269	8.5	8.34	0.0				
02/14/2025	03:31:34		293	8.5	8.34	0.0				
02/14/2025	03:32:04		298	8.5	8.34	0.0				
02/14/2025	03:32:34		278	8.6	8.34	0.0				
02/14/2025	03:33:04		279	8.6	8.34	0.0				
02/14/2025	03:33:34		288	8.5	8.34	0.0				
02/14/2025	03:34:04		272	8.5	8.34	0.0				
02/14/2025	03:35:04		288	8.5	8.34	0.0				
02/14/2025	03:35:34		282	8.5	8.34	0.0				
02/14/2025	03:36:04		280	8.5	8.34	0.0				
02/14/2025	03:36:34		189	6.5	8.34	0.0				
02/14/2025	03:37:04		216	6.5	8.34	0.0				
02/14/2025	03:37:34		203	6.5	8.34	0.0				
02/14/2025	03:38:00		123	4.7	8.34	0.0	25bbl gel spacer			
02/14/2025	03:38:04		119	4.6	8.34	0.0				
02/14/2025	03:38:34		129	4.6	8.59	0.0				
02/14/2025	03:39:04		125	4.6	8.53	0.0				
02/14/2025	03:39:34		230	6.6	8.53	0.0				
02/14/2025	03:40:04		240	6.6	8.59	0.0				
02/14/2025	03:40:34		215	6.6	8.61	0.0				
02/14/2025	03:41:04		233	6.6	8.59	0.0				
02/14/2025	03:41:34		113	4.7	8.56	0.0				
02/14/2025	03:42:04		154	4.7	8.56	0.0				
02/14/2025	03:42:34		100	3.6	9.26	0.0				
02/14/2025	03:43:04		106	3.6	11.40	0.0				
02/14/2025	03:43:34		136	3.5	13.50	0.0				
02/14/2025	03:44:00		144	3.5	14.14	0.0	174bbl tail cement 15.6ppg 812 sks			
02/14/2025	03:44:04		150	3.5	14.18	0.0				
02/14/2025	03:44:34		223	4.7	14.49	0.0				

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Well		Field		Job Start		Customer		Job Number	
Michael Southworth 410H 410h		Panhandle		Feb/14/2025		Expand Energy		1059713.12.21	
Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message			
02/14/2025	03:45:34	469	6.6	15.04	0.0				
02/14/2025	03:46:04	443	6.6	15.39	0.0				
02/14/2025	03:46:34	459	6.6	15.48	0.0				
02/14/2025	03:47:04	461	6.6	15.63	0.0				
02/14/2025	03:47:34	499	6.6	15.71	0.0				
02/14/2025	03:48:04	486	6.6	15.71	0.0				
02/14/2025	03:48:34	453	6.6	15.61	0.0				
02/14/2025	03:49:04	484	6.6	15.60	0.0				
02/14/2025	03:49:34	441	6.6	15.71	0.0				
02/14/2025	03:50:04	449	6.6	15.79	0.0				
02/14/2025	03:50:34	492	6.6	15.79	0.0				
02/14/2025	03:51:04	460	6.6	15.73	0.0				
02/14/2025	03:51:34	488	6.6	15.64	0.0				
02/14/2025	03:52:04	478	6.6	15.62	0.0				
02/14/2025	03:52:34	459	6.6	15.64	0.0				
02/14/2025	03:53:04	472	6.5	15.64	0.0				
02/14/2025	03:53:34	443	6.6	15.65	0.0				
02/14/2025	03:54:04	493	6.6	15.65	0.0				
02/14/2025	03:54:34	475	6.6	15.66	0.0				
02/14/2025	03:55:04	467	6.6	15.67	0.0				
02/14/2025	03:55:34	497	6.6	15.61	0.0	RECEIVED Office of Oil and Gas			
02/14/2025	03:56:04	455	6.6	15.61	0.0				
02/14/2025	03:56:34	452	6.6	15.62	0.0	DEC 11 2025			
02/14/2025	03:57:04	480	6.6	15.60	0.0				
02/14/2025	03:57:34	471	6.6	15.58	0.0	WV Department of Environmental Protection			
02/14/2025	03:58:04	462	6.6	15.59	0.0				
02/14/2025	03:58:34	477	6.6	15.60	0.0				
02/14/2025	03:59:04	451	6.6	15.61	0.0				
02/14/2025	03:59:34	455	6.6	15.60	0.0				
02/14/2025	04:00:04	452	6.6	15.61	0.0				
02/14/2025	04:00:34	488	6.6	15.61	0.0				
02/14/2025	04:01:04	507	6.6	15.62	0.0				
02/14/2025	04:01:34	453	6.6	15.62	0.0				
02/14/2025	04:02:04	473	6.6	15.62	0.0				
02/14/2025	04:02:34	478	6.6	15.62	0.0				
02/14/2025	04:03:04	445	6.6	15.62	0.0				
02/14/2025	04:03:34	508	6.6	15.62	0.0				
02/14/2025	04:04:04	485	6.6	15.61	0.0				
02/14/2025	04:04:34	493	6.6	15.59	0.0				
02/14/2025	04:05:04	503	6.6	15.60	0.0				
02/14/2025	04:05:34	467	6.6	15.59	0.0				
02/14/2025	04:06:04	487	6.6	15.60	0.0				
02/14/2025	04:06:34	473	6.6	15.59	0.0				
02/14/2025	04:07:04	482	6.6	15.60	0.0				
02/14/2025	04:07:34	516	6.6	15.60	0.0				
02/14/2025	04:08:04	467	6.6	15.60	0.0				
02/14/2025	04:08:34	464	6.6	15.60	0.0				
02/14/2025	04:09:04	514	6.6	15.56	0.0				
02/14/2025	04:09:34	466	6.6	15.57	0.0				
02/14/2025	04:10:04	191	3.6	15.57	0.0				
02/14/2025	04:10:34	170	3.4	15.56	0.0				
02/14/2025	04:11:00	209	3.5	15.56	0.0	release top plug			
02/14/2025	04:11:04	181	3.5	15.56	0.0				
02/14/2025	04:11:34	63	0.9	15.63	0.0				

Well		Field		Job Start		Customer		Job Number	
Michael Southworth 410H 410h		Panhandle		Feb/14/2025		Expand Energy		1059713.12.21	
Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message			
02/14/2025	04:12:34	51	0.0	13.89	0.0				
02/14/2025	04:13:04	52	0.0	10.79	0.0				
02/14/2025	04:13:34	49	0.0	10.19	0.0				
02/14/2025	04:14:00	122	0.6	9.97	0.0	Dispalce 119bbl fresh water			
02/14/2025	04:14:04	130	1.8	9.65	0.0				
02/14/2025	04:14:34	177	4.6	9.71	0.0				
02/14/2025	04:15:04	161	4.7	9.49	0.0				
02/14/2025	04:15:34	157	4.7	8.85	0.0				
02/14/2025	04:16:04	142	4.7	8.49	0.0				
02/14/2025	04:16:34	118	4.8	8.38	0.0				
02/14/2025	04:17:04	134	4.8	8.40	0.0				
02/14/2025	04:17:34	160	4.8	15.22	0.0				
02/14/2025	04:18:04	222	4.6	13.23	0.0				
02/14/2025	04:18:34	81	2.1	12.52	0.0				
02/14/2025	04:19:04	149	4.7	11.02	0.0				
02/14/2025	04:19:34	165	4.6	9.17	0.0				
02/14/2025	04:20:04	147	4.6	8.56	0.0				
02/14/2025	04:20:34	180	4.6	8.52	0.0				
02/14/2025	04:21:04	170	4.7	8.41	0.0				
02/14/2025	04:21:34	182	4.7	8.35	0.0				
02/14/2025	04:22:04	221	6.5	7.87	0.0				
02/14/2025	04:22:34	282	6.6	8.34	0.0				
02/14/2025	04:23:04	295	6.5	8.43	0.0				
02/14/2025	04:23:34	296	6.6	8.41	0.0				
02/14/2025	04:24:04	280	6.5	8.42	0.0				
02/14/2025	04:24:34	319	6.6	8.34	0.0				
02/14/2025	04:25:04	316	6.5	8.34	0.0				
02/14/2025	04:25:34	310	6.6	8.34	0.0				
02/14/2025	04:26:04	371	6.6	8.34	0.0				
02/14/2025	04:26:34	356	6.6	8.34	0.0				
02/14/2025	04:27:04	374	6.6	8.34	0.0				
02/14/2025	04:27:34	362	6.6	8.34	0.0				
02/14/2025	04:28:04	369	6.5	8.34	0.0				
02/14/2025	04:28:34	405	6.6	8.34	0.0				
02/14/2025	04:29:04	385	6.5	8.34	0.0				
02/14/2025	04:29:34	424	6.5	8.34	0.0				
02/14/2025	04:30:04	433	6.6	8.34	0.0				
02/14/2025	04:30:34	398	6.5	8.34	0.0				
02/14/2025	04:31:04	422	6.6	8.34	0.0				
02/14/2025	04:31:34	466	6.6	8.34	0.0				
02/14/2025	04:32:34	489	6.5	8.34	0.0				
02/14/2025	04:33:04	346	3.4	8.34	0.0				
02/14/2025	04:33:34	325	3.4	8.34	0.0				
02/14/2025	04:34:04	324	3.4	8.34	0.0				
02/14/2025	04:34:34	253	0.0	8.34	0.0				
02/14/2025	04:35:00	314	3.3	8.34	0.0	land plug 300-800psi			
02/14/2025	04:35:04	351	3.4	8.34	0.0				
02/14/2025	04:35:34	372	3.4	8.34	0.0				
02/14/2025	04:36:00	341	3.4	8.34	0.0	40bbl cmeent to surface			
02/14/2025	04:36:04	344	3.4	8.34	0.0				
02/14/2025	04:36:34	375	3.4	8.34	0.0				
02/14/2025	04:37:04	367	3.4	8.34	0.0				
02/14/2025	04:37:34	362	3.4	8.34	0.0				
02/14/2025	04:38:04	395	3.4	8.34	0.0				

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WV Department of
Environmental Protection

03/13/2026

Well		Field		Job Start		Customer		Job Number	
Michael Southworth 410H 410h		Panhandle		Feb/14/2025		Expand Energy		1059713.12.21	
Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message			
02/14/2025	04:39:04	350	3.4	8.34	0.0				
02/14/2025	04:39:34	916	0.3	8.34	0.0				
02/14/2025	04:40:04	896	0.0	8.34	0.0				
02/14/2025	04:40:34	883	0.0	8.34	0.0				
02/14/2025	04:41:04	872	0.0	8.34	0.0				
02/14/2025	04:41:34	861	0.0	8.34	0.0				
02/14/2025	04:42:04	851	0.0	8.34	0.0				
02/14/2025	04:42:34	840	0.0	8.34	0.0				
02/14/2025	04:43:04	830	0.0	8.34	0.0				
02/14/2025	04:43:34	819	0.0	8.35	0.0				
02/14/2025	04:44:04	807	0.0	8.35	0.0				
02/14/2025	04:44:34	797	0.0	8.35	0.0				
02/14/2025	04:45:04	785	0.0	8.35	0.0				
02/14/2025	04:45:34	776	0.0	8.35	0.0				
02/14/2025	04:46:04	-20	0.0	8.35	0.0				
02/14/2025	04:46:34	-21	0.0	8.35	0.0				
02/14/2025	04:47:04	-23	0.0	8.35	0.0				
02/14/2025	04:47:34	-23	0.0	8.35	0.0				
02/14/2025	04:48:04	-22	0.0	8.35	0.0				
02/14/2025	04:48:34	-23	0.0	8.35	0.0				
02/14/2025	04:49:04	-22	0.0	8.35	0.0				
02/14/2025	04:49:34	-22	0.0	8.35	0.0				
02/14/2025	04:50:04	-22	0.0	8.35	0.0				
02/14/2025	04:50:34	-22	0.0	8.35	0.0	RECEIVED Office of Oil and Gas			
02/14/2025	04:51:04	-23	0.0	8.35	0.0				
02/14/2025	04:51:34	-22	0.0	8.35	0.0	DEC 11 2025			
02/14/2025	04:52:04	-22	0.0	8.35	0.0				
02/14/2025	04:52:34	-9	0.0	8.35	0.0	WV Department of Environmental Protection			
02/14/2025	04:53:04	-11	0.0	8.35	0.0				
02/14/2025	04:53:34	-11	0.0	8.35	0.0				
02/14/2025	04:54:04	-11	0.0	8.35	0.0				
02/14/2025	04:54:34	-11	0.0	8.35	0.0				
02/14/2025	04:55:04	-10	0.0	8.35	0.0				
02/14/2025	04:55:34	-11	0.0	8.35	0.0				
02/14/2025	04:56:04	-10	0.0	8.35	0.0				
02/14/2025	04:56:34	-9	0.0	8.35	0.0				
02/14/2025	04:57:04	-8	0.0	8.35	0.0				
02/14/2025	04:57:34	-12	0.0	8.35	0.0				
02/14/2025	04:58:04	49	3.8	8.35	0.0				
02/14/2025	04:58:34	32	3.2	8.29	0.0				
02/14/2025	04:59:00	-5	0.2	8.23	0.0	wash rig lines			
02/14/2025	04:59:04	69	1.1	8.30	0.0				
02/14/2025	04:59:34	71	3.4	7.65	0.0				
02/14/2025	05:00:04	48	2.7	7.09	0.0				
02/14/2025	05:00:34	44	3.5	7.31	0.0				
02/14/2025	05:01:04	49	3.6	8.29	0.0				
02/14/2025	05:01:34	76	4.0	8.29	0.0				
02/14/2025	05:02:04	76	3.8	8.44	0.0				
02/14/2025	05:02:34	84	7.6	6.46	0.0				
02/14/2025	05:03:04	26	0.9	4.65	0.0				
02/14/2025	05:03:34	103	6.5	5.90	0.0				
02/14/2025	05:04:04	151	6.7	8.31	0.0				
02/14/2025	05:04:34	152	6.6	5.38	0.0				
02/14/2025	05:05:04	150	7.3	7.30	0.0				

03/13/2026

Well		Field		Job Start		Customer		Job Number	
Michael Southworth 410H 410h		Panhandle		Feb/14/2025		Expand Energy		1059713.12.21	
Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message			
02/14/2025	05:06:04	133	6.8	8.32	0.0				
02/14/2025	05:06:34	139	6.7	8.34	0.0				
02/14/2025	05:07:04	132	5.0	8.41	0.0				
02/14/2025	05:07:34	110	19.1	8.84	0.0				
02/14/2025	05:08:04	139	6.7	8.34	0.0				
02/14/2025	05:08:34	133	6.7	8.35	0.0				
02/14/2025	05:09:04	137	6.7	8.35	0.0				
02/14/2025	05:09:34	135	6.7	8.35	0.0				
02/14/2025	05:10:04	130	6.7	8.35	0.0				
02/14/2025	05:10:34	127	6.7	8.39	0.0				
02/14/2025	05:11:04	136	6.7	8.38	0.0				
02/14/2025	05:11:34	137	6.7	8.38	0.0				
02/14/2025	05:12:04	126	6.6	8.11	0.0				
02/14/2025	05:12:34	-10	0.0	8.35	0.0				
02/14/2025	05:13:04	-15	0.0	8.35	0.0				
02/14/2025	05:13:34	-16	0.0	8.35	0.0				
02/14/2025	05:14:04	-17	0.0	8.35	0.0				
02/14/2025	05:14:34	-17	0.0	8.35	0.0				
02/14/2025	05:15:00	-15	2.0	1.59	0.0	end pumping @ 06:00			
02/14/2025	05:15:04	-18	0.4	2.33	0.0				
02/14/2025	05:15:34	-18	5.0	0.06	0.0				
02/14/2025	05:16:00	-18	2.5	0.50	0.0	end job @ 07:00			
02/14/2025	05:16:04	-18	2.2	0.59	0.0				
02/14/2025	05:16:34	-19	0.7	1.63	0.0				

Post Job Summary

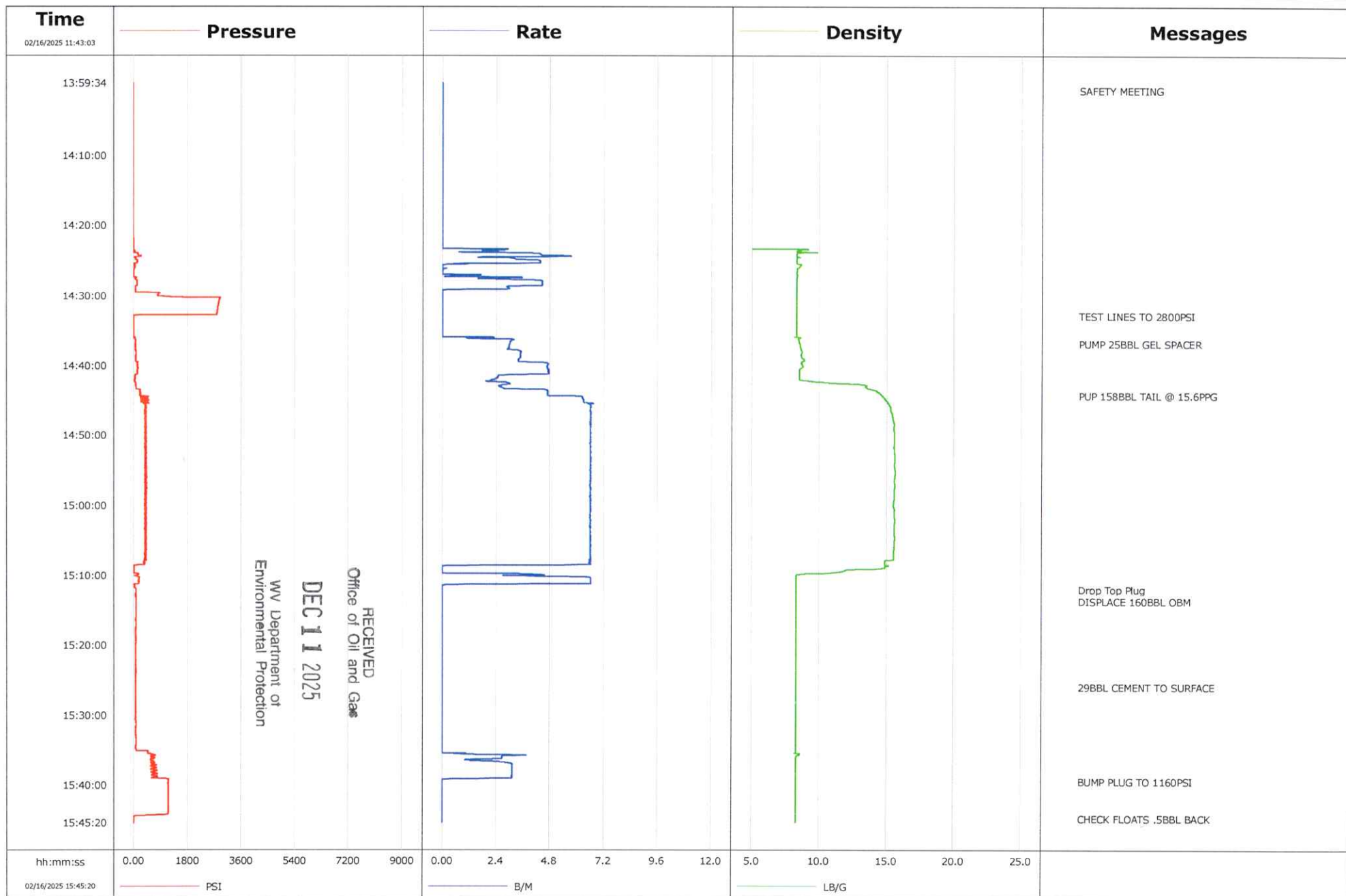
Average Pump Rates, bbl/min				Volume of Fluid Injected, bbl			
Slurry	N2	Mud	Maximum Rate	Total Slurry 174.0	Mud	Spacer 25.0	N2
Treating Pressure Summary, psi				Breakdown Fluid			
Maximum	Final 0	Average	Bump Plug to 800	Breakdown	Type	Volume bbl	Density lb/gal
Avg. N2 Percent %	Designed Slurry Volume 174.0 bbl	Displacement 119.0 bbl	Mix Water Temp 70 degF	Cement Circulated to Surface? <input checked="" type="checkbox"/>	Washed Thru Perfs <input type="checkbox"/>	Volume 40.0 bbl	To ft
Customer or Authorized Representative			Schlumberger Supervisor		Circulation Lost <input type="checkbox"/>	Job Completed <input type="checkbox"/>	

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WV Department of
Environmental Protection

Well	MICHAEL SOUTHWORTH MSH 410H	Client	EXPAND
Field	MARSHALL COUNTY	SIR No.	1068795.01.01
Engineer	MATT MORRIS	Job Type	9.625 INTERMEDIATE
Country	United States	Job Date	02-16-2025





Cementing Service Report

Customer EXPAND				Job Number 1068795.01.01							
Well MICHAEL SOUTHWORTH MSH 410H			Location (legal) WV			Schlumberger Location STRASBURG		Job Start Feb/16/2025			
Field MARSHALL COUNTY		Formation Name/Type Dirty-Sandstone		Deviation 1 deg		Bit Size 12.3 in		Well MD 2127.0 ft		Well TVD 2127.0 ft	
County MARSHALL COUNTY		State/Province WV		BHP 0 psi		BHST 82 degF		BHCT 80 degF		Pore Press. Gradient 0.00 lb/gal	
Well Master 0067413960		API/UWI 47-051-02523-00-00									
Rig Name SDC 41		Drilled For Gas		Service Via Land		Casing/Liner					
						Depth, ft	Size, in	Weight, lb/ft	Grade	Thread	
Offshore Zone		Well Class New		Well Type Development		806.0	13.4	54.5	J55	BUTT	
						2111.0	9.6	36.0	J55	BUTT	
Drilling Fluid Type NONE		Max. Density 8.33 lb/gal		Plastic Viscosity 0.000 cP		Tubing/Drill Pipe					
						T/D	Depth, ft	Size, in	Weight, lb/ft	Grade	Thread
Service Line Cementing		Job Type 9.625 INTERMEDIATE				0.0	0.0	0.0	0	0	
						0.0	0.0	0.0	0	0	
Max. Allowed Tub. Press 3520 psi		Max. Allowed Ann. Press 2020 psi		WH Connection Single Cement head		Perforations/Open Hole					
						Top, ft	Bottom, ft	shot/ft	No. of Shots	Total Interval	
Service Instructions SAFETY MEETING, TEST LINES TO 3000PSI PUMP 25BBL GEL SPACER PUMP 158BBL TAIL @ 15.6PPG, Y-1.18, W-5.28, 753SKS DROP TOP PLUG, DISPLACE 160BBL OBM BUMP PLUG, CHECK FLOATS WATER TEST, C-20, S-200, TEMP-60, PH-7						0.0 ft	0.0 ft	0.00	0	0.0 ft	
						0.0 ft	0.0 ft	0.00	0	Diameter 0.000 in	
						0.0 ft	0.0 ft	0.00	0		
						Treat Down CASING		Displacement 160.0 bbl		Packer Type NA	Packer Depth 0.0 ft
						Tubing Vol. 0.0 bbl		Casing Vol. 163.5 bbl		Annular Vol. 125.0 bbl	Openhole Vol. 73.0 bbl
Casing/Tubing Secured <input checked="" type="checkbox"/> 1 Hole Vol. Circulated prior to Cement <input type="checkbox"/>				Casing Tools				Squeeze Job			
Lift Pressure 700 psi				Shoe Type GUIDE				Squeeze Type			
Pipe Rotated <input type="checkbox"/> Pipe Reciprocated <input type="checkbox"/>				Shoe Depth 2111.0 ft				Tool Type			
No. Centralizers 0		Top Plugs 1		Bottom Plugs 0		Stage Tool Type NA		Tool Depth ft			
Cement Head Type SINGLE				Stage Tool Depth 0.0 ft				Tail Pipe Size in			
Job Scheduled For Feb/16/2025 08:00		Arrived on Location Feb/16/2025 08:00		Leave Location Feb/16/2025 16:00		Collar Type FLOAT		Tail Pipe Depth ft			
						Collar Depth 2066.0 ft		Sqz. Total Vol. bbl			
Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message					
02/16/2025	11:43:03	-0	0.0	0.01	0.0	Stopped Acquisition					
02/16/2025	11:43:33	0	0.0	0.01	0.0						
02/16/2025	11:44:03	-1	0.0	0.01	0.0						
02/16/2025	11:44:33	-1	0.0	0.01	0.0						
02/16/2025	11:45:03	-1	0.0	0.01	0.0						
02/16/2025	11:45:33	-1	0.0	0.01	0.0						
02/16/2025	11:46:03	-0	0.0	0.01	0.0						
02/16/2025	11:46:33	-1	0.0	0.01	0.0						
02/16/2025	11:47:03	-0	0.0	0.01	0.0						
02/16/2025	11:47:33	-0	0.0	0.01	0.0						
02/16/2025	11:48:03	-1	0.0	0.01	0.0						
02/16/2025	11:48:33	-1	0.0	0.01	0.0						
02/16/2025	11:49:33	-1	0.0	0.01	0.0						
02/16/2025	11:50:03	-1	0.0	0.01	0.0						
02/16/2025	11:50:33	-1	0.0	0.01	0.0						
02/16/2025	11:51:03	-1	0.0	0.01	0.0						
02/16/2025	11:51:33	-1	0.0	0.01	0.0						
02/16/2025	11:52:03	-0	0.0	0.01	0.0						
02/16/2025	11:52:33	-1	0.0	0.01	0.0						
02/16/2025	11:53:03	-1	0.0	0.01	0.0						
02/16/2025	11:53:33	0	0.0	0.01	0.0						

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DEC 11 2025
WV Department of
Environmental Protection

Well		Field		Job Start		Customer		Job Number	
MICHAEL SOUTHWORTH MSH 410H		MARSHALL COUNTY		Feb/16/2025		EXPAND		1068795.01.01	
Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message			
02/16/2025	11:54:33	-1	0.0	0.01	0.0				
02/16/2025	11:55:03	0	0.0	0.01	0.0				
02/16/2025	11:56:03	0	0.0	0.01	0.0				
02/16/2025	11:56:33	-1	0.0	0.01	0.0				
02/16/2025	11:57:03	-0	0.0	0.01	0.0				
02/16/2025	11:57:33	-1	0.0	0.01	0.0				
02/16/2025	11:58:03	-1	0.0	0.01	0.0				
02/16/2025	11:58:33	-1	0.0	0.01	0.0				
02/16/2025	11:59:03	-1	0.0	0.01	0.0				
02/16/2025	11:59:33	-1	0.0	0.01	0.0				
02/16/2025	12:00:03	-0	0.0	0.01	0.0				
02/16/2025	12:00:33	-1	0.0	0.01	0.0				
02/16/2025	12:01:03	-1	0.0	0.01	0.0				
02/16/2025	12:01:33	-0	0.0	0.01	0.0				
02/16/2025	12:02:03	-1	0.0	0.01	0.0				
02/16/2025	12:02:33	-1	0.0	0.01	0.0				
02/16/2025	12:03:03	-1	0.0	0.01	0.0				
02/16/2025	12:03:33	-1	0.0	0.01	0.0				
02/16/2025	12:04:03	-0	0.0	0.01	0.0				
02/16/2025	12:04:33	-1	0.0	0.01	0.0				
02/16/2025	12:05:03	-1	0.0	0.01	0.0				
02/16/2025	12:05:33	-1	0.0	0.01	0.0				
02/16/2025	12:06:03	-1	0.0	0.01	0.0				
02/16/2025	12:06:33	-1	0.0	0.01	0.0	RECEIVED Office of Oil and Gas DEC 11 2025 WV Department of Environmental Protection			
02/16/2025	12:07:03	-0	0.0	0.01	0.0				
02/16/2025	12:07:33	-1	0.0	0.01	0.0				
02/16/2025	12:08:03	-0	0.0	0.01	0.0				
02/16/2025	12:08:33	-1	0.0	0.01	0.0				
02/16/2025	12:09:03	-1	0.0	0.01	0.0				
02/16/2025	12:09:33	-1	0.0	0.01	0.0				
02/16/2025	12:10:03	-1	0.0	0.01	0.0				
02/16/2025	12:10:33	-1	0.0	0.01	0.0				
02/16/2025	12:11:03	-1	0.0	0.01	0.0				
02/16/2025	12:11:33	-1	0.0	0.01	0.0				
02/16/2025	12:12:03	-1	0.0	0.01	0.0				
02/16/2025	12:12:33	-1	0.0	0.01	0.0				
02/16/2025	12:13:03	-1	0.0	0.01	0.0				
02/16/2025	12:13:33	-1	0.0	0.01	0.0				
02/16/2025	12:14:03	-0	0.0	0.01	0.0				
02/16/2025	12:14:33	0	0.0	0.01	0.0				
02/16/2025	12:15:03	-0	0.0	0.01	0.0				
02/16/2025	12:15:33	-0	0.0	0.01	0.0				
02/16/2025	12:16:03	-1	0.0	0.01	0.0				
02/16/2025	12:16:33	-0	0.0	0.01	0.0				
02/16/2025	12:17:03	-1	0.0	0.01	0.0				
02/16/2025	12:17:33	-1	0.0	0.01	0.0				
02/16/2025	12:18:03	-1	0.0	0.01	0.0				
02/16/2025	12:18:33	-1	0.0	0.01	0.0				
02/16/2025	12:19:03	-0	0.0	0.01	0.0				
02/16/2025	12:19:33	-1	0.0	0.01	0.0				
02/16/2025	12:20:03	-1	0.0	0.01	0.0				
02/16/2025	12:20:33	-1	0.0	0.01	0.0				
02/16/2025	12:21:03	-1	0.0	0.01	0.0				
02/16/2025	12:21:33	-1	0.0	0.01	0.0				

Well		Field		Job Start		Customer		Job Number	
MICHAEL SOUTHWORTH MSH 410H		MARSHALL COUNTY		Feb/16/2025		EXPAND		1068795.01.01	
Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message			
02/16/2025	12:22:33	-1	0.0	0.01	0.0				
02/16/2025	12:23:03	0	0.0	0.01	0.0				
02/16/2025	12:23:33	-1	0.0	0.01	0.0				
02/16/2025	12:24:03	-1	0.0	0.01	0.0				
02/16/2025	12:24:33	-1	0.0	0.01	0.0				
02/16/2025	12:25:03	-0	0.0	0.01	0.0				
02/16/2025	12:25:33	0	0.0	0.01	0.0				
02/16/2025	12:26:03	0	0.0	0.01	0.0				
02/16/2025	12:26:33	-1	0.0	0.01	0.0				
02/16/2025	12:27:03	-1	0.0	0.01	0.0				
02/16/2025	12:27:33	-1	0.0	0.01	0.0				
02/16/2025	12:28:03	-1	0.0	0.01	0.0				
02/16/2025	12:28:33	-1	0.0	0.01	0.0				
02/16/2025	12:29:03	-1	0.0	0.01	0.0				
02/16/2025	12:29:33	-1	0.0	0.01	0.0				
02/16/2025	12:30:03	-1	0.0	0.01	0.0				
02/16/2025	12:30:33	-1	0.0	0.01	0.0				
02/16/2025	12:31:03	-1	0.0	0.01	0.0				
02/16/2025	12:31:33	-1	0.0	0.01	0.0				
02/16/2025	12:32:03	-1	0.0	0.01	0.0				
02/16/2025	12:32:33	-1	0.0	0.01	0.0				
02/16/2025	12:33:03	-1	0.0	0.01	0.0	RECEIVED			
02/16/2025	12:33:33	-1	0.0	0.01	0.0	Office of Oil and Gas			
02/16/2025	12:34:03	-1	0.0	0.01	0.0	DEC 11 2025			
02/16/2025	12:34:33	-1	0.0	0.01	0.0	WV Department of			
02/16/2025	12:35:03	-1	0.0	0.01	0.0	Environmental Protection			
02/16/2025	12:35:33	-1	0.0	0.01	0.0				
02/16/2025	12:36:03	-1	0.0	0.01	0.0				
02/16/2025	12:36:33	-1	0.0	0.01	0.0				
02/16/2025	12:37:03	-1	0.0	0.01	0.0				
02/16/2025	12:37:33	-1	0.0	0.01	0.0				
02/16/2025	12:38:03	-1	0.0	0.01	0.0				
02/16/2025	12:38:33	-1	0.0	0.01	0.0				
02/16/2025	12:39:03	-1	0.0	0.01	0.0				
02/16/2025	12:39:33	-1	0.0	0.01	0.0				
02/16/2025	12:40:03	-0	0.0	0.01	0.0				
02/16/2025	12:40:33	-1	0.0	0.01	0.0				
02/16/2025	12:41:03	-1	0.0	0.01	0.0				
02/16/2025	12:41:33	-0	0.0	0.01	0.0				
02/16/2025	12:42:03	-0	0.0	0.01	0.0				
02/16/2025	12:42:33	-1	0.0	0.01	0.0				
02/16/2025	12:43:03	-1	0.0	0.01	0.0				
02/16/2025	12:43:33	-1	0.0	0.01	0.0				
02/16/2025	12:44:03	-1	0.0	0.01	0.0				
02/16/2025	12:44:33	-1	0.0	0.01	0.0				
02/16/2025	12:45:03	-1	0.0	0.01	0.0				
02/16/2025	12:45:33	-2	0.0	0.01	0.0				
02/16/2025	12:46:03	-1	0.0	0.01	0.0				
02/16/2025	12:46:33	-1	0.0	0.01	0.0				
02/16/2025	12:47:03	-2	0.0	0.01	0.0				
02/16/2025	12:47:33	-1	0.0	0.01	0.0				
02/16/2025	12:48:03	-1	0.0	0.01	0.0				
02/16/2025	12:48:33	-2	0.0	0.01	0.0				
02/16/2025	12:49:03	-2	0.0	0.01	0.0				

Well		Field		Job Start		Customer		Job Number	
MICHAEL SOUTHWORTH MSH 410H		MARSHALL COUNTY		Feb/16/2025		EXPAND		1068795.01.01	
Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message			
02/16/2025	12:50:03	-1	0.0	0.01	0.0				
02/16/2025	12:50:33	-1	0.0	0.01	0.0				
02/16/2025	12:51:03	-2	0.0	0.01	0.0				
02/16/2025	12:51:33	-2	0.0	0.01	0.0				
02/16/2025	12:52:03	-2	0.0	0.01	0.0				
02/16/2025	12:52:33	-2	0.0	0.01	0.0				
02/16/2025	12:53:33	-3	0.0	0.01	0.0				
02/16/2025	12:54:03	-3	0.0	0.01	0.0				
02/16/2025	12:54:33	-2	0.0	0.01	0.0				
02/16/2025	12:55:03	-2	0.0	0.01	0.0				
02/16/2025	12:55:33	-3	0.0	0.01	0.0				
02/16/2025	12:56:03	-3	0.0	0.01	0.0				
02/16/2025	12:56:33	-3	0.0	0.01	0.0				
02/16/2025	12:57:03	-2	0.0	0.01	0.0				
02/16/2025	12:57:33	-3	0.0	0.01	0.0				
02/16/2025	12:58:03	-2	0.0	0.01	0.0				
02/16/2025	12:58:33	-3	0.0	0.01	0.0				
02/16/2025	12:59:03	-3	0.0	0.01	0.0				
02/16/2025	13:00:03	-3	0.0	0.01	0.0				
02/16/2025	13:00:33	-3	0.0	0.01	0.0				
02/16/2025	13:01:03	-3	0.0	0.01	0.0				
02/16/2025	13:01:33	-3	0.0	0.01	0.0	RECEIVED Office of Oil and Gas			
02/16/2025	13:02:03	-3	0.0	0.01	0.0	DEC 11 2025			
02/16/2025	13:02:33	-3	0.0	0.01	0.0	WV Department of Environmental Protection			
02/16/2025	13:03:03	-3	0.0	0.01	0.0				
02/16/2025	13:03:33	-4	0.0	0.01	0.0				
02/16/2025	13:04:03	-3	0.0	0.01	0.0				
02/16/2025	13:04:33	-3	0.0	0.01	0.0				
02/16/2025	13:05:03	-3	0.0	0.01	0.0				
02/16/2025	13:05:33	-3	0.0	0.01	0.0				
02/16/2025	13:06:03	-3	0.0	0.01	0.0				
02/16/2025	13:06:33	-4	0.0	0.01	0.0				
02/16/2025	13:07:03	-4	0.0	0.01	0.0				
02/16/2025	13:07:33	-3	0.0	0.01	0.0				
02/16/2025	13:08:03	-4	0.0	0.01	0.0				
02/16/2025	13:08:33	-4	0.0	0.01	0.0				
02/16/2025	13:09:03	-4	0.0	0.01	0.0				
02/16/2025	13:09:33	-5	0.0	0.01	0.0				
02/16/2025	13:10:03	-3	0.0	0.01	0.0				
02/16/2025	13:10:33	-4	0.0	0.01	0.0				
02/16/2025	13:11:03	-3	0.0	0.01	0.0				
02/16/2025	13:11:33	-5	0.0	0.01	0.0				
02/16/2025	13:12:03	-5	0.0	0.01	0.0				
02/16/2025	13:12:33	-4	0.0	0.01	0.0				
02/16/2025	13:13:03	-5	0.0	0.01	0.0				
02/16/2025	13:13:33	-5	0.0	0.01	0.0				
02/16/2025	13:14:03	-4	0.0	0.01	0.0				
02/16/2025	13:14:33	-4	0.0	0.01	0.0				
02/16/2025	13:15:03	-4	0.0	0.01	0.0				
02/16/2025	13:15:33	-5	0.0	0.01	0.0				
02/16/2025	13:16:03	-5	0.0	0.01	0.0				
02/16/2025	13:16:33	-4	0.0	0.01	0.0				
02/16/2025	13:17:03	-4	0.0	0.01	0.0				
02/16/2025	13:17:33	-5	0.0	0.01	0.0				

Well		Field		Job Start		Customer		Job Number	
MICHAEL SOUTHWORTH MSH 410H		MARSHALL COUNTY		Feb/16/2025		EXPAND		1068795.01.01	
Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message			
02/16/2025	13:18:33	-5	0.0	0.01	0.0				
02/16/2025	13:19:03	-5	0.0	0.01	0.0				
02/16/2025	13:19:33	-5	0.0	0.01	0.0				
02/16/2025	13:20:03	-4	0.0	0.01	0.0				
02/16/2025	13:20:33	-4	0.0	0.01	0.0				
02/16/2025	13:21:03	-5	0.0	0.01	0.0				
02/16/2025	13:21:33	-5	0.0	0.01	0.0				
02/16/2025	13:22:03	-6	0.0	0.01	0.0				
02/16/2025	13:22:33	-5	0.0	0.01	0.0				
02/16/2025	13:23:03	-5	0.0	0.01	0.0				
02/16/2025	13:23:33	-5	0.0	0.01	0.0				
02/16/2025	13:24:03	-5	0.0	0.01	0.0				
02/16/2025	13:24:33	-4	0.0	0.01	0.0				
02/16/2025	13:25:03	-5	0.0	0.01	0.0				
02/16/2025	13:25:33	-6	0.0	0.01	0.0				
02/16/2025	13:26:03	-5	0.0	0.01	0.0				
02/16/2025	13:26:33	-5	0.0	0.01	0.0				
02/16/2025	13:27:03	-4	0.0	0.01	0.0				
02/16/2025	13:27:33	-5	0.0	0.01	0.0				
02/16/2025	13:28:03	-5	0.0	0.01	0.0				
02/16/2025	13:28:33	-6	0.0	0.01	0.0				
02/16/2025	13:29:03	-5	0.0	0.01	0.0				
02/16/2025	13:29:33	-5	0.0	0.01	0.0				
02/16/2025	13:30:03	-5	0.0	0.01	0.0				
02/16/2025	13:30:33	-6	0.0	0.01	0.0				
02/16/2025	13:31:03	-5	0.0	0.01	0.0	RECEIVED Office of Oil and Gas DEC 11 2025 WV Department of Environmental Protection			
02/16/2025	13:31:33	-6	0.0	0.01	0.0				
02/16/2025	13:32:03	-5	0.0	0.01	0.0				
02/16/2025	13:32:33	-5	0.0	0.01	0.0				
02/16/2025	13:33:03	-5	0.0	0.01	0.0				
02/16/2025	13:33:33	-6	0.0	0.01	0.0				
02/16/2025	13:34:03	-5	0.0	0.01	0.0				
02/16/2025	13:34:33	-6	0.0	0.01	0.0				
02/16/2025	13:35:03	-5	0.0	0.01	0.0				
02/16/2025	13:35:33	-5	0.0	0.01	0.0				
02/16/2025	13:36:03	-6	0.0	0.01	0.0				
02/16/2025	13:36:33	-5	0.0	0.01	0.0				
02/16/2025	13:37:03	-5	0.0	0.01	0.0				
02/16/2025	13:37:33	-5	0.0	0.01	0.0				
02/16/2025	13:38:03	-6	0.0	0.01	0.0				
02/16/2025	13:38:33	-5	0.0	0.01	0.0				
02/16/2025	13:39:03	-6	0.0	0.01	0.0				
02/16/2025	13:39:33	-5	0.0	0.01	0.0				
02/16/2025	13:40:03	-6	0.0	0.01	0.0				
02/16/2025	13:40:33	-6	0.0	0.01	0.0				
02/16/2025	13:41:03	-5	0.0	0.01	0.0				
02/16/2025	13:41:33	-6	0.0	0.01	0.0				
02/16/2025	13:42:03	-6	0.0	0.01	0.0				
02/16/2025	13:42:33	-6	0.0	0.01	0.0				
02/16/2025	13:43:03	-5	0.0	0.01	0.0				
02/16/2025	13:43:33	-6	0.0	0.01	0.0				
02/16/2025	13:44:03	-6	0.0	0.01	0.0				
02/16/2025	13:44:33	-5	0.0	0.01	0.0				
02/16/2025	13:45:03	-5	0.0	0.01	0.0				

Well		Field		Job Start		Customer		Job Number	
MICHAEL SOUTHWORTH MSH 410H		MARSHALL COUNTY		Feb/16/2025		EXPAND		1068795.01.01	
Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message			
02/16/2025	13:46:03	-5	0.0	0.01	0.0				
02/16/2025	13:46:33	-6	0.0	0.01	0.0				
02/16/2025	13:47:03	-5	0.0	0.01	0.0				
02/16/2025	13:47:33	-6	0.0	0.01	0.0				
02/16/2025	13:48:03	-5	0.0	0.01	0.0				
02/16/2025	13:48:33	-5	0.0	0.01	0.0				
02/16/2025	13:49:03	-6	0.0	0.01	0.0				
02/16/2025	13:49:33	-7	0.0	0.01	0.0				
02/16/2025	13:50:03	-6	0.0	0.01	0.0				
02/16/2025	13:50:33	-6	0.0	0.01	0.0				
02/16/2025	13:51:03	-6	0.0	0.01	0.0				
02/16/2025	13:51:33	-6	0.0	0.01	0.0				
02/16/2025	13:52:03	-6	0.0	0.01	0.0				
02/16/2025	13:52:33	-6	0.0	0.01	0.0				
02/16/2025	13:53:03	-5	0.0	0.01	0.0				
02/16/2025	13:53:33	-6	0.0	0.01	0.0				
02/16/2025	13:54:03	-5	0.0	0.01	0.0				
02/16/2025	13:54:33	-6	0.0	0.01	0.0				
02/16/2025	13:55:03	-6	0.0	0.01	0.0				
02/16/2025	13:55:33	-6	0.0	0.01	0.0				
02/16/2025	13:56:03	-6	0.0	0.01	0.0	RECEIVED			
02/16/2025	13:56:33	-6	0.0	0.01	0.0	Office of Oil and Gas			
02/16/2025	13:57:33	-6	0.0	0.01	0.0	DEC 11 2025			
02/16/2025	13:58:03	-5	0.0	0.01	0.0	WV Department of			
02/16/2025	13:58:33	-5	0.0	0.01	0.0	Environmental Protection			
02/16/2025	13:59:03	-5	0.0	0.01	0.0				
02/16/2025	13:59:33	-5	0.0	0.01	0.0				
02/16/2025	14:00:03	-5	0.0	0.01	0.0				
02/16/2025	14:00:33	-6	0.0	0.01	0.0				
02/16/2025	14:00:37	-6	0.0	0.01	0.0	SAFETY MEETING			
02/16/2025	14:01:03	-5	0.0	0.01	0.0				
02/16/2025	14:01:33	-6	0.0	0.01	0.0				
02/16/2025	14:02:03	-6	0.0	0.01	0.0				
02/16/2025	14:02:33	-6	0.0	0.01	0.0				
02/16/2025	14:03:03	-6	0.0	0.01	0.0				
02/16/2025	14:04:03	-6	0.0	0.01	0.0				
02/16/2025	14:04:33	-5	0.0	0.01	0.0				
02/16/2025	14:05:03	-6	0.0	0.01	0.0				
02/16/2025	14:05:33	-6	0.0	0.01	0.0				
02/16/2025	14:06:03	-5	0.0	0.01	0.0				
02/16/2025	14:06:33	-5	0.0	0.01	0.0				
02/16/2025	14:07:03	-6	0.0	0.01	0.0				
02/16/2025	14:07:33	-6	0.0	0.01	0.0				
02/16/2025	14:08:03	-6	0.0	0.01	0.0				
02/16/2025	14:08:33	-6	0.0	0.01	0.0				
02/16/2025	14:09:03	-6	0.0	0.01	0.0				
02/16/2025	14:09:33	-6	0.0	0.01	0.0				
02/16/2025	14:10:03	-5	0.0	0.01	0.0				
02/16/2025	14:10:33	-6	0.0	0.01	0.0				
02/16/2025	14:11:03	-6	0.0	0.01	0.0				
02/16/2025	14:11:33	-6	0.0	0.01	0.0				
02/16/2025	14:12:03	-6	0.0	0.01	0.0				
02/16/2025	14:12:33	-5	0.0	0.01	0.0				
02/16/2025	14:13:03	-6	0.0	0.01	0.0				

03/13/2026

Well		Field		Job Start		Customer		Job Number	
MICHAEL SOUTHWORTH MSH 410H		MARSHALL COUNTY		Feb/16/2025		EXPAND		1068795.01.01	
Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message			
02/16/2025	14:14:03	-5	0.0	0.01	0.0				
02/16/2025	14:14:33	-5	0.0	0.01	0.0				
02/16/2025	14:15:03	-6	0.0	0.01	0.0				
02/16/2025	14:15:33	-5	0.0	0.01	0.0				
02/16/2025	14:16:03	-5	0.0	0.01	0.0				
02/16/2025	14:16:33	-6	0.0	0.01	0.0				
02/16/2025	14:17:03	-5	0.0	0.01	0.0				
02/16/2025	14:17:33	-6	0.0	0.01	0.0				
02/16/2025	14:18:03	-6	0.0	0.01	0.0				
02/16/2025	14:18:33	-5	0.0	0.01	0.0				
02/16/2025	14:19:03	-6	0.0	0.01	0.0				
02/16/2025	14:19:33	-5	0.0	0.01	0.0				
02/16/2025	14:20:03	-6	0.0	0.01	0.0				
02/16/2025	14:20:33	-5	0.0	0.01	0.0				
02/16/2025	14:21:03	-6	0.0	0.01	0.0				
02/16/2025	14:21:33	-6	0.0	0.01	0.0				
02/16/2025	14:22:03	-1	0.0	0.01	0.0				
02/16/2025	14:22:33	-0	0.0	0.01	0.0				
02/16/2025	14:23:03	0	0.0	0.01	0.0				
02/16/2025	14:23:33	19	1.9	8.55	0.5				
02/16/2025	14:24:03	155	4.3	8.35	1.7	RECEIVED Office of Oil and Gas DEC 11 2025 WV Department of Environmental Protection			
02/16/2025	14:24:33	36	1.8	8.49	4.1				
02/16/2025	14:25:03	140	4.3	8.34	5.8				
02/16/2025	14:25:33	19	1.0	8.56	7.5				
02/16/2025	14:26:03	33	0.0	8.51	7.6				
02/16/2025	14:26:33	8	0.0	8.36	7.6				
02/16/2025	14:27:03	7	1.3	8.35	7.6				
02/16/2025	14:27:33	58	1.8	8.35	8.4				
02/16/2025	14:28:03	122	4.4	8.34	10.1				
02/16/2025	14:28:33	128	4.4	8.34	12.3				
02/16/2025	14:29:03	71	3.0	8.34	14.0				
02/16/2025	14:29:33	501	0.0	8.34	14.3				
02/16/2025	14:30:03	820	0.0	8.34	14.3				
02/16/2025	14:30:33	2869	0.0	8.34	14.3				
02/16/2025	14:31:03	2840	0.0	8.34	14.3				
02/16/2025	14:31:33	2817	0.0	8.34	14.3				
02/16/2025	14:32:03	2801	0.0	8.34	14.3				
02/16/2025	14:32:33	2784	0.0	8.34	14.3				
02/16/2025	14:32:52	14	0.0	8.34	14.3	TEST LINES TO 2800PSI			
02/16/2025	14:33:03	11	0.0	8.34	14.3				
02/16/2025	14:33:33	9	0.0	8.34	14.3				
02/16/2025	14:34:03	9	0.0	8.34	14.3				
02/16/2025	14:34:33	9	0.0	8.34	14.3				
02/16/2025	14:35:03	9	0.0	8.34	14.3				
02/16/2025	14:35:33	10	0.0	8.34	14.3				
02/16/2025	14:36:03	31	2.1	8.61	14.4				
02/16/2025	14:36:33	75	3.1	8.52	15.6				
02/16/2025	14:36:51	68	3.0	8.55	16.5	PUMP 25BBL GEL SPACER			
02/16/2025	14:37:03	65	3.0	8.59	17.1				
02/16/2025	14:37:33	68	3.0	8.65	18.6				
02/16/2025	14:38:03	87	3.5	8.75	20.2				
02/16/2025	14:38:33	86	3.5	8.67	21.9				
02/16/2025	14:39:03	80	3.4	8.82	23.7				
02/16/2025	14:39:33	125	3.7	8.72	25.4				

03/13/2026

Well		Field		Job Start		Customer		Job Number	
MICHAEL SOUTHWORTH MSH 410H		MARSHALL COUNTY		Feb/16/2025		EXPAND		1068795.01.01	
Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message			
02/16/2025	14:40:33	144	4.7	8.59	30.0				
02/16/2025	14:41:03	132	4.7	8.55	32.4				
02/16/2025	14:41:33	54	2.5	8.54	34.3				
02/16/2025	14:42:03	47	2.3	8.56	35.5				
02/16/2025	14:42:33	74	3.0	10.86	36.7				
02/16/2025	14:43:03	83	2.6	13.45	38.0				
02/16/2025	14:43:33	222	4.7	14.03	39.6				
02/16/2025	14:44:03	217	4.7	14.50	41.9				
02/16/2025	14:44:13	220	4.7	14.58	42.7	PUP 158BBL TAIL @ 15.6PPG			
02/16/2025	14:44:33	247	6.2	14.75	44.5				
02/16/2025	14:45:03	432	6.3	14.96	47.6				
02/16/2025	14:45:33	403	6.5	15.16	50.8				
02/16/2025	14:46:03	383	6.6	15.28	54.1				
02/16/2025	14:46:33	411	6.6	15.33	57.4				
02/16/2025	14:47:03	396	6.6	15.43	60.7				
02/16/2025	14:47:33	423	6.6	15.47	64.0				
02/16/2025	14:48:03	417	6.6	15.53	67.3				
02/16/2025	14:48:33	406	6.6	15.58	70.6				
02/16/2025	14:49:03	401	6.6	15.57	73.9				
02/16/2025	14:49:33	397	6.6	15.57	77.2				
02/16/2025	14:50:03	426	6.6	15.59	80.5				
02/16/2025	14:50:33	419	6.6	15.59	83.8				
02/16/2025	14:51:03	392	6.6	15.59	87.1				
02/16/2025	14:51:33	405	6.6	15.58	90.4				
02/16/2025	14:52:03	385	6.6	15.58	93.7				
02/16/2025	14:52:33	382	6.6	15.60	97.0				
02/16/2025	14:53:03	408	6.6	15.62	100.3				
02/16/2025	14:53:33	385	6.6	15.62	103.6				
02/16/2025	14:54:03	433	6.6	15.60	106.9				
02/16/2025	14:54:33	411	6.6	15.61	110.2				
02/16/2025	14:55:03	414	6.6	15.65	113.5				
02/16/2025	14:55:33	401	6.6	15.65	116.8				
02/16/2025	14:56:03	392	6.6	15.62	120.1				
02/16/2025	14:56:33	418	6.6	15.58	123.4				
02/16/2025	14:57:03	396	6.6	15.62	126.7				
02/16/2025	14:57:33	451	6.6	15.61	130.0				
02/16/2025	14:58:03	416	6.6	15.59	133.3				
02/16/2025	14:58:33	407	6.6	15.59	136.6				
02/16/2025	14:59:03	425	6.6	15.58	139.9				
02/16/2025	14:59:33	388	6.6	15.56	143.2				
02/16/2025	15:00:03	385	6.6	15.53	146.5				
02/16/2025	15:00:33	405	6.6	15.59	149.8				
02/16/2025	15:01:33	425	6.6	15.60	156.4				
02/16/2025	15:02:03	396	6.6	15.61	159.7				
02/16/2025	15:02:33	385	6.6	15.61	163.0				
02/16/2025	15:03:03	400	6.6	15.60	166.3				
02/16/2025	15:03:33	382	6.6	15.58	169.6				
02/16/2025	15:04:03	428	6.6	15.59	172.9				
02/16/2025	15:04:33	396	6.6	15.62	176.2				
02/16/2025	15:05:03	431	6.6	15.61	179.5				
02/16/2025	15:05:33	419	6.6	15.59	182.8				
02/16/2025	15:06:03	389	6.6	15.57	186.1				
02/16/2025	15:06:33	405	6.6	15.54	189.4				
02/16/2025	15:07:03	377	6.6	15.56	192.7				

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Well		Field		Job Start		Customer		Job Number	
MICHAEL SOUTHWORTH MSH 410H		MARSHALL COUNTY		Feb/16/2025		EXPAND		1068795.01.01	
Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message			
02/16/2025	15:08:03	358	6.6	14.90	199.3				
02/16/2025	15:08:33	74	6.2	14.90	202.6				
02/16/2025	15:09:03	20	0.0	14.69	202.9				
02/16/2025	15:09:33	19	0.0	11.62	202.9				
02/16/2025	15:10:03	56	4.2	8.32	204.0				
02/16/2025	15:10:33	187	6.6	8.33	206.7				
02/16/2025	15:11:03	170	6.6	8.33	210.0				
02/16/2025	15:11:33	32	0.0	8.33	211.9				
02/16/2025	15:12:00	85	0.0	8.33	211.9	Drop Top Plug			
02/16/2025	15:12:01	86	0.0	8.33	211.9	DISPLACE 160BBL OBM			
02/16/2025	15:12:03	86	0.0	8.33	211.9				
02/16/2025	15:12:33	84	0.0	8.33	211.9				
02/16/2025	15:13:03	83	0.0	8.33	211.9				
02/16/2025	15:13:33	84	0.0	8.34	211.9				
02/16/2025	15:14:03	86	0.0	8.33	211.9				
02/16/2025	15:14:33	86	0.0	8.33	211.9				
02/16/2025	15:15:03	86	0.0	8.34	211.9				
02/16/2025	15:15:33	85	0.0	8.33	211.9				
02/16/2025	15:16:03	86	0.0	8.33	211.9				
02/16/2025	15:16:33	88	0.0	8.34	211.9				
02/16/2025	15:17:03	86	0.0	8.34	211.9				
02/16/2025	15:17:33	82	0.0	8.34	211.9				
02/16/2025	15:18:03	82	0.0	8.34	211.9				
02/16/2025	15:18:33	82	0.0	8.34	211.9				
02/16/2025	15:19:03	83	0.0	8.34	211.9	RECEIVED Office of Oil and Gas			
02/16/2025	15:19:33	84	0.0	8.34	211.9				
02/16/2025	15:20:03	82	0.0	8.34	211.9	DEC 11 2025 WV Department of Environmental Protection			
02/16/2025	15:20:33	80	0.0	8.34	211.9				
02/16/2025	15:21:03	80	0.0	8.34	211.9				
02/16/2025	15:21:33	81	0.0	8.34	211.9				
02/16/2025	15:22:03	82	0.0	8.34	211.9				
02/16/2025	15:22:33	81	0.0	8.34	211.9				
02/16/2025	15:23:03	81	0.0	8.34	211.9				
02/16/2025	15:23:33	83	0.0	8.34	211.9				
02/16/2025	15:24:03	82	0.0	8.34	211.9				
02/16/2025	15:24:33	79	0.0	8.34	211.9				
02/16/2025	15:25:03	79	0.0	8.34	211.9				
02/16/2025	15:25:33	80	0.0	8.34	211.9				
02/16/2025	15:25:56	80	0.0	8.34	211.9	29BBL CEMENT TO SURFACE			
02/16/2025	15:26:03	81	0.0	8.34	211.9				
02/16/2025	15:26:33	81	0.0	8.34	211.9				
02/16/2025	15:27:03	81	0.0	8.34	211.9				
02/16/2025	15:27:33	80	0.0	8.34	211.9				
02/16/2025	15:28:03	80	0.0	8.34	211.9				
02/16/2025	15:28:33	81	0.0	8.34	211.9				
02/16/2025	15:29:03	81	0.0	8.34	211.9				
02/16/2025	15:29:33	83	0.0	8.34	211.9				
02/16/2025	15:30:03	82	0.0	8.34	211.9				
02/16/2025	15:30:33	65	0.0	8.34	211.9				
02/16/2025	15:31:03	85	0.0	8.34	211.9				
02/16/2025	15:31:33	83	0.0	8.34	211.9				
02/16/2025	15:32:03	82	0.0	8.34	211.9				
02/16/2025	15:32:33	82	0.0	8.34	211.9				
02/16/2025	15:33:03	86	0.0	8.34	211.9				

Well		Field		Job Start		Customer		Job Number	
MICHAEL SOUTHWORTH MSH 410H		MARSHALL COUNTY		Feb/16/2025		EXPAND		1068795.01.01	
Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/H	Density LB/G	Volume BBL	Message			
02/16/2025	15:34:03	84	0.0	8.34	211.9				
02/16/2025	15:34:33	82	0.0	8.34	211.9				
02/16/2025	15:35:03	84	0.0	8.34	211.9				
02/16/2025	15:35:33	541	0.5	8.64	212.0				
02/16/2025	15:36:03	686	2.7	8.35	213.2				
02/16/2025	15:36:33	657	1.6	8.34	214.2				
02/16/2025	15:37:03	706	3.1	8.35	215.5				
02/16/2025	15:37:33	715	3.1	8.34	217.1				
02/16/2025	15:38:03	723	3.1	8.34	218.6				
02/16/2025	15:38:33	605	3.1	8.34	220.2				
02/16/2025	15:39:03	926	3.1	8.34	221.8				
02/16/2025	15:39:25	1162	0.0	8.34	222.0	BUMP PLUG TO 1160PSI			
02/16/2025	15:39:33	1161	0.0	8.34	222.0				
02/16/2025	15:40:03	1162	0.0	8.34	222.0				
02/16/2025	15:40:33	1163	0.0	8.34	222.0				
02/16/2025	15:41:03	1163	0.0	8.34	222.0				
02/16/2025	15:41:33	1163	0.0	8.34	222.0				
02/16/2025	15:42:03	1166	0.0	8.34	222.0				
02/16/2025	15:42:33	1166	0.0	8.34	222.0				
02/16/2025	15:43:03	1165	0.0	8.34	222.0				
02/16/2025	15:43:33	1164	0.0	8.34	222.0				
02/16/2025	15:44:03	1160	0.0	8.34	222.0				
02/16/2025	15:44:33	14	0.0	8.34	222.1				
02/16/2025	15:44:43	15	0.0	8.34	222.1	CHECK FLOATS .5BBL BACK			

Post Job Summary

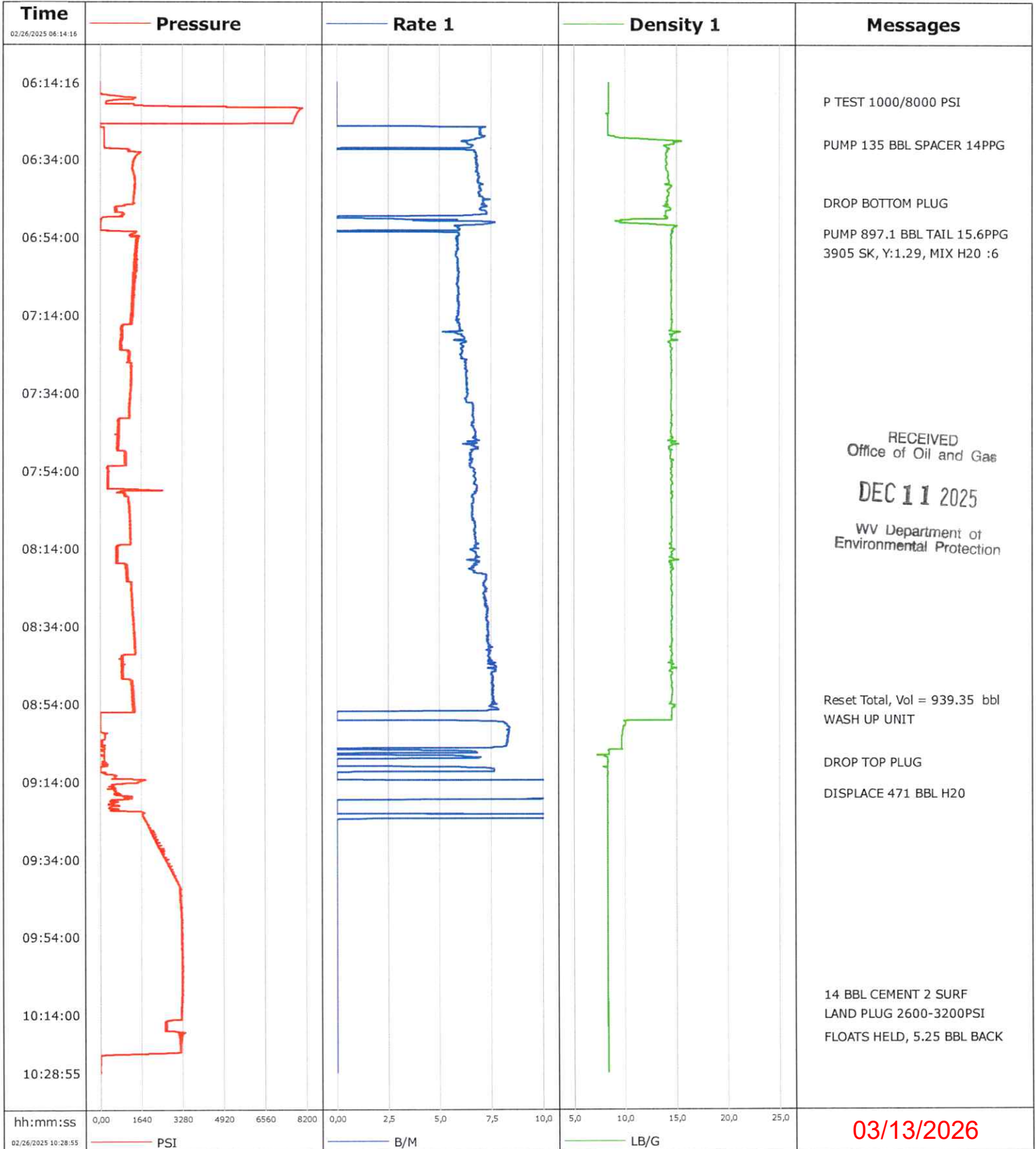
Average Pump Rates, bbl/min				Volume of Fluid Injected, bbl			
Slurry	N2	Mud	Maximum Rate	Total Slurry	Mud	Spacer	N2
4.9	0	0.0	6.7	158.0	0.0	25.0	0
Treating Pressure Summary, psi				Breakdown Fluid			
Maximum	Final	Average	Bump Plug to	Breakdown	Type	Volume	Density
2897	11	361	1160		0	0.0 bbl	0.00 lb/gal
Avg. N2 Percent	Designed Slurry Volume		Displacement	Mix Water Temp	Cement Circulated to Surface?	Volume	
0.0 %	158.0 bbl		160.0 bbl	60 degF	<input checked="" type="checkbox"/>	29.0 bbl	
Customer or Authorized Representative			Schlumberger Supervisor		Washed Thru Perfs	To	
			MATT MORRIS		<input type="checkbox"/>	ft	
					Circulation Lost	Job Completed	
					<input type="checkbox"/>	<input checked="" type="checkbox"/>	
					-	-	

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Well	MICHAEL SOUTHWORTH 410H	Client	EXPAND ENERGY
Field	WILDCAT	SIR No.	A.1068795.01.02
Engineer	MICHELLE NGUYEN	Job Type	5 1/2 PRODUCTION CEMENT
Country	USA	Job Date	2/26/2025





Cementing Service Report

Customer EXPAND ENERGY						Job Number A.1068795.01.02		
Well MICHAEL SOUTHWORTH 410H 410H			Location (legal) 0067413960			Schlumberger Location SOH		Job Start Feb/26/2025
Field WILDCAT		Formation Name/Type		Deviation deg	Bit Size 8,0 in	Well MD 21260,0 ft	Well TVD 6467,0 ft	
County		State/Province WV		BHP psi	BHST 132 degF	BHCT 132 degF	Pore Press. Gradient lb/gal	
Well Master 0067413960		API/UW47-051-02523-00-00						
Rig Name 41	Drilled For Gas	Service Via Land		Casing/Liner				
		Depth, ft	Size, in	Weight, lb/ft	Grade	Thread		
Offshore Zone	Well Class New	Well Type Development		2107,0	9,0	36,0	BUTT	
		21259,0	5,0	20,0	BUTT			
Drilling Fluid Type Oil Mud		Max. Density 13,00 lb/gal	Plastic Viscosity cP	Tubing/Drill Pipe				
		T/D	Depth, ft	Size, in	Weight, lb/ft	Grade	Thread	
Service Line Cementing	Job Type 5 1/2 PRODUCTION CEMENT							
Max. Allowed Tub. Press psi	Max. Allowed Ann. Press psi	WH Connection Single Cement head		Perforations/Open Hole				
		Top, ft	Bottom, ft	shot/ft	No. of Shots	Total Interval ft		
Service Instructions PRESSURE TEST 1000/8000 PSI PUMP 135 BBL SPACER 14 PPG DROP BOTTOM PLUG PUMP 897.1 BBL TAIL 14.5 PPG DROP TOP PLUG DISPLACE 471 BBL LAND PLUG 2600-3200 PSI FLOATS HELD, 5.25 BBL BACK		ft	ft			Diameter in		
		ft	ft					
		Treat Down Casing	Displacement 471,0 bbl	Packer Type None	Packer Depth ft			
		Tubing Vol. bbl	Casing Vol. 472,0 bbl	Annular Vol. 882,0 bbl	Openhole Vol. 781,0 bbl			
Casing/Tubing Secured <input checked="" type="checkbox"/>	1 Hole Vol. Circulated prior to Cement <input checked="" type="checkbox"/>		Casing Tools			Squeeze Job		
Lift Pressure 13934 psi	Shoe Type Float		Squeeze Type					
Pipe Rotated <input type="checkbox"/>	Pipe Reciprocated <input type="checkbox"/>		Shoe Depth 21259,0 ft		Tool Type			
No. Centralizers	Top Plugs 1	Bottom Plugs 1	Stage Tool Type NA		Tool Depth ft			
Cement Head Type Single	Stage Tool Depth ft		Tail Pipe Size in					
Job Scheduled For Feb/26/2025 01:00	Arrived on Location Feb/26/2025 01:00	Leave Location Feb/26/2025 12:00		Collar Type Float		Tail Pipe Depth ft		
		Collar Depth 21213,0 ft		Sqz. Total Vol. bbl				
Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate 1 B/M	Density 1 LB/G	Volume BBL	Flow Rate 2 B/M	Density 2 LB/G	Message
02/26/2025	06:14:16	-3	0,0	8,40	0,0	-1,0	-1,00	FILL LINES
02/26/2025	06:15:56	-3	0,0	8,40	0,0	-1,0	-1,00	
02/26/2025	06:17:36	304	1,2	8,39	0,0	-1,0	-1,00	
02/26/2025	06:19:00	432	0,0	8,39	0,0	-1,0	-1,00	P TEST 1000/8000 PSI
02/26/2025	06:19:16	255	0,0	8,39	0,0	-1,0	-1,00	
02/26/2025	06:20:56	8055	0,0	8,38	0,0	-1,0	-1,00	
02/26/2025	06:22:36	7804	0,0	8,35	0,0	-1,0	-1,00	
02/26/2025	06:24:16	7700	0,0	8,35	0,0	-1,0	-1,00	
02/26/2025	06:25:56	161	0,0	8,35	0,0	-1,0	-1,00	
02/26/2025	06:27:36	160	0,0	8,34	0,0	-1,0	-1,00	
02/26/2025	06:29:16	169	0,0	15,47	0,0	-1,0	-1,00	
02/26/2025	06:30:00	171	0,0	14,73	0,0	-1,0	-1,00	PUMP 135 BBL SPACER 14PPG
02/26/2025	06:30:56	175	0,0	14,08	0,0	-1,0	-1,00	
02/26/2025	06:32:36	1528	8,4	13,99	0,0	-1,0	-1,00	
02/26/2025	06:34:16	1327	8,4	14,01	0,0	-1,0	-1,00	
02/26/2025	06:35:56	1296	8,4	13,98	0,0	-1,0	-1,00	
02/26/2025	06:37:36	1340	8,4	14,21	0,0	-1,0	-1,00	
02/26/2025	06:39:16	1375	8,4	14,26	0,0	-1,0	-1,00	
02/26/2025	06:42:36	1361	8,4	14,29	0,0	-1,0	-1,00	
02/26/2025	06:44:16	1333	8,4	14,14	0,0	-1,0	-1,00	
02/26/2025	06:45:00	1315	8,4	14,06	0,0	-1,0	-1,00	DROP BOTTOM PLUG

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Well MICHAEL SOUTHWORTH 410H 410			Field WILDCAT			Job Start Feb/26/2025		Customer EXPAND ENERGY		Job Number A.1068795.01.02
Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate 1 B/M	Density 1 LB/G	Volume BBL	Flow Rate 2 B/M	Density 2 LB/G	Message		
02/26/2025	06:47:36	627	4,6	13,98	0,0	-1,0	-1,00			
02/26/2025	06:49:16	72	0,0	10,68	0,0	-1,0	-1,00			
02/26/2025	06:50:56	32	0,0	14,70	0,0	-1,0	-1,00			
02/26/2025	06:52:36	936	4,7	14,57	0,0	-1,0	-1,00			
02/26/2025	06:53:00	1383	6,5	14,58	0,0	-1,0	-1,00	PUMP 897.1 BBL TAIL 15.6PPG		
02/26/2025	06:54:16	1499	7,8	14,54	0,0	-1,0	-1,00			
02/26/2025	06:55:56	1426	7,8	14,52	0,0	-1,0	-1,00			
02/26/2025	06:57:36	1435	7,8	14,54	0,0	-1,0	-1,00			
02/26/2025	06:58:00	1421	7,8	14,50	0,0	-1,0	-1,00	3905 SK, Y:1.29, MIX H2O :6		
02/26/2025	06:59:16	1374	7,8	14,51	0,0	-1,0	-1,00			
02/26/2025	07:00:56	1403	7,8	14,51	0,0	-1,0	-1,00			
02/26/2025	07:02:36	1346	7,8	14,51	0,0	-1,0	-1,00			
02/26/2025	07:04:16	1397	7,8	14,51	0,0	-1,0	-1,00			
02/26/2025	07:05:56	1380	7,8	14,55	0,0	-1,0	-1,00			
02/26/2025	07:07:36	1367	7,8	14,52	0,0	-1,0	-1,00			
02/26/2025	07:09:16	1350	7,8	14,54	0,0	-1,0	-1,00			
02/26/2025	07:10:56	1325	7,8	14,51	0,0	-1,0	-1,00			
02/26/2025	07:12:36	1313	7,8	14,53	0,0	-1,0	-1,00			
02/26/2025	07:14:16	1296	7,8	14,56	0,0	-1,0	-1,00			
02/26/2025	07:15:56	1247	7,8	14,57	0,0	-1,0	-1,00			
02/26/2025	07:17:36	871	6,5	14,52	0,0	-1,0	-1,00			
02/26/2025	07:19:16	852	6,5	14,60	0,0	-1,0	-1,00			
02/26/2025	07:20:56	835	6,5	14,24	0,0	-1,0	-1,00			
02/26/2025	07:22:36	810	6,5	14,58	0,0	-1,0	-1,00			
02/26/2025	07:24:16	1114	7,9	14,52	0,0	-1,0	-1,00			
02/26/2025	07:25:56	1096	7,9	14,53	0,0	-1,0	-1,00	RECEIVED Office of Oil and Gas		
02/26/2025	07:27:36	1261	8,4	14,54	0,0	-1,0	-1,00			
02/26/2025	07:29:16	1251	8,4	14,49	0,0	-1,0	-1,00	DEC 11 2025		
02/26/2025	07:30:56	1254	8,4	14,54	0,0	-1,0	-1,00	WV Department of Environmental Protection		
02/26/2025	07:32:36	1238	8,4	14,54	0,0	-1,0	-1,00			
02/26/2025	07:34:16	1187	8,4	14,52	0,0	-1,0	-1,00			
02/26/2025	07:35:56	1191	8,4	14,52	0,0	-1,0	-1,00			
02/26/2025	07:37:36	1155	8,4	14,49	0,0	-1,0	-1,00			
02/26/2025	07:39:16	1153	8,4	14,56	0,0	-1,0	-1,00			
02/26/2025	07:40:56	767	6,5	14,52	0,0	-1,0	-1,00			
02/26/2025	07:42:36	755	6,5	14,54	0,0	-1,0	-1,00			
02/26/2025	07:44:16	722	6,5	14,48	0,0	-1,0	-1,00			
02/26/2025	07:45:56	745	6,5	14,48	0,0	-1,0	-1,00			
02/26/2025	07:47:36	705	6,5	14,53	0,0	-1,0	-1,00			
02/26/2025	07:49:16	990	7,9	14,47	0,0	-1,0	-1,00			
02/26/2025	07:50:56	1025	7,9	14,41	0,0	-1,0	-1,00			
02/26/2025	07:52:36	959	7,8	14,56	0,0	-1,0	-1,00			
02/26/2025	07:54:16	293	4,6	14,55	0,0	-1,0	-1,00			
02/26/2025	07:55:56	310	4,6	14,53	0,0	-1,0	-1,00			
02/26/2025	07:57:36	293	4,6	14,58	0,0	-1,0	-1,00			
02/26/2025	07:59:16	843	4,6	14,52	0,0	-1,0	-1,00			
02/26/2025	08:00:56	1109	8,4	14,60	0,0	-1,0	-1,00			
02/26/2025	08:02:36	1149	8,4	14,56	0,0	-1,0	-1,00			
02/26/2025	08:04:16	1170	8,4	14,53	0,0	-1,0	-1,00			
02/26/2025	08:05:56	1196	8,4	14,58	0,0	-1,0	-1,00			
02/26/2025	08:07:36	1201	8,4	14,54	0,0	-1,0	-1,00			
02/26/2025	08:09:16	1201	8,4	14,58	0,0	-1,0	-1,00			
02/26/2025	08:10:56	1209	8,4	14,52	0,0	-1,0	-1,00			
02/26/2025	08:12:36	1201	8,4	14,52	0,0	-1,0	-1,00			

03/13/2026

Well MICHAEL SOUTHWORTH 410H 410			Field WILDCAT			Job Start Feb/26/2025		Customer EXPAND ENERGY		Job Number A.1068795.01.02
Date	Time 24-hr clock	Treatino Pressure PSI	Flow Rate 1 B/M	Density 1 LB/G	Volume BBL	Flow Rate 2 B/M	Density 2 LB/G	Message		
02/26/2025	08:15:56	694	6,5	14,50	0,0	-1,0	-1,00			
02/26/2025	08:17:36	691	6,5	14,32	0,0	-1,0	-1,00			
02/26/2025	08:19:16	1081	7,8	14,73	0,0	-1,0	-1,00			
02/26/2025	08:20:56	1091	7,8	14,53	0,0	-1,0	-1,00			
02/26/2025	08:22:36	1104	7,8	14,56	0,0	-1,0	-1,00			
02/26/2025	08:24:16	1230	8,4	14,49	0,0	-1,0	-1,00			
02/26/2025	08:25:56	1270	8,4	14,58	0,0	-1,0	-1,00			
02/26/2025	08:27:36	1257	8,4	14,53	0,0	-1,0	-1,00			
02/26/2025	08:29:16	1293	8,4	14,57	0,0	-1,0	-1,00			
02/26/2025	08:30:56	1293	8,4	14,55	0,0	-1,0	-1,00			
02/26/2025	08:32:36	1336	8,4	14,56	0,0	-1,0	-1,00			
02/26/2025	08:34:16	1357	8,4	14,53	0,0	-1,0	-1,00	RECEIVED Office of Oil and Gas		
02/26/2025	08:37:36	1378	8,4	14,57	0,0	-1,0	-1,00	DEC 11 2025		
02/26/2025	08:39:16	1362	8,4	14,54	0,0	-1,0	-1,00	WV Department of Environmental Protection		
02/26/2025	08:40:56	1385	8,4	14,56	0,0	-1,0	-1,00			
02/26/2025	08:42:36	882	6,5	14,51	0,0	-1,0	-1,00			
02/26/2025	08:44:16	926	6,5	14,51	0,0	-1,0	-1,00			
02/26/2025	08:45:56	862	6,5	14,55	0,0	-1,0	-1,00			
02/26/2025	08:47:36	922	6,5	14,49	0,0	-1,0	-1,00			
02/26/2025	08:49:16	1235	7,8	14,55	0,0	-1,0	-1,00			
02/26/2025	08:50:56	1310	7,8	14,58	0,0	-1,0	-1,00			
02/26/2025	08:52:36	1282	7,8	14,56	0,0	-1,0	-1,00			
02/26/2025	08:53:00	1328	7,8	14,56	0,0	-1,0	-1,00	Reset Total, Vol = 939.35 bbl		
02/26/2025	08:54:16	1315	7,8	14,65	0,0	-1,0	-1,00			
02/26/2025	08:55:56	1288	7,8	14,53	0,0	-1,0	-1,00			
02/26/2025	08:57:36	17	0,0	14,52	0,0	-1,0	-1,00			
02/26/2025	08:58:00	16	0,0	14,54	0,0	-1,0	-1,00	WASH UP UNIT		
02/26/2025	08:59:16	7	0,0	10,09	0,0	-1,0	-1,00			
02/26/2025	09:00:56	2	0,0	9,80	0,0	-1,0	-1,00			
02/26/2025	09:02:36	197	4,3	9,69	0,0	-1,0	-1,00			
02/26/2025	09:04:16	56	2,9	9,68	0,0	-1,0	-1,00			
02/26/2025	09:05:56	30	1,3	8,41	0,0	-1,0	-1,00			
02/26/2025	09:07:36	158	4,3	8,04	0,0	-1,0	-1,00			
02/26/2025	09:09:00	105	3,9	8,33	0,0	-1,0	-1,00	DROP TOP PLUG		
02/26/2025	09:09:16	207	4,3	8,33	0,0	-1,0	-1,00			
02/26/2025	09:10:56	10	0,0	8,33	0,0	-1,0	-1,00			
02/26/2025	09:12:36	601	1,3	8,27	0,0	-1,0	-1,00			
02/26/2025	09:14:16	1499	8,4	8,33	0,0	-1,0	-1,00			
02/26/2025	09:15:56	516	2,1	8,33	0,0	-1,0	-1,00			
02/26/2025	09:17:00	647	2,7	8,32	0,0	-1,0	-1,00	DISPLACE 471 BBL H2O		
02/26/2025	09:17:36	744	3,1	8,32	0,0	-1,0	-1,00			
02/26/2025	09:19:16	644	1,5	8,33	0,0	-1,0	-1,00			
02/26/2025	09:20:56	396	0,8	8,32	0,0	-1,0	-1,00			
02/26/2025	09:22:36	1667	8,4	8,32	0,0	-1,0	-1,00			
02/26/2025	09:24:16	1816	8,3	8,32	0,0	-1,0	-1,00			
02/26/2025	09:25:56	1948	8,3	8,32	0,0	-1,0	-1,00			
02/26/2025	09:27:36	2138	8,3	8,32	0,0	-1,0	-1,00			
02/26/2025	09:29:16	2187	8,3	8,32	0,0	-1,0	-1,00			
02/26/2025	09:30:56	2334	8,3	8,32	0,0	-1,0	-1,00			
02/26/2025	09:32:36	2470	8,3	8,32	0,0	-1,0	-1,00			
02/26/2025	09:34:16	2619	8,3	8,32	0,0	-1,0	-1,00			
02/26/2025	09:35:56	2761	8,3	8,32	0,0	-1,0	-1,00			
02/26/2025	09:37:36	2868	8,3	8,32	0,0	-1,0	-1,00			
02/26/2025	09:39:16	3008	8,2	8,32	0,0	-1,0	-1,00			

03/13/2026

Well MICHAEL SOUTHWORTH 410H 410			Field WILDCAT			Job Start Feb/26/2025		Customer EXPAND ENERGY		Job Number A.1068795.01.02
Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate 1 B/M	Density 1 LB/G	Volume BBL	Flow Rate 2 B/M	Density 2 LB/G	Message		
02/26/2025	09:42:36	3163	8,2	8,32	0,0	-1,0	-1,00			
02/26/2025	09:44:16	3179	8,2	8,32	0,0	-1,0	-1,00			
02/26/2025	09:45:56	3183	8,2	8,32	0,0	-1,0	-1,00			
02/26/2025	09:47:36	3212	8,2	8,32	0,0	-1,0	-1,00			
02/26/2025	09:49:16	3232	8,2	8,32	0,0	-1,0	-1,00			
02/26/2025	09:50:56	3234	8,2	8,32	0,0	-1,0	-1,00			
02/26/2025	09:52:36	3238	8,2	8,32	0,0	-1,0	-1,00			
02/26/2025	09:54:16	3246	8,2	8,32	0,0	-1,0	-1,00			
02/26/2025	09:55:56	3258	8,2	8,32	0,0	-1,0	-1,00			
02/26/2025	09:57:36	3245	8,2	8,33	0,0	-1,0	-1,00			
02/26/2025	09:59:16	3265	8,2	8,33	0,0	-1,0	-1,00			
02/26/2025	10:00:56	3270	8,2	8,33	0,0	-1,0	-1,00			
02/26/2025	10:02:36	3268	8,2	8,33	0,0	-1,0	-1,00			
02/26/2025	10:04:16	3272	8,2	8,33	0,0	-1,0	-1,00			
02/26/2025	10:05:56	3263	8,2	8,33	0,0	-1,0	-1,00			
02/26/2025	10:07:36	3253	8,2	8,33	0,0	-1,0	-1,00			
02/26/2025	10:09:00	3259	8,2	8,33	0,0	-1,0	-1,00	14 BBL CEMENT 2 SURF		
02/26/2025	10:09:16	3257	8,2	8,33	0,0	-1,0	-1,00			
02/26/2025	10:10:56	3242	8,2	8,33	0,0	-1,0	-1,00			
02/26/2025	10:12:36	3233	8,2	8,33	0,0	-1,0	-1,00			
02/26/2025	10:14:00	3213	8,2	8,33	0,0	-1,0	-1,00	LAND PLUG 2600-3200PSI		
02/26/2025	10:14:16	3218	8,2	8,33	0,0	-1,0	-1,00			
02/26/2025	10:15:56	2630	4,2	8,33	0,0	-1,0	-1,00			
02/26/2025	10:17:36	2610	4,2	8,33	0,0	-1,0	-1,00			
02/26/2025	10:19:16	3230	0,0	8,34	0,0	-1,0	-1,00			
02/26/2025	10:20:00	3158	0,0	8,34	0,0	-1,0	-1,00	FLOATS HELD, 5.25 BBL BACK		
02/26/2025	10:20:56	3155	0,0	8,34	0,0	-1,0	-1,00			
02/26/2025	10:22:36	3192	0,0	8,34	0,0	-1,0	-1,00			
02/26/2025	10:24:16	753	0,0	8,34	0,0	-1,0	-1,00			
02/26/2025	10:25:56	-2	0,0	8,34	0,0	-1,0	-1,00			

Post Job Summary

Average Pump Rates, bbl/min					Volume of Fluid Injected, bbl				
Slurry	N2	Mud	Maximum Rate		Total Slurry 897,0	Mud	Spacer 135,0	N2	
Treating Pressure Summary, psi					Breakdown Fluid				
Maximum	Final 0	Average	Bump Plug to 3200	Breakdown	Type FreshWater	Volume bbl		Density 8,34 lb/gal	
Avg. N2 Percent %	Designed Slurry Volume 897,0 bbl		Displacement 472,0 bbl	Mix Water Temp 59 degF	Cement Circulated to Surface? <input checked="" type="checkbox"/>	Volume 14,0 bbl		To ft	
Customer or Authorized Representative COMPANY MAN			Schlumberger Supervisor MICHELLE NGUYEN			Circulation Lost <input type="checkbox"/>	Job Completed <input checked="" type="checkbox"/>		
						-		-	

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Office of Oil and Gas

DEC 11 2025

WV Department of
Environmental Protection

03/13/2026

Refresh

Wellbore Name: MICHAEL SOUTHWEST APPALACHIA - Original Hole
 Operator: EXPANO OPERATING LLC
 Division: SOUTHWEST APPALACHIA
 Pad: EXPANO OPERATING LLC

Frac Company: AFE
 Latitude: 40.012715
 Longitude: 80.614986

Wellbore ID: 21,260 FT
 Stages: 1-46
 Stages/Dwv: 2.30

Stage	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
7/25/2025	7/26/2025	7/27/2025	7/28/2025	7/29/2025	7/30/2025	7/31/2025	8/1/2025	8/2/2025	8/3/2025	8/4/2025	8/5/2025	8/6/2025	8/7/2025	8/8/2025	8/9/2025	8/10/2025	8/11/2025	8/12/2025	8/13/2025
21,085	20,870	20,658	20,446	20,234	20,022	19,810	19,598	19,386	19,174	18,962	18,750	18,538	18,326	18,114	17,902	17,690	17,478	17,266	17,054
21,172	21,049	20,837	20,625	20,413	20,201	19,989	19,777	19,565	19,353	19,141	18,929	18,717	18,505	18,293	18,081	17,869	17,657	17,445	17,233
36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36
0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41
6,586	6,587	6,590	6,591	6,590	6,589	6,588	6,587	6,587	6,585	6,584	6,583	6,581	6,580	6,578	6,575	6,572	6,570	6,567	6,564
468	463	459	454	449	444	440	435	430	426	421	416	411	407	402	397	393	388	383	378
470	467	463	458	453	448	444	439	434	429	425	420	415	411	406	401	397	392	387	382
21,129	20,960	20,748	20,536	20,324	20,112	19,900	19,688	19,476	19,264	19,052	18,840	18,628	18,416	18,204	17,992	17,780	17,568	17,356	17,144
7/25/23:30	7/26/23:30	7/27/23:30	7/28/23:30	7/29/23:30	7/30/23:30	7/31/23:30	8/1/23:30	8/2/23:30	8/3/23:30	8/4/23:30	8/5/23:30	8/6/23:30	8/7/23:30	8/8/23:30	8/9/23:30	8/10/23:30	8/11/23:30	8/12/23:30	8/13/23:30
7/25/23:30	7/26/23:30	7/27/23:30	7/28/23:30	7/29/23:30	7/30/23:30	7/31/23:30	8/1/23:30	8/2/23:30	8/3/23:30	8/4/23:30	8/5/23:30	8/6/23:30	8/7/23:30	8/8/23:30	8/9/23:30	8/10/23:30	8/11/23:30	8/12/23:30	8/13/23:30
1.25	0.73	0.73	0.65	0.58	0.43	0.43	0.53	0.63	0.63	0.52	0.47	0.50	0.45	0.45	0.43	0.43	0.45	0.45	0.43
7/25/23:30	7/25/23:30	7/25/23:30	7/25/23:30	7/25/23:30	7/25/23:30	7/25/23:30	7/25/23:30	7/25/23:30	7/25/23:30	7/25/23:30	7/25/23:30	7/25/23:30	7/25/23:30	7/25/23:30	7/25/23:30	7/25/23:30	7/25/23:30	7/25/23:30	7/25/23:30
12,235	12,157	12,833	13,988	13,988	13,988	13,988	13,988	13,988	13,988	13,988	13,988	13,988	13,988	13,988	13,988	13,988	13,988	13,988	13,988
1,386	2,409	2,255	2,337	2,899	2,415	2,642	2,486	3,058	2,715	2,587	2,573	2,771	2,563	2,741	2,598	2,029	2,741	2,593	2,593
12	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33
6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
123	107	109	109	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96
8,060	9,222	7,191	7,856	7,802	12,707	7,662	7,975	7,683	7,719	7,549	7,665	7,380	7,544	7,846	7,396	7,584	7,464	7,701	7,701
8,060	9,345	7,298	7,965	7,898	12,924	7,777	8,081	7,780	7,812	7,640	7,751	7,474	7,630	7,934	7,480	7,585	7,544	7,784	7,784
8,268	9,770	7,703	8,388	8,322	13,346	8,199	8,495	8,195	8,235	8,046	8,169	7,868	8,038	8,366	7,880	7,993	7,954	8,198	8,198
89,460	156,501	152,810	157,380	154,690	154,870	151,010	156,680	155,410	153,200	152,000	155,860	152,200	153,720	149,040	154,170	154,000	160,020	155,390	155,390
201,010	372,971	372,630	379,960	376,730	378,210	376,880	377,470	377,080	376,610	373,920	382,680	368,220	374,500	371,040	376,350	375,860	383,740	380,630	380,630
201,010	372,971	372,630	379,960	376,730	378,210	376,880	377,470	377,080	376,610	373,920	382,680	368,220	374,500	371,040	376,350	375,860	383,740	380,630	380,630
9,345	10,956	9,584	9,872	9,400	9,260	9,218	8,581	9,129	9,148	9,274	8,919	9,156	9,138	9,374	8,955	8,547	8,845	8,729	8,729
100	92	100	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
10,080	10,439	9,914	10,183	9,862	10,882	9,575	9,208	9,582	9,612	9,723	9,382	9,752	9,586	9,639	9,385	9,020	9,127	9,084	9,084
5,861	6,024	6,492	6,362	6,499	6,499	6,499	6,359	6,397	6,662	6,494	6,388	6,458	6,716	6,344	6,389	5,979	6,511	6,523	6,523
3,819	4,658	2,744	4,258	3,139	4,265	4,198	4,206	4,438	4,587	4,715	5,229	5,121	4,841	4,465	5,149	5,146	5,112	5,080	5,080
1.02	1.14	0.85	1.08	0.91	1.08	1.07	1.08	1.11	1.13	1.15	1.23	1.22	1.17	1.12	1.22	1.22	1.21	1.21	1.21
31	52	26	43	44	64	43	45	29	44	43	44	41	43	45	42	43	42	43	43
1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
8,402	9,719	6,450	7,639	7,150	10,820	7,916	7,235	6,557	6,643	7,139	7,105	6,944	7,446	6,158	7,764	6,192	5,946	7,509	7,509
500	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400
46	34	40	29	42	28	28	30	43	29	28	28	28	28	30	28	28	29	28	29

20/40, 30/70, & 40/70 (lbs)

100 Mesh (lbs)

Total Prop from 80m Int Prop Table (lbs)

Total Prop from Stone Table (lbs)

Avg Rate (bbls/min)

Avg Pressure (psi)

Max Rate (bpm)

Max Pressure (psi)

Break Pressure (psi)

ISIP (psi)

FG (psi)

Biocide (gal)

Corrosion Inhibitor (lbs)

Friction Reducer (gal)

HCL 15% (gal)

Scale Inhibitor (gal)

Breaker

Average Density (SG)

Average of pH

Average of Conductivity

Average of Calcium

Average of Magnesium

Average of Chlorides

Average of Iron

Average of Temp pH

Average of Sulfide

Fluid Density (lb/gal)

Frac Pumpdown

HCl 15%

HCl 7.5%

Difference

Frac

PD

HCl

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DEC 11 2025
WV Department of
Environmental Protection

Wellbore Name	Operator	Division	Prod
Re Fresh			
Frac Sliding :	Stage :	60	51 Total/Avg
	Date :	8/20/2025	8/20/2025
	Top Perf (ft) :	8,574	8,362
	Blow Perf (ft) :	8,753	8,541
	Number of Perf Holes :	35	35
	Perf Hole ID (ft) :	0.41	0.41
	TDP (ft) :	6,479	6,665
	Capacity to Top Perf (bbl) :	150	185
	Capacity to Bottom Perf (bbl) :	154	150
	Survey/Inclination :		
	Mid-Perf (MD) :	8,664	8,452
	Pump Down Start Time :	8/19/25 2:44	8/19/25 3:38
	Pump Down Stop Time :	8/19/25 3:15	8/19/25 3:18
	Pumpdown Total Time :	0:18	0:08
	Stage Start Time :	8/19/25 3:35	8/19/25 3:41
	Stage Stop Time :	8/19/25 3:38	8/19/25 3:44
	Total Stage Time - (hrs) :	5:33	6:30
	Volume (gal) :	2,730	2,520
	15 % HCl Acid (pails) :	12	12
	Number of Perf Clusters :	6	6
	Perf Spacing (ft) :	35	35
	Pump down (bbl) :	40	4,242
	Frac Water (bbl) :	6,847	6,811
	Lead to Recover (Total Vol Pumped) (bbl) :	6,887	6,849
	Slurry Volume (bbl) :	7,291	7,253
	100 Mesh (bbl) :	150,640	155,610
	20/60, 30/70, & 40/70 Mesh :	225,600	219,680
	Total Prep from Site (incl Prep Table) (bbl) :	376,240	375,290
	Total Prep from Storage Table (bbl) :	376,240	375,290
	Ag Rate (bbl/hr) :	95	96
	Ag Pressure (psi) :	7,257	7,534
	Min Rate (bpm) :	100	100
	Max Pressure (psi) :	8,132	8,500
	Break Pressure (psi) :	6,659	6,809
	SDP (psi) :	4,320	4,503
	EG (psi/hr) :	1.09	1.12
	Bioocide (gal) :	41	27
	Corrosion Inhibitor (lbs) :	1	1
	Fricdon Reducer (gal) :	5,143	4,129
	HCl 15% (gal) :	500	500
	Scale Inhibitor (gal) :	27	40
	Breaker :		0
	Average Density (SG) :		
	Average of pH :		
	Average of Conductivity :		
	Average of Calcium :		
	Average of Magnesium :		
	Average of Chlorides :		
	Average of Iron :		
	Average of Temp pH :		
	Average of Sulfide :		
	Fluid Density (lb/gal) :		
Frac			
Pumpdown			
HCl 15%			
HCl 7.5%			
Difference			
Frac			
PD			
HCl			

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DEC 11 2025
WV Department of
Environmental Protection

03/13/2026



Well Name: Michael Southworth MSH 410H 47051025230000

LITHOLOGY/FORMATION	TOP DEPTH, MD (FT)	TOP DEPTH, TVD (FT)	BOTTOM DEPTH, MD (FT)	BOTTOM DEPTH, TVD (FT)
Base of Fresh Water	0	0	632	632
Top of Salt Water	1403	1403	NA	NA
Pittsburgh Coal	734	734	740	740
Pottsville (ss)	840	840	869	869
Raven Cliff (ss)	1205	1204	1382	1378
Maxton (ss)	1475	1469	1802	1780
Big Injun (ss)	1905	1874	2028	1985
Berea (siltstone)	2362	2267	2398	2296
Rhinestreet (shale)	7236	5742	7761	6117
Cashaqua (shale)	7761	6117	7871	6196
Middlesex (shale)	7871	6196	7982	6274
Burket (shale)	7982	6274	8016	6297
Tully (ls)	8016	6297	8063	6327
Mahantango (shale)	8063	6327	8313	6442
Marcellus (shale)	8313	6442	NA	NA

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