

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

APPROVED
K. J. Willett
3/26/25

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WV Department of
Environmental Protection

API 47-049-02513 County Marion District Mannington
Quad Glover Gap Pad Name RADCLIFF Field/Pool Name N/A
Farm name Jackie D. and Sheila L. Radcliff Well Number Radcliff 14H (L008455)
Operator (as registered with the OOG) EQT Production Company
Address 400 Woodcliff Drive City Canonsburg State PA Zip 15317

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4,382,170.48 Easting 548,254.80
Landing Point of Curve Northing 4,381,879.90 Easting 548,831.13
Bottom Hole Northing 4,378,092.60 Easting 550,673.48

Elevation (ft) 1493' GL Type of Well ☒ New ☐ Existing Type of Report ☐ Interim ☒ Final
Permit Type ☐ Deviated ☐ Horizontal ☒ Horizontal 6A ☐ Vertical Depth Type ☐ Deep ☒ Shallow
Type of Operation ☐ Convert ☐ Deepen ☒ Drill ☐ Plug Back ☐ Redrilling ☐ Rework ☒ Stimulate
Well Type ☐ Brine Disposal ☐ CBM ☒ Gas ☐ Oil ☐ Secondary Recovery ☐ Solution Mining ☐ Storage ☐ Other _____
Type of Completion ☒ Single ☐ Multiple Fluids Produced ☐ Brine ☒ Gas ☐ NGL ☐ Oil ☐ Other _____
Drilled with ☐ Cable ☒ Rotary

Drilling Media Surface hole ☒ Air ☐ Mud ☐ Fresh Water Intermediate hole ☒ Air ☐ Mud ☐ Fresh Water ☐ Brine
Production hole ☒ Air ☒ Mud ☐ Fresh Water ☐ Brine

Mud Type(s) and Additive(s)

Synthetic Oil Based Mud 13.55 ppg barium sulfate, sodium chloride, xanthan gum, polyanionic cellulose, modified starch, sodium hydroxide, phosphonates and alkyl phosphates, glutaraldehyde solution, calcium hydroxide,
partially hydrolyzed polyacrylamide/polyacrylate, potassium chloride, sodium carbonate, ground walnut shells, alcohol and modified fatty acid, ferrochrome lignosulfonate, calcium carbonate, fibrous cellulose

Date permit issued 09/11/2023 Date drilling commenced 11/03/2023 Date drilling ceased 04/13/2024
Date completion activities began 10/13/2024 Date completion activities ceased 11/24/2024
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 448', 478', 609', 739', 893' Open mine(s) (Y/N) depths N
Salt water depth(s) ft 1844', 2115', 2235' Void(s) encountered (Y/N) depths N
Coal depth(s) ft 1190', 1282' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed by:

04/11/2025

API 47-049 - 02513 Farm name Jackie D. and Sheila L. Radcliff Well number Radcliff 14H (L008455)

CASING STRINGS	Hole Size	Casing Size	Depth (GL)	New or Used	Grade wt/ft	Basket Depth(s) (GL)	Did cement circulate (Y/ N) * Provide details below*
Conductor	30"	26"	40'	NEW	A-500 85.6#	N/A	Y
Surface	17-1/2"	13-3/8"	1357'	NEW	J-55 54.5#	1262'	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2717'	NEW	J-55 36#	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4", 8-1/2"	6"	22,751'	NEW	P-110 24#	N/A	N
Tubing							
Packer type and depth set							

Comment Details Production cmt has calculated TOC of 1249'GL, which is greater than 500'TVD above the producing formation. No issues.

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft ³ /sks)	Volume (ft ³)	Cement Top (GL)	WOC (hrs)
Conductor	CLASS A	83	15.6	1.18	98	0	8+
Surface	CLASS L	1263	16.0	1.09	1377	0	8
Coal							
Intermediate 1	CLASS L	984	15.6	1.14	1122	0	8
Intermediate 2							
Intermediate 3							
Production	CLASS A	3705	15.0	1.19	4409	1249	8+
Tubing							

Drillers TD (ft) 22,768' Loggers TD (ft) N/A
Deepest formation penetrated MARBLEUS Plug back to (ft) N/A
Plug back procedure Office of Oil and Gas

FEB 24 2025

Kick off depth (ft) 2946' 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
CONDUCTOR- NONE
SURFACE- ON SHOE TRACK AND EVERY 500' TO SURFACE
INTERMEDIATE: ON SHOE TRACK AND EVERY 500' FEET TO SURFACE
PRODUCTION: ON SHOE TRACK, EVERY OTHER JOINT TO 8683', EVERY JOINT TO 7477' AND EVERY OTHER JOINT TO 2107'

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

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API 47-049-02513 Farm name Jackie D. and Sheila L. Radcliff Well number Radcliff 14H (L008455)

PERFORATION RECORD

[illegible]

Please insert additional pages as applicable.

STIMULATION INFORMATION PER STAGE

Complete a separate record for each stimulation stage.

[illegible]

Please insert additional pages as applicable.

04/11/2025

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API 47- 049 - 02513 Farm name Jackie D. and Sheila L. Radcliff Well number Radcliff 14H (L008455)

Drilling Contractor Falcon (Rig 25)
Address 1120 US-119 City Indiana State PA Zip 15701

Logging Company Scientific Drilling International
Address 3475 Washington Ave City Finleyville State PA Zip 15332

Logging Company GyroData
Address 73 Noblestown Road City Carnegie State PA Zip 15106

Drilling Contractor _____
Address _____ City _____ State _____ Zip _____

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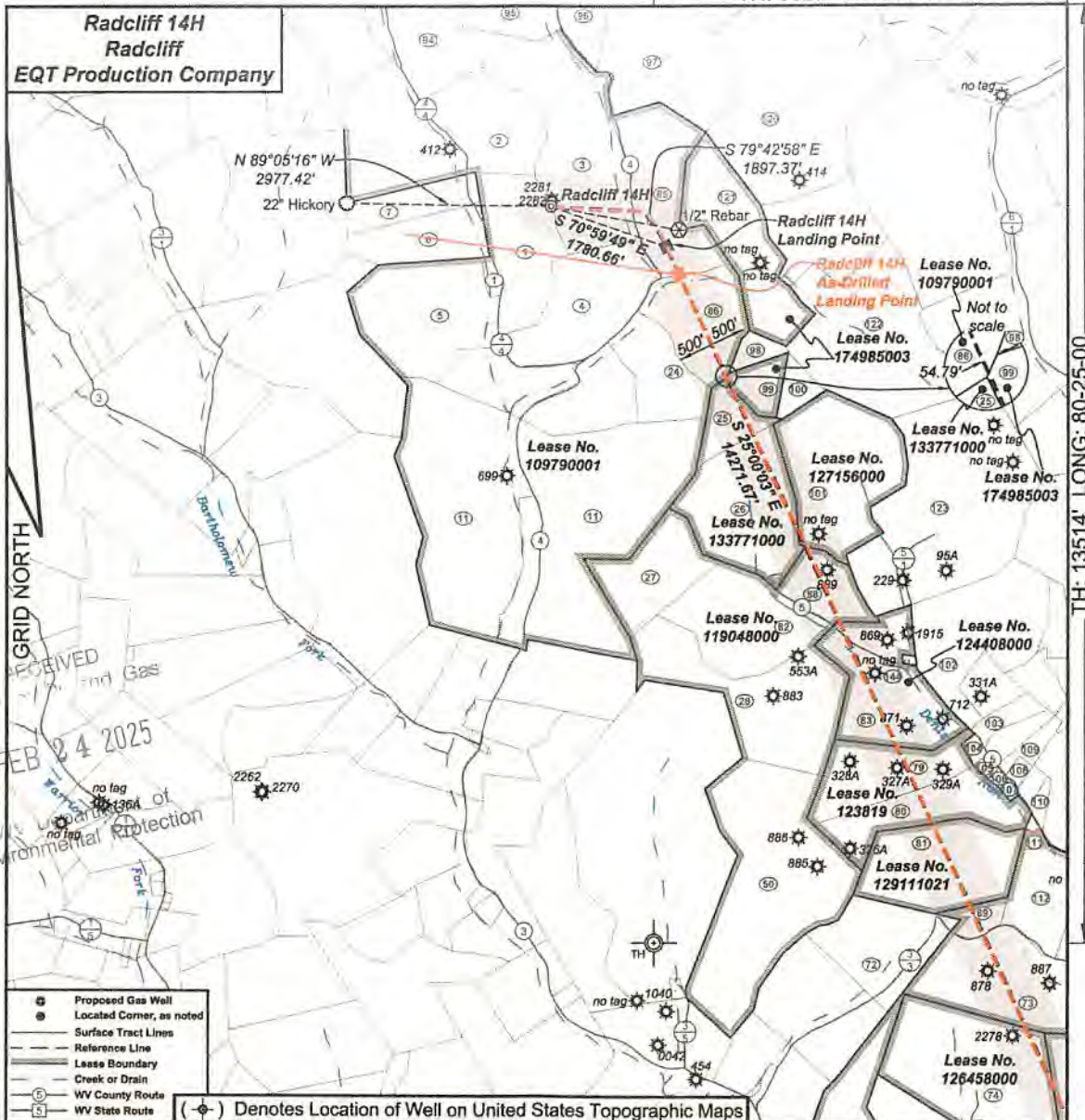
04/11/2025

Well # RADCLIFF 14H Final Formations API# 47-049-02513				
Formation Name	Drill Top MD (ftGRD)	Drill Top (TVD) (ftGRD)	Drill Btm MD (ftGRD)	Drill Btm (TVD) (ftGRD)
Sand/Shale	1	1	1,190	1,190
Sewickley Coal	1,190	1,190	1,194	1,194
Sand/Shale	1,194	1,194	1,282	1,282
Pittsburgh Coal	1,282	1,282	1,292	1,292
Sand/Shale	1,292	1,292	2,455	2,454
Big Lime	2,455	2,454	2,528	2,527
Big Injun	2,528	2,527	2,656	2,655
Sand/Shale	2,656	2,655	2,771	2,770
Berea	2,771	2,770	3,346	3,341
Gordon	3,346	3,341	3,508	3,498
Bayard	3,508	3,498	5,949	5,840
Alexander	5,949	5,840	6,394	6,264
Elks	6,394	6,264	7,403	7,230
Sonyea	7,403	7,230	7,586	7,404
Middlesex	7,586	7,404	7,658	7,472
Genesee	7,658	7,472	7,798	7,601
Geneseo	7,798	7,601	7,844	7,641
Tully	7,844	7,641	7,901	7,688
Hamilton	7,901	7,688	8,135	7,846
Marcellus	8,135	7,846	22,768	7,964

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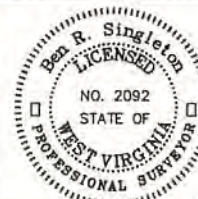
04/11/2025

**Radcliff 14H
Radcliff
EQT Production Company**



I, the undersigned, hereby certify that this plat is correct to the best of my knowledge and belief and shows all the information required by law and the regulations issued and prescribed by the Department of Environmental Protection.

P.S. 2092



SEAL

FILE NO: 113-21

DRAWING NO: Radcliff 14H

SCALE: 1" = 2000'

MINIMUM DEGREE OF ACCURACY:
1:2500

PROVEN SOURCE OF ELEVATION:
NGS CORS Station

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

DATE: April 18 2024

OPERATOR'S WELL NO.: Radcliff 14H

API WELL NO

47	049	02513
STATE	COUNTY	PERMIT

WELL TYPE: ☐ OIL ☒ GAS ☐ LIQUID INJECTION ☐ WASTE DISPOSAL

(IF GAS) PRODUCTION : ☐ STORAGE ☐ DEEP ☒ SHALLOW

LOCATION: ELEVATION: 1493' WATERSHED Bartholomew Fork QUADRANGLE: Glover Gap

DISTRICT: Mannington COUNTY: Marion

SURFACE OWNER: Jackie D. & Sheila L. Radcliff ACREAGE: 48.08

ROYALTY OWNER:	Rebecca R. Shuttlesworth, et al.	LEASE NO:	109790001	ACREAGE:	1090
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PROPOSED WORK: ☒ DRILL ☐ CONVERT ☐ DRILL DEEPER ☒ FRACTURE OR STIMULATE ☐ PLUG OFF OLD FORMATION
☐ PERFORATE NEW FORMATION ☐ OTHER PHYSICAL CHANGE IN WELL (SPECIFY)

☐ PLUG AND ABANDON ☐ CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus ESTIMATED DEPTH: 7916'

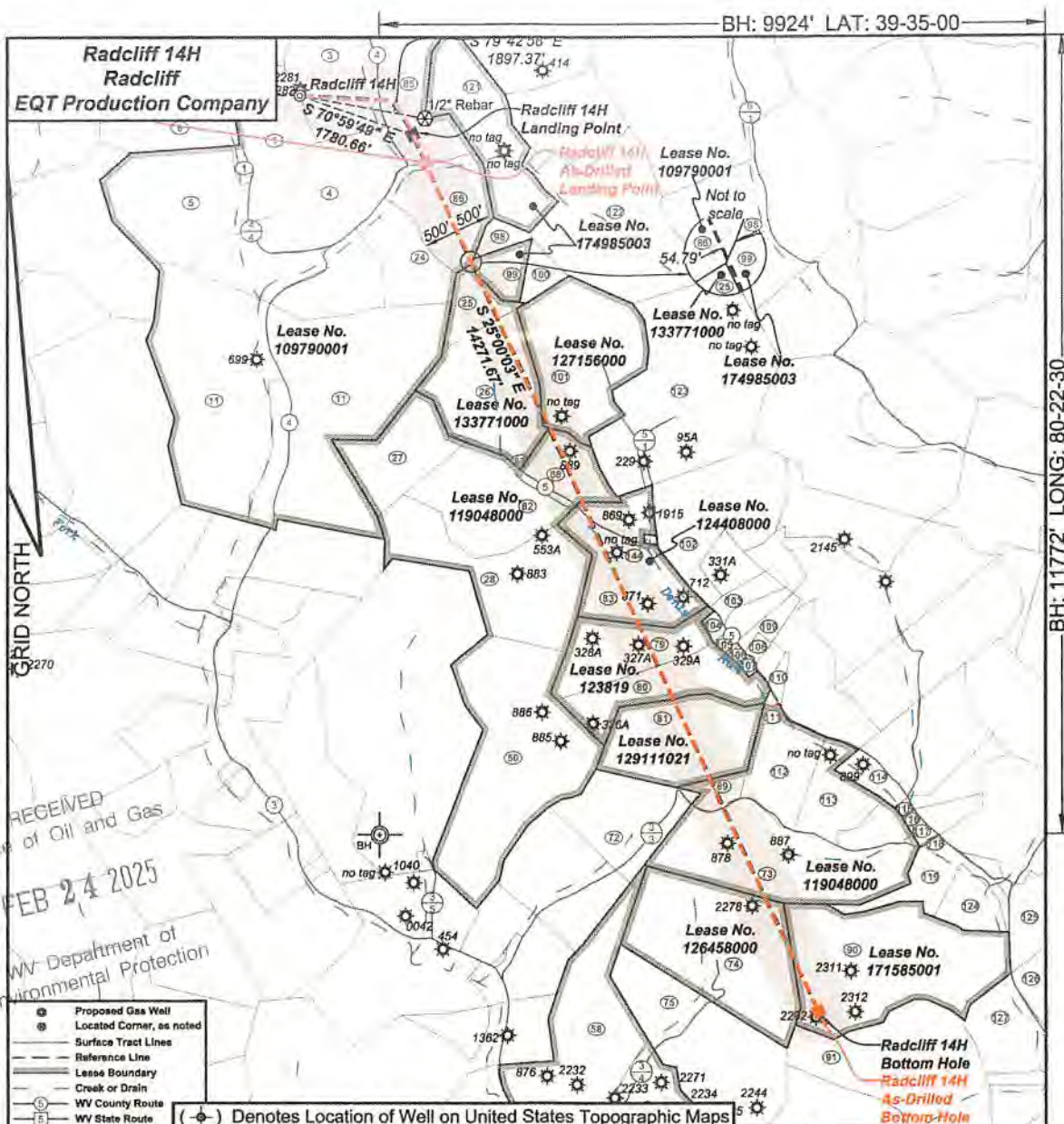
WELL OPERATOR: EQT Production Company

DESIGNATED AGENT: Joseph C. Mallow

ADDRESS: 400 Woodcliff Drive
Canonsburg, PA 15317

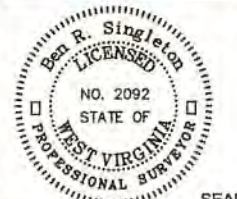
ADDRESS: 427 Midstate Drive
Clarksburg, WV 26301

04/11/2025



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PROVEN SOURCE OF ELEVATION: NGS CORS Station

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

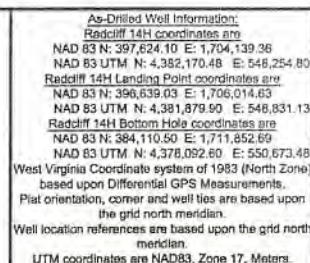
DATE: April 18 20 24
OPERATOR'S WELL NO.: Radcliff 14H
API WELL NO
47 - 049 - 02513
STATE COUNTY PERMIT

WELL TYPE: ☐ OIL ☒ GAS ☐ LIQUID INJECTION ☐ WASTE DISPOSAL
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ROYALTY OWNER: Rebecca R. Shuttlesworth, et al. LEASE NO: 109790001 ACREAGE: 1090
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ADDRESS: 400 Woodcliff Drive ADDRESS: 427 Midstate Drive
Canonsburg, PA 15317 Clarksburg, WV 26301

04/11/2025

Tract ID - Twp Map No.	Parcel No.	County	Director	Surface Steel Owners	Amount
1	43	1	Manron	Jeffrey D. & Cheryl L. Hadditt	45.08
1	43	10	Manron	Shelly L. Hadditt	63.03
1	43	1	Manron	Lawson B. & Heather B. Hoyer	99.76
1	43	2	Manron	Linda B. Knight	56.32
1	43	11	Manron	Constance W. Sawney	6.39
1	43	12	Manron	James D. & Sandra L. Kugart	27.35
7	40	33	Manron	Shirley L. Arden	29.29
11	39	4	Manron	Central Pacific Railroad's Contingent	145.72
16	46	4.1	Manron	James & Heather R. Jones	22.58
16	46	1	Manron	Thomas & A. Thomas A. Jones	1
16	46	5	Manron	Thomas G. & Thomas A. Jones	43.38
27	08	33.3	Manron	Donald Mallory	37.292
28	01	21	Manron	Dennis G. & Louise M. Hayes	71.825
39	16	11	Manron	Talia Nunnally	116.6
58	37	22	Manron	Walter H. Hayslett	166.43
74	37	24.1	Manron	John A. Mathis Jr.	49
74	37	34	Manron	James D. Alderson	112.5
74	37	23	Manron	Frederic L. Fragapetrilli	79.29
75	37	24	Manron	Walter H. Hayslett	39.49
79	08	24	Manron	Walter H. Hayslett	75.202
81	08	15	Manron	Michael E. & Debbie A. Bille	16.857
82	39	21.2	Manron	Douglas E. & Debbie L. McNeill	54.609
83	02	20	Manron	Dennis G. & Louise M. Hayes	59.24
85	36	16	Manron	James G. & Heather R. Jones	42.13
86	36	1	Manron	John B. Knight	43.38
87	39	2	Manron	Thomas G. & Thomas A. Jones	43.60
88	08	21.1	Manron	Ronald & Jean Hayes	11.50
89	36	16	Manron	Michael & Julia A. Bille	7.99
90	37	33	Manron	Manron County Coal Resources Inc.	108.2
91	36	20	Manron	Manron County Coal Resources Inc.	30.3
95	40	9	Manron	Karl A. Osborn	15.3
95	40	8	Manron	BBB EM LLC	20.82
96	36	NA	Manron	Info Not Available	NA
97	36	15	Manron	James D. & Michelle R. Stodd	91.9
97	36	15	Manron	James D. & Michelle R. Stodd	2.17
97	36	17	Manron	James D. & Michelle R. Stodd	7.522
100	39	16	Manron	Dennis Markel & John Phawant	84
101	39	1	Manron	Michael F. & Kerri Berney	41.5
102	39	11.1	Manron	Dorothy D. Hedgesford	2.245
104	38	19.3	Manron	Dorothy D. Hedgesford	1.606
105	38	19.2	Manron	Robert R. Smith & Jean Henderson	1.16
106	38	19.1	Manron	David A. Winger	1.05
107	38	11.3	Manron	Kerry Gofford & Michael Smith	1.42
109	35	11.3	Manron	Kerry R. & Michael L. Bentley	2.713
110	30	11.4	Manron	Lynn S. Garm	9.78
111	38	27	Manron	William D. Crouser	0.25
112	36	3	Manron	John W. Goff, et al.	21.48
113	38	11.4	Manron	Diaglas L. & Jennifer L. Cyphers	24.12
114	36	5	Manron	Diaglas L. Cyphers	14.24
115	36	5	Manron	Diaglas L. Cyphers	2.55
116	36	5	Manron	Diaglas L. Cyphers	1.86
117	36	5	Manron	Diaglas L. & Jennifer L. Cyphers	3.105
118	37	33	Manron	Dennis Ray Byngham	1.302
119	37	32	Manron	Mark A. & Carrie A. Henderson	14.11
120	30	12	Manron	BBB EM LLC	152.35
121	36	1	Manron	James D. & Michelle R. Stodd	5.1
122	36	1	Manron	Robert C. Woodruff	96.8
124	37	32.3	Manron	James Gofford & John Phawant	118.09
124	37	32.3	Manron	Manron County Coal Resources Inc.	24.09
125	36	15	Manron	Mark A. & Carrie A. Henderson	3.4
126	36	16	Manron	Manron County Coal Resources Inc.	50.35
127	36	17	Manron	Manron County Coal Resources Inc.	30.3
128	30	12	Manron	Diaglas L. Cyphers	1.86



Radcliff

Radcliff 18H ©

Radcliff 16H ©

Radcliff 14H ©

Radcliff 12H ©

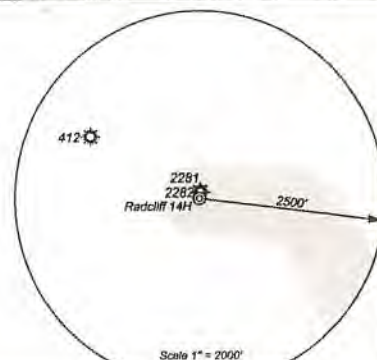
Radcliff 10H ©

Radcliff 8H ©

Radcliff 6H ©

Radcliff 4H ©

Lease No.	Owner	Acres
109790001	Rebecca R. Shuttlesworth, et al.	1090
174985003	Country Roads Minerals, LLC, et al.	59
133771000	Bounty Minerals LLC, et al.	72.75
127156000	EQT Production Company, et al.	84
119048000	Lee and Hall Royalties, et al.	89.9
124408000	MCJV Holdings, LLC, et al.	59.75
123819	XTO Energy, Inc.	77.948
129111021	Jeffrey Louis Huey, et al.	58.67
126458000	Melania Higginbotham Arevalo de Brof, et al.	95
171585001	Country Roads Minerals, LLC, et al.	109.42

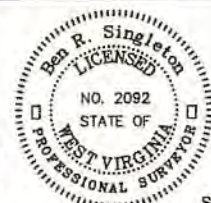


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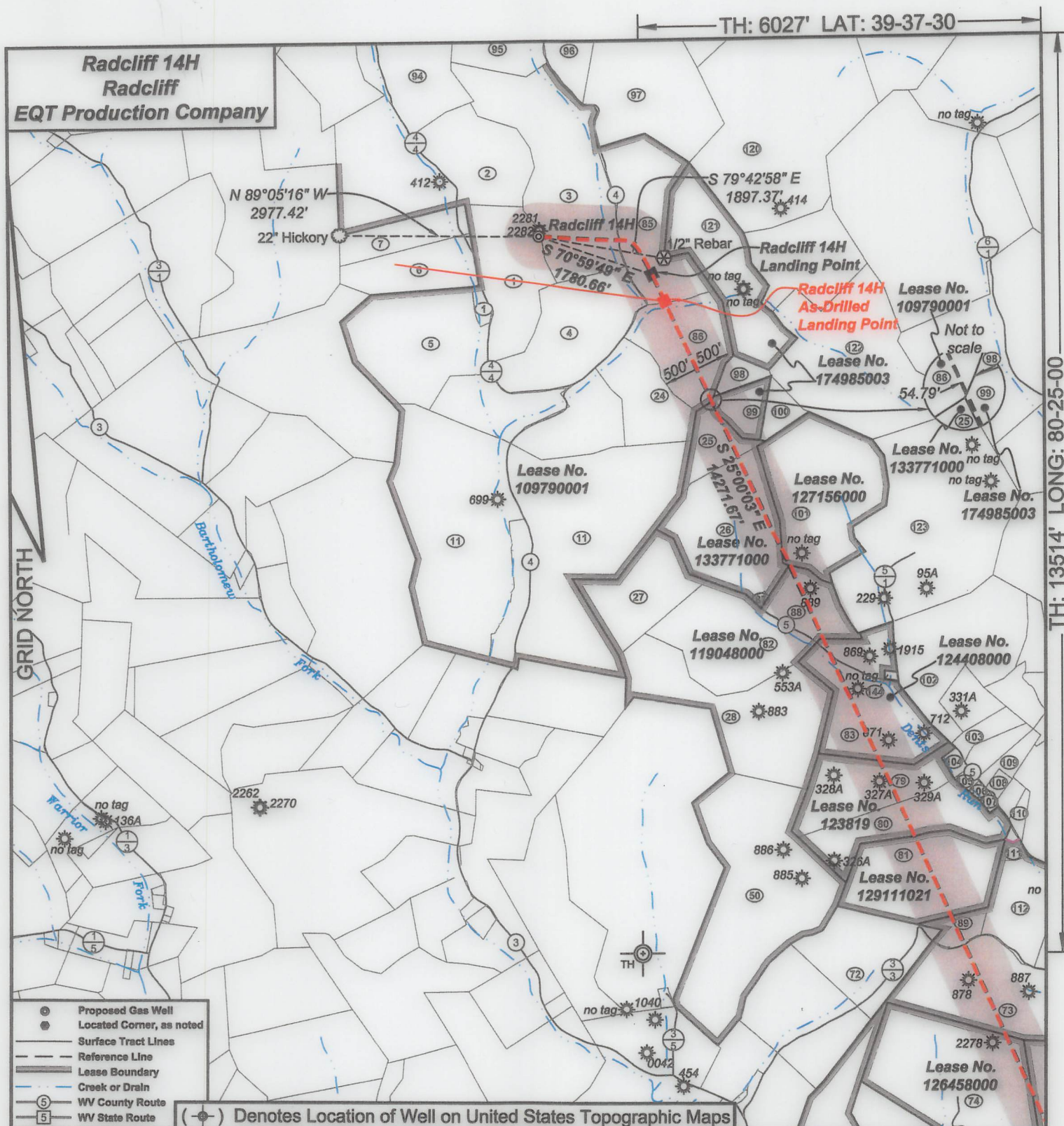
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OIL AND GAS DIVISION

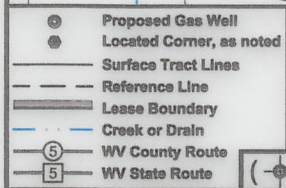
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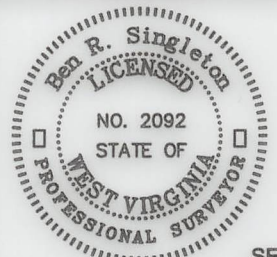
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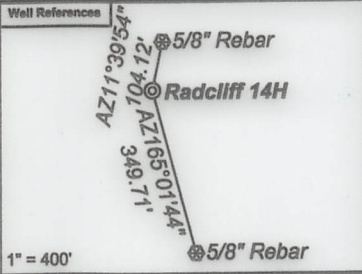
SEAL

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

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ADDRESS: <u>400 Woodcliff Drive</u>	ADDRESS: <u>427 Midstate Drive</u>
<u>Canonsburg, PA 15317</u>	<u>Clarksburg, WV 26301</u>

Radcliff 14H
Radcliff
EQT Production Company

Tract I.D.	Tax Map No.	Parcel No.	County	District	Surface Tract Owner	Acres
1	40	10.1	Marion	Mannington	Jackie D. & Sheila L. Radcliff	48.08
2	40	10	Marion	Mannington	Shelly L. Nelson	43.03
3	40	3	Marion	Mannington	Jason G. & Heather R. Stout	99.75
4	40	2	Marion	Mannington	Lula B. Knight	56.32
5	40	11	Marion	Mannington	Clarence W. Sweeney	63
6	40	12	Marion	Mannington	Jackie D. & Sheila L. Radcliff	27.35
7	40	13	Marion	Mannington	Shelly L. Nelson	19.75
11	39	4	Marion	Mannington	Coastal Forest Resources Company	245.722
24	40	2.1	Marion	Mannington	Jason G. & Heather R. Stout	29.58
25	39	3	Marion	Mannington	Thomas G. & Theresa A. Jones	10.75
26	39	5	Marion	Mannington	Thomas G. & Theresa A. Jones	61.85
27	38	21.3	Marion	Mannington	David Maffield	37.292
28	38	21	Marion	Mannington	Dennis G. & Louise M. Hayes	71.885
50	38	11	Marion	Mannington	Yulia Nikitenko	115
58	37	22	Marion	Mannington	Jeffrey H. Michael	166.83
72	38	14.1	Marion	Mannington	John A. Meyhus, Jr.	48
73	37	34	Marion	Mannington	James D. Atkinson	112.5
74	37	23	Marion	Mannington	Christine L. Fragale, et al.	95
75	37	24	Marion	Mannington	Jeffrey H. Michael	79
79	38	19	Marion	Mannington	Dorothy D. Hendershot	98.246
80	38	19.4	Marion	Mannington	William F. Hendershot	91.707
81	38	15	Marion	Mannington	Michael & Julia A. Billie	58.67
82	38	21.2	Marion	Mannington	Douglas E. & Debora L. Maffield	54.669
83	38	20	Marion	Mannington	Dennis G. & Louise M. Hayes	59.24
85	26	16	Marion	Mannington	Jason G. & Heather R. Stout	48.12
86	39	2	Marion	Mannington	Lula B. Knight	43.99
87	39	6	Marion	Mannington	Thomas G. & Theresa A. Jones	0.66
88	38	21.1	Marion	Mannington	Ronald & Jean Hayes	21.55
89	38	16	Marion	Mannington	Michael & Julia A. Billie	7.65
90	37	31	Marion	Mannington	Marion County Coal Resources Inc.	109.2
91	37	30	Marion	Mannington	Marion County Coal Resources Inc.	107
94	40	9	Marion	Mannington	Karl A. Gouze	35.32
95	40	4	Marion	Mannington	EBX-EM LLC	20.8
96	NA	NA	Marion	Mannington	Tax Info Not Available	NA
97	26	15	Marion	Mannington	Jason G. & Michelle R. Stout	91.9
98	39	15	Marion	Mannington	Jason G. & Michelle R. Stout	7.5
99	26	17	Marion	Mannington	Jason G. & Michelle R. Stout	57
100	39	16	Marion	Mannington	Jason G. & Michelle R. Stout	7.351
101	39	7	Marion	Mannington	Dennis Maffel & John Pheasant	84
102	39	9	Marion	Mannington	Dennis Maffel & John Pheasant	62.5
103	39	11.2	Marion	Mannington	Michael F. & Kerri Berthy	7.01
104	38	19.2	Marion	Mannington	Dorothy D. Hendershot	2.245
105	38	19.5	Marion	Mannington	Dorothy D. Hendershot	1.456
106	38	19.3	Marion	Mannington	Robin R. Smith & James W. Hendershot	1.01
107	38	19.1	Marion	Mannington	David A. Wright	1.17
108	39	11.1	Marion	Mannington	Kerry Orloff & Michael Berthy	1.92
109	39	11.3	Marion	Mannington	Kerri F. & Michael F. Berthy	9.11
110	30	11.4	Marion	Mannington	Lynn E. Sturm	2.73
111	38	18	Marion	Mannington	William D. Crouser	0.25
112	38	17	Marion	Mannington	Henry H. Gill, et al.	26.58
113	38	17.1	Marion	Mannington	Douglas L. & Kimberly J. Cyphers	24.8
114	36	3	Marion	Mannington	Douglas L. Cyphers	24.24
115	36	5	Marion	Mannington	Douglas L. Cyphers	1.55
116	36	6	Marion	Mannington	Douglas L. Cyphers	1.065
117	36	6.1	Marion	Mannington	Douglas L. & Kimberly J. Cyphers	1.935
118	37	33	Marion	Mannington	Dents Run Baptist Church	1.31
119	37	32	Marion	Mannington	Mark A. & Carrie A. Hendershot	14.31
120	26	12	Marion	Mannington	EBX-EM LLC	152.25
121	26	17	Marion	Mannington	Jason G. & Michelle R. Stout	57
122	39	1	Marion	Mannington	Albert C. Woods Helms	90.6
123	39	8	Marion	Mannington	Dennis Maffel & John Pheasant	128.635
124	37	32.2	Marion	Mannington	Marion County Coal Resources Inc.	14.69
125	36	15	Marion	Mannington	Mark A. & Carrie A. Hendershot	24
126	36	16	Marion	Mannington	Marion County Coal Resources Inc.	60.11
127	36	17	Marion	Mannington	Marion County Coal Resources Inc.	35
144	38	20.1	Marion	Mannington	Donald Malone	0.5

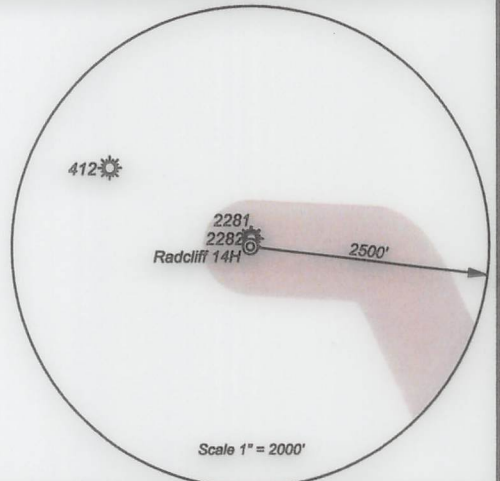


As-Drilled Well Information:
Radcliff 14H coordinates are
NAD 83 N: 397,624.10 E: 1,704,139.36
NAD 83 UTM N: 4,382,170.48 E: 548,254.80
Radcliff 14H Landing Point coordinates are
NAD 83 N: 396,639.03 E: 1,706,014.63
NAD 83 UTM N: 4,381,879.90 E: 548,831.13
Radcliff 14H Bottom Hole coordinates are
NAD 83 N: 384,110.50 E: 1,711,852.69
NAD 83 UTM N: 4,378,092.60 E: 550,673.48
West Virginia Coordinate system of 1983 (North Zone)
based upon Differential GPS Measurements.
Plat orientation, corner and well ties are based upon
the grid north meridian.
Well location references are based upon the grid north
meridian.
UTM coordinates are NAD83, Zone 17, Meters.

Radcliff

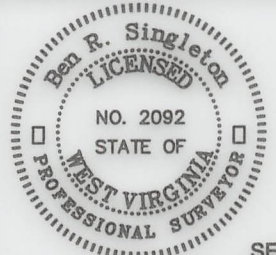
Radcliff 18H ©
Radcliff 16H ©
Radcliff 14H ©
Radcliff 12H ©
Radcliff 10H ©
Radcliff 8H ©
Radcliff 6H ©
Radcliff 4H ©

Lease No.	Owner	Acres
109790001	Rebecca R. Shuttlesworth, et al.	1090
174985003	Country Roads Minerals, LLC, et al.	59
133771000	Bounty Minerals LLC, et al.	72.75
127156000	EQT Production Company, et al.	84
119048000	Lee and Hall Royalties, et al.	809
124408000	MCJV Holdings, LLC, et al.	59.75
123819	XTO Energy, Inc.	77.948
129111021	Jeffrey Louis Huey, et al.	58.67
126458000	Melania Higginbotham Arevalo de Brol, et al.	95
171585001	Country Roads Minerals, LLC, et al.	109.42



I, the undersigned, hereby certify that this plat is correct to the best of my knowledge and belief and shows all the information required by law and the regulations issued and prescribed by the Department of Environmental Protection.

Ben R. Singleton
P.S. 2092



SEAL

FILE NO: 113-21
DRAWING NO: Radcliff 14H
SCALE: 1" = 2000'
MINIMUM DEGREE OF ACCURACY: 1:2500
PROVEN SOURCE OF ELEVATION: NGS CORS Station

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



DATE: April 18 20 24
OPERATOR'S WELL NO.: Radcliff 14H
API WELL NO
47 - 049 - 02513
STATE COUNTY PERMIT

WELL TYPE: ☐ OIL ☒ GAS ☐ LIQUID INJECTION ☐ WASTE DISPOSAL
(IF GAS) PRODUCTION: ☐ STORAGE ☐ DEEP ☒ SHALLOW
LOCATION: ELEVATION: 1493' WATERSHED Bartholomew Fork QUADRANGLE: Glover Gap
DISTRICT: Mannington COUNTY: Marion
SURFACE OWNER: Jackie D. & Sheila L. Radcliff ACREAGE: 48.08
ROYALTY OWNER: Rebecca R. Shuttlesworth, et al. LEASE NO: 109790001 ACREAGE: 1090
PROPOSED WORK: ☒ DRILL ☐ CONVERT ☐ DRILL DEEPER ☒ FRACTURE OR STIMULATE ☐ PLUG OFF OLD FORMATION
☐ PERFORATE NEW FORMATION ☐ OTHER PHYSICAL CHANGE IN WELL (SPECIFY)
☐ PLUG AND ABANDON ☐ CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus ESTIMATED DEPTH: 7916'

WELL OPERATOR: EQT Production Company DESIGNATED AGENT: Joseph C. Mallow
ADDRESS: 400 Woodcliff Drive ADDRESS: 427 Midstate Drive
Canonsburg, PA 15317 Clarksburg, WV 26301

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Perforation Data

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Stage No.	Perforation Date	Stage Perforated From TMD Ft.	Stage Perforated To TMD Ft.	# of Perforations/Stage	Formation(s)
2	10/14/2024	22664	22483	40	Marcellus
3	10/14/2024	22464	22283	40	Marcellus
4	10/14/2024	22264	22083	40	Marcellus
5	10/15/2024	22064	21883	40	Marcellus
6	10/15/2024	21864	21683	40	Marcellus
7	10/15/2024	21664	21483	40	Marcellus
8	10/15/2024	21464	21283	40	Marcellus
9	10/16/2024	21264	21083	40	Marcellus
10	10/16/2024	21064	20883	40	Marcellus
11	10/16/2024	20864	20683	40	Marcellus
12	10/16/2024	20664	20483	40	Marcellus
13	10/17/2024	20464	20283	40	Marcellus
14	10/17/2024	20264	20083	40	Marcellus
15	10/17/2024	20064	19883	40	Marcellus
16	10/17/2024	19864	19683	40	Marcellus
17	10/18/2024	19664	19483	40	Marcellus
18	10/18/2024	19464	19283	40	Marcellus
19	10/19/2024	19264	19083	40	Marcellus
20	10/19/2024	19064	18883	40	Marcellus
21	10/19/2024	18864	18683	40	Marcellus
22	10/19/2024	18664	18483	40	Marcellus
23	10/20/2024	18464	18283	40	Marcellus
24	10/20/2024	18264	18083	40	Marcellus
25	10/20/2024	18064	17883	40	Marcellus
26	10/20/2024	17864	17683	40	Marcellus
27	10/21/2024	17664	17483	40	Marcellus
28	10/22/2024	17464	17283	40	Marcellus
29	10/22/2024	17264	17083	40	Marcellus
30	10/22/2024	17064	16883	40	Marcellus
31	10/22/2024	16864	16683	40	Marcellus
32	10/23/2024	16664	16483	40	Marcellus
33	10/23/2024	16464	16283	40	Marcellus
34	10/23/2024	16264	16083	40	Marcellus
35	10/24/2024	16064	15883	40	Marcellus
36	10/25/2024	15864	15683	40	Marcellus
37	10/25/2024	15664	15483	40	Marcellus
38	10/25/2024	15464	15283	40	Marcellus
39	10/25/2024	15264	15083	40	Marcellus
40	10/26/2024	15064	14883	40	Marcellus
41	10/26/2024	14864	14683	40	Marcellus
42	10/26/2024	14664	14483	40	Marcellus

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43	10/26/2024	14464	14283	40	Marcellus
44	10/27/2024	14264	14083	40	Marcellus
45	10/27/2024	14064	13883	40	Marcellus
46	10/27/2024	13864	13683	40	Marcellus
47	10/27/2024	13664	13483	40	Marcellus
48	10/28/2024	13464	13283	40	Marcellus
49	10/28/2024	13264	13083	40	Marcellus
50	10/28/2024	13064	12883	40	Marcellus
51	10/28/2024	12864	12683	40	Marcellus
52	10/28/2024	12664	12483	40	Marcellus
53	10/29/2024	12464	12283	40	Marcellus
54	10/29/2024	12264	12083	40	Marcellus
55	10/29/2024	12064	11883	40	Marcellus
56	10/29/2024	11864	11683	40	Marcellus
57	10/30/2024	11664	11483	40	Marcellus
58	10/30/2024	11464	11283	40	Marcellus
59	10/30/2024	11264	11083	40	Marcellus
60	10/31/2024	11064	10883	40	Marcellus
61	10/31/2024	10864	10683	40	Marcellus
62	10/31/2024	10664	10483	40	Marcellus
63	11/01/2024	10464	10283	40	Marcellus
64	11/01/2024	10264	10083	40	Marcellus
65	11/01/2024	10064	9883	40	Marcellus
66	11/02/2024	9864	9683	40	Marcellus
67	11/02/2024	9664	9483	40	Marcellus
68	11/03/2024	9464	9283	40	Marcellus
69	11/03/2024	9264	9083	40	Marcellus
70	11/03/2024	9064	8883	40	Marcellus
71	11/04/2024	8864	8683	40	Marcellus
72	11/04/2024	8664	8483	40	Marcellus
73	11/04/2024	8464	8303	36	Marcellus

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Stimulation Data

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Stage #	Stimulation Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/other (units)
1	10/14/2024	84	8952	8374	4685	174646	4418	
2	10/14/2024	92	8971	6631	5088	440121	10304	
3	10/14/2024	99	8882	6441	5720	440388	10413	
4	10/15/2024	98	9026	6594	5133	440597	10219	
5	10/15/2024	95	8735	7108	8867	440200	10204	
6	10/15/2024	100	8914	6769	5514	442065	10251	
7	10/16/2024	100	8872	6245	5780	440404	10206	
8	10/16/2024	100	9086	2324	5996	440120	10190	
9	10/16/2024	100	8887	6086	6074	440106	10222	
10	10/16/2024	100	9011	6078	5752	440436	10183	
11	10/17/2024	100	8863	5997	5615	440364	10175	
12	10/17/2024	99	8963	6118	5481	440267	10177	
13	10/17/2024	100	8825	6191	5851	440120	10161	
14	10/17/2024	100	8839	6300	5673	440881	10176	
15	10/18/2024	100	8909	6598	5371	440650	10193	
16	10/18/2024	100	8662	5928	5442	440051	10139	
17	10/19/2024	100	8853	6523	5268	440696	10230	
18	10/19/2024	100	8792	6670	5247	440063	10091	
19	10/19/2024	100	8568	6251	5511	440135	10122	
20	10/19/2024	100	8676	6144	5174	440091	10157	
21	10/20/2024	100	8819	6482	5267	441142	10164	
22	10/20/2024	100	8763	6472	5326	439846	10086	
23	10/20/2024	100	8656	5979	5175	440053	10069	
24	10/20/2024	100	8675	5878	5035	439925	10151	
25	10/20/2024	100	8506	6169	5259	441237	10141	
26	10/21/2024	100	8744	6841	5328	440215	10037	
27	10/22/2024	100	8525	6406	5822	438816	11333	
28	10/22/2024	100	8514	6472	5914	440165	10023	
29	10/22/2024	100	8655	6749	5637	439842	10072	
30	10/23/2024	100	8520	6542	5219	439863	10095	
31	10/23/2024	100	8491	7011	5445	440890	9989	
32	10/23/2024	100	8479	6172	5703	440090	10048	
33	10/23/2024	99	8755	6428	5315	440304	10079	
34	10/24/2024	100	8614	6929	5678	441441	9877	
35	10/25/2024	100	8890	6457	5386	440229	9988	
36	10/25/2024	100	8803	6935	5550	441408	9965	
37	10/25/2024	100	8531	6243	5187	440284	10017	
38	10/26/2024	100	8342	6826	5350	441170	9935	
39	10/26/2024	100	8453	6790	5327	440395	9933	
40	10/26/2024	100	8429	6658	5485	441000	9964	
41	10/26/2024	100	8522	6402	5477	441766	10019	

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42	10/27/2024	100	8561	6909	4959	440783	9990
43	10/27/2024	100	8573	6697	5322	440464	9927
44	10/27/2024	100	8386	6771	5652	439909	9907
45	10/27/2024	100	8309	6669	5474	440083	9956
46	10/28/2024	100	7989	6263	5259	440902	9913
47	10/28/2024	100	8425	6678	5549	440343	9892
48	10/28/2024	100	8226	6724	5858	442207	9896
49	10/28/2024	98	8637	7255	5416	440004	9880
50	10/28/2024	100	8357	6168	5382	440014	9906
51	10/29/2024	100	8312	8769	5817	439902	9868
52	10/29/2024	101	8277	6676	5498	440584	9854
53	10/29/2024	100	8219	6528	5281	439868	9844
54	10/29/2024	100	8489	6729	5010	441147	9859
55	10/30/2024	100	8226	6759	5586	440481	9827
56	10/30/2024	100	8307	6580	5986	439756	9803
57	10/30/2024	100	8396	7268	5905	440026	9820
58	10/31/2024	98	8136	6680	6046	440589	9841
59	10/31/2024	100	8172	6707	5704	441114	9835
60	10/31/2024	100	8165	7992	5522	440417	9821
61	10/31/2024	100	8054	6213	5781	439170	9809
62	11/01/2024	100	8056	6649	5675	441052	9806
63	11/01/2024	100	7990	8662	5987	440066	9763
64	11/01/2024	98	8730	6601	5958	441880	9817
65	11/02/2024	100	8099	6918	5638	439958	9749
66	11/02/2024	99	8338	6170	5521	440515	9747
67	11/03/2024	100	8012	6938	5829	440795	9595
68	11/03/2024	99	8578	6561	5957	440175	9713
69	11/03/2024	100	7829	6092	5409	440127	9722
70	11/04/2024	100	7809	6729	5627	441074	9725
71	11/04/2024	99	8168	6356	5668	439818	9709
72	11/05/2024	100	7946	6536	5593	440644	9671
73	11/05/2024	98	7835	5957	4543	396156	8742

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Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	10/13/2024
Job End Date:	11/05/2024
State:	West Virginia
County:	Marion
API Number:	47-049-02513-00-00
Operator Name:	EQT Production
Well Name and Number:	Radcliff 14H
Latitude:	39.587899
Longitude:	-80.438054
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	7992
Total Base Water Volume (gal)*:	30383766
Total Base Non Water Volume:	0



Water Source	Percent
--------------	---------

Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
Water	EQT	Carrier/Base Fluid					
			Water	7732-18-5	100.00000	88.70132	None
Sand (Proppant)	EQT	Proppant					
			Silica Substrate	14808-60-7	100.00000	11.13959	None
StimSTREAM FR 9800	ChemStream	Friction Reducer					
			ALKANES, C12-26-BRANCHED AND LINEAR	90622-53-0	40.00000	0.01665	None
StimSTREAM FR 9800	ChemStream	Friction Reducer					
			ACRYLAMIDE-CHLORIDE SALT OF TRIMETHYLAMMONIO-ETHYL ACRYLATE COPOLYMER	69418-26-4	40.00000	0.01665	None
Clearal 268	ChemStream	Biocide					
			Water	7732-18-5	80.00000	0.00898	None

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StimSTREAM FR 9800	ChemStream	Friction Reducer					
			Water	7732-18-5	15.00000	0.00234	None
Enviro-Syn HCR-7000- WL	Fluid USA, Inc.	Synthetic Acid					
			FLUID-Acid-00001	Proprietary	20.00000	0.00126	None
Clearal 268	ChemStream	Biocide					
			Glutaraldehyde	111-30-8	20.00000	0.00056	None
Enviro-Syn HCR-7000- WL	Fluid USA, Inc.	Synthetic Acid					
			FLUID-Amine-00001	Proprietary	10.00000	0.00032	None
StimSTREAM FR 9800	ChemStream	Friction Reducer					
			ETHOXYLATED ALCOHOLS (C12-16)	68551-12-2	5.00000	0.00026	None
StimSTREAM SC-398	ChemStream	Scale Inhibitor					
			AA/ATBS Co-polymer	9003-05-8	5.00000	0.00002	None
Clearal 268	ChemStream	Biocide					
			Didecyl dimethyl ammonium chloride	7173-51-5	3.00000	0.00001	None
Clearal 268	ChemStream	Biocide					
			Quaternary Ammonium Compounds	68424-85-1	3.00000	0.00001	None
Clearal 268	ChemStream	Biocide					
			Ethanol	64-17-5	1.50000	0.00000	None
StimSTREAM SC-398	ChemStream	Scale Inhibitor					
			AA/Maleic Anhydride Co- polymer	9003-04-7	1.00000	0.00000	None

Ingredients shown above are subject to 29 CFR 1910.1200(i) and appear on Material Safety Data Sheets (MSDS). Ingredients shown below are Non-MSDS

* Total Water Volume sources may include various types of water including fresh water, produced water, and recycled water

** Information is based on the maximum potential for concentration and thus the total may be over 100%

Note: For Field Development Products (products that begin with FDP), MSDS level only information has been provided.

Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)

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