

Well Operator's Report of Well Work



Well Number: Willett S-7HM (L018027)

API: 47 - 051 - 02421

Submission: Initial Amended

Notes: Original

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Office of Oil and Gas

AUG 2 2024

WV Department of
Environmental Protection

11/08/2024

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

API 47-051-02421 County Marshall District Meade
Quad Glen Easton 7.5' Pad Name WILLETT Field/Pool Name N/A
Farm name CNX Land, LLC Well Number Willett S-7HM (L018027)
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 4,408,176.71 Easting 529,423.66
Landing Point of Curve Northing 4,408,288.7 Easting 530,503.4
Bottom Hole Northing 4,405,244.9 Easting 532,311.3

Elevation (ft) 1310' 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 13.66 ppg barium sulfate, sodium chloride, xanthan gum, polyanionic cellulose, modified starch, sodium hydroxide, phosphonates and alkyl phosphates, glutaraldehyde solution, calcium hydroxide, partially hydrolyzed polyacrylamide/polyacrylate, potassium chloride, sodium carbonate, ground walnut shells, alcohol and modified fatty acid, ferrochrome lignosulfonate, calcium carbonate, fibrous cellulose

Date permit issued 01/07/2022 Date drilling commenced 06/03/2022 Date drilling ceased 09/19/2023
Date completion activities began 03/26/2024 Date completion activities ceased 05/14/2024
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 991' Open mine(s) (Y/N) depths N
Salt water depth(s) ft 1463' Void(s) encountered (Y/N) depths N
Coal depth(s) ft 888', 986' Cavern(s) encountered (Y/N) depths _____
Is coal being mined in area (Y/N) N

APPROVED

Reviewed by:
Sh...
STRADON
9/6/2024

11/08/2024

API 47- 051 - 02421

Farm name CNX Land, LLC

Well number Willett S-7HM (L018027)

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	38"	30"	120'	NEW	118.65#	N/A	Y
Surface	17-1/2"	13-3/8"	1097'	NEW	J-55 54.5#	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2947'	NEW	J-55 36#	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4", 8-1/2"	5-1/2"	19,974'	NEW	P-110 20#	N/A	N
Tubing							
Packer type and depth set							

Comment Details Production Cement job has a calculated TOC of 1569' GL, which is greater than 500' TVD above the producing formation. No issues during cement job.

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft ³ /sks)	Volume (ft ³)	Cement Top (GL)	WOC (hrs)
Conductor	CLASS A	560	15.6	1.21	677	0	8+
Surface	CLASS A	1200	15.6	1.18	1416	0	8
Coal							
Intermediate 1	CLASS A	835	15.0	1.38	1152	0	8
Intermediate 2							
Intermediate 3							
Production	CLASS A	3670	15.0	1.18	4331	1569'	8+
Tubing							

Drillers TD (ft) 19,990' Loggers TD (ft) N/A
 Deepest formation penetrated MARCELLUS Plug back to (ft) N/A
 Plug back procedure N/A

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Kick off depth (ft) 1367'

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

Well cored Yes No Conventional Sidewall Were cuttings collected Yes No

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING

CONDUCTOR- NONE

SURFACE- ON SHOE TRACK AND EVERY 500' TO SURFACE

INTERMEDIATE: ON SHOE TRACK AND EVERY 500' FEET TO SURFACE

PRODUCTION: ON SHOE TRACK AND EVERY JOINT TO 43'

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 _____

11/08/2024

API 47- 051 - 02421

Farm name CNX Land, LLC

Well number Willett S-7HM (L018027)

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
See	Attached	*			

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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 (bbls)	Amount of Nitrogen/other (units)
See	Attached	*						

Please insert additional pages as applicable.

11/08/2024

API 47- 051 - 02421 Farm name CNX Land, LLC Well number Willett S-7HM (L018027)

PRODUCING FORMATION(S)	DEPTHS	
	TVD	MD

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 2368 psi Bottom Hole _____ psi DURATION OF TEST 24 hrs

OPEN FLOW Gas 11466 mcfpd Oil 140 bpd NGL _____ bpd Water 538 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		

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Please insert additional pages as applicable.

Drilling Contractor Nabors Drilling (X14)
Address 143 Cresswood Drive City Clearfield State PA Zip 16830

Logging Company Baker Hughes
Address 400 Technology Dr Suite 100 City Canonsburg State PA Zip 15317

Cementing Company Halliburton
Address 121 Champion Way Suite 110 City Canonsburg State PA Zip 15317

Cementing Company Lightning Energy Services
Address 603 US Highway 19 N City Weston State WV Zip 26452

Please insert additional pages as applicable.

Completed by Adam Hughey Telephone 724-579-5475
Signature _____ Title Director of Completions Date 2024-07-17

Submittal of Hydraulic Fracturing Chemical Disclosure Information Attach copy of FRACFOCUS Registry

11/08/2024

API 47- 051 - 02421 Farm name CNX Land, LLC Well number Willett S-7HM (L018027)

Drilling Contractor Falcon (Rig 29)
Address 1120 US-119 City Indiana State PA Zip 15701

Logging Company Nzone Guidance, LLC
Address 140 Falcon Lane City Liberty Hill State TX Zip 78642

Logging Company _____
Address _____ City _____ State _____ Zip _____

Drilling Contractor _____
Address _____ City _____ State _____ Zip _____

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Well # WILLETT S-7HM (L018027) Final Formations API# 47-051-02421				
Formation Name	Drill Top MD (ftGRD)	Drill Top (TVD) (ftGRD)	Drill Btm MD (ftGRD)	Drill Btm (TVD) (ftGRD)
Sand/Shale	1	1	889	888
Sewickley	889	888	891	890
Sand/Shale	891	890	987	986
Pittsburgh	987	986	991	990
Sand/Shale	991	990	2,099	2,086
Big Lime	2,099	2,086	2,396	2,369
Big Injun	2,396	2,369	2,451	2,422
Sand/Shale	2,451	2,422	2,726	2,690
Berea	2,726	2,690	3,144	3,100
Gordon	3,144	3,100	3,221	3,176
50F	3,221	3,176	3,339	3,291
Bayard	3,339	3,291	5,515	5,034
Alexander	5,515	5,034	5,958	5,357
Elks	5,958	5,357	7,007	6,127
Sonyea	7,007	6,127	7,306	6,342
Middlesex	7,306	6,342	7,439	6,437
Genesee	7,439	6,437	7,714	6,631
Geneseo	7,714	6,631	7,891	6,741
Tully	7,891	6,741	7,933	6,763
Hamilton	7,933	6,763	8,178	6,867
Marcellus	8,178	6,867	19,990	7,035

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**WILLETT S LEASE
7HM
EQT PRODUCTION CO.**

T.H. LATITUDE 39°50'00"
B.H. LATITUDE 39°50'00"

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

NAD'83 S.P.C.(FT)	N. 483,994.24	E. 1,643,771.81
NAD'83 GEO.	LAT-(N) 39.823071	LONG-(W) 80.656184
NAD'83 UTM (M)	N. 4,408,176.71	E. 529,423.66

LANDING POINT

NAD'83 S.P.C.(FT)	N. 484,175.5	E. 1,647,434.2
NAD'83 GEO.	LAT-(N) 39.823698	LONG-(W) 80.643154
NAD'83 UTM (M)	N. 4,408,250.6	E. 530,538.5

BOTTOM HOLE

NAD'83 S.P.C.(FT)	N. 474,216.2	E. 1,653,087.6
NAD'83 GEO.	LAT-(N) 39.796554	LONG-(W) 80.622584
NAD'83 UTM (M)	N. 4,405,245.2	E. 532,311.6

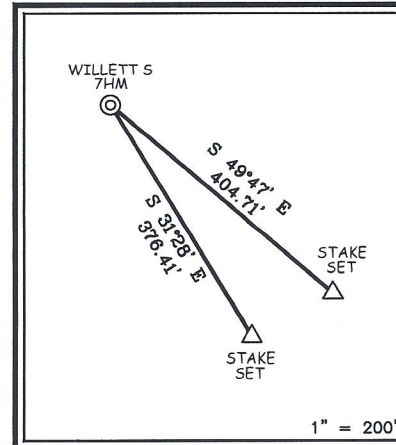
T.H. LONGITUDE 80°37'30"
B.H. LONGITUDE 80°35'00"

T.H.
A.D.N.

MAP/PARCEL	ADJOINING SURFACE OWNER LIST	ACRES
3-19-77	SONJA J. STROPE	46.783
3-18-78	CNX LAND, LLC	30.927
3-19-81	XCL PROCESSING OPERATING LLC	26.52
3-19-82	XCL PROCESSING OPERATING LLC	14.89
7-1-71	NANCY L. PARSONS	0.5
7-1-19	JEAN JAMISON	51.89
7-7-2	KAREN S. EVANS & JUDY KAY MATTHEWS	24.50
7-7-8.1	KENNETH WAYNE STEELE TRUST	79.03
9-3-13	XCL PROCESSING OPERATING LLC	28.00
9-3-13.1	XCL PROCESSING OPERATING LLC	10.00
9-3-15.1	MARSHALL COUNTY PUBLIC SERVICE DISTRICT #4	0.2296
9-3-17.1	BRIAN & LEAH KESTNER	11.8
9-8-5.2	AMY EVANS & KAREN WHETZAL	4.586
9-8-6.1	KAYLA E. BRATTON	1.423
9-9-7.1	RAYMOND DEWAIN DOBBS, ET AL	9.00
9-9-7.2	XCL PROCESSING OPERATING LLC	3.907
9-9-7.3	JEFFREY B. THOMAS	1.297
9-9-8.1	DIANA MAE PIATT	2.253
9-9-8.2	VINCENT PATRELLO	0.723
9-9-9	VINCENT P. PATRELLO	1.076

TAG	SURFACE OWNER	PARCEL	ACRES
A	CNX LAND, LLC	9-8-6	27.596
B	CNX LAND, LLC	9-3-17	65.86
C	LARRY S. NEELY - LIFE	9-8-7.1	76.005
D	RAYMOND DEWAIN DOBBS, ET AL	9-3-15	70.7424
E	RAYMOND DEWAIN DOBBS, ET AL	9-3-14	81.331
F	JEFFREY B. THOMAS	9-3-14.2	2.83
G	JEFFREY B. THOMAS	9-9-7.3	1.297
H	JAMES R. THOMAS, ET UX	9-9-7	60.796
I	JAMES D. BLAKE, ET AL	9-9-8	52.144
J	ANNA D. MORRIS - TOD	7-1-1	179.00
K	JOSEPH B. & JUDITH PATRELLO	9-9-9.1	149.924
L	KAREN S. EVANS & JUDY KAY MATTHEWS	7-1-5	116.915
M	CNX LAND, LLC	7-1-4	52.00
N	GEO A. BURRIS	7-8-14	95.44
O	KAREN S. EVANS & JUDY KAY MATTHEWS	7-7-1	124.12

REFERENCES



B.H.
A.D.N.

NOTES ON SURVEY

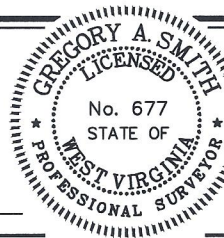
1. NO WATER WELLS WERE FOUND WITHIN 250' OF PROPOSED GAS WELL. NO AGRICULTURAL BUILDINGS ≥ 2500 SQ. FT. OR DWELLINGS WERE FOUND WITHIN 625' OF THE CENTER OF PROPOSED WELL PAD.
2. WELL SPOT CIRCLE & TOPO MARK SCALE IS 1"=2000'
3. PLAT UPDATED TO SHOW AS DRILLED PATH. AS DRILLED DATA PROVIDED BY EQT PRODUCTION CO.



12 Vankam Drive | P.O. Box 150 | Glenville, WV 26031 | 304-462-5634
1432 Kanawha Boulevard, East | Clarksburg, WV 26301 | 304-348-4952
254 East Beckley Bypass | Beckley, WV 26007 | 304-255-5296
sllw.com

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AUG 2 2024

I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DIVISION OF ENVIRONMENTAL PROTECTION.



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS
DATE SEPTEMBER 8, 20 21
REVISED OCTOBER 13, 20 23
OPERATORS WELL NO. WILLETT S 7HM
API WELL NO. 47 - 051 - 02421
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1/5000 FILE NO. 8939P7HMAD.dwg
HORIZONTAL & VERTICAL SCALE 1" = 2000'
CONTROL DETERMINED BY: DGPS (SURVEY GRADE TIE TO CORS NETWORK)

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

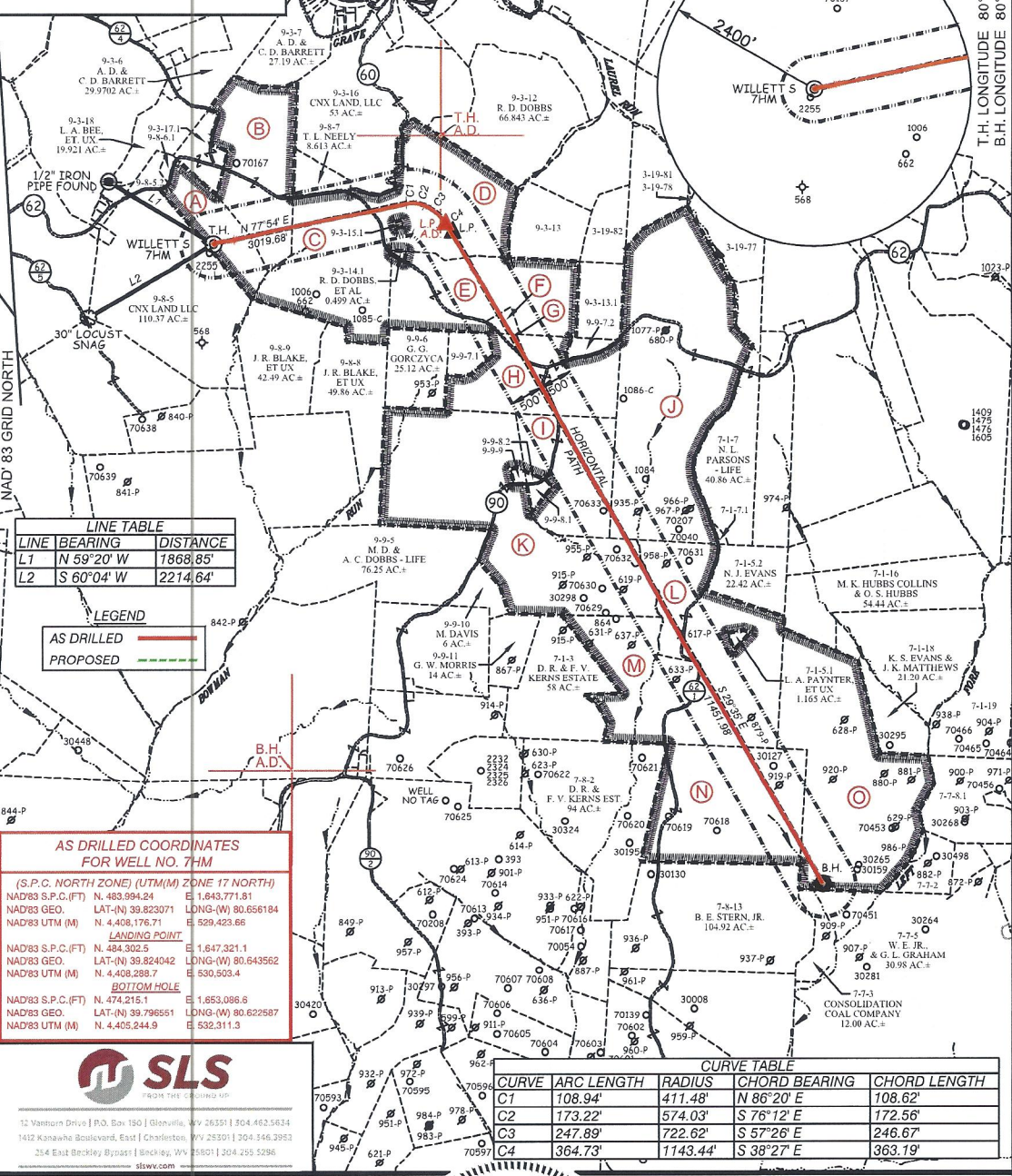
WELL TYPE: OIL ___ GAS LIQUID ___ WASTE ___ IF ___ INJECTION ___ DISPOSAL ___ "GAS" PRODUCTION STORAGE ___ DEEP ___ SHALLOW

LOCATION: ELEVATION 1,310.03' WATERSHED TRIBUTARY OF UPPER BOWMAN RUN
DISTRICT MEADE COUNTY MARSHALL QUADRANGLE GLEN EASTON 7.5'
SURFACE OWNER CNX LAND LLC ACREAGE 27.596±
ROYALTY OWNER APPALACHIAN BASIN MINERALS, LP, ET AL ACREAGE 27.596±
PROPOSED WORK: LEASE NO. SEE WW-6A1
DRILL CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE PLUG OFF OLD
FORMATION ___ PERFORATE NEW FORMATION ___ PLUG AND ABANDON ___ CLEAN OUT AND REPLUG ___ OTHER ___
PHYSICAL CHANGE IN WELL (SPECIFY) ___ TARGET FORMATION MARCELLUS
ESTIMATED DEPTH TVD: 6.995' / TMD: 19.827'

WELL OPERATOR EQT PRODUCTION COMPANY DESIGNATED AGENT JOSEPH C. MALLOW
ADDRESS 400 WOODCLIFF DRIVE ADDRESS 427 MIDSTATE DRIVE
CANNONSBURG, PA 15317 CLARKSBURG, WV 26301

11/08/2024

**WILLETT S LEASE
7HM
EQT PRODUCTION CO.**



LINE TABLE

LINE	BEARING	DISTANCE
L1	N 59°20' W	1868.85'
L2	S 60°04' W	2214.64'

LEGEND

AS DRILLED	
PROPOSED	

AS DRILLED COORDINATES FOR WELL NO. 7HM

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

NAD83 S.P.C.(FT)	N. 483,994.24	E. 1,643,771.81
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LANDING POINT

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NAD83 GEO.	LAT-(N) 39.824042	LONG-(W) 80.643952
NAD83 UTM (M)	N. 4,408,288.7	E. 530,503.4

BOTTOM HOLE

NAD83 S.P.C.(FT)	N. 474,215.1	E. 1,653,087.6
NAD83 GEO.	LAT-(N) 39.796551	LONG-(W) 80.622587
NAD83 UTM (M)	N. 4,405,244.9	E. 532,311.3

SLS
FROM THE GROUND UP

12 Vinton Drive | P.O. Box 1801 | Glenville, WV 26031 | 804.463.5634
1412 Kanawha Boulevard, East | Charleston, WV 25301 | 704.346.3953
254 East Beckley Bypass | Beckley, WV 25801 | 204.295.5296

www.sls.com

CURVE TABLE

CURVE	ARC LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH
C1	108.94'	411.48'	N 86°20' E	108.62'
C2	173.22'	574.03'	S 76°12' E	172.56'
C3	247.89'	722.62'	S 57°26' E	246.67'
C4	364.73'	1143.44'	S 38°27' E	363.19'

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

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GREGORY A. SMITH
LICENSED
No. 677
STATE OF WEST VIRGINIA
PROFESSIONAL SURVEYOR

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

P.S. 677 *Gregory A. Smith*

LEGEND

LEASE LINE	
SURFACE LINE	
WELL LATERAL	
OFFSET LINE	
TIE LINE	
CREEK	
ROAD	
COUNTY ROUTE	
PROPOSED WELL	
EXISTING WELL	
PERMITTED WELL	
TAX MAP-PARCEL	00-00
SURFACE OWNER (SEE TABLE)	
LEASE # (SEE WW-6A1)	

SCALE 1" = 2000' FILE NO. 8939P7HMAD.dwg
WILLETT S 7HM-REV2

DATE SEPTEMBER 8, 20 21
REVISED OCTOBER 13, 20 23

OPERATORS WELL NO. WILLETT S 7HM
API WELL 47 - 051 - 02421
NO. STATE COUNTY PERMIT

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

WELL OPERATOR EQT PRODUCTION COMPANY
ADDRESS 400 WOODCLIFF DRIVE
CANNONSBURG, PA 15317

DESIGNATED AGENT JOSEPH C. MALLOW
ADDRESS 427 MIDSTATE DRIVE
CLARKSBURG, WV 26301

COUNTY NAME PERMIT

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WV Department of Environmental Protection

11/08/2024

Perforation Data

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Environmental Protection

11/08/2024

Stage No.	Perforation Date	Stage Perforated From TMD Ft.	Stage Perforated To TMD Ft.	# of Perforations/Stage	Formation(s)
2	03/27/2024	19880	19731	48	Marcellus
3	03/27/2024	19702	19553	48	Marcellus
4	03/27/2024	19525	19376	48	Marcellus
5	03/28/2024	19347	19198	48	Marcellus
6	03/29/2024	19170	19021	48	Marcellus
7	03/29/2024	18992	18843	48	Marcellus
8	04/01/2024	18814	18665	48	Marcellus
9	04/02/2024	18637	18488	48	Marcellus
10	04/02/2024	18459	18310	48	Marcellus
11	04/03/2024	18282	18133	48	Marcellus
12	04/03/2024	18104	17955	48	Marcellus
13	04/04/2024	17926	17777	48	Marcellus
14	04/05/2024	17749	17600	48	Marcellus
15	04/06/2024	17571	17422	48	Marcellus
16	04/07/2024	17394	17245	48	Marcellus
17	04/07/2024	17216	17067	48	Marcellus
18	04/08/2024	17038	16889	48	Marcellus
19	04/08/2024	16861	16712	48	Marcellus
20	04/08/2024	16683	16534	48	Marcellus
21	04/09/2024	16506	16357	48	Marcellus
22	04/09/2024	16328	16179	48	Marcellus
23	04/10/2024	16150	16001	48	Marcellus
24	04/10/2024	15973	15824	48	Marcellus
25	04/11/2024	15795	15646	48	Marcellus
26	04/11/2024	15618	15469	48	Marcellus
27	04/12/2024	15440	15291	48	Marcellus
28	04/12/2024	15262	15113	48	Marcellus
29	04/13/2024	15085	14936	48	Marcellus
30	04/13/2024	14907	14758	48	Marcellus
31	04/14/2024	14730	14581	48	Marcellus
32	04/14/2024	14552	14403	48	Marcellus
33	04/15/2024	14374	14225	48	Marcellus
34	04/15/2024	14197	14048	48	Marcellus
35	04/16/2024	14019	13870	48	Marcellus
36	04/17/2024	13842	13693	48	Marcellus
37	04/18/2024	13664	13515	48	Marcellus
38	04/18/2024	13486	13337	48	Marcellus
39	04/18/2024	13309	13160	48	Marcellus
40	04/19/2024	13131	12982	48	Marcellus
41	04/19/2024	12954	12805	48	Marcellus
42	04/20/2024	12776	12627	48	Marcellus
43	04/20/2024	12598	12449	48	Marcellus
44	04/20/2024	12421	12272	48	Marcellus

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45	04/21/2024	12243	12094	48	Marcellus
46	04/21/2024	12066	11917	48	Marcellus
47	04/21/2024	11888	11739	48	Marcellus
48	04/22/2024	11710	11561	48	Marcellus
49	04/22/2024	11533	11384	48	Marcellus
50	04/23/2024	11355	11206	48	Marcellus
51	04/23/2024	11178	11029	48	Marcellus
52	04/23/2024	11000	10851	48	Marcellus
53	04/24/2024	10822	10673	48	Marcellus
54	04/24/2024	10645	10496	48	Marcellus
55	04/24/2024	10467	10318	48	Marcellus
56	04/25/2024	10290	10141	48	Marcellus
57	04/25/2024	10112	9963	48	Marcellus
58	04/26/2024	9934	9785	48	Marcellus
59	04/26/2024	9757	9608	48	Marcellus
60	04/27/2024	9579	9430	48	Marcellus
61	04/27/2024	9402	9253	48	Marcellus
62	04/28/2024	9224	9075	48	Marcellus
63	04/28/2024	9046	8897	48	Marcellus
64	04/29/2024	8869	8720	48	Marcellus
65	04/29/2024	8691	8542	48	Marcellus
66	04/29/2024	8514	8365	48	Marcellus
67	04/30/2024	8336	8217	40	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	03/27/2024	74	9083	0	4122	249140	7416.14	
2	03/27/2024	99	8816	8722	4858	450000	9139.60	
3	03/27/2024	100	8707	0	4775	450083	9338.79	
4	03/28/2024	98	8904	0	4693	449806	9033.29	
5	03/29/2024	87	8413	0	4654	451300	9142.29	
6	03/29/2024	99	8730	8849	4697	451903	9078.83	
7	03/30/2024	99	8728	0	4878	450964	8971.24	
8	04/02/2024	100	8610	0	4758	451557	9195.40	
9	04/02/2024	99	8808	9201	5203	450243	9039.14	
10	04/03/2024	100	8579	0	5219	450500	9498.07	
11	04/04/2024	97	8687	0	5555	450520	9536.14	
12	04/04/2024	100	8360	8719	5337	450458	9202.71	
13	04/06/2024	100	8452	9235	5463	450153	9576.00	
14	04/06/2024	100	8507	0	5036	451715	8980.40	
15	04/07/2024	100	8317	8379	5208	450423	8982.50	
16	04/07/2024	100	8366	9080	5252	450110	8919.81	
17	04/08/2024	94	9046	9065	4791	450103	8966.40	
18	04/08/2024	100	8326	8129	5510	450513	8997.88	
19	04/09/2024	100	8288	8462	5069	453960	9010.05	
20	04/09/2024	99	8130	7830	5578	450298	8954.12	
21	04/10/2024	100	8370	8760	4882	450945	8973.50	
22	04/10/2024	99	8609	8827	5554	450464	8913.60	
23	04/10/2024	100	8249	7989	4497	450591	9031.93	
24	04/11/2024	99	8332	8335	4932	450165	8952.81	
25	04/11/2024	100	8174	8093	4832	450285	8958.67	
26	04/12/2024	100	8328	8151	5115	450073	8958.36	
27	04/12/2024	99	8419	8569	4849	450423	8986.48	
28	04/13/2024	100	8299	8344	4790	449894	8891.36	
29	04/13/2024	100	8225	8376	5128	450432	8894.43	
30	04/14/2024	100	8120	8345	5220	449418	8878.43	
31	04/14/2024	74	7944	8884	5410	450341	9279.74	
32	04/15/2024	100	8202	7786	4983	450056	8935.83	
33	04/15/2024	100	7738	7531	4625	450116	8886.69	
34	04/16/2024	100	7971	0	4742	450000	9236.83	
35	04/17/2024	100	8331	0	4446	450853	9300.60	
36	04/18/2024	100	7751	7296	4736	450526	8865.60	
37	04/18/2024	99	8149	0	4895	450070	8819.62	
38	04/19/2024	100	7348	7488	4863	450083	8841.74	
39	04/19/2024	100	7896	0	5010	449680	8884.43	
40	04/19/2024	100	7605	0	4989	450748	8835.07	
41	04/20/2024	100	7796	8502	5046	450958	8836.24	
42	04/20/2024	100	7524	0	4462	430240	9381.48	
43	04/21/2024	101	7427	6990	4929	451170	8833.52	

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44	04/21/2024	101	7829	8746	5062	433706	8813.62
45	04/21/2024	100	7484	0	5000	449920	9011.79
46	04/22/2024	100	7676	8701	4900	450622	8820.17
47	04/22/2024	100	7515	8075	5050	450194	8847.43
48	04/22/2024	100	7818	0	5151	450345	8700.00
49	04/23/2024	100	7379	7808	5084	450343	8935.29
50	04/23/2024	100	7340	7546	4985	450005	8984.86
51	04/23/2024	101	7743	0	4784	450040	8848.24
52	04/24/2024	100	7518	7824	4888	451437	8808.29
53	04/24/2024	100	7477	8346	5325	450025	8732.36
54	04/25/2024	100	7567	7823	5403	450229	8968.21
55	04/25/2024	100	7860	8594	4680	450034	8926.62
56	04/25/2024	99	8202	8637	4720	450020	8977.48
57	04/26/2024	100	7654	8564	5121	450022	8747.90
58	04/26/2024	100	7550	8408	5292	450195	9012.36
59	04/27/2024	100	7573	6743	4890	450016	8743.83
60	04/27/2024	99	7562	8172	4959	450678	8777.95
61	04/28/2024	100	7518	8547	5237	450038	9033.07
62	04/28/2024	100	7506	7946	5010	450000	8767.38
63	04/29/2024	100	7491	7894	5053	450049	8787.02
64	04/29/2024	101	7454	8516	5120	450017	8766.81
65	04/30/2024	100	7178	7925	4916	450038	8773.43
66	04/30/2024	100	7292	8461	5001	451175	8724.12
67	04/30/2024	90	6789	7494	4830	349756	7310.36

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Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	03/26/2024
Job End Date:	04/30/2024
State:	West Virginia
County:	Marshall
API Number:	47-051-02421-00-00
Operator Name:	EQT Production
Well Name and Number:	Willett S-7HM
Latitude:	39.823071
Longitude:	-80.656184
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	7068
Total Base Water Volume (gal)*:	25123322.7
Total Base Non Water Volume:	0



Water Source	Percent
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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	87.38327	None
Sand (Proppant)	EQT	Proppant					
			Silica Substrate	14808-60-7	100.00000	12.43731	None
StimSTREAM FR 9800	ChemStream	Friction Reducer					
			Copolymer of 2-propenamide	Proprietary	30.00000	0.01018	None
Clearal 268	ChemStream	Biocide					
			Non-hazardous substances	Proprietary	80.00000	0.00876	None
StimSTREAM SC-398	ChemStream	Scale Inhibitor					
			Non-hazardous substances	Proprietary	90.00000	0.00746	None
StimSTREAM	ChemStream	Friction					

11/08/2024

FR 9800		Reducer						
			Petroleum Distillate	64742-47-8	20.00000	0.00452	None	
HCR-7000 WL	Fluid Energy Group Ltd.	Synthetic Acid						
			Proprietary	Proprietary	20.00000	0.00174	None	
Clearal 268	ChemStream	Biocide						
			Glutaraldehyde	111-30-8	20.00000	0.00055	None	
HCR-7000 WL	Fluid Energy Group Ltd.	Synthetic Acid						
			Proprietary	Proprietary	10.00000	0.00044	None	
StimSTREAM SC-398	ChemStream	Scale Inhibitor						
			Bis(HexaMethylene Triamine Penta(Methylene Phosphonic Acid) (BHMT)	34690-00-1	10.00000	0.00009	None	
StimSTREAM FR 9800	ChemStream	Friction Reducer						
			Oleic Acid Diethanolamide	93-83-4	2.00000	0.00005	None	
StimSTREAM FR 9800	ChemStream	Friction Reducer						
			Alcohols, C12-16, ethoxylated	68551-12-2	2.00000	0.00005	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	
StimSTREAM FR 9800	ChemStream	Friction Reducer						
			Ammonium chloride ((NH4)Cl)	12125-02-9	1.00000	0.00001	None	
Clearal 268	ChemStream	Biocide						
			Ethanol	64-17-5	1.50000	0.00000	None	

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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)

11/08/2024

11,029' B.H.

8,758' T.H.

WILLETT S LEASE
7HM
EQT PRODUCTION CO.

T.H. LATITUDE 39°50'00"
B.H. LATITUDE 39°50'00"

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

NAD'83 S.P.C.(FT) N. 483,994.24 E. 1,643,771.81
NAD'83 GEO. LAT-(N) 39.823071 LONG-(W) 80.656184
NAD'83 UTM (M) N. 4,408,176.71 E. 529,423.66

LANDING POINT

NAD'83 S.P.C.(FT) N. 484,175.5 E. 1,647,434.2
NAD'83 GEO. LAT-(N) 39.823698 LONG-(W) 80.643154
NAD'83 UTM (M) N. 4,408,250.6 E. 530,538.5

BOTTOM HOLE

NAD'83 S.P.C.(FT) N. 474,216.2 E. 1,653,087.6
NAD'83 GEO. LAT-(N) 39.796554 LONG-(W) 80.622584
NAD'83 UTM (M) N. 4,405,245.2 E. 532,311.6

T.H. LONGITUDE 80°37'30"
B.H. LONGITUDE 80°35'00"

13,398' B.H.

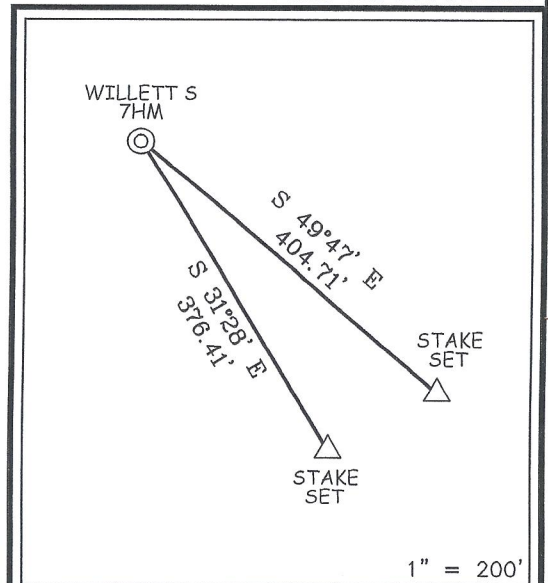
3,738' T.H.

T.H.
A.D.

TAG	SURFACE OWNER	PARCEL	ACRES
A	CNX LAND, LLC	9-8-6	27.596
B	CNX LAND, LLC	9-3-17	65.86
C	LARRY S. NEELY - LIFE	9-8-7.1	76.005
D	RAYMOND DEWAINE DOBBS, ET AL	9-3-15	70.7424
E	RAYMOND DEWAINE DOBBS, ET AL	9-3-14	81.331
F	JEFFREY B. THOMAS	9-3-14.2	2.83
G	JEFFREY B. THOMAS	9-9-7.3	1.297
H	JAMES R. THOMAS, ET UX	9-9-7	60.796
I	JAMES D. BLAKE, ET AL	9-9-8	52.144
J	ANNA D. MORRIS - TOD	7-1-1	179.00
K	JOSEPH B. & JUDITH PATRELLO	9-9-9.1	149.924
L	KAREN S. EVANS & JUDY KAY MATTHEWS	7-1-5	116.915
M	CNX LAND, LLC	7-1-4	52.00
N	GEO A. BURRIS	7-8-14	95.44
O	KAREN S. EVANS & JUDY KAY MATTHEWS	7-7-1	124.12

MAP/PARCEL	ADJOINING SURFACE OWNER LIST	ACRES
3-19-77	SONJA J. STROPE	46.783
3-18-78	CNX LAND, LLC	30.927
3-19-81	XCL PROCESSING OPERATING LLC	26.52
3-19-82	XCL PROCESSING OPERATING LLC	14.89
7-1-7.1	NANCY L. PARSONS	0.5
7-1-19	JEAN JAMISON	51.89
7-7-2	KAREN S. EVANS & JUDY KAY MATTHEWS	24.50
7-7-8.1	KENNETH WAYNE STEELE TRUST	79.03
9-3-13	XCL PROCESSING OPERATING LLC	28.00
9-3-13.1	XCL PROCESSING OPERATING LLC	10.00
9-3-15.1	MARSHALL COUNTY PUBLIC SERVICE DISTRICT #4	0.2296
9-3-17.1	BRIAN & LEAH KESTNER	11.8
9-8-5.2	AMY EVANS & KAREN WHETZAL	4.586
9-8-6.1	KAYLA E. BRATTON	1.423
9-9-7.1	RAYMOND DEWAINE DOBBS, ET AL	9.00
9-9-7.2	XCL PROCESSING OPERATING LLC	3.907
9-9-7.3	JEFFREY B. THOMAS	1.297
9-9-8.1	DIANA MAE PIATT	2.253
9-9-8.2	VINCENT PATRELLO	0.723
9-9-9	VINCENT P. PATRELLO	1.076

REFERENCES



B.H.
A.D.

NOTES ON SURVEY

- NO WATER WELLS WERE FOUND WITHIN 250' OF PROPOSED GAS WELL. NO AGRICULTURAL BUILDINGS ≥ 2500 SQ. FT. OR DWELLINGS WERE FOUND WITHIN 625' OF THE CENTER OF PROPOSED WELL PAD.
- WELL SPOT CIRCLE & TOPO MARK SCALE IS 1"=2000'
- PLAT UPDATED TO SHOW AS DRILLED PATH. AS DRILLED DATA PROVIDED BY EQT PRODUCTION CO.

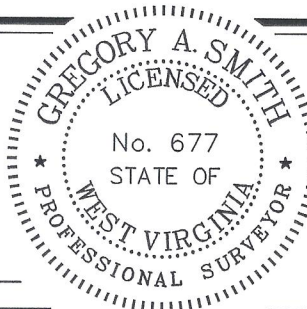


12 Vanhorn Drive | P.O. Box 150 | Glenville, WV 26351 | 304.462.5634
1412 Kanawha Boulevard, East | Charleston, WV 25301 | 304.346.3952
254 East Beckley Bypass | Beckley, WV 25801 | 304.255.5206
slswv.com

I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DIVISION OF ENVIRONMENTAL PROTECTION.

P.S.
677

Gregory A. Smith



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS
DATE SEPTEMBER 8, 20 21
REVISED OCTOBER 13, 20 23
OPERATORS WELL NO. WILLETT S 7HM
API WELL NO. 47 - 051 - 02421
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 8939P7HMAD.dwg
HORIZONTAL & VERTICAL CONTROL DETERMINED BY: DGPS (SURVEY GRADE TIE TO CORS NETWORK) SCALE 1" = 2000'
WILLETT S 7HM-REV2

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



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

LOCATION :
ELEVATION 1,310.03' WATERSHED TRIBUTARY OF UPPER BOWMAN RUN
DISTRICT MEADE COUNTY MARSHALL QUADRANGLE GLEN EASTON 7.5'

SURFACE OWNER CNX LAND LLC ACREAGE 27.596±
ROYALTY OWNER APPALACHIAN BASIN MINERALS, LP, ET AL ACREAGE 27.596±

PROPOSED WORK :
DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION PLUG AND ABANDON CLEAN OUT AND REPLUG OTHER

PHYSICAL CHANGE IN WELL (SPECIFY) _____ TARGET FORMATION MARCELLUS
ESTIMATED DEPTH TVD: 6,995' / TMD: 19,827'

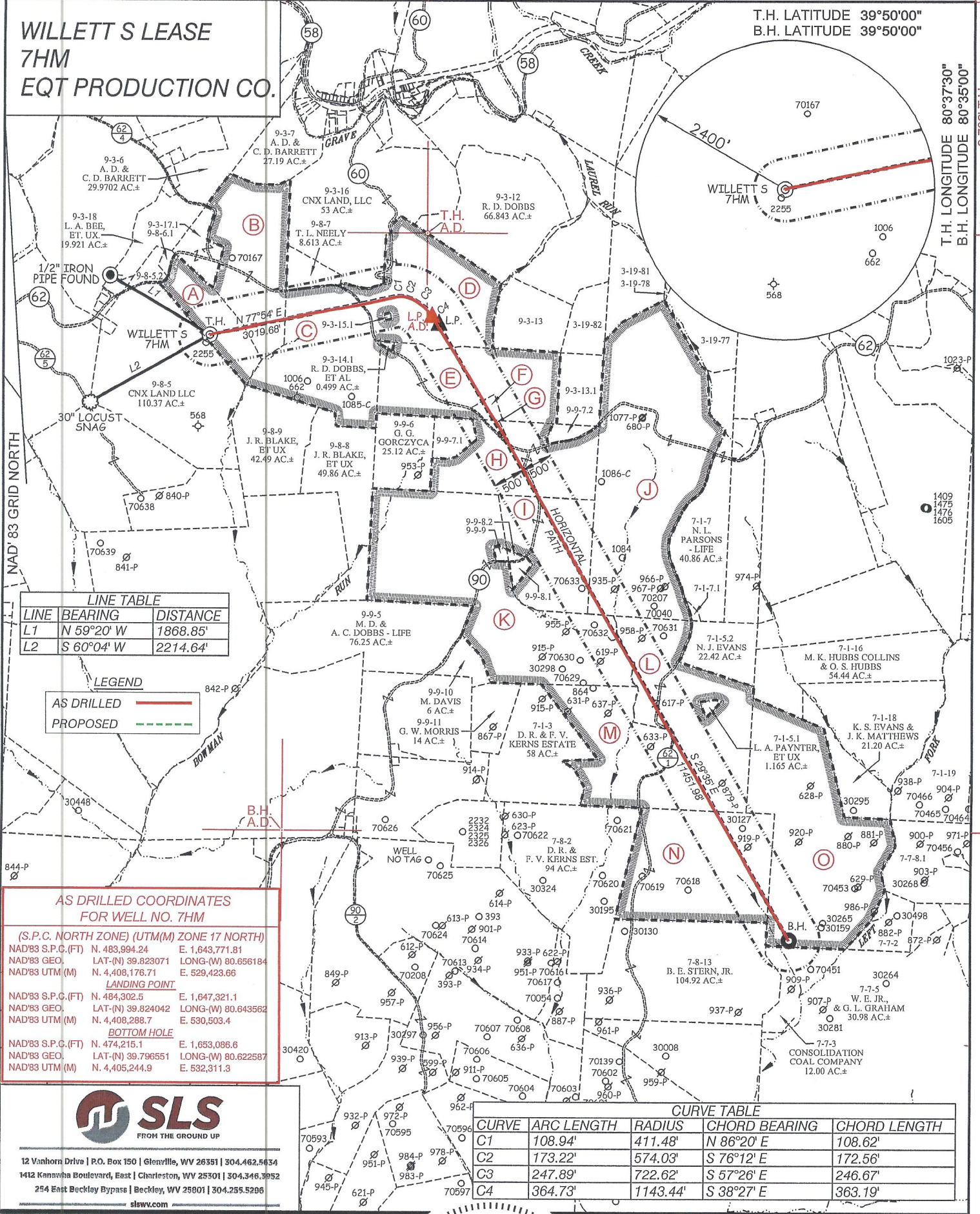
WELL OPERATOR EQT PRODUCTION COMPANY DESIGNATED AGENT JOSEPH C. MALLOW
ADDRESS 400 WOODCLIFF DRIVE ADDRESS 427 MIDSTATE DRIVE
CANNONSBURG, PA 15317 CLARKSBURG, WV 26301

COUNTY NAME

PERMIT

11,029' B.H. 8,758' T.H. T.H. LATITUDE 39°50'00" B.H. LATITUDE 39°50'00"

**WILLETT S LEASE
7HM
EQT PRODUCTION CO.**



LINE TABLE

LINE	BEARING	DISTANCE
L1	N 59°20' W	1868.85'
L2	S 60°04' W	2214.64'

LEGEND

AS DRILLED

PROPOSED

AS DRILLED COORDINATES FOR WELL NO. 7HM

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

NAD'83 S.P.C.(FT) N. 483,994.24 E. 1,643,771.81
 NAD'83 GEO. LAT-(N) 39.823071 LONG-(W) 80.656184
 NAD'83 UTM (M) N. 4,408,176.71 E. 529,423.66

LANDING POINT

NAD'83 S.P.C.(FT) N. 484,302.5 E. 1,647,321.1
 NAD'83 GEO. LAT-(N) 39.824042 LONG-(W) 80.643562
 NAD'83 UTM (M) N. 4,408,288.7 E. 530,503.4

BOTTOM HOLE

NAD'83 S.P.C.(FT) N. 474,215.1 E. 1,653,086.6
 NAD'83 GEO. LAT-(N) 39.796551 LONG-(W) 80.622587
 NAD'83 UTM (M) N. 4,405,244.9 E. 532,311.3



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 slaw.com

CURVE TABLE

CURVE	ARC LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH
C1	108.94'	411.48'	N 86°20' E	108.62'
C2	173.22'	574.03'	S 76°12' E	172.56'
C3	247.89'	722.62'	S 57°26' E	246.67'
C4	364.73'	1143.44'	S 38°27' E	363.19'

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

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

P.S. 677

LEGEND

LEASE LINE

SURFACE LINE

WELL LATERAL

OFFSET LINE

TIE LINE

CREEK

ROAD

COUNTY ROUTE

PROPOSED WELL

EXISTING WELL

PERMITTED WELL

TAX MAP-PARCEL

SURFACE OWNER (SEE TABLE)

LEASE # (SEE WW-6A1)

SCALE 1" = 2000' FILE NO. 8939P7HMAD.dwg
 WILLETT S 7HM-REV2

DATE SEPTEMBER 8, 20 21
 REVISED OCTOBER 13, 20 23

OPERATORS WELL NO. WILLETT S 7HM
 API WELL NO. 47-051-02421
 STATE COUNTY PERMIT

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

WELL OPERATOR EQT PRODUCTION COMPANY ADDRESS 400 WOODCLIFF DRIVE CANNONSBURG, PA 15317

DESIGNATED AGENT JOSEPH C. MALLOW ADDRESS 427 MIDSTATE DRIVE CLARKSBURG, WV 26301

COUNTY NAME PERMIT