west virginia department of environmental protection

Office of Oil and Gas
601 57th Street, S.E.
Charleston, WV 25304
(304) 926-0450
fax: (304) 926-0452

Harold D. Ward, Cabinet Secretary
www.dep.wv.gov

Monday, January 27, 2025

WELL WORK PLUGGING PERMIT
Coal Bed Methane Well Plugging

WEST VIRGINIA LAND RESOURCES, INC.
46226 NATIONAL ROAD WEST

ST. CLAIRSVILLE, OH 43950

Re: Permit approval for SC5
47-061-01552-00-00

This well work permit is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to any additional specific conditions and provisions outlined in the pages attached hereto. Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas Inspector.

Upon completion of the plugging well work, the above named operator will reclaim the site according to the provisions of WV Code 22-6-30. Please be advised that form WR-38, Affidavit of Plugging and Filling Well, is to be submitted to this office within 90 days of completion of permitted well work, as should form WR-34 Discharge Monitoring Report within 30 days of discharge of pits, if applicable. Failure to abide by all statutory and regulatory provisions governing all duties and operations hereunder may result in suspension or revocation of this permit and, in addition, may result in civil and/or criminal penalties being imposed upon the operators.

Per 35 CSR 4-5.2.g this permit will expire in two (2) years from the issue date unless permitted well work is commenced. If there are any questions, please feel free to contact me at (304) 926- 0450.

James A. Martin
Chief

Operator's Well Number: SC5
Farm Name: SIX, RALPH & BETTY JO
U.S. WELL NUMBER: 47-061-01552-00-00
Coal Bed Methane Well Plugging
Date Issued: 1/27/2025

01/31/2025

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Coal Bed Methane Well	Plugging
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01/31/2025

4706101552P CBM

PERMIT CONDITIONS

West Virginia Code § 22-6-11 allows the Office of Oil and Gas to place specific conditions upon this permit. Permit conditions have the same effect as law. Failure to adhere to the specified permit conditions may result in enforcement action.

CONDITIONS

1. All pits must be lined with a minimum of 20 mil thickness synthetic liner.

2. In the event of an accident or explosion causing loss of life or serious personal injury in or about the well or while working on the well, the well operator or its contractor shall give notice, stating the particulars of the accident or explosion, to the oil and gas inspector and the Chief within twenty-four (24) hours.

3. Well work activities shall not constitute a hazard to the safety of persons.

4. Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing.

01/31/2025

4706101552P

WW-4B
Rev. 2/01

1) Date MARCH 7, 20 24
2) Operator's
Well No. SC-5P
3) API Well No. 47- 061 - 01552

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

APPLICATION FOR A PERMIT TO PLUG AND ABANDON

4) Well Type: Oil ____/ Gas X / Liquid injection ____/ Waste disposal ____/
(If "Gas, Production ____ or Underground storage ____) Deep ____/ Shallow____

5) Location: Elevation 1309.34' Watershed MIDDLE FORK OF SOUTH FORK OF WEST VIRGINIA FORK OF DUNKARD CREEK
District BATTELLE County MONONGALIA Quadrangle WADESTOWN W.VA,PA

6) Well Operator WEST VIRGINIA LAND RESOURCES INC.
Address 1 BRIDGE STREET
MONONGAH, WV 26554

7) Designated Agent DAVID RODDY
Address 1 BRIDGE STREET
MONONGAH, WV 26554

8) Oil and Gas Inspector to be notified
Name GAYNE KNITOWSKI
Address P.O. BOX 108
GORMANIA, WV 26720

9) Plugging Contractor
Name
Address

RECEIVED
Office Of Oil and Gas
DEC 04 2024
WV Department of
Environmental Protection

10) Work Order: The work order for the manner of plugging this well is as follows:
See Exhibit No. 1 and MSHA 101-C Exemption

Marion County Mine (MSHA ID# 46-01433)
MSHA 101-C Docket No. M-2016-017-C

Approximate Surface Elevation = 1309.34'
Approximate Bottom of Coal = 183.00'
Approximate Depth = 1126.34'

Notification must be given to the district oil and gas inspector 24 hours before permitted work can commence.

Work order approved by inspector Gayne Knitowski Digitally signed by Gayne Knitowski Date: 2024.11.14 08:16:24 -05'00' Date 11-14-2024

01/31/2025

Exhibit Number 1

West Virginia Land Resource will utilize the following methods to plug CBM wells. CBM wells are a directionally drilled well with horizontal wellbores through the Pittsburgh coal seam. The well bores through the coal will be water infused for first intersection of the laterals. Then the lateral system will be filled with either cement/grout or a polymer Gel. The vertical wellbore will be cleaned out to the total depth or attainable bottom (PBTD). The well sump, 7" casing, and packer will be pulled if possible. This proposed method of plugging the wellbore will apply to that portion of the wellbore from the top of the coal seam to be mined to the surface. All Casings will be removed and at no time will more than a single string be left in the wellbore.

All Casing will be removed so that only a single string will be left in the wellbore, if it cannot be removed. A borehole survey will be conducted to determine the top and bottom of the coal seam to be mined. In addition, starting at a point 5' below through 5' the coal to be mined, any metal casing shall be ripped, cut or perforated on no greater than 5' interval. Before or after mine through this well will be plugged with cement ~~to the surface from a point at or above the~~ Pittsburgh Coal with a solid plug. EXPANDING CEMENT,

PITTSBURGH COAL WILL BE INFUSED PER MSHA 101 C REQUIREMENTS. PITTSBURGH COAL SEAM DRILLED THROUGH WILL BE INFUSED WITH WATER FIRST, THEN THE LATERAL SYSTEM WILL BE FILLED WITH CEMENT / GROUT OR A POLYMER GEL.

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Office Of Oil and Gas
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WV Department of
Environmental Protection

01/31/2025

4706101552

SC5A

SC5A CBM calculated volume						
Description	Start (ft)	End (ft)	Length (ft)	Diameter (ft)	Volume (ft^3)	Gallons
7" Production Casing	0		0	0.583333	0.00	0
Tail Hole			0	0.739583	0.00	0
7" Access hole casing	0	880.8	880.8	0.583333	235.28	1,760
Access hole from CIBP to End of Center Leg	880.8	5358	4477.2	0.39583	550.67	4,119
East Leg	1600	3776	2176	0.39583	267.64	2,002
West Leg	1996	5759	3763	0.39583	462.83	3,462
Total Gallons needed to gel Legs						9,583
2X Calculated Volume						19,166
Pittsburgh Coal 1050-1105						

0

01/31/2025

4706101552P

WV Geological & Economic Survey:

Well: County = 61 Permit = 01552 Link to all digital records for well

Report Time: Thursday, January 23, 2025 4:03:01 PM

Location Information: View Map

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4706101552	Monongalia	1552	Battelle	Wadestown	Mannington	39.666798	-80.365405	554431.5	4390968.5

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TFM_EST_PR
4706101552	6/26/2008	Dvtd Orgnl Loc	Completed	Ralph & Betty Jo Six		SC5				CNX Gas Co. LLC (North)	1336	Pittsburgh coal	

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD
4706101552	6/26/2008	6/17/2008	1308	Ground Level	Maple-Wadestown	Pennsylvanian System	Pittsburgh coal	Development Well	Development Well	Methane (CBM)	Rotary	Unstm/Casd	1410		1410	

Pay/Show/Water Information:

API	CMP_DT	ACTIVITY	PRODUCT	SECTION	DEPTH_TOP	FM_TOP	DEPTH_BOT	FM_BOT	G_BEF	G_AFT	O_BEF	O_AFT	WATER_QNTY
4706101552	6/26/2008	Water	Fresh Water	Vertical			300						
4706101552	6/26/2008	Methane Pay	Gas	Vertical	1050	Pittsburgh coal	1105	Pittsburgh coal					

Production Gas Information: (Volumes in Mcf)

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_GAS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4706101552	CNX Gas Co. LLC (North)	2008	93,677	0	0	0	0	0	0	5,711	15,881	12,979	20,130	19,638	19,338
4706101552	CNX Gas Co. LLC (North)	2009	203,185	19,282	16,969	18,522	17,398	17,327	16,588	17,244	16,708	16,005	16,235	15,201	15,706
4706101552	CNX Gas Co. LLC (North)	2010	168,068	12,277	13,247	14,475	13,769	14,289	13,582	14,028	14,168	13,219	14,617	14,733	15,664
4706101552	CNX Gas Co. LLC (North)	2011	119,180	10,655	9,705	11,041	10,194	10,092	10,016	10,078	9,870	9,393	9,788	8,985	9,363
4706101552	CNX Gas Co. LLC (North)	2012	99,613	8,790	8,335	9,010	7,848	8,776	8,354	8,487	8,279	7,939	8,102	7,903	7,790
4706101552	CNX Gas Co. LLC (North)	2013	85,216	7,593	6,873	7,243	6,720	7,749	6,773	7,337	7,054	6,144	7,056	6,872	7,802
4706101552	CNX Gas Co. LLC (North)	2014	83,821	6,466	6,634	6,658	7,363	7,342	6,498	7,623	7,540	7,259	7,060	6,615	6,763
4706101552	CNX Gas Co. LLC (North)	2015	73,593	7,194	6,419	6,277	6,454	6,434	5,296	5,260	5,481	5,448	6,549	6,363	6,418
4706101552	CNX Gas Co. LLC (North)	2016	62,076	6,075	5,559	6,079	5,356	5,898	5,532	5,428	5,306	3,398	4,903	3,956	4,578
4706101552	CNX Gas Co. LLC (North)	2017	61,965	4,100	4,417	5,460	5,471	5,388	4,698	4,999	5,664	5,653	5,669	5,239	5,207
4706101552	CNX Gas Co. LLC (North)	2018	55,858	5,609	4,796	5,034	4,447	4,590	4,487	4,318	4,343	4,392	3,939	5,152	4,751
4706101552	CNX Gas Co. LLC (North)	2019	46,676	4,943	4,284	4,111	4,120	4,095	3,975	4,548	5,016	4,202	3,952	3,430	0
4706101552	CNX Gas Co. LLC (North)	2020	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101552	CNX Gas Co. LLC (North)	2021	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101552	CNX Gas Co. LLC (North)	2022	0	0	0	0	0	0	0	0	0	0	0	0	0

Production Oil Information: (Volumes in Bbl) ** some operators may have reported NGL under Oil

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_OIL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4706101552	CNX Gas Co. LLC (North)	2008	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101552	CNX Gas Co. LLC (North)	2009	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101552	CNX Gas Co. LLC (North)	2010	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101552	CNX Gas Co. LLC (North)	2011	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101552	CNX Gas Co. LLC (North)	2012	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101552	CNX Gas Co. LLC (North)	2013	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101552	CNX Gas Co. LLC (North)	2014	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101552	CNX Gas Co. LLC (North)	2015	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101552	CNX Gas Co. LLC (North)	2016	0												
4706101552	CNX Gas Co. LLC (North)	2017	0												
4706101552	CNX Gas Co. LLC (North)	2018	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101552	CNX Gas Co. LLC (North)	2019	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101552	CNX Gas Co. LLC (North)	2020	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101552	CNX Gas Co. LLC (North)	2021	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101552	CNX Gas Co. LLC (North)	2022	0	0	0	0	0	0	0	0	0	0	0	0	0

Production NGL Information: (Volumes in Bbl) ** some operators may have reported NGL under Oil

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_NGL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4706101552	CNX Gas Co. LLC (North)	2013	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101552	CNX Gas Co. LLC (North)	2014	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101552	CNX Gas Co. LLC (North)	2015	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101552	CNX Gas Co. LLC (North)	2016	0												
4706101552	CNX Gas Co. LLC (North)	2018	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101552	CNX Gas Co. LLC (North)	2019	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101552	CNX Gas Co. LLC (North)	2020	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101552	CNX Gas Co. LLC (North)	2021	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101552	CNX Gas Co. LLC (North)	2022	0	0	0	0	0	0	0	0	0	0	0	0	0

Production Water Information: (Volumes in Gallons)

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_WTR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4706101552	CNX Gas Co. LLC (North)	2016	0												
4706101552	CNX Gas Co. LLC (North)	2018	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101552	CNX Gas Co. LLC (North)	2019	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101552	CNX Gas Co. LLC (North)	2020	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101552	CNX Gas Co. LLC (North)	2021	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101552	CNX Gas Co. LLC (North)	2022	0	0	0	0	0	0	0	0	0	0	0	0	0

Stratigraphy Information:

API	SUFFIX	FM	FM_QUALITY	DEPTH_TOP	DEPTH_QUALITY	THICKNESS	THICKNESS_QUALITY	ELEV	DATUM
4706101552	Dvtd Orgnl Loc	unidentified coal	CBM: Drill Hole	160	Reasonable	2	Reasonable	1308	Ground Level
4706101552	Dvtd Orgnl Loc	unidentified coal	CBM: Drill Hole	625	Reasonable	2	Reasonable	1308	Ground Level

Wireline (E-Log) Information:

* There is no Scanned/Raster Log data for this well

* There is no Digitized/LAS Log data for this well

* There is no Scanned or Digital Logs available for download

There is no Plugging data for this well

There is no Sample data for this well

01/31/2025

U.S. Department of Labor

Mine Safety and Health Administration
201 12th Street South
Arlington, Virginia 22202-5452

FEB - 9 2013

In the matter of:
The Marion County Coal Company
Marion County Mine
I.D. No. 46-01433

MSHA 101C EXEMPTION

Petition for Modification

Docket No. M-2017-012-C

Proposed Decision and Order

On May 15, 2017, a petition was filed seeking a modification of the application of 30 C.F.R. § 75.1700 to Petitioner's Marion County Mine located in Marion County, West Virginia. The petitioner alleges that the alternative method outlined in the petition will at all times guarantee no less than the same measure of protection afforded by the standard.

Section 30 C.F.R. § 75.1700 provides:

> Each operator of a coal mine shall take reasonable measures to locate oil and gas wells penetrating coalbeds or any underground area of a coal mine. When located, such operator shall establish and maintain barriers around such oil and gas wells in accordance with State laws and regulations, except that such barriers shall not be less than 300 feet in diameter, unless the Secretary or his authorized representative permits a lesser barrier consistent with the applicable State laws and regulations where such lesser barrier will be adequate to protect against hazards from such wells to the miners in such mine, or unless the Secretary or his authorized representative requires a greater barrier where the depth of the mine, other geologic conditions, or other factors warrant such a greater barrier.

The extraction of methane from coal seams and surrounding strata is a rapidly growing component of the domestic natural gas supply. Recent innovations in drilling techniques have resulted in development of several types of wells and production methods to extract coalbed methane (CBM) resources. Drill holes are deviated in both the horizontal and vertical planes using these techniques. These techniques differ from vertical gas wells and require different techniques in order to plug the wells. Procedures to address the potential hazards presented by CBM wells must be implemented to protect the coal miners who will be exposed to these wells.

When coal mines intersect inadequately plugged CBM wells, methane inundations, ignitions and explosions are possible.

The alternative method proposed by Petitioner would include well plugging procedures, water infusion and ventilation methods, and procedures for mining through each CBM well and/or its branches.

Finding of Fact and Conclusion of Law

The Marion County Mine is an underground coal mine that operates in the Pittsburgh 8 coal seam. The mine employs 512 people, and operates three production shifts per day, five days per week. The mine currently operates three MMUs and a longwall. The coal bed is approximately 84 inches in height and the mine currently has nine air shafts utilizing exhaust ventilation fans. The mine has one slope located in Fairview, West Virginia, where the coal is belted out of the mine, sized, cleaned and then loaded into train railcars at the preparation plant. The mine liberates approximately 6,346,986 cubic feet of methane in 24 hours.

The miners are represented by a labor union with miners' representative.

Consol Energy extracts CBM from the coal seam prior to mining in order to reduce methane emissions and, thus, the incidence of face ignitions. The wells are drilled from the surface using directional drilling technology to develop horizontal branches within the coal seam being mined. Drill holes may be deviated in both the horizontal and vertical planes using these techniques. Multiple horizontal branches may be developed from a single well and multiple seams may be developed from a single well. The drilling industry has trademarked several different proprietary names for these drilling processes. For purposes of this Order, these proprietary drilling processes will be referred to as generic "surface directional drilled" (SDD) wells.

On July 6, 2017, MSHA conducted an investigation of Marion County Mine petition and filed a report of its findings and recommendations with the Administrator for Coal Mine Safety and Health. Based on information gathered during the investigation, MSHA evaluated the Petitioner's proposed alternative method and, as amended by the terms and conditions of MSHA, concluded that it would provide the same measure of protection afforded by 30 C.F.R. § 75.1700. The alternative method has been successfully used to prepare CBM wells for safe intersection by using one or more of the following methods: (1) Cement Plug, (2) Polymer Gel, (3) Bentonite Gel, (4) Active Pressure Management and Water Infusion, and (5) Remedial Work. The alternate method will prevent the CBM well methane from entering the underground mine.

Petitioner's proposed alternative method includes provisions from previously approved petition requests that permit a smaller barrier and/or permit mining through properly plugged oil and gas wells.

These alternative methods have proven safe and effective when properly implemented. In addition, Marion County Mine's petition request also includes additional provisions that are specific to SDD wells.

Accordingly, after a review of the entire record, including the petition and MSHA's investigative report, The Marion County Coal Company is granted a modification of the application of 30 C.F.R. § 75.1700 to its Marion County Mine, and this Proposed Decision and Order (PDO) is issued.

ORDER

Wherefore, pursuant to the authority delegated by the Secretary of Labor to the Administrator for Coal Mine Safety and Health, and pursuant to Section 101(c) of the Federal Mine Safety and Health Act of 1977, 30 U.S.C. § 811(c), and 30 C.F.R. Part 44, a modification of the application of 30 C.F.R. § 75.1700 at the Marion County Mine is hereby:

GRANTED, to allow mining within or through the 300 foot barrier around SDD oil and gas wells, conditioned upon compliance with the following terms and conditions:

1. **DISTRICT MANAGER APPROVAL REQUIRED**

A minimum working barrier of 300 feet in diameter shall be maintained around all SDD wells until approval to proceed with mining has been obtained from the District Manager. This barrier extends around all vertical and horizontal branches drilled in the coal seam. This barrier also extends around all vertical and horizontal branches within overlying coal seams subject to caving or subsidence from the coal seam being mined when methane leakage through the subsidence zone is possible. The District Manager may choose to approve each branch intersection, each well, or a group of wells as applicable to the conditions. The District Manager may require a certified review of the proposed methods to prepare the SDD wells for intersection by a professional engineer in order to assess the applicability of the proposed system(s) to the mine-specific conditions.

2. MANDATORY PROCEDURES FOR PREPARING, PLUGGING, AND REPLUGGING SDD WELLS

a. MANDATORY COMPUTATIONS AND ADMINISTRATIVE PROCEDURES PRIOR TO PLUGGING OR REPLUGGING

1. Probable Error of Location – Directional drilling systems rely on sophisticated angular measurement systems and computer models to calculate the estimated location of the well bore. This estimated hole location is subject to cumulative measurement errors so that the distance between actual and estimated location of the well bore increases with the depth of the hole. Modern directional drilling systems are typically accurate within one or two degrees depending on the specific equipment and techniques. The probable error of location is defined by a cone described by the average accuracy of angular measurement around the length of the hole. For example: a hole that is drilled 500 vertical feet and deviated into a coal seam at a depth of 700 feet would have a probable error of location at a point that is 4,000 feet from the hole collar (about 2,986 ft. horizontally from the well collar) of 69.8 ft. (4,000 ft. x sine (1.0 degree)) if the average accuracy of angular measurement was one degree and 139.6 ft if the average accuracy of angular measurement was two degrees. In addition to the probable error of location, the true hole location is also affected by underground survey errors, surface survey errors, and random survey errors.

2. Minimum Working Barrier Around Well – For purposes of this Order, the minimum working barrier around any coalbed methane well or branches of a coalbed methane well in the coal seam is 50 feet plus the probable error of location. For example: for a hole that is drilled 500 vertical feet and deviated into a coal seam at a depth of 700 feet using drilling equipment that has an average accuracy of angular measurement of one degree, the probable error of location at a point that is 4,000 feet from the hole collar is 69.8 ft. Therefore, the minimum working barrier around this point of the well bore is 120 ft. (69.8 ft. plus 50 ft., rounded up to the nearest foot). The 50 additional feet is a reasonable separation between the probable location of the well and mining operations. When mining is within the minimum working barrier distance from a coalbed methane well or branch, the mine operator must comply with the provisions of this Order.

Coalbed methane wells must be prepared in advance for safe intersection and specific procedures must be followed on the mining section in order to protect the miners when mining within this minimum working barrier around the well.

The District Manager may require a greater minimum working barrier around coalbed methane wells where geologic conditions, historical location errors, or other factors warrant a greater barrier.

3. Ventilation Plan Requirements - The ventilation plan shall contain a description of all SDD coalbed methane wells drilled in the area to be mined. This description should include the well numbers, the date drilled, the diameter, the casing information, the coal seams developed, maximum depth of the wells, abandonment pressures, and any other information required by the District Manager. All or part of this information may be listed on the 30 C.F.R. § 75.372 map. The ventilation plan shall include the techniques that the mine operator plans to use to prepare the SDD wells for safe intersection, the specifications and steps necessary to implement these techniques, and the required operational precautions that are required when mining within the minimum working barrier. In addition, the ventilation plan will contain any additional information or provisions related to the SDD wells required by the District Manager.

4. Ventilation Map - The ventilation map specified in 30 C.F.R. § 75.372 shall contain the following information:

   i. The surface location of all coalbed methane wells in the active mining area and any projected mining area as specified in 30 C.F.R. § 75.372(b)(14);
   ii. Identifying information of coalbed methane wells (i.e. API hole number or equivalent);
   iii. The date that gas production began from the well;
   iv. The coal seam intersection of all coalbed methane wells;
   v. The horizontal extents in the coal seam of all coalbed methane wells and branches;
   vi. The outline of the probable error of location of all coalbed methane wells; and
   vii. The date of mine intersection and the distance between estimated and actual locations for all intersections of the coalbed methane well and branches.

b. MANDATORY PROCEDURES FOR PLUGGING OR REPLUGGING SDD WELLS

The mine operator shall include one of more of the following methods to prepare SDD wells for safe intersection in the mine ventilation plan. The methods approved in the ventilation plan must be completed on each SDD well before mining encroaches on the minimum working barrier around the well or branch of the well in the coal seam being mined. If methane leakage through subsidence cracks is a problem when retreat mining, the minimum working barrier must be maintained around wells and branches in overlying coal seams or the wells and branches must be prepared for safe intersection as specified in the mine ventilation plan.

1. Cement Plug – Cement may be used to fill the entire SDD hole system. Squeeze cementing techniques are necessary for SDD plugging due to the lack of tubing in the hole. Cement should fill void spaces and eliminate methane leakage along the hole. Once the cement has cured, the SDD system may be intersected multiple times without further hole preparation. Gas cutting occurs if the placement pressure of the cement is less than the methane pressure in the coal seam. Under these conditions, gas will bubble out of the coal seam and into the unset cement creating a pressurized void or series of interconnected pressurized voids. Water cutting occurs when formation water and standing water in the hole invades or displaces the unset cement. Standing water has to be bailed out of the hole or driven into the formation with compressed gas to minimize water cutting. The cement pressure must be maintained higher than the formation pressure until the cement sets to minimize both gas and water cutting. The cementing program in the ventilation plan must address both gas and water cutting.

   Due to the large volume to be cemented and potential problems with cement setting prior to filling the entire SDD system, adequately sized pumping units with back-up capacity must be used. Various additives such as retarders, lightweight extenders, viscosity modifiers, thixotropic modifiers, and fly ash may be used in the cement mix. The volume of cement pumped should exceed the estimated hole volume to ensure the complete filling of all voids. The complete cementing program, including hole dewatering, cement, additives, pressures, pumping times and equipment must be specified in the ventilation plan.

The material safety data sheets (MSDS) for all cements, additives and components and any personal protective equipment and techniques to protect workers from the potentially harmful effects of the cement and cement components should be included in the ventilation plan. Records of cement mixes, cement quantities, pump pressures, and flow rates and times should be retained for each hole plugged.

SDD holes may be plugged with cement years in advance of mining. However, the District Manager shall require suitable documentation of the cement plugging in order to approve mining within the minimum working barrier around coalbed methane wells.

2. Polymer Gel - Polymer gels start out as low viscosity, water-based mixtures of organic polymers that are crosslinked using time-delayed activators to form a water-insoluble, high-viscosity gel after being pumped into the SDD system. Although polymer gel systems never solidify, the activated gel should develop sufficient strength to resist gas flow. A gel that is suitable for treating SDD wells for mine intersection will reliably fill the SDD system and prevent gas-filled voids. Any gel chemistry used for plugging SDD wells should be resistant to bacterial and chemical degradation and remain stabile for the duration of mining through a SDD system.

Water may dilute the gel mixture to the point where it will not set to the required strength. Water in the holes should be removed before injecting the gel mixture. Water removal can be accomplished by conventional bailing and then injecting compressed gas to squeeze the water that accumulates in low spots back into the formation. Gas pressurization should be continued until the hole is dry. Another potential problem with gels is that dissolved salts in the formation waters may interfere with the cross-linking reactions. Any proposed gel mixtures must be tested with actual formation waters.

Equipment to mix and pump gels should have adequate capacity to fill the hole before the gel sets. Back-up units should be available in case something breaks while pumping. The volume of gel pumped should exceed the estimated hole volume to ensure the complete filling of all voids and allow for gel to infiltrate the joints in the coal seam surrounding the hole. Gel injection and setting pressures should be specified in the ventilation plan.

To reduce the potential for an inundation of gel, the final level of gel should be close to the level of the coal seam and the remainder of the hole should remain open to the atmosphere until mining in the vicinity of the SDD system is completed. Packers may be used to isolate portions of the SDD system.

The complete polymer gel program, including advance testing of the gel with formation water, dewatering systems, gel specifications, gel quantities, gel placement, pressures, and pumping equipment must be specified in the ventilation plan. The MSDS for all gel components and any personal protective equipment and techniques to protect workers from the potentially harmful effects of the gel and gel components should be included in the ventilation plan. A record of the calculated hole volume, gel quantities, gel formulation, pump pressures, and flow rates and times should be retained for each hole that is treated with gel. Other gel chemistries other than organic polymers may be included in the ventilation plan with appropriate methods, parameters, and safety precautions.

3. Bentonite Gel - High-pressure injection of bentonite gel into the SDD system will infiltrate the cleat and butt joints of the coal seam near the well bore and effectively seal these conduits against the flow of methane. Bentonite gel is a thixotropic fluid that sets when it stops moving. Bentonite gel has a significantly lower setting viscosity than polymer gel. While the polymer gel fills and seals the borehole, the lower strength bentonite gel must penetrate the fractures and jointing in the coal seam in order to be effective in reducing formation permeability around the hole. The use of bentonite gel is restricted to depleted CBM applications that have low abandonment pressures and limited recharge potential. In general, these applications will be mature CBM fields with long production histories.

A slug of water should be injected prior to the bentonite gel in order to minimize moisture-loss bridging near the well bore. The volume of gel pumped should exceed the estimated hole volume to ensure that the gel infiltrates the joints in the coal seam for several feet surrounding the hole. Due to the large gel volume and potential problems with premature thixotropic setting, adequately sized pumping units with back-up capacity are required.

Additives to the gel may be required to modify viscosity, reduce filtrates, reduce surface tension, and promote sealing of the cracks and joints around the hole. To reduce the potential for an inundation of bentonite gel, the final level of gel should be approximately the elevation of the coal seam and the remainder of the hole should remain open to the atmosphere until mining in the vicinity of the SDD system is completed. If a water column is used to pressurize the gel, it must be bailed down to the coal seam elevation prior to intersection.

The complete bentonite gel program, including formation infiltration and permeability reduction data, hole pretreatment, gel specifications, additives, gel quantities flow rates, injection pressures and infiltration times, must be specified in the ventilation plan. The ventilation plan should list the equipment used to prepare and pump the gel. The MSDS for all gel components and any personal protective equipment and techniques to protect workers from the potentially harmful effects of the gel and additives should be included in the ventilation plan. A record of hole preparation, gel quantities, gel formulation, pump pressures, and flow rates and times should be retained for each hole that is treated with bentonite gel.

4. Active Pressure Management and Water Infusion - Reducing the pressure in the hole to less than atmospheric pressure by operating a vacuum blower connected to the wellhead may facilitate safe intersection of the hole by a coal mine. The negative pressure in the hole will limit the quantity of methane released into the higher pressure mine atmosphere. If the mine intersection is near the end of a horizontal branch of the SDD system, air will flow from the mine into the upstream side of the hole and be exhausted through the blower on the surface. On the downstream side of the intersection, if the open hole length is short, the methane emitted from this side of the hole may be diluted to safe levels with ventilation air. Conversely, safely intersecting this system near the bottom of the vertical hole may not be possible because the methane emissions from the multiple downstream branches may be too great to dilute with ventilation air. The methane emission rate is directly proportional to the length of the open hole. Successful application of vacuum systems may be limited by caving of the hole or water collected in dips in the SDD system.

Another important factor in the success of vacuum systems is the methane liberation rate of the coal formation around the well – older, more depleted wells that have lower methane emission rates are more amenable to this technique. The remaining methane content and the formation permeability should be addressed in the ventilation plan.

Packers may be used to reduce methane inflow into the coal mine after intersection. All packers on the downstream side of the hole must be equipped with a center pipe so that the inby methane pressure may be measured or so that water may be injected. Subsequent intersections should not take place if pressure in a packer-sealed hole is excessive. Alternatively, methane produced by the downstream hole may be piped to an in-mine degas system to safely transport the methane out of the mine or may be piped to the return air course for dilution. In-mine methane piping should be protected as stipulated in "Piping Methane in Underground Coal Mines," MSHA IR 1094, (1978). Protected methane diffusion zones may be established in return air courses if needed. Detailed sketches and safety precautions for methane collection, piping and diffusion systems must be included in the ventilation plan (30 C.F.R. § 75.371(ee)).

Water infusion prior to intersecting the well will temporarily limit methane flow. Water infusion may also help control coal dust levels during mining. High water infusion pressures may be obtained prior to the initial intersection by the hydraulic head resulting from the hole depth or by pumping. Water infusion pressures for subsequent intersections are limited by leakage around in-mine packers and limitations of the mine water distribution system. If water is infused prior to the initial intersection, the water level in the hole shall not be more than 100 feet before the intersection.

The complete pressure management strategy including negative pressure application, wellhead equipment, and use of packers, in-mine piping, methane dilution, and water infusion must be specified in the ventilation plan. Procedures for controlling methane in the downstream hole must be specified in the ventilation plan. The remaining methane content and formation permeability should be addressed in the ventilation plan. The potential for the coal seam to cave into the well should be addressed in the ventilation plan. Dewatering methods should be included in the ventilation plan.

A record of the negative pressures applied to the system, methane liberation, use of packers and any water infusion pressures and application time should be retained for each intersection.

5. Remedial work – If problems are encountered in preparing the holes for safe intersection, then remedial measures must be taken to protect the miners. For example: if only one-half of the calculated hole volume of cement could be placed into a SDD well due to hole blockage, holes should be drilled near each branch that will be intersected and squeeze cemented using pressures sufficient to fracture into the potentially empty SDD holes. The District Manager will approve remedial work in the ventilation plan on a case-by-case basis.

3. MANDATORY PROCEDURES AFTER APPROVAL HAS BEEN GRANTED BY THE DISTRICT MANAGER TO MINE WITHIN THE MINIMUM WORKING BARRIER AROUND THE WELL OR BRANCH OF THE WELL

a. The mine operator, the District Manager, the miners' representative, or the State may request a conference prior to any intersection or after any intersection to discuss issues or concerns. Upon receipt of any such request, the District Manager shall schedule a conference. The party requesting the conference shall notify all other parties listed above within a reasonable time prior to the conference to provide opportunity for participation.

b. The mine operator must notify the District Manager, the State and the miners' representative at least 48 hours prior to the intended intersection of any coalbed methane well.

c. The initial intersection of a well or branch of a well typically has a higher risk than subsequent intersections. The initial intersection typically indicates if the well preparation is sufficient to prevent the inundation of methane. For the initial intersection of a well or branch, the following procedures are mandatory:

1. When mining advances within the minimum barrier distance of the well or branches of the well, the entries that will intersect the well or branches must be posted with a readily visible marking. For longwalls, both the head and tailgate entries must be so marked. Marks must be advanced to within 100 feet of the working face as mining progresses.

Marks will be removed after well or branches are intersected in each entry or after mining has exited the minimum barrier distance of the well.

2. Entries that will intersect vertical segments of a well shall be marked with drivage sights in the last open crosscut when mining is within 100 feet of the well. When a vertical segment of a well will be intersected by a longwall, drivage sights shall be installed on 10-foot centers starting 50 feet in advance of the anticipated intersection. Drivage sights shall be installed in both the headgate and tailgate entries of the longwall.

3. The operator shall ensure that fire-fighting equipment, including fire extinguishers, rock dust, and sufficient fire hose to reach the working face area of the mine-through (when either the conventional or the continuous mining method is used) is available and operable during all well mine-throughs. The fire hose shall be located in the last open crosscut of the entry or room. The operator shall maintain the water line to the belt conveyor tailpiece along with a sufficient amount of fire hose to reach the farthest point of penetration on the section. When the longwall mining method is used, a hose to the longwall water supply is sufficient. All fire hoses shall be connected and ready for use, but do not have to be charged with water, during the cut-through.

4. The operator shall ensure that sufficient supplies of roof support and ventilation materials are available at the working section. In addition, emergency plugs, packers, and setting tools to seal both sides of the well or branch shall be available in the immediate area of the cut-through.

5. When mining advances within the minimum working barrier distance from the well or branch of the well, the operator shall service all equipment and check for permissibility at least once daily. Daily permissibility examinations must continue until the well or branch is intersected or until mining exits the minimum working barrier around the well or branch.

6. When mining advances within the minimum working barrier distance from the well or branch of the well, the operator shall calibrate the methane monitor(s) on the longwall, continuous mining machine, or cutting machine and loading machine at least once daily.

Daily methane monitor calibration must continue until the well or branch is intersected or until mining exits the minimum working barrier around the well or branch.

7. When mining is in progress, the operator shall perform tests for methane with a handheld methane detector at least every 10 minutes from the time that mining with the continuous mining machine or longwall face is within the minimum working barrier around the well or branch. During the cutting process, no individual shall be allowed on the return side until the mine-through has been completed and the area has been examined and declared safe. The shearer must be idle when any miners are inby the tail drum.

8. When using continuous or conventional mining methods, the working place shall be free from accumulations of coal dust and coal spillages, and rock dust shall be placed on the roof, rib, and floor within 20 feet of the face when mining through the well or branch. On longwall sections, rock dust shall be applied on the roof, rib, and floor up to both the headgate and tailgate pillared area.

9. Immediately after the well or branch is intersected, the operator shall de-energize all equipment, and the certified person shall thoroughly examine and determine the working place safe before mining is resumed.

10. After a well or branch has been intersected and the working place determined safe, mining shall continue inby the well a sufficient distance to permit adequate ventilation around the area of the well or branch.

11. No open flame shall be permitted in the area until adequate ventilation has been established around the well bore or branch. Any casing, tubing or stuck tools will be removed using the methods approved in the ventilation plan.

12. No person shall be permitted in the area of the mine-through operation inby the last open crosscut during active mining except those actually engaged in the operation, including company personnel, representatives of the miners, personnel from MSHA, and personnel from the appropriate State agency.

13. The operator shall warn all personnel in the mine to the planned intersection of the well or branch prior to their going underground if the planned intersection is to occur during their shift. This warning shall be repeated for all shifts until the well or branch has been intersected.

14. The mine-through operation shall be under the direct supervision of a certified person. Instructions concerning the mine-through operation shall be issued only by the certified person in charge.

15. All miners shall be in known locations and in constant two-way communications with the responsible person under 30 C.F.R. § 75.1501 when active mining occurs within the minimum working barrier of the well or branch.

16. The responsible person required under 30 C.F.R. § 75.1501 is responsible for well intersection emergencies. The well intersection procedures must be reviewed by the responsible person prior to any planned intersection.

17. A copy of the order shall be maintained at the mine and be available to the miners.

18. The provisions of this order do not impair the authority of representatives of MSHA to interrupt or halt the mine-through operation and to issue a withdrawal order when they deem it necessary for the safety of the miners. MSHA may order an interruption or cessation of the mine-through operation and/or a withdrawal of personnel by issuing either a verbal or a written order to that effect to a representative of the operator, which order shall include the basis for the order. Operations in the affected area of the mine may not resume until a representative of MSHA permits resumption of mine-through operations. The mine operator and miners shall comply with verbal or written MSHA orders immediately. All verbal orders shall be committed to writing within a reasonable time as conditions permit.

d. For subsequent intersections of branches of a well, appropriate procedures to protect the miners shall be specified in the ventilation plan.

4. **MANDATORY PROCEDURES AFTER SDD INTERSECTIONS**

a. All intersections with SDD wells and branches that are in intake air courses shall be examined as part of the pre-shift examinations required under 30 C.F.R. § 75.360.

b. All other intersection with SDD wells and branches shall be examined as part of the weekly examinations required under 30 C.F.R. § 75.364.

5. **OTHER REQUIREMENTS**

a. Within 30 days after this Order becomes final, the operator shall submit proposed revisions for its approved 30 C.F.R. Part 48 training plan to the District Manager. These proposed revisions shall include initial and refresher training regarding compliance with the terms and conditions stated in the Order. The operator shall provide all miners involved in the mine-through of a well or branch with training regarding the requirements of this Order prior to mining within the minimum working barrier of the next well or branch intended to be mined through.

b. Within 30 days after this Order becomes final, the operator shall submit proposed revisions for its approved mine emergency evacuation and firefighting program of instruction required by 30 C.F.R § 75.1502. The operator shall revise the program to include the hazards and evacuation procedures to be used for well intersections. All underground miners shall be trained in this revised program within 30 days of the approval of the revised mine emergency evacuation and firefighting program of instruction.

Any party to this action desiring a hearing on this matter must file in accordance with 30 C.F.R. § 44.14, within 30 days. The request for hearing must be filed with the Administrator for Coal Mine Safety and Health, 201 12th Street South, Arlington, Virginia 22202-5452.

If a hearing is requested, the request shall contain a concise summary of position on the issues of fact or law desired to be raised by the party requesting the hearing, including specific objections to the proposed decision. A party other than Petitioner who has requested a hearing may also comment upon all issues of fact or law presented in the petition, and any party to this action requesting a hearing may indicate a desired hearing site.

If no request for a hearing is filed within 30 days after service thereof, the Proposed Decision and Order will become final and must be posted by the operator on the mine bulletin board at the mine.

Timothy R. Watkins
Deputy Administrator for
Coal Mine Safety and Health

Certificate of Service

I hereby certify that a copy of this proposed decision was served personally or mailed, postage prepaid, or provided by other electronic means this 9th day of February, 2018, to:

Mr. Pete Simpson – General Manager
The Marion County Coal Company
151 Johnny Cake Road
Metz, WV 26585
petesimpson@coalsource.com

Mr. Ricky Rinehart
Miner Representative
67 Cellular Drive
Mannington, WV 26582

Tammi Carrington
Secretary

cc: Greg J. Norman, Director Office of Miners' Health Safety & Training #7 Players Club Dr. Suite 2, Charleston WV 25311
Greg.J.Norman@wv.gov

bcc: District 3
OSRV
D.Braenovich
Case File
DBraenovich: 9/26/2017 Standard terms and conditions from Docket No. M-2009-006-C

FILE COPY	
Surname	Date

4706101552P

WR-35
Rev (5-01)

DATE: 11/12/2008
API # : 47-6101552

State of West Virginia
Department of Environmental Protection
Office of Oil and Gas

Well Operator's Report of Well Work FOR A CBM WELL

18

Farm name: RALPH & BETTY JO SIX Operator Well No.: SC-5

LOCATION: Elevation: 1362.38' Quadrangle: WASDESTOWN WV-PA 7.5

District: BATTELLE County: Monongalia
Latitude: _____ Feet South of 39' Deg. 39' Min. 55.04 Sec.
Longitude: _____ Feet West of 80' Deg. 21' Min. 57.71 Sec.
Company: CNX Gas Company, LLC

	Casing & Tubing	Used in drilling	Left in well	Cement Fill Up (# of Sacks)
Address: 2481 John Nash BLVD	13 3/8"	41.0'	41.0'	SAND IN
Bluefield Wv 24701	9 5/8"	351.1'	351.1'	125 SKS
Agent: Les Arrington	7"	1355.2	1355.2	91 SKS
Inspector: Bill Hatfield				
Date Permit Issued: 5/27/08				
Date Well Work Commenced: 6/17/08				
Date Well Work Completed: 6/26/08				
Verbal Plugging:				
Date Permission granted on:				
Rotary Cable Rig				
Total Depth (feet): 1410'				
Fresh Water Depth (ft.): 300'				
Salt Water Depth (ft.): N/A				
Is coal being mined in area (N/Y)? No				
Coal Depths (ft.): 162',627',1020', 1105'				

RECEIVED
Office of Oil & Gas
JAN 16 2009
WV Department of
Environmental Protection

OPEN FLOW DATA
Producing formation Pittsburgh COAL SEAM depth (ft) 1050'-1105'
Gas: Initial open flow _____ MCF/d Oil: Initial open flow _____ Bbl/d
Final open flow _____ MCF/d Final open flow _____ Bbl/d
Time of open flow between initial and final tests _____ Hours
Static rock Pressure _____ psig (surface pressure) after _____ Hours

Second producing formation _____ Pay zone depth (ft) _____
Gas: Initial open flow _____ MCF/d Oil: Initial open flow _____ Bbl/d
Final open flow _____ MCF/d Final open flow _____ Bbl/d
Time of open flow between initial and final tests _____ Hours
Static rock Pressure _____ psig (surface pressure) after _____ Hours

NOTE: ON BACK OF THIS FORM PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE.

Gas Well DOE SC-5 (API No. 47-6101552) is a horizontal well for CNX Gas Company, LLC. Refer to the attached information for additional information.

Signed: Geoff Lamming
By: Geoff Lamming Drilling Manager
Date: 1/9/09

01/31/2025

ATTACHMENT A

Marshall County CBM Well No.SC-5 Drill Log

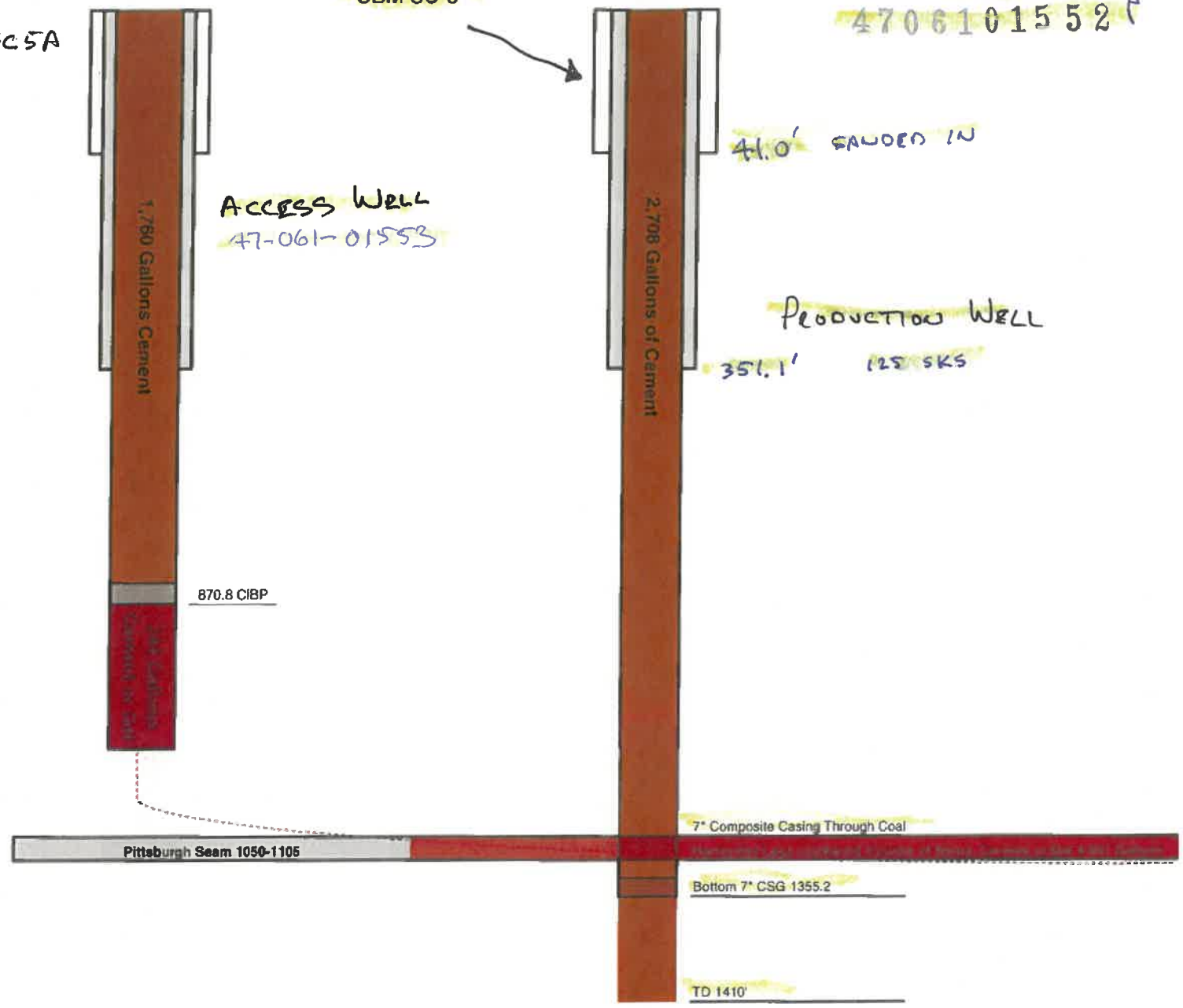
API #47-6101 552

Depth	Description
GL-10'	FILL
10'-158	RR
15'-50	SHALE
50'-85'	SAND
85'-110'	SHALE
110'-125'	RR
125'-160'	SHALE
160'-162'	COAL
162'-210'	SAND
210'-245'	SHALE
245'-310'	SAND
310'-390'	SHALE
390'-400'	RR
400'-510'	SHALE
510'-545'	SAND
545'-600'	SHALE
600'-625'	SAND
625'-627'	COAL
627-'685'	SHALE
685'-720'	SAND
720'-790'	SHALE
790'-845'	SAND
845'-880'	SHALE
880'-953'	RR

953'-955'	SAND
955'-1020'	COAL
1020'-1022'	SAND
1050'-1105'	COAL
1105'-1120'	SHALE
1120'-1165'	SAND
1165'-1240'	SHALE
1240'-1330'	SAND

Figure 1
CBM SC-5

SC5A



ACCESS WELL
47-061-01553

PRODUCTION WELL
47061015526

41.0' SANDED IN

PRODUCTION WELL
351.1' 125 SKS

01/31/2025

WVGES
GEOLOGY UNDERLIES IT ALL
"Pipeline"

Select County: (061) Monongalia | Select datatypes: (Check All)
Enter Permit #: 01552
Get Data | Reset
Location | Production | Plugging
Owner/Completion | Stratigraphy | Sample
Pay/Show/Water | Logs | Btm Hole Loc

Table Descriptions
County Code Translations
Permit-Numbering Series
Usage Notes
Contact Information
Disclaimer
WVGES Main
"Pipeline-Plus" New

4706101552P

WV Geological & Economic Survey:

Well: County = 61 Permit = 01552 Link to all digital records for well

Report Time: Thursday, January 09, 2025 3:12:36 PM

Location Information: View Map

API	COUNTY	PERMIT	TAX_DISTRICT	QUAD_75	QUAD_15	LAT_DD	LON_DD	UTME	UTMN
4706101552	Monongalia	1552	Battelle	Wadestown	Mannington	39.666798	-80.365405	554431.5	4390968.5

There is no Bottom Hole Location data for this well

Owner Information:

API	CMP_DT	SUFFIX	STATUS	SURFACE_OWNER	WELL_NUM	CO_NUM	LEASE	LEASE_NUM	MINERAL_OWN	OPERATOR_AT_COMPLETION	PROP_VD	PROP_TRGT_FM	TFM_EST_PR
4706101552	6/26/2008	Dvtd Orgnl Loc	Completed	Ralph & Betty Jo Six		SC5				CNX Gas Co. LLC (North)	1336	Pittsburgh coal	

Completion Information:

API	CMP_DT	SPUD_DT	ELEV	DATUM	FIELD	DEEPEST_FM	DEEPEST_FMT	INITIAL_CLASS	FINAL_CLASS	TYPE	RIG	CMP_MTHD	TVD	TMD	NEW_FTG	KOD
4706101552	6/26/2008	6/17/2008	1308	Ground Level	Maple-Wadestown	Pennsylvanian System	Pittsburgh coal	Development Well	Development Well	Methane (CBM)	Rotary	Unstm/Casd	1410		1410	

Pay/Show/Water Information:

API	CMP_DT	ACTIVITY	PRODUCT	SECTION	DEPTH_TOP	FM_TOP	DEPTH_BOT	FM_BOT	G_BEF	G_AFT	O_BEF	O_AFT	WATER_QNTY
4706101552	6/26/2008	Water	Fresh Water	Vertical			300						
4706101552	6/26/2008	Methane Pay	Gas	Vertical	1050	Pittsburgh coal	1105	Pittsburgh coal					

Production Gas Information: (Volumes in Mcf)

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_GAS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4706101552	CNX Gas Co. LLC (North)	2008	93,677	0	0	0	0	0	0	5,711	15,881	12,979	20,130	19,638	19,338
4706101552	CNX Gas Co. LLC (North)	2009	203,185	19,282	16,969	18,522	17,398	17,327	16,588	17,244	16,708	16,005	16,235	15,201	15,706
4706101552	CNX Gas Co. LLC (North)	2010	168,068	12,277	13,247	14,475	13,769	14,289	13,582	14,028	14,168	13,219	14,617	14,733	15,664
4706101552	CNX Gas Co. LLC (North)	2011	119,180	10,655	9,705	11,041	10,194	10,092	10,016	10,078	9,870	9,393	9,788	8,985	9,363
4706101552	CNX Gas Co. LLC (North)	2012	99,613	8,790	8,335	9,010	7,848	8,776	8,354	8,487	8,279	7,939	8,102	7,903	7,790
4706101552	CNX Gas Co. LLC (North)	2013	85,216	7,593	6,873	7,243	6,720	7,749	6,773	7,337	7,054	6,144	7,056	6,872	7,802
4706101552	CNX Gas Co. LLC (North)	2014	83,821	6,466	6,634	6,658	7,363	7,342	6,498	7,623	7,540	7,259	7,060	6,615	6,763
4706101552	CNX Gas Co. LLC (North)	2015	73,593	7,194	6,419	6,277	6,454	6,434	5,296	5,260	5,481	5,448	6,549	6,363	6,418
4706101552	CNX Gas Co. LLC (North)	2016	62,076	6,075	5,559	6,079	5,356	5,898	5,532	5,428	5,306	3,398	4,903	3,956	4,578
4706101552	CNX Gas Co. LLC (North)	2017	61,965	4,100	4,417	5,460	5,471	5,388	4,698	4,999	5,664	5,653	5,669	5,239	5,207
4706101552	CNX Gas Co. LLC (North)	2018	55,858	5,609	4,796	5,034	4,447	4,590	4,487	4,318	4,343	4,392	3,939	5,152	4,751
4706101552	CNX Gas Co. LLC (North)	2019	46,676	4,943	4,284	4,111	4,120	4,095	3,975	4,548	5,016	4,202	3,952	3,430	0
4706101552	CNX Gas Co. LLC (North)	2020	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101552	CNX Gas Co. LLC (North)	2021	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101552	CNX Gas Co. LLC (North)	2022	0	0	0	0	0	0	0	0	0	0	0	0	0

Production Oil Information: (Volumes in Bbl) ** some operators may have reported NGL under Oil

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_OIL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4706101552	CNX Gas Co. LLC (North)	2008	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101552	CNX Gas Co. LLC (North)	2009	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101552	CNX Gas Co. LLC (North)	2010	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101552	CNX Gas Co. LLC (North)	2011	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101552	CNX Gas Co. LLC (North)	2012	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101552	CNX Gas Co. LLC (North)	2013	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101552	CNX Gas Co. LLC (North)	2014	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101552	CNX Gas Co. LLC (North)	2015	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101552	CNX Gas Co. LLC (North)	2016	0												
4706101552	CNX Gas Co. LLC (North)	2017	0												
4706101552	CNX Gas Co. LLC (North)	2018	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101552	CNX Gas Co. LLC (North)	2019	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101552	CNX Gas Co. LLC (North)	2020	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101552	CNX Gas Co. LLC (North)	2021	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101552	CNX Gas Co. LLC (North)	2022	0	0	0	0	0	0	0	0	0	0	0	0	0

Production NGL Information: (Volumes in Bbl) ** some operators may have reported NGL under Oil

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_NGL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4706101552	CNX Gas Co. LLC (North)	2013	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101552	CNX Gas Co. LLC (North)	2014	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101552	CNX Gas Co. LLC (North)	2015	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101552	CNX Gas Co. LLC (North)	2016	0												
4706101552	CNX Gas Co. LLC (North)	2018	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101552	CNX Gas Co. LLC (North)	2019	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101552	CNX Gas Co. LLC (North)	2020	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101552	CNX Gas Co. LLC (North)	2021	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101552	CNX Gas Co. LLC (North)	2022	0	0	0	0	0	0	0	0	0	0	0	0	0

Production Water Information: (Volumes in Gallons)

API	PRODUCING_OPERATOR	PRD_YEAR	ANN_WTR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DCM
4706101552	CNX Gas Co. LLC (North)	2016	0												
4706101552	CNX Gas Co. LLC (North)	2018	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101552	CNX Gas Co. LLC (North)	2019	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101552	CNX Gas Co. LLC (North)	2020	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101552	CNX Gas Co. LLC (North)	2021	0	0	0	0	0	0	0	0	0	0	0	0	0
4706101552	CNX Gas Co. LLC (North)	2022	0	0	0	0	0	0	0	0	0	0	0	0	0

Stratigraphy Information:

API	SUFFIX	FM	FM_QUALITY	DEPTH_TOP	DEPTH_QUALITY	THICKNESS	THICKNESS_QUALITY	ELEV	DATUM
4706101552	Dvtd Orgnl Loc	unidentified coal	CBM: Drill Hole	160	Reasonable	2	Reasonable	1308	Ground Level
4706101552	Dvtd Orgnl Loc	unidentified coal	CBM: Drill Hole	625	Reasonable	2	Reasonable	1308	Ground Level

Wireline (E-Log) Information:
* There is no Scanned/Raster Log data for this well

* There is no Digitized/LAS Log data for this well

* There is no Scanned or Digital Logs available for download

There is no Plugging data for this well

There is no Sample data for this well

01/31/2025

4706101552P CBM

Well Completion Report

August 14, 2008

Customer:	CNX Gas
Well Name:	SC-5
Location:	Monongalia County, WV
Declination:	-8.59° West, True

Nevis Energy Services, Inc.
327 E. Welch Court, Traverse City, MI 49686
(231) 995-0100

4706101552 P

CNX Gas Company,LLC

WEST VIRGINIA
MONONGALIA COUNTY6
SC-5

CENTER LEG

Design: As Drilled Center Leg

Standard Survey Report

14 August, 2008

Survey Report

4706101552

Company:	CNX Gas Company,LLC	Local Co-ordinate Reference:	Well SC-5
Project:	WEST VIRGINIA	TVD Reference:	WELL @ 0.0ft (Original Well Elev)
Site:	MONONGALIA COUNTY6	MD Reference:	WELL @ 0.0ft (Original Well Elev)
Well:	SC-5	North Reference:	True
Wellbore:	CENTER LEG	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled Center Leg	Database:	2003.21 Single User Dbase

Project WEST VIRGINIA

Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Pennsylvania South 3702		

Site MONONGALIA COUNTY6

Site Position:		Northing:	40,351.71m	Latitude:	39° 40' 0.560 N
From:	Lat/Long	Easting:	385,196.38m	Longitude:	80° 21' 55.410 W
Position Uncertainty:	0.0 ft	Slot Radius:	in	Grid Convergence:	-1.70 °

Well SC-5

Well Position	+N/-S	0.0 ft	Northing:	40,351.71m	Latitude:	39° 40' 0.560 N
	+E/-W	0.0 ft	Easting:	385,196.38m	Longitude:	80° 21' 55.410 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	0.0ft

Wellbore CENTER LEG

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	6/19/2008	-8.59	67.84	53,154

Design As Drilled Center Leg

Audit Notes:

Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	23.98

Survey Program Date 8/14/2008

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
50.0	5,358.0	Survey #1 (CENTER LEG)		

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dog Leg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
50.0	0.76	3.30	50.0	0.3	0.0	0.3	1.52	1.52	0.00
100.0	0.99	13.50	100.0	1.1	0.1	1.0	0.55	0.46	20.40
150.0	1.07	7.00	150.0	2.0	0.3	1.9	0.26	0.16	-13.00
200.0	1.01	17.70	200.0	2.8	0.5	2.8	0.41	-0.12	21.40
250.0	1.22	8.10	250.0	3.8	0.7	3.8	0.56	0.42	-19.20
300.0	1.25	5.80	300.0	4.9	0.8	4.8	0.12	0.06	-4.60
350.0	1.42	7.50	349.9	6.0	1.0	5.9	0.36	0.34	3.40
400.0	1.47	352.40	399.9	7.3	1.0	7.0	0.77	0.10	-30.20
450.0	1.37	0.30	449.9	8.5	0.9	8.1	0.44	-0.20	15.80
500.0	1.40	359.70	499.9	9.7	0.9	9.2	0.07	0.06	-1.20
550.0	1.37	0.40	549.9	10.9	0.9	10.3	0.07	-0.06	1.40
600.0	1.60	350.70	599.9	12.2	0.8	11.5	0.68	0.46	-19.40

01/31/2025

Survey Report

Company:	CNX Gas Company,LLC	Local Co-ordinate Reference:	Well SC-5
Project:	WEST VIRGINIA	TVD Reference:	WELL @ 0.0ft (Original Well Elev)
Site:	MONONGALIA COUNTY6	MD Reference:	WELL @ 0.0ft (Original Well Elev)
Well:	SC-5	North Reference:	True
Wellbore:	CENTER LEG	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled Center Leg	Database:	2003.21 Single User Dbase

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
650.0	1.56	352.30	649.8	13.6	0.6	12.6	0.12	-0.08	3.20
700.0	1.18	347.60	699.8	14.7	0.4	13.6	0.79	-0.76	-9.40
750.0	0.99	354.10	749.8	15.7	0.2	14.4	0.45	-0.38	13.00
800.0	0.74	354.30	799.8	16.4	0.1	15.1	0.50	-0.50	0.40
850.0	0.75	351.50	849.8	17.1	0.1	15.8	0.08	0.02	-5.60
900.0	0.37	107.60	899.8	17.4	0.2	15.9	1.94	-0.76	232.20
950.0	1.23	161.00	949.8	16.8	0.5	15.5	2.10	1.72	106.80
977.0	0.39	200.00	976.8	16.4	0.5	15.2	3.55	-3.11	144.44
1,006.0	5.10	18.70	1,005.8	17.6	0.9	16.4	18.93	16.24	616.21
1,037.0	13.60	18.00	1,036.3	22.4	2.5	21.5	28.07	28.06	-2.26
1,069.0	22.70	17.60	1,066.7	31.9	5.6	31.4	27.82	27.81	-1.25
1,101.0	30.70	17.90	1,095.2	45.6	10.0	45.7	25.00	25.00	0.94
1,133.0	39.60	17.40	1,121.4	63.2	15.5	64.0	27.83	27.81	-1.56
1,165.0	51.00	15.90	1,143.9	84.9	22.0	86.5	35.78	35.62	-4.69
1,197.0	62.80	15.90	1,161.3	110.7	29.3	113.0	36.87	36.87	0.00
1,229.0	74.40	19.30	1,173.0	139.0	38.4	142.8	37.57	36.25	10.62
1,245.0	80.20	20.80	1,176.5	153.6	43.7	158.1	37.38	36.25	9.37
1,261.0	83.40	21.30	1,178.8	168.4	49.4	174.0	20.24	20.00	3.12
1,277.0	86.40	20.60	1,180.2	183.3	55.1	189.9	19.25	18.75	-4.37
1,293.0	87.20	20.20	1,181.1	198.3	60.7	205.8	5.59	5.00	-2.50
1,325.0	89.30	20.00	1,182.0	228.3	71.7	237.7	6.59	6.56	-0.62
1,357.0	89.60	19.00	1,182.4	258.5	82.3	269.8	3.26	0.94	-3.12
1,388.0	90.70	17.80	1,182.3	287.9	92.1	300.5	5.25	3.55	-3.87
1,420.0	90.90	17.40	1,181.8	318.4	101.8	332.3	1.40	0.62	-1.25
1,452.0	90.30	16.90	1,181.5	349.0	111.2	364.0	2.44	-1.87	-1.56
1,484.0	88.80	16.30	1,181.7	379.6	120.4	395.8	5.05	-4.69	-1.87
1,516.0	89.00	16.00	1,182.4	410.4	129.3	427.5	1.13	0.62	-0.94
1,531.0	88.70	15.90	1,182.7	424.8	133.4	442.3	2.11	-2.00	-0.67
1,547.0	87.80	14.90	1,183.1	440.2	137.6	458.1	8.41	-5.62	-6.25
1,557.0	88.60	14.40	1,183.5	449.9	140.2	468.0	9.43	8.00	-5.00
1,567.0	89.60	14.60	1,183.6	459.5	142.7	477.9	12.17	12.00	2.00
1,576.0	90.20	13.80	1,183.6	470.2	145.4	488.7	8.13	3.64	-7.27
1,588.0	90.40	13.10	1,183.5	479.9	147.7	496.5	7.28	2.00	-7.00
1,598.0	91.10	12.60	1,183.4	489.7	149.9	508.3	8.60	7.00	-5.00
1,610.0	91.20	12.00	1,183.2	501.4	152.5	520.1	5.07	0.83	-5.00
1,620.0	91.10	12.00	1,183.0	511.2	154.6	529.9	1.00	-1.00	0.00
1,630.0	91.30	12.00	1,182.8	521.0	156.6	539.7	2.00	2.00	0.00
1,637.0	91.00	12.00	1,182.6	527.8	158.1	546.5	4.29	-4.29	0.00
1,642.0	90.90	12.10	1,182.5	532.7	159.1	551.4	2.83	-2.00	2.00
1,647.0	90.60	12.10	1,182.5	537.6	160.2	556.3	6.00	-6.00	0.00
1,657.7	90.60	12.18	1,182.3	557.9	164.5	576.6	0.37	0.00	0.37
HZ, SC5									
1,674.0	90.60	12.20	1,182.2	564.0	165.9	582.7	0.37	0.00	0.37
1,711.0	89.80	12.70	1,182.1	600.1	173.8	619.0	2.55	-2.16	1.35
1,744.0	89.60	14.30	1,182.2	632.2	181.5	651.4	4.89	-0.61	4.85
1,776.0	88.60	16.60	1,182.7	663.0	190.1	683.0	7.84	-3.12	7.19
1,808.0	91.00	17.40	1,182.9	693.6	199.4	714.8	7.91	7.50	2.50
1,840.0	91.30	19.40	1,182.2	724.0	209.5	746.6	6.32	0.94	6.25
1,870.0	88.70	19.60	1,182.2	752.3	219.5	776.6	8.69	-8.67	0.67
1,902.0	88.90	21.10	1,182.9	782.3	230.7	808.5	4.73	0.62	4.69
1,934.0	89.80	22.60	1,183.2	812.0	242.6	840.5	5.47	2.81	4.69
1,966.0	88.50	25.10	1,183.7	841.2	255.5	872.4	8.80	-4.06	7.81
1,998.0	89.70	26.50	1,184.2	870.0	269.4	904.4	5.76	3.75	4.37
2,030.0	90.40	26.10	1,184.2	898.7	283.6	936.4	2.52	2.19	-1.25

Survey Report

Company:	CNX Gas Company,LLC	Local Co-ordinate Reference:	Well SC-5
Project:	WEST VIRGINIA	TVD Reference:	WELL @ 0.0ft (Original Well Elev)
Site:	MONONGALIA COUNTY6	MD Reference:	WELL @ 0.0ft (Original Well Elev)
Well:	SC-5	North Reference:	True
Wellbore:	CENTER LEG	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled Center Leg	Database:	2003.21 Single User Dbase

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
3,652.0	92.20	26.20	1,171.8	2,372.5	953.7	2,555.4	4.31	2.19	3.72
3,684.0	90.50	27.01	1,171.0	2,401.1	966.0	2,587.3	5.88	-5.31	2.53
3,703.0	89.10	27.20	1,171.1	2,418.1	976.7	2,606.3	7.44	-7.37	1.00
3,717.0	89.90	27.20	1,171.2	2,430.5	983.1	2,620.3	5.71	5.71	0.00
3,737.0	87.90	27.40	1,171.6	2,448.3	992.2	2,640.2	10.05	-10.00	1.00
3,769.0	88.70	28.40	1,172.6	2,476.5	1,007.2	2,672.1	4.00	2.50	3.12
3,801.0	88.10	28.10	1,173.4	2,504.7	1,022.4	2,704.0	2.10	-1.87	-0.94
3,833.0	89.80	27.70	1,174.1	2,533.0	1,037.3	2,736.0	4.85	4.69	-1.25
3,865.0	90.30	27.40	1,174.1	2,561.4	1,052.1	2,767.9	2.38	2.19	-0.94
3,908.0	91.00	27.70	1,173.6	2,599.5	1,072.0	2,810.8	1.77	1.63	0.70
3,939.0	89.80	27.80	1,173.4	2,626.9	1,086.4	2,841.7	3.88	-3.87	0.32
3,972.0	89.60	27.70	1,173.6	2,656.1	1,101.8	2,874.7	0.68	-0.61	-0.30
4,004.0	89.00	27.10	1,174.0	2,684.5	1,116.5	2,906.6	2.65	-1.87	-1.87
4,034.0	90.70	27.50	1,174.1	2,711.2	1,130.3	2,936.6	5.82	5.67	1.33
4,066.0	89.10	28.20	1,174.1	2,739.5	1,145.2	2,968.5	5.46	-5.00	2.19
4,098.0	87.80	27.30	1,175.0	2,767.8	1,160.1	3,000.4	4.94	-4.06	-2.81
4,130.0	88.10	28.10	1,176.1	2,796.1	1,175.0	3,032.3	2.67	0.94	2.50
4,162.0	89.10	28.90	1,176.9	2,824.2	1,190.3	3,064.2	4.00	3.12	2.50
4,193.0	87.90	28.20	1,177.7	2,851.4	1,205.1	3,095.1	4.48	-3.87	-2.26
4,225.0	88.70	27.80	1,178.7	2,879.7	1,220.0	3,127.0	3.12	2.50	-1.87
4,257.0	90.30	29.20	1,178.9	2,907.9	1,235.3	3,158.9	7.07	5.00	5.00
4,289.0	88.40	28.60	1,179.3	2,935.9	1,250.7	3,190.8	6.23	-5.94	-1.87
4,321.0	89.90	28.50	1,179.8	2,964.0	1,266.0	3,222.7	4.70	4.69	-0.31
4,353.0	91.50	29.00	1,179.4	2,992.0	1,281.4	3,254.6	5.24	5.00	1.56
4,385.0	90.20	28.30	1,178.9	3,020.1	1,296.7	3,286.4	4.61	-4.06	-2.19
4,416.0	89.40	26.90	1,179.0	3,047.6	1,311.1	3,317.4	5.20	-2.58	-4.52
4,448.0	89.60	26.90	1,179.3	3,076.1	1,325.6	3,349.3	0.62	0.62	0.00
4,480.0	88.40	25.80	1,179.9	3,104.8	1,339.8	3,381.3	5.09	-3.75	-3.44
4,512.0	88.40	25.80	1,180.6	3,133.6	1,353.7	3,413.3	0.00	0.00	0.00
4,543.0	90.10	25.60	1,181.2	3,161.5	1,367.2	3,444.3	5.52	5.48	-0.65
4,576.0	92.90	23.80	1,180.3	3,191.5	1,380.9	3,477.2	10.09	8.48	-5.45
4,607.8	90.21	25.49	1,179.4	3,220.4	1,394.2	3,509.1	9.97	-8.44	5.31
EXISTING2, SC5									
4,608.0	90.20	25.50	1,179.4	3,220.5	1,394.3	3,509.2	9.97	-8.44	5.31
4,639.0	91.20	25.10	1,179.0	3,248.8	1,407.5	3,540.2	3.47	3.23	-1.29
4,671.0	89.50	25.20	1,178.9	3,277.5	1,421.1	3,572.2	5.32	-5.31	0.31
4,686.8	89.30	25.55	1,179.0	3,291.8	1,427.9	3,588.0	2.52	-1.25	2.19
EXISTING1, SC5									
4,703.0	89.10	25.90	1,179.2	3,306.4	1,434.9	3,604.2	2.52	-1.25	2.19
4,735.0	90.80	24.50	1,179.3	3,335.4	1,448.5	3,636.2	6.88	5.31	-4.37
4,766.0	92.50	26.20	1,178.4	3,363.4	1,461.8	3,667.2	7.75	5.48	5.48
4,796.0	90.60	25.50	1,177.6	3,390.3	1,474.9	3,697.1	6.75	-6.33	-2.33
4,829.0	90.60	26.20	1,177.2	3,420.0	1,489.3	3,730.1	2.12	0.00	2.12
4,861.0	91.40	26.20	1,176.7	3,448.7	1,503.4	3,762.1	2.50	2.50	0.00
4,893.0	92.10	27.00	1,175.7	3,477.3	1,517.7	3,794.0	3.32	2.19	2.50
4,925.0	89.60	27.40	1,175.2	3,505.8	1,532.3	3,826.0	7.91	-7.81	1.25
4,957.0	88.70	25.60	1,175.7	3,534.4	1,546.6	3,857.9	6.29	-2.81	-5.62
4,988.0	90.00	22.41	1,176.0	3,562.7	1,559.2	3,888.9	11.11	4.19	-10.29
5,015.0	91.50	26.40	1,175.7	3,587.3	1,570.4	3,915.9	15.79	5.56	14.78
5,046.0	91.80	24.50	1,174.8	3,615.3	1,583.7	3,946.9	6.20	0.97	-6.13
5,079.0	92.90	26.40	1,173.4	3,645.1	1,597.9	3,979.9	6.65	3.33	5.76
5,110.0	91.20	26.60	1,172.3	3,672.8	1,611.7	4,010.8	5.52	-5.48	0.65
5,142.0	91.80	27.30	1,171.5	3,701.3	1,626.2	4,042.8	2.88	1.87	2.19
5,173.0	90.20	28.50	1,171.0	3,728.7	1,640.7	4,073.7	6.45	-5.16	3.87

Survey Report

4706101552

Company:	CNX Gas Company,LLC	Local Co-ordinate Reference:	Well SC-5
Project:	WEST VIRGINIA	TVD Reference:	WELL @ 0.0ft (Original Well Elev)
Site:	MONONGALIA COUNTY6	MD Reference:	WELL @ 0.0ft (Original Well Elev)
Well:	SC-5	North Reference:	True
Wellbore:	EAST LEG	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled East Leg	Database:	2003.21 Single User Dbase

Project	WEST VIRGINIA		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Pennsylvania South 3702		

Site	MONONGALIA COUNTY6				
Site Position:		Northing:	40,351.71m	Latitude:	39° 40' 0.560 N
From:	Lat/Long	Easting:	385,196.38m	Longitude:	80° 21' 55.410 W
Position Uncertainty:	0.0 ft	Slot Radius:	in	Grid Convergence:	-1.70 °

Well	SC-5					
Well Position	+N/-S	0.0 ft	Northing:	40,351.71m	Latitude:	39° 40' 0.560 N
	+E/-W	0.0 ft	Easting:	385,196.38 m	Longitude:	80° 21' 55.410 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	0.0 ft

Wellbore	EAST LEG				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	6/19/2008	-8.59	67.64	53,154

Design	As Drilled East Leg				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	1,600.0

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	43.23

Survey Program Date 8/14/2008

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
50.0	1,600.0	Survey #1 (CENTER LEG)		
1,615.0	3,776.0	Survey #1 (EAST LEG)		

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
1,600.0	91.12	12.50	1,183.4	491.6	150.4	461.2	0.00	0.00	0.00
1,615.0	90.80	16.90	1,183.1	506.1	154.2	474.4	29.41	-2.11	29.33
1,647.0	90.40	21.70	1,182.8	536.3	164.7	503.6	15.05	-1.25	15.00
1,680.0	91.20	26.70	1,182.3	566.4	178.3	534.8	15.34	2.42	15.15
1,712.0	90.30	30.70	1,181.9	594.5	193.6	565.8	12.81	-2.81	12.50
1,744.0	90.90	35.20	1,181.6	621.3	211.0	597.3	14.19	1.87	14.06
1,776.0	89.10	37.10	1,181.6	647.2	229.9	629.0	8.18	-5.62	5.94
1,808.0	89.30	40.40	1,182.0	672.1	249.9	660.9	10.33	0.62	10.31
1,840.0	91.50	43.30	1,181.8	695.9	271.3	692.9	11.37	6.87	9.06
1,870.0	92.00	46.31	1,180.9	717.2	292.4	722.9	10.17	1.67	10.03
1,902.0	89.20	48.51	1,180.5	738.9	315.9	754.8	11.13	-8.75	6.87
1,934.0	86.80	48.41	1,181.7	760.1	339.9	786.6	7.51	-7.50	-0.31

01/31/2025

4706101552

Company:	CNX Gas Company,LLC	Local Co-ordinate Reference:	Well SC-5
Project:	WEST VIRGINIA	TVD Reference:	WELL @ 0.0ft (Original Well Elev)
Site:	MONONGALIA COUNTY6	MD Reference:	WELL @ 0.0ft (Original Well Elev)
Well:	SC-5	North Reference:	True
Wellbore:	EAST LEG	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled East Leg	Database:	2003.21 Single User Dbase

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
1,966.0	86.90	50.11	1,183.4	780.9	364.1	818.4	5.31	0.31	5.31
1,998.0	88.60	51.30	1,184.7	801.2	386.8	850.1	6.48	5.31	3.72
2,029.0	89.40	52.11	1,185.2	820.4	413.2	880.7	3.67	2.58	2.61
2,060.0	90.80	52.30	1,185.2	839.4	437.7	911.4	4.56	4.52	0.61
2,092.0	89.90	53.20	1,185.0	858.7	463.1	942.9	3.98	-2.81	2.81
2,124.0	90.30	54.00	1,184.9	877.7	488.9	974.4	2.80	1.25	2.50
2,155.0	90.30	51.70	1,184.8	896.5	513.6	1,005.0	7.42	0.00	-7.42
2,188.0	91.10	52.10	1,184.4	916.8	539.6	1,037.6	2.71	2.42	1.21
2,220.0	91.40	53.60	1,183.7	936.1	565.1	1,069.1	4.78	0.94	4.69
2,251.0	89.50	53.10	1,183.4	954.6	589.9	1,099.6	6.34	-6.13	-1.61
2,283.0	88.30	53.30	1,184.0	973.8	615.5	1,131.1	3.80	-3.75	0.62
2,315.0	89.50	53.30	1,184.6	992.9	641.2	1,162.6	3.75	3.75	0.00
2,347.0	94.20	55.50	1,183.6	1,011.5	667.2	1,194.0	16.21	14.69	6.87
2,379.0	92.60	54.00	1,181.7	1,030.0	693.3	1,225.3	6.85	-5.00	-4.69
2,410.0	90.80	54.00	1,180.8	1,048.2	718.3	1,255.7	5.81	-5.81	0.00
2,442.0	89.50	51.30	1,180.7	1,067.6	743.8	1,287.3	9.36	-4.06	-8.44
2,474.0	91.10	51.10	1,180.5	1,087.6	768.7	1,319.0	5.04	5.00	-0.62
2,506.0	90.10	51.40	1,180.2	1,107.7	793.7	1,350.7	3.26	-3.12	0.94
2,538.0	90.50	51.60	1,180.0	1,127.6	818.7	1,382.3	1.40	1.25	0.62
2,570.0	88.20	50.20	1,180.4	1,147.8	843.5	1,414.1	8.41	-7.19	-4.37
2,601.0	87.50	50.00	1,181.6	1,167.6	867.3	1,444.8	2.35	-2.26	-0.65
2,633.0	87.70	49.00	1,182.9	1,188.4	891.6	1,476.6	3.18	0.62	-3.12
2,664.0	88.10	51.50	1,184.0	1,208.2	915.4	1,507.3	8.16	1.29	8.06
2,696.0	90.00	54.50	1,184.6	1,227.5	941.0	1,538.9	11.10	5.94	9.37
2,728.0	89.90	54.10	1,184.6	1,246.1	967.0	1,570.3	1.29	-0.31	-1.25
2,759.0	90.10	55.80	1,184.6	1,263.9	992.3	1,600.6	5.52	0.65	5.48
2,791.0	90.90	54.40	1,184.3	1,282.2	1,018.6	1,631.9	5.04	2.50	-4.37
2,823.0	90.50	51.60	1,183.9	1,301.5	1,044.1	1,663.5	8.84	-1.25	-8.75
2,855.0	90.60	49.20	1,183.6	1,321.9	1,068.8	1,695.2	7.51	0.31	-7.50
2,888.0	91.00	48.70	1,183.2	1,343.6	1,093.7	1,728.0	1.94	1.21	-1.52
2,920.0	88.90	48.60	1,183.2	1,364.7	1,117.7	1,759.9	6.57	-6.56	-0.31
2,952.0	88.30	49.00	1,184.0	1,385.8	1,141.8	1,791.7	2.25	-1.87	1.25
2,984.0	90.40	49.00	1,184.3	1,406.8	1,165.9	1,823.6	6.56	6.56	0.00
3,016.0	91.30	48.30	1,183.9	1,427.9	1,189.9	1,855.4	3.56	2.81	-2.19
3,048.0	91.30	47.80	1,183.1	1,449.3	1,213.7	1,887.3	1.56	0.00	-1.56
3,079.0	89.40	50.80	1,182.9	1,469.5	1,237.2	1,918.1	11.45	-6.13	9.68
3,111.0	90.00	49.30	1,183.1	1,490.1	1,261.8	1,949.9	5.05	1.87	-4.69
3,143.0	89.70	50.80	1,183.2	1,510.6	1,286.3	1,981.7	4.78	-0.94	4.69
3,175.0	90.50	51.80	1,183.1	1,530.6	1,311.3	2,013.3	4.00	2.50	3.12
3,206.0	90.90	53.50	1,182.8	1,549.4	1,335.9	2,043.9	5.63	1.29	5.48
3,238.0	89.40	52.00	1,182.7	1,568.8	1,361.4	2,075.5	6.63	-4.69	-4.69
3,269.0	90.60	50.90	1,182.7	1,588.1	1,385.6	2,106.2	5.25	3.87	-3.55
3,301.0	90.40	51.90	1,182.4	1,608.1	1,410.6	2,137.8	2.88	-0.62	2.81
3,333.0	90.90	52.10	1,182.0	1,627.8	1,435.8	2,169.5	1.62	1.56	0.94
3,365.0	90.50	51.20	1,181.6	1,647.7	1,460.9	2,201.1	3.08	-1.25	-2.81
3,397.0	90.60	51.80	1,181.3	1,667.6	1,485.9	2,232.8	1.90	0.31	1.87
3,429.0	88.40	50.50	1,181.6	1,687.6	1,510.9	2,264.5	7.99	-6.87	-4.06
3,461.0	90.70	50.80	1,181.9	1,707.9	1,535.6	2,296.2	7.25	7.19	0.94
3,492.0	89.80	50.90	1,181.7	1,727.5	1,559.6	2,326.9	2.92	-2.90	0.32
3,524.0	90.40	51.40	1,181.7	1,747.6	1,584.6	2,358.6	2.44	1.87	1.56
3,557.0	89.40	53.10	1,181.7	1,767.8	1,610.7	2,391.2	5.98	-3.03	5.15
3,588.0	90.30	53.10	1,181.8	1,786.4	1,635.4	2,421.7	2.90	2.90	0.00
3,620.0	91.60	54.10	1,181.3	1,805.4	1,661.2	2,453.2	5.13	4.06	3.12
3,652.0	90.70	52.80	1,180.6	1,824.4	1,686.9	2,484.7	4.94	-2.81	-4.06

01/31/2025

Survey Report

Company:	CNX Gas Company,LLC	**Local Co-ordinate Reference:**	Well SC-5
Project:	WEST VIRGINIA	**TVD Reference:**	WELL @ 0.0ft (Original Well Elev)
Site:	MONONGALIA COUNTY6	**MD Reference:**	WELL @ 0.0ft (Original Well Elev)
Well:	SC-5	**North Reference:**	True
Wellbore:	EAST LEG	**Survey Calculation Method:**	Minimum Curvature
Design:	As Drilled East Leg	**Database:**	2003.21 Single User Dbase

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
3,684.0	89.50	52.70	1,160.6	1,843.8	1,712.4	2,516.3	3.76	-3.75	-0.31
3,715.0	90.80	52.60	1,160.5	1,862.6	1,737.0	2,546.8	4.21	4.19	-0.32
3,776.0	90.80	52.60	1,179.6	1,899.7	1,785.5	2,607.0	0.00	0.00	0.00
EBHL, SC5									

Checked By: _____ Approved By: _____ Date: _____

Survey Report

Company:	CNX Gas Company,LLC	**Local Co-ordinate Reference:**	Well SC-5
Project:	WEST VIRGINIA	**TVD Reference:**	WELL @ 0.0ft (Original Well Elev)
Site:	MONONGALIA COUNTY6	**MD Reference:**	WELL @ 0.0ft (Original Well Elev)
Well:	SC-5	**North Reference:**	True
Wellbore:	WEST LEG	**Survey Calculation Method:**	Minimum Curvature
Design:	As Drilled West Leg	**Database:**	2003.21 Single User Dbase

Project	WEST VIRGINIA		
Map System:	US State Plane 1927 (Exact solution)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Pennsylvania South 3702		

Site	MONONGALIA COUNTY6				
Site Position:		**Northing:**	40,351.71m	**Latitude:**	39° 40' 0.560 N
From:	Lat/Long	**Easting:**	385,196.38m	**Longitude:**	80° 21' 55.410 W
Position Uncertainty:	0.0 ft	**Slot Radius:**	in	**Grid Convergence:**	-1.70 °

Well	SC-5					
Well Position	+N/-S	0.0 ft	**Northing:**	40,351.71m	**Latitude:**	39° 40' 0.560 N
	+E/-W	0.0 ft	**Easting:**	385,196.38 m	**Longitude:**	80° 21' 55.410 W
Position Uncertainty		0.0 ft	**Wellhead Elevation:**	ft	**Ground Level:**	0.0 ft

Wellbore	WEST LEG				
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF200510	6/19/2008	-8.59	67.64	53,154

Design	As Drilled West Leg				
Audit Notes:					
Version:	1.0	**Phase:**	ACTUAL	**Tie On Depth:**	1,966.0
Vertical Section:	**Depth From (TVD) (ft)**	**+N/-S (ft)**	**+E/-W (ft)**	**Direction (°)**	
	0.0	0.0	0.0	356.56	

Survey Program **Date** 8/14/2008

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
50.0	1,966.0	Survey #1 (CENTER LEG)		
1,998.0	5,759.0	Survey #1 (WEST LEG)		

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
50.0	0.76	3.30	50.0	0.3	0.0	0.3	1.52	1.52	0.00
100.0	0.99	13.50	100.0	1.1	0.1	1.1	0.55	0.46	20.40
150.0	1.07	7.00	150.0	2.0	0.3	1.9	0.28	0.16	-13.00
200.0	1.01	17.70	200.0	2.8	0.5	2.8	0.41	-0.12	21.40
250.0	1.22	8.10	250.0	3.8	0.7	3.7	0.56	0.42	-19.20
300.0	1.25	5.80	300.0	4.9	0.8	4.8	0.12	0.06	-4.60
350.0	1.42	7.50	349.9	6.0	1.0	6.0	0.35	0.34	3.40
400.0	1.47	352.40	399.9	7.3	1.0	7.2	0.77	0.10	-30.20
450.0	1.37	0.30	449.9	8.5	0.9	8.4	0.44	-0.20	15.80
500.0	1.40	359.70	499.9	9.7	0.9	9.6	0.07	0.06	-1.20
550.0	1.37	0.40	549.9	10.9	0.9	10.8	0.07	-0.06	1.40

Survey Report

Company:	CNX Gas Company,LLC	**Local Co-ordinate Reference:**	Well SC-5
Project:	WEST VIRGINIA	**TVD Reference:**	WELL @ 0.0ft (Original Well Elev)
Site:	MONONGALIA COUNTY6	**MD Reference:**	WELL @ 0.0ft (Original Well Elev)
Well:	SC-5	**North Reference:**	True
Wellbore:	WEST LEG	**Survey Calculation Method:**	Minimum Curvature
Design:	As Drilled West Leg	**Database:**	2003.21 Single User Dbase

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
600.0	1.60	350.70	599.9	12.2	0.8	12.1	0.68	0.46	-19.40
650.0	1.56	352.30	649.8	13.6	0.6	13.5	0.12	-0.08	3.20
700.0	1.18	347.60	699.8	14.7	0.4	14.7	0.79	-0.76	-9.40
750.0	0.99	354.10	749.8	15.7	0.2	15.6	0.45	-0.38	13.00
800.0	0.74	354.30	799.8	16.4	0.1	16.4	0.50	-0.50	0.40
850.0	0.75	351.50	849.8	17.1	0.1	17.0	0.08	0.02	-5.60
900.0	0.37	107.60	899.8	17.4	0.2	17.3	1.94	-0.76	232.20
950.0	1.23	161.00	949.8	16.8	0.5	16.7	2.10	1.72	106.80
977.0	0.39	200.00	976.8	16.4	0.5	16.4	3.55	-3.11	144.44
1,006.0	5.10	18.70	1,005.8	17.6	0.9	17.5	18.93	16.24	616.21
1,037.0	13.80	18.00	1,036.3	22.4	2.5	22.2	28.07	28.06	-2.26
1,069.0	22.70	17.60	1,066.7	31.9	5.6	31.5	27.82	27.81	-1.25
1,101.0	30.70	17.90	1,095.2	45.6	10.0	44.9	25.00	25.00	0.94
1,133.0	39.60	17.40	1,121.4	63.2	15.5	62.1	27.83	27.81	-1.56
1,165.0	51.00	15.90	1,143.9	84.9	22.0	83.4	35.78	35.62	-4.69
1,197.0	62.80	15.90	1,161.3	110.7	29.3	108.7	36.87	36.87	0.00
1,229.0	74.40	19.30	1,173.0	139.0	36.4	136.4	37.57	36.25	10.62
1,245.0	80.20	20.80	1,176.5	153.6	43.7	150.7	37.38	36.25	9.37
1,261.0	83.40	21.30	1,178.8	168.4	49.4	165.1	20.24	20.00	3.12
1,277.0	85.40	20.60	1,180.2	183.3	55.1	179.7	13.25	18.75	-4.37
1,293.0	87.20	20.20	1,181.1	198.3	60.7	194.3	5.59	5.00	-2.50
1,325.0	89.30	20.00	1,182.0	228.3	71.7	223.6	6.59	6.56	-0.62
1,357.0	89.60	19.00	1,182.4	258.5	82.3	253.1	3.26	0.94	-3.12
1,388.0	90.70	17.80	1,182.3	287.9	92.1	281.8	5.25	3.55	-3.87
1,420.0	90.90	17.40	1,181.8	318.4	101.6	311.7	1.40	0.62	-1.25
1,452.0	90.30	16.90	1,181.5	349.0	111.2	341.6	2.44	-1.87	-1.56
1,484.0	88.80	16.30	1,181.7	379.6	120.4	371.7	5.05	-4.69	-1.87
1,516.0	89.00	16.00	1,182.4	410.4	129.3	401.8	1.13	0.62	-0.94
1,531.0	88.70	15.90	1,182.7	424.8	133.4	416.0	2.11	-2.00	-0.67
1,547.0	87.60	14.90	1,183.1	440.2	137.6	431.1	8.41	-6.62	-6.25
1,557.0	86.60	14.40	1,183.5	449.9	140.2	440.6	9.43	6.00	-5.00
1,567.0	89.80	14.60	1,183.6	459.5	142.7	450.1	12.17	12.00	2.00
1,578.0	90.20	13.80	1,183.6	470.2	145.4	460.6	8.13	3.64	-7.27
1,598.0	90.40	13.10	1,183.5	479.9	147.7	470.2	7.28	2.00	-7.00
1,596.0	91.10	12.60	1,183.4	489.7	149.9	479.8	8.60	7.00	-5.00
1,610.0	91.20	12.00	1,183.2	501.4	152.5	491.3	5.07	0.83	-5.00
1,620.0	91.10	12.00	1,183.0	511.2	154.6	501.0	1.00	-1.00	0.00
1,630.0	91.30	12.00	1,182.8	521.0	156.6	510.6	2.00	2.00	0.00
1,637.0	91.00	12.00	1,182.6	527.8	158.1	517.4	4.29	-4.29	0.00
1,642.0	90.90	12.10	1,182.5	532.7	159.1	522.2	2.83	-2.00	2.00
1,647.0	90.60	12.10	1,182.5	537.6	160.2	527.0	6.00	-6.00	0.00
1,674.0	90.60	12.20	1,182.2	564.0	165.9	553.0	0.37	0.00	0.37
1,711.0	89.60	12.70	1,182.1	600.1	173.8	588.6	2.55	-2.16	1.35
1,744.0	89.60	14.30	1,182.2	632.2	181.5	620.1	4.89	-0.61	4.85
1,776.0	88.60	16.60	1,182.7	663.0	190.1	650.4	7.84	-3.12	7.19
1,808.0	91.00	17.40	1,182.9	693.6	199.4	680.4	7.91	7.50	2.50
1,840.0	91.30	19.40	1,182.2	724.0	209.5	710.1	6.32	0.94	6.25
1,870.0	88.70	19.60	1,182.2	752.3	219.5	737.7	8.69	-8.67	0.67
1,902.0	88.90	21.10	1,182.9	782.3	230.7	767.0	4.73	0.62	4.69
1,934.0	89.80	22.60	1,183.2	812.0	242.6	795.9	5.47	2.81	4.69
1,966.0	88.50	25.10	1,183.7	841.2	255.5	824.3	8.60	-4.06	7.81
1,998.0	88.10	17.10	1,184.7	871.0	267.0	853.4	25.02	-1.25	-25.00
2,030.0	90.20	15.10	1,185.1	901.8	275.9	883.6	9.06	6.56	-6.25
2,060.0	94.50	16.20	1,183.9	930.6	284.0	911.9	14.79	14.33	3.67

01/31/2025

Survey Report

Company:	CNX Gas Company,LLC	**Local Co-ordinate Reference:**	Well SC-5
Project:	WEST VIRGINIA	**TVD Reference:**	WELL @ 0.0ft (Original Well Elev)
Site:	MONONGALIA COUNTY6	**MD Reference:**	WELL @ 0.0ft (Original Well Elev)
Well:	SC-5	**North Reference:**	True
Wellbore:	WEST LEG	**Survey Calculation Method:**	Minimum Curvature
Design:	As Drilled West Leg	**Database:**	2003.21 Single User Dbase

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
2,092.0	92.90	17.50	1,181.8	961.2	293.2	941.8	6.44	-5.00	4.06
2,124.0	91.40	15.90	1,180.6	991.8	302.4	971.9	6.85	-4.69	-5.00
2,156.0	90.30	14.30	1,180.2	1,022.7	310.7	1,002.2	6.07	-3.44	-5.00
2,188.0	88.40	11.00	1,180.5	1,053.9	317.7	1,032.9	11.90	-5.94	-10.31
2,219.0	88.20	8.21	1,181.5	1,084.5	322.9	1,063.1	9.02	-0.65	-9.00
2,251.0	90.00	5.81	1,182.0	1,116.2	326.8	1,094.6	9.88	5.62	-8.12
2,283.0	90.50	3.30	1,181.8	1,148.1	329.3	1,126.3	7.39	1.56	-7.22
2,315.0	90.10	0.60	1,181.7	1,180.1	330.3	1,158.1	8.53	-1.25	-8.44
2,348.0	91.60	358.40	1,181.2	1,213.1	330.1	1,191.1	8.07	4.55	-6.67
2,380.0	91.50	356.70	1,180.3	1,245.1	328.7	1,223.1	5.32	-0.31	-5.31
2,412.0	90.50	353.90	1,179.7	1,276.9	326.1	1,255.0	9.29	-3.12	-8.75
2,444.0	89.80	351.40	1,179.7	1,308.7	322.0	1,287.0	8.11	-2.19	-7.81
2,476.0	89.90	349.60	1,179.7	1,340.2	316.7	1,318.8	5.63	0.31	-5.62
2,508.0	89.30	348.21	1,180.0	1,371.6	310.5	1,350.5	4.73	-1.87	-4.34
2,539.0	90.80	347.40	1,179.9	1,401.9	304.0	1,381.1	5.50	4.84	-2.61
2,571.0	91.80	347.60	1,179.2	1,433.2	297.1	1,412.7	3.19	3.12	0.62
2,603.0	91.00	346.20	1,178.4	1,464.3	289.8	1,444.3	5.04	-2.50	-4.37
2,635.0	90.90	345.70	1,177.9	1,495.4	282.0	1,475.7	1.59	-0.31	-1.56
2,666.0	89.30	344.10	1,177.8	1,525.3	274.0	1,506.1	7.30	-5.16	-5.16
2,697.0	91.00	344.30	1,177.8	1,555.1	265.5	1,536.4	5.52	5.48	0.65
2,729.0	92.00	344.30	1,176.9	1,585.9	256.9	1,567.6	3.12	3.12	0.00
2,764.0	91.30	343.60	1,175.9	1,619.5	247.2	1,601.8	2.83	-2.00	-2.00
2,793.0	91.90	344.20	1,175.1	1,647.4	239.2	1,630.0	2.93	2.07	2.07
2,825.0	91.90	343.90	1,174.0	1,678.1	230.4	1,661.3	0.94	0.00	-0.94
2,857.0	90.10	343.30	1,173.5	1,708.8	221.3	1,692.4	5.93	-5.62	-1.87
2,889.0	89.90	342.50	1,173.5	1,739.4	211.9	1,723.5	2.58	-0.62	-2.50
2,920.0	90.70	342.70	1,173.3	1,769.0	202.7	1,753.6	2.66	2.58	0.65
2,952.0	90.30	342.20	1,173.0	1,799.5	193.0	1,784.7	2.00	-1.25	-1.56
2,984.0	90.70	341.30	1,172.8	1,829.9	183.0	1,815.6	3.08	1.25	-2.81
3,016.0	91.10	341.20	1,172.3	1,860.2	172.7	1,846.5	1.29	1.25	-0.31
3,048.0	93.20	343.70	1,171.1	1,890.7	163.1	1,877.5	10.20	6.56	7.81
3,080.0	91.80	346.34	1,169.7	1,921.6	154.8	1,908.8	9.33	-4.37	8.25
3,112.0	91.90	346.50	1,168.6	1,952.8	147.8	1,940.4	6.75	0.31	6.75
3,143.0	89.40	350.30	1,168.3	1,983.2	142.1	1,971.1	9.94	-8.06	5.81
3,175.0	88.50	349.80	1,168.9	2,014.8	136.6	2,002.9	3.22	-2.81	-1.56
3,206.0	90.90	350.60	1,169.0	2,045.3	131.3	2,033.7	8.16	7.74	2.58
3,238.0	90.40	351.20	1,168.7	2,076.9	126.3	2,065.6	2.44	-1.56	1.87
3,271.0	88.10	352.40	1,169.1	2,109.5	121.6	2,098.4	7.86	-6.97	3.64
3,303.0	87.60	352.10	1,170.3	2,141.2	117.2	2,130.3	1.82	-1.56	-0.94
3,335.0	88.20	351.90	1,171.5	2,172.9	112.8	2,162.2	1.98	1.87	-0.62
3,367.0	88.80	351.30	1,172.4	2,204.5	108.1	2,194.1	2.25	1.25	-1.87
3,399.0	88.80	350.90	1,173.1	2,236.2	103.2	2,225.9	1.40	0.62	-1.25
3,430.0	89.70	350.20	1,173.5	2,266.7	98.1	2,256.7	3.68	2.90	-2.26
3,462.0	91.00	350.50	1,173.3	2,298.3	92.7	2,288.6	4.17	4.06	0.94
3,495.0	91.90	35.60	1,172.4	2,329.6	100.0	2,319.3	137.25	2.73	137.27
3,526.0	90.20	351.30	1,171.8	2,358.9	107.1	2,348.3	143.62	-5.48	-143.55
3,558.0	89.60	350.90	1,171.9	2,390.6	102.2	2,380.1	2.25	-1.87	-1.25
3,590.0	90.20	350.80	1,171.9	2,422.2	97.1	2,411.9	1.90	1.87	-0.31
3,622.0	89.60	350.00	1,172.0	2,453.7	91.7	2,443.8	3.12	-1.87	-2.50
3,654.0	90.20	349.70	1,172.0	2,485.2	86.1	2,475.5	2.10	1.87	-0.94
3,685.0	90.40	349.60	1,171.9	2,515.7	80.5	2,506.3	0.72	0.65	-0.32
3,717.0	91.90	350.10	1,171.2	2,547.2	74.9	2,538.1	4.94	4.69	1.56
3,749.0	90.40	350.00	1,170.6	2,578.7	69.4	2,569.9	4.70	-4.69	-0.31
3,781.0	90.30	349.60	1,170.4	2,610.2	63.7	2,601.7	1.29	-0.31	-1.25

Survey Report

Company:	CNX Gas Company,LLC	**Local Co-ordinate Reference:**	Well SC-5
Project:	WEST VIRGINIA	**TVD Reference:**	WELL @ 0.0ft (Original Well Elev)
Site:	MONONGALIA COUNTY6	**MD Reference:**	WELL @ 0.0ft (Original Well Elev)
Well:	SC-5	**North Reference:**	True
Wellbore:	WEST LEG	**Survey Calculation Method:**	Minimum Curvature
Design:	As Drilled West Leg	**Database:**	2003.21 Single User Dbase

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
3,813.0	91.20	348.80	1,170.0	2,641.6	57.7	2,633.4	3.76	2.81	-2.50
3,845.0	90.00	348.30	1,169.6	2,673.0	51.3	2,665.1	4.06	-3.75	-1.56
3,877.0	90.80	348.30	1,169.4	2,704.3	44.9	2,696.7	2.50	2.50	0.00
3,908.0	90.00	348.70	1,169.2	2,734.7	38.7	2,727.4	2.89	-2.58	1.29
3,940.0	88.00	348.60	1,169.8	2,766.1	32.4	2,759.1	6.26	-6.25	-0.31
3,972.0	89.90	348.81	1,170.4	2,797.4	26.1	2,790.8	5.97	5.94	0.66
4,004.0	90.90	348.00	1,170.1	2,828.6	19.7	2,822.5	4.02	3.12	-2.53
4,034.0	89.60	348.10	1,170.0	2,858.1	13.5	2,852.2	4.35	-4.33	0.33
4,066.0	88.70	348.10	1,170.5	2,889.4	6.9	2,883.8	2.81	-2.81	0.00
4,098.0	91.80	347.00	1,170.3	2,920.7	0.0	2,915.4	10.28	9.69	-3.44
4,130.0	92.60	346.80	1,169.1	2,951.8	-7.3	2,946.9	3.19	3.12	-0.62
4,157.0	93.10	347.01	1,167.7	2,978.1	-13.4	2,973.5	1.96	1.11	0.78
4,190.0	90.40	346.60	1,166.7	3,010.2	-20.9	3,006.0	8.28	-8.18	-1.24
4,222.0	87.00	347.10	1,167.4	3,041.3	-28.2	3,037.5	10.74	-10.62	1.56
4,254.0	88.40	348.70	1,168.7	3,072.6	-34.9	3,069.2	6.64	4.37	5.00
4,286.0	88.90	348.40	1,169.4	3,104.0	-41.2	3,100.8	1.82	1.56	-0.94
4,318.0	89.80	348.51	1,169.8	3,135.3	-47.6	3,132.5	2.83	2.81	0.34
4,349.0	90.30	348.10	1,169.8	3,165.7	-53.9	3,163.2	2.09	1.61	-1.32
4,381.0	90.30	350.00	1,169.6	3,197.1	-60.0	3,194.9	5.94	0.00	5.94
4,413.0	89.50	349.20	1,169.6	3,228.6	-65.8	3,226.7	3.54	-2.50	-2.50
4,445.0	89.70	349.20	1,169.9	3,260.0	-71.8	3,258.4	0.62	0.62	0.00
4,472.0	89.40	351.81	1,170.1	3,286.6	-76.2	3,285.3	9.73	-1.11	9.67
4,503.0	90.40	351.80	1,170.1	3,317.3	-80.7	3,316.2	3.23	3.23	-0.03
4,534.0	91.80	351.30	1,169.6	3,348.0	-85.2	3,347.0	4.19	3.87	-1.61
4,566.0	90.00	352.50	1,169.1	3,379.6	-89.7	3,378.9	6.25	-5.00	3.75
4,598.0	90.60	352.80	1,169.0	3,411.4	-93.8	3,410.8	2.10	1.87	0.94
4,630.0	90.60	351.90	1,168.6	3,443.1	-98.1	3,442.6	2.81	0.00	-2.81
4,662.0	90.10	351.10	1,168.4	3,474.7	-102.8	3,474.6	2.95	-1.56	-2.50
4,693.0	90.40	350.70	1,168.3	3,505.3	-107.7	3,505.5	1.61	0.97	-1.29
4,724.0	90.30	350.30	1,168.1	3,535.9	-112.8	3,536.3	1.33	-0.32	-1.29
4,756.0	90.50	349.90	1,167.9	3,567.4	-118.3	3,568.1	1.40	0.62	-1.25
4,787.0	89.90	351.10	1,167.8	3,598.0	-123.4	3,598.9	4.33	-1.94	3.87
4,819.0	90.40	351.30	1,167.7	3,629.6	-128.3	3,630.8	1.68	1.56	0.62
4,850.0	90.90	350.60	1,167.4	3,660.2	-133.2	3,661.6	2.77	1.61	-2.26
4,882.0	89.70	352.30	1,167.2	3,691.9	-138.0	3,693.5	6.50	-3.75	5.31
4,914.0	88.70	351.80	1,167.6	3,723.6	-142.4	3,725.4	3.49	-3.12	-1.56
4,946.0	90.10	351.60	1,168.0	3,755.2	-147.0	3,757.3	4.42	4.37	-0.62
4,978.0	90.00	350.90	1,167.9	3,786.9	-151.9	3,789.2	2.21	-0.31	-2.19
5,009.0	90.30	350.90	1,167.9	3,817.5	-156.8	3,820.0	0.97	0.97	0.00
5,041.0	91.10	351.40	1,167.5	3,849.1	-161.7	3,851.9	2.95	2.50	1.56
5,073.0	90.90	351.10	1,166.9	3,880.7	-166.6	3,883.7	1.13	-0.62	-0.94
5,107.0	91.50	350.90	1,166.2	3,914.3	-171.9	3,917.5	1.86	1.76	-0.59
5,138.0	90.10	351.00	1,165.8	3,944.9	-176.8	3,948.4	4.53	-4.52	0.32
5,170.0	89.70	351.00	1,165.8	3,976.5	-181.8	3,980.2	1.25	-1.25	0.00
5,202.0	89.80	350.80	1,166.0	4,008.1	-186.8	4,012.1	0.70	0.31	-0.62
5,234.0	89.60	350.80	1,166.1	4,039.7	-191.9	4,043.9	0.62	-0.62	0.00
5,266.0	90.30	350.90	1,166.2	4,071.3	-197.0	4,075.8	2.21	2.19	0.31
5,298.0	89.50	350.70	1,166.2	4,102.9	-202.1	4,107.6	2.58	-2.50	-0.62
5,330.0	89.60	350.70	1,166.5	4,134.5	-207.3	4,139.4	0.31	0.31	0.00
5,361.0	90.70	351.60	1,166.4	4,165.1	-212.1	4,170.3	4.58	3.55	2.90
5,393.0	90.70	351.50	1,166.0	4,196.7	-216.8	4,202.2	0.31	0.00	-0.31
5,424.0	89.20	351.40	1,166.0	4,227.4	-221.4	4,233.1	4.85	-4.84	-0.32
5,457.0	87.70	351.20	1,166.9	4,260.0	-226.4	4,265.9	4.59	-4.55	-0.61
5,489.0	87.30	350.80	1,168.3	4,291.6	-231.4	4,297.7	1.77	-1.25	-1.25

Survey Report

Company:	CNX Gas Company,LLC	**Local Co-ordinate Reference:**	Well SC-5
Project:	WEST VIRGINIA	**TVD Reference:**	WELL @ 0.0ft (Original Well Elev)
Site:	MONONGALIA COUNTY6	**MD Reference:**	WELL @ 0.0ft (Original Well Elev)
Well:	SC-5	**North Reference:**	True
Wellbore:	WEST LEG	**Survey Calculation Method:**	Minimum Curvature
Design:	As Drilled West Leg	**Database:**	2003.21 Single User Dbase

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,521.0	88.30	351.00	1,169.5	4,323.1	-236.4	4,329.5	3.19	3.12	0.62
5,553.0	90.00	351.00	1,170.0	4,354.7	-241.5	4,361.4	5.31	5.31	0.00
5,584.0	90.10	350.90	1,170.0	4,385.4	-246.3	4,392.2	0.46	0.32	-0.32
5,616.0	90.70	350.80	1,169.8	4,417.0	-251.4	4,424.1	1.90	1.87	-0.31
5,648.0	90.70	350.60	1,169.4	4,448.5	-256.6	4,455.9	0.62	0.00	-0.62
5,680.0	89.90	350.30	1,169.2	4,480.1	-261.9	4,487.7	2.67	-2.50	-0.94
5,712.0	90.70	351.10	1,169.0	4,511.7	-267.1	4,519.6	3.54	2.50	2.50
5,759.0	90.70	351.10	1,168.5	4,558.1	-274.3	4,566.3	0.00	0.00	0.00
WBHL, SC5									

Checked By: _____ Approved By: _____ Date: _____

4706101552

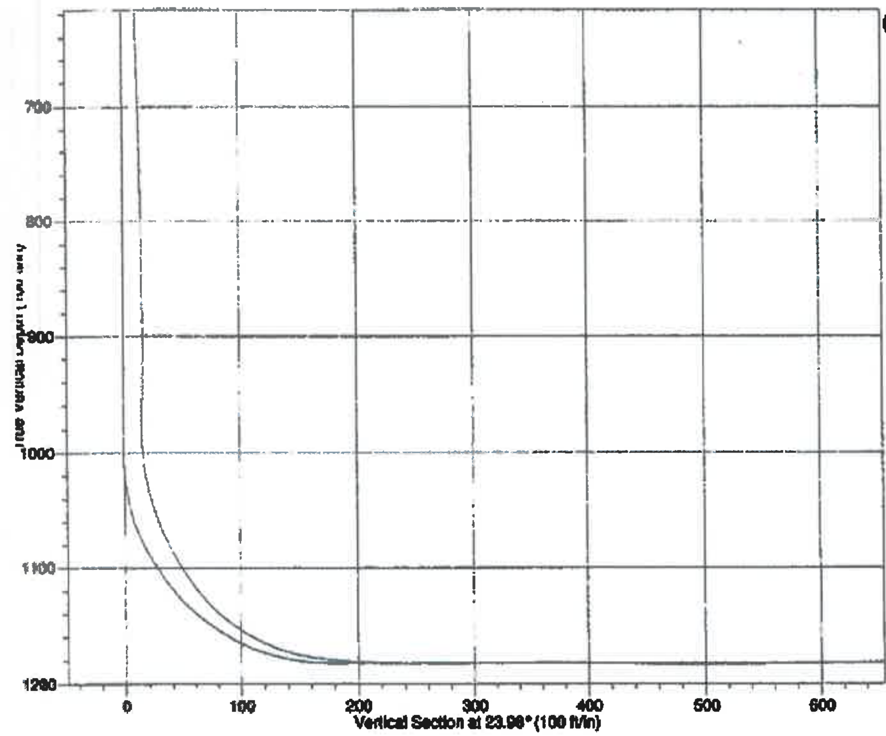
CNX Gas Company,LLC

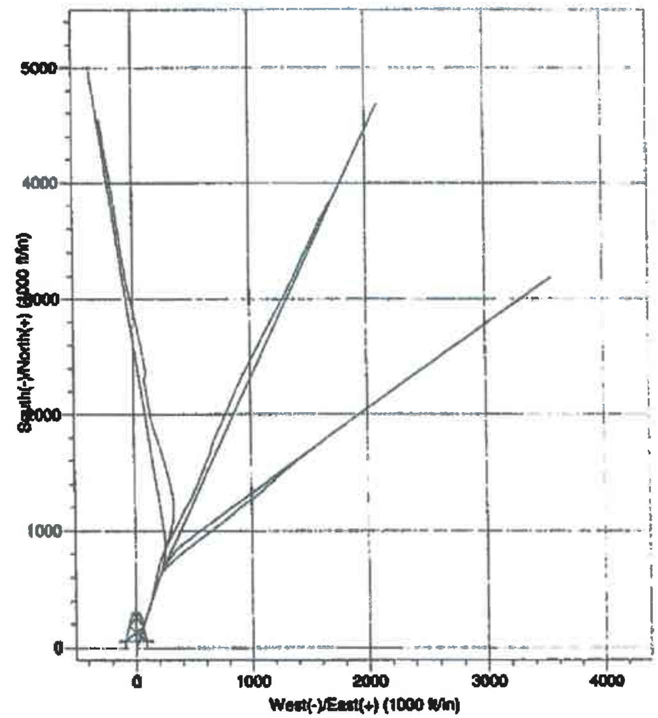
NEVIS

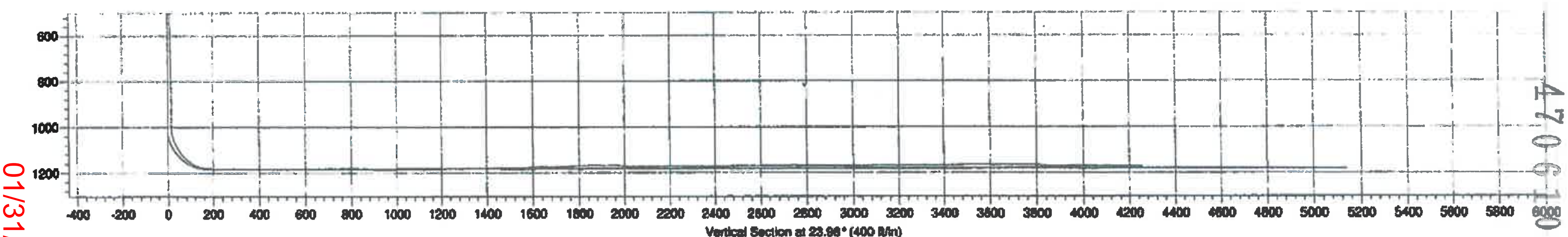
Project: WEST VIRGINIA
Site: MONONGALIA COUNTY6
Well: SC-5
Wellbore: CENTER LEG
Design: As Drilled Center Leg

Azimuths to True North
Magnetic North: -8.59°

Magnetic Field
Strength: 53154.4nT
Dip Angle: 67.64°
Date: 6/19/2008
Model: IGRF200510







01/31/2025

PREDICT

61-01553

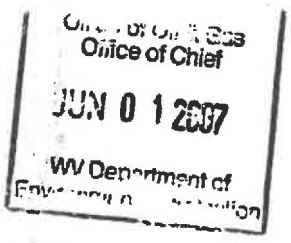
HOLE:	ESTIMATED EASTING	ESTIMATED NORTHING	ESTIMATED ELEVATION
SC5 ACCESS	1756145	425571	1362

SEAM	DEPTH FROM (FEET)	DEPTH TO (FEET)	ELEVATION (TOSE)	THICKNESS (FEET)
TOPO	0.00	0.00	1362.38	0.00
WS	688.56	690.18	673.82	1.62
WA	773.57	775.80	588.81	2.23
WB2	838.42	839.91	523.96	1.49
WB1	841.30	844.40	521.08	3.10
SW	1093.59	1098.38	268.79	4.79
RS	1160.95	1163.24	201.43	2.29
P3	1187.27	1187.81	175.11	0.54
P2	1188.20	1189.23	174.18	1.03
P1	1189.44	1190.78	172.94	1.34
*PG	1191.20	1198.65	171.18	7.45

q7,48"

* Coal seam subject to coalbed methane production.

17:43:42 02/20/07



4706101552

WW-4A
Revised 6-07

1) Date: MARCH 7, 2024
2) Operator's Well Number SC-5P
3) API Well No.: 47 - 061 - 01552

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE OF APPLICATION TO PLUG AND ABANDON A WELL (COM well)

4) Surface Owner(s) to be served:
(a) Name RDFS LLC.
Address 11023 MASON DIXON HWY
BURTON, WV 26562
(b) Name
Address
(c) Name
Address

5) (a) Coal Operator
Name WEST VIRGINIA LAND RESOURCES INC.
Address 1 BRIDGE STREET
MONONGAH, WV 26554
(b) Coal Owner(s) with Declaration
Name
Address
Name
Address
(c) Coal Lessee with Declaration
Name
Address

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DEC 04 2024
WV Department of Environmental Protection

6) Inspector GAYNE KNITOWSKI
Address P.O. BOX 108
GORMANIA, WV 26720
Telephone (304) 546-8171

TO THE PERSONS NAMED ABOVE: You should have received this Form and the following documents:

(1) The application to Plug and Abandon a Well on Form WW-4B, which sets out the parties involved in the work and describes the well its and the plugging work order; and
(2) The plat (surveyor's map) showing the well location on Form WW-6.

The reason you received these documents is that you have rights regarding the application which are summarized in the instructions on the reverses side However, you are not required to take any action at all.

Take notice that under Chapter 22-6 of the West Virginia Code, the undersigned well operator proposes to file or has filed this Notice and Application and accompanying documents for a permit to plug and abandon a well with the Chief of the Office of Oil and Gas, West Virginia Department of Environmental Protection, with respect to the well at the location described on the attached Application and depicted on the attached Form WW-6 Copies of this Notice, the Application, and the plat have been mailed by registered or certified mail or delivered by hand to the person(s) named above (or by publication in certain circumstances) on or before the day of mailing or delivery to the Chief

Well Operator WEST VIRGINIA LAND RESOURCES INC
By: DAVID RODDY
Its: PROJECT ENGINEER
Address 1 BRIDGE STREET
MONONGAH, WV 26554
Telephone (304) 534-4748

OFFICIAL SEAL
NOTARY PUBLIC
STATE OF WEST VIRGINIA
Drake Neuberger
1 Bridge Street
Monongah, WV 26554
My Commission Expires March 29, 2028

Subscribed and sworn before me this 15th day of March, 2024
Notary Public
My Commission Expires March 29th, 2028

Oil and Gas Privacy Notice

The Office of Oil and Gas processes your personal information, such as name, address and phone number, as a part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use of your personal information, please contact DEP's Chief Privacy Officer at deprivacyoffice@wv.gov.

01/31/2025

4706101552P

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

George D. Six
1073 Mason Dixon
Burton, WV 26562

9590 9402 7541 2098 6059 20

2. Article Number (Transfer from service label)
7019 0160 0001 0702 6611

COMPLETE THIS SECTION ON DELIVERY

A. Signature
x Wanda J Six
☐ Agent
☐ Addressee

B. Received by (Printed Name)
Wanda J Six

C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Adult Signature
☐ Adult Signature Restricted Delivery
☐ Certified Mail®
☐ Certified Mail Restricted Delivery
☐ Collect on Delivery
☐ Collect on Delivery Restricted Delivery
☐ Insured Mail
☐ Insured Mail Restricted Delivery (over $500)
☐ Priority Mail Express®
☐ Registered Mail™
☐ Registered Mail Restricted Delivery
☐ Signature Confirmation™
☐ Signature Confirmation Restricted Delivery

PS Form 3811, July 2020 PSN 7530-02-000-9053 Domestic Return Receipt

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Office of Oil and Gas

JAN 24 2025

WV Department of
Environmental Protection

01/31/2025

4706101552

WW-4B

API No. 47-061-01552 P
Farm Name
Well No. SC-5P

INSTRUCTIONS TO COAL OPERATORS
OWNERS AND LESSEE

The well operator named on the obverse side of WW-4 (B) is about to abandon the well described in the enclosed materials and will commence the work of plugging and abandoning said well on the date the inspector is notified. Which date shall not be less then five days after the day on which this notice and application so mailed is received, or in due course should be received by the Department of Environmental Protection Office of Oil & Gas.

This notice and application is given to you in order that your respective representatives may be present at the plugging and filling of said well. You are further notified that whether you are represented or not the operator will proceed to plug and fill said well in the manner required by Section 24, Article 6, Chapter 22 of the Code and given in detail on obverse side of this application.

NOTE: If you wish this well to be plugged according to 22-6-24(d) then as per Regulation 35CSR4-13.9 you must complete and return to this office on form OB-16 "Request by Coal Operator, Owner, or Lessee for plugging" prior to the issuance of this plugging permit.

Received
Office Of Oil and Gas
DEC 04 2024
WV Department of
Environmental Protection

WAIVER

The undersigned coal operator _X_ / owner _X_ / lessee ____ / of the coal under this well location has examined this proposed plugging work order. The undersigned has no objection to the work proposed to be done at this location, provided, the well operator has complied with all applicable requirements of the West Virginia Code and the governing regulations.

Date: 4-12-24

By: Paige Roddy
Its Agent

01/31/2025

4706101552P

WW-9
(5/16)

API Number 47 - 061 - 01552
Operator's Well No. SC-5

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL AND GAS
FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name WEST VIRGINIA LAND RESOURCES INC. OP Code

Watershed (HUC 10) MIDDLE FORK OF SOUTH FORK OF WEST VIRGINIA FORK OF DUNKARD CREEK Quadrangle WADESTOWN W.VA,PA

Do you anticipate using more than 5,000 bbls of water to complete the proposed well work? Yes ☐ No ☑

Will a pit be used? Yes ☐ No ☑

If so, please describe anticipated pit waste:

Will a synthetic liner be used in the pit? Yes ☐ No ☑ If so, what ml.?

Proposed Disposal Method For Treated Pit Wastes:

- ____ Land Application (if selected provide a completed form WW-9-GPP)
- ____ Underground Injection (UIC Permit Number)
- ____ Reuse (at API Number)
- ✓ Off Site Disposal (Supply form WW-9 for disposal location)
- ■ Other (Explain Tanks, see attached letter

Will closed loop systembe used? If so, describe: Yes. Gel circulated from tank thru well bore and returned to tank

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. Gel or Cement

-If oil based, what type? Synthetic, petroleum, etc.

Additives to be used in drilling medium? Bentonite, Bicarbonate of Soda

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. Shaker cutting buried on site.

-If left in pit and plan to solidify what medium will be used? (cement, lime, sawdust) N/A

-Landfill or offsite name/permit number? N/A

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Permittee shall provide written notice to the Office of Oil and Gas of any load of drill cuttings or associated waste rejected at any West Virginia solid waste facility. The notice shall be provided within 24 hours of rejection and the permittee shall also disclose where it was properly disposed.

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on April 1, 2016, by the Office of Oil and Gas of the West Virginia Department of Environmental Protection. I understand that the provisions of the permit are enforceable by law. Violations of any term or condition of the general permit and/or other applicable law or regulation can lead to enforcement action.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment.

Company Official Signature

Company Official (Typed Name) David Roddy

Company Official Title Project Engineer

OFFICIAL SEAL
NOTARY PUBLIC
STATE OF WEST VIRGINIA
Drake Neuberger
1 Bridge Street
Monongah, WV 26554
My Commission Expires March 29, 2028

Subscribed and sworn before me this 15th day of March, 2024

Notary Public

My commission expires March 29th, 2028

OFFICIAL SEAL
NOTARY PUBLIC
STATE OF WEST VIRGINIA
1 Bridge Street
Monongah, WV 26554
My Commission Expires March 29, 2028

01/31/2025

4706101552P

Form WW-9

Operator's Well No. SC-5

Proposed Revegetation Treatment: Acres Disturbed 1 Prevegetation pH

Lime 3 Tons/acre or to correct to pH 6.0

Fertilizer type 10-20-20 or equivalent

Fertilizer amount 500 lbs/acre

Mulch 2 Tons/acre

Seed Mixtures

Temporary		Permanent	
Seed Type	lbs/acre	Seed Type	lbs/acre
See Attachment	100	See Attachment	100

Attach:
Maps(s) of road, location, pit and proposed area for land application (unless engineered plans including this info have been provided). If water from the pit will be land applied, provide water volume, include dimensions (L, W, D) of the pit, and dimensions (L, W), and area in acres, of the land application area.

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: Gayne Knitowski Digitally signed by Gayne Knitowski Date: 2024.11.14 08:15:35 -05'00'

Comments:

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DEC 04 2024
WV Department of
Environmental Protection

Title: Inspector Date: 11-14-2024

Field Reviewed? ( ) Yes (X) No

01/31/2025

WV County Assessor, WV Property Tax Division, WVDHSEM, WVGISTC

01/31/2025

4706101552P

Oil&Gas

Wells, Horizontal Only

WellStatus

- Active Well
- Permit Issued
- Permit Application
- Plugged

Wells, Active Status Only

WellUse

- Brine Disposal
- Fluid Injection
- Gas Production
- House Gas
- Observation
- Oil Production
- Production
- Solution Mining
- Storage
- Vent
- <all other values>

Wells, Other than Active Status

WellUse

- Brine Disposal
- Fluid Injection
- Gas Production
- House Gas
- Observation
- Oil Production
- Production
- Solution Mining

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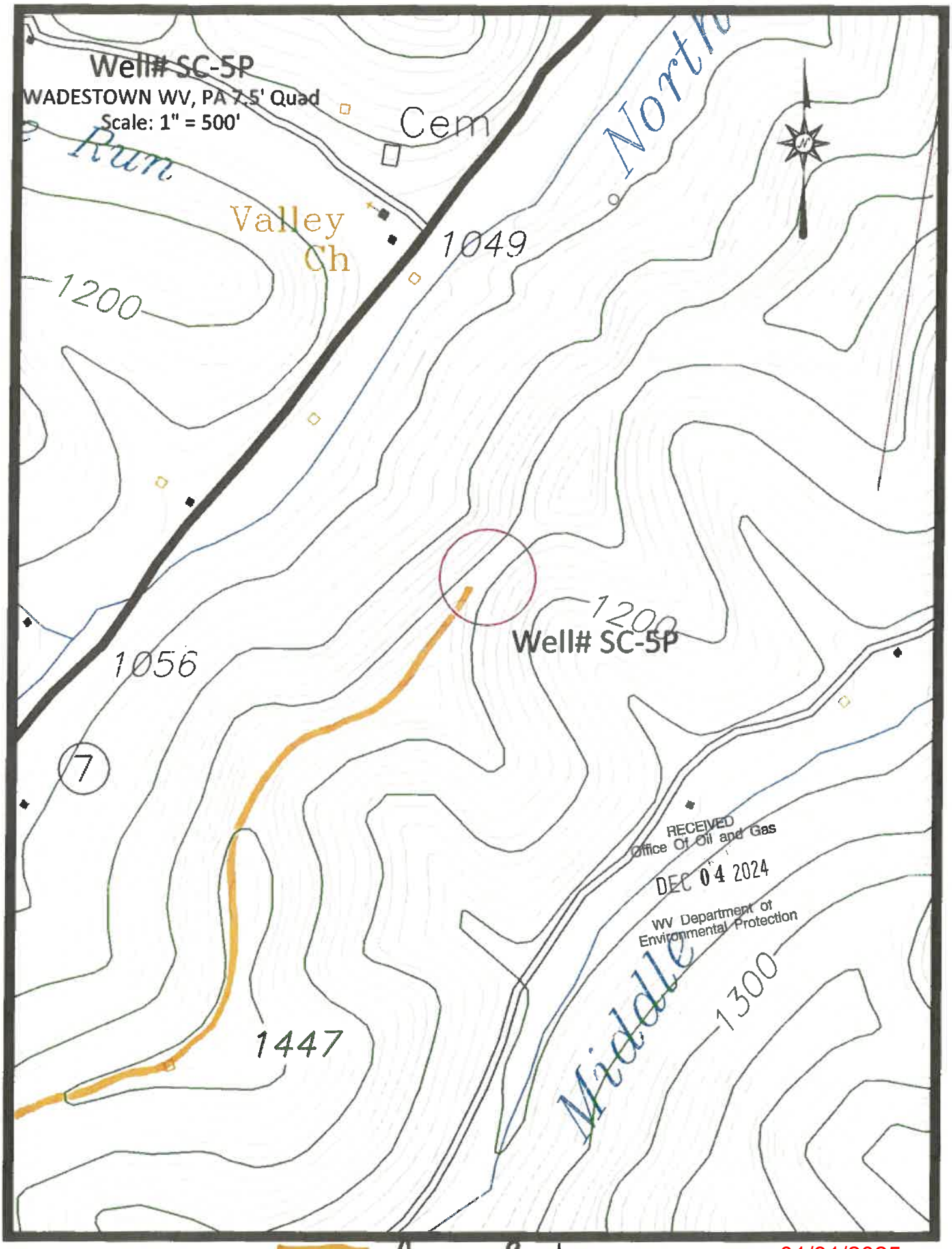

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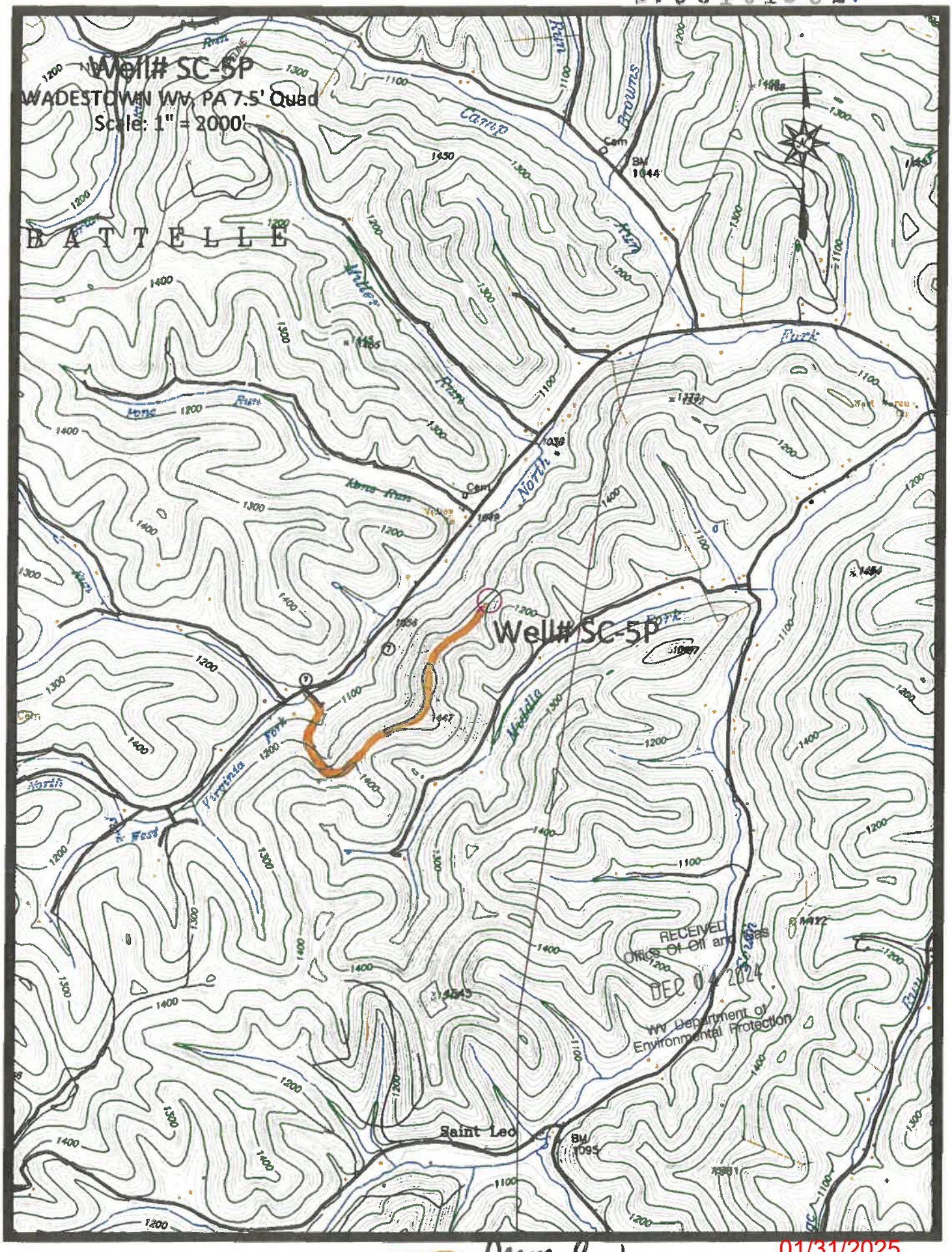

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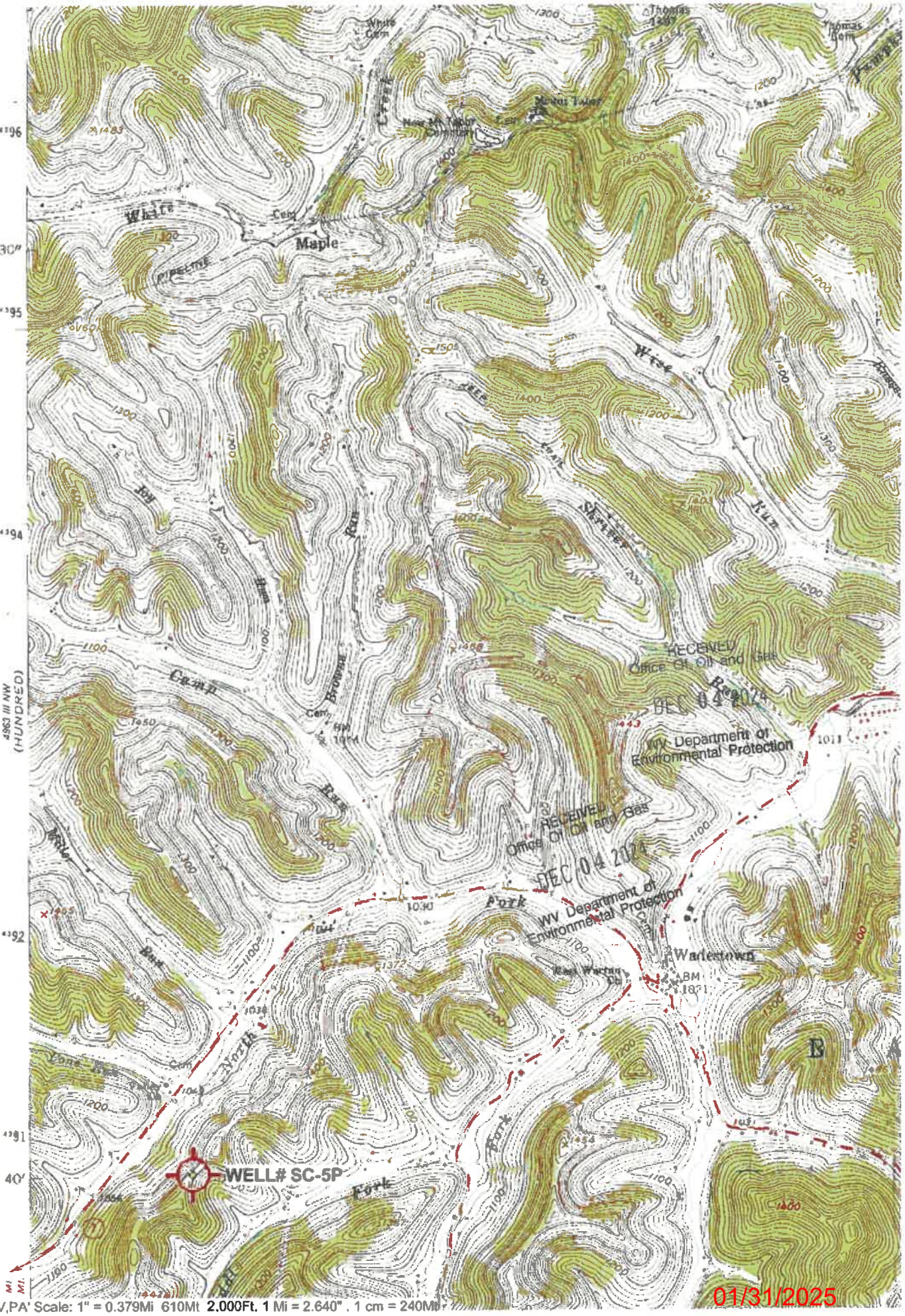

'Wadestown; WV,PA' Scale: 1" = 0.379Mi 610Mt 2.000Ft. 1 Mi = 2.640" . 1 cm = 240Mt

01/31/2025

4706101552P

WW-7
8-30-06

West Virginia Department of Environmental Protection
Office of Oil and Gas
WELL LOCATION FORM: GPS

API: 47-061-01552 WELL NO.: SC-5P

FARM NAME: RALPH & BETTY JO SIX

RESPONSIBLE PARTY NAME: WEST VIRGINIA LAND RESOURCES INC.

COUNTY: MONONGALIA DISTRICT: BATTELLE

QUADRANGLE: WADESTOWN W.VA,PA

SURFACE OWNER: RDFS LLC.

ROYALTY OWNER: _____

UTM GPS NORTHING: 4,390,971 m

UTM GPS EASTING: 554,434 m GPS ELEVATION: 399 m 1309'

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DEC 04 2024
WV Department of
Environmental Protection

The Responsible Party named above has chosen to submit GPS coordinates in lieu of preparing a new well location plat for a plugging permit or assigned API number on the above well. The Office of Oil and Gas will not accept GPS coordinates that do not meet the following requirements:

1. Datum: NAD 1983, Zone: 17 North, Coordinate Units: meters, Altitude: height above mean sea level (MSL) – meters.
2. Accuracy to Datum – 3.05 meters
3. Data Collection Method:

Survey grade GPS X : Post Processed Differential ____

Real-Time Differential X

Mapping Grade GPS ____ : Post Processed Differential ____

Real-Time Differential ____

4. **Letter size copy of the topography map showing the well location.**

I the undersigned, hereby certify this data 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 Office of Oil and Gas.

L.B.F. PS 2002 MARCH 7, 2024

Signature Title Date

01/31/2025