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west virginia department of environmental protection

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

Austin Caperton, Cabinet Secretary  
[www.dep.wv.gov](http://www.dep.wv.gov)

Friday, August 24, 2018  
WELL WORK PERMIT  
Vertical / Re-Work

COLUMBIA GAS TRANSMISSION, LLC  
1700 MACCORKLE AVENUE SE

CHARLESTON, WV 25314

Re: Permit approval for 2345  
47-051-00322-00-00

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.

Please be advised that form WR-35, Well Operators Report of Well Work 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

A handwritten signature in blue ink, appearing to read 'James A. Martin', is written over the printed name and title.

Operator's Well Number: 2345  
Farm Name: GRAY, JASON  
U.S. WELL NUMBER: 47-051-00322-00-00  
Vertical Re-Work  
Date Issued: 8/24/2018

## 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.

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### CONDITIONS

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1. If the operator encounters an unanticipated void, or an anticipated void at an unanticipated depth, the operator shall notify the inspector within 24 hours. Modifications to the casing program may be necessary to comply with W. Va. Code §22-6-20, which requires drilling to a minimum depth of thirty feet below the bottom of the void, and installing a minimum of twenty (20) feet of casing. Under no circumstance should the operator drill more than fifty (50) feet below the bottom of the void or install less than twenty (20) feet of casing below the bottom of the void.
2. Pursuant to 35 CSR 4-19.1.a, at the request of the surface owner all water wells or springs within 1000 feet of the proposed well that are actually utilized for human consumption, domestic animals or other general use shall be sampled and analyzed.
3. Pursuant to 35 CSR 4-19.1.c, if the operator is unable to sample and analyze any water well or spring with one thousand (1,000) feet of the permitted well location, the Office of Oil and Gas requires the operator to sample, at a minimum, one water well or spring located between one thousand (1,000) feet and two thousand (2,000) feet of the permitted well location.
4. All pits must be lined with a minimum of 20 mil thickness synthetic liner.
5. 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.
6. During the surface casing and cementing process, in the event cement does not return to the surface, or any other casing string that is permitted to circulate cement to the surface and does not return to the surface, the oil and gas inspector shall be notified within twenty-four (24) hours
7. Well work activities shall not constitute a hazard to the safety of persons.
8. Operator shall provide the Office of Oil & Gas notification of the date that drilling commenced on this well. Such notice shall be provided by sending an email to [DEPOOGNotify@wv.gov](mailto:DEPOOGNotify@wv.gov) within 30 days of commencement of drilling.

WW - 2B  
(Rev. 8/10)

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
WELL WORK PERMIT APPLICATION

1) Well Operator: Columbia Gas Transmission, LLC 307032 Marshall Liberty Cameron, WV  
Operator ID County District Quadrangle

2) Operator's Well Number: Victory B 2345 3) Elevation: 798.3 ft

4) Well Type: (a) Oil \_\_\_\_\_ or Gas X  
(b) If Gas: Production \_\_\_\_\_ / Underground Storage X  
Deep \_\_\_\_\_ / Shallow X

*JW*  
*7/20/18*

5) Proposed Target Formation(s): Big Injun Proposed Target Depth: 1610 MD ft

6) Proposed Total Depth: 1861 MD ft (existing) Feet Formation at Proposed Total Depth: Big Injun

7) Approximate fresh water strata depths: none reported by driller in 1919

8) Approximate salt water depths: none reported by driller in 1919

9) Approximate coal seam depths: Pittsburgh 478 - 83'

10) Approximate void depths,(coal, Karst, other): none reported by driller in 1965

11) Does land contain coal seams tributary to active mine? yes

12) Describe proposed well work and fracturing methods in detail (attach additional sheets if needed)

Kill. Replace top joint of 5-1/2" casing. Replace wellhead. Swab well.

13) **CASING AND TUBING PROGRAM**

TYPE	SPECIFICATIONS			FOOTAGE	INTERVALS	CEMENT
	Size	Grade	Weight per ft	For Drilling	Left in Well	Fill -up (Cu. Ft.)
Conductor						
Fresh Water	10-3/4	H-40	32	249	249	160 sx
Coal	8-5/8	??	??	955	955	200 sx
Intermediate						
Production	5-1/2	J-55	17	1600	1600	400 sx
Tubing						
Liners						

Packers: Kind: \_\_\_\_\_  
Sizes: \_\_\_\_\_  
Depths Set \_\_\_\_\_

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**JUL 30 2018**

WELL LOG SUMMARY

LOCATION	COMPANY <b>The Manufacturers Light &amp; Heat Company</b>				DIV. FIELD <b>4 Cameron</b>	WELL NO. <b>2345</b>							
	FARM <b>Jason Gray</b>	ACRES <b>71</b>	LEASE NO. <b>2262</b>	DISTRICT <b>Liberty</b>	COUNTY <b>Marshall</b>	STATE <b>W. Va.</b>							
	TOPG. MAP Quadrangle _____ Ft. _____ of _____ of _____ and _____												
CONTRACTOR	TOP CONTRACTOR ADDRESS		Drilled from _____ Ft. to _____ Ft.										
	CONTRACTOR ADDRESS		Type of Rig										
	DRILLING CONTRACTOR ADDRESS		Drilled from _____ Ft. to _____ Ft.										
Type of Rig													
COMMENCED (DATE) <b>Perf. 4/25/62</b>		COMPLETED (DATE) <b>Perf. 4/25/62</b>		COMPLETED TOTAL DEPTH <b>1861 ft.</b>	DATE PURCHASED	FOR. WELL NO.							
HOLE SIZE	BIT GAUGE (INCHES) FROM-TO (FEET)												
CASING AND TUBING	SIZE (O.D.)	<b>10-3/4"</b>	<b>8-5/8"</b>	<b>5-1/2"</b>									
	WEIGHT/FOOT	<b>32#</b>	<b>24#</b>	<b>17#</b>									
	STEEL GRADE	<b>J</b>	<b>J</b>	<b>J</b>									
(All Measurements less threads)	COUPLING TYPE	<b>Short</b>	<b>Short</b>	<b>Short</b>									
	SETTING DEPTH	<b>219'</b>	<b>605'</b>	<b>1600'</b>									
	LEFT IN HOLE	<b>219'</b>	<b>905'</b>	<b>1600'</b>									
CEMENT	NO. OF SACKS	<b>160</b>	<b>200</b>	<b>400</b>									
	TYPE	<b>I-8</b>	<b>I-8</b>	<b>I-8</b>									
PACKFR	WEIGHT #/GAL.	<b>15.2</b>	<b>15.2</b>	<b>15.5</b>									
	MANUFACTURER	<b>Original</b>	<b>Original</b>	<b>Original</b>									
	TYPE	<b>Record</b>	<b>Record</b>	<b>Record</b>									
WELL STIMULATION	TREATMENT TYPE *	SIZE AND/OR AMOUNT		ZONE TREATED	OPEN FLOW MCF/DAY	PERFORMED BY							
				From to	Before After								
				From to	Before After								
OPEN FLOW TEST	DATE GAUGED	FORMATION	PAY ZONE	TYPE GAUGE (SPECIFY)	PRESSURE (SPECIFY UNITS)	SIZE OPENING-IN.	OPEN FLOW M.C.F./DAY	W.S. BLOWN					
	<b>4 24 62</b>	<b>Big Injun</b>	From <b>1861'</b> to	<b>Pitot Tube</b>	<b>Mercury 2.5"</b>	<b>1 1/2"</b>	<b>3,025H</b>	<b>1/4 Min.</b>					
	<b>4 30 62</b>	<b>Maxton &amp; Big Injun</b>	From <b>1474'</b> to <b>1507'</b>	<b>Pitot Tube</b>	<b>Mercury 1.2"</b>	<b>1 1/2"</b>	<b>2,110H</b>	<b>1/2 Hr.</b>					
WELLHEAD PRESSURE TESTS	DATE TAKEN	FORMATION	MINUTE PRESSURE - PSIG					WELLHEAD PRESSURE - PSIG					
			1	3	5	10	20	30	24 HR.	48 HR.	72 HR.	MAX. PRESS.	TIME
	<b>4 25 62</b>	<b>Big Injun</b>	<b>(None Taken)</b>					<b>380</b>					
MISC.	DEPTH MEASUREMENT TAKEN FROM: <input type="checkbox"/> Derrick Floor <input type="checkbox"/> Ground Other (Specify) <b>Top Concrete Block</b>				DIST. TO GROUND	ELEVATION							
	LOGGED <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				LOGGED BY (COMPANY) <b>Schlumberger Well Survey Corp.</b>		DATE LOGGED <b>4 25 62</b>						
REMARKS	* Note: Form PD-17 "Well Fracture Report" to be completed and attached, if applicable												
	<b>Schlumberger Well Survey Corp. perforated Maxton Sand 1474' to 1507', 3-5/8" Cap. and Crack Jets, 1/4 Shots per foot, from 1474' to 1493', 3-1/2" steel carrier jets, 1493 to 1507', 1/4 Shots per foot.</b>												
	<b>This well reconditioned for Storage on W.O. 1751-L-1339-4, no changes made in the material installed on this order.</b>												
Plug Down Pressure						Cement Return							
10"		8"		5"		10"		8"		5"			
100#		650#		750#		Yes		Yes		Yes			

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WV Department of Environmental Protection

Attach additional sheets and forward to Production Dept. Pittsburgh General Office

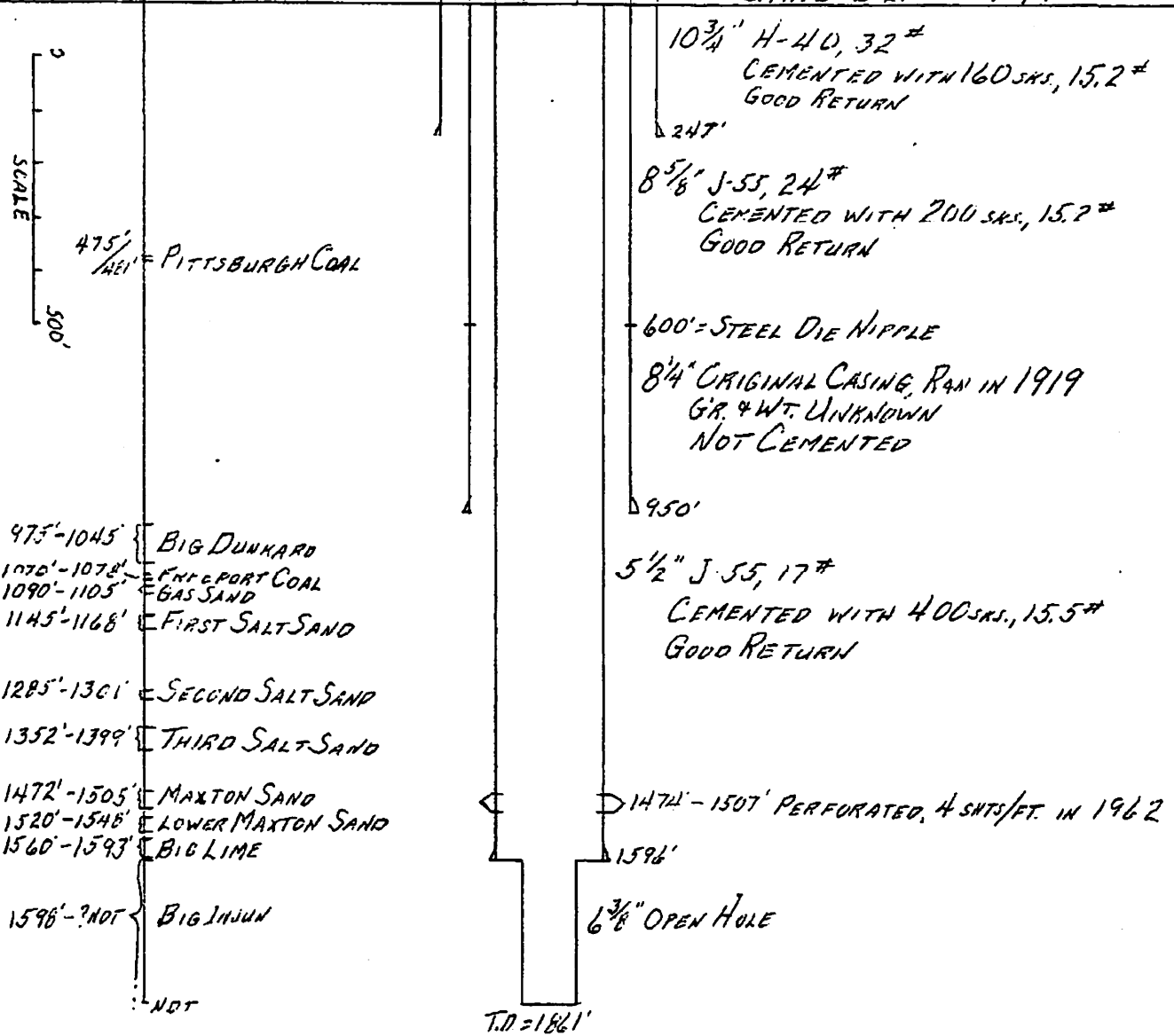
Verified by Charles T. [Signature]  
DIVISION ENGINEER

Approved by [Signature]  
DIVISION SUPERINTENDENT

VICTORY B STORAGE FIELD WELL 2345 MARS-322-D

WELL STATUS: ACTIVE

GRND. ELEV. = 799'



DRILLED DEEPER AND RECONDITIONED FOR STORAGE IN 1958.

MAXTON SAND PERFORATED 1474'-1507' IN 1962

STORAGE FORMATIONS: MAXTON AND BIG INJUN SANDS

CHN FLOW: 1,830 McFD DATE: 3-15-67

SEE OTHER SIDE FOR LOGGING HISTORY

DRAWN BY: DR DATE: 1985

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WV Department of  
Environmental Protection

Company

2345

Division Cameron

248 Fourth Ave., Pittsburgh, Pa.

Record of Well No. 2345 on

J. M. E. Gray

Farm

Acres

Cameron Field

Liberty

Marshall County

St. J. State

Rig Commenced

Nov. 15

1918

Completed

Nov. 25

1918

Drilling Commenced

Dec. 28

1918

Completed

Jan. 27

1919

Cost per foot 7.22

Contractor

237

Address

St. J.

Drillers' Names

BOILER			ENGINE			RIG			
H. P.	No.	Name of Maker	H. P.	No.	Name of Maker	New	Old	Height	Name of Builder
						yes		82	Beaboute

CONDUCTOR AND CASING USED IN DRILLING										
Conductor	13 inch	10 inch	8 1/4 inch	6 3/4 inch	6 1/4 inch	5 1/2 inch	5 ft inch	5 inch	4 inch	
15		230	9		7					

CONDUCTOR AND CASING LEFT IN WELL										
Conductor	13 inch	10 inch	8 1/4 inch	6 3/4 inch	6 1/4 inch	5 1/2 inch	5 ft inch	5 inch	4 inch	3 inch
16										

OIL WELL					GAS WELL					
When Drat	Size of Torpedo	1st Day's Production	Tubing	Grade	Time	Size of Packer	Depth Set	Packed with	1st Minute Pressure	Back Pressure

FORMATION	Top	Bottom	Thickness	REMARKS
Lime & shale to	0	23	23	
Lime & shale to	23	27	4	
Lime & shale to	27	30	3	
shale to	30	31	1	
Lime & shale to	31	32	1	
shale to	32	33	1	
shale to	33	34	1	
shale to	34	35	1	
shale to	35	36	1	
shale to	36	37	1	
shale to	37	38	1	
shale to	38	39	1	
shale to	39	40	1	
shale to	40	41	1	
shale to	41	42	1	
shale to	42	43	1	
shale to	43	44	1	
shale to	44	45	1	
shale to	45	46	1	
shale to	46	47	1	
shale to	47	48	1	
shale to	48	49	1	
shale to	49	50	1	
shale to	50	51	1	
shale to	51	52	1	
shale to	52	53	1	
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shale to	55	56	1	
shale to	56	57	1	
shale to	57	58	1	
shale to	58	59	1	
shale to	59	60	1	
shale to	60	61	1	
shale to	61	62	1	
shale to	62	63	1	
shale to	63	64	1	
shale to	64	65	1	
shale to	65	66	1	
shale to	66	67	1	
shale to	67	68	1	
shale to	68	69	1	
shale to	69	70	1	
shale to	70	71	1	
shale to	71	72	1	
shale to	72	73	1	
shale to	73	74	1	
shale to	74	75	1	
shale to	75	76	1	
shale to	76	77	1	
shale to	77	78	1	
shale to	78	79	1	
shale to	79	80	1	
shale to	80	81	1	
shale to	81	82	1	
shale to	82	83	1	
shale to	83	84	1	
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shale to	85	86	1	
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shale to	88	89	1	
shale to	89	90	1	
shale to	90	91	1	
shale to	91	92	1	
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shale to	95	96	1	
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shale to	98	99	1	
shale to	99	100	1	
shale to	100	101	1	
shale to	101	102	1	
shale to	102	103	1	
shale to	103	104	1	
shale to	104	105	1	
shale to	105	106	1	
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shale to	109	110	1	
shale to	110	111	1	
shale to	111	112	1	
shale to	112	113	1	
shale to	113	114	1	
shale to	114	115	1	
shale to	115	116	1	
shale to	116	117	1	
shale to	117	118	1	
shale to	118	119	1	
shale to	119	120	1	
shale to	120	121	1	
shale to	121	122	1	
shale to	122	123	1	
shale to	123	124	1	
shale to	124	125	1	
shale to	125	126	1	
shale to	126	127	1	
shale to	127	128	1	
shale to	128	129	1	
shale to	129	130	1	
shale to	130	131	1	
shale to	131	132	1	
shale to	132	133	1	
shale to	133	134	1	
shale to	134	135	1	
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shale to	137	138	1	
shale to	138	139	1	
shale to	139	140	1	
shale to	140	141	1	
shale to	141	142	1	
shale to	142	143	1	
shale to	143	144	1	
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shale to	145	146	1	
shale to	146	147	1	
shale to	147	148	1	
shale to	148	149	1	
shale to	149	150	1	
shale to	150	151	1	
shale to	151	152	1	
shale to	152	153	1	
shale to	153	154	1	
shale to	154	155	1	
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shale to	156	157	1	
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shale to	163	164	1	
shale to	164	165	1	
shale to	165	166	1	
shale to	166	167	1	
shale to	167	168	1	
shale to	168	169	1	
shale to	169	170	1	
shale to	170	171	1	
shale to	171	172	1	
shale to	172	173	1	
shale to	173	174	1	
shale to	174	175	1	
shale to	175	176	1	
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shale to	177	178	1	
shale to	178	179	1	
shale to	179	180	1	
shale to	180	181	1	
shale to	181	182	1	
shale to	182	183	1	
shale to	183	184	1	
shale to	184	185	1	
shale to	185	186	1	
shale to	186	187	1	
shale to	187	188	1	
shale to	188	189	1	
shale to	189	190	1	
shale to	190	191	1	
shale to	191	192	1	
shale to	192	193	1	
shale to	193	194	1	
shale to	194	195	1	
shale to	195	196	1	
shale to	196	197	1	
shale to	197	198	1	
shale to	198	199	1	
shale to	199	200	1	

Jan. 27 1919 well shut in  
 in the 678 casing,  
 made with spring gages,  
 55 - 100 - 130 - 145 - 160  
 open flow test: 26/10 water  
 in 678 casing

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 WV Department of  
 Environmental Protection

Examined above information and measurements and found to be correct by  
 Contractor  
 Examined and approved by  
 Superintendent of Co.  
 NOTE: The above blank must be filled out carefully by the Contractor, with a complete and accurate record of the Well, and accompany, when presented for payment  
 the bill for drilling.  
 All formations and known sands must be given by their proper name, with steel line measurements, and under the head of "Remarks" must be recorded in what sand and  
 at what depth Oil, Gas or Water was found, the quantity of same, the quality of the sand, and thickness of pay.  
 Make no memoranda of boiler and engine if owned by contractor.



STATE OF WEST VIRGINIA  
DEPARTMENT OF MINES  
OIL AND GAS DIVISION

47-051-00322W  
2345

Quadrangle Cameron

WELL RECORD

Permit No. MARS-322-D

Oil or Gas Well GAS  
(KIND)

Company <u>The Manufacturers Light and Heat Company</u>	Casing and Tubing	Used in Drilling	Left in Well	Packers
Address <u>800 Union Trust Building, Pgh. 19, Penna.</u>	Size			Kind of Packer
Farm <u>Jason Gray</u> Acres <u>71</u>	16			
Location (waters)	13			
Well No. <u>2345</u> Elev. <u>868'</u>	10"	<u>249</u>	<u>249</u>	Size of
District <u>Liberty</u> County <u>Marshall</u>	8 1/4"	<u>605</u>	<u>955</u>	Depth set
The surface of tract is owned in fee by	6"			
Address	5 3/16"	<u>1612</u>	<u>1612</u>	Perf. top
Mineral rights are owned by	8			Perf. bottom
Address	2			Perf. top
Drilling commenced <u>January 29, 1958</u>	Liners Used			Perf. bottom
Drilling completed <u>May 15, 1958</u>				
Date Shot From To				
With				
Open Flow /10ths Water in _____ Inch				
/10ths Merc. in _____ Inch				
Volume <u>86 13,693</u> Cu. Ft.				
Rock Pressure <u>26</u> lbs. <u>72</u> hrs.				
Oil _____ bbls., 1st 24 hrs.				
Fresh water _____ feet				
Salt water _____ feet				

CASING CEMENTED \_\_\_\_\_ SIZE \_\_\_\_\_ No. Ft. \_\_\_\_\_ Date \_\_\_\_\_  
COAL WAS ENCOUNTERED AT \_\_\_\_\_ FEET \_\_\_\_\_ INCHES  
\_\_\_\_\_ FEET \_\_\_\_\_ INCHES \_\_\_\_\_ FEET \_\_\_\_\_ INCHES  
\_\_\_\_\_ FEET \_\_\_\_\_ INCHES \_\_\_\_\_ FEET \_\_\_\_\_ INCHES

Formation	Color	THICKNESS	Top	Bottom	Oil, Gas or Water	Depth Found	Remarks
Schamberger Well Survey							
Pittsburgh Coal		5	478	483			All Casing Measured over Threads Run 249' of 10-3/4" Casing, Sals. H. 32# on a Steel Shoe. Cemented with 160 bags Cement, 15.2 lbs. per gallon. Good Cement return at surface. Run 605' of 8-5/8" Casing, Sals. J 8 1/4# and connected it to 350' of original 8-1/4" Casing with a Steel Dis Nipple. Cemented with 200 bags of Cement, 15.2 lbs. per gallon. Good Return of Cement at the surface. Run 1612' of 5-1/2" Casing, Sals. J 17# on a Steel Shoe set at 1600'. Six 5/1 1/2" x 8-5/8" Centralizers were spaced at following Depths. 220-440-660-880-1100 and 1320'. Cemented with 400 Bags Ceman 15.5 lbs. per gallon. Good return of Cement at the surface. Drilled Injun Sand down from 1717' to 1861' total depth.
Little Lime		8	1523	1531			
Pencil Cave		30	1531	1561			
Big Lime			1561				
Big Injun Sand				1861			
Total Depth				1861			
5-1/2" Shoe Set at				1600			

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WV Department of  
Environmental Protection

Division Four

Record of well No. 2345 on Jason Gray Farm 71 Acres  
Cameron Field Liberty <sup>Marshall</sup> District Marshall County W. Va. State  
 Rig Commenced 19 Completed 19  
 Drilling Commenced Jan. 29 1958 Completed May 15 1958  
 Contractor A. G. Isiminger Address Cameron, West Virginia  
 Driller's Name A. G. Isiminger and Edison Isiminger

CASING AND TUBING RECORD

	Conductor	13"	10"	8 1/4"	7"	6 5/8"	5 3/16"	4"	3"	
Used in Dril.			<u>249</u>	<u>605</u>			<u>1612</u>			
Left in well			<u>249</u>	<u>955</u>			<u>1612</u>			

PACKER RECORD

SHOOTING RECORD

Shot	Depth Set	Type Packer	Date	Type Explosive	Amount	DEPTH		Volume Before Cu. Ft.	Volume After Cu. Ft.
						Top	Bottom		

VOLUME AND PRESSURE

Date	Reading in Inches	Liquid	Size Orifice	Volume	Sand	PRESSURE IN MIN.					24 Hour R. P.	Max. R. P.	Hours
						1	5	10	30	60			
<u>5-16-58</u>	<u>20/10</u>	<u>Water</u>	<u>5/8"</u>	<u>13,693</u>	<u>Big Injun</u>	<u>1</u>	<u>5</u>					<u>26</u>	<u>72</u>

TOTAL INITIAL OPEN FLOW 13,693

CUBIC FEET PER 24 HOURS

FORMATION	TOP	BOTTOM	THICKNESS	REMARKS
<u>Schlumberger Well Survey</u>				<u>All Casing Measured over Threads</u>
<u>Pittsburgh Coal</u>	<u>478</u>	<u>483</u>	<u>5</u>	<u>Run 249' of 10-3/4" casing, Sals. H 32# on a</u>
<u>Little Lime</u>	<u>1523</u>	<u>1531</u>	<u>8</u>	<u>Steel Shoe. Cemented with 160 Bags Cement, 15.2</u>
<u>Pencil Cave</u>	<u>1531</u>	<u>1561</u>	<u>30</u>	<u>lbs. per gallon. Good Cement Return at Surface.</u>
<u>Big Lime</u>	<u>1561</u>			<u>Run 605' of 8-5/8" casing, Sals. J 24# and</u>
<u>Big Injun Sand</u>		<u>1861</u>		<u>connected it to 350' of original 8-1/4" casing</u>
<u>Total Depth</u>		<u>1861</u>		<u>With a Steel Die Nipple, Cemented with 200 Bags</u>
<u>5-1/2" Shoe Set at</u>		<u>1600</u>		<u>of Cement, 15.2 lbs. per gallon. Good Return of</u>
				<u>Cement at the Surface. Run 1612' of 5-1/2"</u>
				<u>Casing, Sals. J 17# on a Steel Shoe set at</u>
				<u>1600'. Six 5-1/2" x 8-5/8" Centralizers were</u>
				<u>spaced at following depths, 220-440-660-880-</u>
				<u>1100 and 1320'. Cemented with 400 Bags Cement</u>
				<u>15.5 lbs. per gallon. Good Return of Cement at</u>
				<u>the surface.</u>
				<u>Drilled Injun Sand down from 1717' to 1861'</u>
				<u>total Depth.</u>

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MAY 27 1958  
Production

Examined above information and measurements and found to be correct by

Examined and Approved by

A. G. Isiminger Contractor

[Signature] Division Superintendent

NOTE—The above blank must be filled out carefully by the contractor, with a complete and accurate record of the well, and accompany, when presented for payment of the bill for drilling. All formations and known sands must be given by their proper name, with steel line measurements, and under the head of "Remarks" must be recorded in what sand and at what depth Oil, Gas or water was found, the quantity of same, the quality of the sand, and thickness of pay.



WW-2A  
(Rev. 6-14)

1). Date: 6/5/2018  
2.) Operator's Well Number Victory B 2345  
State 47- County 051 Permit 00322  
3.) API Well No.: 47- 051 - 00322

**STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
NOTICE AND APPLICATION FOR A WELL WORK PERMIT**

4) Surface Owner(s) to be served:  
(a) Name Mason Dixon Farms LLC  
Address PO Box 360911  
Melbourne, FL 32936  
(b) Name ~~Jeremiah & Andrea Magers~~  
Address ~~145 Millers Cove Ln~~  
~~Cameron, WV 26033~~  
(c) Name ~~Rodney Wallace~~  
Address ~~1066 Fork Ridge Rd~~  
~~Moundsville, WV 26041~~  
6) Inspector James Nicholson  
Address PO Box 44  
Moundsville, WV 26041  
Telephone 304-552-3874

5) (a) Coal Operator  
Name McELROY COAL COMPANY  
Address 1000 Consol Energy Dr  
Canonsburg, PA 15317  
(b) Coal Owner(s) with Declaration  
Name Consolidated Coal  
Address 1000 Consol Energy Dr  
Canonsburg, PA 15317  
(c) Coal Lessee with Declaration  
Name McElroy Coal Company  
Address 1000 Consol Energy Dr  
Canonsburg, PA 15317

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Environmental Protection

**TO THE PERSONS NAMED ABOVE TAKE NOTICE THAT:**

Included is the lease or leases or other continuing contract or contracts by which I hold the right to extract oil and gas

OR

Included is the information required by Chapter 22, Article 6, Section 8(d) of the Code of West Virginia (see page 2)

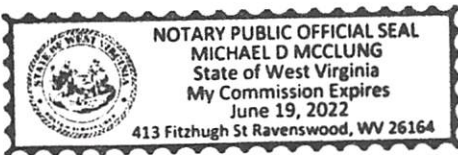
I certify that as required under Chapter 22-6 of the West Virginia Code I have served copies of this notice and application, a location plat, and accompanying documents pages 1 through \_\_\_ on the above named parties by:

- Personal Service (Affidavit attached)
- Certified Mail (Postmarked postal receipt attached)
- Publication (Notice of Publication attached)

I have read and understand Chapter 22-6 and 35 CSR 4, and I agree to the terms and conditions of any permit issued under this application.

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, 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 and imprisonment.



Well Operator Columbia Gas Transmission, LLC  
By: James E. Amos  
Its: Senior Engineer  
Address: 48 Columbia Gas Rd  
Sandville, WV 25275  
Telephone: 304-373-2412  
Email: james\_amos@transcanada.com

Subscribed and sworn before me this 13th day of July, 00322 2018

Notary Public

My Commission Expires 6/19/2022

Oil and Gas Privacy Notice

WW-2A1  
(Rev. 1/11)

Operator's Well Number Victory B 2345

**INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE  
Chapter 22, Article 6, Section 8(d)  
IN LIEU OF FILING LEASE(S) AND OTHER CONTINUING CONTRACT(S)**

Under the oath required to make the verification on page 1 of this Notice and Application, I depose and say that I am the person who signed the Notice and Application for the Applicant, and that –

- (1) the tract of land is the same tract described in this Application, partly or wholly depicted in the accompanying plat, and described in the Construction and Reclamation Plan;
- (2) the parties and recordation data (if recorded) for lease(s) or other continuing contract(s) by which the Applicant claims the right to extract, produce or market the oil or gas are as follows:

Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
Robert C. Hinkle, et al	Columbia Gas Transmission, LLC	Storage Lease 3002262-000	515 / 597

**Acknowledgement of Possible Permitting/Approval  
In Addition to the Office of Oil and Gas**

The permit applicant for the proposed well work addressed in this application hereby acknowledges the possibility of the need for permits and/or approvals from local, state, or federal entities in addition to the DEP, Office of Oil and Gas, including but not limited to the following:

- WV Division of Water and Waste Management
- WV Division of Natural Resources
- WV Division of Highways
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- County Floodplain Coordinator

The applicant further acknowledges that any Office of Oil and Gas permit in no way overrides, replaces, or nullifies the need for other permits/approvals that may be necessary and further affirms that all needed permits/approvals should be acquired from the appropriate authority before the affected activity is initiated.

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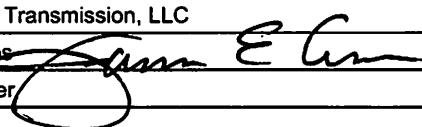
JUL 30 2018

WV Department of  
Environmental Protection

Well Operator:  
By: Its:

Columbia Gas Transmission, LLC

James E. Amos  
Senior Engineer



WW-9  
(5/16)

API Number 47 - 051 - 00322  
Operator's Well No. Victory B 2345

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

Operator Name Columbia Gas Transmission, LLC OP Code 307032

Watershed (HUC 10) Fish Creek Quadrangle Cameron, WV

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.? \_\_\_\_\_

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Proposed Disposal Method For Treated Pit Wastes:

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- Land Application (if selected provide a completed form WW-9-GPP)
- Underground Injection ( UIC Permit Number 34-119-28776, 34-167-23862)
- Reuse (at API Number \_\_\_\_\_)
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain Appalachian Water Services, Masontown, PA (permit 2608201))

WV Department of  
Environmental Protection

Will closed loop system be used? If so, describe: yes - steel piping connecting wellhead and tank(s)

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. N/A - no drilling planned

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

Additives to be used in drilling medium? No drilling planned; fresh water, polymer, starch, LCM, surfactant, HCl acid, iron control (for clean-out and stimulation)

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. N/A - no drilling planned

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

-Landfill or offsite name/permit number? if needed: Rumpke Beech Hollow Landfill - Wellston, OH

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 *James E. Amos*  
Company Official (Typed Name) James E. Amos  
Company Official Title Senior Well Services Engineer

Subscribed and sworn before me this 13th day of July, 2018  
*Michael D. McClung* Notary Public  
My commission expires 6/19/2022





Proposed Revegetation Treatment: Acres Disturbed < 1.0 Prevegetation pH 6

Lime 2 Tons/acre or to correct to pH 7

Fertilizer type 10-10-10

Fertilizer amount 600 lbs/acre

Mulch straw @ 2 for permanent (@ 3 for temporary) Tons/acre

Seed Mixtures

**Temporary**

**Permanent**

Seed Type lbs/acre

Seed Type lbs/acre

Annual Rye @ 40

Orchard Grass and/or Tall Fescue @ 29

Birdsfoot Trefoil (empire) @ 9

Annual Rye @ 12

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: *Jim Vuleta*

Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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Title: *Oil & Gas Inspector* Date: *7/26/18*

Field Reviewed?  Yes  No

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

Operator Name: Columbia Gas Transmission, LLC

Watershed (HUC 10): Fish Creek Quad: Cameron, WV

Farm Name: Mason Dixon Farms, LLC (WV DEP records indicate Gray, Jason)

- 1. List the procedures used for the treatment and discharge of fluids. Include a list of all operations that could contaminate the groundwater.

No fertilizer will be stored on site. Small quantities of fuel, oil, and lubrications will be stored on site, but located within secondary containment.

Spills from construction equipment and well treatment fluids is the only source of contaminate to groundwater.

- 2. Describe procedures and equipment used to protect groundwater quality from the list of potential contaminant sources above.

All construction and well servicing equipment will be monitored and inspected daily for leaks. Fluid pumping well service equipment will have secondary containment under all leak paths. Spill kits will be on site.

- 3. List the closest water body, distance to closest water body, and distance from closest Well Head Protection Area to the discharge area.

No discharges planned. Fish Creek is approximately 410 ft to the SW.

PWSID WV9925016 ZPC Covestro (FKA Bayer Material) and PWSID WV3304803 ZPC Sisterville Municipal Water intersects protection area. Refer to enclosed SWAP Protection Area letter dated 2/16/18 from the Dept of Health and Human Resources.

- 4. Summarize all activities at your facility that are already regulated for groundwater protection.

N/A

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Environmental Protection

- 5. Discuss any existing groundwater quality data for your facility or an adjacent property.

N/A

6. Provide a statement that no waste material will be used for deicing or fill material on the property.

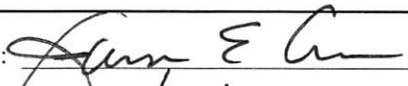
No waste material will be used for deicing or fill material on the property.

7. Describe the groundwater protection instruction and training to be provided to the employees. Job procedures shall provide direction on how to prevent groundwater contamination.

During routine tailgate meetings groundwater protection will be a topic of discussion.

8. Provide provisions and frequency for inspections of all GPP elements and equipment.

No fertilizer will be stored on site. Small quantities of fuel, oil, and lubrications will be stored on site, but located within secondary containment. Construction and well servicing equipment will be monitored and inspected daily for leaks or spill.

Signature: 

Date: 7/12/18

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STATE OF WEST VIRGINIA  
**DEPARTMENT OF HEALTH AND HUMAN RESOURCES**  
 Bureau for Public Health

Bill J. Crouch  
 Cabinet Secretary

Office of Environmental Health Services

Rahul Gupta, MD, MPH, MBA, FACP  
 Commissioner  
 State Health Officer

February 16, 2018

William Timmermeyer  
 TransCanada -Columbia Pipeline Group  
 1700 MacCorkle Ave., SE  
 Charleston, WV 25314

Re: WV DEP SWAP Info Request  
 Protection Areas for 8 wells  
 Randolph/Preston/Marshall Counties,

Dear Mr. Timmermeyer:

This is a response to the informational request dated February 15, 2018 concerning protection areas near eight wells.

Based on the current information, we have found the following:

Well	PA PWSID	PA Type	System Name	County	Note
Glady 7455	WV9942049	ZPC	USFS Middle Mountain Cabins HP	Randolph	Distance 1 mile, does not intersect any PA
Glady 7459					Out of WV State
Terra Alta South 7500	WV3303908	ZPC	Kingwood Water Board Primary	Preston	Intersects Protection Area
Victory B 2265	WV9925016	ZPC	Covestro (FKA Bayer Material)	Marshall	Intersects Protection Area
	WV3304803	ZPC	Sistersville Municipal Water	Marshall	Intersects Protection Area
Victory B 2345	WV9925016	ZPC	Covestro (FKA Bayer Material)	Marshall	Intersects Protection Area
	WV3304803	ZPC	Sistersville Municipal Water	Marshall	Intersects Protection Area
Victory B 2589	WV9925016	ZPC	Covestro (FKA Bayer Material)	Marshall	Intersects Protection Area
Victory B 3522	WV9925016	ZPC	Covestro (FKA Bayer Material)	Marshall	Intersects Protection Area
Victory B 4502	WV9925016	ZPC	Covestro (FKA Bayer Material)	Marshall	Distance 250 feet, does not intersect any PA

I hope the information provided helps you with the completion of your project. If you have any questions, please do not hesitate to contact me at (304) 356-4309.

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 Environmental Protection

Sincerely,

Lisa A. King, GIS Administrator  
 Source Water Assessment and Protection

CC: William J. Toome

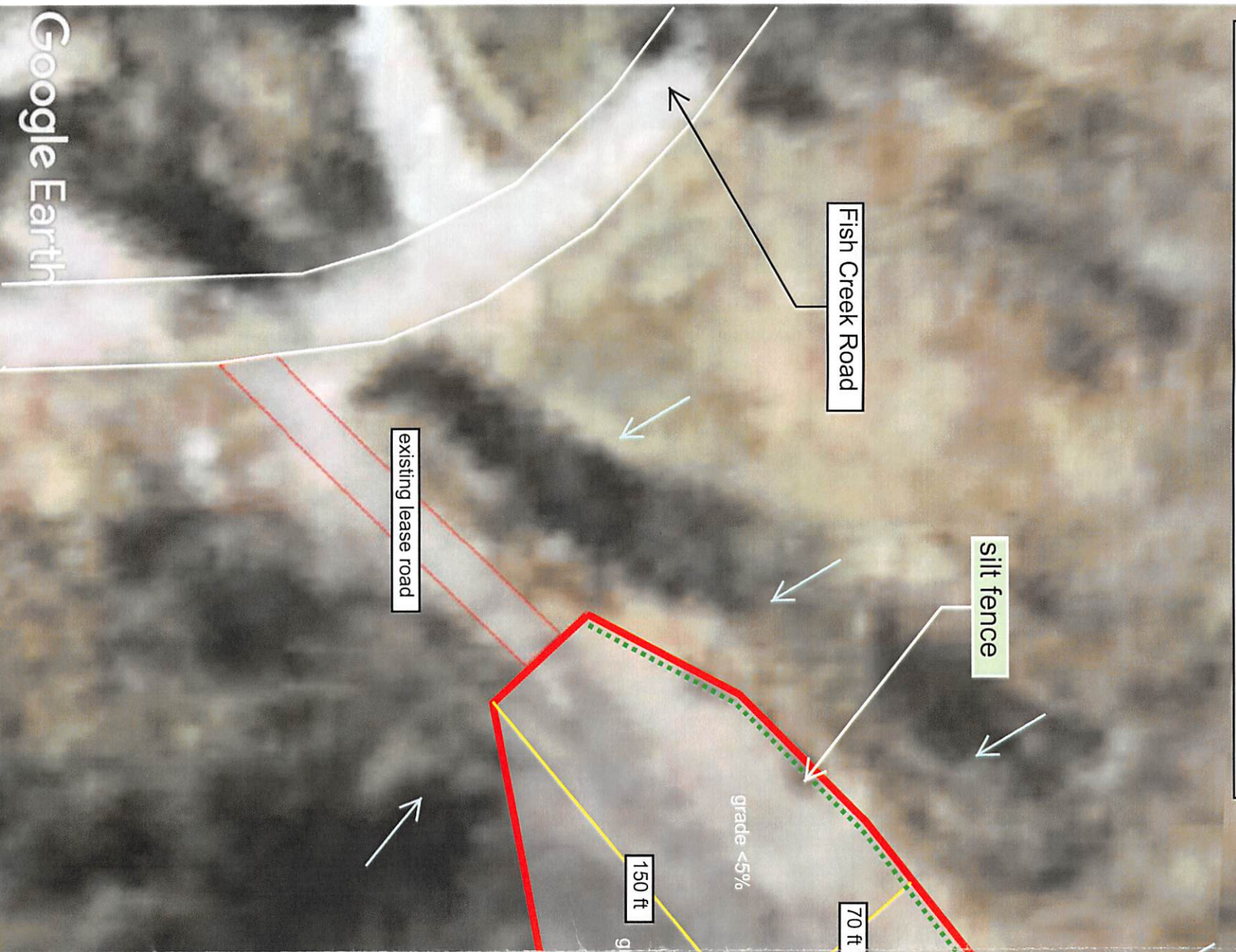


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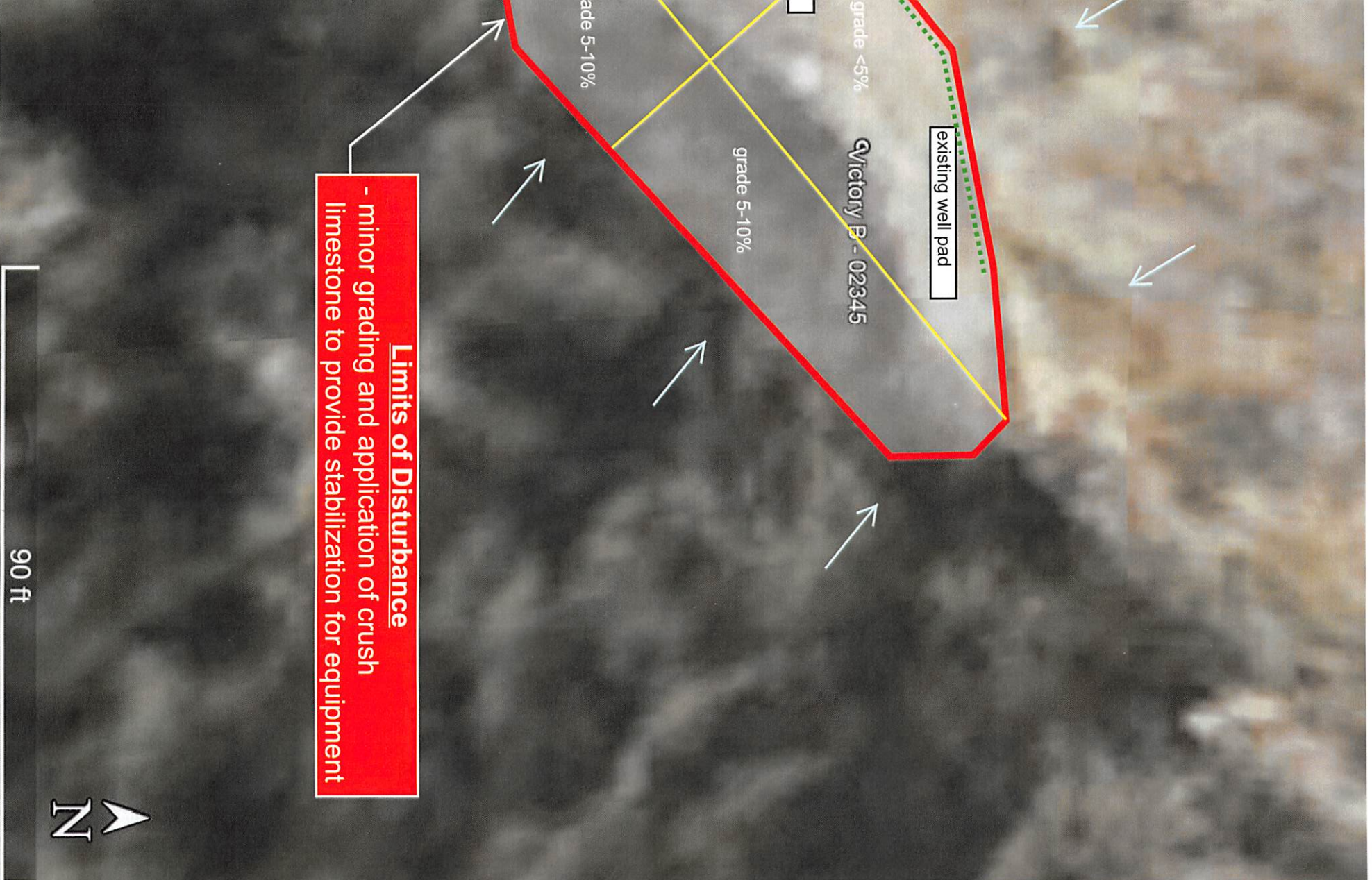
# WV DEP Reclamation Plan

Victory B well 2345

- Existing road surface and culverts to be maintained
- BMPs to be utilized per WV DEP guidelines

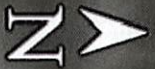






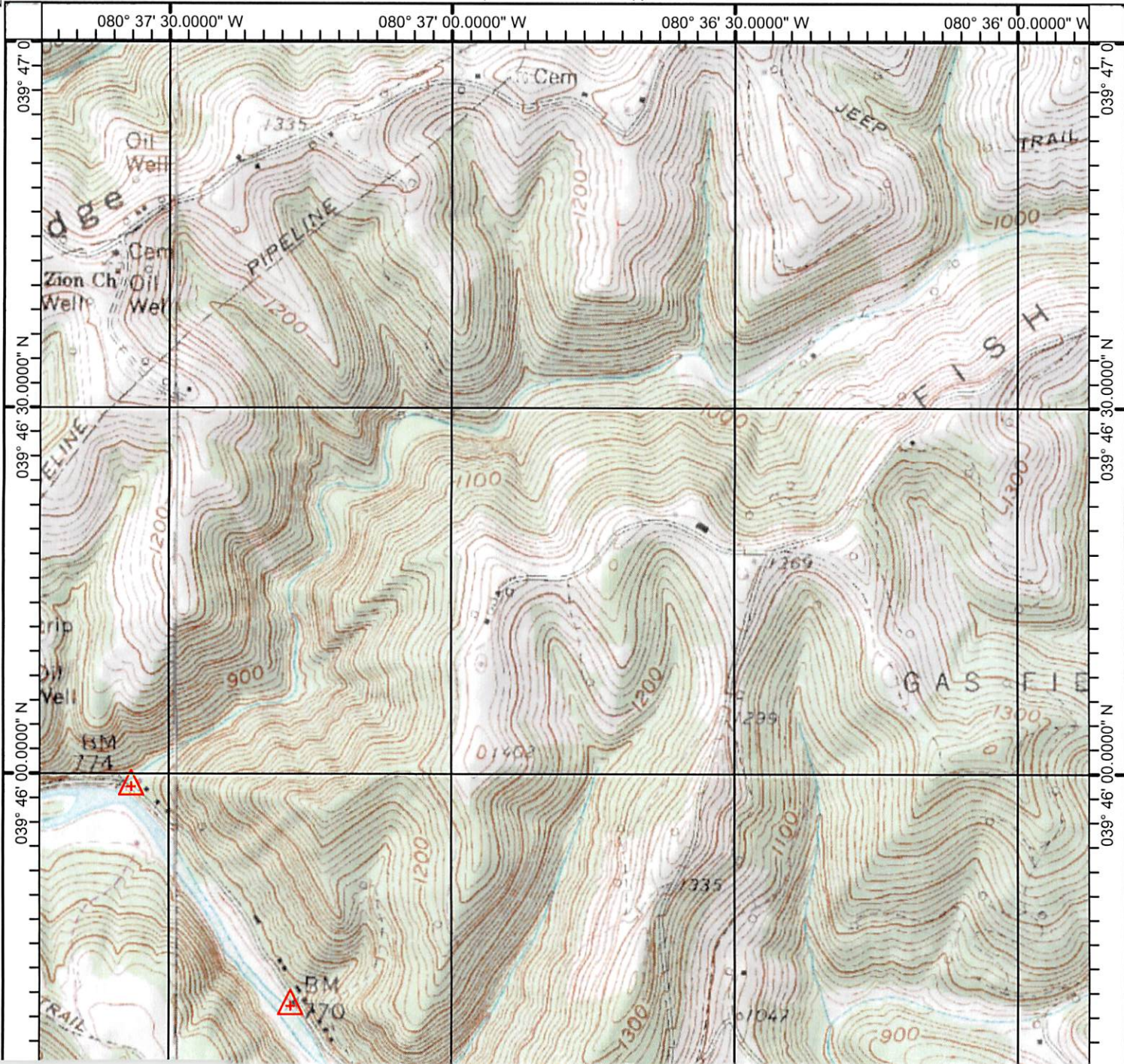
**Limits of Disturbance**  
- minor grading and application of crush limestone to provide stabilization for equipment

90 ft

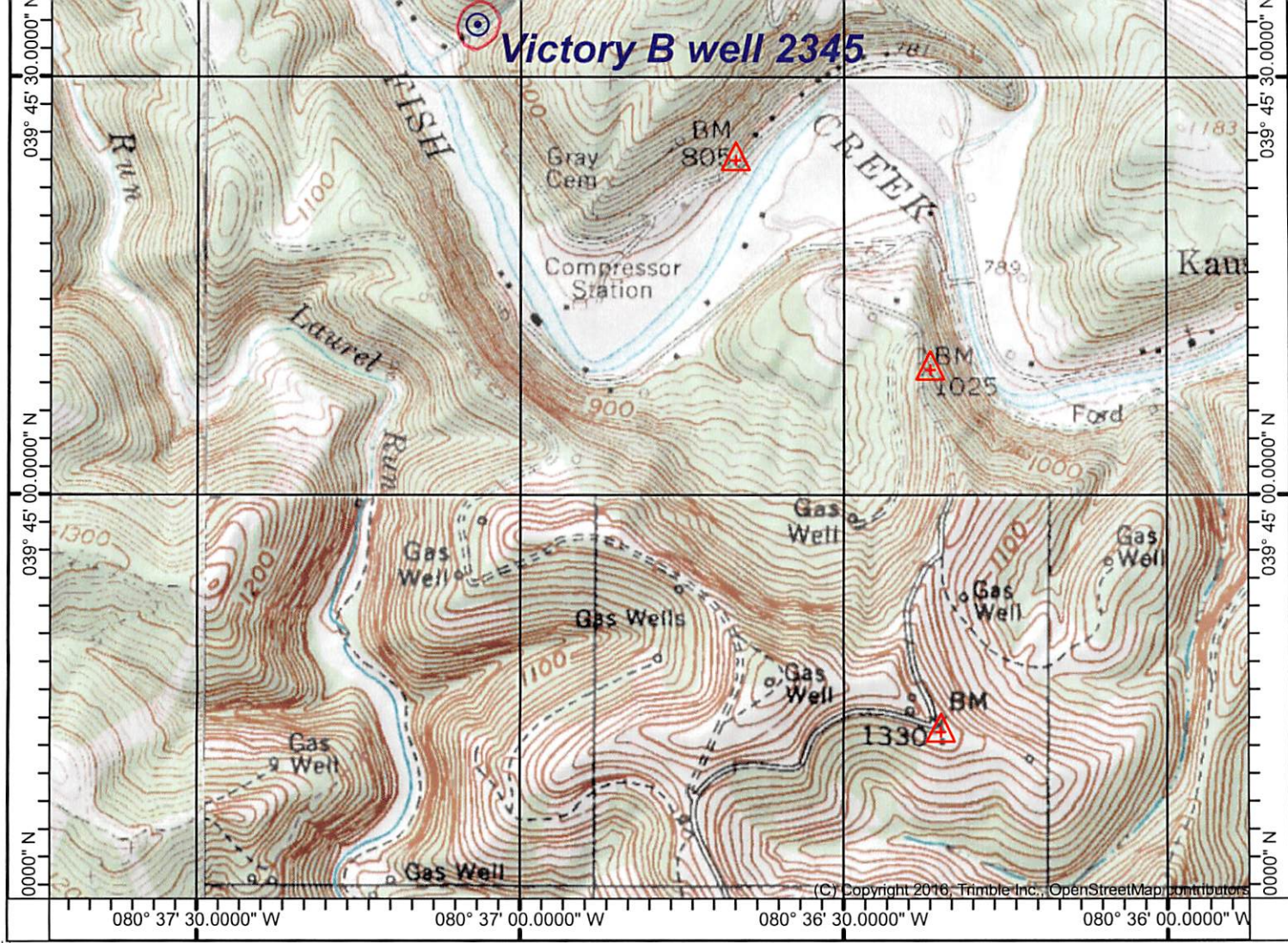




080° 37' 43.8211" W (Outdoor Contour Map) 080° 35' 52.0304" W  
039° 47' 00.1532" N 039° 47' 00.1532" N







**Victory B well 2345**

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Environmental Protection

039° 44' 30.6810" N 080° 37' 30.0000" W 080° 37' 00.0000" W 080° 36' 30.0000" W 080° 36' 00.0000" W 039° 45' 00.0000" N 039° 45' 30.0000" N

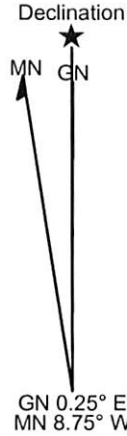
(Outdoor Contour Map)

(Outdoor Contour Map)

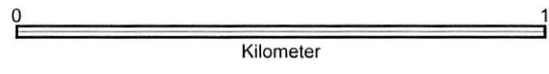
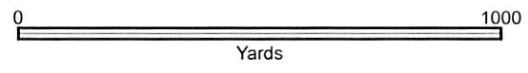
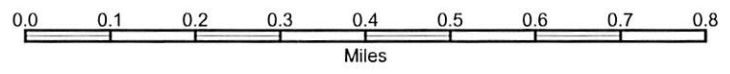
Produced by Trimble Terrain Navigator Pro  
Topography based on USGS variable Maps

North American 1983 Datum (NAD83)

To place on the predicted North American 1927 move the  
projection lines 9M N and 17M E



(Outdoor Contour Map)  
SCALE 1:14400



CONTOUR INTERVAL UNKNOWN FT

N/A  
CAMERON, WV  
UNKNOWN

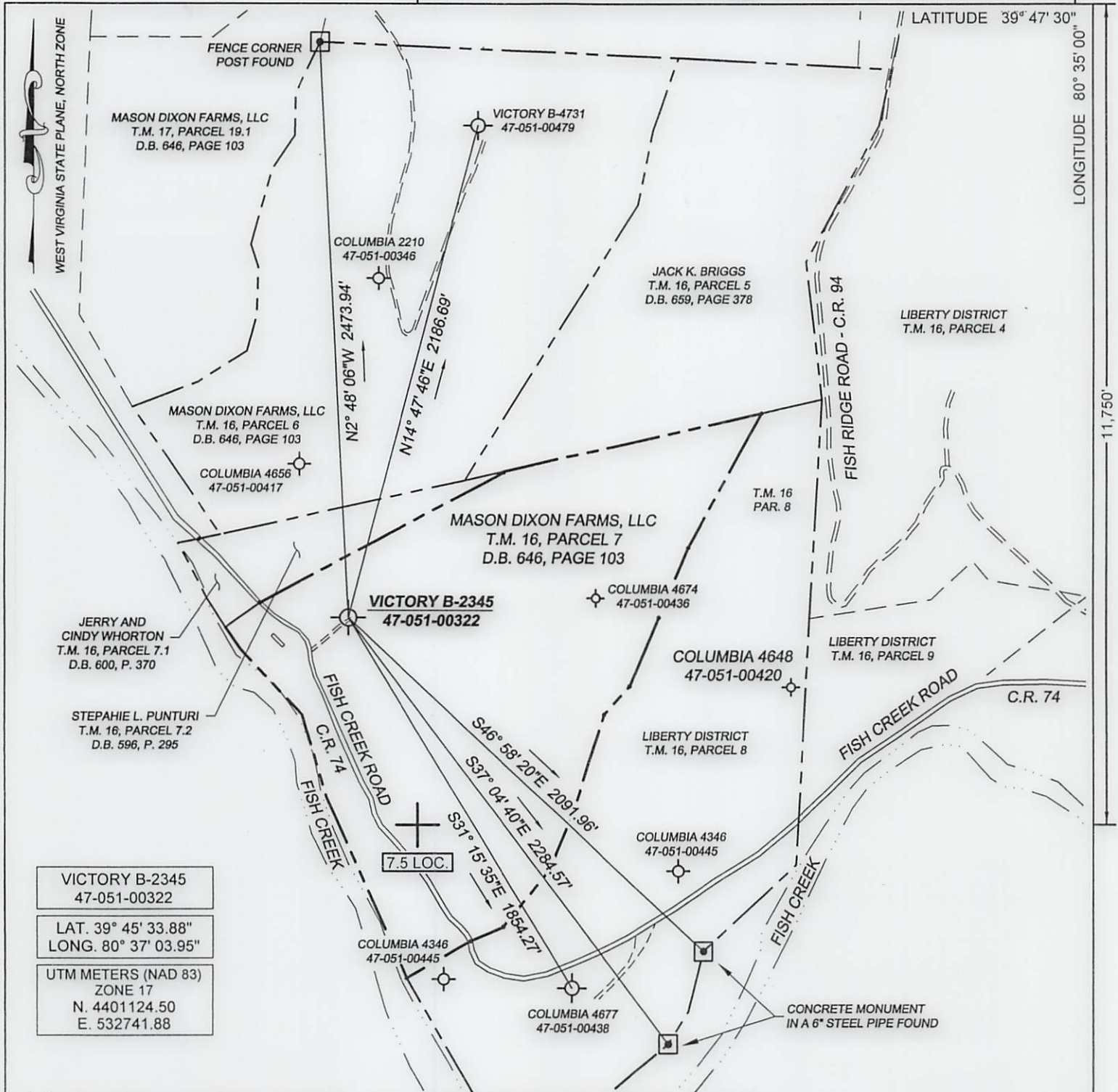
47-051-00322W



9680'

LATITUDE 39° 47' 30"

LONGITUDE 80° 35' 00"



VICTORY B-2345  
47-051-00322

LAT. 39° 45' 33.88"  
LONG. 80° 37' 03.95"

UTM METERS (NAD 83)  
ZONE 17  
N. 4401124.50  
E. 532741.88

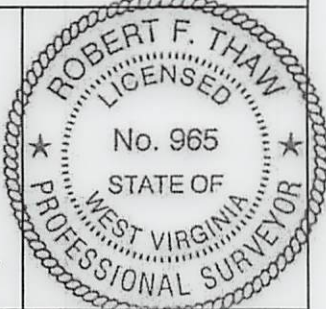
7.5 LOC.

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

FILE No 1701-2345-001-025  
DRAWING No. VICTORY B-2345  
SCALE 1"=600'  
MINIMUM DEGREE OF ACCURACY 1:200  
PROVEN SOURCE OF ELEVATION TRIMBLE R8-3  
GPS UNIT

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

(SIGNED) R. Thaw  
ROBERT F. THAW PS #965



STATE OF WEST VIRGINIA  
DIVISION OF ENVIRONMENTAL PROTECTION  
OFFICE OF OIL AND GAS  
NITRO, WV



DATE JANUARY 24 2018  
OPERATOR'S WELL No. 2345  
API WELL No. 47 051 - 00322W  
STATE COUNTY PERMIT

WELL TYPE: OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL   
(IF "GAS") PRODUCTION  STORAGE  DEEP  SHALLOW   
LOCATION: ELEVATION 798.3 WATER SHED FISH CREEK  
DISTRICT LIBERTY COUNTY MARSHALL  
QUADRANGLE CAMERON, WV  
SURFACE OWNER MASON DIXON FARMS, LLC ACREAGE 64.7+/-  
OIL & GAS ROYALTY OWNER JANET POCHAN, MOUNTAIN MINERALS, DAVY LOU ASHTON, WILLIAM HINKLE, ET AL  
LEASE ACREAGE 71 ACRES LEASE No. 3002262-000  
PROPOSED WORK: DRILL  CONVERT  DRILL DEEPER  REDRILL  FRACTURE OR STIMULATE  PLUG OFF OLD FORMATION  PERFORATE NEW FORMATION  OTHER PHYSICAL CHANGE IN WELL (SPECIFY) REWORK

PLUG AND ABANDON  CLEAN OUT AND REPLUG   
TARGET FORMATION BIG INJUN ESTIMATED DEPTH 1861  
WELL OPERATOR COLUMBIA GAS TRANSMISSION, LLC DESIGNATED AGENT PAUL AMICK  
ADDRESS PO BOX 1273, CHARLESTON, WV ADDRESS P.O. BOX 1273, CHARLESTON W.V.  
25325-1273 25325-1273

FORM IV-6 (8-78)