



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

Austin Caperton, Cabinet Secretary
www.dep.wv.gov

Wednesday, May 30, 2018
WELL WORK PLUGGING PERMIT
Vertical Re-Work

EQUITRANS, L. P.
625 LIBERTY AVE. SUITE 1700

PITTSBURGH, PA 15222

Re: Permit approval for CUNNINGHAM 8270
47-049-01939-00-00

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: CUNNINGHAM 8270
Farm Name: MARION COUNTY COMMIS₅
U.S. WELL NUMBER: 47-049-01939-00-00
Vertical Re-Work
Date Issued: 5/30/2018

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.

CONDITIONS

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 within 30 days of commencement of drilling.

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

1) Well Operator: Equitrans, L.P. 307652 Marion Mannington Glover Gap 7.5'
Operator ID County District Quadrangle

2) Operator's Well Number: Cunningham #8270 (608270) 3) Elevation: 1022'

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

5) Proposed Target Formation(s): Big Injun/Keener Proposed Target Depth: 2074'

6) Proposed Total Depth: 2074' Feet Formation at Proposed Total Depth: Big Injun/Keener

7) Approximate fresh water strata depths: 80'

8) Approximate salt water depths: 1220'

9) Approximate coal seam depths: 778'-788'

*SDW
4/26/2018*

10) Approximate void depths, (coal, Karst, other): None

11) Does land contain coal seams tributary to active mine? No

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

Set two composite bridge plugs below deformed 7" casing. Mandrel out deformed 7" production casing from 128' to 847' to original ID. Install casing patch from 45' to 885'. Perform Mechanical Integrity Test using nitrogen, pressuring up to 1.1 times the MAOP (1000psi) for 30 minutes. Drill out composite bridge plugs. Return well to service. Procedure and schematics attached.

13) **CASING AND TUBING PROGRAM**

TYPE	SPECIFICATIONS			FOOTAGE	INTERVALS	CEMENT
	<u>Size</u>	<u>Grade</u>	<u>Weight per ft</u>	<u>For Drilling</u>	<u>Left in Well</u>	<u>Fill -up (Cu. Ft.)</u>
Conductor						
Fresh Water						
Coal			SEE ATTACHED			
Intermediate						
Production						
Tubing						
Liners						

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Packers: Kind: _____
 Sizes: _____
 Depths Set _____

Casing Information for Well 8270

Type	OD Size, In	WT/FT, Grade, New or Used	Depth
Conductor	13 3/8	37# LS New	40' MD
Surface / Fresh Water	9 5/8	32.3# H-40, New	860' MD
Intermediate	7	20# J-55, New	2430' MD, 2103' TVD
Production	N/A	Open Hole	4430' MD, 2074' TVD

Cement Information

Casing Size, In	Hole Size, In	Sacks	Class	Yield	Weight	Additives
13 3/8	17 1/2	NA - Drive Pipe		cu. ft.	ppg	
9 5/8	12 1/4	256 sks	Class A	1.162	15.8	
7	8 3/4	342 sks	Class A	1.18	15.6	
N/A	6 1/4	NA - Open Hole				

Blow - Out Prevention Information

Brand	Type	Working Pressure	Test Pressure
Hydril	Annular	3000#	1000#

049-01939-1

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Logansport-8270 Casing Patch Procedure
SITE PREPARATION
Field reconnaissance
Upgrade existing well site to accommodate service rig and ancillary equipment if necessary
Install all necessary erosion control measures spelled out in approved Erosion and Sedimentation Plan
Get approval to shut well in from operations and Gas Control
FIELD WORK
All lock out, tag out and well entry standard operating procedures are to be followed/ATTACHED
Operations will shut in and lock out, tag out all valves per company standard operating procedures
Blow down all lines back to "C" valve, confirm positive shut off
Move in rig up wire line equipment
Install pressure control on well head
Make up, pick up gauge ring, gamma ray and collar locator logging tools
Trip in hole below plug setting depths
Pull out of hole logging tools, Lay down break out logging tools.
Make up, pick up plug setting tools with composite bridge plug
Set back on well head, pressure test tools
Trip in hole to plug setting depth, set composite bridge plug
Pull out of hole plug setting tools, Lay down, break out tools.
Repeat if second barrier is to be a composite bridge plug
Bleed casing pressure down to zero (0) well head pressure
Remove well run and well head, 2 inch taped flange on "C" valve
Clean up and grease all well head equipment removed
Rig down, move off wireline equipment.
Move in, rig up double derrick service rig and all support equipment.
Pick up, make up, bottom hole assembly
Trip in hole to first obstruction, drive mandrel through obstruction
Continue process to top of plug.
Pull out of hole bottom hole assembly, Break out, lay down mandrel,
Continue mandrel process (with next larger size mandrel) until casing internal diameter is met.
Pull out of hole Bottom hole assembly, Break out and lay down Bottom hole assembly, including drill collars.
Move in rig up casing patch contractor
Pick up, make up gauge mill, trip in hole to top of plug.
Pull out of hole, check mill for any wear
Break out, lay down mill
Pick up, make up casing patch, following manufactures instruction
Trip in hole to set point, set patch.
Pull out of hole patch swedge, lay down drill pipe, break out, lay down casing patch equipment
Rig down, move off casing patch contractor
Rig down move off service rig and support equipment
Move in, rig coil tubing rig and support equipment.
Rig up nitrogen truck to well head
Pressure well to 1.250 times the maximum allowable operating pressure for thirty (30) minutes.
Rig down nitrogen truck, assemble pressure control equipment on well head.
Make up bottom hole assembly, for coil tubing.
Trip in hole to first plug, start foam, drill out first composite bridge plug
Continue trip in hole to second composite bridge plug, drill out.
Drill out second composite bridge plug(should see field pressure)
Continue trip in hole to total depth of well, chasing junk(plug remains) to bottom
Pull out of hole with coil tubing and bottom hole assembly, drying hole on trip out.
Rig down, move off coil tubing and support equipment.
Assemble well head and run.
Return well to operation, per gas control.
Reclaim any disturbed areas
Seed, mulch and stone as necessary.

SOW
4/26/2018

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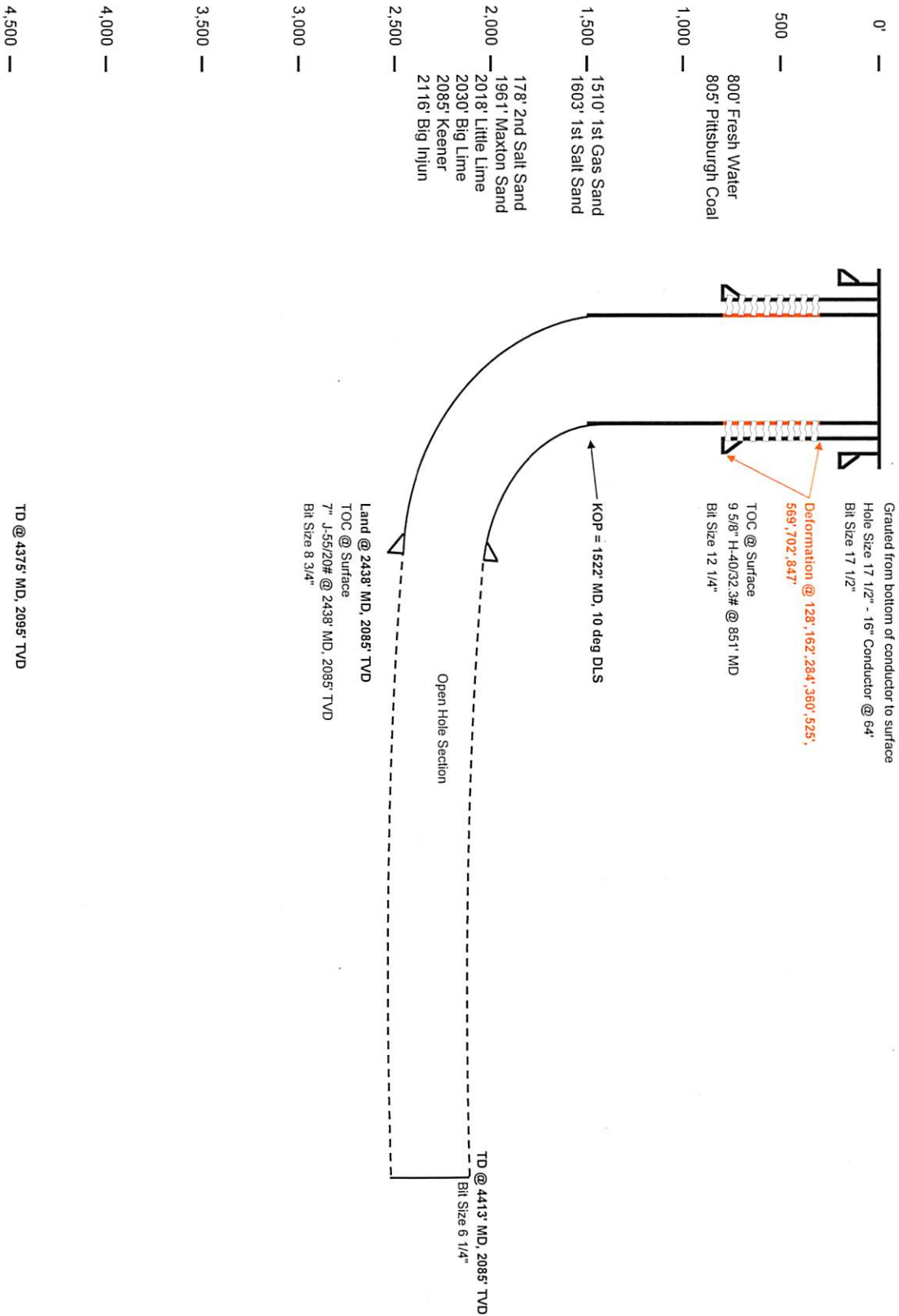
47-049-01939TW

Well Name # 8270
County Marion
State WV

Well Schematic
Equitable Resources
Logansport Storage Well LOG 8270

(Current)

Elevation GL: 1025'
Target Keener Sand
Prospect Logansport Storage



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47-049-01939TW

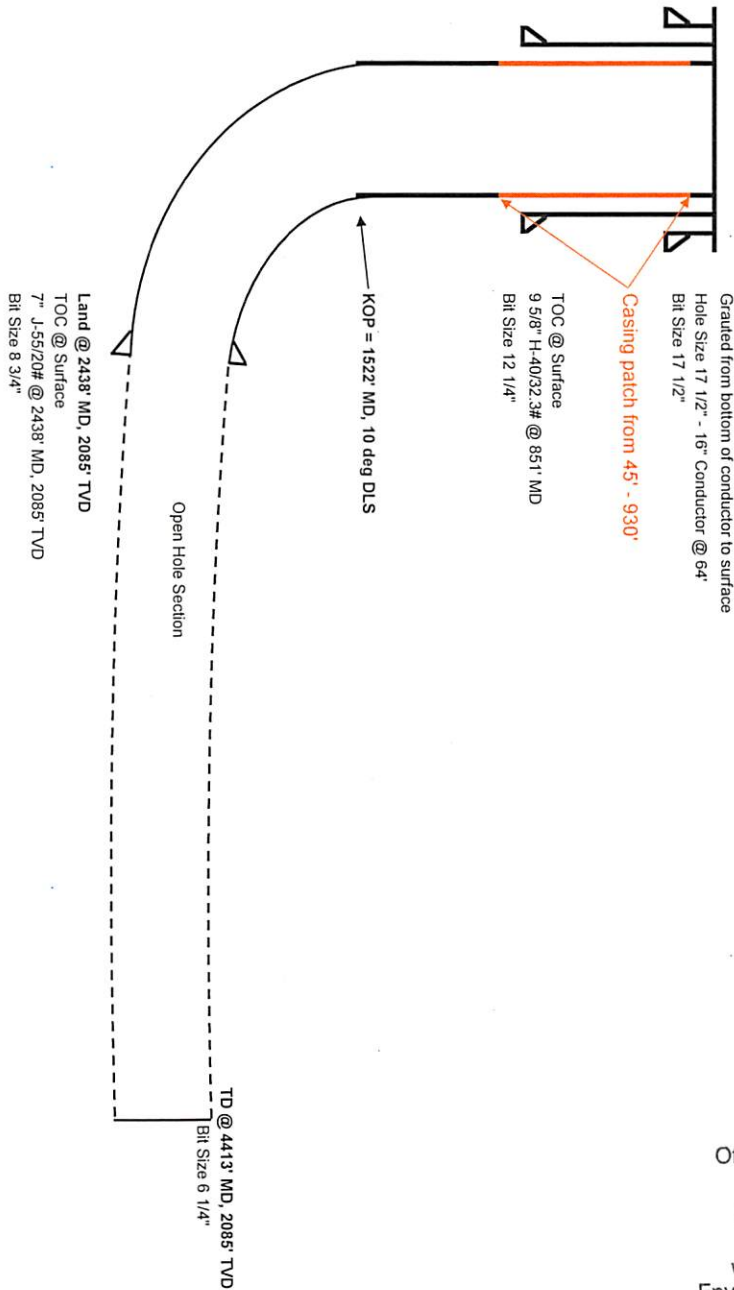
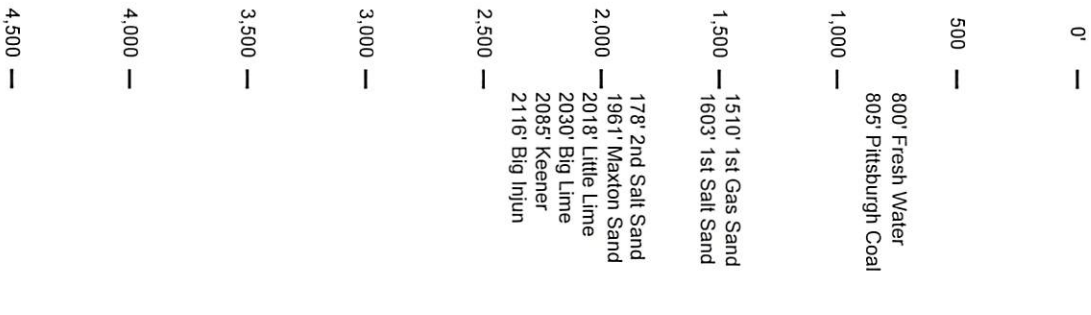
Well Schematic
Equitable Resources
Logansport Storage Well LOG 8270

(Final)

Well Name # 8270
County Marion
State WV

Elevation GL: 1025'
Target Keener Sand
Prospect Logansport Storage

MEASURED DEPTH



TD @ 4375' MD, 2095' TVD

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

API 47 - 049 - 01939 County Marion District Mannington
Quad Glovers Gap 7.5' Pad Name Cunningham Field/Pool Name Logansport
Farm name C.H. Cunningham Well Number 608270
Operator (as registered with the OOG) Equitrans, L.P.
Address 625 Liberty Ave. City Pittsburgh State PA Zip 15222

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4374209.3 Easting 547298.1
Landing Point of Curve Northing 4374335.6 Easting 547420.8
Bottom Hole Northing 4374754.2 Easting 547828.4

Elevation (ft) 1025' GL Type of Well New Existing Type of Report Interim Final
Permit Type Deviated Horizontal Horizontal 6A Vertical Depth Type Deep Shallow
Type of Operation Convert Deepen Drill Plug Back Redrilling Rework Stimulate
Well Type Brine Disposal CBM Gas Oil Secondary Recovery Solution Mining Storage Other _____
Type of Completion Single Multiple Fluids Produced Brine Gas NGL Oil Other _____
Drilled with Cable Rotary

Drilling Media Surface hole Air Mud Fresh Water Intermediate hole Air Mud Fresh Water Brine
Production hole Air Mud Fresh Water Brine
Mud Type(s) and Additive(s)
Bentonite with KCl

Date permit issued 5/6/2008 Date drilling commenced 9/6/2008 Date drilling ceased 10/10/2008
Date completion activities began _____ Date completion activities ceased _____
Verbal plugging (Y/N) N Date permission granted _____ Granted by _____

Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug

Freshwater depth(s) ft 800' Open mine(s) (Y/N) depths N
Salt water depth(s) ft 1820' Void(s) encountered (Y/N) depths N
Coal depth(s) ft 810' Cavern(s) encountered (Y/N) depths _____
Is coal being mined in area (Y/N) Y

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Reviewed by:

SDW WILDEP
06/01/2018

WR-35
Rev. 8/23/13

API 47-049 - 01939 Farm name C.H. Cunningham Well number 608270

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/ N) * Provide details below*
Conductor	17.5"	16"	64'	New	N/A		Y
Surface							
Coal	12.25"	9.625"	851'	New	J-55 40#		Y
Intermediate 1							
Intermediate 2							
Intermediate 3							
Production	8.75"	7"	2438'	New	J-55 20#	1342', 172'	Y
Tubing							
Packer type and depth set							

Comment Details _____

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft ³ /sks)	Volume (ft ³)	Cement Top (MD)	WOC (hrs)
Conductor	Class A					Surface	8
Surface							
Coal	Class A	385	14.7	1.41	393	Surface	8
Intermediate 1							
Intermediate 2							
Intermediate 3							
Production	Class A	430	13.1	1.41	449	Surface	18
Tubing							

Drillers TD (ft) 4413' MD Loggers TD (ft) 2171' TVD
 Deepest formation penetrated Big Injun Plug back to (ft) 1171' TVD
 Plug back procedure Plugged back vertical hole from 2171' to 1171' with 208 sacks (225 Cu. Ft.) Class A at 16.5 ppg with a yield of 1.08

Kick off depth (ft) 1475' MD

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

Well cored Yes No Conventional Sidewall Were cuttings collected Yes No

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING Total of 25 centralizers on production string on joints:
1,2,3,4,5,6,7,8,9,10,11,12,13,14,16,18,19,20,21,22,23,27,37,47, and 57.

WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS _____

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS 2438' MD to 4413' MD in the Keener Sand

WERE TRACERS USED Yes No TYPE OF TRACER(S) USED _____

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WR-35
Rev. 8/23/13

API 47- 049 - 01939 Farm name C.H. Cunningham Well number 608270

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
Keener	2085'-2109'	TVD _____ MD _____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 1000 psi Bottom Hole _____ psi DURATION OF TEST _____ hrs

OPEN FLOW Gas _____ mcfpd Oil _____ bpd NGL _____ bpd Water _____ bpd
GAS MEASURED BY Estimated Orifice Pilot

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

LITHOLOGY/ FORMATION	TOP DEPTH IN FT NAME TVD	BOTTOM DEPTH IN FT TVD	TOP DEPTH IN FT MD	BOTTOM DEPTH IN FT MD	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H ₂ S, ETC)
	0		0		
Pittsburgh Coal	805	813			
1st Gas Sand	1510	1546			
1st Salt Sand	1603	1670			
2nd Salt Sand	1758	1839			
Maxton	1961	2014			
Little Lime	2018	2021			
Big Lime	2030	2080			
Keener	2085	2109			
Big Injun	2116	2219			

Please insert additional pages as applicable.

Drilling Contractor Highland Drilling
Address 900 Virginia Street East City Charleston State WV Zip 25301

Logging Company Schlumberger
Address 229 Capital Street City Charleston State WV Zip 25301

Cementing Company Halliburton
Address New Jackson S Mill Road City Jane Lew State WV Zip 26378

Stimulating Company _____
Address _____ City _____ State _____ Zip _____

Please insert additional pages as applicable.

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Completed by Brian A. Hall Telephone 304-627-6419
Signature _____ Title Senior Storage Specialist Date 2/13/2018

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

06/01/2018

WW-2A
(Rev. 6-14)

1.) Date: April 25, 2018
2.) Operator's Well Number Cunningham #8270
State County Permit
3.) API Well No.: 47- 049 - 01939

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 Marion County Commission Address 200 Jackson St Fairmont, WV 26554 (b) Name Address (c) Name Address
5) (a) Coal Operator Name See attached sheet Address (b) Coal Owner(s) with Declaration Name See attached sheet Address (c) Coal Lessee with Declaration Name See attached sheet Address
6) Inspector Sam Ward Address PO Box 2327 Buckhannon, WV 26201 Telephone 304-389-7583

TO THE PERSONS NAMED ABOVE TAKE NOTICE THAT:

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

X 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:

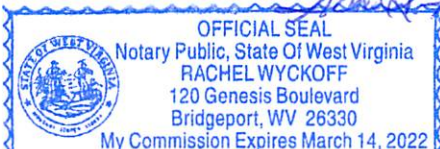
- Personal Service (Affidavit attached)
- Certified Mail (Postmarked postal receipt attached)
- Publication (Notice of Publication attached)

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 Equitrans, L.P. Contact: _____
By: Samuel K. Smallwood Brian Hall
Its: Attorney-in-Fact NWW Ops Rea Manager
Address: 303 Sand Cut Rd Same address
Clarksburg, WV 26301
Telephone: 304-626-7999 (304) 626-6419
Email: SSsmallwood@eat.com BRHall@eat.com



Subscribed and sworn before me this 25th day of April, 2018 RECEIVED Office of Oil and Gas

Rachel Wyckoff Notary Public APR 27 2018
My Commission Expires March 14, 2022

Operator's Well No. Cunningham 8270 (608270)

ATTACHMENT WW-2A-5)(a) Coal Operator, (b) Coal Owner(s) with Declaration, (c) Coal Lessee with Declaration

Murray Energy Corporation
Murray American Energy, Inc.
46226 National Rd
St. Clairsville, OH 43950

CONSOL Pennsylvania Coal Company LLC
ATTN: Casey Saunders
1000 CONSOL Energy Dr
Cannonsburg, PA 15137-6506

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06/01/2018

WW-2A1
(Rev. 1/11)

Operator's Well Number Cunningham 8270 (608270)

**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
See Attached Sheet			


**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

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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.

Well Operator: 
 By: Its: Equitrans, L.P.
Samuel K. Smallwood, Attorney-in-Fact

WW-2A1 ATTACHMENT

Operator's Well No. Cunningham 8270 (608270)

<u>Lease No.</u>	<u>Grantor, Lessor, etc.</u>	<u>Grantee, Lessee, etc.</u>	<u>Royalty</u>	<u>Book/Page</u>
<u>124795</u>	<u>David E. Bowyer, ETAL</u>		<i>\$300.00 Storage</i>	
	C.H. Cunningham ETAL	Pittsburgh & WV Gas Company		465/309
	Thelma Shaw	Equitable Gas Company		613/465
	Pittsburgh & WV Gas Company	Equitable Gas Company		511/539
	C.H. Cunningham ETAL	Equitable Gas Company		541/17
	Equitable Gas Company, LLC ETAL	Equitrans, L.P.		AB 46/660
	Equitable Gas Company, LLC ETAL	Equitrans, L.P.		1148/296
<u>124832</u>	<u>Lisa Adams, ETAL</u>		<i>\$300.00 Storage</i>	
	John Lawlis and Arsula Lawlis, h/w	South Penn Oil Company		156/218
	South Penn Oil Company	South Penn Natural Gas Company		353/201
	South Penn Natural Gas Company	Pittsburgh & WV Gas Company		480/383
	John V. Lawlis ETAL	Pittsburgh & WV Gas Company		511/567
	Pittsburgh & WV Gas Company	Equitable Gas Company		714/159
	Equitable Gas Company	Equitrans, Inc.		AB 12/279
	Equitable Gas Company LLC ETAL	Equitrans, L.P.		AB 46/660

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06/01/2018

47-049-01939W

WW-9
(5/16)

API Number 47 - 049 - 01939
Operator's Well No. Cunningham 8270 (608270)

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

Operator Name Equitrans, L.P. OP Code 307652

Watershed (HUC 10) Owen Davy Fork of Buffalo Creek Quadrangle Glover Gap 7.5'

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: N/A

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 _____)

SDW
4/26/2018

Will closed loop system be used? If so, describe: Yes, above ground steel pits connected to mud pump and well

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

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

Additives to be used in drilling medium? N/A

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. Removed Offsite

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

-Landfill or offsite name/permit number? See Attached Sheet

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.

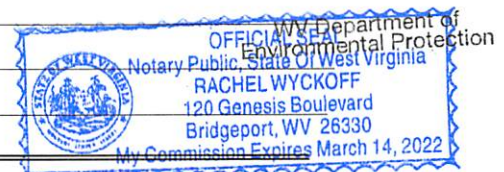
I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is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

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APR 27 2018

Company Official Signature Samuel K. Smallwood

Company Official (Typed Name) Samuel K. Smallwood

Company Official Title Attorney-in-Fact



Subscribed and sworn before me this 25th day of April, 2018

Rachel Wyckoff Notary Public

My commission expires March 14, 2022

06/01/2018

Proposed Revegetation Treatment: Acres Disturbed less than one (1) acre Prevegetation pH N/A

Lime 3 Tons/acre or to correct to pH 6 1/2

Fertilizer type 10-20-20 or equivalent

Fertilizer amount 600 lbs/acre

Mulch Hay or straw Tons/acre

Seed Mixtures

Temporary		Permanent	
Seed Type	lbs/acre	Seed Type	lbs/acre
<u>N/A</u>		<u>Meadow Mix</u>	<u>40 lbs per ac</u>

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: S. D. Wanders

Comments: Pre-Seed/mulch as soon as reasonably possible Per WV DEP Regulation. Upgrade ETS Per WV DEP ETS Manual as needed.

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APR 27 2018

WV Department of
Environmental Protection

Title: OOG Inspector

Date: 4/26/2018

Field Reviewed? () Yes () No

Attachment WW-9 Landfill or Offsite Disposal Name/Permit Number

Region	Facility Type	Facility Location Name	Street	City	State	Zip Code
Miscellaneous	Disposal Well	Nichols (SWIW #13) 1 - A	10555 Veto Road	Belpre	OH	45714
	Disposal Well	D - 1 (SWIW #7)	1549 Warner Road	Fowler	OH	44118
	Disposal Well	Goff (SWIW #27) 1	9350 East Pike Road	Norwich	OH	43767
	Disposal Well	Eva Jean Root Wolf 1 and 4, Wolf 2	5480 State Route 5	Newton Falls	OH	44444
	Disposal Well	Pander R&P (SWIW # 15 & #16) 1 & 2	5310 State Route 5	Newton Falls	OH	44444
	Disposal Well	John G. Delores Blazek 2	5700 Allyn Road	Hiram	OH	44234
	Disposal Well	Belden & Blake Corporation 2 - 1050	8000 Edison Street	Louisville	OH	44641
	Disposal Well	Plum Creek 1	4285 Karg Industrial Parkway	Kent	OH	44240
	Disposal Well	Ed Lyons (Genet) 1	7700 Lincoln Street	East Canton	OH	44730

List of Ohio SWDs 6.13.2013

Wells	County	Township	State	Permit #s	Entity
Belden & Blake #2	Stark	Marlboro	Ohio	34-151-2-3420	Heckmann Water Resources (CVR), Inc.
Blazek #2	Portage	Hiram	Ohio	34-133-2-0525	Heckmann Water Resources (CVR), Inc.
Lyons #1	Stark	Osnaburg	Ohio	34-151-2-1198	Heckmann Water Resources (CVR), Inc.
Pander R & P #1	Trumbull	Newton	Ohio	34-155-2-3795	Heckmann Water Resources (CVR), Inc.
Pander R & P #2	Trumbull	Newton	Ohio	34-155-2-3794	Heckmann Water Resources (CVR), Inc.
Plum Creek #1	Portage	Brimfield	Ohio	34-133-2-3614	Heckmann Water Resources (CVR), Inc.
Eva Jean Root Wolf #1	Trumbull	Newton	Ohio	34-155-2-1893	Heckmann Water Resources (CVR), Inc.
Wolf #2	Trumbull	Newton	Ohio	34-155-2-1894	Heckmann Water Resources (CVR), Inc.
Eva Jean Root Wolf #4	Trumbull	Newton	Ohio	34-155-2-3203	Heckmann Water Resources (CVR), Inc.
D-1 (AnnaRock)	Trumbull	Fowler	Ohio	34-155-2-2403	Heckmann Water Resources (CVR), Inc.
Nichols #1-A SWIW #13	Washington	Dunham	Ohio	34-167-2-3862	Heckmann Water Resources (CVR), Inc.
Goff #1	Muskingum	Unjon	Ohio	34-119-2-8776	Heckmann Water Resources (CVR), Inc.
Appalachian Water (APP or AWS)	Connellsville	N/A	PA	2608201	

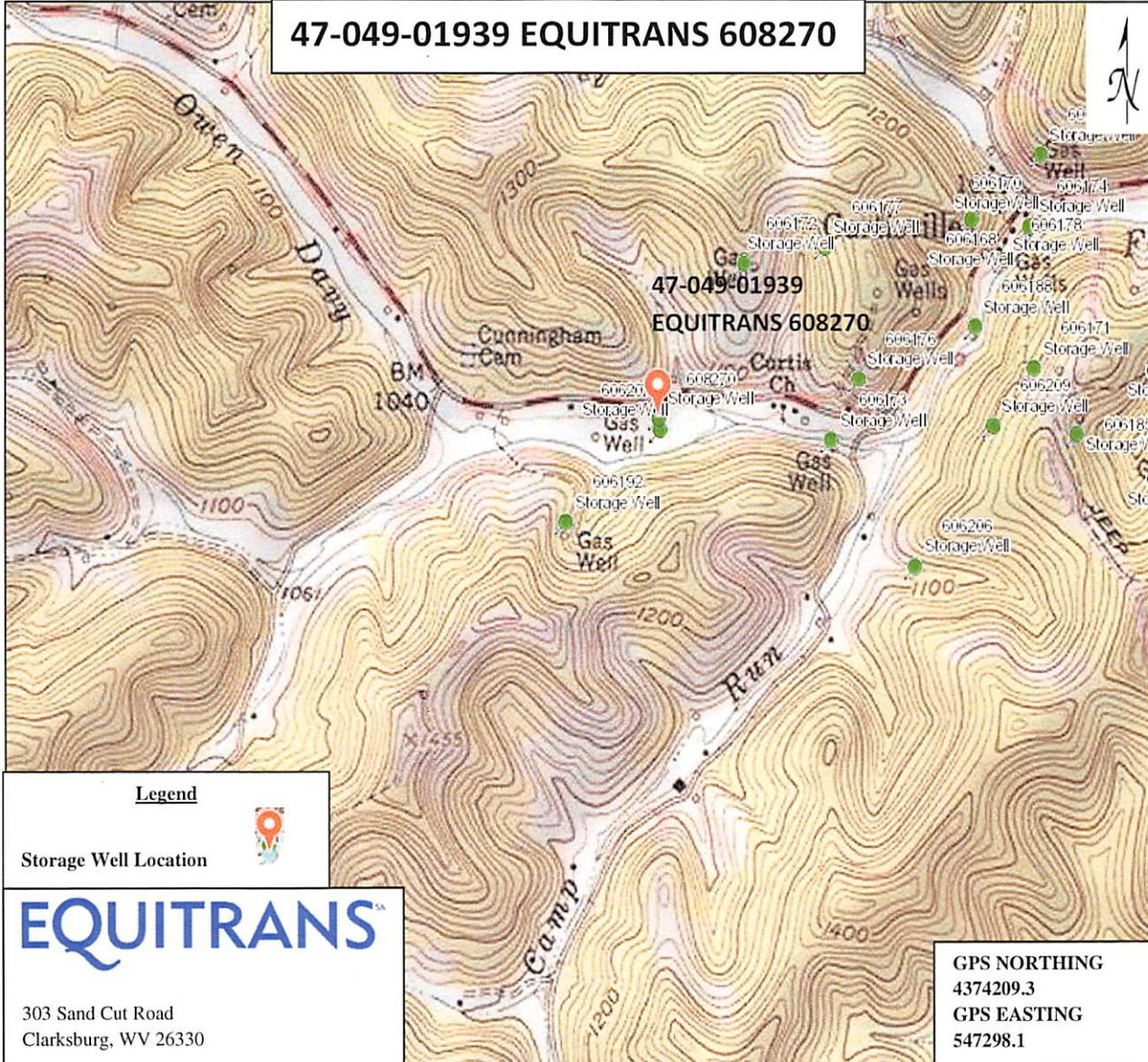
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Environmental Protection

06/01/2018

47-049-01939 EQUITRANS 608270



Legend

Storage Well Location



EQUITRANS^{SA}

303 Sand Cut Road
Clarksburg, WV 26330

GPS NORTHING
4374209.3
GPS EASTING
547298.1

DISCLAIMER: ALL INFORMATION DEPICTED ON THIS MAP PROVIDED BY EQT (SAID TERM SHALL MEAN EQT PRODUCTION OR EQT MIDSTREAM, DEPENDING ON WHICH EQT ENTITY PROVIDED THE MAP) IS FOR INFORMATION PURPOSES ONLY AND SHALL BE TREATED AS CONFIDENTIAL INFORMATION AND SHALL ONLY BE USED FOR THE SOLE PURPOSE FOR WHICH IT WAS PROVIDED. ANY OTHER USE OF THIS MAP, OR THE INFORMATION INCLUDED THEREON, IS STRICTLY PROHIBITED. THE EXACT LOCATION OF THE FACILITIES (INCLUDING BUT NOT LIMITED TO WELLS, PIPELINES, STRUCTURES, FACILITIES, LEASE BOUNDARIES OR ANY OTHER INFORMATION) SHOWN ON THIS MAP SHALL NOT BE RELIED UPON FOR THE SPECIFIC LOCATION OF THE FACILITIES, AND THE PARTIES AGREE THAT THE INFORMATION SHOWN ON THE MAP MAY NOT HAVE BEEN PLACED ON THE MAP USING SURVEY LINES OR GPS COORDINATES. EQT MAKES NO EXPRESS OR IMPLIED REPRESENTATION OR WARRANTY AS TO THE ACCURACY OF THE MAP, OR THE INFORMATION SHOWN THEREON. THE SPECIFIC LOCATION OF ANY OF THE INFORMATION, INCLUDING ANY WELL, PIPELINE, STRUCTURE, FACILITY OR LEASE BOUNDARY, SHOULD BE DETERMINED BY A FIELD SURVEY PERFORMED BY A LICENSED SURVEYOR UPON CONSULTATION WITH EQT. THIS MAP MAY NOT BE COPIED OR OTHERWISE MADE AVAILABLE TO ANY OTHER PARTY IN PAPER OR ELECTRONIC FORMAT WITHOUT WRITTEN CONSENT FROM EQT. RECIPIENT EXPRESSLY AGREES THAT ITS USE AND/OR RETAINER OF THIS MAP SHALL BE DEEMED ITS AGREEMENT TO THE TERMS SET FORTH ABOVE.

Quad: Glover Gap 7.5' Scale: Not Mapped to Scale
 County: Marion Date: 4/25/2018
 District: Mannington API: 47-049-01939

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06/01/2018

WW-7
8-30-06



West Virginia Department of Environmental Protection
Office of Oil and Gas

WELL LOCATION FORM: GPS

API: 47-049-01939 WELL NO.: 608270

FARM NAME: Cunningham

RESPONSIBLE PARTY NAME: Equitrans, L.P.

COUNTY: Marion DISTRICT: Mannington

QUADRANGLE: Glover Gap 7.5'

SURFACE OWNER: Marion County Commission

ROYALTY OWNER: David E. Bowyer ETAL

UTM GPS NORTHING: 4374209.3

UTM GPS EASTING: 547298.1 GPS ELEVATION: 1025' (312.42 meters)

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:

- Datum: NAD 1983, Zone: 17 North, Coordinate Units: meters, Altitude: height above mean sea level (MSL) – meters.
- Accuracy to Datum – 3.05 meters
- Data Collection Method:
Survey grade GPS : Post Processed Differential

- Real-Time Differential
- Mapping Grade GPS : Post Processed Differential
- Real-Time Differential

- 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.

David E. Bowyer *Hardman* *4/25/18*
 Signature Title Date

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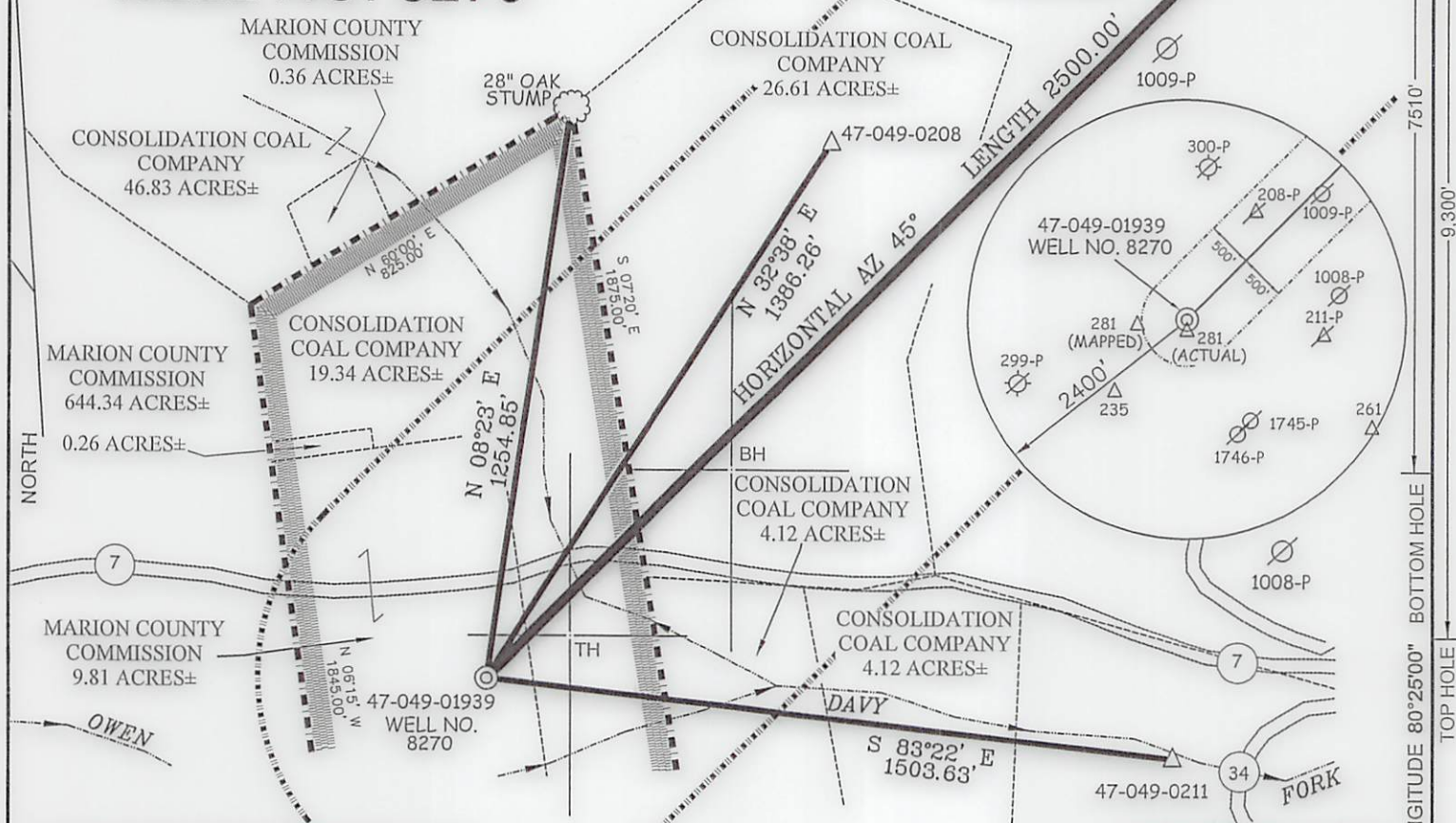
WV Department of
Environmental Protection

06/01/2018

CUNNINGHAM LEASE

38.5 OF 67 ACRES ±

WELL NO. 8270

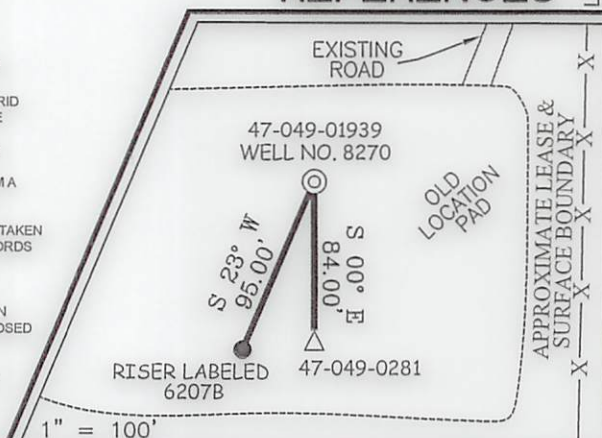


(S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH)			
NAD'27 S.P.C.(FT)	N. 371,490	E. 1,731,947	
NAD'27 GEO.	LAT-(N) 39.51607	LONG-(W) 80.45015	
NAD'83 UTM (M)	N. 4,374,201.3	E. 547,281.0	
BOTTOM HOLE			
NAD'27 S.P.C.(FT)	N. 373,258	E. 1,733,715	
NAD'27 GEO.	LAT-(N) 39.52097	LONG-(W) 80.44395	
NAD'83 UTM (M)	N. 4,374,749.0	E. 547,810.7	

NOTES ON SURVEY

1. TIES TO WELLS AND CORNERS ARE BASED ON GRID NORTH FOR THE WV STATE PLANE COORDINATE SYSTEM NORTH ZONE NAD '27.
2. TIES TO REFERENCES ARE BASED ON MAGNETIC NORTH 04/16/07.
3. LEASE BOUNDARY SHOWN HEREON TAKEN FROM A PLAT DATED 02/09/07 AS PREPARED BY JAMES JEFFRIES FOR A.P.I. NO. 47-049-6207.
4. SURFACE OWNER AND ADJOINER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF MARION COUNTY IN JULY, 2006.
5. WELL LAT./LONG. (NAD'27) ESTABLISHED BY DGPS(SUBMETER MAPPING GRADE).
6. PER PHONE CONVERSATION WITH EQUITRANS ON 05/15/07 THE BOTTOM HOLE LOCATION OF PROPOSED GAS WELL 8270 IS COMPLETELY WITHIN THE LOGANSPOUT STORAGE FIELD.
7. PLAT PREPARED AND UPDATED MAY 24, 2018 TO REPLACE ORIGINAL FROM APRIL 17, 2007.

REFERENCES



SLS
Land & Energy Development
Solutions from the ground up.
P.O. Box 150 • 12 Vanhorn Drive • Glenville, WV 26351 • (304) 462-5634
www.slsurveys.com

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



P.S. 849 *C. Victor Moyers*

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.
 DATE APRIL 17, 20 07
 REV. DATE 5/24/18
 OPERATORS WELL NO. CUNNINGHAM 8270
 API WELL NO. 47 - 049 - 01939
 STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 200 FILE NO. 6423P8270R.dwg (223-70)
 PROVEN SOURCE OF ELEVATION DGPS (SUBMETER MAPPING GRADE) SCALE 1" = 400'

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

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

LOCATION: ELEVATION 1,022' WATERSHED OWEN DAVY FORK OF BUFFALO CREEK
 DISTRICT MANNINGTON COUNTY MARION QUADRANGLE GLOVER GAP 7.5'
 SURFACE OWNER MARION COUNTY COMMISSION ACREAGE 9.81±
 ROYALTY OWNER C.H. CUNNINGHAM & T. SHAW LEASE ACREAGE 38.5± OF 67.1
 PROPOSED WORK: LEASE NO. _____
 DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION PLUG AND ABANDON CLEAN OUT AND REPLUG OTHER
 PHYSICAL CHANGE IN WELL (SPECIFY) _____ TARGET FORMATION BIG INJUN/KEENER
 ESTIMATED DEPTH 2,074'

WELL OPERATOR EQUITRANS, LP DESIGNATED AGENT BRIAN HALL
 ADDRESS 625 LIBERTY AVE, SUITE 1700 ADDRESS 303 SAND CUT RD
PITTSBURGH, PA 15222 CLARKSBURG, WV 26330

06/01/2018

COUNTY NAME PERMIT