

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

API 47 - 041 - 02362 County Lewis District Freemans Creek
Quad Big Isaac Pad Name NA Field/Pool Name Kennedy Storage
Farm name Highland Well Number BW-8411
Operator (as registered with the OOG) Eastern Gas Transmission and Storage, Inc.
Address 925 White Oaks Blvd City Bridgeport State WV Zip 26330

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4332111.120 Easting 541780.628
Landing Point of Curve Northing _____ Easting _____
Bottom Hole Northing _____ Easting _____

Elevation (ft) 1191 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 Gas Storage
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)
NA

Date permit issued 09/16/2021 Date drilling commenced 10/06/2021 Date drilling ceased 10/26/2021
Date completion activities began 11/12/2021 Date completion activities ceased 12/29/2021
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 NA Open mine(s) (Y/N) depths N
Salt water depth(s) ft NA Void(s) encountered (Y/N) depths N
Coal depth(s) ft 170-175' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N



Reviewed by:
Ronald August
09/22/2023

API 47-041 - 02362 Farm name Highland Well number BW-8411

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							
Surface		7"	1717'				Existing
Coal							
Intermediate 1		5-1/2"	2707'				Existing
Intermediate 2							
Intermediate 3							
Production		3-1/2"	4656'				Existing
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							
Surface							
Coal							
Intermediate 1							
Intermediate 2							
Intermediate 3							
Production	Class A	140	15.4	1.23	172	0	24
Tubing							

Drillers TD (ft) 4630 _____ Loggers TD (ft) 4630 _____

Deepest formation penetrated Benson _____ Plug back to (ft) 2143' _____

Plug back procedure Ran tubing to TD pumped 6% gel fluid until well circulated, Pumped 35 sacks class A cement, pulled 23 jts tubing, Pumped 33 sacks of class A cement, Pulled 23 jts tubing, WOC _____

Tagged TOC @ 3486', Pumped 50 sacks of class A cement and pulled 29 jts of tubing, WOC. TH tagged cement top @ 2489', Pumped 19 sacks class A cement, pulled 10 jts of tubing, WOC. TH tagged cement top @ 2143'

Kick off depth (ft) _____

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 No casing or centralizers ran _____

WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS _____

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

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

API 47- 041 - 02362

Farm name Highland

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PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
	12/22/2021	1995	2003	24	Gantz

Please insert additional pages as applicable.

STIMULATION INFORMATION PER STAGE

Complete a separate record for each stimulation stage.

Stage No.	Stimulations Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/other (units)
			No stim on well					

Please insert additional pages as applicable.

API 47- 041 - 02362 Farm name Highland Well number BW-8411

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
<u>Gantz</u>	<u>1995-2003'</u> TVD	<u>1995-2003'</u> MD

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

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

OPEN FLOW Gas Oil NGL Water GAS MEASURED BY

 _____ mcfpd _____ bpd _____ bpd _____ bpd Estimated Orifice Pilot

LITHOLOGY/ FORMATION	TOP	BOTTOM	TOP	BOTTOM	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H ₂ S, ETC)
	DEPTH IN FT NAME TVD	DEPTH IN FT TVD	DEPTH IN FT MD	DEPTH IN FT MD	
	0		0		No new hole drilled, plug back existing production casing

Please insert additional pages as applicable.

Drilling Contractor Key Energy Service

Address 138 Sewer Plant Road City Buckhannon State WV Zip 26201

Logging Company Baker Hughes

Address 180 Childers Run Crossing City Buckhannon State WV Zip 26201

Cementing Company Halliburton Energy Service

Address 4999 E Pointe Dr City Zanesville State OH Zip 43701

Stimulating Company _____

Address _____ City _____ State _____ Zip _____

Please insert additional pages as applicable.

Completed by Alex Worley Telephone 304-203-6243

Signature *Alex Worley* Title Engineer Date 3/21/2023

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

09/22/2023

WV DEP Office of Oil and Gas
601 57th Street, SE
Charleston, WV 25304

RECEIVED
Office Of Oil and Gas

APR 18 2023

WV Department of
Environmental Protection

To whom it may concern,

Please review the WR-35 Form for the recent rework of Eastern Gas Transmission and Storage, Inc. storage well BW-8411, API 47-041-02362.

If you have any further questions or comments, please feel free to contact me by means of the information listed below.

Sincerely,



Alex Worley
Gas Storage Engineer III
Eastern Gas Transmission and Storage, Inc.
304-203-6243
Alexander.worley@bhegts.com

09/22/2023