

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

API 47-077-00007 County Preston District Portland
Quad Terra Alta Pad Name _____ Field/Pool Name Terra Alta Storage
Farm name Freeland, David A. Well Number 7387
Operator (as registered with the OOG) Columbia Gas Transmission, LLC
Address 1700 MacCorkle Ave SE City Charleston State WV Zip 25325-1273

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

Elevation (ft) 1928 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)

Date permit issued 5/19/15 Date drilling commenced _____ Date drilling ceased _____
Date rework/stim activities began 3/25/16 Date rework/stim activities ceased 4/27/16
Verbal plugging (Y/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 _____ Open mine(s) (Y/N) depths _____
Salt water depth(s) ft _____ Void(s) encountered (Y/N) depths _____
Coal depth(s) ft _____ Cavern(s) encountered (Y/N) depths _____

Is coal being mined in area (Y/N) _____

APPROVED
NAME: Sam J. King
DATE: 7/21/2016

RECEIVED
Office of Oil and Gas
Reviewed by: [Signature]
MAY 23 2016
WV Department of Environmental Protection
09/23/2016
AX
RBDMS
09/19/16

API 47-077 - 00007 Farm name Freeland, David A. Well number 7387

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							
Coal							
Intermediate 1							
Intermediate 2							
Intermediate 3							
Production							
Tubing							
Packer type and depth set							

Comment Details No existing casing was altered and no additional casing installed during permitted well work.

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							
Tubing							

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

Deepest formation penetrated _____ Plug back to (ft) _____

Plug back procedure _____

* No casing cemented during permitted well work.

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 _____

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 _____

RECEIVED
Office of Oil and Gas

MAY 23 2016

API 47- 077 - 00007 Farm name Freeland, David A. Well number 7387

PRODUCING FORMATION(S)	DEPTHS	
<u>Oriskany (storage)</u>	<u>TVD</u>	<u>5409 - 5465 MD</u>
_____	_____	_____
_____	_____	_____

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 1500 psi Bottom Hole _____ psi DURATION OF TEST 0.75 hrs

OPEN FLOW Gas Oil NGL Water GAS MEASURED BY
 calculated absolute @ 2250 psi rock 18800 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	
	<u>0</u>		<u>0</u>		

Please insert additional pages as applicable.

Drilling Contractor _____
 Address _____ City _____ State _____ Zip _____

Logging Company Baker Atlas Logging
 Address 106 Island Ave City Buckhannon State WV Zip 26201

Cementing Company _____
 Address _____ City _____ State _____ Zip _____

Stimulating Company C&J Energy Services
 Address 528 Industrial Park Rd City Jane Lew State WV Zip 26378

Please insert additional pages as applicable.

Completed by Jim Amos Telephone 304-483-0073
 Signature [Signature] Title Senior Engineer Date 5/19/16 **MAY 23 2016**

Submission of Hydraulic Fracturing Chemical Disclosure Information Attach copy of FRACFOCUS Registry **WV Department of Environmental Protection**
09/23/2016

RECEIVED
 Office of Oil and Gas

Terra Alta 7387 (API 077-00007)

Work Performed

Ran cement bond log and re-perforated. Installed mechanical bridge plug and filled well with water. Replaced/installed new wellhead. Retrieved bridge plug. Flowed well. Performed acid treatment. Flowed well to recover stimulation fluids.

RECEIVED
Office of Oil and Gas

MAY 23 2016

WV Department of
Environmental Protection
09/23/2016