

WR-35
Rev. 8/23/13

APPROVED

NAME: Harmon State of West Virginia
DATE: 4/24/16 Department of Environmental Protection - Office of Oil and Gas
Well Operator's Report of Well Work

API 47-039-06375 County Kanawha District Spring Hill Corp
Quad Charleston West Pad Name Harmon Field/Pool Name N/A
Farm name Marker, Garcie Well Number Harmon #1
Operator (as registered with the OOG) Reserve Oil and Gas Inc
Address 929 Charleston Road City Spencer State WV Zip 25276

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 492,055 NAD83 Easting 1,764,923 NAD83
Landing Point of Curve Northing 4244794 UTM NAD83 Easting 0437969 UTM NAD83
Bottom Hole Northing _____ Easting _____

Elevation (ft) 614 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 11/09/2015 Date drilling commenced 12/8/15 Date drilling ceased 12/17/15
Date completion activities began 1/15/2016 Date completion activities ceased 1/15/2016
Verbal plugging (Y/N) N/A Date permission granted N/A Granted by N/A

Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug
Freshwater depth(s) ft 210' Open mine(s) (Y/N) depths N/A
Salt water depth(s) ft 1035' Void(s) encountered (Y/N) depths N/A
Coal depth(s) ft N/A Cavern(s) encountered (Y/N) depths N/A
Is coal being mined in area (Y/N) N

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Reviewed by:
AX WS 04/29/2016

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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 1/2"	13 3/8"	25'	NEW		None	No - top down
Surface	12 3/4"	10 3/4"	336'	used	43	None	YES - 6.3 BBLs
Coal							
Intermediate 1	8 7/8"	7"	1740'	used			Yes, fall back, grouted w 3 BBL
Intermediate 2							
Intermediate 3							
Production	6 1/4"	4 1/2"	4455'	used		2561'	yes
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	Type I	8					8 hr
Surface	Type I	109	15.6	1.18		356' to surface	
Coal							
Intermediate 1	Type I	290	14.2	1.48		1737' to surface	8 hr
Intermediate 2							
Intermediate 3							
Production	Superyield 260	130	11.80	2.63		2450' to surface	
Tubing							

Drillers TD (ft) 4465' Loggers TD (ft) 4460'
 Deepest formation penetrated _____ Plug back to (ft) N/A
 Plug back procedure _____

Kick off depth (ft) N/A

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
Centralizer & basket - 2561'
Baffle & centralizer - 3994'

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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 _____

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API 47 39 - 06375 Farm name Manke, Garcia Well number Harmon # 1

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
1	1/15/16	4032	4471	50	Grey shale, Brown shale
2	1/15/16	3331	3934	50	Grey shale

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)
1	1/15/16	55cfm	1990	1650	1318	- N/A	N/A	1,000,000 SCF
2	1/15/16	55cfm	1960	1800	1479	N/A	N/A	1,000,000 SCF

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Please insert additional pages as applicable.

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<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
	TVD	MD

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 230 psi Bottom Hole _____ psi DURATION OF TEST 24 hrs

Initial OPEN FLOW Gas 112 mcfpd Oil _____ bpd NGL _____ bpd Water _____ bpd

GAS MEASURED BY Estimated Orifice Pilot U-tube manometer

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		
<u>See attached</u>					

Please insert additional pages as applicable.

Drilling Contractor Conserv RECEIVED
Address 909 Charleston Road City Spencer State WV Zip 25076 Office of Oil and Gas

Logging Company Conserv APR 11 2016
Address 909 Charleston Road City Spencer State WV Zip 25076

Cementing Company Conserv - Surface/Intermediate 4 1/2 - Ct J Energy Services
Address 3990 Rogerdale City Houston State TX Zip 77042 Department of Environmental Protection

Stimulating Company Ct J Energy Services
Address 3990 Rogerdale City Houston State TX Zip 77042

Completed by Doug Douglass Telephone 304-483-8340
Signature Doug Douglass Title Land manager Date 4/7/16

Harmon 2
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Formations

Formation:	From:	To:
D.M	0	5
ROCK	5	10
Clay	10	12
ROCK	12	25
Grey Stone	25	65
Coal	65	69
Shale	69	105
Red ROCK	105	115
White Sand	115	165
Shale/sand	165	517
White Sand	517	553
Dark Shale	553	598
White Sand	598	606
sand/shale	606	640
White Sand	640	760
S. sand	760	
Maxton		
L. Lime	1381	1442
B. lime	1442	1603
Shale	1603	1621
Injun	1621	1665
Brog	2087	2097
sd x sh	2097	2150
Harmon 2	2150	3220

Formations

Remarks: Oil, Gas, Water, Etc.
RECEIVED Office of Oil and Gas APR 11 2008 WV Department of Environmental Protection
7 TOWNS TR 2 'b) T.D
T.D (6 1/2) hole
@ 4465'
11:00 AM
12-17-15

Harmon 1

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Formations

Formation:	From:	To:
Grey shale	3220	4320
Brown shale	4320	4450
Grey shale	4450	4465

Formations

Formation:	From:	To:	Remarks: Oil, Gas, Water, Etc.

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