



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OIL AND GAS MANAGEMENT PROGRAM

DEP USE ONLY	
Site Id	Primary Facility Id
Client Id	Sub-facility Id

WELL RECORD AND COMPLETION REPORT

Well Operator Range Resources – Appalachia, LLC		DEP ID# 141142	Well API # (Permit / Reg) 37-125-23881	Project Number	Acres 686
Address 380 Southpointe Blvd. Suite 300			Well Farm Name Miller John Unit	Well # 4H	Serial #
City Canonsburg	State PA	Zip Code 15317	County Washington	Municipality Canton	
Phone 724-743-6700	Fax 724-743-6790	USGS 7.5 min. quadrangle map Washington West			

Check all that apply: Original Well Record Original Completion Report Amended Well Record Amended Completion Report

WELL RECORD Also complete Log of Formations on back (page 2)

Well Type	<input checked="" type="checkbox"/> Gas	<input type="checkbox"/> Oil	<input type="checkbox"/> Combination Oil & Gas	<input type="checkbox"/> Injection	<input type="checkbox"/> Storage	<input type="checkbox"/> Disposal
Drilling Method	<input type="checkbox"/> Rotary – Air	<input checked="" type="checkbox"/> Rotary – Mud	<input type="checkbox"/> Cable Tool			
Date Drilling Started 12/17/09	Date Drilling Completed 6/25/10	Surface Elevation 1238 ft.	Total Depth – Driller 11135 ft	Total Depth - Logger 11135 ft		

Casing and Tubing

Cement returned on surface casing? Yes No
Cement returned on coal protective casing? Yes No N/A

Hole Size	Pipe Size	Wt.	Thread / Weld	Amount in Well (ft)	Material Behind Pipe Type and Amount	Packer / Hardware / Centralizers Type	Size	Depth	Date Run
30"	26"	106#	Thread	40'	Driven	---	26"	40'	12/17/09
22"	20"	94#	Thread	243'	Class A GB, 315 sx	GS	20"	243'	1/15/10
17-1/2"	13-3/8"	48#	Thread	442'	Class A GB, 518 sx	GS	13-3/8"	442'	3/9/10
12-1/4"	9-5/8"	36#	Thread	1971'	50/50 POZ, 700 sx	FS	9-5/8"	1971'	3/25/10
8-3/4"	5-1/2"	20#	Thread	11034'	Extendacem 890 sx	FS	5-1/2"	11034'	6/25/10
					Hal Light, 500 sx, Fracem 400 sx				

COMPLETION REPORT

Perforation Record

Stimulation Record

Date	Interval Perforated From	To	Date	Interval Treated	Fluid Type	Amount	Propping Agent Type	Amount	Average Injection
11-1-2010	10,934' MD	7,536' MD	11-13-2010	Marcellus Shale	Slick H2O	106,231 bbl	Sand	6,064 Klb	65.5 bpm

Natural Open Flow	Too small to measure	Natural Rock Pressure	Too small to measure	Hours	Days
After Treatment Open Flow	Omc/d @ 24hrs pos treatment	After Treatment Rock Pressure	N/A @ 24hrs post treatment	Hours	Days

Well Service Companies -- Provide the name, address, and phone number of all well service companies involved.

Name	Address	City - State - Zip	Phone
Patterson UTI	4501 Lamesa Highway	Snyder, TX 79549	325-574-6300
Universal Well Services	730 Braddock View Dr	Mt Braddock, PA 15465	724-430-6201
FracTech	16858 IH 20	Cisco, TX 76437	817-850-1008

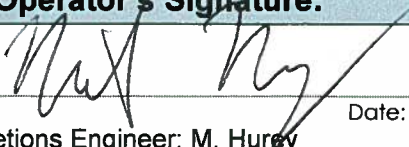
LOG OF FORMATIONS

Well API#: 37-125-23881

Formation Name or Type	Top (feet)	Bottom (feet)	Gas at (feet)	Oil at (feet)	Water at (fresh / brine; ft.)	Source of Data
Fill	0'	30'				Drillers Log
Shale	30'	90'				Drillers Log
Sandy Shale	90'	180'				Drillers Log
Sand	180'	265'				Drillers Log
Sandy Shale	265'	373'				Drillers Log
Sand	373'	404'				Drillers Log
Sandstone	404'	519'				Drillers Log
Redrock/Sandstone	519'	551'				Drillers Log
Redrock/Shale	551'	564'				Drillers Log
Shale and Sand	564'	722'				Drillers Log
Shale	722'	1198'				Drillers Log
Shale and Sand	1198'	1262'				Drillers Log
Shale and Redrock	1262'	1388'				Drillers Log
Redrock	1388'	1452'				Drillers Log
Shale	1452'	1484'				Drillers Log
Shale/Sand	1484'	1515'				Drillers Log
Sand	1515'	1546'				Drillers Log
Sand/Shale/Redrock	1546'	1577'				Drillers Log
Sand and Redrock	1577'	1639'				Drillers Log
Sand/shale/redrock	1639'	1670'				Drillers Log
Sand and Shale	1670'	2739'				Drillers Log
Gray Shale	2739'	3784'				Drillers Log
Shale	3784'	4530'				Drillers Log
Gray Shale	4530'	6685'				Drillers Log
Horizontal						
Shale	5700'	6685'				Drillers Log
Limestone	6685'	6720'				Drillers Log
Shale	6720'	7000'				Drillers Log
Dark Shale	7000'					Drillers Log
Drillers Total Depth		11135'				Drillers Log

Please delete empty rows if necessary to make all of page 2 fit on one page.

Well Operator's Signature:



Title: Completions Engineer: M. Huray Date: 12-12-2010

DEP USE ONLY

Reviewed by: _____ Date: _____

Comments:



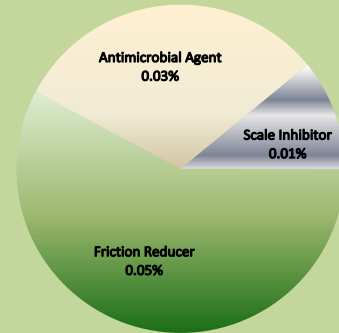
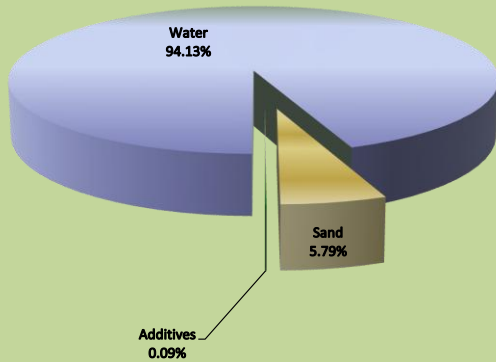
RANGE RESOURCES

John Miller Unit #4H
Well API: 37-125-23881

Completion Date: November 1 - 13, 2010
Township: Canton

% Composition of Hydraulic Fracture Fluid (by volume)						
Product Name	Additive	Purpose	Use and Dilution	Volume	Overall %	Common Uses
Water	Carrier Fluid	Creates fracture network in shale and carry proppant to the formation	Primary constituent	4,457,616 gal	94.13%	Water is the most abundant molecule on the Earth's surface
Sand	Sand	Allows fractures to remain open so gas can escape	Second most common constituent, making up almost 6% of the fluid	274,102 gal	5.79%	Drinking water filtration, play sand
FRW-200	Friction Reducer	Reduces friction between fluid and pipe	Diluted at one-half gallon per 1,000 gallons of water	2,350 gal	0.05%	Water treatment; soil conditioner; some children's toys
MC B-8650/Bioban	Antimicrobial Agent	Eliminates bacteria in the water that produce corrosive byproducts	Diluted at one-half gallon per 1,000 gallons of water	1,274 gal	0.03%	Water treatment, disinfectant; sterilize medical and dental equipment and surfaces
MX 588-2	Scale Inhibitor	Prevents scaling in pipe	Diluted at one-tenth gallon per 1,000 gallons of water	446 gal	0.01%	Water treatment, household cleaners, de-icing agent

Composition of Hydraulic Fracture Fluid (by volume)





Composition of Components in Marcellus Shale Hydraulic Fracturing Fluid

RANGE RESOURCES

Common Name & Supplier	Supplier Chemical Name	Common Description	Hazardous Component listed on MSDS	Purpose	MSDS Component Weight % of Chemical	Gallons MSDS Component in Well	Maximum Concentration of MSDS Component of Total Stage Fluid	
							% Vol	% Weight
Friction Reducer (FracTech)	FRW-200	Friction Reducer	No hazardous ingredients	Reduce friction down casing	0.0%	N/A	N/A	N/A
Scale Inhibitor (Multichem)	MX 588-2	Scale Inhibitor	No hazardous ingredients	prevents scale deposits	0.0%	N/A	N/A	N/A
Antibacterial Agent (Multichem)	Bioban	Antibacterial Agent	4,4-Dimethyloxazolidine	eliminates bacteria in water	78.0%	699.97	0.0148%	0.0135%
			3,4,4-Trimethyloxazolidine		5.0%	45.82	0.0010%	0.0009%
			2-Amino-2-methyl-1-propanol		1.0%	9.60	0.0002%	0.0002%
			Formaldehyde Amine		0.5%	4.18	0.0001%	0.0001%
	BMC B-8650	Antibacterial Agent	Glutaraldehyde	eliminates bacteria in water	50.0%	131.43	0.0028%	0.0038%
			Methanol		0.5%	1.31	0.0000%	0.0000%
TOTAL							0.0188%	0.0185%
SUMMARY							by vol %	by weight %
							0.019%	0.019%