



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

DEP USE ONLY	
Site ID	Primary Fac ID
Client Id	Subfacility Id

Well Record and Completion Report

Well Operator Range Resources - Appalachia, LLC		DEP ID# 141142	Well API # (Permit / Reg) 37125-23932	Project Number	Acres 272
Address 380 Southpointe Blvd, Suite 300			Well Farm Name A&D Ferguson	Well # 1H	Serial #
City Canonsburg	State PA	Zip Code 15317	County Washington	Municipality Chartiers	
Phone 724-743-6700	Fax 724-743-6790	USGS 7.5 min. quadrangle map Canonsburg			
Check all that apply: <input checked="" type="checkbox"/> Original Well Record <input type="checkbox"/> Original Completion Report <input type="checkbox"/> Amended Well Record <input type="checkbox"/> Amended Completion Report					

WELL RECORD Also complete the 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 1/20/10	Date Drilling Completed 7/30/10	Surface Elevation 1270 ft.	Total Depth - Driller 10383 ft.	Total Depth - Logger 10383 ft.			
Casing and Tubing		Cement returned on surface casing? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Cement returned on coal protective casing? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> 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"	108#	Thread	40'	Driven	-- 26" 40'	1/20/10
24"	20"	94#	Thread	241'	Class A, GB 400 sx	GS 20" 241'	1/28/10
17-1/2"	13-3/8"	48#	Thread	332'	Class A GB, 240 sx	GS 13-3/8" 332'	1/30/10
12-1/4"	9-5/8"	36#	Thread	1757'	Class A GB, 580 sx	GS 9-5/8" 1757'	2/3/10
8-3/4"	5-1/2"	20#	Thread	10368'	50/50 12.8 ppg, 939 sx	FS 5-1/2" 10368'	7/30/10
50/50 13.6, 218 sx Class A 582 sx							

COMPLETION REPORT

Perforation Record			Stimulation Record							
Date	Interval Perforated From	To	Date	Interval Treated	Fluid Type	Amount	Propping Agent Type	Amount	Average Injection Rate	
9/9/10	7099' MD	10171' MD	9/14/10	Marcellus Shale	Slick H2O	110,790 bbl	Sand	5908k lb	70.7 bpm	
Natural Open Flow			too small to measure		Natural Rock Pressure		too small		Hours	Days
After Treatment Open Flow			Not determinable		After Treatment Rock Pressure		Not determinable		Hours	Days

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

Name Patterson UTI	Name Schlumberger	Name Weatherford
Address 4501 Lamesa Highway	Address 95 Rutherford Run	Address 515 Post Oak Blvd
City - State - Zip Snyder, TX 79549	City - State - Zip Bradford, PA 16701	City - State - Zip Houston, TX 77027
Phone -	Phone 814-362-7441	Phone 713-693-4000

LOG OF FORMATIONS

Well API#: **37-125-23932-**_____

(If you will need more space than this page, please photocopy the blank form before filling it in.)

Formation Name or Type	Top (feet)	Bottom (feet)	Gas at (feet)	Oil at (feet)	Water at (fresh / brine; ft.)	Source of Data
Fill	0'	40'				Drillers Log
Sand and Shale	40'	160'				Drillers Log
Sand	160'	320'				Drillers Log
Shale	320'	1150'				Drillers Log
Sand and Shale	1150'	1260'				Drillers Log
Sand	1260'	1310'				Drillers Log
Sand and Shale	1310'	1430'				Drillers Log
Sand	1430'	1610'				Drillers Log
Shale	1610'	2030'				Drillers Log
Sand and Shale	2030'	2120'				Drillers Log
Shale	2120'	2370'				Drillers Log
Sand and Shale	2370'	2630'				Drillers Log
Shale	2630'	3120'				Drillers Log
Sand and Shale	3120'	3200'				Drillers Log
Shale	3200'	4160'				Drillers Log
Sand and Shale	4160'	4520'				Drillers Log
Shale	4520'	4610'				Drillers Log
Sand and Shale	4610'	4690'				Drillers Log
Shale	4690'	5240'				Drillers Log
Sand and Shale	5240'	5390'				Drillers Log
Shale	5390'	5650'				Drillers Log
Sand and Shale	5650'	6000'				Drillers Log
Horizontal						
Shale	5550'	6420'				Drillers Log
Limestone	6420'	6480'				Drillers Log
Shale	6480'					Drillers Log
Drillers Total Depth		10383'				Drillers Log

I do hereby certify to the best of my knowledge, information and belief that the well identified on this Well Record and Completion Report has been properly cased and cemented in accordance with the requirements of 25 Pa. Code Chapter 78 and any conditions contained in the permit for this well. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

<p>Well Operator's Signature</p> <p>Title: Michael Hurey-Completions Engineer Date: 9/23/10</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; background-color: #cccccc;">DEP USE ONLY</td> </tr> <tr> <td>Reviewed by: _____ Date: _____</td> </tr> <tr> <td>Comments: _____</td> </tr> </table>	DEP USE ONLY	Reviewed by: _____ Date: _____	Comments: _____
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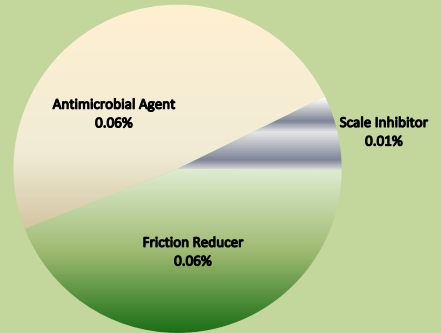
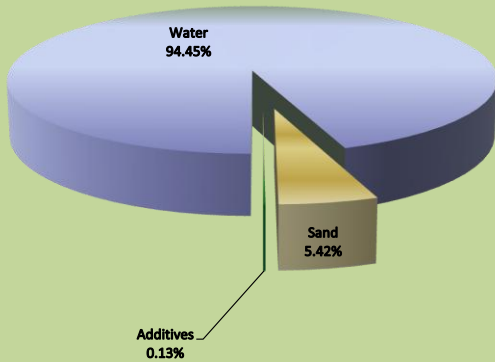


RANGE RESOURCES
AD Ferguson Unit #1H
Well API: 37-125-23932

Completion Date: September 9 - 14, 2010
Township: Chartiers

% 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	4,653,196 gal	94.45%	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	267,043 gal	5.42%	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	2,798 gal	0.06%	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	3,096 gal	0.06%	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	465 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%	1701.03	0.0345%	0.0318%
			3,4,4-Trimethyloxazolidine		5.0%	111.35	0.0023%	0.0020%
			2-Amino-2-methyl-1-propanol		1.0%	23.34	0.0005%	0.0004%
			Formaldehyde Amine		0.5%	10.16	0.0002%	0.0002%
	BMC B-8650	Antibacterial Agent	Glutaraldehyde	eliminates bacteria in water	60.0%	383.27	0.0078%	0.0107%
			Ethanol		1.0%	6.39	0.0001%	0.0002%
TOTAL							0.0454%	0.0454%
SUMMARY							by vol %	by weight %
							0.045%	0.045%