



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) 37125-23860		Project Number	Acres 592
Address 380 Southpointe Blvd, Suite 300			Well Farm Name Johnston Charles		Well # 12H	Serial #
City Canonsburg	State PA	Zip Code 15317	County Washington	Municipality Chartiers Township		
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 11/19/09	Date Drilling Completed 4/30/10	Surface Elevation 1242 ft.	Total Depth - Driller 11069 ft.	Total Depth - Logger 11069 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 type="checkbox"/> No <input checked="" 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'	11/19/09
24"	20"	81.3#	Thread	245'	Gas Block, 690 sx	GS 20" 245'	12/19/09
12-1/4"	9-5/8"	36#	Thread	1886'	Gas Block, 830 sx	GS 9-5/8" 1886'	12/23/09
8-3/4"	5-1/2"	20#	Thread	11023'	Extendacem, 930 sx	FS 5-1/2" 11023'	4/30/10
					Hal Light, 365 sx, Fraccem 370 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	7,533' MD	10,923' MD	9-14-10	Marcellus Shale	Slick H2O	107,736 bbl	Sand	5546k lb	65.9 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 Universal Well Services	Name Frac Tech
Address 4501 Lamesa Highway	Address 730 Braddock View Dr	Address 16858 IH20
City - State - Zip Snyder, TX 79549	City - State - Zip Mt. Braddock, PA 15465	City - State - Zip Cisco, TX 76437
Phone 325-574-6300	Phone 724-430-6201	Phone 817-850-1008

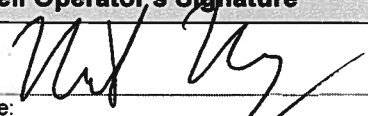
LOG OF FORMATIONS

Well API#: 37-125-23860-

(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'	52'				Drillers Log
Shale	52'	82'				Drillers Log
Shale	82'	262'				Drillers Log
Shale	262'	372'				Drillers Log
Sand/Shale and Redrock	372'	522'				Drillers Log
Sand and Shale	522'	672'				Drillers Log
Sand	672'	732'				Drillers Log
Sand and Shale	732'	762'				Drillers Log
Shale	762'	1002'				Drillers Log
Sand and Shale	1002'	1032'				Drillers Log
Shale	1032'	1352'				Drillers Log
Sand	1352'	1382'				Drillers Log
Sand and Shale	1382'	1592'				Drillers Log
Sand	1592'	1622'				Drillers Log
Sand and Shale	1622'	1682'				Drillers Log
Shale	1682'	1782'				Drillers Log
Sand and Shale	1782'	1932'				Drillers Log
Shale	1932'	2280'				Drillers Log
Sand	2280'	2370'				Drillers Log
Shale	2370'	2590'				Drillers Log
Sand	2590'	2670'				Drillers Log
Shale	2670'	4060'				Drillers Log
Sand and Shale	4060'	4220'				Drillers Log
Sand	4220'	4430'				Drillers Log
Shale	4430'	6323'				Drillers Log
Limestone	6323'	6462'				Drillers Log
Shale	6462'	6610'				Drillers Log
Limestone	6610'	6616'				Drillers Log
Horizontal						
Shale	5750'	6580'				Drillers Log
Limestone	6580'	6670'				Drillers Log
Shale	6670'					Drillers Log
Drillers Total Depth		11069'				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: M.Hurey-Completions Engineer Date: 9/28/10</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">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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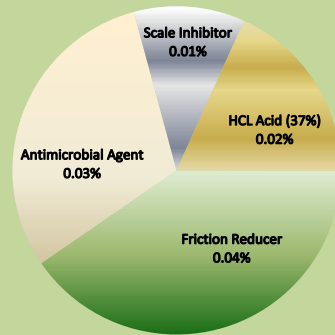
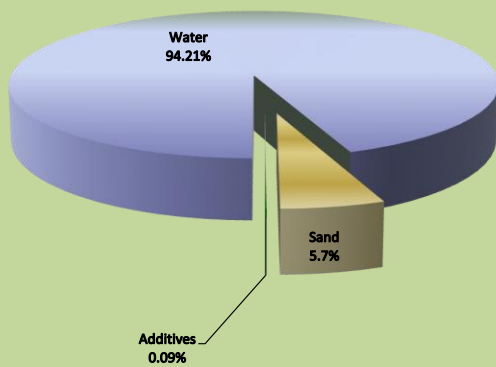
RANGE RESOURCES

Johnston Unit #12H
Well API: 37-125-23860

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

% Composition of Hydraulic Fracture Fluid (by volume)						
Product Name	Additive	Purpose	Use and Dillution	Volume	Overall %	Common Uses
Water	Carrier Fluid	Creates fracture network in shale and carry proppant to the formation	Primary constituent	4,524,908 gal	94.21%	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	274,028 gal	5.71%	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	1,693 gal	0.04%	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	1,273 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	459 gal	0.01%	Water treatment, household cleaners, de-icing agent
HCL Acid (37%)	Perf Clean-Up	Dissolves cement and minerals to help initiate fractures	177 gallons per stage if required (non-diluted chemicals)	767 gal	0.02%	Swimming pool and household cleaner

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
7.5% HCl Mixture (FracTech)	37% HCL	concentrated HCl Acid	HCL	Cleans perforation	37.0%	766.73	0.0160%	0.0064%
	CI-100	Corrosion Inhibitor	Methanol	Protects casing	95.0%	0.00	0.0000%	0.0000%
			Propargyl Alcohol	Protects casing	5.0%	0.00	0.0000%	0.0000%
	NE100	Non- Emulsifer	No hazardous ingredients	#VALUE!	0.0%	N/A	N/A	N/A
FE100L	Iron Chelator	No hazardous ingredients	No hazardous ingredients	Prevents precipitation	0.0%	N/A	N/A	N/A
TOTAL							0.0160%	0.0064%

Friction Reducer (FracTech)	FRW-200	Friction Reducer	No hazardous ingredients	Reduce friction down casing	0.0%	N/A	N/A	N/A
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Scale Inhibitor (Multichem)	MX 588-2	Scale Inhibitor	No hazardous ingredients	prevents scale deposits	0.0%	N/A	N/A	N/A
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Antibacterial Agent (Multichem)	Bioban	Antibacterial Agent	4,4-Dimethyloxazolidine	eliminates bacteria in water	78.0%	699.42	0.0146%	0.0134%
			3,4,4-Trimethyloxazolodine		5.0%	45.78	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%	131.33	0.0027%	0.0037%
			Methanol		0.5%	1.31	0.0000%	0.0000%
TOTAL							0.0186%	0.0183%

SUMMARY	by vol %	by weight %
	0.035%	0.025%