



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) 37125-24013		Project Number	Acres 960
Address 380 Southpointe Blvd, Suite 300			Well Farm Name Chappel Unit		Well # 5H	Senal #
City Canonsburg	State PA	Zip Code 15317	County Washington	Municipality Hopewell		
Phone 724-743-6700	Fax 724-743-6790	USGS 7.5 min. quadrangle map Washington West				
Check all that apply: <input checked="" type="checkbox"/> Original Well Record <input checked="" 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 3/12/2010		Date Drilling Completed 10/7/10		Surface Elevation 1140 ft.	Total Depth - Driller 12077' ft.	Total Depth - Logger 12077' 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 checked="" type="checkbox"/> Yes <input 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	35'	Driven	--- 26" 35'	3/12/10
17-1/2"	13-3/8"	48#	Thread	242'	Uniblock, 580 sx	GS 13-3/8" 242'	3/24/10
12-1/4"	9-5/8"	36#	Thread	1854'	Uniblock, 610 sx	GS 9-5/8" 1854'	4/14/10
8 3/4"	5 1/2"	20#	Thread	12073'	Halliburton Light, 1570 sx	FS 5 1/2" 12073'	10/6/10
				Fraccem 470 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
1/5/2011	11,561'MD 7,799'MD		1/19/2011	Marcellus Shale	Slick H2O	94,515 bbl	Sand	4,023 Klb	64.7 bpm
Natural Open Flow Too small to measure			Natural Rock Pressure Too small to measure		Hours Days				
After Treatment Open Flow Omcfd@24 hrs post treatment			After Treatment Rock Pressure na@24hrs post treatment		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

LOG OF FORMATIONS

Well API#: 37-125-24013-

(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'	65'				Drillers Log
Sand	65'	85'				Drillers Log
Sand and Shale	85'	300'				Drillers Log
Sand	300'	405'				Drillers Log
Shale	405'	720'				Drillers Log
Sand and Shale	720'	970'				Drillers Log
Shale	970'	1200'				Drillers Log
Sand and Shale	1200'	1280'				Drillers Log
Shale	1280'	1510'				Drillers Log
Sand and Shale	1510'	1890'				Drillers Log
Sand	1890'	2030'				Drillers Log
Sand and Shale	2030'	2160'				Drillers Log
Shale	2160'	2300'				Drillers Log
Sand and Shale	2300'	2420'				Drillers Log
Shale	2420'	2600'				Drillers Log
Sand and Shale	2600'	3110'				Drillers Log
Shale	3110'	3360'				Drillers Log
Sand and Shale	3360'	3810'				Drillers Log
Shale	3810'	4500'				Drillers Log
Sand and Shale	4500'	5100'				Drillers Log
Shale	5100'	6037'				Drillers Log
Horizontal						
Shale	4850'	7300'				Drillers Log
Limestone	7300'	7420'				Drillers Log
Shale	7420'					Drillers Log
Drillers Total Depth		12077'				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.

Well Operator's Signature	DEP USE ONLY
	Reviewed by: _____ Date: _____
Title: _____ Date: <u>2/11/2011</u>	Comments: _____
Completion Engineer: R Archibeque 2/11/2011	

Phone 325-574-6300-	Phone 724-430-6201	Phone 817-850-1008
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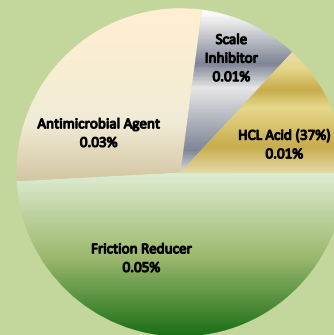
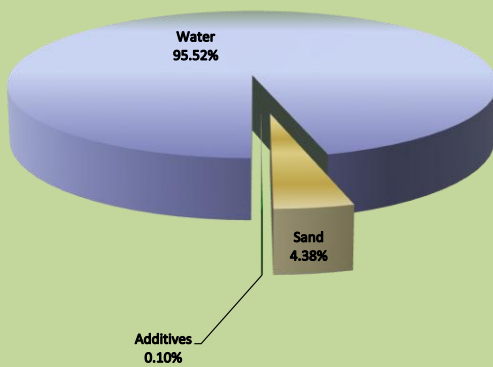
RANGE RESOURCES

Chappel Unit #5H
Well API: 37-125-24013

Completion Date: January 19, 2011
Township: Hopewell

% 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	3,965,582 gal	95.52%	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	181,824 gal	4.38%	Drinking water filtration, play sand
FRW-300	Friction Reducer	Reduces friction between fluid and pipe	Diluted at one-half gallon per 1,000 gallons of water	1,986 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	1,130 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	397 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)	532 gal	0.01%	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%	531.71	0.0128%	0.0052%	
	CI-100	Corrosion Inhibitor	Methanol	Protects casing	95.0%	6.19	0.0001%	0.0001%	
			Propargyl Alcohol	Protects casing	5.0%	0.27	0.0000%	0.0000%	
	NE100	Non- Emulsifer	No hazardous ingredients	Prevents emulsions	0.0%	N/A	N/A	N/A	
FE100L	Iron Chelator	No hazardous ingredients	Prevents precipitation	0.0%	N/A	N/A	N/A	N/A	
TOTAL								0.0130%	0.0054%

Friction Reducer (FracTech)	FRW-300	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%	620.86	0.0150%	0.0140%	
			3,4,4-Trimethyloxazolodine		5.0%	40.64	0.0010%	0.0009%	
			2-Amino-2-methyl-1-propanol		1.0%	8.52	0.0002%	0.0002%	
			Formaldehyde Amine		0.5%	3.71	0.0001%	0.0001%	
	BMC B-8650	Antibacterial Agent	Glutaraldehyde	eliminates bacteria in water	50.0%	116.57	0.0028%	0.0039%	
			Methanol		0.5%	1.17	0.0000%	0.0000%	
TOTAL								0.0191%	0.0191%

SUMMARY	by vol %	by weight %
	0.032%	0.024%