



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 <b>Range Resources – Appalachia, LLC</b>		DEP ID# <b>141142</b>	Well API # (Permit / Reg) <b>37-125-24028-00</b>	Project Number	Acres <b>820</b>
Address <b>380 Southpointe Blvd. Suite 300</b>			Well Farm Name <b>Bednarski Unit</b>	Well # <b>7H</b>	Serial #
City <b>Canonsburg</b>	State <b>PA</b>	Zip Code <b>15317</b>	County <b>Washington</b>	Municipality <b>Hopewell</b>	
Phone <b>724-743-6700</b>	Fax <b>724-743-6790</b>	USGS 7.5 min. quadrangle map <b>Washington West</b>			

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	Date Drilling Completed	Surface Elevation	Total Depth – Driller	Total Depth - Logger		

#### 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

### COMPLETION REPORT

#### Perforation Record

#### Stimulation Record

Date	Interval Perforated		Date	Interval Treated	Fluid		Propping Agent		Average Injection
	From	To			Type	Amount	Type	Amount	
2-14-2011	10,838'MD	7,055'MD	2-21-2011	Marcellus Shale	Slick H2O	80,503bbl	Sand	4,061klb	67.9bpm

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 <b>Patterson UTI</b>	Name <b>Universal Well Services</b>	Name <b>Frac Tech</b>
Address <b>4501 Lamesa Highway</b>	Address <b>730 Braddock View Dr</b>	Address <b>16858 IH20</b>
City - State - Zip <b>Snyder, TX 79549</b>	City - State - Zip <b>Mt. Braddock, PA 15465</b>	City - State - Zip <b>Cisco, TX 76437</b>
Phone <b>325-574-6300</b>	Phone <b>724-430-6201</b>	Phone <b>817-850-1008</b>

## LOG OF FORMATIONS

Well API#: 37-081-20164

Formation Name or Type	Top (feet)	Bottom (feet)	Gas at (feet)	Oil at (feet)	Water at (fresh / brine; ft.)	Source of Data

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

**Well Operator's Signature:**



Title: Completions Engineer: Mike Hursey Date: 3-18-2011

**DEP USE ONLY**

Reviewed by: \_\_\_\_\_ Date: \_\_\_\_\_

Comments:

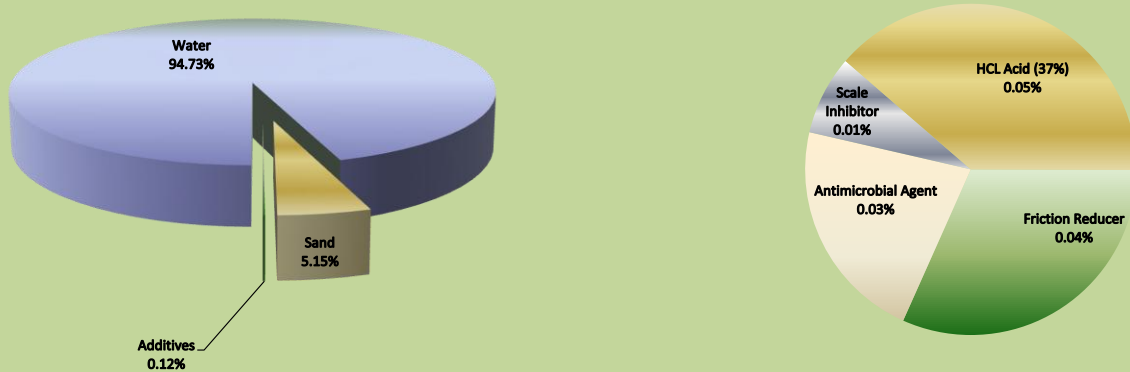


**Bednarski Unit #7H**  
**Well API: 37-125-24028**

**Completion Date: February 14 - 21st, 2011**  
**Township: Hopewell**

% 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	3,376,757 gal	94.73%	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	183,592 gal	5.15%	Drinking water filtration, play sand
FRW-200 & FRW-300	Friction Reducer	Reduces friction between fluid and pipe	Diluted at one-half gallon per 1,000 gallons of water	1,376 gal	0.039%	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	0,953 gal	0.027%	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	0,337 gal	0.009%	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)	1,684 gal	0.047%	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	February 14 - 21st, 2011	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%	1683.75	0.0472%	0.0191%	
	CI-100	Corrosion Inhibitor	Methanol	Protects casing	95.0%	19.60	0.0005%	0.0004%	
			Propargyl Alcohol	Protects casing	5.0%	0.84	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	
<b>TOTAL</b>								<b>0.0478%</b>	<b>0.0195%</b>

<b>Friction Reducer (FracTech)</b>	RW-200 & FRW-30	Friction Reducer	No hazardous ingredients	Reduce friction down casing	0.0%	N/A	N/A	N/A
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<b>Scale Inhibitor (Multichem)</b>	MX 588-2	Scale Inhibitor	No hazardous ingredients	prevents scale deposits	0.0%	N/A	N/A	N/A
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<b>Antibacterial Agent (Multichem)</b>	Bioban	Antibacterial Agent	4,4-Dimethyloxazolidine	eliminates bacteria in water	78.0%	523.61	0.0147%	0.0136%	
			3,4,4-Trimethyloxazolodine		5.0%	34.27	0.0010%	0.0009%	
			2-Amino-2-methyl-1-propanol		1.0%	7.18	0.0002%	0.0002%	
			Formaldehyde Amine		0.5%	3.13	0.0001%	0.0001%	
	BMC B-8650	Antibacterial Agent	Glutaraldehyde	eliminates bacteria in water	50.0%	98.31	0.0028%	0.0038%	
			Methanol		0.5%	0.98	0.0000%	0.0000%	
<b>TOTAL</b>								<b>0.0187%</b>	<b>0.0186%</b>

<b>SUMMARY</b>	by vol %	by weight %
	<b>0.067%</b>	<b>0.038%</b>