



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) 37125-23903	Project Number	Acres 503
Address 380 Southpointe Blvd, Suite 300			Well Farm Name Troyer Space Management Unit	Well # 2H	Serial #
City Canonsburg	State PA	Zip Code 15317	County Washington	Municipality Cecil	
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 checked="" 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	Date Drilling Completed	Surface Elevation ft.	Total Depth - Driller ft.	Total Depth - Logger ft.			
Casing and Tubing		Cement returned on surface casing? <input type="checkbox"/> Yes <input type="checkbox"/> No					
		Cement returned on coal protective casing? <input 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

COMPLETION REPORT

Perforation Record			Stimulation Record						
Date	Interval Perforated From	To	Date	Interval Treated	Fluid Type Amount		Propping Agent Type Amount		Average Injection Rate
2/8/2011	10,655' MD	6,801' MD	2/15/2011	Marcellus Shale	Slick H2O	95,884bbl	Sand	4,249klb	67.7pbm
Natural Open Flow	Too small to measure			Natural Rock Pressure	Too small to measure		Hours	Days	
After Treatment Open Flow	Omcf/d@24 hrs post treatment			After Treatment Rock Pressure	NA24hrs post frac		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

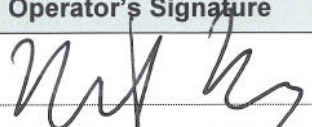
LOG OF FORMATIONS

Well API#: 37-125-23903-_____

(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

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
 Title: Completion Engineer: M Hurey Date: 3/18/2011	Reviewed by: _____ Date: _____ Comments: _____



Troyer Space Management Unit 2H
Well API: 37-125-23903

Completion Date: February 15th, 2011
Township: Cecil

% 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	4,023,274 gal	95.36%	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	192,094 gal	4.55%	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	1,937 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	1,155 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	410 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)	354 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%	354.47	0.0084%	0.0034%
	CI-100	Corrosion Inhibitor	Methanol	Protects casing	95.0%	4.13	0.0001%	0.0001%
			Propargyl Alcohol	Protects casing	5.0%	0.18	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
TOTAL							0.0085%	0.0035%

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%	634.59	0.0150%	0.0140%
			3,4,4-Trimethyloxazolidine		5.0%	41.54	0.0010%	0.0009%
			2-Amino-2-methyl-1-propanol		1.0%	8.71	0.0002%	0.0002%
			Formaldehyde Amine		0.5%	3.79	0.0001%	0.0001%
	BMC B-8650	Antibacterial Agent	Glutaraldehyde	eliminates bacteria in water	50.0%	119.15	0.0028%	0.0039%
			Methanol		0.5%	1.19	0.0000%	0.0000%
TOTAL							0.0192%	0.0192%

SUMMARY	by vol %	by weight %
	0.028%	0.023%