



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) 37125-23941		Project Number	Acres 503
Address 380 Southpointe Blvd, Suite 300			Well Farm Name Troyer Space Management Unit		Well # 10H	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 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 checked="" type="checkbox"/> Rotary - Air	<input checked="" type="checkbox"/> Rotary - Mud	<input type="checkbox"/> Cable Tool					
Date Drilling Started 1/15/2010		Date Drilling Completed 8/13/2010		Surface Elevation 1102 ft.	Total Depth - Driller 10895 ft.	Total Depth - Logger 10895 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'	1/15/10
24"	20"	81.3#	Thread	254'	Class A GB 421 sx	GS	20"	254'	4/19/10
12-1/4"	9-5/8"	36#	Thread	1812'	Class A GB 840 sx	GS	9-5/8"	1812'	4/22/10
8-3/4"	5-1/2"	20#	Thread	10895	Halliburton Light 1380 sx	FS	5 1/2"	10895	8/13/10
					Fraccem 465 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
1/20/2011	10,730'MD	7,006'MD	1/28/2011	Marcellus Shale	Slick H2O	86,400bbl	Sand	3,936Klb	64.7bpm
Natural Open Flow Too small to measure			Natural Rock Pressure Too small to measure						
After Treatment Open Flow Omcf/d@24 hrs post treatment			After Treatment Rock Pressure NA@24hrs post treatment						

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
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LOG OF FORMATIONS

Well API#: **37-125-23941-**_____

(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'	410'				Drillers Log
Red Rock	410'	445'				Drillers Log
Sand and Shale	445'	515'				Drillers Log
Red Rock	515'	540'				Drillers Log
Shale	540'	600'				Drillers Log
Sandy Shale	600'	620'				Drillers Log
Red Rock	620'	628'				Drillers Log
Shale	628'	700'				Drillers Log
Shale	700'	765'				Drillers Log
Coal	765'	771'				Drillers Log
Shale	771'	800'				Drillers Log
Shale	800'	860'				Drillers Log
Coal	860'	868'				Drillers Log
Shale	868'	900'				Drillers Log
Shale	900'	1000'			damp@ 915'	Drillers Log
Sandy Shale	1000'	1390'				Drillers Log
Sand	1390'	1530'				Drillers Log
Sandy Shale	1530'	2000'				Drillers Log
Shale	2000'	2200'				Drillers Log
White sand /shale	2200'	2300'				Drillers Log
Shale	2300'	5500'				Drillers Log
Sandy Shale	5500'	5600'				Drillers Log
Shale	5600'	6180'				Drillers Log
Sand	6180'	6300'				Drillers Log
Limestone	6300'	6406'				Drillers Log
Shale	6406'	6610'				Drillers Log
Limestone	6610'	6742'				Drillers Log
Horizontal						
Shale	5500'	6490'				Drillers Log
Limestone	6490'	6600'				Drillers Log
Shale	6600'					Drillers Log
Drillers Total Depth		10895'				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  Title: Completion Engineer: R Archibque Date: 3/4/2011	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="2" style="text-align: center; padding: 5px;">DEP USE ONLY</th> </tr> <tr> <td style="width: 70%;">Reviewed by:</td> <td style="width: 30%;">Date:</td> </tr> <tr> <td colspan="2">Comments:</td> </tr> </table>	DEP USE ONLY		Reviewed by:	Date:	Comments:	
DEP USE ONLY							
Reviewed by:	Date:						
Comments:							

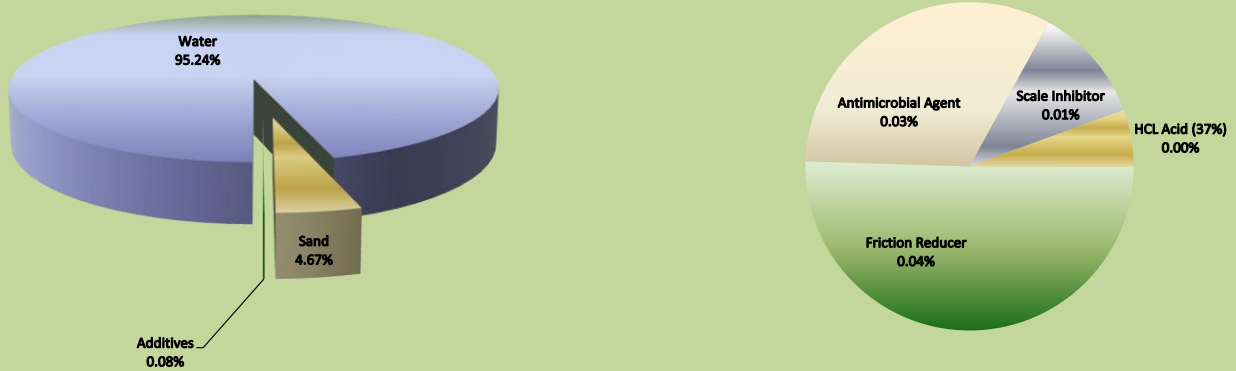


Troyer Space Management Unit 10H
Well API: 37-125-23941

Completion Date: January 28, 2011
Township: Cecil

% 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	3,625,639 gal	95.24%	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	177,914 gal	4.67%	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	1,590 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	1,025 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	359 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)	177 gal	0.005%	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%	177.24	0.0047%	0.0019%	
	CI-100	Corrosion Inhibitor	Methanol	Protects casing	95.0%	2.06	0.0001%	0.0000%	
			Propargyl Alcohol	Protects casing	5.0%	0.09	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								0.0047%	0.0019%

Friction Reducer (FracTech)	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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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%	563.16	0.0148%	0.0138%	
			3,4,4-Trimethyloxazolodine		5.0%	36.86	0.0010%	0.0009%	
			2-Amino-2-methyl-1-propanol		1.0%	7.73	0.0002%	0.0002%	
			Formaldehyde Amine		0.5%	3.36	0.0001%	0.0001%	
	BMC B-8650	Antibacterial Agent	Glutaraldehyde	eliminates bacteria in water	50.0%	105.74	0.0028%	0.0039%	
			Methanol		0.5%	1.06	0.0000%	0.0000%	
TOTAL								0.0189%	0.0188%

SUMMARY	by vol %	by weight %
	0.024%	0.021%