



**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 Range Resources – Appalachia, LLC		DEP ID# 141142	Well API # (Permit / Reg) 37-125-23959	Project Number	Acres 441
Address 380 Southpointe Blvd. Suite 300			Well Farm Name Sierzega Unit	Well # 12H	Serial #
City Canonsburg	State PA	Zip Code 15317	County Washington	Municipality Amwell	
Phone 724-743-6700	Fax 724-743-6790	USGS 7.5 min. quadrangle map Amity			

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 1/15/2010	Date Drilling Completed 7/20/10	Surface Elevation 1147 ft.	Total Depth – Driller 11611 ft	Total Depth - Logger 11611 ft		

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
30"	26"	106#	Thread	40'	Driven	---	26"	40'	1/15/10
24"	20"	81.3#	Thread	294'	Class A Gas Block, 325 sx	GS	20"	294'	2/28/10
17-1/2"	13-3/8"	54.5#	Thread	1,100"	Class A Gas Block, 825 sx	GS	13-3/8"	1100'	4/8/10
12-1/4"	9-5/8"	40#	Thread	2,918'	Class A Gas Block, 934 sx	GS	9-5/8"	2918'	4/11/10
8-3/4"	5-1/2"	20#	Thread	11,572'	Extendacem, 1000 sx	FS	5-1/2"	11572"	7/20/10
					Hall Light, 500 sx, Fraccem 400 sx				

COMPLETION REPORT

Perforation Record

Stimulation Record

Date	Interval Perforated From	To	Date	Interval Treated	Fluid Type	Amount	Propping Agent Type	Amount	Average Injection
12-17-2010	11,075' MD	8,672' MD	12-21-2010	Marcellus Shale	Slick H2O	70,284 bbl	Sand	3,841 Klb	59.9 bpm

Natural Open Flow	Too small to measure	Natural Rock Pressure	Too small to measure	Hours	Days
After Treatment Open Flow	Omcfd @ 24hrs post 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 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#: 37-125-23959

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
Sandy Shale	40'	72'				Drillers Log
Sand	72'	94'				Drillers Log
Sandy Shale	94'	115'				Drillers Log
Sand	115'	135'				Drillers Log
Shale	135'	142'				Drillers Log
Sandy Shale	142'	192'				Drillers Log
Sand	192'	213'				Drillers Log
Sandy Shale	213'	412'				Drillers Log
Shale	412'	520'				Drillers Log
Sandy Shale	520'	598'				Drillers Log
Sand	598'	604'				Drillers Log
Sandy Shale	604'	1405'				Drillers Log
Sand	1405'	1470'				Drillers Log
Sandy Shale	1470'	1656'			½" @ 1655'	Drillers Log
Sand	1656'	3239'				Drillers Log
Limestone	3239'	3398'				Drillers Log
Shale	3398'	5035'				Drillers Log
Sandy Shale	5035'	5407'				Drillers Log
Shale	5407'	5664'				Drillers Log
Gray Shale	5664'	7300'				Drillers Log
Shale	7300'	7440'				Drillers Log
Limestone	7440'	7450'				Drillers Log
Horizontal						Drillers Log
Shale	6420'	7460'				Drillers Log
Limestone	7460'	7640'				Drillers Log
Shale	7640'					Drillers Log
Drillers Total Depth		11611'				Drillers Log

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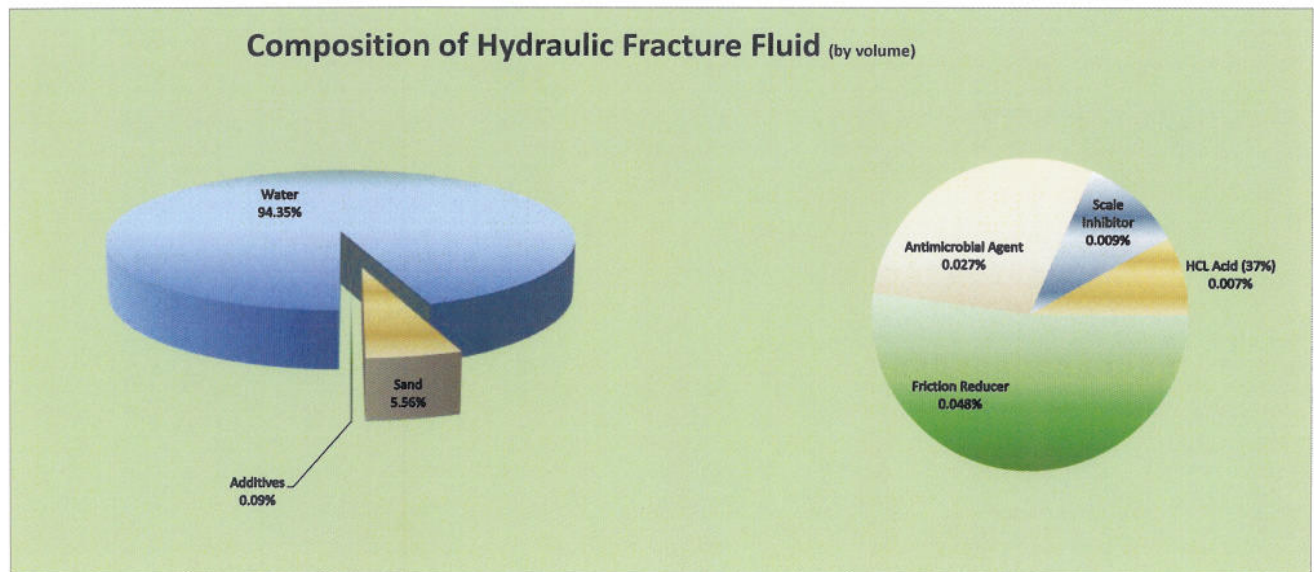
<p>Well Operator's Signature:</p>  <p>Title: Completion Engineer: Matthew A. Ockree Date: 1-3-2011</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">DEP USE ONLY</td> </tr> <tr> <td> Reviewed by: _____ Date: _____ Comments: _____ </td> </tr> </table>	DEP USE ONLY	Reviewed by: _____ Date: _____ Comments: _____
DEP USE ONLY			
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Sierzega Unit #12H
Well API: 37-125-23959

Completion Date: 12/17/10-12/21/10
Township: Amwell

% 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	2,949,088 gal	94.35%	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	173,625 gal	5.56%	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	1,488 gal	0.048%	Water treatment; soil conditioner; some children's toys
MC B-8642/Bioban	Antimicrobial Agent	Eliminates bacteria in the water that produce corrosive byproducts	Diluted at one-half gallon per 1,000 gallons of water	0,839 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	293 gal	0.009%	Water treatment, household cleaners, de-icing agent
HCL Acid	Perf Clean-Up	Dissolves cement and minerals to help initiate fractures	139 gallons per stage (non-diluted chemicals)	234 gal	0.007%	Swimming pool and household cleaner





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%	234.21	0.0075%	0.0030%
	CI-100	Corrosion Inhibitor	Methanol	Protects casing	95.0%	7.22	0.0002%	0.0002%
			Propargyl Alcohol	Protects casing	5.0%	0.31	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	0.0077%	0.0032%

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%	460.97	0.0147%	0.0136%
			3,4,4-Trimethyloxazolodine		5.0%	30.17	0.0010%	0.0009%
			2-Amino-2-methyl-1-propanol		1.0%	6.32	0.0002%	0.0002%
			Formaldehyde Amine		0.5%	2.75	0.0001%	0.0001%
	BMC B-8642	Antibacterial Agent	Glutaraldehyde	eliminates bacteria in water	60.0%	103.86	0.0033%	0.0046%
			n-alkyl dimethyl benzyl ammonium chloride		10.0%	17.31	0.0006%	0.0008%
			Ethanol		1.0%	1.73	0.0001%	0.0001%
						TOTAL	0.0160%	0.0147%

SUMMARY	by vol %	by weight %
	0.024%	0.018%