



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) 37-125-23937	Project Number	Acres 441
Address 380 Southpointe Blvd. Suite 300			Well Farm Name Sierzega	Well # 8H	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 12/5/09	Date Drilling Completed 3/22/10	Surface Elevation 1147 ft.	Total Depth – Driller 10545 ft	Total Depth - Logger 10545 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"	106#	Thread	32'	Driven	---	26"	32'	12/5/09
24"	20"	81.3#	Thread	272"	Class A Gas Block, 400 sx	GS	20"	272'	12/14/09
17-1/2"	13-3/8"	54.5#	Thread	1356'	Uniblock, 1000 sx	GS	13-3/8"	1356'	12/17/09
12-1/4"	9-5/8"	36#	Thread	3047'	Class A Gas Block, 1290 sxx	GS	9-5/8"	3047'	12/24/09
8-3/4"	5-1/2"	20#	Thread	10510'	Extendacem, 990 sx	FS	5-1/2"	10927'	3/22/10
					Hal light, 340 sx, Fraccem 350 sx				

COMPLETION REPORT

Perforation Record			Stimulation Record						
Date	Interval Perforated From To		Date	Interval Treated	Fluid Type Amount		Propping Agent Type Amount		Average Injection
10-19-10	10,362' MD	7,762' MD	10-23-10	Marcellus Shale	Slick H2O	82,044 bbl	Sand	4,555klb	60.8bpm
Natural Open Flow Too small to measure			Natural Rock Pressure Too small to measure		Hours		Days		
After Treatment Open Flow 0 mcf/d @ 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.

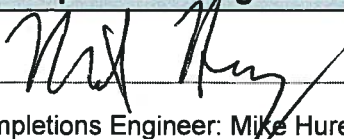
Name Patterson UTI	Name Universal Well Services	Name Frac Tech
Address 4501 Lamesa Highway	Address 730 Braddock View Dr	Address 16858 IH20
City - State - Zip Snyder, TX 79549	City - State - Zip Mt. Braddock, PA 15465	City - State - Zip Cisco, TX 76437
Phone 325-574-6300	Phone 724-430-6201	Phone 817-850-1008

LOG OF FORMATIONS

Well API#: 37-125-23937

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'				Geophysical Log
Shale	40'	110'				Geophysical Log
Sand	110'	148'				Geophysical Log
Sandy Shale	148'	170'				Geophysical Log
Sand	170'	222'				Geophysical Log
Sandy Shale	222'	400'				Geophysical Log
Sand	400'	575'				Geophysical Log
Sandy Shale	575'	715'				Geophysical Log
Sand	715'	875'				Geophysical Log
Sandy Shale	875'	970'				Geophysical Log
Sand	970'	1025'				Geophysical Log
Sandy Shale	1025'	1210'				Geophysical Log
Sand	1210'	1351'				Geophysical Log
Sandy Shale	1351'	1665'				Geophysical Log
Sand	1665'	1793'			½" wtr @ 1712'	Geophysical Log
Sandy Shale	1793'	2104'				Geophysical Log
Sand and Shale	2104'	2451'				Geophysical Log
Sand	2451'	2476'				Geophysical Log
Sand and Shale	2476'	2654'				Geophysical Log
Red Rock	2654'	2660'				Geophysical Log
Shale	2660'	2745'				Geophysical Log
Sand and Shale	2745'	2901'				Geophysical Log
Sand	2901'	3010'				Geophysical Log
Sandy Shale	3010'	3305'				Geophysical Log
Shale	3305'	3380'				Geophysical Log
Sandy Shale	3380'	3460'				Geophysical Log
Shale	3460'	3940'				Geophysical Log
Sandy Shale	3940'	4225'				Geophysical Log
Shale	4225'	4460'				Geophysical Log
Sandy Shale	4460'	5120'				Geophysical Log
Shale	5120'	5364'				Geophysical Log
Sand and Shale	5364'	5781'				Geophysical Log
Shale	5781'	6441'				Geophysical Log
Sandy Shale	6441'	6548'				Geophysical Log
Shale	6548'	6594'				Geophysical Log
Sandy Shale	6594'	7025'				Geophysical Log
Shale	7025'	7440'				Geophysical Log
Limestone	7440'	7590'				Geophysical Log
Horizontal						
Shale	6640'	7200'				Geophysical Log
Limestone	7200'	7290'				Geophysical Log
Shale	7290'					Geophysical Log
Drillers Total Depth		10545'				Geophysical Log

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

Well Operator's Signature:	DEP USE ONLY
 Title: Completions Engineer: Mike Hurey Date: 11-5-10	Reviewed by: _____ Date: _____ Comments: _____

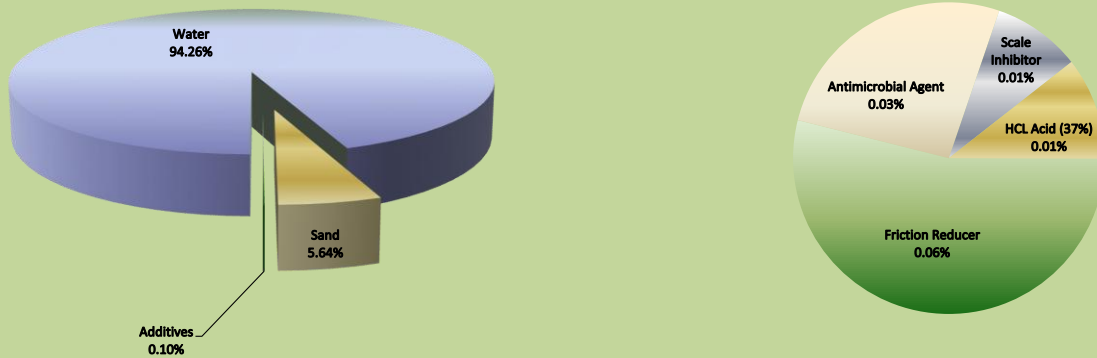


Sierzega Unit #8H
Well API: 37-125-23937

Completion Date: October 19 -23, 2010
Township: Amwell

% 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	3,442,079 gal	94.26%	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	205,929 gal	5.64%	Drinking water filtration, play sand
FRW-200 and FRW-300	Friction Reducer	Reduces friction between fluid and pipe	Diluted at one-half gallon per 1,000 gallons of water	2,033 gal	0.056%	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	993 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	346 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)	402 gal	0.011%	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%	401.51	0.0110%	0.0044%
	CI-100	Corrosion Inhibitor	Methanol	Protects casing	95.0%	12.38	0.0003%	0.0002%
			Propargyl Alcohol	Protects casing	5.0%	0.53	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							0.0113%	0.0047%

Friction Reducer (FracTech)	FRW-200 and 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%	545.58	0.0149%	0.0137%
			3,4,4-Trimethyloxazolidine		5.0%	35.71	0.0010%	0.0009%
			2-Amino-2-methyl-1-propanol		1.0%	7.48	0.0002%	0.0002%
			Formaldehyde Amine		0.5%	3.26	0.0001%	0.0001%
	BMC B-8642	Antibacterial Agent	Glutaraldehyde	eliminates bacteria in water	60.0%	122.93	0.0034%	0.0046%
			n-alkyl dimethyl benzyl ammonium chloride		10.0%	20.49	0.0006%	0.0008%
			Ethanol		1.0%	2.05	0.0001%	0.0001%
TOTAL							0.0162%	0.0149%

SUMMARY	by vol %	by weight %
	0.028%	0.020%