



**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) 37-125-23851	Project Number	Acres 441
Address 380 Southpointe Blvd. Suite 300			Well Farm Name Sierzega Unit	Well # 3H	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: <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 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 12/5/2009	Date Drilling Completed 5/6/2010	Surface Elevation 1147ft.	Total Depth – Driller 11509 ft	Total Depth - Logger 11509 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, 300 sx	GS	20"	272'	12/14/09
17-1/2"	13-3/8"	54.5#	Thread	1350'	Class A Gas Block, 1000 sx	GS	13-3/8"	1350'	12/17/09
12-1/4"	9-5/8"	40#	Thread	3036'	Class A Gas Block, 970 dx xk	GS	9-5/8"	3036'	2/23/10
8-3/4"	5-1/2"	20#	Thread	11501'	Extendacem, 1020 sx	FS	5-1/2"	11501"	5/5/2010
Hal light, 280 sx, Fracem 470 sx									

COMPLETION REPORT

Perforation Record			Stimulation Record						
Date	Interval Perforated From To		Date	Interval Treated	Fluid Type Amount		Propping Agent Type Amount		Average Injection
12-6-2010	11,375'MD	7,583'MD	1-11-2011	Marcellus Shale	Slick H2O	107,602 bbl	Sand	6,533 Klb	61.3 bpm
Natural Open Flow Too small to measure			Natural Rock Pressure Too small to measure		Hours		Days		
After Treatment Open Flow Omcf/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#: 37-125-23851

Formation Name or Type	Top (feet)	Bottom (feet)	Gas at (feet)	Oil at (feet)	Water at (fresh / brine; ft.)	Source of Data
Fill	0'	32'				Drillers Log
Shale	32'	235'				Drillers Log
Sandy Shale	235'	305'				Drillers Log
Shale	305'	535'				Drillers Log
Coal	535'	538'				Drillers Log
Shale	538'	1230'			Damp @ 1670'	Drillers Log
Sandy Shale	1230'	1470'				Drillers Log
Coal	1470'	1478'				Drillers Log
Sand and Shale	1478'	1655'				Drillers Log
White Sand	1655'	1728'				Drillers Log
Sand and Shale	1728'	1861'				Drillers Log
White Sand	1861'	2110'				Drillers Log
Sand and Shale	2110'	2169'				Drillers Log
Sand	2169'	2261'				Drillers Log
Shale and Sand	2261'	2356'				Drillers Log
Sand	2356'	2515'				Drillers Log
Sand and Shale	2515'	2611'				Drillers Log
Sand	2611'	2770'				Drillers Log
Sand and Shale	2770'	2987'				Drillers Log
Sand	2987'	3064'				Drillers Log
Sandy Shale	3064'	3976'				Drillers Log
Shale	3976'	4392'				Drillers Log
Sandy Shale	4392'	5004'				Drillers Log
Shale	5004'	6402'				Drillers Log
Sandy Shale	6402'	7123'				Drillers Log
Limestone	7123'	7320'				Drillers Log
Shale	7320'	7442'				Drillers Log
Limestone	7442'	7450'				Drillers Log
Horizontal						Drillers Log
Shale	6620'	7180'				Drillers Log
Limestone	7180'	7270'				Drillers Log
Shale	7270'					Drillers Log
Drillers Total Depth		11509'				Drillers 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: 
Completion Engineer: Mike Hurey

Date: 1-31-2011

Reviewed by:

Date:

Comments:



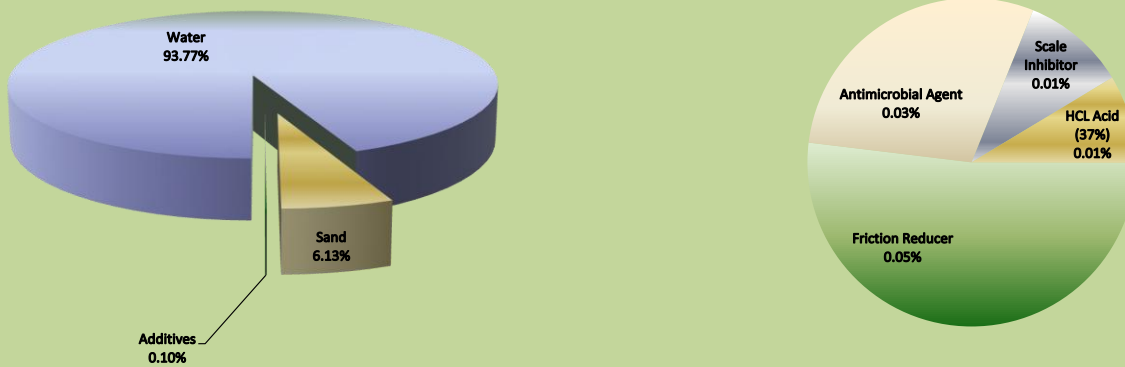
RANGE RESOURCES

Sierzega Unit #3H
Well API: 37-125-23851

Completion Date: 12/6/10 - 1/11/11
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	4,514,793 gal	93.77%	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	295,308 gal	6.13%	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	2,320 gal	0.05%	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	1,306 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	458 gal	0.01%	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)	388 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%	388.13	0.0081%	0.0032%
	CI-100	Corrosion Inhibitor	Methanol	Protects casing	95.0%	11.97	0.0002%	0.0002%
			Propargyl Alcohol	Protects casing	5.0%	0.51	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							0.0083%	0.0034%

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%	717.55	0.0149%	0.0136%
			3,4,4-Trimethyloxazolodine		5.0%	46.97	0.0010%	0.0009%
			2-Amino-2-methyl-1-propanol		1.0%	9.84	0.0002%	0.0002%
			Formaldehyde Amine		0.5%	4.28	0.0001%	0.0001%
	BMC B-8642	Antibacterial Agent	Glutaraldehyde	eliminates bacteria in water	60.0%	161.68	0.0034%	0.0046%
			n-alkyl dimethyl benzyl ammonium chloride		10.0%	26.95	0.0006%	0.0008%
			Ethanol		1.0%	2.69	0.0001%	0.0001%
TOTAL							0.0162%	0.0147%

SUMMARY	by vol %	by weight %
	0.024%	0.018%