



**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) 37-125-23849	Project Number	Acres 441
Address 380 Southpointe Blvd. Suite 300			Well Farm Name Sierzega Unit	Well # 5H	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 12/4/09	Date Drilling Completed 6/10/10	Surface Elevation 1147 ft.	Total Depth – Driller 11900 ft	Total Depth - Logger 11900 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'	12/4/09
24"	20"	81.3#	Thread	281'	Class A Gas Block, 311 sx	GS 20" 281'	12/27/09
17-1/2"	13-3/8"	54.5#	Thread	1361'	Class A Gas Block, 980 sx	GS 13-3/8" 1361'	12/30/09
12-1/4"	9-5/8"	40#	Thread	3062'	Class A Gas Block, 1000 sx	GS 9-5/8" 3062'	1/14/10
8-3/4"	5-1/2"	20#	Thread	11880'	Extendacem, 850 sx	FS 5-1/2" 11880"	6/10/10
Hal light, 650 sx, Fraccem 380 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	
12-16-2010	11,748' MD 8,780' MD		12-22-2010	Marcellus Shale	Slick H2O 80,372 bbl	Sand 5,044 Klb	60.0 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#: 37-125-23849

Formation Name or Type	Top (feet)	Bottom (feet)	Gas at (feet)	Oil at (feet)	Water at (fresh / brine; ft.)	Source of Data
Fill	0'	42'				Drillers Log
Sandy Shale	42'	75'				Drillers Log
Sand	75'	97'				Drillers Log
Sandy Shale	97'	120'				Drillers Log
Sand	120'	138'				Drillers Log
Shale	138'	144'				Drillers Log
Sandy Shale	144'	196'				Drillers Log
Sand	196'	219'				Drillers Log
Sandy Shale	219'	418'				Drillers Log
Shale	418'	534'				Drillers Log
Sandy Shale	534'	602'				Drillers Log
Sand	602'	1377'				Drillers Log
Shale and Sand	1377'	1870'			3/4" @ 1680	Drillers Log
Sand	1870'	2100'				Drillers Log
Sand and Shale	2100'	2384'				Drillers Log
Sand	2384'	2458'				Drillers Log
Sand and Shale	2458'	2607'				Drillers Log
Sand	2607'	2615'				Drillers Log
Shale	2615'	3438'				Drillers Log
Sandy Shale	3438'	4570'				Drillers Log
Shale	4570'	5190'				Drillers Log
Sandy Shale	5190'	5320'				Drillers Log
Shale	5320'	6394'				Drillers Log
Sandy Shale	6394'	6847'				Drillers Log
Shale	6847'	7120'				Drillers Log
Limestone	7120'	7180'				Drillers Log
Shale	7180'	7445'				Drillers Log
Limestone	7445'	7450'				Drillers Log
Horizontal						Drillers Log
Shale	5750'	8070'				Drillers Log
Limestone	8070'	8160'				Drillers Log
Shale	8160'					Drillers Log
Drillers Total Depth		11900'				Drillers Log

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

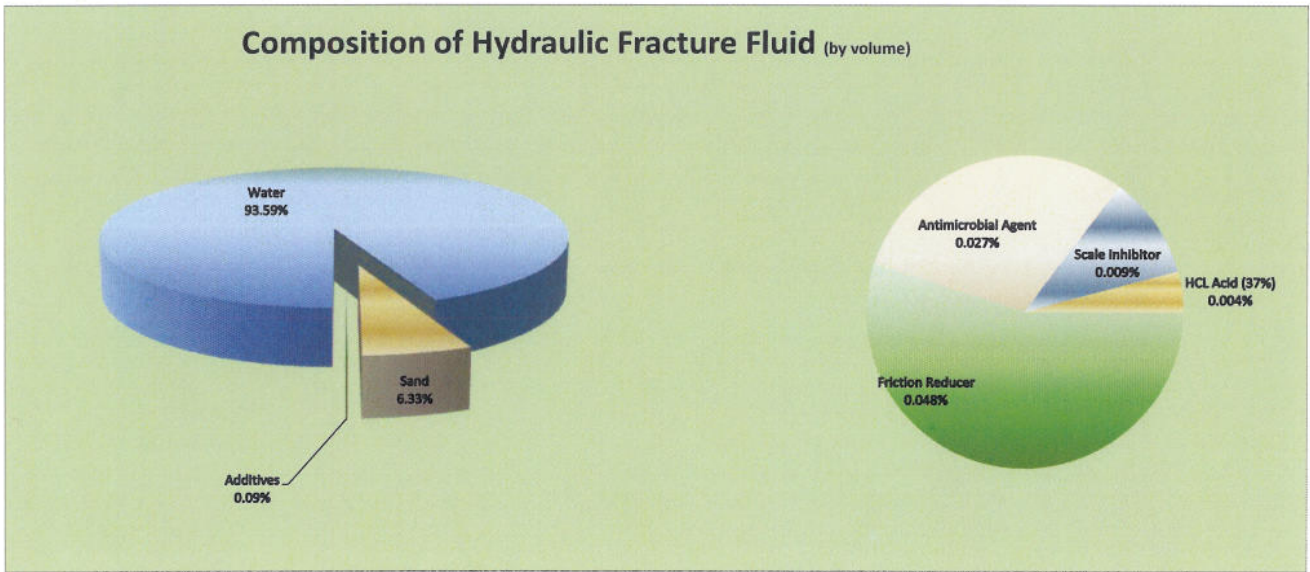
Well Operator's Signature:	DEP USE ONLY
 Title: Completion Engineer: Matthew A. Ockree Date: 1-3-2011	Reviewed by: _____ Date: _____ Comments: _____



Sierzega Unit #5H
Well API: 37-125-23849

Completion Date: December 6, 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	3,372,469 gal	93.59%	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	228,011 gal	6.33%	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	1,733 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	0,956 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	332 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)	134 gal	0.004%	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%	133.84	0.0037%	0.0015%
	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	N/A
						TOTAL	0.0038%	0.0016%

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%	525.25	0.0146%	0.0132%
			3,4,4-Trimethyloxazolodine		5.0%	34.38	0.0010%	0.0009%
			2-Amino-2-methyl-1-propanol		1.0%	7.21	0.0002%	0.0002%
			Formaldehyde Amine		0.5%	3.14	0.0001%	0.0001%
	BMC B-8642	Antibacterial Agent	Glutaraldehyde	eliminates bacteria in water	60.0%	118.35	0.0033%	0.0045%
			n-alkyl dimethyl benzyl ammonium chloride		10.0%	19.72	0.0005%	0.0007%
			Ethanol		1.0%	1.97	0.0001%	0.0001%
						TOTAL	0.0158%	0.0144%

SUMMARY	by vol %	by weight %
	0.020%	0.016%