5500-FM-OG0004 Rev. 2/2001

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	DEP ID#	Well API # (Permit / Reg)	Project Number	Acres
Range Resources – Appalachia, LLC	141142	37-125-24024		583

Address	Well Farm Name	Well #	Serial #
380 Southpointe Blvd. Suite 300	Sierzega	6H	

City	State	Zip Code	County	Municipality
Canonsburg	PA	15317	Washington	Amwell

Phone	Fax	USGS 7.5 min. quadrangle map
724-743-6700	724-743-6790	Amity

Check all that apply: ☒ Original Well Record x Original Completion Report ☐ Amended Well Record ☐ Amended Completion Report

WELL RECORD

Also complete Log of Formations on back (page 2)

Well Type: ☒ Gas ☐ Oil ☐ Combination Oil & Gas ☐ Injection ☐ Storage ☐ Disposal

Drilling Method: ☐ Rotary – Air ☒ Rotary – Mud ☐ Cable Tool

Date Drilling Started	Date Drilling Completed	Surface Elevation	Total Depth – Driller	Total Depth - Logger
4/9/2010	6/26/2010	1147ft.	**11920 ft**	**11920 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	32'	Driven	----	26"	32'	4/9/10
24"	20"	81.3#	Thread	337'	Class A Gas Block,360sx	GS	20"	337'	5/10/10
17-1/2"	13-3/8"	54.5#	Thread	1103'	Class A Gas Block, 820 sx	GS	13-3/8"	1103'	5/12/10
12-1/4"	9-5/8	40#	Thread	2939'	Class A Gas Block, 950 xk	GS	9-5/8"	2939'	5/16/10
8-3/4"	5-1/2"	20#	Thread	11891'	Extendacem, 890 sx	FS	5-1/2"	11891"	6/26/10
					Hal light, 690sx, Fraccem 360sx				

COMPLETION REPORT

Perforation Record

Date	*Interval Perforated* From	To
12/28/2011	11,771'MD	8,667'MD

Stimulation Record

Date	Interval Treated	*Fluid* Type	Amount	*Propping Agent* Type	Amount	Average Injection
1/5/2011	Marcellus Shale	Slick H20	90,082 bbl	Sand	5,594 Klb	63.2 bpm

Natural Open Flow	Too small to measure	Natural Rock Pressure	Too small to measure	Hours	Days
After Treatment Open Flow	Omcf/d@24 hrs post treatment	After Treatment Rock Pressure	NA@24 hrs post treatment	Hours	Days

Well Service Companies -- Provide the name, address, and phone number of all well service companies involved.

Name	Name	Name
Patterson UTI	Universal Well Services	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

5500-FM-OG0004 Rev. 2/2001

LOG OF FORMATIONS

Well API#: 37-125-24024

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	40'	160'				Drillers Log
Shale	160'	220'				Drillers Log
Sand	220'	340'				Drillers Log
Sandy Shale	340'	611'				Drillers Log
Shale	611'	685'				Drillers Log
Coal, Shale and Sand	685'	803'				Drillers Log
Sand and Shale	803'	931'				Drillers Log
Sandy Shale	931'	995'				Drillers Log
Shale	995'	1059'				Drillers Log
Sand, Shale and Coal	1059'	1125'				Drillers Log
Shale Coal	1125'	1172'				Drillers Log
Shale	1172'	1301'				Drillers Log
Sandy Shale	1301'	1355'				Drillers Log
Shale	1355'	1370'				Drillers Log
Coal	1370'	1382'				Drillers Log
Sandy Shale	1382'	1455'	1438			Drillers Log
Shale and Coal	1455'	1460'				Drillers Log
Shale	1460'	1478'				Drillers Log
Coal	1478'	1484'				Drillers Log
Shale	1484'	1650'				Drillers Log
Sandy Shale	1650'	1765'			¼"wtr@1684	Drillers Log
Shale	1765'	1803'				Drillers Log
Sandy Shale	1803'	1817'				Drillers Log
Sand	1817'	2068'	1860			Drillers Log
Sand	2068'	2101'				Drillers Log
Shale	2101'	2164'				Drillers Log
Sand and Shale	2164'	2325'				Drillers Log
Sandy Shale	2325'	2401'				Drillers Log
Sand	2401'	2500'				Drillers Log
Sandy Shale	2500'	2555'				Drillers Log
White Sand	2555'	2668'				Drillers Log
Sandy Shale	2668'	2832'	2600			Drillers Log
Shale	2832'	3104'	2882			Drillers Log
Sand and Shale	3104'	3167'				Drillers Log
Shale	3167'	3710'				Drillers Log
Sand and Shale	3710'	5470'				Drillers Log
Shale	5470'	6120'	5690			Drillers Log
Limestone	6120'	7330'				Drillers Log
Shale	7330'	7440'	7370			Drillers Log
Limestone	7440'	7450'				Drillers Log
Horizontal						Drillers Log
Shale	5810'	8050'				Drillers Log
Limestone	8050'	8170'				Drillers Log
Shale	8170'					Drillers Log
Drillers Total Depth		11920'				Drillers Log

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

Well Operator's Signature:

Title: Completion Engineer: Mike Hurey

Date: 1/31/2011

DEP USE ONLY

Reviewed by:

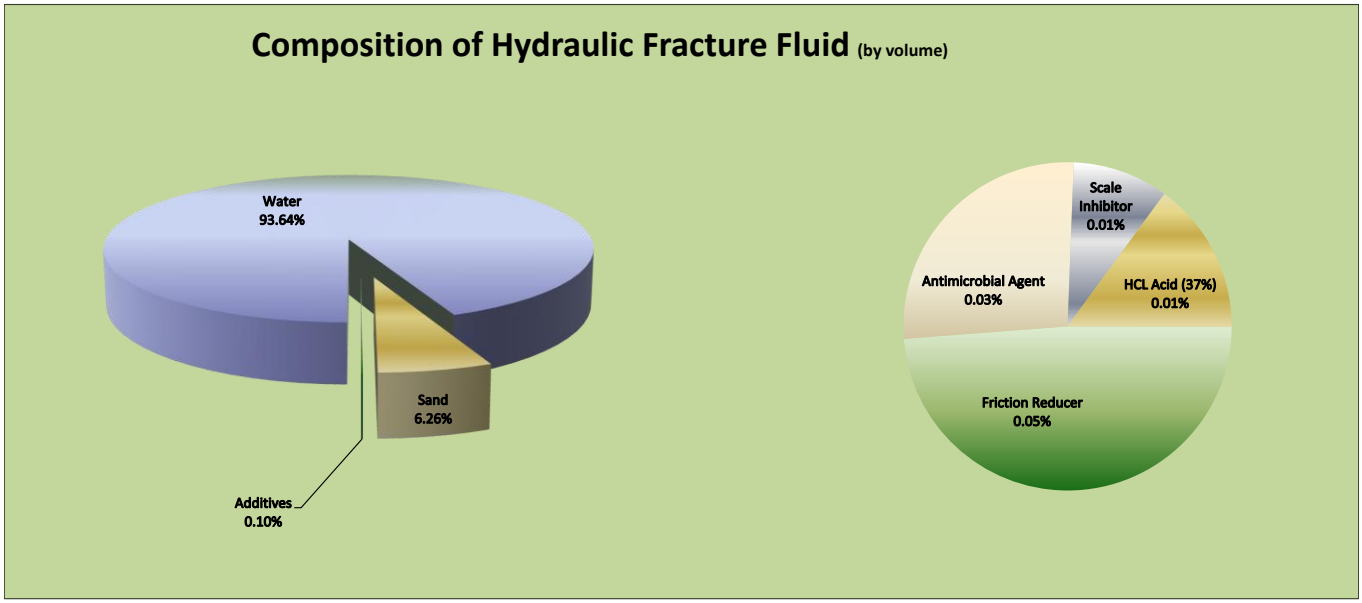
Date:

Comments:

RANGE RESOURCES

Sierzega Unit #6H **Completion Date: 12/28/10 - 1/5/11**
Well API: 37-125-24024 **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	3,779,446 gal	93.64%	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	252,867 gal	6.26%	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	1,956 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	1,076 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	379 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)	602 gal	0.01%	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%	602.26	0.0149%	0.0059%
	CI-100	Corrosion Inhibitor	Methanol	Protects casing	95.0%	18.57	0.0005%	0.0003%
			Propargyl Alcohol	Protects casing	5.0%	0.80	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	**0.0154%**	**0.0063%**
Friction Reducer (FracTech)	RW-200 & FRW-30	Friction Reducer	No hazardous ingredients	Reduce friction down casing	0.0%	N/A	N/A	N/A
Scale Inhibitor (Multichem)	MX 588-2	Scale Inhibitor	No hazardous ingredients	prevents scale deposits	0.0%	N/A	N/A	N/A
Antibacterial Agent (Multichem)	Bioban	Antibacterial Agent	4,4-Dimethyloxazolidine	eliminates bacteria in water	78.0%	591.19	0.0146%	0.0133%
			3,4,4-Trimethyloxazolodine		5.0%	38.70	0.0010%	0.0009%
			2-Amino-2-methyl-1-propanol		1.0%	8.11	0.0002%	0.0002%
			Formaldehyde Amine		0.5%	3.53	0.0001%	0.0001%
	BMC B-8642	Antibacterial Agent	Glutaraldehyde	eliminates bacteria in water	60.0%	133.20	0.0033%	0.0045%
			n-alkyl dimethyl benzyl ammonium chloride		10.0%	22.20	0.0006%	0.0007%
			Ethanol		1.0%	2.22	0.0001%	0.0001%
						TOTAL	**0.0159%**	**0.0144%**

	by vol %	by weight %
SUMMARY	**0.031%**	**0.021%**