



COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OIL AND GAS MANAGEMENT PROGRAM

DEP USE ONLY	
Site ID	Primary Fac ID
Client	Subfacility Id

### Completion Report

Well Information					
If you are submitting this Completion Report attached to the Well Record, you only need to enter the well API # in this section.					
Well Operator Range Resources-Appalachia, LLC	DEP ID# 141142	Well API # (Permit / Reg) 37-125-23991	Project Number	Acres 475	
Address 380 Southpointe Blvd, Suite 300		Well Farm Name Weimer Lillian Unit	Well # 1H	Serial #	
City Canonsburg	State PA	Zip Code 15317	County Washington	Municipality Chartiers	
Phone 724-743-6700	Fax 724-743-6490	Email		USGS 7.5 min. quadrangle map Washington West	
Check the appropriate submission: <input checked="" type="checkbox"/> Original Completion Report <input type="checkbox"/> Amended Completion Report					

STIMULATION BASE FLUID		
List Water Management Plan Approved Water Source(s) that were used	Water Management Plan ID No.	Volume (Gallons)
1. PA American Water Co/Old Hickory Ridge Rd Meter Vault	Source 7	376,750
2. PA American Water Co/Arden Rd. Meter Vault	Source 18	266,074
3.		
4.		
5.		
6.		
<b>Recycled Water Used</b>		<b>2,275,000</b>
<b>Other Base Fluid(s)/Components Used</b>		
1.		
2.		
<b>Total Base Fluid(s)/Components Used</b>		

PERFORATION RECORD					
Stage No.	Perforation Date	Stage Perforated From	Stage Perforated To	Perf. Orientation (Vertical, Horizontal, Radial)	Formation
1	4/19/11	9,445'MD	9,245'MD	Horizontal	Marcellus Shale
2	4/19/11	9,145'MD	8,945'MD	Horizontal	Marcellus Shale
3	4/19/11	8,845'MD	8,645'MD	Horizontal	Marcellus Shale
4	4/20/11	8,545'MD	8,345'MD	Horizontal	Marcellus Shale
5	4/21/11	8,245'MD	8,045'MD	Horizontal	Marcellus Shale
6	4/21/11	7,945'MD	7,745'MD	Horizontal	Marcellus Shale
7	4/22/11	7,645'MD	7,445'MD	Horizontal	Marcellus Shale
8	4/22/11	7,345'MD	7,145'MD	Horizontal	Marcellus Shale
9	4/25/11	7,045'MD	6,845'MD	Horizontal	Marcellus Shale
10				Horizontal	Marcellus Shale
11				Horizontal	Marcellus Shale
12				Horizontal	Marcellus Shale



## STIMULATION FLUID ADDITIVES-Continued

Descriptive Additive Type	Chemical Component(s) listed on Material Safety Data Sheet of the Additive	CAS No. of Chemical Component	Chemical Component % By Volume in Additive	Chemical Component % By Volume used in Each Stage		
				Stage No. 7	Stage No. 8	Stage No. 9
FR-200W	N/A	N/A	N/A	0.0000%	0.0000%	0.0000%
FR-300W	N/A	N/A	N/A	0.0331%	0.0387%	0.0394%
MX 588-2	N/A	N/A	N/A	0.0069%	0.0071%	0.0070%
NE100	N/A	N/A	N/A	0.0003%	0.0003%	0.0003%
FE100L	N/A	N/A	N/A	0.0009%	0.0009%	0.0009%
37% HCL	HCL	7647-01-0	37%	0.0510%	0.0545%	0.0542%
CI-100	Methanol	67-56-1	93%	0.0005%	0.0006%	0.0006%
CI-100	Propargyl Alcohol	107-19-7	4%	0.0000%	0.0000%	0.0000%
BMC B-8650	Glutaraldehyde	111-30-8	49%	0.0036%	0.0037%	0.0037%
BMC B-8650	Methanol	67-56-1	1%	0.0001%	0.0001%	0.0001%
CS-1135	4,4-Dimethyloxazolidine	51200-87-4	77%	0.0148%	0.0149%	0.0152%
CS-1135	3,4,4-Trimethyloxazolidine	75673-43-7	5%	0.0010%	0.0010%	0.0010%
CS-1135	2-Amino-2-methyl-1-propanol	124-68-5	1%	0.0002%	0.0002%	0.0002%
CS-1135	Formaldehyde Amine	5652-26-7	0%	0.0001%	0.0001%	0.0001%

Please insert additional copies of this page if additional rows/stages are needed.

**STIMULATION INFORMATION (WELL)**

Open Flow Production: Omc/d @ 24hrs pos treatment	24 Hr. Open Flow Production: Omc/d @ 24hrs pos treatment	24 Hr. Shut-in Pressure: N/A @ 24hrs post treatment	Flow Back Date:
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**STIMULATION INFORMATION (STAGE)**

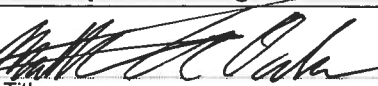
Complete a separate record for each stimulation stage. (Please insert additional copies of this page for additional stages).

<b>Stage No.:</b> 1	Stimulation Date: 4/19/11	Pump Rate: 69.2
Pressure (psi): 7,680	Shut-in Surface Pressure: 3,592	5 Minute Shut-in Surface Pressure: N/A
Propping Agent Type: Sand	Propping Agent Amount: 284,780	Propping Agent Size: 100 Mesh 30/50 Mesh
<b>Stage No.:</b> 2	Stimulation Date: 4/19/11	Pump Rate: 68.8
Pressure (psi): 7,126	Shut-in Surface Pressure: 3,716	5 Minute Shut-in Surface Pressure: N/A
Propping Agent Type: Sand	Propping Agent Amount: 307,612	Propping Agent Size: 100 Mesh 30/50 Mesh
<b>Stage No.:</b> 3	Stimulation Date: 4/20/11	Pump Rate: 69.9
Pressure (psi): 7,510	Shut-in Surface Pressure: 3,897	5 Minute Shut-in Surface Pressure: N/A
Propping Agent Type: Sand	Propping Agent Amount: 308,254	Propping Agent Size: 100 Mesh 30/50 Mesh
<b>Stage No.:</b> 4	Stimulation Date: 4/20/11	Pump Rate: 68.6
Pressure (psi): 6,874	Shut-in Surface Pressure: 3,975	5 Minute Shut-in Surface Pressure: N/A
Propping Agent Type: Sand	Propping Agent Amount: 308,707	Propping Agent Size: 100 Mesh 30/50 Mesh
<b>Stage No.:</b> 5	Stimulation Date: 4/21/11	Pump Rate: 62.9
Pressure (psi): 7,278	Shut-in Surface Pressure: 3,863	5 Minute Shut-in Surface Pressure: N/A
Propping Agent Type: Sand	Propping Agent Amount: 308,216	Propping Agent Size: 100 Mesh 30/50 Mesh
<b>Stage No.:</b> 6	Stimulation Date: 4/21/11	Pump Rate: 69.4
Pressure (psi): 7,068	Shut-in Surface Pressure: 3,810	5 Minute Shut-in Surface Pressure: N/A
Propping Agent Type: Sand	Propping Agent Amount: 304,712	Propping Agent Size: 100 Mesh 30/50 Mesh
<b>Stage No.:</b> 7	Stimulation Date: 4/22/11	Pump Rate: 70.6
Pressure (psi): 6,956	Shut-in Surface Pressure: 3,786	5 Minute Shut-in Surface Pressure: N/A
Propping Agent Type: Sand	Propping Agent Amount: 309,663	Propping Agent Size: 100 Mesh 30/50 Mesh

**WELL SERVICE COMPANIES (Provide the name, address, and telephone number of all well service companies involved.)**

Name	Name	Name
<b>Frac Tech</b>	<b>Multi-Chem</b>	<b>Universal Well Services</b>
Address 16858 IH20	Address 200 Detroit Street	Address 730 Braddock View Drive
City - State - Zip Cisco, TX 76437	City - State - Zip Washington, PA	City - State - Zip Mt Braddock, PA 15465
Phone 817-850-1008	Phone 325-486-7489	Phone 724-430-6201

I do hereby certify to the best of my knowledge, information and belief that the information contained on this Completion Report is true and correct. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

<b>Well Operator's Signature</b>	<b>DEP USE ONLY</b>
 Title: Completion Engineer: M. Ockree Date: 5/11/11	Reviewed by: _____ Date: _____ Comments: _____

**STIMULATION INFORMATION (STAGE- Continued)**

Complete a separate record for each stimulation stage. (Please insert additional copies of this page for additional stages).

<b>Stage No.:</b> 8	Stimulation Date: 4/25/11	Pump Rate: 67.3
Pressure (psi): 7,800	Shut-in Surface Pressure: 3,885	5 Minute Shut-in Surface Pressure: N/A
Propping Agent Type: Sand	Propping Agent Amount: 311,347	Propping Agent Size: 100 Mesh 30/50 Mesh
<b>Stage No.:</b> 9	Stimulation Date: 4/26/11	Pump Rate: 69.8
Pressure (psi): 7,180	Shut-in Surface Pressure: 3,956	5 Minute Shut-in Surface Pressure: N/A
Propping Agent Type: Sand	Propping Agent Amount: 308,000	Propping Agent Size: 100 Mesh 30/50 Mesh

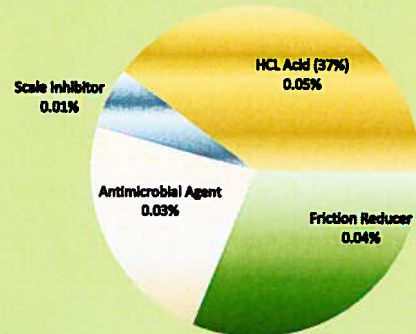
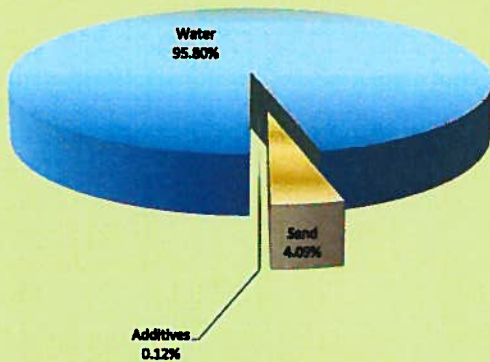


**Weimer, Lillian Unit #1H**  
**Well API: 37-125-23991**

**Completion Date: April 13, 2011**  
**Township: Chartiers**

% 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	2,914,282 gal	95.80%	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	124,358 gal	4.09%	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	1,106 gal	0.04%	Water treatment, soil conditioner, some children's toys
MC B-8650/Bioban	Antimicrobial Agent	Eliminates bacteria in the water that produce corrosive byproducts	Diluted at one-half gallon per 1,000 gallons of water	0,822 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	0,214 gal	0.01%	Water treatment, household cleaners, de-icing agent
HCL Acid (37%)	Perf Clean-Up	Dissolves cement and minerals to help initiate fractures	177 gallons per stage if required (non-diluted chemicals)	1,418 gal	0.05%	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%	1417.89	0.0466%	0.0191%
	CI-100	Corrosion Inhibitor	Methanol	Protects casing	95.0%	16.51	0.0005%	0.0004%
			Propargyl Alcohol	Protects casing	5.0%	0.71	0.0000%	0.0000%
	NE100	Non-Emulsifier	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
<b>TOTAL</b>							<b>0.0472%</b>	<b>0.0196%</b>
Friction Reducer (FracTech)	FRW-300	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%	451.63	0.0148%	0.0140%
			3,4,4-Trimethyloxazolidine		5.0%	29.56	0.0010%	0.0009%
			2-Amino-2-methyl-1-propanol		1.0%	6.20	0.0002%	0.0002%
			Formaldehyde Amine		0.5%	2.70	0.0001%	0.0001%
	BMC B-8650	Antibacterial Agent	Glutaraldehyde	eliminates bacteria in water	50.0%	84.80	0.0028%	0.0039%
			Methanol		0.5%	0.85	0.0000%	0.0000%
<b>TOTAL</b>							<b>0.0189%</b>	<b>0.0191%</b>
<b>SUMMARY</b>							<b>0.066%</b>	<b>0.039%</b>