



### STIMULATION FLUID ADDITIVES

Note: Trade secret or confidential proprietary information should be clearly identified as such and should be submitted on a separate sheet attached to this report.

Descriptive Additive Type	Chemical Component(s) listed on Material Safety 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. 1	Stage No. 2	Stage No. 3
FR-200W	N/A	N/A	N/A	0.0000%	0.0000%	0.0000%
FR-300W	N/A	N/A	N/A	0.0000%	0.0000%	0.0000%
MX 588-2	N/A	N/A	N/A	0.0000%	0.0000%	0.0000%
NE100	N/A	N/A	N/A	0.0714%	0.0634%	0.0688%
FE100L	N/A	N/A	N/A	0.2142%	0.1903%	0.2063%
37% HCL	HCL	7647-01-0	37.0%	12.656%	11.241%	12.189%
CI-100	Methanol	67-56-1	92.5%	0.1322%	0.1174%	0.1273%
CI-100	Propargyl Alcohol	107-19-7	4.4%	0.0063%	0.0056%	0.0061%
MC B-8650	Glutaraldehyde	111-30-8	48.8%	0.0000%	0.0000%	0.0000%
MC B-8650	Methanol	67-56-1	0.7%	0.0000%	0.0000%	0.0000%
MC B-8520	4,4-Dimethyloxazolidine	51200-87-4	76.5%	0.0000%	0.0000%	0.0000%
MC B-8520	3,4,4-Trimethyloxazolidine	75673-43-7	5.0%	0.0000%	0.0000%	0.0000%
MC B-8520	2-Amino-2-methyl-1-propanol	124-68-5	1.0%	0.0000%	0.0000%	0.0000%
MC B-8520	Formaldehyde Amine	56652-26-7	0.5%	0.0000%	0.0000%	0.0000%

**STIMULATION INFORMATION (WELL)**

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

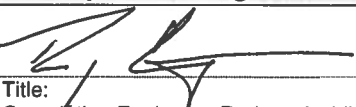
Complete a separate record for each stimulation stage. (Please insert additional copies of this page for additional stages).

<b>Stage No.:</b> 1	Stimulation Date: 7/21/2011	Pump Rate: 16.1 bpm
Pressure (psi): 3,293	Shut-in Surface Pressure: 2,450 psi	5 Minute Shut-in Surface Pressure: 1,685 psi
Propping Agent Type: None	Propping Agent Amount: 0 lbs	Propping Agent Size: None
<b>Stage No.:</b> 2	Stimulation Date: 7/22/2011	Pump Rate: 13.3 bpm
Pressure (psi): 2,307	Shut-in Surface Pressure: 1,360 psi	5 Minute Shut-in Surface Pressure: 1,207 psi
Propping Agent Type: None	Propping Agent Amount: 0 lbs	Propping Agent Size: None
<b>Stage No.:</b> 3	Stimulation Date: 7/23/2011	Pump Rate: 12 bpm
Pressure (psi): 1,589	Shut-in Surface Pressure: 1,290 psi	5 Minute Shut-in Surface Pressure: 1,175 psi
Propping Agent Type: None	Propping Agent Amount: 0 lbs	Propping Agent Size: None
<b>Stage No.:</b> 4	Stimulation Date:	Pump Rate:
Pressure (psi):	Shut-in Surface Pressure:	5 Minute Shut-in Surface Pressure: N/A
Propping Agent Type:	Propping Agent Amount:	Propping Agent Size:
<b>Stage No.:</b> 5	Stimulation Date:	Pump Rate:
Pressure (psi):	Shut-in Surface Pressure:	5 Minute Shut-in Surface Pressure: N/A
Propping Agent Type:	Propping Agent Amount:	Propping Agent Size:
<b>Stage No.:</b> 6	Stimulation Date:	Pump Rate:
Pressure (psi):	Shut-in Surface Pressure:	5 Minute Shut-in Surface Pressure: N/A
Propping Agent Type:	Propping Agent Amount:	Propping Agent Size:
<b>Stage No.:</b> 7	Stimulation Date:	Pump Rate:
Pressure (psi):	Shut-in Surface Pressure:	5 Minute Shut-in Surface Pressure: N/A
Propping Agent Type:	Propping Agent Amount:	Propping Agent Size:

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

Name	Name	Name
<b>Universal Well Services</b>	<b>Renegade</b>	
Address 201 Arch Street 2 <sup>nd</sup> Floor	Address PO Box 852	Address
City - State - Zip Meadville, PA 16335	City - State - Zip Levelland, TX 79336	City - State - Zip
Phone 814/373-3206	Phone 337/552-8401	Phone

*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>
 Date: 8/19/2011	Reviewed by: _____ Date: _____
Title: Completion Engineer: Rodney Archibeque	Comments:



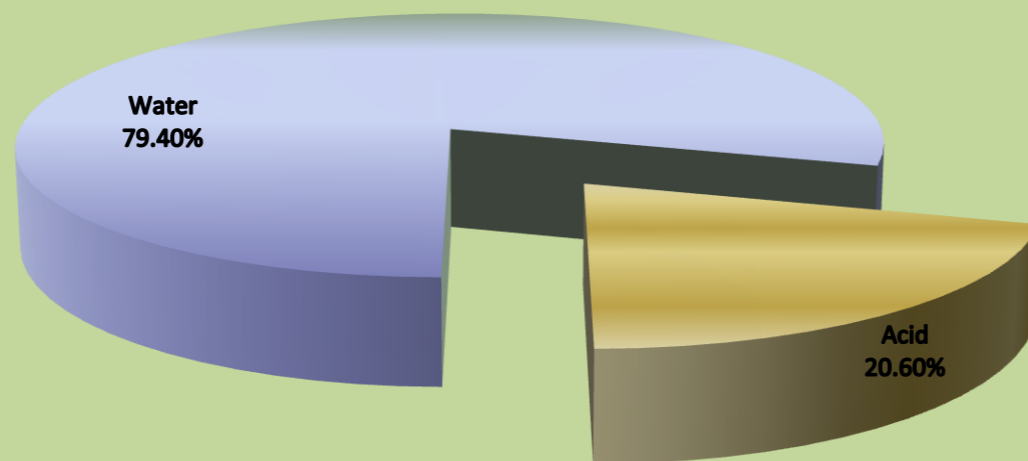
RANGE RESOURCES

Phelan Unit #4H  
Well API: 3712524274

Completion Date: 07/22/2011  
Township: South Franklin

% 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	74,366 gal	79.40%	Water is the most abundant molecule on the Earth's surface
HCL Acid (37%)	Perf Clean-Up	Dissolves cement and minerals to help initiate fractures	177 gallons per stage if required (non-diluted chemicals)	19,294 gal	20.60%	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	Hazardous Component CAS No.	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	7647-01-0	Cleans perforation	37.0%	19293.76	20.5998%	8.7015%
	CI-100	Corrosion Inhibitor	Methanol	67-56-1	Protects casing	95.0%	130.84	0.1397%	0.1066%
			Propargyl Alcohol	107-19-7	Protects casing	5.0%	5.62	0.0060%	0.0056%
	NE100	Non- Emulsifer	No hazardous ingredients	N/A	Prevents emulsions	0.0%	N/A	N/A	N/A
	FE100L	Iron Chelator	No hazardous ingredients	N/A	Prevents precipitation	0.0%	N/A	N/A	N/A
							<b>TOTAL</b>	<b>20.7455%</b>	<b>8.8137%</b>

SUMMARY	by vol %	by weight %
		<b>20.745%</b>