

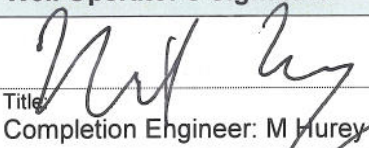
LOG OF FORMATIONS

Well API#: 37-125-23940-_____

(If you will need more space than this page, please photocopy the blank form before filling it in.)

Formation Name or Type	Top (feet)	Bottom (feet)	Gas at (feet)	Oil at (feet)	Water at (fresh / brine; ft.)	Source of Data

I do hereby certify to the best of my knowledge, information and belief that the well identified on this Well Record and Completion Report has been properly cased and cemented in accordance with the requirements of 25 Pa. Code Chapter 78 and any conditions contained in the permit for this well. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

<p>Well Operator's Signature</p> 	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="2" style="text-align: center; padding: 5px;">DEP USE ONLY</th> </tr> <tr> <td style="width: 70%; padding: 5px;">Reviewed by:</td> <td style="width: 30%; padding: 5px;">Date:</td> </tr> <tr> <td colspan="2" style="padding: 5px;">Comments:</td> </tr> </table>	DEP USE ONLY		Reviewed by:	Date:	Comments:	
DEP USE ONLY							
Reviewed by:	Date:						
Comments:							
Title: Completion Engineer: M Hurey	Date: 3/18/2011						



Troyer Space Management Unit 1H
Well API: 37-125-23902

Completion Date: February 15th, 2011
Township: Cecil

% 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	4,997,351 gal	95.48%	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	232,514 gal	4.44%	Drinking water filtration, play sand
FRW-200	Friction Reducer	Reduces friction between fluid and pipe	Diluted at one-half gallon per 1,000 gallons of water	2,305 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	1,413 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	499 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)	0 gal	0.00%	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%	0.00	0.0000%	0.0000%
	CI-100	Corrosion Inhibitor	Methanol	Protects casing	95.0%	0.00	0.0000%	0.0000%
			Propargyl Alcohol	Protects casing	5.0%	0.00	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							0.0000%	0.0000%

Friction Reducer (FracTech)	FRW-200	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%	776.34	0.0148%	0.0139%
			3,4,4-Trimethyloxazolidine		5.0%	50.82	0.0010%	0.0009%
			2-Amino-2-methyl-1-propanol		1.0%	10.65	0.0002%	0.0002%
			Formaldehyde Amine		0.5%	4.63	0.0001%	0.0001%
	BMC B-8650	Antibacterial Agent	Glutaraldehyde	eliminates bacteria in water	50.0%	145.77	0.0028%	0.0039%
			Methanol		0.5%	1.46	0.0000%	0.0000%
TOTAL							0.0189%	0.0190%

SUMMARY	by vol %	by weight %
	0.019%	0.019%