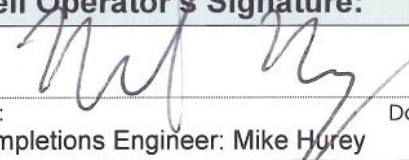


LOG OF FORMATIONS

Well API#: 37-081-20164

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

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

<p>Well Operator's Signature: </p>	<p>DEP USE ONLY</p>
<p>Title: Completions Engineer: Mike Hurey Date: 3-18-2011</p>	<p>Reviewed by: _____ Date: _____</p> <p>Comments: _____</p>



Bednarski Unit #6H
Well API: 37-125-24109

Completion Date: February 14 - 21st, 2011
Township: Hopewell

% 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	3,496,619 gal	94.92%	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	183,168 gal	4.97%	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	1,414 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	0,988 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	0,347 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)	1,329 gal	0.04%	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%	1329.28	0.0361%	0.0146%
	CI-100	Corrosion Inhibitor	Methanol	Protects casing	95.0%	15.47	0.0004%	0.0003%
			Propargyl Alcohol	Protects casing	5.0%	0.66	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							0.0365%	0.0149%

Friction Reducer (FracTech)	RW-200 & FRW-30	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%	542.84	0.0147%	0.0137%
			3,4,4-Trimethyloxazolodine		5.0%	35.53	0.0010%	0.0009%
			2-Amino-2-methyl-1-propanol		1.0%	7.45	0.0002%	0.0002%
			Formaldehyde Amine		0.5%	3.24	0.0001%	0.0001%
	BMC B-8650	Antibacterial Agent	Glutaraldehyde	eliminates bacteria in water	50.0%	101.93	0.0028%	0.0038%
			Methanol		0.5%	1.02	0.0000%	0.0000%
TOTAL							0.0188%	0.0187%

SUMMARY	by vol %	by weight %
	0.055%	0.034%