5500-FM-OG0004b 2/2011

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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

Completion Report

DEP USE ONLY	
Site ID	Primary Fac ID
Client	Subfacility Id

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	DEP ID#	Well API # (Permit / Reg)	Project Number	Acres
Range Resources-Appalachia, LLC	141142	37-125-24003-00		991.9688

Address	Well Farm Name	Well #	Serial #
380 Southpointe Blvd, Suite 300	Hewitt, Douglas	#9H	

City	State	Zip Code	County	Municipality
Canonsburg	PA	15317	Washington	Donegal

Phone	Fax	Email	USGS 7.5 min. quadrangle map
724-743-6700	724-743-6490		West Middleton

Check the appropriate submission: ☒ Original Completion Report ☐ 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. Buffalo Creek	Source 25	902,313
2. Ohio River	Source 19	560,000
3. PA American Water Company/Rt. 844 Near Breezy Heights Meter Vault	Source 6	1,807,442
4.		
5.		
6.		
	Recycled Water Used	621,419
Other Base Fluid(s)Components Used		
1.		
2.		
	Total Base Fluid(s)/Components Used	3,891,174

PERFORATION RECORD

Stage No.	Perforation Date	Stage Perforated From	Stage Perforated To	Perf. Orientation (Vertical, Horizontal, Radial)	Formation
1	7/10/11	9988' MD	9788' MD	Horizontal	Marcellus Shale
2	8/6/11	9666' MD	9566' MD	Horizontal	Marcellus Shale
3	8/7/11	9516' MD	9416' MD	Horizontal	Marcellus Shale
4	8/7/11	9366' MD	9266' MD	Horizontal	Marcellus Shale
5	8/8/11	9216' MD	9116' MD	Horizontal	Marcellus Shale
6	8/10/11	9066' MD	8966' MD	Horizontal	Marcellus Shale
7	8/10/11	8916' MD	8816' MD	Horizontal	Marcellus Shale
8	8/11/11	8766' MD	8666' MD	Horizontal	Marcellus Shale
9	8/11/11	8616' MD	8516' MD	Horizontal	Marcellus Shale
10	8/12/11	8466' MD	8366' MD	Horizontal	Marcellus Shale
11	8/12/11	8316' MD	8216' MD	Horizontal	Marcellus Shale
12	8/12/11	8166' MD	8066' MD	Horizontal	Marcellus Shale
13	8/12/11	8016' MD	7916' MD	Horizontal	Marcellus Shale

14	8/15/11	7866' MD	7766' MD	Horizontal	Marcellus Shale

Well API# **37-125-24003-00**

STIMULATION FLUID ADDITVES

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 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. 1	Stage No. 2	Stage No. 3	Stage No. 4	Stage No. 5	Stage No. 6
FR-200W	N/A	N/A	N/A	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%
FR-300W	N/A	N/A	N/A	0.0399%	0.0383%	0.0462%	0.0448%	0.0439%	0.0435%
MX 588-2	N/A	N/A	N/A	0.0072%	0.0067%	0.0073%	0.0000%	0.0072%	0.0070%
NE100	N/A	N/A	N/A	0.0004%	0.0003%	0.0003%	0.0003%	0.0004%	0.0003%
FE100L	N/A	N/A	N/A	0.0011%	0.0010%	0.0010%	0.0010%	0.0011%	0.0010%
37% HCL	HCL	7647-01-0	37.0%	0.0638%	0.0595%	0.0564%	0.0611%	0.0638%	0.0563%
CI-100	Methanol	67-56-1	92.5%	0.0007%	0.0006%	0.0006%	0.0006%	0.0007%	0.0006%
CI-100	Propargyl Alcohol	107-19-7	4.4%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%
MC B-8650	Glutaraldehyde	111-30-8	48.8%	0.0037%	0.0038%	0.0037%	0.0000%	0.0037%	0.0037%
MC B-8650	Methanol	67-56-1	0.7%	0.0001%	0.0001%	0.0001%	0.0000%	0.0001%	0.0001%
MC B-8520	4,4-Dimethyloxazolidine	51200-87-4	76.5%	0.0146%	0.0149%	0.0151%	0.0000%	0.0149%	0.0148%
MC B-8520	3,4,4-Trimethyloxazolodine	75673-43-7	5.0%	0.0010%	0.0010%	0.0010%	0.0000%	0.0010%	0.0010%
MC B-8520	2-Amino-2-methyl-1-propanol	124-68-5	1.0%	0.0002%	0.0002%	0.0002%	0.0000%	0.0002%	0.0002%
MC B-8520	Formaldehyde Amine	56652-26-7	0.5%	0.0001%	0.0001%	0.0001%	0.0000%	0.0001%	0.0001%

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

Well API# **37-125-24003-00**

STIMULATION FLUID ADDITVES-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	Stage No. 10	Stage No. 11	Stage No. 12
FR-200W	N/A	N/A	N/A	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%
FR-300W	N/A	N/A	N/A	0.0444%	0.0516%	0.0507%	0.0451%	0.0461%	0.0537%
MX 588-2	N/A	N/A	N/A	0.0072%	0.0070%	0.0071%	0.0068%	0.0066%	0.0000%
NE100	N/A	N/A	N/A	0.0004%	0.0003%	0.0003%	0.0004%	0.0002%	0.0003%
FE100L	N/A	N/A	N/A	0.0011%	0.0010%	0.0010%	0.0011%	0.0006%	0.0009%
37% HCL	HCL	7647-01-0	37%	0.0667%	0.0590%	0.0600%	0.0671%	0.0368%	0.0554%
CI-100	Methanol	67-56-1	93%	0.0007%	0.0006%	0.0006%	0.0007%	0.0004%	0.0006%
CI-100	Propargyl Alcohol	107-19-7	4%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%
MC B-8650	Glutaraldehyde	111-30-8	49%	0.0039%	0.0037%	0.0038%	0.0035%	0.0037%	0.0000%
MC B-8650	Methanol	67-56-1	1%	0.0001%	0.0001%	0.0001%	0.0001%	0.0001%	0.0000%
MC B-8520	4,4-Dimethyloxazolidine	51200-87-4	77%	0.0150%	0.0148%	0.0150%	0.0148%	0.0149%	0.0000%
MC B-8520	3,4,4-Trimethyloxazolodine	75673-43-7	5%	0.0010%	0.0010%	0.0010%	0.0010%	0.0010%	0.0000%
MC B-8520	2-Amino-2-methyl-1-propanol	124-68-5	1%	0.0002%	0.0002%	0.0002%	0.0002%	0.0002%	0.0000%
MC B-8520	Formaldehyde Amine	56652-26-7	0%	0.0001%	0.0001%	0.0001%	0.0001%	0.0001%	0.0000%
Please insert additional copies of this page if additional rows/stages are needed.									

STIMULATION FLUID ADDITVES-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. 13	Stage No. 14				
FR-200W	N/A	N/A	N/A	0.0000%	0.0000%				
FR-300W	N/A	N/A	N/A	0.0487%	0.0386%				
MX 588-2	N/A	N/A	N/A	0.0071%	0.0072%				
NE100	N/A	N/A	N/A	0.0003%	0.0003%				
FE100L	N/A	N/A	N/A	0.0010%	0.0010%				
37% HCL	HCL	7647-01-0	37%	0.0572%	0.0579%				
CI-100	Methanol	67-56-1	93%	0.0006%	0.0006%				
CI-100	Propargyl Alcohol	107-19-7	4%	0.0000%	0.0000%				
MC B-8650	Glutaraldehyde	111-30-8	49%	0.0038%	0.0038%				
MC B-8650	Methanol	67-56-1	1%	0.0001%	0.0001%				
MC B-8520	4,4-Dimethyloxazolidine	51200-87-4	77%	0.0148%	0.0150%				
MC B-8520	3,4,4-Trimethyloxazolodine	75673-43-7	5%	0.0010%	0.0010%				
MC B-8520	2-Amino-2-methyl-1-propanol	124-68-5	1%	0.0002%	0.0002%				
MC B-8520	Formaldehyde Amine	56652-26-7	0%	0.0001%	0.0001%				

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

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Well API# **37-125-24003-00**

STIMULATION INFORMATION (WELL)

Open Flow Production:	24 Hr. Open Flow Production:	24 Hr. Shut-in Pressure:	Flow Back Date:
Omcf/d @ 24hrs pos treatment	Omcf/d @ 24hrs pos treatment	N/A @ 24hrs post treatment	

STIMULATION INFORMATION (STAGE)

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

Stage No.: 1	Stimulation Date: 8/6/11	Pump Rate: 65.6
Pressure (psi): 6404	Shut-in Surface Pressure: 3285	5 Minute Shut-in Surface Pressure: N/A
Propping Agent Type: Sand	Propping Agent Amount: 303,308	Propping Agent Size: 100 Mesh 30/50 Mesh
Stage No.: 2	Stimulation Date: 8/6/11	Pump Rate: 69.3
Pressure (psi): 6247	Shut-in Surface Pressure: 3409	5 Minute Shut-in Surface Pressure: N/A
Propping Agent Type: Sand	Propping Agent Amount: 303,998	Propping Agent Size: 100 Mesh 30/50 Mesh
Stage No.: 3	Stimulation Date: 8/7/11	Pump Rate: 65.6
Pressure (psi): 6412	Shut-in Surface Pressure: 3604	5 Minute Shut-in Surface Pressure: N/A
Propping Agent Type: Sand	Propping Agent Amount: 304,076	Propping Agent Size: 100 Mesh 30/50 Mesh
Stage No.: 4	Stimulation Date: 8/8/11	Pump Rate: 66.5
Pressure (psi): 6840	Shut-in Surface Pressure: 3822	5 Minute Shut-in Surface Pressure: N/A
Propping Agent Type: Sand	Propping Agent Amount: 303,242	Propping Agent Size: 100 Mesh 30/50 Mesh
Stage No.: 5	Stimulation Date: 8/9/11	Pump Rate: 65
Pressure (psi): 6781	Shut-in Surface Pressure: 4315	5 Minute Shut-in Surface Pressure: N/A
Propping Agent Type: Sand	Propping Agent Amount: 292,874	Propping Agent Size: 100 Mesh 30/50 Mesh
Stage No.: 6	Stimulation Date: 8/10/11	Pump Rate: 67.3
Pressure (psi): 6774	Shut-in Surface Pressure: 4279	5 Minute Shut-in Surface Pressure: N/A
Propping Agent Type: Sand	Propping Agent Amount: 301,889	Propping Agent Size: 100 Mesh 30/50 Mesh
Stage No.: 7	Stimulation Date: 8/11/11	Pump Rate: 66.8
Pressure (psi): 7134	Shut-in Surface Pressure: 4550	5 Minute Shut-in Surface Pressure: N/A
Propping Agent Type: Sand	Propping Agent Amount: 253,836	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
Frac Tech	**Multi-Chem**	**Renegade Wireline Services**
Address: 16858 IH20	Address: 200 Detroit Street	Address: PO Box 852
City – State- Zip: Ciscok, TX 76437	City – State – Zip: Washington, PA	City – State – Zip: Levelland, TX 79336
Phone: 817-850-1008	Phone: 325-486-7489	Phone: 337/552-8401

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.

Well Operator's Signature	**DEP USE ONLY**	
8/30/2011	Reviewed by:	Date:
Title: Completion Engineer: Brad Wernicki — Date:	Comments:	

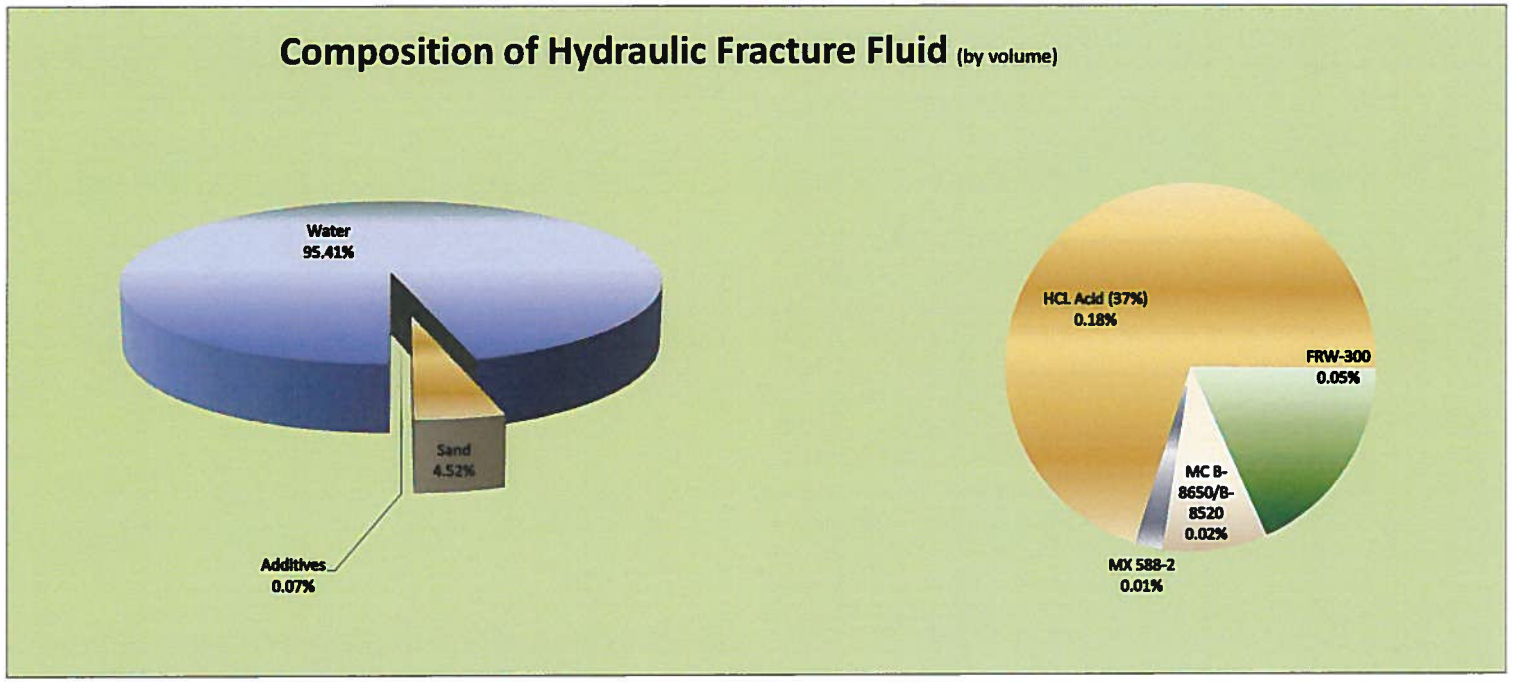
Well API# **37-125-24003-00**

STIMULATION INFORMATION (STAGE- Continued)		
Complete a separate record for each stimulation stage. (Please insert additional copies of this page for additional stages).		
Stage No.: 8	Stimulation Date: 8/11/11	Pump Rate: 66.5
Pressure (psi): 6971	Shut-in Surface Pressure: 4268	5 Minute Shut-in Surface Pressure: N/A
Propping Agent Type: Sand	Propping Agent Amount: 300,098	Propping Agent Size: 100 Mesh 30/50 Mesh
Stage No.: 9	Stimulation Date: 8/11/11	Pump Rate: 66.7
Pressure (psi): 6957	Shut-in Surface Pressure: 4303	5 Minute Shut-in Surface Pressure: N/A
Propping Agent Type: Sand	Propping Agent Amount: 304,371	Propping Agent Size: 100 Mesh 30/50 Mesh
Stage No.: 10	Stimulation Date: 8/12/11	Pump Rate: 66.7
Pressure (psi): 7481	Shut-in Surface Pressure: 4004	5 Minute Shut-in Surface Pressure: N/A
Propping Agent Type: Sand	Propping Agent Amount: 273,963	Propping Agent Size: 100 Mesh 30/50 Mesh
Stage No.: 11	Stimulation Date: 8/12/11	Pump Rate: 67.5
Pressure (psi): 6931	Shut-in Surface Pressure: 4122	5 Minute Shut-in Surface Pressure: N/A
Propping Agent Type: Sand	Propping Agent Amount: 223,470	Propping Agent Size: 100 Mesh 30/50 Mesh
Stage No.: 12	Stimulation Date: 8/12/11	Pump Rate: 63
Pressure (psi): 7379	Shut-in Surface Pressure: 4315	5 Minute Shut-in Surface Pressure: N/A
Propping Agent Type: Sand	Propping Agent Amount: 300,675	Propping Agent Size: 100 Mesh 30/50 Mesh
Stage No.: 13	Stimulation Date: 8/15/1	Pump Rate: 64.1
Pressure (psi): 7278	Shut-in Surface Pressure: 4432	5 Minute Shut-in Surface Pressure: N/A
Propping Agent Type: Sand	Propping Agent Amount: 302,234	Propping Agent Size: 100 Mesh 30/50 Mesh
Stage No.: 14	Stimulation Date: 8/15/11	Pump Rate: 66.2
Pressure (psi): 7006	Shut-in Surface Pressure: 4203	5 Minute Shut-in Surface Pressure: N/A
Propping Agent Type: Sand	Propping Agent Amount: 301,098	Propping Agent Size: 100 Mesh 30/50 Mesh

RANGE RESOURCES

Hewitt, Douglas Unit #9H **Completion Date: July 14th 2011**
Well API: 37-125-24033 **Township: Donegal**

% 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	3,881,892 gal	95.24%	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	183,925 gal	4.51%	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	1,853 gal	0.05%	Water treatment; soil conditioner; some children's toys
MC B-8650/B-8520	Antimicrobial Agent	Eliminates bacteria in the water that produce corrosive byproducts	Diluted at one-half gallon per 1,000 gallons of water	0,939 gal	0.02%	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	0,244 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)	7,178 gal	0.18%	Swimming pool and household cleaner



RANGE RESOURCES

Composition of Components in Marcellus Shale Hydraulic Fracturing Fluid

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%	7178.09	0.1761%	0.0718%
	CI-100	Corrosion Inhibitor	Methanol	67-56-1	Protects casing	95.0%	27.85	0.0007%	0.0005%
			Propargyl Alcohol	107-19-7	Protects casing	5.0%	1.20	0.0000%	0.0000%
	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
							TOTAL	0.1768%	0.0724%
Friction Reducer (FracTech)	FRW-300	Friction Reducer	No hazardous ingredients	N/A	Reduce friction down casing	0.0%	N/A	N/A	N/A
Scale Inhibitor (Multichem)	MX 588-2	Scale Inhibitor	No hazardous ingredients	N/A	prevents scale deposits	0.0%	N/A	N/A	N/A
Antibacterial Agent (Multichem)	MC B-8520	Antibacterial Agent	4,4-Dimethyloxazolidine	51200-87-4	eliminates bacteria in water	78.0%	515.91	0.0127%	0.0118%
			3,4,4-Trimethyloxazolodine	75673-43-7		5.0%	33.77	0.0008%	0.0008%
			2-Amino-2-methyl-1-propanol	124-68-5		1.0%	7.08	0.0002%	0.0002%
			Formaldehyde Amine	56652-26-7		0.5%	3.08	0.0001%	0.0001%
	MC B-8650	Antibacterial Agent	Glutaraldehyde	111-30-8	eliminates bacteria in water	50.0%	96.87	0.0024%	0.0033%
			Methanol	67-56-1		0.5%	0.97	0.0000%	0.0000%
							TOTAL	0.0161%	0.0162%

	by vol %	by weight %
SUMMARY	0.193%	0.089%