



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

DEP USE ONLY	
Site ID	Primary Fac ID
Client	Subfacility Id

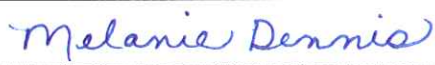
Completion Report

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 - 081-20292- -	Project Number	Acres 188	
Address 100 Throckmorton St., Suite 1200		Well Farm Name Harman, Lewis Unit	Well # 1H	Serial #	
City Fort Worth	State TX	Zip Code 76102	County Lycoming	Municipality Moreland	
Phone 817 869-4158	Fax 817 869-1458	Email mdennis@rangeresources.com	USGS 7.5 min. quadrangle map Hughesville		
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. Montoursville Borough (Howard Ave and Pool Road)	PADWIS ID# 4175501	2,886,200
2. Williamsport Water Authority @ Sanitary Plant	PADWIS ID# 4189510	230,160
3. LHP Management @ Fishing Creek	SRBC Docket # 20090906	1,053,780
4.		
5.		
6.		
Recycled Water Used		
Other Bass Fluid(s)Components Used		
1.		
2.		
Total Base Fluid(s)/Components Used		4,170,140 gallons

PERFORATION RECORD					
Stage No.	Perforation Date	Stage Perforated From	Stage Perforated To	Perf. Orientation (Vertical, Horizontal, Radial)	Formation
1	6/18/2011	6,455'	6,245'	Horizontal	Marcellus Shale
2	6/28/2011	6,140'	5,930'	Horizontal	Marcellus Shale
3	6/28/2011	5,825'	5,615'	Horizontal	Marcellus Shale
4	6/29/2011	5,510'	5,300'	Horizontal	Marcellus Shale
5	6/29/2011	5,195'	4,985'	Horizontal	Marcellus Shale
6	6/29/2011	4,880'	4,670'	Horizontal	Marcellus Shale
7	6/30/2011	4,565'	4,355'	Horizontal	Marcellus Shale
8	6/30/2011	4,250'	4,040'	Horizontal	Marcellus Shale
9	7/01/2011	3,935'	3,725'	Horizontal	Marcellus Shale

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: 7/04/2011
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: 6/28/2011	Pump Rate: 70.2	
Pressure (psi): 4,239	Shut-in Surface Pressure: 2,238	5 Minute Shut-in Surface Pressure: NA	
Propping Agent Type: Sand	Propping Agent Amount: 503,570	Propping Agent Size: 100 mesh/40-70 Mesh	
Stage No.: 2	Stimulation Date: 6/28/2011	Pump Rate: 70.4	
Pressure (psi): 3,715	Shut-in Surface Pressure: 2,239	5 Minute Shut-in Surface Pressure: NA	
Propping Agent Type: Sand	Propping Agent Amount: 503,828	Propping Agent Size: 100 mesh/40-70 Mesh	
Stage No.: 3	Stimulation Date: 6/29/2011	Pump Rate: 70.4	
Pressure (psi): 3,766	Shut-in Surface Pressure: 2,306	5 Minute Shut-in Surface Pressure: NA	
Propping Agent Type: Sand	Propping Agent Amount: 504,347	Propping Agent Size: 100 mesh/40-70 Mesh	
Stage No.: 4	Stimulation Date: 6/29/2011	Pump Rate: 70.6	
Pressure (psi): 3,797	Shut-in Surface Pressure: 2,310	5 Minute Shut-in Surface Pressure: NA	
Propping Agent Type: Sand	Propping Agent Amount: 500,888	Propping Agent Size: 100 mesh/40-70 Mesh	
Stage No.: 5	Stimulation Date: 6/29/2011	Pump Rate: 70.8	
Pressure (psi): 3,648	Shut-in Surface Pressure: 2,121	5 Minute Shut-in Surface Pressure: NA	
Propping Agent Type: Sand	Propping Agent Amount: 501,899	Propping Agent Size: 100 mesh/40-70 Mesh	
Stage No.: 6	Stimulation Date: 6/30/2011	Pump Rate: 70.5	
Pressure (psi): 3,395	Shut-in Surface Pressure: 2,275	5 Minute Shut-in Surface Pressure: NA	
Propping Agent Type: Sand	Propping Agent Amount: 500,477	Propping Agent Size: 100 mesh/40-70 Mesh	
WELL SERVICE COMPANIES (Provide the name, address, and telephone number of all well service companies involved.)			
Name Frac Tech	Name Multi-Chem	Name Cased Hole Solutions, Inc.	
Address 16858 IH 20	Address 2905 Southwest Blvd.	Address 1720 North Airport Rd.	
City - State - Zip Cisco, Texas 76437	City - State - Zip San Angelo, Texas 76904	City - State - Zip Weatherford, Oklahoma 73096	
Phone 817 850-1008	Phone 325 223-6200	Phone 580 772-3100	
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	
		Reviewed by:	Date:
Title: Regulatory Analyst	Date: 7/20/2011	Comments:	

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: 7/04/2011
STIMULATION INFORMATION (STAGE)			
Complete a separate record for each stimulation stage. (Please insert additional copies of this page for additional stages).			
Stage No.: 7	Stimulation Date: 6/30/2011	Pump Rate: 70.7	
Pressure (psi): 3,039	Shut-in Surface Pressure: 1,828	5 Minute Shut-in Surface Pressure: NA	
Propping Agent Type: Sand	Propping Agent Amount: 503,340	Propping Agent Size: 100 mesh/40-70 Mesh	
Stage No.: 8	Stimulation Date: 7/01/2011	Pump Rate: 70.4	
Pressure (psi): 2,973	Shut-in Surface Pressure: 1,804	5 Minute Shut-in Surface Pressure: NA	
Propping Agent Type: Sand	Propping Agent Amount: 498,748	Propping Agent Size: 100 mesh/40-70 Mesh	
Stage No.: 9	Stimulation Date: 7/01/2011	Pump Rate: 70.1	
Pressure (psi): 2,926	Shut-in Surface Pressure: 1,624	5 Minute Shut-in Surface Pressure: NA	
Propping Agent Type: Sand	Propping Agent Amount: 540,158	Propping Agent Size: 100 mesh/40-70 Mesh	
Stage No.:	Stimulation Date:	Pump Rate:	
Pressure (psi):	Shut-in Surface Pressure:	5 Minute Shut-in Surface Pressure:	
Propping Agent Type:	Propping Agent Amount:	Propping Agent Size:	
Stage No.:	Stimulation Date:	Pump Rate:	
Pressure (psi):	Shut-in Surface Pressure:	5 Minute Shut-in Surface Pressure:	
Propping Agent Type:	Propping Agent Amount:	Propping Agent Size:	
Stage No.:	Stimulation Date:	Pump Rate:	
Pressure (psi):	Shut-in Surface Pressure:	5 Minute Shut-in Surface Pressure:	
Propping Agent Type:	Propping Agent Amount:	Propping Agent Size:	
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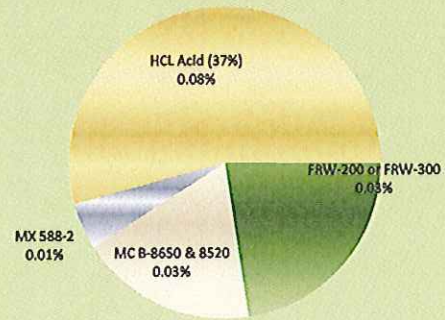
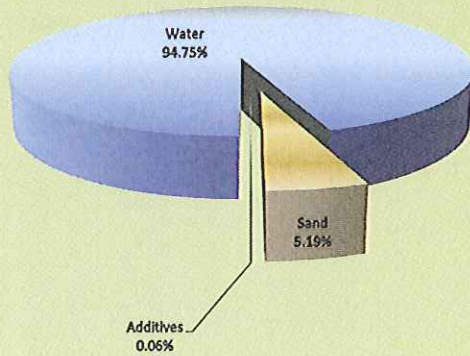
Harman, Lewis Unit 1-H
Well API: 37-081-20292

Completion Date: June 28, 2011
Township: Moreland

% 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	3,761,113 gal	94.67%	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	205,976 gal	5.18%	Drinking water filtration, play sand
FRW-200 or FRW-300	Friction Reducer	Reduces friction between fluid and pipe	Diluted at one-half gallon per 1,000 gallons of water	1,321 gal	0.03%	Water treatment; soil conditioner; some children's toys
MC B-8650 & 8520	Antimicrobial Agent	Eliminates bacteria in the water that produce corrosive byproducts	Diluted at one-half gallon per 1,000 gallons of water	1,080 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	0,285 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)	3,190 gal	0.08%	Swimming pool and household cleaner

Composition of Hydraulic Fracture Fluid (by volume)





Wellname: Harman, Lewis Unit 1-1

WELL API#: 37-081-20292

Township: Moreland

Completion Date: June 28, 2011

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%	3190.26	0.0803%	0.0324%
	CI-100	Corrosion Inhibitor	Methanol	Protects casing	95.0%	37.14	0.0009%	0.0007%
			Propargyl Alcohol	Protects casing	5.0%	1.60	0.00004%	0.00004%
	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	N/A
TOTAL							0.0813%	0.0331%

Friction Reducer (FracTech)	RW-200 or FRW-3	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)	BMC B-8520	Antibacterial Agent	4,4-Dimethyloxazolidine	eliminates bacteria in water	78.0%	593.38	0.0149%	0.0138%
			3,4,4-Trimethyloxazolidine		5.0%	38.84	0.0010%	0.0009%
			2-Amino-2-methyl-1-propanol		1.0%	8.14	0.0002%	0.0002%
			Formaldehyde Amine		0.5%	3.54	0.0001%	0.0001%
	BMC B-8650	Antibacterial Agent	Glutaraldehyde	eliminates bacteria in water	50.0%	111.42	0.0028%	0.0039%
			Methanol		0.5%	1.11	0.000028%	0.000039%
TOTAL							0.0190%	0.0189%

SUMMARY	by vol %	by weight %
	0.101%	0.052%