



State of West Virginia
Division of Environmental Protection
Section of Oil and Gas
Well Operator's Report of Well Work

Farm Name: Delmar Light 1H

Operator Well No.: 831090

LOCATION Elevation: 1745'
District: Buckhan
non
Latitude: 4600ft South of 39° 00' 00"
Longitude: 12650ft West of 80° 15' 00"

Quadrangle: Adrian
County: Upshur

Company: Chesapeake Appalachia, L.L.C.
P.O. Box 18496
OKC, OK 73154-0496

Casing & Tubing	Used in Drilling	Left in Well	Cement Fill-Up Cu.Ft.
20"	40'	40'	Driven
13 3/8"	475'	475'	609 CF
9 5/8"	1727'	1727'	714 CF
5 1/2"	13065'	13065'	1919 CF
			RECEIVED
			Office of Oil & Gas

Agent: Eric Gillespie
Inspector: Bill Hatfield
Date Permit Issued: 06/25/2009
Date Well work commenced: 04/16/2010
Date Well Work completed: 6/28/2010
Verbal Plugging Permission
Granted on / /
Rotary Cable Rig
Total Depth (ft):13065' TVD (ft):7552'
Fresh Water Depth (ft):62' & 275'
Salt Water Depth (ft.):NA
Is coal being mined in area (Yes No
Coal Depths (ft):270' & 275'
Was this well logged and plugged back?
Yes ___ No X if yes -
depth cement plug set _____

APR 09 2013

WV Department of
Environmental Protection

Open Flow Data

1st Producing Formation Pay Zone Depth 7,801 ft to 12,923 ft
Gas: Initial Open Flow 802 Mcf/day Oil: Initial Open Flow bbl/day
Final Open Flow Mcf/day Final Open Flow bbl/day
Time of Open Flow between Initial and Final Tests In hours
Line
Static Rock Pressure 3,398 psig after hours

2nd Producing Formation Pay Zone Depth ft to ft
Gas: Initial Open Flow Mcf/day Oil: Initial Open Flow bbl/day
Final Open Flow Mcf/day Final Open Flow bbl/day
Time of Open Flow between Initial and Final Tests hours
Static Rock Pressure psig after hours

3rd Producing Formation Pay Zone Depth ft to ft
Gas: Initial Open Flow Mcf/day Oil: Initial Open Flow bbl/day
Final Open Flow Mcf/day Final Open Flow bbl/day
Time of Open Flow between Initial and Final Tests hours
Static Rock Pressure psig after hours

NOTE: ON BACK OF THIS FORM PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE.

Chesapeake Energy
Well No.: 831090

Perforated Intervals

1 st Stage	Marcellus	10	Holes from	12,601 ft to 12,923
2 nd Stage	Marcellus	10	Holes from	12,201 ft to 12,523
3 rd Stage	Marcellus	10	Holes from	11,801 ft to 12,123
4 th Stage	Marcellus	10	Holes from	11,401 ft to 11,723
5 th Stage	Marcellus	10	Holes from	11,001 ft to 11,323
6 th Stage	Marcellus	10	Holes from	10,601 ft to 10,923
7 th Stage	Marcellus	10	Holes from	10,201 ft to 10,523
8 th Stage	Marcellus	10	Holes from	9,801 ft to 10,123
9 th Stage	Marcellus	10	Holes from	9,401 ft to 9,723
10 th Stage	Marcellus	10	Holes from	9,003 ft to 9,330
11 th Stage	Marcellus	10	Holes from	8,601 ft to 8,923
12 th Stage	Marcellus	10	Holes from	8,201 ft to 8,523
13 th Stage	Marcellus	10	Holes from	7,801 ft to 8,123

Fracturing / Stimulation

1 st Stage	Type of Treatment Slickwater		
	Total Acid 5,000 Gal of 15% HCl		Breakdown Pressure 7,170 psi
	Average Rate 66.3 scf/min	<input type="checkbox"/> or bpm <input checked="" type="checkbox"/>	ATP 7,026 psi MTP 9,199 psi
	Total Fluid 9,105 bbl	Total Nitrogen 0 scf	Total Sand 119,663 lb of 100 mesh
			Total Sand 261,243 lb of 40/70
	ISIP 4,450 psi	5 min 3,738psi	
2 nd Stage	Type of Treatment Slickwater		
	Total Acid 2,500 Gal of 15% HCl		Breakdown Pressure 7,036 psi
	Average Rate 86.5 scf/min	<input type="checkbox"/> or bpm <input checked="" type="checkbox"/>	ATP 7,716 psi MTP 8,362 psi
	Total Fluid 9,019 bbl	Total Nitrogen 0 scf	Total Sand 122,742 lb of 100 mesh
			Total Sand 270,112 lb of 40/70
	ISIP 4,663 psi	5 min 3,917 psi	
3 rd Stage	Type of Treatment Slickwater		
	Total Acid 2,500 Gal of 15% HCl		Breakdown Pressure 8,205 psi
	Average Rate 83.4 scf/min	<input type="checkbox"/> or bpm <input checked="" type="checkbox"/>	ATP 7,692 psi MTP 8,480 psi
	Total Fluid 11,567 bbl	Total Nitrogen 0 scf	Total Sand 122,085 lb of 100 mesh
			Total Sand 285,621 lb of 40/70
	ISIP 4,443 psi	5 min 3,745 psi	
4 th Stage	Type of Treatment Slickwater		
	Total Acid 2,500 Gal of 15% HCl		Breakdown Pressure 7,954 psi
	Average Rate --- scf/min	<input type="checkbox"/> or bpm <input checked="" type="checkbox"/>	ATP --- psi MTP --- psi
	Total Fluid 10,474 bbl	Total Nitrogen 0 scf	Total Sand 124,340 lb of 100 mesh
			Total Sand 285,452 lb of 40/70
	ISIP 4,530 psi	5 min 3,927 psi	
5 th Stage	Type of Treatment Slickwater		
	Total Acid 2,500 Gal of 15% HCl		Breakdown Pressure 7,781 psi
	Average Rate 85.3 scf/min	<input type="checkbox"/> or bpm <input checked="" type="checkbox"/>	ATP 8,090 psi MTP 8,582 psi
	Total Fluid 14,769 bbl	Total Nitrogen 0 scf	Total Sand 120,622 lb of 100 mesh
			Total Sand 268,619 lb of 40/70
	ISIP 5,183 psi	5 min 4,270 psi	
6 th Stage	Type of Treatment Slickwater		
	Total Acid 2,500 Gal of 15% HCl		Breakdown Pressure 7,437 psi
	Average Rate 87 scf/min	<input type="checkbox"/> or bpm <input checked="" type="checkbox"/>	ATP 7,801 psi MTP 8,544 psi
	Total Fluid 10,423 bbl	Total Nitrogen 0 scf	Total Sand 124,901 lb of 100 mesh
			Total Sand 295,293 lb of 40/70
	ISIP 4,661 psi	5 min 4,093 psi	
7 th Stage	Type of Treatment Slickwater		
	Total Acid 2,500 Gal of 15% HCl		Breakdown Pressure 7,904 psi
	Average Rate 86 scf/min	<input type="checkbox"/> or bpm <input checked="" type="checkbox"/>	ATP 7,693 psi MTP 8,584 psi
	Total Fluid 11,523 bbl	Total Nitrogen 0 scf	Total Sand 119,598 lb of 100 mesh
			Total Sand 294,305 lb of 40/70
	ISIP 4,625 psi	5 min 4,000 psi	
8 th Stage	Type of Treatment Slickwater		
	Total Acid 2,500 Gal of 15% HCl		Breakdown Pressure 7,904 psi

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	Average Rate 91 scf/min <input type="checkbox"/> or bpm <input checked="" type="checkbox"/>	ATP 7,723 psi	MTP 8,499 psi
	Total Fluid 10,573 bbl	Total Nitrogen 0 scf	Total Sand 122,234 lb of 100 mesh
			Total Sand 285,531 lb of 40/70
	ISIP 4,554 psi	5 min 3,850 psi	
9 th Stage	Type of Treatment Slickwater		
	Total Acid 2,500 Gal of 15% HCl		Breakdown Pressure 7,322 psi
	Average Rate 87 scf/min <input type="checkbox"/> or bpm <input checked="" type="checkbox"/>	ATP 7,440 psi	MTP 7,988 psi
	Total Fluid 9,414 bbl	Total Nitrogen 0 scf	Total Sand 119,714 lb of 100 mesh
			Total Sand 282,948 lb of 40/70
	ISIP 4,668 psi	5 min 4,080 psi	
10 th Stage	Type of Treatment Slickwater		
	Total Acid 2,500 Gal of 15% HCl		Breakdown Pressure 8,217 psi
	Average Rate 87 scf/min <input type="checkbox"/> or bpm <input checked="" type="checkbox"/>	ATP 7,382 psi	MTP 7,870 psi
	Total Fluid 11,253 bbl	Total Nitrogen 0 scf	Total Sand 124,000 lb of 100 mesh
			Total Sand 280,000 lb of 40/70
	ISIP 4,391 psi	5 min 3,845 psi	
11 th Stage	Type of Treatment Slickwater		
	Total Acid 2,500 Gal of 15% HCl		Breakdown Pressure 7,213 psi
	Average Rate 85 scf/min <input type="checkbox"/> or bpm <input checked="" type="checkbox"/>	ATP 7,148 psi	MTP 7,458 psi
	Total Fluid 9,500 bbl	Total Nitrogen 0 scf	Total Sand 122,000 lb of 100 mesh
			Total Sand 280,000 lb of 40/70
	ISIP 5,252 psi	5 min 4,354 psi	
12 th Stage	Type of Treatment Slickwater		
	Total Acid 2,500 Gal of 15% HCl		Breakdown Pressure 6,864 psi
	Average Rate 87 scf/min <input type="checkbox"/> or bpm <input checked="" type="checkbox"/>	ATP 7,395 psi	MTP 7,800 psi
	Total Fluid 10,782 bbl	Total Nitrogen 0 scf	Total Sand 128,496 lb of 100 mesh
			Total Sand 280,694 lb of 40/70
	ISIP 4,422 psi	5 min 3,721 psi	
13 th Stage	Type of Treatment Slickwater		
	Total Acid 2,500 Gal of 15% HCl		Breakdown Pressure 6,695 psi
	Average Rate 87 scf/min <input type="checkbox"/> or bpm <input checked="" type="checkbox"/>	ATP 7,258 psi	MTP 8,115 psi
	Total Fluid 10,353 bbl	Total Nitrogen 0 scf	Total Sand 146,318 lb of 100 mesh
			Total Sand 230,026 lb of 40/70
	ISIP 4,082 psi	5 min 3,560 psi	

Well Log

Formation Name	Top	Bottom	Comments
MAXTON	1367	1439	
LITTLE LIME	1613	1677	
BIG LIME	1677	1864	
BIG INJUN	1864	1887	
GANTZ	1931	1996	
GORDON	2013	2034	
4 th SAND	2369	2384	
5 th SAND	2419	2485	
BAYARD	2525	2533	
ELIZABETH	3667	2686	
WARREN	2782	2843	
BEDFORD	3562	3572	
SPEECHLEY	3124	3137	
BALLTOWN	3305	3370	
RILEY	3936	3945	
BENSON	4323	4366	
BLK	5781	5812	
SYCAMORE	6595	6609	
MIDDLESEX	6977	7296	
GENESE	7296	7330	
TULLY	7330	7362	
HAMILTON	7362	7461	
UPPER MARCELLUS	7461	7513	
PURCELL	7513	7515	
LOWER MARCELLUS	7515	7574	

04/12/2013

Signed: 
CHESAPEAKE APPALACHIA, LLC

97-03665

By: _____
Date: Nov 16 2010