WR-35
Rev. 8/23/13

State of West Virginia
Department of Environmental Protection - Office of Oil and Gas
Well Operator's Report of Well Work

API 47 - 051 - 01692 County Marshall District Union
Quad Moundsville Pad Name Mark Edison MSH Field/Pool Name
Farm name Mark Edison MSH 8H Well Number 837626
Operator (as registered with the OOG) Chesapeake Appalachia, L.L.C.
Address P.O. Box 18496 City Oklahoma City State OK Zip 73154-0496

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4425173.6 Easting 529914.3
Landing Point of Curve Northing 4424989.7 Easting 529969.9
Bottom Hole Northing 4422567 Easting 530706

Elevation (ft) 1220' GL Type of Well ■New □ Existing Type of Report ■Interim □Final

Permit Type □ Deviated □ Horizontal ■ Horizontal 6A □ Vertical Depth Type □ Deep ■ Shallow

Type of Operation □ Convert □ Deepen ■ Drill □ Plug Back □ Redrilling □ Rework □ Stimulate

Well Type □ Brine Disposal □ CBM ■ Gas □ Oil □ Secondary Recovery □ Solution Mining □ Storage □ Other

Type of Completion ■ Single □ Multiple Fluids Produced □ Brine ■Gas □ NGL □ Oil □ Other
Drilled with □ Cable ■ Rotary

Drilling Media Surface hole ■ Air □ Mud ■Fresh Water Intermediate hole ■ Air ■ Mud ■ Fresh Water □ Brine
Production hole ■ Air ■ Mud □ Fresh Water □ Brine
Mud Type(s) and Additive(s)
SOBM

Date permit issued 1-28-2014 Date drilling commenced 5-20-2014 Date drilling ceased 7-10-2014
Date completion activities began 9-15-2014 Date completion activities ceased 9-25-2014
Verbal plugging (Y/N) N Date permission granted Granted by

Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug

Freshwater depth(s) ft 580' Open mine(s) (Y/N) depths N
Salt water depth(s) ft 912' Void(s) encountered (Y/N) depths N
Coal depth(s) ft 734' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed by:

Reviewed Jim Nicholson 12/6/2017
via email

OCT 13 2017

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Rev. 8/23/13

API 47- 051 - 01692 Farm name Mark Edison MSH 8H Well number 837626

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/ N) * Provide details below*
Conductor	26"	20"	122'	New	K-55 94#		Y Surface
Surface	17 1/2"	13 3/8"	794'	New	J-55 54.50#		Y Surface
Coal							
Intermediate 1	12 1/4"	9 5/8"	2146'	New	J-55 40#		Y Surface
Intermediate 2							
Intermediate 3							
Production	8 3/4"/ 8 1/2"	5 1/2"	15035'	New	P110 20#		Y 700'
Tubing		2 3/8"	6686.9	New	L-80 4.70		
Packer type and depth set							

Comment Details

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft^3/sks)	Volume (ft^3)	Cement Top (MD)	WOC (hrs)
Conductor	A	175	15.60	1.22	206.5	Surface	8
Surface	A	720	15.60	1.22	878.4	Surface	8
Coal							
Intermediate 1	A	750	15.60	1.19	892.5	Surface	8
Intermediate 2							
Intermediate 3							
Production	A	2967	15.60	1.38 / 1.19	1236.48/ 2464.49	700'	8
Tubing							

Drillers TD (ft) 15035 Loggers TD (ft) 15035
Deepest formation penetrated Marcellus Plug back to (ft)
Plug back procedure N/A

Kick off depth (ft) 5721

Check all wireline logs run ■ caliper ■ density □ deviated/directional □ induction
■ neutron ■ resistivity ■ gamma ray □ temperature □sonic

Well cored □ Yes ■ No Conventional Sidewall Were cuttings collected ■ Yes □ No

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING
Surface / Coal - Run centralizers in the middle and top of the first joint, top of the third jt and every 4th joint to surface.
Production - Run 1st centralizer 3' from Shoe, 2nd at top of the first joint and then one every 3rd joint to TOC.

WAS WELL COMPLETED AS SHOT HOLE □ Yes ■ No DETAILS

WAS WELL COMPLETED OPEN HOLE? □ Yes ■ No DETAILS

WERE TRACERS USED □ Yes ■ No TYPE OF TRACER(S) USED

WR-35
Rev. 8/23/13

API 47- 051 - 01692 Farm name Mark Edison MSH 8H Well number 837626

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
	See attached				

Please insert additional pages as applicable.

STIMULATION INFORMATION PER STAGE

Complete a separate record for each stimulation stage.

Stage No.	Stimulations Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/other (units)
	attached							

Please insert additional pages as applicable.

OCT 1 3 2017

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API 47- 051 - 01692 Farm name Mark Edison MSH 8H Well number 837626

PRODUCING FORMATION(S)	DEPTHS	
N/A	TVD	MD

Please insert additional pages as applicable.

GAS TEST □ Build up □ Drawdown □ Open Flow OIL TEST □ Flow □ Pump

SHUT-IN PRESSURE Surface _____ psi Bottom Hole _____ psi DURATION OF TEST _____ hrs

OPEN FLOW Gas _____ mcfpd Oil _____ bpd NGL _____ bpd Water _____ bpd GAS MEASURED BY □ Estimated □ Orifice □ Pilot

LITHOLOGY/ FORMATION	TOP DEPTH IN FT NAME TVD	BOTTOM DEPTH IN FT TVD	TOP DEPTH IN FT MD	BOTTOM DEPTH IN FT MD	DESCRIBE ROCK TYPE AND RECORD QUANTITYAND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H_2S, ETC)
	0		0		
Coal	740		740		
Big Injun	1771	1995	1771	1995	
Geneseo	6196	6224	6258	6298	
Tully	6224	6258	6298	6351	
Hamilton	6258	6353	6351	6557	
Marcellus	6353		6557		

Please insert additional pages as applicable.

Drilling Contractor Nomac Drilling
Address 171 Locust Ave Extension City Mt. Morris State PA Zip 15349

Logging Company Nomac Drilling
Address 171 Locust Ave Extension City Mt. Morris State PA Zip 15349

Cementing Company Schlumberger
Address 1080 U.S. 33 City Weston State WV Zip 26452

Stimulating Company Schlumberger
Address 1080 U.S. 33 City Weston State WV Zip 26452

Please insert additional pages as applicable.

Completed by Marlene Williams Telephone 405-935-4158
Signature Marlene Williams Title Regulatory Analyst II Date 10-9-2017

Submittal of Hydraulic Fracturing Chemical Disclosure Information Attach copy of FRACFOCUS Registry

RECEIVED
Office of Oil & Gas
OCT 13 2017
WV Department of
Environmental Protection

PERFORATION RECORD ATTACHMENT

Well Name and Number: Mark Edison MSH 8H **API No. 47-051-01692**

Stage	PERFORATION RECORD				STIMULATION RECORD							
	Date	Interval Perforated		Total Number Of Shots				Fluid		Propping Agent		Average Injection Rate
		From	To		Date	Interval Treated		Type	Amount	Type	Amount	
1	9/15/2014	14,474	14890	60	9/15/2014	14,474	14890	SLK Wtr	6903	Sand	398280	80.1
2	9/18/2014	14,224	14425	30	9/18/2014	14,224	14425	SLK Wtr	6890	Sand	400240	78.6
3	9/18/2014	13,973	14174	30	9/18/2014	13,973	14174	SLK Wtr	6624	Sand	398000	78.5
4	9/18/2014	13,723	13924	30	9/18/2014	13,723	13924	SLK Wtr	7002	Sand	400040	68.4
5	9/19/2014	13,472	13673	30	9/19/2014	13,472	13673	SLK Wtr	6281	Sand	400380	66.4
6	9/19/2014	13,222	13423	30	9/19/2014	13,222	13423	SLK Wtr	6318	Sand	402300	67
7	9/19/2014	12,971	13172	30	9/19/2014	12,971	13172	SLK Wtr	6224	Sand	400600	80.1
8	9/19/2014	12,721	12922	30	9/19/2014	12,721	12922	SLK Wtr	6176	Sand	399320	80.3
9	9/20/2014	12,470	12671	30	9/20/2014	12,470	12671	SLK Wtr	6334	Sand	402000	75.8
10	9/20/2014	12,220	12421	30	9/20/2014	12,220	12421	SLK Wtr	6307	Sand	400660	70.1
11	9/20/2014	11,969	12170	30	9/20/2014	11,969	12170	SLK Wtr	6152	Sand	400720	79.4
12	9/20/2014	11,719	11920	30	9/20/2014	11,719	11920	SLK Wtr	6228	Sand	399020	75.2
13	9/21/2014	11,468	11669	30	9/21/2014	11,468	11669	SLK Wtr	6196	Sand	398320	80
14	9/21/2014	11,218	11419	30	9/21/2014	11,218	11419	SLK Wtr	6103	Sand	401860	78.2
15	9/21/2014	10,967	11168	30	9/21/2014	10,967	11168	SLK Wtr	6026	Sand	398740	79.7
16	9/21/2014	10,717	10918	30	9/21/2014	10,717	10918	SLK Wtr	5966	Sand	402620	79.7
17	9/22/2014	10,466	10667	30	9/22/2014	10,466	10667	SLK Wtr	6100	Sand	396200	76.6
18	9/22/2014	10,216	10417	30	9/22/2014	10,216	10417	SLK Wtr	6118	Sand	401880	79.2
19	9/22/2014	9,965	10166	30	9/22/2014	9,965	10166	SLK Wtr	6104	Sand	400880	80.1
20	9/22/2014	9,714	9916	30	9/22/2014	9,714	9916	SLK Wtr	6048	Sand	402100	80
21	9/23/2014	9,464	9665	30	9/23/2014	9,464	9665	SLK Wtr	6042	Sand	402440	77.3
22	9/23/2014	9,213	9415	30	9/23/2014	9,213	9415	SLK Wtr	6110	Sand	398660	77
23	9/23/2014	8,963	9164	30	9/23/2014	8,963	9164	SLK Wtr	6626	Sand	396840	79.2
24	9/23/2014	8,712	8914	30	9/23/2014	8,712	8914	SLK Wtr	5864	Sand	404300	80
25	9/24/2014	8,462	8663	30	9/24/2014	8,462	8663	SLK Wtr	6016	Sand	401580	77.5
26	9/24/2014	8,211	8413	30	9/24/2014	8,211	8413	SLK Wtr	6031	Sand	403462	77.8
27	9/24/2014	7,961	8162	30	9/24/2014	7,961	8162	SLK Wtr	5871	Sand	399480	79.4
28	9/24/2014	7,710	7912	30	9/24/2014	7,710	7912	SLK Wtr	8966	Sand	402020	65.7
29	9/25/2014	7,460	7661	30	9/25/2014	7,460	7661	SLK Wtr	7105	Sand	401560	77
30	9/25/2014	7209	7411	30	9/25/2014	7209	7411	SLK Wtr	6692	Sand	400720	75.7
31	9/25/2014	6959	7160	30	9/25/2014	6959	7160	SLK Wtr	5766	Sand	394740	77.2
32	9/25/2014	6708	6910	30	9/25/2014	6708	6910	SLK Wtr	6247	Sand	415140	80

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Reviewed by:

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Comment Details

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Deepest formation penetrated Marcellus Plug back to (ft)
Plug back procedure N/A

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WERE TRACERS USED □ Yes ■ No TYPE OF TRACER(S) USED

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PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
	See attached				

Please insert additional pages as applicable.

STIMULATION INFORMATION PER STAGE

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	attached							

Please insert additional pages as applicable.

WR-35
Rev. 8/23/13

API 47- 051 - 01692 Farm name Mark Edison MSH 8H Well number 837626

PRODUCING FORMATION(S) DEPTHS

N/A _____ TVD _____ MD

Please insert additional pages as applicable.

GAS TEST ☐ Build up ☐ Drawdown ☐ Open Flow OIL TEST ☐ Flow ☐ Pump

SHUT-IN PRESSURE Surface _____ psi Bottom Hole _____ psi DURATION OF TEST _____ hrs

OPEN FLOW Gas _____ mcfpd Oil _____ bpd NGL _____ bpd Water _____ bpd GAS MEASURED BY ☐ Estimated ☐ Orifice ☐ Pilot

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Hamilton	6258	6353	6351	6557	
Marcellus	6353		6557		

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Please insert additional pages as applicable.

Completed by Marlene Williams Telephone 405-935-4158
Signature Marlene Williams Title Regulatory Analyst II Date 10-9-2017

Submittal of Hydraulic Fracturing Chemical Disclosure Information Attach copy of FRACFOCUS Registry

OCT 16 2017

PERFORATION RECORD ATTACHMENT

Well Name and Number: Mark Edison MSH 8H **API No. 47-051-01692**

Stage	PERFORATION RECORD				STIMULATION RECORD							
	Date	Interval Perforated		Total Number Of Shots				Fluid		Propping Agent		Average Injection Rate
		From	To		Date	Interval Treated		Type	Amount	Type	Amount	
1	9/15/2014	14,474	14890	60	9/15/2014	14,474	14890	SLK Wtr	6903	Sand	398280	80.1
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7	9/19/2014	12,971	13172	30	9/19/2014	12,971	13172	SLK Wtr	6224	Sand	400600	80.1
8	9/19/2014	12,721	12922	30	9/19/2014	12,721	12922	SLK Wtr	6176	Sand	399320	80.3
9	9/20/2014	12,470	12671	30	9/20/2014	12,470	12671	SLK Wtr	6334	Sand	402000	75.8
10	9/20/2014	12,220	12421	30	9/20/2014	12,220	12421	SLK Wtr	6307	Sand	400660	70.1
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19	9/22/2014	9,965	10166	30	9/22/2014	9,965	10166	SLK Wtr	6104	Sand	400880	80.1
20	9/22/2014	9,714	9916	30	9/22/2014	9,714	9916	SLK Wtr	6048	Sand	402100	80
21	9/23/2014	9,464	9665	30	9/23/2014	9,464	9665	SLK Wtr	6042	Sand	402440	77.3
22	9/23/2014	9,213	9415	30	9/23/2014	9,213	9415	SLK Wtr	6110	Sand	398660	77
23	9/23/2014	8,963	9164	30	9/23/2014	8,963	9164	SLK Wtr	6626	Sand	396840	79.2
24	9/23/2014	8,712	8914	30	9/23/2014	8,712	8914	SLK Wtr	5864	Sand	404300	80
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27	9/24/2014	7,961	8162	30	9/24/2014	7,961	8162	SLK Wtr	5871	Sand	399480	79.4
28	9/24/2014	7,710	7912	30	9/24/2014	7,710	7912	SLK Wtr	8966	Sand	402020	65.7
29	9/25/2014	7,460	7661	30	9/25/2014	7,460	7661	SLK Wtr	7105	Sand	401560	77
30	9/25/2014	7209	7411	30	9/25/2014	7209	7411	SLK Wtr	6692	Sand	400720	75.7
31	9/25/2014	6959	7160	30	9/25/2014	6959	7160	SLK Wtr	5766	Sand	394740	77.2
32	9/25/2014	6708	6910	30	9/25/2014	6708	6910	SLK Wtr	6247	Sand	415140	80

Oil & Gas
OCT 16 2017

Regulatory Current Wellbore Schematic

MARK EDISON MSH 8H

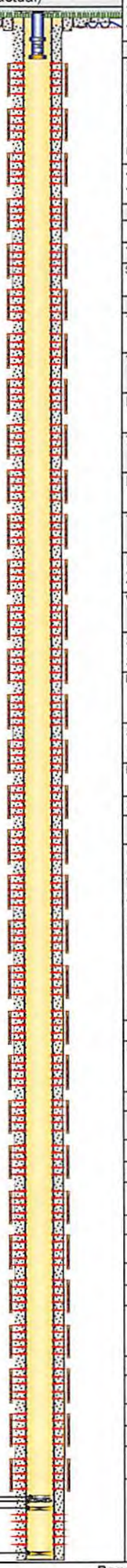
Chesapeake ENERGY

Field:
County: MARSHALL
State: WEST VIRGINIA
Elevation: GL 1,220.0 KB 1,242.0 KB Height: 22.0
Location: T/D UNION, Q-MOUNDSVILLE

Spud Date: 6/25/2014
Rig Release Date: 7/10/2014
Initial Compl. Date:
API #: 4705101692
CHK Property #: 837626
1st Gas Sales Date:
1st Oil Sales Date:
PBTD:
TD: 15,035.0

HORIZONTAL - Original Hole, 10/12/2017 3:48:38 PM

MD (ftKB)	Zones	Vertical schematic (actual)
6,650.9		20 in; 94.00 lb/ft; K-55; 30.0-122.0 ftKB
6,810.0		13 3/8 in; 54.50 lb/ft; J-55; 25.6-794.0 ftKB
7,009.8		9 5/8 in; 40.00 lb/ft; J-55; 25.3-2,146.0 ftKB
7,210.0		
7,437.0		
7,661.1		
7,861.9		
8,062.0		
8,263.1		
8,462.9		
8,690.0		
8,914.0		
9,113.8		
9,315.0		
9,515.1		
9,714.9		
9,941.9		
10,166.0		
10,367.1		
10,566.9		
10,768.0		
10,967.8		
11,194.9		
11,419.0		
11,619.1		
11,819.9		
12,020.0		
12,221.1		
12,446.9		
12,670.9		
12,872.0		
13,071.9		Bit Sub; 14,667.5-14,668.5 ftKB; 3.72 in; pumped off hybrid tool/ production
13,273.0		
13,473.1		Drill Bit; 14,668.5-14,669.0 ftKB; 4 5/8 in; Pumped off hybrid tool/Production
13,700.1		
13,923.9		Cast Iron Bridge Plug; 14,670.0-14,672.0 ftKB; 4.78 in; Stage 1
14,124.0		Cast Iron Bridge Plug; 14,900.0-14,902.0 ftKB; 4.78 in; Tri-States Wire Line set CIBP above Toe Sleeve.
14,325.1		
14,524.9		
14,669.9		5 1/2 in; 20.00 lb/ft; P110-HC; 30.0-15,035.0 ftKB
14,889.1		



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Cement

Description: Production Casing Cement
700.0-15,035.0
Top of Cement (ftKB): 700.0 **Top Measurement Method:** Returns to Surface

Fluid	Amount (sacks)	Class	Dens (lb/gal)	Vol Pumped (bbl)	Yield (ft³/sack)
Pre Flush			14.00	60.0	
Lead	896	A	15.30	211.8	1.38
Tail	2,071	A	15.60	436.6	1.19
Displacement			8.34	329.0	

<depthtop>-<depthbtm>
Top of Cement (ftKB): **Top Measurement Method:**

Fluid	Amount (sacks)	Class	Dens (lb/gal)	Vol Pumped (bbl)	Yield (ft³/sack)

Tubing String: Tubing - Production

Set Depth (ftKB)	Wellbore	Pull Date
6,686.9	Original Hole	

Item Des	OD (in)	ID (in)	Wt (lb/ft)	Grade	Top (ftKB)	Btm (ftKB)	Len (ft)
Tubing Hanger	7.032	2.375			21.0	21.5	0.50
Tubing	2 3/8	1.995	4.70	L-80	21.5	6,226.2	6,204.62
Profile Nipple: X	3 1/16	1.875			6,226.2	6,227.1	0.96
Tubing	2 3/8	1.995	4.70	L-80	6,227.1	6,651.0	423.88
Profile Nipple: X	2 3/8	1.875			6,651.0	6,652.1	1.12
Tubing	2 3/8	1.995	4.70	L-80	6,652.1	6,684.7	32.61
Profile Nipple: XN	2 3/8	1.791			6,684.7	6,685.6	0.82
Wireline Guide	3 1/4	1.995			6,685.6	6,686.9	1.34

Stimulations & Treatments

Slickwater Frac on 9/15/2014 12:00 AM

Date	Type	Wellbore	Zone
9/15/2014	Slickwater Frac	Original Hole	PROPOSED, Original Hole

Stim/Treat Stages

1, Chemical Additives

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
14,665.0	1	Chemical Additives		14,474.0	

Stim/Treat Additives

Add	Type	Amount	Sand Size
Corrosion Inhibitor	A264	10.0	
Acid	Acid, Hydrochloric 15pct	4,989.0	
Anti-Bacterial Agent	EC6111A	87.0	
Scale Inhibitor	EC6486A	15.0	
Breaker	J218	77.0	
Gelling Agent	J580	1,795.0	
Friction Reducer	J609	267.0	
Iron Control Agent	L058	23.0	

2, Break Down

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
14,665.0	2	Break Down	<fluidname>, Slickwater	14,474.0	88.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

3, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
14,665.0	3	Acid Stage	15%, HCl Acid	14,474.0	55.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

4, Spacer

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
14,665.0	4	Spacer	<fluidname>, Slickwater	14,474.0	53.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

5, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
14,665.0	5	Acid Stage	15%, HCl Acid	14,474.0	62.00

Regulatory Current Wellbore Schematic

MARK EDISON MSH 8H

Chesapeake ENERGY

Field:
County: MARSHALL
State: WEST VIRGINIA
Elevation: GL 1,220.0 KB 1,242.0 KB Height: 22.0
Location: T/D UNION, Q-MOUNDSVILLE

Spud Date: 6/25/2014
Rig Release Date: 7/10/2014
Initial Compl. Date:
API #: 4705101692
CHK Property #: 837626
1st Gas Sales Date:
1st Oil Sales Date:
PBTD:
TD: 15,035.0

HORIZONTAL - Original Hole, 10/12/2017 3:48:39 PM

MD (ftKB)	Zones	Vertical schematic (actual)
		20 in; 94.00 lb/ft; K-55; 30.0-122.0 ftKB
6,650.9		
		13 3/8 in; 54.50 lb/ft; J-55; 25.6-794.0 ftKB
6,810.0		
		9 5/8 in; 40.00 lb/ft; J-55; 25.3-2,146.0 ftKB
7,009.8		
7,210.0		
7,437.0		
7,661.1		
7,861.9		
8,062.0		
8,263.1		
8,462.9		
8,690.0		
8,914.0		
9,113.8		
9,315.0		
9,515.1		
9,714.9		
9,941.9		
10,166.0		
10,367.1		
10,566.9		
10,768.0		
10,967.8		
11,194.9		
11,419.0		
11,619.1		
11,819.9		
12,020.0		
12,221.1		
12,446.9		
12,670.9		
12,872.0		
13,071.9		Bit Sub; 14,667.5-14,668.5 ftKB; 3.72 in; pumped off hybrid tool/ production
13,273.0		
13,473.1		Drill Bit; 14,668.5-14,669.0 ftKB; 4 5/8 in; Pumped off hybrid tool/Production
13,700.1		
13,923.9		Cast Iron Bridge Plug; 14,670.0-14,672.0 ftKB; 4.78 in; Stage 1
14,124.0		Cast Iron Bridge Plug; 14,900.0-14,902.0 ftKB; 4.78 in; Tri-States Wire Line set CIBP above Toe Sleeve.
14,325.1		
14,524.9		
14,669.9		5 1/2 in; 20.00 lb/ft; P110-HC; 30.0-15,035.0 ftKB
14,889.1		

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Stim/Treat Additives

Add	Type	Amount	Sand Size

6, Pad

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
14,665.0	6	Pad	<fluidname>, Slickwater	14,474.0	650.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

7, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
14,665.0	7	Proppant Laden Fluid	<fluidname>, Slickwater	14,474.0	2119.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	79,020.0	100 Mesh

8, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
14,665.0	8	Proppant Laden Fluid	<fluidname>, Slickwater	14,474.0	1737.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	130,893.0	40/70

8, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
14,665.0	8	Proppant Laden Fluid	15#, Linear Gel	14,474.0	1814.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	188,367.0	40/70

9, Flush

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
14,665.0	9	Flush	<fluidname>, Slickwater	14,474.0	325.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

Slickwater Frac on 9/18/2014 12:00 AM

Date	Type	Wellbore	Zone
9/18/2014	Slickwater Frac	Original Hole	PROPOSED, Original Hole

Stim/Treat Stages

1, Chemical Additives

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
14,425.0	1	Chemical Additives		14,224.0	

Stim/Treat Additives

Add	Type	Amount	Sand Size
Corrosion Inhibitor	A264	6.0	
Acid	Acid, Hydrochloric 15pct	3,012.0	
Anti-Bacterial Agent	EC6111A	87.0	
Scale Inhibitor	EC6486A	14.0	
Breaker	J218	88.0	
Gelling Agent	J580	1,830.0	
Friction Reducer	J609	275.0	
Iron Control Agent	L058	18.0	

2, Break Down

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
14,425.0	2	Break Down	<fluidname>, Slickwater	14,224.0	15.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

3, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
14,425.0	3	Acid Stage	15%, HCl Acid	14,224.0	36.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

4, Spacer

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
14,425.0	4	Spacer	<fluidname>, Slickwater	14,224.0	15.00

Report Printed: 10/12/201

Regulatory Current Wellbore Schematic

MARK EDISON MSH 8H

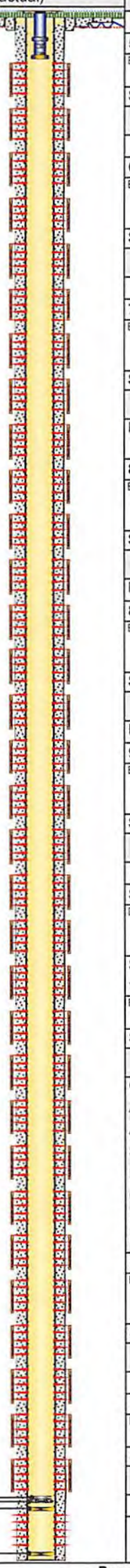
Chesapeake ENERGY

Field:
County: MARSHALL
State: WEST VIRGINIA
Elevation: GL 1,220.0 KB 1,242.0 KB Height: 22.0
Location: T/D UNION, Q-MOUNDSVILLE

Spud Date: 6/25/2014
Rig Release Date: 7/10/2014
Initial Compl. Date:
API #: 4705101692
CHK Property #: 837626
1st Gas Sales Date:
1st Oil Sales Date:
PBTD:
TD: 15,035.0

HORIZONTAL - Original Hole, 10/12/2017 3:48:39 PM

MD (ftKB)	Zones	Vertical schematic (actual)
6,650.9		20 in; 94.00 lb/ft; K-55; 30.0-122.0 ftKB
6,810.0		13 3/8 in; 54.50 lb/ft; J-55; 25.6-794.0 ftKB
7,009.8		9 5/8 in; 40.00 lb/ft; J-55; 25.3-2,146.0 ftKB
7,210.0		
7,437.0		
7,661.1		
7,861.9		
8,062.0		
8,263.1		
8,462.9		
8,690.0		
8,914.0		
9,113.8		
9,315.0		
9,515.1		
9,714.9		
9,941.9		
10,166.0		
10,367.1		
10,566.9		
10,768.0		
10,967.8		
11,194.9		
11,419.0		
11,619.1		
11,819.9		
12,020.0		
12,221.1		
12,446.9		
12,670.9		
12,872.0		
13,071.9		Bit Sub; 14,667.5-14,668.5 ftKB; 3.72 in;
13,273.0		pumped off hybrid tool/ production
13,473.1		Drill Bit; 14,668.5-14,669.0 ftKB; 4 5/8
13,700.1		in; Pumped off hybrid tool/Production
13,923.9		Cast Iron Bridge Plug; 14,670.0-14,672.0
14,124.0		ftKB; 4.78 in; Stage 1 Cast Iron Bridge Plug;
14,325.1		14,900.0-14,902.0 ftKB; 4.78 in; Tri-
14,524.9		States Wire Line set CIBP above Toe Sleeve.
14,669.9		5 1/2 in; 20.00 lb/ft; P110-HC; 30.0-
14,889.1		15,035.0 ftKB



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Stim/Treat Additives

Add	Type	Amount	Sand Size

5, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
14,425.0	5	Acid Stage	15%, HCl Acid	14,224.0	35.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

6, Pad

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
14,425.0	6	Pad	<fluidname>, Slickwater	14,224.0	864.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

7, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
14,425.0	7	Proppant Laden Fluid	<fluidname>, Slickwater	14,224.0	2192.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	78,080.0	100 Mesh

8, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
14,425.0	8	Proppant Laden Fluid	<fluidname>, Slickwater	14,224.0	1499.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	110,922.0	40/70

8, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
14,425.0	8	Proppant Laden Fluid	15#, Linear Gel	14,224.0	1914.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	211,238.0	40/70

9, Flush

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
14,425.0	9	Flush	<fluidname>, Slickwater	14,224.0	320.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

Slickwater Frac on 9/18/2014 12:00 AM

Date	Type	Wellbore	Zone
9/18/2014	Slickwater Frac	Original Hole	PROPOSED, Original Hole

Stim/Treat Stages

1, Chemical Additives

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
14,174.0	1	Chemical Additives		13,973.0	

Stim/Treat Additives

Add	Type	Amount	Sand Size
Corrosion Inhibitor	A264	6.0	
Acid	Acid, Hydrochloric 15pct	2,992.0	
Anti-Bacterial Agent	EC6111A	84.0	
Scale Inhibitor	EC6486A	14.0	
Breaker	J218	121.0	
Gelling Agent	J580	2,289.0	
Friction Reducer	J609	182.0	
Iron Control Agent	L058	18.0	

2, Break Down

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
14,174.0	2	Break Down	<fluidname>, Slickwater	13,973.0	14.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

3, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
14,174.0	3	Acid Stage	15%, HCl Acid	13,973.0	36.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

Report Printed: 10/12/201

Regulatory Current Wellbore Schematic

MARK EDISON MSH 8H

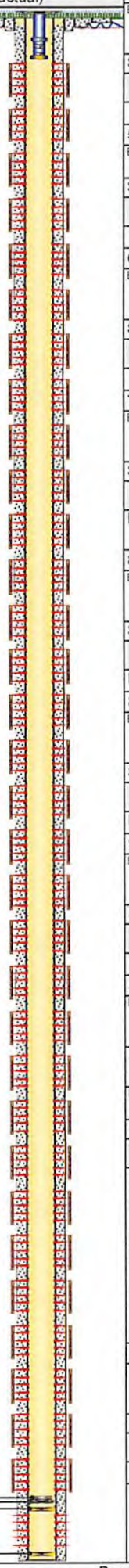
Chesapeake ENERGY

Field:
County: MARSHALL
State: WEST VIRGINIA
Elevation: GL 1,220.0 KB 1,242.0 KB Height: 22.0
Location: T/D UNION, Q-MOUNDSVILLE

Spud Date: 6/25/2014
Rig Release Date: 7/10/2014
Initial Compl. Date:
API #: 4705101692
CHK Property #: 837626
1st Gas Sales Date:
1st Oil Sales Date:
PBTD:
TD: 15,035.0

HORIZONTAL - Original Hole, 10/12/2017 3:48:40 PM

MD (ftKB)	Zones	Vertical schematic (actual)
6,650.9		20 in; 94.00 lb/ft; K-55; 30.0-122.0 ftKB
6,810.0		13 3/8 in; 54.50 lb/ft; J-55; 25.6-794.0 ftKB
7,009.8		9 5/8 in; 40.00 lb/ft; J-55; 25.3-2,146.0 ftKB
7,210.0		
7,437.0		
7,661.1		
7,861.9		
8,062.0		
8,263.1		
8,462.9		
8,690.0		
8,914.0		
9,113.8		
9,315.0		
9,515.1		
9,714.9		
9,941.9		
10,166.0		
10,367.1		
10,566.9		
10,768.0		
10,967.8		
11,194.9		
11,419.0		
11,619.1		
11,819.9		
12,020.0		
12,221.1		
12,446.9		
12,670.9		
12,872.0		
13,071.9		Bit Sub; 14,667.5-14,668.5 ftKB; 3.72 in; pumped off hybrid tool/ production
13,273.0		
13,473.1		Drill Bit; 14,668.5-14,669.0 ftKB; 4 5/8 in; Pumped off hybrid tool/Production
13,700.1		
13,923.9		Cast Iron Bridge Plug; 14,670.0-14,672.0 ftKB; 4.78 in; Stage 1
14,124.0		Cast Iron Bridge Plug; 14,900.0-14,902.0 ftKB; 4.78 in; Tri-States Wire Line set CIBP above Toe Sleeve.
14,325.1		
14,524.9		
14,669.9		5 1/2 in; 20.00 lb/ft; P110-HC; 30.0-15,035.0 ftKB
14,889.1		



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OCT 16 2017

Stim/Treat Stages

4, Spacer

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
14,174.0	4	Spacer	<fluidname>, Slickwater	13,973.0	50.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

5, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
14,174.0	5	Acid Stage	15%, HCl Acid	13,973.0	35.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

6, Pad

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
14,174.0	6	Pad	<fluidname>, Slickwater	13,973.0	580.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

7, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
14,174.0	7	Proppant Laden Fluid	<fluidname>, Slickwater	13,973.0	2099.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	75,680.0	100 Mesh

8, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
14,174.0	8	Proppant Laden Fluid	<fluidname>, Slickwater	13,973.0	737.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	46,431.0	40/70

8, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
14,174.0	8	Proppant Laden Fluid	15#, Linear Gel	13,973.0	2759.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	275,889.0	40/70

9, Flush

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
14,174.0	9	Flush	<fluidname>, Slickwater	13,973.0	314.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

Slickwater Frac on 9/18/2014 12:00 AM

Date	Type	Wellbore	Zone
9/18/2014	Slickwater Frac	Original Hole	PROPOSED, Original Hole

Stim/Treat Stages

1, Chemical Additives

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
13,924.0	1	Chemical Additives		13,723.0	

Stim/Treat Additives

Add	Type	Amount	Sand Size
Corrosion Inhibitor	A264	6.0	
Acid	Acid, Hydrochloric 15pct	2,972.0	
Anti-Bacterial Agent	EC6111A	88.0	
Scale Inhibitor	EC6486A	14.0	
Breaker	J218	198.0	
Gelling Agent	J580	4,358.0	
Friction Reducer	J609	110.0	
Iron Control Agent	L058	18.0	

2, Break Down

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
13,924.0	2	Break Down	<fluidname>, Slickwater	13,723.0	21.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

Report Printed: 10/12/201

Regulatory Current Wellbore Schematic

MARK EDISON MSH 8H

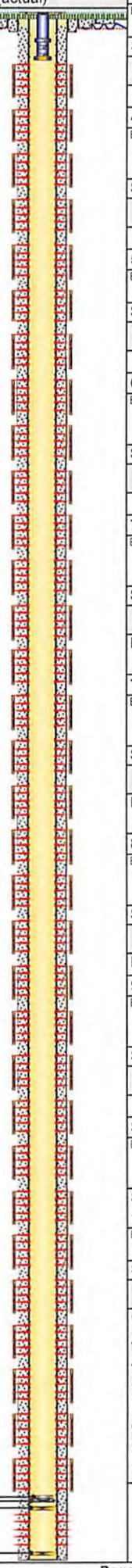
Chesapeake ENERGY

Field:
County: MARSHALL
State: WEST VIRGINIA
Elevation: GL 1,220.0 KB 1,242.0 KB Height: 22.0
Location: T/D UNION, Q-MOUNDSVILLE

Spud Date: 6/25/2014
Rig Release Date: 7/10/2014
Initial Compl. Date:
API #: 4705101692
CHK Property #: 837626
1st Gas Sales Date:
1st Oil Sales Date:
PBTD:
TD: 15,035.0

HORIZONTAL - Original Hole, 10/12/2017 3:48:40 PM

MD (ftKB)	Zones	Vertical schematic (actual)
6,650.9		20 in; 94.00 lb/ft; K-55; 30.0-122.0 ftKB
6,810.0		13 3/8 in; 54.50 lb/ft; J-55; 25.6-794.0 ftKB
7,009.8		9 5/8 in; 40.00 lb/ft; J-55; 25.3-2,146.0 ftKB
7,210.0		
7,437.0		
7,661.1		
7,861.9		
8,062.0		
8,263.1		
8,462.9		
8,690.0		
8,914.0		
9,113.8		
9,315.0		
9,515.1		
9,714.9		
9,941.9		
10,166.0		
10,367.1		
10,566.9		
10,768.0		
10,967.8		
11,194.9		
11,419.0		
11,619.1		
11,819.9		
12,020.0		
12,221.1		
12,446.9		
12,670.9		
12,872.0		
13,071.9		Bit Sub; 14,667.5-14,668.5 ftKB; 3.72 in;
13,273.0		pumped off hybrid tool/ production
13,473.1		Drill Bit; 14,668.5-14,669.0 ftKB; 4 5/8
13,700.1		in; Pumped off hybrid tool/Production
13,923.9		Cast Iron Bridge Plug; 14,670.0-14,672.0
14,124.0		ftKB; 4.78 in; Stage 1 Cast Iron Bridge Plug;
14,325.1		14,900.0-14,902.0 ftKB; 4.78 in; Tri-
14,524.9		States Wire Line set CIBP above Toe Sleeve.
14,669.9		5 1/2 in; 20.00 lb/ft; P110-HC; 30.0-
14,889.1		15,035.0 ftKB



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Stim/Treat Stages

3, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
13,924.0	3	Acid Stage	15%, HCl Acid	13,723.0	40.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

4, Spacer

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
13,924.0	4	Spacer	<fluidname>, Slickwater	13,723.0	36.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

5, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
13,924.0	5	Acid Stage	15%, HCl Acid	13,723.0	35.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

6, Pad

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
13,924.0	6	Pad	<fluidname>, Slickwater	13,723.0	950.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

7, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
13,924.0	7	Proppant Laden Fluid	<fluidname>, Slickwater	13,723.0	546.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	4,500.0	100 Mesh

7, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
13,924.0	7	Proppant Laden Fluid	15#, Linear Gel	13,723.0	1639.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	74,920.0	100 Mesh

8, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
13,924.0	8	Proppant Laden Fluid	15#, Linear Gel	13,723.0	3425.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	320,620.0	40/70

9, Flush

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
13,924.0	9	Flush	<fluidname>, Slickwater	13,723.0	310.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

Slickwater Frac on 9/19/2014 12:00 AM

Date	Type	Wellbore	Zone
9/19/2014	Slickwater Frac	Original Hole	PROPOSED, Original Hole

Stim/Treat Stages

1, Chemical Additives

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
13,673.0	1	Chemical Additives		13,472.0	

Stim/Treat Additives

Add	Type	Amount	Sand Size
Corrosion Inhibitor	A264	6.0	
Acid	Acid, Hydrochloric 15pct	2,932.0	
Anti-Bacterial Agent	EC6111A	79.0	
Scale Inhibitor	EC6486A	14.0	
Breaker	J218	88.0	
Gelling Agent	J580	1,630.0	
Friction Reducer	J609	155.0	
Iron Control Agent	L058	18.0	

Report Printed: 10/12/201

Regulatory Current Wellbore Schematic

MARK EDISON MSH 8H

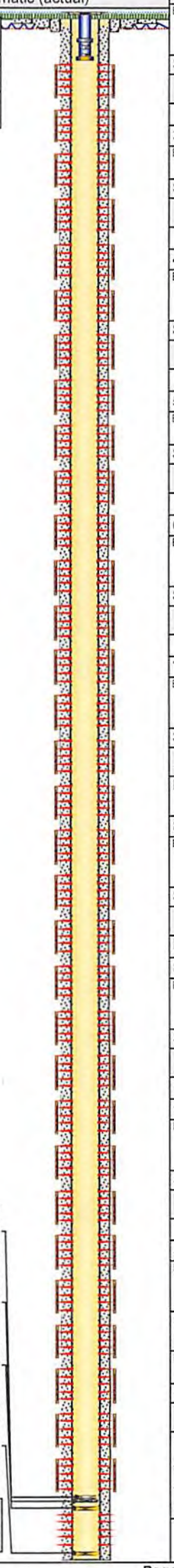
Chesapeake ENERGY

Field:
County: MARSHALL
State: WEST VIRGINIA
Elevation: GL 1,220.0 KB 1,242.0 KB Height: 22.0
Location: T/D UNION, Q-MOUNDSVILLE

Spud Date: 6/25/2014
Rig Release Date: 7/10/2014
Initial Compl. Date:
API #: 4705101692
CHK Property #: 837626
1st Gas Sales Date:
1st Oil Sales Date:
PBTD:
TD: 15,035.0

HORIZONTAL - Original Hole, 10/12/2017 3:48:41 PM

MD (ftKB)	Zones	Vertical schematic (actual)
6,650.9		20 in; 94.00 lb/ft; K-55; 30.0-122.0 ftKB
6,810.0		13 3/8 in; 54.50 lb/ft; J-55; 25.6-794.0 ftKB
7,009.8		9 5/8 in; 40.00 lb/ft; J-55; 25.3-2,146.0 ftKB
7,210.0		
7,437.0		
7,661.1		
7,861.9		
8,062.0		
8,263.1		
8,462.9		
8,690.0		
8,914.0		
9,113.8		
9,315.0		
9,515.1		
9,714.9		
9,941.9		
10,166.0		
10,367.1		
10,566.9		
10,768.0		
10,967.8		
11,194.9		
11,419.0		
11,619.1		
11,819.9		
12,020.0		
12,221.1		
12,446.9		
12,670.9		
12,872.0		
13,071.9		Bit Sub; 14,667.5-14,668.5 ftKB; 3.72 in; pumped off hybrid tool/ production
13,273.0		
13,473.1		Drill Bit; 14,668.5-14,669.0 ftKB; 4 5/8 in; Pumped off hybrid tool/Production
13,700.1		
13,923.9		Cast Iron Bridge Plug; 14,670.0-14,672.0 ftKB; 4.78 in; Stage 1
14,124.0		Cast Iron Bridge Plug; 14,900.0-14,902.0 ftKB; 4.78 in; Tri-States Wire Line set CIBP above Toe Sleeve.
14,325.1		
14,524.9		
14,669.9		5 1/2 in; 20.00 lb/ft; P110-HC; 30.0-15,035.0 ftKB
14,889.1		



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OCT 16 2017

Stim/Treat Stages

2, Break Down

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
13,673.0	2	Break Down	<fluidname>, Slickwater	13,472.0	19.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

3, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
13,673.0	3	Acid Stage	15%, HCl Acid	13,472.0	36.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

4, Spacer

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
13,673.0	4	Spacer	<fluidname>, Slickwater	13,472.0	50.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

5, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
13,673.0	5	Acid Stage	15%, HCl Acid	13,472.0	35.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

6, Pad

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
13,673.0	6	Pad	<fluidname>, Slickwater	13,472.0	350.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

7, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
13,673.0	7	Proppant Laden Fluid	<fluidname>, Slickwater	13,472.0	2088.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	78,920.0	100 Mesh

8, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
13,673.0	8	Proppant Laden Fluid	<fluidname>, Slickwater	13,472.0	1498.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	110,838.0	40/70

8, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
13,673.0	8	Proppant Laden Fluid	15#, Linear Gel	13,472.0	1902.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	210,622.0	40/70

9, Flush

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
13,673.0	9	Flush	<fluidname>, Slickwater	13,472.0	303.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

Slickwater Frac on 9/19/2014 12:00 AM

Date	Type	Wellbore	Zone
9/19/2014	Slickwater Frac	Original Hole	PROPOSED, Original Hole

Stim/Treat Stages

1, Chemical Additives

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
13,423.0	1	Chemical Additives		13,222.0	

Stim/Treat Additives

Add	Type	Amount	Sand Size
Corrosion Inhibitor	A264	6.0	
Acid	Acid, Hydrochloric 15pct	3,031.0	
Anti-Bacterial Agent	EC6111A	79.0	
Scale Inhibitor	EC6486A	14.0	

Report Printed: 10/12/201

Regulatory Current Wellbore Schematic

MARK EDISON MSH 8H

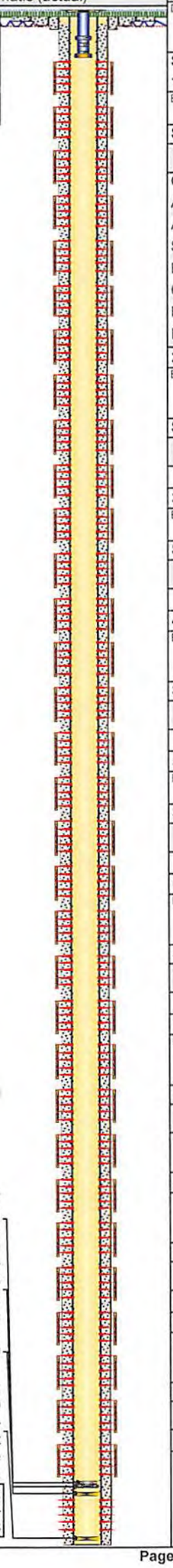
Chesapeake ENERGY

Field:
County: MARSHALL
State: WEST VIRGINIA
Elevation: GL 1,220.0 KB 1,242.0 KB Height: 22.0
Location: T/D UNION, Q-MOUNDSVILLE

Spud Date: 6/25/2014
Rig Release Date: 7/10/2014
Initial Compl. Date:
API #: 4705101692
CHK Property #: 837626
1st Gas Sales Date:
1st Oil Sales Date:
PBTD:
TD: 15,035.0

HORIZONTAL - Original Hole, 10/12/2017 3:48:44 PM

MD (ftKB)	Zones	Vertical schematic (actual)
6,650.9		20 in; 94.00 lb/ft; K-55; 30.0-122.0 ftKB
6,810.0		13 3/8 in; 54.50 lb/ft; J-55; 25.6-794.0 ftKB
7,009.8		9 5/8 in; 40.00 lb/ft; J-55; 25.3-2,146.0 ftKB
7,210.0		
7,437.0		
7,661.1		
7,861.9		
8,062.0		
8,263.1		
8,462.9		
8,690.0		
8,914.0		
9,113.8		
9,315.0		
9,515.1		
9,714.9		
9,941.9		
10,166.0		
10,367.1		
10,566.9		
10,768.0		
10,967.8		
11,194.9		
11,419.0		
11,619.1		
11,819.9		
12,020.0		
12,221.1		
12,446.9		
12,670.9		
12,872.0		
13,071.9		Bit Sub; 14,667.5-14,668.5 ftKB; 3.72 in; pumped off hybrid tool/ production
13,273.0		
13,473.1		Drill Bit; 14,668.5-14,669.0 ftKB; 4 5/8 in; Pumped off hybrid tool/Production
13,700.1		
13,923.9		Cast Iron Bridge Plug; 14,670.0-14,672.0 ftKB; 4.78 in; Stage 1
14,124.0		Cast Iron Bridge Plug; 14,900.0-14,902.0 ftKB; 4.78 in; Tri-States Wire Line set CIBP above Toe Sleeve.
14,325.1		
14,524.9		
14,669.9		5 1/2 in; 20.00 lb/ft; P110-HC; 30.0-15,035.0 ftKB
14,889.1		



Stimulations & Treatments

Slickwater Frac on 9/20/2014 12:00 AM

Date	Type	Wellbore	Zone
9/20/2014	Slickwater Frac	Original Hole	PROPOSED, Original Hole

Stim/Treat Stages

1, Chemical Additives

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
12,671.0	1	Chemical Additives		12,470.0	

Stim/Treat Additives

Add	Type	Amount	Sand Size
Corrosion Inhibitor	A264	6.0	
Acid	Acid, Hydrochloric 15pct	3,012.0	
Anti-Bacterial Agent	EC6111A	81.0	
Scale Inhibitor	EC6486A	14.0	
Breaker	J218	88.0	
Gelling Agent	J580	1,820.0	
Friction Reducer	J609	155.0	
Iron Control Agent	L058	18.0	

2, Break Down

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
12,671.0	2	Break Down	<fluidname>, Slickwater	12,470.0	14.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

3, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
12,671.0	3	Acid Stage	15%, HCl Acid	12,470.0	36.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

4, Spacer

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
12,671.0	4	Spacer	<fluidname>, Slickwater	12,470.0	35.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

5, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
12,671.0	5	Acid Stage	15%, HCl Acid	12,470.0	36.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

6, Pad

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
12,671.0	6	Pad	<fluidname>, Slickwater	12,470.0	322.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

7, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
12,671.0	7	Proppant Laden Fluid	<fluidname>, Slickwater	12,470.0	2106.0 0

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	80,700.0	100 Mesh

8, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
12,671.0	8	Proppant Laden Fluid	<fluidname>, Slickwater	12,470.0	1499.0 0

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	110,922.0	40/70

8, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
12,671.0	8	Proppant Laden Fluid	15#, Linear Gel	12,470.0	1984.0 0

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	210,378.0	40/70

Regulatory Current Wellbore Schematic

MARK EDISON MSH 8H

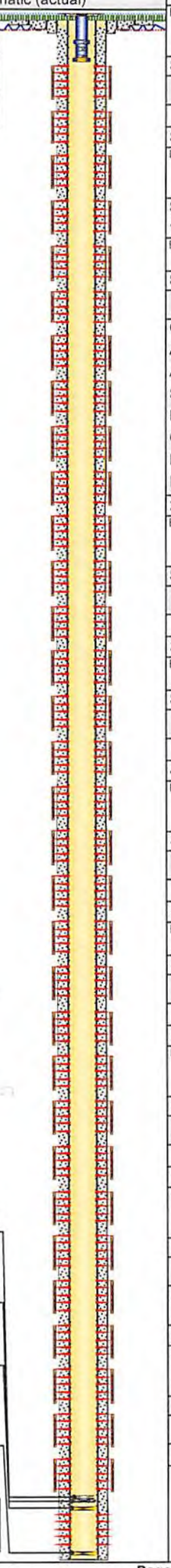
Chesapeake ENERGY

Field:
County: MARSHALL
State: WEST VIRGINIA
Elevation: GL 1,220.0 KB 1,242.0 KB Height: 22.0
Location: T/D UNION, Q-MOUNDSVILLE

Spud Date: 6/25/2014
Rig Release Date: 7/10/2014
Initial Compl. Date:
API #: 4705101692
CHK Property #: 837626
1st Gas Sales Date:
1st Oil Sales Date:
PBTD:
TD: 15,035.0

HORIZONTAL - Original Hole, 10/12/2017 3:48:45 PM

MD (ftKB)	Zones	Vertical schematic (actual)
6,650.9		20 in; 94.00 lb/ft; K-55; 30.0-122.0 ftKB
6,810.0		13 3/8 in; 54.50 lb/ft; J-55; 25.6-794.0 ftKB
7,009.8		9 5/8 in; 40.00 lb/ft; J-55; 25.3-2,146.0 ftKB
7,210.0		
7,437.0		
7,661.1		
7,861.9		
8,062.0		
8,263.1		
8,462.9		
8,690.0		
8,914.0		
9,113.8		
9,315.0		
9,515.1		
9,714.9		
9,941.9		
10,166.0		
10,367.1		
10,566.9		
10,768.0		
10,967.8		
11,194.9		
11,419.0		
11,619.1		
11,819.9		
12,020.0		
12,221.1		
12,446.9		
12,670.9		
12,872.0		
13,071.9		Bit Sub; 14,667.5-14,668.5 ftKB; 3.72 in; pumped off hybrid tool/ production
13,273.0		
13,473.1		Drill Bit; 14,668.5-14,669.0 ftKB; 4 5/8 in; Pumped off hybrid tool/Production
13,700.1		
13,923.9		Cast Iron Bridge Plug; 14,670.0-14,672.0 ftKB; 4.78 in; Stage 1
14,124.0		
14,325.1		Cast Iron Bridge Plug; 14,900.0-14,902.0 ftKB; 4.78 in; Tri-States Wire Line set CIBP above Toe Sleeve.
14,524.9		
14,669.9		5 1/2 in; 20.00 lb/ft; P110-HC; 30.0-15,035.0 ftKB
14,889.1		



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OCT 19 2017

Stim/Treat Stages

9, Flush

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
12,671.0	9	Flush	<fluidname>, Slickwater	12,470.0	302.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

Slickwater Frac on 9/20/2014 12:00 AM

Date	Type	Wellbore	Zone
9/20/2014	Slickwater Frac	Original Hole	PROPOSED, Original Hole

Stim/Treat Stages

1, Chemical Additives

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
12,421.0	1	Chemical Additives		12,220.0	

Stim/Treat Additives

Add	Type	Amount	Sand Size
Corrosion Inhibitor	A264	36.0	
Acid	Acid, Hydrochloric 15pct	3,012.0	
Anti-Bacterial Agent	EC6111A	79.0	
Scale Inhibitor	EC6486A	13.0	
Breaker	J218	88.0	
Gelling Agent	J580	1,620.0	
Friction Reducer	J609	160.0	
Iron Control Agent	L058	18.0	

2, Break Down

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
12,421.0	2	Break Down	<fluidname>, Slickwater	12,220.0	16.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

3, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
12,421.0	3	Acid Stage	15%, HCl Acid	12,220.0	36.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

4, Spacer

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
12,421.0	4	Spacer	<fluidname>, Slickwater	12,220.0	35.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

5, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
12,421.0	5	Acid Stage	15%, HCl Acid	12,220.0	35.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

6, Pad

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
12,421.0	6	Pad	<fluidname>, Slickwater	12,220.0	312.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

7, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
12,421.0	7	Proppant Laden Fluid	<fluidname>, Slickwater	12,220.0	2170.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	79,000.0	100 Mesh

8, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
12,421.0	8	Proppant Laden Fluid	<fluidname>, Slickwater	12,220.0	1500.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	111,006.0	40/70

Report Printed: 10/12/201

Regulatory Current Wellbore Schematic

MARK EDISON MSH 8H

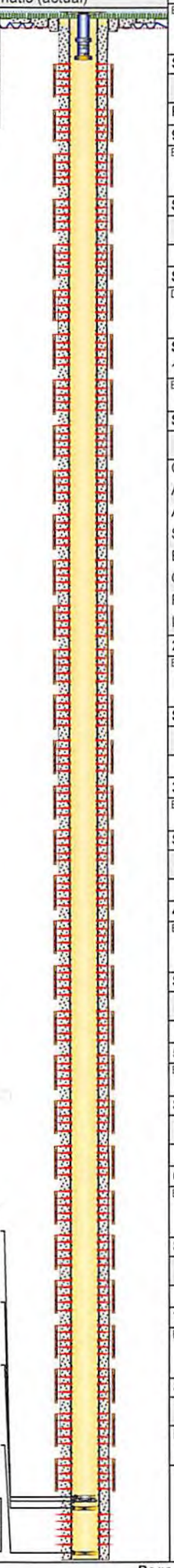
Chesapeake ENERGY

Field:
County: MARSHALL
State: WEST VIRGINIA
Elevation: GL 1,220.0 KB 1,242.0 KB Height: 22.0
Location: T/D UNION, Q-MOUNDSVILLE

Spud Date: 6/25/2014
Rig Release Date: 7/10/2014
Initial Compl. Date:
API #: 4705101692
CHK Property #: 837626
1st Gas Sales Date:
1st Oil Sales Date:
PBTD:
TD: 15,035.0

HORIZONTAL - Original Hole, 10/12/2017 3:48:45 PM

MD (ftKB)	Zones	Vertical schematic (actual)
6,650.9		20 in; 94.00 lb/ft; K-55; 30.0-122.0 ftKB
6,810.0		13 3/8 in; 54.50 lb/ft; J-55; 25.6-794.0 ftKB
7,009.8		9 5/8 in; 40.00 lb/ft; J-55; 25.3-2,146.0 ftKB
7,210.0		
7,437.0		
7,661.1		
7,861.9		
8,062.0		
8,263.1		
8,462.9		
8,690.0		
8,914.0		
9,113.8		
9,315.0		
9,515.1		
9,714.9		
9,941.9		
10,166.0		
10,367.1		
10,566.9		
10,768.0		
10,967.8		
11,194.9		
11,419.0		
11,619.1		
11,819.9		
12,020.0		
12,221.1		
12,446.9		
12,670.9		
12,872.0		
13,071.9		Bit Sub; 14,667.5-14,668.5 ftKB; 3.72 in; pumped off hybrid tool/ production
13,273.0		
13,473.1		Drill Bit; 14,668.5-14,669.0 ftKB; 4 5/8 in; Pumped off hybrid tool/Production
13,700.1		
13,923.9		Cast Iron Bridge Plug; 14,670.0-14,672.0 ftKB; 4.78 in; Stage 1
14,124.0		Cast Iron Bridge Plug; 14,900.0-14,902.0 ftKB; 4.78 in; Tri-States Wire Line set CIBP above Toe Sleeve.
14,325.1		
14,524.9		
14,669.9		5 1/2 in; 20.00 lb/ft; P110-HC; 30.0-15,035.0 ftKB
14,889.1		



Stim/Treat Stages

8, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
12,421.0	8	Proppant Laden Fluid	15#, Linear Gel	12,220.0	1919.0 0

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	210,654.0	40/70

9, Flush

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
12,421.0	9	Flush	<fluidname>, Slickwater	12,220.0	284.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

Slickwater Frac on 9/20/2014 12:00 AM

Date	Type	Wellbore	Zone
9/20/2014	Slickwater Frac	Original Hole	PROPOSED, Original Hole

Stim/Treat Stages

1, Chemical Additives

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
12,170.0	1	Chemical Additives		11,969.0	

Stim/Treat Additives

Add	Type	Amount	Sand Size
Corrosion Inhibitor	A264	6.0	
Acid	Acid, Hydrochloric 15pct	3,012.0	
Anti-Bacterial Agent	EC6111A	78.0	
Scale Inhibitor	EC6486A	13.0	
Breaker	J218	88.0	
Gelling Agent	J580	1,820.0	
Friction Reducer	J609	121.0	
Iron Control Agent	L058	18.0	

2, Break Down

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
12,170.0	2	Break Down	<fluidname>, Slickwater	11,969.0	22.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

3, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
12,170.0	3	Acid Stage	15%, HCl Acid	11,969.0	36.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

4, Spacer

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
12,170.0	4	Spacer	<fluidname>, Slickwater	11,969.0	36.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

5, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
12,170.0	5	Acid Stage	15%, HCl Acid	11,969.0	35.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

6, Pad

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
12,170.0	6	Pad	<fluidname>, Slickwater	11,969.0	364.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

7, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
12,170.0	7	Proppant Laden Fluid	<fluidname>, Slickwater	11,969.0	2053.0 0

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	80,520.0	100 Mesh

Report Printed: 10/12/201

Regulatory Current Wellbore Schematic

MARK EDISON MSH 8H

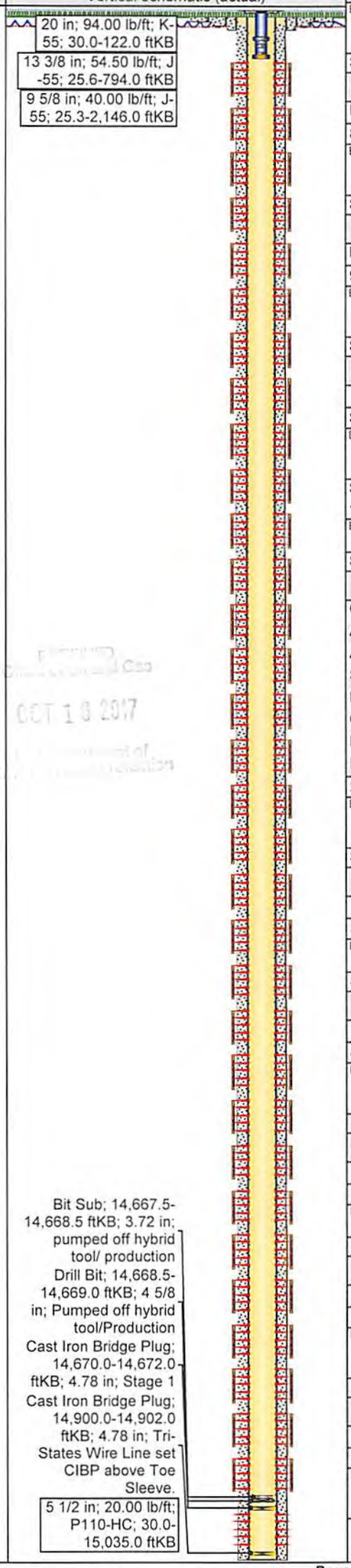
Chesapeake ENERGY

Field:
County: MARSHALL
State: WEST VIRGINIA
Elevation: GL 1,220.0 KB 1,242.0 KB Height: 22.0
Location: T/D UNION, Q-MOUNDSVILLE

Spud Date: 6/25/2014
Rig Release Date: 7/10/2014
Initial Compl. Date:
API #: 4705101692
CHK Property #: 837626
1st Gas Sales Date:
1st Oil Sales Date:
PBTD:
TD: 15,035.0

HORIZONTAL - Original Hole, 10/12/2017 3:48:46 PM

MD (ftKB)	Zones	Vertical schematic (actual)
6,650.9		20 in; 94.00 lb/ft; K-55; 30.0-122.0 ftKB
6,810.0		13 3/8 in; 54.50 lb/ft; J-55; 25.6-794.0 ftKB
7,009.8		9 5/8 in; 40.00 lb/ft; J-55; 25.3-2,146.0 ftKB
7,210.0		
7,437.0		
7,661.1		
7,861.9		
8,062.0		
8,263.1		
8,462.9		
8,690.0		
8,914.0		
9,113.8		
9,315.0		
9,515.1		
9,714.9		
9,941.9		
10,166.0		
10,367.1		
10,566.9		
10,768.0		
10,967.8		
11,194.9		
11,419.0		
11,619.1		
11,819.9		
12,020.0		
12,221.1		
12,446.9		
12,670.9		
12,872.0		
13,071.9		Bit Sub; 14,667.5-14,668.5 ftKB; 3.72 in;
13,273.0		pumped off hybrid tool/ production
13,473.1		Drill Bit; 14,668.5-14,669.0 ftKB; 4 5/8 in; Pumped off hybrid
13,700.1		tool/Production
13,923.9		Cast Iron Bridge Plug; 14,670.0-14,672.0 ftKB; 4.78 in; Stage 1
14,124.0		Cast Iron Bridge Plug; 14,900.0-14,902.0 ftKB; 4.78 in; Tri-States Wire Line set
14,325.1		CIBP above Toe Sleeve.
14,524.9		
14,669.9		5 1/2 in; 20.00 lb/ft; P110-HC; 30.0-15,035.0 ftKB
14,889.1		



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Office of Oil and Gas
OCT 16 2017
WV Department of Environmental Protection

Stim/Treat Stages

8, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
12,170.0	8	Proppant Laden Fluid	<fluidname>, Slickwater	11,969.0	1458.0 0

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	107,499.0	40/70

8, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
12,170.0	8	Proppant Laden Fluid	15#, Linear Gel	11,969.0	1872.0 0

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	212,701.0	40/70

9, Flush

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
12,170.0	9	Flush	<fluidname>, Slickwater	11,969.0	276.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

Slickwater Frac on 9/20/2014 12:00 AM

Date	Type	Wellbore	Zone
9/20/2014	Slickwater Frac	Original Hole	PROPOSED, Original Hole

Stim/Treat Stages

1, Chemical Additives

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
11,920.0	1	Chemical Additives		11,719.0	

Stim/Treat Additives

Add	Type	Amount	Sand Size
Corrosion Inhibitor	A264	6.0	
Acid	Acid, Hydrochloric 15pct	3,012.0	
Anti-Bacterial Agent	EC6111A	79.0	
Scale Inhibitor	EC6486A	13.0	
Breaker	J218	121.0	
Gelling Agent	J580	1,950.0	
Friction Reducer	J609	116.0	
Iron Control Agent	L058	18.0	

2, Break Down

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
11,920.0	2	Break Down	<fluidname>, Slickwater	11,719.0	25.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

3, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
11,920.0	3	Acid Stage	15%, HCl Acid	11,719.0	36.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

4, Spacer

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
11,920.0	4	Spacer	<fluidname>, Slickwater	11,719.0	36.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

5, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
11,920.0	5	Acid Stage	7.5%, HCl Acid	11,719.0	35.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

6, Pad

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
11,920.0	6	Pad	<fluidname>, Slickwater	11,719.0	321.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

7, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
11,920.0	7	Proppant Laden Fluid	<fluidname>, Slickwater	11,719.0	2067.0 0

Report Printed: 10/12/201

Regulatory Current Wellbore Schematic

MARK EDISON MSH 8H

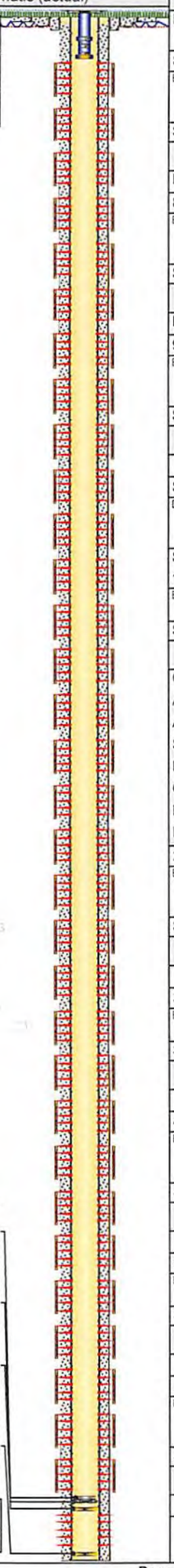
Chesapeake ENERGY

Field:
County: MARSHALL
State: WEST VIRGINIA
Elevation: GL 1,220.0 KB 1,242.0 KB Height: 22.0
Location: T/D UNION, Q-MOUNDSVILLE

Spud Date: 6/25/2014
Rig Release Date: 7/10/2014
Initial Compl. Date:
API #: 4705101692
CHK Property #: 837626
1st Gas Sales Date:
1st Oil Sales Date:
PBTD:
TD: 15,035.0

HORIZONTAL - Original Hole, 10/12/2017 3:48:47 PM

MD (ftKB)	Zones	Vertical schematic (actual)
6,650.9		20 in; 94.00 lb/ft; K-55; 30.0-122.0 ftKB
6,810.0		13 3/8 in; 54.50 lb/ft; J-55; 25.6-794.0 ftKB
7,009.8		9 5/8 in; 40.00 lb/ft; J-55; 25.3-2,146.0 ftKB
7,210.0		
7,437.0		
7,661.1		
7,861.9		
8,062.0		
8,263.1		
8,462.9		
8,690.0		
8,914.0		
9,113.8		
9,315.0		
9,515.1		
9,714.9		
9,941.9		
10,166.0		
10,367.1		
10,566.9		
10,768.0		
10,967.8		
11,194.9		
11,419.0		
11,619.1		
11,819.9		
12,020.0		
12,221.1		
12,446.9		
12,670.9		
12,872.0		
13,071.9		Bit Sub; 14,667.5-14,668.5 ftKB; 3.72 in; pumped off hybrid tool/ production
13,273.0		
13,473.1		Drill Bit; 14,668.5-14,669.0 ftKB; 4 5/8 in; Pumped off hybrid tool/Production
13,700.1		
13,923.9		Cast Iron Bridge Plug; 14,670.0-14,672.0 ftKB; 4.78 in; Stage 1
14,124.0		
14,325.1		Cast Iron Bridge Plug; 14,900.0-14,902.0 ftKB; 4.78 in; Tri-States Wire Line set CIBP above Toe Sleeve.
14,524.9		
14,669.9		5 1/2 in; 20.00 lb/ft; P110-HC; 30.0-15,035.0 ftKB
14,889.1		



Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	77,560.0	100 Mesh

8, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
11,920.0	8	Proppant Laden Fluid	<fluidname>, Slickwater	11,719.0	714.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	44,982.0	40/70

8, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
11,920.0	8	Proppant Laden Fluid	15#, Linear Gel	11,719.0	2728.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	276,478.0	40/70

9, Flush

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
11,920.0	9	Flush	<fluidname>, Slickwater	11,719.0	266.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

Slickwater Frac on 9/21/2014 12:00 AM

Date	Type	Wellbore	Zone
9/21/2014	Slickwater Frac	Original Hole	PROPOSED, Original Hole

Stim/Treat Stages

1, Chemical Additives

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
11,669.0	1	Chemical Additives		11,468.0	

Stim/Treat Additives

Add	Type	Amount	Sand Size
Corrosion Inhibitor	A264	6.0	
Acid	Acid, Hydrochloric 15pct	2,992.0	
Anti-Bacterial Agent	EC6111A	78.0	
Scale Inhibitor	EC6486A	13.0	
Breaker	J218	99.0	
Gelling Agent	J580	1,760.0	
Friction Reducer	J609	160.0	
Iron Control Agent	L058	18.0	

2, Break Down

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
11,669.0	2	Break Down	<fluidname>, Slickwater	11,468.0	17.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

3, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
11,669.0	3	Acid Stage	15%, HCl Acid	11,468.0	36.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

4, Spacer

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
11,669.0	4	Spacer	<fluidname>, Slickwater	11,468.0	50.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

5, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
11,669.0	5	Acid Stage	15%, HCl Acid	11,468.0	35.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

6, Pad

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
11,669.0	6	Pad	<fluidname>, Slickwater	11,468.0	313.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

Report Printed: 10/12/201

Regulatory Current Wellbore Schematic

MARK EDISON MSH 8H

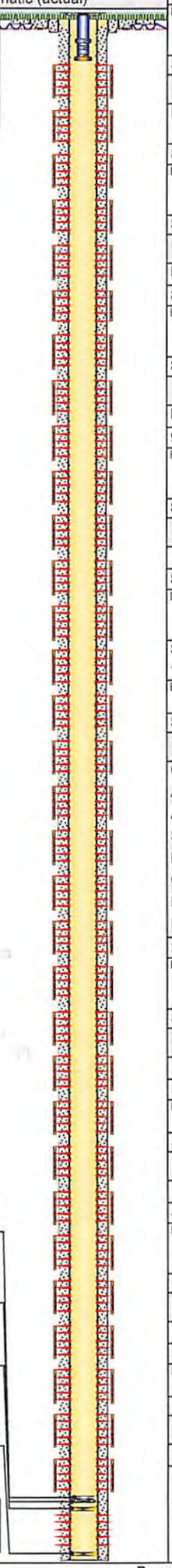
Chesapeake ENERGY

Field:
County: MARSHALL
State: WEST VIRGINIA
Elevation: GL 1,220.0 KB 1,242.0 KB Height: 22.0
Location: T/D UNION, Q-MOUNDSVILLE

Spud Date: 6/25/2014
Rig Release Date: 7/10/2014
Initial Compl. Date:
API #: 4705101692
CHK Property #: 837626
1st Gas Sales Date:
1st Oil Sales Date:
PBTD:
TD: 15,035.0

HORIZONTAL - Original Hole, 10/12/2017 3:48:47 PM

MD (ftKB)	Zones	Vertical schematic (actual)
6,650.9		20 in; 94.00 lb/ft; K-55; 30.0-122.0 ftKB
6,810.0		13 3/8 in; 54.50 lb/ft; J-55; 25.6-794.0 ftKB
7,009.8		9 5/8 in; 40.00 lb/ft; J-55; 25.3-2,146.0 ftKB
7,210.0		
7,437.0		
7,661.1		
7,861.9		
8,062.0		
8,263.1		
8,462.9		
8,690.0		
8,914.0		
9,113.8		
9,315.0		
9,515.1		
9,714.9		
9,941.9		
10,166.0		
10,367.1		
10,566.9		
10,768.0		
10,967.8		
11,194.9		
11,419.0		
11,619.1		
11,819.9		
12,020.0		
12,221.1		
12,446.9		
12,670.9		
12,872.0		
13,071.9		Bit Sub; 14,667.5-14,668.5 ftKB; 3.72 in; pumped off hybrid tool/ production
13,273.0		
13,473.1		Drill Bit; 14,668.5-14,669.0 ftKB; 4 5/8 in; Pumped off hybrid tool/Production
13,700.1		
13,923.9		Cast Iron Bridge Plug; 14,670.0-14,672.0 ftKB; 4.78 in; Stage 1
14,124.0		
14,325.1		Cast Iron Bridge Plug; 14,900.0-14,902.0 ftKB; 4.78 in; Tri-States Wire Line set CIBP above Toe Sleeve.
14,524.9		
14,669.9		5 1/2 in; 20.00 lb/ft; P110-HC; 30.0-15,035.0 ftKB
14,889.1		



Stim/Treat Stages

7, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
11,669.0	7	Proppant Laden Fluid	<fluidname>, Slickwater	11,468.0	2098.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	78,480.0	100 Mesh

8, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
11,669.0	8	Proppant Laden Fluid	<fluidname>, Slickwater	11,468.0	1498.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	110,859.0	40/70

8, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
11,669.0	8	Proppant Laden Fluid	15#, Linear Gel	11,468.0	1891.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	208,981.0	40/70

9, Flush

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
11,669.0	9	Flush	<fluidname>, Slickwater	11,468.0	258.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

Slickwater Frac on 9/21/2014 12:00 AM

Date	Type	Wellbore	Zone
9/21/2014	Slickwater Frac	Original Hole	PROPOSED, Original Hole

Stim/Treat Stages

1, Chemical Additives

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
11,419.0	1	Chemical Additives		11,218.0	

Stim/Treat Additives

Add	Type	Amount	Sand Size
Corrosion Inhibitor	A264	6.0	
Acid	Acid, Hydrochloric 15pct	3,012.0	
Anti-Bacterial Agent	EC6111A	78.0	
Scale Inhibitor	EC6486A	13.0	
Breaker	J218	88.0	
Gelling Agent	J580	1,650.0	
Friction Reducer	J609	170.0	
Iron Control Agent	L058	18.0	

2, Break Down

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
11,419.0	2	Break Down	<fluidname>, Slickwater	11,218.0	24.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

3, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
11,419.0	3	Acid Stage	15%, HCl Acid	11,218.0	36.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

4, Spacer

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
11,419.0	4	Spacer	<fluidname>, Slickwater	11,218.0	50.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

5, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
11,419.0	5	Acid Stage	15%, HCl Acid	11,218.0	35.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

OCT 16 2017

Report Printed: 10/12/201

Regulatory Current Wellbore Schematic

MARK EDISON MSH 8H

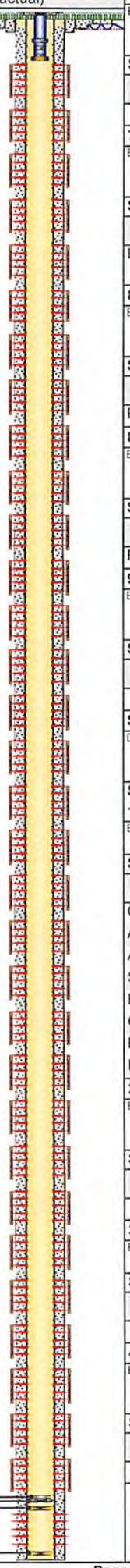
Chesapeake ENERGY

Field:
County: MARSHALL
State: WEST VIRGINIA
Elevation: GL 1,220.0 KB 1,242.0 KB Height: 22.0
Location: T/D UNION, Q-MOUNDSVILLE

Spud Date: 6/25/2014
Rig Release Date: 7/10/2014
Initial Compl. Date:
API #: 4705101692
CHK Property #: 837626
1st Gas Sales Date:
1st Oil Sales Date:
PBTD:
TD: 15,035.0

HORIZONTAL - Original Hole, 10/12/2017 3:48:48 PM

MD (ftKB)	Zones	Vertical schematic (actual)
6,650.9		20 in; 94.00 lb/ft; K-55; 30.0-122.0 ftKB
6,810.0		13 3/8 in; 54.50 lb/ft; J-55; 25.6-794.0 ftKB
7,009.8		9 5/8 in; 40.00 lb/ft; J-55; 25.3-2,146.0 ftKB
7,210.0		
7,437.0		
7,661.1		
7,861.9		
8,062.0		
8,263.1		
8,462.9		
8,690.0		
8,914.0		
9,113.8		
9,315.0		
9,515.1		
9,714.9		
9,941.9		
10,166.0		
10,367.1		
10,566.9		
10,768.0		
10,967.8		
11,194.9		
11,419.0		
11,619.1		
11,819.9		
12,020.0		
12,221.1		
12,446.9		
12,670.9		
12,872.0		
13,071.9		Bit Sub; 14,667.5-14,668.5 ftKB; 3.72 in; pumped off hybrid tool/ production
13,273.0		
13,473.1		Drill Bit; 14,668.5-14,669.0 ftKB; 4 5/8 in; Pumped off hybrid tool/Production
13,700.1		
13,923.9		Cast Iron Bridge Plug; 14,670.0-14,672.0 ftKB; 4.78 in; Stage 1
14,124.0		
14,325.1		Cast Iron Bridge Plug; 14,900.0-14,902.0 ftKB; 4.78 in; Tri-States Wire Line set
14,524.9		CIBP above Toe Sleeve.
14,669.9		5 1/2 in; 20.00 lb/ft; P110-HC; 30.0-15,035.0 ftKB
14,889.1		



Stim/Treat Stages

6, Pad

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
11,419.0	6	Pad	<fluidname>, Slickwater	11,218.0	254.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

7, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
11,419.0	7	Proppant Laden Fluid	<fluidname>, Slickwater	11,218.0	2047.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	80,360.0	100 Mesh

8, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
11,419.0	8	Proppant Laden Fluid	<fluidname>, Slickwater	11,218.0	1498.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	110,838.0	40/70

8, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
11,419.0	8	Proppant Laden Fluid	15#, Linear Gel	11,218.0	1907.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	210,662.0	40/70

9, Flush

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
11,419.0	9	Flush	<fluidname>, Slickwater	11,218.0	252.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

Slickwater Frac on 9/21/2014 12:00 AM

Date	Type	Wellbore	Zone
9/21/2014	Slickwater Frac	Original Hole	PROPOSED, Original Hole

Stim/Treat Stages

1, Chemical Additives

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
11,168.0	1	Chemical Additives		10,967.0	

Stim/Treat Additives

Add	Type	Amount	Sand Size
Corrosion Inhibitor	A264	6.0	
Acid	Acid, Hydrochloric 15pct	3,021.0	
Anti-Bacterial Agent	EC6111A	77.0	
Scale Inhibitor	EC6486A	13.0	
Breaker	J218	88.0	
Gelling Agent	J580	1,705.0	
Friction Reducer	J609	114.0	
Iron Control Agent	L058	18.0	

2, Break Down

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
11,168.0	2	Break Down	<fluidname>, Slickwater	10,967.0	26.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

3, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
11,168.0	3	Acid Stage	15%, HCl Acid	10,967.0	35.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

4, Spacer

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
11,168.0	4	Spacer	<fluidname>, Slickwater	10,967.0	36.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

OCT 15 2017

Report Printed: 10/12/201

Regulatory Current Wellbore Schematic

MARK EDISON MSH 8H

Chesapeake ENERGY

Field:
County: MARSHALL
State: WEST VIRGINIA
Elevation: GL 1,220.0 KB 1,242.0 KB Height: 22.0
Location: T/D UNION, Q-MOUNDSVILLE

Spud Date: 6/25/2014
Rig Release Date: 7/10/2014
Initial Compl. Date:
API #: 4705101692
CHK Property #: 837626
1st Gas Sales Date:
1st Oil Sales Date:
PBTD:
TD: 15,035.0

HORIZONTAL - Original Hole, 10/12/2017 3:48:49 PM

MD (ftKB)	Zones	Vertical schematic (actual)
6,650.9		20 in; 94.00 lb/ft; K-55; 30.0-122.0 ftKB
6,810.0		13 3/8 in; 54.50 lb/ft; J-55; 25.6-794.0 ftKB
7,009.8		9 5/8 in; 40.00 lb/ft; J-55; 25.3-2,146.0 ftKB
7,210.0		
7,437.0		
7,661.1		
7,861.9		
8,062.0		
8,263.1		
8,462.9		
8,690.0		
8,914.0		
9,113.8		
9,315.0		
9,515.1		
9,714.9		
9,941.9		
10,166.0		
10,367.1		
10,566.9		
10,768.0		
10,967.8		
11,194.9		
11,419.0		
11,619.1		
11,819.9		
12,020.0		
12,221.1		
12,446.9		
12,670.9		
12,872.0		
13,071.9		Bit Sub; 14,667.5-14,668.5 ftKB; 3.72 in;
13,273.0		pumped off hybrid tool/ production
13,473.1		Drill Bit; 14,668.5-14,669.0 ftKB; 4 5/8
13,700.1		in; Pumped off hybrid tool/Production
13,923.9		Cast Iron Bridge Plug; 14,670.0-14,672.0
14,124.0		ftKB; 4.78 in; Stage 1 Cast Iron Bridge Plug;
14,325.1		14,900.0-14,902.0 ftKB; 4.78 in; Tri-
14,524.9		States Wire Line set CIBP above Toe Sleeve.
14,669.9		5 1/2 in; 20.00 lb/ft; P110-HC; 30.0-
14,889.1		15,035.0 ftKB

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OCT 19 2017
WV Department of Environmental Protection

Stim/Treat Stages

5, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
11,168.0	5	Acid Stage	15%, HCl Acid	10,967.0	35.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

6, Pad

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
11,168.0	6	Pad	<fluidname>, Slickwater	10,967.0	261.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

7, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
11,168.0	7	Proppant Laden Fluid	<fluidname>, Slickwater	10,967.0	2022.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	78,420.0	100 Mesh

8, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
11,168.0	8	Proppant Laden Fluid	<fluidname>, Slickwater	10,967.0	1499.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	110,922.0	40/70

8, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
11,168.0	8	Proppant Laden Fluid	15#, Linear Gel	10,967.0	1861.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	209,398.0	40/70

9, Flush

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
11,168.0	9	Flush	<fluidname>, Slickwater	10,967.0	251.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

Slickwater Frac on 9/21/2014 12:00 AM

Date	Type	Wellbore	Zone
9/21/2014	Slickwater Frac	Original Hole	PROPOSED, Original Hole

Stim/Treat Stages

1, Chemical Additives

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
10,918.0	1	Chemical Additives		10,717.0	

Stim/Treat Additives

Add	Type	Amount	Sand Size
Corrosion Inhibitor	A264	6.0	
Acid	Acid, Hydrochloric 15pct	2,992.0	
Anti-Bacterial Agent	EC6111A	76.0	
Scale Inhibitor	EC6486A	13.0	
Breaker	J218	77.0	
Gelling Agent	J580	1,654.0	
Friction Reducer	J609	128.0	
Iron Control Agent	L058	18.0	

2, Break Down

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
10,918.0	2	Break Down	<fluidname>, Slickwater	10,717.0	37.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

3, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
10,918.0	3	Acid Stage	15%, HCl Acid	10,717.0	35.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

Report Printed: 10/12/201

Regulatory Current Wellbore Schematic

MARK EDISON MSH 8H

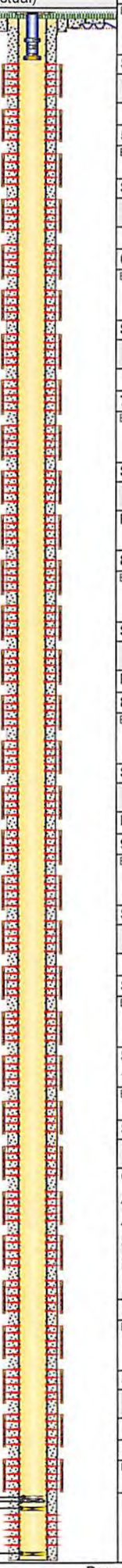
Chesapeake ENERGY

Field:
County: MARSHALL
State: WEST VIRGINIA
Elevation: GL 1,220.0 KB 1,242.0 KB Height: 22.0
Location: T/D UNION, Q-MOUNDSVILLE

Spud Date: 6/25/2014
Rig Release Date: 7/10/2014
Initial Compl. Date:
API #: 4705101692
CHK Property #: 837626
1st Gas Sales Date:
1st Oil Sales Date:
PBTD:
TD: 15,035.0

HORIZONTAL - Original Hole, 10/12/2017 3:48:49 PM

MD (ftKB)	Zones	Vertical schematic (actual)
6,650.9		20 in; 94.00 lb/ft; K-55; 30.0-122.0 ftKB
6,810.0		13 3/8 in; 54.50 lb/ft; J-55; 25.6-794.0 ftKB
7,009.8		9 5/8 in; 40.00 lb/ft; J-55; 25.3-2,146.0 ftKB
7,210.0		
7,437.0		
7,661.1		
7,861.9		
8,062.0		
8,263.1		
8,462.9		
8,690.0		
8,914.0		
9,113.8		
9,315.0		
9,515.1		
9,714.9		
9,941.9		
10,166.0		
10,367.1		
10,566.9		
10,768.0		
10,967.8		
11,194.9		
11,419.0		
11,619.1		
11,819.9		
12,020.0		
12,221.1		
12,446.9		
12,670.9		
12,872.0		
13,071.9		Bit Sub; 14,667.5-14,668.5 ftKB; 3.72 in;
13,273.0		pumped off hybrid tool/ production
13,473.1		Drill Bit; 14,668.5-14,669.0 ftKB; 4 5/8 in; Pumped off hybrid
13,700.1		tool/Production
13,923.9		Cast Iron Bridge Plug; 14,670.0-14,672.0 ftKB; 4.78 in; Stage 1
14,124.0		Cast Iron Bridge Plug; 14,900.0-14,902.0
14,325.1		ftKB; 4.78 in; Tri-States Wire Line set
14,524.9		CIBP above Toe Sleeve.
14,669.9		5 1/2 in; 20.00 lb/ft; P110-HC; 30.0-15,035.0 ftKB
14,889.1		



Stim/Treat Stages

4, Spacer

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
10,918.0	4	Spacer	<fluidname>, Slickwater	10,717.0	36.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

5, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
10,918.0	5	Acid Stage	15%, HCl Acid	10,717.0	36.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

6, Pad

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
10,918.0	6	Pad	<fluidname>, Slickwater	10,717.0	263.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

7, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
10,918.0	7	Proppant Laden Fluid	<fluidname>, Slickwater	10,717.0	2048.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	80,680.0	100 Mesh

8, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
10,918.0	8	Proppant Laden Fluid	<fluidname>, Slickwater	10,717.0	1498.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	110,859.0	40/70

8, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
10,918.0	8	Proppant Laden Fluid	15#, Linear Gel	10,717.0	1761.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	211,081.0	40/70

9, Flush

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
10,918.0	9	Flush	<fluidname>, Slickwater	10,717.0	252.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

Slickwater Frac on 9/22/2014 12:00 AM

Date	Type	Wellbore	Zone
9/22/2014	Slickwater Frac	Original Hole	PROPOSED, Original Hole

Stim/Treat Stages

1, Chemical Additives

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
10,667.0	1	Chemical Additives		10,466.0	

Stim/Treat Additives

Add	Type	Amount	Sand Size
Corrosion Inhibitor	A264	6.0	
Acid	Acid, Hydrochloric 15pct	2,962.0	
Anti-Bacterial Agent	EC6111A	77.0	
Scale Inhibitor	EC6486A	13.0	
Friction Reducer	J609	230.0	
Iron Control Agent	L058	18.0	

2, Break Down

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
10,667.0	2	Break Down	<fluidname>, Slickwater	10,466.0	23.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

3, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
10,667.0	3	Acid Stage	15%, HCl Acid	10,466.0	36.00

Report Printed: 10/12/201

Regulatory Current Wellbore Schematic

MARK EDISON MSH 8H

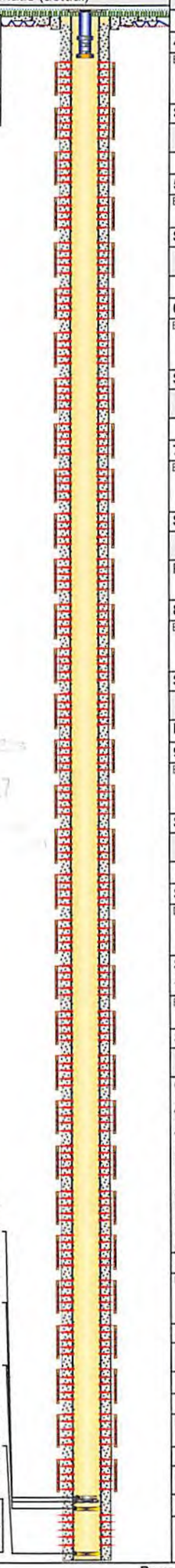
Chesapeake ENERGY

Field:
County: MARSHALL
State: WEST VIRGINIA
Elevation: GL 1,220.0 KB 1,242.0 KB Height: 22.0
Location: T/D UNION, Q-MOUNDSVILLE

Spud Date: 6/25/2014
Rig Release Date: 7/10/2014
Initial Compl. Date:
API #: 4705101692
CHK Property #: 837626
1st Gas Sales Date:
1st Oil Sales Date:
PBTD:
TD: 15,035.0

HORIZONTAL - Original Hole, 10/12/2017 3:48:50 PM

MD (ftKB)	Zones	Vertical schematic (actual)
6,650.9		20 in; 94.00 lb/ft; K-55; 30.0-122.0 ftKB
6,810.0		13 3/8 in; 54.50 lb/ft; J-55; 25.6-794.0 ftKB
7,009.8		9 5/8 in; 40.00 lb/ft; J-55; 25.3-2,146.0 ftKB
7,210.0		
7,437.0		
7,661.1		
7,861.9		
8,062.0		
8,263.1		
8,462.9		
8,690.0		
8,914.0		
9,113.8		
9,315.0		
9,515.1		
9,714.9		
9,941.9		
10,166.0		
10,367.1		
10,566.9		
10,768.0		
10,967.8		
11,194.9		
11,419.0		
11,619.1		
11,819.9		
12,020.0		
12,221.1		
12,446.9		
12,670.9		
12,872.0		
13,071.9		Bit Sub; 14,667.5-14,668.5 ftKB; 3.72 in;
13,273.0		pumped off hybrid tool/ production
13,473.1		Drill Bit; 14,668.5-14,669.0 ftKB; 4 5/8
13,700.1		in; Pumped off hybrid tool/Production
13,923.9		Cast Iron Bridge Plug; 14,670.0-14,672.0
14,124.0		ftKB; 4.78 in; Stage 1 Cast Iron Bridge Plug;
14,325.1		14,900.0-14,902.0 ftKB; 4.78 in; Tri-
14,524.9		States Wire Line set CIBP above Toe Sleeve.
14,669.9		5 1/2 in; 20.00 lb/ft; P110-HC; 30.0-
14,889.1		15,035.0 ftKB



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OCT 13 2017
WV Department of Environmental Protection

Stim/Treat Additives

Add	Type	Amount	Sand Size

4, Spacer

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
10,667.0	4	Spacer	<fluidname>, Slickwater	10,466.0	50.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

5, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
10,667.0	5	Acid Stage	15%, HCl Acid	10,466.0	36.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

6, Pad

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
10,667.0	6	Pad	<fluidname>, Slickwater	10,466.0	278.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

7, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
10,667.0	7	Proppant Laden Fluid	<fluidname>, Slickwater	10,466.0	2110.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	79,100.0	100 Mesh

8, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
10,667.0	8	Proppant Laden Fluid	<fluidname>, Slickwater	10,466.0	3310.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	317,100.0	40/70

9, Flush

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
10,667.0	9	Flush	<fluidname>, Slickwater	10,466.0	257.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

Slickwater Frac on 9/22/2014 12:00 AM

Date	Type	Wellbore	Zone
9/22/2014	Slickwater Frac	Original Hole	PROPOSED, Original Hole

Stim/Treat Stages

1, Chemical Additives

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
10,417.0	1	Chemical Additives		10,216.0	

Stim/Treat Additives

Add	Type	Amount	Sand Size
Corrosion Inhibitor	A264	6.0	
Acid	Acid, Hydrochloric 15pct	3,012.0	
Anti-Bacterial Agent	EC6111A	78.0	
Scale Inhibitor	EC6486A	13.0	
Breaker	J218	66.0	
Gelling Agent	J580	1,620.0	
Friction Reducer	J609	142.0	
Iron Control Agent	L058	18.0	

2, Break Down

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
10,417.0	2	Break Down	<fluidname>, Slickwater	10,216.0	32.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

3, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
10,417.0	3	Acid Stage	15%, HCl Acid	10,216.0	36.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

Report Printed: 10/12/201

Regulatory Current Wellbore Schematic

MARK EDISON MSH 8H

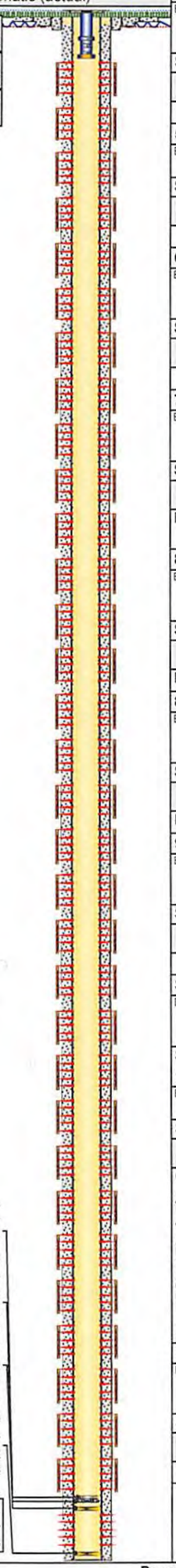
Chesapeake ENERGY

Field:
County: MARSHALL
State: WEST VIRGINIA
Elevation: GL 1,220.0 KB 1,242.0 KB Height: 22.0
Location: T/D UNION, Q-MOUNDSVILLE

Spud Date: 6/25/2014
Rig Release Date: 7/10/2014
Initial Compl. Date:
API #: 4705101692
CHK Property #: 837626
1st Gas Sales Date:
1st Oil Sales Date:
PBTD:
TD: 15,035.0

HORIZONTAL - Original Hole, 10/12/2017 3:48:51 PM

MD (ftKB)	Zones	Vertical schematic (actual)
6,650.9		20 in; 94.00 lb/ft; K-55; 30.0-122.0 ftKB
6,810.0		13 3/8 in; 54.50 lb/ft; J-55; 25.6-794.0 ftKB
7,009.8		9 5/8 in; 40.00 lb/ft; J-55; 25.3-2,146.0 ftKB
7,210.0		
7,437.0		
7,661.1		
7,861.9		
8,062.0		
8,263.1		
8,462.9		
8,690.0		
8,914.0		
9,113.8		
9,315.0		
9,515.1		
9,714.9		
9,941.9		
10,166.0		
10,367.1		
10,566.9		
10,768.0		
10,967.8		
11,194.9		
11,419.0		
11,619.1		
11,819.9		
12,020.0		
12,221.1		
12,446.9		
12,670.9		
12,872.0		
13,071.9		Bit Sub; 14,667.5-14,668.5 ftKB; 3.72 in; pumped off hybrid tool/ production
13,273.0		
13,473.1		Drill Bit; 14,668.5-14,669.0 ftKB; 4 5/8 in; Pumped off hybrid tool/Production
13,700.1		
13,923.9		Cast Iron Bridge Plug; 14,670.0-14,672.0 ftKB; 4.78 in; Stage 1
14,124.0		
14,325.1		Cast Iron Bridge Plug; 14,900.0-14,902.0 ftKB; 4.78 in; Tri-States Wire Line set CIBP above Toe Sleeve.
14,524.9		
14,669.9		5 1/2 in; 20.00 lb/ft; P110-HC; 30.0-15,035.0 ftKB
14,889.1		



Stim/Treat Stages

4, Spacer

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
10,417.0	4	Spacer	<fluidname>, Slickwater	10,216.0	50.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

5, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
10,417.0	5	Acid Stage	15%, HCl Acid	10,216.0	35.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

6, Pad

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
10,417.0	6	Pad	<fluidname>, Slickwater	10,216.0	260.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

7, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
10,417.0	7	Proppant Laden Fluid	<fluidname>, Slickwater	10,216.0	2108.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	81,640.0	100 Mesh

8, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
10,417.0	8	Proppant Laden Fluid	15#, Linear Gel	10,216.0	1856.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	208,720.0	40/70

8, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
10,417.0	8	Proppant Laden Fluid	<fluidname>, Slickwater	10,216.0	1499.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	111,520.0	40/70

9, Flush

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
10,417.0	9	Flush	<fluidname>, Slickwater	10,216.0	242.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

Slickwater Frac on 9/22/2014 12:00 AM

Date	Type	Wellbore	Zone
9/22/2014	Slickwater Frac	Original Hole	PROPOSED, Original Hole

Stim/Treat Stages

1, Chemical Additives

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
10,166.0	1	Chemical Additives		9,965.0	

Stim/Treat Additives

Add	Type	Amount	Sand Size
Corrosion Inhibitor	A264	6.0	
Acid	Acid, Hydrochloric 15pct	2,962.0	
Anti-Bacterial Agent	EC6111A	77.0	
Scale Inhibitor	EC6486A	13.0	
Breaker	J218	77.0	
Gelling Agent	J580	1,776.0	
Friction Reducer	J609	133.0	
Iron Control Agent	L058	18.0	

2, Break Down

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
10,166.0	2	Break Down	<fluidname>, Slickwater	9,965.0	27.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

Regulatory Current Wellbore Schematic

MARK EDISON MSH 8H

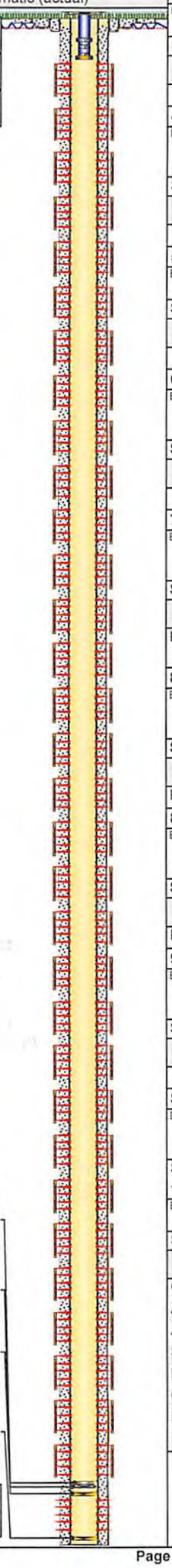
Chesapeake ENERGY

Field:
County: MARSHALL
State: WEST VIRGINIA
Elevation: GL 1,220.0 KB 1,242.0 KB Height: 22.0
Location: T/D UNION, Q-MOUNDSVILLE

Spud Date: 6/25/2014
Rig Release Date: 7/10/2014
Initial Compl. Date:
API #: 4705101692
CHK Property #: 837626
1st Gas Sales Date:
1st Oil Sales Date:
PBTD:
TD: 15,035.0

HORIZONTAL - Original Hole, 10/12/2017 3:48:51 PM

MD (ftKB)	Zones	Vertical schematic (actual)
6,650.9		20 in; 94.00 lb/ft; K-55; 30.0-122.0 ftKB
6,810.0		13 3/8 in; 54.50 lb/ft; J-55; 25.6-794.0 ftKB
7,009.8		9 5/8 in; 40.00 lb/ft; J-55; 25.3-2,146.0 ftKB
7,210.0		
7,437.0		
7,661.1		
7,861.9		
8,062.0		
8,263.1		
8,462.9		
8,690.0		
8,914.0		
9,113.8		
9,315.0		
9,515.1		
9,714.9		
9,941.9		
10,166.0		
10,367.1		
10,566.9		
10,768.0		
10,967.8		
11,194.9		
11,419.0		
11,619.1		
11,819.9		
12,020.0		
12,221.1		
12,446.9		
12,670.9		
12,872.0		
13,071.9		Bit Sub; 14,667.5-14,668.5 ftKB; 3.72 in;
13,273.0		pumped off hybrid tool/ production
13,473.1		Drill Bit; 14,668.5-14,669.0 ftKB; 4 5/8
13,700.1		in; Pumped off hybrid tool/Production
13,923.9		Cast Iron Bridge Plug; 14,670.0-14,672.0
14,124.0		ftKB; 4.78 in; Stage 1 Cast Iron Bridge Plug;
14,325.1		14,900.0-14,902.0 ftKB; 4.78 in; Tri-
14,524.9		States Wire Line set CIBP above Toe Sleeve.
14,669.9		5 1/2 in; 20.00 lb/ft; P110-HC; 30.0-
14,889.1		15,035.0 ftKB



Stim/Treat Stages

3, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
10,166.0	3	Acid Stage	15%, HCl Acid	9,965.0	35.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

4, Spacer

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
10,166.0	4	Spacer	<fluidname>, Slickwater	9,965.0	36.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

5, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
10,166.0	5	Acid Stage	15%, HCl Acid	9,965.0	36.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

6, Pad

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
10,166.0	6	Pad	<fluidname>, Slickwater	9,965.0	279.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

7, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
10,166.0	7	Proppant Laden Fluid	<fluidname>, Slickwater	9,965.0	2078.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	80,200.0	100 Mesh

8, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
10,166.0	8	Proppant Laden Fluid	<fluidname>, Slickwater	9,965.0	1498.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	105,638.0	40/70

8, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
10,166.0	8	Proppant Laden Fluid	15#, Linear Gel	9,965.0	1883.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	215,042.0	40/70

9, Flush

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
10,166.0	9	Flush	<fluidname>, Slickwater	9,965.0	232.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

Slickwater Frac on 9/22/2014 12:00 AM

Date	Type	Wellbore	Zone
9/22/2014	Slickwater Frac	Original Hole	PROPOSED, Original Hole

Stim/Treat Stages

1, Chemical Additives

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
9,916.0	1	Chemical Additives		9,714.0	

Stim/Treat Additives

Add	Type	Amount	Sand Size
Corrosion Inhibitor	A264	6.0	
Acid	Acid, Hydrochloric 15pct	2,960.0	
Anti-Bacterial Agent	EC6111A	75.0	
Scale Inhibitor	EC6486A	12.0	
Breaker	J218	77.0	
Gelling Agent	J580	1,703.0	
Friction Reducer	J609	132.0	
Iron Control Agent	L058	18.0	

Report Printed: 10/12/201

Regulatory Current Wellbore Schematic

MARK EDISON MSH 8H

Chesapeake ENERGY

Field:
County: MARSHALL
State: WEST VIRGINIA
Elevation: GL 1,220.0 KB 1,242.0 KB Height: 22.0
Location: T/D UNION, Q-MOUNDSVILLE

Spud Date: 6/25/2014
Rig Release Date: 7/10/2014
Initial Compl. Date:
API #: 4705101692
CHK Property #: 837626
1st Gas Sales Date:
1st Oil Sales Date:
PBTD:
TD: 15,035.0

HORIZONTAL - Original Hole, 10/12/2017 3:48:52 PM

MD (ftKB)	Zones	Vertical schematic (actual)
6,650.9		20 in; 94.00 lb/ft; K-55; 30.0-122.0 ftKB
6,810.0		13 3/8 in; 54.50 lb/ft; J-55; 25.6-794.0 ftKB
7,009.8		9 5/8 in; 40.00 lb/ft; J-55; 25.3-2,146.0 ftKB
7,210.0		
7,437.0		
7,661.1		
7,861.9		
8,062.0		
8,263.1		
8,462.9		
8,690.0		
8,914.0		
9,113.8		
9,315.0		
9,515.1		
9,714.9		
9,941.9		
10,166.0		
10,367.1		
10,566.9		
10,768.0		
10,967.8		
11,194.9		
11,419.0		
11,619.1		
11,819.9		
12,020.0		
12,221.1		
12,446.9		
12,670.9		
12,872.0		
13,071.9		Bit Sub; 14,667.5-14,668.5 ftKB; 3.72 in; pumped off hybrid tool/ production
13,273.0		
13,473.1		Drill Bit; 14,668.5-14,669.0 ftKB; 4 5/8 in; Pumped off hybrid tool/Production
13,700.1		
13,923.9		Cast Iron Bridge Plug; 14,670.0-14,672.0 ftKB; 4.78 in; Stage 1
14,124.0		Cast Iron Bridge Plug; 14,900.0-14,902.0 ftKB; 4.78 in; Tri-States Wire Line set CIBP above Toe Sleeve.
14,325.1		
14,524.9		
14,669.9		5 1/2 in; 20.00 lb/ft; P110-HC; 30.0-15,035.0 ftKB
14,889.1		

Stim/Treat Stages

2, Break Down

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
9,916.0	2	Break Down	<fluidname>, Slickwater	9,714.0	19.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

3, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
9,916.0	3	Acid Stage	15%, HCl Acid	9,714.0	35.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

4, Spacer

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
9,916.0	4	Spacer	<fluidname>, Slickwater	9,714.0	36.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

5, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
9,916.0	5	Acid Stage	15%, HCl Acid	9,714.0	35.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

6, Pad

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
9,916.0	6	Pad	<fluidname>, Slickwater	9,714.0	278.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

7, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
9,916.0	7	Proppant Laden Fluid	<fluidname>, Slickwater	9,714.0	2033.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	81,100.0	100 Mesh

8, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
9,916.0	8	Proppant Laden Fluid	<fluidname>, Slickwater	9,714.0	1497.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	112,420.0	40/70

8, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
9,916.0	8	Proppant Laden Fluid	15#, Linear Gel	9,714.0	1882.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	208,580.0	40/70

9, Flush

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
9,916.0	9	Flush	<fluidname>, Slickwater	9,714.0	233.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

Slickwater Frac on 9/23/2014 12:00 AM

Date	Type	Wellbore	Zone
9/23/2014	Slickwater Frac	Original Hole	PROPOSED, Original Hole

Stim/Treat Stages

1, Chemical Additives

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
9,665.0	1	Chemical Additives		9,464.0	

Stim/Treat Additives

Add	Type	Amount	Sand Size
Corrosion Inhibitor	A264	6.0	
Acid	Acid, Hydrochloric 15pct	3,012.0	
Anti-Bacterial Agent	EC6111A	76.0	
Scale Inhibitor	EC6486A	12.0	

Report Printed: 10/12/201

Regulatory Current Wellbore Schematic

MARK EDISON MSH 8H

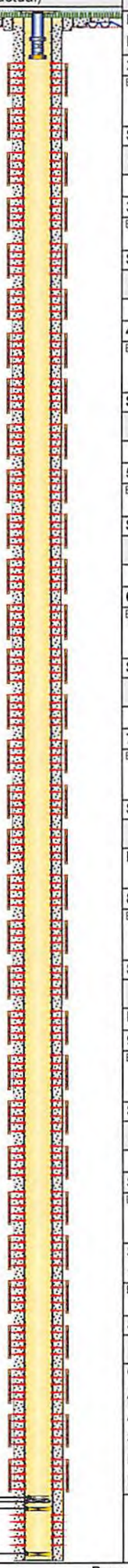
Chesapeake ENERGY

Field:
County: MARSHALL
State: WEST VIRGINIA
Elevation: GL 1,220.0 KB 1,242.0 KB Height: 22.0
Location: T/D UNION, Q-MOUNDSVILLE

Spud Date: 6/25/2014
Rig Release Date: 7/10/2014
Initial Compl. Date:
API #: 4705101692
CHK Property #: 837626
1st Gas Sales Date:
1st Oil Sales Date:
PBTD:
TD: 15,035.0

HORIZONTAL - Original Hole, 10/12/2017 3:48:52 PM

MD (ftKB)	Zones	Vertical schematic (actual)
6,650.9		20 in; 94.00 lb/ft; K-55; 30.0-122.0 ftKB
6,810.0		13 3/8 in; 54.50 lb/ft; J-55; 25.6-794.0 ftKB
7,009.8		9 5/8 in; 40.00 lb/ft; J-55; 25.3-2,146.0 ftKB
7,210.0		
7,437.0		
7,661.1		
7,861.9		
8,062.0		
8,263.1		
8,462.9		
8,690.0		
8,914.0		
9,113.8		
9,315.0		
9,515.1		
9,714.9		
9,941.9		
10,166.0		
10,367.1		
10,566.9		
10,768.0		
10,967.8		
11,194.9		
11,419.0		
11,619.1		
11,819.9		
12,020.0		
12,221.1		
12,446.9		
12,670.9		
12,872.0		
13,071.9		Bit Sub; 14,667.5-14,668.5 ftKB; 3.72 in; pumped off hybrid tool/ production
13,273.0		
13,473.1		Drill Bit; 14,668.5-14,669.0 ftKB; 4 5/8 in; Pumped off hybrid tool/Production
13,700.1		
13,923.9		Cast Iron Bridge Plug; 14,670.0-14,672.0 ftKB; 4.78 in; Stage 1
14,124.0		
14,325.1		Cast Iron Bridge Plug; 14,900.0-14,902.0 ftKB; 4.78 in; Tri-States Wire Line set CIBP above Toe Sleeve.
14,524.9		
14,669.9		5 1/2 in; 20.00 lb/ft; P110-HC; 30.0-15,035.0 ftKB
14,889.1		



Stim/Treat Additives

Add	Type	Amount	Sand Size
Friction Reducer	J609	180.0	
Iron Control Agent	L058	18.0	

2, Break Down

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
9,665.0	2	Break Down	<fluidname>, Slickwater	9,464.0	13.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

3, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
9,665.0	3	Acid Stage	15%, HCl Acid	9,464.0	36.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

4, Spacer

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
9,665.0	4	Spacer	<fluidname>, Slickwater	9,464.0	50.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

5, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
9,665.0	5	Acid Stage	15%, HCl Acid	9,464.0	36.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

6, Pad

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
9,665.0	6	Pad	<fluidname>, Slickwater	9,464.0	230.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

7, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
9,665.0	7	Proppant Laden Fluid	<fluidname>, Slickwater	9,464.0	1997.0 0

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	81,140.0	100 Mesh

8, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
9,665.0	8	Proppant Laden Fluid	<fluidname>, Slickwater	9,464.0	3463.0 0

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	321,300.0	40/70

9, Flush

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
9,665.0	9	Flush	<fluidname>, Slickwater	9,464.0	217.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

Slickwater Frac on 9/23/2014 12:00 AM

Date	Type	Wellbore	Zone
9/23/2014	Slickwater Frac	Original Hole	PROPOSED, Original Hole

Stim/Treat Stages

1, Chemical Additives

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
9,415.0	1	Chemical Additives		9,213.0	

Stim/Treat Additives

Add	Type	Amount	Sand Size
Corrosion Inhibitor	A264	6.0	
Acid	Acid, Hydrochloric 15pct	2,972.0	
Anti-Bacterial Agent	EC6111A	77.0	
Scale Inhibitor	EC6486A	13.0	
Friction Reducer	J609	175.0	
Iron Control Agent	L058	18.0	

Report Printed: 10/12/201

Regulatory Current Wellbore Schematic

MARK EDISON MSH 8H

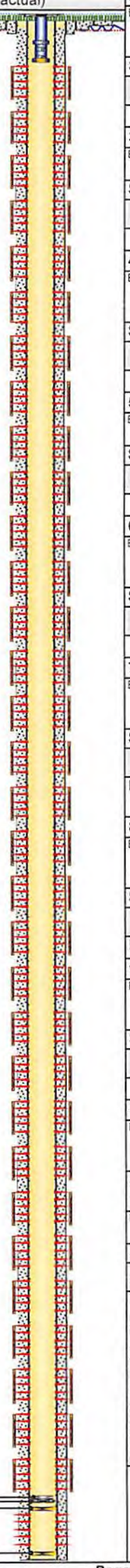
Chesapeake ENERGY

Field:
County: MARSHALL
State: WEST VIRGINIA
Elevation: GL 1,220.0 KB 1,242.0 KB Height: 22.0
Location: T/D UNION, Q-MOUNDSVILLE

Spud Date: 6/25/2014
Rig Release Date: 7/10/2014
Initial Compl. Date:
API #: 4705101692
CHK Property #: 837626
1st Gas Sales Date:
1st Oil Sales Date:
PBTD:
TD: 15,035.0

HORIZONTAL - Original Hole, 10/12/2017 3:48:53 PM

MD (ftKB)	Zones	Vertical schematic (actual)
6,650.9		20 in; 94.00 lb/ft; K-55; 30.0-122.0 ftKB
6,810.0		13 3/8 in; 54.50 lb/ft; J-55; 25.6-794.0 ftKB
7,009.8		9 5/8 in; 40.00 lb/ft; J-55; 25.3-2,146.0 ftKB
7,210.0		
7,437.0		
7,661.1		
7,861.9		
8,062.0		
8,263.1		
8,462.9		
8,690.0		
8,914.0		
9,113.8		
9,315.0		
9,515.1		
9,714.9		
9,941.9		
10,166.0		
10,367.1		
10,566.9		
10,768.0		
10,967.8		
11,194.9		
11,419.0		
11,619.1		
11,819.9		
12,020.0		
12,221.1		
12,446.9		
12,670.9		
12,872.0		
13,071.9		Bit Sub; 14,667.5-14,668.5 ftKB; 3.72 in;
13,273.0		pumped off hybrid tool/ production
13,473.1		Drill Bit; 14,668.5-14,669.0 ftKB; 4 5/8
13,700.1		in; Pumped off hybrid tool/Production
13,923.9		Cast Iron Bridge Plug; 14,670.0-14,672.0
14,124.0		ftKB; 4.78 in; Stage 1 Cast Iron Bridge Plug;
14,325.1		14,900.0-14,902.0 ftKB; 4.78 in; Tri-
14,524.9		States Wire Line set CIBP above Toe Sleeve.
14,669.9		5 1/2 in; 20.00 lb/ft; P110-HC; 30.0-
14,889.1		15,035.0 ftKB



Stim/Treat Stages

2, Break Down

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
9,415.0	2	Break Down	<fluidname>, Slickwater	9,213.0	15.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

3, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
9,415.0	3	Acid Stage	15%, HCl Acid	9,213.0	36.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

4, Spacer

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
9,415.0	4	Spacer	<fluidname>, Slickwater	9,213.0	50.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

5, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
9,415.0	5	Acid Stage	15%, HCl Acid	9,213.0	35.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

6, Pad

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
9,415.0	6	Pad	<fluidname>, Slickwater	9,213.0	250.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

7, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
9,415.0	7	Proppant Laden Fluid	<fluidname>, Slickwater	9,213.0	2045.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	77,940.0	100 Mesh

8, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
9,415.0	8	Proppant Laden Fluid	<fluidname>, Slickwater	9,213.0	3440.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	320,720.0	40/70

9, Flush

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
9,415.0	9	Flush	<fluidname>, Slickwater	9,213.0	239.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

Slickwater Frac on 9/23/2014 12:00 AM

Date	Type	Wellbore	Zone
9/23/2014	Slickwater Frac	Original Hole	PROPOSED, Original Hole

Stim/Treat Stages

1, Chemical Additives

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
9,164.0	1	Chemical Additives		8,963.0	

Stim/Treat Additives

Add	Type	Amount	Sand Size
Corrosion Inhibitor	A264	6.0	
Acid	Acid, Hydrochloric 15pct	2,948.0	
Anti-Bacterial Agent	EC6111A	78.0	
Scale Inhibitor	EC6486A	13.0	
Breaker	J218	22.0	
Gelling Agent	J580	310.0	
Friction Reducer	J609	242.0	
Iron Control Agent	L058	18.0	

Report Printed: 10/12/201

Regulatory Current Wellbore Schematic

MARK EDISON MSH 8H

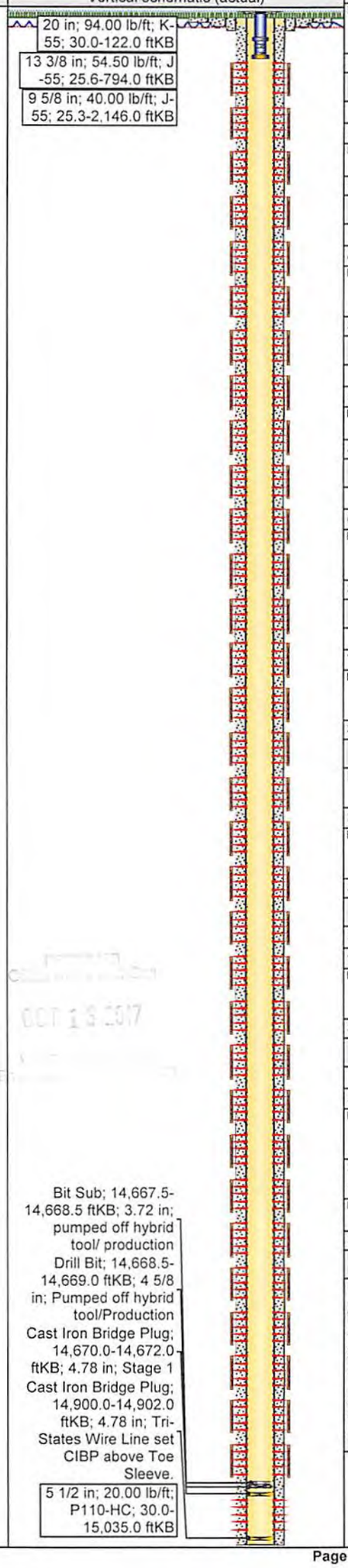
Chesapeake ENERGY

Field:
County: MARSHALL
State: WEST VIRGINIA
Elevation: GL 1,220.0 KB 1,242.0 KB Height: 22.0
Location: T/D UNION, Q-MOUNDSVILLE

Spud Date: 6/25/2014
Rig Release Date: 7/10/2014
Initial Compl. Date:
API #: 4705101692
CHK Property #: 837626
1st Gas Sales Date:
1st Oil Sales Date:
PBTD:
TD: 15,035.0

HORIZONTAL - Original Hole, 10/12/2017 3:48:54 PM

MD (ftKB)	Zones	Vertical schematic (actual)
6,650.9		20 in; 94.00 lb/ft; K-55; 30.0-122.0 ftKB
6,810.0		13 3/8 in; 54.50 lb/ft; J-55; 25.6-794.0 ftKB
7,009.8		9 5/8 in; 40.00 lb/ft; J-55; 25.3-2,146.0 ftKB
7,210.0		
7,437.0		
7,661.1		
7,861.9		
8,062.0		
8,263.1		
8,462.9		
8,690.0		
8,914.0		
9,113.8		
9,315.0		
9,515.1		
9,714.9		
9,941.9		
10,166.0		
10,367.1		
10,566.9		
10,768.0		
10,967.8		
11,194.9		
11,419.0		
11,619.1		
11,819.9		
12,020.0		
12,221.1		
12,446.9		
12,670.9		
12,872.0		
13,071.9		Bit Sub; 14,667.5-14,668.5 ftKB; 3.72 in; pumped off hybrid tool/ production
13,273.0		
13,473.1		Drill Bit; 14,668.5-14,669.0 ftKB; 4 5/8 in; Pumped off hybrid tool/Production
13,700.1		
13,923.9		Cast Iron Bridge Plug; 14,670.0-14,672.0 ftKB; 4.78 in; Stage 1
14,124.0		Cast Iron Bridge Plug; 14,900.0-14,902.0 ftKB; 4.78 in; Tri-States Wire Line set CIBP above Toe Sleeve.
14,325.1		
14,524.9		
14,669.9		5 1/2 in; 20.00 lb/ft; P110-HC; 30.0-15,035.0 ftKB
14,889.1		



Stim/Treat Stages

2, Break Down

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
9,164.0	2	Break Down	<fluidname>, Slickwater	8,963.0	15.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

3, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
9,164.0	3	Acid Stage	15%, HCl Acid	8,963.0	35.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

4, Spacer

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
9,164.0	4	Spacer	<fluidname>, Slickwater	8,963.0	50.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

5, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
9,164.0	5	Acid Stage	15%, HCl Acid	8,963.0	35.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

6, Pad

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
9,164.0	6	Pad	<fluidname>, Slickwater	8,963.0	235.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

7, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
9,164.0	7	Proppant Laden Fluid	<fluidname>, Slickwater	8,963.0	2088.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	79,060.0	100 Mesh

8, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
9,164.0	8	Proppant Laden Fluid	<fluidname>, Slickwater	8,963.0	3958.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	317,780.0	40/70

9, Flush

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
9,164.0	9	Flush	<fluidname>, Slickwater	8,963.0	210.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

Slickwater Frac on 9/23/2014 12:00 AM

Date	Type	Wellbore	Zone
9/23/2014	Slickwater Frac	Original Hole	PROPOSED, Original Hole

Stim/Treat Stages

1, Chemical Additives

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
8,914.0	1	Chemical Additives		8,712.0	

Stim/Treat Additives

Add	Type	Amount	Sand Size
Corrosion Inhibitor	A264	3.0	
Acid	Acid, Hydrochloric 7.5pct	3,081.0	
Anti-Bacterial Agent	EC6111A	73.0	
Scale Inhibitor	EC6486A	12.0	
Breaker	J218	44.0	
Gelling Agent	J580	1,018.0	
Friction Reducer	J609	125.0	
Iron Control Agent	L058	10.0	

Report Printed: 10/12/201

Regulatory Current Wellbore Schematic

MARK EDISON MSH 8H

Chesapeake ENERGY

Field:
County: MARSHALL
State: WEST VIRGINIA
Elevation: GL 1,220.0 KB 1,242.0 KB Height: 22.0
Location: T/D UNION, Q-MOUNDSVILLE

Spud Date: 6/25/2014
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Initial Compl. Date:
API #: 4705101692
CHK Property #: 837626
1st Gas Sales Date:
1st Oil Sales Date:
PBTD:
TD: 15,035.0

HORIZONTAL - Original Hole, 10/12/2017 3:48:54 PM

MD (ftKB)	Zones	Vertical schematic (actual)
6,650.9		20 in; 94.00 lb/ft; K-55; 30.0-122.0 ftKB
6,810.0		13 3/8 in; 54.50 lb/ft; J-55; 25.6-794.0 ftKB
7,009.8		9 5/8 in; 40.00 lb/ft; J-55; 25.3-2,146.0 ftKB
7,210.0		
7,437.0		
7,661.1		
7,861.9		
8,062.0		
8,263.1		
8,462.9		
8,690.0		
8,914.0		
9,113.8		
9,315.0		
9,515.1		
9,714.9		
9,941.9		
10,166.0		
10,367.1		
10,566.9		
10,768.0		
10,967.8		
11,194.9		
11,419.0		
11,619.1		
11,819.9		
12,020.0		
12,221.1		
12,446.9		
12,670.9		
12,872.0		
13,071.9		Bit Sub; 14,667.5-14,668.5 ftKB; 3.72 in; pumped off hybrid tool/ production
13,273.0		
13,473.1		Drill Bit; 14,668.5-14,669.0 ftKB; 4 5/8 in; Pumped off hybrid tool/Production
13,700.1		
13,923.9		Cast Iron Bridge Plug; 14,670.0-14,672.0 ftKB; 4.78 in; Stage 1
14,124.0		Cast Iron Bridge Plug; 14,900.0-14,902.0 ftKB; 4.78 in; Tri-States Wire Line set CIBP above Toe Sleeve.
14,325.1		
14,524.9		
14,669.9		5 1/2 in; 20.00 lb/ft; P110-HC; 30.0-15,035.0 ftKB
14,889.1		

Stim/Treat Stages

2, Break Down

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
8,914.0	2	Break Down	<fluidname>, Slickwater	8,712.0	15.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

3, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
8,914.0	3	Acid Stage	7.5%, HCl Acid	8,712.0	35.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

4, Spacer

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
8,914.0	4	Spacer	<fluidname>, Slickwater	8,712.0	35.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

5, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
8,914.0	5	Acid Stage	7.5%, HCl Acid	8,712.0	35.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

6, Pad

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
8,914.0	6	Pad	<fluidname>, Slickwater	8,712.0	235.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

7, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
8,914.0	7	Proppant Laden Fluid	<fluidname>, Slickwater	8,712.0	2008.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	81,560.0	100 Mesh

8, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
8,914.0	8	Proppant Laden Fluid	<fluidname>, Slickwater	8,712.0	2329.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	189,020.0	40/70

8, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
8,914.0	8	Proppant Laden Fluid	15#, Linear Gel	8,712.0	975.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	133,720.0	40/70

9, Flush

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
8,914.0	9	Flush	<fluidname>, Slickwater	8,712.0	197.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

Slickwater Frac on 9/24/2014 12:00 AM

Date	Type	Wellbore	Zone
9/24/2014	Slickwater Frac	Original Hole	PROPOSED, Original Hole

Stim/Treat Stages

1, Chemical Additives

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
8,663.0	1	Chemical Additives		8,462.0	

Stim/Treat Additives

Add	Type	Amount	Sand Size
Corrosion Inhibitor	A264	3.0	
Acid	Acid, Hydrochloric 7.5pct	3,040.0	
Anti-Bacterial Agent	EC6111A	75.0	
Scale Inhibitor	EC6486A	13.0	

Report Printed: 10/12/201

Regulatory Current Wellbore Schematic

MARK EDISON MSH 8H

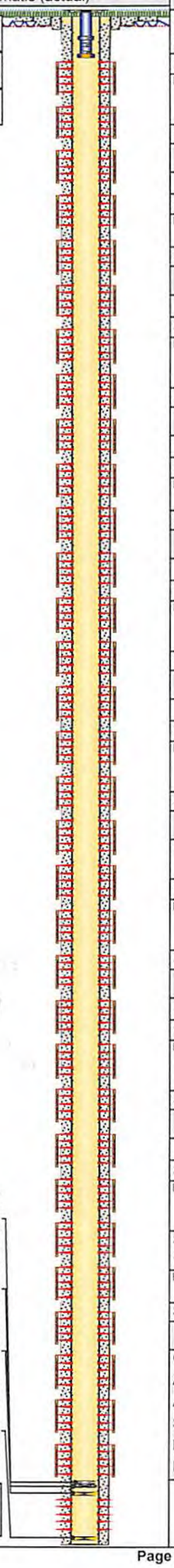
Chesapeake ENERGY

Field:
County: MARSHALL
State: WEST VIRGINIA
Elevation: GL 1,220.0 KB 1,242.0 KB Height: 22.0
Location: T/D UNION, Q-MOUNDSVILLE

Spud Date: 6/25/2014
Rig Release Date: 7/10/2014
Initial Compl. Date:
API #: 4705101692
CHK Property #: 837626
1st Gas Sales Date:
1st Oil Sales Date:
PBTD:
TD: 15,035.0

HORIZONTAL - Original Hole, 10/12/2017 3:48:55 PM

MD (ftKB)	Zones	Vertical schematic (actual)
		20 in; 94.00 lb/ft; K-55; 30.0-122.0 ftKB
6,650.9		13 3/8 in; 54.50 lb/ft; J-55; 25.6-794.0 ftKB
6,810.0		9 5/8 in; 40.00 lb/ft; J-55; 25.3-2,146.0 ftKB
7,009.8		
7,210.0		
7,437.0		
7,661.1		
7,861.9		
8,062.0		
8,263.1		
8,462.9		
8,690.0		
8,914.0		
9,113.8		
9,315.0		
9,515.1		
9,714.9		
9,941.9		
10,166.0		
10,367.1		
10,566.9		
10,768.0		
10,967.8		
11,194.9		
11,419.0		
11,619.1		
11,819.9		
12,020.0		
12,221.1		
12,446.9		
12,670.9		
12,872.0		
13,071.9		Bit Sub; 14,667.5-14,668.5 ftKB; 3.72 in;
13,273.0		pumped off hybrid tool/ production
13,473.1		Drill Bit; 14,668.5-14,669.0 ftKB; 4 5/8 in; Pumped off hybrid
13,700.1		tool/Production
13,923.9		Cast Iron Bridge Plug; 14,670.0-14,672.0 ftKB; 4.78 in; Stage 1
14,124.0		Cast Iron Bridge Plug; 14,900.0-14,902.0 ftKB; 4.78 in; Tri-States Wire Line set
14,325.1		CIBP above Toe Sleeve.
14,524.9		
14,669.9		5 1/2 in; 20.00 lb/ft; P110-HC; 30.0-15,035.0 ftKB
14,889.1		



Stim/Treat Additives

Add	Type	Amount	Sand Size
Friction Reducer	J609	207.0	
Iron Control Agent	L058	9.0	

2, Break Down

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
8,663.0	2	Break Down	<fluidname>, Slickwater	8,462.0	18.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

3, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
8,663.0	3	Acid Stage	7.5%, HCl Acid	8,462.0	36.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

4, Spacer

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
8,663.0	4	Spacer	<fluidname>, Slickwater	8,462.0	50.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

5, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
8,663.0	5	Acid Stage	7.5%, HCl Acid	8,462.0	35.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

6, Pad

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
8,663.0	6	Pad	<fluidname>, Slickwater	8,462.0	225.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

7, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
8,663.0	7	Proppant Laden Fluid	<fluidname>, Slickwater	8,462.0	2010.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	79,580.0	100 Mesh

8, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
8,663.0	8	Proppant Laden Fluid	<fluidname>, Slickwater	8,462.0	3449.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	322,000.0	40/70

9, Flush

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
8,663.0	9	Flush	<fluidname>, Slickwater	8,462.0	193.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

Slickwater Frac on 9/24/2014 12:00 AM

Date	Type	Wellbore	Zone
9/24/2014	Slickwater Frac	Original Hole	PROPOSED, Original Hole

Stim/Treat Stages

1, Chemical Additives

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
8,413.0	1	Chemical Additives		8,211.0	

Stim/Treat Additives

Add	Type	Amount	Sand Size
Corrosion Inhibitor	A264	3.0	
Acid	Acid, Hydrochloric 7.5pct	3,040.0	
Anti-Bacterial Agent	EC6111A	76.0	
Scale Inhibitor	EC6486A	13.0	
Friction Reducer	J609	175.0	
Iron Control Agent	L058	9.0	

Report Printed: 10/12/201

Regulatory Current Wellbore Schematic

MARK EDISON MSH 8H

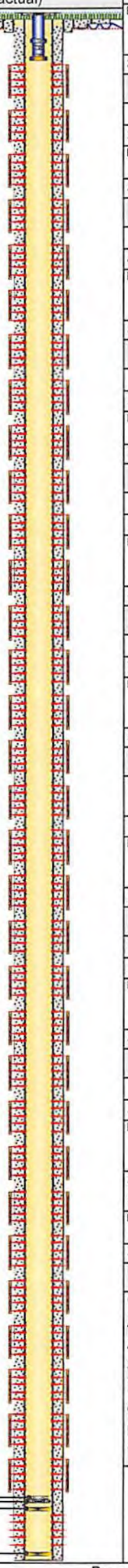
Chesapeake ENERGY

Field:
County: MARSHALL
State: WEST VIRGINIA
Elevation: GL 1,220.0 KB 1,242.0 KB Height: 22.0
Location: T/D UNION, Q-MOUNDSVILLE

Spud Date: 6/25/2014
Rig Release Date: 7/10/2014
Initial Compl. Date:
API #: 4705101692
CHK Property #: 837626
1st Gas Sales Date:
1st Oil Sales Date:
PBTD:
TD: 15,035.0

HORIZONTAL - Original Hole, 10/12/2017 3:48:56 PM

MD (ftKB)	Zones	Vertical schematic (actual)
6,650.9		20 in; 94.00 lb/ft; K-55; 30.0-122.0 ftKB
6,810.0		13 3/8 in; 54.50 lb/ft; J-55; 25.6-794.0 ftKB
7,009.8		9 5/8 in; 40.00 lb/ft; J-55; 25.3-2,146.0 ftKB
7,210.0		
7,437.0		
7,661.1		
7,861.9		
8,062.0		
8,263.1		
8,462.9		
8,690.0		
8,914.0		
9,113.8		
9,315.0		
9,515.1		
9,714.9		
9,941.9		
10,166.0		
10,367.1		
10,566.9		
10,768.0		
10,967.8		
11,194.9		
11,419.0		
11,619.1		
11,819.9		
12,020.0		
12,221.1		
12,446.9		
12,670.9		
12,872.0		
13,071.9		Bit Sub; 14,667.5-14,668.5 ftKB; 3.72 in; pumped off hybrid tool/ production
13,273.0		
13,473.1		Drill Bit; 14,668.5-14,669.0 ftKB; 4 5/8 in; Pumped off hybrid tool/Production
13,700.1		
13,923.9		Cast Iron Bridge Plug; 14,670.0-14,672.0 ftKB; 4.78 in; Stage 1
14,124.0		
14,325.1		Cast Iron Bridge Plug; 14,900.0-14,902.0 ftKB; 4.78 in; Tri-States Wire Line set
14,524.9		CIBP above Toe Sleeve.
14,669.9		5 1/2 in; 20.00 lb/ft; P110-HC; 30.0-15,035.0 ftKB
14,889.1		



Stim/Treat Stages

2, Break Down

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
8,413.0	2	Break Down	<fluidname>, Slickwater	8,211.0	13.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

3, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
8,413.0	3	Acid Stage	7.5%, HCl Acid	8,211.0	36.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

4, Spacer

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
8,413.0	4	Spacer	<fluidname>, Slickwater	8,211.0	50.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

5, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
8,413.0	5	Acid Stage	7.5%, HCl Acid	8,211.0	36.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

6, Pad

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
8,413.0	6	Pad	<fluidname>, Slickwater	8,211.0	238.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

7, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
8,413.0	7	Proppant Laden Fluid	<fluidname>, Slickwater	8,211.0	2047.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	82,420.0	100 Mesh

8, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
8,413.0	8	Proppant Laden Fluid	<fluidname>, Slickwater	8,211.0	3420.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	321,042.0	40/70

9, Flush

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
8,413.0	9	Flush	<fluidname>, Slickwater	8,211.0	191.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

Slickwater Frac on 9/24/2014 12:00 AM

Date	Type	Wellbore	Zone
9/24/2014	Slickwater Frac	Original Hole	PROPOSED, Original Hole

Stim/Treat Stages

1, Chemical Additives

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
8,161.0	1	Chemical Additives		7,961.0	

Stim/Treat Additives

Add	Type	Amount	Sand Size
Corrosion Inhibitor	A264	3.0	
Acid	Acid, Hydrochloric 7.5pct	2,917.0	
Anti-Bacterial Agent	EC6111A	74.0	
Scale Inhibitor	EC6486A	13.0	
Breaker	J218	44.0	
Gelling Agent	J580	903.0	
Friction Reducer	J609	194.0	
Iron Control Agent	L058	9.0	

Report Printed: 10/12/201

Regulatory Current Wellbore Schematic

MARK EDISON MSH 8H

Chesapeake ENERGY

Field:
County: MARSHALL
State: WEST VIRGINIA
Elevation: GL 1,220.0 KB 1,242.0 KB Height: 22.0
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CHK Property #: 837626
1st Gas Sales Date:
1st Oil Sales Date:
PBTD:
TD: 15,035.0

HORIZONTAL - Original Hole, 10/12/2017 3:48:56 PM

MD (ftKB)	Zones	Vertical schematic (actual)
6,650.9		20 in; 94.00 lb/ft; K-55; 30.0-122.0 ftKB
6,810.0		13 3/8 in; 54.50 lb/ft; J-55; 25.6-794.0 ftKB
7,009.8		9 5/8 in; 40.00 lb/ft; J-55; 25.3-2,146.0 ftKB
7,210.0		
7,437.0		
7,661.1		
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8,062.0		
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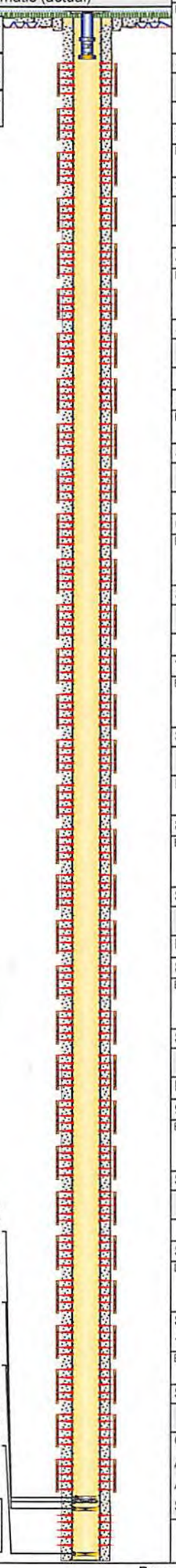
9,113.8		
9,315.0		
9,515.1		
9,714.9		
9,941.9		
10,166.0		
10,367.1		
10,566.9		
10,768.0		
10,967.8		
11,194.9		
11,419.0		
11,619.1		
11,819.9		
12,020.0		
12,221.1		
12,446.9		
12,670.9		
12,872.0		
13,071.9		Bit Sub; 14,667.5-14,668.5 ftKB; 3.72 in;
13,273.0		pumped off hybrid tool/ production
13,473.1		Drill Bit; 14,668.5-14,669.0 ftKB; 4 5/8 in; Pumped off hybrid
13,700.1		tool/Production
13,923.9		Cast Iron Bridge Plug; 14,670.0-14,672.0 ftKB; 4.78 in; Stage 1
14,124.0		Cast Iron Bridge Plug; 14,900.0-14,902.0
14,325.1		ftKB; 4.78 in; Tri-States Wire Line set
14,524.9		CIBP above Toe Sleeve.
14,669.9		5 1/2 in; 20.00 lb/ft; P110-HC; 30.0-15,035.0 ftKB
14,889.1		



Stim/Treat Stages

2, Break Down

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
8,161.0	2	Break Down	<fluidname>, Slickwater	7,961.0	15.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

3, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
8,161.0	3	Acid Stage	7.5%, HCl Acid	7,961.0	36.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

4, Spacer

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
8,161.0	4	Spacer	<fluidname>, Slickwater	7,961.0	33.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

5, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
8,161.0	5	Acid Stage	7.5%, HCl Acid	7,961.0	36.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

6, Pad

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
8,161.0	6	Pad	<fluidname>, Slickwater	7,961.0	210.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

7, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
8,161.0	7	Proppant Laden Fluid	<fluidname>, Slickwater	7,961.0	2035.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	77,860.0	100 Mesh

8, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
8,161.0	8	Proppant Laden Fluid	<fluidname>, Slickwater	7,961.0	2326.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	215,115.0	40/70

8, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
8,161.0	8	Proppant Laden Fluid	15#, Linear Gel	7,961.0	996.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	106,505.0	40/70

9, Flush

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
8,161.0	9	Flush	<fluidname>, Slickwater	7,961.0	184.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

Slickwater Frac on 9/24/2014 12:00 AM

Date	Type	Wellbore	Zone
9/24/2014	Slickwater Frac	Original Hole	PROPOSED, Original Hole

Stim/Treat Stages

1, Chemical Additives

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
7,912.0	1	Chemical Additives		7,710.0	

Stim/Treat Additives

Add	Type	Amount	Sand Size
Corrosion Inhibitor	A264	6.0	
Acid	Acid, Hydrochloric 7.5pct	6,170.0	
Anti-Bacterial Agent	EC6111A	112.0	
Scale Inhibitor	EC6486A	18.0	

Report Printed: 10/12/201

Regulatory Current Wellbore Schematic

MARK EDISON MSH 8H

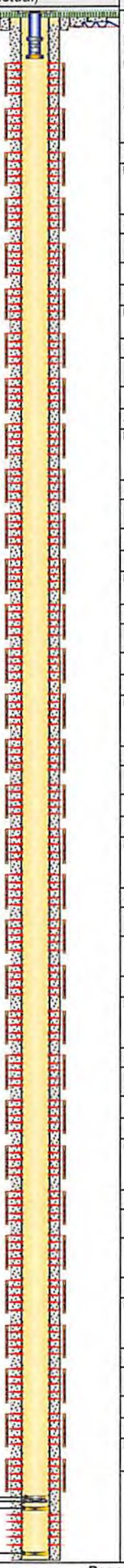
Chesapeake ENERGY

Field:
County: MARSHALL
State: WEST VIRGINIA
Elevation: GL 1,220.0 KB 1,242.0 KB Height: 22.0
Location: T/D UNION, Q-MOUNDSVILLE

Spud Date: 6/25/2014
Rig Release Date: 7/10/2014
Initial Compl. Date:
API #: 4705101692
CHK Property #: 837626
1st Gas Sales Date:
1st Oil Sales Date:
PBTD:
TD: 15,035.0

HORIZONTAL - Original Hole, 10/12/2017 3:48:57 PM

MD (ftKB)	Zones	Vertical schematic (actual)
6,650.9		20 in; 94.00 lb/ft; K-55; 30.0-122.0 ftKB
6,810.0		13 3/8 in; 54.50 lb/ft; J-55; 25.6-794.0 ftKB
7,009.8		9 5/8 in; 40.00 lb/ft; J-55; 25.3-2,146.0 ftKB
7,210.0		
7,437.0		
7,661.1		
7,861.9		
8,062.0		
8,263.1		
8,462.9		
8,690.0		
8,914.0		
9,113.8		
9,315.0		
9,515.1		
9,714.9		
9,941.9		
10,166.0		
10,367.1		
10,566.9		
10,768.0		
10,967.8		
11,194.9		
11,419.0		
11,619.1		
11,819.9		
12,020.0		
12,221.1		
12,446.9		
12,670.9		
12,872.0		
13,071.9		Bit Sub; 14,667.5-14,668.5 ftKB; 3.72 in;
13,273.0		pumped off hybrid tool/ production
13,473.1		Drill Bit; 14,668.5-14,669.0 ftKB; 4 5/8 in; Pumped off hybrid
13,700.1		tool/Production
13,923.9		Cast Iron Bridge Plug; 14,670.0-14,672.0 ftKB; 4.78 in; Stage 1
14,124.0		Cast Iron Bridge Plug; 14,900.0-14,902.0 ftKB; 4.78 in; Tri-States Wire Line set
14,325.1		CIBP above Toe Sleeve.
14,524.9		
14,669.9		5 1/2 in; 20.00 lb/ft; P110-HC; 30.0-15,035.0 ftKB
14,889.1		



Stim/Treat Additives

Add	Type	Amount	Sand Size
Breaker	J218	176.0	
Breaker	J475	55.0	
Gelling Agent	J580	5,190.0	
Friction Reducer	J609	101.0	
Cross Linker	J610	25.0	
Iron Control Agent	L058	18.0	

2, Break Down

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
7,912.0	2	Break Down	<fluidname>, Slickwater	7,710.0	15.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

3, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
7,912.0	3	Acid Stage	7.5%, HCl Acid	7,710.0	35.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

4, Spacer

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
7,912.0	4	Spacer	<fluidname>, Slickwater	7,710.0	36.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

5, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
7,912.0	5	Acid Stage	7.5%, HCl Acid	7,710.0	35.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

6, Pad

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
7,912.0	6	Pad	<fluidname>, Slickwater	7,710.0	876.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

7, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
7,912.0	7	Proppant Laden Fluid	<fluidname>, Slickwater	7,710.0	283.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	2,970.0	100 Mesh

7, Sweep

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
7,912.0	7	Sweep	<fluidname>, Slickwater	7,710.0	191.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

7, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
7,912.0	7	Proppant Laden Fluid	<fluidname>, Slickwater	7,710.0	261.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	2,740.0	100 Mesh

7, Sweep

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
7,912.0	7	Sweep	<fluidname>, Slickwater	7,710.0	295.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

7, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
7,912.0	7	Acid Stage	7.5%, HCl Acid	7,710.0	62.00

Report Printed: 10/12/201

Regulatory Current Wellbore Schematic

MARK EDISON MSH 8H

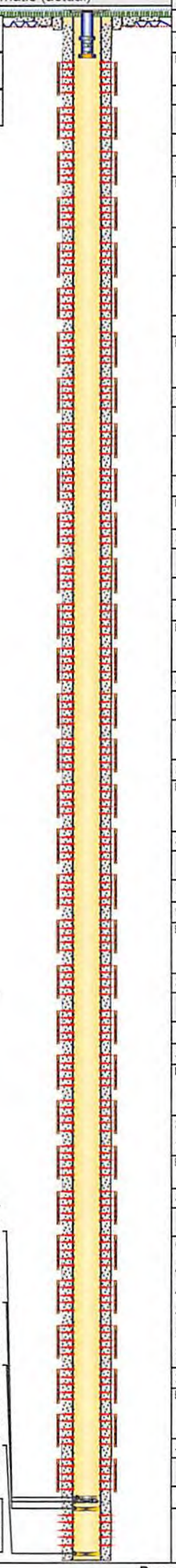
Chesapeake ENERGY

Field:
County: MARSHALL
State: WEST VIRGINIA
Elevation: GL 1,220.0 KB 1,242.0 KB Height: 22.0
Location: T/D UNION, Q-MOUNDSVILLE

Spud Date: 6/25/2014
Rig Release Date: 7/10/2014
Initial Compl. Date:
API #: 4705101692
CHK Property #: 837626
1st Gas Sales Date:
1st Oil Sales Date:
PBTD:
TD: 15,035.0

HORIZONTAL - Original Hole, 10/12/2017 3:48:58 PM

MD (ftKB)	Zones	Vertical schematic (actual)
6,650.9		20 in; 94.00 lb/ft; K-55; 30.0-122.0 ftKB
6,810.0		13 3/8 in; 54.50 lb/ft; J-55; 25.6-794.0 ftKB
7,009.8		9 5/8 in; 40.00 lb/ft; J-55; 25.3-2,146.0 ftKB
7,210.0		
7,437.0		
7,661.1		
7,861.9		
8,062.0		
8,263.1		
8,462.9		
8,690.0		
8,914.0		
9,113.8		
9,315.0		
9,515.1		
9,714.9		
9,941.9		
10,166.0		
10,367.1		
10,566.9		
10,768.0		
10,967.8		
11,194.9		
11,419.0		
11,619.1		
11,819.9		
12,020.0		
12,221.1		
12,446.9		
12,670.9		
12,872.0		
13,071.9		Bit Sub; 14,667.5-14,668.5 ftKB; 3.72 in;
13,273.0		pumped off hybrid tool/ production
13,473.1		Drill Bit; 14,668.5-14,669.0 ftKB; 4 5/8 in; Pumped off hybrid
13,700.1		tool/Production
13,923.9		Cast Iron Bridge Plug; 14,670.0-14,672.0 ftKB; 4.78 in; Stage 1
14,124.0		Cast Iron Bridge Plug; 14,900.0-14,902.0 ftKB; 4.78 in; Tri-
14,325.1		States Wire Line set
14,524.9		CIBP above Toe Sleeve.
14,669.9		5 1/2 in; 20.00 lb/ft; P110-HC; 30.0-15,035.0 ftKB
14,889.1		



Stim/Treat Additives

Add	Type	Amount	Sand Size

7, Pad

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
7,912.0	7	Pad	15#, Linear Gel	7,710.0	612.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

7, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
7,912.0	7	Proppant Laden Fluid	15#, Linear Gel	7,710.0	701.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	7,360.0	100 Mesh

7, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
7,912.0	7	Proppant Laden Fluid	15#, Crosslinked Gel	7,710.0	1185.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	45,014.0	100 Mesh

7, Sweep

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
7,912.0	7	Sweep	15#, Linear Gel	7,710.0	260.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

7, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
7,912.0	7	Proppant Laden Fluid	15#, Linear Gel	7,710.0	587.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	23,756.0	100 Mesh

8, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
7,912.0	8	Proppant Laden Fluid	15#, Linear Gel	7,710.0	3357.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	320,180.0	40/70

9, Flush

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
7,912.0	9	Flush	<fluidname>, Slickwater	7,710.0	175.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

Slickwater Frac on 9/25/2014 12:00 AM

Date	Type	Wellbore	Zone
9/25/2014	Slickwater Frac	Original Hole	PROPOSED, Original Hole

Stim/Treat Stages

1, Chemical Additives

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
7,661.0	1	Chemical Additives		7,460.0	

Stim/Treat Additives

Add	Type	Amount	Sand Size
Corrosion Inhibitor	A264	6.0	
Acid	Acid, Hydrochloric 7.5pct	3,081.0	
Anti-Bacterial Agent	EC6111A	90.0	
Scale Inhibitor	EC6486A	15.0	
Friction Reducer	J609	266.0	
Iron Control Agent	L058	18.0	

2, Break Down

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
7,661.0	2	Break Down	<fluidname>, Slickwater	7,460.0	11.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

Report Printed: 10/12/201

Regulatory Current Wellbore Schematic

MARK EDISON MSH 8H

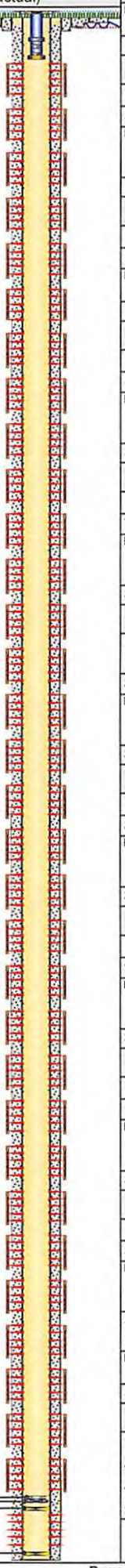
Chesapeake ENERGY

Field:
County: MARSHALL
State: WEST VIRGINIA
Elevation: GL 1,220.0 KB 1,242.0 KB Height: 22.0
Location: T/D UNION, Q-MOUNDSVILLE

Spud Date: 6/25/2014
Rig Release Date: 7/10/2014
Initial Compl. Date:
API #: 4705101692
CHK Property #: 837626
1st Gas Sales Date:
1st Oil Sales Date:
PBTD:
TD: 15,035.0

HORIZONTAL - Original Hole, 10/12/2017 3:48:58 PM

MD (ftKB)	Zones	Vertical schematic (actual)
6,650.9		20 in; 94.00 lb/ft; K-55; 30.0-122.0 ftKB
6,810.0		13 3/8 in; 54.50 lb/ft; J-55; 25.6-794.0 ftKB
7,009.8		9 5/8 in; 40.00 lb/ft; J-55; 25.3-2,146.0 ftKB
7,210.0		
7,437.0		
7,661.1		
7,861.9		
8,062.0		
8,263.1		
8,462.9		
8,690.0		
8,914.0		
9,113.8		
9,315.0		
9,515.1		
9,714.9		
9,941.9		
10,166.0		
10,367.1		
10,566.9		
10,768.0		
10,967.8		
11,194.9		
11,419.0		
11,619.1		
11,819.9		
12,020.0		
12,221.1		
12,446.9		
12,670.9		
12,872.0		
13,071.9		Bit Sub; 14,667.5-14,668.5 ftKB; 3.72 in;
13,273.0		pumped off hybrid tool/ production
13,473.1		Drill Bit; 14,668.5-14,669.0 ftKB; 4 5/8
13,700.1		in; Pumped off hybrid tool/Production
13,923.9		Cast Iron Bridge Plug; 14,670.0-14,672.0
14,124.0		ftKB; 4.78 in; Stage 1 Cast Iron Bridge Plug;
14,325.1		14,900.0-14,902.0 ftKB; 4.78 in; Tri-
14,524.9		States Wire Line set CIBP above Toe Sleeve.
14,669.9		5 1/2 in; 20.00 lb/ft; P110-HC; 30.0-
14,889.1		15,035.0 ftKB



Stim/Treat Stages

3, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
7,661.0	3	Acid Stage	7.5%, HCl Acid	7,460.0	36.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

4, Spacer

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
7,661.0	4	Spacer	<fluidname>, Slickwater	7,460.0	33.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

5, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
7,661.0	5	Acid Stage	7.5%, HCl Acid	7,460.0	36.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

6, Pad

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
7,661.0	6	Pad	<fluidname>, Slickwater	7,460.0	220.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

7, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
7,661.0	7	Proppant Laden Fluid	<fluidname>, Slickwater	7,460.0	2039.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	78,200.0	100 Mesh

8, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
7,661.0	8	Proppant Laden Fluid	<fluidname>, Slickwater	7,460.0	2730.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	248,976.0	40/70

8, Sweep

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
7,661.0	8	Sweep	<fluidname>, Slickwater	7,460.0	367.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

9, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
7,661.0	9	Proppant Laden Fluid	<fluidname>, Slickwater	7,460.0	1430.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	74,384.0	40/70

10, Flush

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
7,661.0	10	Flush	<fluidname>, Slickwater	7,460.0	203.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

Slickwater Frac on 9/25/2014 12:00 AM

Date	Type	Wellbore	Zone
9/25/2014	Slickwater Frac	Original Hole	PROPOSED, Original Hole

Stim/Treat Stages

1, Chemical Additives

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
7,411.0	1	Chemical Additives		7,209.0	

Stim/Treat Additives

Add	Type	Amount	Sand Size
Corrosion Inhibitor	A264	6.0	
Acid	Acid, Hydrochloric 7.5pct	3,287.0	
Anti-Bacterial Agent	EC6111A	85.0	
Scale Inhibitor	EC6486A	14.0	

Report Printed: 10/12/201

Regulatory Current Wellbore Schematic

MARK EDISON MSH 8H

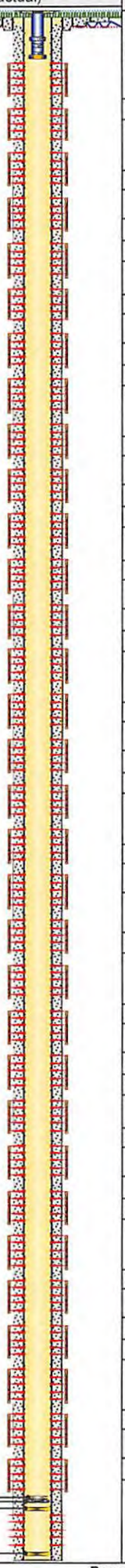
Chesapeake ENERGY

Field:
County: MARSHALL
State: WEST VIRGINIA
Elevation: GL 1,220.0 KB 1,242.0 KB Height: 22.0
Location: T/D UNION, Q-MOUNDSVILLE

Spud Date: 6/25/2014
Rig Release Date: 7/10/2014
Initial Compl. Date:
API #: 4705101692
CHK Property #: 837626
1st Gas Sales Date:
1st Oil Sales Date:
PBTD:
TD: 15,035.0

HORIZONTAL - Original Hole, 10/12/2017 3:48:59 PM

MD (ftKB)	Zones	Vertical schematic (actual)
		20 in; 94.00 lb/ft; K-55; 30.0-122.0 ftKB
6,650.9		13 3/8 in; 54.50 lb/ft; J-55; 25.6-794.0 ftKB
6,810.0		9 5/8 in; 40.00 lb/ft; J-55; 25.3-2,146.0 ftKB
7,009.8		
7,210.0		
7,437.0		
7,661.1		
7,861.9		
8,062.0		
8,263.1		
8,462.9		
8,690.0		
8,914.0		
9,113.8		
9,315.0		
9,515.1		
9,714.9		
9,941.9		
10,166.0		
10,367.1		
10,566.9		
10,768.0		
10,967.8		
11,194.9		
11,419.0		
11,619.1		
11,819.9		
12,020.0		
12,221.1		
12,446.9		
12,670.9		
12,872.0		
13,071.9		Bit Sub; 14,667.5-14,668.5 ftKB; 3.72 in; pumped off hybrid tool/ production
13,273.0		
13,473.1		Drill Bit; 14,668.5-14,669.0 ftKB; 4 5/8 in; Pumped off hybrid tool/Production
13,700.1		
13,923.9		Cast Iron Bridge Plug; 14,670.0-14,672.0 ftKB; 4.78 in; Stage 1
14,124.0		
14,325.1		Cast Iron Bridge Plug; 14,900.0-14,902.0 ftKB; 4.78 in; Tri-States Wire Line set CIBP above Toe Sleeve.
14,524.9		
14,669.9		5 1/2 in; 20.00 lb/ft; P110-HC; 30.0-15,035.0 ftKB
14,889.1		



Stim/Treat Additives

Add	Type	Amount	Sand Size
Breaker	J218	88.0	
Gelling Agent	J580	1,290.0	
Friction Reducer	J609	190.0	
Iron Control Agent	L058	18.0	

2, Break Down

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
7,411.0	2	Break Down	<fluidname>, Slickwater	7,209.0	15.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

3, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
7,411.0	3	Acid Stage	7.5%, HCl Acid	7,209.0	36.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

4, Spacer

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
7,411.0	4	Spacer	<fluidname>, Slickwater	7,209.0	36.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

5, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
7,411.0	5	Acid Stage	7.5%, HCl Acid	7,209.0	36.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

6, Pad

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
7,411.0	6	Pad	<fluidname>, Slickwater	7,209.0	229.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

7, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
7,411.0	7	Proppant Laden Fluid	<fluidname>, Slickwater	7,209.0	2034.0 0

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	78,360.0	100 Mesh

8, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
7,411.0	8	Proppant Laden Fluid	<fluidname>, Slickwater	7,209.0	2757.0 0

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	253,525.0	40/70

8, Sweep

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
7,411.0	8	Sweep	15#, Linear Gel	7,209.0	258.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

9, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
7,411.0	9	Proppant Laden Fluid	15#, Linear Gel	7,209.0	1131.0 0

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	68,835.0	40/70

10, Flush

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
7,411.0	10	Flush	<fluidname>, Slickwater	7,209.0	160.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

Report Printed: 10/12/201

Regulatory Current Wellbore Schematic

MARK EDISON MSH 8H

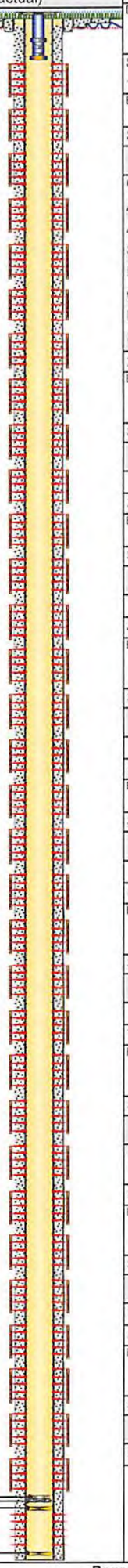
Chesapeake ENERGY

Field:
County: MARSHALL
State: WEST VIRGINIA
Elevation: GL 1,220.0 KB 1,242.0 KB Height: 22.0
Location: T/D UNION, Q-MOUNDSVILLE

Spud Date: 6/25/2014
Rig Release Date: 7/10/2014
Initial Compl. Date:
API #: 4705101692
CHK Property #: 837626
1st Gas Sales Date:
1st Oil Sales Date:
PBTD:
TD: 15,035.0

HORIZONTAL - Original Hole, 10/12/2017 3:49:00 PM

MD (ftKB)	Zones	Vertical schematic (actual)
6,650.9		20 in; 94.00 lb/ft; K-55; 30.0-122.0 ftKB
6,810.0		13 3/8 in; 54.50 lb/ft; J-55; 25.6-794.0 ftKB
7,009.8		9 5/8 in; 40.00 lb/ft; J-55; 25.3-2,146.0 ftKB
7,210.0		
7,437.0		
7,661.1		
7,861.9		
8,062.0		
8,263.1		
8,462.9		
8,690.0		
8,914.0		
9,113.8		
9,315.0		
9,515.1		
9,714.9		
9,941.9		
10,166.0		
10,367.1		
10,566.9		
10,768.0		
10,967.8		
11,194.9		
11,419.0		
11,619.1		
11,819.9		
12,020.0		
12,221.1		
12,446.9		
12,670.9		
12,872.0		
13,071.9		Bit Sub; 14,667.5-14,668.5 ftKB; 3.72 in;
13,273.0		pumped off hybrid tool/ production
13,473.1		Drill Bit; 14,668.5-14,669.0 ftKB; 4 5/8
13,700.1		in; Pumped off hybrid tool/Production
13,923.9		Cast Iron Bridge Plug; 14,670.0-14,672.0
14,124.0		ftKB; 4.78 in; Stage 1 Cast Iron Bridge Plug;
14,325.1		14,900.0-14,902.0 ftKB; 4.78 in; Tri-
14,524.9		States Wire Line set CIBP above Toe Sleeve.
14,669.9		5 1/2 in; 20.00 lb/ft; P110-HC; 30.0-
14,889.1		15,035.0 ftKB



Stimulations & Treatments

Slickwater Frac on 9/25/2014 12:00 AM

Date	Type	Wellbore	Zone
9/25/2014	Slickwater Frac	Original Hole	PROPOSED, Original Hole

Stim/Treat Stages

1, Chemical Additives

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
7,160.0	1	Chemical Additives		6,959.0	

Stim/Treat Additives

Add	Type	Amount	Sand Size
Corrosion Inhibitor	A264	3.0	
Acid	Acid, Hydrochloric 7.5pct	3,180.0	
Anti-Bacterial Agent	EC6111A	73.0	
Scale Inhibitor	EC6486A	12.0	
Breaker	J218	55.0	
Gelling Agent	J580	998.0	
Friction Reducer	J609	180.0	
Iron Control Agent	L058	9.0	

2, Break Down

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
7,160.0	2	Break Down	<fluidname>, Slickwater	6,959.0	14.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

3, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
7,160.0	3	Acid Stage	7.5%, HCl Acid	6,959.0	36.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

4, Spacer

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
7,160.0	4	Spacer	<fluidname>, Slickwater	6,959.0	34.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

5, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
7,160.0	5	Acid Stage	7.5%, HCl Acid	6,959.0	36.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

6, Pad

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
7,160.0	6	Pad	<fluidname>, Slickwater	6,959.0	251.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

7, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
7,160.0	7	Proppant Laden Fluid	<fluidname>, Slickwater	6,959.0	2033.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	80,040.0	100 Mesh

8, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
7,160.0	8	Proppant Laden Fluid	<fluidname>, Slickwater	6,959.0	1490.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	150,870.0	40/70

8, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
7,160.0	8	Proppant Laden Fluid	15#, Linear Gel	6,959.0	1712.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	163,830.0	40/70

Regulatory Current Wellbore Schematic

MARK EDISON MSH 8H

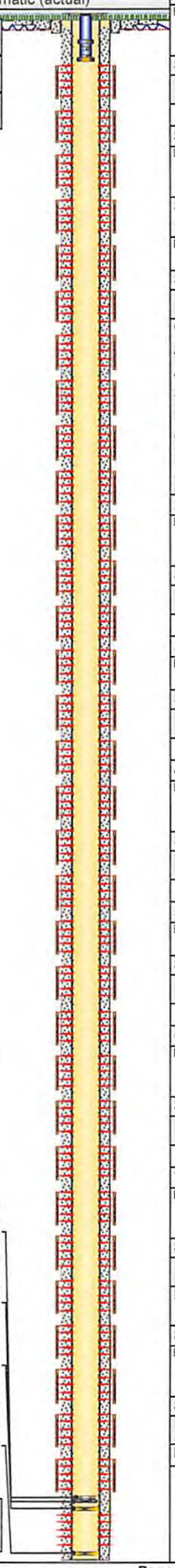
Chesapeake ENERGY

Field:
County: MARSHALL
State: WEST VIRGINIA
Elevation: GL 1,220.0 KB 1,242.0 KB Height: 22.0
Location: T/D UNION, Q-MOUNDSVILLE

Spud Date: 6/25/2014
Rig Release Date: 7/10/2014
Initial Compl. Date:
API #: 4705101692
CHK Property #: 837626
1st Gas Sales Date:
1st Oil Sales Date:
PBTD:
TD: 15,035.0

HORIZONTAL - Original Hole, 10/12/2017 3:49:00 PM

MD (ftKB)	Zones	Vertical schematic (actual)
6,650.9		20 in; 94.00 lb/ft; K-55; 30.0-122.0 ftKB
6,810.0		13 3/8 in; 54.50 lb/ft; J-55; 25.6-794.0 ftKB
7,009.8		9 5/8 in; 40.00 lb/ft; J-55; 25.3-2,146.0 ftKB
7,210.0		
7,437.0		
7,661.1		
7,861.9		
8,062.0		
8,263.1		
8,462.9		
8,690.0		
8,914.0		
9,113.8		
9,315.0		
9,515.1		
9,714.9		
9,941.9		
10,166.0		
10,367.1		
10,566.9		
10,768.0		
10,967.8		
11,194.9		
11,419.0		
11,619.1		
11,819.9		
12,020.0		
12,221.1		
12,446.9		
12,670.9		
12,872.0		
13,071.9		Bit Sub; 14,667.5-14,668.5 ftKB; 3.72 in;
13,273.0		pumped off hybrid tool/ production
13,473.1		Drill Bit; 14,668.5-14,669.0 ftKB; 4 5/8
13,700.1		in; Pumped off hybrid tool/Production
13,923.9		Cast Iron Bridge Plug; 14,670.0-14,672.0
14,124.0		ftKB; 4.78 in; Stage 1 Cast Iron Bridge Plug;
14,325.1		14,900.0-14,902.0 ftKB; 4.78 in; Tri-
14,524.9		States Wire Line set CIBP above Toe Sleeve.
14,669.9		5 1/2 in; 20.00 lb/ft; P110-HC; 30.0-
14,889.1		15,035.0 ftKB



OCT 16 2017

Stim/Treat Stages

9, Flush

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
7,160.0	9	Flush	<fluidname>, Slickwater	6,959.0	160.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

Slickwater Frac on 9/25/2014 12:00 AM

Date	Type	Wellbore	Zone
9/25/2014	Slickwater Frac	Original Hole	PROPOSED, Original Hole

Stim/Treat Stages

1, Chemical Additives

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
6,910.0	1	Chemical Additives		6,708.0	

Stim/Treat Additives

Add	Type	Amount	Sand Size
Corrosion Inhibitor	A264	3.0	
Acid	Acid, Hydrochloric 7.5pct	3,237.0	
Anti-Bacterial Agent	EC6111A	78.0	
Scale Inhibitor	EC6486A	13.0	
Breaker	J218	66.0	
Gelling Agent	J580	1,190.0	
Friction Reducer	J609	138.0	
Iron Control Agent	L058	9.0	

2, Break Down

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
6,910.0	2	Break Down	<fluidname>, Slickwater	6,708.0	16.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

3, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
6,910.0	3	Acid Stage	15%, HCl Acid	6,708.0	35.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

4, Spacer

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
6,910.0	4	Spacer	<fluidname>, Slickwater	6,708.0	36.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

5, Acid Stage

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
6,910.0	5	Acid Stage	15%, HCl Acid	6,708.0	35.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

6, Pad

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
6,910.0	6	Pad	<fluidname>, Slickwater	6,708.0	282.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

7, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
6,910.0	7	Proppant Laden Fluid	<fluidname>, Slickwater	6,708.0	2220.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	77,460.0	100 Mesh

8, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
6,910.0	8	Proppant Laden Fluid	<fluidname>, Slickwater	6,708.0	1494.00

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	128,310.0	40/70

Regulatory Current Wellbore Schematic

MARK EDISON MSH 8H

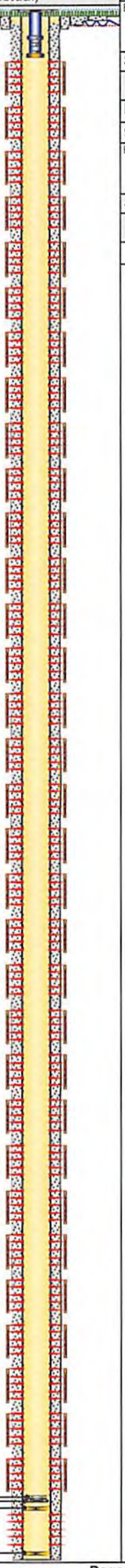
Chesapeake ENERGY

Field:
County: MARSHALL
State: WEST VIRGINIA
Elevation: GL 1,220.0 KB 1,242.0 KB Height: 22.0
Location: T/D UNION, Q-MOUNDSVILLE

Spud Date: 6/25/2014
Rig Release Date: 7/10/2014
Initial Compl. Date:
API #: 4705101692
CHK Property #: 837626
1st Gas Sales Date:
1st Oil Sales Date:
PBTD:
TD: 15,035.0

HORIZONTAL - Original Hole, 10/12/2017 3:49:01 PM

MD (ftKB)	Zones	Vertical schematic (actual)
6,650.9		20 in; 94.00 lb/ft; K-55; 30.0-122.0 ftKB
6,810.0		13 3/8 in; 54.50 lb/ft; J-55; 25.6-794.0 ftKB
7,009.8		9 5/8 in; 40.00 lb/ft; J-55; 25.3-2,146.0 ftKB
7,210.0		
7,437.0		
7,661.1		
7,861.9		
8,062.0		
8,263.1		
8,462.9		
8,690.0		
8,914.0		
9,113.8		
9,315.0		
9,515.1		
9,714.9		
9,941.9		
10,166.0		
10,367.1		
10,566.9		
10,768.0		
10,967.8		
11,194.9		
11,419.0		
11,619.1		
11,819.9		
12,020.0		
12,221.1		
12,446.9		
12,670.9		
12,872.0		
13,071.9		Bit Sub; 14,667.5-14,668.5 ftKB; 3.72 in;
13,273.0		pumped off hybrid tool/ production
13,473.1		Drill Bit; 14,668.5-14,669.0 ftKB; 4 5/8 in;
13,700.1		Pumped off hybrid tool/Production
13,923.9		Cast Iron Bridge Plug; 14,670.0-14,672.0 ftKB; 4.78 in; Stage 1
14,124.0		Cast Iron Bridge Plug; 14,900.0-14,902.0 ftKB; 4.78 in; Tri-States Wire Line set
14,325.1		CIBP above Toe Sleeve.
14,524.9		
14,669.9		5 1/2 in; 20.00 lb/ft; P110-HC; 30.0-15,035.0 ftKB
14,889.1		



Stim/Treat Stages

8, Proppant Laden Fluid

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
6,910.0	8	Proppant Laden Fluid	15#, Linear Gel	6,708.0	1970.0 0

Stim/Treat Additives

Add	Type	Amount	Sand Size
Proppant - Natural	Northern White Sand	209,370.0	40/70

9, Flush

Btm (ftKB)	Stg #	Stage Type	Stim/Treat Fluid	Top (ftKB)	Clean V...
6,910.0	9	Flush	<fluidname>, Slickwater	6,708.0	159.00

Stim/Treat Additives

Add	Type	Amount	Sand Size

Report Printed: 10/12/201

Company:	Chesapeake Operating, Inc	**Operator:**	Chris Gross
Lease / Well:	Mark Edison MSH 8H	**Job Number:**	SVPA-140250
County/Parish:	Marshall County	**Gyro Serial #:**	IS 173
State:	WV	**Proposed Direction:**	163.9
Date:	6/26/2014	**Mag. Declination:**	8.01 WEST GRID NORTH
API#:	47-5101692	**Rig/RKB:**	Nomac 337 22 ft.
Dir. Company:	WEATHERFORD	**Tie-in Company:**	NA
Latitude:	NA	**X:**	NA
Longitude	NA	**Y:**	NA

FIELD USE ONLY, DEFINITIVE SURVEY WILL COME FROM MS SURVEY OFFICES

TIE-IN Survey

Measured Depth (ft.)	Inclination	Azimuth Bearing	Vertical Depth	Coordinates (+N/-S)	(+E/-W)
0.00	0.00	0.00	0.00	0.00	0.00

Digital Multi-Shot Survey Report

Measured Depth (ft.)	Inclination	Azimuth Bearing	Vertical Depth	Vertical Section	Coordinates (+N/-S)	(+E/-W)	Dog-Leg / 100 ft.	Closure Distance	Closure Direction
100.00	0.13	205.81	100.00	0.08	-0.10	-0.05	0.13	0.11	205.81
200.00	0.07	215.52	200.00	0.21	-0.25	-0.13	0.06	0.29	207.87
300.00	0.05	202.56	300.00	0.28	-0.34	-0.19	0.02	0.39	208.47
400.00	0.11	47.67	400.00	0.27	-0.32	-0.13	0.16	0.35	202.48
500.00	0.20	75.10	500.00	0.23	-0.21	0.11	0.11	0.24	152.94
600.00	0.33	102.37	600.00	0.37	-0.23	0.56	0.18	0.60	112.16
655.00	0.35	117.04	655.00	0.56	-0.34	0.86	0.16	0.93	111.37
	0.00	0.00							

OCT 16 2017

SURVEY REPORT

Weatherford®

Report Date:	7/7/2014		
Customer:	Chesapeake	Field:	Marcellus Shale
Job Name:	4033287	Rig:	Nomac 337
Well Name:	Mark Edison MSH 8H	Rig Loc:	Marshall County,

Survey Calculation Method: **Minimum Curvature**

Magnetic Reference	Target Direction	Total Magnetic Field	Magnetic Dip Angle	Magnetic Declination	Grid Convergence	Total Correction
Grid North	**163.90 deg**	**53395 nT**	**67.13 deg**	**-8.69 deg**	**-0.73 deg**	**-7.96 deg**

Survey Tie-On	Depth	INC	AZ	TVD	NS	EW
	5700.00 ft	**0.83 deg**	**305.13 deg**	**5699.50 ft**	**8.64 ft**	**14.45 ft**

Depth (ft)	Inc (deg)	Azm (deg)	TVD (ft)	Well Head NS (ft)	EW (ft)	VSect (ft)	Dogleg (deg/100ft)
5723.00	0.88	213.77	5722.50	8.59	14.22	-4.31	5.32
5754.00	3.70	178.87	5753.47	7.39	14.10	-3.19	9.74
5784.00	7.21	171.87	5783.33	4.56	14.39	-0.39	11.89
5815.00	10.39	166.07	5813.96	-0.08	15.34	4.33	10.64
5846.00	13.17	163.44	5844.31	-6.18	17.02	10.66	9.13
5878.00	15.71	162.77	5875.29	-13.81	19.34	18.64	7.95
5909.00	19.03	163.85	5904.88	-22.68	21.99	27.89	10.76
5941.00	22.23	164.75	5934.82	-33.53	25.03	39.16	10.05
5970.00	25.22	164.36	5961.37	-44.78	28.14	50.83	10.32
6002.00	27.42	162.90	5990.05	-58.39	32.15	65.01	7.17
6033.00	29.84	161.65	6017.26	-72.53	36.67	79.86	8.04
6065.00	31.86	160.86	6044.73	-88.07	41.95	96.25	6.44
6096.00	33.79	161.21	6070.78	-103.96	47.41	113.03	6.26
6127.00	35.86	161.32	6096.22	-120.73	53.10	130.72	6.68
6159.00	38.80	161.41	6121.66	-139.11	59.30	150.10	9.19
6190.00	40.27	162.12	6145.57	-157.85	65.47	169.82	4.96
6222.00	41.01	162.34	6169.85	-177.70	71.83	190.65	2.36
6253.00	43.69	162.38	6192.76	-197.60	78.16	211.52	8.65
6284.00	46.40	162.75	6214.66	-218.53	84.73	233.45	8.78
6316.00	49.63	163.49	6236.07	-241.29	91.63	257.23	10.24
6347.00	52.60	164.36	6255.53	-264.47	98.31	281.36	9.83
6378.00	54.90	165.03	6273.85	-288.59	104.90	306.36	7.62
6410.00	57.57	164.63	6291.64	-314.26	111.86	332.95	8.41
6441.00	61.84	164.43	6307.27	-340.05	119.00	359.71	13.79
6471.00	65.60	164.48	6320.55	-365.96	126.21	386.61	12.53
6502.00	67.42	164.53	6332.91	-393.36	133.81	415.03	5.87
6534.00	68.94	164.75	6344.80	-422.00	141.67	444.74	4.79
6565.00	71.60	164.92	6355.27	-450.16	149.31	473.91	8.60
6597.00	74.52	165.54	6364.59	-479.76	157.11	504.51	9.31
6628.00	76.80	166.28	6372.27	-508.89	164.42	534.53	7.71
6660.00	79.44	166.17	6378.85	-539.30	171.87	565.81	8.26
6690.00	83.56	165.93	6383.29	-568.09	179.03	595.45	13.76
6721.00	88.18	165.30	6385.52	-598.03	186.71	626.35	15.04
6753.00	90.12	166.08	6385.99	-629.03	194.61	658.33	6.53
6784.00	90.51	164.54	6385.82	-659.02	202.48	689.32	5.12
6877.00	90.52	164.44	6384.99	-748.63	227.34	782.31	0.11
6971.00	92.10	164.55	6382.84	-839.18	252.46	876.28	1.68
7065.00	92.10	164.46	6379.39	-929.70	277.56	970.21	0.10
7159.00	91.35	164.34	6376.57	-1020.20	302.83	1064.16	0.81

OCT 15 2017

Depth (ft)	Inc (deg)	Azm (deg)	TVD (ft)	Well Head NS (ft)	EW (ft)	VSect (ft)	Dogleg (deg/100ft)
7254.00	90.94	163.04	6374.67	-1111.35	329.50	1159.14	1.43
7347.00	91.36	164.01	6372.80	-1200.52	355.87	1252.12	1.14
7442.00	88.20	163.57	6373.16	-1291.73	382.39	1347.11	3.36
7537.00	87.61	163.90	6376.64	-1382.86	408.97	1442.04	0.71
7632.00	91.92	164.60	6377.03	-1474.27	434.76	1537.02	4.60
7727.00	90.98	165.85	6374.62	-1566.10	458.97	1631.96	1.65
7822.00	89.28	166.07	6374.41	-1658.26	482.02	1726.89	1.80
7917.00	88.69	165.35	6376.09	-1750.30	505.46	1821.83	0.98
8008.00	88.39	165.15	6378.41	-1838.28	528.63	1912.77	0.40
8103.00	88.08	165.37	6381.34	-1930.11	552.79	2007.70	0.40
8198.00	91.45	166.80	6381.72	-2022.30	575.63	2102.62	3.85
8293.00	90.75	164.71	6379.90	-2114.36	599.00	2197.54	2.32
8388.00	90.35	163.83	6378.99	-2205.80	624.75	2292.54	1.02
8482.00	88.76	160.41	6379.72	-2295.24	653.61	2386.47	4.01
8577.00	88.16	160.26	6382.27	-2384.66	685.56	2481.25	0.65
8671.00	87.73	160.43	6385.64	-2473.13	717.16	2575.01	0.49
8766.00	90.31	164.06	6387.27	-2563.57	746.12	2669.93	4.69
8858.00	90.14	165.91	6386.91	-2652.42	769.95	2761.91	2.02
8952.00	89.02	165.68	6387.60	-2743.54	793.02	2855.86	1.22
9044.00	88.58	165.98	6389.52	-2832.73	815.53	2947.78	0.58
9139.00	90.35	164.96	6390.41	-2924.68	839.37	3042.74	2.15
9233.00	88.65	164.70	6391.23	-3015.40	863.96	3136.72	1.83
9328.00	90.17	167.68	6392.21	-3107.63	886.63	3231.62	3.52
9422.00	88.71	166.25	6393.13	-3199.20	907.83	3325.48	2.17
9516.00	89.16	165.98	6394.87	-3290.44	930.39	3419.39	0.56
9611.00	88.17	165.39	6397.09	-3382.46	953.87	3514.32	1.21
9705.00	86.61	162.66	6401.37	-3472.73	979.71	3608.21	3.34
9799.00	88.78	163.12	6405.15	-3562.49	1007.34	3702.11	2.36
9894.00	88.95	163.32	6407.03	-3653.43	1034.76	3797.09	0.28
9988.00	89.39	163.21	6408.39	-3743.43	1061.82	3891.07	0.48
10083.00	89.65	162.21	6409.19	-3834.14	1090.06	3986.05	1.09
10178.00	89.97	161.86	6409.50	-3924.50	1119.36	4081.00	0.50
10272.00	90.30	161.35	6409.28	-4013.70	1149.02	4174.92	0.65
10367.00	90.52	161.57	6408.60	-4103.77	1179.23	4269.83	0.33
10461.00	89.91	164.06	6408.25	-4193.56	1207.00	4363.81	2.73
10555.00	90.14	164.27	6408.21	-4284.00	1232.65	4457.81	0.33
10650.00	90.02	164.42	6408.08	-4375.47	1258.28	4552.80	0.20
10744.00	90.12	164.94	6407.96	-4466.13	1283.12	4646.79	0.56
10839.00	88.83	165.59	6408.83	-4558.00	1307.28	4741.76	1.52
10935.00	88.76	165.90	6410.85	-4651.02	1330.91	4837.69	0.33
11029.00	88.69	165.91	6412.94	-4742.17	1353.80	4931.61	0.08
11123.00	88.99	163.50	6414.85	-4832.82	1378.59	5025.57	2.58
11217.00	89.09	163.36	6416.42	-4922.90	1405.39	5119.56	0.18
11311.00	89.37	164.72	6417.68	-5013.27	1431.24	5213.54	1.48
11405.00	89.37	165.21	6418.72	-5104.04	1455.62	5307.52	0.52
11499.00	89.97	163.02	6419.26	-5194.45	1481.35	5401.51	2.42
11594.00	90.05	162.23	6419.24	-5285.11	1509.71	5496.49	0.84
11688.00	90.35	162.76	6418.91	-5374.76	1537.99	5590.46	0.65
11783.00	89.56	161.71	6418.99	-5465.22	1566.97	5685.42	1.38
11878.00	89.42	161.11	6419.83	-5555.26	1597.26	5780.32	0.65
11973.00	90.10	162.88	6420.23	-5645.61	1626.62	5875.27	2.00
12068.00	90.17	162.56	6420.01	-5736.32	1654.84	5970.25	0.34
12162.00	88.92	159.96	6420.75	-5825.32	1685.03	6064.13	3.07

Depth (ft)	Inc (deg)	Azm (deg)	TVD (ft)	Well Head NS (ft)	EW (ft)	VSect (ft)	Dogleg (deg/100ft)
12256.00	89.63	163.36	6421.94	-5914.53	1714.61	6158.04	3.69
12350.00	89.79	162.92	6422.42	-6004.49	1741.87	6252.03	0.50
12445.00	89.77	163.51	6422.78	-6095.44	1769.30	6347.02	0.62
12540.00	88.92	164.13	6423.87	-6186.67	1795.77	6442.01	1.11
12635.00	88.99	164.10	6425.60	-6278.02	1821.77	6537.00	0.08
12729.00	89.18	164.30	6427.10	-6368.46	1847.36	6630.98	0.29
12823.00	89.37	164.63	6428.29	-6459.02	1872.53	6724.97	0.41
12918.00	89.77	164.91	6429.01	-6550.68	1897.49	6819.96	0.51
13012.00	90.38	165.38	6428.88	-6641.54	1921.59	6913.94	0.82
13107.00	90.87	165.71	6427.85	-6733.52	1945.30	7008.89	0.62
13200.00	91.08	166.25	6426.27	-6823.74	1967.83	7101.82	0.62
13294.00	90.80	164.42	6424.72	-6914.66	1991.62	7195.77	1.97
13389.00	90.94	164.39	6423.28	-7006.15	2017.16	7290.75	0.15
13482.00	89.93	163.97	6422.57	-7095.63	2042.51	7383.75	1.18
13577.00	90.09	164.18	6422.56	-7186.98	2068.58	7478.75	0.28
13671.00	88.34	163.71	6423.85	-7277.30	2094.57	7572.74	1.93
13765.00	88.79	162.36	6426.20	-7367.18	2121.99	7666.69	1.51
13859.00	89.28	164.38	6427.78	-7457.23	2148.88	7760.67	2.21
13953.00	89.53	164.68	6428.76	-7547.82	2173.96	7854.66	0.42
14048.00	90.42	165.18	6428.80	-7639.55	2198.66	7949.64	1.07
14141.00	90.07	163.03	6428.40	-7728.99	2224.12	8042.64	2.34
14235.00	90.30	163.16	6428.10	-7818.93	2251.46	8136.63	0.28
14329.00	88.67	163.42	6428.94	-7908.95	2278.48	8230.61	1.76
14423.00	89.18	163.76	6430.71	-7999.11	2305.03	8324.60	0.65
14518.00	89.79	164.37	6431.56	-8090.45	2331.12	8419.59	0.91
14612.00	89.23	163.38	6432.37	-8180.75	2357.22	8513.59	1.21
14706.00	90.52	164.69	6432.57	-8271.12	2383.07	8607.58	1.96
14799.00	91.45	165.10	6430.97	-8360.89	2407.31	8700.55	1.09
14894.00	89.04	164.48	6430.57	-8452.56	2432.23	8795.53	2.62
14978.00	89.72	165.01	6431.47	-8533.59	2454.33	8879.52	1.03
Projected to Total Depth:							
15035.00	89.72	165.01	6431.75	-8588.65	2469.07	8936.51	0.00

Vertical Section is 8936.51 ft along the target direction of 163.90 deg at a measured depth of 15035.00 ft.
Horizontal Displacement is 8936.51 ft along the well bore azimuth of 163.96 deg.
The total correction is -7.96 deg relative to Grid North.

Hydraulic Fracturing Fluid Product Component Information Disclosure

Fracture Date:	9/15/2014
State:	WEST VIRGINIA
County:	MARSHALL
API Number:	4705101692
Operator Name:	CHESAPEAKE APPALACHIA LLC
Well Name and Number:	MARK EDISON MSH 8H
Longitude:	-80.649871
Latitude:	39.976118
Long/Lat Projection:	NAD27
Production Type:	GAS
True Vertical Depth (TVD):	6,433
Total Water Volume (gal)*:	8,842,386

Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by Mass)**	Maximum Ingredient Concentration in HF Fluid (% by Mass)**	Comments
Fresh Water	CHESAPEAKE ENERGY	Carrier/Base Fluid	Water	007732-18-5	100.00%	84.18666%	
EC6111A	NALCO	Anti-Bacterial Agent	Glutaraldehyde (Pentanediol)	000111-30-8	30.00%	0.00777%	
EC6486A	NALCO	Scale Inhibitor	Ethylene Glycol	000107-21-1	30.00%	0.00157%	
			Proprietary Amine Triphosphate	TRADE SECRET	30.00%	0.00157%	
A264, J218, J475, J580, J609, J610, L058, Acid, Hydrochloric 15pct, Acid, Hydrochloric 7.5pct, Northern White Sand, 100 Mesh Sand	SCHLUMBERGER	Breaker, Corrosion Inhibitor, Cross Linker, Friction Reducer, Gelling Agent, Iron Control Agent, Acid, Proppant - Natural	Crystalline silica	14808-60-7	98.41180%	15.22291%	
			Hydrochloric acid	7647-01-0	1.03427%	0.15999%	
			Guar gum	9000-30-0	0.35998%	0.05568%	

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			Ammonium sulfate	7783-20-2	0.08427%	0.01304%	
			Acrylamide, 2-acrylamido-2-methylpropanesulfonic acid, sodium salt polymer	38193-60-1	0.06220%	0.00962%	
			Diammonium peroxidisulphate	7727-54-0	0.01790%	0.00277%	
			Polymer of 2-acrylamido-2-methylpropanesulfonic acid sodium salt and methyl acrylate	136793-29-8	0.00666%	0.00103%	
			Urea	57-13-6	0.00409%	0.00063%	
			Sodium erythorbate	6381-77-7	0.00398%	0.00062%	
			Methanol	67-56-1	0.00344%	0.00053%	
			Fatty acids, tall-oil	61790-12-3	0.00240%	0.00037%	
			Thiourea, polymer with formaldehyde and 1-phenylethanone	68527-49-1	0.00198%	0.00031%	
			Non-crystalline silica (impurity)	7631-86-9	0.00175%	0.00027%	
			Potassium borate	1332-77-0	0.00098%	0.00015%	
			Sodium sulfate	7757-82-6	0.00095%	0.00015%	

Hydraulic Fracturing Fluid Product Component Information Disclosure

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Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by Mass)**	Maximum Ingredient Concentration in HF Fluid (% by Mass)**	Comments
			Alcohols, C14-15, ethoxylated (7EO)	68951-67-7	0.00094%	0.00015%	
			Prop-2-yn-1-ol	107-19-7	0.00063%	0.00010%	
			Potassium hydroxide	1310-58-3	0.00036%	0.00006%	
			Glycerol	56-81-5	0.00032%	0.00005%	
			Hexadec-1-ene	629-73-2	0.00021%	0.00003%	
			2-propenamid	79-06-1	0.00020%	0.00003%	
			Tetrasodium ethylenediaminetetraacetate	64-02-8	0.00011%	0.00002%	
			1-Octadecene (C18)	112-88-9	0.00010%	0.00002%	
			Vinylidene chloride/methylacrylate copolymer	25038-72-6	0.00007%	0.00001%	
			Dimethyl siloxanes and silicones	63148-62-9	0.00006%	0.00001%	
			Formaldehyde	50-00-0	0.00001%	< 0.00001%	
			Siloxanes and Silicones, di-Me, reaction products with silica	67762-90-7	0.00001%	< 0.00001%	
			Octamethylcyclotetrasiloxane	556-67-2	0.00001%	< 0.00001%	
			Decamethyl cyclopentasiloxane	541-02-6	< 0.00001%	< 0.00001%	

Hydraulic Fracturing Fluid Product Component Information Disclosure

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Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by Mass)**	Maximum Ingredient Concentration in HF Fluid (% by Mass)**	Comments
			Copper(II) sulfate	7758-98-7	< 0.00001%	< 0.00001%	
			Dodecamethylcyclohexasiloxane	540-97-6	< 0.00001%	< 0.00001%	
			Magnesium silicate hydrate (talc)	14807-96-6	< 0.00001%	< 0.00001%	
			poly(tetrafluoroethylene)	9002-84-0	< 0.00001%	< 0.00001%	
Additional Ingredients Not Listed on MSDS							
EC6111A, EC6486A	NALCO	Anti-Bacterial Agent, Scale Inhibitor	Diethylene Glycol	000111-46-6		0.00006%	
			Proprietary Organic Acid Derivatives	TRADE SECRET		0.00183%	
			Water	007732-18-5		0.03097%	

* Total Water Volume sources may include fresh water, produced water, and/or recycled water
** Information is based on the maximum potential for concentration and thus the total may be over 100%

Hydraulic Fracturing Fluid Product Component Information Disclosure

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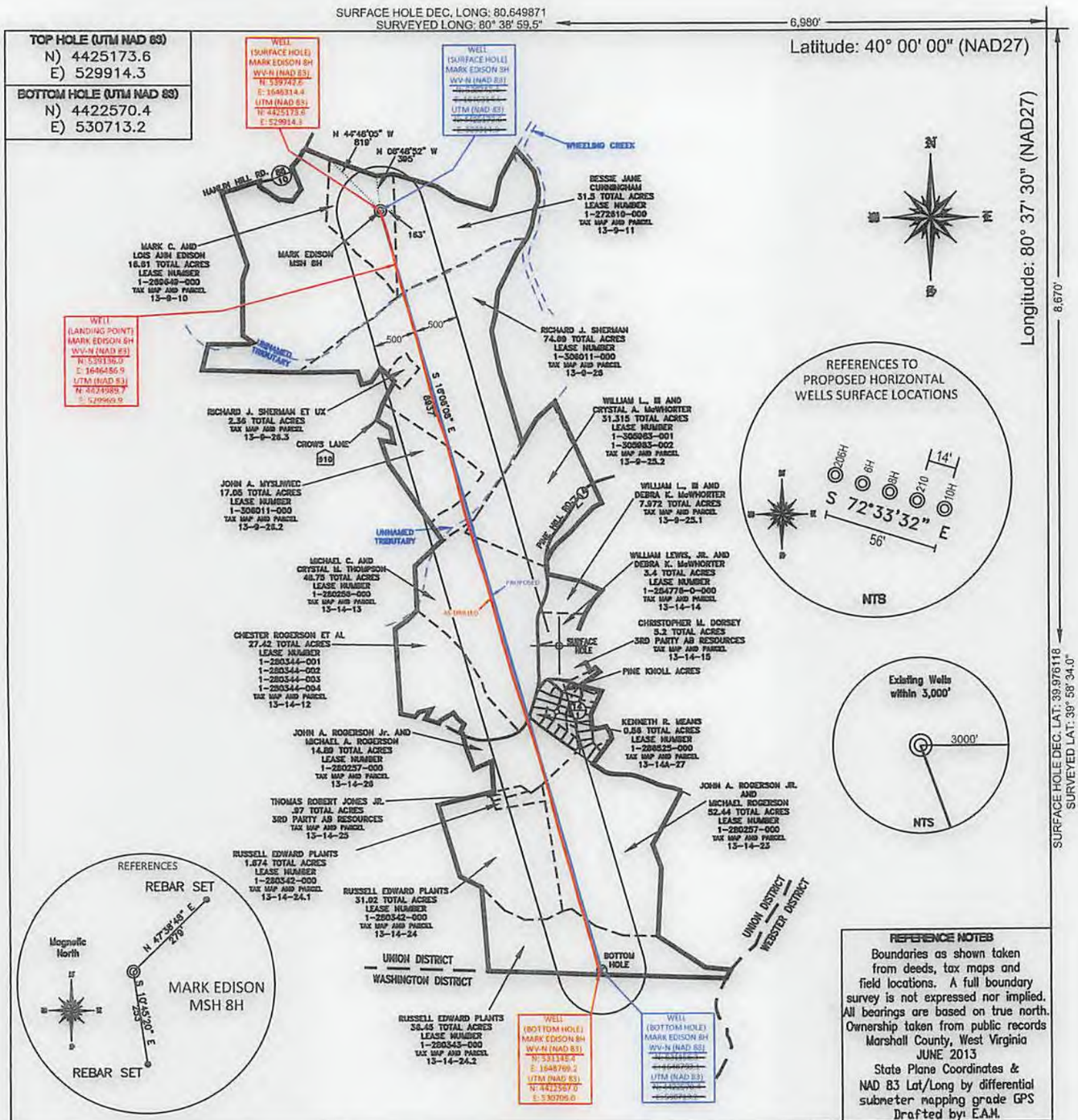
Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by Mass)**	Maximum Ingredient Concentration in HF Fluid (% by Mass)**	Comments

"Additional Ingredients Not Listed on MSDS" component information were obtained directly from the supplier. As such, the Operator is not responsible for inaccurate and/or incomplete information. Any questions regarding the content of this information should be directed to the supplier who provided it.



REFERENCE NOTES

Boundaries as shown taken from deeds, tax maps and field locations. A full boundary survey is not expressed nor implied. All bearings are based on true north. Ownership taken from public records Marshall County, West Virginia JUNE 2013

State Plane Coordinates & NAD 83 Lat/Long by differential submeter mapping grade GPS Drafted by: E.A.M.

FILE #: CHE 116

DRAWING #: 2267

SCALE: PLAT – 1" = 1600' TICK MARK – 1" = 2000'

MINIMUM DEGREE OF ACCURACY: 1/200

PROVEN SOURCE OF ELEVATION: SUBMETER MAPPING GRADE GPS

I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

Signed: _____

L.L.S. #2124 : Ernest J. Benchek III

ERNEST J. BENCHEK III LICENSED No. 2124 STATE OF WEST VIRGINIA PROFESSIONAL SURVEYOR

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

WVDEP
OFFICE OF OIL & GAS
601 57TH STREET
CHARLESTON, WV 25304

DATE: OCTOBER 4, 2017

OPERATOR'S WELL #: MARK EDISON MSH 8H

API WELL #: 47 (STATE) 51 (COUNTY) ____ (PERMIT)

Well Type: ☐ Oil ☐ Waste Diposal ☐ Production ☐ Deep
☒ Gas ☐ Liquid Injection ☐ Storage ☒ Shallow

WATERSHED: WHEELING CREEK

ELEVATION: 1220'

COUNTY/DISTRICT: MARSHALL COUNTY / UNION DISTRICT

QUADRANGLE: MOUNDSVILLE, WV

SURFACE OWNER: MARK C. AND LOIS ANN EDISON

ACREAGE: 16.61 +/–

OIL & GAS ROYALTY OWNER: MARK C. AND LOIS ANN EDISON

ACREAGE: 323.695 +/–

LEASE NUMBERS: _____

DRILL ☒ CONVERT ☐ DRILL DEEPER ☐ REDRILL ☐ FRACTURE OR STIMULATE ☒
PLUG OFF FORMATION ☐ PERFORATE NEW FORMATION ☐ PLUG & ABANDON ☐
CLEAN OUT & REPLUG ☐ OTHER CHANGE ☐ (SPECIFY): _____

TARGET FORMATION: MARCELLUS

ESTIMATED DEPTH: TVD: 6,431.75' TMD: 15,035'

WELL OPERATOR: CHESAPEAKE APPALACHIA, LLC

DESIGNATED AGENT: JODY JONES

ADDRESS: PO BOX 18496

ADDRESS: 2321 ENERGY DRIVE

CITY: OKLAHOMA CITY STATE: OK ZIP CODE: 73154-0496

CITY: LOUISVILLE STATE: OH ZIP CODE: 44641

SURFACE HOLE DEC. LONG: 80.649871
SURVEYED LONG: 80° 38' 59.5"

6,980'

Latitude: 40° 00' 00" (NAD27)

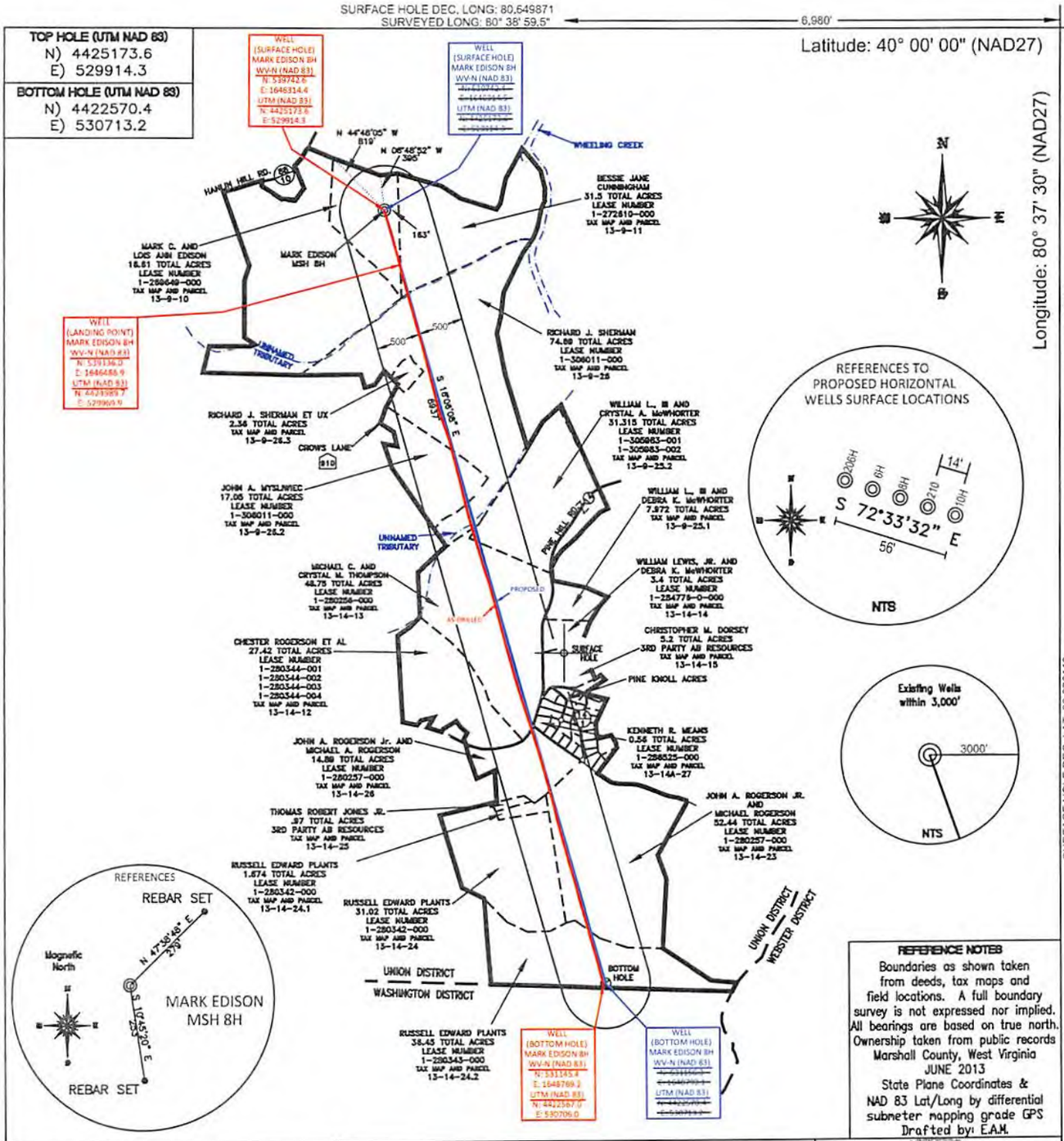
Longitude: 80° 37' 30" (NAD27)

8,670'

SURFACE HOLE DEC. LAT: 39.976118
SURVEYED LAT: 39° 58' 34.0"

TOP HOLE (UTM NAD 83)
N) 4425173.6
E) 529914.3

BOTTOM HOLE (UTM NAD 83)
N) 4422570.4
E) 530713.2



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State Plane Coordinates & NAD 83 Lat/Long by differential submeter mapping grade GPS
Drafted by: E.A.M.

FILE #: CHE 116
DRAWING #: 2267
SCALE: PLAT - 1" = 1600' TICK MARK - 1" = 2000'
MINIMUM DEGREE OF ACCURACY: 1/200
PROVEN SOURCE OF ELEVATION: SUBMETER MAPPING GRADE GPS

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DATE: OCTOBER 4, 2017

OPERATOR'S WELL #: MARK EDISON MSH 8H

API WELL #: 47 (STATE) 51 (COUNTY) ____ (PERMIT)

Well Type: ☐ Oil ☐ Waste Diposal ☐ Production ☐ Deep
☒ Gas ☐ Liquid Injection ☐ Storage ☒ Shallow

WATERSHED: WHEELING CREEK
ELEVATION: 1220'
COUNTY/DISTRICT: MARSHALL COUNTY / UNION DISTRICT
QUADRANGLE: MOUNDSVILLE, WV
SURFACE OWNER: MARK C. AND LOIS ANN EDISON
ACREAGE: 16.61 +/-
OIL & GAS ROYALTY OWNER: MARK C. AND LOIS ANN EDISON
ACREAGE: 323.695 +/-
LEASE NUMBERS:

DRILL ☒ CONVERT ☐ DRILL DEEPER ☐ REDRILL ☐ FRACTURE OR STIMULATE ☒
PLUG OFF FORMATION ☐ PERFORATE NEW FORMATION ☐ PLUG & ABANDON ☐
CLEAN OUT & REPLUG ☐ OTHER CHANGE ☐ (SPECIFY):

TARGET FORMATION: MARCELLUS
ESTIMATED DEPTH: TVD: 6,431.75' TMD: 15,035'
WELL OPERATOR: CHESAPEAKE APPALACHIA, LLC
DESIGNATED AGENT: JODY JONES
ADDRESS: PO BOX 18496
ADDRESS: 2321 ENERGY DRIVE
CITY: OKLAHOMA CITY STATE: OK ZIP CODE: 73154-0496
CITY: LOUISVILLE STATE: OH ZIP CODE: 44641