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WV GEOLOGICAL SURVEY
MORGANTOWN, WV

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

API 47 - 061 - 01673 County Monongalia District Clay
Quad Blacksville, WV Pad Name Yost Field/Pool Name Blacksville
Farm name Yost Heritage Inc. Well Number 3H
Operator (as registered with the OOG) Northeast Natural Energy LLC
Address 707 Virginia St. Suite 1200 City Charleston State WV Zip 25301

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4388287.5 Easting 567091.7
Landing Point of Curve Northing 4388347.7 Easting 567038.7
Bottom Hole Northing 4390172.4 Easting 565725.6

Elevation (ft) 1,492' 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)

Synthetic Based Mud for horizontal section -BIO-BASE 365, CALCIUM CHLORIDE POWDER, G-SEAL PLUS, HRP, LIME, M-I WATE (BARITE), M-I-X II MEDIUM,
MEGADRIL P SYSTEM, MEGADRIL P SYSTEM RENTAL, MEGAMUL, SAFE-CARB 250, VERSATHIN HF, VERSAWET, VG-PLUS, VINSEAL MEDIUM, WALNUT NUT PLUG MEDIUM

Date permit issued 5-27-2014 Date drilling commenced 9-4-2014 Date drilling ceased 1-1-2015
Date completion activities began 3-7-2015 Date completion activities ceased 4-6-2015
Verbal plugging (Y/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 1,378' Open mine(s) (Y/N) depths N
Salt water depth(s) ft 2,410' Void(s) encountered (Y/N) depths N
Coal depth(s) ft 320' , 712' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed by:

WR-35
Rev. 8/23/13

API 47-061 - 01673 Farm name Yost Heritage Inc. Well number 3H

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	30	24	50'	N	N/A	N/A	Y- grouted back to surface
Surface	17.5	13 3/8	1,450'	N	54.5	N/A	N- grouted back to surface
Coal							
Intermediate 1	12.25	9 5/8	2,638'	N	40	N/A	Y to 18 bbls
Intermediate 2							
Intermediate 3							
Production	8.5	5.5	16,052'	N	20	N/A	Estimated top @ 2000'
Tubing	4.771	2.875	8,493'	N	6.5	N/A	
Packer type and depth set		No packer set					

Comment Details A good cement return was not seen at surface during the surface casing cement job. The inspector was contacted and a top off job was successfully performed to get cement to surface.

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	4,500 psi ready mix	36.4		.75	27.27	CTS	48
Surface	Class A	1,104	15.2	1.27	1,271	CTS	8
Coal							
Intermediate 1	Class A	852	15.2	1.26	1,074	CTS	8
Intermediate 2							
Intermediate 3							
Production	50/50 Premium NE -1.3% R-3.3% MPA170	3,343	14.5	1.17	2,661	CTS	48
Tubing							

Drillers TD (ft) Pilot: 8,488'; Horizontal: 16,074' Loggers TD (ft) Pilot: 8,458'; Horizontal: 16,052'

Deepest formation penetrated Pilot: Oriskany; Horizontal: Marcellus Plug back to (ft) 6,575'

Plug back procedure Plugged Back Pilot Hole with Solid Cement to 6,575'. Please see attached cement report.

Kick off depth (ft) 6,743'

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: bow spring centralizers every 3rd joint or aprox 120'

Intermediate: bow spring centralizers every 3rd joint or aprox 120'

Production: Hard bodied spiral centralizers every other joint or aprox 80' from TD to KOP then bow spring from KOP to 9 5/8" every forth joint or aprox 140'

WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS Completed in a multi-stage plug-and-perforate manner.
(See Attached Details).

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

WERE TRACERS USED Yes No TYPE OF TRACER(S) USED _____

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Farm name Yost Heritage Inc.

Well number 3H

PERFORATION RECORD

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

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)

Please insert additional pages as applicable.

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**WV GEOLOGICAL SURVEY
MORGANTOWN, WV**

API 47-061-01673 Farm name Yost Heritage Inc. Well number 3H

PRODUCING FORMATION(S)	DEPTHS			
Marcellus Shale	8,280'	TVD	16,052'	MD

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 4615 psi Bottom Hole _____ psi DURATION OF TEST 48 hrs

OPEN FLOW Gas Oil NGL Water GAS MEASURED BY
6672 mcfpd _____ bpd _____ bpd _____ bpd Estimated Orifice Pilot

LITHOLOGY/ FORMATION	TOP	BOTTOM	TOP	BOTTOM	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H ₂ S, ETC)
	DEPTH IN FT NAME TVD	DEPTH IN FT TVD	DEPTH IN FT MD	DEPTH IN FT MD	
	0		0		* Please See Attached

Please insert additional pages as applicable.

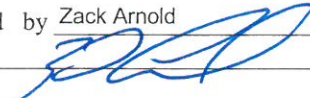
Drilling Contractor Pioneer 63
Address 1250 NE Loop 410 Suite 1000 City San Antonio State TX Zip 78209

Logging Company Baker Hughes
Address 837 Philippi Pike City Clarksburg State WV Zip 26301

Cementing Company Baker Hughes
Address 837 Philippi Pike City Clarksburg State WV Zip 26301

Stimulating Company Schlumberger
Address 1080 US-33 City Weston State WV Zip 26452

Please insert additional pages as applicable.

Completed by Zack Arnold Telephone 304.241.5752 Ext. 7105
Signature  Title General Manager - Operations Date 8-4-2015

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WV GEOLOGICAL SURVEY
MORGANTOWN, WV

CEMENT JOB REPORT



CUSTOMER NORTHEAST NATURAL ENER	DATE 07-SEP-14	F.R. # 10011097198	SERV. SUPV. Jason H Matherly
LEASE & WELL NAME YOST 3H - API 47061016730000	LOCATION DAYBROOK	COUNTY-PARISH-BLOCK Monongalia West Virginia	
DISTRICT Clarksburg	DRILLING CONTRACTOR RIG # PERFORMANCE 1	TYPE OF JOB Surface	

SIZE & TYPE OF PLUGS	LIST-CSG-HARDWARE	MECHANICAL BARRIERS	MD	TVD	HANGER TYPES	MD	TVD
BJ Cement Plug, Rubber, Top 13-3/8	Guide Shoe, Cement Nose 13-3/8 i						

MATERIALS FURNISHED BY BJ	LAB REPORT NO.	PHYSICAL SLURRY PROPERTIES						
		SACKS OF CEMENT	SLURRY WGT PPG	SLURRY YLD FT	WATER GPS	PUMP TIME HR:MIN	Bbl SLURRY	Bbl MIX WATER
WATER AHEAD		0	8.34	0	0	00:00	200	
GEL/FLAKE		0	8.56	0	0	00:00	25	
H2O		0	8.34	0	0	00:00	10	
PNE-1 2% CAL2 /FLAKE ON SIDE		1,104	15.2	1.27	5.77	03:30	249.7	151.66
H2O		0	8.34	0	0	00:00	217	
250# SUGAR		0	0	0	0	00:00	0	
300# FLAKE		0	0	0	0	00:00	0	
1 13.375 TRP		0	0	0	0	00:00	0	

Available Mix Water 500 Bbl. Available Displ. Fluid 500 Bbl. TOTAL 701.7 151.66

HOLE			TBG-CSG-D.P.						COLLAR DEPTHS			
SIZE	% EXCESS	DEPTH	ID	OD	WGT.	TYPE	MD	TVD	GRADE	SHOE	FLOAT	STAGE
17.5	30	1480	12.62	13.38	54.5	CSG	1450	1450	J-55	1450	1404	

LAST CASING				PKR-CMT RET-BR PL-LINER				PERF. DEPTH			TOP CONN		WELL FLUID	
ID	OD	WGT	TYPE	MD	TVD	BRAND & TYPE	DEPTH	TOP	BTM	SIZE	THREAD	TYPE	WGT.	
23	24	110	CSG	50	50	NO-PACKER	0	0	0	13.375	8RD	OTHER	0	

DISPL. VOLUME		DISPL. FLUID		CAL. PSI	CAL. MAX PSI	OP. MAX	MAX TBG PSI	MAX CSG PSI		MIX WATER	
VOLUME	UOM	TYPE	WGT.	BUMP PLUG	TO REV.	SQ. PSI	RATED	Operator	RATED	Operator	
220	BBSL	H2O	8.34	500	0	0	0	0	2711	600	TANKS

EXPLANATION: TROUBLE SETTING TOOL, RUNNING CSG, ETC. PRIOR TO CEMENTING:

PRESSURE/RATE DETAIL						EXPLANATION	
TIME HR:MIN.	PRESSURE - PSI		RATE BPM	Bbl. FLUID PUMPED	FLUID TYPE	SAFETY MEETING: BJ CREW <input checked="" type="checkbox"/> CO. REP. <input checked="" type="checkbox"/>	
	PIPE	ANNULUS				TEST LINES	3900 PSI
						CIRCULATING WELL - RIG	BJ
14:00	0	0	0	0	0	ARRIVED ON LOCATION	
16:50	200	0	7	200	H2O	WATER AHEAD	
17:15	250	0	5.5	25	GEL/FLAKE	PRE-FLUSH	
17:20	240	0	5.5	10	H2O	SPACER	
17:22	320	0	5.5	242	SLURRY	PNE-1 2% CAL2 + FLAKE ON SIDE	
17:59	0	0	0	0	H2O	S/D RELEASE PLUG	
18:01	200	0	8	0	H2O	START DISPLACEMENT	
18:45	600	0	0	220	H2O	END DISPLACEMENT	
18:55	0	0	0	0	N/A	BLEED OFF/RIG OUT	

BUMPED PLUG	PSI TO BUMP PLUG	TEST FLOAT EQUIP.	BBL.CMT RETURNS/ REVERSED	TOTAL BBL. PUMPED	PSI LEFT ON CSG	SPOT TOP OUT CEMENT	SERVICE SUPERVISOR SIGNATURE:
<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	480	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	0	697	600	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	

CEMENT JOB REPORT



CUSTOMER NORTHEAST NATURAL ENER	DATE 11-SEP-14	F.R. # 10011098389	SERV. SUPV. Ron Bland
LEASE & WELL NAME YOST 3H - API 47061016730000	LOCATION DAY BROOK WW		COUNTY-PARISH-BLOCK Monongalia West Virginia
DISTRICT Clarksburg	DRILLING CONTRACTOR RIG #	TYPE OF JOB Intermediate	

SIZE & TYPE OF PLUGS	LIST-CSG-HARDWARE	MECHANICAL BARRIERS	MD	TVD	HANGER TYPES	MD	TVD
9-5/8" Top Cem Plug, Nitrile cvr, Phe	Float Collar, Auto Fill, 9-5/8 - 8rd						
	Float Shoe 9-5/8 - 8rd						

MATERIALS FURNISHED BY BJ	LAB REPORT NO.	PHYSICAL SLURRY PROPERTIES						
		SACKS OF CEMENT	SLURRY WGT PPG	SLURRY YLD FT	WATER GPS	PUMP TIME HR:MIN	Bbl SLURRY	Bbl MIX WATER
PREM NE 1+ 1.5%CACL		852	15.2	1.26	5.76	02:30	191	116.73
500# GEL+ 50# FLAKE			8.34				25	
H2O			8.34				194.8	
400# SUGAR FOR PIT			8.34				50	

Available Mix Water 500 Bbl. Available Displ. Fluid 500 Bbl. TOTAL 460.8 116.73

HOLE			TBG-CSG-D.P.						COLLAR DEPTHS			
SIZE	% EXCESS	DEPTH	ID	OD	WGT.	TYPE	MD	TVD	GRADE	SHOE	FLOAT	STAGE
12.25	30	2680	8.835	9.625	40	CSG	2643	2643	J-55			

LAST CASING				PKR-CMT RET-BR PL-LINER			PERF. DEPTH		TOP CONN		WELL FLUID		
ID	OD	WGT	TYPE	MD	TVD	BRAND & TYPE	DEPTH	TOP	BTM	SIZE	THREAD	TYPE	WGT.
										9.625	8RD	OTHER	0

DISPL. VOLUME		DISPL. FLUID		CAL. PSI	CAL. MAX PSI	OP. MAX	MAX TBG PSI		MAX CSG PSI		MIX WATER
VOLUME	UOM	TYPE	WGT.	BUMP PLUG	TO REV.	SQ. PSI	RATED	Operator	RATED	Operator	
194.8	BBLs	H2O	8.34	930	0	0	0	0	2280	2140	TANKS
		400# SUGAR FOR P	8.34								

EXPLANATION: TROUBLE SETTING TOOL, RUNNING CSG, ETC. PRIOR TO CEMENTING:

PRESSURE/RATE DETAIL					EXPLANATION	
TIME HR:MIN.	PRESSURE - PSI		RATE BPM	Bbl. FLUID PUMPED	FLUID TYPE	SAFETY MEETING: BJ CREW <input checked="" type="checkbox"/> CO. REP. <input checked="" type="checkbox"/>
	PIPE	ANNULUS				
03:00						CIRCULATING WELL - RIG <input type="checkbox"/> BJ <input type="checkbox"/>
05:30		3200				RIG IN SAFETY MEETING
05:32		190	6.4	170	H2O	PSI TEST
06:00		220	6.4	25	GEL/FLAKE	PREFLUSH
06:04		220	6.4	10	H2O	PREFLUSH
06:06		220	5.5	190	SLURRY	SPACER
06:41		0				15.2#
06:42		250	5.5	194.8	H2O	SHUT DOWN DROP PLUG
07:20		1115				DISP
07:21						PLUG DOWN
						BLEED OFF PSI FLOATS HELD SHUT IN HEAD

BUMPED PLUG	PSI TO BUMP PLUG	TEST FLOAT EQUIP.	BBL.CMT RETURNS/ REVERSED	TOTAL BBL. PUMPED	PSI LEFT ON CSG	SPOT TOP OUT CEMENT	SERVICE SUPERVISOR SIGNATURE:
<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	1115	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	18	589.8	0	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	

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MORGANTOWN, WV

CEMENT JOB REPORT



CUSTOMER NORTHEAST NATURAL ENER	DATE 30-NOV-14	F.R. # 10011121706	SERV. SUPV. Jason H Matheny
LEASE & WELL NAME YOST 3H - API 47061016730000	LOCATION DAYBROOK		COUNTY-PARISH-BLOCK Monongalia West Virginia
DISTRICT Clarksburg	DRILLING CONTRACTOR RIG # PERFORMANCE #1		TYPE OF JOB Plug Back

SIZE & TYPE OF PLUGS MATERIALS FURNISHED BY BJ	LIST-CSG-HARDWARE LAB REPORT NO.	MECHANICAL BARRIERS							MD	TVD	HANGER TYPES		MD	TVD
		SACKS OF CEMENT	SLURRY WGT PPG	SLURRY YLD FT	WATER GPS	PUMP TIME HR:MIN	Bbl SLURRY	Bbl MIX WATER						
KCL H2O		0	9	0	0	00:00	600							
GEL		0	8.56	0	0	00:00	22							
CLASS H 1% CD-32 .7% SMS .4% R-3		230	17	1	3.72	03:30	41	20.39						
GEL		0	8.56	0	0	00:00	7							
H2O		0	8.34	0	0	00:00	109.3							
KCL REVERSE OUT		0	9	0	0	00:00	160							
Available Mix Water 750 Bbl.		Available Displ. Fluid 750 Bbl.		TOTAL		939.3	20.39							

HOLE			TBG-CSG-D.P.							COLLAR DEPTHS			
SIZE	% EXCESS	DEPTH	ID	OD	WGT.	TYPE	MD	TVD	GRADE	SHOE	FLOAT	STAGE	
8.75	10	8800	4.276	5	19.5	DP	8469	8469	H-40				

LAST CASING				PKR-CMT RET-BR PL-LINER				PERF. DEPTH			TOP CONN		WELL FLUID	
ID	OD	WGT	TYPE	MD	TVD	BRAND & TYPE	DEPTH	TOP	BTM	SIZE	THREAD	TYPE	WGT.	
8.8	9.625	40	CSG	2643	2643	NO-PACKER	0	0	0	4.5	IF	SYNTHETIC MUD	13	

DISPL VOLUME		DISPL FLUID		CAL PSI	CAL MAX PSI	OP. MAX	MAX TBG PSI		MAX CSG PSI		MIX WATER
VOLUME	UOM	TYPE	WGT.	BUMP PLUG	TO REV.	SQ. PSI	RATED	Operator	RATED	Operator	
100	BBLs	H2O	8.34	0	0	0	8800	1400	0	0	TANKS

EXPLANATION: TROUBLE SETTING TOOL, RUNNING CSG, ETC. PRIOR TO CEMENTING:

PRESSURE/RATE DETAIL						EXPLANATION	
TIME HR:MIN.	PRESSURE - PSI		RATE BPM	Bbl. FLUID PUMPED	FLUID TYPE	SAFETY MEETING: BJ CREW <input checked="" type="checkbox"/> CO. REP. <input checked="" type="checkbox"/>	
	PIPE	ANNULUS				TEST LINES	4000 PSI
						CIRCULATING WELL - RIG <input checked="" type="checkbox"/> BJ <input checked="" type="checkbox"/>	
21:30	0	0	0	0	0	ARRIVED ON LOCATION	
02:30	1400	0	4	600	KCL	CIRCULATE ALL DRILL MUD OUT OF WELL BORE	
06:30	0	0	0	0	H2O	RIG PULLS 22 STANDS TO 7080	
07:20	215	0	5	22	GEL	SPACER AHEAD	
07:25	350	0	5	41	SLURRY	PLUG CLASS H + ADDITIVES	
07:36	280	0	5	7	GEL	SPACER BEHIND	
07:37	60	0	5	0	H2O	START DISPLACEMENT	
08:15	230	0	0	100	H2O	END DISPLACEMENT WAIT ON RIG TO PULL 22 STANDS	
09:00	400	0	5	160	KCL	REVERSE OUT	
09:50	0	0	0	0	H2O	BLEED OFF/RIG OUT	

BUMPED PLUG Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	PSI TO BUMP PLUG 0	TEST FLOAT EQUIP. Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	BBL.CMT RETURNS/ REVERSED 0	TOTAL BBL. PUMPED 930	PSI LEFT ON CSG 0	SPOT TOP OUT CEMENT Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	SERVICE SUPERVISOR SIGNATURE: <i>Jason Matheny</i>
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CEMENT JOB REPORT



CUSTOMER NORTHEAST NATURAL ENER	DATE 03-JAN-15	F.R. # 10011129918	SERV. SUPV. Brian Lough
LEASE & WELL NAME YOST 3H - API 47061016730000	LOCATION CLAY		COUNTY-PARISH-BLOCK Monongalia West Virginia
DISTRICT Clarksburg	DRILLING CONTRACTOR RIG # PIONEER 63		TYPE OF JOB Long String

SIZE & TYPE OF PLUGS	LIST-CSG-HARDWARE	MECHANICAL BARRIERS	MD	TVD	HANGER TYPES	MD	TVD
5-1/2" Top Cem Plug, Nitri cvr, Phen	Float Collar, AI Flap, 5-1/2 - 8rd						
	Guide Shoe, Cement Nose, 5-1/2 i						

MATERIALS FURNISHED BY BJ	LAB REPORT NO.	PHYSICAL SLURRY PROPERTIES						
		SACKS OF CEMENT	SLURRY WGT PPG	SLURRY YLD FT	WATER GPS	PUMP TIME HR:MIN	Bbl SLURRY	Bbl MIX WATER
H2O			8.34					5
ULTRA FLUSH			13					97
CLASS A 50/50 POZ+R-3+MPA-170		3,343	14.5	1.17	5.14	07:17	680	399.37
HALLIBURTON RETARDER IN FRESH H2O			8.4					10
FRESH H2O			8.34					350
200 LBS SUGAR ON THE SIDE			8.34					50
Available Mix Water <u>750</u> Bbl.		Available Displ. Fluid <u>750</u> Bbl.		TOTAL			<u>1192</u>	<u>399.37</u>

HOLE			TBG-CSG-D.P.						COLLAR DEPTHS			
SIZE	% EXCESS	DEPTH	ID	OD	WGT.	TYPE	MD	TVD	GRADE	SHOE	FLOAT	STAGE
8.75	10	16079	4.778	5.5	20	CSG	16074		P-110	16074	16062	

LAST CASING				PKR-CMT RET-BR PL-LINER				PERF. DEPTH		TOP CONN		WELL FLUID	
ID	OD	WGT	TYPE	MD	TVD	BRAND & TYPE	DEPTH	TOP	BTM	SIZE	THREAD	TYPE	WGT.
8.8	9.625	40	CSG	2638						5.5	BUTT	SYNTHETIC MUD	12.5

DISPL. VOLUME		DISPL. FLUID		CAL. PSI	CAL. MAX PSI	OP. MAX	MAX TBG PSI		MAX CSG PSI		MIX WATER
VOLUME	UOM	TYPE	WGT.	BUMP PLUG	TO REV.	SQ. PSI	RATED	Operator	RATED	Operator	TANK
357	BBLs	FRESH H2O	8.34	4000	0	0	0	0	10112	5000	TANK

EXPLANATION: TROUBLE SETTING TOOL, RUNNING CSG, ETC. PRIOR TO CEMENTING:

PRESSURE/RATE DETAIL						EXPLANATION	
TIME HR:MIN.	PRESSURE - PSI		RATE BPM	Bbl. FLUID PUMPED	FLUID TYPE	SAFETY MEETING: BJ CREW <input checked="" type="checkbox"/> CO. REP. <input checked="" type="checkbox"/>	
	PIPE	ANNULUS				TEST LINES <u>7450 PSI</u>	
						CIRCULATING WELL - RIG <input checked="" type="checkbox"/> BJ <input checked="" type="checkbox"/>	
09:35						ARRIVE ON LOCATION. JOB TIME 0600 HRS. LATE DUE TO ICE ON ROADWAYS	
09:40						SPOT EQUIPMENT	
10:00						SAFETY MEETING WITH BHI CREW	
10:20						RIG INTO WELL & TANKS	
12:15						SAFETY MEETING WITH RIG CREW & CO.MAN	
12:41	900		5.5	5	H2O	LINE FILL	
12:42	0		.2	.2	H2O	PRESSURE TEST BHI IRON TO 7450 PSI	
12:45	812		5.4	97	FLUSH	ULTRA FLUSH HV	
13:03	625		6.5	680	CEMENT	3343 SACKS OF CLASS A-50/50 POZ+.35% R-3+.2% MPA-170. TEMP - 53 DEGREES f	
14:52	0		6	10	H2O	SHUT DOWN / FLUSH LINES / SPOT RETARDER TO HEAD / DROP PLUG	
14:56	1550		7	10	H2O	HALLIBURTON RETARDER IN FRESH H2O	
14:58	3900		7	350	H2O	FRESH H2O DISPLACEMENT	
15:48	4000		3		H2O	LAND PLUG. 70 BBL ULTRA FLUSH RETURN TO 1/2 ROUND	
15:52	0					RELEASE PRESSURE TO PUMPER./ 4 BBL H2O RETURNS	
15:53	0					FLOATS HELD. / END JOB	

CEMENT JOB REPORT



PRESSURE/RATE DETAIL					EXPLANATION		
TIME HR:MIN.	PRESSURE - PSI		RATE BPM	Bbl. FLUID PUMPED	FLUID TYPE	SAFETY MEETING: BJ CREW <input checked="" type="checkbox"/> CO. REP. <input checked="" type="checkbox"/>	
	PIPE	ANNULUS				TEST LINES 7450 PSI	
						CIRCULATING WELL - RIG <input checked="" type="checkbox"/> BJ <input checked="" type="checkbox"/>	
BUMPED PLUG	PSI TO BUMP PLUG	TEST FLOAT EQUIP.	BBL.CMT RETURNS/ REVERSED	TOTAL BBL. PUMPED	PSI LEFT ON CSG	SPOT TOP OUT CEMENT	SERVICE SUPERVISOR SIGNATURE:
<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	4000	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	0	1150	0	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	

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Perforation Record					
Stage Number	Report Date	Perforated from MD ft	Perforated to MD ft	Number of Perforations	Formation
1	3/30/2015	15,990	15,858	40	Marcellus Shale
2	3/30/2015	15,803	15,653	40	Marcellus Shale
3	3/31/2015	15,600	15,450	40	Marcellus Shale
4	3/31/2015	15,397	15,247	40	Marcellus Shale
5	3/31/2015	15,194	15,044	40	Marcellus Shale
6	3/31/2015	14,995	14,841	40	Marcellus Shale
7	3/31/2015	14,780	14,633	40	Marcellus Shale
8	3/31/2015	14,585	14,435	40	Marcellus Shale
9	4/1/2015	14,382	14,232	40	Marcellus Shale
10	4/1/2015	14,179	14,029	40	Marcellus Shale
11	4/1/2015	13,978	13,826	40	Marcellus Shale
12	4/1/2015	13,770	13,619	40	Marcellus Shale
13	4/1/2015	13,570	13,420	40	Marcellus Shale
14	4/1/2015	13,367	13,217	40	Marcellus Shale
15	4/3/2015	13,164	13,014	40	Marcellus Shale
16	4/3/2015	12,957	12,811	40	Marcellus Shale
17	4/2/2015	12,758	12,605	40	Marcellus Shale
18	4/3/2015	12,555	12,405	40	Marcellus Shale
19	4/3/2015	12,352	12,202	40	Marcellus Shale
20	4/3/2015	12,149	11,999	40	Marcellus Shale
21	4/3/2015	11,943	11,796	40	Marcellus Shale
22	4/3/2015	11,740	11,593	40	Marcellus Shale
23	4/3/2015	11,540	11,390	40	Marcellus Shale
24	4/4/2015	11,337	11,187	40	Marcellus Shale
25	4/4/2015	11,134	10,984	40	Marcellus Shale
26	4/4/2015	10,931	10,781	40	Marcellus Shale
27	4/4/2015	10,728	10,578	40	Marcellus Shale
28	4/4/2015	10,525	10,375	40	Marcellus Shale
29	4/4/2015	10,324	10,172	40	Marcellus Shale
30	4/5/2015	10,119	9,971	40	Marcellus Shale
31	4/5/2015	9,916	9,766	40	Marcellus Shale
32	4/5/2015	9,713	9,561	40	Marcellus Shale
33	4/5/2015	9,510	9,360	40	Marcellus Shale
34	4/5/2015	9,307	9,157	40	Marcellus Shale
35	4/5/2015	9,104	8,954	40	Marcellus Shale
36	4/5/2015	8,899	8,751	40	Marcellus Shale
37	4/6/2015	8,698	8,548	40	Marcellus Shale

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Stimulation Record							
Stage Number	Report Date	Avg Treating Rate (BPM)	Avg Treating Pressure (psi)	Breakdown Pressure (psi)	ISIP (psi)	Total Proppant Amount (lbs)	Total Clean Fluid (Bbls)
1	3/30/2015	84	9,005	7,460	6,016	400,020	7,201
2	3/30/2015	76	9,097	9,073	5,454	398,880	7,186
3	3/31/2015	78	9,084	8,562	5,769	403,380	7,311
4	3/31/2015	80	9,012	8,904	6,627	403,390	8,391
5	3/31/2015	86	9,085	8,798	6,117	405,410	7,077
6	3/31/2015	85	9,152	7,918	5,076	401,660	7,263
7	3/31/2015	78	9,091	8,401	5,895	402,620	8,310
8	3/31/2015	87	8,978	7,358	6,691	403,100	6,776
9	4/1/2015	88	9,058	8,295	6,404	403,020	6,867
10	4/1/2015	84	9,043	8,662	6,246	402,660	7,075
11	4/1/2015	80	9,000	9,200	6,468	399,720	7,094
12	4/1/2015	84	8,816	8,309	6,594	400,540	6,781
13	4/1/2015	89	9,029	8,662	6,803	399,920	5,763
14	4/1/2015	88	9,105	8,282	N/A	323,540	4,812
15	4/3/2015	88	8,997	7,750	6,308	398,860	5,687
16	4/3/2015	89	8,963	7,223	5,895	405,520	5,564
17	4/2/2015	89	8,926	8,114	6,975	404,060	6,185
18	4/3/2015	86	9,024	8,400	5,983	306,760	5,267
19	4/3/2015	86	8,994	8,133	6,943	408,480	7,446
20	4/3/2015	92	9,030	8,368	7,124	400,780	5,560
21	4/3/2015	89	8,997	7,648	5,959	305,902	5,254
22	4/3/2015	66	9,063	7,826	5,420	402,400	5,635
23	4/3/2015	89	9,009	8,177	5,672	403,380	5,707
24	4/4/2015	87	8,940	8,850	N/A	402,140	6,664
25	4/4/2015	92	8,898	7,636	6,691	401,920	5,860
26	4/4/2015	89	8,763	8,513	6,659	397,020	7,205
27	4/4/2015	92	8,856	7,931	6,881	396,480	5,880
28	4/4/2015	77	8,782	7,808	6,149	405,880	6,337
29	4/4/2015	89	8,487	7,707	6,489	403,500	5,526
30	4/5/2015	91	8,856	8,095	6,594	348,840	5,704
31	4/5/2015	92	8,804	8,688	6,278	398,840	5,944
32	4/5/2015	86	8,720	7,786	6,659	401,200	6,452
33	4/5/2015	94	8,399	9,536	6,117	398,700	6,522
34	4/5/2015	93	8,864	7,929	6,530	393,700	6,922
35	4/5/2015	84	8,898	8,521	6,055	402,780	7,919
36	4/5/2015	91	8,823	8,892	5,769	413,560	7,139
37	4/6/2015	99	9,129	8,997	7,040	415,420	6,600

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Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	3/30/2015
Job End Date:	4/6/2015
State:	West Virginia
County:	Monongalia
API Number:	47-061-01673-00-00
Operator Name:	Northeast Natural Energy LLC
Well Name and Number:	Yost 3H
Longitude:	-80.21808900
Latitude:	39.64174200
Datum:	NAD83
Federal/Tribal Well:	NO
True Vertical Depth:	8,334
Total Base Water Volume (gal):	10,542,588
Total Base Non Water Volume:	0

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
Proppant Transport	Schlumberger	Corrosion Inhibitor, Bactericide (Myacide GA25), Scale Inhibitor, AntiFoam Agent, Acid Breaker, Gelling Agent, Friction Reducer, Crosslinker, Iron Co					
			Water (Including Mix Water Supplied by Client)*	NA		85.39994	
			Quartz, Crystalline silica	14808-60-7	98.52290	14.38441	
			Hydrochloric acid	7647-01-0	0.76070	0.11106	
			Guar gum	9000-30-0	0.37245	0.05438	
			Ammonium sulfate	7783-20-2	0.12139	0.01772	
			Acrylamide, 2-acrylamido-2-methylpropanesulfonic acid, sodium salt polymer	38193-60-1	0.08960	0.01308	
			Glutaraldehyde	111-30-8	0.03632	0.00530	
			Diammonium peroxidisulphate	7727-54-0	0.02418	0.00353	
			Potassium borate	1332-77-0	0.01507	0.00220	
			Ethanol, 2,2',2''-nitrioftris-, 1,1',1''-tris(dihydrogen phosphate), sodium salt	68171-29-9	0.01109	0.00162	

Ingredients shown above are subject to 29 CFR 1910.1200(t) and appear on Material Safety Data Sheets (MSDS). Ingredients shown below are Non-MSDS.

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			Polymer of 2-acrylamido-2-methylpropanesulfonic acid sodium salt and methyl acrylate	136793-29-8		0.00960	0.00140
			Urea	57-13-6		0.00589	0.00086
			Potassium hydroxide	1310-58-3		0.00557	0.00081
			Glycerol	56-81-5		0.00491	0.00072
			Trisodium ortho phosphate	7601-54-9		0.00488	0.00071
			Sodium erythorbate	8381-77-7		0.00485	0.00071
			Vinylidene chloride/methylacrylate copolymer	25038-72-6		0.00346	0.00050
			Methanol	67-56-1		0.00253	0.00037
			Non-crystalline silica (impurity)	7631-86-9		0.00216	0.00032
			Fatty acids, tall-oil	81790-12-3		0.00176	0.00026
			Thiourea, polymer with formaldehyde and 1-phenylethanol	88527-49-1		0.00145	0.00021
			Sodium sulfate	7757-82-6		0.00137	0.00020
			Ethylene Glycol	107-21-1		0.00139	0.00020
			Alcohols, C14-15, ethoxylated (TEO)	88951-67-7		0.00069	0.00010
			Propargyl alcohol	107-19-7		0.00046	0.00007
			Polypropylene glycol	25322-69-4		0.00029	0.00004
			2-propenamid	79-06-1		0.00029	0.00004
			Tetrasodium ethylenediaminetetraacetate	84-02-8		0.00015	0.00002
			Hexadec-1-ene	829-73-2		0.00015	0.00002
			Magnesium silicate hydrate (ta(c))	4807-96-6		0.00011	0.00002
			1-Octadecene (C18)	112-88-9		0.00008	0.00001
			poly(tetrafluoroethylene)	9002-84-0		0.00004	0.00001
			Dimethyl siloxanes and silicones	63148-62-9		0.00008	0.00001
			Siloxanes and silicones, dimethyl, reaction products with silica	87762-90-7		0.00001	
			Formaldehyde	50-00-0		0.00001	
			Copper(II) sulfate	7758-98-7			
			Decamethyl cyclopentasiloxane	541-02-6		0.00001	
			Dodecamethylcyclohexasiloxane	540-97-6			
			Octamethylcyclotetrasiloxane	556-67-2		0.00001	

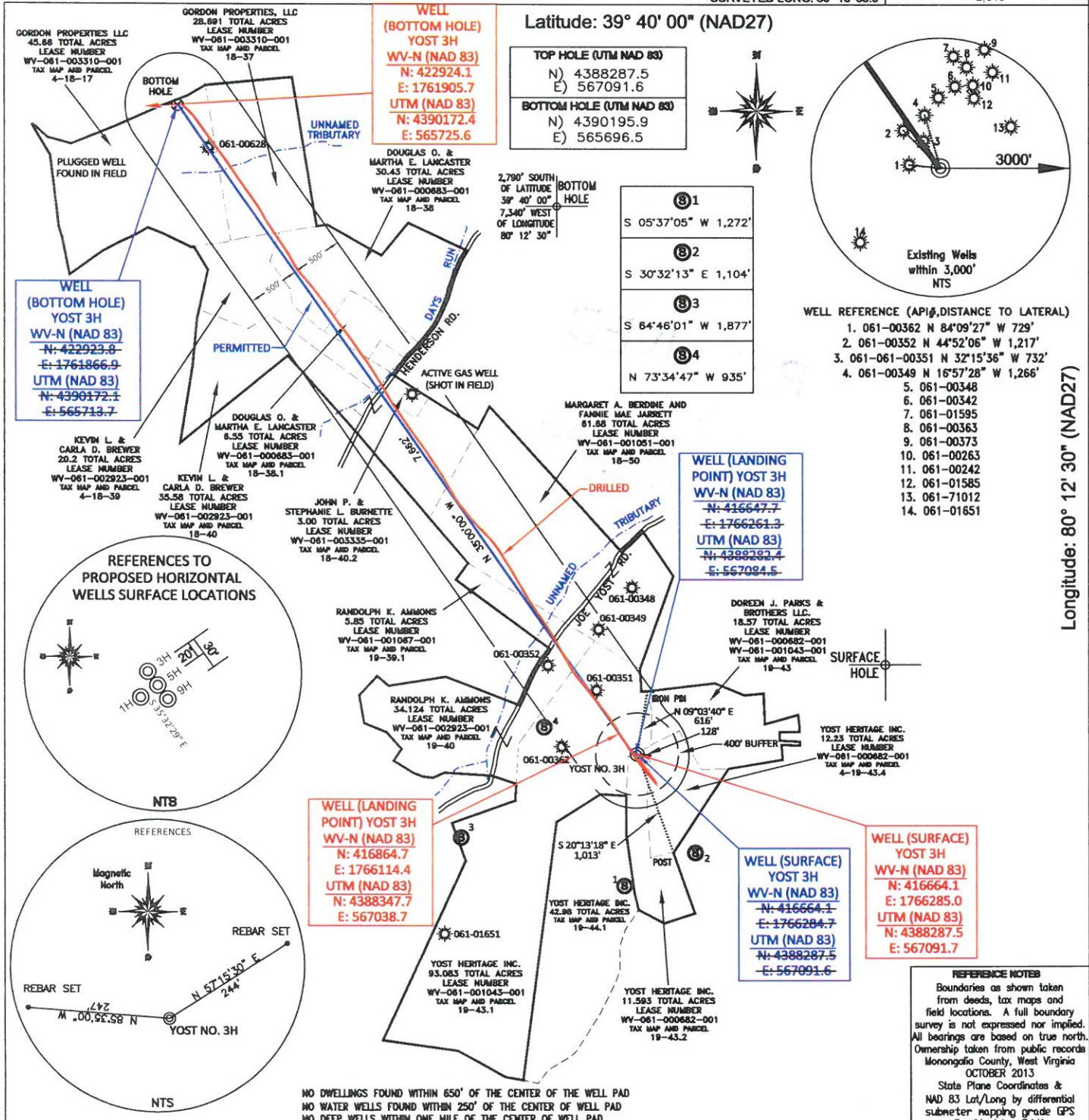
* Total Water Volume sources may include fresh water, produced water, and/or recycled water

** Information is based on the maximum potential for concentration and thus the total may be over 100%

Note: For Field Development Products (products that begin with FDP), MSDS level only information has been provided. Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)

Latitude: 39° 40' 00" (NAD27)

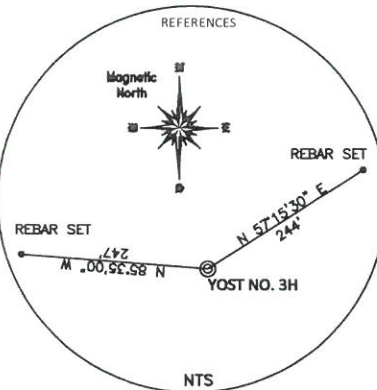
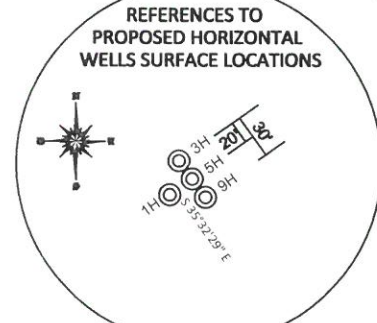
Longitude: 80° 12' 30" (NAD27)



WELL (BOTTOM HOLE) YOST 3H
 WV-N (NAD 83)
 N: 422924.8
 E: 1761866.9
 UTM (NAD 83)
 N: 4390172.4
 E: 565713.7

WELL (BOTTOM HOLE) YOST 3H
 WV-N (NAD 83)
 N: 422924.1
 E: 1761905.7
 UTM (NAD 83)
 N: 4390172.4
 E: 565725.6

TOP HOLE (UTM NAD 83)
 N: 4388287.5
 E: 567091.6
BOTTOM HOLE (UTM NAD 83)
 N: 4390195.9
 E: 565696.5



- WELL REFERENCE (API#, DISTANCE TO LATERAL)
- 061-00362 N 84°09'27" W 729'
 - 061-00352 N 44°52'06" W 1,217'
 - 061-061-00351 N 32°15'36" W 732'
 - 061-00349 N 16°57'28" W 1,266'
 - 061-00348
 - 061-00342
 - 061-01595
 - 061-00363
 - 061-00373
 - 061-00263
 - 061-00242
 - 061-01585
 - 061-71012
 - 061-01651

WELL (LANDING POINT) YOST 3H
 WV-N (NAD 83)
 N: 416647.7
 E: 1766261.3
 UTM (NAD 83)
 N: 4399292.4
 E: 567094.5

WELL (LANDING POINT) YOST 3H
 WV-N (NAD 83)
 N: 416864.7
 E: 1766114.4
 UTM (NAD 83)
 N: 4388347.7
 E: 567038.7

WELL (SURFACE) YOST 3H
 WV-N (NAD 83)
 N: 416664.1
 E: 1766284.7
 UTM (NAD 83)
 N: 4388287.5
 E: 567091.6

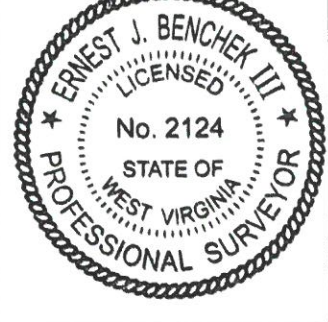
WELL (SURFACE) YOST 3H
 WV-N (NAD 83)
 N: 416664.1
 E: 1766285.0
 UTM (NAD 83)
 N: 4388287.5
 E: 567091.7

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 Monongalia County, West Virginia OCTOBER 2013
 State Plane Coordinates & NAD 83 Lat/Long by differential submeter mapping grade GPS
 Drafted by: EAM

NO DWELLINGS FOUND WITHIN 650' OF THE CENTER OF THE WELL PAD
 NO WATER WELLS FOUND WITHIN 250' OF THE CENTER OF WELL PAD
 NO DEEP WELLS WITHIN ONE MILE OF THE CENTER OF WELL PAD.

FILE #: NNE10
 DRAWING #: 2297
 SCALE: PLAT - 1" = 1400'
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: [Signature]
 L. L. S. #2124 : Ernest J. Benchek III



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS
WVDEP OFFICE OF OIL & GAS
 601 57TH STREET
 CHARLESTON, WV 25304

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

WATERSHED: DUNKARD CREEK
 COUNTY/DISTRICT: MONONGALIA / CLAY
 SURFACE OWNER: YOST HERITAGE INC.
 OIL & GAS ROYALTY OWNER: JOE POGUE ET AL
 LEASE NUMBERS: _____

DATE: AUGUST 4, 2015
 OPERATOR'S WELL #: YOST NO. 3H AS-DRILLED
 API WELL #: 47 61 01673
 STATE COUNTY PERMIT

AS-BUILT ELEVATION: 1,492'
 QUADRANGLE: BLACKSVILLE, WV
 ACREAGE: 11.593 +/-
 ACREAGE: 407.24 +/-

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
 WELL OPERATOR: NORTHEAST NATURAL ENERGY LLC
 ADDRESS: 707 VIRGINIA STREET EAST, SUITE 1200
 CITY: CHARLESTON STATE: WV ZIP CODE: 25301
 ESTIMATED DEPTH: PILOT 8,488' TVD: 8,280' TMD: 16,052'
 DESIGNATED AGENT: JOHN ADAMS
 ADDRESS: 707 VIRGINIA STREET EAST, SUITE 1200
 CITY: CHARLESTON STATE: WV ZIP CODE: 25301