

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

API 47-061-01686 County Monongalia District Clay
Quad Blacksville, WV Pad Name Coastal Field/Pool Name Blacksville
Farm name Coastal Forest Resources Company Well Number 5H
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 4395397.7 Easting 568204.6
Landing Point of Curve Northing 4395494.8 Easting 568229.4
Bottom Hole Northing 4397100.4 Easting 566998.3

Elevation (ft) 1,420 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 10/28/2014 Date drilling commenced 12/14/2014 Date drilling ceased 4/7/2015
Date completion activities began N/A Date completion activities ceased N/A
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 1,243' Open mine(s) (Y/N) depths N
Salt water depth(s) ft 2,510' Void(s) encountered (Y/N) depths N
Coal depth(s) ft 600', 1,200' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

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Reviewed by:

JR

10/30/2015

API 47-061 - 01686 Farm name Coastal Forest Resources Company Well number 5H

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade w/ft	Basket Depth(s)	Did cement circulate (Y/ N) * Provide details below*
Conductor	30	24	50'	N	N/A	N/A	Y to surface
Surface	17.5	13 3/8	1,387'	N	54.5	N/A	Y 45 bbls
Coal							
Intermediate 1	12.25	9 5/8	2,794'	N	40	N/A	Y 15 bbls
Intermediate 2							
Intermediate 3							
Production	8.5	5.5	15,373'	N	20	N/A	
Tubing							
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	4,500 psi ready mix	36.4		.75	27.27	CTS	48
Surface	Class A	1,192	15.2	1.27	1,271	CTS	8
Coal							
Intermediate 1	Class A	906	15.2	1.26	1,074	CTS	8
Intermediate 2							
Intermediate 3							
Production	5050 Premium NE - 1.3% R-3.3% MPA 170	2,960	14.5	1.17	2,661	Estimated 2,000'	48
Tubing							

Drillers TD (ft) 15,385' Loggers TD (ft) 15,360'

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

Plug back procedure _____

Kick off depth (ft) 6,495'

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 This well has not yet been completed

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

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

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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 quantity and type of fluid (freshwater, brine, oil, gas, H2S, etc)
Sand/Shale/Silt	0	40			sand/shale/silt
Red Rock	40	120			red rock
Sand/Shale/Silt	120	2407			sand/shale/silt
Limestone	2407	2495			limestone
Big Injun	2495	2625			sandstone
Sand/Shale	2625	3140			sand/shale
Shale	3140	5140			shale
Grey Shale	5140	5488			shale
Shale	5488	5898			shale
Sandstone/Shale	5898	7754			shale/sandstone
Burkett	7754	7928	8152	8370	shale
Geneseo	7928	7974	8370	8434	shale
Tully	7974	8016	8434	8511	limestone
Hamilton	8016	8131	8511	8716	shale
Marcellus	8131	8187	8716	8861	shale
Cherry Valley	8187	8191	8861	8872	limestone
Lower Marcellus	8191		8872		shale

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COMMENTS

Wellpath general comments
API: 47-061-01686-0000
Rig: Pioneer 63
BHI Job #: 6977540
Duration: 03.30.2015 - 04.07.2015
VES Gyro 100'-6300'
BHI ATC <B-1/2> (6308') (6308'-15360')
Projected MD at TD: 15385'

10/30/2015

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CEMENT JOB REPORT



CUSTOMER NORTHEAST NATURAL ENER		DATE 20-DEC-14	F.R. # 1001127564	SERV. SUPV. Brian Lough									
LEASE & WELL NAME COASTAL 5H - API 47061016860000		LOCATION BLACKSVILLE		COUNTY-PARISH-BLOCK Monongalia West Virginia									
DISTRICT Clarksburg		DRILLING CONTRACTOR RIG # PERFORMANCE #2		TYPE OF JOB Intermediate									
SIZE & TYPE OF PLUGS		LIST-CSG-HARDWARE		MECHANICAL BARRIERS		MD TVD							
9-5/8" Top Cem Plug, Nitri cvr, Phen		Float Collar, AI Flap, 9-5/8 - 8rd											
		Guide Shoe, Cement Nose, 9-5/8 i											
PHYSICAL SLURRY PROPERTIES													
MATERIALS FURNISHED BY BJ		LAB REPORT NO.		SACKS OF CEMENT	SLURRY WGT PPG	SLURRY YLD FT							
PROCESSED H2O					8.34								
FRESH H2O					8.34								
6% GEL (500 LBS) W/ CELLO FLAKE (25 LBS)					8.5								
FRESH H2O					8.34								
CLASS A (PREM NE-1) NEAT W/ CELLO FLAKE (75				906	15.2	1.25							
FRESH H2O					8.34								
200 LBS OF SUGAR ON THE SIDE					8.34								
Available Mix Water		500	Bbl.	Available Displ. Fluid	500	Bbl.							
				TOTAL	832	119.92							
HOLE			TBG-CSG-D.P.				COLLAR DEPTHS						
SIZE	% EXCESS	DEPTH	ID	OD	WGT.	TYPE	MD	TVD	GRADE	SHOE	FLOAT	STAGE	
12.25	30	2840	8.835	9.625	40	CSG	2791		J-55	2791	2748		
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.
13	13.38	55	CSG	1387						9.625	8 RND	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		
208	BBLS	FRESH H2O		8.34	1100	0	0	0	0	3160	1500	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 3850 PSI							
						CIRCULATING WELL - RIG <input checked="" type="checkbox"/> BJ <input checked="" type="checkbox"/>							
08:30						ARRIVE ON LOCATION. JOB TIME 0900 HOURS							
12:30						SPOT EQUIPMENT							
12:48						SAFETY MEETING WITH BHI CREW							
13:05						RIG INTO WELL & TANKS							
14:40						RIG IN SWAGE & HOSE TO PUMP PIPE DOWN							
15:10	500		7	359	PROCESS	PUMP PROCESSED H2O							
16:04	0					PIPE DOWN. SHUT DOWN & RIG IN HEAD & MANIFOLD							
16:30	0					SAFETY MEETING WITH RIG CREW & CO. MAN							
16:40	125		5	3	H2O	LINE FILL							
16:45	0		.2	.2	H2O	PRESSURE TEST TO 3850 PSI							
16:47	130		5	25	GEL	6% GEL(500 LBS) W/ CELLO FLAKE(25 LBS) ADDED							
16:51	100		3.6	9	H2O	FRESH WATER SPACER							
16:54	135		5.3		CEMENT	906 SACKS CLASS A (PREM NE-1) NEAT W/ CELL FLAKE ADDED ON THE FLY (75 LBS) --TEMP 49 DEGREE f							
17:29	0					SHUT DOWN / DROP PLUG							
17:30	1300		6		H2O	DISPLACEMENT							

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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 3850 PSI		
						CIRCULATING WELL - RIG <input type="checkbox"/> BJ <input checked="" type="checkbox"/>		
18:05	1550		4		H2O	LAND PLUG		
18:08	0					RELEASE PRESSURE TO PUMPER		
18:09						END JOB. 15 BBLs SLURRY RETURN TO HALF ROUND		

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	1100	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	15	792	0	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	

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CEMENT JOB REPORT



CUSTOMER NORTHEAST NATURAL EN	DATE 08-APR-15	F.R.# 10011148542	SERV. SUPV. Kevin Paugh
LEASE & WELL NAME COASTAL #5H - API 47061016860000	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
Latch Down Plug & Assembly, 5-1/2	float Collar, Auto Fill, 5-1/2 - 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
UltraBond 10			13				50
MultiBond			13				50
50:50 Poz (Fly Ash):Class A		2,960	14.5	1.17	5.15		618.88 362.65
Sugar Water AFTER Plug			8.34				20
Fresh Water			8.34				324
Sugar 230 lbs			0				0
Available Mix Water 1500 Bbl.		Available Displ. Fluid 350 Bbl.		TOTAL		1062.88	362.65

HOLE			TBG-CSG-D.P.							COLLAR DEPTHS		
SIZE	% EXCESS	DEPTH	ID	OD	WGT.	TYPE	MD	TVD	GRADE	SHOE	FLOAT	STAGE
8.5	10	15373	4.778	5.5	20	CSG	15373	8200	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.
8.8	9.63	40	CSG	2794	2794							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	
344	BBLS	Fresh Water	8.34	490C	0	0	0	0	1000C	400C	TANK
		Sugar 230 lbs	0								

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 500C PSI
						CIRCULATING WELL - RIG <input checked="" type="checkbox"/> BJ <input checked="" type="checkbox"/>
04:30						ARRIVE ON LOCATION
07:30						SPOT EQUIPMENT
07:50						PRE RIG IN SAFETY MEETING
08:00						RIG IN
10:00						SAFETY MEETING WITH RIG AND CUSTOMER
10:30	150		5	5	H2O	LINE FILL
10:35	680C		1	1	H2O	PRESSURE TEST
10:37	700		4.5	50	ULTRABOND	SPACER
10:50	810		5.6	50	MULTIBOND	SPACER
11:00	116E		6.5	610	SLURRY	PREM NE-1 +.3% R-3 + .2% MPA-170
12:20						DROP PLUG
12:30	140C		5	20	SUGAR H	20 BBL SUGAR WATER DISPLACEMENT
12:40	180C		6.7	324	FRESH	321 BBL FRESH WATER DISPLACEMENT
13:25	412C					PLUG DOWN
13:30						RELEASE PRESSURE FLOATS HELD 5 BBL BACK
13:50						PRE RIG DOWN SAFETY MEETING
14:00						RIG DOWN

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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 500C 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	4200	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	0	1034	0	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N		

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NORTHEAST NATURAL ENERGY, LLC
 Location: Monongalia County, WV
 Slot: Slot 05
 Well: Coastal 5H
 Facility: Coastal Pad
 Wellbore: Coastal 5H PWB

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True Vertical Depth (ft) vs Easting (ft) plot showing well trajectory. The plot includes a red line for the well path and a blue line for the projected MD. The vertical axis ranges from 0 to 7500 ft, and the horizontal axis ranges from -4000 to 0 ft Easting.

Projected MD at TD: 15385' : 8203.49ft TVD, 5641.97ft N, 3925.26ft W

Scale 1 inch = 1000'

Location Information

Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Coastal Pad	1770298.400	438900.000	39°42'19.937"N	80°12'16.137"W
Slot	Local E (ft)	Local N (ft)	Latitude	Longitude
Slot 05	74.90	28.10	39°42'20.579"N	80°12'15.785"W
Pioneer 63 (RXB) to Mud line (At Slot, Slot 05)			16ft	
Mean Sea Level to Mud line (At Slot, Slot 05)			-1420ft	
Pioneer 63 (RXB) to Mean Sea Level			1438ft	

Notes:
 - Not reference wellbore is Coastal 5H PWB from 20
 - True vertical depth are referenced to Pioneer 63 (RXB)
 - Measured depths are referenced to Pioneer 63 (RXB)
 - Pioneer 63 (RXB) to Mean Sea Level: 1438 feet
 - Scale: True altitude
 - Mean Sea Level to Mud line (At Slot, Slot 05): -1420 feet
 - Coordinates are in feet referenced to Slot

VES Gyro 100'-6300' : 0.10° Inc, 108.00ft MD, 108.00ft TVD, -0.08ft VS

BHI ATC $-8-1/2^{\circ}$ (6308)/(6308-15360) : 2.47° Inc, 6379.00ft MD, 6376.01ft TVD, 97.50ft VS

BHI ATC $-8-1/2^{\circ}$ (6308)/(6308-15360) : 6376.01ft TVD, 19.32ft N, 136.37ft W
 VES Gyro 100'-6300' : 108.00ft TVD, 0.07ft S, 0.04ft E

Projected MD at TD: 15385' : 89.11° Inc, 15385.00ft MD, 8203.49ft TVD, 6868.16ft VS

Scale 1 inch = 1000'

Vertical Section (ft) vs Azimuth 323.00° with reference 0.00 N, 0.00 E

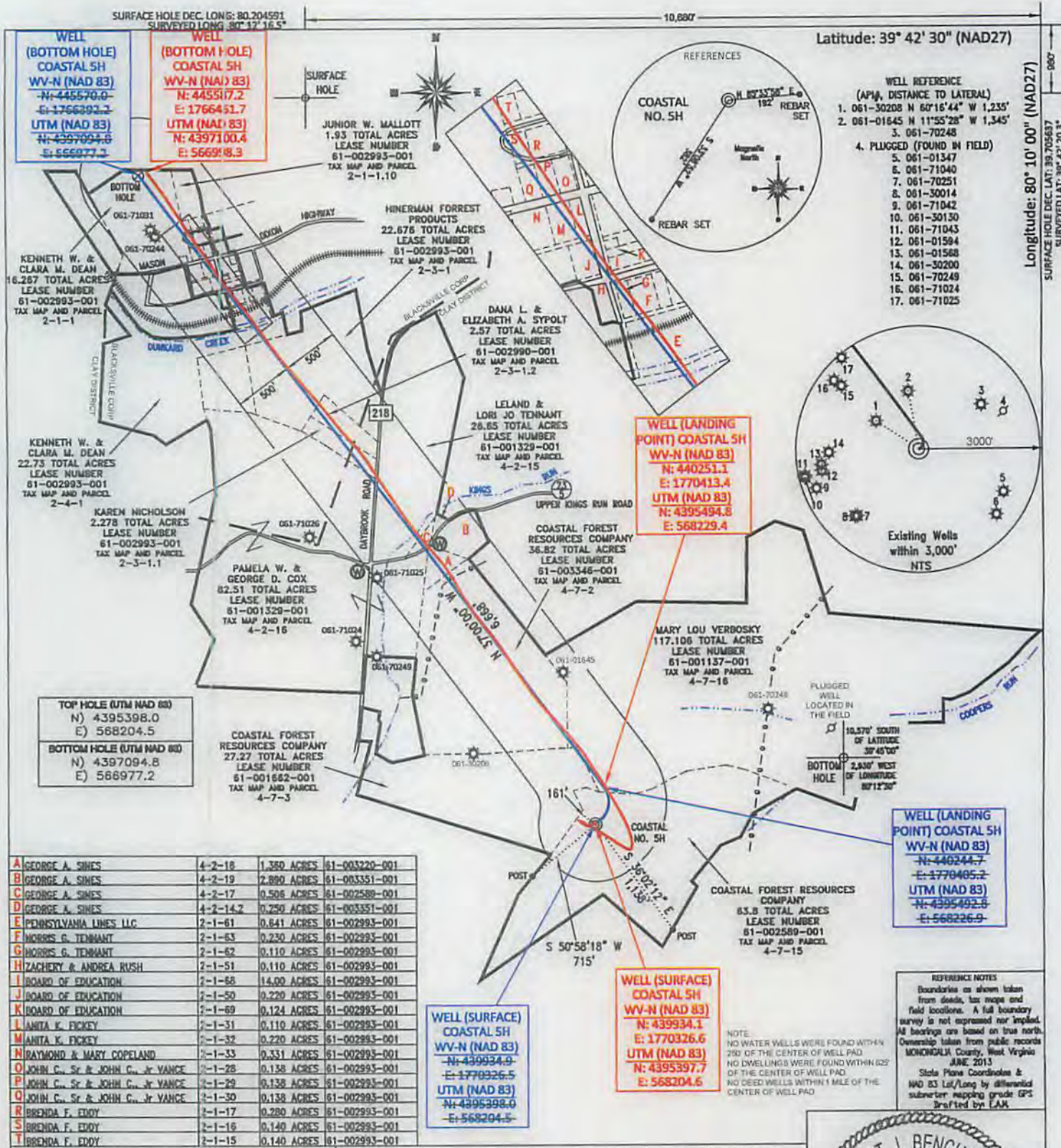
Scale 1 inch = 1000'

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API: 47-061-01686-0000
 Rig: Pioneer 63
 BHI Job #: 6977540
 Duration: 03.30.2015 - 04.07.2015

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FILE #: NNE12
 DRAWING #: 2320
 SCALE: PLAT: 1" = 1200'
 TICK: 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 5TH STREET
 CHARLESTON, WV 25304

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

WATERSHED: DUNKARD CREEK ELEVATION: 1,420'

COUNTY/DISTRICT: MONONGALIA / CLAY QUADRANGLE: BLACKSVILLE, WV

SURFACE OWNER: COASTAL FOREST RESOURCES COMPANY ACREAGE: 63.8 +/- 10/30/2015

OIL & GAS ROYALTY OWNER: WACO OIL AND GAS, ET AL ACREAGE: 484.013 +/-

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: 8,203.49' TMD: 15,385'

WELL OPERATOR: NORTHEAST NATURAL ENERGY LLC DESIGNATED AGENT: JOHN ADAMS

ADDRESS: 707 VIRGINIA STREET EAST, SUITE 1200 ADDRESS: 707 VIRGINIA STREET EAST, SUITE 1200

CITY: CHARLESTON STATE: WV ZIP CODE: 25301 CITY: CHARLESTON STATE: WV ZIP CODE: 25301

NOTE:
 NO WATER WELLS WERE FOUND WITHIN 250' OF THE CENTER OF WELL PAD.
 NO DWELLINGS WERE FOUND WITHIN 625' OF THE CENTER OF WELL PAD.
 NO DEED WELLS WITHIN 1 MILE OF THE CENTER OF WELL PAD.

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 JUNE 2013
 State Plane Coordinates & NAD 83 Lat/Long by differential submeter mapping grade GPS drafted by EAM