

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

API 47-061-01669 County Monongalia District Clay
Quad Blacksville, WV Pad Name Beach Field/Pool Name Blacksville
Farm name Nancy Kay Beach Davis and Russell C. Beach Well Number 10H
Operator (as registered with the OOG) Northeast Natural Energy LLC
Address 707 Virginia Street E., 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 4395295.1 Easting 572685.5
Landing Point of Curve Northing 4395366.3 Easting 573144.2
Bottom Hole Northing 4393558.7 Easting 574227.9

Elevation (ft) 1361 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-H WATE (BARITE), M+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 5-16-14 Date drilling commenced 8-23-14 Date drilling ceased 11-9-14
Date completion activities began 12/30/2014 Date completion activities ceased 1/25/2014
Verbal plugging (Y/N) _____ Date permission granted _____ Granted by _____

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

Freshwater depth(s) ft 1,206' Open mine(s) (Y/N) depths N
Salt water depth(s) ft 1,550' Void(s) encountered (Y/N) depths N
Coal depth(s) ft 300',800' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed by:
AL 6/3/15
06/05/2015
W.S. 6/5/15

API 47- 061 - 01669 Farm name Nancy Kay Beach Davis and Russell C. Beach Well number 10H

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	52'	N	N/A	N/A	Y to surface
Surface	17.5	13 3/8	1,305'	N	54.5	N/A	Y 32 BBL return
Coal							
Intermediate 1	12.25	9 5/8	2,366'	N	40	N/A	Y 19 BBL return
Intermediate 2							
Intermediate 3							
Production	8.5	5.5	15,961'	N	20	N/A	Y 5 BBL return
Tubing							
Packer type and depth set							

Comment Details All casing and cement jobs went with out issue.

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	1004	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	5050 Premium NE- 1.3% R-3.3% MPA 170	3,192	14.5	1.17	2,661	CTS	48
Tubing							

Drillers TD (ft) 15,961' Loggers TD (ft) 15,936'

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

Plug back procedure _____

Kick off depth (ft) 6,423'

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 _____

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WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

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

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PRODUCING FORMATION(S)	DEPTHS	
Marcellus	8,119'	TVD 15,961' MD

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 3950 psi Bottom Hole _____ psi DURATION OF TEST 48 hrs

OPEN FLOW Gas 6,450 mcfpd Oil _____ bpd NGL _____ bpd Water _____ bpd
 GAS MEASURED BY 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		See Attachment

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 304-203-8059
 Signature  Title General Manager - Operations Date 4/29/15

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Beach 10H

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	0	50	0		sand/shale
Red Rock	50	350			red rock
Sand/shale	350	2125			sand/shale
Big Lime	2125	2280			limestone
Injun	2280	2398			sandstone
Sand/Shale	2398	3480			sand/shale
Shale	3480	6400			shale
Geneseo	7886	7913	8315	8377	shale
Tully	7913	7976	8377	8450	limestone
Hamilton	7976	8054	8450	8637	shale
Marcellus	8054	8147	8637	8764	shale
Cherry Valley	8147	8156	8764	8779	limestone
Lower Marcellus	8156		8779		shale

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Perforation Record					
Stage Number	Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	12/30/2014	15,890	15,732	40	Marcellus Shale
2	12/30/2014	15,690	15,332	40	Marcellus Shale
3	12/30/2014	15,490	15,332	40	Marcellus Shale
4	1/1/2015	15,290	15,132	40	Marcellus Shale
5	1/1/2015	15,090	14,932	40	Marcellus Shale
6	1/2/2015	14,890	14,733	40	Marcellus Shale
7	1/2/2015	14,690	14,532	40	Marcellus Shale
8	1/3/2015	14,490	14,332	40	Marcellus Shale
9	1/3/2015	14,290	14,132	40	Marcellus Shale
10	1/4/2015	14,090	13,932	40	Marcellus Shale
11	1/4/2015	13,890	13,732	40	Marcellus Shale
12	1/5/2015	13,690	13,532	40	Marcellus Shale
13	1/6/2015	13,490	13,332	40	Marcellus Shale
14	1/8/2015	13,290	13,132	40	Marcellus Shale
15	1/9/2015	13,090	12,932	40	Marcellus Shale
16	1/15/2015	12,890	12,732	40	Marcellus Shale
17	1/15/2015	12,690	12,532	40	Marcellus Shale
18	1/15/2015	12,490	12,332	40	Marcellus Shale
19	1/16/2015	12,290	12,132	40	Marcellus Shale
20	1/16/2015	12,090	11,942	40	Marcellus Shale
21	1/16/2015	11,890	11,734	40	Marcellus Shale
22	1/17/2015	11,690	11,532	40	Marcellus Shale
23	1/19/2015	11,484	11,332	40	Marcellus Shale
24	1/19/2015	11,290	11,132	40	Marcellus Shale
25	1/20/2015	11,090	10,932	40	Marcellus Shale
26	1/20/2015	10,890	10,732	40	Marcellus Shale
27	1/21/2015	10,690	10,532	40	Marcellus Shale
28	1/21/2015	10,940	10,336	40	Marcellus Shale
29	1/21/2015	10,290	10,132	40	Marcellus Shale
30	1/22/2015	10,090	9,930	40	Marcellus Shale
31	1/22/2015	9,890	9,730	40	Marcellus Shale
32	1/22/2015	9,690	9,532	40	Marcellus Shale
33	1/23/2015	9,490	9,332	40	Marcellus Shale
34	1/24/2015	9,290	9,132	40	Marcellus Shale
35	1/24/2015	9,090	8,932	40	Marcellus Shale
36	1/25/2015	8,884	8,702	40	Marcellus Shale

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Stimulation Record

Stage Number	Date	Average Treating Rate (BPM)	Average Treating Pressure (psi)	Breakdown Pressure (psi)	ISIP (psi)	Total Proppant Amount (lbs)	Total Clean Fluid (Bbls)
1	12/30/2014	77	8,870	7,159	5,817	399400	7,588
2	12/30/2014	78	8,735	6,867	5,876	394120	7,487
3	12/30/2014	80	8,672	6,604	6,355	400480	7,440
4	1/1/2015	82	8,939	7,813	6,352	399400	7,533
6	1/1/2015	84	8,972	7,221	5,718	403140	7,427
6	1/2/2015	80	8,804	7,900	6,194	399400	7,519
7	1/2/2015	83	8,876	7,671	6,346	403920	7,359
8	1/3/2015	83	8,780	7,871	6,068	405666	7,389
9	1/3/2015	80	8,869	7,277	8,940	391343	8,389
10	1/4/2015	82	8,789	7,572	6,068	399180	7,261
11	1/4/2015	79	8,761	8,642	0	401890	7,154
12	1/5/2015	83	8,612	7,704	6,514	398380	7,256
13	1/8/2015	83	8,650	7,585	6,480	401060	7,226
14	1/8/2015	82	8,685	7,700	5,908	396460	7,272
16	1/9/2015	80	8,470	8,431	6,542	399620	7,237
16	1/15/2015	76	8,440	6,655	0	401600	10,367
17	1/15/2015	88	8,603	8,499	6,670	396800	7,103
18	1/15/2015	85	8,729	8,404	6,130	380440	6,954
19	1/16/2015	87	8,552	7,614	6,701	399320	7,102
20	1/16/2015	85	8,307	7,482	6,574	398500	7,264
21	1/16/2015	89	8,789	7,167	5,972	397080	7,914
22	1/17/2015	90	8,565	6,652	6,068	403240	7,078
23	1/19/2015	84	8,520	8,407	6,448	399560	6,954
24	1/19/2015	90	8,710	8,143	6,320	400640	7,018
25	1/20/2015	84	8,565	7,259	0	397920	6,983
26	1/20/2015	88	8,675	7,684	6,542	385540	6,934
27	1/21/2015	90	8,525	8,253	5,940	404060	7,099
28	1/21/2015	88	8,622	8,005	0	402840	6,599
29	1/21/2015	88	8,663	8,532	6,216	380180	6,856
30	1/22/2015	80	8,643	7,859	6,828	366720	7,316
31	1/22/2015	82	8,636	8,198	6,384	401540	7,374
32	1/22/2015	88	8,485	8,605	6,384	401560	6,989
33	1/23/2015	88	8,358	6,903	6,447	403120	6,921
34	1/24/2015	88	8,318	8,184	6,130	397040	7,123
35	1/24/2015	90	8,583	8,540	6,195	391340	8,292
36	1/25/2015	79	8,394	9,038	5,593	393420	7,070

06/05/2015

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	12/30/2014
Job End Date:	1/25/2015
State:	West Virginia
County:	Monongalia
API Number:	47-061-01669-00-00
Operator Name:	Northeast Natural Energy LLC
Well Name and Number:	Beach 10H
Longitude:	-80.15213000
Latitude:	39.70441900
Datum:	NAD83
Federal/Tribal Well:	NO
True Vertical Depth:	8,158
Total Base Water Volume (gal):	11,085,035
Total Base Non Water Volume:	0



Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
Proppant Transport	Schlumberger	Corrosion Inhibitor, Anti-Foam Agent, Acid Breaker, Gelling Agent, Friction Reducer, Rheology Modifier, Iron Control Agent, Accelerator, Propping Agent	Water (Including Mix Water Supplied by Client)* Crystalline silica Hydrochloric acid Ceramic materials and wares, chemicals Ammonium sulfate Calcium chloride Acrylamide, 2-acrylamido-2-methylpropanesulfonic acid, sodium salt polymer Guar gum Ericic amidopropyl dimethyl betaine Propan-2-ol	NA 14808-60-7 7647-01-0 66402-68-4 7783-20-2 10043-52-4 38193-60-1 9000-30-0 149879-98-1 67-63-0	0.00125 13.24115 0.09022 0.08470 0.02257 0.02188 0.01666 0.07654 0.01725 0.00179		

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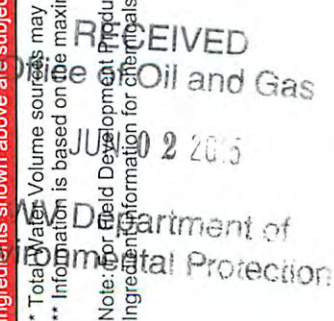
						136793-29-8	0.01322	0.00178	
					Polymer of 2-acrylamido-2-methylpropanesulfonic acid sodium salt and methyl acrylate				
					Potassium chloride	7447-40-7	0.00956	0.00129	
					Urea	57-13-6	0.00812	0.00110	
					Sodium chloride	7647-14-5	0.00528	0.00071	
					Sodium erythorbate	6381-77-7	0.00204	0.00027	
					Methanol	67-56-1	0.00200	0.00027	
					Sodium sulfate	7757-82-6	0.00189	0.00026	
					Non-crystalline silica (impurity)	7631-86-9	0.00188	0.00025	
					Diammonium peroxodisulphate	7727-54-0	0.00177	0.00024	
					Polypropylene glycol	25322-69-4	0.00145	0.00020	
					Fatty acids, tall-oil	61790-12-3	0.00140	0.00019	
					Thiourea, polymer with formaldehyde and 1-phenylethanone	68527-49-1	0.00115	0.00016	
					Alcohols, C14-15, ethoxylated (7EO)	68951-67-7	0.00055	0.00007	
					2-propenamid	79-06-1	0.00040	0.00005	
					Propargyl alcohol	107-19-7	0.00036	0.00005	
					Tetrasodium ethylenediaminetetraacetate	64-02-8	0.00021	0.00003	
					Sodium chloroacetate	3926-62-3	0.00022	0.00003	
					Hexadec-1-ene	629-73-2	0.00012	0.00002	
					Dimethyl siloxanes and silicones	63148-62-9	0.00012	0.00002	
					Polyvinyl acetate, partially hydrolyzed	304443-60-5	0.00005	0.00001	
					1-Octadecene (C18)	112-88-9	0.00006	0.00001	
					Octamethylcyclotetrasiloxane	556-67-2	0.00001		
					Dodecamethylcyclohexasiloxane	540-97-6			
					Decamethyl cyclopentasiloxane	541-02-6	0.00001		
					Formaldehyde	50-00-0	0.00001		
					Siloxanes and Silicones, di-Me, reaction products with silica	67762-90-7	0.00002		
					Copper(II) sulfate	7758-98-7			
Chlorine Dioxide	X-Chem	Microbial Control			ClO2	10049-04-4	100.00000		Gas
SC-30	X-Chem	Scale Inhibitor			Water	7732-18-5	85.29000		
ITI					Sodium Polyacrylate	2594-41-5	14.71000		

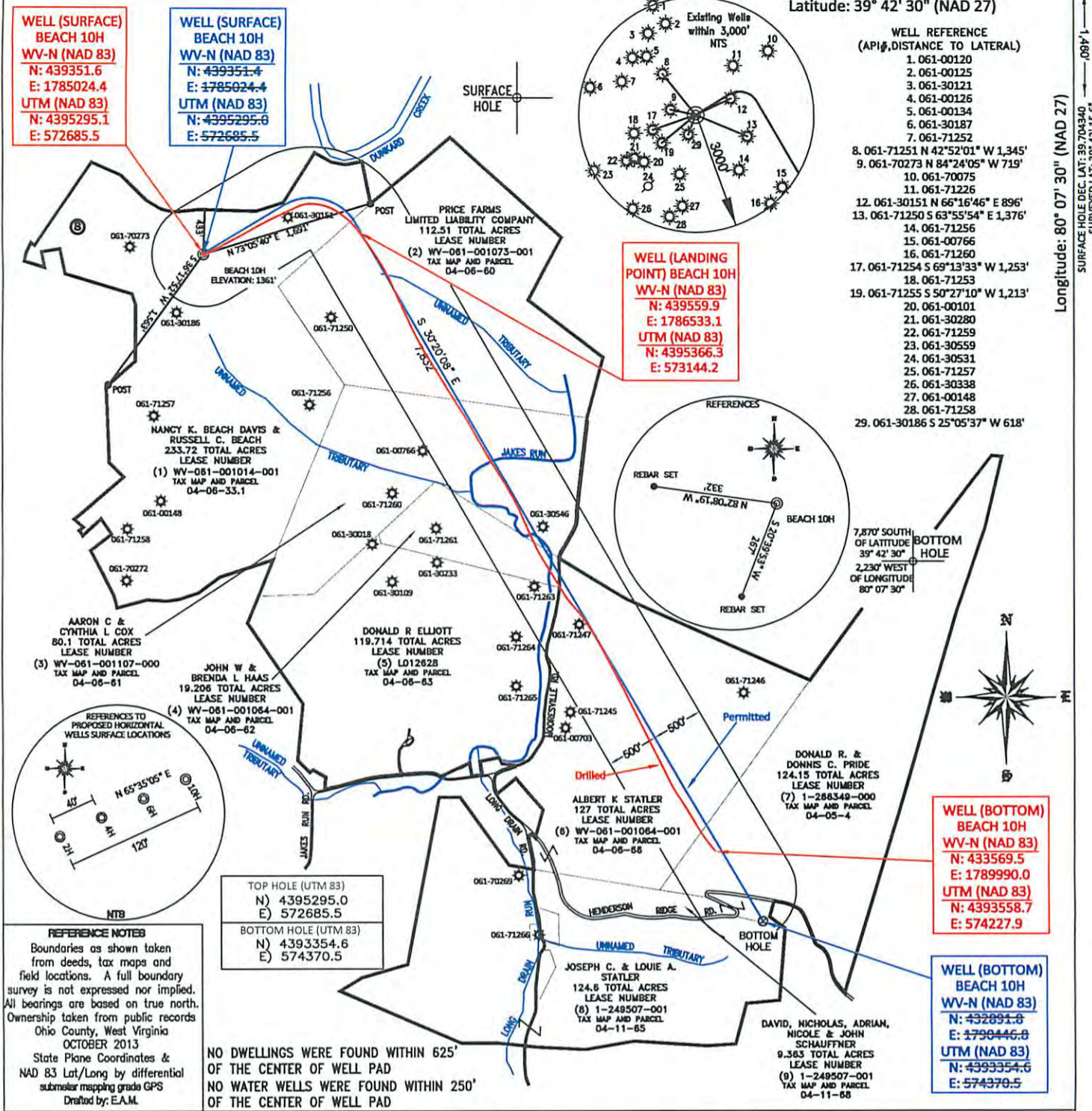
Ingredients shown above are subject to 29 CFR 1910.1200(i) and appear on Material Safety Data Sheets (MSDS). Ingredients shown below are Non-MSDS.

* 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)





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 Ohio County, West Virginia OCTOBER 2013
State Plane Coordinates & NAD 83 Lat/Long by differential submeter mapping grade GPS
Drafted by: E.A.M.

TOP HOLE (UTM 83)
N) 4395295.0
E) 572685.5
BOTTOM HOLE (UTM 83)
N) 4393354.6
E) 574370.5

NO DWELLINGS WERE FOUND WITHIN 625' OF THE CENTER OF WELL PAD
NO WATER WELLS WERE FOUND WITHIN 250' OF THE CENTER OF WELL PAD

FILE #: NNE009
DRAWING #: 2296
SCALE: PLAT = (1"=1400')
TICK MARK = (1"=2000')
MINIMUM DEGREE OF ACCURACY: 1/200
PROVEN SOURCE: SUBMETER MAPPING
OF ELEVATION: 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: NANCY K. BEACH DAVIS & RUSSELL C. BEACH
OIL & GAS ROYALTY OWNER: (SEE ATTACHMENT)
LEASE NUMBERS:

DATE: APRIL 3, 2015
OPERATOR'S WELL #: BEACH 10H AS DRILLED PLAT
API WELL #: 47 61
STATE COUNTY PERMIT
ELEVATION: 1361'
QUADRANGLE: BLACKSVILLE, WV.
ACREAGE: 233.72 +/-
ACREAGE: 860.63 +/-

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: 8,119' TMD: 15,961'
WELL OPERATOR : NORTHEAST NATURAL ENERGY LLC
DESIGNATED AGENT : JOHN ADAMS
ADDRESS: 707 VIRGINIA STREET SUITE 1200
ADDRESS: 707 VIRGINIA STREET SUITE 1200
CITY: CHARLESTON STATE: WV ZIP CODE: 25301
CITY: CHARLESTON STATE: WV ZIP CODE: 25301

06/05/2015