west virginia department of environmental protection

Office of Oil and Gas
601 57th Street SE
Charleston, WV 25304
(304) 926-0450
(304) 926-0452 fax

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

March 03, 2015

WELL WORK PERMIT

Horizontal 6A Well

This permit, API Well Number: 47-6101700, issued to NORTHEAST NATURAL ENERGY LLC, is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to all conditions and provisions outlined in the pages attached hereto. Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas inspector.

Please be advised that form WR-35, Well Operators Report of Well Work is to be submitted to this office within 90 days completion of permitted well work, as should form WR-34 Discharge Monitoring Report within 30 days of discharge of pits, if applicable. Failure to abide by all statutory and regulatory provisions governing all duties and operations hereunder may result in suspension or revocation of this permit and, in addition, may result in civil and/or criminal penalties being imposed upon the operators.

In addition to the applicable requirements of this permit, and the statutes and rules governing oil and gas activity in WV, this permit may contain specific conditions which must be followed. Permit conditions are attached to this cover letter.

Per 35CSR-4-5.2.g this permit will expire in two (2) years from the issue date unless permitted well work is commenced. If there are any questions, please feel free to contact me at (304) 926-0499 ext. 1654.

James Martin
Chief

Operator's Well No: CAMPBELL 6H
Farm Name: CAMPBELL, ELLEN F.
API Well Number: 47-6101700
Permit Type: Horizontal 6A Well
Date Issued: 03/03/2015

API Number: 61-01700

PERMIT CONDITIONS

West Virginia Code § 22-6A-8(d) allows the Office of Oil and Gas to place specific conditions upon this permit. Permit conditions have the same effect as law. Failure to adhere to the specified permit conditions may result in enforcement action.

CONDITIONS

1. This proposed activity may require permit coverage from the United States Army Corps of Engineers (USACE). Through this permit, you are hereby being advised to consult with USACE regarding this proposed activity.

2. If the operator encounters an unanticipated void, or an anticipated void at an unanticipated depth, the operator shall notify the inspector within 24 hours. Modifications to the casing program may be necessary to comply with W. Va. Code § 22-6A-5a (12), which requires drilling to a minimum depth of thirty feet below the bottom of the void, and installing a minimum of twenty (20) feet of casing. Under no circumstance should the operator drill more than fifty (50) feet below the bottom of the void or install less than twenty (20) feet of casing below the bottom of the void.

3. When compacting fills, each lift before compaction shall not be more than 12 inches in height, and the moisture content of the fill material shall be within limits as determined by the Standard Proctor Density test of the actual soils used in specific engineered fill, ASTM D698, Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort, to achieve 95 % compaction of the optimum density. Each lift shall be tested for compaction, with a minimum of two tests per lift per acre of fill. All test results shall be maintained on site and available for review.

4. Operator shall install signage per § 22-6A-8g (6) (B) at all source water locations included in their approved water management plan within 24 hours of water management plan activation.

5. Oil and gas water supply wells will be registered with the Office of Oil and Gas and all such wells will be constructed and plugged in accordance with the standards of the Bureau for Public Health set forth in its Legislative rule entitled *Water Well Regulations,* 64 C.S.R. 19. Operator is to contact the Bureau of Public Health regarding permit requirements. In lieu of plugging, the operator may transfer the well to the surface owner upon agreement of the parties. All drinking water wells within fifteen hundred feet of the water supply well shall be flow tested by the operator upon request of the drinking well owner prior to operating the water supply well.

6. Pursuant to the requirements pertaining to the sampling of domestic water supply wells/springs the operator shall, no later than thirty (30) days after receipt of analytical data provide a written copy to the Chief and any of the users who may have requested such analyses.

7. If any explosion or other accident causing loss of life or serious personal injury occurs in or about a well or well work on a well, the well operator or its contractor shall give notice, stating the particulars of the explosion or accident, to the oil and gas inspector and the Chief, within 24 hours of said accident.

8. During the casing and cementing process, in the event cement does not return to the surface, the oil and gas inspector shall be notified within 24 hours.

9. Operator shall provide the Office of Oil & Gas notification of the date that drilling commenced on this well. Such notice shall be provided by sending an email to DEPOOGNotify@wv.gov within 30 days of commencement of drilling.

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AMENDMENT TO WELL LOCATION RESTRICTION WAIVER ORDER NUMBER 2014-W-4

WHEREAS, pursuant to WV Code § 22-6A-12, well pads may not be constructed within one hundred feet of a wetland, absent a waiver from the department;

WHEREAS, Northeast Natural Energy, LLC submitted a well work permit application which included construction of a well pad, identified as Campbell, non-compliant with the well location restriction of WV Code § 22-6A-12;

WHEREAS, Northeast Natural Energy, LLC submitted a waiver request from the department for the Campbell pad as part of the well work permit applications of well API Numbers 47-061-01677, and 47-061-01678;

WHEREAS, on July 24, 2014, the Office of Oil and Gas approved the waiver request for the Campbell pad for API Numbers 47-061-01677, and 47-061-01678 through ORDER NUMBER 2014-W-4;

WHEREAS, Northeast Natural Energy, LLC has submitted an additional well work permit application for a well to be drilled on the Campbell pad, containing no changes to the pad construction as originally permitted.

IT IS HEREBY ORDERED that waiver ORDER NUMBER 2014-W-4, be amended to include well API NUMBER 47-061-1700.

Thus ordered this 27th day of February, 2015.

James A. Martin, Chief
Office of Oil and Gas

west virginia department of environmental protection

Office of Oil and Gas
601 57th Street
Charleston, WV 25304
(304) 926-0450 fax (304) 926-0452

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

ORDER
ISSUED UNDER
WEST VIRGINIA CODE, CHAPTER 22, ARTICLE 6A

TO: Northeast Natural Energy, LLC
707 Virginia Street East
Suite 1200
Charleston, WV 25301

DATE: July 24, 2014
ORDER NO.: 2014-W-4

INTRODUCTION

This Order (hereinafter "Order") is issued by the Office of Oil and Gas (hereinafter "OOG"), by and through its Chief, pursuant to the authority of W. Va. Code §§ 22-1-1, 22-6-1 and 22-6A-1 *et seq.* to Northeast Natural Energy, LLC (hereinafter "Northeast Natural Energy" or "Operator"), collectively the "Parties."

FINDINGS OF FACT

In support of this Order, the Chief hereby finds the following:

1. OOG, an office within the West Virginia Department of Environmental Protection, is the agency with the duty and authority to execute and enforce W. Va. Code §22-6-1 and §22-6A-1 *et seq.*, and the rules and regulations promulgated thereunder.

2. Northeast Natural Energy is a "person" as defined by W. Va. Code §22-6-1(n), with a corporate address as 707 Virginia Street East, Suite 1200, Charleston, WV 25301.

3. On April 25, 2014, Northeast Natural Energy submitted permit applications for gas wells identified as API numbers 47-061-01677, and 47-061-01678, located on the Campbell Pad in Clay District, Monongalia County, West Virginia.

4. On April 25, 2014 Northeast Natural Energy requested a waiver for Wetland #1, outlined in Exhibit 1, from well location restriction requirements in W. Va. Code §22-6A-12(b) for gas well permit applications identified as API numbers: 47-061-01677 and 47-061-01678, located on the Campbell Pad in Clay District, Monongalia County, West Virginia.

CONCLUSIONS OF LAW

1. West Virginia Code §22-1-6(d) requires, in part, that "[i]n addition to other powers, duties and responsibilities granted and assigned to the secretary by this chapter, the secretary is authorized and empowered to...(3) Enter private lands to make surveys and inspections for environmental protection purposes; to investigate for violations of statutes or rules which the Office of Oil and Gas is charged with enforcing; to serve and execute warrants and processes; to make arrests; issue orders, which for the purposes of this chapter include consent agreements; and to otherwise enforce the statutes or rules which the Office of Oil and Gas is charged with enforcing."

2. West Virginia Code §22-6A-2(a)(6) requires, in part, that "Concomitant with the broad powers to condition the issuance of well work permits, the secretary should also have broad authority to waive certain minimum requirements of this article when, in his or her discretion, such waiver is appropriate: *Provided*, That the secretary shall submit a written report of the number of waivers granted to the Legislature commencing January 1, 2013, and each year thereafter."

3. West Virginia Code §22-6A-12(b) requires, in part, that "[n]o well pad may be prepared or well drilled within one hundred feet measured horizontally from any perennial stream, natural or artificial lake, pond or reservoir, or a wetland, or within three hundred feet of a naturally reproducing trout stream. No well pad may be located within one thousand feet of a surface or ground water intake of a public water supply. The distance from the public water supply as identified by the Office of Oil and Gas shall be measured as follows: (1) For a surface water intake on a lake or reservoir, the distance shall be measured from the boundary of the lake or reservoir. (2) For a surface water intake on a flowing stream, the distance shall be measured from a semicircular radius extending upstream of the surface water intake. (3) For a groundwater source, the distance shall be measured from the wellhead or spring. The Office of Oil and Gas may, in its discretion, waive these distance restrictions upon submission of a plan identifying sufficient measures, facilities or practices to be employed during well site construction, drilling and operations to protect the waters of the state. A waiver, if granted, shall impose any permit conditions as the secretary considers necessary."

ORDER

Therefore, the Office of Oil and Gas grants Northeast Natural Energy, LLC a waiver for Wetland #1 from well location restriction requirements in W. Va. Code §22-6A-12(b) for gas well permit applications identified as API numbers 47-061-01677 and 47-061-01678, located on the Campbell Pad in Clay District, Monongalia County, West Virginia. The Office of Oil and Gas hereby **ORDERS** that Northeast Natural Energy, LLC shall meet the following site construction and operational requirements for the Campbell well pad:

a. A berm shall be constructed around the perimeter of the pad to contain any potential spills and storm water runoff. Berm is to be at least two feet (2') in height;

b. Orange safety fencing shall be installed on the project boundary to ensure no encroachment onto wetland area;

c. Filter/silt socks and erosion control blankets shall be installed on all slopes and down gradient locations of the pad and topsoil pile areas as erosion and sediment controlling BMPs;

d. Compost filter socks and super silt fences shall be installed along all slopes and down gradient locations of the pad adjacent to Wetland #1;

e. As stated by Northeast Natural Energy, a geotechnical inspector will be on site to insure the recommended construction techniques are followed as laid out in the completed geotechnical report.

f. Disturbed areas not used for operations shall be seeded and mulched per the seeding tables in the WVDEP-OOG Erosion and Sediment Control Manual;

g. Drilling muds shall be disposed of in a permitted landfill;

h. Waste generated by the flowback treatment systems shall be sent to offsite disposal at a permitted landfill;

i. Weekly site inspections shall be conducted to monitor and maintain the integrity of the BMP storm water controls;

j. Weekly storm water and spill prevention inspections shall be conducted focusing on storm water and spill prevention BMPs and maintenance of these BMPs;

k. Inspections of the storm water and spill prevention measures shall be conducted after any major storm event defined as a half inch (½") rain within any twenty-four (24) hour period;

l. Pad inspections shall be conducted no less than once a week to identify and mitigate potential deficiencies;

m. All records from inspections shall be maintained on site for the life of the project and be available upon request.

Thus ORDERED, the 24th day of July, 2014.

IN THE NAME OF THE STATE OF WEST VIRGINIA:

OFFICE OF OIL AND GAS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
STATE OF WEST VIRGINIA

By: _____
JAMES A. MARTIN, CHIEF

Exhibit 1

APPROVED
WVDEP OOG
SAY 7/11/2014

CAMPBELL WELL PAD
CLAY DISTRICT, MONONGALIA COUNTY, WV
APRIL 2014

API#6101677

WEST VIRGINIA 811

TWO WORKING DAYS PRIOR TO EXCAVATION, THE CONTRACTOR MUST CONTACT THE WV ONE CALL SYSTEM, INC., 1-800-245-4848
(WV ONE CALL TICKET#1404402841)

OWNER

northeast
NATURAL ENERGY

NORTHEAST NATURAL ENERGY, LLC
707 VIRGINIA STREET SUITE 1200
CHARLESTON, WV 253 01

SHEET INDEX

1. TITLE SHEET
2-3. EVACUATION ROUTE/PREVAILING WIND
4. E&S CONTROL LAYOUT OVERVIEW
5-15. E&S CONTROL LAYOUT
16. E&S CONTROL AND SITE PLAN OVERVIEW
17-27. E&S CONTROL AND SITE PLAN
28. WELL PAD CROSS-SECTIONS
29. COASTAL ACCESS ROAD PROFILE
30. COASTAL ACCESS ROAD AND CAMPBELL ACCESS ROAD PROFILES
31. CAMPBELL ACCESS ROAD PROFILE
32-37. COASTAL ACCESS ROAD CROSS-SECTIONS
38-43. CAMPBELL ACCESS ROAD CROSS-SECTIONS
44-46. DETAIL SHEET
47. JERSEY BARRIER INSTALLATION PLAN
48. CROSS-SECTIONS C-C',D-D' & E-E'
49. RECLAMATION PLAN OVERVIEW
50-60. RECLAMATION PLAN

TOTAL DISTURBED AREA: 72.1 AC.
ROAD DISTURBED AREA: 59.4 AC.
WELL PAD DISTURBED AREA: 12.7 AC.

PLANS PREPARED BY:

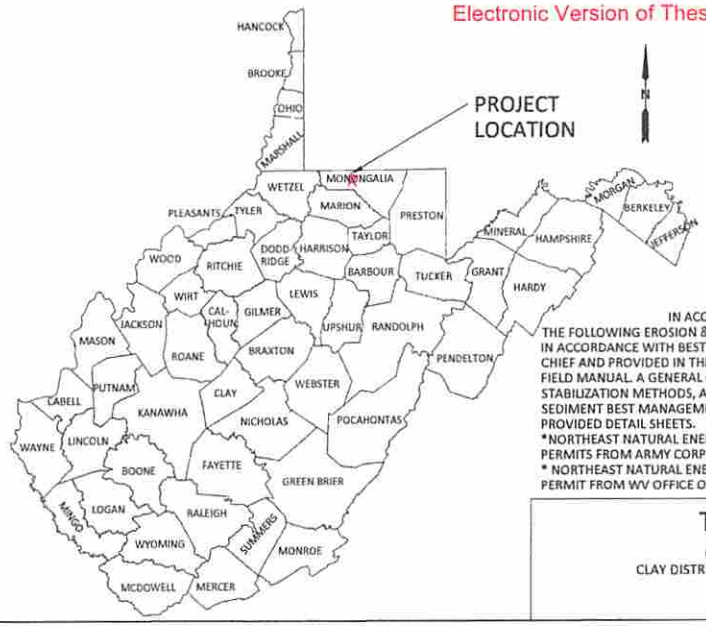
BOORD BENCHEK & ASSOCIATES, INC.
ENGINEERING,SURVEYING, CONSTRUCTION AND MINING SERVICES
SOUTHPOINTE, PA 15317 PHONE: 724-746-1055

ANDREW E. BENCHEK REGISTERED 18444 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER

4-10-14

ANDREW BENCHEK
P.E.

Electronic Version of These Plans May Be Viewed at: Q\OIL GAS\SAY FILES\REVIEWS



IN ACCORDANCE WITH WV 35 CSR 8
THE FOLLOWING EROSION & SEDIMENT CONTROL PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH BEST MANAGEMENT PRACTICES ESTABLISHED BY THE CHIEF AND PROVIDED IN THE OFFICE'S EROSION AND SEDIMENT CONTROL FIELD MANUAL. A GENERAL CONSTRUCTION SEQUENCE, DESCRIPTION OF STABILIZATION METHODS, AND DETAILS & SPECIFICATIONS FOR EROSION & SEDIMENT BEST MANAGEMENT PRACTICES HAVE BEEN INCLUDED IN THE PROVIDED DETAIL SHEETS.
*NORTHEAST NATURAL ENERGY, LLC. TO OBTAIN NWP-39 AND NWP-14 PERMITS FROM ARMY CORPS OF ENGINEERS AS NECESSARY.
* NORTHEAST NATURAL ENERGY, LLC. TO OBTAIN STREAM ENCROACHMENT PERMIT FROM WV OFFICE OF LAND AND STREAMS AS NECESSARY.

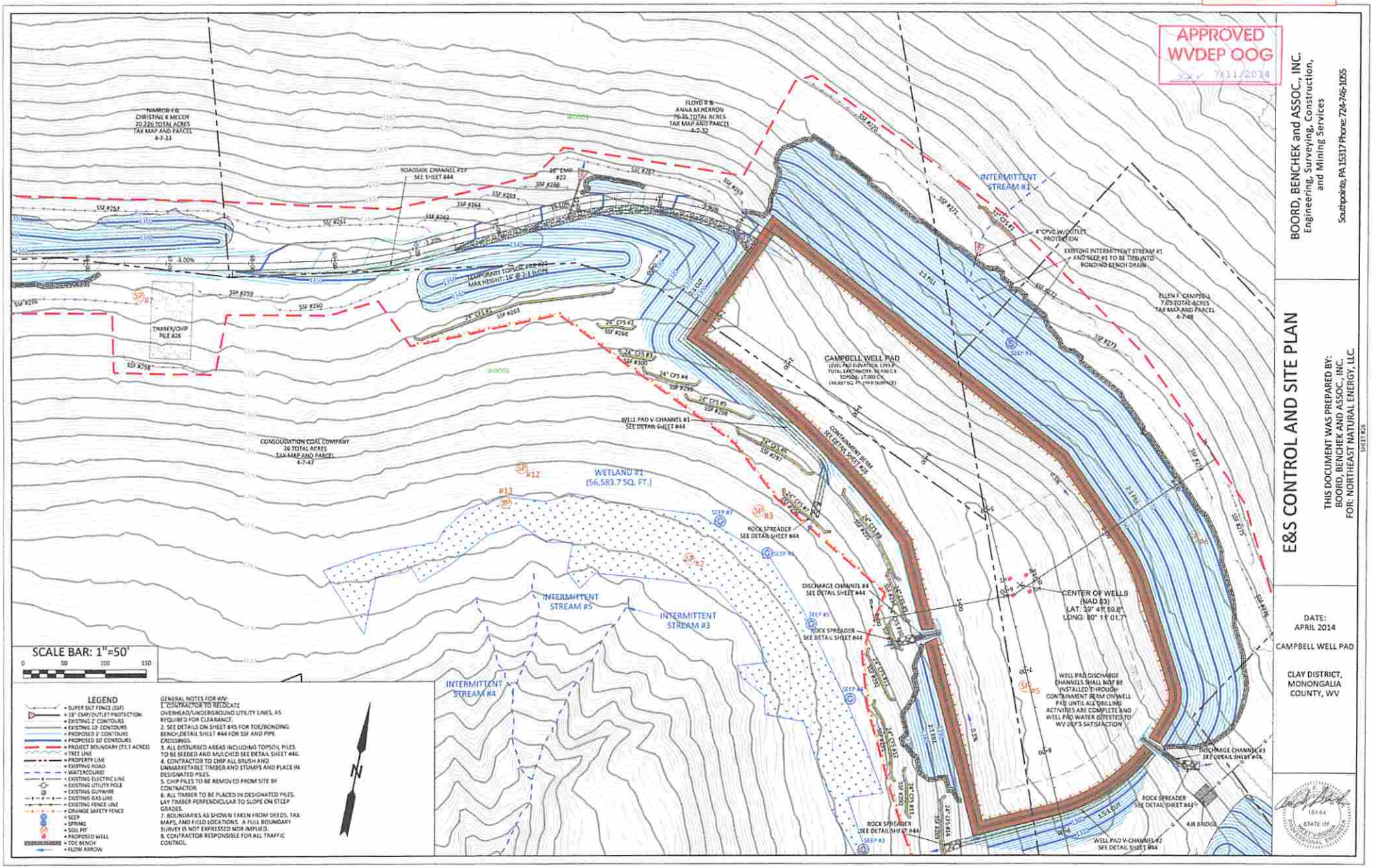
COORDINATES	
CENTER OF WELLS	
(NAD 83)	
LAT: 39° 41' 59.6"	
LONG: 80° 11' 01.7"	
(NAD 27)	
LAT: 39° 41' 59.0"	
LONG: 80° 11' 02.2"	
SITE ENTRANCE	
(NAD 83)	
LAT: 39° 41' 42.7"	
LONG: 80° 13' 22.7"	
(NAD 27)	
LAT: 39° 41' 41.9"	
LONG: 80° 13' 23.1"	

1"=2000'

0' 2000' 4000' 6000'

TITLE SHEET	SHEET
CAMPBELL WELL PAD CLAY DISTRICT, MONONGALIA COUNTY, WV	1 OF 60

Exhibit 1



BOORD, BENCHEK and ASSOC., INC.
Engineering, Surveying, Construction, and Mining Services
Southpointe, PA 15317 Phone: 724-746-1055

E&S CONTROL AND SITE PLAN

THIS DOCUMENT WAS PREPARED BY:
BOORD, BENCHEK AND ASSOC., INC.
FOR: NORTHEAST NATURAL ENERGY, LLC

SHEET #26

DATE:
APRIL 2014

CAMPBELL WELL PAD

CLAY DISTRICT,
MONONGALIA
COUNTY, WV

STATE OF WEST VIRGINIA
PROFESSIONAL ENGINEER

4706101700

WW-6B
(9/13)

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
WELL WORK PERMIT APPLICATION

61 3 256

1) Well Operator:	Northeast Natural Energy LLC	494498281	Monongalia	Clay	Blacksville
		Operator ID	County	District	Quadrangle

2) Operator's Well Number: Campbell 6H Well Pad Name: Campbell

3) Farm Name/Surface Owner: Ellen F. Campbell Public Road Access: State Route 218 (Daybrook Road)

4) Elevation, current ground: 1,320' Elevation, proposed post-construction: 1,293.6'

5) Well Type (a) Gas ■ Oil _____ Underground Storage _____
Other _____
(b)If Gas Shallow ■ Deep _____
Horizontal ■

6) Existing Pad: Yes or No Yes

MJK 11/17/2014

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Associated Pressure(s):
Marcellus ; 8,027' ; 105' , 3,485psi

8) Proposed Total Vertical Depth: 8,027'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 15,994'

11) Proposed Horizontal Leg Length: 7,119'

12) Approximate Fresh Water Strata Depths: 300' , 1,100 '

13) Method to Determine Fresh Water Depths: Driller's Log from Offset Wells

14) Approximate Saltwater Depths: 1,400' , 2,100'

15) Approximate Coal Seam Depths: 900' , 1,000'

16) Approximate Depth to Possible Void (coal mine, karst, other): N/A

17) Does Proposed well location contain coal seams directly overlying or adjacent to an active mine? Yes ☑ No ☐

(a) If Yes, provide Mine Info: Name: Adjacent Mine - Federal No. 2
Depth: 900' - 1,000'
Seam: Pittsburgh
Owner: Patriot Coal Corporation

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DEC 03 2014

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WW-6B
(9/13)

18) **CASING AND TUBING PROGRAM**

TYPE	Size	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: For Drilling	INTERVALS: Left in Well	CEMENT: Fill-up (Cu. Ft.)
Conductor	24"	New	NA	52.78	60'	60'	GTS
Fresh Water	13 3/8"	New	J-55	54.5	1,280'	1,250'	CTS
Coal							
Intermediate	9 5/8"	New	J-55	40	2,330'	2,300'	CTS
Production	5 1/2"	New	P-110	20	15,994'	15,960'	3,720 Cu. Ft.
Tubing	2 3/8"	New	J-55	4.7	NA	8,500'	NA
Liners							

Northeast Natural Energy LLC will not set Freshwater Casing beyond elevation without prior approval from the WV DEP Office of Oil and Gas Management.

MJK 11/17/2014

TYPE	Size	Wellbore Diameter	Wall Thickness	Burst Pressure	Cement Type	Cement Yield (cu. ft./k)
Conductor	24"	24"	.25	415	Grout	NA
Fresh Water	13 3/8"	17 1/2"	.38"	2,760	Class A	1.23
Coal						
Intermediate	9 5/8"	12 1/4"	.395"	3,950	Class A	1.3
Production	5 1/2"	8 3/4"	.361"	12,530	50:50 Poz	1.21
Tubing	2 3/8"	NA	.190"	7,700	NA	NA
Liners						

PACKERS

Kind:				
Sizes:				
Depths Set:				

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WW-6B
(9/13)

4706101700

19) Describe proposed well work, including the drilling and plugging back of any pilot hole:

Drilling and completion of a horizontal Marcellus well. The well will be drilled on air or fluid to an approximate depth of 7,200' TVD/MD. The well will then be horizontally drilled on fluid from the KOP to approximately 8,027' TVD / 15,994' MD along a 143 degree azimuth.

20) Describe fracturing/stimulating methods in detail, including anticipated max pressure and max rate:

Multi-stage / high-rate slickwater fracture treatment using various size sands as proppant. First stage will be initiated via pressurization against a burst disc ran in the production casing string or perforated with coiled tubing. Subsequent stages will be perforated with pumped down guns ran on wireline. Individual stages will be isolated with composite frac plugs. Maximum pump rate during any stage will be 110 BPM with a maximum allowable surface pressure of 9,500 PSI. Composite bridge plugs will be set at the end of the last stage to isolate the treated formation.

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): NA - Existing Pad

22) Area to be disturbed for well pad only, less access road (acres): NA - Existing Pad

23) Describe centralizer placement for each casing string:

Surface and intermediate casing strings will have bow spring centralizers placed every third joint (~120') from the shoe joint to surface. Production casing will have rigid body centralizers placed every fourth joint (~160') from TD to surface.

24) Describe all cement additives associated with each cement type:

Surface string cement will be a Class A + Max 3% bwoc Calcium Chloride Fresh Water blend. Intermediate string cement will be a Class A Cement + Max 3% bwoc Calcium Chloride + Fresh Water. Production string cement will be (50:50) Poz (Fly Ash):Type I Cement with a gas migration additive.

25) Proposed borehole conditioning procedures:

Surface string will use a 25.0 bbls Gel Pill + LCM + 25 lbs Cello Flake + 20 lbs/bbl Bentonite @ 8.4 ppg & 10 bbls fresh water spacer prior to cement. Intermediate string will use a 25.0 bbls Gel Pill + LCM + 25 lbs Cello Flake + 20 lbs/bbl Bentonite @ 8.4 ppg & 10 bbls fresh water spacer prior to cement. Production string will use a 50.0 bbls SealBond 25 + 1 gal/bbl US-40 + 275 lbs/bbl Barite + 1 gal/bbl SS-2 Spacer @ 13.5 ppg prior to cement.

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*Note: Attach additional sheets as needed.

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4706101700

Northeast Natural Energy LLC Mine Contingency Plan

northeast
NATURAL ENERGY

On all wells drilled, Northeast Natural Energy LLC ("NNE") has contingency strategies in place should an unanticipated void or mine be encountered while drilling the surface section of the well. If encountered, any accumulated gases will be diverted a safe distance away from the drilling operations through the blooey line and/or flare.

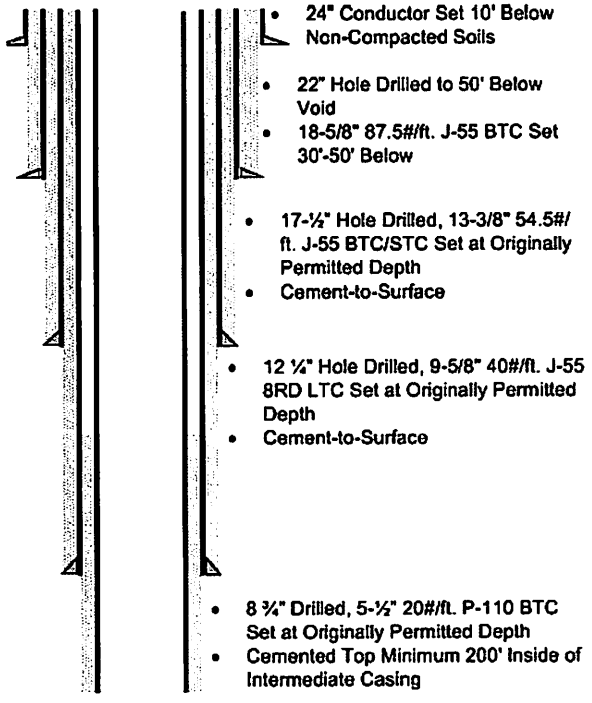
All casings programs submitted to the state incorporate the use of a 24" conductor over the previously used 20" that has long been the industry standard for a typical Marcellus design. The use of 24" conductor casing allows the use of a 22" bit to ream the surface hole, and drill 50' below the void to run a string of 18-5/8" 87.50#/ft J-55 through the section when needed.

The 18-5/8" would be set 30-50' below the void with cement baskets placed directly above and below. The section of pipe below the void would be cemented using the balance method with 100% excess. The section above the void would be cemented separately by using remedial top fill techniques and 30% excess.

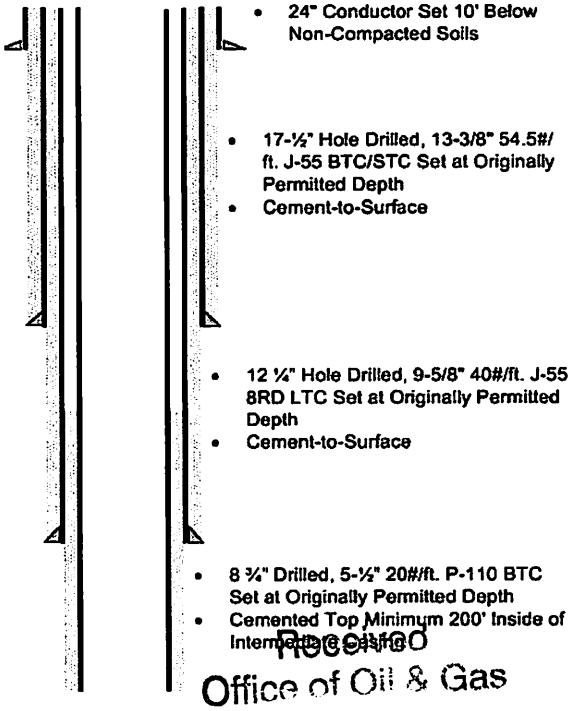
With the use of these string sizes and techniques, the surface and intermediate strings do not need to be altered. After a proper WOC time, the surface section of the well would continue to be drilled with a 17-1/2" bit and the 13-3/8" 54.50#/ft freshwater casing would be set at the originally permitted depth.

The diagram below visually shows the alternative casing plan should an unanticipated void be encountered.

Casing Schematic w/ Mine String



Casing Schematic w/o Mine String



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Received
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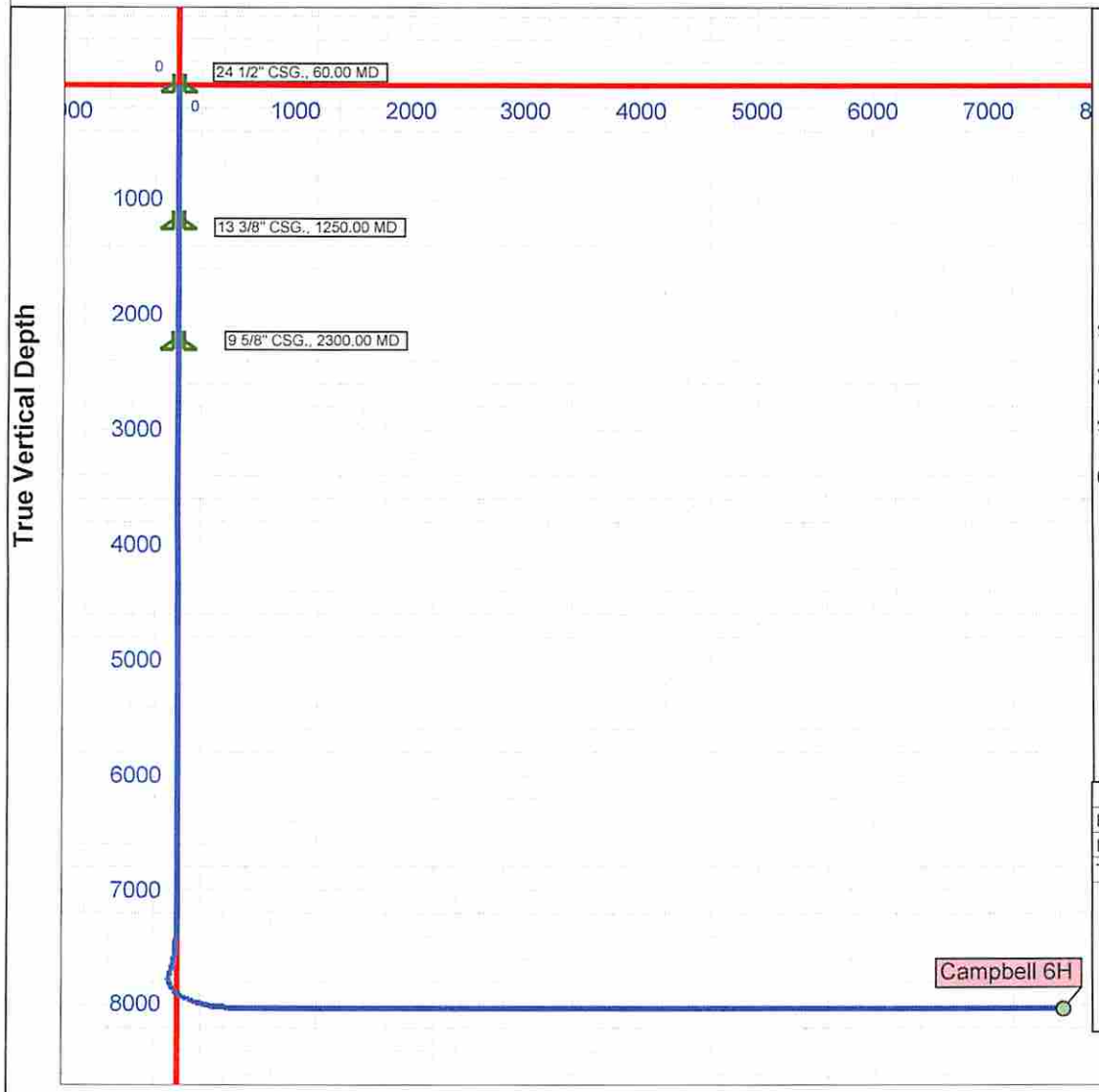
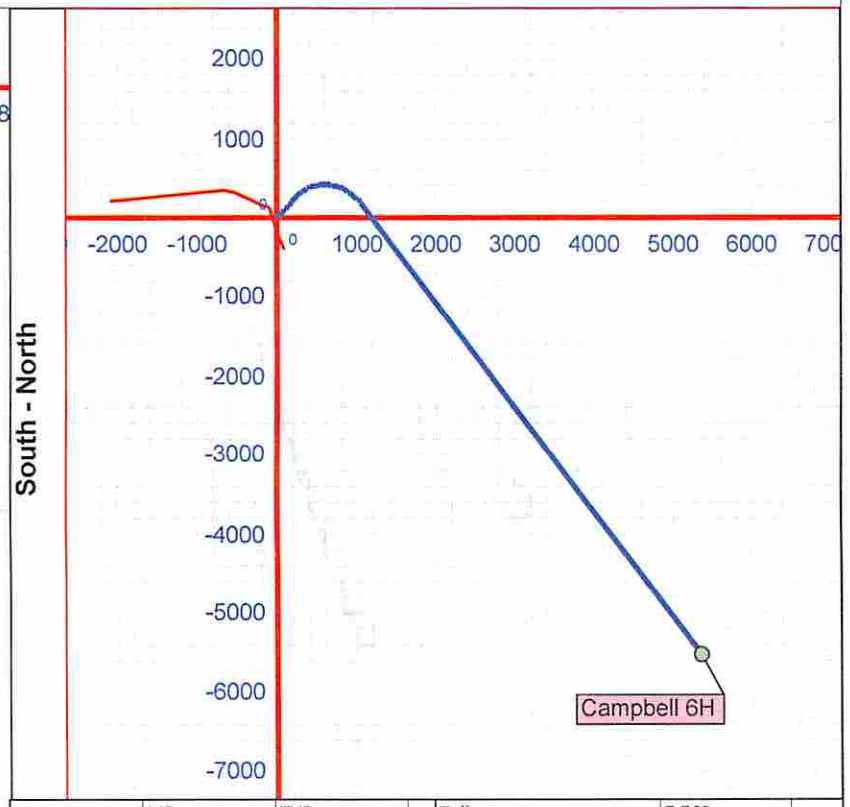
DEC 03 2014

4706101700

Job Number:
Company: Northeast Natural Energy
Lease/Well: Campbell 6H
Location: Campbell
Rig Name: Pioneer 63
State/County: WV/ Mon
Country: US
API Number:

Elevation (To MSL): 1294.00 ft
RKB: 18.00 ft
Projection System: US State Plane 1983
Projection Group: West Virginia Northern Zone
Projection Datum: CLARKE 1866
Magnetic Declination: -8.90
Grid Convergence: -0.43602 W
Date: Tuesday, November 04, 2014





	MD	TVD
KOP	7,200	7,200
LP	8,875	8,027
TD	15,994	8,027

Tully	7,762
Hamilton	7,812
Upper Marcellus	7,932
Lower Marcellus	7,982
Onondaga	8,037

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Office of Oil & Gas
NOV 25 2014

Vertical Section (1000 Ft/Div) VSP: 143.00°

Performance Drilling Technology, Inc. - HawkEye™ ©2014

WW-9
(2/15)

API Number 47 - _____ - _____
Operator's Well No. Campbell 6H

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL AND GAS

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name Northeast Natural Energy LLC OP Code 494498281

Watershed (HUC 10) Dunkard Creek Quadrangle Blacksville, WV

Do you anticipate using more than 5,000 bbls of water to complete the proposed well work? Yes ☑ No ☐

Will a pit be used? Yes ☐ No ☑

If so, please describe anticipated pit waste: _____

Will a synthetic liner be used in the pit? Yes ☐ No ☐ If so, what ml.? _____

Proposed Disposal Method For Treated Pit Wastes:

_____ Land Application
_____ Underground Injection (UIC Permit Number _____)
■ Reuse (at API Number unknown at this time, TBD)
_____ Off Site Disposal (Supply form WW-9 for disposal location)
_____ Other (Explain _____

Will closed loop system be used? If so, describe: Yes - See Attachment A

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. Air or Freshwater - Vertical/Oil Based-Curve/Horizontal

-If oil based, what type? Synthetic, petroleum, etc. Synthetic Oil Based Mud

Additives to be used in drilling medium? Organophilic Clay Viscosifiers, Lime Unsaturated Fatty Acids, CaCl, Barite, Emulsifiers, Mica LCM, Water Loss Agents

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. Removed Offsite - See Attachment A

-If left in pit and plan to solidify what medium will be used? (cement, lime, sawdust) _____

-Landfill or offsite name/permit number? Please See Attachment A

Permittee shall provide written notice to the Office of Oil and Gas of any load of drill cuttings or associated waste rejected at any West Virginia solid waste facility. The notice shall be provided within 24 hours of rejection and the permittee shall also disclose where it was properly disposed.

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on August 1, 2005, by the Office of Oil and Gas of the West Virginia Department of Environmental Protection. I understand that the provisions of the permit are enforceable by law. Violations of any term or condition of the general permit and/or other applicable law or regulation can lead to enforcement action.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment.

Company Official Signature Hollie Medley

Company Official (Typed Name) Hollie Medley

Company Official Title Regulatory Coordinator

Subscribed and sworn before me this 2 day of March , 20 15

Notary Public

My commission expires April 11, 2017

OFFICIAL SEAL
Andrew J. Travis
Notary Public
State of West Virginia
My Commission Expires
April 11, 2017
6240 Mid Atlantic Drive
Morgantown, WV 26508

4706101700

Form WW-9

Operator's Well No. Campbell 6H

Northeast Natural Energy LLC

Proposed Revegetation Treatment: Acres Disturbed 72.1 Prevegetation pH TBD

Lime 2 Tons/acre or to correct to pH 7

Fertilizer type 19-19-19

Fertilizer amount 200 lbs/acre

Mulch 2 Tons/acre

Seed Mixtures

Temporary		Permanent	
Seed Type	lbs/acre	Seed Type	lbs/acre
Orchard Grass	46	Orchard Grass	46
Red Clover	8	Red Clover	8
Tetraploid Perrennial Rye	16	Tetraploid Perrennial Rye	16
Timothy - 15 and Annual Rye- 15		Timothy - 15 and Annual Rye - 15	

Attach:
Drawing(s) of road, location, pit and proposed area for land application (unless engineered plans including this info have been provided)

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: Gayne J Kirtner

Comments:

Received
Office of Oil & Gas
NOV 25 2014

Received
Office of Oil & Gas
DEC 03 2014

Title: Inspector Date: 11/17/2014

Field Reviewed? (7) Yes ( ) No

4706101700

Attachment A to WW-9

Northeast Natural Energy LLC ("NNE") plans to utilize a closed loop process for its drilling of the Campbell 6H well. Return flow from the well will be separated into its liquid and solid form. Liquids will be held in steel tanks and reused in the drilling and completion process or disposed of at an approved facility listed below. Solids removed from the stream will be diverted to steel half-round tanks where they will be solidified on site and taken to disposal as they are accumulated.

Campbell 6H Drill Cuttings will be taken to disposal at one or more of the following disposal/approved waste facilities, unless listed facilities are no longer approved to accept waste at time of disposal:

- Westmoreland Landfill (Tervita) – Belle Vernon, PA (Permit # 100277)
- Meadowfill Landfill (Waste Management) – Bridgeport, WV (Permit # SWF 103298)
- Max Environmental – Yukon, PA (PAD004835146 and 301071)
- Max Environmental – Bulger, PA (PAD059087072 and 301359)
- Chestnut Valley Landfill (Advanced Disposal) – Export, PA (Permit # 101421)

NNE plans to reuse and recycle all flowback fluid and/or reach out to other operators in the area who may be able to reuse and recycle such fluid. However, in the event that reuse is not obtainable the fluid will be disposed of at one, or multiple, of the following disposal/approved waste facilities unless listed facilities are no longer approved to accept waste at time of disposal:

- Fairmont Brine Processing (WV NPDES #0116408)
- Green Hunter M. E. Elder 1 Disposal Well (Permit # 47-085-05151)
- Green Hunter Mason 1 Disposal Well (Permit #47-085-09721)
- Green Hunter Warren Disposal Well (Permit #34-121-2-3995)
- Green Hunter Travis Unit Disposal Well (Permit #34-121-2-4086)
- Viking Energy Corporation 20320 Disposal Well (Permit#47-039-02210)
- Ohio Oil Gathering Killbuck Disposal Well (Permit #34-075-24527)
- Ohio Oil Gathering Moran Disposal Well (Permit #34-089-24792)
- Ohio Oil Gathering Bells Run Disposal Well (Permit #34-167-29395)
- Ohio Oil Gathering Long Run Disposal Well (Permit #34-167-29658)
- Ohio Oil Gathering Newell Run Disposal Well (Permit #34-167-29685)
- Appalachian Oil Purchaser Greens Run Disposal Well (Permit #2D0732540)
- Appalachian Oil Purchaser BW#4 Disposal Well (Permit # 2D0732523)

Received
Office of Oil & Gas
DEC 03 2014

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NOV 25 2014

4706101700

northeast
NATURAL ENERGY

Campbell 6H

SITE SAFETY PLAN

MJH
11/17/2014

November 5, 2014

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NOV 25 2014

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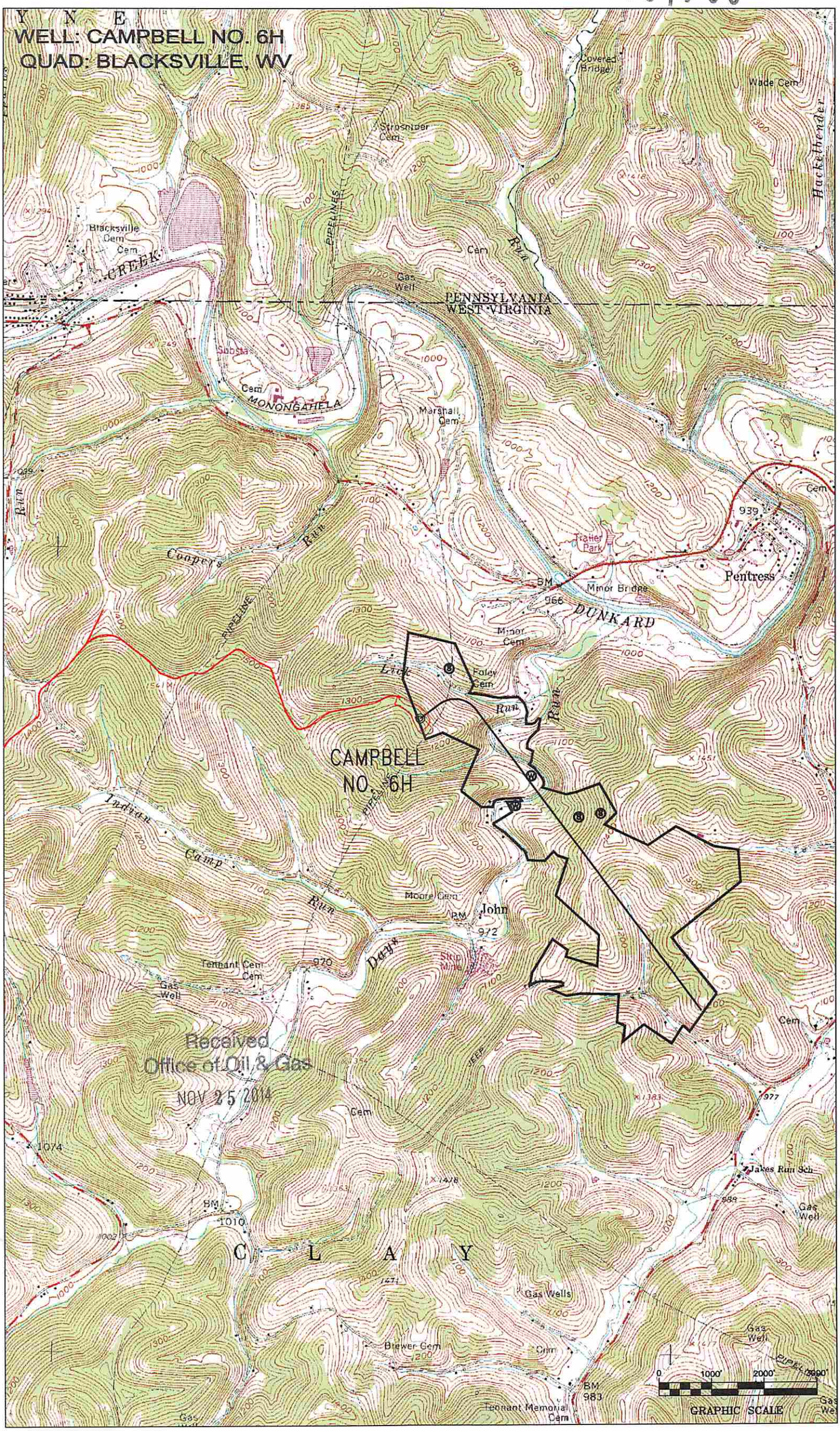
DEC 03 2014

4706101700



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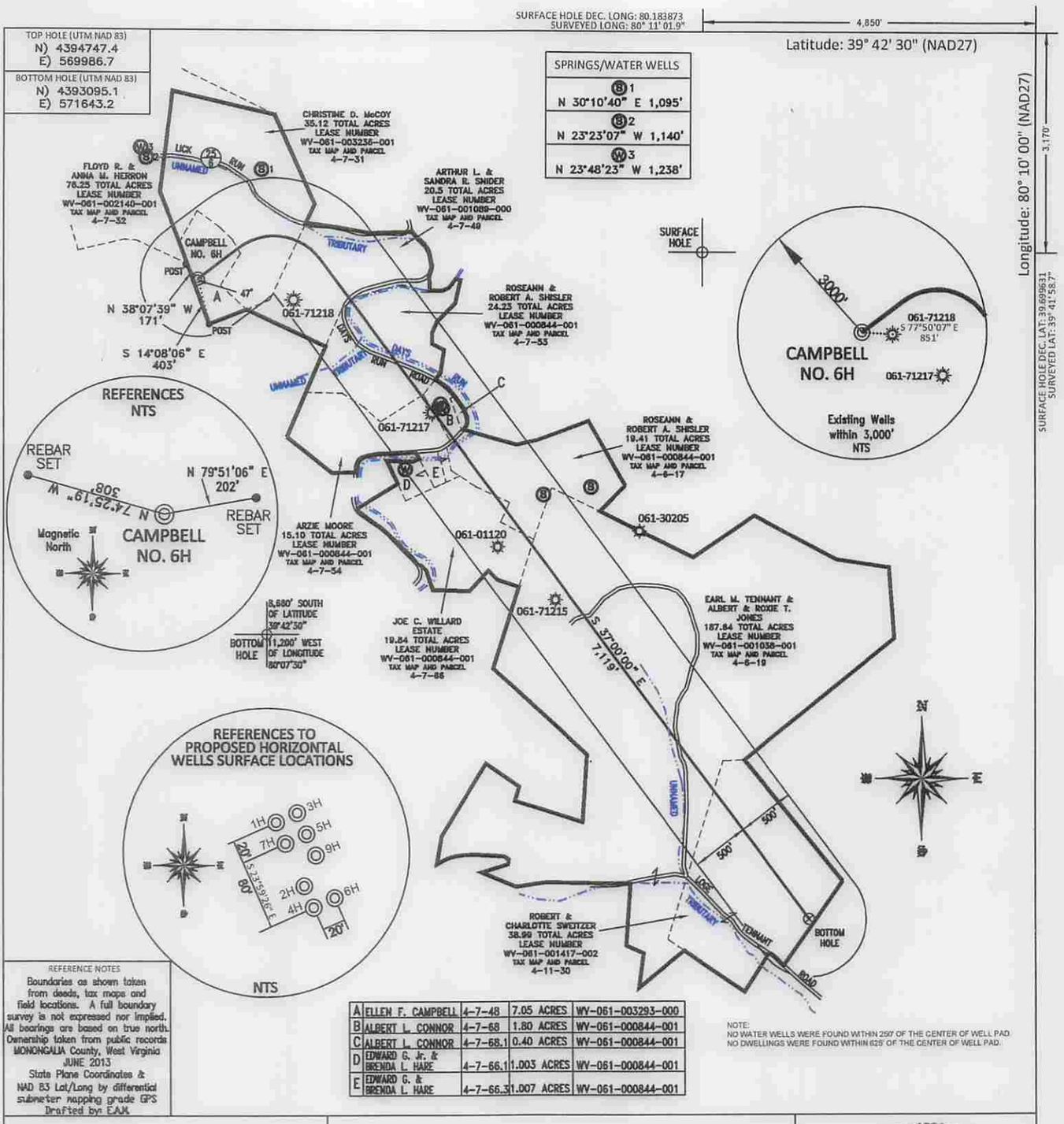
Office of Oil & Gas
NOV 25 2014



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: EAK

A	ELLEN F. CAMPBELL	4-7-48	7.05 ACRES	WV-061-003293-000
B	ALBERT L. CONNOR	4-7-68	1.80 ACRES	WV-061-000844-001
C	ALBERT L. CONNOR	4-7-68.1	0.40 ACRES	WV-061-000844-001
D	EDWARD G. Jr. & BRENDA L. HARE	4-7-66.1	1.003 ACRES	WV-061-000844-001
E	EDWARD G. & BRENDA L. HARE	4-7-66.3	1.007 ACRES	WV-061-000844-001

FILE #: NNE13
DRAWING #: 2365
SCALE: PLAT: 1" = 1200' 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: NOVEMBER 19, 2014

OPERATOR'S WELL #: CAMPBELL NO. 6H

API WELL #: 47 (STATE) 61 (COUNTY) 01700 H6A (PERMIT)

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

WATERSHED: DUNKARD CREEK
ELEVATION: 1,310'
COUNTY/DISTRICT: MONONGALIA / CLAY
QUADRANGLE: BLACKSVILLE, WV
SURFACE OWNER: ELLEN F. CAMPBELL
ACREAGE: 7.05 +/-
OIL & GAS ROYALTY OWNER: ELLEN FOLEY CAMPBELL, ET AL
ACREAGE: 373.09 +/-
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: 8,027' TMD: 15,994'
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