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**west virginia** department of environmental protection

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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

May 21, 2014

**WELL WORK PERMIT**

**Horizontal 6A Well**

This permit, API Well Number: 47-5101746, issued to NOBLE ENERGY, INC., 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: MND 6 AHS  
Farm Name: CONSOLIDATION COAL COMPA  
**API Well Number: 47-5101746**  
**Permit Type: Horizontal 6A Well**  
Date Issued: 05/21/2014

**Promoting a healthy environment.**

**INSPECTORS PERMIT SUMMARY FORM**

GPS YES [ ] NO [ ]

DATE STARTED/LOCATION: \_\_\_\_\_ OPERATOR: NOBLE ENERGY, INC.  
 DRILLING COMMENCED: \_\_\_\_\_ FARM: CONSOLIDATION COAL COMPANY  
 TO DATE: \_\_\_\_\_ DEPTHS: \_\_\_\_\_ Well No: MND 6 AHS  
 WATER DEPTHS: \_\_\_\_\_ COAL DEPTHS \_\_\_\_\_

QUESTIONS FOR THIS REPORT ARE IN ACCORDANCE OF WV CODE 22-6-30 AND REGULATIONS 35CSR 4-12.1 AND 35CSR 4-16 AND THE GENERAL WATER POLLUTION CONTROL PERMIT.

**POINTS ARE TO BE GIVEN UP TO MAXIMUM AS SHOWN BASED ON PERFORMANCE.**

1. DID OPERATOR GIVE PROPER NOTICE TO INSPECTOR BEFORE THE FOLLOWING:
  - A. CONSTRUCTION YES [ ] NO [ ] (2\_PTS) (4\_PTS) \_\_\_\_\_
  - B. DRILLING YES [ ] NO [ ] (2\_PTS)
2. WAS THE TIMBER CUT, STACKED, AND BRUSH USED FOR SEDIMENT BARRIERS BEFORE DIRT WORK STARTED? YES [ ] NO [ ] (2\_PTS) (4\_PTS) \_\_\_\_\_
3. ARE ALL LOCATION AND/OR ROAD BANKS BEING SLOPED? YES [ ] NO [ ] (4\_PTS) (4\_PTS) \_\_\_\_\_
4. CONSTRUCTIONS:  
WERE THE FOLLOWING SEDIMENT CONTROL STRUCTURES PROPERLY INSTALLED/MAINTAINED?
  - A. ROAD DITCHES (1)\_ (2)\_ (3)\_ (4)\_ (PTS) B. CROSS DRAINS (1)\_ (2)\_ (3)\_ (4)\_ (5)\_ (PTS)
  - C. CULVERTS (1)\_ (2)\_ (3)\_ (4)\_ (5)\_ (PTS) D. CREEK CROSSINGS (1)\_ (2)\_ (3)\_ (PTS)
  - E. DIVERSION DITCHES (1)\_ (2)\_ (3)\_ (PTS) F. BARRIERS (1)\_ (2)\_ (3)\_ (PTS)
  - G. TEMPORARY SEEDING YES [ ] NO [ ] (10\_PTS)

**POINTS AVAILABLE FOR QUESTION 4: (33\_PTS) \_\_\_\_\_**

5. HAS TOP SOIL (IF ANY) BEEN STOCKED PILED? YES [ ] NO [ ] (2\_PTS) (2\_PTS) \_\_\_\_\_
6. IS THE PIT PROPERLY INSTALLED AND MAINTAINED? YES [ ] NO [ ] (9\_PTS) (9\_PTS) \_\_\_\_\_
7. RECLAMATION:
  - A. ROADWAY (1)\_ (2)\_ (3)\_ (PTS) B. LOCATION (1)\_ (2)\_ (3)\_ (PTS)
  - C. PITS (1)\_ (2)\_ (3)\_ (PTS) D. PIPELINES (1)\_ (2)\_ (3)\_ (PTS)
  - E. TANK DIKES (1)\_ (2)\_ (3)\_ (PTS) F. API INSTALLED YES [ ] NO [ ] (3\_PTS)
  - G. ADEQUATE SEEDING MATERIALS (1)\_ (2)\_ (3)\_ (PTS)
  - H. WAS SEED BED ADEQUATE (1)\_ (2)\_ (3)\_ (PTS)

**POINTS AVAILABLE FOR QUESTION 7: (24\_PTS) \_\_\_\_\_**

8. WAS RECLAMATION COMPLETED WITHIN:  
6 MTHS OF TD 6\_PTS ONLY; 4 MTHS OF TD 12\_PTS ONLY; 2 MTHS OF TD 19\_PTS ONLY;

**POINTS AVAILABLE FOR QUESTION 8: (19\_PTS) \_\_\_\_\_**

**TOTAL MAXIMUM POSSIBLE SCORE OF 99.**

**TOTAL RECLAMATION SCORE: \_\_\_\_\_**

\_\_\_\_\_  
DATE RELEASED

\_\_\_\_\_  
INSPECTOR'S SIGNATURE



## 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.

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### CONDITIONS

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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](mailto:DEPOOGNotify@wv.gov) within 30 days of commencement of drilling.

4705101746

WW-9  
(9/13)

API Number 47 - \_\_\_\_\_ - \_\_\_\_\_  
Operator's Well No. MND 6 AHS

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name Noble Energy, Inc. OP Code 494501907

Watershed (HUC 10) Fish Creek Undefined (HUC 10) Quadrangle Powhatan Point

Elevation 721' Post Construction County Marshall District Franklin

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: Closed Loop-No pit will be utilized

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 TBD-Next anticipated well)
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain \_\_\_\_\_)

Will closed loop system be used? If so, describe: Yes

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. Air thru coal string, then SOB M

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

Additives to be used in drilling medium? Please see attached

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. Landfills

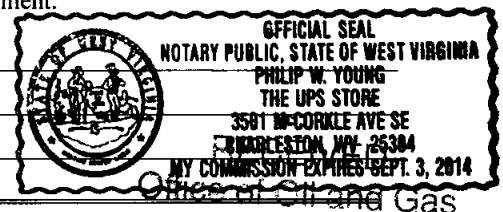
-If left in pit and plan to solidify what medium will be used? (cement, lime, sawdust) \_\_\_\_\_

-Landfill or offsite name/permit number? Please see attached

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 Laura L. Adkins  
Company Official (Typed Name) Laura Adkins  
Company Official Title Regulatory Analyst



Subscribed and sworn before me this 19th day of MARCH, 20 14 MAR 21 2014

Philip W. Young  
Notary Public

My commission expires 9/3/2014

WV Department of Environmental Protection

4705101746

Chemical List Including CAS#'s

Type: Friction Reducer (DWP-612)  
Chemical Component as listed on MSDS: Long Chain Polyacrylamide  
CAS: N/A

Type: Biocide (DWP-944)  
1<sup>st</sup> Chemical Component as listed on MSDS: 2,2-Dibromo-3-nitrilopropionamide  
CAS: 10222-01-2  
2<sup>nd</sup> Chemical Component as listed on MSDS: Polyethylene Glycol Mixture  
CAS: 25322-68-3

Type: Scale Inhibitor (DAP-901)  
1<sup>st</sup> Chemical Component as listed on MSDS: Methanol  
CAS: 67-56-1  
2<sup>nd</sup> Chemical Component as listed on MSDS: Phosphoric Acid Ammonium Salt  
CAS: Trade Secret  
3<sup>rd</sup> Chemical Component as listed on MSDS: Ammonium Chloride  
CAS: 12125-02-9  
4<sup>th</sup> Chemical Component as listed on MSDS: Organic Phosphonate  
CAS: Trade Secret  
5<sup>th</sup> Chemical Component as listed on MSDS: Amine Salt  
CAS: Trade Secret  
6<sup>th</sup> Chemical Component as listed on MSDS: Oxyalkylated Polyamine  
CAS: Trade Secret

Type: Surfactant (DWP-938)  
Chemical Component as listed on MSDS: Soap  
CAS: N/A

Type: Hydrochloric Acid  
Chemical Component as listed on MSDS: Hydrochloric Acid  
CAS: 7647-01-0

Type: PA Breaker (DWP-690)  
Chemical Component as listed on MSDS: Hydrogen Peroxide  
CAS: Trade Secret

Type: Gel Slurry (DWP-111)  
Chemical Component as listed on MSDS: Viscosifier  
CAS: N/A

Type: Oxidizer Breaker (DWP-901)  
Chemical Component as listed on MSDS: Ammonium Persulfate  
CAS: 7727-54-0

Type: Buffer (DWP-204)  
Chemical Component as listed on MSDS: Formic Acid  
CAS: 64-18-6

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Office of Oil and Gas

MAR 21 2014

WV Department of  
Environmental Protection

4705101746

## Site Water/Cuttings Disposal

### Cuttings

#### Haul off Company:

Eap Industries, Inc. DOT # 0876278  
1575 Smith Twp State Rd. Atlasburg PA 15004  
1-888-294-5227

MAX Environmental Technologie  
233 Max Lane  
Yukon, PA 25698  
PAD004835146

#### Disposal Locations:

Apex Environmental, LLC Permit # 06-08438  
11 County Road 78  
Amsterdam, OH 43903  
740-543-4389

Westmoreland Waste, LLC Permit # 100277  
111 Conner Lane  
Belle Vernon, PA 15012  
724-929-7694

Sycamore Landfill (Allied Waste) R30-07900105-2010  
4301 Sycamore Ridge Road  
Hurricane, WV 25526  
304-562-2611

### Water

#### Haul off Company:

Dynamic Structures, Clear Creek DOT # 720485  
3790 State Route 7  
New Waterford, OH 44445  
330-892-0164

#### Disposal Location:

Solidification  
Waste Management, Arden Landfill Permit # 100172  
200 Rangos Lane  
Washington, PA 15301  
724-225-1589

Solidification/Incineration  
Soil Remediation, Inc. Permit # 02-20753  
6065 Arrel-Smith Road  
Lowelville, OH 44436

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WV Department of  
Environmental Protection

4705101746

Form WW-9

Operator's Well No. MND 6 AHS

**Noble Energy, Inc.**

Proposed Revegetation Treatment: Acres Disturbed 9.6 acres Prevegetation pH \_\_\_\_\_

Lime 2 to 3 Tons/acre or to correct to pH \_\_\_\_\_

Fertilizer type 10-20-20

Fertilizer amount 500 lbs/acre

Mulch Hay or straw at 2 Tons/acre

Seed Mixtures

**Temporary**

**Permanent**

Seed Type	lbs/acre
Tall Fescue	40
Ladino Clover	5
See site plans for full list	

Seed Type	lbs/acre
Tall Fescue	40
Ladino Clover	5
See site plans for full list	

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: Jim Nicholson WVOOG State Inspector

Comments: Due to well pad proximity to Careyville Community, a sound barrier should be created around well pad.

RECEIVED  
Office of Oil and Gas

MAY 08 2014

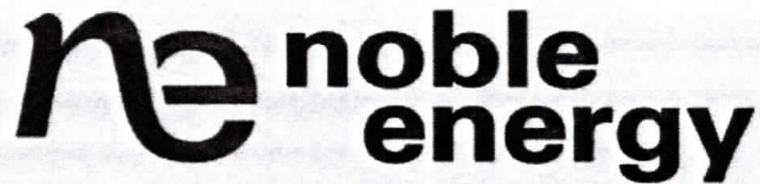
WV Department of  
Environmental Protection

Title: Oil + Gas Inspector

Date: 4/29/14

Field Reviewed? (  ) Yes (  ) No





# Site Safety Plan

Noble Energy, Inc.  
MND 6 AHS

*JM 4/29/14*

December 2013: Version 1

For Submission to  
West Virginia Department of Environmental Protection,  
Office of Oil and Gas

Noble Energy, Inc.  
Appalachia Offices  
333 Technology Drive, Suite 116  
Canonsburg, PA 15317-9504

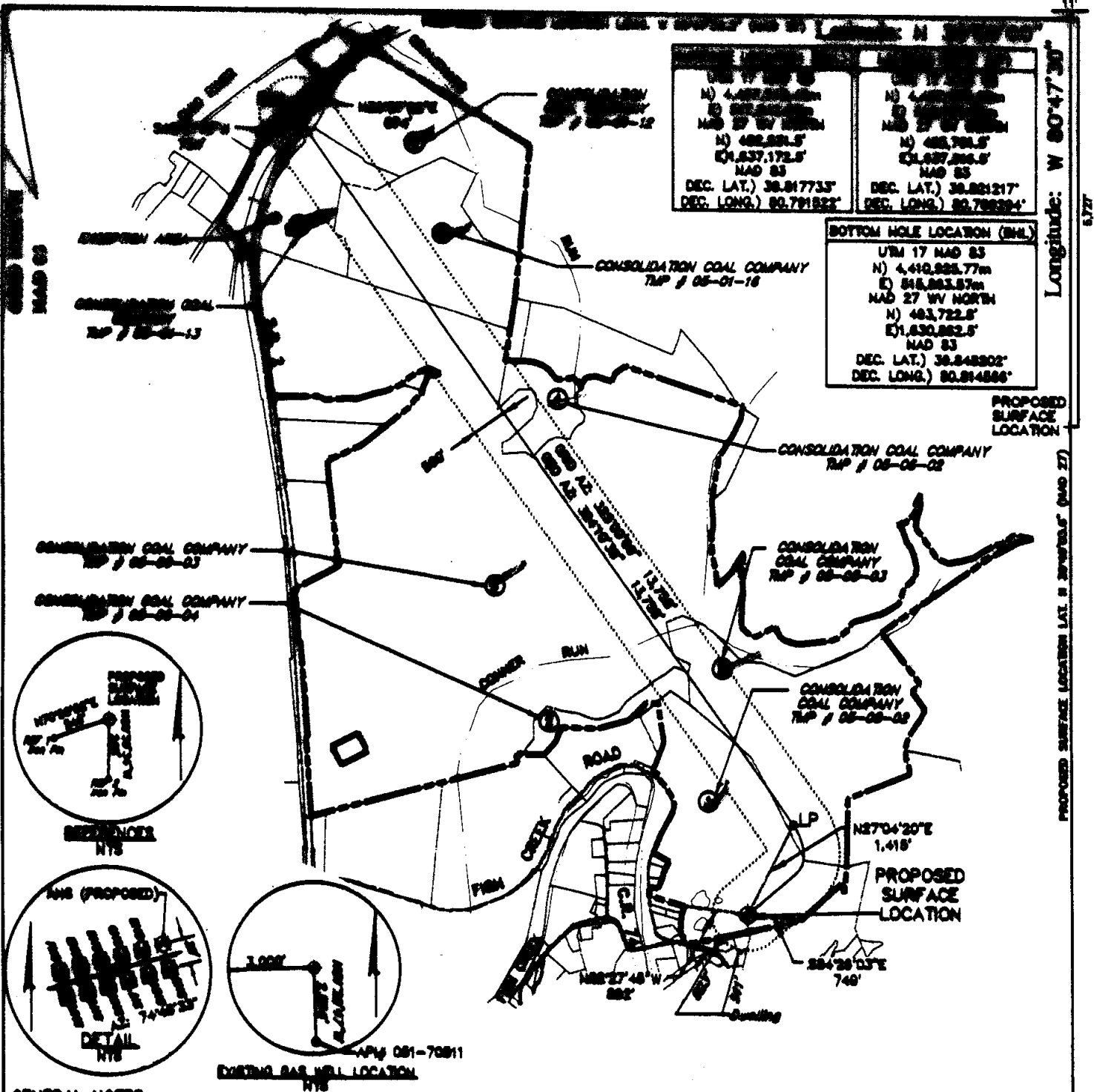
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WV Department of  
Environmental Protection

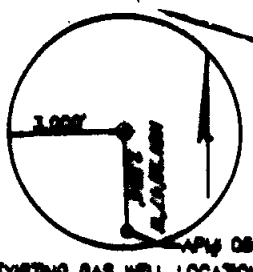
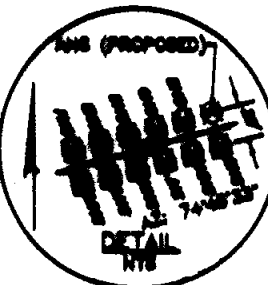
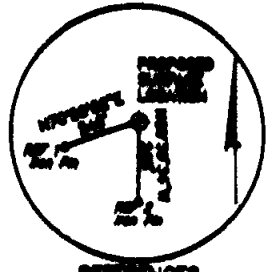


<p><b>MND6 SITE SAFETY PLAN</b> - FLOODPLAIN ZONES -</p> <p>X Access Road Intersection</p> <p>Proposed Access Road</p> <p>Well Post</p> <p>Proposed Unit</p> <p>Floodplain</p>	<p>0 750 1,500 3,000 Feet</p> <p>Scale 1" = 1,500'</p> <p>Projection: NAD_1927_StatePlane_West_Virginia_North_FIPS_4711 Units: Feet US</p>	<p><b>noble energy</b></p> <p>Disclaimer: All data is licensed for use by Noble Energy Inc. use only.</p>	<p>Date: 12/10/2013</p> <p>Author: Christopher Glover</p> <p>2/6</p>
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UTM 17 MAG 83 N) 4,410,925.77m E) 845,863.87m MAG 27 WY NORTH N) 483,722.8' E) 1,830,882.5' MAG 83 DEC. LAT.) 38.848802° DEC. LONG.) 80.814888°	UTM 17 MAG 83 N) 4,410,925.77m E) 845,863.87m MAG 27 WY NORTH N) 483,722.8' E) 1,830,882.5' MAG 83 DEC. LAT.) 38.848802° DEC. LONG.) 80.814888°
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Longitude: W 80°47'30"



**GENERAL NOTES:**

1. THE LOCATION OF BOUNDARY LINES SHOWN HEREON ARE BASED ON RECORD DEED, PLATS, AND TAX MAPS THAT FIT TO FORD FIELD SURFACE AND AERIAL PHOTOGRAPHS UNLESS OTHERWISE NOTED.
2. THIS PLAT DOES NOT REPRESENT AN AERIAL BOUNDARY SURVEY OF THE INDIVIDUAL PARCELS.
3. THERE ARE NO EXISTING WATER WELLS OR SOLVENT SPRINGS WITHIN 200' OF PROPOSED WELL.
4. PROPOSED WELL IS GREATER THAN 100' FROM PERMANENT STREAM, WETLAND, POND, RESERVOIR OR LAKE.
5. THERE ARE NO NATIVE TROUT STREAMS WITHIN 200' OF PROPOSED WELL.
6. THERE ARE TWO DWELLINGS LOCATED WITHIN 200' OF PROPOSED WELL.
7. THE SURROUNDING LANDS ARE BEING SURVEYED BY FORD FIELD OF THE STATE NEW 800LN WATER SYSTEM PROVIDED BY MARSHALL COUNTY PUBLIC UTILITIES AND SEWERAGE DEPARTMENT.

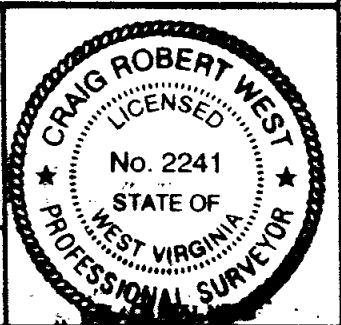
**LEGEND**

- PROPOSED GAS WELL
- PROPOSED BORE
- TRAIL LINE
- OIL & GAS LEASE BOUNDARY
- PROPERTY LINE
- STREAM LINE
- 800' SETBACK LINE

FILE #: 022240010  
 DRAWING #: 022240010 SV-010  
 SCALE: PLAT & TON: 1" = 2,000'  
 MINIMUM DEGREE OF ACCURACY: 1/200  
 PROVIDER/SOURCE OF INFORMATION: NGS (GORS)

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 RULES ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

SIGNED: *Craig Robert West*  
 L.L.E.: 2241



(+) REMOVES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS WYSEP  
 OFFICE OF OIL & GAS  
 601 5TH STREET  
 CHARLESTON, WV 25304



DATE: FEBRUARY 7, 2014  
 OPERATOR'S WELL #: 1145  
 API WELL #: 47 061 1145  
 STATE: MARSHALL COUNTY PERMIT: 1145

WELL TYPE:  OIL  GAS  WASTE DISPOSAL  LIQUID INJECTION  PRODUCTION  STORAGE  DEEP  SHALLOW

WATERBODIES: FISH CREEK  
 COUNTY/DISTRICT: MARSHALL / FRANKLIN  
 SURFACE OWNER: CONSOLIDATION COAL COMPANY  
 OIL & GAS ROYALTY OWNER: CNX GAS COMPANY LLC and MOBLE ENERGY, INC.

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

TARGET FORMATION: MARSHALL ESTIMATED DEPTH: TVD: 5,840 ft. TD: 18,004 ft.  
 WELL OPERATOR: MOBLE ENERGY, INC. DESIGNATED AGENT: STEVE M. GREEN  
 ADDRESS: 333 TECHNOLOGY DRIVE, SUITE 300 ADDRESS: 800 VIRGINIA STREET EAST, WHEELING, WEST VIRGINIA 26003  
 CITY: CAMDENBURG STATE: PA ZIP CODE: 18317 CITY: CHARLESTON STATE: WV ZIP CODE: 25301

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
NOTICE CERTIFICATION

Date of Notice Certification: 3/20/14

API No. 47- \_\_\_\_\_  
Operator's Well No. MND 6 AHS  
Well Pad Name: MND 6

**Notice has been given:**

Pursuant to the provisions in West Virginia Code § 22-6A, the Operator has provided the required parties with the Notice Forms listed below for the tract of land as follows:

State: <u>West Virginia</u>	UTM NAD 83	Eastings: <u>517842.88</u>
County: <u>Marshall</u>		Northing: <u>4407548.46</u>
District: <u>Franklin</u>	Public Road Access: <u>CR 7/4-Fish Creek Rd</u>	
Quadrangle: <u>Powhatan Point</u>	Generally used farm name: <u>Consol (Now owned by Murray American Energy DBA Consolidation Coal)</u>	
Watershed: <u>Fish Creek Undefined (HUC 10)</u>		

Pursuant to West Virginia Code § 22-6A-7(b), every permit application filed under this section shall be on a form as may be prescribed by the secretary, shall be verified and shall contain the following information: (14) A certification from the operator that (i) it has provided the owners of the surface described in subdivisions (1), (2) and (4), subsection (b), section ten of this article, the information required by subsections (b) and (c), section sixteen of this article; (ii) that the requirement was deemed satisfied as a result of giving the surface owner notice of entry to survey pursuant to subsection (a), section ten of this article six-a; or (iii) the notice requirements of subsection (b), section sixteen of this article were waived in writing by the surface owner; and Pursuant to West Virginia Code § 22-6A-11(b), the applicant shall tender proof of and certify to the secretary that the notice requirements of section ten of this article have been completed by the applicant.

<p>Pursuant to West Virginia Code § 22-6A, the Operator has attached proof to this Notice Certification that the Operator has properly served the required parties with the following:</p> <p>*PLEASE CHECK ALL THAT APPLY</p> <p><input type="checkbox"/> 1. NOTICE OF SEISMIC ACTIVITY or <input checked="" type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED</p> <p><input checked="" type="checkbox"/> 2. NOTICE OF ENTRY FOR PLAT SURVEY or <input type="checkbox"/> NO PLAT SURVEY WAS CONDUCTED</p> <p><input checked="" type="checkbox"/> 3. NOTICE OF INTENT TO DRILL or <input type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED or</p> <p style="padding-left: 100px;"><input checked="" type="checkbox"/> WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH)</p> <p><input checked="" type="checkbox"/> 4. NOTICE OF PLANNED OPERATION</p> <p><input checked="" type="checkbox"/> 5. PUBLIC NOTICE</p> <p><input checked="" type="checkbox"/> 6. NOTICE OF APPLICATION</p>	<p><b>OOG OFFICE USE ONLY</b></p> <p><input type="checkbox"/> RECEIVED/ NOT REQUIRED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED/ NOT REQUIRED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED</p>
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**Required Attachments:**

The Operator shall attach to this Notice Certification Form all Notice Forms and Certifications of Notice that have been provided to the required parties and/or any associated written waivers. For the Public Notice, the operator shall attach a copy of the Class II Legal Advertisement with publication date verification or the associated Affidavit of Publication. The attached Notice Forms and Certifications of Notice shall serve as proof that the required parties have been noticed as required under West Virginia Code § 22-6A. Pursuant to West Virginia Code § 22-6A-11(b), the Certification of Notice to the person may be made by affidavit of personal service, the return receipt card or other postal receipt for certified mailing.

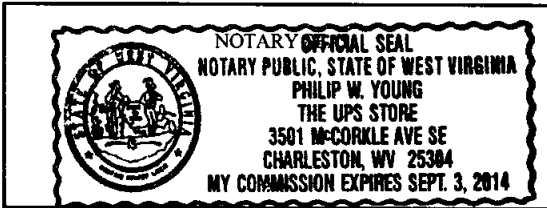
RECEIVED  
Office of Oil and Gas  
MAR 21 2014  
WV Department of  
Environmental Protection

**Certification of Notice is hereby given:**

THEREFORE, I Laura L. Adkins, have read and understand the notice requirements within West Virginia Code § 22-6A. I certify that as required under West Virginia Code § 22-6A, I have served the attached copies of the Notice Forms, identified above, to the required parties through personal service, by registered mail or by any method of delivery that requires a receipt or signature confirmation. I certify under penalty of law that I have personally examined and am familiar with the information submitted in this Notice Certification and all attachments, 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 and imprisonment.

Well Operator: Noble Energy, Inc.  
By: Laura Adkins  
Its: Regulatory Analyst  
Telephone: 412-841-9567

Address: 333 Technology Drive Suite 116  
Canonsburg, PA 15317  
Facsimile: 724-820-3098  
Email: ladkins@nobleenergyinc.com



Subscribed and sworn before me this 19<sup>th</sup> day of MARCH, 2014.  
Philip W. Young Notary Public  
My Commission Expires 9/3/2014

**Oil and Gas Privacy Notice:**

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at [depprivacyofficer@wv.gov](mailto:depprivacyofficer@wv.gov).

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WV Department of  
Environmental Protection

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
NOTICE OF APPLICATION

**Notice Time Requirement:** notice shall be provided no later than the **filing date of permit application.**

**Date of Notice:** 3/20/14 **Date Permit Application Filed:** 3/21/14

**Notice of:**

- PERMIT FOR ANY WELL WORK
- CERTIFICATE OF APPROVAL FOR THE CONSTRUCTION OF AN IMPOUNDMENT OR PIT

**Delivery method pursuant to West Virginia Code § 22-6A-10(b)**

- PERSONAL SERVICE
- REGISTERED MAIL
- METHOD OF DELIVERY THAT REQUIRES A RECEIPT OR SIGNATURE CONFIRMATION

Pursuant to W. Va. Code § 22-6A-10(b) no later than the filing date of the application, the applicant for a permit for any well work or for a certificate of approval for the construction of an impoundment or pit as required by this article shall deliver, by personal service or by registered mail or by any method of delivery that requires a receipt or signature confirmation, copies of the application, the erosion and sediment control plan required by section seven of this article, and the well plat to each of the following persons: (1) The owners of record of the surface of the tract on which the well is or is proposed to be located; (2) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for roads or other land disturbance as described in the erosion and sediment control plan submitted pursuant to subsection (c), section seven of this article; (3) The coal owner, operator or lessee, in the event the tract of land on which the well proposed to be drilled is located [sic] is known to be underlain by one or more coal seams; (4) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for the placement, construction, enlargement, alteration, repair, removal or abandonment of any impoundment or pit as described in section nine of this article; (5) Any surface owner or water purveyor who is known to the applicant to have a water well, spring or water supply source located within one thousand five hundred feet of the center of the well pad which is used to provide water for consumption by humans or domestic animals; and (6) The operator of any natural gas storage field within which the proposed well work activity is to take place. (c)(1) If more than three tenants in common or other co-owners of interests described in subsection (b) of this section hold interests in the lands, the applicant may serve the documents required upon the person described in the records of the sheriff required to be maintained pursuant to section eight, article one, chapter eleven-a of this code. (2) Notwithstanding any provision of this article to the contrary, notice to a lien holder is not notice to a landowner, unless the lien holder is the landowner. W. Va. Code R. § 35-8-5.7.a requires, in part, that the operator shall also provide the Well Site Safety Plan ("WSSP") to the surface owner and any water purveyor or surface owner subject to notice and water testing as provided in section 15 of this rule.

Application Notice  WSSP Notice  E&S Plan Notice  Well Plat Notice is hereby provided to:

- SURFACE OWNER(s)  
Name: Consolidation Coal Company  
Address: Jason Witt 46226 National Road  
Saint Clairsville, OH 43950  
Name: Kevin E. and Teresa McGilton  
Address: 1704 2nd Street  
Moundsville, WV 26041-1534
- SURFACE OWNER(s) (Road and/or Other Disturbance)  
Name: See attached list  
Address: \_\_\_\_\_  
Name: \_\_\_\_\_  
Address: \_\_\_\_\_
- SURFACE OWNER(s) (Impoundments or Pits)  
Name: \_\_\_\_\_  
Address: \_\_\_\_\_

- COAL OWNER OR LESSEE  
Name: Murray American Energy, Inc. Jason Witt  
Address: 46226 National Road  
Saint Clairsville, OH 43950
- COAL OPERATOR  
Name: Murray American Energy, Inc. Jason Witt  
Address: 46226 National Road  
Saint Clairsville, OH 43950
- SURFACE OWNER OF WATER WELL AND/OR WATER PURVEYOR(s)  
Name: See attached list  
Address: \_\_\_\_\_
- OPERATOR OF ANY NATURAL GAS STORAGE FIELD  
Name: Columbia Gas Transmission  
Address: 1700 MacCorkle Ave, SE  
Charleston, WV 25314

\*Please attach additional forms if necessary

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4/11/21

4/11/21

**Notice is hereby given:**

Pursuant to West Virginia Code § 22-6A-10(b), notice is hereby given that the undersigned well operator has applied for a permit for well work or for a certificate of approval for the construction of an impoundment or pit.

**This Notice Shall Include:**

Pursuant to W. Va. Code § 22-6A-10(b), this notice shall include: (1) copies of the application; (2) the erosion and sediment control plan required by section seven of this article; and (3) the well plat.

Pursuant to W. Va. Code § 22-6A-10(f), this notice shall include: (1) a statement of the time limits for filing written comments; (2) who may file written comments; (3) the name and address of the secretary for the purpose of filing the comments and obtaining additional information; and (4) a statement that the persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water.

Pursuant to W. Va. Code R. § 35-8-5.7.a, the operator shall provide the Well Site Safety Plan to the surface owner and any water purveyor or surface owner subject to notice and water testing as provided in section 15 of this rule.

Pursuant to W. Va. Code R. § 35-8-15.2.c, this notice shall: (1) contain a statement of the surface owner's and water purveyor's right to request sampling and analysis; (2) advise the surface owner and water purveyor of the rebuttable presumption for contamination or deprivation of a fresh water source or supply; advise the surface owner and water purveyor that refusal to allow the operator to conduct a pre-drilling water well test constitutes a method to rebut the presumption of liability; (3) advise the surface owner and water purveyor of his or her independent right to sample and analyze any water supply at his or her own expense; advise the surface owner and water purveyor whether or not the operator will utilize an independent laboratory to analyze any sample; and (4) advise the surface owner and or water purveyor that he or she can obtain from the Chief a list of water testing laboratories in the subject area capable of and qualified to test water supplies in accordance with standard acceptable methods.

Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57<sup>th</sup> Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting [www.dep.wv.gov/oil-and-gas/pages/default.aspx](http://www.dep.wv.gov/oil-and-gas/pages/default.aspx).

**Well Location Restrictions**

Pursuant to W. Va. Code § 22-6A-12, Wells may not be drilled within two hundred fifty feet measured horizontally from any existing water well or developed spring used for human or domestic animal consumption. The center of well pads may not be located within six hundred twenty-five feet of an occupied dwelling structure, or a building two thousand five hundred square feet or larger used to house or shelter dairy cattle or poultry husbandry. This limitation is applicable to those wells, developed springs, dwellings or agricultural buildings that existed on the date a notice to the surface owner of planned entry for surveying or staking as provided in section ten of this article or a notice of intent to drill a horizontal well as provided in subsection (b), section sixteen of this article was provided, whichever occurs first, and to any dwelling under construction prior to that date. This limitation may be waived by written consent of the surface owner transmitted to the department and recorded in the real property records maintained by the clerk of the county commission for the county in which such property is located. Furthermore, the well operator may be granted a variance by the secretary from these distance restrictions upon submission of a plan which identifies the sufficient measures, facilities or practices to be employed during well site construction, drilling and operations. The variance, if granted, shall include terms and conditions the department requires to ensure the safety and protection of affected persons and property. The terms and conditions may include insurance, bonding and indemnification, as well as technical requirements. (b) No 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 department 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 department 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. (c) Notwithstanding the foregoing provisions of this section, nothing contained in this section prevents an operator from conducting the activities permitted or authorized by a Clean Water Act Section 404 permit or other approval from the United States Army Corps of Engineers within any waters of the state or within the restricted areas referenced in this section. (d) The well location restrictions set forth in this section shall not apply to any well on a multiple well pad if at least one of the wells was permitted prior to the effective date of this article. (e) The secretary shall, by December 31, 2012, report to the Legislature on the noise, light, dust and volatile organic compounds generated by the drilling of horizontal wells as they relate to the well location restrictions regarding occupied dwelling structures pursuant to this section. Upon a finding, if any, by the secretary that the well location restrictions regarding occupied dwelling structures are inadequate or otherwise require alteration to address the items



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(8-13)

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API NO. 47- -  
OPERATOR WELL NO. MND 6 AHS  
Well Pad Name: MND 6

examined in the study required by this subsection, the secretary shall have the authority to propose for promulgation legislative rules establishing guidelines and procedures regarding reasonable levels of noise, light, dust and volatile organic compounds relating to drilling horizontal wells, including reasonable means of mitigating such factors, if necessary.

**Water Well Testing:**

Pursuant to West Virginia Code § 22-6A-10(d), notification shall be made, with respect to surface landowners identified in subsection (b) or water purveyors identified in subdivision (5), subsection (b) of this section, of the opportunity for testing their water well. The operator shall provide an analysis to such surface landowner or water purveyor at their request.

**Water Testing Laboratories:**

Pursuant to West Virginia Code § 22-6A-10(i), persons entitled to notice pursuant to subsection (b) of this section may contact the department to ascertain the names and locations of water testing laboratories in the subject area capable and qualified to test water supplies in accordance with standard accepted methods. In compiling that list of names the department shall consult with the state Bureau for Public Health and local health departments. A surface owner and water purveyor has an independent right to sample and analyze any water supply at his or her own expense. The laboratory utilized by the operator shall be approved by the agency as being certified and capable of performing sample analyses in accordance with this section.

**Rebuttable Presumption for Contamination or Deprivation of a Fresh Water Source or Supply:**

W. Va. Code § 22-6A-18 requires that (b) unless rebutted by one of the defenses established in subsection (c) of this section, in any action for contamination or deprivation of a fresh water source or supply within one thousand five hundred feet of the center of the well pad for horizontal well, there is a rebuttable presumption that the drilling and the oil or gas well or either was the proximate cause of the contamination or deprivation of the fresh water source or supply. (c) In order to rebut the presumption of liability established in subsection (b) of this section, the operator must prove by a preponderance of the evidence one of the following defenses: (1) The pollution existed prior to the drilling or alteration activity as determined by a predrilling or prealteration water well test. (2) The landowner or water purveyor refused to allow the operator access to the property to conduct a predrilling or prealteration water well test. (3) The water supply is not within one thousand five hundred feet of the well. (4) The pollution occurred more than six months after completion of drilling or alteration activities. (5) The pollution occurred as the result of some cause other than the drilling or alteration activity. (d) Any operator electing to preserve its defenses under subdivision (1), subsection (c) of this section shall retain the services of an independent certified laboratory to conduct the predrilling or prealteration water well test. A copy of the results of the test shall be submitted to the department and the surface owner or water purveyor in a manner prescribed by the secretary. (e) Any operator shall replace the water supply of an owner of interest in real property who obtains all or part of that owner's supply of water for domestic, agricultural, industrial or other legitimate use from an underground or surface source with a comparable water supply where the secretary determines that the water supply has been affected by contamination, diminution or interruption proximately caused by the oil or gas operation, unless waived in writing by that owner. (f) The secretary may order the operator conducting the oil or gas operation to: (1) Provide an emergency drinking water supply within twenty-four hours; (2) Provide temporary water supply within seventy-two hours; (3) Within thirty days begin activities to establish a permanent water supply or submit a proposal to the secretary outlining the measures and timetables to be used in establishing a permanent supply. The total time in providing a permanent water supply may not exceed two years. If the operator demonstrates that providing a permanent replacement water supply cannot be completed within two years, the secretary may extend the time frame on case-by-case basis; and (4) Pay all reasonable costs incurred by the real property owner in securing a water supply. (g) A person as described in subsection (b) of this section aggrieved under the provisions of subsections (b), (e) or (f) of this section may seek relief in court... (i) Notwithstanding the denial of the operator of responsibility for the damage to the real property owner's water supply or the status of any appeal on determination of liability for the damage to the real property owner's water supply, the operator may not discontinue providing the required water service until authorized to do so by the secretary or a court of competent jurisdiction.

**Written Comment:**

Pursuant to West Virginia Code § 22-6A-11(a), all persons described in subsection (b), section ten of this article may file written comments with the secretary as to the location or construction of the applicant's proposed well work within thirty days after the application is filed with the secretary. All persons described in West Virginia Code § 22-6A-10(b) may file written comments as to the location or construction of the applicant's proposed well work to the Secretary at:

Chief, Office of Oil and Gas  
Department of Environmental Protection  
601 57<sup>th</sup> St. SE  
Charleston, WV 25304  
(304) 926-0450

Such persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water. **NOTE: YOU ARE NOT REQUIRED TO FILE ANY COMMENT.**

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**Time Limits and Methods for Filing Comments.**

The law requires these materials to be served on or before the date the operator files its Application. You have **THIRTY (30) DAYS** after the filing date to file your comments. Comments must be filed in person or received in the mail by the Chief's office by the time stated above. You may call the Chief's office to be sure of the date. Check with your postmaster to ensure adequate delivery time or to arrange special expedited handling. If you have been contacted by the well operator and you have signed a "voluntary statement of no objection" to the planned work described in these materials, then the permit may be issued at any time.

Pursuant to West Virginia Code § 22-6A-11(c)(2), Any objections of the affected coal operators and coal seam owners and lessees shall be addressed through the processes and procedures that exist under sections fifteen, seventeen and forty, article six of this chapter, as applicable and as incorporated into this article by section five of this article. The written comments filed by the parties entitled to notice under subdivisions (1), (2), (4), (5) and (6), subsection (b), section ten of this article shall be considered by the secretary in the permit issuance process, but the parties are not entitled to participate in the processes and proceedings that exist under sections fifteen, seventeen or forty, article six of this chapter, as applicable and as incorporated into this article by section five of this article.

**Comment Requirements**

Your comments must be in writing and include your name, address and telephone number, the well operator's name and well number and the approximate location of the proposed well site including district and county from the application. You may add other documents, such as sketches, maps or photographs to support your comments.

Disclaimer: All comments received will be placed on our web site <http://www.dep.wv.gov/oil-and-gas/Horizontal-Permits/Pages/default.aspx> and the applicant will automatically be forwarded an email notice that such comments have been submitted. The applicant will be expected to provide a response to comments submitted by any surface owner, water purveyor or natural gas storage operator noticed within the application.

**Permit Denial or Condition**

The Chief has the power to deny or condition a well work permit. Pursuant to West Virginia Code § 22-6A-8(d), the permit may not be issued or be conditioned, including conditions with respect to the location of the well and access roads prior to issuance if the director determines that:

- (1) The proposed well work will constitute a hazard to the safety of persons;
- (2) The plan for soil erosion and sediment control is not adequate or effective;
- (3) Damage would occur to publicly owned lands or resources; or
- (4) The proposed well work fails to protect fresh water sources or supplies.

A permit may also be denied under West Virginia Code § 22-6A-7(k), the secretary shall deny the issuance of a permit if the secretary determines that the applicant has committed a substantial violation of a previously issued permit for a horizontal well, including the applicable erosion and sediment control plan associated with the previously issued permit, or a substantial violation of one or more of the rules promulgated under this article, and in each instance has failed to abate or seek review of the violation within the time prescribed by the secretary pursuant to the provisions of subdivisions (1) and (2), subsection (a), section five of this article and the rules promulgated hereunder, which time may not be unreasonable.

Pursuant to West Virginia Code § 22-6A-10(g), any person entitled to submit written comments to the secretary pursuant to subsection (a), section eleven of this article, shall also be entitled to receive from the secretary a copy of the permit as issued or a copy of the order modifying or denying the permit if the person requests receipt of them as a part of the written comments submitted concerning the permit application. Such persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water.

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API NO. 47- \_\_\_\_\_  
OPERATOR WELL NO. MND 6 AHS  
Well Pad Name: MND 6

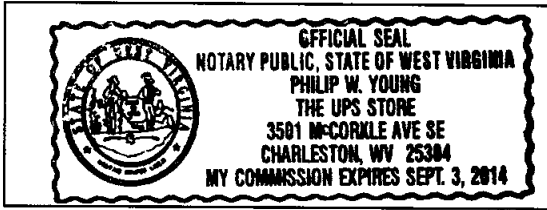
**Notice is hereby given by:**

Well Operator: Noble Energy, Inc. Jana L. Adkins  
Telephone: 412-841-9567  
Email: ladkins@nobleenergyinc.com

Address: 333 Technology Drive Suite 116  
Canonsburg, PA 15317  
Facsimile: 724-820-3098

**Oil and Gas Privacy Notice:**

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Subscribed and sworn before me this 19<sup>TH</sup> day of MARCH, 2014.  
Philip W. Young Notary Public  
My Commission Expires 9/3/2014

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**STATE OF WEST VIRGINIA**  
**DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS**  
**NOTICE OF PLANNED OPERATION**

**Notice Time Requirement:** notice shall be provided no later than the **filing date of permit application.**

**Date of Notice:** 3/20/14 **Date Permit Application Filed:** 3/21/14

**Delivery method pursuant to West Virginia Code § 22-6A-16(c)**

- CERTIFIED MAIL  
RETURN RECEIPT REQUESTED
- HAND  
DELIVERY

Pursuant to W. Va. Code § 22-6A-16(c), no later than the date for filing the permit application, an operator shall, by certified mail return receipt requested or hand delivery, give the surface owner whose land will be used for the drilling of a horizontal well notice of the planned operation. The notice required by this subsection shall include: (1) A copy of this code section; (2) The information required to be provided by subsection (b), section ten of this article to a surface owner whose land will be used in conjunction with the drilling of a horizontal well; and (3) A proposed surface use and compensation agreement containing an offer of compensation for damages to the surface affected by oil and gas operations to the extent the damages are compensable under article six-b of this chapter. (d) The notices required by this section shall be given to the surface owner at the address listed in the records of the sheriff at the time of notice.

**Notice is hereby provided to the SURFACE OWNER(s)**

(at the address listed in the records of the sheriff at the time of notice):

Name: Consolidation Coal Company Jason Witt  
Address: 46226 National Road  
Saint Clairsville, OH 43950

Name: Kevin E. and Teresa McGilton  
Address: 1704 2nd Street  
Moundsville, WV 26041-1534

**Notice is hereby given:**

Pursuant to West Virginia Code § 22-6A-16(c), notice is hereby given that the undersigned well operator has developed a planned operation on the surface owner's land for the purpose of drilling a horizontal well on the tract of land as follows:

State: <u>West Virginia</u>	UTM NAD 83 Easting: <u>517842.88</u>
County: <u>Marshall</u>	Northing: <u>4407548.46</u>
District: <u>Franklin</u>	Public Road Access: <u>CR 7/4-Fish Creek Rd</u>
Quadrangle: <u>Powhatan Point</u>	Generally used farm name: <u>Consol (Now owned by Murray American Energy DBA Consolidation Coal)</u>
Watershed: <u>Fish Creek Undefined (HUC 10)</u>	

**This Notice Shall Include:**

Pursuant to West Virginia Code § 22-6A-16(c), this notice shall include: (1) A copy of this code section; (2) The information required to be provided by **W. Va. Code § 22-6A-10(b)** to a surface owner whose land will be used in conjunction with the drilling of a horizontal well; and (3) A proposed surface use and compensation agreement containing an offer of compensation for damages to the surface affected by oil and gas operations to the extent the damages are compensable under article six-b of this chapter. Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57<sup>th</sup> Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting [www.dep.wv.gov/oil-and-gas/pages/default.aspx](http://www.dep.wv.gov/oil-and-gas/pages/default.aspx).

Well Operator: Noble Energy, Inc.  
Telephone: 412-841-9567  
Email: ladkins@nobleenergyinc.com

Address: 333 Technology Drive Suite 116  
Canonsburg, PA 15317  
Facsimile: 724-820-3098

**Oil and Gas Privacy Notice:**

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at [depprivacyofficer@wv.gov](mailto:depprivacyofficer@wv.gov).

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WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

Division of Highways

1900 Kanawha Boulevard East • Building Five • Room 110  
Charleston, West Virginia 25305-0430 • (304) 558-3505

Earl Ray Tomblin  
Governor

Paul A. Mattox, Jr., P. E.  
Secretary of Transportation/  
Commissioner of Highways

December 6, 2013

James A. Martin, Chief  
Office of Oil and Gas  
Department of Environmental Protection  
601 57<sup>th</sup> Street, SE  
Charleston, WV 25304

Subject: DOH Permit for the MND-6 Well Site, Marshall County

Dear Mr. Martin,

The West Virginia Division of Highways has issued Permit #06-2013-0529 for the subject site to Noble Energy, Inc. for access to the State Road for the well site located off of Marshall County Route 74 SLS.

The operator has signed an OIL AND GAS ROAD MAINTENANCE BONDING AGREEMENT and provided the required Bond. This operator is currently in compliance with the DOH OIL AND GAS POLICY dated January 3, 2012.

Very Truly Yours,

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*Gary K. Clayton*  
Oil and Gas

Gary K. Clayton  
Regional Maintenance Engineer  
Central Office Oil & Gas Coordinator  
MAR 21 2014

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Environmental Protection

Cc: James L. McCune  
Noble Energy, Inc.  
CH, OM, D-6  
File

# Hydraulic Fracturing Fluid Product Component Information Disclosure

Hydraulic Fracturing Fluid Composition:

4705101746

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**
Fresh Water	Operator				100.00%
HYDROCHLORIC ACID 5-10%	Halliburton		Hydrochloric acid	7647-01-0	10.00%
SAND - COMMON WHITE	Halliburton	Proppant	Crystalline silica, quartz	14808-60-7	100.00%
SAND - PREMIUM WHITE	Halliburton	Proppant	Crystalline silica, quartz	14808-60-7	100.00%
FR-66	Halliburton	Friction Reducer	Hydrotreated light petroleum distillate	64742-47-8	30.00%
BE-9	Halliburton	Biocide	Tributyl tetradecyl phosphonium chloride	81741-28-8	10.00%
Scalechek® LP-65 Scale Inhibitor	Halliburton	Scale Inhibitor	Ammonium chloride	12125-02-9	10.00%
LGC-36 UC	Halliburton	Liquid Gel Concentrate	Guar gum	9000-30-0	60.00%
			Naphtha, hydrotreated heavy	64742-48-9	60.00%
LCA-1	Halliburton	Solvent	Paraffinic solvent	Confidential Business Information	100.00%
HAI-OS ACID INHIBITOR	Halliburton	Corrosion Inhibitor	Methanol	67-56-1	60.00%
			Propargyl alcohol	107-19-7	10.00%
FE-1A ACIDIZING COMPOSITION	Halliburton	Additive	Acetic acid	64-19-7	60.00%
			Acetic anhydride	108-24-7	100.00%
LoSurf-300D	Halliburton	Non-ionic Surfactant	1,2,4 Trimethylbenzene	95-63-6	1.00%
			Ethanol	64-17-5	60.00%
			Heavy aromatic petroleum naphtha	64742-94-5	30.00%
			Naphthalene	91-20-3	5.00%
			Poly(oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)-omega-hydroxy-, branched	127087-87-0	5.00%
SP BREAKER	Halliburton	Breaker	Sodium persulfate	7775-27-1	100.00%
WG-36 GELLING AGENT	Halliburton	Gelling Agent	Guar gum	9000-30-0	100.00%

\* 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.

All component information listed was obtained from the supplier's Material Safety Data Sheets (MSDS). As such, the Operator is not responsible for inaccurate and/or incomplete information. Any questions regarding the content of the MSDS should be directed to the supplier who provided it. The Occupational Safety and Health Administration's (OSHA) regulations govern the criteria for the disclosure of this information. Please note that Federal Law protects "proprietary", "trade secret", and

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# EROSION & SEDIMENT CONTROL PLAN FOR MND 6 WELL PAD FRANKLIN DISTRICT, MARSHALL COUNTY, WV

AEI#9101732

### GENERAL NOTES

1. THE TOPOGRAPHIC SURVEY UTILIZED FOR THIS BASE MAP WAS PERFORMED BY RETTEW ASSOCIATES, INC. IN SEPTEMBER 2013.
2. PROPERTY BOUNDARIES, LANDOWNER INFORMATION, AND ROAD NETWORKS SHOWN ON THIS PLAN ARE FOR INFORMATIONAL PURPOSES ONLY. THE CONTRACTOR SHALL VERIFY THE ACCURACY OF ALL INFORMATION SHOWN ON THIS PLAN.
3. EXISTING STRUCTURES, TREE LINES AND ROADWAYS HAVE BEEN LOCATED PER AVAILABLE ONLINE AERIAL PHOTOGRAPHY.
4. THE HORIZONTAL DATUM IS WEST VIRGINIA STATE PLANE, NORTH AMERICAN DATUM (NAD) 83.
5. ALL NORTH ZONE.
6. DATUM IS WEST VIRGINIA STATE PLANE, NORTH AMERICAN VERTICAL DATUM 1988 (NAVD 88).
7. THE UTILITIES SHOWN ON THIS PLAN ARE FOR INFORMATIONAL PURPOSES ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION, DEPTH AND TYPE OF ALL UTILITIES PRIOR TO ANY EXCAVATION OR CONSTRUCTION ACTIVITIES.
8. A METEOROLOGICAL/WEATHER SURVEY WAS PERFORMED BY RETTEW ASSOCIATES IN MAY & JULY 2015.
9. THE CUT & FILL SUMMARY CALCULATIONS PRESENTED ON THIS PLAN ARE FOR PERMITTING PURPOSES ONLY. THE CONTRACTOR SHALL VERIFY THE VOLUMES, METHODS AND PROCEDURES FOR EXCAVATION AND FILLING OPERATIONS AND TO VERIFY THAT THE VOLUMES, METHODS AND PROCEDURES COMPLY WITH ALL APPLICABLE REGULATIONS AND ORDINANCES.
10. ALL EXISTING UTILITIES HAVE BEEN SHOWN IN ACCORDANCE WITH THE BEST AVAILABLE INFORMATION.
11. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING AND PROPOSED UTILITIES AND STRUCTURES AT ALL TIMES.
12. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND STRUCTURES. ANY DAMAGE TO EXISTING UTILITIES OR STRUCTURES SHALL BE REPAIRED IMMEDIATELY AND COMPLETELY AT THE CONTRACTOR'S EXPENSE.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPLACEMENT OF DAMAGED OR DESTROYED LANDSCAPE AND PLANTS.
14. CONTRACTOR TO RELOCATE UTILITIES AS REQUIRED.
15. PROPOSED HOOD CONSTRUCTION IN EXCESS OF 100 CFS SHALL BE SUBJECT TO PERMITS FROM THE MARSHALL COUNTY HEALTH DEPARTMENT.
16. PROPOSED HOOD CONSTRUCTION IN EXCESS OF 100 CFS SHALL BE SUBJECT TO PERMITS FROM THE MARSHALL COUNTY HEALTH DEPARTMENT.
17. ALL EXCAVATION SHALL BE BACKFILLED WITH CLEAN FILL AND COMPACTED TO 95% RELATIVE DENSITY.
18. ALL EXCAVATION SHALL BE BACKFILLED WITH CLEAN FILL AND COMPACTED TO 95% RELATIVE DENSITY.
19. CONTRACTOR SHALL STOP WORK IMMEDIATELY AND CONTACT NOBLE ENERGY AND APPROPRIATE RESPONSIBLE AUTHORITIES SHOULD ANY HISTORICAL ARTIFACTS (IE BOWS, ARROWS, ETC.) BE DISCOVERED.
20. NO WORK SHALL BE DONE OUTSIDE THE LIMITS OF DISTURBANCE OR IN PROTECTED AREAS.

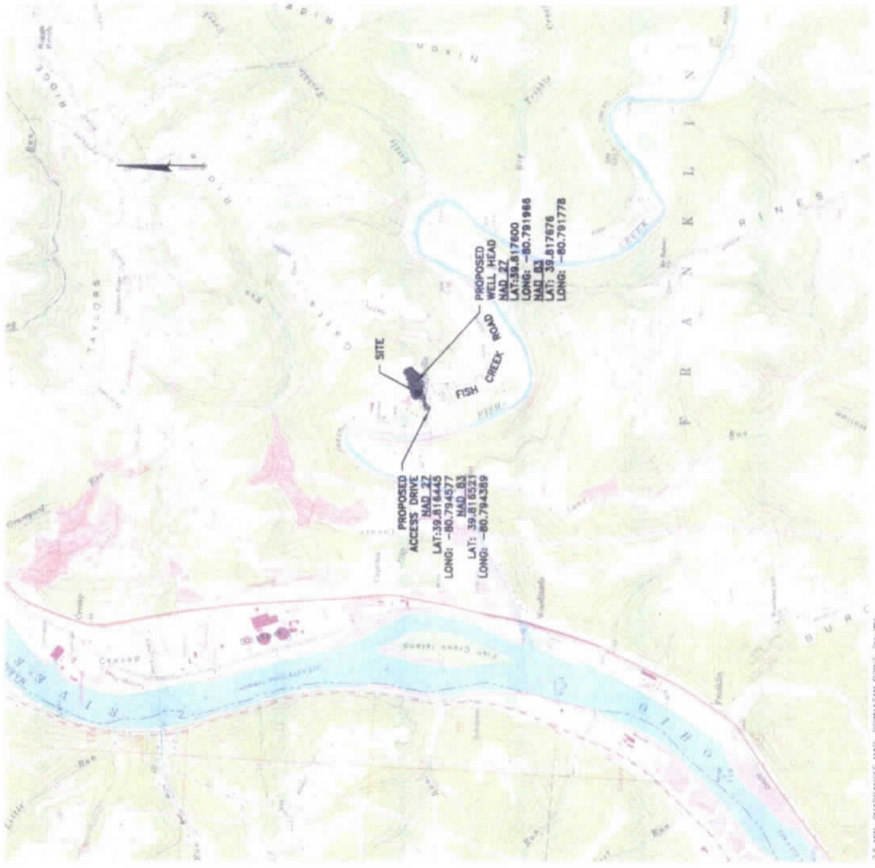
### DIRECTIONS TO THE SITE

FROM WHEELING WV TAKE CRT 7 SOUTH 1.5 MI.  
LEFT ON STATE ROUTE 100 FOR 1.5 MI.  
LEFT ON STATE ROUTE 100 FOR 1.5 MI.  
LEFT ON STATE ROUTE 100 FOR 1.5 MI.

### CUT & FILL

ITEM	WELL PAD	ACCESS ROAD	TOTAL
CUT	15,250 C.Y.	1,541 C.Y.	16,791 C.Y.
FILL	15,250 C.Y.	1,541 C.Y.	16,791 C.Y.
NET	0 C.Y.	0 C.Y.	0 C.Y.

NOTES: (1) VOLUMES SHOWN HEREIN ARE FOR INFORMATIONAL PURPOSES ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY EXISTING GRADES AND VOLUMES PRIOR TO COMMENCEMENT OF WORK.



LOCATION MAP  
SCALE: 1"=1000'

APPROVED  
WVDEP OOG

RECEIVED  
Office of Oil and Gas  
MAY 08 2014

je 4/29/14



CALL BEFORE YOU DIG!  
800.245.4848

AT LEAST 48 HOURS, BUT NOT MORE THAN 10 WORKING DAYS (EXCLUDING HOLIDAYS), BEFORE ANY EXCAVATION OR CONSTRUCTION WORK IS BEGUN, CALL (800) 245-4848 TO REPORT ANY UTILITIES OR STRUCTURES THAT MAY BE AFFECTED BY YOUR PROJECT.

### SOILS CLASSIFICATION

- 1. B3: BROOKSIDE SILT LOAM, 85% TO 100% SILTS
- 2. B3: BROOKSIDE SILT LOAM, 85% TO 100% SILTS
- 3. B3: BROOKSIDE SILT LOAM, 85% TO 100% SILTS
- 4. B3: BROOKSIDE SILT LOAM, 85% TO 100% SILTS

### LIST OF DRAWINGS

- 1 OF 10 COVER SHEET - RECORDS BUFFER PLAN
- 2 OF 10 LAYOUT PLAN
- 3 OF 10 EROSION & SEDIMENT CONTROL PLAN
- 4 OF 10 PROPOSED HOOD CONSTRUCTION PLAN
- 5 OF 10 PROPOSED HOOD CONSTRUCTION PLAN WITH
- 6 OF 10 WELLS & DETAIL
- 7 OF 10 WELLS & DETAIL
- 8 OF 10 WELLS & DETAIL
- 9 OF 10 WELLS & DETAIL
- 10 OF 10 WELLS & DETAIL

### DISTURBANCE SUMMARY

ILLUSTRATION OF DISTURBANCE AREAS  
ILLUSTRATION OF DISTURBANCE AREAS  
ILLUSTRATION OF DISTURBANCE AREAS

**NOBLE ENERGY**  
333 TECHNOLOGY DRIVE, SUITE 118  
CANNONSBURG, PA 15317-3077  
(724) 820-3000

**RETTEW ASSOCIATES, INC.**  
1000 W. STATE ST. SUITE 200  
WHEELING, WV 26061  
(208) 872-1234

**COVER SHEET**  
FOR  
**MND 6 WELL PAD**  
FRANKLIN DISTRICT  
MARSHALL COUNTY, WV

CLIENT  
NOBLE ENERGY

DATE: 3/25/2014  
SHEET NO. 1 OF 10  
DWC NO. 093842010

FOR RETTEW ASSOCIATES, INC.  
BY: MICHAEL R. COOPER  
DATE: 3/25/14  
SCALE: AS SHOWN  
MAY 08 2014  
WV Department of Environmental Protection



 <p>RECEIVED Office of Oil and Gas MAY 08 2014</p>	<p>NOBLE ENERGY 333 TECHNOLOGY DRIVE, SUITE 116 CANYONSBURG, PA 15317-3077 BEN DEREUME, PE (724) 820-3000</p>	<p><b>RETTEW</b> RETTEW ASSOCIATES, INC. 100 TOWNE, 950 SHILOH RD., SUITE 200, PITTSBURGH, PA 15208 Phone: (412) 442-1725 Fax: (412) 442-1733 E-mail: rettetw@rettetw.com Website: www.rettetw.com</p>	<p>ENVIRONMENTAL RESOURCES BUFFER PLAN FOR MND 6 WELL PAD MARSHALL COUNTY, WV FRANKLIN DISTRICT</p>
	<p>CLIENT MICHAEL R. ODGEN DESK BY: ASL CHECK BY: ASL DRAIN BY: ASL ASST. SURV. CHIEF: ASL FIELDBOOK NO.: DATA COLLECTION:</p>	<p>DATE: 3/5/2014 SHEET NO. 2 OF 10 DWG. NO. 093842010</p>	



4705101746





FRANKLIN DISTRICT  
 MARSHALL COUNTY, WV  
**MND 6 WELL PAD**  
 FOR  
**ACCESS DRIVE PROFILES**

**BETTEM**  
 BETTEM ASSOCIATES, INC.  
 706 DOWNS, 855 SHILOH RD, SW 305, FLEMING, VA 22046  
 PHONE (412) 446-1728 FAX (412) 446-1733  
 EMAIL: info@bettem.com  
 WEBSITE: www.bettem.com

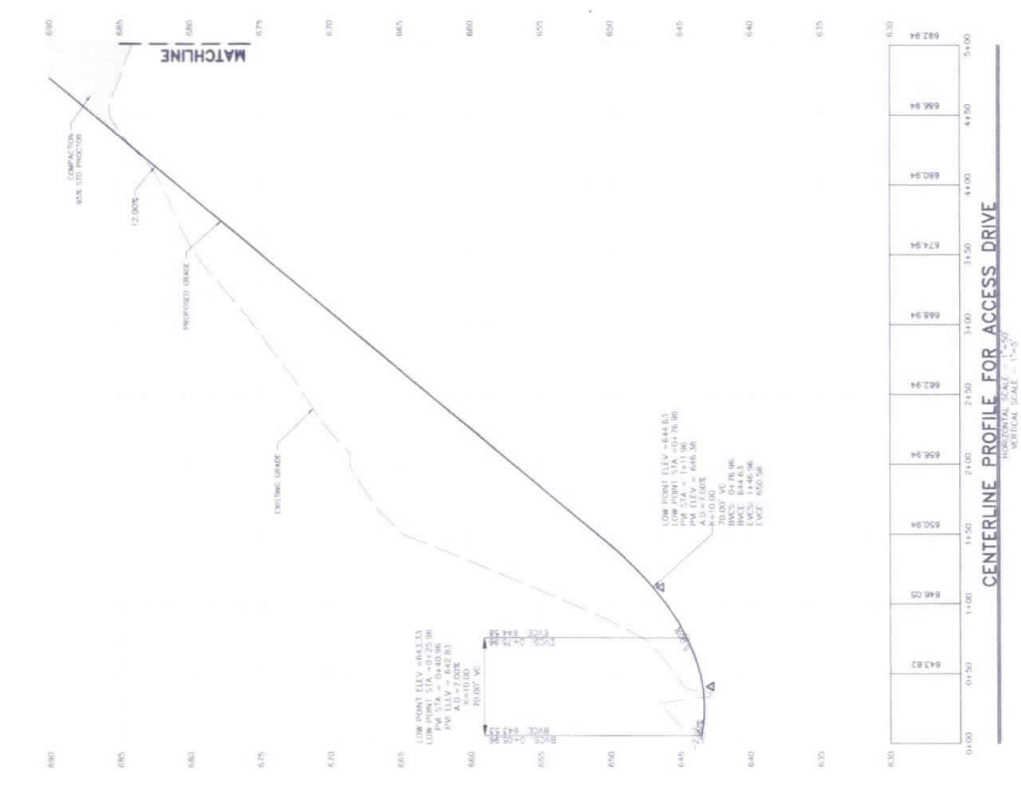
**NOBLE ENERGY**  
 CLIENT  
 NOBLE ENERGY  
 333 TECHNOLOGY DRIVE, SUITE 116  
 CANNONSBURG, PA 15317-3077  
 BEN DEREUPE, PE  
 (724) 820-3000  
 nobleenergy.com

MANAGER	MICHAEL R. OGDEN
DESIGN BY	OMG BY
ASBY	ASBY
DRAWN BY	OMG BY
ASBY	ASBY
REVISION	DATE



Office of Oil and Gas  
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WV Department of  
Environmental Protection  
MAY 08 2014

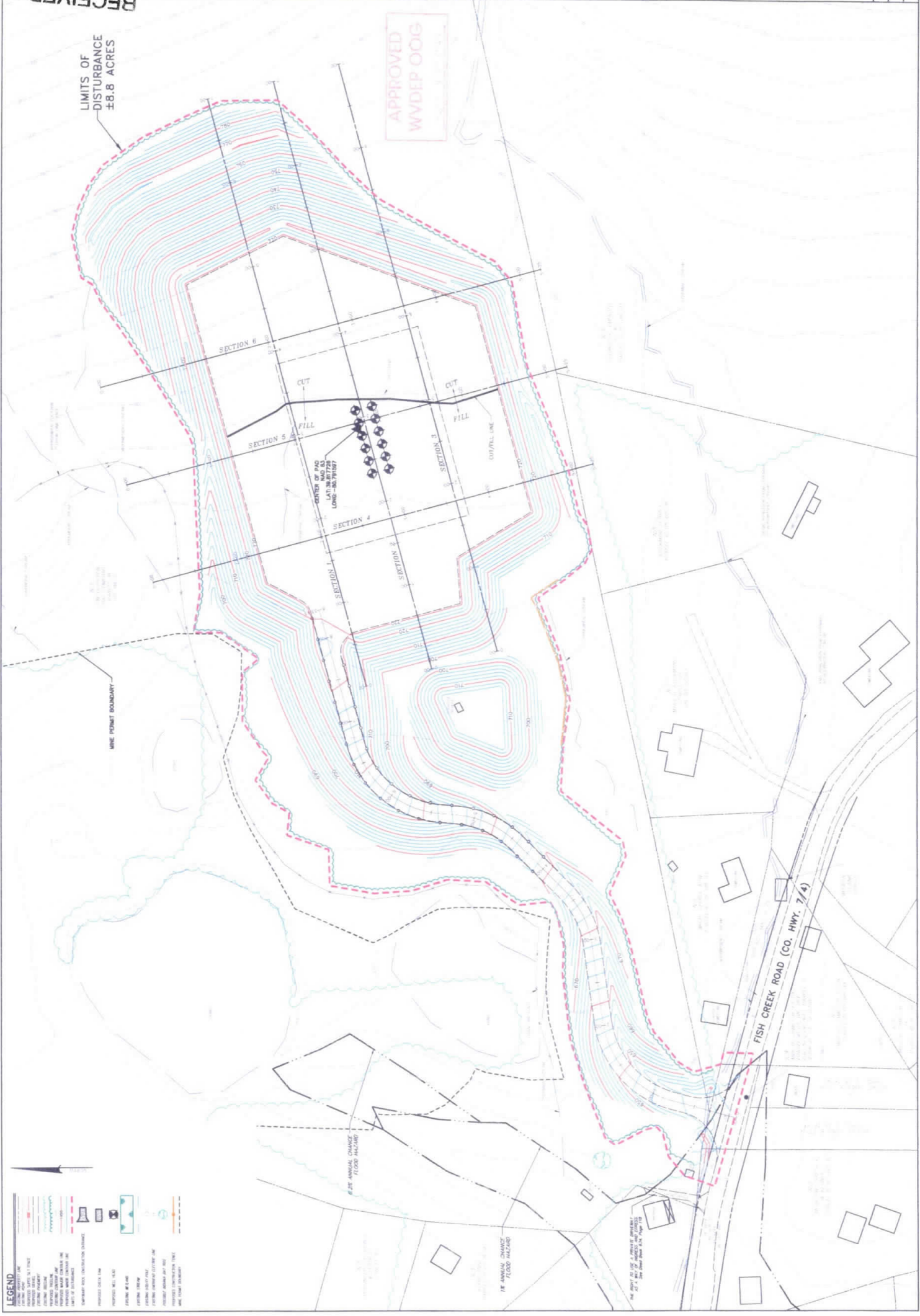


MANAGER	MICHAEL R. GOEDEN
DESIGNER	ASL
CHECKER	ASL
DATE	05/07/14
PROJECT	WV DEPT OF ENVIRONMENTAL PROTECTION

**noble energy**  
NOBLE ENERGY  
333 TECHNOLOGY DRIVE, SUITE 116  
CANNONBURG, PA 15317-3077  
BEN DEREUPE, PE  
(724) 820-5000

**RETREM**  
RETREM Associates, Inc.  
100 West 10th Street, Suite 200  
Pittsburgh, PA 15222  
Phone: (412) 446-1728 Fax: (412) 446-1733  
Email: info@retrem.com  
Website: www.retrem.com

CROSS SECTIONS PLAN VIEW  
FOR  
MND 6 WELL PAD  
MARSHALL COUNTY, WV  
FRANKLIN DISTRICT  
DATE: 3/2/2014  
SHEET NO. 6 OF 10  
DWG. NO. 0935812010



APPROVED  
WVDEP OOG

4705101746

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CROSS SECTIONS  
FOR  
MND 6 WELL PAD

DATE: 3/5/2014  
SHEET NO. 7 OF 10  
DWG. NO. 003842010

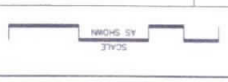
MARSHALL COUNTY, WV



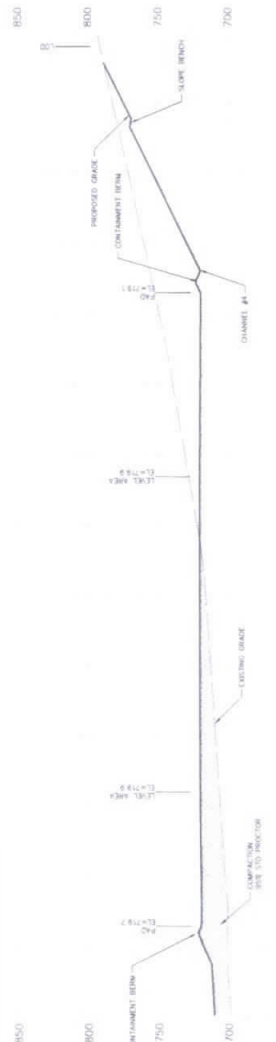
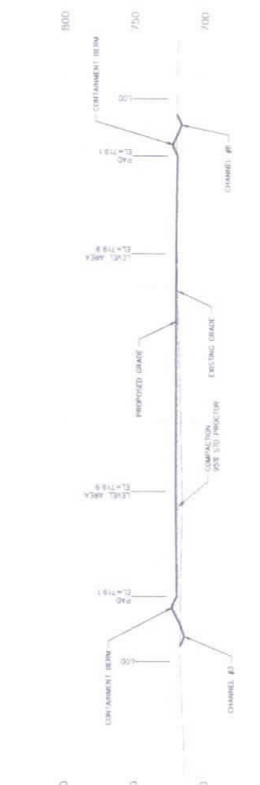
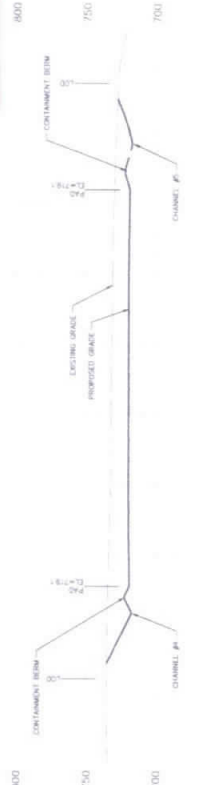
BETHEM Associates, Inc.  
1st Floor, 405 Sandhill Rd.  
Franklin, PA 15874  
Phone: (812) 448-1738 Fax: (812) 448-1733  
Mobile: www.bethem.com

NOBLE ENERGY  
333 TECHNOLOGY DRIVE, SUITE 116  
CANONSBURG, PA 15317-3077  
BEAVER DERULME, PA  
(724) 820-3000  
noble energy

MANAGER: MICHAEL R. OODEN  
DESIGN: ASL  
CHECK: ASL  
DRAIN: ASL  
SURV. CHECK: R. OODEN  
REVISION NO. 15078  
DATE: 3/5/2014



APPROVED  
WVDEP 00G



4705101746

**RECLAMATION NOTES:**

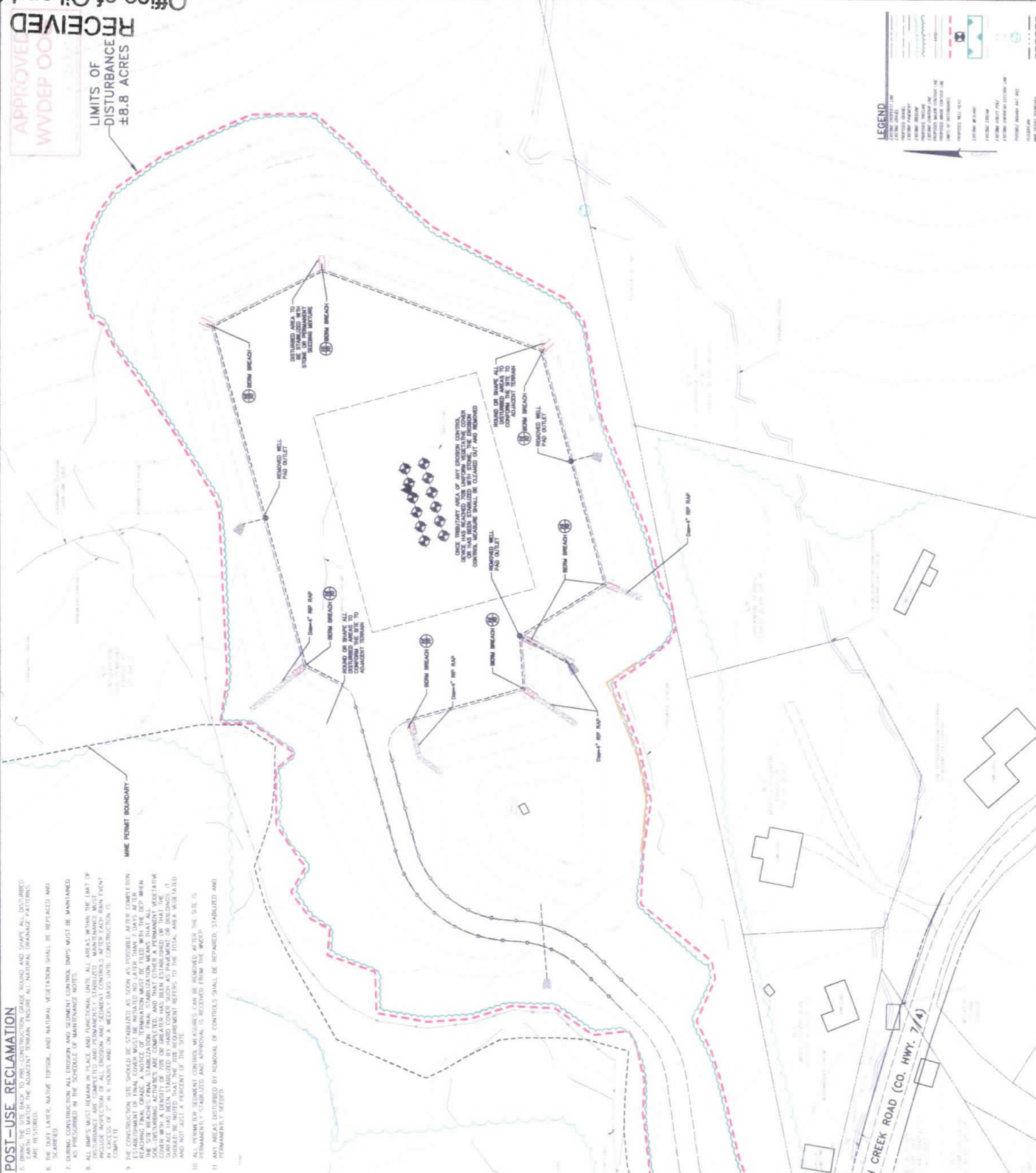
1. EQUIPMENT SHOULD PROCEED TO THE DISTURBED AREAS IMMEDIATELY AND PRIOR TO CONSTRUCTION ACTIVITIES.
  2. DISTURBED AREA TO BE STABILIZED WITH STRAW OR PERMANENT SEEDING MATRIX.
  3. ROUND OR SHAPE ALL DISTURBED AREAS TO CONFORM TO THE ADJACENT TERRAIN.
  4. ONCE TERRAIN OF ANY EROSION CONTROL DEVICE HAS BEEN REACHED THE UNDERMINING MEASURE SHALL BE CLEANED OUT AND REMOVED. STAKE THE EROSION CONTROL.
- RESTORATION OF PLANTED AREAS**
- TEMPORARILY SEED MATRIX SHALL BE APPLIED TO DISTURBED AREAS. IF STABILIZATION CANNOT BE ACHIEVED WITH TEMPORARY SEED, THEN MATRIX WITH FERTILIZER SHALL BE APPLIED. APPLIED FERTILIZER SHALL BE APPLIED AT THE MANUFACTURER'S RECOMMENDED RATE. MATRIX RESTORATION SHALL BE PERFORMED NO LATER THAN THE START OF THE NEXT PLANTING SEASON FOLLOWING CONSTRUCTION. THE PLANTING SEASON SHALL BE AS ESTABLISHED BY THE U.S. AGRICULTURAL SERVICE FOR THE AREA OF CONSTRUCTION. MATRIX RESTORATION SHALL BE PERFORMED NO LATER THAN THE START OF THE NEXT PLANTING SEASON. MATRIX SHALL BE APPLIED TO DISTURBED AREAS AS PRESENT IN LOCAL TOPSOIL.
3. PRECAUTIONS SHALL BE ENERGED AS NECESSARY TO CONFORM WITH LAWS RELATING TO EROSION AND SEDIMENT CONTROL.
  4. SEED SHALL BE APPLIED TO ALL DISTURBED AREAS AND (3) YEAR OLD SEEDING MATRIX SHALL BE APPLIED TO ALL DISTURBED AREAS. SEEDING MATRIX SHALL NOT BE USED UNLESS IT IS SPECIFICALLY APPROVED BY THE U.S. AGRICULTURAL SERVICE.
  5. TEMPORARY AND PERMANENT SEEDING SHALL ADHERE TO THE SPECIFICATIONS PROVIDED IN THIS PLAN.
  6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING A LOSS OF SEEDS OR ALL SEEDS THAT DO NOT SURVIVE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY OTHER CONDITION UNCONSIDERED IN THIS PLAN.

**POST-USE RECLAMATION**

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING A LOSS OF SEEDS OR ALL SEEDS THAT DO NOT SURVIVE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY OTHER CONDITION UNCONSIDERED IN THIS PLAN.
- PRE-CONSTRUCTION CONDITION FUTURE OPERATORS SHALL COMPLY WITH ALL WV DEP REGULATIONS. RESTORANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE FOLLOWING SCHEDULE. EACH STAGE SHALL BE COMPLETED BEFORE ANY FOLLOWING STAGE IS INITIATED. CLEARING AND DRIBBING SHALL BE LIMITED ONLY TO THOSE AREAS DESCRIBED IN EACH SPECIFICATION.
- RESTORANCE ACTIVITIES SHALL BE COMPLETED BY THE END OF THE PROJECT. RESTORANCE ACTIVITIES SHALL BE COMPLETED BY THE END OF THE PROJECT. RESTORANCE ACTIVITIES SHALL BE COMPLETED BY THE END OF THE PROJECT.
1. THE CONTRACTOR SHALL FIELD MARK ALL LIMITS OF DISTURBANCE AND ALL IDENTIFIED WETLANDS, WETLANDS, AND AREAS OF CONCERN FOR CONSTRUCTION ACTIVITIES.
  2. INSTALL EROSION CONTROL MEASURES PERFORMER ENTER SITES AND SUPER IN PLACE. ALL EROSION CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD. ALL EROSION CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD.
  3. INSTALL ALL PERMANENT EROSION AND SEDIMENT CONTROL MEASURES AS NEEDED TO PROTECT THE ADJACENT ENVIRONMENT FROM LEAVING A RECLAMATION SITE. SURFACE EROSION CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD. ALL EROSION CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD.
  4. BEGIN RECLAMATION OF SITE FROM THE FURTHEST POINT AWAY FROM ADJACENT RECLAMATION OF PAD FILL SLOPES. PLACE SUITABLE BACKFILL MATERIAL IN ALL SLOPES AND FILL SLOPES TO A MINIMUM OF 2" AND DEGRADED CONSTRUCTION MATERIAL. THE FILL SHALL BE PLACED IN LAYERS BEING COMPACTED FROM THE BOTTOM LAVERS UP. THOUGHOUT THE RECLAMATION PERIOD, THE CONTRACTOR SHALL MAINTAIN AND REPAIR ALL EROSION CONTROL MEASURES TO PROTECT FROM ACCELERATED EROSION AND SEDIMENTATION.

**POST-USE RECLAMATION**

5. THE CONTRACTOR SHALL FIELD MARK ALL LIMITS OF DISTURBANCE AND ALL IDENTIFIED WETLANDS, WETLANDS, AND AREAS OF CONCERN FOR CONSTRUCTION ACTIVITIES.
6. THE DIST LAYERS, NATIVE TOPSOIL, AND NATURAL VEGETATION SHALL BE REPLACED AND EARTH TO MATCH THE ADJACENT TERRAIN. INSURE ALL NATURAL DRAINAGE PATTERNS ARE RESTORED.
7. EROSION CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD. ALL EROSION CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD.
8. ALL IMPACTS MUST BE REMOVED IN PLACE AND FUNCTIONAL UNTIL ALL AREAS WITHIN THE LIMIT OF DISTURBANCE ARE COMPLETED AND PERMANENTLY STABILIZED. MAINTENANCE MUST EXCEED 90% OF 24 HOURS AND ON A WEEKLY BASIS UNTIL CONSTRUCTION IS COMPLETE.
9. THE CONSTRUCTION SITE SHOULD BE STABILIZED AS SOON AS POSSIBLE AFTER COMPLETION OF CONSTRUCTION. A NOTICE OF TERMINATION MUST BE FILED WITH THE DEP WHEN REACHING FINAL GRADE. A NOTICE OF TERMINATION MUST BE FILED WITH THE DEP WHEN REACHING FINAL GRADE. A NOTICE OF TERMINATION MUST BE FILED WITH THE DEP WHEN REACHING FINAL GRADE.
10. ALL PERMITTED SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD. ALL PERMITTED SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD.
11. ANY AREAS DESCRIBED BY REMOVAL OF CONTROLS SHALL BE REPLACED, STABILIZED AND PERMANENTLY SEED.



APPROVED BY WV DEP 00

LIMITS OF DISTURBANCE ±8.8 ACRES

WELL PAD BOUNDARY

ADJACENT TERRAIN

EROSION CONTROL

WELL PAD

WELL PAD

WELL PAD

WELL PAD

WELL PAD

WELL PAD

WELL PAD

WELL PAD

WELL PAD

WELL PAD

WELL PAD

WELL PAD

WELL PAD

**Office of Oil and Gas**  
**WV Department of Environmental Protection**

DATE: 3/9/2016  
 SHEET NO. B OF 10  
 DWG. NO. 093842010

**WELL PAD RECLAMATION PLAN**  
 FOR  
**MND 6 WELL PAD**  
 MARSHALL COUNTY, WV

**RETTEN**  
 RETTEN ASSOCIATES, INC.  
 1000 WEST VIRGINIA AVENUE  
 CHARLOTTE, NC 28202  
 PHONE (704) 446-1728 FAX (704) 446-1733  
 WEBSITE: WWW.RETTEN.COM

**NOBLE ENERGY**  
 333 TECHNOLOGY DRIVE, SUITE 116  
 BEN DEPULE, PE  
 (724) 820-3000

CLIENT: NOBLE ENERGY  
 333 TECHNOLOGY DRIVE, SUITE 116  
 BEN DEPULE, PE  
 (724) 820-3000

SCALE: 1"=50'  
 DATE: MAY 08 2014

FOR BETTER ASSOCIATES BY: MICHAEL R. OGDEN  
 DESIGN BY: AS/N  
 CHECK BY: AS/N  
 DRAWN BY: AS/N  
 DATE: 3-25-14

4705101746

**EROSION AND SEDIMENTATION CONTROL NOTES**

EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE IMPLEMENTED DURING THE CONSTRUCTION AND POST CONSTRUCTION PERIOD TO PREVENT OR MINIMIZE THE EROSION OF SOILS FROM THE CONSTRUCTION SITE. THE CONTRACTOR SHALL MAINTAIN THE CONSTRUCTION SITE TO PREVENT OR MINIMIZE THE EROSION OF SOILS FROM THE CONSTRUCTION SITE. THE CONTRACTOR SHALL MAINTAIN THE CONSTRUCTION SITE TO PREVENT OR MINIMIZE THE EROSION OF SOILS FROM THE CONSTRUCTION SITE.

**TEMPORARY SEEDING FOR CRITICAL AREAS**

SEED	RATES IN lbs PER ACRE	RECOMMENDED DATA
ANNUAL HYDRAS	40	MAR 1 TO JUNE 1 AUG 15 TO SEPT 15
SPRING OATS	90	MAR 1 TO JUNE 15
FYE GRASS	140	AUG 15 TO OCT 15
ANNUAL HYDRAS	26	MAR 1 TO JUNE 15
SPRING OATS	64	MAR 1 TO JUNE 15

**TABLE IV-2  
PERMANENT SEEDING  
FOR ALL DISTURBED AREAS**

SEED	RATES IN lbs PER ACRE
WHITE CLOVER	15
RED TOP	15
ORCHARD GRASS	20

SEEDING IS NOT RECOMMENDED DURING THE MONTH OF NOVEMBER FOR SOIL TEMPERATURE PREVALENT IN FALL. SEEDING USE 4 TIMES THE INDICATED WHEN HYDROSEEDING

**TABLE IV-4  
MULCH MATERIALS RATES AND USES**

MATERIAL	MINIMUM RATES PER ACRE	COVERAGE	REMARKS
HAY OR STRAW	5 TO 15 TONS 100 TO 200 BALES	COVERS UP TO 50% OF SURFACE	SUBJECT TO WIND BLOWING OR WASHING UNLESS TIED DOWN
WOOD CHIPPER WOOD PILES	1000 TO 1500 cu yds	COVERS ALL DISTURBED AREAS	FOR HYDROSEEDING
WOOD-CELLULOSE RECYCLED PAPER			



**NOTES:**  
BENCHES SHALL BE INSPECTED ON A WEEKLY BASIS AFTER EACH RAIN EVENT. NEEDED REPAIRS SHALL BE INITIATED IMMEDIATELY AFTER THE INSPECTION.

**TABLE IV-3  
LIME AND FERTILIZER  
APPLICATION TABLE**

pH OF SOIL	LIME IN TONS PER ACRE	FERTILIZER IN TONS PER ACRE
ABOVE 6.0	2	500
5.0 TO 6.0	3	500
BELOW 5.0	4	500

THE pH CAN BE DETERMINED WITH A PORTABLE TESTING KIT OR BY SENDING THE SOIL SAMPLES TO A SOIL TESTING LABORATORY. WHEN A TONS OF LIME PER ACRE ARE APPLIED, IT MUST BE TRACED UP AND DOWN THE SLOPE.

REPAIRS SHALL BE INITIATED IMMEDIATELY AFTER THE INSPECTION.

**CONSTRUCTION SEQUENCE**

1. DISTURBED AREAS SHALL BE SEEDING WITH A PERMANENT GRASS COVER WITHIN 72 HOURS.
2. SEEDING SHALL BE DONE PARALLEL TO THE DIRECTION OF RAINFALL.
3. SEEDING SHALL BE DONE PARALLEL TO THE DIRECTION OF RAINFALL.
4. SEEDING SHALL BE DONE PARALLEL TO THE DIRECTION OF RAINFALL.
5. SEEDING SHALL BE DONE PARALLEL TO THE DIRECTION OF RAINFALL.
6. SEEDING SHALL BE DONE PARALLEL TO THE DIRECTION OF RAINFALL.
7. SEEDING SHALL BE DONE PARALLEL TO THE DIRECTION OF RAINFALL.
8. SEEDING SHALL BE DONE PARALLEL TO THE DIRECTION OF RAINFALL.
9. SEEDING SHALL BE DONE PARALLEL TO THE DIRECTION OF RAINFALL.
10. SEEDING SHALL BE DONE PARALLEL TO THE DIRECTION OF RAINFALL.
11. SEEDING SHALL BE DONE PARALLEL TO THE DIRECTION OF RAINFALL.

**SCHEDULE OF MAINTENANCE OF EROSION & SEDIMENTATION CONTROLS**

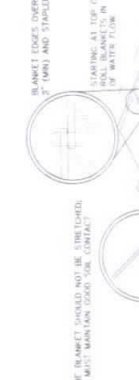
THE EROSION AND SEDIMENTATION CONTROLS INSTALLED IN THE DEVELOPMENT OF THIS PLAN SHALL BE MAINTAINED AND REPAIRED AS NEEDED TO KEEP THEM IN EFFECTIVE CONDITION UNTIL PERMANENT VEGETATION IS ESTABLISHED. THE CONTRACTOR SHALL MAINTAIN THE EROSION AND SEDIMENTATION CONTROLS THROUGHOUT THE CONSTRUCTION PERIOD. THE CONTRACTOR SHALL MAINTAIN THE EROSION AND SEDIMENTATION CONTROLS THROUGHOUT THE CONSTRUCTION PERIOD.

**ROCK CHECK DAM**



**NOTES:**  
ROCK CHECK DAMS SHALL BE INSPECTED WEEKLY AFTER EACH RAIN EVENT. NEEDED REPAIRS SHALL BE INITIATED IMMEDIATELY AFTER THE INSPECTION.

**BENCH DETAIL**



**NOTES:**  
BENCHES SHALL BE INSPECTED ON A WEEKLY BASIS AFTER EACH RAIN EVENT. NEEDED REPAIRS SHALL BE INITIATED IMMEDIATELY AFTER THE INSPECTION.

**CONSTRUCTION FENCE DETAIL**



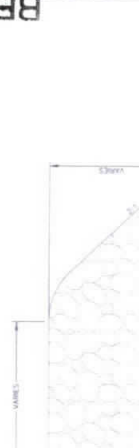
**NOTES:**  
CONSTRUCTION FENCES SHALL BE INSPECTED WEEKLY AFTER EACH RAIN EVENT. NEEDED REPAIRS SHALL BE INITIATED IMMEDIATELY AFTER THE INSPECTION.

**TYPICAL ACCESS DRIVE SECTION**



**NOTES:**  
ACCESS DRIVES SHALL BE INSPECTED WEEKLY AFTER EACH RAIN EVENT. NEEDED REPAIRS SHALL BE INITIATED IMMEDIATELY AFTER THE INSPECTION.

**APPROVED  
WVDEP OOG**



**ROCK CHECK DAM**



**PAD CROSS-SECTION**



**CONTAINMENT BERM AT PAD ACCESS ROAD**



**CHANNEL CROSS-SECTION**



**CHANNEL DETAIL**

CHANNEL NO.	LENGTH (FT.)	BOTTOM WIDTH (FT.)	DEPTH (FT.)	Z1 (FT.)	Z2 (FT.)	REMARKS
1	100	10	2	0.0	2.0	
2	150	15	3	0.0	3.0	
3	200	20	4	0.0	4.0	
4	250	25	5	0.0	5.0	
5	300	30	6	0.0	6.0	

Office of Oil and Gas  
MAY 08 2014



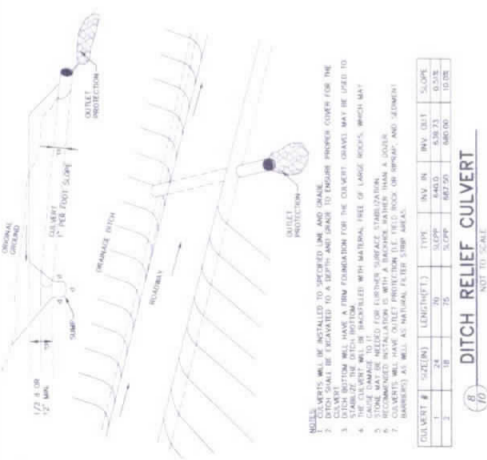
NOBLE ENERGY  
333 TECHNOLOGY DRIVE, SUITE 116  
CANNONSBURG, PA 15317-2077  
BEN DEMERLEC, PE  
(724) 820-3000

BETBEM  
BETBEM ASSOCIATES, INC.  
1000 W. FRENCH CREEK RD.  
MARIETTA, GA 30067  
(404) 446-1728

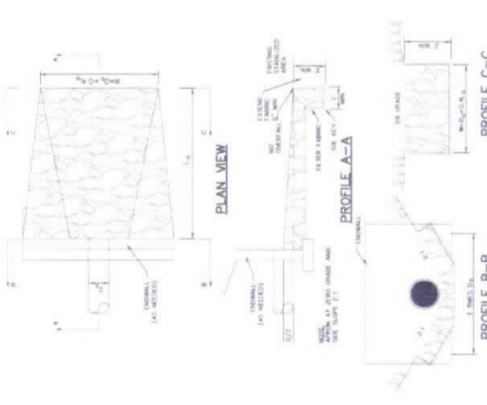
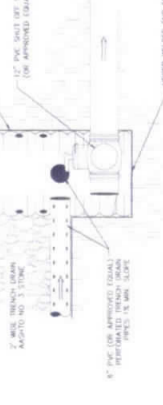
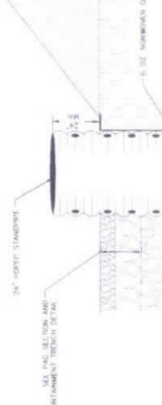
NOTES & DETAILS  
FOR MND 6 WELL PAD  
MARSHALL COUNTY, WV  
FRANKLIN DISTRICT  
DATE: 3/5/2014  
SHEET NO. 8 OF 10  
DWG. NO. 063542010



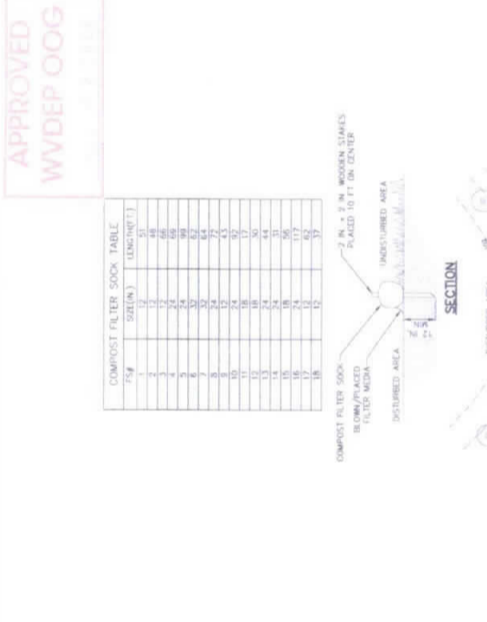
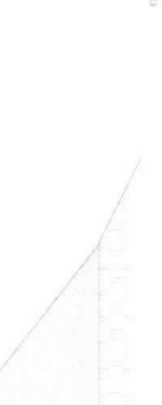
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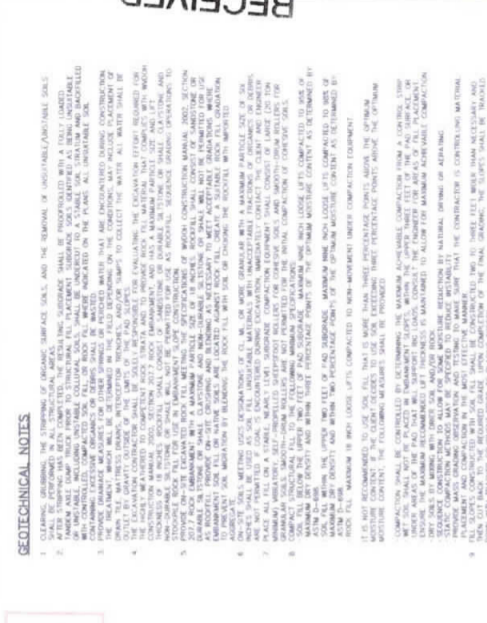
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2	18"	18'	36"	18"	18"	0.01%	0.01%



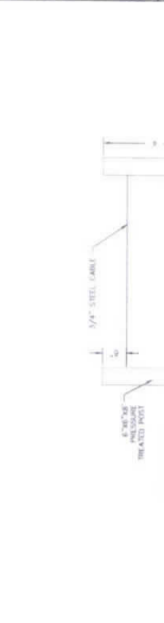
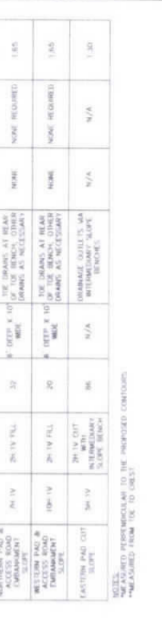
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17	24	48
18	24	48



FS#	SIZE(IN)	LENGTH(FT)
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4	24	48
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6	24	48
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8	36	48
9	36	48
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18	24	48



FS#	SIZE(IN)	LENGTH(FT)
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17	24	48
18	24	48



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