

# Horizontal Well Permitting & ePermitting Update

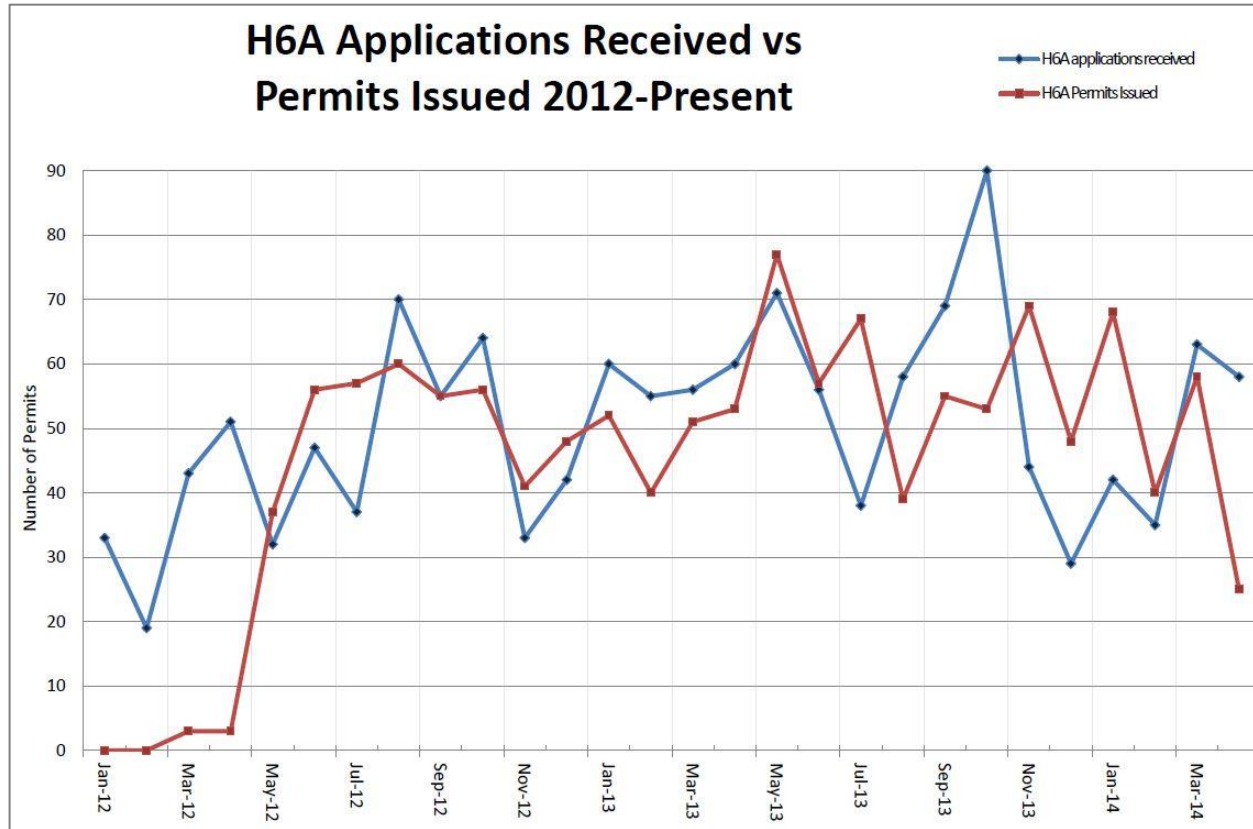


west virginia department of environmental protection

**Laura Cooper**  
**Environmental Resource Analyst, Permitting**

**Oil & Gas Workshop, Charleston Civic Center**  
**May 15<sup>th</sup>, 2014**

# WV Horizontal 6A Permits Issued 2012 – 2014



Horizontal 6A Permits Issued in 2014				
MONTH	Applications Received	Permits Issued #	OOG Days	Total Days
January	42	68	66	95
February	35	40	78	86
March	63	58	74	85
April	58	25	65	80
<b>TOTAL</b>	<b>198</b>	<b>194</b>		
<b>YTD Avg</b>			<b>71</b>	<b>88</b>

# H6A Permitting Update

## **What's New?**

- 35 CSR 8 update by Legislature has eased MSDS requirements
- NEW Site Safety Plan Structure
- HOW we want to receive water well predrill data
- NEW H6A Permit Condition regarding Spud Date notification
- ESS (ePermitting) Status

## **What's Old?**

- Lease requirements
- Plat requirements
- Need for attention to detail in permit applications
- Need to protect safety of school kids

# MSDS requirement change in 35 CSR 8



**Changes  
were made to  
35 CSR 8 in  
the 2014  
Legislative  
Session!**

*35 CSR 8 used to say Site Safety Plan shall:*

“encompass all aspects of the operation, including the actual well work for which the permit is sought, the anticipated MSDS Sheets, and completion, production, and work-over activities.”

*35 CSR 8 now says Site Safety Plan shall:*

“encompass all aspects of the operation, including the actual well work for which the permit is sought, the anticipated MSDS **for the chemical components added to the hydraulic fracturing fluid**, and completion, production, and work-over activities.”

# MSDS requirement change in 35 CSR 8

*35 CSR 8 used to say Operator shall:*

“also 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.”

*35 CSR 8 now says the above, PLUS:*

“ *Provided, That in the event the Well Site Safety Plan previously provided to a surface owner, water purveyor or surface owner, is later amended, in whole or in part, the operator shall provide a copy of the amendments to the surface owner, water purveyor or surface owner.*”

**These changes  
effective on  
June 1<sup>st</sup>, 2014**



# Site Safety Plan “shall be made available...”

FYI, 35 CSR 8 *STILL* says:

It shall be made available on the well site during all phases of the operation and provide an emergency point of contact and twenty-four (24 )-hour contact information for the well operator. At least seven (7) days before commencement of well work or site preparation work that involves any disturbance of the land, the well operator shall provide a copy of the well site safety plan to the local emergency planning committee (LEPC) for the emergency planning district in which the well work will occur or to the county office of emergency services.

## **What this means:**

- **Have SSP on site at all times**
- **Week before construction begins, give a copy to Emergency folks (LEPC)**



# New Site Safety Plan Organization

Operators should already be using this new structure for Site Safety Plans

## Site Safety Plan Table of Contents For H6A Well Work Permits and Deep Well Work Permits

Please prepare a Site Safety Plan to accompany each applicable H6A permit to the following organizational and informational structure. Plans must contain content entirely including page-number references.

### 1. Contacts, Schedules, and Meetings

- A. Emergency point of contact for the well operator covering 24-hour contact information (35-8 5.7.b.4)
- B. List of telephone numbers for (35-8 5.6.4):
  - 1. Operator
  - 2. Contractors
  - 3. DEP office and oil/gas inspector
  - 4. Local emergency response units
  - 5. Local ER personnel
  - 6. All schools and public facilities within a one mile radius
- C. Method of notification of public of H<sub>2</sub>S gas presence and horizontal wells include all residents and emergency response event. Such events may include the presence of H<sub>2</sub>S, blowout, or other emergency.
- D. Pre-spud meeting held prior to drilling operations, including:
  - 1. Attendance log, including personnel to be employed
  - 2. Notification of County oil and gas inspector or other county representative
- E. Describe schedule for conducting regular well site safety meetings and also initiate check in check out during drilling, completion

### 2. Maps and Diagrams

- A. Plan view map of location, access road, pit(s), flare lines, and the prevailing wind direction (35-8 5.7.b.1)
- B. Topographic map of well location, including:
  - 1. 1 mile radius of well location
  - 2. UTM NAD 83 coordinates of well site entrance (35-8 5.7.c.1)
  - 3. UTM NAD 83 coordinates of the point the access road enters
  - 4. Identify public route number and/or route name (35-8 5.7.c.2)
- C. Evacuation plan for the removal of personnel from the drilling area who have the potential to be affected by the drilling

### 3. Well Work

- A. Detailed written descriptions of well work and procedure and production phases, including schematic plan views of well work
- B. Statement detailing how a copy of the plan will be provided to the committee or county emergency services office within at least 24 hours of well work (35-8 5.7.a)

### 4. Chemical Inventory & MSDS

- A. Material Safety Data Sheets for all chemicals anticipated to be used in all aspects of the operation (can be provided on CD or USB drive) (35-8 5.7.a)
- B. Statement that all MSDS are to be readily available at the well site and their location indicated in the site safety plan including contact information for person(s) responsible maintaining them on site. (35-8 5.7.g)
- C. Inventory of all materials on site for mixing of mud amount and weight, amount of weight of materials (35-8 5.7.d.2)

### 5. BOP and Well Control

- A. BOP equipment and casing heads with types, sizes, and drilling for both intermediate and lateral drill
- B. Procedure and schedule for testing the BOP: initial set up and the annular tested to 70% of rated testing % for bottom and horizontal phase expansion and after each bit trip (35-8 5.7.c.2)
- C. BOP equipment and assembly installation schedule
- D. List and names of all personnel with well control training
- E. Description of system of maintaining detailed logs of all significant drilling issues, including:
  - 1. Lost circulation
  - 2. Hydrogen sulfide gas
  - 3. Fluid entry
  - 4. Abnormal pressures
- F. Notification of the oil and gas inspector or department of the unusual drilling events, hydrogen sulfide gas, or other emergency (Mandatory immediate notification is required for >10ppm H<sub>2</sub>S Gasses!) (35-8 5.7.c.5)
- G. Schematic and detailed written description of well completion (35-8 5.7.c.6)
- H. Method and type of kill procedures as recognized (35-8 5.7.d.3)

### 6. Hydrogen Sulfide (H<sub>2</sub>S)

- A. Detection, monitoring and warning equipment and equipment on the site (35-8 5.7.e.1)
- B. Statement of H<sub>2</sub>S personnel training provided
- C. Method to notify the OOG of H<sub>2</sub>S presence (35-8 5.7.f.1)
- D. Establish and maintain Protection Zones. Describe drilling phases. (application horizontal wells and phases) (35-8 5.7.f.2)
- E. List of personal protective equipment (PPE) and the amount of each piece of PPE that will be maintained and available on site. (35-8 5.7.e.3)

### 7. Flaring

- A. Proposed written description and plan including schematic of installation for duration of flaring activities (35-8 5.7.f.1)

### 8. Collision Avoidance

- A. Protocol and established safeguard designed to prevent underground collisions during any drilling on multi-well pads (35-8 5.7)

### 9. Deep Well Additional Requirements

- A. List of anticipated freshwater, saltwater, oil and gas, hydrogen sulfide, thief zones, high pressure and volume zones and their expected depths
- B. Detailed casing and cementing program that employs a minimum of three strings of casing which are sufficient weight and quality for the anticipated conditions
- C. Flaring activities: Size, construction and length of flare line-anchor method and choke assembly description, Flare lighting system and back up igniters, Notify local fire department (if possible) prior to igniting flares, Minimum clearing distance beyond end of flare.
- D. List of names, addresses, and telephone numbers of all residents, businesses, churches, schools and emergency facilities within 1 mile radius that may be affected by specific events during the drilling process. Such events may include presence of hydrogen sulfide, and flaring, etc.

### 10. Deep Vertical Well Requirements per Policy Statement (Deep Well

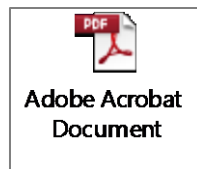
#### Drilling Procedures and Site Safety Plan Requirements)

The following selections are needed from the above contents:

- 1. A - E (E. drilling phase only)
- 2. A - C
- 3. A (drilling phase only)
- 4. B - C
- 5. A - H
- 6. A - E
- 9. A - D.

# Good Example of SSP with New Structure

Good adherence to new SSP structure got this Deep Well SSP approved by Cindy super quick!



**Some  
Company's**

**Deep Well**

**SITE SAFETY PLAN**

April 2, 2014

*[Signature]*  
4/22/14

Cindy Racines  
5/5/2014

*[Signature]*  
RECEIVED  
Office of Oil and Gas  
APR 23 2014  
Wyv Department of  
Environmental Protection



# Water Well Predrill Analytical Data

## **What to test for?**

all parameters stated in 35 CSR 8 15.3.b

## **Where to sample?**

wells within 1500' or 2000' if none are found within 1500'

## **Why is it important?**

to provide rebuttable presumption that drilling was not the cause of contamination

Next: **How** we want to receive them...



# Water Well Predrill Analytical Data

## How we have been receiving the data:

47-103-02937, 02938, 02939, 02940, 02941, 02942, 02943  
Submittal Date: November 25, 2013

**Pre-Drill Data Summary**

---

Well Pad Name: Wetzel County, Grant Township, WV  
Well Number(s): 514563, 514564, 514565, 514566, 514567, 514568, 514569

In accordance with West Virginia Code 35-8-15, \_\_\_\_\_ is providing the following pre-drill data summary for water supplies located within 2,500 feet of the above referenced well(s).  
Paper copies of the pre-drill sampling results have also been provided to the landowner(s).

---

Surface Owner / Occupant: Jason White / Jennifer Stevens Source Distance from Gas Well (feet): 2,475  
Address: HC 79 Box 36A, Jacksonburg, WV 26377 Phone #: 304-889-2224  
Sample Date: 10/07/2013 Coordinates: 39.55149, -80.58601  
Contact Attempts (Date): 1<sup>st</sup>: \_\_\_\_\_ 2<sup>nd</sup>: \_\_\_\_\_ 3<sup>rd</sup>: \_\_\_\_\_ Date Door Hanger Left: \_\_\_\_\_  
Comments: Sampled Well #1

---

Surface Owner / Occupant: Jason White / Jennifer Stevens Source Distance from Gas Well (feet): 2,480  
Address: HC 79 Box 36A, Jacksonburg, WV 26377 Phone #: 304-889-2224  
Sample Date: 10/07/2013 Coordinates: 39.55147, -80.58576  
Contact Attempts (Date): 1<sup>st</sup>: \_\_\_\_\_ 2<sup>nd</sup>: \_\_\_\_\_ 3<sup>rd</sup>: \_\_\_\_\_ Date Door Hanger Left: \_\_\_\_\_  
Comments: Sampled Well #2

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Surface Owner / Occupant: Kenneth Wright Distance from Gas Well (feet): 3,145  
Address: HC 79 Box 35, Jacksonburg, WV 26377 Phone #: 304-889-2271  
Sample Date: 10/07/2013 Coordinates: 39.55110, -80.58850  
Contact Attempts (Date): 1<sup>st</sup>: \_\_\_\_\_ 2<sup>nd</sup>: \_\_\_\_\_ 3<sup>rd</sup>: \_\_\_\_\_ Date Door Hanger Left: \_\_\_\_\_  
Comments: Sampled Well

---

Surface Owner / Occupant: Denzil Henthorn Jr. Distance from Gas Well (feet): 3,160  
Address: HC 79 Box 38, Jacksonburg, WV 26377 Phone #: 304-889-2283  
Sample Date: 10/04/2013 Coordinates: 39.55181, -80.58433  
Contact Attempts (Date): 1<sup>st</sup>: \_\_\_\_\_ 2<sup>nd</sup>: \_\_\_\_\_ 3<sup>rd</sup>: \_\_\_\_\_ Date Door Hanger Left: \_\_\_\_\_  
Comments: Sampled Well #1

Page 1 of 2

**All are  
currently  
received on  
paper...**

**Sometimes with  
well numbers or  
API numbers...**

**Sometimes  
without.**

February 17, 2014

Attn: James Martin  
West Virginia Department of Environmental Protection (DEP)  
Office of Oil & Gas  
601 37<sup>th</sup> Street, SE  
Charleston, WV 25304

RE: Water Well Sampling

Mr. James Martin:

Pursuant to Title 35-Series4, Section 19 of the Legislative Rule of the Division of Environmental Protection, enclosed with this letter please find the water quality sampling results that pertain to the residential water well and spring sampling conducted near Antero's well pad locations. The analytical results provided with this submittal pertain to the following well pad locations:

- John North Pad: 3 additional water wells sampled within 2,000 ft.
- Snake Run Pad: 11 water wells and 4 springs sampled within 2,000 ft.
- Willard Pad: 5 water wells and 1 spring sampled within 2,000 ft.

In addition to the analytical results accompanying this submittal, \_\_\_\_\_ has also attached the certification for the water well results as required by rule.

If you have any questions please do not hesitate to contact me at (303) 357-6821.

Sincerely,

Cc: Attachments

RECEIVED  
Office of Oil and Gas  
FEB 19 2014  
WV Department of  
Environmental Protection

# Water Well Predrill Analytical Data

## How we would like to receive the data:

This form is still being ironed out, and will be available on our website soon

**Ultimately, the goal is to receive the data digitally, either as a spreadsheet or fillable form**

(5/08/14)

**Water Source Sample Results**


Operator: \_\_\_\_\_ Representative: \_\_\_\_\_ Representative Phone: \_\_\_\_\_

API #'s: \_\_\_\_\_

		Source #	Source #	Source #	Source #
Sample Date					
Water Source Owner					
Water Source Address					
Source Name/Location (faucet/well/etc)					
Well Coordinates: UTM NAD 83 Northing					
UTM NAD 83 Easting					
Parameter	Units				
TPH - GRO	mg/L				
TPH - DRO	mg/L				
TPH - ORO	mg/L				
BTEX	mg/L				
Chloride	mg/L				
Sodium	mg/L				
Total Dissolved Solids (TDS)	mg/L				
Aluminum	mg/L				
Arsenic	mg/L				
Barium	mg/L				
Iron	mg/L				
Manganese	mg/L				
pH	SU				
Calcium	mg/L				
Sulfate	mg/L				
MBAS	mg/L				
Dissolved Methane	mg/L				
Dissolved Ethane	mg/L				
Dissolved Butane	mg/L				
Dissolved Propane	mg/L				
Total Coliform Bacteria	cfu/100mL				

Page \_\_ of \_\_

Promoting a healthy environment.



# New Permit Condition on H6A Permits

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

**“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.”**



# Electronic Submission System (ESS/ePermitting)



**Big thanks to our Beta Testers for helping us develop ESS for OOG!**

- H6A and Plugging Apps have been tested & tweaked
- Duplication of permits has been developed
- A few H6A permits have actually been issued with ESS

Department of Environmental Protection  
State of West Virginia

Enter Login Information:  
Login:   
Password:

Once you have successfully entered your login information, any period of inactivity for 2 hours will log you out of the system.

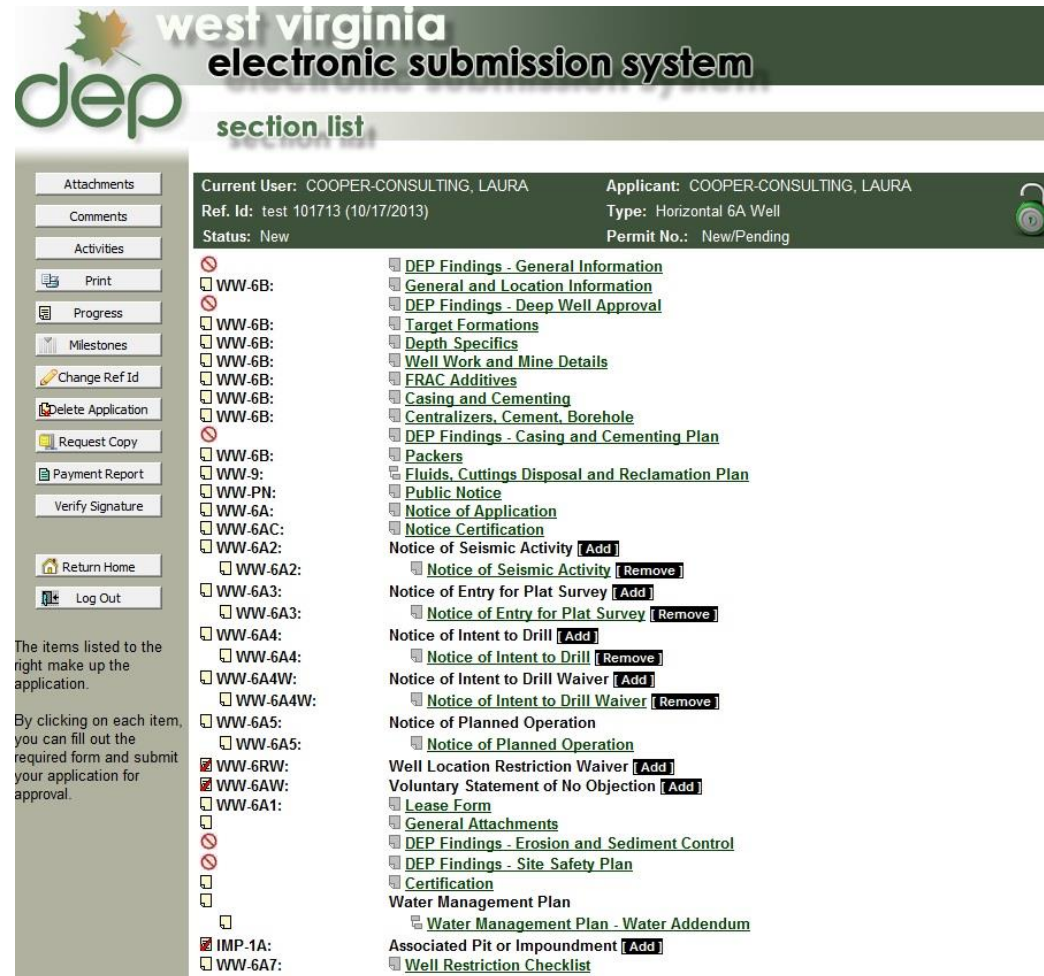
[Forgot login or password?](#)

"Promoting a Healthy Environment."  
Please use Microsoft Internet Explorer 6.0 through 9

Monday October 21, 2013

# ESS Further Development

- DEP is currently re-assessing the Department-wide Electronic Submission System
- Feedback is being gathered from DEP users as well as current and future Permittees
- DEP Ombudsman Terry Polen is putting this information together
- You may be hearing from Terry soon for your input



**west virginia**  
**dep** **electronic submission system**

**section list**

Current User: COOPER-CONSULTING, LAURA      Applicant: COOPER-CONSULTING, LAURA  
Ref. Id: test 101713 (10/17/2013)      Type: Horizontal 6A Well  
Status: New      Permit No.: New/Pending

**Navigation:** Attachments, Comments, Activities, Print, Progress, Milestones, Change Ref Id, Delete Application, Request Copy, Payment Report, Verify Signature, Return Home, Log Out

The items listed to the right make up the application.  
By clicking on each item, you can fill out the required form and submit your application for approval.

**Application Sections:**

- ☐ WW-6B: [DEP Findings - General Information](#)
- ☐ WW-6B: [General and Location Information](#)
- ☐ WW-6B: [DEP Findings - Deep Well Approval](#)
- ☐ WW-6B: [Target Formations](#)
- ☐ WW-6B: [Depth Specifics](#)
- ☐ WW-6B: [Well Work and Mine Details](#)
- ☐ WW-6B: [FRAC Additives](#)
- ☐ WW-6B: [Casing and Cementing](#)
- ☐ WW-6B: [Centralizers, Cement, Borehole](#)
- ☐ WW-6B: [DEP Findings - Casing and Cementing Plan](#)
- ☐ WW-6B: [Packers](#)
- ☐ WW-9: [Fluids, Cuttings Disposal and Reclamation Plan](#)
- ☐ WW-PN: [Public Notice](#)
- ☐ WW-6A: [Notice of Application](#)
- ☐ WW-6AC: [Notice Certification](#)
- ☐ WW-6A2: [Notice of Seismic Activity](#) [Add](#)
- ☐ WW-6A2: [Notice of Seismic Activity](#) [Remove](#)
- ☐ WW-6A3: [Notice of Entry for Plat Survey](#) [Add](#)
- ☐ WW-6A3: [Notice of Entry for Plat Survey](#) [Remove](#)
- ☐ WW-6A4: [Notice of Intent to Drill](#) [Add](#)
- ☐ WW-6A4: [Notice of Intent to Drill](#) [Remove](#)
- ☐ WW-6A4W: [Notice of Intent to Drill Waiver](#) [Add](#)
- ☐ WW-6A4W: [Notice of Intent to Drill Waiver](#) [Remove](#)
- ☐ WW-6A5: [Notice of Planned Operation](#)
- ☐ WW-6A5: [Notice of Planned Operation](#)
- ☒ WW-6RW: [Well Location Restriction Waiver](#) [Add](#)
- ☒ WW-6AW: [Voluntary Statement of No Objection](#) [Add](#)
- ☐ WW-6A1: [Lease Form](#)
- ☐ [General Attachments](#)
- ☐ [DEP Findings - Erosion and Sediment Control](#)
- ☐ [DEP Findings - Site Safety Plan](#)
- ☐ [Certification](#)
- ☐ [Water Management Plan](#)
- ☐ [Water Management Plan - Water Addendum](#)
- ☒ IMP-1A: [Associated Pit or Impoundment](#) [Add](#)
- ☐ WW-6A7: [Well Restriction Checklist](#)



# Lease Requirements

§22-6A-5 states:

“To the extent that horizontal wells governed by this article are similar to conventional oil and gas wells regulated under article six of this chapter, the following sections of article six of this chapter are hereby incorporated by reference in this article: “

## **What this means:**

**This is nothin' new. These are the same old rules that have always applied to all the well permits we've ever issued.**

**Question  
begged:**

**Which “following  
section,” and  
what does it say?**

# **“Following Section”**

**(otherwise known as §22-6A-5 (5))**

§22-6A-5 (5)

“The provisions of section eight, article six of this chapter relating to the prohibition of permits for wells on flat well royalty leases and requirements for permits”

## **What this means:**

**Harken back to 22-6 on this one, and it'll tell you what has always been required to get a permit, lease-wise**

**Question  
begged:**

**Alrighty, so what  
does 22-6-8 say?**

# What §22-6-8 Says

## §22-6-8(c)

“no such permit shall be hereafter issued unless the lease or leases or other continuing contract or contracts by which the right to extract, produce or market the oil or gas is filed with the application for such permit”

### **Question begged:**

**Is there anything we can provide instead of—or *in lieu of*—a lease or other continuing contract? Anything at all...?**

# In Lieu of Lease or Other Continuing Contract

## §22-6-8(c) (continued)

“In lieu of filing the lease or leases or other continuing contract or contracts, the applicant for a permit described herein may file the following:

- (1) **A brief description of the tract of land** including the district and county wherein the tract is located;
- (2) **The identification of all parties** to all leases or other continuing contractual agreements by which the right to extract, produce or market the oil or gas is claimed;
- (3) **The book and page number wherein each such lease or contract by which the right to extract, produce or market the oil or gas is recorded; and**
- (4) **A brief description of the royalty provisions of each such lease or contract.”**

### **What this means:**

**Either show us the lease or contract,  
or give us a WW6A1, complete with  
recordation info**

# Plat Requirements

Read 35 CSR 8 section 6.2 Forms and Contents of Plats

## Example of a Good Plat →

- Has 500' buffer around lateral
- Clearly shows UTM Nad 83 coords
- Has correct Well Number & other info
- Shows Total Vertical Depth (not just TMD)
- Spots correctly on Quad map
- Has references for lease info (labeled 1-7)



**A good plat  
saves Operators  
Time & Money**

Well is located on topa map 8,975' feet south of Latitude: 39° 52' 30"

Well is located on topa map 146' feet west of Longitude: 80° 47' 30"

**REFERENCE DEAIL**

LINE	BEARING	DISTANCE
R1	S 8°45'13" W	1473.47
R2	N 11°43'14" W	1074.56
R3	S 82°02'31" E	1442.59
R4	N 50°29'36" E	180.96
R5	S 44°43'46" E	232.44
R6	S 84°28'51" E	263.46

**LEGEND**

- TOP MAP POINT
- WELL
- ALL ARE POINTS UNLESS OTHERWISE NOTED
- WATER SOURCE
- LEASE NUMBER BASED ON ATTACHED WR-61
- WATER TREAT
- BOUNDARY
- PARCEL LINES
- NEEL REFERENCE
- PROPOSED
- HORIZONTAL WELL
- ROAD
- STREAM COVER LINE
- WELLS WITHIN 3000'
- EXISTING WELLS
- PLUGGED WELLS

**NOTES:**

- There are no water wells or developed springs within 250' of proposed well.
- There are no existing buildings within 100' of proposed well.
- Proposed well is greater than 100' from potential stream, wetland, point, reservoir or lake.
- There are no surface water streams within 300' of proposed well.
- Proposed well is greater than 1000' from surface/groundwater intake or public water supply.
- For not the purpose or intention of this plat to represent surveyed locations of the surface or mineral parcels depicted herein. The location of the boundary lines, as shown, are based on record deed descriptions. Field evidence found and/or top map position, unless otherwise noted.

**Blue Mountain Inc.**  
11023 MASON DIXON HIGHWAY  
BURLINGTON, WV 25862  
PHONE: (304) 682-6486

**FILE #:** MND3DHS  
**DRAWING #:** MND3DHS  
**SCALE:** 1" = 2000'  
**MINIMUM DEGREE OF ACCURACY:** 1/2500  
**PROVEN SOURCE OF ELEVATION:** U.S.G.S. MONUMENT THOMAS 1498.81'

**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: George A. Six  
R.P.E.: \_\_\_\_\_ L.L.S.: P.S. No. 2000

**GEORGE A. SIX**  
**LICENSED**  
**No. 2000**  
**STATE OF WEST VIRGINIA**  
**PROFESSIONAL SURVEYOR**

PLACE SEAL HERE

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

**DATE:** OCTOBER 29, 2013  
**OPERATOR'S WELL #:** MND3DHS  
**API WELL #:** 47 51 81746  
STATE COUNTY PERMIT

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

WATERSHED: SHORT CREEK ELEVATION: 1126.02'

COUNTY/DISTRICT: MARSHALL / FRANKLIN QUADRANGLE: POWHATAN POINT, OH-WV 7.5'

SURFACE OWNER: CONSOLIDATION COAL COMPANY/ConsolidMiningCO. ACREAGE: 180.21±

OIL & GAS ROYALTY OWNER: SEE ATTACHED WR-61 ACREAGE: 560.51±

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

TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: TWD: 6,279± TMD: 12,921±

WELL OPERATOR NOBLE ENERGY, INC. DESIGNATED AGENT STEVEN M. GREEN  
Address 333 TECHNOLOGY DRIVE, SUITE 116 Address 500 VIRGINIA STREET EAST, UNITED CENTER SUITE 590  
City CANONSBURG State PA Zip Code 15317 City CHARLESTON State WV Zip Code 25301

# Application Paperwork: Please Do It Right

We get a lot of paperwork.  
This picture represents what we  
sometimes receive in one day.

## What you can do to help:

- **Double check *everything*:**
  - well & pad names
  - mail receipts
  - UTM coordinates
  - newspaper ad
  - Plat info
- **If you're not sure, ASK before sending**
- **Be NEAT and CONSISTENT**
- **Be responsive and courteous when we contact you**



**Accurate application paperwork  
saves Operators Time & Money**





# Public Buildings Near Proposed Pads

**We can all agree:**

**Protecting school children from truck traffic and other potential hazards is extremely important**

Whenever a well site or well road entrance is near a school, do the following:

1. Consider re-routing truck traffic to avoid the school
2. Provide protective measures for the school in Site Safety Plan
3. Show the school on Construction E&S Plan
4. Show the school on all topographic and other maps



# Questions?

What questions do you have?



**Laura K. Cooper**

**DEP Office of Oil and Gas  
Permitting**

**304-926-0450 x1547**

**Laura.K.Cooper@wv.gov**



west virginia department of environmental protection