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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](http://www.dep.wv.gov)

December 02, 2014

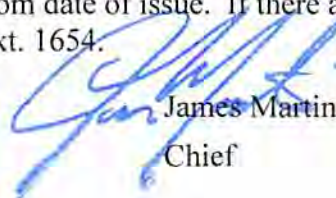
**WELL WORK PLUGGING PERMIT**

**Plugging**

This permit, API Well Number: 47-500244, issued to CABOT OIL & GAS CORPORATION, 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.

Upon completion of the plugging well work, the above named operator will reclaim the site according to the provisions of WV Code 22-6-30. The above named operator will also file, as required in WV Code 22-6-23, an affidavit on form WR-38 by two experienced persons in the operator's employment and the Oil and Gas inspector that the work authorized under this permit was performed and a description given. Failure to abide by all statutory and regulatory provisions governing all duties and operations here under may result in suspensions or revocation of this permit and in addition may result in civil and/or criminal penalties being imposed upon the operator.

This permit will expire in two (2) years from date of issue. If there are any questions, please free to contact me at (304) 926-0499 ext. 1654.



James Martin  
Chief

Operator's Well No: 69  
Farm Name: FEDERAL COAL CO.  
**API Well Number: 47-500244**  
**Permit Type: Plugging**  
Date Issued: 12/02/2014

**Promoting a healthy environment.**

**12/05/2014**

# PERMIT CONDITIONS

West Virginia Code §22-6-11 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. All pits must be lined with a minimum of 20 mil thickness synthetic liner.
2. In the event of an accident or explosion causing loss of life or serious personal injury in or about the well or while working on the well, the well operator or its contractor shall give notice, stating the particulars of the accident or explosion, to the oil and gas inspector and the Chief within twenty-four (24) hours.
3. Well work activities shall not constitute a hazard to the safety of persons.

1) Date October 15, 2014  
2) Operator's  
Well No. Federal Coal #69  
3) API Well No. 47-005 - 00244

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

APPLICATION FOR A PERMIT TO PLUG AND ABANDON

4) Well Type: Oil \_\_\_ / Gas X / Liquid injection \_\_\_ / Waste disposal \_\_\_ /  
(If "Gas, Production X or Underground storage \_\_\_) Deep \_\_\_ / Shallow X

5) Location: Elevation 1,395' Watershed Hopkins Fork  
District Sherman County Boone Quadrangle Sylvester & Williams Mtn.

6) Well Operator Cabot Oil & Gas Corporation 7) Designated Agent Whitney Johnson  
Address Five Penn Center West, Ste. 401 Address P.O. Box 450  
Pittsburgh, PA 15276 Glasgow, WV 25086

8) Oil and Gas Inspector to be notified 9) Plugging Contractor  
Name Ross Eller Name Shreve's Well Service  
Address 121 Brierhill Drive Address 3473 Triplett Road  
Beckley, WV 25801 Spencer, WV 25275

10) Work Order: The work order for the manner of plugging this well is as follows:  
See attached sheet

*See Change to proposed confidential*

Notification must be given to the district oil and gas inspector 24 hours before permitted work can commence.

Work order approved by inspector *[Signature]* Date 11-17-14

12/05/2014

**FEDERAL COAL #69**  
**API # 47 - 005 - 00244**  
**PLUGGING PROCEDURE**

**Current Configuration**

- 0 DTD @ 3095'
- 8-1/4" casing @ 999'
- 6-5/8" casing @ 2376'
- 13" conductor @ 12'
- 2-3/8" tubing @ 3066' w/ pump seat @ 3054'
- Water @ 684' & 1540'
- Coal @ 99' - 101', 410' - 414', 492' - 495', 680' - 684', & 752' - 756'
- Berea from 3049' to 3066' frac'd open hole
- Weir from 2751' to 2900' w/ gas shows @ 2756', 2868', & 2888'
- Injun @ 2576' - 2619' w/ no gas show
- Big Lime @ 2365' - 2576' w/ gas show @ 2491'

**PROCEDURE**

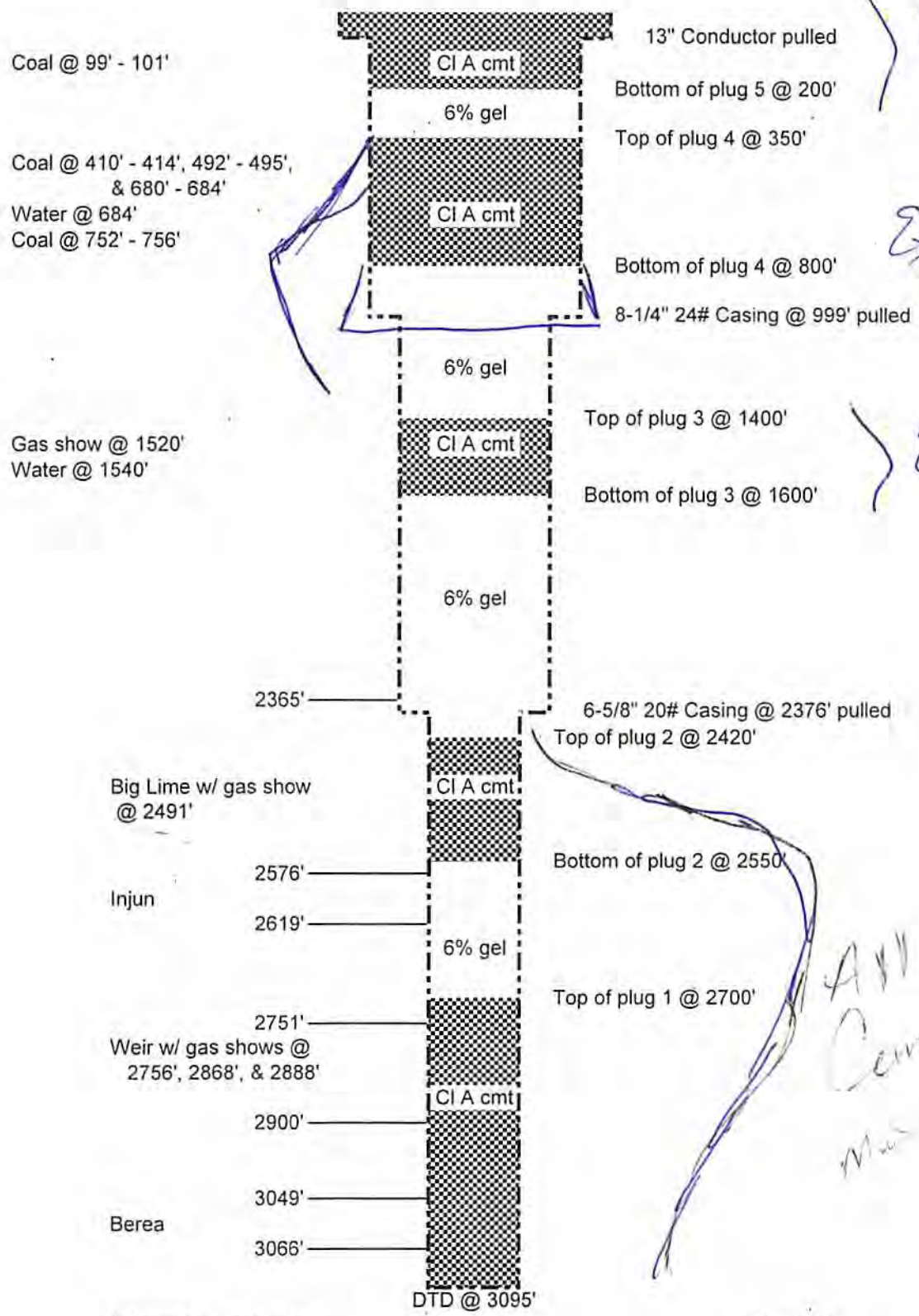
1. Contact Danville District Office a minimum of 48 hours prior to starting work
2. Contact state inspector a minimum of 24 hours prior to starting work.
3. Lay 2" line from wellhead to pit/tank and stake down securely. Vent 6-5/8" X 8-1/4" annulus.
4. Remove any pumping equipment.
5. MIRU service rig and blow down well.
6. Unpack wellhead.
7. Pull pump rods.
8. Pull 2-3/8" tubing.
9. Run rig tools to determine well TD and note any fluid level.
10. MIRU Cementing Company.
11. TIH with 2-3/8" work string to 3090'.
12. Pump 20 bbls of 6% Gel followed by 85 sacks of Class A cement for cement plug 1 from 3090' to 2700'.
13. Displace with 10 bbls of 6% Gel.
14. Pull work string to 2550' and pump 25 sacks of Class A cement for cement plug 2 from 2550' to 2420'.
15. Displace with 9 bbls of 6% Gel.
16. POOH with tubing and let cement plug set for a minimum of four hours.
17. Pull 6-5/8" and 8-1/4" casing strings and conductor.
18. TIH with 2-3/8" work string to 2300' and pump 110 bbls of 6% gel
19. Pull work string to 1600' and pump 70 sacks of Class A cement for cement plug 3 from 1600' to 1400'.
20. Displace with 5 bbls of 6% Gel.
21. Pull work string to 800' and pump 350 sks of Class A cement for plug 4 from 800' to 350'.
22. Displace w/ 1.5 bbls of 6% Gel.
23. Pull work string up to 200' and pump 160 sks of Class A cement for plug 5 from 200' to surface.
24. TOOH with work string and lay down.
25. RDMO Cement company
26. Erect Monument according to Law.
27. RDMO.

*See proposed configuration  
 During plugging process*

*August Miller  
 11-17-14*

33. TOOH with work string and lay down.
34. RDMO Cementing Company.
35. Place monument as required by law on top of well bore.
36. Reclaim well site.

Federal Coal #69  
API 47-005-00244  
PROPOSED CONFIGURATION



OK

Extend plug

Elevation

ANN  
Cement  
Mud

Schematic is not to scale

T. Oll 09/18/13



STATE OF WEST VIRGINIA  
DEPARTMENT OF MINES

*[Handwritten signature]*

FEB 25 1980

Oil and Gas Division  
WELL RECORD

OIL & GAS DIVISION  
DEPT. OF MINES

Rotary \_\_\_\_\_ Oil X  
Cable \_\_\_\_\_ Gas \_\_\_\_\_  
Recycling \_\_\_\_\_ Comb. \_\_\_\_\_  
Water Flood \_\_\_\_\_ Storage \_\_\_\_\_  
Disposal \_\_\_\_\_ (Kind)

Quadrangle Feytona  
Permit No. 005-02114

Company Union Oil Company of California  
Address P.O. Box 311, Olney, Ill. 62450  
Farm Federal Coal Co. Acres 11,849.47  
Location (waters) Hopkins Fork  
Well No. 69 Elev. 1403.05  
District Sherman County Boone  
The surface of tract is owned in fee by \_\_\_\_\_  
Federal Coal Company  
Address 704 Union Bld., Charleston W. Va.  
Mineral rights are owned by same as above  
Address \_\_\_\_\_  
DDrilling Commenced 12-3-79  
DDrilling Completed 12-17-79  
11-79 Initial open flow 10 M cu. ft. 5 BO + 5 BW bbls.  
Final production \_\_\_\_\_ cu. ft. per day \_\_\_\_\_ bbls.  
Well open 24 hrs. before test \_\_\_\_\_ RP.

Casing and Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft. (Sks.)
Size			
20-16			
Cond.			
13-10"			
9 5/8			
8 5/8			
7", 20#		2376'	
5 1/2			
4 1/2			
3			
2-3/8"			
Liners Used			

Well treatment details:

Attach copy of cementing record.

Set Lynes packer at 3053'. HOWCO treated w/500 gal 15% HCl acid, 150 bbl versagel, 14,700# 80/100 mesh sand and 24,990# 20/40 mesh sand at 10 RPM - 1500 psi.

Coal was encountered at \_\_\_\_\_ Feet \_\_\_\_\_ Inches  
Fresh water \_\_\_\_\_ Feet \_\_\_\_\_ Salt Water \_\_\_\_\_ Feet  
Producing Sand Berea Sand Depth 3049'  
Weir 2751'

Formation	Color	Hard or Soft	Top Feet	Bottom Feet	Oil, Gas or Water	* Remarks
Air drilled - no samples			2924	3028	NS	
siltstone, grey			3028	3037	NS	
<u>COFFE SHALE</u> -brown mud			3037	3047	NS	
siltstone, grey-red (Cave)			3047	3049	NS	
<u>BEREA SS</u> (Cave)			3049	3051	NS	
sandstone, fi gr, qtz			3051	3056	NS	
Core #1 <u>3056-3095'</u>						
Recovered <u>5.5'</u> med gr, qtz sandstone			3061	3066.5	SSO	
Recovered <u>30'</u> grey to black silty shale					NS	
				3095'	DDTD	

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(over)

\* Indicates Electric Log tops in the remarks section.

300-244

500244P

The Pure Oil Company

COMPLETION DATA SHEET

Newark, Ohio - Box 551 Address

NO. 2

Federal Coal Co. well #69

FORMATION RECORD

Name	Color	Character	Oil, Gas or Water	Top	Bottom	Thickness	Total Depth	Remarks
Clay	yellow	soft		0	10	10	10	
Sand	yellow	hard		10	220	210	220	
Slate	soft	gray		220	246	26	246	
Sand	white	medium		246	316	70	316	
Slate&Lime Sh.	blue	medium		316	390	74	390	
Sand	gray	hard		390	410	20	410	
Coal	black	soft		410	414	4	414	
Lime	gray	medium		414	492	78	492	
Coal	black	soft		492	495	3	495	
Slate&Lime Sh.	gray	hard		495	520	25	520	
Slate	black	medium		520	620	100	620	
Lime	gray	hard		620	630	10	630	
Slate&Shells	black	medium		630	633	3	633	
Lime	black	hard		633	668	35	668	
Slate	blue	soft		668	680	12	680	
Coal	black	soft		680	684	4	684	
Slate	black	soft	1/2 bailer wtr at 684'	684	698	14	698	
Lime	black	hard		698	752	54	752	
Coal	black	soft		752	756	4	756	
Sand	gray	hard		756	817	61	817	
Slate	black	soft		817	827	10	827	
Sand	white	hard		827	880	53	880	
Lime	medium	black		880	918	38	918	
Sand	white	hard		918	987	69	987	
Slate	black	soft		987	1020	33	1020	
Lime	black	medium		1020	1064	44	1064	
Slate	black	soft		1064	1129	65	1129	
Lime	black	medium		1129	1171	42	1171	
Sand	gray	medium		1171	1203	32	1203	
Slate	black	soft		1203	1208	5	1208	
Sand	gray	medium		1208	1251	43	1251	
Grampus	white	hard		1251	1390	139	1390	
Slate&Lime Sh.	black	medium		1390	1460	70	1460	
Salt Sand	white	hard	Gas 1520-22	1460	1813	353	1813	
Slate&Shells	gray	medium	Hole full	1813	1826	13	1826	
Lime	gray	medium	wtr at 1540'	1826	1835	9	1835	
Sand	white	hard		1835	1875	40	1875	
Lime	gray	hard		1875	2017	142	2017	
Sand	white	medium		2017	2083	66	2083	
Maxon	white	hard		2083	2145	62	2145	
Red Rock	red	hard		2145	2155	10	2155	
Lime	gray	hard		2155	2160	5	2160	
Slate&Shells	blue	medium		2160	2200	40	2200	
Red Rock	red	hard		2200	2208	8	2208	
Lime	black	hard		2208	2240	32	2240	
Little Lime	gray	hard		2240	2338	98	2338	

See reverse side

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Well was not shot at \_\_\_\_\_ feet; well was shot at \_\_\_\_\_ feet.

OCT 23 2014

Fresh water at \_\_\_\_\_ feet; salt water at \_\_\_\_\_ feet.

WV Department of Environmental Protection

producing  
Well was GAS hole.

THE PURE OIL COMPANY

October 15, 1934  
Date

Approved

By

Division Superintendent

NOTE: All bottom formations must be noted as indicated above and all key-rocks and oil and gas sands must be recorded under their proper geological names in the district as well as any local names commonly used in the district for such strata.

12/05/2014



Slate	blue	soft		2338	2346	8	2346
Lime	gray	hard		2346	2365	19	2365
Big Lime	white	hard	Gas 2491-93	2365	2576	211	2576
Big Injun	red	hard		2576	2619	43	2619
Lime	gray	medium		2619	2668	49	2668
Lime	black	medium		2668	2743	75	2743
Slate	black	soft		2743	2751	8	2751
Weir	gray	medium	Pay 2756-2892	2751	2900	149	2900
Black Slate	black	soft		2900	2924	24	2924

Total Depth 2924'

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OCT 23 2014  
WV Department of  
Environmental Protection

500244P

WW-4A  
Revised 6-07

1) Date: October 15, 2014  
2) Operator's Well Number  
Federal Coal #69  
3) API Well No.: 47 - 005 - 00244

**STATE OF WEST VIRGINIA**  
**DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS**  
**NOTICE OF APPLICATION TO PLUG AND ABANDON A WELL**

4) Surface Owner(s) to be served:	5) (a) Coal Operator
(a) Name <u>Federal Coal Company, Inc.</u>	Name <u>See Attached Sheet</u>
Address <u>P.O. Box 1259</u>	Address _____
<u>St. Albans, WV 25177</u> ✓	_____
(b) Name _____	(b) Coal Owner(s) with Declaration
Address _____	Name <u>Federal Coal Company, Inc.</u>
_____	Address <u>P.O. Box 1259</u> ✓
_____	<u>St. Albans, WV 25177</u>
(c) Name _____	Name _____
Address _____	Address _____
_____	_____
6) Inspector <u>Ross Eller</u>	(c) Coal Lessee with Declaration
Address <u>121 Brierhill Drive</u> ✓	Name <u>None of Record</u>
<u>Beckley, WV 25801</u>	Address _____
Telephone <u>(304) 932-6844</u>	_____

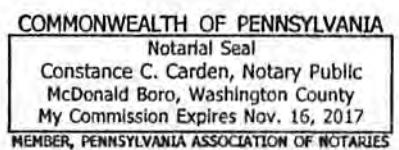
**TO THE PERSONS NAMED ABOVE:** You should have received this Form and the following documents:

- (1) The application to Plug and Abandon a Well on Form WW-4B, which sets out the parties involved in the work and describes the well its and the plugging work order; and
- (2) The plat (surveyor's map) showing the well location on Form WW-6.

The reason you received these documents is that you have rights regarding the application which are summarized in the instructions on the reverses side. However, you are not required to take any action at all.

Take notice that under Chapter 22-6 of the West Virginia Code, the undersigned well operator proposes to file or has filed this Notice and Application and accompanying documents for a permit to plug and abandon a well with the Chief of the Office of Oil and Gas, West Virginia Department of Environmental Protection, with respect to the well at the location described on the attached Application and depicted on the attached Form WW-6. Copies of this Notice, the Application, and the plat have been mailed by registered or certified mail or delivered by hand to the person(s) named above (or by publication in certain circumstances) on or before the day of mailing or delivery to the Chief.

Well Operator Cabot Oil & Gas Corporation  
 By: Kenneth L. Marcum *Kenneth L. Marcum*  
 Its: Regulatory Supervisor  
 Address Five Penn Center West, Suite 401  
Pittsburgh, PA 15276  
 Telephone (412) 249-3850



Subscribed and sworn before me this 15th day of October, 2014  
Constance C. Carden Notary Public  
 My Commission Expires November 16, 2017

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**Office of Oil and Gas**

Oil and Gas Privacy Notice

OCT 23 2014

The Office of Oil and Gas processes your personal information, such as name, address and phone number, as a part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties for 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 of your personal information, please contact DEP's Chief Privacy Officer at [depprivacyofficer@wv.gov](mailto:depprivacyofficer@wv.gov).

**WV Department of Environmental Protection**  
**12/05/2014**

COAL OPERATORS  
FEDERAL COAL #69  
47-005-00244

WWMV, LLC ✓  
315 70<sup>th</sup> Street  
Charleston, WV 25304

Hanover Resources, LLC ✓  
P.O. Box 2268  
Beckley, WV 25802

Pine Ridge Coal Company, LLC ✓  
63 Corporate Centre Drive  
Suite 427  
Scott Depot, WV 25560

Emerald Processing, LLC ✓  
63 Corporate Centre Drive  
Suite 414  
Scott Depot, WV 25560

Elk Run Coal Company, Inc. ✓  
P.O. Box 457  
Sylvester, WV 25193

Remington, LLC ✓  
63 Corporate Centre Drive  
Suite 428  
Scott Depot, WV 25560

Jarrell's Branch Coal Company ✓  
500 Lee Street East  
Suite 202  
Charleston, WV 25301

Spartan Mining Company ✓  
DBA Mammoth  
P.O. Box 150  
Cannelton, WV 25036

Speed Mining, LLC ✓  
63 Corporate Centre Drive  
Suite 430  
Scott Depot, WV 25560

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 P.O. Box 2268  
 Beckley, WV 25802

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 315 70<sup>th</sup> Street  
 Charleston, WV 25304

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 63 Corporate Centre Drive  
 Suite 414  
 Scott Depot, WV 25560

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 63 Corporate Centre Drive  
 Suite 427  
 Scott Depot, WV 25560

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 P.O. Box 457  
 Sylvester, WV 25193

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 Cannelton, WV 25036

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 500 Lee Street East  
 Suite 202  
 Charleston, WV 25301

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 St. Albans, WV 25177

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 121 Brierhill Drive  
 Beckley, WV 25801

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500244P

WW-9  
(5/13)

Page \_\_\_\_\_ of \_\_\_\_\_  
API Number 47 - 005 - 00244  
Operator's Well No. Federal Coal #69

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name Cabot Oil & Gas Corporation OP Code 08145

Watershed (HUC 10) Hopkins Fork Quadrangle Sylvester & Williams Mountain

Elevation 1,395' County Boone District Sherman

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

Will a pit be used for drill cuttings? Yes \_\_\_\_\_ No X *TW*

If so, please describe anticipated pit waste: \_\_\_\_\_

Will a synthetic liner be used in the pit? Yes \_\_\_\_\_ No X If so, what ml.? \_\_\_\_\_

Proposed Disposal Method For Treated Pit Wastes:

- \_\_\_\_\_ Land Application
- \_\_\_\_\_ Underground Injection ( UIC Permit Number \_\_\_\_\_ )
- \_\_\_\_\_ Reuse (at API Number \_\_\_\_\_ )
- \_\_\_\_\_ Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain No treated pit wastes will be produced)

Will closed loop system be used? N/A

Drilling medium anticipated for this well? Air, freshwater, oil based, etc. no drilling proposed

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

Additives to be used in drilling medium? N/A

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. No cuttings produced during plugging operation

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

-Landfill or offsite name/permit number? \_\_\_\_\_

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 *Kenneth L. Marcum*

Company Official (Typed Name) Kenneth L. Marcum

Company Official Title Regulatory Supervisor

Subscribed and sworn before me this 15th day of October, 20 14

*Constance C. Carden*

Notary Public

COMMONWEALTH OF PENNSYLVANIA  
Notarial Seal  
Constance C. Carden, Notary Public  
McDonald Boro, Washington County  
My Commission Expires Nov. 16, 2017  
MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES

My commission expires 11/16/2017

12/05/2014

Form WW-9

Operator's Well No.                      Federal Coal #69

Proposed Revegetation Treatment: Acres Disturbed 0.29 Prevegetation pH 6.5

Lime 2 Tons/acre or to correct to pH 6.5

Fertilizer (10-20-20 or equivalent) 500 lbs/acre (500 lbs minimum)

Mulch Pulp Fiber at 1000 to 1500 Tons/acre

Seed Mixtures

Area I			Area II		
Seed Type		lbs/acre	Seed Type		lbs/acre
Grain Rye - 100	Red Clover - 5	Fescue - 40	Grain Rye - 100	Red Clover - 5	Fescue - 40
Annual Rye - 20	White Clover - 5		Annual Rye - 20	White Clover - 5	
Perennial Rye - 10	Alta Sweet Clover - 5		Perennial Rye - 1	Alta Sweet Clover - 5	
Yellow Clover - 5	Birdsfoot Trefoil - 10		Yellow Clover - 5	Birdsfoot Trefoil	

Attach:  
Drawing(s) of road, location, pit and proposed area for land application.

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: *Angela Miller*

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

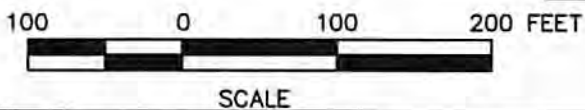
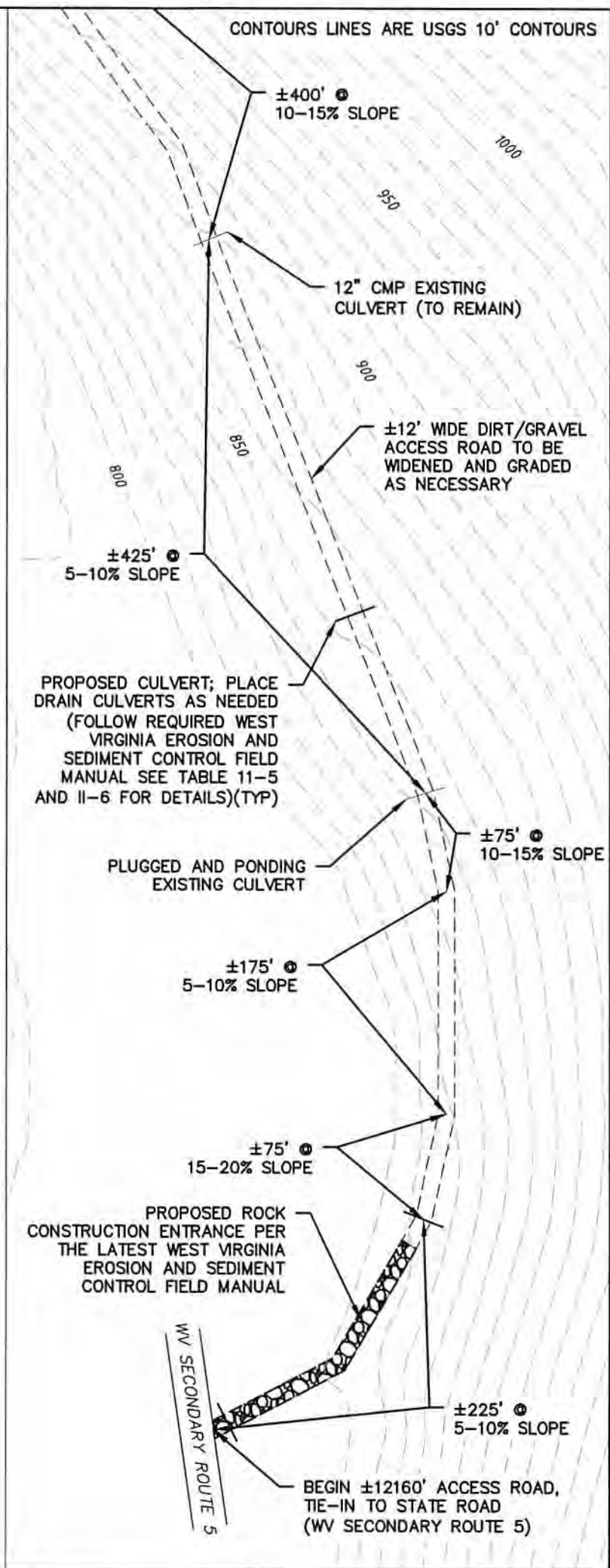
Title: Inspector Dele Gas Date: 11-17-14

Field Reviewed?  Yes  No

**NOTES:**

1. ALL ROADS SHOWN HEREON ARE EXISTING UNLESS OTHERWISE NOTED AND SHALL BE MAINTAINED IN ACCORDANCE WITH THE WEST VIRGINIA EROSION AND SEDIMENT CONTROL FIELD MANUAL. ALL CULVERTS SHOWN ON THIS PLAN ARE PROPOSED AND WILL BE A MINIMUM OF 12" IN DIAMETER UNLESS OTHERWISE DESIGNATED AND WILL BE PACKED AS NEEDED AND REQUIRED BY WEST VIRGINIA EROSION AND SEDIMENT CONTROL FIELD MANUAL.
2. SUPPLEMENTAL DRAINAGE AND/OR SEDIMENT CONTROL MEASURES IN ADDITION TO THOSE SHOWN ON THIS PLAN WILL BE INSTALLED WHEN AND WHERE DEEMED NECESSARY. THE ADDITIONAL MEASURES MAY CONSIST OF STRAW BALES, SILT FENCES, OR OTHER MEASURES AS OUTLINED IN THE WEST VIRGINIA EROSION AND SEDIMENT CONTROL FIELD MANUAL.
3. SEDIMENT TRAPS ARE TO BE CONSTRUCTED AT ALL CULVERTS AND CROSS DRAIN INLETS AS REQUIRED IN THE WEST VIRGINIA EROSION AND SEDIMENT CONTROL FIELD MANUAL. FIELD CONDITIONS SUCH AS ROCK OUTCROPS AND BEDROCK MAY PROHIBIT INLET TRAPS BEING INSTALLED, WHEN THESE CONDITIONS EXIST, ADDITIONAL EROSION CONTROL MEASURES SHALL BE EVALUATED AND UTILIZED AS NEEDED.
4. A SEDIMENT BARRIER OF EITHER BRUSH, STRAW BALES OR FILTER FENCE WILL BE MAINTAINED BELOW THE OUT FALL OF ALL PROPOSED CULVERTS AND AT ALL OTHER STORM WATER DISCHARGE POINTS FROM EITHER THE ROADWAY OR THE LOCATION.
5. ENTRANCES AT COUNTY/STATES ROAD SHALL BE MAINTAINED IN ACCORDANCE WITH WVDOT REGULATIONS, SEPARATE PERMITS MAY BE REQUIRED BY THE WVDOT.
6. A STABILIZED CONSTRUCTION ENTRANCE WILL BE INSTALLED AS SHOWN UNLESS OTHERWISE DIRECTED BY WVDEP INSPECTOR AND/OR WVDOT.
7. CROSS DRAINS AND/OR WATERBARS WILL BE INSTALLED AS AN INTEGRAL PART OF THE RECLAMATION PROCESS AND SHALL BE SPACED IN ACCORDANCE WITH THE WEST VIRGINIA EROSION AND SEDIMENT CONTROL FIELD MANUAL.

**NOTE:**  
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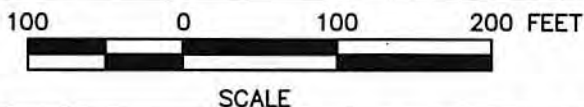
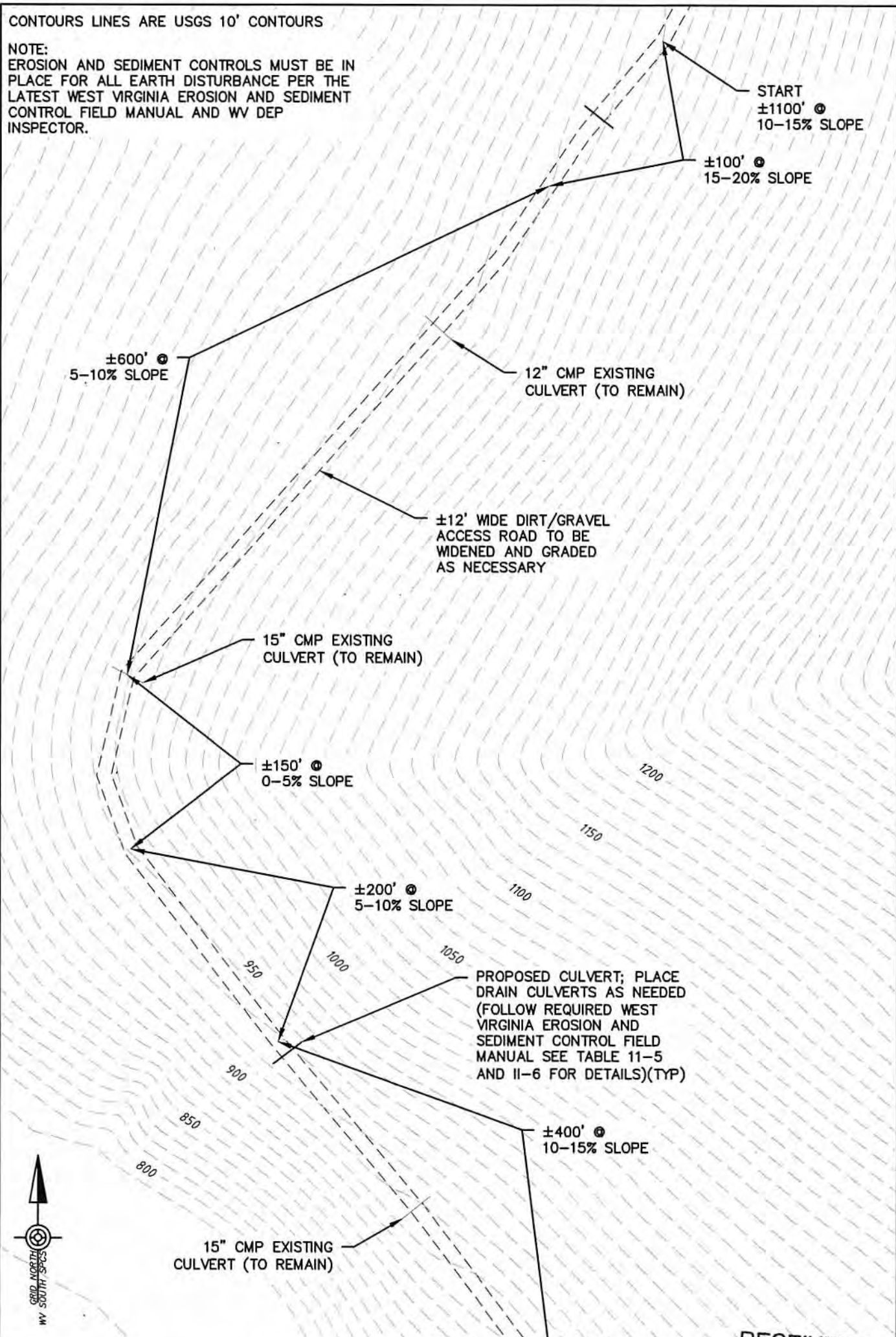
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PROJECT NO.: 8744-004 SHEET NO.: 1 of 9	<b>RECLAMATION PLAN                  FEDERAL COAL 69</b> SHERMAN DISTRICT, BOONE COUNTY, WEST VIRGINIA	Office of Oil and Gas OCT 2 2014 LDG WV Department of Environmental Protection
CABOT OIL & GAS CORPORATION FIVE PENN CENTER WEST, SUITE 401 PITTSBURGH, PA 15276-0130 PHONE (304) 369-1771 DATE: 4/1/14 DRAWN BY: JRC CHECKED BY: THK	Larson Design Group • Architects Engineers Surveyors 2502 Cranberry Square Morgantown, WV 26508 PHONE 304.777.2940 TOLL FREE 877.223.5683 FAX 570.323.9902 • www.larsondesigngroup.com	



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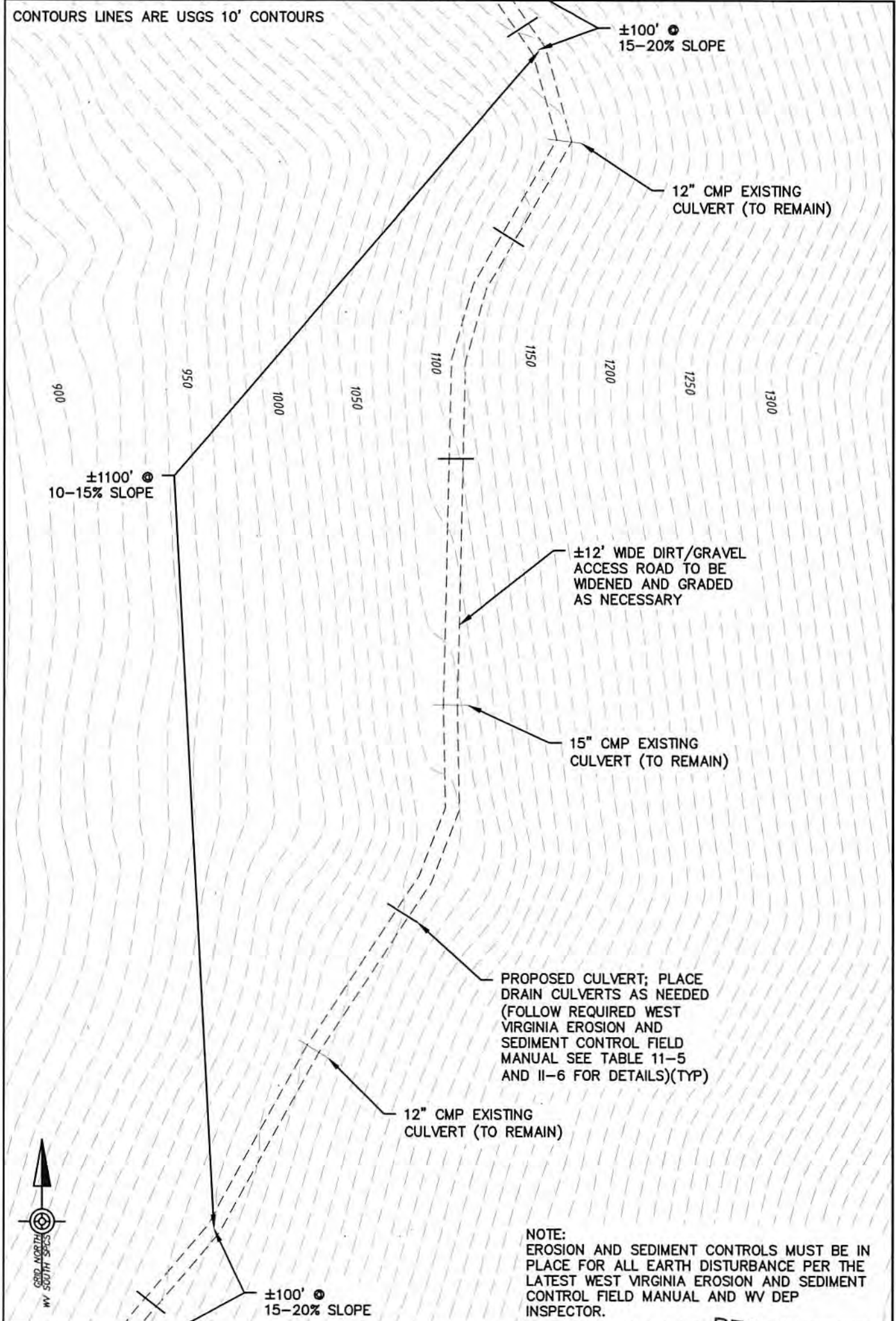


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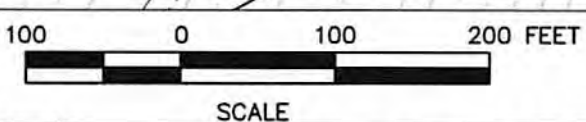
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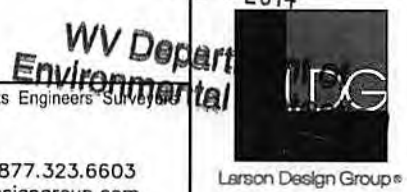
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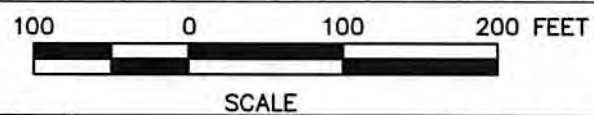
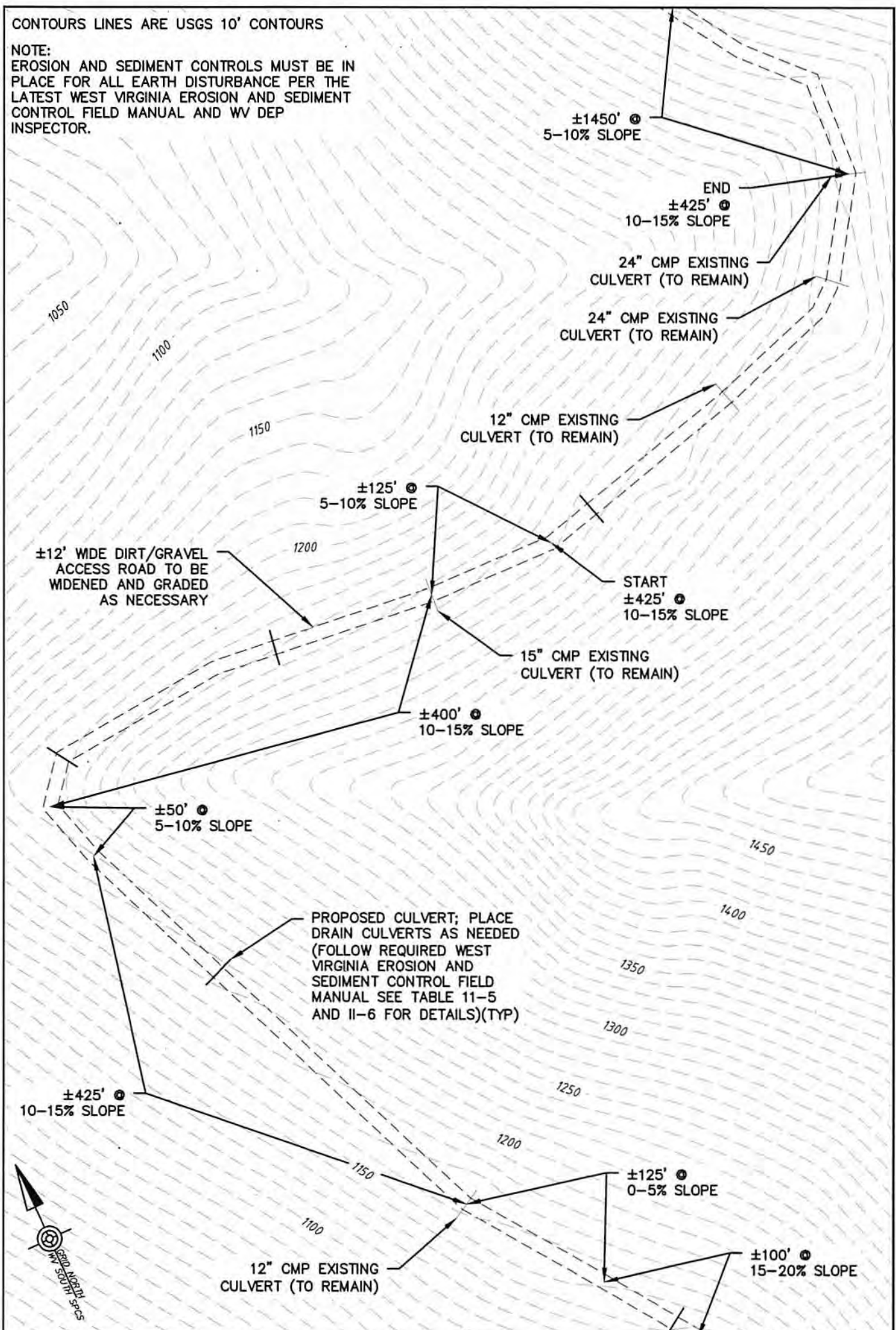
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PROJECT NO.: 8744-004	SHEET NO.: 3 of 9	<b>RECLAMATION PLAN FEDERAL COAL 69</b>	
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CABOT OIL & GAS CORPORATION FIVE PENN CENTER WEST, SUITE 401 PITTSBURGH, PA 15276-0130 PHONE (304) 369-1771 DATE: 4/1/14 DRAWN BY: JRC CHECKED BY: THK		Larson Design Group • Architects Engineers Surveyors 2502 Cranberry Square Morgantown, WV 26508 PHONE 304.777.2940 TOLL FREE 877.323.6603 FAX 570.323.9902 • www.larsondesigngroup.com	



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PROPOSED CULVERT; PLACE DRAIN CULVERTS AS NEEDED (FOLLOW REQUIRED WEST VIRGINIA EROSION AND SEDIMENT CONTROL FIELD MANUAL SEE TABLE 11-5 AND II-6 FOR DETAILS)(TYP)

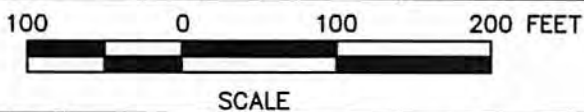
END  
±1450' Ⓢ  
5-10% SLOPE

±900' Ⓢ  
10-15% SLOPE

±12' WIDE DIRT/GRAVEL ACCESS ROAD TO BE WIDENED AND GRADED AS NECESSARY

CONTINUED  
±1450' Ⓢ  
5-10% SLOPE

±4000' Ⓢ  
0-5% SLOPE



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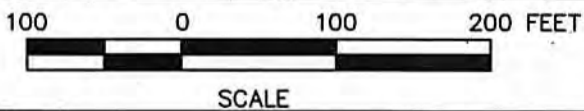
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CONTINUED  
±4000' ±  
0-5% SLOPE

±12' WIDE DIRT/GRAVEL ACCESS ROAD TO BE WIDENED AND GRADED AS NECESSARY

PROPOSED CULVERT; PLACE DRAIN CULVERTS AS NEEDED (FOLLOW REQUIRED WEST VIRGINIA EROSION AND SEDIMENT CONTROL FIELD MANUAL SEE TABLE 11-5 AND 11-6 FOR DETAILS)(TYP)

CONTINUE  
±4000' ±  
0-5% SLOPE



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### RECLAMATION PLAN FEDERAL COAL 69

SHERMAN DISTRICT, BOONE COUNTY, WEST VIRGINIA

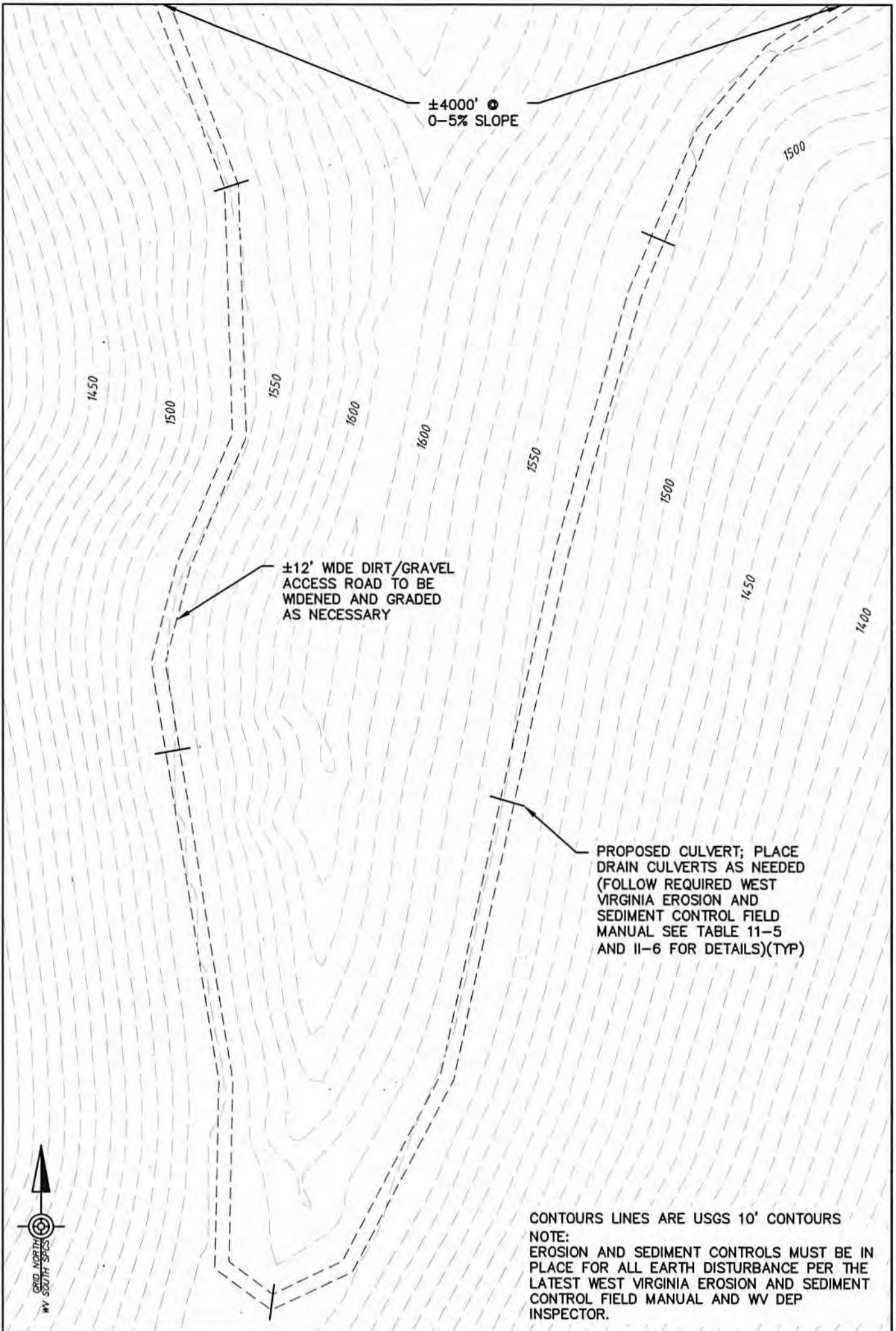
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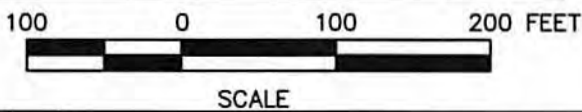


±12' WIDE DIRT/GRAVEL  
ACCESS ROAD TO BE  
WIDENED AND GRADED  
AS NECESSARY

PROPOSED CULVERT; PLACE  
DRAIN CULVERTS AS NEEDED  
(FOLLOW REQUIRED WEST  
VIRGINIA EROSION AND  
SEDIMENT CONTROL FIELD  
MANUAL SEE TABLE 11-5  
AND II-6 FOR DETAILS)(TYP)

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PROJECT NO.: 8744-004

**RECLAMATION PLAN  
FEDERAL COAL 69**

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FIVE PENN CENTER WEST, SUITE 401  
PITTSBURGH, PA 15276-0130  
PHONE (304) 369-1771

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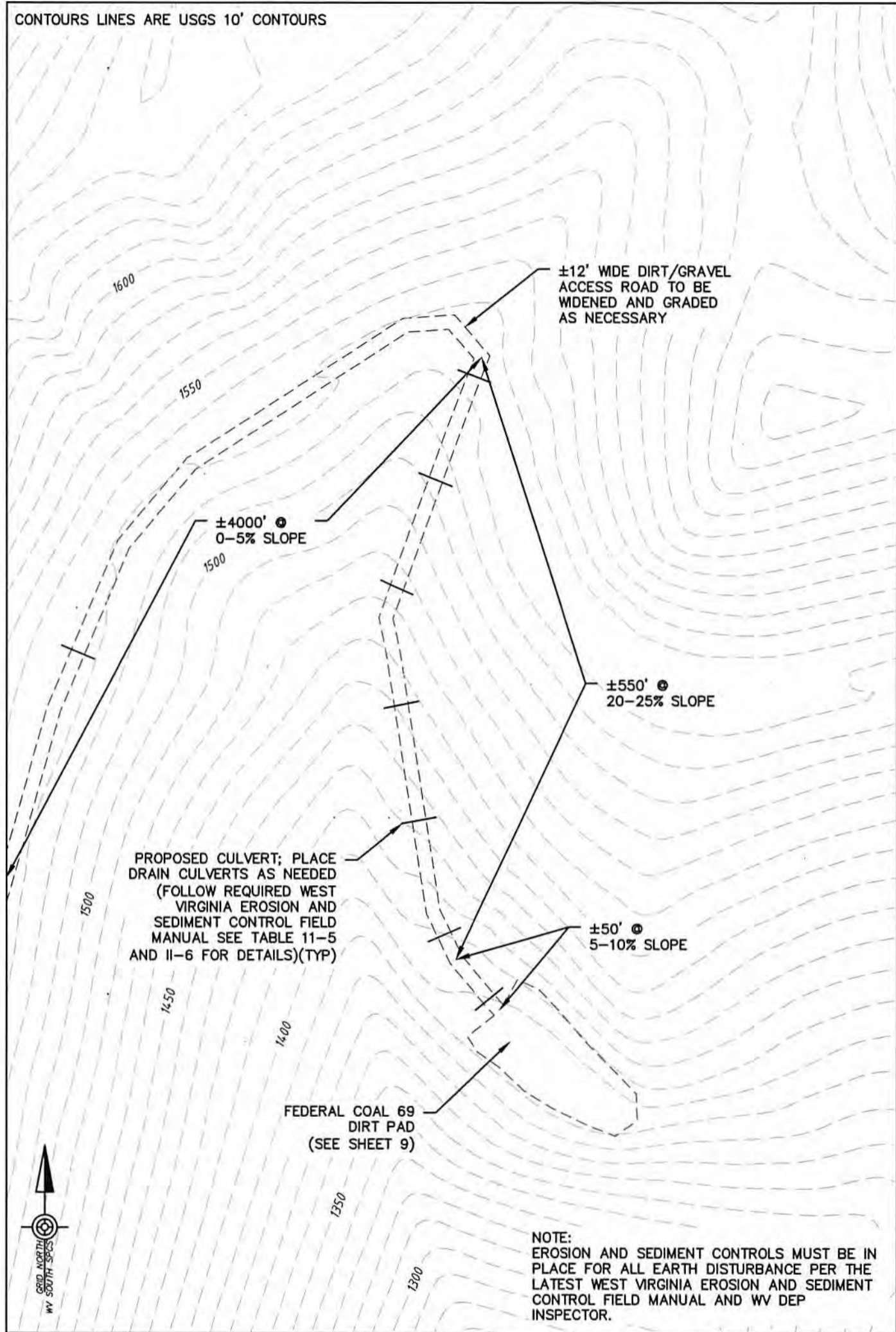
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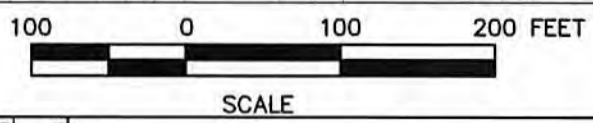
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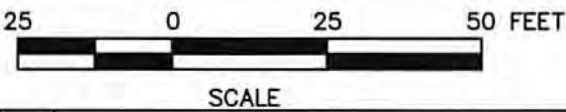
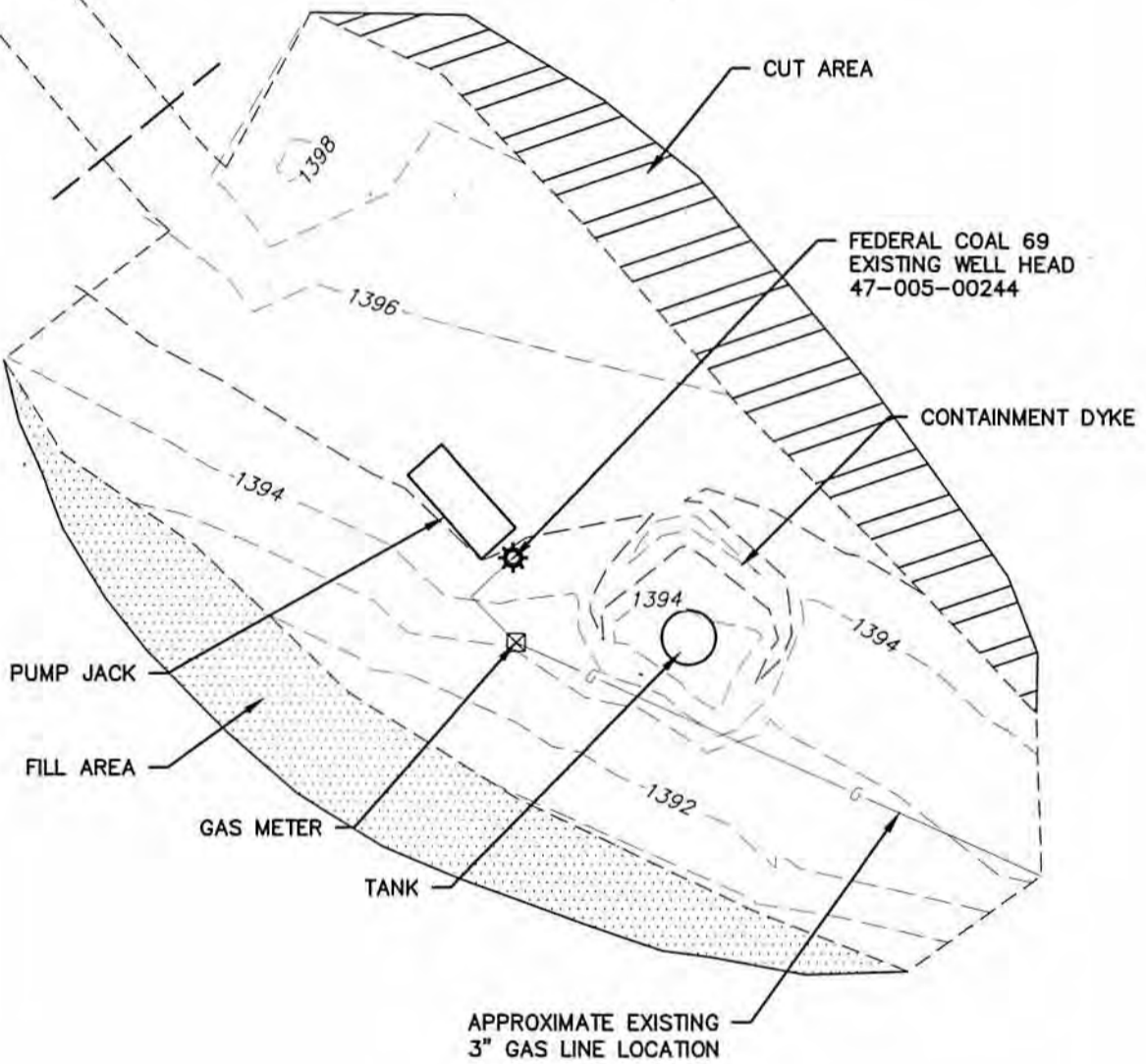
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12/05/2014



EXISTING FEDERAL COAL 69 WELL HEAD  
PHOTO DATE: 03/28/14



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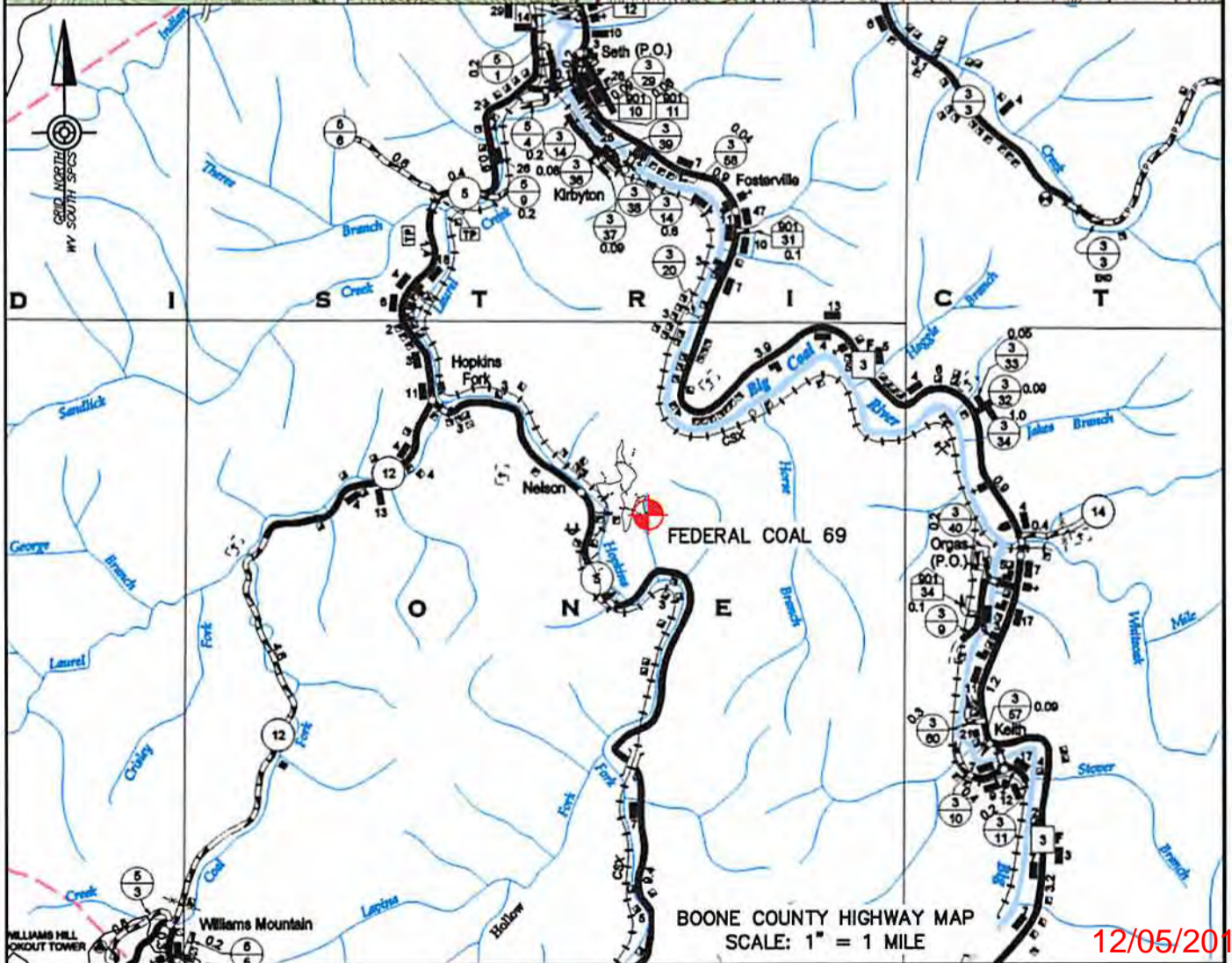
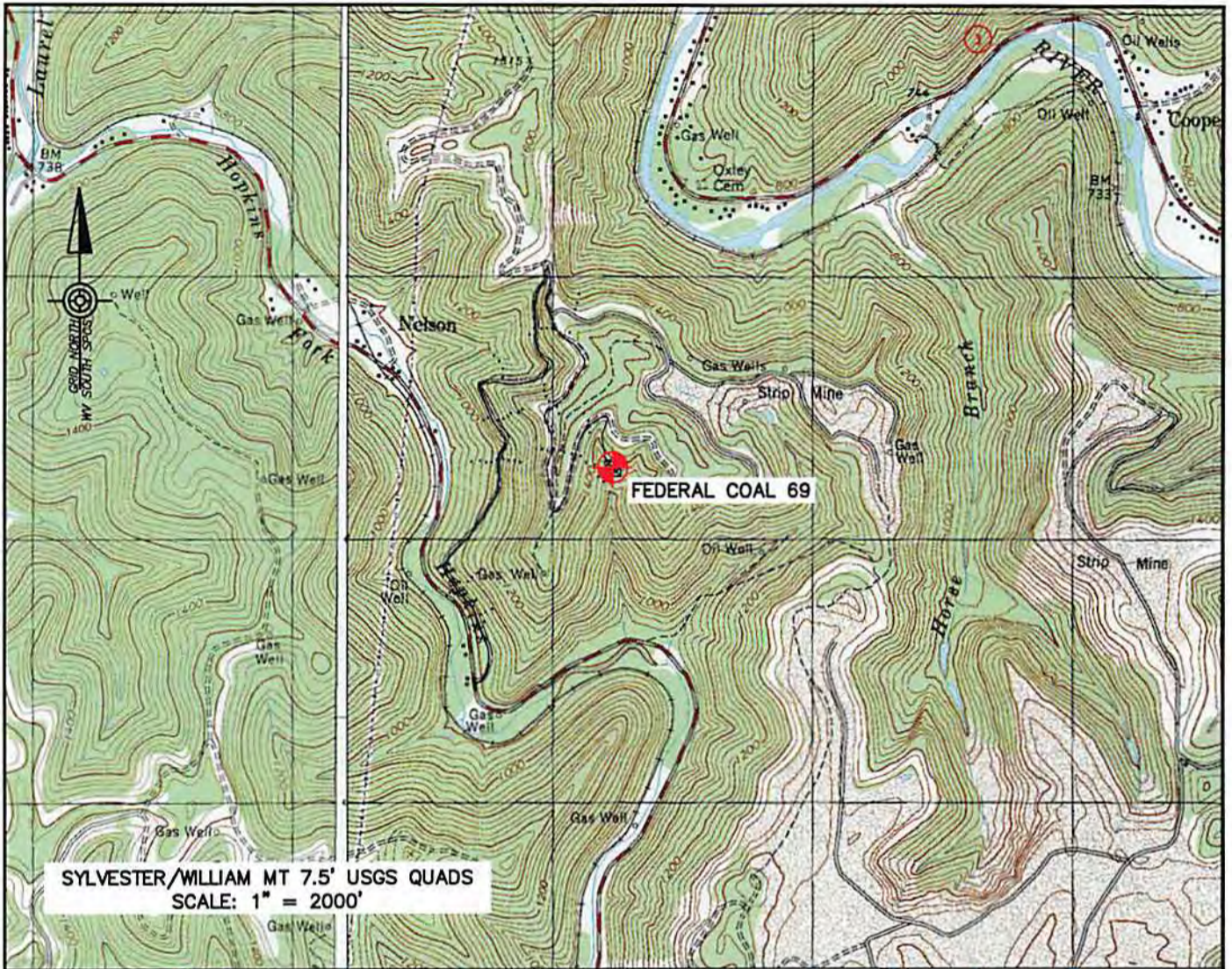
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FEDERAL COAL 69**  
SHERMAN DISTRICT, BOONE COUNTY, WEST VIRGINIA

**CABOT OIL & GAS CORPORATION**  
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PHONE (304) 369-1771  
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**LOCATION MAP  
FEDERAL COAL 69**

SHERMAN DISTRICT, BOONE COUNTY, WEST VIRGINIA

CABOT OIL & GAS CORPORATION  
FIVE PENN CENTER WEST, SUITE 401  
PITTSBURGH, PA 15276-0130  
PHONE  
DATE 10/16/14 BY: CHECKED BY:

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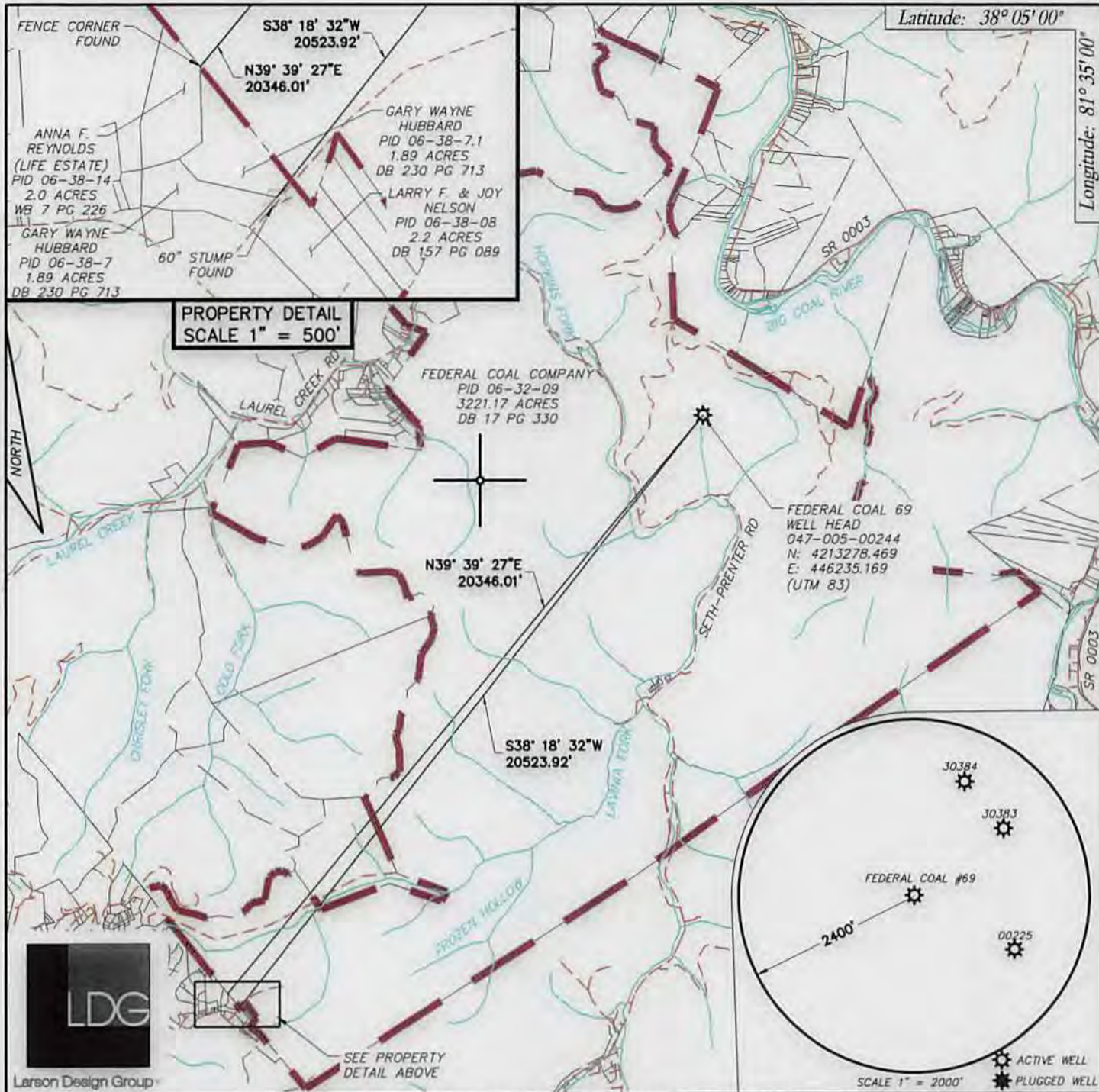
PROJECT NO.: 8744-004  
SHEET NO.: 1

8515'

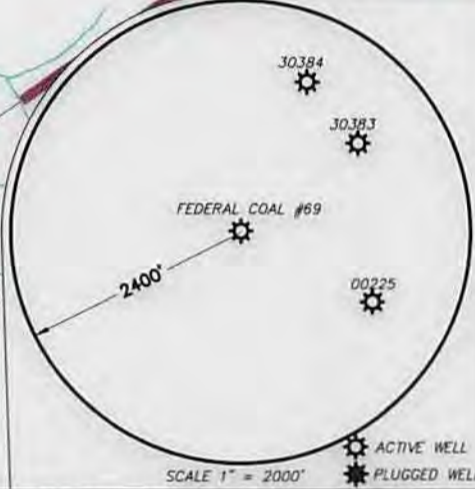
Latitude: 38° 05' 00"

Longitude: 81° 35' 00"

6449



PROPERTY DETAIL  
SCALE 1" = 500'



FILE #: 8744-004  
 DRAWING #: 1  
 SCALE: 1" = 4000'  
 MINIMUM DEGREE OF ACCURACY: 1 in 2500  
 PROVEN SOURCE OF ELEVATION: SURVEY GRADE GPS

I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

Signed: *[Signature]*  
 R.P.E.: \_\_\_\_\_ L.L.S.: 1969



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



DATE: JUNE 19, 2014  
 OPERATOR'S WELL #: FEDERAL COAL #69  
 API WELL #: 47 005 00244 P  
 STATE COUNTY PERMIT

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

WATERSHED: HOPKINS FORK ELEVATION: 1395'  
 COUNTY/DISTRICT: BOONE / SHERMAN QUADRANGLE: SYLVESTER AND WILLIAMS MOUNTAIN

SURFACE OWNER: FEDERAL COAL COMPANY ACREAGE: 3,221.17  
 OIL & GAS ROYALTY OWNER: FEDERAL COAL COMPANY (47-9695) ACREAGE: 3,221.17

12/05/2014

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: BERA ESTIMATED DEPTH: 3049' - 3066'

WELL OPERATOR CABOT OIL & GAS CORPORATION DESIGNATED AGENT WHITNEY JOHNSON  
 Address FIVE PENN CENTER WEST, SUITE 401 Address CABOT OIL & GAS CORPORATION, P.O. BOX 450  
 City PITTSBURGH State PA Zip Code 15276 City GLASGOW State WV Zip Code 25086

FORM WW-6