



west virginia department of environmental protection

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

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

October 17, 2013

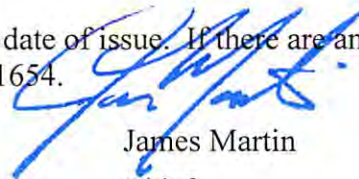
WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-1501078, 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: 7
Farm Name: BODKINS, JAMES W. ,. ET UX
API Well Number: 47-1501078
Permit Type: Plugging
Date Issued: 10/17/2013

Promoting a healthy environment.

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.

CONDITIONS

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 September 16, 2013
2) Operator's
Well No. A. Howes #7
3) API Well No. 47-015 - 01078

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 1,479.96' Watershed Adonijah Fork of Sycamore Creek
District Pleasant 04 County Clay 15 Quadrangle Bentree 242

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

8) Oil and Gas Inspector to be notified 9) Plugging Contractor
Name Ed Gainer Name Francis Brothers
Address P.O. Box 821 Address 622 Church St., N.
Spencer, WV 25276 Ripley, WV 25271

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

See Attached Sheet

See changes

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

Work order approved by inspector  Date 9/24/13

A. HOWES #7 API # 47 - 015 - 1078 PLUGGING PROCEDURE

Current Configuration

TD @ 2,600'

8 5/8" - 26# LS casing @ 180' KB cemented & grouted to surface

4 1/2" - 10.5# - M60 casing @ 2,572' KB w/ TOC 2,225'

Pharmaco tension packer @ 2315' with 215' 2 3/8" 4.6# tubing below packer

Big Lime formation: 2,454' - 2,460' (Perforated)

Injun formation: 2,528' - 2,540' (Perforated)

Coal @ 89' - 93'

Water not reported


SALT WATER 965'

FRESH WATER 60'

PROCEDURE

1. Contact Glasgow 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.
4. MIRU service rig and blow down well. Have vacuum truck available to catch any fluids circulated from well.
5. Unpack wellhead.
6. Run in hole with slick line to check TD. Estimated TD 2315'.
7. Run in hole with cement retainer on wireline and set at approximately 2250'.
8. Run in hole with work string and sting into cement retainer.
9. MIRU Cementing Company.
10. Bullhead squeeze 20 sacks of Class A cement for Cement Plug 1 from 2540' to 2250'.
11. Displace with 9 bbls of 6% Gel.
12. Sting out of retainer and TOOH with work string.
13. MIRU Wireline Company and run free point tool.
14. Cut 4 1/2" casing at free point, approximately 2,225'.
15. RDMO Wireline Company.
16. Pull 4 1/2" casing up to 2200'.
17. Pump 85 bbls of 6% Gel.
18. Pump 20 sacks of Class A cement for Cement Plug 2 from 2200' to 2105'.
19. Displace with 33 bbls of 6% Gel.
20. Pull 4 1/2" casing up to ~~250'~~ ^{262'} and pump 72 sacks of Class A cement for Cement Plug 3 from ~~250'~~ ^{262'} to surface.
21. RDMO Cement company
22. Erect Monument according to Law.
23. RDMO.

Set 100 ft plug from 950' to 1430' Elevation. ABOVE 2000' SALT WATER



OK 9/11/11

A. Howes #7
API 47-015-1078
CURRENT CONFIGURATION

No Water Reported



Coal @ 89' - 93'

24# 8 5/8" Casing @ 212' Cemented to surface

262'

GEL

262'

CEMENT PLUG

850'

950'

SALT WATER @ 965'

OK

9 W/M

GEL

Top of plug #2 @ 2105'

TOC @ 2,225
Cement retainer @ 2,250'

Tension packer left in hole @ 2315'

4.6# 2 3/8 Tubing @ 2,536
Big Lime perforated 2,454' - 2,460'
Injun perforated 2,528' - 2,540'

10.5# 4 1/2" Casing @ 2,572' Cemented to 2,225'

DTD @ 2,600'

Schematic is not to scale

T. Baron 01/16/13

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SEP 20 2013

WV Department of
Environmental Protection



1501078P

SEP 8 - 1975

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
Oil and Gas Division

WELL RECORD z

Rotary Oil _____
Cable _____ Gas
Recycling _____ Comb. _____
Water Flood _____ Storage _____
Disposal _____ (Kind) _____

Quadrangle Clay
Permit No. Cla-1078

Company <u>Appalachian Exploration & Dev., Inc.</u>	Casing and Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft. (Sks.)
Address <u>P.O. Box 628, Charleston, W. Va. 25322</u>				
Farm <u>A. Howes</u> Acres <u>98</u>	Size			
Location (waters) <u>Right Fork/ Open Fork</u>	20-16			
Well No. <u>7</u> Elev. <u>1480'</u>	Cond.			
District <u>Pleasant</u> County <u>Clay</u>	13-10"			
The surface of tract is owned in fee by <u>Margarette Ann Nichols</u>	9 5/8			
Address <u>Indore, West Virginia</u>	8 5/8	211.70'	211.70'	
Mineral rights are owned by <u>Central Pitt. Hayes & Co</u>	4 1/2	2572'	2572'	
Address <u>Clarksburg, WV; Spencer, W. Va.</u>	3			
Drilling Commenced <u>7/9/75</u>	2-3/8"	2532.54'		
Drilling Completed <u>7/15/75</u>	Liners Used			
Initial open flow _____ cu. ft. _____ bbls.				
Final production <u>343 M. cu. ft. per day</u> _____ bbls.				
Well open <u>4</u> hrs. before test <u>565#</u> RP.				

Well treatment details: Attach copy of cementing record.
Perforated Injun 2528-40' (12 holes) Treated with 500 gals. MCA, 1,000 gals. Methanol, 801 bbls. gelled water, 60,000# 20/40 sand. ISIP 700#. Perforated Big Lime 2454-60' (6 holes). Acidized Big Lime 1000 gals 28% acid.

Coal was encountered at 89' 48" Feet _____ Inches _____
Fresh water 60 Feet _____ Salt Water 965 Feet _____
Producing Sand Injun Depth 2528-40'
Big Lime 2454-60'

Formation	Color	Hard or Soft	Top Feet	Bottom Feet	Oil, Gas or Water	* Remarks
Rotary			0	8		
Shale			8	89		
Coal			89	93		
Sand			93	102		
Shale			102	219		
Shale			219	965		
Sand			965	1105		
Shale			1105	1264		
Sand			1264	1620		
Shale			1620	1665		
Salt sand			1665	2085		
Shale			2085	2317		
Lime			2317	2507		
Sand			2507	2519		
Injun sand			2519	2534		
Shale			2534	2600		

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(over)

* Indicates Electric Log tops in the remarks section.

Formation	Color	Hard or Soft	Top Feet ²	Bottom Feet	Oil, Gas or Water	Remarks
<u>Cement Record</u>						
<u>Casing</u>			<u>No. of sks.</u>	<u>Type cement</u>		
8-5/8"			125	Regular		
4-1/2"			40	Thixotropic 1/8# flocele/sk.		

Date September 4 19 75
 APPALACHIAN EXPLORATION & DEVELOPMENT, INC.
 APPROVED [Signature] RECEIVED
 By [Signature] District Production Superintendent
 (Title) SEP 20 2013

1501078P

WW-4A
Revised 6-07

1) Date: September 16, 2013
2) Operator's Well Number
A. Howes #7
3) API Well No.: 47 - 015 - 01078

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>James W. Bodkins</u> ✓	Name <u>See Attached Sheet</u> ✓
Address <u>P.O. Box 142</u> <u>Lizemores, WV 25125</u>	Address _____
(b) Name <u>L. Frank Murphy</u> ✓ <u>Steve McLaughlin</u> ✓	(b) Coal Owner(s) with Declaration
Address <u>P.O. Box 185</u> <u>14020 Clay Highway</u> <u>Clay, WV 25043</u> <u>Lizemore, WV 25125</u>	Name <u>Southern Land Company Limited Partnership</u> ✓
(c) Name <u>William B. & Karen M. Adkins</u> ✓	Address <u>300 Capital Street, Suite 1401</u> <u>Charleston, WV 25301</u>
Address <u>P.O. Box 157</u> <u>Lizemore, WV 25043</u>	Name <u>Dickinson Properties Limited Partnership</u> ✓
6) Inspector <u>Ed Gainer</u>	Address <u>300 Capital Street, Suite 1401</u> <u>Charleston, WV 25301</u>
Address <u>P.O. Box 821</u> <u>Spencer, WV 25276</u>	(c) Coal Lessee with Declaration
Telephone <u>(304) 389-7582</u>	Name <u>None of Record</u>
	Address _____

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

Subscribed and sworn before me this 17th day of September **RECEIVED**
Constance C. Carden **Office of Oil and Gas**
 My Commission Expires November 16, 2013 Notary Public **SEP 20 2013**

Oil and Gas Privacy Notice

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 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 of your personal information, please contact DEP's Chief Privacy Officer at depprivacyoffier@wv.gov.

WV Department of Environmental Protection

1501078P

COAL OPERATORS
A. HOWES #7
API # 47-015-01078

- ✓ Little Eagle Coal Company, LLC
P.O. Box 134
Bickmore, WV 25019
- ✓ Spartan Mining Co.,
Dbas Mammoth Coal Company
P.O. Box 150
Cannelton, WV 25036
- ✓ Alex Energy, Inc.
P.O. Box 150
Cannelton, WV 25036

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Office of Oil and Gas
SEP 20 2013
WV Department of
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STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL AND GAS

CONSTRUCTION AND RECLAMATION PLAN AND SITE REGISTRATION APPLICATION FORM
GENERAL PERMIT FOR OIL AND GAS PIT WASTE DISCHARGE

Operator Name Cabot Oil & Gas Corporation OP Code _____

Watershed Adonijah Fork of Sycamore Creek Quadrangle Bentree

Elevation 1,479.96' County Clay District Pleasant

Description of anticipated Pit Waste: None - no cuttings produced during plugging operation

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

Will a synthetic liner be used in the pit? N/A. If so, what mil.? _____

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)
- XX Other (Explain no treated pit wastes will be produced)

TANKS MUST BE USED FOR ANY EFFLUENT.

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? _____

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

RECEIVED

Office of Oil and Gas

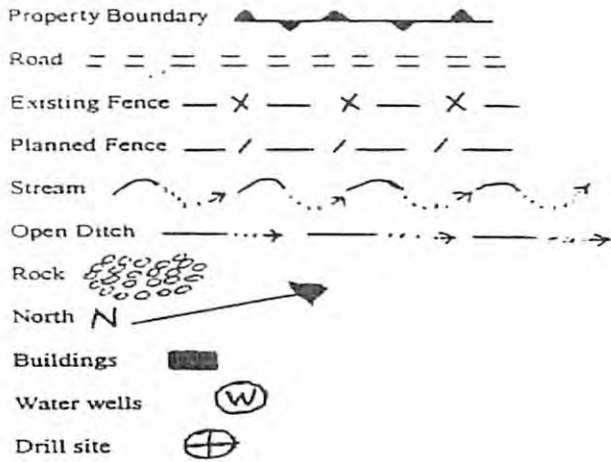
Subscribed and sworn before me this 14th day of September, 2013

SEP 20 2013

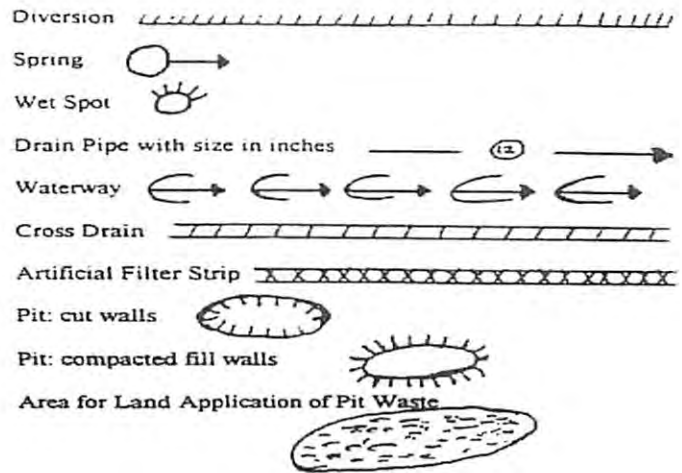
Constance C. Carden

My commission expires November 16, 2013

Notary Public
 WV Department of
 ENVIRONMENTAL PROTECTION
 COMMONWEALTH OF PENNSYLVANIA
 Constance C. Carden, Notary Public
 McDonald Boro, Washington County
 My Commission Expires Nov. 16, 2013
 Member, Pennsylvania Association of Notaries



LEGEND



Proposed Revegetation Treatment: Acres Disturbed _____ 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	Area I	lbs/acre	Seed Type	Area II	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 - 10	

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

Photocopied section of involved 7.5' topographic sheet.

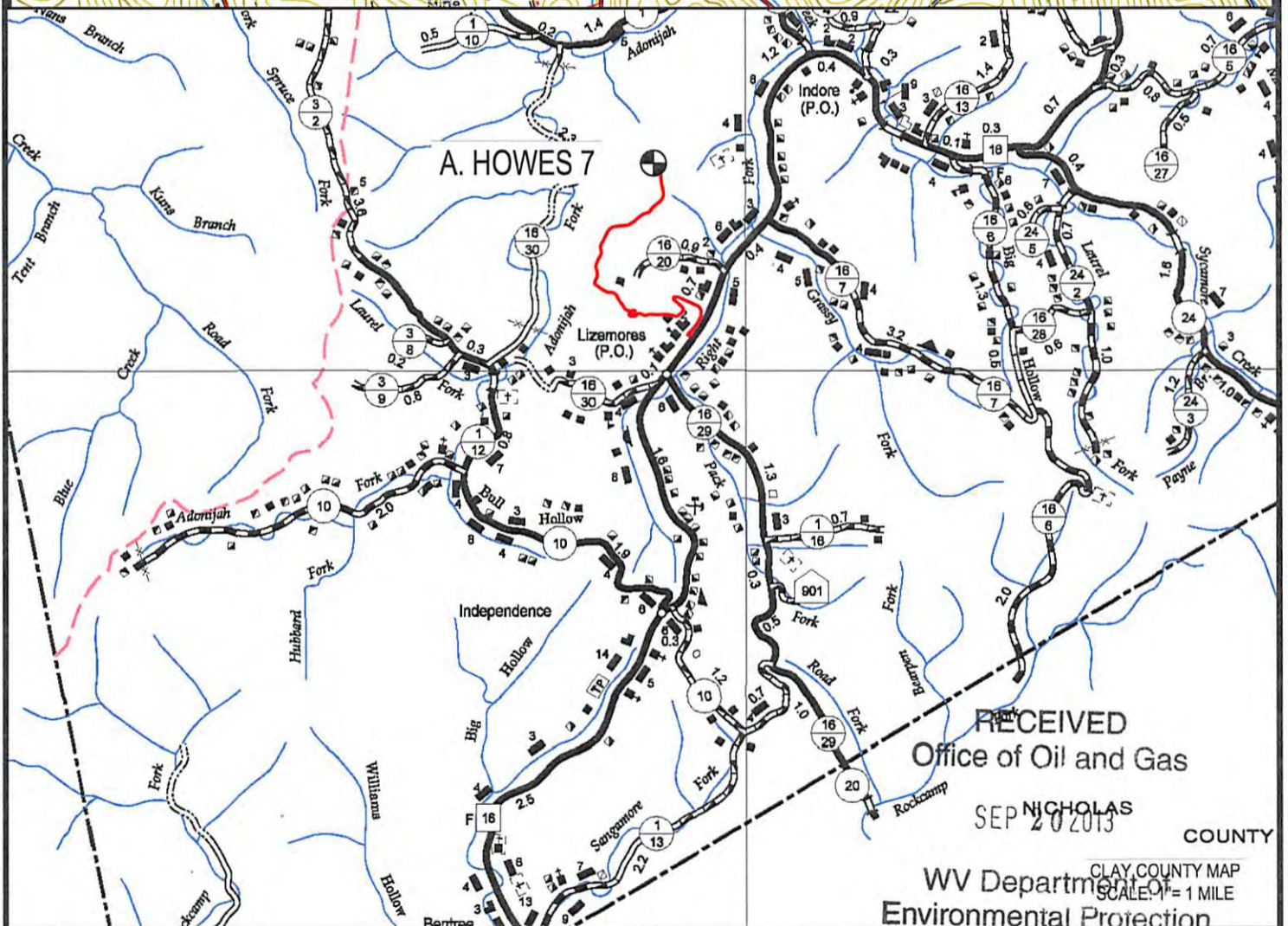
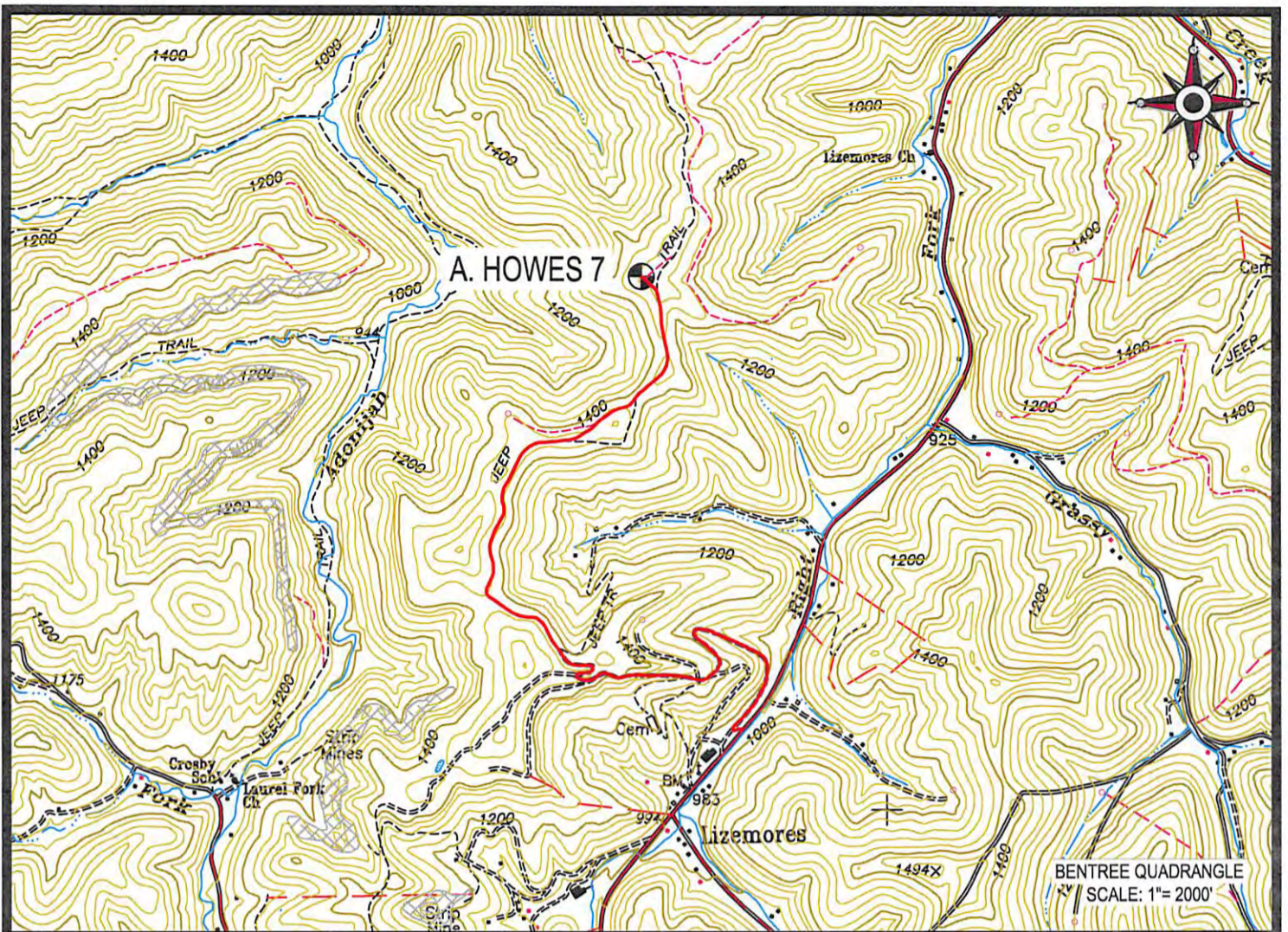
Plan Approved by: 

Comments: _____

Title: Inspector Date: 9/29/13

Field Reviewed? () Yes () No

1501078P



 Cabot Oil & Gas Corporation

A. HOWES 7
LOCATION MAP

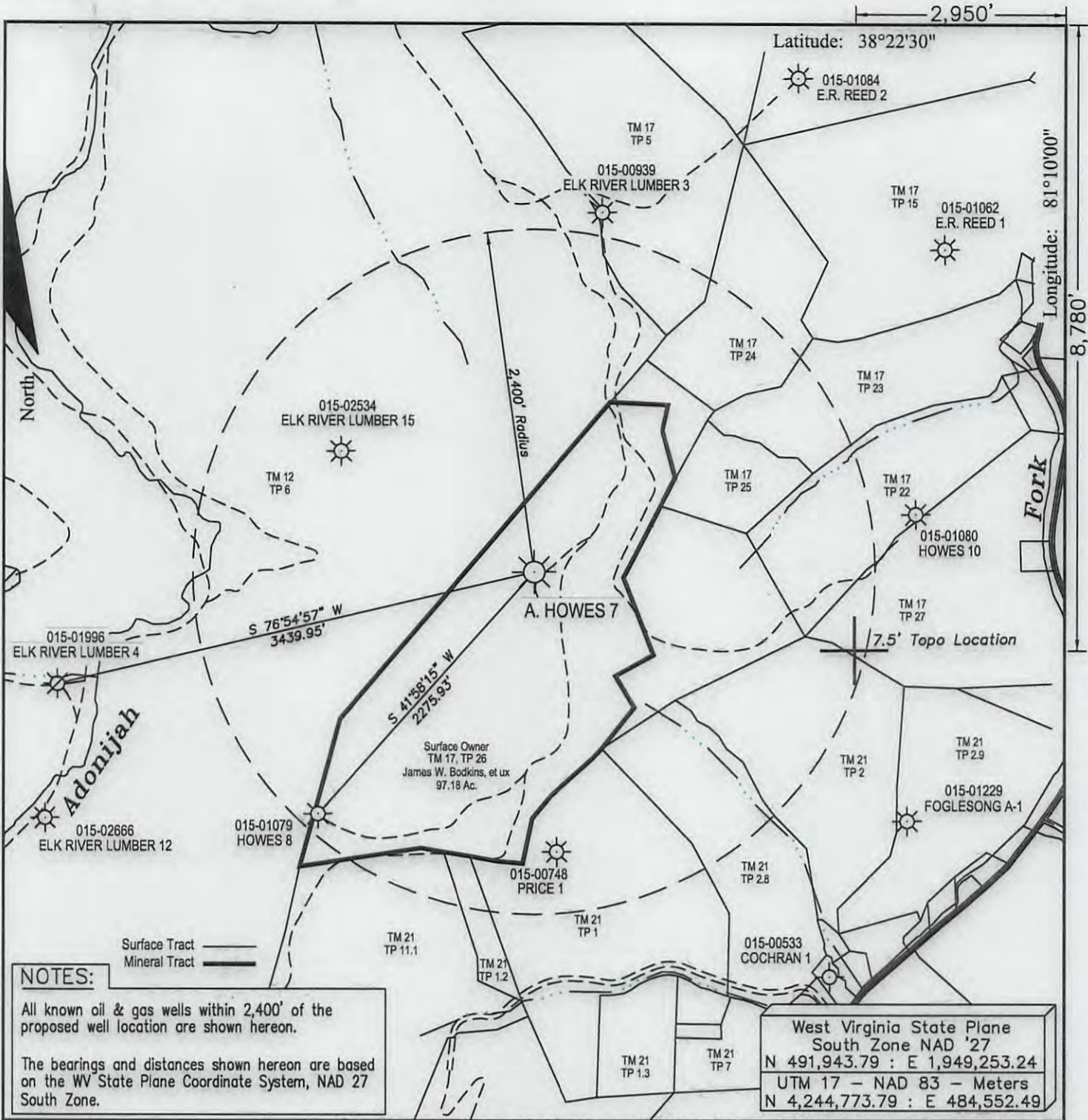


CUNNINGHAM
LAND SURVEYING & MAPPING SERVICES, LLC

• 5213 STEPHEN WAY •
• CROSS LANES, WEST VIRGINIA 25313 •
• VOICE (304) 561-4129 • FAX (304) 776-0703 •
• E-MAIL ADDRESS • DKCUNNINGHAM@SUDDENLINK.NET •

LOCATED ON THE WATERS OF ADONIJAH FORK
OF SYCAMORE CREEK
PLEASANT DISTRICT, CLAY COUNTY, W.VA
BENTREE QUADRANGLE

PROJECT NO. CABOT	DWG. NO. HOWES 7 LOC.DWG
DATE: 04-24-13	SCALE: AS NOTED
DRAWN BY: G. PERKINS	CHK'D BY: D.K.C.
FILE: C:\PROJECT FOLDER\CABOT	



NOTES:

All known oil & gas wells within 2,400' of the proposed well location are shown hereon.

The bearings and distances shown hereon are based on the WV State Plane Coordinate System, NAD 27 South Zone.

West Virginia State Plane
 South Zone NAD '27
 N 491,943.79 : E 1,949,253.24
 UTM 17 - NAD 83 - Meters
 N 4,244,773.79 : E 484,552.49

FILE #: _____
 DRAWING #: Howes 7 ww6
 SCALE: 1" = 1000'
 MINIMUM DEGREE OF ACCURACY: 1 : 12,729
 PROVEN SOURCE OF ELEVATION: Global Positioning System (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 ENVIROMENTAL PROTECTION.

Signed: Don K. Cunningham
 R.P.E.: _____ L.L.S.: 701

PLACE SEAL HERE

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



DATE: April 24, 2013
 OPERATOR'S WELL #: A. Howes 7
 API WELL #: 47 015 01078P
 STATE COUNTY PERMIT

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

WATERSHED: Adonijah Fork of Sycamore Creek ELEVATION: 1,479.96'
 COUNTY/DISTRICT: Clay / Pleasant QUADRANGLE: Bentree
 SURFACE OWNER: James W. Bodkins, et ux ACREAGE: 97.18
 OIL & GAS ROYALTY OWNER: A. Howes ACREAGE: 98
 LEASE #: 47-3005 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: _____ ESTIMATED DEPTH: _____
 WELL OPERATOR Cabot Oil & Gas Corp. DESIGNATED AGENT Brian Hall
 Address Five Penn Center West, Suite 401 Address P.O. Box 260
 City Pittsburgh State PA Zip Code 15276 City Danville State WV Zip Code 25053

GENERAL NOTES:

THIS DRAWING REPRESENTS A SCHEMATIC REPRESENTATION OF THE PROPOSED WELL SITE AND ACCESS ROAD. PROPOSED STRUCTURES SUCH AS THE DRILLING PIT, ROADWAY, CULVERTS, SEDIMENT BARRIERS, ETC. ARE SHOWN IN THEIR APPROXIMATE PREPLANNING CONFIGURATION. GIVEN UNFORESEEN CIRCUMSTANCES, THE AS-BUILT LOCATION OF THESE STRUCTURES MAY VARY SLIGHTLY FROM THE LOCATION SHOWN ON THE ATTACHED DRAWINGS.

ALL ROADS SHOWN THEREON ARE EXISTING UNLESS OTHERWISE NOTED AND SHALL BE MAINTAINED IN ACCORDANCE WITH GUIDELINES AND REQUIREMENTS OF WEST VIRGINIA DEPARTMENT OF OIL AND GAS EROSION AND SEDIMENT CONTROL MANUAL.

ALL CULVERTS SHOWN ON THIS DRAWING ARE PROPOSED AND WILL BE A MINIMUM OF 15" IN DIAMETER UNLESS OTHERWISE NOTED.

DITCH LINES AND CULVERTS WILL BE INSTALLED WHENEVER PRACTICAL. HOWEVER PORTIONS OF THE EXISTING/ PROPOSED ROADS WHICH ARE LOCATED IN SOLID ROCK SHALL NOT REQUIRE DITCHES OR CROSS DRAINS, UNLESS OTHERWISE WARRANTED BY FIELD CIRCUMSTANCES.

SUPPLEMENTAL DRAINAGE AND/OR SEDIMENT CONTROL STRUCTURES MEASURES IN ADDITION TO THOSE SHOWN ON THE ATTACHED DRAWINGS WILL BE INSTALLED WHEN AND WHERE DEEMED NECESSARY. SUCH ADDITIONAL MEASURES MAY CONSIST OF EITHER STRAW BALES, SILT FENCES OR OTHER MEASURES OUTLINED IN THE WEST VIRGINIA DEPARTMENT OF OIL AND GAS EROSION AND SEDIMENT CONTROL FIELD MANUAL.

SEDIMENT BASINS (TRAPS) WILL BE CONSTRUCTED AT ALL CULVERTS AND CROSS DRAINS INLETS AS REQUIRED IN THE WEST VIRGINIA DEPARTMENT OF OIL AND GAS EROSION AND SEDIMENT CONTROL 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.

A SEDIMENT BARRIERS OF EITHER BRUSH, STRAW BALES, FILTER FENCE, ETC. WILL BE INSTALLED AND MAINTAINED BELOW THE OUT FALL OF ALL PROPOSED CULVERTS AND AT ALL OTHER STORM WATER DRAINAGE POINTS FROM EITHER THE ROADWAY OR THE LOCATION.

ALL NECESSARY TIMBER OR BRUSH WILL BE REMOVED FROM ROUTE OF THE ROADWAY AND LOCATION BY CLEANING AND GRUBBING ACTIVITIES. ANY SALVAGEABLE TIMBER WILL BE CUT AND STACKED TO THE SIDE OF THE ROADWAY OR REMOVED TO A STOCKPILE AREA. THE REMAINING TIMBER OR BRUSH WILL BE CUTUP AND WIND ROWED BELOW THE OUTSLOPE OF THE CONSTRUCTION AREAS TO BE UTILIZED AS A SEDIMENT BARRIER.

SEPARATE PERMITS WILL BE OBTAINED FROM THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION FOR ALL POINTS OF INGRESS AND EGRESS FROM COUNTY AND STATE ROADS. THESE INGRESS AND EGRESS POINTS WILL BE MAINTAINED IN ACCORDANCE WITH CURRENT WEST VIRGINIA DEPARTMENT OF TRANSPORTATION REGULATIONS. A STABILIZED CONSTRUCTION ENTRANCE CONSISTING OF 8" OF CRUSHED STONE WILL BE CONSTRUCTED FOR A MINIMUM DISTANCE OF 50' FROM THE INGRESS AND EGRESS POINTS OF ALL PUBLIC ROADWAYS IN ACCORDANCE WITH CURRENT WEST VIRGINIA DEPARTMENT OF TRANSPORTATION REGULATIONS.

ALL CULVERTS SHOWN ON THE ATTACHED DRAWINGS ARE TO BE CONSIDERED PERMANENT AND WILL REMAIN IN PLACE AFTER COMPLETION OF CONSTRUCTION ACTIVITIES UNLESS NOTED OTHERWISE. A STABILIZED OUTLET CONTROL DEVICE SUCH AS RIP RAP, NATURAL STONE, BRUSH, ETC. WILL BE INSTALLED BELOW THE OUT FALL OF ANY ROADWAY CULVERT(S) WHICH ARE NOT LOCATED IN A STREAM OR CREEK.

PERMANENT CROSS DRAINS OR WATER BARS WILL BE INSTALLED AS AN INTEGRAL PART OF THE RECLAMATION PROCESS AND SHALL BE SPACED IN ACCORDANCE WITH AS-BUILT ROADWAY SLOPES AND TABLE 11-4 OF THE WEST VIRGINIA DEPARTMENT OF OIL AND GAS EROSION AND SEDIMENT CONTROL FIELD MANUAL.

TEMPORARY SEEDING AND MULCHING WILL BE UTILIZED TO PROVIDE A VEGETATIVE COVER ON ALL DISTURBED AREAS I.E. ROADWAYS, LOCATION, ROAD/LOCATION SLOPES AND ANY OTHER AREAS THAT ARE DISTURBED BY CONSTRUCTION ACTIVITIES.

THE LOCATION OF DRILLING PIT(S) MAY BE ADJUSTED TO THE MOST ENVIRONMENTAL SAFE SITE TO MEET THE REQUIREMENTS OF THE WVDEP.

CONTRACTORS NOTE:

IT IS THE RESPONSIBILITY OF THE CONSTRUCTION CONTRACTOR TO FIELD VERIFY THE EXACT LOCATION AND CONDITION OF ALL UNDERGROUND UTILITIES, SANITARY SEWERS, STORM SEWERS, ETC. PRIOR TO THE COMMENCEMENT OF ANY/OR CONSTRUCTION ACTIVITIES. DIG WITH C.A.R.E. CALL MISS UTILITY 1-800-245-4848.

ROAD GRADE (%)	DISTANCE (FT)
1	400
2	250
5	135
10	80
15	60
20	45

ROAD GRADE (%)	DISTANCE (FT)
2-5	500-300
6-10	300-200
11-15	200-100
16-20	100



1-800-245-4848

DRAWING LEGEND

- PROPOSED ROAD -----
- EXISTING ROAD _____
- STRAW BALES [Symbol]
- SILT FENCE [Symbol]
- BRUSH BARRIER [Symbol]
- TREE LINE [Symbol]
- ROCK RIP RAP [Symbol]
- CROSS DRAIN [Symbol]
- CULVERT [Symbol]
- DRILLING PIT [Symbol]
- ROAD DITCH [Symbol]
- GAS LINE [Symbol]
- FENCE LINE [Symbol]
- ROCK OUTCROP [Symbol]
- WATER WELL [Symbol]
- HOUSE/STRUCTURE [Symbol]
- UTILITY POLE [Symbol]
- SPRING [Symbol]
- WET SPOT [Symbol]
- PIT WASTE APP. AREA [Symbol]

DRIVING DIRECTIONS FOR A. HOWES 7

- 1.) FROM CHARLESTON, W.VA DRIVE EAST ON INTERSTATE 64 FOR 16.0 MILES± TO EXIT 85 AND EXIT THE HIGHWAY.
- 2.) AT THE END OF THE EXIT RAMP, GO STRAIGHT AND CONTINUE EAST ACROSS THE BRIDGE TO U.S. ROUTE 60.
- 3.) TURN RIGHT AND CONTINUE IN AN EASTERLY DIRECTION ON U.S. ROUTE 60 FOR 3.7 MILES± TO THE INTERSECTION OF OLD U.S. 60/KELLEYS CREEK ROAD.
- 4.) TURN SLIGHTLY RIGHT AND CONTINUE IN A NORTHERLY DIRECTION ON SECONDARY ROUTE 81 FOR 17.3 MILES± TO STATE ROUTE 16.
- 5.) TURN LEFT AND CONTINUE IN A NORTHERLY DIRECTION ON STATE ROUTE 16 FOR 7.1 MILES± TO THE BEGINNING OF THE EXISTING ACCESS ROAD LOCATED ON THE LEFT-HAND SIDE OF THE ROAD.
- 6.) FROM THE AFOREMENTIONED SITE, FOLLOW THE EXISTING ROAD FOR APPROXIMATELY 2.2 MILES± TO THE WELL SITE IN THE FIELD AS SHOWN ON THE "CONSTRUCTION AND RECLAMATION PLAN".

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A. HOWES 7

PLEASANT DISTRICT, CLAY COUNTY, W.VA
BENTREE 7.5' QUADRANGLE

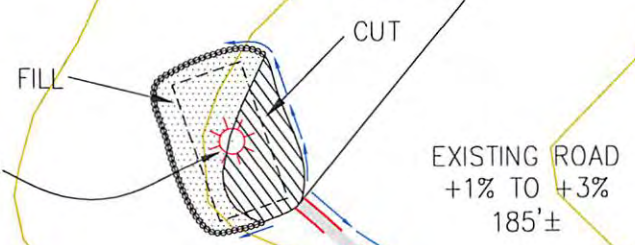




DRAWING LEGEND			
PROPOSED ROAD		ROAD DITCH	
EXISTING ROAD		GAS LINE	
STRAW BALES		FENCE LINE	
SILT FENCE		ROCK OUTCROP	
BRUSH BARRIER		WATER WELL	
TREE LINE		HOUSE/STRUCTURE	
ROCK RIP RAP		UTILITY POLE	
CROSS DRAIN		SPRING	
CULVERT		WET SPOT	
DRILLING PIT		PIT WASTE APP. AREA	

Note:
Tanks will be used instead of drilling pit(s), and may be adjusted to the most environmental safe site to meet the requirements of the WVDEP.

A. HOWES 7
API #47-015-01078



TM 17, TP 1
James W. Botkins, et ux
97.18 Acres

NOTE:
ADD CULVERTS AS NEEDED.

EXISTING ROAD
+1% TO +3%
185'±

EXISTING ROAD
+15% TO +18%
200'±

15" C.P.P.

15" C.P.P.

15" C.P.P.

15" C.P.P.

15" C.P.P.

EXISTING ROAD
+15% TO +18%
200'±

EXISTING ROAD
-3% TO -6%
330'±

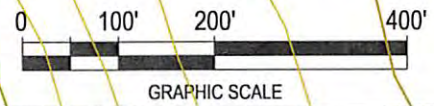
EXISTING ROAD
+9% TO +12%
155'±

TM 21, TP 2.8
J.B. Botkins, et ux
33.77 Acres

TM 17, TP 2
Bobby Ray Stone, et ux
42.53 Acres

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Environmental Protection

MATCH LINE SHEET 4

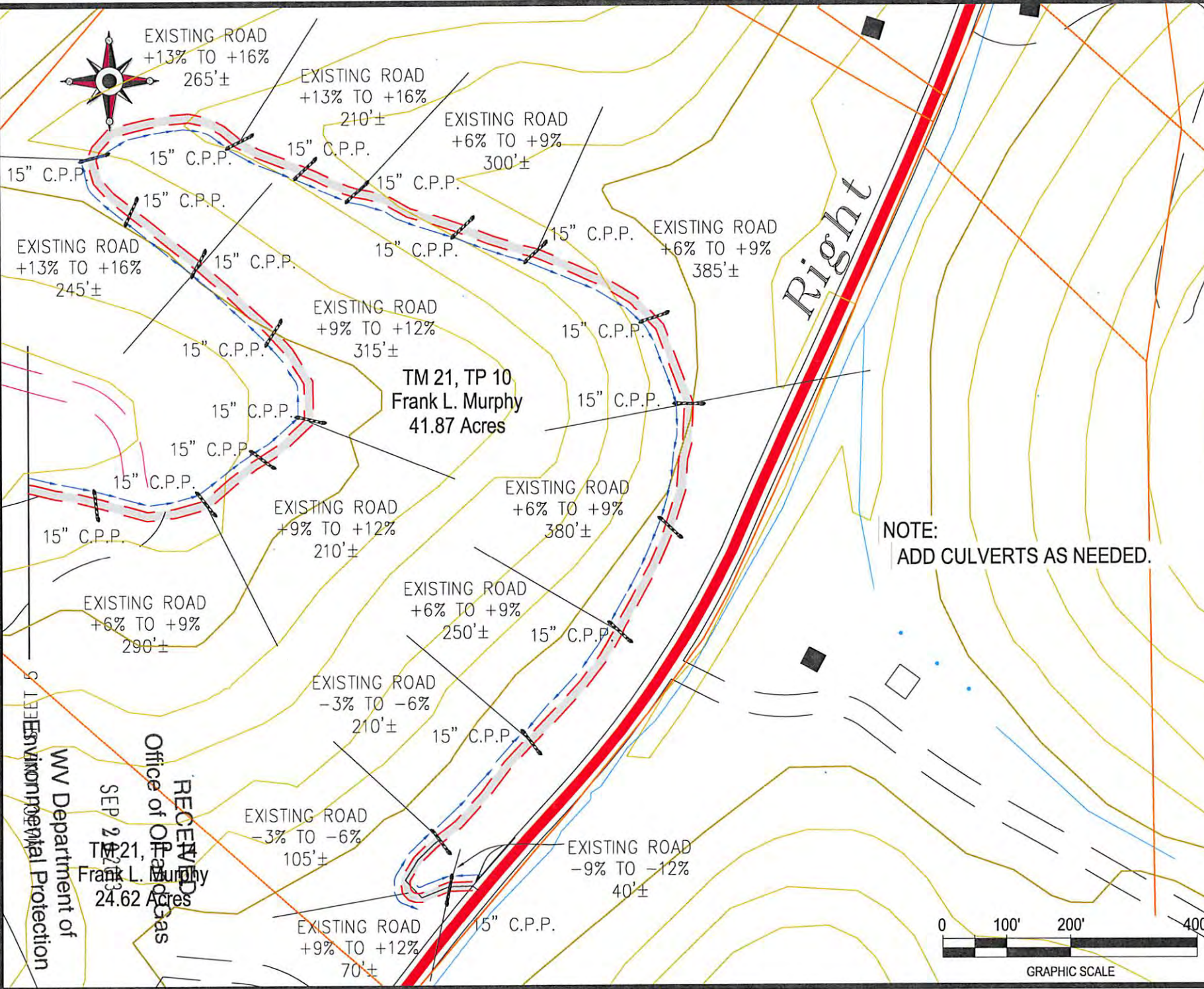


A. HOWES 7				
CONSTRUCTION & RECLAMATION SITE PLAN				
ADONIJAH FORK OF SYCAMORE CREEK PLEASANT DISTRICT, CLAY COUNTY, W.VA BENTREE QUADRANGLE				
SHEET NUMBER	SCALE:	DRAWN BY:	DATE:	CHK'D. BY:
5 OF 5	1"=200'	J.M.JONES	04/25/13	DKC

1501076P



DRAWING LEGEND			
PROPOSED ROAD	---	ROAD DITCH	---
EXISTING ROAD	---	GAS LINE	---
STRAW BALES	---	FENCE LINE	---
SILT FENCE	---	ROCK OUTCROP	---
BRUSH BARRIER	---	WATER WELL	---
TREE LINE	---	HOUSE/STRUCTURE	---
ROCK RIP RAP	---	UTILITY POLE	---
CROSS DRAIN	---	SPRING	---
CULVERT	---	WET SPOT	---
DRILLING PIT	---	PIT WASTE APP. AREA	---



TM 21, TP 10
Frank L. Murphy
41.87 Acres

NOTE:
ADD CULVERTS AS NEEDED.

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Frank L. Murphy
24.62 Acres
WV Department of
Environmental Protection



A. HOWES 7				
CONSTRUCTION & RECLAMATION SITE PLAN				
ADONIJAH FORK OF SYCAMORE CREEK PLEASANT DISTRICT, CLAY COUNTY, W.VA BENTREE QUADRANGLE				
SHEET NUMBER	SCALE:	DRAWN BY:	DATE:	CHK'D. BY:
1 OF 5	1"=200'	J.M.JONES	04/28/13	DKC

1501078P



MATCH LINE SHEET 3

TM 21, TP 11.1
Frank L. Murphy
55.8 Acres

TM 21, TP 11
William B. Adkins, et ux
55.0 Acres

TM 20, TP 73
Frank L. Murphy
27.0 Acres

EXISTING ROAD
+3% TO +6%
240'±

EXISTING ROAD
-3% TO -6%
280'±

TM 21, TP 12
Frank L. Murphy
2.2 Acres

EXISTING ROAD
-1% TO -3%
275'±

TM 21, TP 14
Frank L. Murphy
24.62 Acres

TM 21, TP 10
Frank L. Murphy
41.87 Acres

TM 21, TP 13
Frank L. Murphy
50.0 Acres

EXISTING ROAD
10% TO -13%
260'±

EXISTING ROAD
+13% TO +16%
405'±

EXISTING ROAD
+13% TO +16%
500'±

EXISTING ROAD
+13% TO +16%
455'±

TM 20, TP 75
Unknown
29.6 Acres

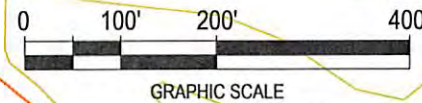
TM 21, TP 16
Steve McLaughlin
49.0 Acres

NOTE:
ADD CULVERTS AS NEEDED.

DRAWING LEGEND	
PROPOSED ROAD	ROAD DITCH
EXISTING ROAD	GAS LINE
STRAW BALES	FENCE LINE
SILT FENCE	ROCK OUTCROP
BRUSH BARRIER	WATER WELL
TREE LINE	HOUSE/STRUCTURE
ROCK RIP RAP	UTILITY POLE
CROSS DRAIN	SPRING
CULVERT	WET SPOT
DRILLING PIT	PIT WASTE APP. AREA

MATCH LINE SHEET 1

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 Cabot Oil & Gas Corporation

A. HOWES 7
CONSTRUCTION & RECLAMATION SITE PLAN

ADONIJAH FORK OF SYCAMORE CREEK
PLEASANT DISTRICT, CLAY COUNTY, W.VA
BENTREE QUADRANGLE

SHEET NUMBER 2 OF 5	SCALE: 1"=200'	DRAWN BY: J.M.JONES	DATE: 04/28/13	CHK'D. BY: DKC
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1501678P



MATCH LINE SHEET 4

DRAWING LEGEND	
PROPOSED ROAD	ROAD DITCH
EXISTING ROAD	GAS LINE
STRAW BALES	FENCE LINE
SILT FENCE	ROCK OUTCROP
BRUSH BARRIER	WATER WELL
TREE LINE	HOUSE/STRUCTURE
ROCK RIP RAP	UTILITY POLE
CROSS DRAIN	SPRING
CULVERT	WET SPOT
DRILLING PIT	PIT WASTE APP. AREA

EXISTING ROAD
+3% TO +6%
310'±

TM 21, TP 11.2
Frank L. Murphy
55.80 Acres

EXISTING ROAD
-1% TO -3%
445'±

NOTE:
ADD CULVERTS AS NEEDED.

TM 21, TP 11
William B. Adkins, et ux
55.0 Acres

EXISTING ROAD
+6% TO +9%
355'±

EXISTING ROAD
-3% TO -6%
390'±

EXISTING ROAD
+1% TO +3%
200'±

EXISTING ROAD
+12% TO +15%
290'±

TM 20, TP 73
Frank L. Murphy
27.0 Acres

MATCH LINE SHEET 2



Cabot Oil & Gas Corporation

A. HOWES 7
CONSTRUCTION & RECLAMATION SITE PLAN

ADONIAH FORK OF SYCAMORE CREEK
PLEASANT DISTRICT, CLAY COUNTY, W.VA
BENTREE QUADRANGLE

SHEET NUMBER 3 OF 5	SCALE: 1"=200'	DRAWN BY: J.M.JONES	DATE: 04/25/13	CHK'D. BY: DKC
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SEP 20 2013

1501078P



MATCH LINE SHEET 5

TM 17, TP 1
James W. Botkins, et ux
97.18 Ac.

NOTE:
ADD CULVERTS AS NEEDED.

15" C.P.P.

15" C.P.P.

EXISTING ROAD
+6% TO +9%
255'±

EXISTING ROAD
-9% TO -12%
405'±

EXISTING ROAD
-1% TO -3%
410'±

15" C.P.P.

EXISTING ROAD
-1% TO -3%
280'±

15" C.P.P.

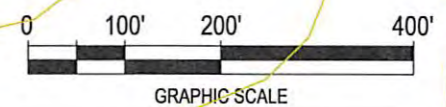
EXISTING ROAD
+1% TO +3%
230'±

TM 21, TP 1
Richard A. White
50.14 Acres
TM 21
TP 1

EXISTING ROAD
+1% TO +3%
285'±

EXISTING ROAD
+1% TO +3%
365'±

TM 21, TP 1.2
William B. Adkins, et ux
3.83 Acres



TM 21, TP 11.2
Frank L. Murphy
55.80 Acres

15" C.P.P.

DRAWING LEGEND	
PROPOSED ROAD	ROAD DITCH
EXISTING ROAD	GAS LINE
STRAW BALES	FENCE LINE
SILT FENCE	ROCK OUTCROP
BRUSH BARRIER	WATER WELL
TREE LINE	HOUSE/STRUCTURE
ROCK RIP RAP	UTILITY POLE
CROSS DRAIN	SPRING
CULVERT	WET SPOT
DRILLING PIT	PIT WASTE APP. AREA



Cabot Oil & Gas Corporation

A. HOWES 7
CONSTRUCTION & RECLAMATION SITE PLAN

ADONIJAH FORK OF SYCAMORE CREEK
PLEASANT DISTRICT, CLAY COUNTY, W.VA
BENTREE QUADRANGLE

SHEET NUMBER 4 OF 5	SCALE: 1"=200'	DRAWN BY: J.M.JONES	DATE: 04/25/13	CHK'D. BY: DKC
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MATCH LINE SHEET 3

WV Department of
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SEP 20 2013

15010789



September 16, 2013

Chief
West Virginia Division of Environmental Protection
Office of Oil & Gas
601 57th Street
Charleston, WV 25304

RE: A. Howes #7
Pleasant District, Clay County, WV
API # 47-015-01078
Written Application to plug and abandon wellbore

Dear Chief:

In accordance with Article 22-6-23 of the Code of State Regulations regarding oil and gas operations, please find attached a formal application for the plug and abandonment of the subject well.

Notices of our intention to plug this wellbore have been sent to surface owner, coal owner, and coal operators associated with this well. Copies of the certified mail receipts are attached for your records.

If you have any questions or need additional information, I can be reached at 412-249-3850.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Kenneth L. Marcum'.

Kenneth L. Marcum
Regulatory Supervisor

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WV Department of
Environmental Protection