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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

November 15, 2013

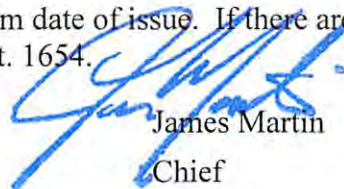
**WELL WORK PLUGGING PERMIT**

**Plugging**

This permit, API Well Number: 47-10901290, issued to HARPER, HAYDEN ENERGY KA, LLC, is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to all conditions and provisions outlined in the pages attached hereto. Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas inspector.

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: WB-70, PLC-14  
Farm Name: POCAHONTAS LAND CORP.  
**API Well Number: 47-10901290**  
**Permit Type: Plugging**  
Date Issued: 11/15/2013

**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

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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.

WW-4B  
Rev. 2/01

1) Date May 15, , 20 13  
2) Operator's  
Well No. WB-70  
3) API Well No. 47-109 -01290

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 XX / Liquid injection \_\_\_\_ / Waste disposal \_\_\_\_ /  
(If "Gas, Production XX or Underground storage \_\_\_\_ ) Deep \_\_\_\_ / Shallow XX


5) Location: Elevation 1366.35 Watershed Indian Creek of the Guyandotte River  
District Center County Wyoming Quadrangle Pineville WV 7 1/2' Series

6) Well Operator Hayden, Harper Energy KA, LLC 7) Designated Agent Don Robinson  
Address 1001 Moorehead Sq. Dr. - Suite 350 Address P.O Box 729  
Charlotte, NC 28203 Buckhannon, WV 26201

8) Oil and Gas Inspector to be notified Name Ross Eller  
Address 121 Brierhill Drive  
Beckley, WV 25801  
9) Plugging Contractor Name Hayden Harper  
Address P.O. Box 783  
Hindman, KY 41822

- 10) Work Order: The work order for the manner of plugging this well is as follows:
- 1) Attempt to clean out the borehole to the original total depth of approximately 2,090 feet;
  - 2) Run an E-log (caliper, deviation, density and gamma) to determine the location of the lowest mineable coalbed;
  - 3) Circulate Gel through open ended tubing to approximately 20 feet above the cleaned out area of the borehole. Place cement plug from 1,825 to 2,050 feet in depth;
  - 4) If the bore still produces gas, a mechanical bridge plug shall be placed in the borehole in a competent stratum at least 200 feet below the lowest mineable coalbed, but above the top of the uppermost hydrocarbon producing stratum. The Pocahontas 3 Seam should be at approximate depth of 628 feet.
  - 5) To insure setting the wellbore plug at the correct depth, it may be necessary to pump additional barrels of cement after tagging the initial plug due to cement being taken by the formation perforations.
  - 6) Perforate the casing(s) every 10 feet from 250 feet below the lowest mineable coalbed to the base of the Pocahontas 3 seam. Freepoint the 4 1/2 inch casing, sever and remove above the original cemented depth. Cut a section of 7 inch casing (of 4 1/2" if cemented through the Pocahontas 3 Seam) and perforate the 7" casing by milling a minimum of 5 feet below the Pocahontas 3 seam to a minimum of 10 feet above the Pocahontas 3 seam for a total of approximately 20 feet. This will allow mining through a casing free zone at a depth of 628 feet.
  - 7) To mill the 7" casing through the Pocahontas 3 seam, the 4 1/2" casing needs removed at least 15 feet below the Pocahontas 3 seam (628 feet depth). This allows milling the 4 1/2" casing a minimum of five feet below the bottom of the coal seam and leaving enough room for the milling tools.
  - 8) Circulate gel through open ended tubing run to approximately 20' above the bottom of the cement plug or the top of the bridge plug.
  - 9) Pump expanding cement slurry down the tubing to displace the gel and fill the borehole to a minimum of 100 feet above the Pocahontas 3 seam. There shall be at least 200 feet of expanding cement below the lowest mineable coalbed. Spot cement from the top of the expanding cement to the surface. Remove the tubing.
  - 10) "Expanding Cement" (such as Nabors Production and Well Completions "Thixotropic" ) is to be used from at least 200 feet below the lowest mineable coal seam to the surface. This cementing should be done in 4 or 5 stages to minimize the chance of tubing being cemented in the well bore.
  - 11) Erect monument with API# affixed to monument.

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

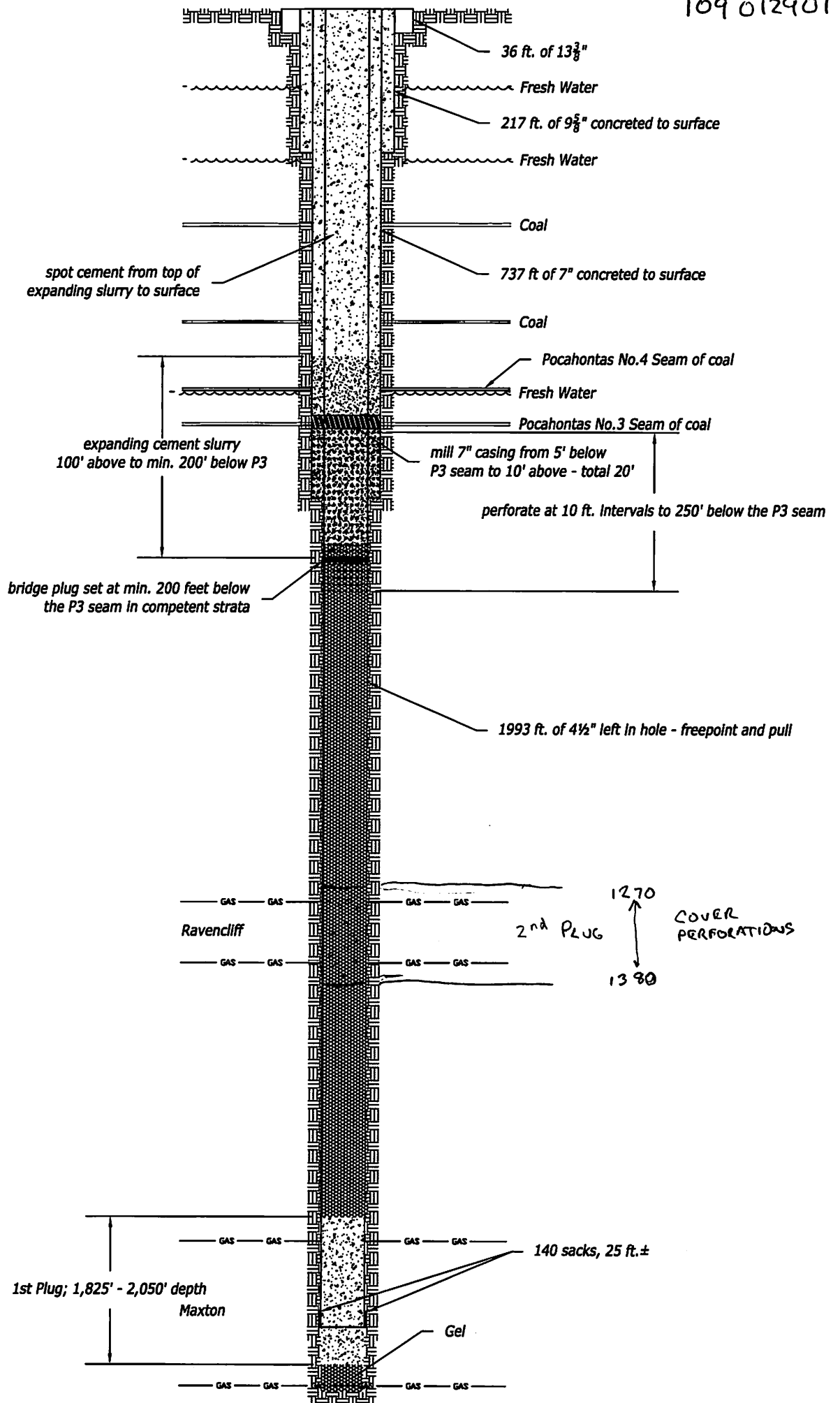
Work order approved by inspector 

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NOV 18 2013  
Date 11/5/13  
WV Department of  
Environmental Protection

3a) GEL HOLE TO 1380 AND SET 110' CEMENT PLUG  
FROM 1380' - 1270' TO COVER RAVENCLIFF PERFORATIONS.

Plugging Plan  
47-109-01290  
WB-70

not to scale



10901290F

**RECEIVED**  
WV Division of  
Environmental Protection  
WR-35  
JAN 23 1995  
Permitting  
Office of Oil & Gas

API #: 47-109-01290

State of West Virginia  
Division of Environmental Protection  
Section of Oil and Gas

Well Operator's Report of Well Work

Farm Name: POCAHONTAS LAND Operator Well Number: 14 B-70  
Elevation: 1365 Quadrangle: PINEVILLE  
District: CENTER County: WYOMING  
Latitude: 8290 Feet South of 37 Deg. 32 Min. 30.00 Sec.  
Longitude: 1370 Feet West of 81 Deg. 35 Min. 0.00 Sec.

Company: BOWIE  
P.O. Drawer 1430  
Clarksburg, WV 26302-1430  
Agent: William H. Bowie  
Inspector: Rodney G. Dillon  
Permit Issued: 11/25/92  
Well Work Commenced: 1/20/93  
Well Work Completed: 1/26/93  
Verbal Plugging  
Permission granted on:  
Rotary:  Cable:  Rig  
Total Depth (feet): 2090  
Fresh Water Depths (ft): 54, 164, 515  
Salt Water Depths (ft): N/A

Casing and Tubing	Used in Drilling	Left in Well	Cement Fill Up in SKS
13 3/8	36	36	--
9 5/8	217	217	CTS
7	737	737	CTS
4 1/2"	1993	1993	140

Is Coal Being Mined in the Area? (Y/N) Yes  
Coal Depths (ft) 261-65,408-11,510-13,562-66

OPEN FLOW DAT

Producing formation RAVENCLIFF, MAXTON Pay zone depth (ft) 1805 - 1815  
Gas: Initial open flow SHOW MCF/day Oil: Initial open flow: N/A BBL/day  
Final open flow: 798 MCF/day Final open flow: N/A BBL/day  
Time of open flow between initial and final tests 12 Hours  
Static Rock Pressure 310 psig (surface pressure) after 18 Hours

Producing formation Pay zone depth (ft) 1300-1370  
Gas: Initial open flow MCF/day Oil: Initial open flow: BBL/day  
Final open flow: MCF/day Final open flow: BBL/day  
Time of open flow between initial and final tests Hours  
Static Rock Pressure psig (surface pressure) after Hours

NOTE: ON BACK OF THIS FORM PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELBORE.

For: BOWIE  
By: *Cleve Bowie*  
Date: 1-18-95

**RECEIVED**  
Office of Oil and Gas  
NOV 19 1995  
WV Department of Environmental Protection

10901290P

Stage 1 Frac: (1795-1805) 15 HOLES, 500 GAL 15% HCL, 300 SKS SAND, 360 BBL 75Q N2 FOAM

Stage 2 Frac: (1291-1361) 30 HOLES, 750 GAL 15% HCL, 450 SKS SAND, 450 BBL 75Q FOAM

Stage 3 Frac:

Stage 4 Frac:

Stage 6 Frac:

	FORMATION	TOP	BOTTOM	COMMENT
1.	SAND & SHALE	0	261	H2O @ 54,184
2.	COAL	261	265	
3.	SAND & SHALE	265	408	
4.	COAL	408	411	
5.	SAND & SHALE	411	510	
6.	COAL	510	513	
7.	SAND & SHALE	513	562	H2O @ 515
8.	COAL	562	566	
9.	SAND & SHALE	566	1285	
10.	RAVENCLIFF	1285	1377	GAS SHOW
11.	LIME	1377	1406	
12.	SAND & SHALE	1406	1800	
13.	MAXTON	1800	2020	GAS SHOW
14.	SHALE	2020	2090	DTD
15.		0	0	
16.		0	0	
17.		0	0	
18.		0	0	
19.		0	0	
20.		0	0	
21.		0	0	
22.		0	0	

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Office of Oil and Gas

NOV 19 2013

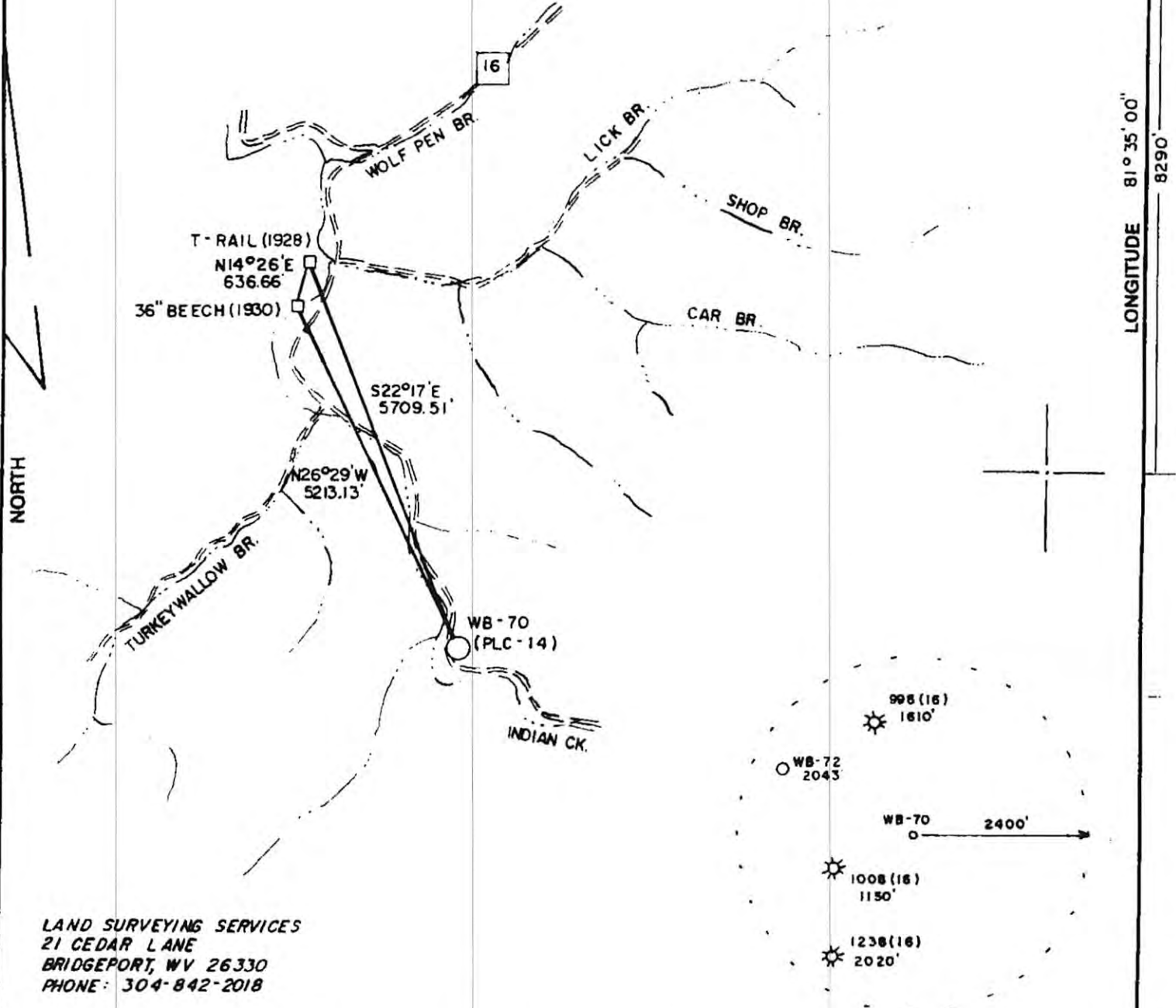
WV Department of  
Environmental Protection

PROVIDED BY 0026  
1370'  
10901290'

POCA. LAND COOR.:  
N. 55,408.90'  
W. 10,814.00'

LATITUDE 37°32'30"

WELL REFERENCES:  
S18°30'E, 106' TO 10' POPLAR  
S14°W, 109' TO 6" SOURWOOD



LAND SURVEYING SERVICES  
21 CEDAR LANE  
BRIDGEPORT, WV 26330  
PHONE: 304-842-2018

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

FILE NO. \_\_\_\_\_  
DRAWING NO. \_\_\_\_\_  
SCALE 1" = 2000'  
MINIMUM DEGREE OF ACCURACY 1 in 2500  
PROVEN SOURCE OF ELEVATION BM 400' N. OF LOCATION ELEV. 1325'

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 ENERGY.

(SIGNED) \_\_\_\_\_  
R.P.E. \_\_\_\_\_ L.L.S. 674  
STEPHEN D. LOSH

PLACE SEAL HERE

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENERGY  
OIL AND GAS DIVISION



DATE JUNE 25, 19 92  
OPERATOR'S WELL NO. WB-70 (PLC NO. 14)  
API WELL NO.

47 - 109 - 1290  
STATE COUNTY PERMIT

WELL TYPE: OIL \_\_\_ GAS  LIQUID INJECTION \_\_\_ WASTE DISPOSAL \_\_\_  
(IF "GAS,") PRODUCTION  STORAGE \_\_\_ DEEP \_\_\_ SHALLOW   
LOCATION: ELEVATION 1365' WATERSHED INDIAN CREEK  
DISTRICT CENTER COUNTY WYOMING  
QUADRANGLE PINEVILLE 7.5 min.

SURFACE OWNER POCAHONTAS LAND CORP. ACREAGE 24980.40  
OIL & GAS ROYALTY OWNER POCAHONTAS LAND CORP. LEASE ACREAGE 10,050.85  
LEASE NO. 56244

PROPOSED WORK: DRILL  CONVERT \_\_\_ DRILL DEEPER \_\_\_ REDRILL \_\_\_ FRACTURE OR STIMULATE \_\_\_ PLUG OFF OLD FORMATION \_\_\_ PERFORATE NEW FORMATION \_\_\_ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) \_\_\_\_\_

PLUG AND ABANDON \_\_\_ CLEAN OUT AND REPLUG \_\_\_  
TARGET FORMATION BIG LIME ESTIMATED DEPTH 2400'  
WELL OPERATOR BOWIE, INC. DESIGNATED AGENT WILLIAM BOWIE  
ADDRESS P.O. BOX 1430 ADDRESS P.O. BOX 1430  
CLARKSBURG, WV 26302-1430 CLARKSBURG, WV 26302-1430

COUNTY NAME WYOMING  
PERMIT 299

WW-4A  
Revised 6-07

1) Date: May 15, 2013  
2) Operator's Well Number WB-70  
3) API Well No.: 47 - 109 - 01290

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>Pinnacle Land Company, LLC</u>	Name <u>Pinnacle Mining Company, LLC</u>
Address <u>P.O. Box 338</u>	Address <u>P.O. Box 338</u>
<u>Pineville, WV 24874</u>	<u>Pineville, WV 24874</u>
(b) Name _____	(b) Coal Owner(s) with Declaration
Address _____	Name <u>WPP LLC</u>
	Address <u>5620 Berwin Road</u>
	<u>Huntington, WV 25705</u>
(c) Name _____	Name _____
Address _____	Address _____
6) Inspector <u>Barry Stollings</u>	(c) Coal Lessee with Declaration
Address <u>P.O. Box 1228</u>	Name <u>Pinnacle Mining Company, LLC</u>
<u>Chapmanville, WV 25508</u>	Address <u>P.O. Box 338</u>
Telephone <u>304-552-4194 cell 304-855-5401 fax</u>	<u>Pineville, WV 24874</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.

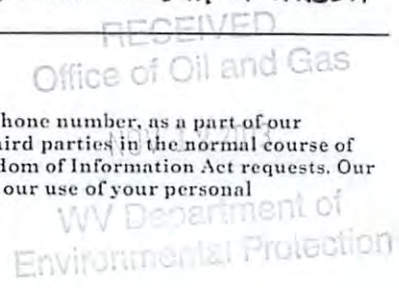
Take notice that under Chapter 22-6 of the West Virginia Code, the undersigned well operator proposes to file or has filed this Notice and Application and accompanying documents for a permit to plug and abandon a well with the Chief of the Office of Oil and Gas, West Virginia Department of Environmental 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 Harper, Hayden Energy KA, LLC  
 By: Bob Huddleston *Bob Huddleston*  
 Its: \_\_\_\_\_  
 Address P.O. Box 783  
Hindman, KY 41822  
 Telephone 606-785-0761

Subscribed and sworn before me this 15<sup>th</sup> day of MAY 2013  
*[Signature]* Notary Public → John H. Pinson  
 My Commission Expires FEBRUARY 9, 2016

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 [depprivacyofficer@wv.gov](mailto:depprivacyofficer@wv.gov).





10901290P

WW-9  
(5/13)

Page 1 of 7  
API Number 47 - 109 - 01290  
Operator's Well No. WB-70

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name Harper, Hayden Energy KA, LLC OP Code 494495359

Watershed (HUC 10) 050701010305 - Indian Creek Quadrangle Pineville WV 7 1/2' Series

Elevation 1366.35 County Wyoming District Center

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

Will a pit be used for drill cuttings? Yes \_\_\_\_\_ No XX ANY EFFLUENT MUST BE CONTAINED IN TANKS.

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

Will a synthetic liner be used in the pit? Yes \_\_\_\_\_ No n/a 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 \_\_\_\_\_)

Will closed loop system be used? Yes

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

-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. \_\_\_\_\_

-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 Bob Huddleston

Company Official (Typed Name) Bob Huddleston

Company Official Title Drilling and Production

Subscribed and sworn before me this 29 day of AUGUST, 20 13

Scott Blum Notary Public

My commission expires AUGUST 19, 2014

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OIL AND GAS  
NOV 13 2013  
West Virginia Department of  
Environmental Protection

Form WW-9

Operator's Well No. WB-70

Harper, Hayden Energy KA, LLC

Proposed Revegetation Treatment: Acres Disturbed 0.28 Prevegetation pH 6.8

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 0.5 - 0.75 Tons/acre

Seed Mixtures

Area I		Area II	
Seed Type	lbs/acre	Seed Type	lbs/acre
Tall Fescue	40	Tall Fescue	40
Ladino Clover	5	Ladino Clover	5

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: \_\_\_\_\_

Date: \_\_\_\_\_

Field Reviewed? ( ) Yes ( ) No

RECEIVED  
Office of Oil and Gas

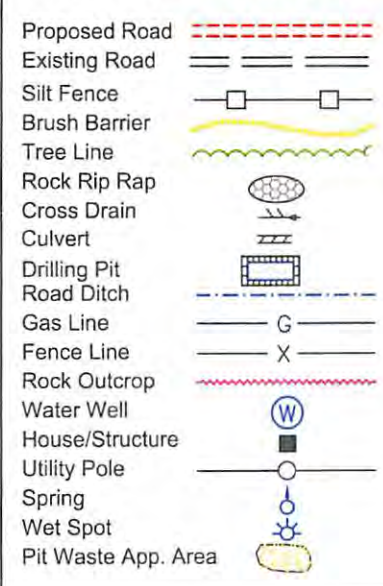
NOV 18 2013

WVD Department of  
Environmental Protection

**GENERAL NOTES:**

- 1.) THESE DRAWINGS ARE 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 UNFORSEEN CIRCUMSTANCES, THE AS-BUILT LOCATION OF THESE STRUCTURES MAY VARY SLIGHTLY FROM THE LOCATION SHOWN ON THE ATTACHED DRAWINGS.
- 2.) ALL ROADS SHOWN THEREON ARE EXISTING UNLESS OTHERWISE NOTED AND SHALL BE MAINTAINED IN ACCORDANCE WITH THE GUIDELINES AND REQUIREMENTS OF THE WV DEP OIL & GAS EROSION AND SEDIMENT CONTROL MANUAL.
- 3.) ALL CULVERTS SHOWN ON THESE DRAWINGS ARE PROPOSED AND WILL BE A MINIMUM OF 15" IN DIAMETER UNLESS OTHERWISE NOTED.
- 4.) DITCHLINES AND CULVERTS WILL BE INSTALLED WHENEVER PRACTICAL; HOWEVER, PORTIONS OF THE EXISTING ROADS WHICH ARE LOCATED IN SOLID ROCK SHALL NOT REQUIRE DITCHES OR CROSS DRAINS, UNLESS OTHERWISE WARRANTED BY FIELD CIRCUMSTANCES.
- 5.) SUPPLEMENTAL DRAINAGE AND/OR SEDIMENT CONTROL STRUCTURES/MEASURES IN ADDITION TO THOSE SHOWN ON THE ATTACHED DRAWINGS WILL BE INSTALLED WHERE AND WHEN DEEMED NECESSARY. SUCH ADDITIONAL MEASURES MAY CONSIST OF SILT FENCES OR OTHER MEASURES AS OUTLINED IN THE EROSION AND SEDIMENT CONTROL MANUAL.
- 6.) SEDIMENT BASINS (TRAPS) WILL BE CONSTRUCTED AT ALL CULVERTS AND CROSS DRAIN INLETS AS REQUIRED IN THE WV-DEP OIL & 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.
- 7.) SEDIMENT BARRIERS OF EITHER WINDROWED BRUSH, FILTER FENCE ET CETERA WILL BE INSTALLED AND MAINTAINED BELOW THE OUTFALL OF ALL PROPOSED CULVERTS AND AT ALL OTHER STORM WATER DISCHARGE POINTS FROM EITHER THE ROADWAY OR SITE LOCATIONS.
- 8.) ALL NECESSARY TIMBER AND BRUSH WILL BE REMOVED FROM THE PROPOSED ROADWAY AND SITE LOCATIONS BY CLEARING AND GRUBBING ACTIVITIES. ANY MARKETABLE TIMBER WILL BE CUT AND STACKED TO THE SIDE OF THE ROADWAY OR REMOVED TO A STOCKPILE AREA. THE REMAINING TIMBER AND BRUSH WILL BE CUT AND WINDROWED BELOW THE OUTSLOPE OF THE CONSTRUCTION AREAS, TO BE UTILIZED AS A SEDIMENT BARRIER.
- 9.) SEPARATE PERMITS WILL BE OBTAINED FROM THE WV-DOT FOR ALL POINTS OF INGRESS-EGRESS FROM COUNTY/STATE ROADS. THESE INGRESS-EGRESS POINTS WILL BE MAINTAINED IN ACCORDANCE WITH CURRENT WV-DOT REGULATIONS. A STABILIZED CONSTRUCTION ENTRANCE CONSISTING OF 8" OF CRUSHED STONE WILL BE CONSTRUCTED FOR A MINIMUM DISTANCE OF 50' FROM THE INGRESS-EGRESS POINTS OF ALL PUBLIC ROADWAYS IN ACCORDANCE WITH CURRENT WV-DOT REGULATIONS.
- 10.) ALL CULVERTS SHOWN ON THESE DRAWINGS ARE TO BE CONSIDERED PERMANENT AND WILL REMAIN IN PLACE AFTER THE COMPLETION OF CONSTRUCTION ACTIVITIES UNLESS NOTED OTHERWISE. A STABILIZED OUTLET CONTROL DEVICE SUCH AS RIPRAP, NATURAL STONE, BRUSH, ETC. WILL BE INSTALLED BELOW THE OUTFALL OF ANY ROADWAY CULVERT(S) WHICH ARE NOT LOCATED IN A STREAM CHANNEL OR CREEK.
- 11.) PERMANENT CROSS DRAINS OR WATERBARS WILL BE INSTALLED AS AN INTEGRAL PART OF THE RECLAMATION PROCESS AND SHALL BE SPACED IN ACCORDANCE WITH THE AS-BUILT ROADWAY GRADES AND TABLE II-4 OF THE SEDIMENT AND EROSION CONTROL FIELD MANUAL.
- 12.) TEMPORARY SEEDING AND MULCHING WILL BE UTILIZED TO PROVIDE A VEGETATIVE COVER ON ALL DISTURBED AREAS I.E. ROADWAYS, STIE LOCATIONS, ROAD OR SITE OUTSLOPES AND ANY OTHER AREAS THAT ARE DISTURBED BY CONSTRUCTION ACTIVITIES RESULTING FROM THE PROPOSED WELL.
- 13.) THE LOCATION OF DRILLING PIT(S) MAY BE ADJUSTED TO MINIMIZE ENVIRONMENTAL IMPACTS AND MEET THE REQUIREMENTS OF THE WV-DEP.

**DRAWING LEGEND**



**SPACING OF CULVERTS BY GRADE**

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

**SPACING OF CROSS DRAINS BY GRADE**

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

**CONTRACTOR NOTE:**

IT IS THE RESPONSIBILITY OF THE CONSTRUCTION CONTRACTOR TO FIELD VERIFY THE SIZE/CONDITION OF ALL UNDERGROUND UTILITIES, SANITARY SEWERS, STORM SEWERS, ETC. PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION AND/OR EXCAVATION ACTIVITIES

WEST VIRGINIA LAW REQUIRES 3 WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND 10 WORKING DAYS NOTICE IN DESIGN STAGE.

CALL 1-800-245-4848

Received  
 SEP 6 2013  
 Office of Oil and Gas  
 WV Dept. of Environmental Protection

# Harper, Hayden Energy KA, LLC Well No. WB-70

TOPO SECTION OF:  
United States Department of the Interior  
Geological Survey - Pineville, WV - 7 1/2' Quadrangle

## PROPOSED CULVERT INVENTORY (For Bid Purposes Only)

15" (Minimum) Culverts	None (all pre-existing)
------------------------	-------------------------

Additional Culverts and/or other drainage structures and sediment control devices may be required by the WVDEP Oil & Gas Inspector. Operator is responsible for coordination with contractor and True Line regarding any changes or additions the State may require.

## PROJECTED EARTHEN DISTURBANCE

Well Location Site	0.13 Acres
Access Road	0.15 Acres
Approximate Total Disturbance	0.28 Acres

All roads shown hereon are existing unless otherwise noted and shall be maintained in accordance with the WVDEP best management practices contained in the Erosion and Sediment Control Field Manual.

Entrances at County/State roads shall be maintained in accordance with WVDOT regulations. Separate permits may be required by the WVDOT.

Sediment basins (sumps) and appropriate erosion control barriers are to be constructed at all culvert and cross drain inlets and outlets as required in the WVDEP Oil & Gas Erosion and Sediment Control Field Manual. Field conditions (rock outcrops or bedrock) may prohibit inlet sumps (traps) being installed. When these conditions exist, additional erosion control measures shall be evaluated and employed as needed.

Earthwork contractors are responsible for notification to the operator and Oil & Gas Inspector prior to any deviation from this plan.

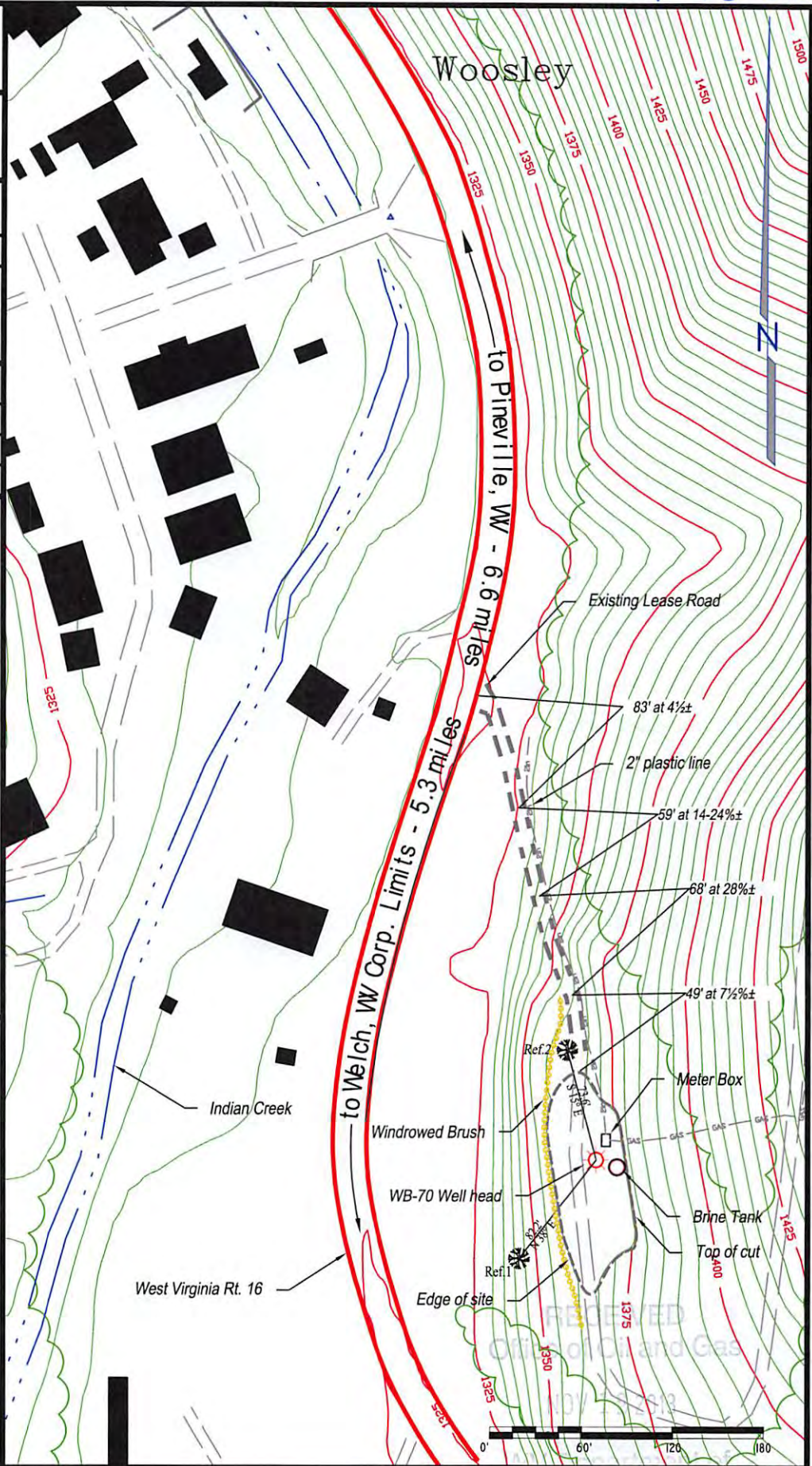
All slopes shall be seeded and mulched after site construction is complete. All slopes created during road construction will receive temporary seeding and mulch immediately following completion.

Marketable timber shall be cut and stacked at an accessible location. Stacked or windrowed brush may be used for sediment control.

Applications for separate Public Lands Corporation permits on the access road stream crossings (if any) have been provided where applicable.

### LEGEND

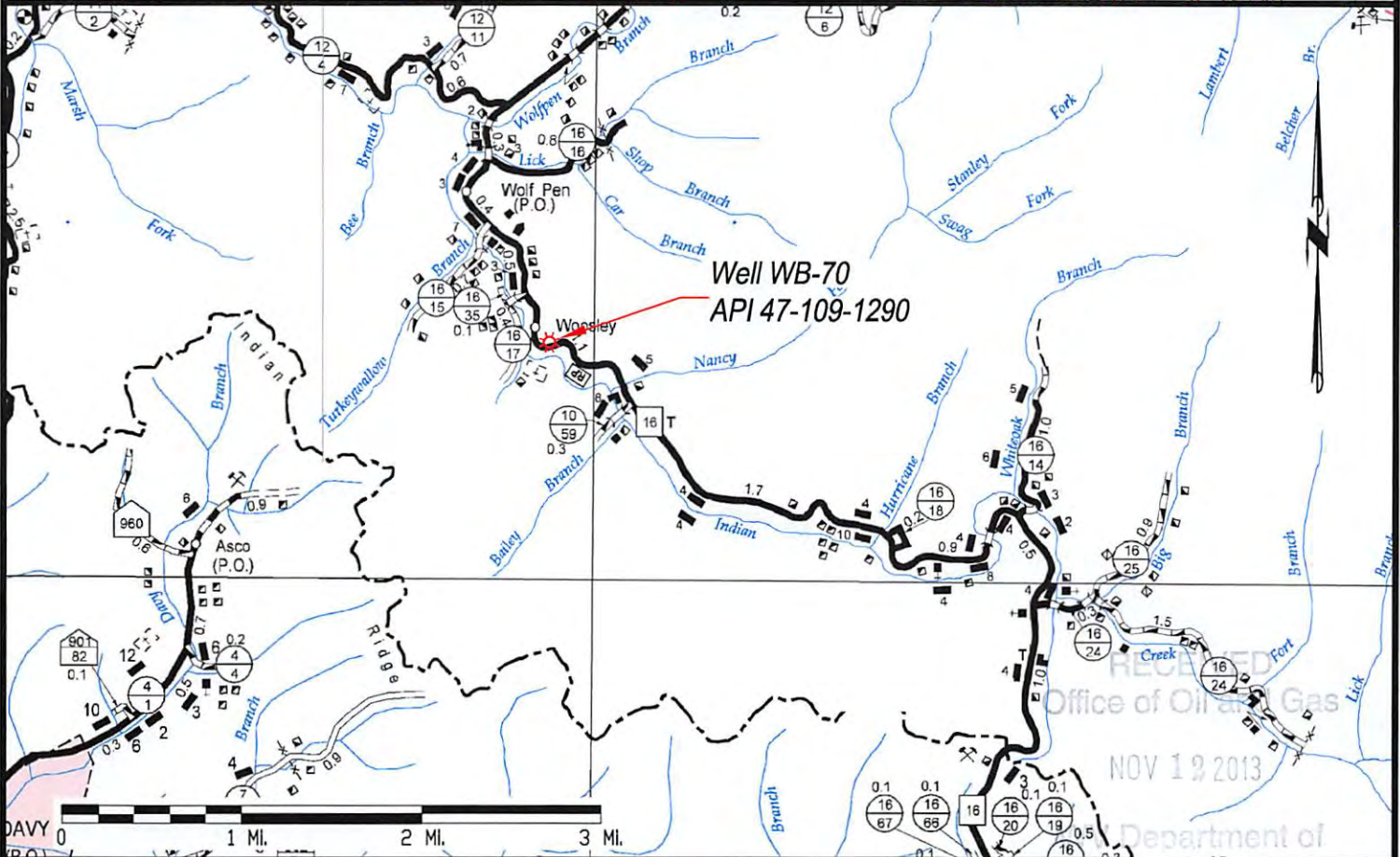
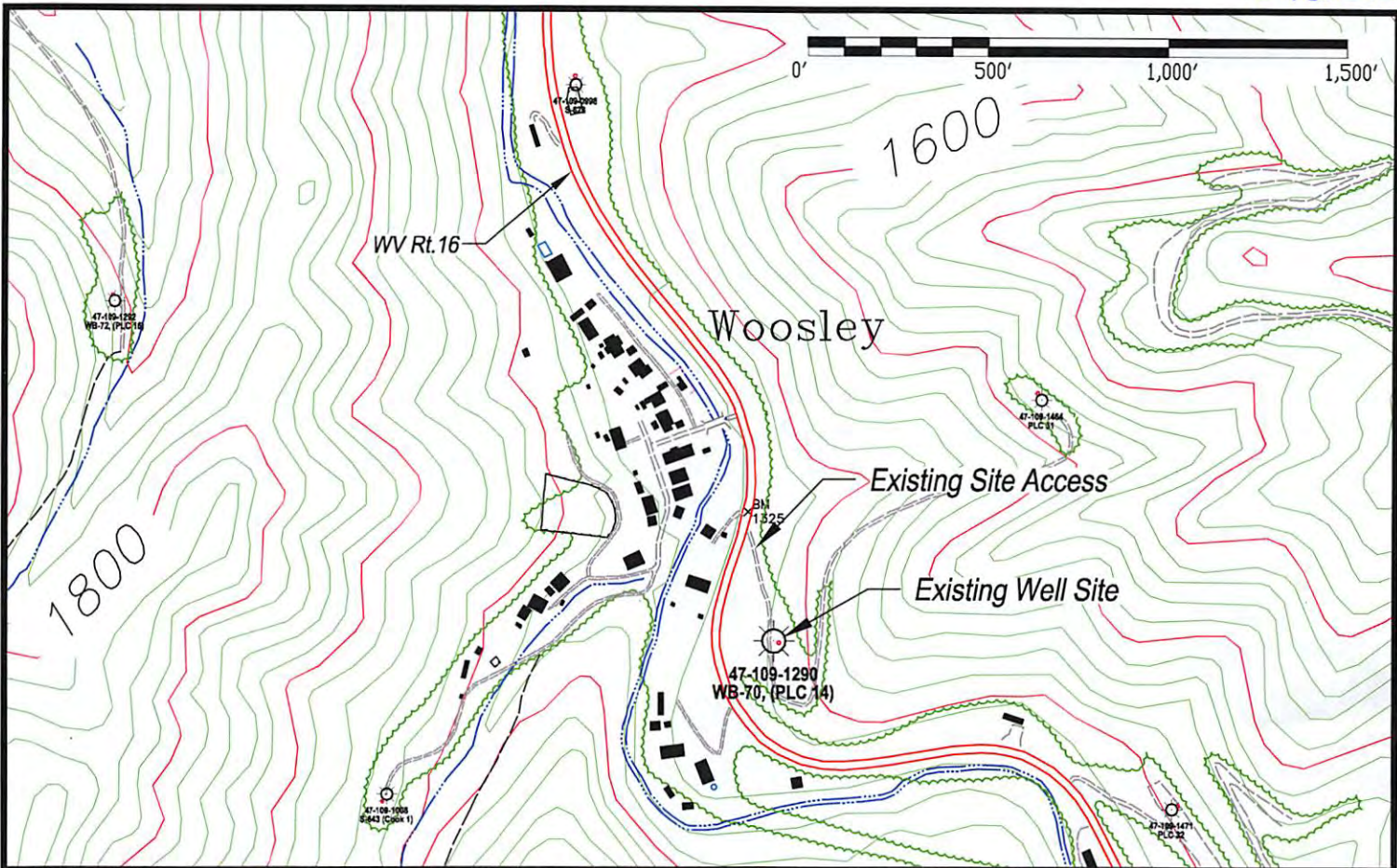
- Proposed Road
- Existing Road
- Existing Culvert
- Proposed Culvert (12" Min. unless noted)
- Proposed Stream Crossing
- Cross Drain
- Straw Bales
- Silt Fence
- Brush Barrier
- Tree Line
- Road Ditch
- Gas Line
- Fence Line
- Water Well
- House/Structure
- Spring
- Wet Spot

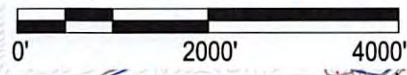
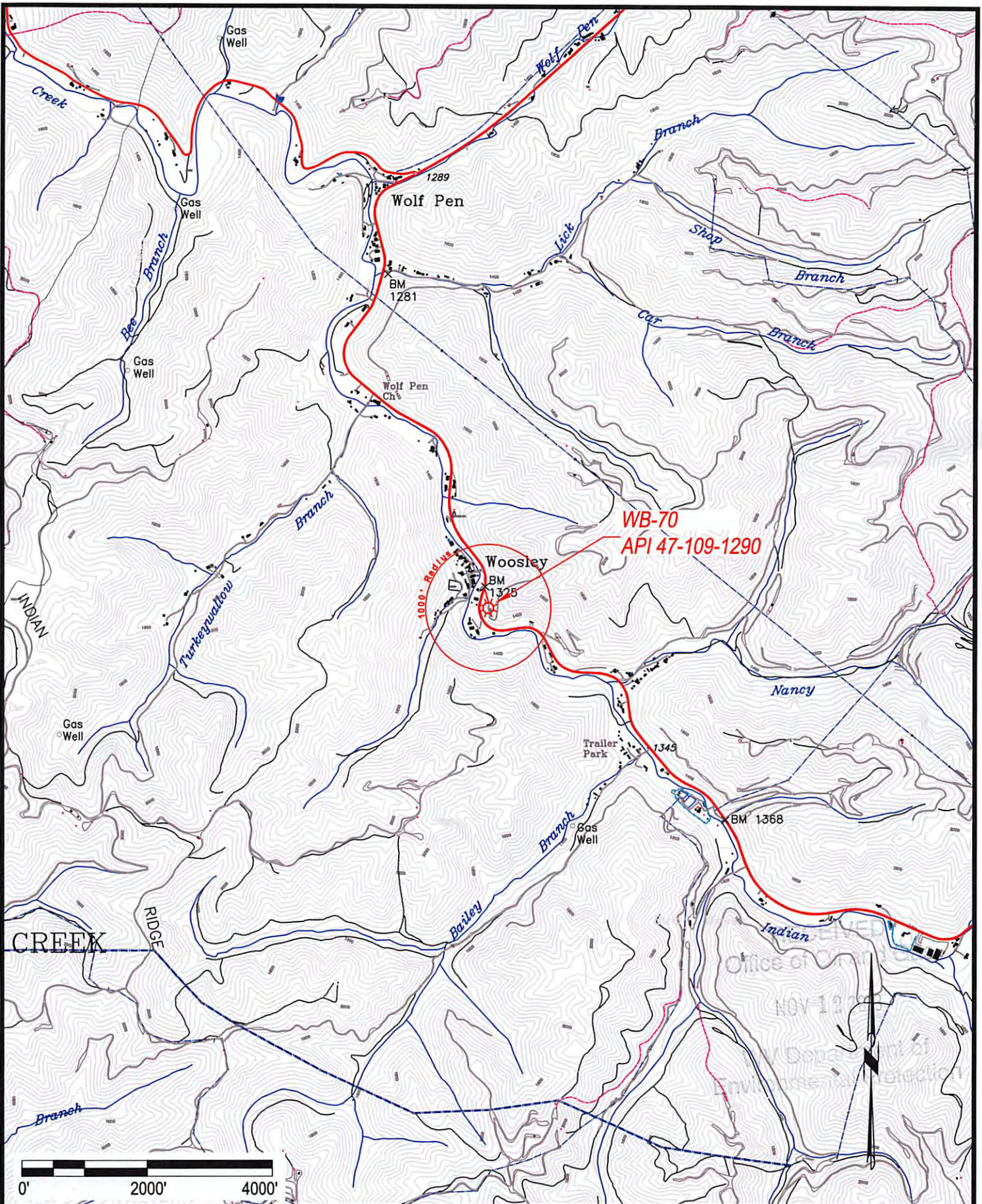


# WW-9: WB-70

# Construction and Reclamation Plan

May 13, 2013





**HAYDEN  
HARPER**

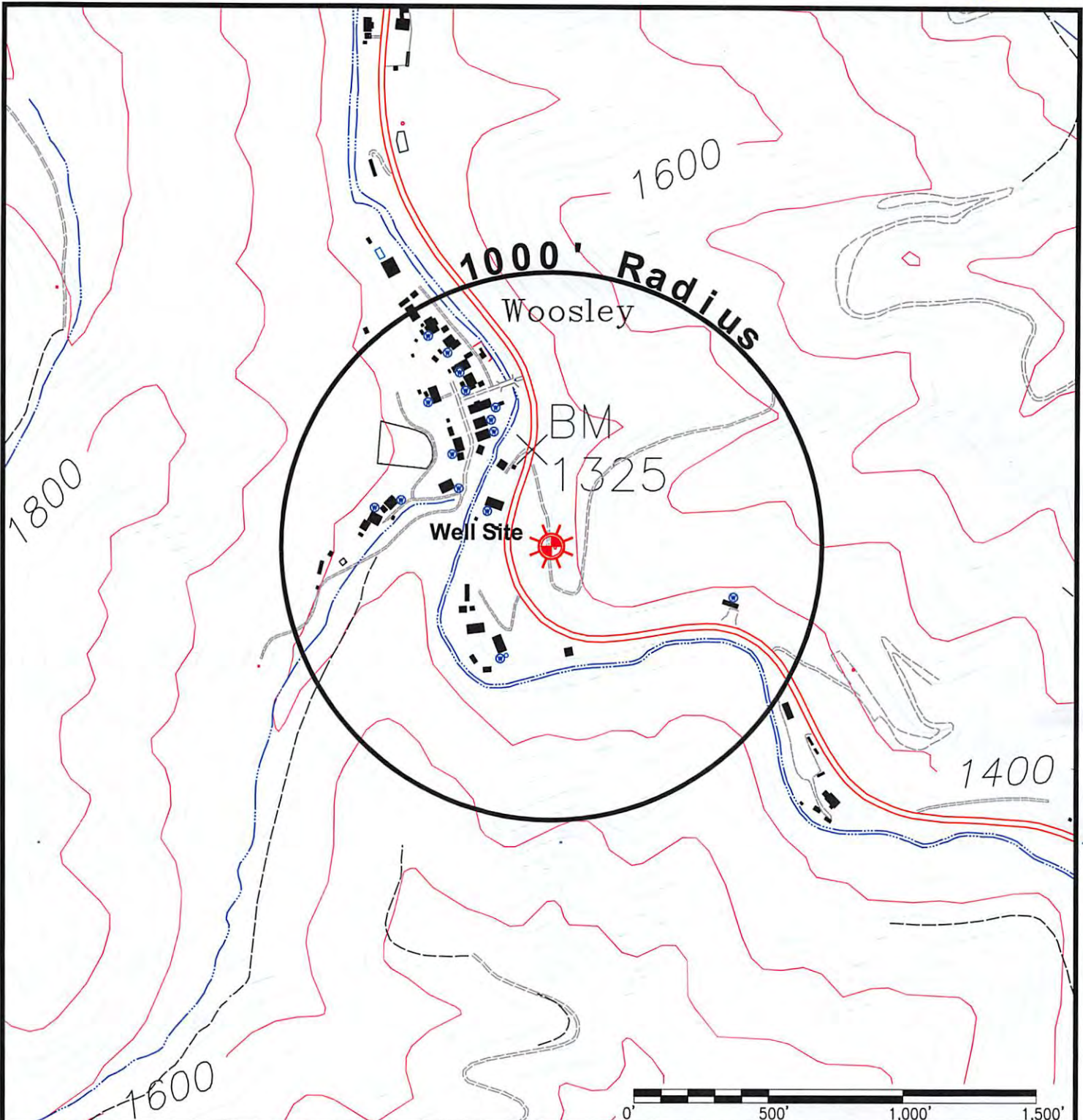
**WB-70 (PLC-15)**

API 47-109-01290

Located near Woosley in Center District of Wyoming County, West Virginia

May 15, 2013

Office of Conservation  
NOV 12 2012  
West Virginia Department of Environmental Protection



### Pineville WV, 7-1/2' Quadrangle

**Notes:**

There are 15 wells are located within 1,000 feet of WB-70 presently in use for domestic or agricultural purposes. Samples will be collected prior to commencement of plugging procedures. It should be noted that all residences within the affected area will be placed on a public system managed by the Town of Pineville in the very near future.

**Legend:**

- Water Well
- Spring
- Wet Spot
- House/Structure



**WW-9 WB-70**

Located near Woosley in Center District of Wyoming County, West Virginia

RECEIVED  
Office of Oil and Gas  
NOV 19 2013  
WV Department of Environmental Protection

UTM Zone 17N  
NAD 83 - meters  
N 4,152,601.85m  
E 448,047.88m

1,378'  
Lat. 37° 32' 30"

Long. 81° 35' 00"

#	1000' Resident	Owner
1	M.Blankenship	G.Chafin
2	N.Bailey	N.Bailey
3	R.Blankenship	R.Blankenship Hrs
4	R.Morgan	R.Blankenship Hrs
5	B.Payne	J.Hatfield
6	M.Carothers	M.Carothers
7	T.Lester	T.Lester
8	I.Mullins	D.Mullins
9	S.Evans	G.Sliker
10	E.Green	E.Green
11	V.Hall	V.Hall
12	M.Estep	M.Estep
13	R.Surrat	J.Surrat
14	E.Pauley	E.Pauley
15	T.Williams	T.Williams
16	O.Obey	O.Obey

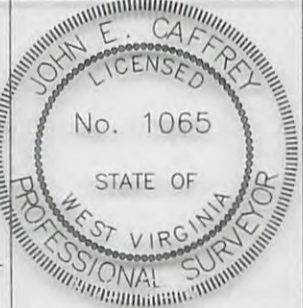


# Well WB-70

Notes:  
No Dwellings exist within 200 feet of Well WB-70  
There are several domestic wells within 1000' of WB-70  
(+) Denotes location of well on USGS map.  
Property Information taken from Pinnacle Land Company, LLC deeds and Wyoming Co. Tax Records

FILE No. Plugging Well WB-70  
 DIRECTORY V:\CGI-Hayden Harper\WB-70  
 DRAWING NAME Plat\_WB-70.dwg  
 SCALE 1" = 1000'  
 MINIMUM DEGREE OF ACCURACY 1 : 2500  
 PROVEN SOURCE OF ELEVATION GPS GLOBAL POSITIONING SYSTEM (Sub meter accuracy)

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 MINES.  
 (SIGNED) [Signature]  
 R.P.E. \_\_\_\_\_ R.P.S. 1065



**STATE OF WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION OFFICE OF OIL AND GAS CHARLESTON, WV**

DATE May 13, 2013  
 OPERATOR'S WELL No. WB-70  
 API WELL No. STATE COUNTY PERMIT 47 - 109 - 01290

WELL TYPE: OIL GAS  LIQUID INJECTION WASTE DISPOSAL  
 (IF "GAS") PRODUCTION  STORAGE DEEP SHALLOW

LOCATION: ELEVATION 1366.35 WATER SHED INDIAN CREEK OF THE GUYANDOTTE RIVER  
 DISTRICT CENTER COUNTY WYOMING  
 QUADRANGLE PINEVILLE, WV 7 1/2' series

SURFACE OWNER PINNACLE LAND COMPANY, LLC ACREAGE 23381.95 (Tax Map 55-3-135-1)  
 ROYALTY OWNER PINNACLE LAND COMPANY, LLC LEASE ACREAGE \_\_\_\_\_

LEASE No. \_\_\_\_\_  
 PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) \_\_\_\_\_

PLUG AND ABANDON  CLEAN OUT AND REPLUG \_\_\_\_\_

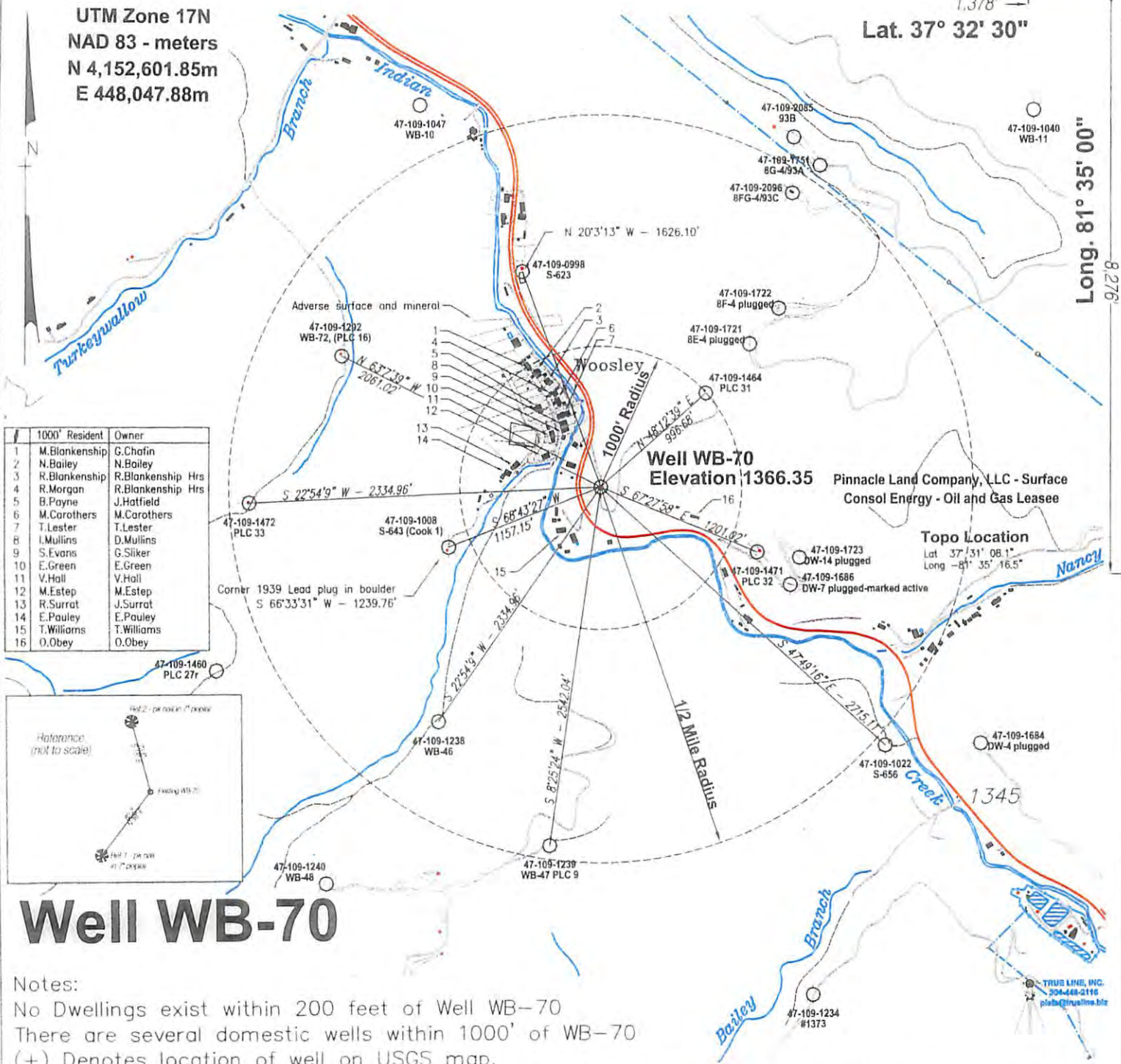
TARGET FORMATION RAVENCLIFF/AVIS SS/MAXTON/MAUNCH CHUNK GRP ESTIMATED DEPTH 2090 FEET  
 WELL OPERATOR HARPER, HAYDEN ENERGY KA, LLC DESIGNATED AGENT DON ROBINSON  
 ADDRESS 1001 MOOREHEAD SQUARE DR. - SUITE 350 ADDRESS PO BOX 729  
CHARLOTTE, NC 28203 BUCKHANNON, WV 26201



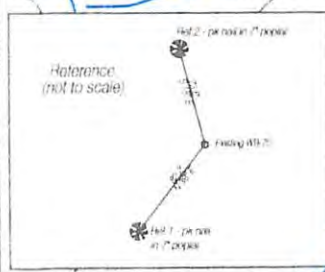
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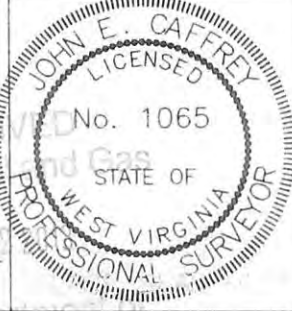
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 (SIGNED) [Signature] R.P.E. NOV 1 R.P.S. 1065



**STATE OF WEST VIRGINIA**  
**DEPARTMENT OF ENVIRONMENTAL PROTECTION**  
**OFFICE OF OIL AND GAS**  
**CHARLESTON, WV**



DATE May 13, 2013  
 OPERATOR'S WELL No. WB-70  
47 - 109 - 01290 P  
 API WELL No. STATE COUNTY PERMIT

WELL TYPE: OIL GAS X LIQUID INJECTION WASTE DISPOSAL  
 (IF "GAS") PRODUCTION X STORAGE DEEP SHALLOW X  
 LOCATION: ELEVATION 1366.35 WATER SHED INDIAN CREEK OF THE GUYANDOTTE RIVER  
 DISTRICT CENTER COUNTY WYOMING  
 QUADRANGLE PINEVILLE, WV 7 1/2' series  
 SURFACE OWNER PINNACLE LAND COMPANY, LLC ACREAGE 23381.95 (Tax Map 55-3-135-1)  
 ROYALTY OWNER PINNACLE LAND COMPANY, LLC LEASE ACREAGE \_\_\_\_\_  
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 PLUG AND ABANDON X CLEAN OUT AND REPLUG \_\_\_\_\_  
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 WELL OPERATOR HARPER, HAYDEN ENERGY KA, LLC DESIGNATED AGENT DON ROBINSON  
 ADDRESS 1001 MOOREHEAD SQUARE DR. - SUITE 350 ADDRESS PO BOX 729  
CHARLOTTE, NC 28203 BUCKHANNON, WV 26201

**Harper, Hayden Energy KS, LLC**  
1001 Moorehead Square Dr. - Suite 350  
Charlotte, NC 28203

November 5, 2013

Mr. James Martin, Chief  
**Office of Oil and Gas**  
601 57<sup>th</sup> Street, SE  
Charleston, WV 25304-2345

**RE: Plugging Permit for API #47-109-01290 Well No. WB-70**

Dear Mr. Martin:

Included are revised forms WW4-A, WW4-B and WW-9 for Harper, Hayden Energy KA, LLC's Well No. 47-109-01290. A pit will not be required for this work therefore filing fee is not included.

Your prompt consideration of this application would be most appreciated. If you have any questions or need additional information, please contact me at (304) 448-2116.

Sincerely,



Dwight Gillespie,  
Consultant

RECEIVED  
Office of Oil and Gas  
NOV 13 2013  
WV Department of  
Environmental Protection

10901290 P

**Harper, Hayden Energy KS, LLC**  
1001 Moorehead Square Dr. - Suite 350  
Charlotte, NC 28203

September 4, 2013

Mr. James Martin, Chief  
**Office of Oil and Gas**  
601 57<sup>th</sup> Street, SE  
Charleston, WV 25304-2345


**RE: Fluids / Cuttings Disposal & Reclamation Plan**  
**For API #47-109-01290 Well No. WB-70**

Dear Mr. Martin:

Included are forms WW-9, WW-4A and WW-4B for Harper, Hayden Energy KA, LLC's Well No. 47-109-01290. A pit will not be required for this work therefore a reclamation plan and filing fee are not included.

Your prompt consideration of this application would be most appreciated. If you have any questions or need additional information, please contact me at (304) 448-2116.

Sincerely,

  
James Musgrave,  
Agent

Received  
SEP - 6 2013  
Office of Oil and Gas  
WV Dept. of Environmental Protection