

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

March 06, 2015

WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-10900208, 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 penalities 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: 1251

Farm Name: BROWN, J. K.

API Well Number: 47-10900208

Permit Type: Plugging
Date Issued: 03/06/2015

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	Janua	ary 21	,	20 15	
2)	Oper	ator	's	52 A-9788		
	Well	No.	J.K. E	Brown #1		0
3)	API	Well	No.	47-109	0020	8

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

	APPLICATION FOR A PERM	MIT TO PLUG AND ABANDON
4)	Well Type: Oil / Gas X / Liquid	injection / Waste disposal/
		derground storage) Deep/ Shallow_X_
5)	Location: Elevation 1,293.13'	Watershed Clear Fork of the Guyandotte River
	District Oceana	County Wyoming Quadrangle Matheny
6)	Well Operator Cabot Oil & Gas Corporation	7) Designated Agent Whitney Johnson
07	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 Name Danny Mullins	9) Plugging Contractor Name Contractor Services, Inc.
	Address 124 Big Trace Fork Rd.	Address 929 Charleston Road
	Harts, WV 25524	Spencer, WV 25276
	Received Office of Oil & Gas JAN 27 2015	
wor	fication must be given to the district of can commence.	il and gas inspector 24 hours before permitted

J. K. Brown #1 API # 47 - 109 - 00208 PLUGGING PROCEDURE

Current Configuration

Elevation - 1290' TD @ 3276' 16" conductor @ 16' 13-3/8" casing @ 114' 10-3/4" - 32.75# casing @ 260' on shoe 8-5/8" - 24# casing @ 1260' on packer 7" - 23# casing @ 2347' - shot off @ 2112' & pulled No coal reported Water @ 40', 135', & 352' Gas shows @ 450' & 907' Berea Grit @ 3200' - 3226' with no show Big Lime @ 2300' - 2622' with gas show @ 2337' & 2549' Maxton @ 2050' - 2100' w/ gas show @ 2076' Ravencliff @ 1736' - 1786' w/ no show

PROCEDURE

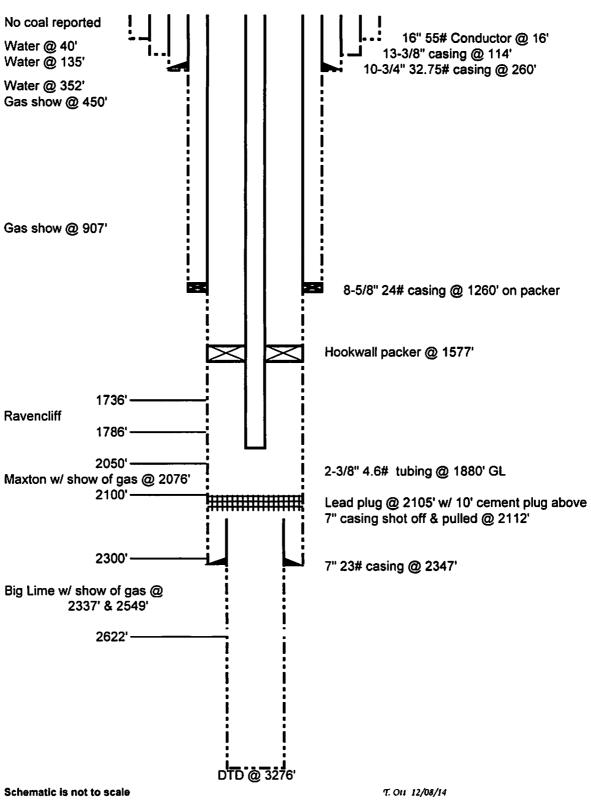
- 1. Contact Pineville Office a minimum of 48 hours prior to starting work.
- Contact State Inspector a minimum of 24 hours prior to starting work.
- MIRU service rig and blow down well.
- 4. Lay 2" line from wellhead to pit/tank and stake down securely.
- 5. MIRU service rig and blow down well. Have vacuum truck available to catch any fluids circulated from well.
- Unpack wellhead.
- 7. Unseat packer and pull 2-3/8" tubing.
- 8. TIH with 2-3/8" work string to 2090'.
- 9. MIRU Cementing Company.
- 10. Pump 50 bbls 6% gel followed by 60 sks of Class A cement for plug 1 from 2090' to 1900'.
- 11. Displace w/ 7 1/4 bbls of 6% Gel.
- 12. TOOH with work string. Let cement plug set for a minimum of eight hours.
- 13. ATTEMPT TO PULL 876" CASING THAT IS ON PACKED
- 14. IF WHALLE TO POLL ENG! FREE POINT, CUT ABOUE FREE POINT AND POOH.
 15. III TIH W/ 23/4" WURK STRIVE TO 1300' (CUT)
- 16. Pump 50 bbls 6% gel followed by 50 sks of Class A cement for cement plug 2 from 1300' to 1200' CEMENT MUST COVER 85/8" CASING CUT.
- 17. Displace w/ 4 1/2 bbls of 6% Gel.
- 18. Pull work string up to 950'.
- 19. Pump 50 sks of Class A cement for cement plug 3 from 950' to 850'.
- 20. Displace w/ 3 1/4 bbls of 6% Gel.
- 21. Pull work string up to 500'.
- 22. Pump 20 bbls 6% gel followed by 95 sks of Class A cement for cement plug 4 from 500' to 300'.
- 23. Displace w/ 1 bbl of 6% Gel.
- 24. TOOH with work string.
- 25. Pull 10-3/4", 13-3/8" & 16" casing strings. If unable to pull, run freepoint on casing strings, cut casing above freepoint, and POOH with casing.
- 26. TIH w/ work string to 250 and pump 250 sks of Class A cement for plug 5 from 250 to surface.
- 27. TOOH with work string and lay down.

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- 28. RDMO Cementing Company.29. Place monument as required by law on top of well bore.30. Reclaim well site.

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J. K. Brown #1
API 47-109-00208
CURRENT CONFIGURATION



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00208

WW-4A Revised 6-07

1) Date:	January 21, 2015	
	r's Well Number	
J.K. Brown	#1	

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

3) API Well No.: 47 -

4) Surface Ow	vner(s) to be served:	5)	(a) Coal Operator		
(a) Name	Thomas H. Evan		Name	None	
Address	P.O. Box 32		Address		
	Oceana, WV 248	370		-	
(b) Name		101, 175.	(b) Coal Ow	mer(s) with Declaration	n
Address	(Name	Thomas H. Evans, Jr.	
Tradit Coo			Address	P.O. Box 32	
			Address	Oceana, WV 24870	
(c) Name			Name	Oceana, VVV 24670	
Address			Address		
Address			Address		
6) Inspector	Danny Mullins		— (c) Coal Les	ssee with Declaration	
Address	124 Big Trace Fo	rk Road /	Name	None of Record	
Address	Harts, WV 25524		Address	None of Necord	
Talanhana		<u> </u>	Address		
Telephone	(304) 932-6844				
The reason However, Take notic accompany Protection the Applic	you are not required to take that under Chapter 22-6 or ying documents for a permi , with respect to the well at	nents is that you have r any action at all. of the West Virginia Co t to plug and abandon a the location described een mailed by registere	ights regarding the application of the attached Application or determined to the attached and or certified mail or de	operator proposes to file or has to Office of Oil and Gas, West V on and depicted on the attached	the instructions on the reverses side. filed this Notice and Application and firginia Department of Environmental Form WW-6. Copies of this Notice, and above (or by publication in
		Well Operate	" Cabot Oil & Gas	Corporation	
		By:	Cabot Oil & Gas Kenneth L. Marc		10/4 .
COMMONWEALTH (OF PENNSYLVANIA	Its:	Regulatory Supe		The state of the s
Notaria	I Seal	Address		er West, Suite 401	
Constance C. Card McDonald Boro, W	len, Notary Public	Address			
My Commission Exp	ires Nov. 16, 201/	Talanhana	Pittsburgh, PA	13270	
EMBER, PENNSYLVANIA A	SSOCIATION OF NOTARIES	Telephone	(412) 249-3850		
Subscribed and My Commission	sworn before me the factor of the state of t	his 210t Orden per 16, 2017	day of Janu	Mary , 2015 Notary Public	Received Office of Oil & Gas
					1A M 0 # 2015

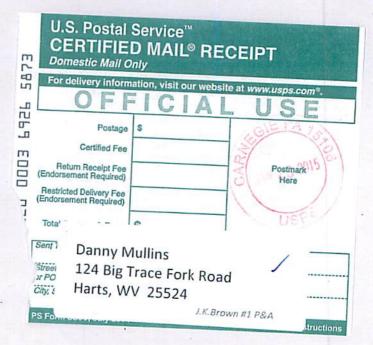
Oil and Gas Privacy Notice

JAN 27 2015

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.

03/06/2015





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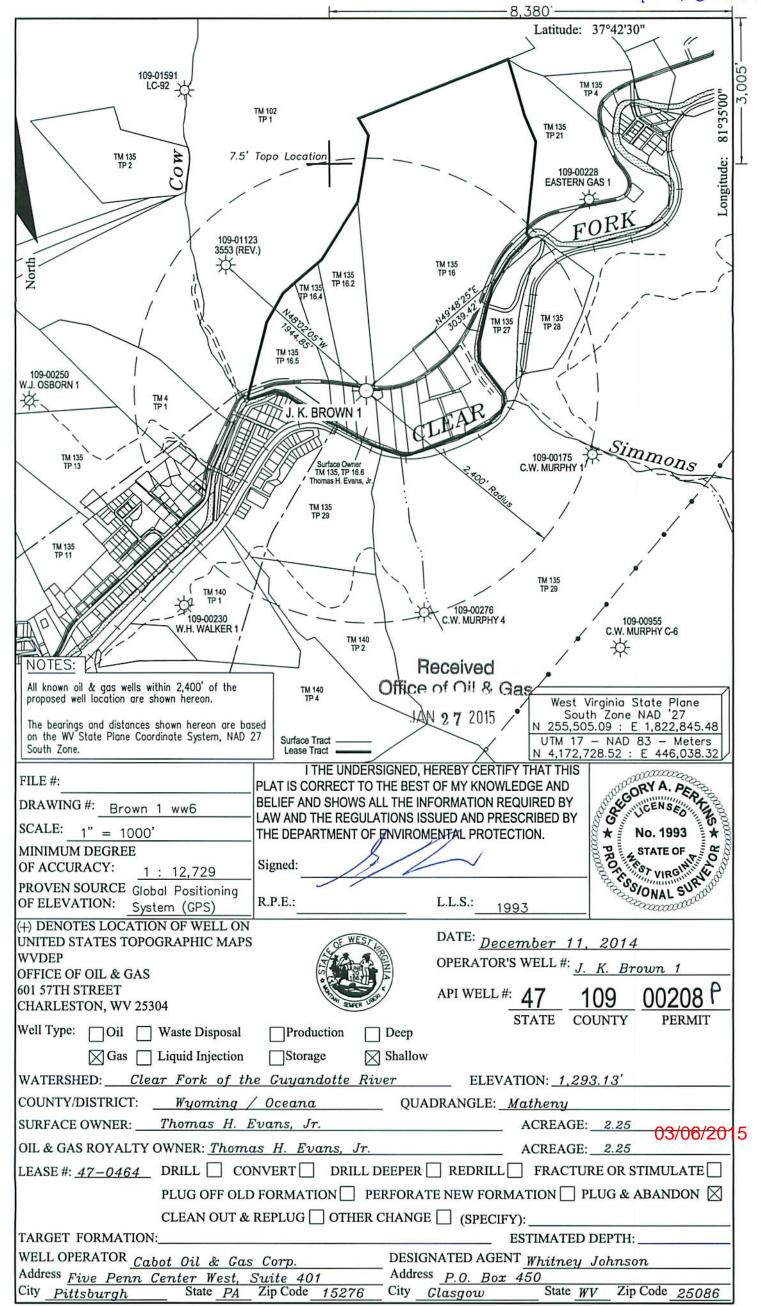
	Page 1		of	
API Number 47	- 109	_	00208	
Operator's Well 1	No.			

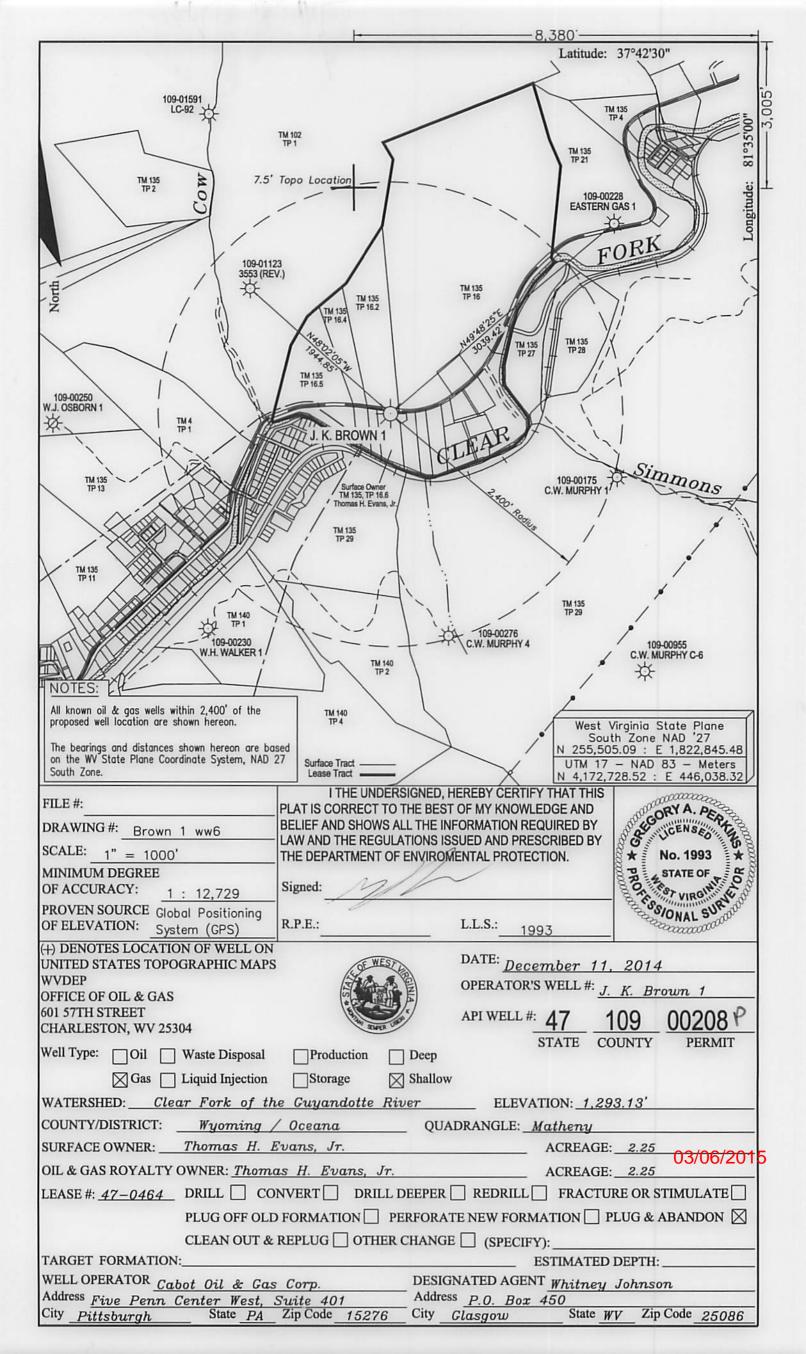
STATE OF WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION OFFICE OF OIL AND GAS

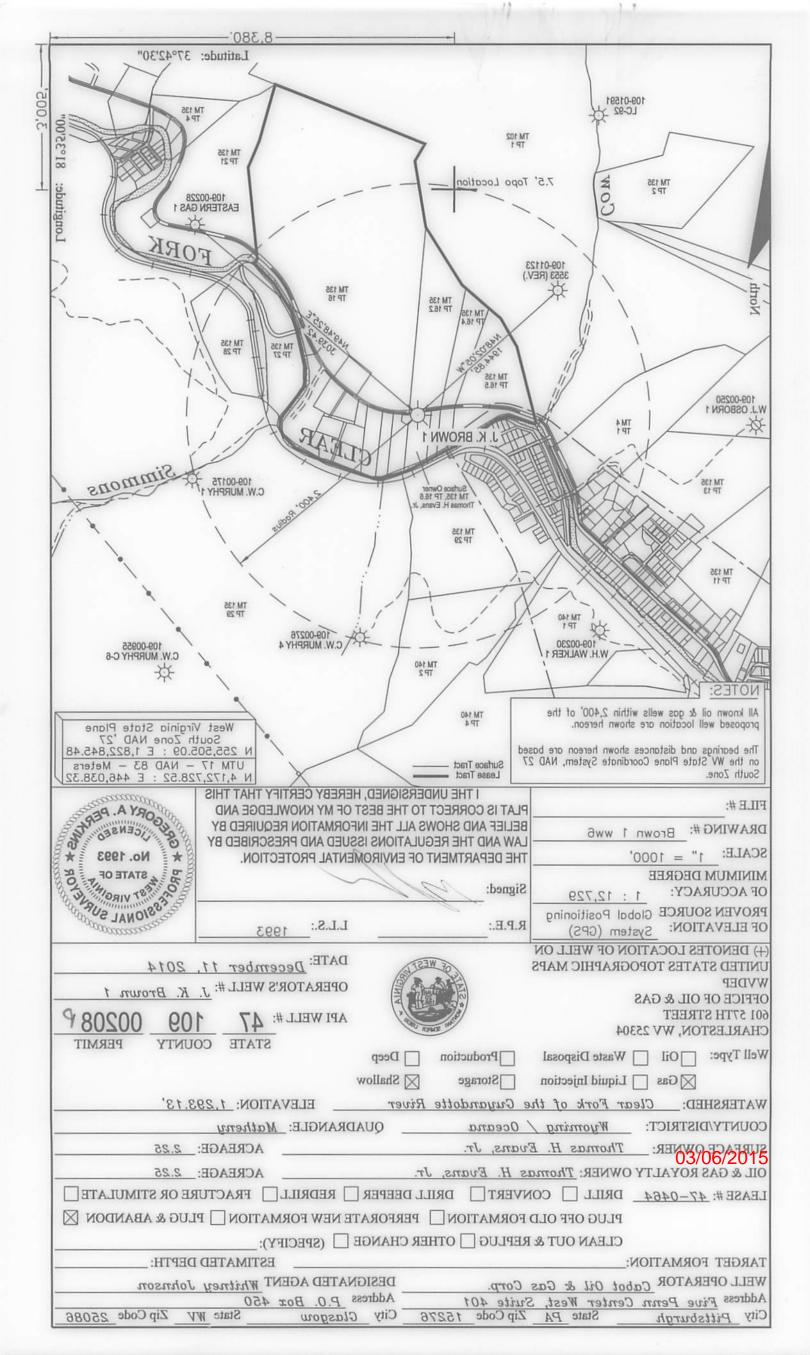
CONSTRUCTION AND RECLAMATION PLAN AND SITE REGISTRATION APPLICATION FORM GENERAL PERMIT FOR OIL AND GAS PIT WASTE DISCHARGE

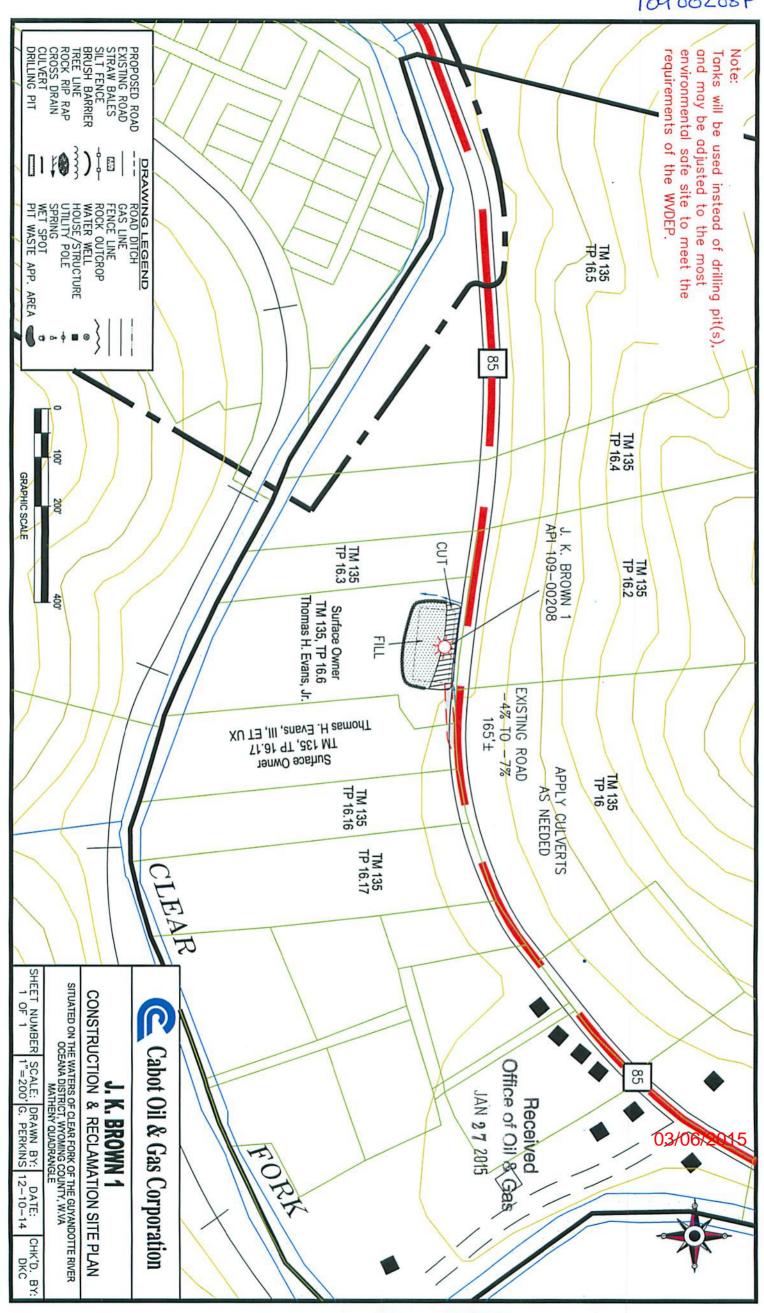
9	ENERGE FERMIT FOR OIL AND	OGAS FIT WASTE DISCHARGE	
Operator Name_ Cabot Oil & C	Gas Corporation	OP Code	
Watershed Clear Fork of the C	Guyandotte River	Quadrangle Matheny	
Elevation 1,293'	County Wyoming	District Oceana	
Description of anticipated Pit Wa	aste: None - no cuttings produ	uced during plugging operation	ı
Do you anticipate using more that	an 5,000 bbls of water to complete t	the proposed well work? Yes	No
Will a synthetic liner be used in	the pit? N/A . If so,	, what mil.?	
Under Reuse Off Si	ground Injection (UIC Permit Nu (at API Number_ te Disposal (Supply form WW-9 for	or disposal location)	
Other	(Explain	3.51 - Gallon - 1 000000000000000000000000000000000000	
-If oil based, what type? Additives to be used? Drill cuttings disposal method? -If left in pit and plan to	Synthetic, petroleum, etc. Leave in pit, landfill, removed offsi solidify what medium will be used	te, etc. No cuttings produced during? Cement, lime, sawdust	g plugging operation
on August 1, 2005, by the Office provisions of the permit are enfoliaw or regulation can lead to enform I certify under penalty application form and all attached bataining the information, I bel	of Oil and Gas of the West Virgini orceable by law. Violations of any orcement action. of law that I have personally examents thereto and that, based on leve that the information is true, ormation, including the possibility of the comment of the	man n	ection. I understand that the ermit and/or other applicable formation submitted on this mmediately responsible for
-			JAN 2 / 2013
Subscribed and sworn before me Constance My commission expires	this 21st day of Journal of Carden	Notary Public COMMON	5 IWEALTH OF PENNSYLVANIA
Try commission expires	wine il, sol	Constar McDon My Com	Notarial Seal nce C. Carden, Notary Public ald Boro, Washington County mission Expires Notary 25/08720 NSYLVANIA ASSOCIATION OF NOTARIES

	Operator's Well No
ı	.EGEND
Property Boundary	Diversion (4:24441:1411111111111111111111111111111
Road = = = = = = = = = =	Spring
Existing Fence — X — X — X —	Wet Spat
Planned Fence / /	Drain Pipe with size in inches (3)
Stream	Waterway \iff
Open Ditch	Cross Drain
Rock & Selfe	Artificial Filter Strip XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
North N	Pit: cut walls
Buildings	Pit: compacted fill walls
Water weils W	Area for Land Application of Pit Waste
Drill site	
Proposed Revegetation Treatment: Acres Disturbed 1.0	Prevegetation pH 6.5
Lime Tons/acre or to correct to pH	6.5
500	
remitzer (10-20-20 or equivalent)lbs/a	cre (500 lbs minimum)
MulchTons/ac	re
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 Birdsfool Trefooil - 10
Attach: Drawing(s) of road, location,pit and proposed area for land applic Photocopied section of involved 7.5' topographic sheet.	cation.
Plan Approved by:	
Comments:	
	
Title:	Date:
Field Reviewed? () Yes (N₀ Received Office of Oil & Gas









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.

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. 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

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 WYDEP.

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.

TABLE 11-4 SPACIN	G OF CROSS DRAINS		
ROAD GRADE (%)	DISTANCE (FT)		
1	400		
2	250		
5	135		
10	80		
15	60		
20	45		

TABLE 11-7 SPAC	ING OF CULVERTS
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 3.43 SILT FENCE BRUSH BARRIER TREE LINE ROCK RIP RAP CROSS DRAIN CULVERT DRILLING PIT ROAD DITCH GAS LINE FENCE LINE ROCK OUTCROP WATER WELL HOUSE/STRUCTURE UTILITY POLE 0 SPRING WET SPOT PIT WASTE APP. AREA

DRIVING DIRECTIONS FOR J. K. BROWN 1

- 1.) FROM PINEVILLE, WV, DRIVE NORTH ON STATE ROUTE 10 FOR 12.3 MILES± TO INTERSECTION OF STATE ROUTES 10 AND 85 IN OCEANA, WV.
- TURN RIGHT AND CONTINUE NORTH ON STATE ROUTE 85 FOR 1.0 MILE± TO THE BEGINNING OF THE EXISTING ACCESS ROAD LOCATED ON THE RIGHT-HAND SIDE OF THE ROAD.
- FROM THE AFOREMENTIONED SITE, FOLLOW THE EXISTING ROAD FOR APPROXIMATELY 185 FEET± TO THE EXISTING WELL AS SHOWN ON THE "CONSTRUCTION AND RECLAMATION PLAN".

03/06/2015

Received Office of Oil & Gas

JAN 27 2015





January 21, 2015

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

RE:

J.K. Brown #1

Oceana District, Wyoming County, WV

API # 47-109-00208

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,

Kenneth L. Marcum

Regulatory Supervisor

Hemet alme

Received Office of Oil & Gas

JAN 27 2015