

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

June 18, 2013

WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-7901409, 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.

Chief

Operator's Well No: MCLEAN A-171

Farm Name: WEGERT, HAROLD A.

API Well Number: 47-7901409

Permit Type: Plugging
Date Issued: 06/18/2013

WW-4B Rev. 2/01

1) Date May	22	, 20 13
2)Operator	's	
Well No.	McLean A-17	1
3) API Well	No. 47-079	- 1409

STATE OF WEST VIRGINIA

		CONMENTAL PROTECTION OIL AND GAS
	APPLICATION FOR A PERM	ATT TO PLUG AND ABANDON
4)	Well Type: Oil/ Gas _X _/ Liquid (If "Gas, Production or Und	l injection/ Waste disposal/ derground storage) Deep/ Shallow_X
5)	Location: Elevation_671.51'	Watershed Little Guano Creek
	District Union	County Putnam Quadrangle Bancroft
6)	Well Operator Cabot Oil & Gas Corporation	7) Designated Agent Brian D. Hall
	Address Five Penn Center West, Ste. 401	Address 6804 Lick Creek Road
	Pittsburgh, PA 15276	Danville, WV 25053
8)	Oil and Gas Inspector to be notified Name Jamie Stevens	9) Plugging Contractor Name Francis Brothers, LLC
	Address HC 62 - Box 1 C	Address 622 Church St. N.
	Kenna, WV 25248	Ripley, WV 25271
		Received 3
		1/5/218

MCLEAN A-171 API # 47 - 079 - 01409 PLUGGING PROCEDURE

Current Configuration

DTD @ 4525'

13-3/8" conductor @ 37' KB, cemented to surface V

9 $\frac{5}{8}$ — 26# LS casing @ 274' KB, cemented to surface ν

7" - 19# LS casing @ 1957' KB, cemented to surface ν

4 ¹/₂" - 10.5# - M60 casing @ 4514' KB w/ TOC @ 1460'

2-3/8" - 4.7# tubing @ 4368' KB

Rhinestreet Shale perforations: 4348' - 4441'

Huron Shale perforations: 3513' - 3953' -

Berea formation: 2301' - 2322' (not perforated)

Injun formation: 1821' – 1866' (not perforated) o

Big Lime formation: 1625' – 1821' (not perforated)

No coal reported

Salt water @ 642' & 1625'

Fresh water @ 20'

PROCEDURE

- 1. Contact Sissonville 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. MIRU service rig and blow down well.
- 4. Lay 2" line from wellhead to pit/tank and stake down securely. Vent 4 1/2" x 7" annulus.
- 5. Unpack wellhead and ensure tubing is free and can be pulled.
- 6. Run rig tools to determine well TD and note any fluid level.
- 7. Lower tubing to approximately 4435' with two joints of tubing.
- 8. MIRU Cementing Company.
- 9. Pump 5 barrels of 6% Gel.
- 10. Pump 15 sacks of Class A cement for Cement Plug 1 from 4435' to 4235'.
- 11. Displace with 16 bbls of 6% Gel.
- 12. Pull tubing to 3950' and pump 40 sacks of Class A cement for Cement Plug 2 from 3950' to 3420'.
- 13. Displace with 13 bbls of 6% Gel.
- 14. POOH with tubing and let cement plug set for a minimum of eight hours.
- 15. TIH with tubing to 2350' and pump 15 sacks of Class A cement for Cement Plug 3 from 2350' to 2150'.
- 16. Displace with 8 bbls of 6% Gel.
- 17. Pull tubing to 1850' and pump 25 sacks of Class A cement for Cement Plug 4 from 1850' to 1520'.
- 18. Displace with 6 bbls of 6% Gel.
- 19. POOH with tubing.
- Run freepoint and cut 4 ½" casing where free. Estimate ±1450'. Pick up casing 1 jt and pump 20 bbls 6% gel.
- 21. POOH with casing.
- 22. TIH with tubing to 1500' and pump 33 sacks Class A cement for Cement Plug 5 from 1500' to
- 23. Displace with 5 bbls of 6% Gel.
- 24. Pull tubing up to 300' and pump 58 sacks of Class A cement for Cement Plug 6 from 300' to to surface.
- 25. TOOH with tubing and lay down.

- 26. RDMO Cement company
 27. Erect Monument according to Law.
 28. RDMO.

API 47-079-01409 PROPOSED CONFIGURATION Fresh water @ 20' 37# 13-3/8" Conductor @ 37' KB No coal reported 26# 9-5/8" LS Casing @ 274' KB cemented to surface Bottom of plug 6 @ 300' Salt water @ 642' **6% GEL** Top of plug 5 @ 1300' --Bottom of plug 5 @ 1500' TOC @ 1460' KB, 4 1/2" casing to be cut @ ± 1450' Salt water @ 1625' Top of plug 4 @ 1520' 1625 **Big Lime** 1821' Injun Bottom of plug 4 @ 1850' 1866' **6% GEL** 19# 7" LS Casing @ 1957' KB cemented to surface Top of plug 3 @ 2150' 2301'-Berea Bottom of plug 3 @ 2350' U 2322' **6% GEL** Top of plug 2 @ 3420' 186K 6/4/2013 3507 **Huron Shale** Bottom of plug 2 @ 3950' 3956 6% GEL Top of plug 1 @ 4235' 4326 350 516 Perforations @ 4348' - 4441' Bottom of plug 1 @ 4435' Rhinestreet Shale 4505 10.50# 4-1/2" M-60 Casing @ 4514' KB DTD @ 4525' KB

McLean A-171

Schematic is not to scale

T Ott 01/09/13

WW-4A Revised 6-07

1) Date:	May 22,	2013		
Operator's McLean A-171		er		
3) API Well No	o.: 47 -	079	01409	

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

) Surface Ow	ner(s) to be served:	/ 5) (a)	Coal Operator	
(a) Name	David J. Sowards, et ux	V	Name	None
Address	22 Nilan Drive		Address	
	Hurricane, WV 25526	-		
(b) Name	John S. Casto, et ux	V	(b) Coal Own	ner(s) with Declaration
Address	P.O. Box 35		Name	Putnam Company (Frank A. Hardy, et al)
	Red House, WV 25168		Address	P.O. Box 5610
				Princeton, WV 24740
(c) Name			Name	
Address			Address	
) Inspector	Jamie Stevens		(c) Coal Less	see with Declaration
Address	HC 62 - Box 1 C		Name	N/A
11441000	Kenna, WV 25248		Address	
Telephone	(304) 206-7775		11441000	
	UDCONG NAMED AD	OVE:		1172
(1) The well (2) The The reason However,	application to Plug and Abandon its and the plugging work order; plat (surveyor's map) showing the you received these documents is that you are not required to take any action that under Chapter 22-6 of the West	a Well on For and well location you have rights at all.	on Form WW-6. regarding the applica	ved this Form and the following documents: ets out the parties involved in the work and describes the state of the parties involved in the instructions on the reverses side of the perator proposes to file or has filed this Notice and Application are Office of Oil and Gas, West Virginia Department of Environment.

	Well Operator	Cabot Oil & Gas Corporation
	By:	Kenneth L. Marcum
COMMONWEALTH OF PENNSYLVANIA	Its:	Regulatory Supervisor
Notarial Seal	Address	Five Penn Center, West, Ste. 401
Constance C. Carden, Notary Public McDonald Boro, Washington County		Pittsburgh, PA 15276
My Commission Expires Nov. 16, 2013	Telephone	
Member, Pennsylvania Association of Notarie Subscribed and sworn before me this		ay of _May
Constance 1. C.	veden)	Notary Public
My Commission Expires November	16, 2013	
01 10 P : N :		MAY 2 3 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.

06/21/2013

Member, Pennsylvania Association of Notaries

WW-9 Rev. 5/10

	Page 1	of	
API Number 47 -	079	- 01409	
Operator's Well N	o. McL	ean A-171	

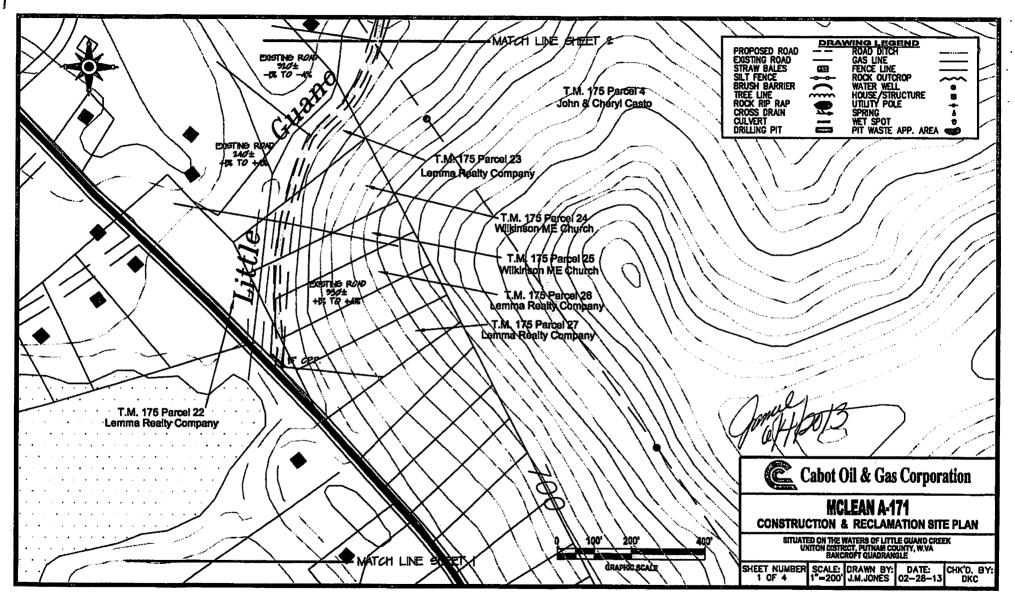
STATE OF WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION OFFICE OF OIL AND GAS

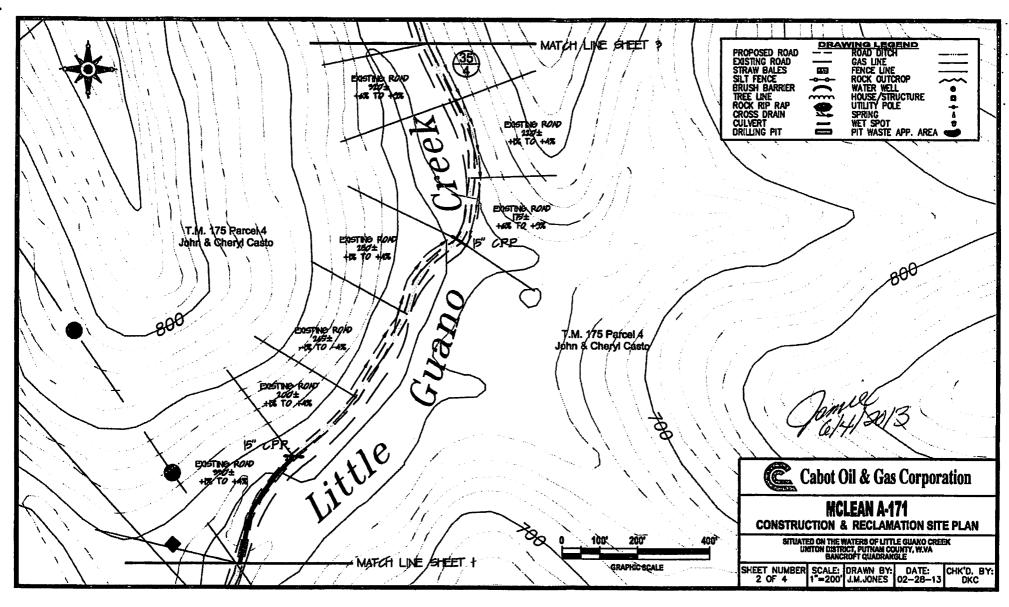
CONSTRUCTION AND RECLAMATION PLAN AND SITE REGISTRATION APPLICATION FORM GENERAL PERMIT FOR OIL AND GAS PIT WASTE DISCHARGE

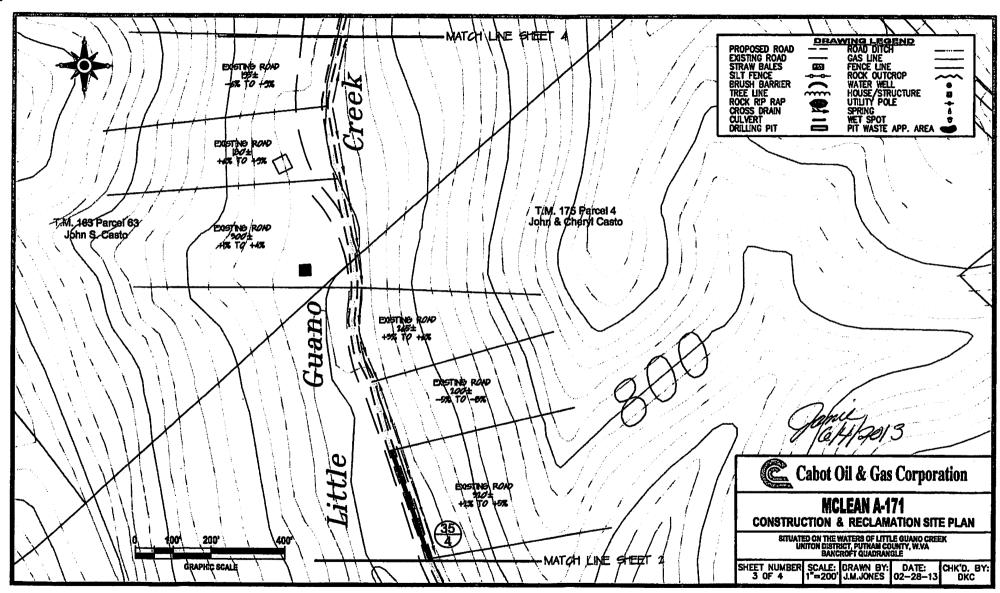
Operator Name Cabot Oil & Ga	s Corporation		DP Code	
Watershed Little Guano Creek				
watershed Little Guarlo Creek		Quadrangle Bar	icroit	
Elevation 671.51'	County Putnam		District Union	
Description of anticipated Pit Wast	None - no cuttings produ	iced during plu	gging operation	
Do you anticipate using more than			work? Yes No	
Will a synthetic liner be used in the	e pit? N/A	what mil.?		
Proposed Disposal Method For Tre	eated Pit Wastes:	ST	ECL TANK WIL	L BE
Land Ap	oplication	USF	ED FOR EFFLUENT	
	ound Injection (UIC Permit Nur	nber		
Reuse (
	Disposal (Supply form WW-9 for			
XX Other (Explain no treated pit wastes	will be produc	ed	
-Landfill or offsite name/p I certify that I understand on August 1, 2005, by the Office of provisions of the permit are enforced aw or regulation can lead to enforced to the provision of the permit are enforced as well as the control of the permit are enforced as well as the control of the permit are enforced as well as the control of the permit are enforced as well as the control of the permit are enforced as well as the control of the permit are enforced as the control of the permit as th	and agree to the terms and condition of any ceable by law. Violations of any cement action. I have personally examine the terms and conditions of any cement action. I have personally examine the terms and conditions of any cement action.	itions of the GEN a Department of F term or condition mined and am fa my inquiry of t accurate, and con	ERAL WATER POLLUTION I Environmental Protection. I und n of the general permit and/or of umiliar with the information sulthose individuals immediately mplete. I am aware that there	PERMIT issued lerstand that the other applicable bmitted on this responsible for
Company Official Signature	remod 1 8	nen		
Company Official (Typed Name)_	Kenneth L. Marcun	n		
Company Official Title	Regulatory Superv	isor		
			ķ.,	
Subscribed and sworn before me the	nis Band day of	haar	, 20 13	0.000
Abustane	e C. Carden	Trug	MAY Z	2 3 2013
My commission expires Nove	ember 16, 2013	Constance	Notarial Seal C. Carden, Notary Public Boro, Washington County	Oil and Gas
		My Commis	sion Expires Nov. 16, 2013	06/21/

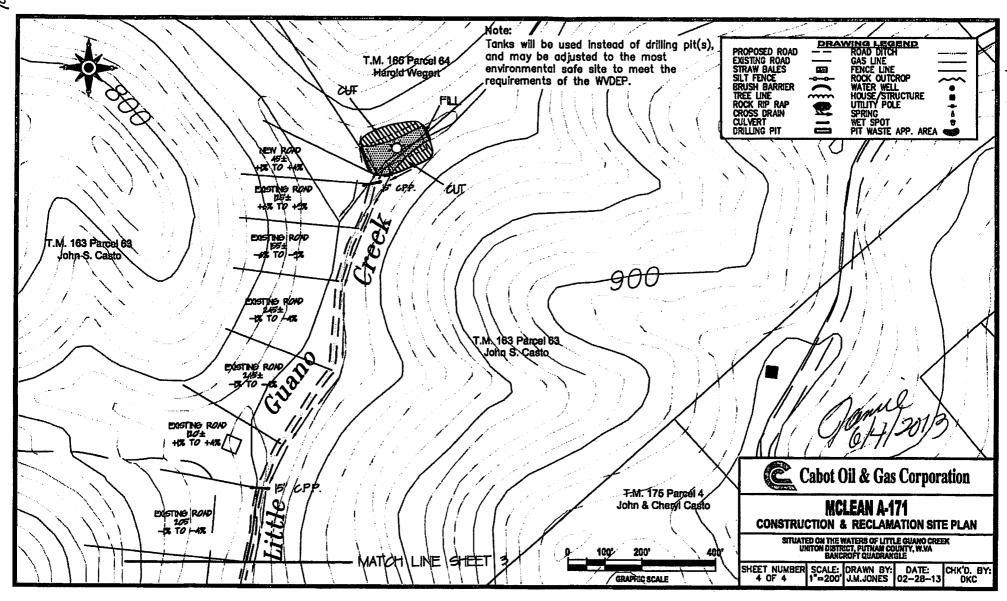
Form WW-9

roin ww-y	Operator's Well No.
	Legend
Property Boundary Road = = = = = = = = = = = = = = = = = = =	Diversion Caracteristics (1) (1) (1) (1) (1) (1) (1) (1) (1) (1)
Stream Open Ditch Rock North Null dings Water wells Drill site	Waterway Cross Drain Artificial Filter Strip Pit: cut walls Pit: compacted fill walls Area for Land Application of Pit Waste
Mulch Pulp Fiber at 1000 to 1500 Tons/ac	6.5 Vacre (500 lbs minimum)
Seed	Mixtures
Area I Seed Type ibs/acre Grain Rye - 100 Red Clover - 5 Fescue - 40	Area II Seed Type lbs/acre 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 appl Photocopied section of involved 7.5' topographic sheet. Plan Approved by:	testion. Pluzing 47-014-014-01-4-014-014-01-4-014-01-4-014-01
Comments:	
Title:	Date: 16/4/2013









Date API# March 10, 2009 47- 079 - 01409

State of West Virginia Division of Environmental Protection Section of Oil and Gas Well Operator's Report of Well Work

Farm Name:	Ha	old A. Wegert		Operate	or Well	No.:	McLea	an A-171	
LOCATION:	Elevation: District:	676' Union		Quadra County	ingle:	-	Bancı Putna	oft	
	Latitude: Longitude:	11059' feet So 7650' feet W		38° 81°	DEG. DEG.	35' 50'	MIN. MIN.	00" SE	
Company:	Cabat Oil 9 Can	Oama awatta a			ing & g Size	Used in	Drilling	Left In We	Cément F
Company.	Cabot Oil & Gas 900 Lee Street E Charleston, WV	ast, Suite 500		13-	3/8"	3	7'	37'	
	Charleston, WV	25301		9-5	5/8"	27	74'	274'	192
Agent: Inspector:		Thomas S. Liberato Rodney Dillon	re	7	70	19	57'	1957'	450
Permit Issued: Well Work Cor	mmenced:	5/2/2007 July 27, 2007		4-1	/2°			4514'	350
Well Work Cor Verbal Pluggin	g:	August 24, 2007		2-3	/8"			4368'	
Permission gra	Cable								
Total Depth (fe Fresh Water D		4532'							-
Salt Water Dep	epins (π) oths (ft)	20' 642', 1625'							
Is coal being m	lined in area (Y/I	N)? NO			ľ		ŀ		
Coal Depths (ft	NONE REPOR	RTED							
OPEN FLOW I	DATA	-				<u>' </u>			
Producing For	mation	RHINESTREET			Pay Zoi Depth (43	48'-4441'	
Gas: Initial Ope	en Flow	TSTM M	/ICF/d			ial Open		0	Bbl/d
Final Ope	n Flow 231 (COMMINGLED) N	/ICF/d		Fin	al Open	Flow	0	Bbl/d
Static rock pres	n now between in Sure 410	itial and final tests			4		Hours		
	<u> </u>	psig surface	e pressu			3736	Hours		
		HURON SHA	ALE		Pay Zor Depth (f		351	3'-3953'	
Gas: Initial Ope		TSTM M	ICF/d	C	Dil: Initi	al Open	Flow	0	Bbl/d
Final Ope		(COMMINGLED) M	ICF/d			al Open		0	Bbl/d
Static rock pres	sure 410	tial and final tests psig surface	Dracell	ro offer		3636	Hours		
NOTE: ON BACK STIMULATING, P	OF THIS FORM P	UT THE FOLLOWING	: 1.) DE	TAILS O	F PERF	ORATE	Hours INTERV	ALS, FRACTU	IRING OR
OF ALL FORMAT	ions, including	COAL ENCOUNTERE	יו אם ע:	JE WEL	TROKE				AL HEOORD
i	RECEIVED	Fo	er: C	ABUT O	IL & GA	S CORPO	RATION		
Off	ice of Oil & Ga	Ву	. (ಎಚ	P_6	hi_	_	Drilling Su	perintendent
	MAR 1 2 2009	S Da	te:	3/11	709				perintendent
Environ	Department (inental Prote	of ction						lecei [,]	ved

Received

MAY 25, 2013 .

Office of Oil and Gas WV Dopt. of Environmental Protection

06/21/2013

Borcroft 4

		ACID		SAND	NITROGEN			PO	17-14
STAGE	PERFS	15% HCI	FOAM	(lbs)	(scf)	BDP	ATP	MTP	ISIP
1-Rhinestreet	4348-4441 (20)				802,667	3573	3467	3588	2442
2-Huron Shale	3513-3953 (40)	504	85Q	90,900	2,127,000	1809	3498	3570	2202
FORMATION		ΤO	P	r u u nijing	BOTTON	A	REMARI	KS	
SILT / SHALE		SURF	ACE		1386	•			
SALT SAND		138	36		1602				
SHALE		160	02		1625				
BIG LIME		162	25		1821				
NULNI		182	21		1866				•
SHALE		186	36		2301				
BEREA		230)1		2322				
SHALE		232	22		3507				
HURON		350			3956				
SHALE		395			4326	•			
RHINESTREET		432			4505				
MARCELLUS		450			4523				

4532

TD

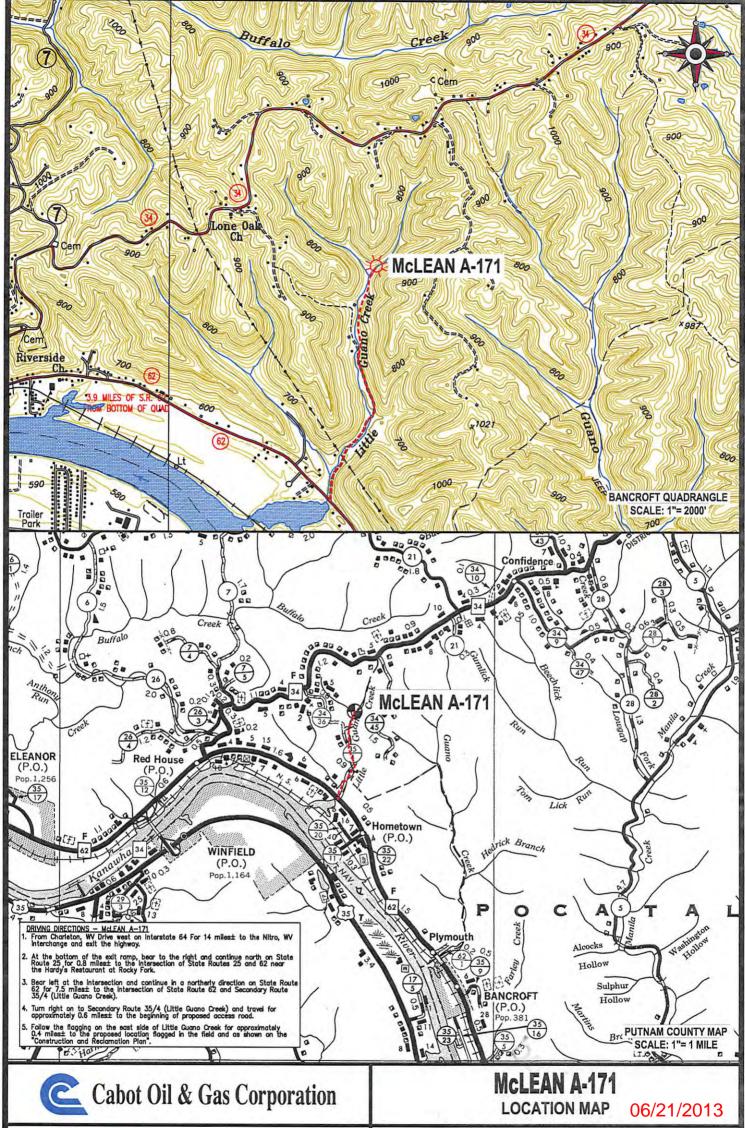
4523

SHALE

Received

MAY 2 3 2013

Office of Oil and Gas
WV Dept. of Environmental Protection



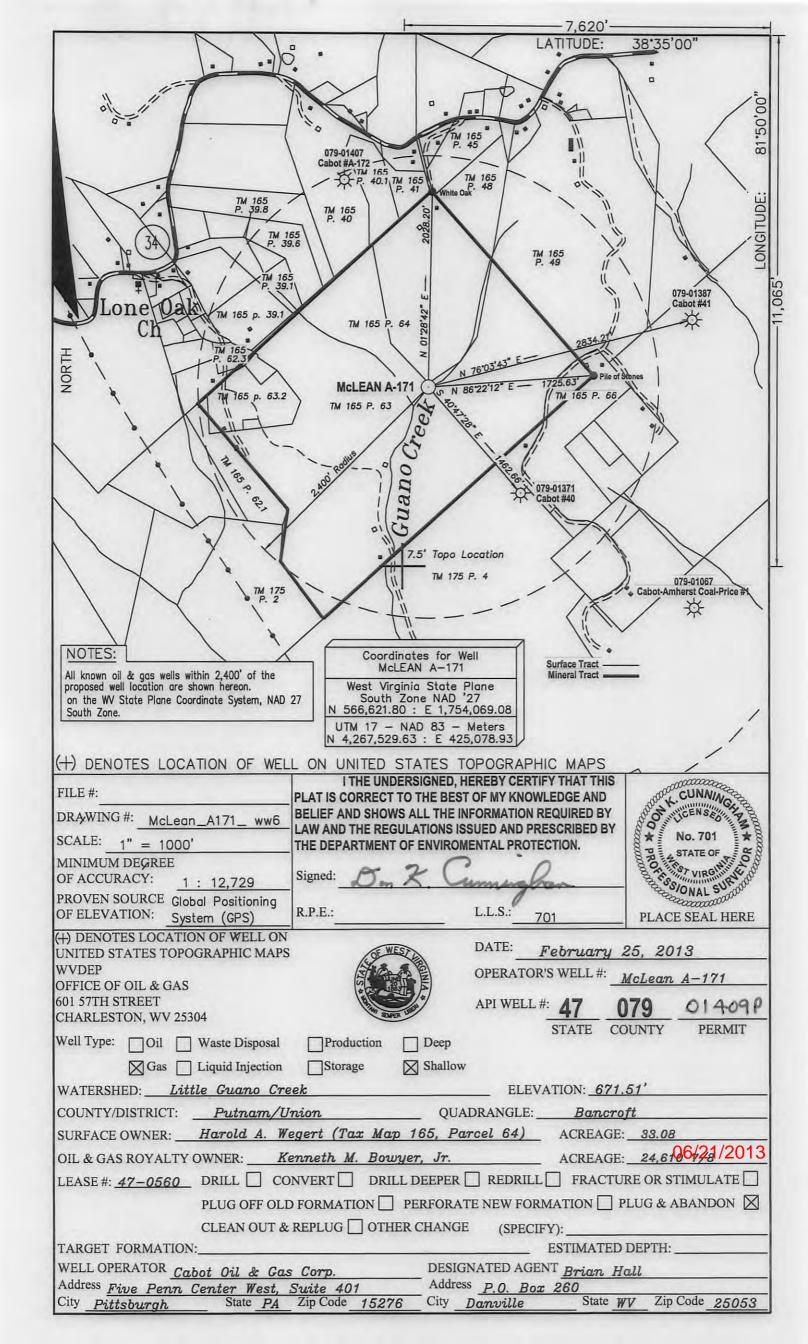




• 5805 MORNING DOVE LANE •
• CROSS LANES, WEST VIRGINIA 25313 •
• VOICE (304) 561-4129 • FAX (804) 776-0703 •
• E-MAIL ADDRESS • DKCUNNINGHAM@CHARTER.NET •

LOCATED ON THE WATERS OF LITTLE GUANO CREEK UNION DISTRICT, PUTNAM COUNTY, W.VA BANCROFT QUADRANGLE

PROJECT: CABOT DWG. NO. McLEAN_A171_LOC.DWG SCALE: AS NOTED CHK'D BY: DATE: 02/28/13 D.K.C. DRAWN BY: J.M. JONES FILE: C: \PROJECT FOLDER\CABOT





May 22, 2013

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

RE: McLean A-171

Union District, Putnam County, WV

API # 47-079-01409

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

Kennette more

Received

MAY 2 3 2013

Office of Oil and Gas
WV Dept. of Environmental Protection