

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 24, 2015

WELL WORK PLUGGING PERMIT Plugging

This permit, API Well Number: 47-4300122, issued to CHESAPEAKE APPALACHIA, L.L.C., 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: 4370

Farm Name: VICKERS, C. F.

API Well Number: 47-4300122

Permit Type: Plugging
Date Issued: 06/24/2015

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.
- 4. This well is under a consent order and must be plugged under the terms of that agreement.

FORM WW-4 (B)
Observe
File Copy
(Rev. 2/01)

1) Date: 4/22/2015 2) Operator's Well No. 804370 P&A 3) API Well No. 47-043-00122

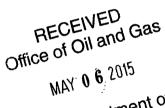
STATE OF WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION OFFICE OF OIL AND GAS

	Well Type: (Is Gas, Prodi	Oil X or Undergr	Gas X	Liquid injection	on Jeep	- Waste dis	sposal Shallow X
						-	
	Location:	Elevation 782'	Watershed			rel Creek of Mud	
		District Carroll	County _	Lincoln	Qua	dranglel	Hamlin, WV 7.5'
	Well Operator	Chesapeake Appala	achia, L.L.C.	7) Designate	ed Agent	Jessica Greath	ouse
	Address	P.O. Box 18496		Address	3	P.O. Box 6070	
		Oklahoma City, OK	73154-0496			Charleston, WV	25362
	Oil and Gas Insn	ector to be notified		9) Plugging	Contractor		
		Triplett		Name		ake Appalachia, I	L.L.C.
		McClellan Highway		Address	P.O. Box	18496	
	Branc	hland, WV 25506			Oklahom	a City, OK 73154	-0496
=	Mark Order: Th	e work order for the m		h:			
						RECEIVED fice of Oil and MAY 0 6 2 WV Depart Environments	iment of al Protection
otif	ication must be g	iven to the district oil	and gas inspector 2	4 hours before	e permitted	work can commer	nce.
	c Order approved	by Inspector	agol D. Tru	une off)		Date	05/04/15
Vork		10 110 100 101 110	200 10. 10	The Co			00/0//10

804370 P&A PROCEDURE

- 1) Prepare road and location, MIRU Service rig
- 2) Run in hole to check TD (approximately 2100')
- 3) Attempt to pull 3" and packer
 - A) If successful
 - a) Rip or shoot holes in 6 5/8" approximately at 1525', 1500', 1335' and 1310'
 - b) Run W.S. to 2100', spot gel
 - c) Spot 125' cement plug 2100'-1975', pull W.S. to 1530'
 - d) Proceed to step 4
 - B) If unsuccessful
 - a) Run W.S. to 2100', spot gel
 - b) Spot 150' cement plug 2100'-1950', pull W.S.
 - c) Cut 3" at free-point (approximately 1850') and pull
 - d) Rip or shoot holes in 6 5/8" approximately at 1525', 1500', 1335' and 1310'
 - e) Run W.S. to 1850', spot gel
 - f) Spot 100' cement plug 1850'-1750', pull W.S. to 1530'
 - g) Proceed to step 4
- 4) Spot 100' cement plug 1530'-1430', pull W.S. to 1340'
- 5) Spot 100' cement plug 1340'-1240', pull W.S.
- 6) Cut 6 5/8" at free-point (approximately 875') and pull
- 7) Run W.S. to 875', spot gel
- 8) Spot 150' cement plug 875'-725', pull W.S. to 345'
- 9) Spot 100' cement plug 345'-245', pull W.S. to 170'
- 10) Spot 170' cement plug 170'-surface
- 11) Pull W.S. and top off with cement
- 12) Erect monument and reclaim as prescribed by law

RPT



WV Department of Environmental Protection

SERIAL WELL NO. 4370 LEASE NO.	GAS COMPANY API 47-043-001.2. PAGE 182- MAP SQUARE MAP	in .
RECORD OF WELL No. 4370 on the	CASING AND TUBING TEST BEFORE SHOT	
C.F. Videors Farm of 165 Acres	SIZE USED IN LEFT IN WELL Of Water in	inch
in Carrell District	16 10ths of Merc. in	
Linco in County	10ths. Volume 2 65,100	Control of the contro
Branchland Field, State of W.Va.	10 ST TEST. AFTER SHOT	
	8 1/4 287 Palled 10 of Water in 8	inch
Rig Commenced Furnished by Contractor 193	6 5/8 1893 1893 10ths.	inch
Rig Completed 193	5 3/16 10ths. Volume 180 720	_Cu. ft.
Drilling Commenced April 27, 1932	4 7/8 Rock Pressure	
Drilling Completed siny 30, 1932	Date Shot 8/20/88	
Drilling to cost per foot	3 2167 Size of Torpedo	
Contractor is: G.H. Jackson	2 Oil Flowed bbls. 1st	24 hrs.
Address: Hemlin, w.Ve.	BHUT IN Oil Pumped bbls. 1st	24 hrs.
	Date June 3,1982	
Driller's Name A.F. Brookover	Tubing or Well abandoned and	
Laird moore	Size of Packer 8x6 5/8x16 Plugged	.193
Elev 920 Bar.	Kind of Packer Anchop 1948 Ist Perf. Set 245 from 2135	

2nd Perf. Set 2110 from 2089

-Cent		DH	ILLER B RECO	ORD .
PORMATION	ТОР	всттом	THICKNESS	REMARKS
Surface	0	30	20	He casing shoe or packer used on
chite late	30	65	55	bettom of 84" or 10E Casing.
Sand	65	100	35	6 5/8"x8x"x10" B.H. Lacker used on
Slate	100	130	30	bottom of 6 5/8" Casing.
Sand	130	140	10	All gas pays, casing points and total
Co al	140	1415	14	depth all Solode
Slate	141#	180	28章	
Sand	180	225	45	
Slate	225	255	50	
Sand	255	277	22	
Coal	277	273	1	
Sla •	278	200	22	
Synd	200	550	250	, .
Black slate	550	665	105	
- and	665	685	20	
Slate & Sheaks	685	840	- 165	
Salt Sand	840	1032	192	Hole full of water at 910'
Dark Jlate	1032	1057	25	
Salt band	1087	1230	173	APP 9 4 7015 -
Salte o Shells	1220	1250	20	APR 2 4 2019
Red work	1250	1260	10	WX/ADepartmentor
Slate on Shells	1860	1296	36	Frwite-mental Protection 06/26/2015
Little Lime	1296	1327	31	RECEIVED
Fencil Cave	1827	1331	6	Office of Oil and Gas
Big wime	1331	1511	180	APR 24 2015
Big Injun	1.511	1545	34	**
~4 - 4 -		9.000		Legarment of
- 6		i	4	Environmental Profession
The state of the s	8216.2	1	i safi sa	
		V +0		5 T 20 T 2

Well 804370 API 47-043-00122 P Pag 20 2

SERIAL WELL NO	6270	LEASE	NO.			MAI	PSQUARE
RECORD C	F WELL No.	on the	P	CA	SING AND TUE	ING	TEST BEFORE SHOT
C.F. Vickers	Farm of	Acre		9218	USED IN DRILLING	LEFT IN WELL	of Water ininch
in		Distric	t-	16		, , , , , , , , , , , , , , , , , , ,	10ths. of Merc. ininch 10ths.
		County	Y.	13			VolumeCu. ft.
	Field, State of			10			TEST AFTER SHOT
With the same of t				8 1/4			of Water ininch
Rig Commenced		193	3	6 5/8			inch 10ths.
Rig Completed		193	3	5 3/16	1		VolumeCu. ft.
Drilling Commenced	ű.	193	3	4 7/8			Rock Pressure
· Drilling Completed		193	3	4			Date Shot
Drilling to cost	per foot			3			Size of Torpedo
Contractor is:				2			Oil Flowedbbls. 1st 24 hrs.
Address:					AL TUHB		Oil Pumpedbbls. 1st 24 hrs.
Driller's Name				Date	in constantent en	Tubing or Casing	Well abandoned and
				Size of Pacl	cer		Plugged193
				Kind of Pa	icker		
				Ist Perf. S	et fr	om	
				2nd Perf. S	etfr	om	
		DRI	LLER'S	RECORD			
FORMATION	тор	воттом	тніск	NESS		RE	MARKS
Squaw	1580	1600	50				
Slate & Sholls	1600	1728	1.8	8			u.
Shall a	1799	1644	R	_			

DRILLER'S RECORD					
FORMATION	тор	вотгом	THICKNESS	REMARKS	
Squaw	1550	1600	50		
Slate & Sholls	1.600	1728	1.88		
Shells Slate on Shells	1728 1733	1733	5 97	r.	
Lime Shells	1830	1888	56		
Lime Shells Broken	1888	1928	40	v v	
Lime Shells	1928	1955	27	DECEMEN	
Slate & Shells	1955	1980	28	RECEIVED Office of Oil and Gas	
White Slate	1980	2065	85	Office of Off and Gas	
Brown Shale	2065	2078	18	APR 2 4 2015	
Beroa Sand	2078	2095	17	6' in Berey Department of 12/10 water1'	
				Environifiental Protection 10	
Slate	2095	2145	50		
Total dpeth		,	23.48	1 hour after shet 34/10 water 2"	
an ace a ham			6.400		
5,5			Ē		
* y				Ya cavida av	

06/26/2015

WW4-A Revised 2/01

Subscribed and sworn before me this

My Commission Expires

1) Date:	4/22/2015		
2) Operator's Well No.	804370 P&A		
3) API Well No.	47-043-00122		

STATE OF WEST VIRGINIA - BUREAU OF ENVIRONMENT

		DEPARTMENT OF ENVI	RONMENTAL PRO	TECTION, OFFICE	OF OIL AND GAS	
			LICATION TO PLU			
Surface Owner(s) to be s		ner(s) to be served:		Coal Operate	or	
	(a) Name	Lee Calvert Investments	_ /	(a) Name	None	
	Address	5609 N Classen Blvd Ste 100	_/			
		P.O. Box 54589			s) with Declaration	
		Oklahoma City, OK 73118		(b) Name	The Calvert Company	_
				Address	5609 N Classen Blvd Ste 100	_/
	(b) Name	HKCWVA LLC	_ /		P.O. Box 54589	
	Address	2726 Bissonnett Street	_/		Oklahoma City, OK 73118	_
		Suite 240		200	o cara a o virgara	
		Houston, TX 77005		Name	Lee Calvert Investments LLC	_
				Address	5609 N Classen Blvd Ste 100	_
	(c) Name	See attached sheet for	 (P.O. Box 54589	
	Address	additional surface owners			Oklahoma City, OK 73118	_
		ř.				
				Name	HKCWVA LLC	
				Address	2726 Bissonnett Street	_
3)	Inspector	Ralph Triplett			Suite 240	_
	Address	5539 McClellan Highway			Houston, TX 77005	_
		Branchland, WV 25506			e with Declaration	
				(c) Name	None	
	Telephone	304-389-0350		Address		_
-		A STATE OF THE STA				=
ro	THE PERSO	ONS NAMED ABOVE: You sh	nould have receive	ed this Form and	the following documents:	
	(1) The applica	ation to Plug and Abandon a Well on	Form WW-4B, which	sets out the parties in	volved in the work and	
	ASC 51 (F)	the well its and the plugging work order		ooto oot itto partioon		
		urveyor's map) showing the well local				
	The second training the	10 - 10 Pa ♥ 10 1 Mai + 10 1 Me € - 10 1 Ta 10 1 Me € 10 1 Mai - 10 1 Me €				
	The reason you	u received these documents is that yo	ou have rights regardir	ng the application whi	ch are summarized in the	
	instructions on	the reverses side. However, you are	not required to take a	any action at all.		
	Take notice tha	at under Chapter 22-6 of the West Vir	oinia Code, the under	signed well operator i	proposes to file or has filed the	
		dication and accompanying documen				
	TOTAL STREET,	Vest Virginia Department of Environm	AND CONTRACTOR STREET - 180			
	CARTINIDADESCRIPE SECURIORS	cation and depicted on the attached F		CONTRACTOR DATE OF COLOR DISCUSSION		
		stered or certified mail or delivered by				
	, ,	on or before the day of mailing or de	on the set Seen the	manied above (or by	publication in certain	
_	circumstances	of or before the day of mailing of de	mivery to the Chief.			_
	1	Official Seal Notary Public	Well Operator:	Chesapeake Appal	4	
	S SELECTION	State of West Virginia	Ву:	K.S. Retiral	76	_
	(自然是)	Phyllis A. Copley 3	Its:	Completion Superir	nlendent	
	1	146 Willard Circle Hurricane, WV 25528 2	Address:	P.O. Box 18496		_
	1	My Commission Explise September 16, 2018		Oklahoma City, OK	73154-0496	_
	Language	*******	Telephone:	405-935-4073		

the year of

September 16, 2018

2015 Notary Public

API: 47-043-00122 Well Number: 804370

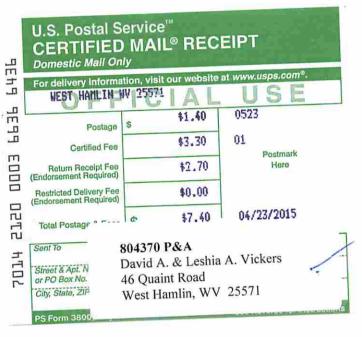
SURFACE OWNERS

The Calvert Company 5609 N Classen Blvd Ste 100 P.O. Box 54589 Oklahoma City, OK 73118

David A. & Leshia A. Vickers 46 Quaint Road West Hamlin, WV 25571 Well 804370 API 4300122P









CK5264516

Office of Oil and Gas

APR 2 4 2015

MNI Department of Environment antel Protection

Form WW-9 Rev. 02/01

API Number	47-043-00122		
Operator's Well No.	804370 P&A		

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 Chesapeake Appalachia, L.L.C. OP Code494477557_
Watershed Laurel Creek of Mud River Quadrangle Branchland, WV 7.5'
Elevation 782' County Lincoln District Carroll
Description of anticipated Pit Waste: Plugging Returns/Cement
Will a synthetic liner be used in the pit? Yes 20 ML.
Proposed Disposal Method For Treated Pit Wastes: X
Proposed Work For Which Pit Will Be Used: Drilling Workover Swabbing X Plugging Other (Explain)
I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on December 31, 1999, 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
Company Official (Typed Name) Robert E. Schindler
Company Official Title Completions Superintendent
Subscribed and sworn before me this 22nd day of April , 2015 . Puffs a. Caply Notary Public.
My Commission Expires September 16, 2018 Official Seal Notary Public State of Wast Virginia Phyllis ARECEIVED 144 William State of Wast Virginia Hurricago, Wy 2528 APR 2 4 2015 O6/26/2015

Attachment #1

API#: 47-043-00122 Operator's Well No. 804370 P&A

	EGEND	
Property Boundary	Diversion Leaves Line Line Line Line Line Line Line Line	
Road = = = = = = = = = =	Spring -	
Existing Fence — X — X — X —	Wet Spot	
Planned Fence / / /	Drain Pipe with size in inches (3	
Stream Change Town of the Stream	Waterway C+ C+C+C+	
Open Ditch	Cross Drain ////////////////////////////////////	
Rock FEEEE	Artificial Filter Strip XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	
North N	Pit: cut walls	
Buildings	Pit: compacted fill walls	
Water wells	Area for Land Application of Pit Waste	
Drill site		
Proposed Revegetation Treatment: Acres Disturbed	1.0 Prevegetation pH 6.1	
Lime3	Tons/acre or to correct to pH6.5	
Fertilizer (10-20-20 or equivalent) 1/3 TON	Lus/acre (500 lbs minimum)	
Mulch Hay 2	_Tons/acre	
Se	eed Mixtures	
Area I	Area II	
~ .=		
Seed Type Ibs/acre	Seed Type	Ibs/acre
CHESAPEAKE CONTRACTOR'S MIX 40	ORCHARD GRASS	15
	• • • • • • • • • • • • • • • • • • • •	
CHESAPEAKE CONTRACTOR'S MIX 40 ALSIKE CLOVER 5 ANNUAL RYE 15	ORCHARD GRASS	15
CHESAPEAKE CONTRACTOR'S MIX 40 ALSIKE CLOVER 5 ANNUAL RYE 15 Attach:	ORCHARD GRASS ALSIKE CLOVER	15
CHESAPEAKE CONTRACTOR'S MIX 40 ALSIKE CLOVER 5 ANNUAL RYE 15	ORCHARD GRASS ALSIKE CLOVER	15
CHESAPEAKE CONTRACTOR'S MIX 40 ALSIKE CLOVER 5 ANNUAL RYE 15 Attach:	ORCHARD GRASS ALSIKE CLOVER land application.	15
CHESAPEAKE CONTRACTOR'S MIX ALSIKE CLOVER 5 ANNUAL RYE 5 Attach: Drawing(s) of road, location, pit and proposed area for Photocopied section of involved 7.5' topographic sheet	ORCHARD GRASS ALSIKE CLOVER land application.	15
ALSIKE CLOVER 5 ANNUAL RYE 15 Attach: Drawing(s) of road, location, pit and proposed area for Photocopied section of involved 7.5' topographic sheet	ORCHARD GRASS ALSIKE CLOVER land application.	15
CHESAPEAKE CONTRACTOR'S MIX ALSIKE CLOVER 5 ANNUAL RYE 5 Attach: Drawing(s) of road, location, pit and proposed area for Photocopied section of involved 7.5' topographic sheet	ORCHARD GRASS ALSIKE CLOVER land application.	15

RECEIVED
Office of Oil and Gas
06/26/2015 MAY 0 6 2015

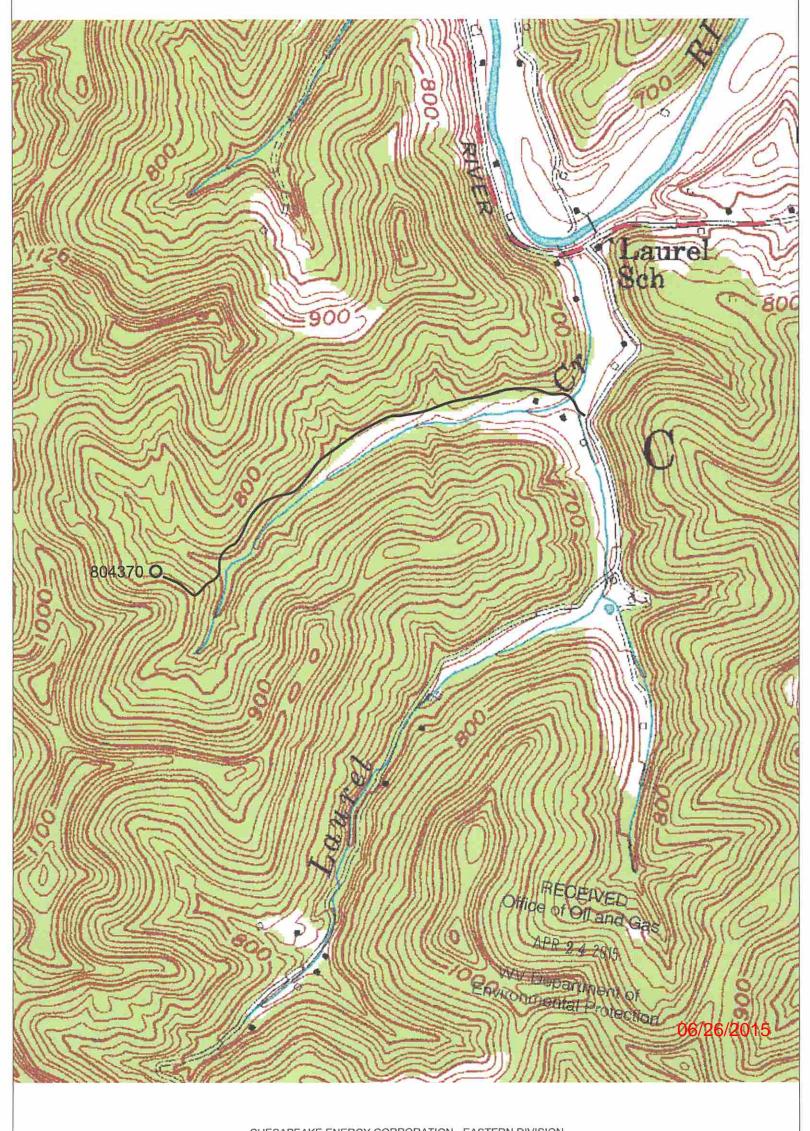
WV Department of Environmental Protection

43001221

CHESAPEAKE APPALACHIA, L.L.C.

TOPOGRAPHICAL MAP OF ACCESS AND WELL LOCATION 804370

API 47-043-00122

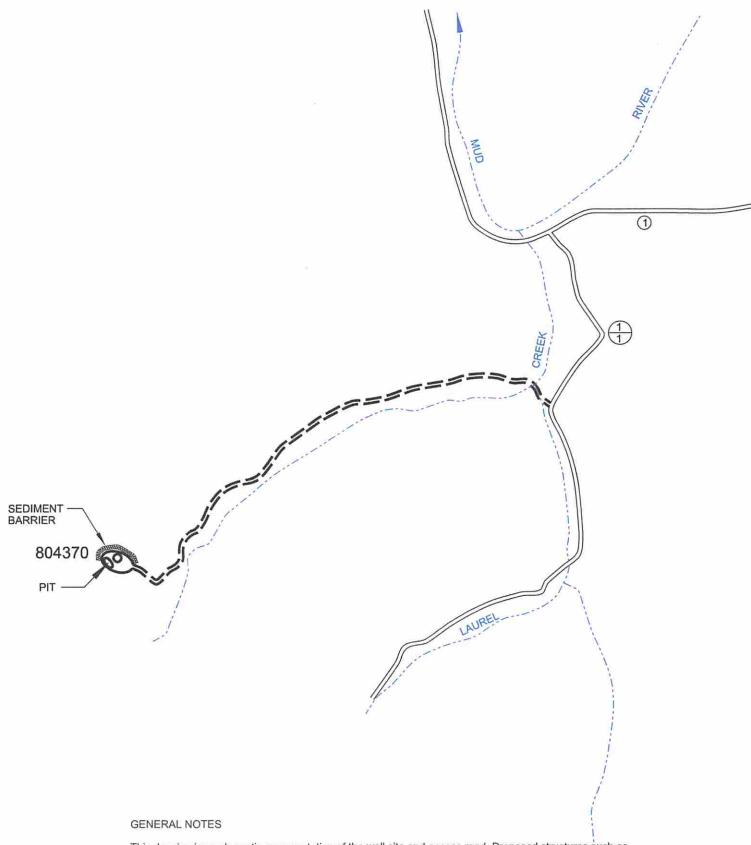


CHESAPEAKE ENERGY CORPORATION - EASTERN DIVISION P.O. BOX 579 - 8165 COURT AVENUE - HAMLIN, WV 25523 304 824-5141 - FAX 304 824-2247

CHESAPEAKE APPALACHIA, L.L.C.

RECLAMATION DIAGRAM WELL LOCATION 804370

API 47-043-00122



This drawing is a schematic representation of the well site and access road. Proposed structures such as well site, drilling pit, roadways, culverts, sediment barriers, etc. are show in approximate pre-planning configurations.

All culvert pipes will be a minimum of 15 inches in diameter. all culvert pipes installed will be accomanied by an entrance sump with dimensions no less than 3 feet (width) x 3 feet (length) x 4 feet (deep). Culverts will be installed at an angle to ensure proper flow. The out fall of culverts will be protected from erosion and sedimentation using large roacks of other sediment controls deemed necessary in the prevention of erosion and sedimentation. Storm water from the ditches to the culverts rotted will be directed to stable natural vegetative areas. Where culverts are not practical, operator will have other sediment control in place to minimize erosion sedimentation.

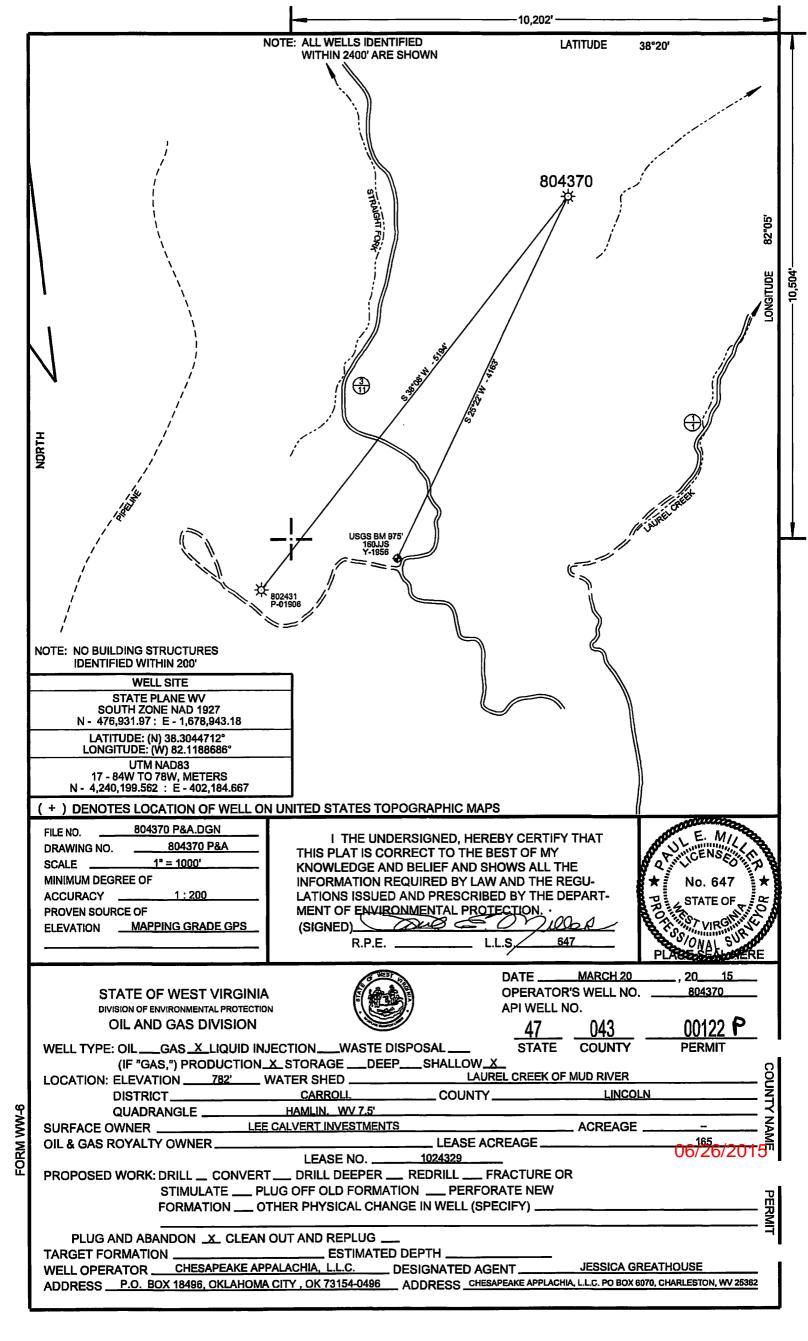
Cross drains, broad based dips, water bars, and diversion ditches, will be employed during the construction phase. These erosion and sediment control structures will be used to control erosion and sedimentation during the contruction phase, where applicable, and in areas that will allow. These structures will be considered permanent and used as such.

06/26/2015

Permanent seeding: See Attachment #1.

RECEIVED
Office of Oil and Gas

APR 2 4 2015



Operator: CHESAPEAKE APPALACHIA, L.L.C.

API: 4300122

WELL No: 4370

Reviewed by: 9 Date: 6/22/15

15 Day End of Comment: 04/29/15

CHECKLIST FOR FILING A PERMIT

	Plugging	CK# 5764576
WW-4B		\$ 10000
Inspector signature on WW-4B		
Completion / Well Records of Previous W	/ork	
WW-4A (Notarized)		
Certified Mail Receipts, Waivers, or Affic	lavits of Personal Serv	ice
Surface Owner Waiver		
Coal Owner / Lessee /Operator Waiver		
WW-9 (Page 1) (Notarized)		
Inspector Signature on WW-9 (Optional)		
Topographic Map of location of well		
WW-7		
OR		
Mylar Plat (Surface owner on plat matche	es WW-4A)	
Bond		
Company is Registered with the SOS		
✓ Worker's Compensation / Unemployment	Insurance account is 0	OK
\$100.00 check (\$0.00 if no pit)		