

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

April 15, 2014

WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-4302959, 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: 823206

Farm Name: LAMBROS, IRALANE McCOY

API Well Number: 47-4302959

Permit Type: Plugging
Date Issued: 04/15/2014

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.

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

1) Date:	4/2/2014
2) Operator's Well No.	823206 P&A
3) API Well No.	47-043-02959

					WEST VIRG				
			DEPARTM	ENT OF ENV			ECTION		
				OFFICE O	FOIL AND G	SAS			
-	water or			N FOR A PER					
4)	Well Type:	Oil	Gas	_ X	Liquid injecti		Was	ste disposal	-
	(Is Gas, Pro	duction X or	Underground	storage	_) [)еер	-	Shallow	/_X_
5)	Location:	Elevation	1,078	Watershed		Dlum	Branch of To	onmile Cree	, L
-/	Logalion.		aurel Hill	County	Lincoln		adrangle		r, WV 7.5'
			c5		43			itange	
6)	Well Operator		Appalachia	, L.L.C.	7) Designat	ed Agent	Eric B. Gill	lespie	568
	Address	P.O. Box 18			Address		P.O. Box 6		
		Oklahoma C	ity, OK 731:	54-0496			Charleston	1, WV 2536	2
0)	0:1 0 1		er a		6) 60				
8)	Oil and Gas Ins Name Ralp	pector to be no h Triplett	otinea		Plugging Name		ake Appalac	bio I I C	
		McClellan Hig	hway		Address			illa, L.L.C.	
		chland, WV 2			71001000		a City, OK 7	73154-0496	
						25 91131152			_
				See Attached S					
Noti	fication must be	given to the dis	strict oil and g	gas inspector 2	4 hours before	e permitted	work can cor	nmence.	
Wor	rk Order approve	d by Inspector	Ross	es The	ni Al		r	nate On	410 9 2014

04/18/2014

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47-043-02959

823206 P&A PROCEDURE

- 1) Prepare road and location, MIRU service rig
- 2) Either:
 - A) Set CIBP at 2920', place 100' cement plug 2920'-2820', load hole with gel or
 - B) Run W.S. to 3000', load hole with gel, pull W.S. to 2900', spot 100' cement plug 2900'-2800'
- 3) Pull or run W.S. to 2475', spot 125' cement plug 2475'-2350', pull W.S.
- 4) Cut 4 ½" at free-point (approximately 2050') and pull
- 5) Run W.S. to 2050', load hole with gel
- 6) Spot 100' cement plug 2050'-1950', pull W.S. to 1900'
- 7) Spot 100' cement plug 1900'-1800', pull W.S. to 1725'
- 8) Spot 100' cement plug 1725'-1625', pull W.S. to 1200'
- 9) Spot 100' cement plug 1200'-1100', pull W.S. to 950'
- 10) Spot 100' cement plug 950'-850', pull W.S. to 300
- 11) Spot 130' cement plug 300'-170', pull W.S. to 150'
- 12) Spot 150' cement plug 150' surface
- 13) Pull W.S. and top off with cement
- 14) Erect monument and reclaim as prescribed by law

POT

2014/18/2014

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WV Department of wironmental Protection



03-Jul-97 API # 47- 43-02959

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

Well Operator's Report of Well Work

Farm name: LAMBROS, IRALANE McCOY Operator Well No.: 23206

LOCATION: Elevation: 1,085.63 Quadrangle: RANGER

District: LAUREL HILL County: LINCOLN
Latitude: 7350 Feet South of 38 Deg. 7 Min. 30 Sec.
Longitude 5600 Feet West of 82 Deg. 12 Min. 30 Sec

Company: COLUMBIA NATURAL RESOURCE P. O. BOX 6070 CHARLESTON, WV 25362-0000 Agent: W. A. WATSON, JR.	Casing & Tubing	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
Inspector: DAVE BELCHER Permit Issued: 07/07/97 Well work Commenced: 9/2/97	Size 9 5/8"	353	353	177
Well work Completed: 10/5/97 Verbal Plugging Permission granted on:	7"	1674	1674	352
Rotary X Cable Rig Total Depth (feet) 3657 Fresh water depths (ft) 264	-41"		3612	173
Salt water depths (ft)	L5555533	in market		
Is coal being mined in area (Y/N)?N Coal Depths (ft): 198-201 264-265				
sin mi or •lo cont.				

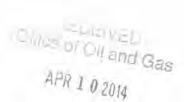
OPEN FLOW DATA

Producing formation	DEVONIAN SHALE	Pay zone depth	(ft) 2	646'-35321
Gas: Initial open flow	MCF/d Oil:	Initial open flow	_	Bb1/d
Final open flow	133 MCF/d	Final open flow		Bb1/d
Time of open flow	between initial	and final tests	72	
Static rock Pressure_	210 psig (surf	ace pressure) after	72	Hours
Second producing forma	ion	Pay zone depth	(ft)	
Gas: Initial open flow	MCF/d Oil:	Initial open flow	-	Bb1/d
Final open flow	MCF/d	Final open flow		Bb1/d
Time of open flow				Hours
Static rock Pressure_	psig (surf	ace 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 WELLBORE.

: 0	COLUMBIA NATURAL RESOURCES, INC.	
-	But M A Most	
T	Date: 1/1/1000	

04/18/2014



	WELL#_	23.206		-7
August 2000 Control				
PERFORATIONS:				
Stage I, Perforations:	47 holes from	2646' to	35321	_
Stage 2, Perforations:	holes from _	to		_
Stage 3, Perforations:	holes from _	to		
Stage 4, Perforations:	holes from _	to		
FRACTURING:				
1	STAGE: DEVONTA	N SHALE		
Perforations from	2646' - 3532' , A	cid	กล	HCL,
i choladona nom	OII DOL AUG Date	46,930	SCFM	
Breakdown @ 1	541 PSI, AVg. Rate			
Breakdown @ 1 ATP 2393 PSI, 7	Fol, Avg. Rate Fotal H ₂ 0 Bbl 0 Scf. I.S.I.P1	l., Total sand 900 psi	15 min.	# _610 psi
Breakdown @ 1 ATP 2393 PSI, 7 Total N ₂ 1, 411, 20 Perforations from Breakdown @ ATP PSI, 7	Fol, Avg. Rate Total H ₂ 0 Bbl Scf. I.S.I.P. 1 RND STAGE: PSI, Avg. Rate Total H ₂ 0 Bbl Scf. I.S.I.P.	acid	_gal BPM,	HCL,
Breakdown @ 1 ATP 2393 PSI, 7 Total N ₂ 1, 411, 20 Perforations from Breakdown @ ATP PSI, 7 Total N ₂	ND STAGE: PSI, Avg. Rate Total H ₂ 0 Bb	ocid	_ gal BPM, d 15 min.	HCL,
Breakdown @ 1 ATP 2393 PSI, Total N ₂ 1, 411, 20 Perforations from Breakdown @ ATP PSI, Total N ₂ 3	OScr. I,S.I.PT 2ND STAGE:, A PSI, Avg. Rate Total H ₂ O BbiScf. I.S.I.P	ocid	_ gal BPM, d 15 min.	HCL, #
Breakdown @ 1 ATP 2393 PSI, 7 Total N ₂ 1, 411, 20 Perforations from Breakdown @ ATP PSI, 7 Total N ₂ Perforations from Breakdown @ O	PSI, Avg. Rate Sch. I.S.I.P	acid	gal BPM, J 15 min.	HCL, #
Breakdown @ _1 ATP _2393 _PSI, Total N ₂ _1, 411, 20 Perforations from Breakdown @ _ATPPSI, Total N ₂ Perforations from Breakdown @ ATPPSI, Total N ₂	OScr. I,S.I.PT 2ND STAGE:, A PSI, Avg. Rate Total H ₂ O BbiScf. I.S.I.P	Acid	galgal BPM, d 15 min.	HCL, # HCL,
Breakdown @ 1 ATP 2393 PSI, Total N ₂ 1, 411, 20 Perforations from Breakdown @ ATP PSI, Total N ₂ Perforations from Breakdown @ ATP PSI, Total N ₂	O Scr. I,S.I.P. 7 2ND STAGE:, A	Acid	galgal BPM, d 15 min.	HCL, # HCL,
Breakdown @ _1 ATP _2393 _PSI, Total N ₂ _1, 411, 20 Perforations from Breakdown @ _ATP PSI, Total N ₂ Perforations from Breakdown @ _ATP PSI, Total N ₂ ATP PSI, Total N ₂	PSI, Avg. Rate Scf. I.S.I.P. PSI, Avg. Rate Total H ₂ 0 Bbi Scf. I.S.I.P. PSI, Avg. Rate RD STAGE: PSI, Avg. Rate Scf. I.S.I.P. PSI, Avg. Rate	Acid	galgal BPM, d 15 min gal BPM, d 15 min.	HCL, # HCL, #
Breakdown @ _1 ATP _2393 _PSI, Total N ₂ _1, 411, 20 Perforations from Breakdown @ _ATP PSI, Total N ₂ Perforations from Breakdown @ _ATP PSI, Total N ₂ Perforations from Breakdown @ _ATP PSI, Total N ₂	PSI, Avg. Rate Scf. I.S.I.P. PSI, Avg. Rate Scf. I.S.I.P. PSI, Avg. Rate Scf. I.S.I.P. BRD STAGE: PSI, Avg. Rate BBI Scf. I.S.I.P. BBI Scf. I.S.I.P.	cid	gal BPM, d 15 min. gal BPM, d 15 min.	HCL,#HCL,#

04/18/2014

Environmen,

Well Completion Data

CNR Woll #: 23206

Permit #: 47-043-02946

County: Wayne
Oistrict; Stonewall
Prospect: Harts Creck
Field: Harts Creck Central

	Top	Base
Sand/Shale	0:	935
Salt Sand	935	1190
Maxon Sand	1190	1620
Little Lime	1620	1695
Greenbrier Limestone	1695	- 1825
McCrady	1825	- 1895
Pia Inlin	1895	2000
Pocono Shale	2000	- 2435
Boron Sand	2435	- 2505
Upper Devonian	2505	- 3245
Lower Huron Shale	3245	3540
Olentangey Shale		•
Rhinastruet Shale		

Show Gas 1 3395
Show Gas 2 3305
Show Gas 3; 2440
Show Gas 4
Show Oil 1
Show Oll 2
Show Oil 3
Show Water 1895

Intermediate Csg 1673	
Logger TD 3657	
Formation & TD Lower Huron	—-

Logging Strife: GR, LDT, CNL, DI, T, A TD to intermediate casing point, GR to surface. Memory PL as neede Logging Date: 9/17/97

Monday, Docember 08, 1997

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04/18/2014

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Office of Oil and Gas

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WV Department of
ranmental Protection

WW4-A Revised 2/01 1) Date: 4/2/2014 2) Operator's Well No. 823206 P&A 3) API Well No. 47-043-02959

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

4)	Surface Ow	ner(s) to be served:		Coal Operato	or	/
	(a) Name	Iralane McCoy Lambros	V	(a) Name	New Eagle Mining Corp.	1/
	Address	38 Rolling Hills Drive		Address	P.O. Box 1048	
		Lavalette, WV 25535			Holden, WV 25625	
	No. James			Coal Owner(s) with Declaration	7
	(b) Name			(b) Name	Pocahontas Land Corporation	V
	Address			Address	800 Princeton Avenue	
					Bluefield, WV 24701	
	(c) Name			Name		
	Address			Address		
				Coal Lesse	e with Declaration	_
6)	Inspector	Ralph Triplett		(c) Name	Rockspring Development, Inc.	1/
	Address	5539 McClellan Highway		Address	P.O. Box 390	
		Branchland, WV 25506			East Lynn, WV 25512	
	Telephone	304-389-0350				

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 the 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 the 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.

S Black A	Phyllis A. Copley
1.20	144 Willard Circle Hurricane, WV 2562
1	My Commission Expires
1	September 18, 2018

mmmmmmm

Well Operator:

By:

Its:

Manager - Operations, Appalachia South

Address:

P.O. Box 18496

Oklahoma City, OK 73154-0496

Telephone:

Oklahoma City Ok 73154-0496

Subscribed and sworn before me this	3rd	day of	April	the year of	2014
	Phil	lin a.	Copley		Notary Public
My Commission Expires		Septembe	er 16, 2018		

04/18/2014



47043029598 APT 47-043-02959 HECEIMED Office of Oil and Gas 1 0 2014 · Cobartmant of Envirunmental Protection 04/18/2014

U.S. Postal Service™ CERTIFIED MAIL. RECEIPT (Domestic Mail Only; No Insurance Coverage Provided) For delivery information visit our website at www.usps.com EAST LYNN MY 25512 U 6644 \$2.03 0523 Postage \$3.30 Certified Fee 01 0000 Return Receipt Fee (Endorsement Required) 12.70 Here Restricted Delivery Fee (Endorsement Required) \$0.00 346D \$8.03 04/09/2014 Sent To 7012 823206 P&A, 823208 P&A Rockspring Development, Inc. or PO Bo P.O. Box 390 City, Stat East Lynn, WV 25512 U.S. Postal Service 754 CERTIFIED MAIL, RECEIPT 2791 (Domestic Mail Only; No Insurance Coverage Provided) For delivery information visit ou HOLDEN HV 25625 6644 \$2.03 0523 Postage \$3.30 01 Certified Fee Return Receipt Fee (Endorsement Required) \$2.70 Restricted Delivery Fee (Endorsement Required) \$0.00 3460 \$8.03 04/09/2014 7012 823206 P&A, 823208 P&A Street, Apt. No or PO Box No. New Eagle Mining Corp. P.O. Box 1048 City, State, ZIF Holden, WV 25625 U.S. Postal Service 154 CERTIFIED MAIL. RECEIPT 근용고부 (Domestic Mail Only; No Insurance Coverage Provided) BLUEFIELD MY 24701 4499 \$2.03 0523 Postage Certified Fee \$3.30 01 0000 \$2.70 Here \$0.00 \$8.03 04/09/2014 7012 823206 P&A, 823208 P&A Pocahontas Land Corp. or PO Bo 800 Princeton Avenue City, State Bluefield, WV 24701 U.S. Postal Service 114 CERTIFIED MAIL RECEIPT 2838 Mail Only; No Insurance Coverage Provided) LAVALETTE WV 25535 6644 0523 \$1.40 Postage \$3.30 01 Certified Fee 0000 \$2.70 Restricted Delivery Fee Endorsement Required) \$0.00 3460 Total Postana & Feas \$ \$7.40 04/09/2014 Sent To 7012 823206 P&A Iralane Mccov Lambros or POB 38 Rolling Hills Drive City, Sta Lavalette, WV 25535

Form WW-9 Rev. 02/01

Page	of
API Number	47-043-02959
Operator's Well No.	823206 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 Code 494477557			
Watershed	Plum Branch	of Tenmile Cree	k	Quadrangle Range		er, WV 7.5'	
Elevation	1,078'	County	Lincoln	Dis	strict	Laurel Hill	
Description of antic	ipated Pit Waste:	Plugging Retu	ırns/Cement				
Will a synthetic line	r be used in the pit?	Yes		20 1	114.		
Proposed Disposal	X Land Ap Undergro Reuse (a	plication ound Injection (at API Number_ Disposal (Supply		ımberfor disposal locati)) on)		
Proposed Work For	Which Pit Will Be Drilling Workove Swabbin X Plugging Other (E	er g)		
issued on Decemb understand that the permit and/or other I certify under this application for for obtaining the in	inderstand and agree to ber 31, 1999, by the Office e provisions of the perm r applicable law or regul penalty of law that I have m and all attachments the formation, I believe that is for submitting false into	ce of Oil and Gas of it are enforceable be ation can lead to en e personally examinated and that, bas the information is to	the West Virginia y law. Violations forcement action. led and am familia led on my inquiry ue, accurate, and	Department of Environment of any term or condition with the information of those individuals in complete. I am awa	onmental Proof on of the ger	otection. I neral on esponsible	
Company Official (1	Typed Name)	David Gocke					
Company Official T	itle	Manager - Op	erations, App	alachia South			
Subscribed and swe	orn before me this	3rd day of	April	,201		otary Public.	
My Commission Ex	pires <u>Septer</u>	() mber 16, 2018		P. P.	Official Seal Note State of West V Figlis A. Willard Circle Hurris My Commission September 16	Arginia Copley Coprey Carro, WV 25528 Expires	

04/18/2014



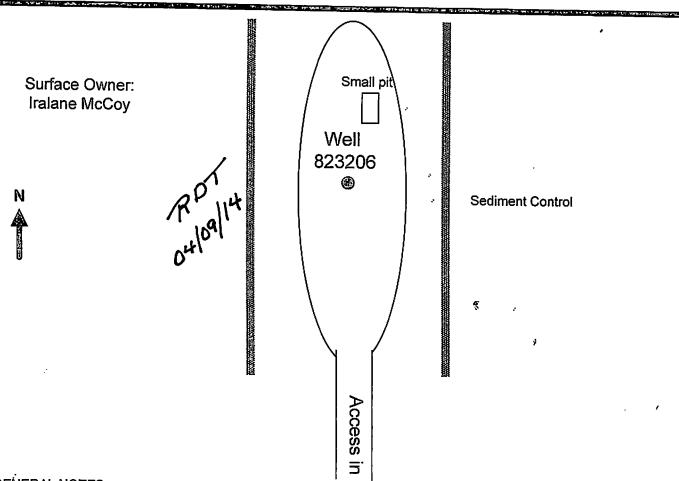
Attachment #1

API #: 47-043-02959 Operator's Well No. 823206 P&A

LEGEND					
Property Boundary		Diversion Control of the Control of			
Rond = = = = = = =	===	Spring			
Existing Fence — X — X —	- × —	Wet Spot			
Planned Fence//	/ —	Drain Pipe with size in inches (2)			
Stream Andreway Waterway Waterway					
Open Ditch		Cross Drain			
Rock ESSESSE		Artificial Filter Strip	XXXXXX		
North N	•	Pit: cut walls			
Buildings		Pit: compacted fill walls			
Water wells		Area for Land Application of Fit Waste			
Drill site					
Proposed Revegetation Treatmen	t: Acres Disturbed	1.0 Prevegetation pH 6.1			
	Lime 3	Tons/acre or to correct to pH 6.5			
T	· 1 ·) 4/0 TON				
rertilizer (10-20-20 or eq	uivalent) 1/3 ION	l lbs/acre (500 lbs minimum)			
Mulch Hay 2 Tons/acre					
	Mulch Hay 2	_Tons/acre			
		_Tons/acre			
Area I	Se	eed Mixtures Area II			
Seed Type	Se Ibs/acre	- eed Mixtures Area II Seed Type	lbs/acre		
Seed Type KY-31	Se Ibs/acre 40	eed Mixtures Area II Seed Type ORCHARD GRASS	15		
Seed Type	Se Ibs/acre	- eed Mixtures Area II Seed Type			
Seed Type KY-31 ALSIKE CLOVER	Se Ibs/acre 40 5	eed Mixtures Area II Seed Type ORCHARD GRASS	15		
Seed Type KY-31 ALSIKE CLOVER ANNUAL RYE Attach:	Se Ibs/acre 40 5 15	eed Mixtures Area II Seed Type ORCHARD GRASS ALSIKE CLOVER	15		
Seed Type KY-31 ALSIKE CLOVER ANNUAL RYE	Se Ibs/acre 40 5 15	eed Mixtures Area II Seed Type ORCHARD GRASS ALSIKE CLOVER	15		
Seed Type KY-31 ALSIKE CLOVER ANNUAL RYE Attach:	Ibs/acre 40 5 15	eed Mixtures Area II Seed Type ORCHARD GRASS ALSIKE CLOVER I land application.	15		
Seed Type KY-31 ALSIKE CLOVER ANNUAL RYE Attach: Drawing(s) of road, location, pit and Photocopied section of involved 7.5	Ibs/acre 40 5 15	eed Mixtures Area II Seed Type ORCHARD GRASS ALSIKE CLOVER I land application.	15		
Seed Type KY-31 ALSIKE CLOVER ANNUAL RYE Attach: Drawing(s) of road, location, pit and Photocopied section of involved 7.5	Ibs/acre 40 5 15	eed Mixtures Area II Seed Type ORCHARD GRASS ALSIKE CLOVER I land application.	15		
Seed Type KY-31 ALSIKE CLOVER ANNUAL RYE Attach: Drawing(s) of road, location, pit and Photocopied section of involved 7.5	Ibs/acre 40 5 15	eed Mixtures Area II Seed Type ORCHARD GRASS ALSIKE CLOVER I land application.	15		
Seed Type KY-31 ALSIKE CLOVER ANNUAL RYE Attach: Drawing(s) of road, location, pit and Photocopied section of involved 7.5	Ibs/acre 40 5 15	eed Mixtures Area II Seed Type ORCHARD GRASS ALSIKE CLOVER I land application.	15		

CHESAPEAKE APPALACHIA, L.L.C.4704302959P

Diagram of Well 823206
API 47-043-02959
Field Office - Branchland
County - Lincoln



GENERAL NOTES

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 shown in approximate pre-planning configurations.

All culvert pipes will be a minimum of 15 inches in diameter. All culvert pipes installed will be accompanied 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 rocks or other sediment controls deemed necessary in the prevention of erosion and sedimentation. Storm water from the ditches to the culverts will be directed to stable natural vegetative areas. Where culverts are not practical, operator will have other sediment control in place to minimize erosion and 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 construction phase, where applicable and areas that will allow. These structures will be considered permanent and used as such.

Permanent seeding: See Attachment #1

Site Plan

Prepared by: Kris Aldridge

Date: 4-9-2014

No Scale

04/18/2014

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Office of Oil and Gas

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WV Department of vironmental Protection

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.C₇ 0 4 3 0 2 9 5 9 P

823206 Location
API 47-043-02959
Field Office - Branchland
County -Lincoln

