

### 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

September 18, 2013

#### WELL WORK PLUGGING PERMIT

#### Plugging

This permit, API Well Number: 47-9900895, 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: (2-S-894) ARMILDA GILKERSON

Farm Name: UHL, DENNIS ,. ET AL

API Well Number: 47-9900895 Permit Type: Plugging

Date Issued: 09/18/2013

WW-4B Rev. 2/01

1) Date August 14 , 201	3
2)Operator's	
Well No. Armilda Gilkerson	
3) API Well No. 47-099 -008	395

# 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  (If "Gas, Production _X or Und	d injection/ Waste disposal/ derground storage) Deep/ Shallow X
5)	Location: Elevation 674.19'	Watershed Left Fork of Millers Fork
·	District Union	County Wayne Quadrangle Nestlow
٥,	Well Operator Cabot Oil & Gas Corporation	ann e e Rrian Hall
6)	Address Five Penn Center West, Ste. 401	7) Designated Agent Brian Hall Address 6804 Lick Creek Rd.
	Pittsburgh, PA 15276	Danville, WV 25053
	- Rabuigh, 174 10270	Dariville, VVV 23033
8)	Oil and Gas Inspector to be notified	9)Plugging Contractor
	Name Jeremy James	Name Viking Well Services
	Address P.O. Box 147	Address 8113 Sissonville Drive
	Ona, WV 25545	Sissonville, WV 25320
		Received
		AND 2.8 10 <sup>43</sup>
Noti work	fication must be given to the district oil can commence.	Office of Oil and Gas
	order approved by inspector	Date <u>\$8-21-13</u>
		09/20/2013

# A. Gilkerson #2 API # 47 – 099 - 00895 PLUGGING PROCEDURE

ELEV. 674'

**Current Configuration** 

TD @ 3201'

10-3/4" - drive pipe @ 27'

8-5/8" - 24# casing @ 298' on shoe

7" - 20# casing @ 1148' on shoe

5-1/2" - 14# casing @ 1254' on Hookwall packer

3-1/2" - 9.2# tubing @ 1425' on Hookwall packer

Fresh water @ 27' & 40'

Coal @ 265' - 270'

Salt water @ 1090'

Brown Shale shot @ 2000' - 3201'

Berea @ 1897' - 1909'

Injun with gas show @ 1293' -1317'

Big Lime with gas show @ 1108' - 1265'

Gas show @ 705'

### **PROCEDURE**

- 1. Contact Danville 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.
- MIRU service rig and blow down well. Have vacuum truck available to catch any fluids circulated from well.
- 6. Unpack wellhead.
- 7. Pull 3-1/2" tubing. If unable to pull, go to step 15.
- 8. TIH with 2 3/8" work string to TD. ≥ 2000 TO SHOT
- 9. MIRU Cement Company and pump 80 bbls 6% Gel.
- 10. Pull work string up to 1980' and pump 20 sks of Class A cement for plug 1 from 1980' to 1780'.
- 11. Displace w/ 7 bbls of 6% Gel.
- 12. TOOH with work string. Let cement plug set for a minimum of eight hours.
- 13. Go to step 22.
- 14. If 3-1/2" tubing could not be pulled run freepoint on tubing.
- 15. TIH with 1-1/2" work string to TD.
- 16. Pump 80 bbls 6% Gel.
- 17. Pull work string up to 1980' and pump 20 sks of Class A cement for plug 1 from 1980' to 1780'.
- 18. Displace with 4 bbls 6% Gel.
- 19. TOOH with work string. Let cement plug set for a minimum of eight hours.
- 20. Cut 3-1/2" tubing where free and POOH.
- 21. Attempt to pull 5-1/2" casing.
- 22. If unable to pull 5-1/2", run freepoint, cut above freepoint, and POOH.
- 23. Pull 7" casing.
- 24. TIH with work string to 1450'.
- 25. Pump 95 sks of Class A cement for plug 2 from 1450' to 1000'.
- 26. Displace with 4 bbls 6% Gel if using 2-3/8" work string, or 2 ½ bbls 6% Gel if using 1-1/2" work string.
- 27. TOOH with work string.
- 28. Pull 8-5/8" casing and 10-3/4" drive pipe.

Office of Oil and Gas
WV Dept. of Environmental Profession

NUG 28

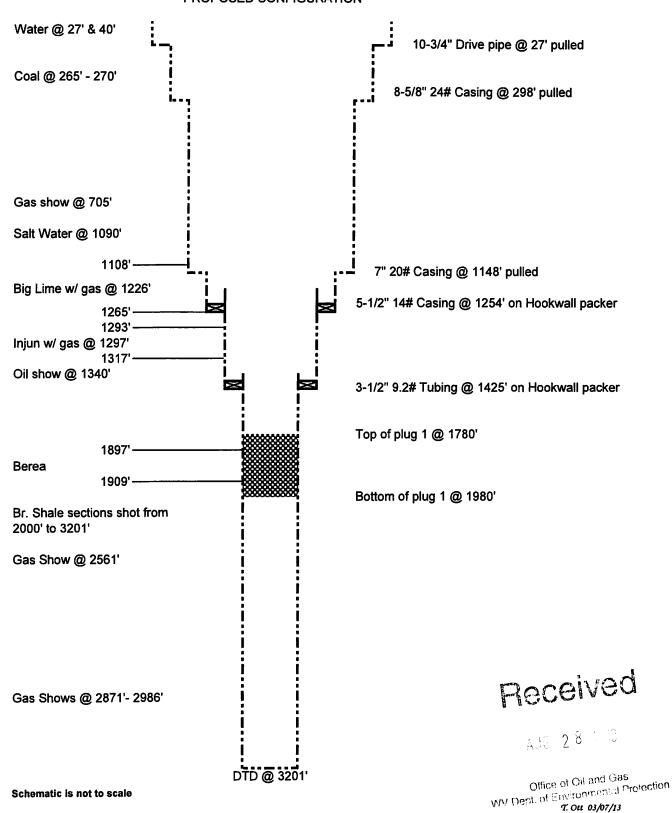
- 29. TIH with work string to 700' and pump 35 sks of Class A cement for plug 3 from 700' to 600'.
- 30. Displace w/ 2 bbls of 6% Gel.
- 31. Pull work string up to 300' and pump 145 sks of Class A cement for plug 4 to surface.32. TOOH with work string and lay down.
- 33. RDMO Cementing Company.
- 34. Place monument as required by law on top of well bore.

35. Reclaim well site.

Received

Office of Oil and Gas WV Dept. of Environmental Protection

# A. Gilkerson #2 API 47-099-00895 PROPOSED CONFIGURATION





# STATE OF WEST VIRGINIA

# DEPARTMENT OF MINES OIL AND GAS DIVISION 8

Quadrangle Wayne

**WELL RECORD** 

Permit No. W	Y- 895		A A good gree gree	11200112		Oil or Gas	Well · Gas
		OWENS GAS D		Casing and Tubing	Used in Drilling	Left in Well	Packers
•		•	1 li, W. Va.	. Aubing		~	· ·
			Acres 154	Size		-	•
Location (waters			- CTO OT	16		к	ind of Packer_"Oilwe
		1)		13		- H	cokwall
			layne	•			ize of 5 x 6-5/8"
The surface of t		fee by		10	29816¤	29816#	
					114816		epth set 1251-1255
Mineral rights a			kerson	· · · · · · · · · · · · · · · · · · ·	1):0918#		"Spang" H.W. 34x
		_Addresswaym 2=53.	a, W. Va.	8 -1/2"	127017#		Set @ 1/21
		B=51;		200 5±#			Throng 1425
			3201			l l	erf. top
With 7.300				34"		1425"5" P	erf. bottom
		in	Inch				
	_/10ths Merc.		Inch		ENTED	SIZENo	. FtDate
			50M_=197Cu Ft				•
· · · · · · · · · · · · · · · · · · ·		lbs	111 hrs.				<u> </u>
Oil			bbls., 1st 24 hrs.	COAL WAS E	NCOUNTERED	AT 265 FE	ET_60_INCHES
Fresh water 27	1, 401, 92	feet	-700 feet	FEE	rinch	ESFE	ETINCHES
Salt water	714	feet	feet	FEE'	rince	ESFE	ETINCHES
	1	Hard or			Oil, Gas	Depth	
Formation	Color	Soft	Тор	Bottom	or Water	Found	Remarks
Clay	Yellow	Soft	0	15			
Sand	Yellow	Soft	15	20			}
Sand	Black	Soft	20	25		C BPH	
Sand	Grey	Hard	25	140	Water at 2	7'. 1 BPH	<b>L</b> A
Slate	Black	Soft	40	142	Water at 4	d' 6 BPA	180
Sand	Grey	Hard	42	46		Toce,	*
Slate	White	Soft	46	71			. 200
Sand	Grey	Hard	71	. 77			6
Sand	White	Soft	77	92		AUG ,	
Slate	White	Soft	92	98		F	of Oil and Gas or finential Protection
Sand	White	Med.	98	114		sice.	of Pinfinental.
Sand Sand	White	Hard	114	126	•	1617	1810
Sand Broken S.	White	Med.	126	147		ALL 15 10	10000
Sand	Grey White	Soft Soft	147 190	190		( ) T	· (2)
Slate	White	Soft	223	223 238	•	FEB.	1954
Broken S.	Grey	Soft	238	265		FEB WEST	REINIA 2
Coal	Black	Soft	265	270		CO OCHARTAKAN	1954 REINIA
Slate	Dark	Soft	270	31.8		(CO UEPARTIREIN	
Sand	White	Soft	318	318 348		23458	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~
Slate	Dark	Soft	348	379		\$ 600	J. COEDO
Sand	White	Soft	379	390		- C. B.	المعتبط المالية
Slate	White	Soft	390	431			
Broken S.	Dark	Soft	431	475			
Sand	White	Soft	475	583			
Slate	Grey	Soft	583	642	Ran 8-5/8"	csg. on she	oe at 298'.
Gas Sand	White	Soft	642	707			
Salt Sand	White	Hard	707	800	Show of gas	705	1
Slate			800	805	Water 714	hole fill:	ing up.
Lime Shells	Grey	Hard	805	834			09/20/2013
Salt Sand	White	Hard	834	1020			5, 25, 45, 10
Slate	Light	Soft	1020	1027	•		
Red Rock	Red	Soft	1027	1030	•		
Slate .	Light	Soft	1030	1080		]	
Little Lime	1471677	HOTA	1080	1103		Ī	I
	Grey	Hard				1 ·	
Pencil Cave Big Lime	Light White	Soft Hard	1103	1108 1126	Water level	-1 30001	- 120'

(OVER)

Formation	Color	Hard or Soft	Тор	Bottom	Oil, Gas or Water	Depth Found	Remarks
Break	White	Soft	1126	1129		-	
Big Lime	White	Hard	1129	1265	Ran 7" csg.	on shoe at	11161
"Keener" S.	Grey	Hard	1265	1269			
				1	Gas 1226'	22/10 W-2"	147 M
					Test 1237	16/10 W-2" 12/10 W-2"	125 M 109 M
					Ran 35" tub	ing to 1269	on Combination
					Packer set	at 1175'-118	1 in order to
		1		ĺ	acidize wel	1.	
		]			Test before	tubing 10	
					Test after Pressure in		
	1				Acidized Bi	g Lime with	377 lbs.
•	İ				11/30/53	B ZZIZ WIGHT	TOOO BATE ON
					Lime would	not take aci	d
					Pulled tubi	ng and baile	d.
	1	·			Test after	bailing 41/1	O.M-19. 173 M
"Keener" Sand	Dark	Hard	1269	1293	resumed dri	lling 12/3/	>3
Big Injun	Grey	Hard	1293	1317	Test 1291	2/10 W-1 <del>2</del> "	127 M
Slate .	Dark	Soft	1317	1320	Gas 1297 to	1300 62/10	v-1∮" 139 M
Lime Shell	Dark	Hard	1320	1335		1	
Limey Sand Gritty Shell	White Dark	Hard Hard	1335	1340	Oil show on	tools 1340-	L349
Sand	White	Med.	1340 1350	1350 1375			
Shell	Black	Med.	1375	1380		į	
Shell	Grey	Hard	1380	1403	Test 1403	same .	139 M
T. G. 35	_				Test at 140	9 61/10 W-1	138 M
Lime Shell Sl. & Shells	Grey	Hard	1403	1430	Ran 52" cas	ing on shoe	t 14091
Sl. & Shells	Light White	Med. Soft	1430 1488	1488 1540			
Slate	White	Soft	1540	1584		i	
Slate	White	Med.	1584	1617			
Slate	White	Soft	1617	1627		;	•
Sl. & Shells	White	Med.	1627	1686			
Sl. & Shells Shells	White	Hard	1686	1706			
Sl. & Shells	White	Hard Med.	1706 1732	1732 1766		i	
Shell	Grey	Hard	1766	1841			
Slate	White	Soft	1841	1852			
Slate	Brown	Soft	1852	1880			
Slate	Grey	Soft	1880	1887			
Br. Shale Berea Sand	Brown Grey	Soft Hard	1887 1897	1897			
Shell	Dark	Hard	1909	1909 1918	:		
Lime Shell	Grey	Hard	1918	1928	:		1
Shell	Dark	Hard	<b>1</b> 928	1938		Receive	O
Sl. & Shells	White	Med.	1938	1953		30C81VI	
Slate Lime Shells	White White	Soft	1953	1960	1	400	
Sl. & Shells	Dark	Hard Med.	1960 1964	1964 2012		AUG 10	013
Shells	Dark	Hard	2012	2032		ANG ,	•
Slate	White -	Soft	2032	2063		Office of Oli	and Gas
Slate	Dark "	Soft	2063	2089		Office of United	mentar .
Slate	White	Soft	2089 *	2417	• ,	of Dept. of Env.	• • •
Br. Shale Shale	Brown Grey	Soft Soft	2417 2442	24442 2444		414.	• ••
Slate	White	Soft	2464	2494 -	.,	:	
Shale	Grey	Soft	2494	2535			<del>-</del>
Slate	White	Soft	2535	2555	Gas 2561 18	/10 W-1/8"	.5 M
Br. Shale	Brown	Soft	2555	2889			
	<b>,</b>				Test 2740 18		.5 M
White Shale	White	Soft	2889	2896		o 2861 <b>=</b>     10 W-1/8°	3 A 11011
Grey Shale	Grey	Soft	2896	2975		/10 W-1/8"	.3 M .4 M
Slate	White -	Soft	2975	3056		/10 W-1/4"	24-M
Shale	Grey	Soft	3056	3109	Gas 2940 13	/10 W-3/8" 🏳	<b>9</b> /20/2013
Br. Shale Corniferous	_Brown Dark	Soft	3109	3199		/10 W-3/8"	4.8 M
	Dat P	Hard	3199	3201	Gas 2986 20	/10 W-3/8"	4.9 M

099-895



# STATE OF WEST VIRGINIA

(Cont.)

# DEPARTMENT OF MINES OIL AND GAS DIVISION &A

Quadrangle		_	WELL, I	RECORD	) 	Oil or Gas W	ell Gas
Jozeph		OWENS GAS D	CPARTMENT	Casing and Tubing	Used in Drilling	Left in Well	Packers
Farm Arm Location (waters)	ilda Gilker	eson	Acres 15h	Size		Kin	d of Packer
District Un:	ion	_County	Wayne	18		Size	of
		Address		814		Der	th set
		Address Wayn	lkerson e, W. Va.	5 3/16		Por	f. top
Drilling commence	ed 10-22-	-53		8			1. bottom
Drilling complete	<u>d 1-18-</u>	-511		2			
Date Shot_1-19	2-51 Fron	_2000To	3201	Liners Used		Per	f. top
						Per	1. bottom
			Inch				
			Inch	CASING CEM	ented S	IZE No. E	rtDate
Volume Big Lin	ne, 147 M;	Br. Shale 5	OM_197M_Cu.Ft.				
Rock Pressure			111 hrs. _bbls., 1st 24 hrs.	COAL WAS E	NCOUNTERED .	ATFEE	TINCHES
			feet	<u></u>	rinch	es fee	TINCHES
Salt water			feet	FEE	TINCH	es poo	TINCHES
Formation	Color	Hard or Soft	Тор	Bottom	Oil, Gas or Water	Depth Found	Remarks
		Total De	pth	3201	Test 3109	19/10 W-3/8	1 4.8 M
						54 with 7,30 n 2000 to 32	0 lbs. of De-
			•		Before sho 15 min. A. 1 hour A. 2 hours " 12 hours 22 hours "	S. 623 M S. 198 M " 109 M 51 M	Same)
		,	·		pelled about water sour Pulled 52" feet to pr	ing off casi at 2 barrels ce is Big In csg. and re otect Big Li bing on hook et.	of water. jun Sand. ran at 1255
		,			Final Open	Flow:	
		ı			Big L Br. S	ime (5½x7) hale (3½)	147 MCF 50 MCF
-		·		,		Receil	ed
!						AUG 1	Il and Gas onmental Protection
	·					"" Lash.	

WW-4A Revised 6-07

1) Date:	August 14, 2013	
2) Operato	r's Well Number	
Armilda Gill	kerson #2	
Armilda Gill	kerson #2	

3) API Well No.: 47 -

9 - 00895

# STATE OF WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS NOTICE 0F APPLICATION TO PLUG AND ABANDON A WELL

(a) Name	ner(s) to be served: 5) Dennis M. Uhl	(a) Coal Operator Name N/A
Address	RR 2, Box 2337	Address
	Wayne, WV 25570 /	
(b) Name	Kathleen Longwith	(b) Coal Owner(s) with Declaration
Address	11 Sturbridge Drive	Name See Attached Sheet
	Sicklerville, NJ 08081	Address
(c) Name	Alexis Renee Uhl	Name
Address	RR 2, Box 2337	Address
	Wayne, WV 25570	
6) Inspector	Jeremy James	(c) Coal Lessee with Declaration
Address	P.O. Box 147	Name N/A
	Ona, WV 25545	Address
Telephone	(304) 951-2596	
TO THE PE	RSONS NAMED ABOVE: Y	ou should have received this Form and the following documents:
(1) The	application to Plug and Abandon a Well on its and the plugging work order; and	Form WW-4B, which sets out the parties involved in the work and describes the
	plat (surveyor's map) showing the well locat	ion on Form WW-6.
		ghts regarding the application which are summarized in the instructions on the reverses sid

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.

THE STRINGY VANTA	Well Operator By:	Cabot Oil & Gas Corporation  Kenneth L. Marcum
OMMONWEALTH OF PENNSYLVANIA Notarial Seal	Its:	Regulatory Supervisor
- Carden Notary Public	Address	Five Penn Center West, Suite 401
		Pittsburgh, PA 15276
My Commission Expires Nov. 16, 2013 ember, Pennsylvania Association of Notaries	Telephone	(412) 249-3850
ember, Pennsylvania Association		and and acceived

My Commission Expires November 16, 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.

WW-9	
(5/13)	

		Page	of
API Number 47 -	099	- 01872	
Operator's	Well	No Armilda	Gilkerson #2

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

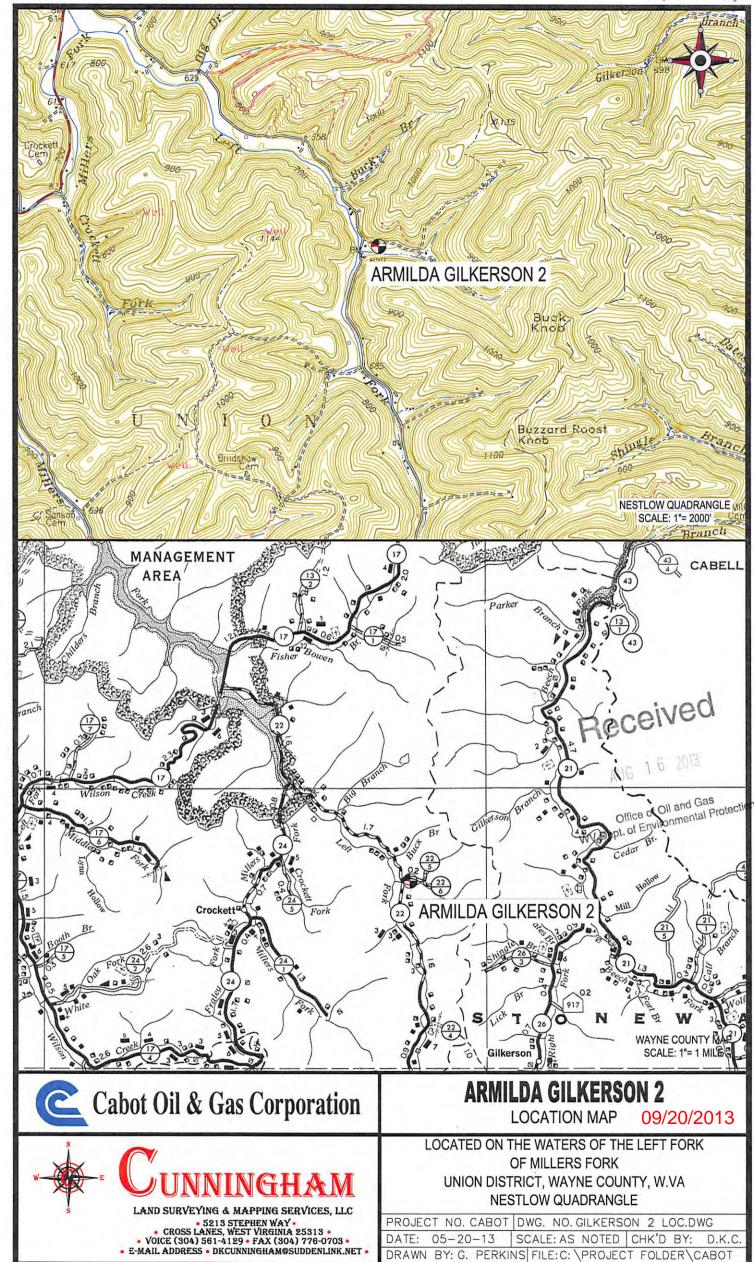
### FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

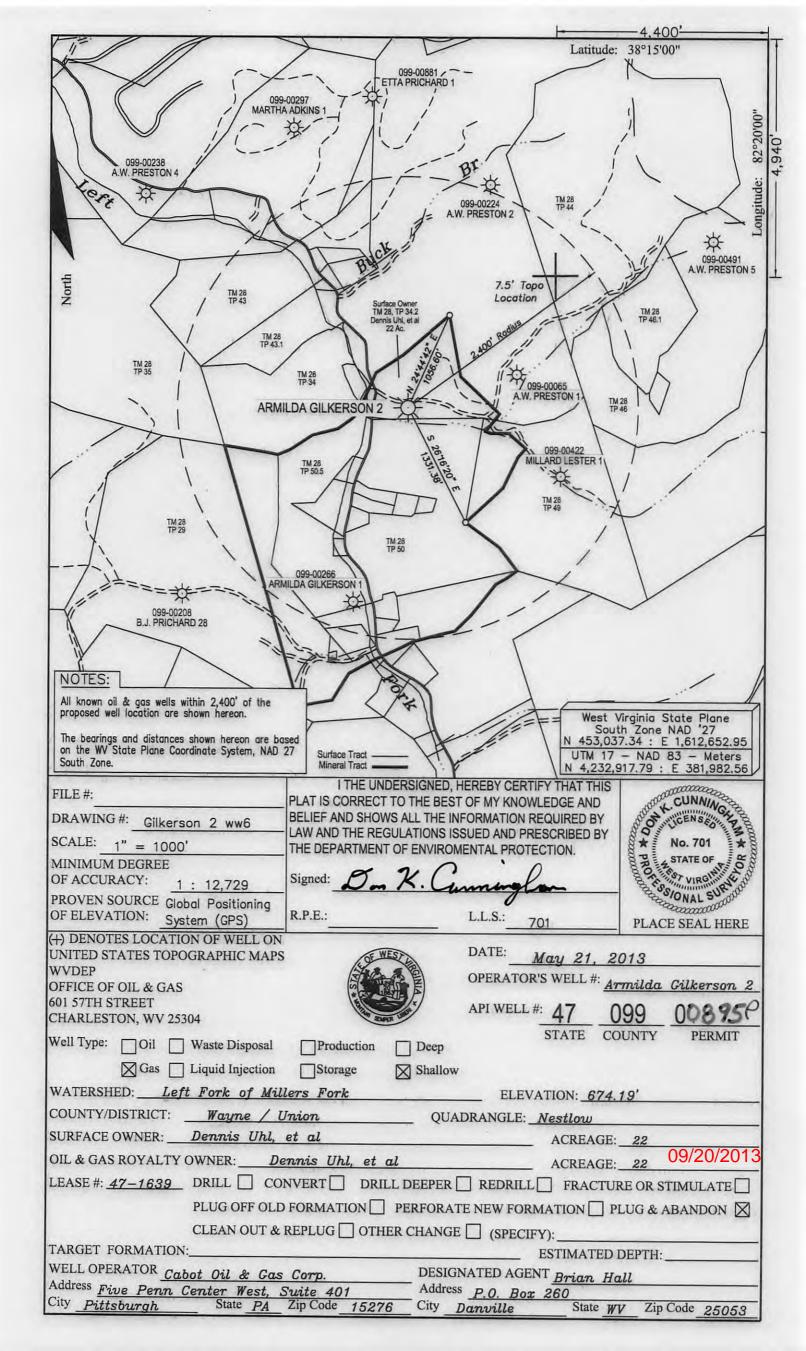
Operator Name Cabot O	I & Gas Corporation		OP Code	
Watershed (HUC 10) Leef	t Fork of Millers Fork	Quadrangle	Nestlow	
Elevation 674.19'	County Wayne		District_ Union	
Will a pit be used for drill c	re than 5,000 bbls of water to complet uttings? Yes No _X pe anticipated pit waste:	-		
	er be used in the pit? Yes			
Proposed Disposal	Method For Treated Pit Wastes: and Application	5	FFLUENT MUST N TANKS.	T BE CONTAINED
	Inderground Injection ( UIC Permit Neuse (at API Number			
C	off Site Disposal (Supply form WW-9 other (Explain No treated pit wast	9 for disposal lo		
Will closed loop system be	used? N/A			
Drilling medium anticipated	for this well? Air, freshwater, oil ba	sed, etc. no dr	illing proposed	
	ype? Synthetic, petroleum, etc			
Additives to be used in drill				
			ttings produced during plur	
	od? Leave in pit, landfill, removed of			
	an to solidify what medium will be us			
-Landfill or offsite	name/permit number?			
on August 1, 2005, by the Oprovisions of the permit are law or regulation can lead to I certify under perapplication form and all abbtaining the information,	alty of law that I have personally estachments thereto and that, based of believe that the information is true information, including the possibility	inia Departmen any term or con examined and a on my inquiry e, accurate, and	t of Environmental Protect dition of the general pern m familiar with the infor of those individuals im- l complete. I am aware	tion. I understand that the nit and/or other applicable rmation submitted on this mediately responsible for
Company Official (Typed N				AUG. 7.8: 2013
Company Official Title Re				THE P
	Λ			Office of Oil and Gas WV Dept. of Environmental Pro
Subscribed and sworn before	e me this / A th day of	ugust		
( long to so	ce C. Charlen	0	Notary Public	Notarial Seal
My commission expires 11/	16/2013		Co Mc	nstance C. Carden, Notaly Public Donald Boro, Washington County Commission Explose 162 0 200
			Membe	r, Pennsylvania Association of Nota

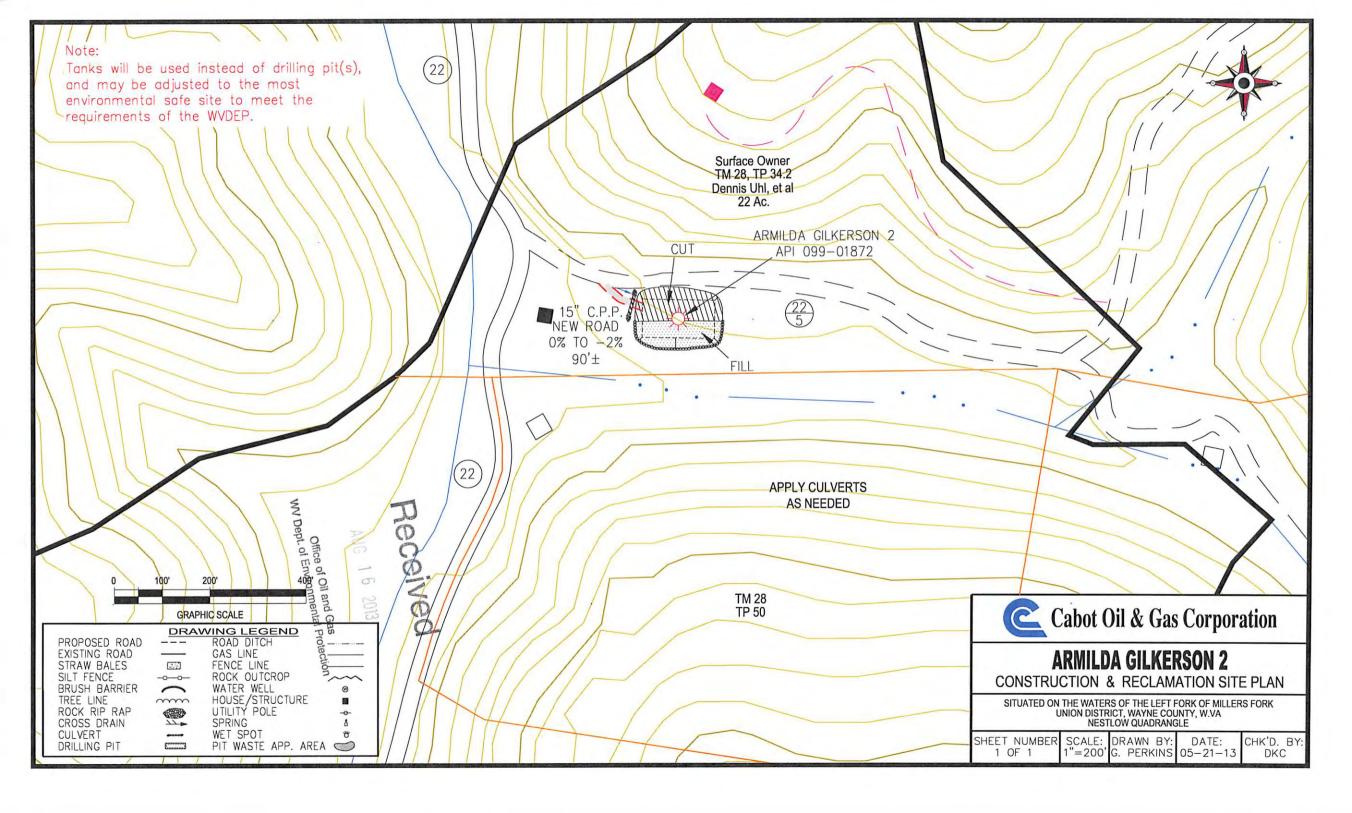
Form WW-9	Operator's Well No.
Proposed Revegetation Treatment: Acres Disturbed Lime 2 Tons/acre or to correct to pH	6.5
<u></u> 500	cre (500 lbs minimum)
Seed I	Mixtures
Area I Seed Type lbs/acre  Grain Rye - 100 Red Clover - 5 Fescue - 40	Area II Seed Type lbs/acre  Grain Rye - 100 Red Clover - 5 Fescue - 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 Trefoo
Photocopied section of involved 7.5' topographic sheet.  Plan Approved by:  Comments:   Moving in.	of nearly home 48hr before
Title: 1 nspector ODG	Date: 8-21-13

AUG 28 2019

Office of Oil and Gas
WV Dept. of Environmental Protection







### **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 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.

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.

ALL CULVERTS SHOWN ON THE ATTACHED DRAWINGS ARE TO BE CONSIDERED PERMANENT AND WILL REMAIN IN ALL CULVER'S 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 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

ACTIVITIES.

THE LOCATION OF DRILLING PIT(S) MAY BE ADJUSTED TO THE MOST ENVIRONMENTAL SAFE SITE TO MEET THE REQUIREMENTS OF THE WVDEP.

### 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	CING 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 FXISTING ROAD STRAW BALES 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 E SPRING WET SPOT PIT WASTE APP. AREA

#### DRIVING DIRECTIONS FOR ARMILDA GILKERSON

- FROM WAYNE, W.VA DRIVE NORTH ON STATE ROUTE 152 FOR 1.1 MILES± TO SECONDARY ROUTE 17.
- TURN RIGHT AND CONTINUE EAST ON SECONDARY ROUTE 17 FOR 4.1 MILES± TO SECONDARY ROUTE 22. 2.)
- 3.) TURN RIGHT AND CONTINUE SOUTH ON SECONDARY ROUTE 22 FOR 3.1 MILES± TO SECONDARY ROUTE 22/5.
- TURN LEFT AND CONTINUE EAST ON SECONDARY ROUTE 22/5 FOR 200 FEET± TO THE BEGINNING OF THE EXISTING ACCESS ROAD LOCATED ON THE RIGHT-HAND SIDE OF THE ROAD. 4.)
- 5.) FROM THE AFOREMENTIONED SITE, FOLLOW THE EXISTING ROAD FOR APPROXIMATELY 90 FEET+ WELL SITE IN THE FIELD AS SHOWN ON THE "CONSTRUCTION AND RECLAMATION PLAN" CONTRUCTION AND RECLAMATION PLAN "CONSTRUCTION AND RECLAMATION PLAN"

09/20/2013

1 0 2013

Office of Oil and Gas WV Dept. of Environmental Projection



ARMILDA GILKERSON

UNION DISTRICT, WAYNE COUNTY, W.VA NESTLOW 7.5' QUADRANGLE