

#### west virginia department of environmental protection

Office of Oil and Gas 601 57th Street, S.E. Charleston, WV 25304 (304) 926-0450 fax: (304) 926-0452 Earl Ray Tomblin , Governor Randy C. Huffman , Cabinet Secretary www.dep.wv.gov

Thursday, October 13, 2016 WELL WORK PERMIT Vertical / Plugging

CNX GAS COMPANY LLC POST OFFICE BOX 1248

JANE LEW, WV 263786506

Re:

Permit approval for 6277 47-047-01796-00-00

This well work permit 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 any additional specific 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.

Please be advised that form WR-35, Well Operators Report of Well Work is to be submitted to this office within 90 days of completion of permitted well work, as should form WR-34 Discharge Monitoring Report within 30 days of discharge of pits, if applicable. Failure to abide by all statutory and regulatory provisions governing all duties and operations hereunder may result in suspension or revocation of this permit and, in addition, may result in civil and/or criminal penalties being imposed upon the operators.

Per 35 CSR 4-5.2.g this permit will expire in two (2) years from the issue date unless permitted well work is commenced. If there are any questions, please feel free to contact me at (304) 926-0450.

James A. Martin

Chief

Operator's Well Number: 6277

Farm Name: MEGA MINERALS, INC. U.S. WELL NUMBER: 47-047-01796-00-00

Vertical / Plugging

Date Issued: 10/13/2016

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	47017	76P
1)Date			,	20	
2)Operator	's				
Well No.	6277			(494)	
3)API Well	No.	47-	047	- 01796	

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

	APPLICATION FOR A PERM	IIT TO PLUG AND ABANDON
4)	Well Type: Oil/ Gas _X/ Liquid	injection/ Waste disposal/
	(If "Gas, Production or Und	lerground storage) Deep/ Shallow_X
5)	Location: Elevation_2315 ft.	Watershed Leslie Branch of Tug Fork
	District Adkin	County_McDowell_ Quadrangle_Keystone
6)	Well Operator CNX Gas Company LLC	7) Designated Agent Anthony Kendziora
0 /	Address 627 Claypool Hill Mall Road	Address One Dominion Drive
	Cedar Bluff, VA 24609	Jane Lew, WV 26378
8)	Oil and Gas Inspector to be notified	
	Name Brian Ferguson B	Name Skyline Contracting, Inc.
	Address 708 Manor Drive	Address PO Box 663
	Beckley, WV 25801	Oakwood, VA 24631
	see attached plugging procedure	
		RECEIVED
		Office of Oir and Gae
Noti work	fication must be given to the district oi	l and gas inspector 24 hours before permitted
		WV Department of
Work	order approved by inspector Bunkl	Environmental Protection  Date 9/13/16
	BRIAN K FLOK	Super Contract of the Contract

### API 47-047-01796 Plugging Procedure

### Well # 6277

- 1. Move in rig up and verify TD (4800')
  - PBTP
- 2. Run tubing to established <del>TD</del> and set Class A 3% CaCl plug from established <del>TD</del> to approximately 300' above the top perforations (approx. 2300').
- 3. Pump 100' 6% gel plug from 2300' to 2200'.
- 4. Pump Class A 3% CaCl cement from 2200' to approx. 1800'. (Drilling records show 4-1/2" casing to be cemented in to 1800'.)
- 5. Cut 4-1/2" casing at 1800' and pump Class A cement to surface while pulling the casing. (Records show the 7" casing to be cemented to surface).
- 6. Install 4-1/2" X 4' steel monument with API# and Date.

SER ATTACHED DOCUMENT FOR PERMANENT MARKER CONSTRUCTION.

35 CSR 4

5,5 b.

RECEIVED
Office of Oil and Gas

SEP 2 9 2016

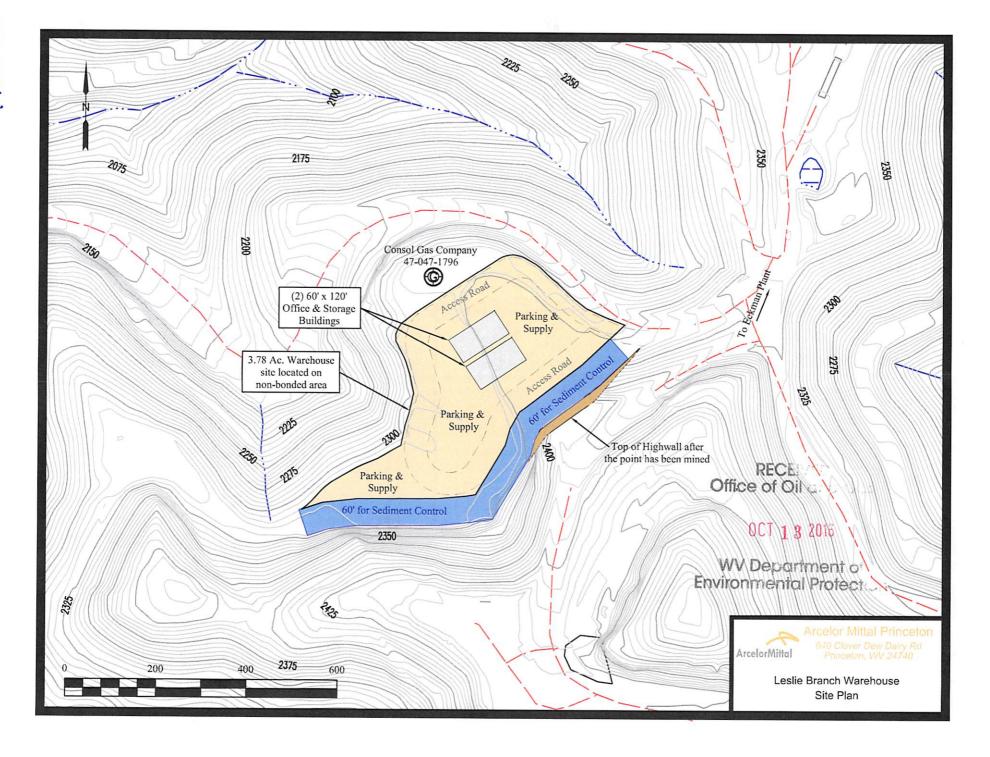
WV Department of Environmental Protection 10/14/2016 should contain the name, address and telephone number of the person filing the comment, the well operator's name and well number, and the approximate location of the proposed well site including district and county as indicated in the permit application. Comments may be accompanied by other pertinent documents in support of the comment. Other than as prescribed in this rule, no particular form for the comment is prescribed.

### 5.5. Identification Markings.

- 5.5.a. Every well shall have attached or stamped, in a permanent manner, the API identification number which consists of the state (47), county (001 through 109), and permit number. Such number shall be no less than one-half (1/2) inch in height and detectable by any interested person approaching the well. Any additional information the well operator may desire to display may be incorporated in the permanent identification plat or stamp in such a manner that it will not confuse or distort the permanent API identification number.
- 5.5.b. Except as provided below, upon the completion of the plugging and filling of any abandoned well, a permanent monument or marker consisting of a length of pipe (minimum diameter size six (6) inches) filled with concrete (or the equivalent thereof if approved by the Chief) shall be erected over the well; the marker shall extend no less than thirty (30) inches above the surface and not less than ten (10) feet below the surface and into the well, and shall be sealed with concrete for the purpose of making the marker permanent. The API well identification number which consists of the state (47), county (001 through 109), and permit number shall be attached or stamped in a permanent manner to said monument; and such numbering shall be no less than one half (1/2) inch in height and detectable by any interested person approaching the marker. The erection of the marker shall in no way interfere with the bleeder pipe from the well where such pipe is required, or the vent or other device installed pursuant to W. Va. Code § 22-6-24. Such manner shall be accurately described on Form WR-38, "Affidavit of Plugging and Filling Well" (see subsection 13.10 below) as to time and manner of plugging and filling the well, and shall be approved by the Chief as a satisfactory landmark that may be used as such in the location of adjacent wells. Two (2) permanent reference points with courses and distances from the abandoned well shall be designated and prescribed on the plat required by subdivision 5.2.d above in the form prescribed by section 9 below, accompanying Form WW-4, "Notice of Intention to Plug and Abandon a Well," if any change in the plat is necessary, accompanying Form IV-38, "Affidavit of Plugging and Filling Well" (see subsection 13.10 below).
- 5.6. Parties Responsible. All contractors and drillers, including all service companies carrying on business or doing work in oil and gas fields in West Virginia, as well as lease holders and operators generally, shall take notice of and are hereby directed to observe and apply the provisions of W. Va. Code § 22-6 and this rule; and all contractors, drillers, service companies and operators shall be held responsible for violations thereof.

#### 5.7. Evidence of Performance.

- 5.7.a. After the completion of the work authorized to be done by any permit required by W. Va. Code § 22-6-6, the permittee shall comply with filing requirements of W. Va. Code § 22-6-22 and section 12 of this rule.
- 5.7.b. In addition to the requirements of subdivision 5.7.a, following completion of plugging a well, the permittee shall also comply with the affidavit requirements of W. Va. Code § 22-6-23 and subsection 13.10 below.



WR-35

DATE:08/26/2003

Rev (5-01)

API#: 47 047 01796

## State of West Virginia Department of Environmental Protection Office of Oil and Gas

fret

Department of a Office	e of Oil and Ga			119	
Well Operator	r's Report of W	ell Work			
Farm name: Mega Minerals, Inc.	Opera	ator Well No.:_6	5277		
LOCATION: Elevation: 2315.27'	Qua	idrangle: <u>Key</u>	stone, WV 7.5		
District: Adkins		inty: <u>Mcl</u>	Dowell		
Latitude: 12,998 Feet South of 37 Deg. Longitude 4991 Feet West of 81 Deg. 27					
		• • •			
Company: <u>Dominion Exploration &amp; Production, In</u>	<u>c                                    </u>	Used in	Left in well	Cement fill	
	Tubing	drilling		up Cu. Ft.	
Address: PO Box 1248					
Jane Lew, WV 26378					
Agent: Rodney J. Biggs					
Inspector: Ronald Scott	ļ		,		
Date Permit Issued: 05/07/03					
Date Well Work Commenced: 07/24/03	12 3/4"	20'	20'	Sand In	
Date Well Work Completed: 08/07/03	0.5/0"	106	105	-	
Verbal Plugging: N/A	9 5/8"	135'	135'	75 sks	
Date Permission granted on: N/A	7"	928'	928'	180 sks	
Rotary X Cable Rig  Total Depth (feet): 4811'	<del>  ′</del>	920	928	100 SKS	
Fresh Water Depth (ft.): 85', 320'	4 1/2"	4805'	4805	1.60-21-01-01	
riesh water Depth (it.). 65, 520	7 /2	4003		Office of Oil & Gas	
Salt Water Depth (ft.): N/A	<del> </del>	<del></del>	निहिट्ट	T Parmilling	
Dait Water Deptir (tes): 1971	<del> </del>	<del> </del>	Office 1	Gas	
Is coal being mined in area (N/Y)? N			O. C.	SEP 0 5 2003	
Coal Depths (ft.):_95-97', 175-177', 230-233',			SEP 2	W Department of	
470-473 <sup>1</sup> , 535-538 <sup>1</sup>			5	WV Department of Vironmental Protection	
OPEN FLOW DATA	•	•	NAA / EN TO	Who have the Office of the Control o	
Berea			4706-4716	in enemi of	
Producing formation Weir		_Pay zone dept	h (ft) <u>4014-412</u>	aut Protection	
· • • • • • • • • • • • • • • • • • • •	•	en nowu	B01/q		
	Final open		Bbl/d		
Time of open flow between initial and		<del></del>	ours		
Static rock Pressure 430 psig (s	-	e) after <u>12</u>	Hours		
Big Lir			3510-351		
Second producing formation <u>Maxon</u> Pay zone depth (ft)2608-2618'  Gas: Initial open flow * MCF/d Oil: Initial open flow * Bbl/d					
Final open flow * MCF/d ]			Bbl/d		
Time of open flow between initial and					
Static rock Pressure * psig (surf	ace pressure)	arter	Hours		
* COMMINGLED NOTE: ON BACK OF THIS FORM PUT THE	FOI I OWING	· 1) DETAILS	OF PERFORAT	ED 10/14/2016	
INTERVALS, FRACTURING OR STIMULATI					
LOG WHICH IS A SYSTEMATIC DETAILED					
INCLUDING COAL ENCOUNTERED BY THE				-	
	an K	0			
Signed:	111 De laste	<u> </u>	ż		
By: Rodney J. Biggs		7/13-	.0		
Date:			NF		
	•	•	`		

### WELL DEPI 6277

08/07/2003 PLAN TO PERF AND FRAC TODAY WITH FISHER AND BJ.

4 STG FRAC . BEREA 4706' - 4716' (21 HOLES) - 70Q BREAKDOWN @ 20 BPM, BDP HYD, FLUID 26 BBL, 45,000 SCF N2, PUMPED 500 GAL 15% HCL FOR BD OF 2ND STG. WEIR (PRICE) 4114' - 4124' (22

HOLES) - 70Q FOAM FRAC - 25,100 LB 20/40 SAND, 113 BBL FLUID, 204,000 SCF N2, BDP HYD, ATP 1330#, AIR

20 BPM, PUMPED 500 GAL 28% HCL FOR BD ON 3RD STG. BIG LIME 3510' - 3516' (13 HOLES) - ACID FRAC W/

N2 ASSIST - 2000 GAL 28% HCL, 66 BBL FLUID, 39,000 SCF N2, ATP 660#, AIR 12 BPM,

**PUMPED 500 GAL 15%** HCL FOR BD ON 4TH STG. MAXON 2608' - 2618' (21 HOLES) - 70Q FOAM FRAC - 20,900 LB

20/40 SAND, 105 BBL

FLUID, 201,000 SCF N2, ATP 1650#, AIR 20 BPM, ISIP 1280#, 5MIN 995#.

Overburdon	0	15	5. M, 1011 1200#, SIVIII 995#.	
Sandstone Sandstone	15	30		
Sandy shale	30	95		
Coal _	95	97	<del></del>	
Sandstone	97	168		
Sandstone	168	175		
Coal .	. 175	177	•	
Sandy shale	177	230		
Coal	230	233		
Sandy shale	233	420		
Sandy shale	420	470		•
Coal	470	473		
Sandstone	475	535		
Coal	535	538		
Sandstone :	538	965		
RR	965	1020		
Sandy shale	1020	1130		
Sandsome	1130	1250		
			<u>-</u>	
FORMATION TOPS				
Pride Shale	1235	1348		
Middle Ravencliff	1457	1490	<b></b> ′	
Avis Lime	1661	1707		
Upper Maxton	2255	2324	•	
Middle Maxton	2584	2630		
Lower Maxton	2760	2819		
Little Lime	2922	3243		
Big Lime	3243	3951		
Price FM	3951	4706		
Weir SS	4324	4358		
Sunbury Shale	4660	4706		
Berea SS	4706	4717	• •	
LTD		4811'		

RECENTED Office Oil and Gas

SEP 2 9 2016

NOT in quadrant of Environmental Protection WW-4A Revised 6-07

1) Date:				
<ol><li>Operator's Well Number</li></ol>				
		6277		
3) API Well No.: 47 -	047	_	01796	

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

	NOTICE OF APPLICATION	<u>ON TO PLUG AN</u>	D ABANDON A WELL
4) Surface Ow	ner(s) to be served: 5)	(a) Coal Operator	
(a) Name	Imperial Resources LLC	Name	
Address	640 Clover Dew Dairy Road	Address	
	Princeton, WV 24740		
(b) Name		(b) Coal Ow	ner(s) with Declaration
Address		Name	same as surface (fee owner)
		Address	
(c) Name		Name	
Address		Address	
		-	
6) Inspector	Brian Ferguson	— (c) Coal Less	ee with Declaration
Address	708 Manor Drive	Name	
	Beckley, WV 25801	Address	
Telephone	304-362-8402 304-32550-6265		
TO THE PE	RSONS NAMED ABOVE: Yo	ou should have receiv	ved this Form and the following documents:
(1) The a		Form WW-4B, which s	ets out the parties involved in the work and describes the
The reason : However, yo	you received these documents is that you have rig u are not required to take any action at all.	ghts regarding the applicat	ion which are summarized in the instructions on the reverses side.
Protection, very the Application	ng documents for a permit to plug and abandon a with respect to the well at the location described o	well with the Chief of the on the attached Application for certified mail or delive	Deterator proposes to file or has filed this Notice and Application and Office of Oil and Gas, West Virginia Department of Environmental and depicted on the attached Form WW-6. Copies of this Notice, ered by hand to the person(s) named above (or by publication in
	Well Operator	CNX Gas Company LLC	RECEIVED
	By:	What XI	Office or Oil and Clas
	Its:	Permitting	Manager

Subscribed and sworn before me this 13th day of September, 2016 COMMONWEALTH OF PENNSYLVAN NOTARIAL SEAL  Notary Public Sara M. Micoll, Notary Public Cecil Twp Washington County					vironmental Protection
	Sua M. Muroli	day of	September	1 2010	olic Sara M. Micoli, Notary Public

276-596-5137

627 Claypool Hill Mall Road Cedar Bluff, VA 24609

Address

Telephone

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.

WEVBER, PENNSYLVANIA ASSOCIATION OF NOTARIES

WW-9 (5/16)

API Number 47 -	047	_01796	
Operator's Well No.		6277	

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name CNX Gas Company LLC OP	Code 494458046
Watershed (HUC 10) 0507020102 Quadrangle Keys	stone
Do you anticipate using more than 5,000 bbls of water to complete the proposed well w	rork? Yes No 🗸
Will a pit be used? Yes No V	
If so, please describe anticipated pit waste:	
	hat ml.?
Proposed Disposal Method For Treated Pit Wastes:	
Land Application (if selected provide a completed form WW Underground Injection (UIC Permit Number 2D0550319 Reuse (at API Number Off Site Disposal (Supply form WW-9 for disposal location) Other (Explain	)
Will closed loop system be used? If so, describe: flow back tank truck will contain all liqu	uid for proper disposal.
Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil	based, etc.
-If oil based, what type? Synthetic, petroleum, etc	
Additives to be used in drilling medium?	
Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc	
-If left in pit and plan to solidify what medium will be used? (cement, lime, sa	wdust)
-Landfill or offsite name/permit number?	
Permittee shall provide written notice to the Office of Oil and Gas of any load of drill cu West Virginia solid waste facility. The notice shall be provided within 24 hours of reject where it was properly disposed.	nttings or associated waste rejected at any tion and the permittee shall also disclose
I certify that I understand and agree to the terms and conditions of the GENER. on April 1, 2016, by the Office of Oil and Gas of the West Virginia Department of Env provisions of the permit are enforceable by law. Violations of any term or condition of the or regulation can lead to enforcement action.  I certify under penalty of law that I have personally examined and am fami application form and all attachments thereto and that, based on my inquiry of those individue information, I believe that the information is true, accurate, and complete. I am a submitting false information, including the possibility of fine or imprisonment.  Company Official Signature  Matt Hanley	ironmental Protection. I understand that the he general permit and/or other applicable law liar with the information submitted on this iduals immediately, responsible for o btaining.
Company Official Title Manager of Gas Permitting Southern Region	Environmental Protection
Subscribed and swom before me this 13th day of September	. 20 11 0
Dara M. Micoli	Not COMMONWEALTH OF PENNSYLVANIA
My commission expires 3/11/19	Sara M. Micoli, Notary Public Cecil Twp., Washington County
	My Commission Expires March 11, 2018 01 6

(\_\_\_\_\_) Yes

Field Reviewed?

Form WW-9			Operator's W	ell No. 6277
Proposed Revegetation Treat	ment: Acres Disturbed	d 2.0	Preveg etation pI	$_{ m I}$ to be determined
Lime _ based on p	OH_Tons/acre or to c			
Fertilizer type 10-20-2	0			
Fertilizer amount	550	lbs/acre		
Mulch	2	Tons/acre		
		Seed Mixture	<u>es</u>	
Te	mporary		Permai	nent
Seed Type	lbs/acre		Seed Type	lbs/acre
Orchard grass	25			
Birdsfoot trefoil	15			
Lidino clover	10			
Maps(s) of road, location, pit provided). If water from the p(L, W), and area in acres, of the Photocopied section of involving the province of the province o	oit will be land applied he land application are	, provide water volur ea.	less engineered plans includ me, include dimensions (L,	ing this info have been W, D) of the pit, and dimension
Plan Approved by: Buch	1 Our			
Comments:				
				(A. 100 (100 (100 (100 (100 (100 (100 (100
	-			
	9			=IVED
			Office of	Oil and Gas
Title: 01/4 GAS TUSE	+CTUIZ	Date:	Office of 9/13/16 grp	2 9 2016

WW-9- GPP Rev. 5/16

Page _	/of	2
API Number 47 - 047	- 01798	6
Operator's Well No.	6277	

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

Operator Name:_	CNX Gas Co	mpany LLC			
Vatershed (HUC				Quad: Keystone	
arm Name:	Mega	Minerals -	- Imperial	Resources	LLC
. List the pro-	cedures used		•		s that could contaminate the
N/A, All wa	ter will be	contained in clo	sed loop system.		
. Describe pro	ocedures and	equipment used to pr	otect groundwater qualit	y from the list of potential	contaminant sources above
N/A	· ·				-
	<del></del>				
List the close discharge ar		dy, distance to close	est water body, and dist	ance from closest Well H	lead Protection Area to the
Tug Fork -	13,100 ft.				
Summo mizo	all activities o	t your facility that as	e already regulated for g	mundurator amtention	27 ee
. Summanze	all activities a	t your facility that ar	e alleady legulated for g	Toundwater protection.	
				in spill prevention, oducts, in the vicinity	
		<b>.</b>	,	-	necenveD
					<u>Sca &amp; 8 5016</u>

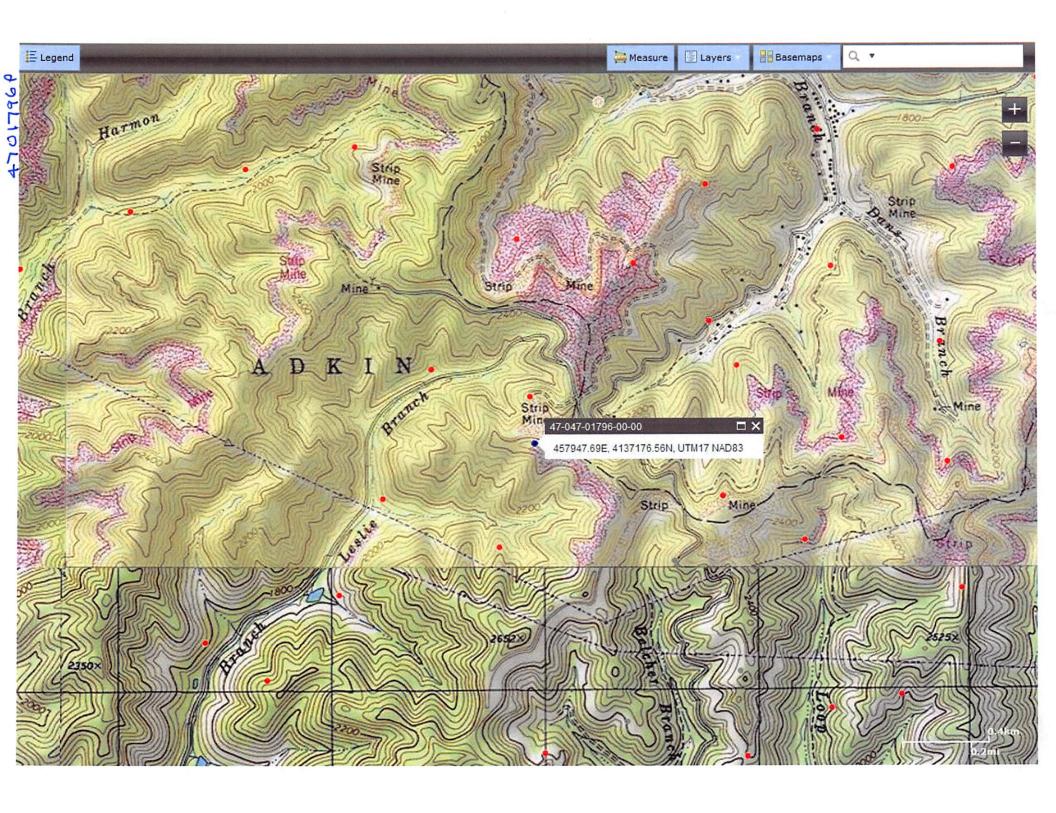
5. Discuss any existing groundwater quality data for your facility or an adjacent property.

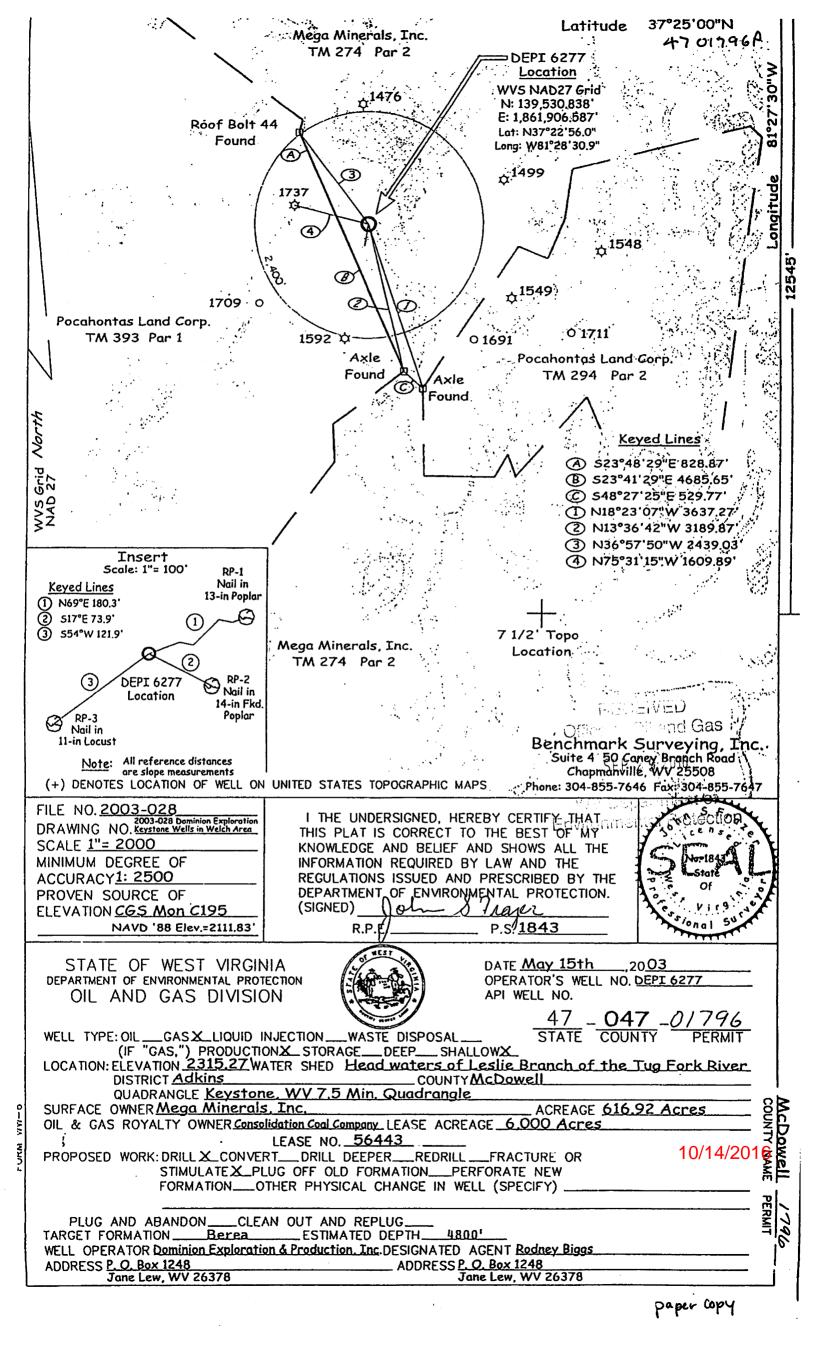
ww	-9-	GPP
Rev.	5/1	6

Page _	2 of	2
API Number 47 - 047	- 01796	
Operator's Well No.	6277	

	•
N/A	
Provide a statement that no waste material will be used for de	eicing or fill material on the property.
All water/liquid material from the well plugging wunderground injection well.	ill be transported off site to a regulated
Describe the groundwater protection instruction and training provide direction on how to prevent groundwater contaminat	g to be provided to the employees. Job procedures shall ion.
Erosion and sediment controls in the form of silt will be utilized. Employees will be instructed on pashift inspections will be performed each work day protection.	proper procedures prior to any construction. Pre
Provide provisions and frequency for inspections of all GPP e	elements and equipment.
Pre shift inspections will be performed each work protection.	day to ensure compliance with groundwater
ignature:	Office ( Citizend Gas
rate: 9/14/16	SEP 2 9 2016
Pate:	Wiviperation of Environmental Procedion

10/14/2016







## West Virginia Department of Environmental Protection Office of Oil and Gas

	WELL LO	CATION .	FORM: G	PS	
API: 47-04	47-01796		WELL NO	o 6277	
FARM NAME:	Mega Mir	nerals, Ir	nc.		
RESPONSIBLE	E PARTY NAME: _	CNX G	as Comp	oany LLC	<u> </u>
	McDowell				
QUADRANGLI	E: Keystone	<b>)</b>			
SURFACE OW	<sub>NER:</sub> Imperia	l Resou			
ROYALTY OW	<sub>NER:</sub> Imperia	al Resou	rces LLC	<u> </u>	<u> </u>
UTM GPS NOR	ATHING: 4,137	7,176.56	m.		
UTM GPS EAS	TING: 457,94	47.69 m.	GPS ELEV	ATION: 2	315 ft.
preparing a new sabove well. The control of the following requestion of the following requestion and the following requestions of th	Party named above I well location plat for Office of Oil and Gauirements:  n: NAD 1983, Zone: t above mean sea leveracy to Datum – 3.05 Collection Method:  GPS: Post Pro	a plugging pess will not access to a North, Corel (MSL) – more meters	ermit or assign opt GPS coord ordinate Units eters.	ned API numb inates that do	er on the not meet
, ,		me Differentia			
Mapping Gra	de GPS X: Post				
A T 44		-Time Differe			um
I the undersigned belief and shows	r size copy of the to I, hereby certify this all the information r c Office of Oil and G	data is correct equired by lav	to the best of	my knowledg	ge andිය <sup>3</sup> and
20		Foleman	Production	y y <u>y <b>9///</b></u> www.mc.m <b>.</b>	y/16
Signature		1	tie E.	With Him Card	2ate 513 Chorn 10/14/201