

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

March 17, 2014

WELL WORK PERMIT

Rework-Secondary Recovery

This permit, API Well Number: 47-3303962, issued to HG ENERGY, LLC, 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.

Please be advised that form WR-35, Well Operators Report of Well Work is to be submitted to this office within 90 days 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.

In addition to the applicable requirements of this permit, and the statutes and rules governing oil and gas activity in WV, this permit may contain specific conditions which must be followed. Permit conditions are attached to this cover letter.

Per 35CSR-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) 926-0499 ext. 1654.

James Martin

Chief

Operator's Well No: E. FLETCHER NO. 15

Farm Name: FLETCHER, RICHARD & ELIZAB

API Well Number: 47-3303962

Permit Type: Rework-Secondary Recovery

Date Issued: 03/17/2014

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. If the operator encounters an unanticipated void, or an anticipated void at an unanticipated depth, the operator shall notify the inspector within 24 hours. Modifications to the casing program may be necessary to comply with W. Va. Code § 22-6-20, which requires drilling to a minimum depth of thirty feet below the bottom of the void, and installing a minimum of twenty (20) feet of casing. Under no circumstance should the operator drill more than fifty (50) feet below the bottom of the void or install less than twenty (20) feet of casing below the bottom of the void.
- 2. Pursuant to 35 CSR § 4-19.1.a, at the request of the surface owner all water wells or springs within 1000 feet of the proposed well that are actually utilized for human consumption, domestic animals or other general use shall be sampled and analyzed.
- 3. Pursuant to 35 CSR § 4-19.1.c, if the operator is unable to sample and analyze any water well or spring within one thousand (1,000) feet of the permitted well location, the Office of Oil and Gas requires the operator to sample, at a minimum, one water well or spring located between one thousand (1,000) feet and two thousand (2,000) feet of the permitted well location.
- 4. All pits must be lined with a minimum of 20 mil thickness synthetic liner.
- 5. 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.
- 6. During the surface casing and cementing process, in the event cement does not return to the surface, or any other casing string that is permitted to circulate cement to the surface and does not return to the surface, the oil and gas inspector shall be notified within twenty-four (24) hours.
- 7. Well work activities shall not constitute a hazard to the safety of persons.

WW-3B 10/07



1) Date	Januar			, 201	4	
2) Operator's Well No.		Elizabeth Fletcher No. 1				
3) API Well No.	47	-	033	-	3962	
_	State		County		Permit	
4) UIC Permit No.		I	ЛС2R0330	1AP		

STATE OF WEST VIRGINIA NOTICE OF LIQUID INJECTION OR WASTE DISPOSAL WELL WORK PERMIT APPLICATION FOR THE DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS

5)	WELL TYPE:		Liquid	l Injection	X		Gas Inje	ection (no	t storag	(e)	Waste D	isposal		
6)	LOCATION:		Elevation	1319				Watersh	ed	Tenmi	le Creek			
		Distric	t	Tenmile	09	Con	unty	Harrison	33		Quadrangle	Wol	f Summit 7.5	692
7)	WELL OPERA	TOR:	HG Ener	gy, LLC		494497	948	B) DESIG	NATEL	AGENT	: Mil	e Kirsc	h	
			20000	pont Road							526	0 Dupo	nt Road	
			Parkersh	ourg, WV 2	26101						Par	kersbu	rg, WV 26101	
9)	OIL & GAS INS				D:			10) DRILL	LING C	CONTRAC	CTOR:			
			Sam War				_				To Be Determine	d Upon I	ermit Approva	al
	4	Address	PO Box 2	2327 mon, WV 2	26901	-	_			Address				
111	DDODOGRD W	DIT W			224.90								20	
11)	PROPOSED W	ELL W	ORK:	Drill		ld Forma	Drill D		forato l	Redril New Forn		mulate	X Convert	
							e in Well (sp		iorate i	vew Forn			Convert	
12)	Geological targe	et form	ation		Fifth S			Depth		2,935	Ft. (Top) to		2,953 Ft.	(Bottom)
13)	Estimated dept	h of cor	npleted we	ell (or actu	al dept	h of exist	ing well)			3078	Ft.			
14)	Approximate w	ater str	ata depths	s:	Fresh		265	Ft.			Salt	790	Ft.	0
15)	Approximate co	al sean	depths:			575 & 14	138	Ft.						>4
16)	Is coal being mi	ined in	the area?			Y	es		X	No				2/2
17)	Virgin reservoir	r pressi	re in targ	et formati	on:		60			psig.	Source		Estimated	
18)	Estimated reser	rvoir fra	acture pre	ssure:			1200			psig.				
19)	MAXIMUM PR	OPOSE	D INJEC	TION OPE	ERATIC	NS:	Volume per	hour 28	5 bbl/hr		Bottom Hole Pr	ressure	2400	psi
20)	DETAILED IDI	ENTIFI	CATION	OF MATE	RIALS	TO BE I	VIECTED I	NCLUDII	NG ADI	DITIVES	Fresh water			7 7 7
	and other chem										- Fresh water	produ	ced water, ba	ctericides
21)	FILTERS (IF A	NY)		Cartridge	filters	and/or co	al bed filter	9						
22)	SPECIFICATIO	ON FOR	CATHOL	DIC PROT	ECTIO	N AND C	THER COR	ROSION	CONTR	ROL				
		1 10 10 10	200 A A A A A A A A A A A A A A A A A A	0.000						-				
23)	CASING AND	FUBIN	G PROGR	AM		-								
CASI	NG OR		SPECII	FICATION	IS		FOOTAG	FOOTAGE INTERVALS			CEMENT FILLUP		PACKERS	
TUB	ING TYPE	Size	Grade	Weight	New	Used	For Drillin	g	Left in	Well	OR SACKS (C	U. FT.)		
Sec. L	uctor												Kinds	
	ı Water	8 5/8"	LS	20#	X		673'		673'		Use Existing Ca	sing	Tension	
Coal	21.7				O.L. For								Sizes	
	mediate	1.11011	Ter	10 50	V		00001		0000	01			2.375" X 4.5	
		4 1/2"	J-55	10.5#	X		3029'		3029		Use Existing Ca	sing -	Depths Set	
Tubii Linei		2 3/8"	J-55	4.6#	X		2835'		283	0,	410 sks		2735'	
Laner	S	-	-										Perforations	
-		-							-			-	Top Bot	tom
-			- 1		6 6						-			
24)	APPLICANTS O	PERA	TING RIG	HTS were	aconiv	red from	EEL	etcher et a	1					
~1)	by Deed	JI LINA	Lease			her Cont		Date		Januar	y 29, 1899		of record in	the
	D Deeu		Harrison			Clerk's	-	Lea	-	Book	105 at P		138	

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

Well Operator's Report of Well Work

Farm	name:	FLETCHER,	GERTRUDE	ET	VIR	Operator	Well	No.:	E.	FLETCHER	#1	5
------	-------	-----------	----------	----	-----	----------	------	------	----	----------	----	---

LOCATION: Elevation: 1,319.00 Quadrangle: WOLF SUMMIT

> District: TENMILE

TENMILE County: HARRISON 9250 Feet South of 39 Deg. 20Min. Latitude: Longitude 4000 Feet West of 80 Deg. 27 Min. 30 Sec.

Company: PENNZOIL PRODUCTS COMPANY

P. O. BOX 5519

VIENNA, WV 26105-5519

Agent: JAMES A. CREWS

Inspector: TIM BENNETT

Permit Issued: 09/01/93 10/12/93 Well work Commenced: Well work Completed: 06/23/94

Verbal Plugging

Permission granted on:

Rotaryx Rotaryx Cable Total Depth (feet) Rig 3078 Fresh water depths (ft)

Salt water depths (ft) N/A

Is coal being mined in area (Y/N)? N Coal Depths (ft): 575' & 1438'

Casing &	Used in	Left	Cement Fill Up
Tubing	Drilling	in Well	Cu. Ft.
Size			Surface
8-5/8	673.15	673.15	205 sks.
4-1/2	3028.75	3028.75	 410 sks.

OPEN FLOW DATA

WATER INJECTION WELL

Producing formation Fifth Sand)2935'-3953'
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 between initial	and final tests	Hours
Static rock Pressurepsig (sur	face pressure) after	Hours
Second producing formation	Pay zone depth (ft)
Gas: Initial open flow MCF/d Oil	: Initial open flow	Bbl/d
Final open flow MCF/d	Final open flow	Bb1/d
Time of open flow between initial	and final tests	Hours
Static rock Pressurepsig (sur	face 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.

For: PENNZOIL	PRODU	CTS COMPANY
---------------	-------	-------------

03/21/2014

TREATMENT

Perforated: Fifth Sand with 12 holes, 4 per foot, 29421 - 29441.

Treated with 300 gal. 15% HCL, 202 bbls. gelled water and 5000# 20/40 sand.

WELL LOG

Sand & Shale	0 - 575
Coal	575 - 581
Sand & Shale	581 - 1312
Sand	1312 - 1395
Shale	1395 - 1438
Coal	1438 - 1440
Sand & Shale	1440 - 1836
Maxton	1836 - 1919
Shale	1919 - 1938
Big Lime	1938 - 1980
Shale	1980 - 2040
Big Injun	2040 - 2079
Shale	2079 - 2506
Fifty Foot	2506 - 2533
Sand & Shale	2533 - 2708
Gordon	2708 - 2763
Shale	2763 - 2935
Fifth Sand	2935 - 2953
T.D.	3078 .

WW-3A 10/07



1) Date:		January 1	4, 2014		
2) Operator's We	ll No.	Elizabeth	Fletche	er No. 15	
3) API Well No.	47	033	- e	3962	
	State	County		Permit	
4) UIC Permit N	0.	UIC2R033	301AP		

STATE OF WEST VIRGINIA NOTICE OF LIQUID INJECTION OR WASTE DISPOSAL WELL WORK PERMIT APPLICATION FOR THE DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS

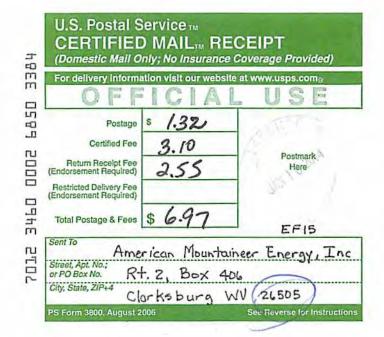
7 (a) Coal Operator

5) Surface Owner	(s) To Be Served	7 (a) Coal Operator	
(a) Name	Richard & Elizabeth Fletcher	Name	NA
Address	4 Nancy's Way	Address	
	Newark, DE 19711		
(b) Name		7 (b) Coal Owner(s)	With Declaration Of Record
Address		Name	NA
		Address	
(c) Name		-	
Address		Name	NA
		Address	
6) Inspector	Sam Ward	7(c) Coal Lessee W	ith Declaration Of Record
Address	PO Box 2327	10	American Mountaineer Energy, Inc.
nuiress_	Buckhannon, WV 26201	_	Rt. 2, Box 406
Telephone	389-7583		Clarksburg, WV 26301
			1.3 6 11 1 1
TO THE PERS	ON(S) NAMED ABOVE: You should have	received this fo	rm and the following documents:
The date propos THE REASON YO WHICH ARE SUN ARE NOT REQUI	out the plan for erosion and sediment control an ed for the first injection or waste disposal is DU RECEIVED THESE DOCUMENTS IS THAT YOU MMARIZED IN THE "INSTRUCTIONS" ON FORM V IRED TO TAKE ANY ACTION AT ALL.	NA J HAVE RIGHTS R VW-3(A) DESIGNA	EGARDING THE APPLICATION TED TO YOU, HOWEVER YOU
Application and acco Environmental Prot WW-6. Copies of thi	der Chapter 22-6 of the West Virginia Code, the undersigned ompanying documents for a Well Work Permit with the Chie ection, with respect to a well at the location described on the s Notice, the Application, the plat, and the Construction and ivered by hand to the person(s) named above (or by publication to the Chief.	of the Office of Oil a e attached Application Reclamation Plan ha	nd Gas, West Virginia Department of and depicted on the attached Form we been mailed by registered or
	The person signing this document shall make the	following certificati	on:
"I costificandos som	alty of law that I have personally examined and am	Well Operator	HG Energy, LLC
familiar with the in	formation submitted in this document and all attachments	Address	5260 Dupont Road
and that, based on r	ny inquiry of those individuals immediately responsible		Parkersburg, WV 26101
for obtaining the inf	formation, I believe that the information is true, accurate		
and complete. I am	aware that there are significant penalties for submitting	By:	Diane C. White
false information, in	icluding the possibility of fine and imprisonment."	Its:	Accountant
Oil and Gas Privacy	Notice	Signature	Diane CWhite
		dans and shows	have as a part of our regulatory duties
The Office of Oil and Your personal infor	d Gas processes your personal information, such as name, at mation may be disclosed to other State agencies or third par	ties in the course of b	isiness 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: deprivacyofficer@wv.gov depprivacyofficer@wv.gov 03/21/2014

33039625 R





X



Received

Pere of oil and Gas Protection

Office of oil and Gas Protection

WW-2B1

Well No. Elizabeth Fletcher No. 15

West Virginia Department of Environmental Protection Office of Oil and Gas

NOTICE TO SURFACE OWNERS

The well operator named below is preparing to file for a permit from the state to drill a new well. Before a well work permit can be filed with the Chief of the Office of Oil and Gas, the well operator is required to have given notice of the right to request water well or spring analytical testing. This notice shall be given to the owners or occupants of land which have a water well or spring being utilized for human consumption, domestic animals, or other general use and which is located within 1000 feet of the proposed well site.

With this form, the operator is giving you notice of your right to request analytical testing, The operator is required to sample and analyze the water wells or springs of all owners or occupants who request it. Therefore if you wish to have your water well or spring tested, contact the operator named below.

All sampling shall be completed prior to drilling. Within thirty (30) days of the receipt of such sample analyses the operator shall submit the results to the Chief of the Office of Oil and Gas and to the owners or occupants who may have requested them.

If no water well or spring is located within 1000 feet, the Chief may require the operator to sample and analyze water from a water well or spring within 2000 feet of the proposed well site.

Be advised, you have the right to sample and analyze any water supply at your own expense.

The laboratory used by the operator to analyze the samples will be approved by the Chief. The operator named below has decided to use the following laboratory to analyze the water samples:

X Contractor Nam	e Sturm Environmental Services
Well operator's	private laboratory
Well Operator	HG Energy, LLC
Address	5260 Dupont Road
	Parkersburg, WV 26101
Telephone	304-420-1119

FOR OPERATOR'S USE ONLY: Below, or on an attached page, list those persons which were given this notice. Place an asterisk beside the one(s) that contacted you and requested sampling and analyses. If there were no requests made, indicate by underlining which one you have selected to sample and analyze. If there are no water wells or springs within 1000 feet of the proposed site please indicate such.

No known Water Supply Sources are located within 2000' of proposed well.

Form	WW-9
Rev.	10/94

	Page_	3	oſ	3	
AI	I Number 47-	033	•	3962	
Operator's Well No.	Elizabeth	Fletch	er No. 1	15	-

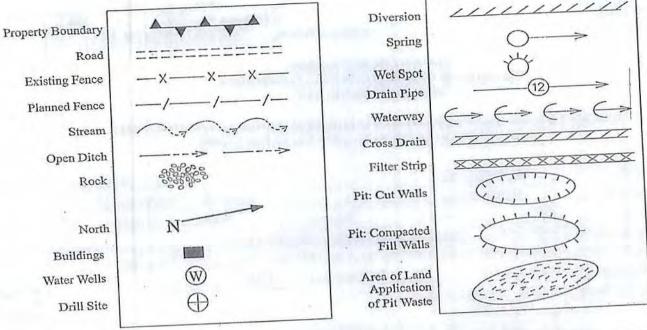
STATE OF WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION OFFICE OF OIL AND GAS

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

Operator	ttor HG Energy, LLC					OP Code 494497948			
Watershed	Tenmile Cro	ek	-		Quadrangle	Wolf	Summit 7.5'		
Elevation	1319'	County	Harrison	1	District	1	'enmile	_	
Description of a	inticipated Pit Waste:	Fluids encount	ered in stimulat	ing existi	ng well.			_	
Do you anticipa	ite more than 5,000 bbls o	water to comple	ete the proposed w	ell work	Yes	No	х	_	
Will a synthetic	liner be used in pit?	Yes	If so, what mil.?	20	Mil.	_		~ 5	
Proposed Dispo	sal Method For Treated P	it Wastes:	•		· · · · · · · · · · · · · · · · · · ·			S D	
	X Lund Applicat	ion						712	
1	Underground	Injection (UIC F	ermit Number)	
	Rouse (at API							<u> </u>	
		**	n WW-9 for dispos	al location)			_ .	
		Explain				···· , ····	<u></u>	<u>)</u>	
	n anticipated for this well?				NΛ			_	
	foilbased, what type? Syr		nı, etc.					_	
Additives to be						···			
	sposal method? Leave in ;			-				_	
	fleft in pit and plan to soli andfill or offsite name/per		um will be used? (Coment, Li	me, sawdust	Nativ	o soil, cement, lime	<u> </u>	
applicable law or l co this application to for obtaining the	ons of the permit are enfor r regulation can lead to en ertify under penalty of law form and all attachments a information, I believe the mitting false information,	forcement action that I have per hereto and that t the informatio	i. sonally examined , based on my inqu n is true, accurate	and am fac airy of the	miliar with the in se individuals im lete. I am aware	nformatio mediatel	on submitted on y responsible		
Company Offic	ial Signature	Ö	Diano Cl	Shite	برا				
Company Offic	ial (Typod Name)	·	Diane C. White					-	
Company Offic	ial Title		Accountant				8	-	
_	<u>.</u>						 "	-	
Subscribed and	I sworn before me this		day of Sa	neaa	<i>O</i> -	니니) otary Pu	ıblic	=	
My commission	expires	NOV.	12, 20	18		· 			
Form WW-9				-				_	

OFFICIAL SEAL
NOTARY PUBLIC
STATE OF WEST VIRGINIA
TINA L. PETHTEL
HG Energy, LLC
5260 Bupont Road 22401/2
Parkersburg, West Virginia 26401
My Commission Expires Nov. 12, 2018

Legend



1 Development	Treatment: Acres Disturbed	Area I Approx. 0.5 Ac.		revegetation pH	
posed Revegeration	Treatment 72	Area Approx.	II 0.3 Ac.		
	Lime 2 Fertilizer (10-20-20 or Equivalent Straw	Tons/Acre or Content) 500 2 Tons/Acre SEED MI	Lbs./Acre (50 re	3 (1) Ibs. Minimum)	
		17		Area II (Road)	
	Area I (Location) Lbs/A	Ac	Seed Type		Lbs/Ac.
Seed Type	40		Tall Fescue	24	5
Tall Fescue	r 5		Ladino Clove		

Attach:

Drawing(s) of road, location, pit and proposed area for land application Photocopied section of involved 7.5' topographic sheet.

	- 010 -		
Plan approved by: Comments:	Sad & Mulch all dis	studed areas tupgrade Et? as	
Decessary	ld Gas Inspector	Date: 7/23 bar4	
Field Reviewed?	(X) Yes	() No	

Reclamation Plan For: Elizabeth Fletcher No. 15

47-033-3962 Frac Permit 1/8/2014

NOTE

REFER TO THE WVDEP **EROSION AND SEDIMENT CONTROL** FIELD MANUAL VER. MAY 2012 FOR BMPS CONTROLLING EROSION AND SEDIMENT FROM SOIL-DISTURBING OPERATIONS.



NOTE:

WELL LOCATION WAS BUILT AND RECLAIMED UNDER DRILLING PERMIT NO.47-033-3962. ONLY MINIMAL EARTHWORK WILL BE REQUIRED FOR PROPOSED WELL WORK. ALL DISTURBED AREAS WILL BE RE-VEGETATED AS PER THE SEEDING PLAN ON FORM WW-9. A SMALL WORKOVER PIT WILL BE CONSTRUCTED TO CONTAIN ANY FLUIDS RECOVERED DURING PROPOSED WELL WORK.

150' of 15% Grade

POWER

LINE

Use Existing Access Road for E. Fletcher No. 11 & 15

150' of 22% Grade

3962

15

0.3 Mi. to

SLS (5)

(See Attached Detail for Access Road to County Road)

5DW 7/25/2014

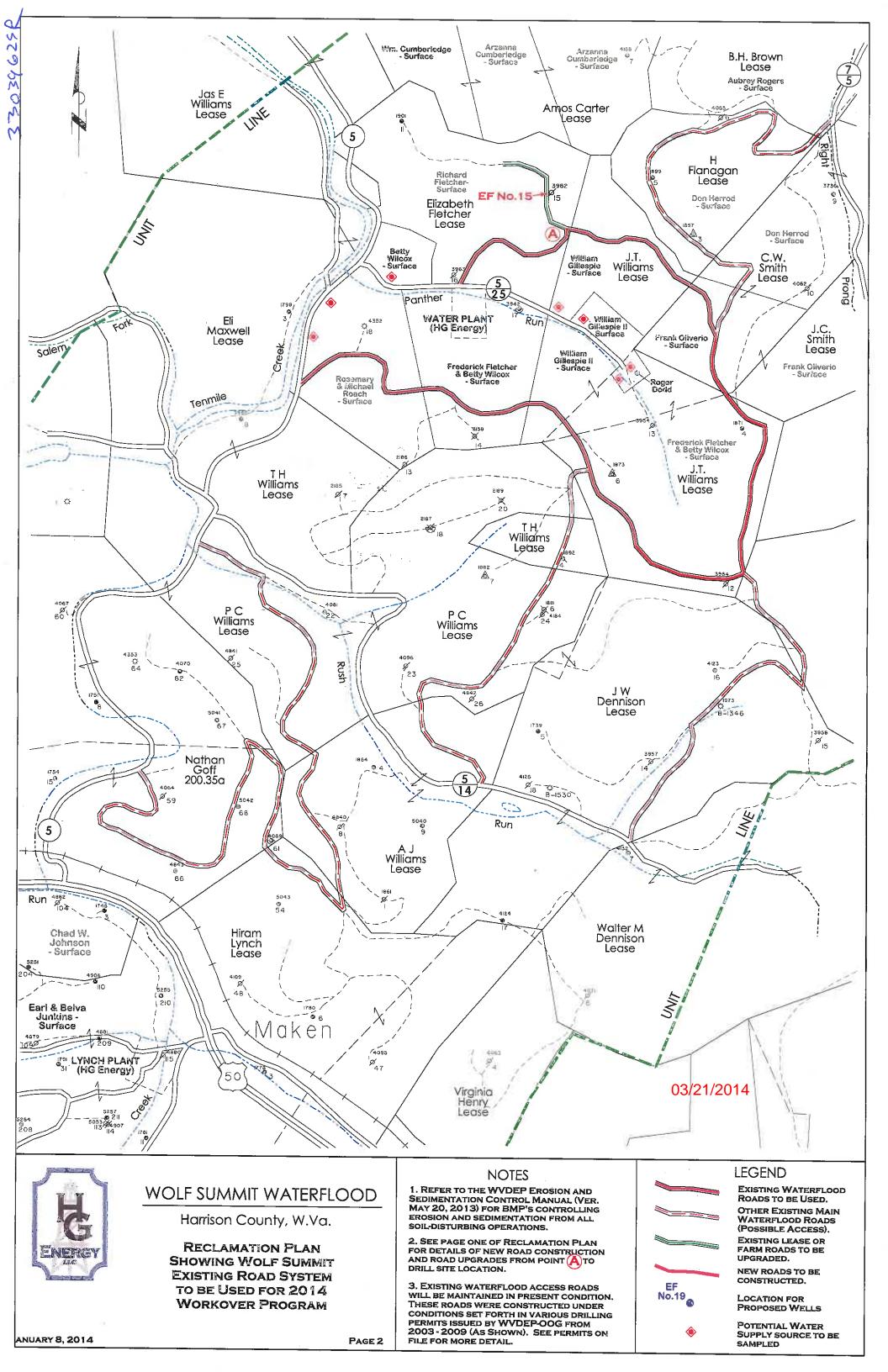
Notes:

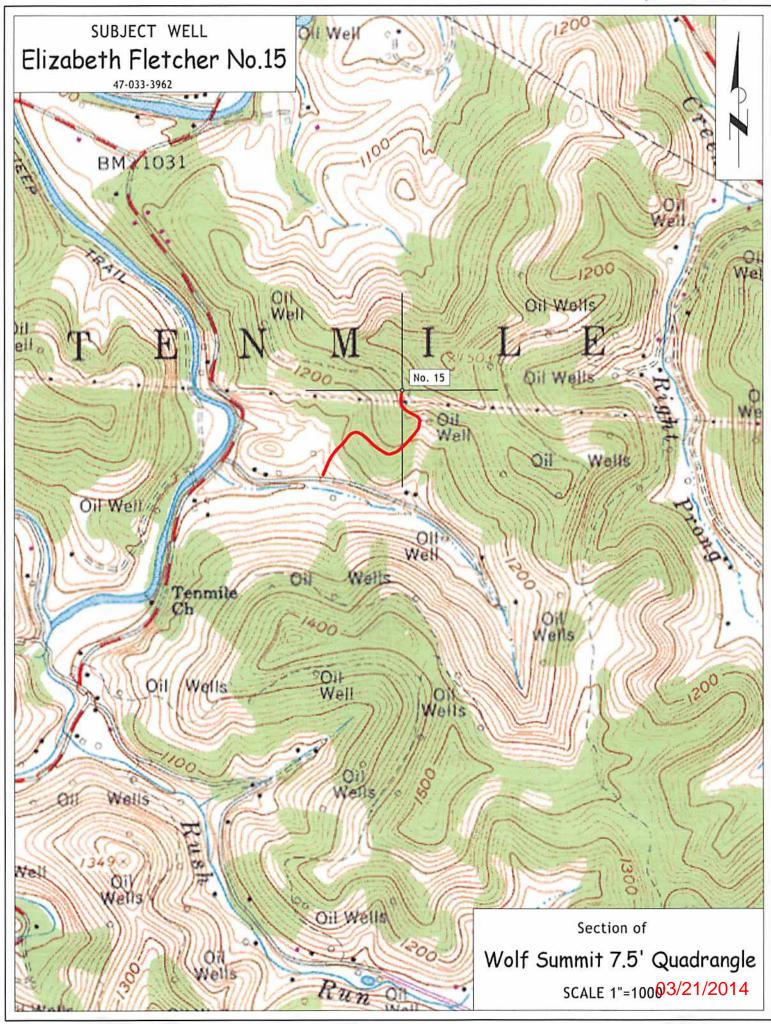
- Requested permit is for re-frac of existing well.
- Location and access roads from Co. Rd. 5/25 to the well are existing. Structures shown will be maintained.
- All disturbed areas will be re-vegetated as outlined on Form WW-9.
- Sediment barriers and drainage structures 03/21/2014ed.
- All road grades <5% except as noted.

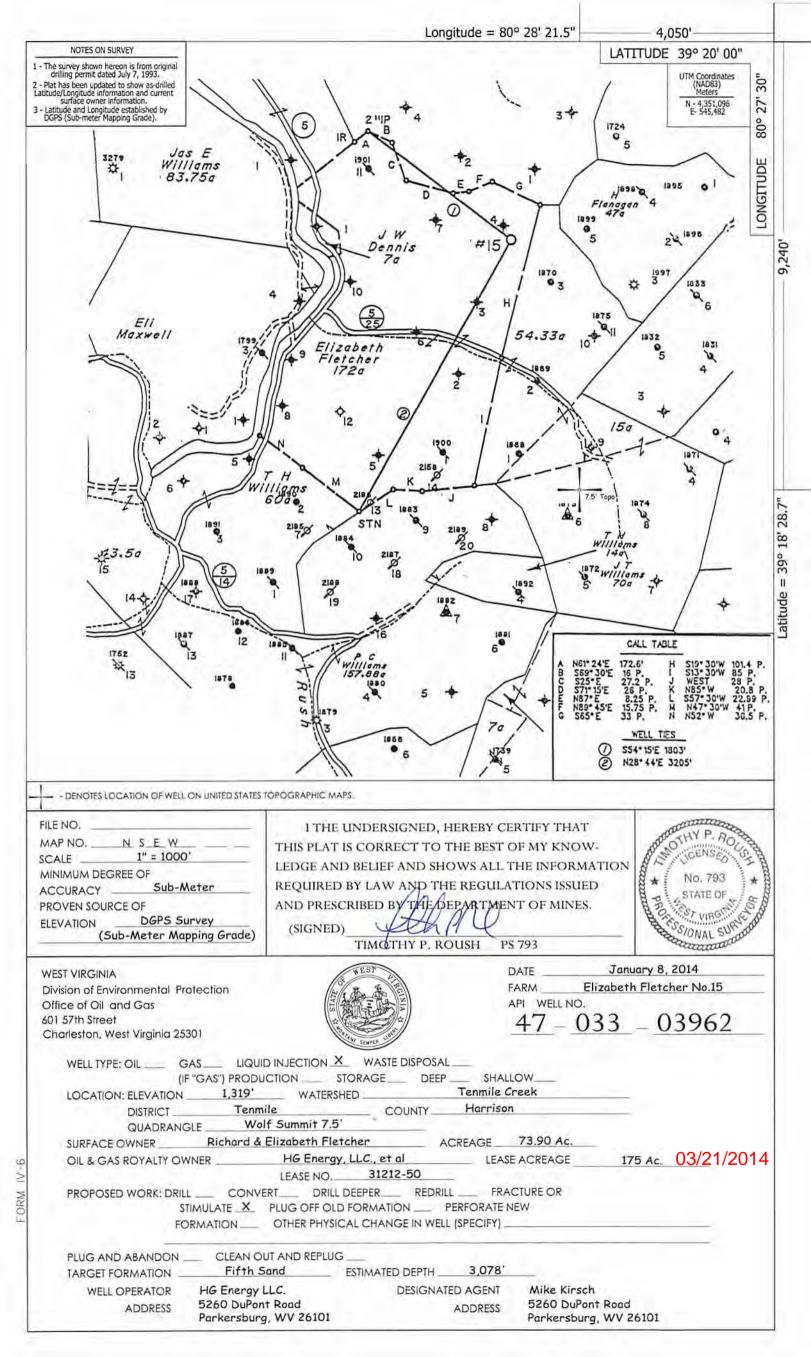
- Existing Culvert

Note: Drawing not to Scale

PAGE 1



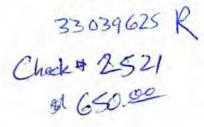






HG Energy, LLC

5260 Dupont Road Parkersburg, WV 26101 (304) 420-1100 - Office (304) 863-3172 - Fax



January 14, 2014

Mr. Jeff McLaughlin Division of Oil & Gas 601 57th Street Charleston, West Virginia 25304

RE: Elizabeth Fletcher No. 15 (47-033-3962)

Tenmile District, Harrison County

West Virginia

Dear Mr. McLaughlin:

Enclosed are Forms WW-3A, WW-3B, WW-9, Mylar of plat, reclamation plan, topo map and copies of the certified mailing receipts for a permit to stimulate the above-captioned liquid injection well. Also enclosed is our check in the amount of \$650.00 to cover the associated permit fees.

Very truly yours,

Diane C. White

Enclosures

Office of Or and a

FE-24

WV Deuts 14-11

cc: Richard & Elizabeth Fletcher - Certified

American Mountaineer Energy, Inc. - Certified

Sam Ward - Inspector

Diane Cwhite