

west virginia department of environmental protection

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

June 16, 2015

WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-4103953, issued to ENERVEST OPERATING 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

Operator's Well No: 1

Farm Name: JACKSON'S MILL S. C. C.

API Well Number: 47-4103953 Permit Type: Plugging

Date Issued: 06/16/2015

WW-4B Rev. 2/01

1) Date	A	pri	19.	2015
2) Open	cator	S		
				Mill S.C. #1	
3) API	Well	No.	47 - 041	- 03953

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

	APPLICATION FOR A PER	MIT TO PLUG AND ABANDON
4)	Well Type: Oil/ Gas X/ Liqui	d injection / Waste disposal /
		derground storage) Deep/ Shallow X
5)	Location: Elevation 994	Watershed Wet Fork River
,	District Freemans Creek	County Lewis Quadrangle Weston 7.5
6)	Well Operator EnerVest Operating, L.L.C.	7) Designated Agent James D. McKinney
	Address 300 Capitol Street, Suite 200	AddressSame
	Charleston, WV 26330	
8)	Oil and Gas Inspector to be notified Name Barry Stollings	9) Plugging Contractor Name R.L. Wharton Enterprises LTD
	Address 28 Confer Street	Address 261 Shiloh Lane
	Bridgeport, WV 26330	Buckhannon, WV 26201
		RECEIVED Office of Oil and Gas
		APR 14 15
work	can commence.	WV Department of Environmental Protection ted
Work	order approved by inspector Baug	Stilley Date 4-9-15

Jackson Mill S.C. #1 API# 47-041-03953 Lewis County, WV Elevation: 994' GL

Jackson Mill #1 Well Data

Casing:

8-5/8" 20 ppf surf. Csg @ 717' KB cemented to surface

4-1/2" 10.5 ppf prod. Csg @ 4160' KB TUC 2059'

Tubing:

Perforations:

2697'-2701' KB, 2922'-2960' KB, 3438'-3447', 4109'-4125'

Jackson Mill S.C. #1 Procedure:

- 1. Prep Jackson Mill S.C. #1 location.
- 2. MIRU service rig
- 3. RIH with 2/8" tubing to bottom
- 4. MIRU cement crew and circulate hole with 6 % gel
- 5. TOOH to 4,089' and set 150' cement plug F/ 4,089' T/ 3,939' (perfs @ 4109'-4125')
- 6. TOOH to 3,900' and circulate hole with 6% gel.
- 7. TOOH to 3,418' and set 150' cement plug F/ 3418' T/ 3268' (perfs @3438'-3447')
- 8. TOOH to 3,250' and circulate hole with 6% gel.
- 9. TOOH to 2,677' and set 150' cement plug F/2677' T/2527' (perfs @2922'-2960' and 2697'-2701')
- 10. TOOH to 2500' and circulate hole with 6% gel
- 11. TOOH 2 3/8" tubing
- 12. RIH with 4 ½" ripper and rip casing at 1860' (Estimated TOC = 2059')
- 13. Once ripped, circulate hole with gel.
- 14. Thru 4 1/2" casing, set 150' cement plug F/1860' T/1710'
- 15. TOOH 4 1/2" casing to 1700' and circulate hole with 6% gel 100' plug across Elev. 994
- BS. 4-9-15 16. TOOH 4 1/2" casing to 767' and set 150' cement plug F/767' T/617'
- 17. TOOH 4 1/2" to 600' and circulate hole with 6% gel to surface.
- 18. Erect a monument with API number attached.
- 19. Reclaim location

RECEIVED Office of Oil and Gas SET 100' CEMENT PLUG FROM 17a.

100' TO SURFACE

WV Department of **Environmental Protection**

APR 1 4 2015

COPL Office of Oil and Gas

APR 14 015

WV Department of **Environmental Protection**



ENERVEST OPERATING, LLC

WELLBORE SCHEMATIC

Well Informa	tion:							
Well Name:	Jack	son Mill S.C	#1			Partnership:	E	VEP WV
County/State:	Lev	is/WV				API Number:	4	7-041-03953
Township:	Free	eman's Cree	k			AFE Number:		
Target:						Cost Center:	4	72122001
.at:	39.:	102034				Pool Code		.01
ong:		47099				Logger's TD:		183' KB
	A.A.v.V.	de la cons		SPUD DATE:	11/4/1989	T	-3.5 - 5	
Surveys I	Hole Size Fo	rmations	Depths (KB)	TD DATE:	11/8/1989	Casings	Cement	Shows
	10.5/01		3.2	Elevati	on: 994'		4000	4220000
	10-5/8"		759'		111	8-5/8" 20 ppf s	urf. csg @717' KE	(TOC= surface)
						Primary: 130 st	ks 50/50 blend 29	6 CaCI2
				111	141	50 sks NP 3% C	aCI2	
		Big Lime 1135' Jig Injun 1193'						
		Fifth 1995' echley 2704' s: 2697'-270						
		town 2900'				1		
	(17 Perf	s: 2922'-29	50')					
	Bra	dford 3394'	1			1		
			17"			1		RECEIVED
	(12 Peri	s: 3438'-34	17.1		103	1	Office	of Oil and Gas
	Ri	ley 3710'				1	Onigi	of Oil and Gas
	(6)							ADD 1 4 co-
	Ren	son 4110'				Primary:	390 sks 2% gel 10	APR 1 4 2015
		s: 4109'-412	25')			4-1/2" 10.5 nn	f prod. csa @ A16	50' KB (TOC = 2059')
7	7/8" hole	2, 7203 -41	4188'			1 10.5 pp	W	Department of
ompletion I			Target:	Clin	nton		Envirage	Grental Privile/2918
op Perforation		7'		ype/Fluid:	Ai	r	Breakdown:	psi
ottom Perfora		E. L.		m Quality:			Pre-ISIP:	psi
No. of Shots:		,		d Volume:		gal.	MTP:	psi
harge (gram):				nt Volume:		gal.	ATP:	psi
erf Diameter:		in.		mesh size		mesh	ISIP:	psi
Penetration:				nd Volume		sacks	5-min SIP	psi
Phasing:			Ave. Treatme			bpm	10-min SIP	psi

Remarks: Perfs: Speechley (2697'-2701'), Balltown (2922'-2960'), Bradford (3438'-3447'), and Benson (4109'-4125'). Coal @ 76, 242, 552, 615. FW @90.

30-Oct-89 API # 47- 41-03953

State of West Virginia DEPARTMENT OF ENERGY Division of Oil and Gas

Well Operator's R	eport of P	Well Work		
Farm name: W.VA. UNIVERSITY/4-H CAMP	Operator	Well No.:	5-801	
LOCATION: Elevation: 994.00 Quad	rangle: W	ESTON		
District: FREEMANS CREEK Latitude: 8450 Feet Sou Longitude 3680 Feet Wes	th of 39	Deg. 7 Min	. 30 Sec.	
Company:SCOTT OIL COMPANY P.O. BOX 112 SALEM, WV 26462-0112	Casing	Used in Drilling		Cement Fill Up Cu. Ft.
Agent: JOHN T. HASKINS	Size		1	1
Inspector: STEVE CASEY Permit Issued: 10/30/89 Well work Commenced: 11/04/89	8 5/8	718	718	to surfac
Well work Completed: 11/08/89 Verbal Plugging Permission granted on:	4 1/2	 4166	4166	390 sks
Rotary X Cable Rig Total Depth (feet) 4183 Fresh water depths (ft) 90		1000	 Valendo	Teles
Salt water depths (ft) None Reported		NE STE	A DES	
is coal being mined in area (Y/N)? N Coal Depths (ft): 76, 242, 552, 615			DEC 01 198	
			htment of .	
OPEN FLOW DATA		Benson		
Froducing formation Speechley, Bal Gas: Initial open flow MC Final open flow 335 MC Time of open flow between Static rock Pressure 950 ps	F/d Oil: I F/d F initial an	formay zone nitial open inal open in d final tes	low	Bb1/ Bb1/ Hour Hour
Second producing formation Gas: Initial open flow MC Final open flow MC Time of open flow between	F/d Oil: I F/d F	Pay zone nitial open inal open i	flow	Bbl/ Bbl/ Hour
Static rock Pressureps	ig (surfac	e pressure	after _	Hour
NOTE: ON BACK OF THIS FORM PUT THE INTERVALS, FRACTURING OR STIMULATIN LOG WHICH IS A SYSTEMATIC DETAILED INCLUDING COAL ENCOUNTERED BY THE WE	G, PHYSIC GEOLOGIC	CAL CHANGE,	ETC. 2).	THE WEL

For: SCOTT OIL COMPANY

11/16/89

By:_ Date;

06/19/2015

Gentino

Speechley	2697	2701	1	10 holes	5,000# 30,000#	30/100 20/40	351 bbls	H20
Ball town	2922	2960	:	18 holes	5,000# 55,000#	80/100 20/40	561 bbls	H20
Bradford	3438	3447		12 holes	5,000# 30,000#	80/100 20/40	351 bbls	H20
Benson	4109	4119		14 holes	5,000# 55,000#	80/100 20/40	541 bbls	H20
Clay Shale & Sand Coal Sand & Shale Coal Sand & Shale Coal Shale Coal Shale Coal Sand & Shale Big Lime Sand & Shale Balltown Sand & Shale Benson Sand & Shale Gamma Ray Big Lime Big Injun 5th Sand Speechley Balltown Bradford Riley Benson	0 18 76 78 242 248 552 554 615 618 1130 1200 2940 2970 3995 4016 1135 1193 1995 2704 2900 3394 3710 4110	18 76 78 242 248 552 554 615 619 1200 2940 2970 3995 4016 4183 1306 2025 2720 2966 3455 3740 4124	TD	1/2" stream	H2O @ 90	DE	C 01 198	^`\$

4616

WW-4A Revised 6-07 1) Date: 4-9-2015
2) Operator's Well Number

Jackson Mill S.C. #1 (S-801)

3) API Well No.: 47 -

41 - 003953

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

4) Surface Ow (a) Name	rner(s) to be served: WVU Extension Service	5) (a)	Coal Operator Name	None
Address	Office of the Director		Address	
	29 Beechurst Ave.			
(b) Name	Morgantown, WV 26506-6031		(b) Coal Own	ner(s) with Declaration
Address			Name	No Declaration of Record
			Address	
(c) Name			Name	
Address		-	Address	
ridiress			Address	
6) Inspector	Barry Stollings		(c) Coal Less	see with Declaration
Address	28 Confer Drive		Name	No Declaration of Record
	Bridgeport, WV 26330		Address	
Telephone	304-552-4194			

TO THE PERSONS NAMED ABOVE: You should have received this Form and the following documents:

- 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 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.

Well Operator EnerVest Operating, L.I By: James D. McKinney 4. SEAL Its: Senior Vice President and General Manager, Appalachia East Assets Alison & Winter Address 300 Capitol Street, Suite 200 Nota y Public State of West Virginia Charleston, WV 25301 Commission Expires RECEIVED 304-343-5505 Telephone June 05, 2016 1845 Roundhill Rd Office of Oil and Gas Charleston, WV 25314 2015 Subscribed and sworn before me this 10 My Commission Expires WV Department of Environmental Protection 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.



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Office of Oil and Gas

APR 1 4 2015

WV Department of Environmental Protection WW-9 Rev. 5/08

I	age		of
API Number 47 -	041	-	03953
Operator's Well No	Jackson	Mill S.	C. #1 (S-801)

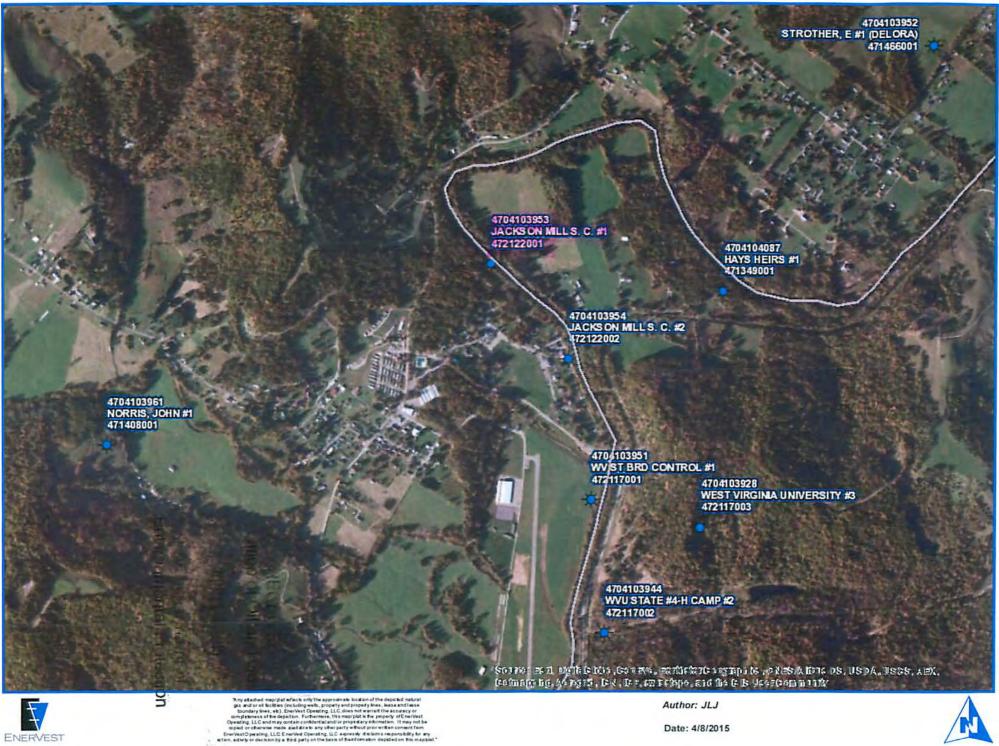
STATE OF WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION OFFICE OF OIL AND GAS

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

Operator Name EnerVest	Operating, L.L.C.	OP C	ode 30-9999
Watershed West Fork Rive	er	Quadrangle Weston	7.5
Elevation 994	County_Lewis	Dis	strict Freemans Creek
Description of anticipated Pit	Waste: No Pit To Be Built		
Will a synthetic liner be used	in the pit?	Aur	WELL REFLUENT MUST CONTAINED IN TANKS
Proposed Disposal Method F	or Treated Pit Wastes:	AND	DISPOSED OF PROPERLY.
	nd Application		gn m
Ur	derground Injection (UIC Permit?	Number	
	use (at API Number		ý
Of	f Site Dispposal (Supply form WW her (Explain No Pit To Be Built	-9 for disposal location)	
Proposed Work For Which Pi	t Will Be Used:		
	illing	Swabbing	
Wo		Plugging	
Ot	her (Explain		
law or regulation can lead to a certify under pena application form and all att obtaining the information, I	enforcement action. lty of law that I have personally eachments thereto and that, based	examined and am familia on my inquiry of those e, accurate, and comple	the general permit and/or other applicable ar with the information submitted on this individuals immediately responsible for te. I am aware that there are significant at.
Company Official Signature_	Sold		CA_
Company Official (Typed No	(ames D. McKinney	/	RECEIVED
Company Official Title Sen	ior Vice President and G	eneral Manager,	Appalachia East Assets
Company Official Title	PARKET PROPERTY.		APR 1 4 2015
Subscribed and sworn before	me this 10 km day of day of	April	, 20 15 WV Department of Environmental Protection
	June 5, 201		OFFICIAL SEAL Alison E. Winter Notary Public State of West Virginia My Commission Expires June 05, 2016 1845 Roundhill 06/19/2015 Charleston, WV 299/419/2015

	LEGEND
Property Boundary	Diversion Control of the Control of
Road = = = = = = = =	⊆ Spring O→
Existing Fence — × — × — ×	Wet Spot
Planned Fence / / / /	Drain Pipe with size in inches
Stream	Waterway C+ C+ C+ C+
Open Ditch	
Rock & See See	Artificial Filter Strip XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
North N	Pit: cut walls
Buildings	Pit: compacted fill walls
Water wells W	Area for Land Application of Pit Waste
Drill site	
Proposed Revegetation Treatment: Acres Distu	rbed 2.00 Prevegetation pH 6.5
Lime according to pH test Tons/acre or t	
Fertilizer (10-20-20 or equivalent) 50	lbs/acre (500 lbs minimum)
Mulch Hay or Straw 2	Tons/acre
	Seed Mixtures
Area I	Area II
Seed Type lbs/acre	Seed Type lbs/acre
Orchardgrass 25	Orchardgrass 25
Birdsfoot Trefoil 15	Birdsfoot Trefoil 15
Ladino Cover 10	Ladino Cover 10
Attach: Orawing(s) of road, location,pit and proposed ar Photocopied section of involved 7.5' topographic	c sheet. tion Form: PS WW-7
See Attached GPS Well Loca	
2	2 . 11 RECEIVED
2	Alliga Office of Oil and Gas
Plan Approved by: Bany	APR 1 4 2015
See Attached GPS Well Loca Plan Approved by: Comments: Title: Inspector	Allige Office of Oil and Gas

Jackson Mill S.C. #1 & #2

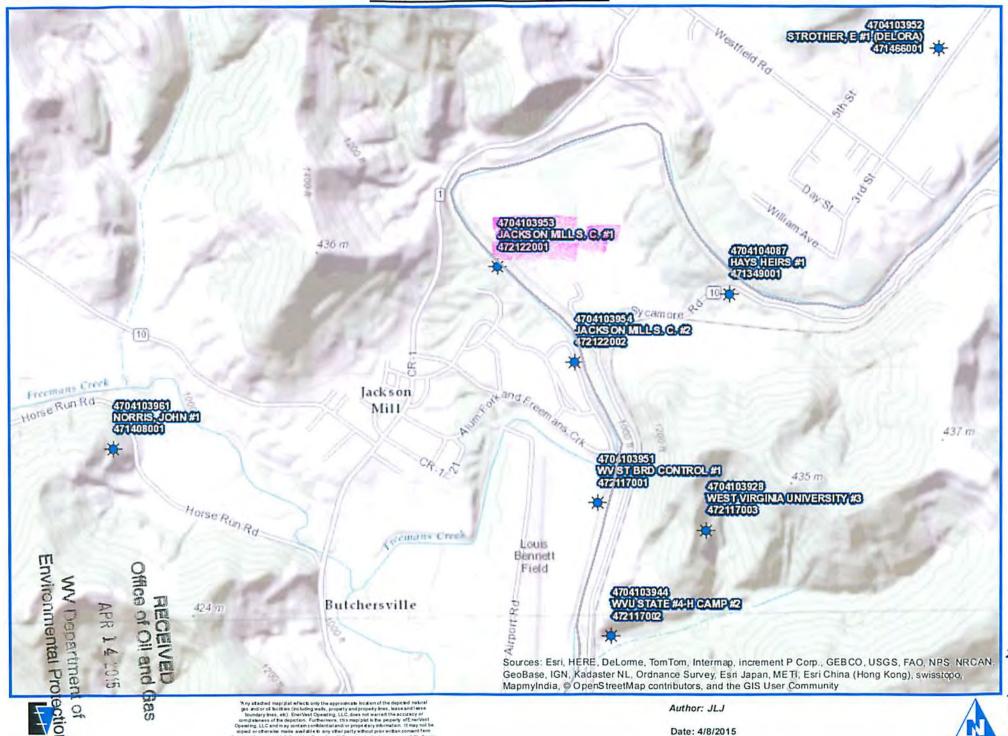


ENERVEST

Date: 4/8/2015



Jackson Mill S.C. #1 & #2



EnerVestOperating, LLC EnerVest Operating, LLC expressly disclaims responsibility for any action, activity or decision by a fixed party on the basis of their formation depicted on this mappilat.

Date: 4/8/2015

40

WW-7 8-30-06



West Virginia Department of Environmental Protection Office of Oil and Gas

WELL LO	CATION FORM: GPS	
API: 47-041-03953	WELL NO.: Jacks	on Mill S.C. #1 (S-801)
FARM NAME: WVU Exter		
RESPONSIBLE PARTY NAME:	Jerry L. Jackson	
COUNTY: Lewis	bistrict: Freer	mans Creek
QUADRANGLE: Weston 7 SURFACE OWNER: WVU E	.5 Weston 1.5	
SURFACE OWNER: WVU E	xtension Service	
ROYALTY OWNER: West V	/irginia University	
UTM GPS NORTHING: 43282		
UTM GPS EASTING: 545742		_{N:} 994
The Responsible Party named above preparing a new well location plat for above well. The Office of Oil and Gothe following requirements: 1. Datum: NAD 1983, Zono height above mean sea leterated above mean sea leterated. 2. Accuracy to Datum – 3.0 and Collection Method: Survey grade GPS: Post Preparent for a new formation of the preparent	or a plugging permit or assigned API as will not accept GPS coordinates to as will not accept GPS coordinates to as will not accept GPS coordinates to a second coordinate Units: meters are level (MSL) – meters.	I number on the hat do not meet
	ime Differential	APR 1 4 2015
Mapping Grade GPS: Post		tment of
4. Letter size copy of the t I the undersigned, hereby certify this belief and shows all the information prescribed by the Office of Oil and O	required by law and the regulations	locattenvironmental 1 100 owledge and
() 70h	Sr. District Landman	4/8/2015
Signature	Title	Date



EnerVest Operating, L.L.C.

Eastern Division

1064 Old Route 33, Weston, WV 26452-7722 Phone (304) 517-1102 Fax (304) 517-1107

VIA CERTIFIED MAIL

April 13, 2015

Office of the Director
West Virginia University Extension Service
29 Beechurst Ave.
Morgantown, WV 26506-6031

Re: Plugging Permit Applications

API# 47-041-03953 Jackson Mill S.C. #1 (S-801) API# 47-041-03954 Jackson Mill S.C. #2 (S-802) Jackson Mill State 4-H Camp & Conference Center Freeman Creek District, Lewis County, WV

Dear Surface, Coal, Oil & Gas Owner:

Pursuant to Chapter 22 of the West Virginia Code, enclosed please find copies of the following documents applicable to the proposed plugging of each of the subject wells:

- Form WW-7 Well Location Form: GPS
- Form WW-9 Construction and Reclamation Plan and Site Registration Application
- Form WW-4A Notice of Application to Plug and Abandon a Well
- Form WW-4B Application for a Permit to Plug and Abandon
- Surface Owner Waiver (2 copies)
- Coal Owner Waiver (2 copies)

These applications are being filed by EnerVest with the Administrator of the Office of Oil and Gas of the West Virginia Department of Environmental Protection. If you have no objections to the proposed process for the plugging of these wells, please sign the Voluntary Statement of No Objection on the Surface Owner Waiver and Coal Owner Waiver for each well. Then please return executed Surface and Coal Waivers for each well to our office in the enclosed envelope.

Comments as to the location construction or the proposed well work may, pursuant to West Virginia Code, be filed by you with the said Administrator within five (5) days after the Application is filed by EnerVest. The address of the Administrator for the purpose of filing comments and obtaining additional information is:

Permit Administrator

West Virginia Division of Environmental Protection Office of Oil and Gas 601 57th Street, SE Charleston, WV 25304

Persons who may file such comments are: (i) the owners of record of the surface of the tract on which the well is or is to be located, and (ii) the owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if such surface tract is to be utilized for road or other land disturbance described in the Erosion and Sediment Control Plan referred to above; and (iii) except as and when not required by the laws of West Virginia and the rules of the West Virginia Department of Mines, any coal operator operating coal seams beneath the oil and gas leasehold upon which said well is or is to be located as well as the owner(s) and lessee(s), if any of such coal seams.

Sincerely,

EnerVest Operating, L.L.C.

Jerry L. Jackson

Senior District Landman

Enclosures

cc: Jackson Mill State Camp Director

File

 Operator:
 ENERVEST OPERATING L. L. C.

 API:
 4103953

 WELL No:
 1

 Reviewed by:
 9 wm
 Date:
 6/16/15

 D5 Day End of Comment:
 04/20/15

CHECKLIST FOR FILING A PERMIT

Plugging

1	WW-4B
1	Inspector signature on WW-4B
1	Completion / Well Records of Previous Work
/	WW-4A (Notarized)
1	Certified Mail Receipts, Waivers, or Affidavits of Personal Service
	Surface Owner Waiver
	Coal Owner / Lessee /Operator Waiver
/	WW-9 (Page 1) (Notarized)
1	Inspector Signature on WW-9 (Optional)
1	Topographic Map of location of well
1	WW-7
	OR
	Mylar Plat (Surface owner on plat matches WW-4A)
	Bond
1	Company is Registered with the SOS
/	Worker's Compensation / Unemployment Insurance account is OK
Yo.	\$100.00 check (\$0.00 if no pit)