

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

February 28, 2014

WELL WORK PERMIT

Horizontal 6A Well

This permit, API Well Number: 47-9502139, issued to JAY-BEE OIL & GAS, 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: SCOOBY DOO 4

Farm Name: BOYD, JOSEPH API Well Number: 47-9502139

Permit Type: Horizontal 6A Well

Date Issued: 02/28/2014

PERMIT CONDITIONS

West Virginia Code § 22-6A-8(d) allows the Office of Oil and Gas to place specific conditions upon this permit. Permit conditions have the same effect as law. <u>Failure to adhere to the specified permit</u> conditions may result in enforcement action.

CONDITIONS

- 1. This proposed activity may require permit coverage from the United States Army Corps of Engineers (USACOE). Through this permit, you are hereby being advised to consult with USACOE regarding this proposed activity.
- 2. 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 § 22-6A-5a (12), 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.
- 3. When compacting fills, each lift before compaction shall not be more than 12 inches in height, and the moisture content of the fill material shall be within limits as determined by the Standard Proctor Density test of the actual soils used in specific engineered fill, ASTM D698, Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort, to achieve 95 % compaction of the optimum density. Each lift shall be tested for compaction, with a minimum of two tests per lift per acre of fill. All test results shall be maintained on site and available for review.
- 4. Operator shall install signage per § 22-6A-8g (6) (B) at all source water locations included in their approved water management plan within 24 hours of water management plan activation.
- 5. Oil and gas water supply wells will be registered with the Office of Oil and Gas and all such wells will be constructed and plugged in accordance with the standards of the Bureau for Public Health set forth in its Legislative rule entitled *Water Well Regulations*, 64 C.S.R. 19. Operator is to contact the Bureau of Public Health regarding permit requirements. In lieu of plugging, the operator may transfer the well to the surface owner upon agreement of the parties. All drinking water wells within fifteen hundred feet of the water supply well shall be flow tested by the operator upon request of the drinking well owner prior to operating the water supply well.
- 6. Pursuant to the requirements pertaining to the sampling of domestic water supply wells/springs the operator shall, no later than thirty (30) days after receipt of analytical data provide a written copy to the Chief and any of the users who may have requested such analyses.
- 7. If any explosion or other accident causing loss of life or serious personal injury occurs in or about a well or well work on a well, the well operator or its contractor shall give notice, stating the particulars of the explosion or accident, to the oil and gas inspector and the Chief, within 24 hours of said accident.
- 8. During the casing and cementing process, in the event cement does not return to the surface, the oil and gas inspector shall be notified within 24 hours.



Applicant: JAY BEE OIL & GAS Reference ID: Scooby-Doo 4

(10/17/2013) Status: New Type: Horizontal 6A Well

Permit ID: 9502139

Printed: Feb. 28, 2014 3:03

PM

WW-6B: General and Location Information

API Number:	47-095-02139 (47)
Operator's Well Number:	Scooby-Doo 4
Filing Fee:	○ First Well on Pad
Well Pad Name:	Scooby-Doo Pad
Surface Owner:	Joseph Boyd
Public Road Access:	Indian Creek Rd
Please attach each of the following	ng as seperate documents:
Well Plat	
Wellbore Schematic	
County: Tyler-xx	District: McFlrov-yy

County:	Tyler-xx	▼	District:	McElroy-xx ▼
Quadrangle:	SHIRLEY		-	
Top Hole(UTM NA	AD83):			
Easting: 5	516687.9	Northing:	4365375.2	Zone: 17 🔽 👩
Proposed Landing	g Point(UTM):			
Easting: 5	516147.7	Northing:	4365663.3	Zone: 17 <u>▼</u> 🤣
Proposed Bottom	Hole(UTM):			
Easting: 5	515099.4	Northing:	4366963.3	Zone: 17 🔻 💋
Elevations (feet)	- Current Ground	1058.5		Proposed Post-Construction: 1042.34

Well Type:	Gas	○ Oil
	C Underground Storage	Other
Will well be drilled	more than 100 feet into the Onondaga	a Group? ○ Yes • No
Depth Type:	Shallow	C Deep
Existing Pad?	C Yes	• No

WW-6B: Target Formations

Complete the following table.			
Target Formation	Depth-Top (ft)	Anticipated Thickness (ft)	Associated Pressure (psi)
Marcellus	6842	40	3500

WW-6B: Depth Specifics

Proposed Post-Construction Elevation:	1042.34		
Proposed Total Vertical Depth:	6842	(ft.)	
Formation at Total Vertical Depth:	Marcellus		
Proposed Total Measured Depth:	15100	(ft.)	
Proposed Total Horizontal Leg Length:	8258	(ft.)	
Method to Determine Fresh Water Depth:			
47-095-30476 for Freshwater, s depth, so nearest creek level			* ·

		Approximate Fresh Water Strata Depths	
348.34	(ft.)		

	Approximate Coal Seam Depths	
	Approximate Coal Seam Deptilis	
456.34 (ft	.) Coal Seam Name, if known:	
706.34 (ft	.) Coal Seam Name, if known: Pittsburgh	
1501.34 (ft	.) Coal Seam Name, if known: Freeport	

	Approximate Depth to Possible Void(coal mine, karst, other)	
(ft.)	Not Anticipated:	

Аррі	oximate Saltwater Depths
N/A (ft.)	

WW-6B: Well Work and Mine Details

Is proposed well local	tion directly overlying or tributary to an act	ive mine?		
○ Yes • 1	No			
If Yes, indicate name	, depth, coal seam and owner of mine:			
Coal Seam:		Depth:		
Mine Name:		Owner:		
,				
Describe proposed w	rell work, including the drilling and plugging	g back of any	pilot hole.	
Drill and Stim	nulate a new Horizontal Well	. Using a	top hole	_
rig, we will d	drill top hole to kick off po	oint by d	rilling the	
	eshwater and intermediate hol		2	
directional ri	g we will drill the product:	ion holes	•	
				▼
Describe fracturing/st	timulating methods in detail, including anti	cipated max	pressure and anticipa	ated max rate.
I I	stage 8,500bbls of water, 150			*
	n reducer, 1# per gallon, sca			
bacteria preve	ention 1/4# per gallon 2000 o	gallons 1	5% VOL acid.	~
Total area to be distu	irbed, including roads, stockpile area, pits,	etc, (acres):	16.3	
Area to be disturbed t	for well pad only, less access road (acres)): 4.9		

WW-6B: Casing and Cementing

Complete the following table, adding as many rows of each Type as needed.								
Туре	Size (in)	New or Used		Grade	Weight per ft. (lb/ft)		age: For rilling	Intervals: Left in Well
Conductor	16	New	J55		40	30		30
	Wellbore Dia	ameter (in)		Wall T	hickness (in)		Burst Pre	ssure (psi)
	17.5			.495		300	00	
	Cement Typ	ре	Yiel	d (cu. ft./sk)	Fillup - Cubic	Feet	Top of Cement	
	Class A Cement		1.19		8.22		0	<u> </u>
Туре	Size (in)	New or Used		Grade	Weight per ft. (lb/ft)		age: For rilling	Intervals: Left in Well
Type Fresh Water Type	. ,		J55		(lb/ft)			
	` '	Used New	J55	5	(lb/ft)	D	rilling	Well
	11 3/4	Used New	J55	5	(lb/ft) 32	D	rilling Burst Pre	Well 400
	11 3/4 Wellbore Dia	New ameter (in)		Wall T	(lb/ft) 32	400 150	rilling Burst Pre	Well 400 ssure (psi) Circulated to

02/28/2014

Туре	Size (in)	New or Used		Grade	Weight per ft. (lb/ft)		age: For Frilling	Intervals: Left in Well	
Intermediate 💌	8 5/8	New	J55	J55 24/23		2000		2000	
	Wellbore Diameter (in)			Wall Thickness (in)			Burst Pressure (psi)		
	.264		2500						
	Cement Type Yiel		d (cu. ft./sk)	Fillup - Cubic Feet		Top of Cemen			
	Class A Cement		1.45		508.43		0	~	
	Size (in) New or Used								
Туре	Size (in)			Grade			age: For rilling	Intervals: Left in Well	
Type Production	Size (in)		P1				rilling		
	` '	Used New	P1	10	(lb/ft)	D	orilling O	Well	
	5 1/2	Used New	P1	10	(lb/ft) 17/20	D	orilling 0 Burst Pre	Well 15100	
	5 1/2 Wellbore Dia	Used New ameter (in)		10 Wall T	(lb/ft) 17/20	1510 1510	orilling 0 Burst Pre	Well 15100 sssure (psi) Circulated to	

WW-6B: Centralizers, Cement, Borehole

Describe proposed borehole conditioning procedures.	
Air Hole: 15" hole for the 11 3/4 fresh water case - Circulate until clean with air. If soaping, slug then dry. Air Hole: 11" hole for the 8 5/8 intermediate base - Circulate until clean with air. If soaping, slug then dry. 7 7/8" hole for the 5 1/2 production case - Circulate with mud and sweeps for two times bottoms up. If needed weight up mud until no cuttings retrieved, then circulate with mud and sweeps for two times bottoms up.	^
	*
Centralizers Type and Placement.	
Vertical - Every 500' Bow Centralizer, and 50' from top of ground. Horizontal every 42' Spiral Centralizer, Curve - Every 84' Spiral Centralizer.	^
	+
Cement Additives.	

```
Superior Well Services - 15" hole for the 11 3/4 fresh water case, Class A Cement, 2% Calcium Chloride, 1/4# flake.

Superior Well Services - 11" hole for the 8 5/8 intermediate base, Class A Cement, 2% Calcium Chloride

Baker Hughes - 7 7/8" hole for the 5 1/2 production case, Type

1 Cement, Fly Ash, Barite, Finetol 300L, R-3 Celio Flake,

Sugar, CD-32, FL-62
```

WW-9: Fluids, Cuttings Disposal and Reclamation Plan

State: West Virginia District: 05	County: Tyler-xx Quadrangle: SHIRLEY
Zone: <u>17</u> Northing: <u>4365375.2</u>	Easting: <u>516687.9</u>
API Number: 47-095-02139 Operator Well Number: Scooby-Doo 4	
Do you anticipate drilling/redrilling well work? • Yes • No	
S TES S NO	
Will a pit be used for plugging activities?	No No
If so, please describe anticipated pit waste:	
Drill Cuttings - Air Drilling	**************************************
,	
Will a synthetic liner be used in the pit? • Yes	○ No
If so, what ml.? 60	
Proposed Disposal Method For Treated Pit Waste Wa	
Underground Injection (UIC Permit Num	ber 47-085-09721
Reuse (at API Number	
	†
Other (explain)	
Using Contract Haulers Nort	e/CES (API's 47-085-05151)
	▼
Will closed loop system be used? • Yes C N	No
If so, describe:	
Centrifuge System (Boss, Newalt	ta) Possible

Brine Base Drilling Mud					
		₹			
oil based, what type? Synthetic, petroleum, et	tc.				
Water Based		^			
		▼			
ditives to be used in drilling medium?					
Bentonite, Salt, Soda Ash		^			
		₹			
lid Waste disposal method from Plugging Ac	tivities:				
Leave in Pit (Indicate medium used: ceme	nt, sawdust, lime, etc):				
Landfill (name/permit number?)					
Removed Offsite (name/permit number?)	Meadowfill/Permit 101219WV				
Other: (please explain)					
Prop	osed Revegetation Treatment:				
	-	6.8			
res Disturbed: 16.3	Prevegetation ph:	6.8			
res Disturbed: 16.3 The Tons/acre to correct to pH: 3	Prevegetation pH:	6.8			
res Disturbed: 16.3 ne Tons/acre to correct to pH: 3 rtilizer (10-20-20 or equivalent): 750	-	6.8			
res Disturbed: 16.3 ne Tons/acre to correct to pH: 3	Prevegetation pH:	6.8			

Seed Mixtures				
Area Type	Seed Type	lbs/acre		
Permanent 🔻	KY-31	20		
Permanent 💌	Creeping Red Fescue	30		
Permanent 🔻	Lathco Flat Pea/Perennial Ryegrass	30		
Temporary 🔻	Annual Ryegrass	40		

Fluids, Cuttings Disposal and Reclamation Plan: WW-9: Certification

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on August 1, 2005, by the Office of Oil and Gas of the West Virginia Department of Environmental Protection. I

	t the provisions of the pe ther applicable law or reç			ations of any term or condition of action.	the general		
application form for obtaining th	n and all attachments the e information, I believe th	reto and that, based at the information is	d on my inquiry s true, accurate	iliar with the information submitt y of those individuals immediate e, and complete. I am aware tha ity of fine or imprisonment.	ly responsible		
FOR EXECUTI	ON BY A NATURAL PE	RSON, A CORPOR	ATION, ETC.				
	Shane Dowell				1		
		Name	e (Print)		_		
	Office Manager						
		Title	(Print)				
	Jay-Bee Oil & Gas, Inc						
	Company (Print)						
					1		
		Signature		Date			
Subscribed and	sworn before me this		Day of	20			
My Commission	n Expires						
	Cianature of Natary Dubl	io.	<u>-</u>	(Seel)			
	Signature of Notary Publ	IC		(Seal)			

JAY -BEE OIL & GAS INC 3570 SHIELDS HILL RD CAIRO, WV 26337 OFFICE (304) 628-3111 FAX (304) 628-3107

WELL SITE DRILLING PROCEDURES AND SITE SAFETY PLAN Per 35CSR8/§22-6A

(Any changes or modifications to previously approved plans must be approved by the West Virginia Department of Environmental Protection - Office of Oil and Gas)

A copy of this plan will be provided to the local emergency planning committee or county emergency services offices at least 7 days prior to land disturbance from well work.

SITING STANDARDS

Well Name	Scooby-Doo Pad				
Well Pad					
Latitude/Longitude	NAD83- Lat. 39.43775955 Long80.80607903				
Location of Access Road	From WV18 and Indian Creek Rd, .9 miles east.				
Detail of Actual Well Work	Drill and Stimulate a New Horizontal Well.				
Detail of Completion and Production Activities	Fracturing/ Stimulating Methods 300-350' per stage 8,500bbls of water, 150,000 – 400,000lbs of sand, friction reducer, 1# per gallon, scale inhibitor, and bacteria prevention 1/4# per gallon 2000 gallons 15% vol acid.				
Directions to Well	From Middlebourne city center, head south down WV 18 for 6.7 miles. Turn left onto Indian Creek Rd, and follow east for .9 miles. Turn right onto lease road.				
Prevailing Wind Direction	South/ South East				

Minors .

west virginia department of environmental protection



Water Management Plan: Secondary Water Sources



WMP-01759

API/ID Number

047-095-02139

Operator:

Jay-Bee Oil & Gas, Inc.

Scooby-Doo 4

Important:

For each proposed secondary water source identified in your water management plan (i.e., groundwater well, lake/reservoir, recycled frac water, multi-site impoundment, out-of-state source), DEP makes no estimation of the availability of water. These sources may prove to be unsuitable water supplies. Please review the following notes:

- For groundwater supply wells, DEP recommends that the operator contact the local health department prior to drilling any new well; and reminds the operator that all drinking water wells within 1,500 feet of a water supply well shall be flow- and quality-tested by the operator at the request of the drinking well owner prior to operation of the water supply well.
- •For each proposed multi-site impoundment water source identified in your water management plan (if applicable), DEP will review the withdrawal limits established in the referenced Water Management Plan for current suitability and provide to the operator these limits for each identified intake. Note that withdrawal limits may be modified as necessary based on changing demands upon that water supply.

Multi-site impoundment

Source ID: 34222 Source Name Indian Creek Freshwater Centralized Impoundment

Source start date:

4/1/2014

Source end date:

4/1/2015

Source Lat:

39.482507

Source Long:

-80.785834

County

Tyler

Max. Daily Purchase (gal)

Total Volume from Source (gal):

7,854,000

DEP Comments:

The intake identified above has been defined in a previous water management plan. The thresholds established in that plan govern this water management plan unless otherwise noted.

Reference: WMP-963

APPROVED FEB 0 3 2014

WMP- 01759	API/ID Number	047-095-02139	Operator:	Jay-Bee Oil & Gas, Inc.
	_			

Scooby-Doo 4

Important:

For each proposed secondary water source identified in your water management plan (i.e., groundwater well, lake/reservoir, recycled frac water, multi-site impoundment, out-of-state source), DEP makes no estimation of the availability of water. These sources may prove to be unsuitable water supplies. Please review the following notes:

- •For groundwater supply wells, DEP recommends that the operator contact the local health department prior to drilling any new well; and reminds the operator that all drinking water wells within 1,500 feet of a water supply well shall be flow- and quality-tested by the operator at the request of the drinking well owner prior to operation of the water supply well.
- •For each proposed multi-site impoundment water source identified in your water management plan (if applicable), DEP will review the withdrawal limits established in the referenced Water Management Plan for current suitability and provide to the operator these limits for each identified intake. Note that withdrawal limits may be modified as necessary based on changing demands upon that water supply.

Recycled Frac Water

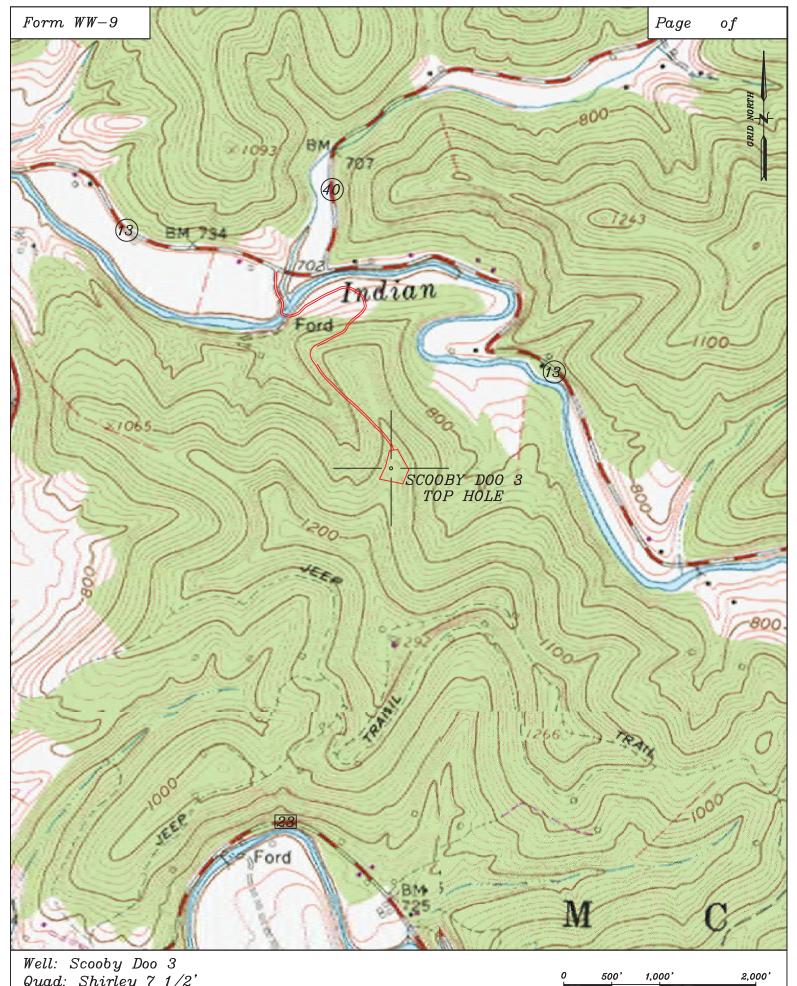
Source ID: 34223 Source Name Various Source start date: 4/1/2014

Source end date: 4/1/2015

Source Lat: Source Long: County

Max. Daily Purchase (gal) Total Volume from Source (gal): 7,854,000

DEP Comments:



Quad: Scoooy Doo 3
Quad: Shirley 7 1/2'
District: McElroy
County: Tyler

0 500' 1,000' 2,000' Scale: 1"=1,060'28/2014

