



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

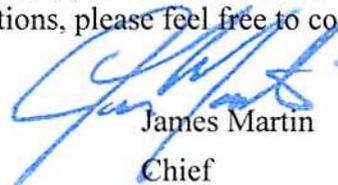
Horizontal 6A Well

This permit, API Well Number: 47-9502138, 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 3
Farm Name: BOYD, JOSEPH
API Well Number: 47-9502138
Permit Type: Horizontal 6A Well
Date Issued: 02/28/2014

Promoting a healthy environment.

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. Failure to adhere to the specified permit 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 3 (10/17/2013) Status: New	Type: Horizontal 6A Well Permit ID: 9502138 Printed: Feb. 28, 2014 3:05 PM

WW-6B: General and Location Information

API Number:	<input type="text" value="47-095-02138"/>	(47-____-____)
Operator's Well Number:	<input type="text" value="Scooby-Doo 3"/>	
Filing Fee:	<input type="radio"/> First Well on Pad <input checked="" type="radio"/> Subsequent Well on Pad	<input type="text" value="5,150.00"/>
Well Pad Name:	<input type="text" value="Scooby-Doo Pad"/>	
Surface Owner:	<input type="text" value="Joseph Boyd"/>	
Public Road Access:	<input type="text" value="Indian Creek Rd"/>	

Please attach each of the following as separate documents:

- Well Plat
- Wellbore Schematic

County:	<input type="text" value="Tyler-xx"/>	District:	<input type="text" value="McElroy-xx"/>
Quadrangle:	<input type="text" value="SHIRLEY"/>		
Top Hole(UTM NAD83):			
Easting:	<input type="text" value="516687.7"/>	Northing:	<input type="text" value="4365379.7"/>
Zone:	<input type="text" value="17"/>		
Proposed Landing Point(UTM):			
Easting:	<input type="text" value="516687.7"/>	Northing:	<input type="text" value="4365379.7"/>
Zone:	<input type="text" value="17"/>		
Proposed Bottom Hole(UTM):			
Easting:	<input type="text" value="515174.2"/>	Northing:	<input type="text" value="4367448.5"/>
Zone:	<input type="text" value="17"/>		
Elevations (feet) -- Current Ground:	<input type="text" value="1058.5"/>	Proposed Post-Construction:	<input type="text" value="1042.34"/>

Well Type:	<input checked="" type="radio"/> Gas <input type="radio"/> Oil
	<input type="radio"/> Underground Storage <input type="radio"/> Other <input type="text"/>
Will well be drilled more than 100 feet into the Onondaga Group?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Depth Type:	<input checked="" type="radio"/> Shallow <input type="radio"/> Deep
Existing Pad?	<input type="radio"/> Yes <input checked="" type="radio"/> 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:

Proposed Total Vertical Depth: (ft.)

Formation at Total Vertical Depth:

Proposed Total Measured Depth: (ft.)

Proposed Total Horizontal Leg Length: (ft.)

Method to Determine Fresh Water Depth:

47-095-30476 for Freshwater, salt and coal. No freshwater depth, so nearest creek level was used at 694' elevation.

Approximate Fresh Water Strata Depths

(ft.)

Approximate Coal Seam Depths

<input type="text" value="456.34"/> (ft.)	Coal Seam Name, if known: <input type="text"/>
<input type="text" value="706.34"/> (ft.)	Coal Seam Name, if known: <input type="text" value="Pittsburgh"/>
<input type="text" value="1501.34"/> (ft.)	Coal Seam Name, if known: <input type="text" value="Freeport"/>

Approximate Depth to Possible Void(coal mine, karst, other)

(ft.) Not Anticipated:

Approximate Saltwater Depths

(ft.)

WW-6B: Well Work and Mine Details

Is proposed well location directly overlying or tributary to an active mine?

Yes No

If Yes, indicate name, depth, coal seam and owner of mine:

Coal Seam: Depth:
 Mine Name: Owner:

Describe proposed well work, including the drilling and plugging back of any pilot hole.

Drill and Stimulate a new Horizontal Well. Using a top hole rig, we will drill top hole to kick off point by drilling the conductor, freshwater and intermediate holes. Using a directional rig we will drill the production holes.

Describe fracturing/stimulating methods in detail, including anticipated max pressure and anticipated max rate.

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.

Total area to be disturbed, including roads, stockpile area, pits, etc. (acres):

Area to be disturbed for well pad only, less access road (acres):

WW-6B: Casing and Cementing

Complete the following table, adding as many rows of each **Type** as needed.

Type	Size (in)	New or Used	Grade	Weight per ft. (lb/ft)	Footage: For Drilling	Intervals: Left in Well
Conductor	16	New	J55	40	30	30
Wellbore Diameter (in)		Wall Thickness (in)		Burst Pressure (psi)		
17.5		.495		3000		
Cement Type		Yield (cu. ft./sk)	Fillup - Cubic Feet	Top of Cement	Circulated to Surface?	
Class A Cement		1.19	8.22	0	<input checked="" type="checkbox"/>	
Type	Size (in)	New or Used	Grade	Weight per ft. (lb/ft)	Footage: For Drilling	Intervals: Left in Well
Fresh Water	11 3/4	New	J55	32	400	400
Wellbore Diameter (in)		Wall Thickness (in)		Burst Pressure (psi)		
15		.333		1500		
Cement Type		Yield (cu. ft./sk)	Fillup - Cubic Feet	Top of Cement	Circulated to Surface?	
Class A Cement		1.26	189.67	0	<input checked="" type="checkbox"/>	

Type	Size (in)	New or Used	Grade	Weight per ft. (lb/ft)	Footage: For Drilling	Intervals: Left in Well
Intermediate ▾	8 5/8	New	J55	24/23	2000	2000
Wellbore Diameter (in)		Wall Thickness (in)		Burst Pressure (psi)		
11		.264		2500		
Cement Type		Yield (cu. ft./sk)	Fillup - Cubic Feet	Top of Cement	Circulated to Surface?	
Class A Cement		1.45	508.43	0	<input checked="" type="checkbox"/>	
Type	Size (in)	New or Used	Grade	Weight per ft. (lb/ft)	Footage: For Drilling	Intervals: Left in Well
Production ▾	5 1/2	New	P110	17/20	15825	15825
Wellbore Diameter (in)		Wall Thickness (in)		Burst Pressure (psi)		
7 7/8		.304		15000		
Cement Type		Yield (cu. ft./sk)	Fillup - Cubic Feet	Top of Cement	Circulated to Surface?	
Type 1 Cement		1.34	2568.5	1000	<input type="checkbox"/>	

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.

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc.

Brine Base Drilling Mud

If oil based, what type? Synthetic, petroleum, etc.

Water Based

Additives to be used in drilling medium?

Bentonite, Salt, Soda Ash

Solid Waste disposal method from Plugging Activities:

- Leave in Pit (Indicate medium used: cement, sawdust, lime, etc):
- Landfill (name/permit number?)
- Removed Offsite (name/permit number?) Meadowfill/Permit 101219WV
- Other: (please explain)

Proposed Revegetation Treatment:

Acres Disturbed: 16.3 Prevegetation pH: 6.8
 Lime Tons/acre to correct to pH: 3
 Fertilizer (10-20-20 or equivalent): 750 lbs/acre
 Mulch Hay 2000 lbs/acre
 Comments:
 Attach a Reclamation Plan/Drawing

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

understand that the provisions of the permit are enforceable by law. Violations of any term or condition of the general permit and/or other applicable law or regulation can lead to enforcement action.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment.

FOR EXECUTION BY A NATURAL PERSON, A CORPORATION, ETC.

Shane Dowell

Name (Print)

Office Manager

Title (Print)

Jay-Bee Oil & Gas, Inc

Company (Print)

Signature

Date

Subscribed and sworn before me this _____ Day of _____ 20____.

My Commission Expires _____

Signature of Notary Public

(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 3
Well Pad	Scooby-Doo Pad
Latitude/Longitude	NAD83- Lat. 39.43779561 Long. -80.80609056
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	<u>Fracturing/ Stimulating Methods</u> 300-350' per stage 8,500bbls of water, 150,000 – 400,000lbs of sand, friction reducer, 1# per gallon, scale inhibitor, and bacteria prevention ¼# 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

[Handwritten signature]
12-10-13



Water Management Plan: Secondary Water Sources



WMP-01758	API/ID Number 047-095-02138	Operator:	Jay-Bee Oil & Gas, Inc.
	Scooby-Doo 3		

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:	34220	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 03 2014

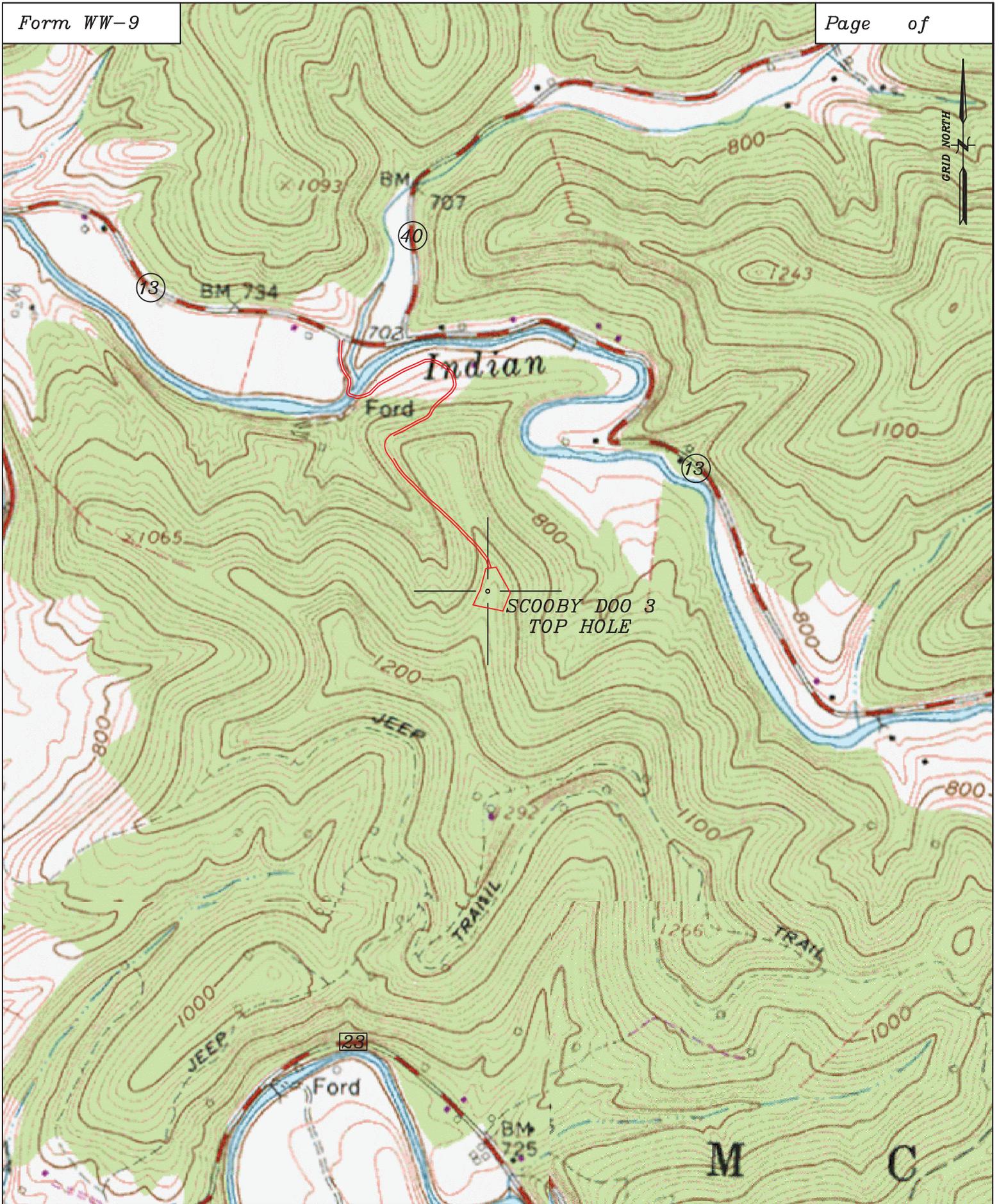
Important:

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:

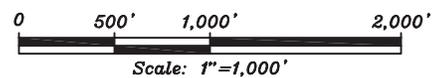
- For groundwater supply wells, DEP recommends that the operator contact the local health department prior to drilling any new well; and reminds the operator that all drinking water wells within 1,500 feet of a water supply well shall be flow- and quality-tested by the operator at the request of the 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.

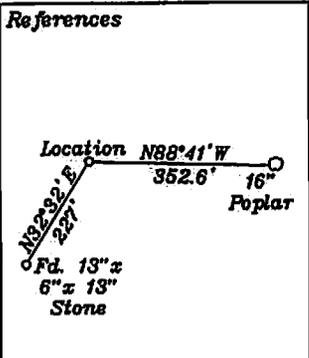
Recycled Frac Water

Source ID:	34221	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:				



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





Note: All wells within 500' of the horizontal leg are shown on this plat based upon information taken from DEP mapping, well plats & aerial photos.

Location Scooby Doo 3 Bottom Hole

- A- Joseph Boyd TM 10/12 21.25 ac.
- B- Frey TM 10/11 85 ac.
- C- McMahon 55 ac. TM 10/10
- D- Donahue 30 ac. TM 10/13.1
- E- Donahue 18 ac. TM 10/9
- F- R. Warner 14.862 ac. TM 10/2.5
- G- McMahon 0.36 ac. TM 10/48
- H- Miller 27.25 ac. TM 10/3
- I- Wright 2 ac. TM 10/47
- J- Starcher 60.832 ac. TM 10/2.14
- K- Haight 80.85 ac. TM 10/43
- L- Kile 29.62 ac. TM 10/8

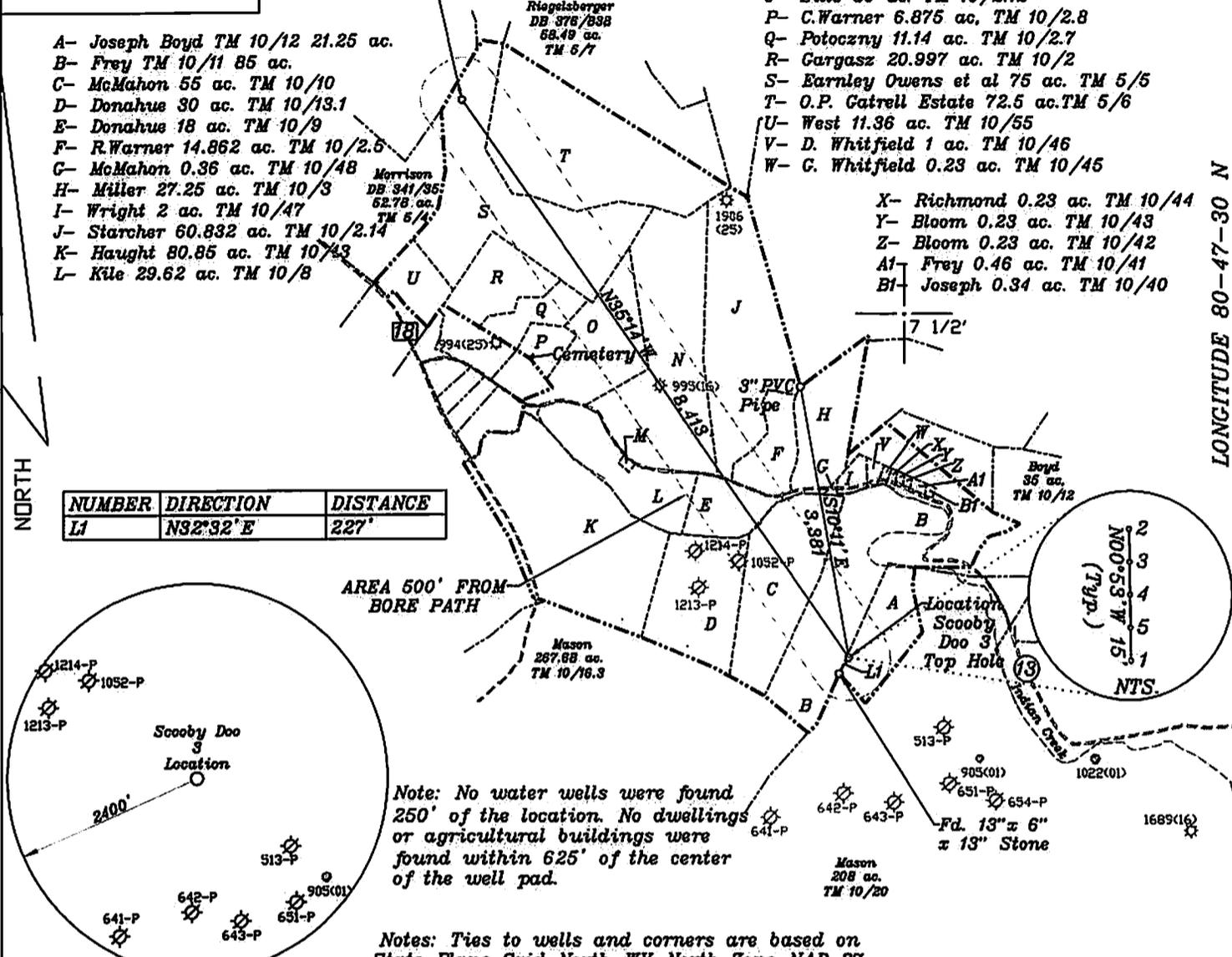
Bottom Hole 9,081'
LATITUDE 39-27-30 N

Top Hole
NAD 27- 39.437722 N, 80.806255 W
UTM NAD 83 (Meters)- 4365379.7 N, 516687.7 E
State Plane NAD 27- 344219.6 N, 1631075.0 E

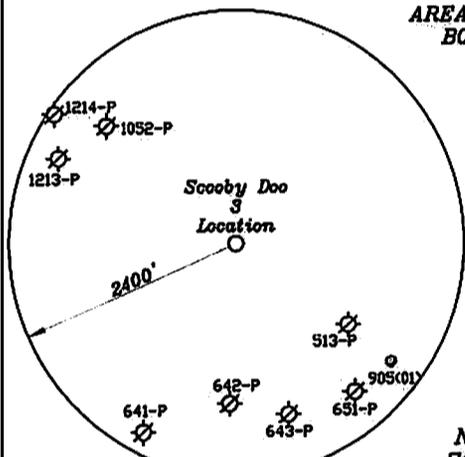
Bottom Hole
NAD 27- 39.456392 N, 80.823795 W
UTM NAD 83 (Meters)- 4367448.5 N, 515174.2 E
State Plane NAD 27- 351091 N, 1626222 E

- M- Dillon 0.452 ac. TM 10/8.1
- N- Zills 72.942 ac. TM 10/2.11
- O- Zills 30 ac. TM 10/2.12
- P- C. Warner 6.875 ac. TM 10/2.8
- Q- Potoczny 11.14 ac. TM 10/2.7
- R- Cargasz 20.997 ac. TM 10/2
- S- Earnley Owens et al 75 ac. TM 5/5
- T- O.P. Catrell Estate 72.5 ac. TM 5/6
- U- West 11.36 ac. TM 10/55
- V- D. Whitfield 1 ac. TM 10/46
- W- C. Whitfield 0.23 ac. TM 10/45

- X- Richmond 0.23 ac. TM 10/44
- Y- Bloom 0.23 ac. TM 10/43
- Z- Bloom 0.23 ac. TM 10/42
- A1- Frey 0.46 ac. TM 10/41
- B1- Joseph 0.34 ac. TM 10/40



NUMBER	DIRECTION	DISTANCE
L1	N32°32'E	227'



Note: No water wells were found 250' of the location. No dwellings or agricultural buildings were found within 625' of the center of the well pad.

Notes: Ties to wells and corners are based on State Plane Grid North-WV North Zone NAD 27.

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

FILE NO. _____
DRAWING NO. 1
SCALE 1" = 2000'
MINIMUM DEGREE OF ACCURACY 1 in 200
PROVEN SOURCE OF ELEVATION GPS
submeter unit

I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENERGY.
(SIGNED) David L. Jackson
R.P.E. _____ L.S. 708



STATE OF WEST VIRGINIA
Division of Environmental Protection
OFFICE OF OIL AND GAS

DATE November 12, 2013
OPERATOR'S WELL NO. Scooby Doo 3
API WELL NO. _____

WELL TYPE: OIL X GAS X LIQUID INJECTION _____ WASTE DISPOSAL _____
(IF 'GAS') PRODUCTION X STORAGE _____ DEEP _____ SHALLOW X

LOCATION: ELEVATION 1,042.3' WATER SHED Indian Creek
DISTRICT McElroy COUNTY Tyler
QUADRANGLE Shirley 7 1/2'

SURFACE OWNER Joseph Boyd (T.M. 10/12) Lonnie C. & Debbie K. Frey (TM 10/11) ACREAGE 21.25 ac. & 85 ac.
OIL & GAS ROYALTY OWNER Joseph Boyd (TM.10/12), Michael Benedum of Blackrock Enterprises, LLC (TM.10/10, 11), Cathleen Donahue (TM.10/9), Donald Coleman (TM.10/2.11, 2.14), JB Exploration I, LLC (TM.10/2.12), Robert K. Owens (TM.5/5), Thelma Nichols (TM.5/6)

LEASE NO. & ACREAGE: W668C 21.25Ac., W699 705 109 Ac., T5003A 18 Ac., Exco144G 30 Ac., Exco144124B 60.832 Ac., Exco144124A 72.942 Ac., T5005 75 Ac., T3131A W683 72.5 Ac.

PROPOSED WORK: DRILL X CONVERT _____ DRILL DEEPER _____ REDRILL _____ FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION _____ PERFORATE NEW FORMATION X OTHER PHYSICAL CHANGE IN WELL (SPECIFY) _____

PLUG AND ABANDON _____ CLEAN OUT AND REPLUG _____
TARGET FORMATION Marcellus ESTIMATED DEPTH TD - 15,825' + TVD- 6842'
WELL OPERATOR Jay-Bee Oil & Gas, Inc. DESIGNATED AGENT Randy Broda
ADDRESS 1720 Rt. 22, East Union, NJ 07083 ADDRESS Route 1, Box 5, Cairo, WY 26337