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: 47-9502134, 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: SNEEZY 1
Farm Name: TESLOVICH, BRIAN
API Well Number: 47-9502134
Permit Type: Horizontal 6A Well
Date Issued: 02/28/2014

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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.

dep	**Applicant: JAY BEE OIL & GAS** **Reference ID: Sneezy 1 (10/17/2013)** **Status: New**	**Type: Horizontal 6A Well** **Permit ID: New/Pending** **Printed: Feb. 14, 2014 11:52 AM**

WW-6B: General and Location Information

API Number: 47-095-02134 (47-____-_____)

Operator's Well Number: Sneezy 1

Filing Fee: (•) First Well on Pad ( ) Subsequent Well on Pad 10,150.00

Well Pad Name: Sneezy (D415) Pad

Surface Owner: Brian Teslovich

Public Road Access: McIntyre Fork Rd

Please attach each of the following as seperate documents:

- Well Plat
- Wellbore Schematic

County: Tyler-xx District: McElroy-xx

Quadrangle: CENTER POINT

Top Hole(UTM NAD83):

Easting: 528366.2 Northing: 4364616.8 Zone: 17

Proposed Landing Point(UTM):

Easting: 528380.1 Northing: 4364340.3 Zone: 17

Proposed Bottom Hole(UTM):

Easting: 528914.7 Northing: 4363587.1 Zone: 17

Elevations (feet) -- Current Ground: 1356 Proposed Post-Construction: 1346

Well Type: (•) Gas ( ) Oil

( ) Underground Storage ( ) Other

Will well be drilled more than 100 feet into the Onondaga Group? ( ) Yes (•) No

Depth Type: (•) Shallow ( ) Deep

Existing Pad? ( ) Yes (•) No

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WW-6B: Target Formations

Complete the following table.

Target Formation	Depth-Top (ft)	Anticipated Thickness (ft)	Associated Pressure (psi)
Marcellus	7500	40	3500

WW-6B: Depth Specifics

Proposed Post-Construction Elevation: 1346

Proposed Total Vertical Depth: 7500 (ft.)

Formation at Total Vertical Depth: Marcellus

Proposed Total Measured Depth: 12800 (ft.)

Proposed Total Horizontal Leg Length: 5300 (ft.)

Method to Determine Fresh Water Depth:

API's 47-095-02025 & 47-095-02024 for saltwater depths. 47-017-02294 for freshwater depth.

Approximate Fresh Water Strata Depths
456 (ft.)

Approximate Coal Seam Depths
N/A (ft.) Coal Seam Name, if known:

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

Approximate Saltwater Depths
2090 (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:

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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): 6.2

Area to be disturbed for well pad only, less access road (acres): 2.3

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	40	40
	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	98.3		0	☑
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	506	506
	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	239.93		0	☑
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	2000	2000
	Wellbore Diameter (in)		Wall Thickness (in)		Burst Pressure (psi)	

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	11	.264	2500		
	Cement Type	Yield (cu. ft./sk)	Fillup - Cubic Feet	Top of Cement	Circulated to Surface?
	Class A Cement	1.45	505.3	0	☑

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	12800	12800

	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	2768	1000	☐

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-6B: Packers

Will Packers be Used? ○ Yes ◉ No

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If Yes, complete the following:

Kind	Sizes	Depths Set

WW-9: Fluids, Cuttings Disposal and Reclamation Plan

State: West Virginia
County: Tyler-xx
District: 05
Quadrangle: CENTER POINT
Zone: 17
Northing: 4364616.8
Easting: 528366.2

API Number: 47-095-02134
Operator Well Number: Sneezy 1

Do you anticipate drilling/redrilling well work?
(•) Yes ( ) No

Will a pit be used for plugging activities? ( ) Yes (•) 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 Water:
[x] Underground Injection (UIC Permit Number 47-085-09721)
[ ] Reuse (at API Number)
[x] Other (explain)
Using Contract Haulers Norte/CES (API's 47-085-05151)

Will closed loop system be used? (•) Yes ( ) No
If so, describe:
Centrifuge System (Boss, Newalta) Possible

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.

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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?)
- [x] Removed Offsite (name/permit number?) Meadowfill/Permit 101219WV
- [ ] Other: (please explain)

Proposed Revegetation Treatment:

Acres Disturbed: 6.2 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

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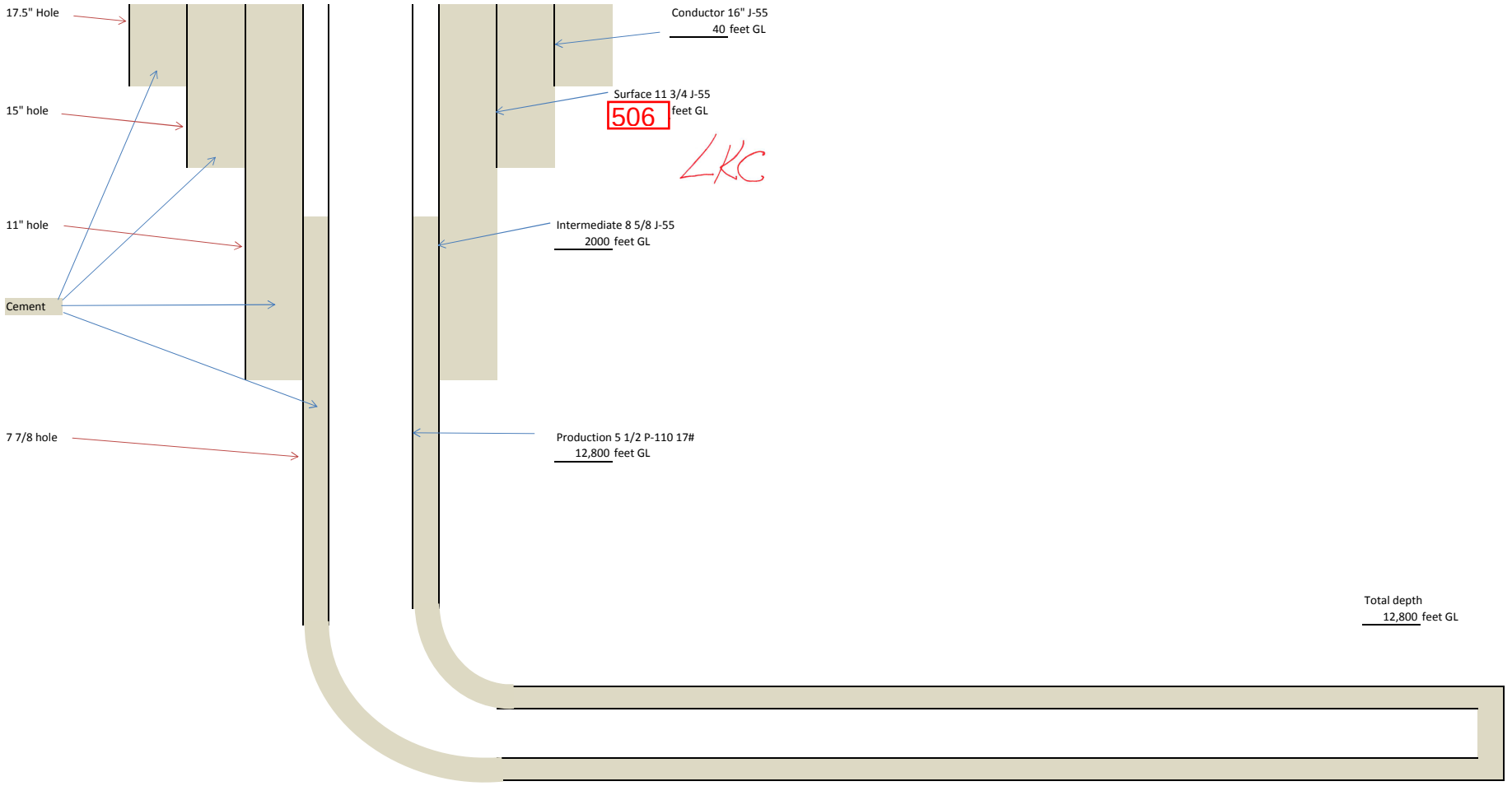
Jay-Bee Oil & Gas Inc.
Well Name Sneezy 1
GL Elevation 1346'
KB 14 feet

Date 11/22/2013
District McElroy
County Tyler
State West Virginia

Input by: Shane Dowell



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	Sneezy 1
Well Pad	Sneezy (D415) Pad
Latitude/Longitude	NAD83- Lat. 39.430539 Long. -80.670586
Location of Access Road	From WV 23 (Mile Point 12.9), .4 miles east on Broad Run, 1.9 east miles north on McIntyre Fork Rd.
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 ¼# per gallon 2000 gallons 15% vol acid.
Directions to Well	From WV 18 and WV23 intersection, take WV 23 east for 12.9 miles. Turn left onto Broad Run Rd, and follow east for .4 miles. Turn left onto McIntyre Fork and follow north for 1.9 miles. Lease road is on right.
Prevailing Wind Direction	South/ South East

11-15-13

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Water Management Plan:
Secondary Water Sources

WMP-01708 API/ID Number 047-095-02134 Operator: Jay-Bee Oil & Gas, Inc.

Sneezy 1

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: 31661 Source Name McIntyre Centralized Freshwater Impoundment

Source start date: 4/1/2014

Source end date: 4/1/2015

Source Lat: 39.435889 Source Long: -80.667583 County Tyler

Max. Daily Purchase (gal)

Total Volume from Source (gal): 7,854,000

DEP Comments: 095-FWC-00006

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.

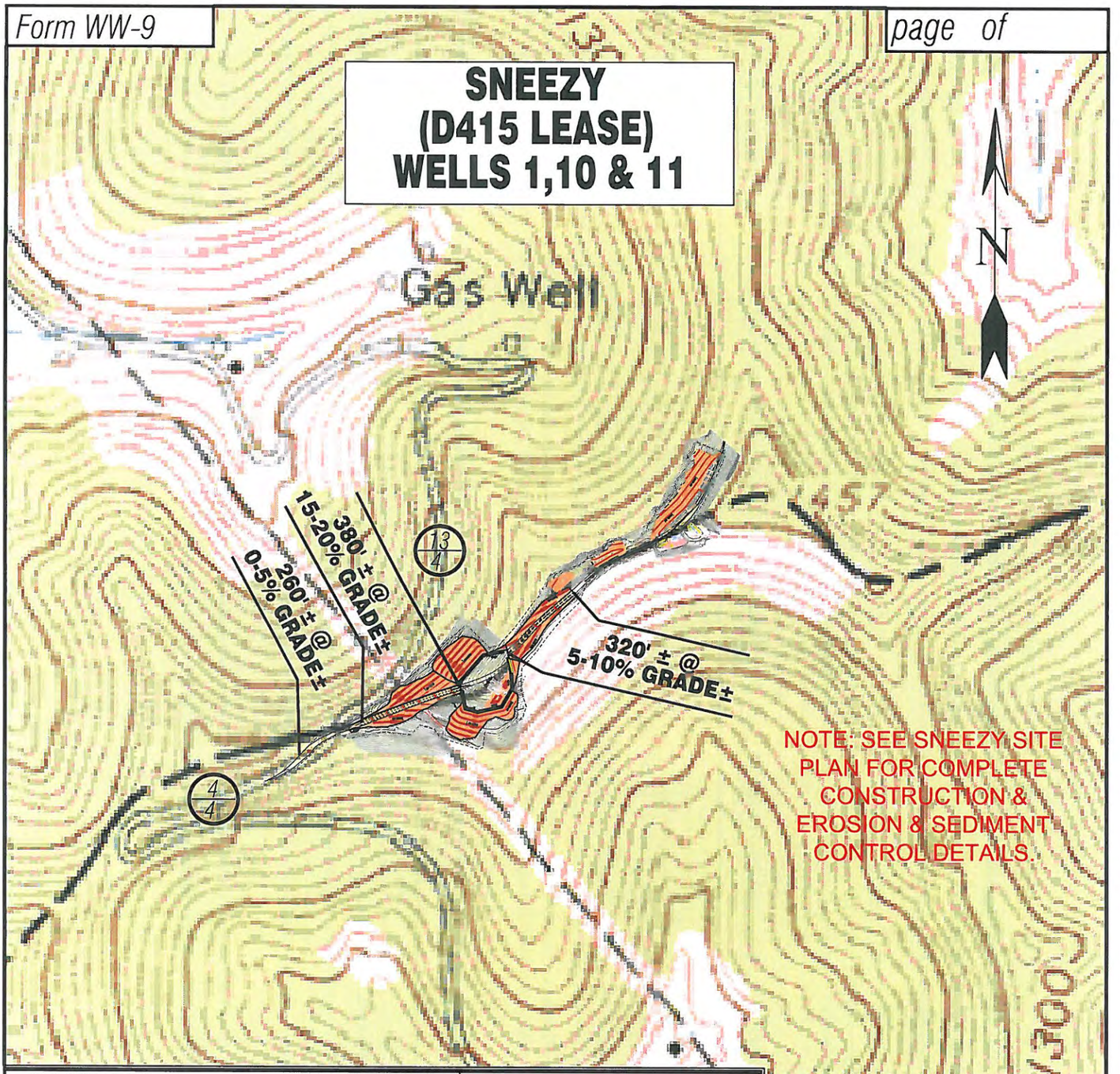
Reference: WMP-573

APPROVED DEC 1 8 2013

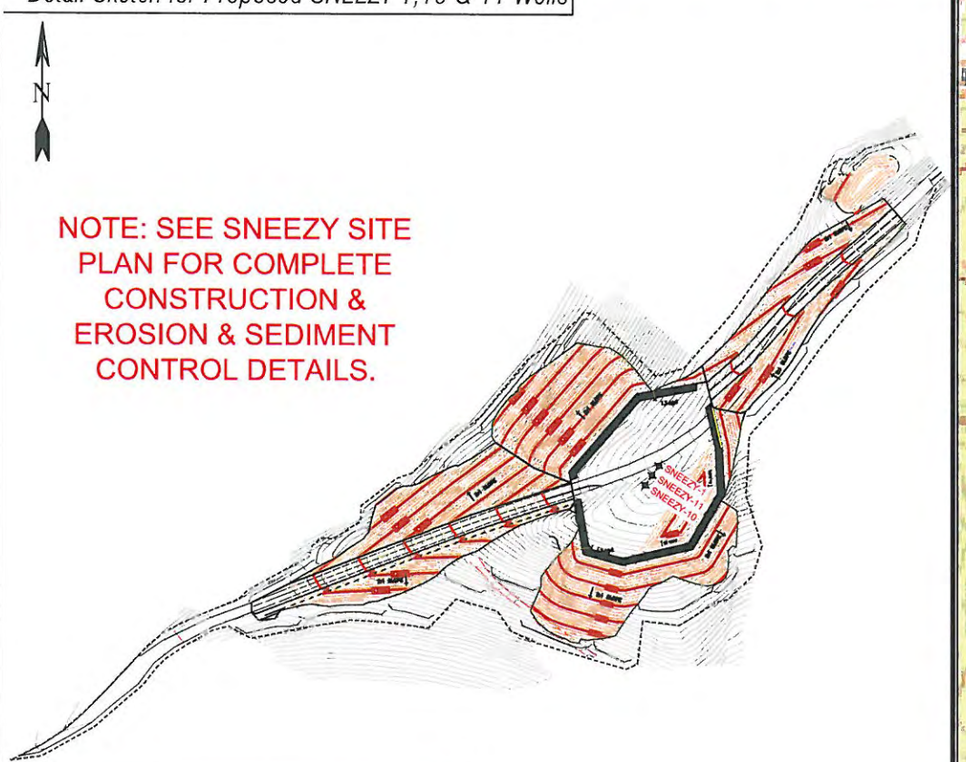
Form WW-9

page of

SNEEZY (D415 LEASE) WELLS 1,10 & 11



Detail Sketch for Proposed SNEEZY 1,10 & 11 Wells



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SCALE: 1"=500'

0' 500' 1000'

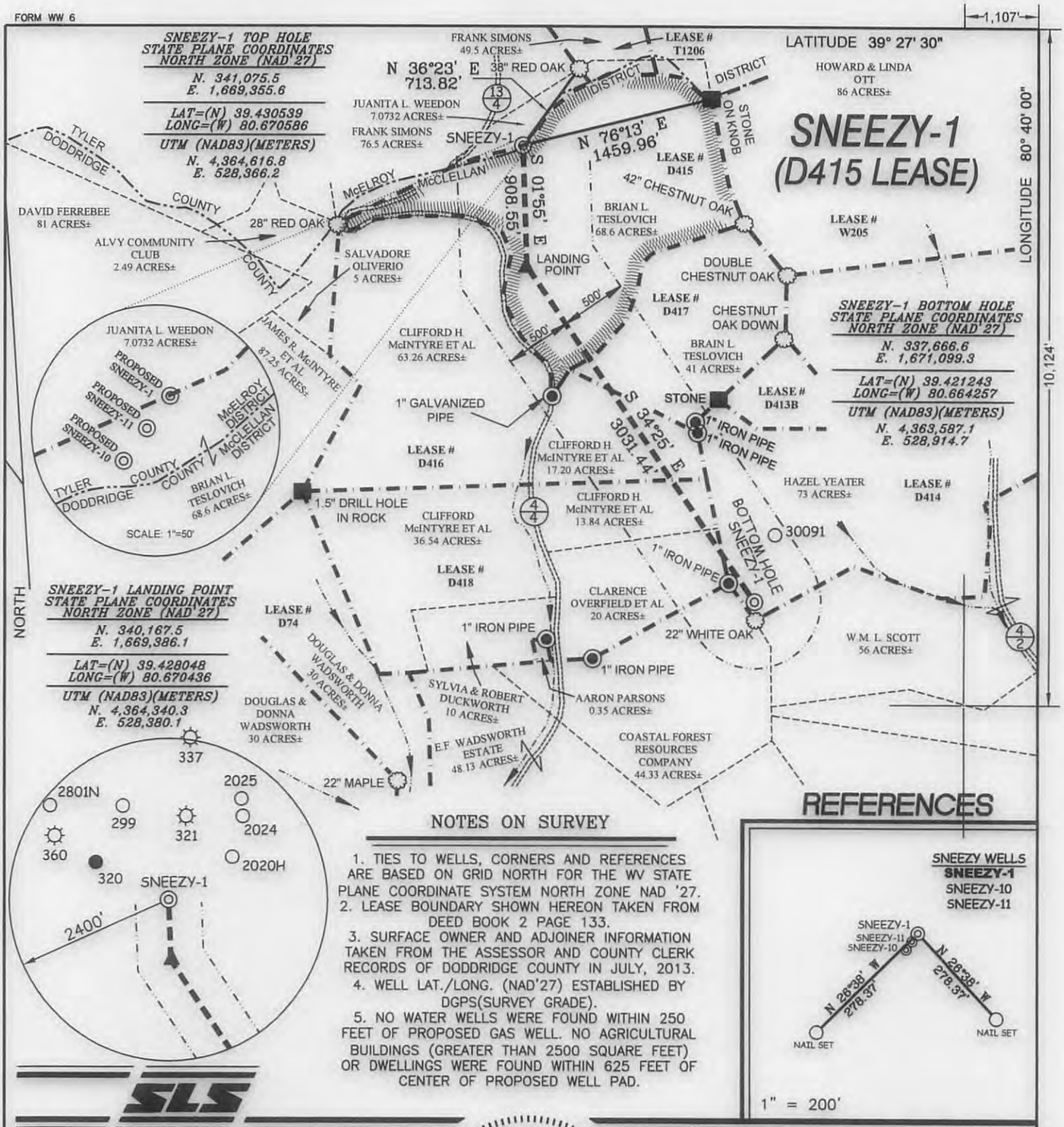
Not To Scale

Professional Energy Consultants
A DIVISION OF SMITH LAND SURVEYING
SURVEYORS PROJECT MGMT. SLS ENGINEERS ENVIRONMENTAL
226 West Main St. P.O. Box 150 Glenville, WV 26351 (304) 462-5634
56065 Dilles Bottom Road Shadyside, OH 43947 (740) 671-9911
HONESTY. INTEGRITY. QUALITY

DRAWN BY	FILE NO.	DATE	CADD FILE:
K.D.W.	8030	10-14-13	8030REC-SNEEZY.dwg

TOPO SECTION OF CENTER POINT 7.5' USGS TOPO QUADRANGLE

FORM WW 6



NOTES ON SURVEY

1. TIES TO WELLS, CORNERS AND REFERENCES ARE BASED ON GRID NORTH FOR THE WV STATE PLANE COORDINATE SYSTEM NORTH ZONE NAD '27.
2. LEASE BOUNDARY SHOWN HEREON TAKEN FROM DEED BOOK 2 PAGE 133.
3. SURFACE OWNER AND ADJOINER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF DODDRIDGE COUNTY IN JULY, 2013.
4. WELL LAT./LONG. (NAD'27) ESTABLISHED BY DGPS(SURVEY GRADE).
5. NO WATER WELLS WERE FOUND WITHIN 250 FEET OF PROPOSED GAS WELL. NO AGRICULTURAL BUILDINGS (GREATER THAN 2500 SQUARE FEET) OR DWELLINGS WERE FOUND WITHIN 625 FEET OF CENTER OF PROPOSED WELL PAD.

REFERENCES

SLS

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 DIVISION OF ENVIRONMENTAL PROTECTION.

P.S. 677 Gregory A. Smith

GREGORY A. SMITH LICENSED No. 677 STATE OF WEST VIRGINIA PROFESSIONAL SURVEYOR

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

DATE DECEMBER 09 , 20 13

OPERATORS WELL NO. SNEEZY-1

API WELL NO. 47 — 95 — 02134 HGA
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 200

PROVEN SOURCE OF ELEVATION DGPS (SUBMETER MAPPING GRADE)

FILE NO. 8030PSNEEZY-1R

SCALE 1" = 1000'

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

WELL TYPE : OIL ___ GAS X INJECTION ___ DISPOSAL ___ IF "GAS" PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X

LOCATION :

ELEVATION 1346' WATERSHED McINTYRE FORK

DISTRICT McELROY COUNTY TYLER QUADRANGLE CENTER POINT 7.5'

SURFACE OWNER BRIAN L. TESLOVICH ACREAGE 68.6±

ROYALTY OWNER W.R. McINTYRE HEIRS ET AL ACREAGE 347.10± 02/28/2014

PROPOSED WORK :

LEASE NO. D-415, D-414, D416, D-418, D-417

DRILL X CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION ___ PERFORATE NEW FORMATION ___ PLUG AND ABANDON ___ CLEAN OUT AND REPLUG ___ OTHER ___

PHYSICAL CHANGE IN WELL (SPECIFY) ___

TARGET FORMATION MARCELLUS

ESTIMATED DEPTH ~~8,000' TVD~~ 15000

COUNTY NAME PERMIT

WELL OPERATOR JAY BEE OIL & GAS, INC.
ADDRESS 1720 RT. 22, EAST
UNION, NJ 07083

DESIGNATED AGENT RANDY BRODA
ADDRESS RT. 1 BOX 5
CAIRO, WV 26337