



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

August 29, 2013

WELL WORK PERMIT

Vertical Well

This permit, API Well Number: 47-3906363, issued to RESERVE OIL & GAS, INC., 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: WEST VIRGINIA STATE UNIVER:
Farm Name: BOARD OF GOVERNORS , WVSU
API Well Number: 47-3906363
Permit Type: Vertical Well
Date Issued: 08/29/2013

Promoting a healthy environment.

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 - 2B
(Rev. 8/10)

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
WELL WORK PERMIT APPLICATION

1) Well Operator: Reserve Oil & Gas, Inc. 310-324 Kanawha 3A Union 0A St. Albans SAH
Operator ID County District Quadrangle

2) Operator's Well Number: West Virginia State University #1 3) Elevation: 594

4) Well Type: (a) Oil _____ or Gas x _____
(b) If Gas: Production x / Underground Storage _____
Deep _____ / Shallow x _____

5) Proposed Target Formation(s): Base of Lower Huron/Rhinestreet Proposed Target Depth: 4300

6) Proposed Total Depth: 4350 Feet Formation at Proposed Total Depth: Lower Huron/Rhinestreet

7) Approximate fresh water strata depths: 200

8) Approximate salt water depths: 1200

RECEIVED
Office of Oil and Gas

9) Approximate coal seam depths: None

10) Approximate void depths, (coal, Karst, other): None

AUG 20 2013

11) Does land contain coal seams tributary to active mine? NO

WV Department of
Environmental Protection

12) Describe proposed well work and fracturing methods in detail (attach additional sheets if needed)

Drill and complete a New Devonian Shale well with a 2 stage frac.

Handwritten signature and date
6-13-13

13) **CASING AND TUBING PROGRAM**

TYPE	SPECIFICATIONS			FOOTAGE		INTERVALS	CEMENT
	Size	Grade	Weight per ft	For Drilling	Left in Well	Fill -up (Cu. Ft.)	
Conductor	13 3/8			20'		CTS	
Fresh Water	9 5/8			270'		CTS x 40% excess	
Coal							
Intermediate	7			1800'		CTS x 30% excess	
Production	4 1/2			4300'		120 sks	
Tubing							
Liners							

IN NOTE

Packers: Kind: _____
 Sizes: _____
 Depths Set _____

3906363

WW-2A
(Rev. 6-07)

check #9544
\$650.00

1.) Date: _____
2.) Operator's Well Number _____ West Virginia State University #1
State County Permit
3.) API Well No.: 47- 39 - 06363

**STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE AND APPLICATION FOR A WELL WORK PERMIT**

4) Surface Owner(s) to be served: 5) (a) Coal Operator

(a) Name Board of Governors, West Virginia State University Name _____
 Address 124 Ferrell Hall, P.O. Box 363 Address _____
Institute, WV 25112

(b) Name _____ (b) Coal Owner(s) with Declaration
 Address _____ Name RECEIVED
Office of Oil and Gas

(c) Name _____ Name _____
 Address _____ Address AUG 20 2013

6) Inspector Terry Urban (c) Coal Lessee with Declaration WV Department of
 Address P.O. Box 1207 Name Environmental Protection
Clendenin, WV 25045 Address _____
 Telephone 304-549-5915

TO THE PERSONS NAMED ABOVE TAKE NOTICE THAT:

Included is the lease or leases or other continuing contract or contracts by which I hold the right to extract oil and gas
OR

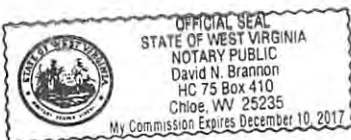
Included is the information required by Chapter 22, Article 6, Section 8(d) of the Code of West Virginia (see page 2)
I certify that as required under Chapter 22-6 of the West Virginia Code I have served copies of this notice and application, a location plat, and accompanying documents pages 1 through _____ on the above named parties by:

- Personal Service (Affidavit attached)
- Certified Mail (Postmarked postal receipt attached)
- Publication (Notice of Publication attached)

I have read and understand Chapter 22-6 and 35 CSR 4, and I agree to the terms and conditions of any permit issued under this application.

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, 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 and imprisonment.



Well Operator Reserve Oil & Gas, Inc.
 By: [Signature]
 Its: Vice President
 Address 929 Charleston Road
Spencer, WV 25276
 Telephone 304-927-5228

Subscribed and sworn before me this 14th day of August, 2013

David A. Brannon Notary Public

My Commission Expires December 10, 2017

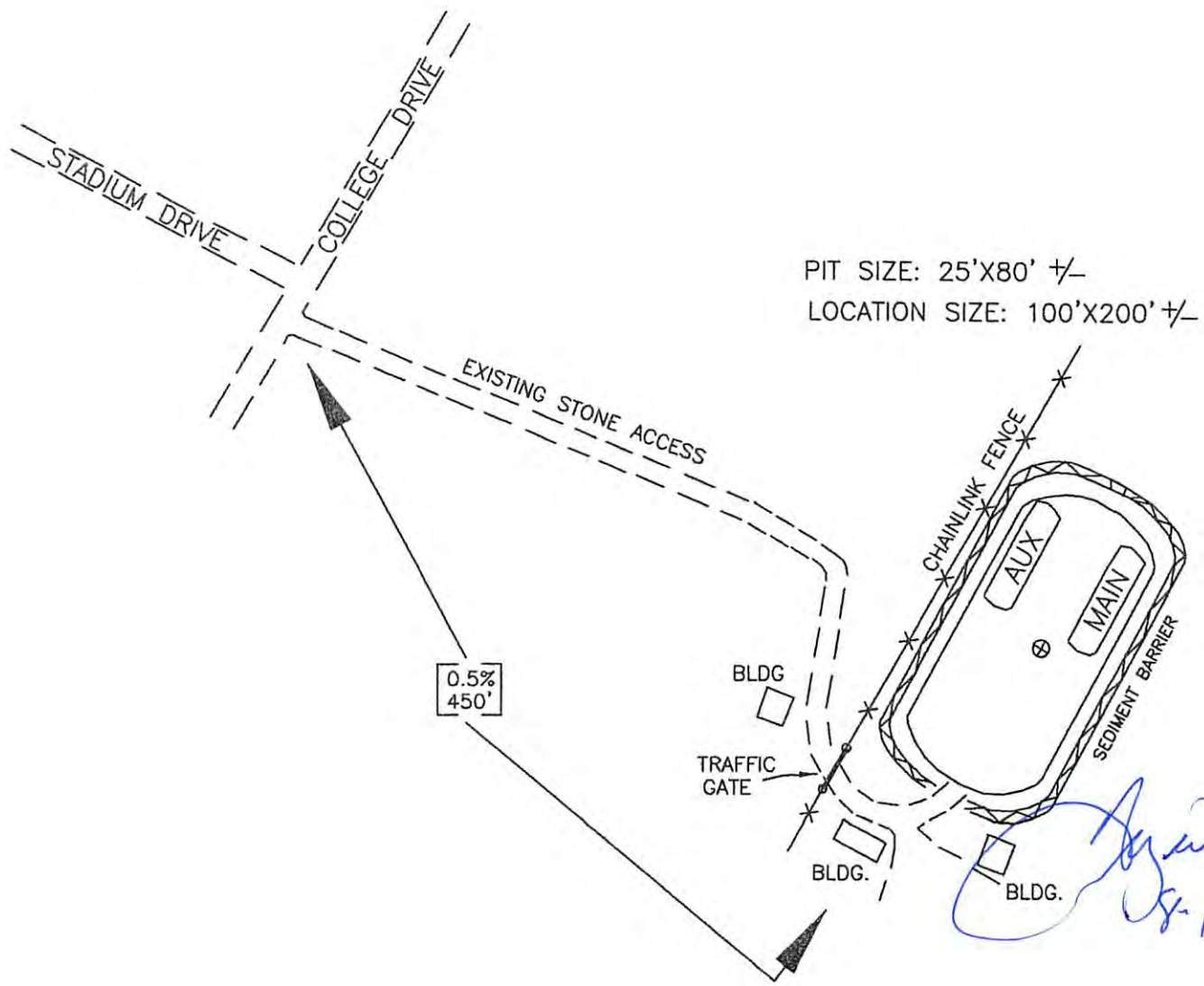
Oil and Gas Privacy Notice

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 depprivacyofficer@wv.gov

NOTE;

Any Trees 6" or larger in Diameter will be cut and piled. Brush will be used as Sediment Barriers. Temporary seed and mulch all slopes upon construction. Stone over all Culverts.

WVSU #1



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Office of Oil and Gas

AUG 20 2013

WV Department of
Environmental Protection

2906363

WEST VIRGINIA STATE COLLEGE

Institute Sch

Water



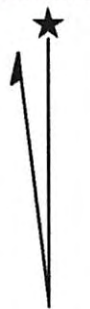
RECEIVED
Office of Oil and Gas
AUG 20 2013

WV Department of
Environmental Protection

PENN

KANAWHA

Magnetic Declination



7° W

SCALE 1:6000

0 100 200 300 400 YARDS

0 1000 FEET

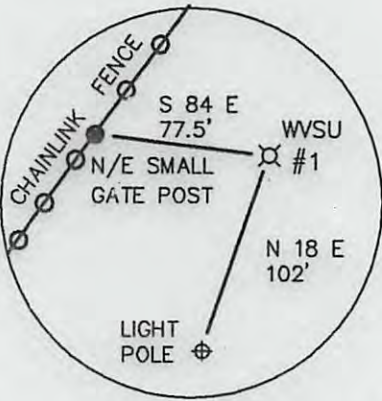
0 100 200 300 400 METERS

NAD 83
 LAT. 38.3757025N
 LONG. 81.7679573W

STATE PLANE COOR.
 NAD 83
 N 501,855
 E 1,748,353

LATITUDE 38°25'00"

UTM NAD.83
 ZONE 17
 0432920E
 4247780N



INSTIUTE CITY
 TM 34D

INSTIUTE CITY
 TM 34D

BAYER CROPSCIENCE LP
 35/762
 TM 34 PAR 14

BOARD OF GOVERNORS
 WEST VIRGINIA
 STATE UNIVERSITY
 2594/859
 TM 34D PAR 45

KANAWHA COUNTY
 BOARD OF PARKS
 & RECREATION
 1484/747
 TM 34G PAR 9

WWSU #1

1" = 2000'

NEW WELL

TOPO
 LOC

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

FILE NO. _____
 DRAWING NO. 13-25
 SCALE 1"=600'
 MINIMUM DEGREE OF
 ACCURACY 1 IN 200
 PROVEN SOURCE OF
 ELEVATION GPS

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 REGU-
 LATIONS ISSUED AND PRESCRIBED BY THE DEPART-
 MENT OF ENERGY.
 (SIGNED) *Richard J. Prime*
 R.P.E. _____ L.L.S. 851



PLACE SEAL HERE

STATE OF WEST VIRGINIA

DATE 8/5, 2013

Department of Environmental Protection
 OFFICE OF OIL AND GAS

OPERATOR'S WELL NO. WWSU #1

API WELL NO. _____

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

47 - 039 - 06363
 STATE COUNTY PERMIT

LOCATION: ELEVATION 594 WATER SHED KANAWHA RIVER

DISTRICT _____ UNION _____ COUNTY KANAWHA

QUADRANGLE ST. ALBANS

SURFACE OWNER BOARD OF GOVERNORS, WEST VIRGINIA STATE UNIVERSITY ACREAGE 37.04

OIL & GAS ROYALTY OWNER BOARD OF GOVERNORS, WEST VIRGINIA STATE UNIVERSITY LEASE ACREAGE 127.75

LEASE NO. _____

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

PLUG AND ABANDON _____ CLEAN OUT AND REPLUG _____

TARGET FORMATION BASE OF LOWER HURON/RHINESTREET ESTIMATED DEPTH 5500

WELL OPERATOR RESERVE OIL & GAS INC. DESIGNATED AGENT J. SCOTT FRESHWATER

ADDRESS 929 CHARLESTON ROAD ADDRESS 929 CHARLESTON ROAD

SPENCER, WV 25276 SPENCER, WV 25276