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

July 13, 2016

WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-9100394, issued to ENERGY CORPORATION OF AMERICA, 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
Chief

Operator's Well No: KUNST B-555
Farm Name: KUNST, FRANK L.
API Well Number: 47-9100394
Permit Type: Plugging
Date Issued: 07/13/2016

Promoting a healthy environment.

9100394P

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. All pits must be lined with a minimum of 20 mil thickness synthetic liner.

2. 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.

3. Well work activities shall not constitute a hazard to the safety of persons.

9100394P

WW-4B
Rev. 2/01

1) Date July 5, 2016
2) Operator's Well No. B-555
3) API Well No. 47- 091 - 00394

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

APPLICATION FOR A PERMIT TO PLUG AND ABANDON

4) Well Type: Oil ____/ Gas X/ Liquid injection ____/ Waste disposal ____/
(If "Gas, Production X or Underground storage ____) Deep ____/ Shallow X

5) Location: Elevation 1,498 Watershed Scab Run
District Knottsville County Taylor Quadrangle Thornton

6) Well Operator Energy Corporation of America
Address 500 Corporate Landing
Charleston, WV 25311

7) Designated Agent Donald C. Supcoe III
Address 500 Corporate Landing
Charleston, WV 25311

8) Oil and Gas Inspector to be notified
Name Kenneth Greynolds
Address 613 Broad Run Road
Jane Lew, WV 26378

9) Plugging Contractor
Name Coastal Drilling East
Address 130 Meadow Ridge Road
Mt. Morris, PA 15349

10) Work Order: The work order for the manner of plugging this well is as follows:

See Exhibits

MSHA ID # FOR LEER MINE IS 46-09192

WVOMHST ID # IS U-2004-06A

101 C MODIFICATION DOCKET # M-2012-065C

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Notification must be given to the district oil and gas inspector 24 hours before permitted work can commence.

Work order approved by inspector Kenneth L. Greynolds Date 7-12-16

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101 C
PLUGGING PLAN

Cleanout/Plugging Plan

- Day 1 -Move to site, rig up, mix mud, drill rathole.

- Day 2 – Finish drilling rathole, hook to 1 ½" tubing at surface and begin laying down 1 ½" tubing (approximately 5,412')

- Day 3 – Continue to lay down 1 ½" tubing. Run caliper and cement bond log on 4 ½" casing(bottom of 4 ½" casing at 5,538) to determine top of cement (estimated top of cement at 3,870'). Start picking up 2 3/8" drill pipe and trip in hole (T.I.H) to PBTD.

- Day 4 – Continue to pick up 2 3/8" drill pipe and T.I.H to PBTD Cement bottom hole from PBTD to a depth determined by the cement bond log on 4 ½" casing (3,870' estimate TOC) with approximately 135 sacks of Class A cement with a gas blocker additive. Lay down 2 3/8" drill pipe.

- Day 5 -Continue lay down 2 3/8" drill pipe. Free point and cut 4 ½" casing at free point. Circulate 4 ½" casing, mix mud and KCL if necessary. Lay down 4 ½" casing (approximately 3,870').

- Day 6 – Continue to lay down 4 ½" casing. Pick up 7 7/8" bit, 6" drill collars and 3 ½" drill pipe. T.I.H with 7 7/8" bit to bottom of 8 5/8" casing at 1,130'. Mix mud (if necessary) and clean hole to top of 4 ½" casing at approximately 3,870'.

- Day 7 – Continue to clean hole to top of 4 ½" casing at 3,870'.

- Day 8 – Trip out hole (T.O.H) to a depth approximately 200' below coal seam. Log hole (gyro deviation). Finish tripping out of hole with 7 7/8" bit. Log Hole (caliper, natural gamma and cement bond log). T.I.H with open ended 3 ½" drill pipe and prepare to set intermediate cement plug. from 3,870' to a depth 400' below Lower Kittaning Coal Seam.

COAL IS LOWER KITTANNING ≈ DEPTH IS 646' TO 653'.

9100394P

101 C
PLUGGING PAN

- Day 9 – Set intermediate cement plug from 3,870' to approximately 990' with 1000 gallons of mud flush and 852 sacks of Class A cement w/ 4% gel. Circulate hole at 930' and condition mud. T.O.H with 3 ½" drill pipe. Rig up 8 5/8" section mill and test at surface. T.I.H with 8 5/8" section mill and began window 10' above Lower Kittaning Coal Seam ≈ 638' LOWER KITTANNING

- Day 10 – Continue to section mill window in 8 5/8" casing.

- Day 11 – Continue to section mill window in 8 5/8" casing.

- Day 12 – Finish section milling 8 5/8" casing at a depth 10' below the coal seam. LOWER KITTANNING ≈ 663' T.O.H with 8 5/8" section mill. T.I.H with 7 7/8" bit and clean hole to top of intermediate plug at 990'. Log hole (caliper to verify window). Lay down drill collars and T.I.H with 3 ½" open ended drill pipe and prepare to cement hole to surface.

- Day 13 – Cement hole from 990' to 390' with 178 sacks of Thixatropic cement with green dye. Cement hole from 390' to surface with 115 sacks of Class A cement w/ 4% gel. Rig down and prepare to move rig to next site.

- SET MONUMENT WITH API NUMBER PER WV CODE.

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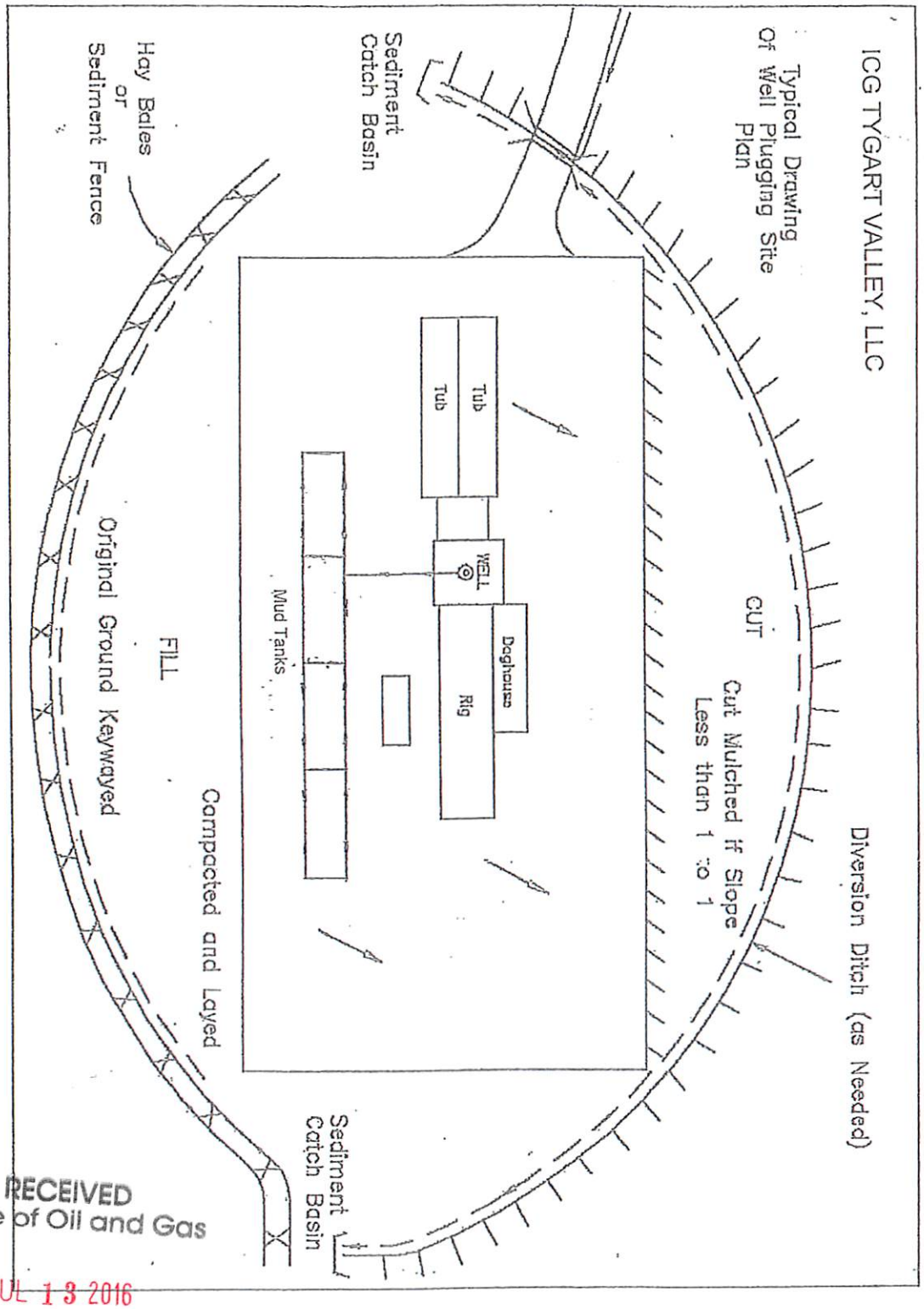

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9100394 P

IV-35
(Rev 8-81)

Date May 2, 1984
Operator's
Well No. B-555
Farm Kunst
API No. 47 - 091 - 0394

RECEIVED
MAY 2 1 1984
OIL & GAS DIVISION
DEPT. OF MINES

State of West Virginia
Department of Mines
Oil and Gas Division

WELL OPERATOR'S REPORT
OF
DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

RECEIVED
Office of Oil and Gas
JUL 13 2016
WV Department of
Environmental Protection

WELL TYPE: Oil ___ / Gas x / Liquid Injection ___ / Waste Disposal ___ /
(If "Gas," Production x / Underground Storage ___ / Deep ___ / Shallow x /)

LOCATION: Elevation: 1498 Watershed Scab RUn
District: Knottsville County Taylor Quadrangle Thornton 7.5

COMPANY J&J Enterprises, Onc.
ADDRESS O. Box 48, Buckhannon, WV 26201
DESIGNATED AGENT Richard Reddecliff
ADDRESS P.O. Box 48, Buckhannon, WV 26201
SURFACE OWNER Frank L. Kunst
ADDRESS 3650 Estero Blvd., Myers Beach, Fla. 33931
MINERAL RIGHTS OWNER Same
ADDRESS
OIL AND GAS INSPECTOR FOR THIS WORK Donald P. Ellis ADDRESS P.O. Box 47, Belmont, WV 26134
PERMIT ISSUED 12/30/83
DRILLING COMMENCED 2/27/84
DRILLING COMPLETED 3/6/84
IF APPLICABLE: PLUGGING OF DRY HOLE ON CONTINUOUS PROGRESSION FROM DRILLING OR REWORKING. VERBAL PERMISSION OBTAINED ON

Casing & Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft.
Size 20-16 Cond.			
13-10"	30	0	0 sks.
9 5/8			
8 5/8	1130.80	1130.80	270 sks.
7			
5 1/2			
4 1/2	5537.40	5537.40	365 sk.
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION Haverty Depth 5442-45 feet
Depth of completed well 5614 feet Rotary x / Cable Tools ___
Water strata depth: Fresh 50,165 feet; Salt 0 feet
Coal seam depths: None Is coal being mined in the area? No

OPEN FLOW DATA
Producing formation Haverty Pay zone depth 5442-45 feet
Gas: Initial open flow ___ Mcf/d Oil: Initial open flow ___ Bbl/d
Combined Final open flow 2,500 Mcf/d Final open flow ___ Bbl/d
Time of open flow between initial and final tests 4 hours
Static rock pressure 1800 psig (surface measurement) after 96 hours shut in
(If applicable due to multiple completion--)
Second producing formation Riley, Elks, Benson, 4378-82 5278-84 Pay zone depth 5011-5014 feet
Gas: Initial open flow ___ Mcf/d Oil: Initial open flow ___ Bbl/d
Final open flow ___ Mcf/d Oil: Final open flow ___ Bbl/d
Time of open flow between initial and final tests ___ hours
Static rock pressure ___ psig (surface measurement) after ___ hours shut in

Taylor 0394

(Continue on reverse side)

9100394P

FORM IV-35
(REVERSE)

DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC.

Haverty: PErforations: 5442-45(12 holes)
Fracturing: 6,000 lbs. 20/40 sand: 500 gal. Acid: 165 Bbls. fluid.
Elk: Perforations: 5278-84 (14 holes)
Fracturing: 23,000 lbs. 20/40 sand: 5,000 lbs. 80/100 sand: 500 gal. Scidl 300 Bbls. fluid.
Benson: 5011-14(12 holes)
Fracturing: 5,000 lbs. 80/100 sand: 27,500 lbs. 20/40 sand: 500 gal. acid: 435 Bbls. flui
RIley: 4378-82 (12 holes)
Fracturing: 42,000 lbs. 20/40 sand: 500 gal. Acid: 400 Bbls. fluid.

BOTTOM HOLE PRESSURE $Pf=Pwe^{XGLS}$ $X=\frac{1}{53.35 \times 561}=\frac{1}{29929}=0.000033$ $Pf=1800 \times 2.72^{(0,000033)}$

$t=60+(0.0075 \times 5537) + 459.7 = 561$

$(0.62)(4912)(0.9)=1800 \times 2.72^{0.09}=1800 \times 1.09$ WELL LOG

Pf=1970 psi

FORMATION COLOR HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all fresh and salt water, coal, oil and gas
KB to Ground Level	0	10	
op Soil	10	20	½" stream @ 50'
Sand, shale & red rock	20	75	
Sand, shale & red rock	75	375	1" stream @ 165'
Sand & shale	375	1005	
Red rock , sand & shale	1005	1150	Gas ck @ 2554 10/10-½" w/water 5,955 cu.ft
Red rock & shale	1150	1170	
Sand & shale	1170	1340	
Little Lime	1340	1385	Gas ck @ 3690 No show
Big Lime	1385	1600	
Sand & shale	1600	2475	Gas ck @ 4068 2/10-½" w/water 2,538 cu.ft.
Sand & shale	2475	4378	
Riley	4378	4380	
Sand & shale	4380	5011	Gas ck @ 4413 50/10-1" w/water 13,312 cu.ft.
Benson	5011	5014	
Sand & shale	5014	5278	
Elk	5278	5284	Gas ck @ 5014 80/10-1½" w/water 18,839 cu.ft.
Sand & shale	5284	5442	
Haverty	5442	5445	
Sand & shale	5445	5510	Gas ck @ 5203 120/10-1½" w/water
Sand & shale	5510	5614 TD	Gas ck @ T.D. 67/10-1½" w/water 96,374 cu.ft.

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Environmental Protection

(Attach separate sheets as necessary)

J&J Enterprises, INc.
Well Operator

By: [signature]

Date: 5/2/84

Note: Regulation 2.02(i) provides as follows:
"The term 'log' or 'well log' shall mean a systematic detailed geological record of all formations, including coal, encountered in the drilling of a well."

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WW-4A
Revised 6-07

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JUL 13 2016
WV Department of Environmental Protection

1) Date: 7/5/2016
2) Operator's Well Number
B-555
3) API Well No.: 47 - 091 - 00394

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

4) Surface Owner(s) to be served:
(a) Name: Daniel R. & Deanna L. Williams
Address: 226 North Pike Street
Grafton, WV 26354
(b) Name:
Address:
(c) Name:
Address:

5) (a) Coal Operator
Name: CoalQuest Development, LLC
Address: 100 Tygart Drive
Grafton, WV 26354
(b) Coal Owner(s) with Declaration
Name:
Address:
Name:
Address:
(c) Coal Lessee with Declaration
Name:
Address:

6) Inspector: Kenneth Greynolds
Address: 613 Broad Run Road
Jane Lew, WV 26378
Telephone: (304) 206-6613

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

(1) 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.

NOTARY PUBLIC OFFICIAL SEAL
Shane A. Lucas
State of West Virginia
My Commission Expires
January 30, 2023
Energy Corporation of America
3116 WV Highway 5 East
Glenville, WV 26351

Well Operator: Energy Corporation of America
By: Donald C. Supcoe III 7/12/16
Its: Operations Manager
Address: 500 Corporate Landing
Charleston, WV 25311
Telephone: (304) 925-6100

Subscribed and sworn before me this 12 day of July 2016
Notary Public
My Commission Expires January 30, 2023

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.

9100394 P

SURFACE OWNER WAIVER

Operator's Well Number B-555

INSTRUCTIONS TO SURFACE OWNERS NAMED ON PAGE WW4-A

The well operator named on page WW-4A is applying for a permit from the State to plug and abandon a well. (Note: If the surface tract is owned by more than three persons, then these materials were served on you because your name appeared on the Sheriff's tax ticket on the land or because you actually occupy the surface tract. In either case, you may be the only owner who will actually receive these materials.) See Chapter 22 of the West Virginia Code. Well work permits are valid for 24 months. If you do not own any interest in the surface tract, please forward these materials to the true owner immediately if you know who it is. Also, please notify the well operator and the Office of Oil and Gas.

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Office of Oil and Gas

NOTE: YOU ARE NOT REQUIRED TO FILE ANY COMMENT.

WHERE TO FILE COMMENTS AND OBTAIN ADDITIONAL INFORMATION:

JUL 13 2016

WV Department of
Environmental Protection

Chief, Office of Oil and Gas
Department of Environmental Protection
601 57th St. SE
Charleston, WV 25304
(304) 926-0450

Time Limits and methods for filing comments. The law requires these materials to be served on or before the date the operator files his Application. You have **FIVE (5) DAYS** after the filing date to file your comments. Comments must be filed in person or received in the mail by the Chief's office by the time stated above. You may call the Chief's office to be sure of the date. Check with your postmaster to ensure adequate delivery time or to arrange special expedited handling. If you have been contacted by the well operator and you have signed a "voluntary statement of no objection" to the planned work described in these materials, then the permit may be issued at any time.

Comments must be in writing. Your comments must include your name, address and telephone number, the well operator's name and well number and the approximate location of the proposed well site including district and county from the application. You may add other documents, such as sketches, maps or photographs to support your comments.

The Chief has the power to deny or condition a well work permit based on comments on the following grounds:

1) The proposed well work will constitute a hazard to the safety of persons.
2) The soil erosion and sediment control plan is not adequate or effective;
3) Damage would occur to publicly owned lands or resources;
4) The proposed well work fails to protect fresh water sources or supplies;
5) The applicant has committed a substantial violation of a previous permit or a substantial violation of one or more of the rules promulgated under Chapter 22, and has failed to abate or seek review of the violation...".

If you want a copy of the permit as it is issued or a copy of the order denying the permit, you should request a copy from the Chief.

VOLUNTARY STATEMENT OF NO OBJECTION

I hereby state that I have read the instructions to surface owners and that I have received copies of a Notice and Application For A Permit To Plug And Abandon on Forms WW-4A and WW-4B, and a survey plat.

I further state that I have no objection to the planned work described in these materials, and I have no objection to a permit being issued on those materials.

FOR EXECUTION BY A NATURAL PERSON ETC.

Signature _____ Date 6/3/16

FOR EXECUTION BY A CORPORATION,

Name _____
By _____
Its _____ Date _____

Signature Date

9100394P

WW-4B

API No. 47-91-00394
Farm Name Frank L. Kunst
Well No. B-555

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WV Department of
Environmental Protection

INSTRUCTIONS TO COAL OPERATORS
OWNERS AND LESSEE

The well operator named on the obverse side of WW-4 (B) is about to abandon the well described in the enclosed materials and will commence the work of plugging and abandoning said well on the date the inspector is notified. Which date shall not be less then five days after the day on which this notice and application so mailed is received, or in due course should be received by the Department of Environmental Protection Office of Oil & Gas.

This notice and application is given to you in order that your respective representatives may be present at the plugging and filling of said well. You are further notified that whether you are represented or not the operator will proceed to plug and fill said well in the manner required by Section 24, Article 6, Chapter 22 of the Code and given in detail on obverse side of this application.

NOTE: If you wish this well to be plugged according to 22-6-24(d) then as per Regulation 35CSR4-13.9 you must complete and return to this office on form OB-16 "Request by Coal Operator, Owner, or Lessee for plugging" prior to the issuance of this plugging permit.

WAIVER

The undersigned coal operator X / owner ____ / lessee ____ / of the coal under this well location has examined this proposed plugging work order. The undersigned has no objection to the work proposed to be done at this location, provided, the well operator has complied with all applicable requirements of the West Virginia Code and the governing regulations.

Date: 5/31/16

CoalQuest Development, LLC
By: Greg Nair
Its Power of Attorney

9100394P

POWER OF ATTORNEY

COALQUEST DEVELOPMENT LLC
TO
GREG NAIR

Dated: January 1, 2016

Expires: December 31, 2016

KNOW ALL MEN BY THESE PRESENTS: That CoalQuest Development LLC ("Company"), a limited liability company organized and existing under the laws of the State of Delaware, acting by and through Robert G. Jones, its duly authorized Secretary, has and does hereby appoint Greg Nair its true and lawful Attorney-in-Fact with power and authority, for and on behalf, and in the name of the Company, during the period herein specified, and subject to the restrictions and limitations set forth in this Power, to execute, acknowledge and deliver in the ordinary and regular course of the Company's business, applications for mining, environmental, safety, and health permits, permit transfers, or permit bond releases or bond adjustments, amendments, supplements or modifications to such permits, certificates, gas well plugging applications, shallow well drilling permit applications, or other instruments directly related to such amendments, supplements or modifications, monthly production reports, air quality, water quality or other environmental reports, quarterly discharge monitoring reports and any other like or similar reports required to be filed with any local, state or federal governmental agency.

The Attorney herein appointed shall be authorized to act pursuant to this Power from the date hereof only so long as such Attorney shall remain an employee of Arch Coal, Inc. or any subsidiary thereof, or until December 31, 2016, or until such earlier time as this instrument has been revoked, annulled, rescinded or set aside by an instrument of revocation filed with the Secretary of the Company, whichever first occurs.

IN WITNESS WHEREOF, the Company has caused this Power of Attorney to be executed on its behalf, and its seal to be hereunto affixed as of the day and year first above written, by the undersigned, Robert G. Jones, duly authorized Secretary of the Company.

COALQUEST DEVELOPMENT LLC

By: _____
Robert G. Jones
Secretary

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Office of Oil and Gas

JUL 13 2016

WV Department of
Environmental Protection

9100394P

STATE OF MISSOURI)
) ss
COUNTY OF ST. LOUIS)

On this 16th day of December, 2015, before me, the undersigned notary public, personally appeared Robert G. Jones, known to me to be the person whose name is subscribed to the within instrument and acknowledged that he executed the same for the purposes therein contained.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

Peggy Feldmann
Notary Public

My Commission Expires: December 1, 2017

PEGGY FELDMANN
Notary Public - Notary Seal
State of Missouri
Commissioned for St. Louis County
My Commission Expires: December 01, 2017
Commission Number: F13552693

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Environmental Protection

9100394P

WW-9
(5/16)

API Number 47 - 091 - 00394
Operator's Well No. B-555

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL AND GAS
FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name Energy Corporation of America OP Code 306345

Watershed (HUC 10) Scab Run Quadrangle Thornton

Do you anticipate using more than 5,000 bbls of water to complete the proposed well work? Yes ☐ No ☑

Will a pit be used? Yes ☐ No ☑

If so, please describe anticipated pit waste: _____

Will a synthetic liner be used in the pit? Yes ☐ No ☐ If so, what ml.? _____

Proposed Disposal Method For Treated Pit Wastes:

_____ Land Application (if selected provide a completed form WW-9-GPP)
_____ Underground Injection (UIC Permit Number _____)
_____ Reuse (at API Number _____)
_____ Off Site Disposal (Supply form WW-9 for disposal location)
_____ Other (Explain _____

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Will closed loop system be used? If so, describe: Yes. Tanks will be used.

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

-If oil based, what type? Synthetic, petroleum, etc. N/A

Additives to be used in drilling medium? See attached SDS sheets

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. Removed offsite

-If left in pit and plan to solidify what medium will be used? (cement, lime, sawdust) N/A

-Landfill or offsite name/permit number? DEP Impoundment O-2017-06 or approved facility

Permittee shall provide written notice to the Office of Oil and Gas of any load of drill cuttings or associated waste rejected at any West Virginia solid waste facility. The notice shall be provided within 24 hours of rejection and the permittee shall also disclose where it was properly disposed.

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on April 1, 2016, 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.

NOTARY PUBLIC OFFICIAL SEAL
Shane A. Lucas
State of West Virginia
My Commission Expires
January 30, 2023
Energy Corporation of America
3116 WV Highway 5 East
Glenville, WV 26351

Company Official Signature _____
Company Official (Typed Name) Donald Supcoe III
Company Official Title Operation Manager

Subscribed and sworn before me this 12 day of July, 2016

_____ Notary Public

My commission expires JANUARY 30 2023

9100394P

Form WW-9

Operator's Well No. B-555

Proposed Revegetation Treatment: Acres Disturbed 1.5 to 2.0 Prevegetation pH _____

Lime 3 Tons/acre or to correct to pH 6.5

Fertilizer type 10-20-20

Fertilizer amount 500 lbs/acre

Mulch Hay Bales Tons/acre

Seed Mixtures

Temporary		Permanent	
Seed Type	lbs/acre	Seed Type	lbs/acre
Orchard Grass	12	Orchard Grass	12
Landino Clover	3	Landino Clover	3
Timothy	10	Timothy	10

Attach:
Maps(s) of road, location, pit and proposed area for land application (unless engineered plans including this info have been provided). If water from the pit will be land applied, provide water volume, include dimensions (L, W, D) of the pit, and dimensions (L, W), and area in acres, of the land application area.

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: Thomas L. Reynolds

Comments: RECLAIM, RESEED AND MULCH ASAP

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Office of Oil and Gas

JUL 13 2016

WV Department of
Environmental Protection

Title: OIL & GAS INSPECTOR Date: 7-12-16

Field Reviewed? (_____) Yes (✓) No

9100394P

WW-9- GPP
Rev. 5/16

Page _____ of _____
API Number 47 - 091 - 00394
Operator's Well No. B-555

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

Operator Name: Energy Corporation of America

Watershed (HUC 10): Scab Run Quad: Thornton

Farm Name: Frank Kunst

1. List the procedures used for the treatment and discharge of fluids. Include a list of all operations that could contaminate the groundwater.

N/A- Not discharging fluid.

2. Describe procedures and equipment used to protect groundwater quality from the list of potential contaminant sources above.

"Closed Loop System" All returns will be taken to tanks and hauled to an approved facility. No cuttings or fluid will be discharged on the site.

3. List the closest water body, distance to closest water body, and distance from closest Well Head Protection Area to the discharge area.

N/A- Not discharging fluid.

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4. Summarize all activities at your facility that are already regulated for groundwater protection.

N/A

5. Discuss any existing groundwater quality data for your facility or an adjacent property.

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WW-9- GPP
Rev. 5/16

Page _____ of _____
API Number 47 - 091 - 00394
Operator's Well No. B-555

N/A

6. Provide a statement that no waste material will be used for deicing or fill material on the property.

ECA will not use waste material for deicing or fill material on the property. All material will be disposed of at an approved facility.

7. Describe the groundwater protection instruction and training to be provided to the employees. Job procedures shall provide direction on how to prevent groundwater contamination.

N/A- See Section 2

8. Provide provisions and frequency for inspections of all GPP elements and equipment.

Daily inspections of equipment will be conducted.

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Signature: _____

Date: 7/12/16

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Form WW-9

47-091-394
B-555

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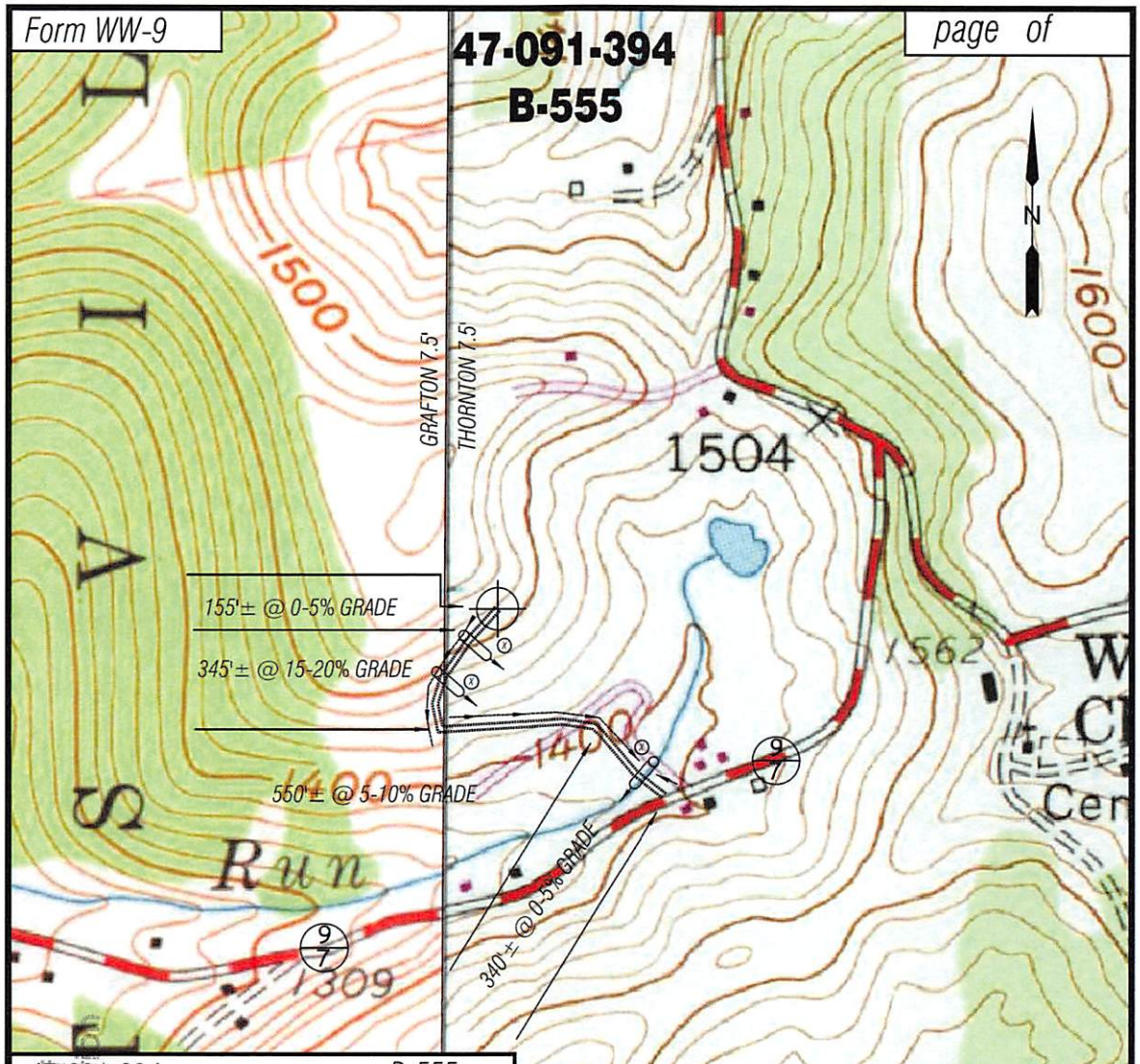

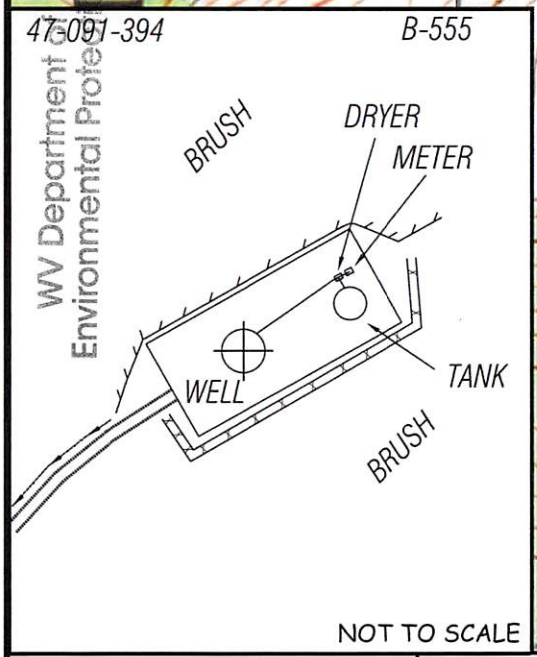

ALL ROADS SHOWN HEREON ARE EXISTING UNLESS OTHERWISE NOTED AND SHALL BE MAINTAINED IN ACCORDANCE WITH WV D.E.P. OIL AND GAS BMP MANUAL ENTRANCES AT COUNTY/STATE ROADS SHALL BE MAINTAINED IN ACCORDANCE WITH WV D.O.T. REGULATION. SEPARATE PERMITS MAY BE REQUIRED BY THE D.O.T.

SEDIMENT BASINS (TRAPS) AND APPROPRIATE EROSION CONTROL BARRIERS ARE TO BE CONSTRUCTED AT ALL CULVERT AND CROSS DRAIN INLETS AND OUTLETS AS REQUIRED IN THE WV D.E.P. OIL AND GAS BMP MANUAL. FIELD CONDITIONS (ROCK OUTCROPS AND BEDROCK) MAY PROHIBIT INLET TRAPS BEING INSTALLED. WHEN THESE CONDITIONS EXIST ADDITIONAL EROSION CONTROL MEASURES SHALL BE EVALUATED AND UTILIZED AS NEEDED.

EARTHWORK CONTRACTORS ARE RESPONSIBLE FOR NOTIFICATION TO THE OPERATOR AND INSPECTOR PRIOR TO ANY DEVIATION FROM THIS PLAN.

TEMPORARY SEED & MULCH ALL SLOPES AFTER CONSTRUCTION OF LOCATION.

CUT & STACK ALL MARKETABLE TIMBER.

STACKED BRUSH MAY BE USED FOR SEDIMENT CONTROL

ADDITIONAL CULVERTS AND/OR OTHER DRAINAGE STRUCTURES & SEDIMENT CONTROL DEVICES MAY BE REQUIRED BY THE WV D.E.P. OIL & GAS INSPECTOR. OPERATOR IS RESPONSIBLE FOR COORDINATION WITH CONTRACTOR AND SLS REGARDING ANY CHANGES OR ADDITIONS THE STATE MAY REQUIRE.

= EXISTING CULVERT

= PROPOSED CULVERT 12" MIN. UNLESS OTHERWISE NOTED

SLS
Land & Energy Development
Solutions from the ground up.

TOPO SECTION OF USGS
THORNTON & GRAFTON
7.5' QUADRANGLES

DRAWN BY	FILE NO.	DATE	CADD FILE:
C.P.M.	8570	07-11-16	8570REC394.DWG

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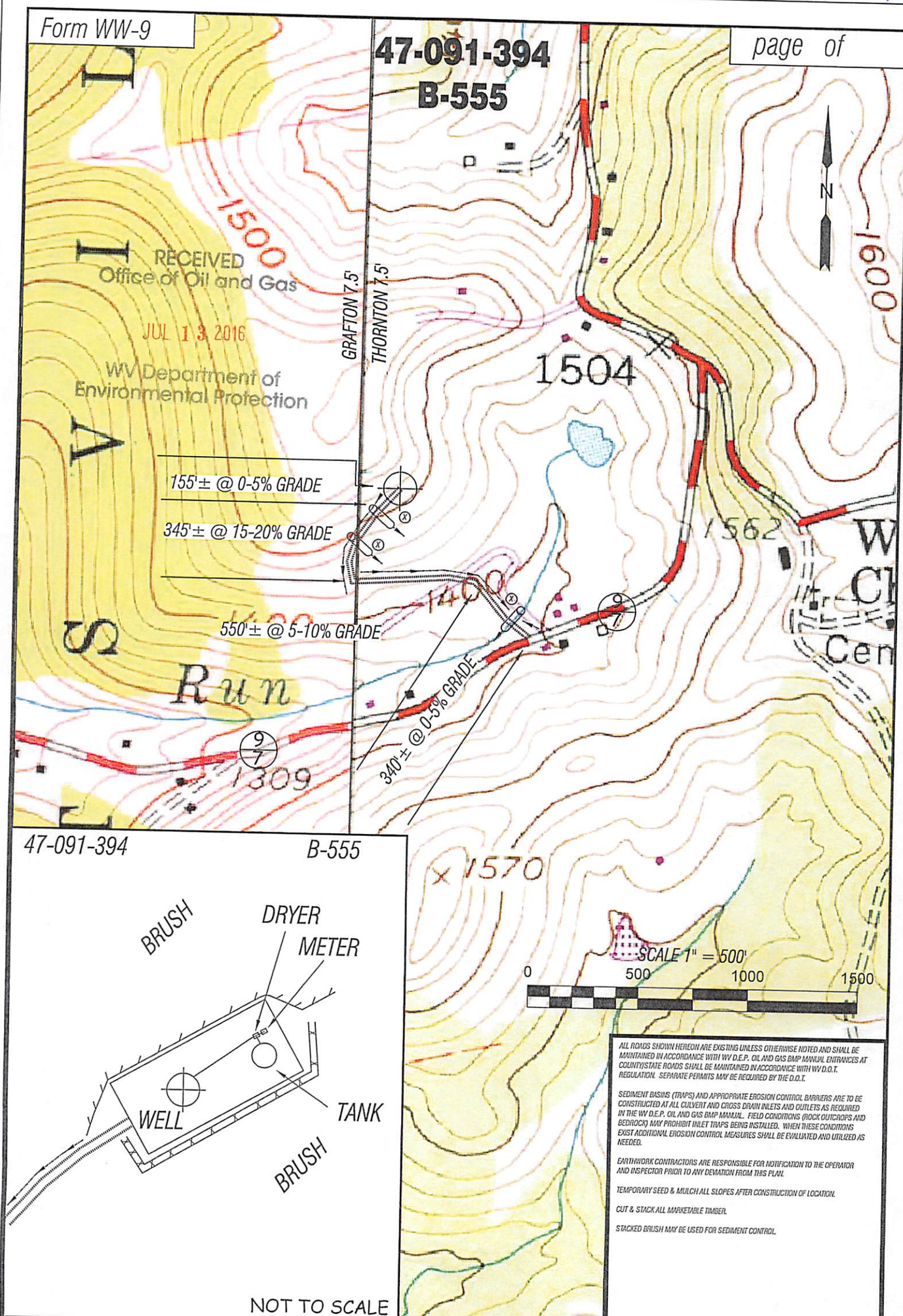

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47-091-394 B-555

NOT TO SCALE

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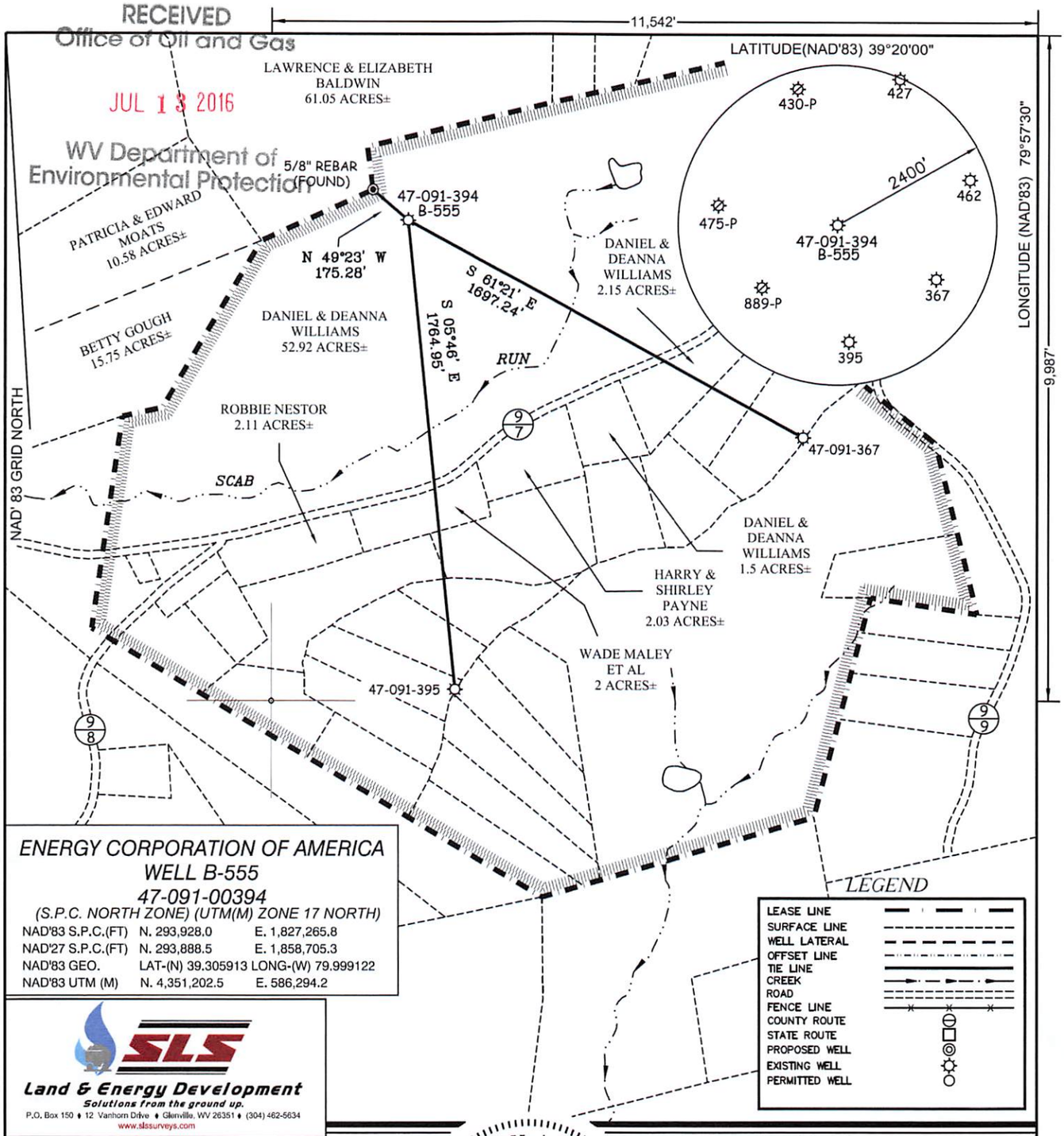

ENERGY CORPORATION OF AMERICA
WELL B-555
47-091-00394
(S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH)

NAD'83 S.P.C.(FT)	N. 293,928.0	E. 1,827,265.8
NAD'27 S.P.C.(FT)	N. 293,888.5	E. 1,858,705.3
NAD'83 GEO.	LAT-(N) 39.305913	LONG-(W) 79.999122
NAD'83 UTM (M)	N. 4,351,202.5	E. 586,294.2

LEGEND

LEASE LINE	
SURFACE LINE	
WELL LATERAL	
OFFSET LINE	
TIE LINE	
CREEK	
ROAD	
FENCE LINE	
COUNTY ROUTE	
STATE ROUTE	
PROPOSED WELL	
EXISTING WELL	
PERMITTED WELL	

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www.slssurveys.com

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 LICENSED No. 677 STATE OF WEST VIRGINIA PROFESSIONAL SURVEYOR

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

DATE JULY 11 , 20 16
REVISED , 20
OPERATORS WELL NO. B-555
API WELL NO. 47 — 091 — 00394
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500
FILE NO. 8570P394.dwg
SCALE 1" = 500'
HORIZONTAL & VERTICAL CONTROL DETERMINED BY DGPS (SURVEY GRADE TIE TO CORS NETWORK)

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

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

LOCATION :
ELEVATION 1520.5' WATERSHED SCAB RUN OF TYGART VALLEY RIVER
DISTRICT KNOTTSVILLE COUNTY TAYLOR QUADRANGLE THORNTON
SURFACE OWNER DANIEL & DEANNA WILLIAMS ACREAGE 52.92±
ROYALTY OWNER FRANK L. KUNST & ETHA A. KUNST (OR HEIRS/ASSIGNS) ACREAGE 173.50±
PROPOSED WORK : LEASE NO.
DRILL ___ CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE ___ PLUG OFF OLD FORMATION ___ PERFORATE NEW FORMATION ___ PLUG AND ABANDON X CLEAN OUT AND REPLUG ___ OTHER ___
PHYSICAL CHANGE IN WELL (SPECIFY) ___ TARGET FORMATION HAVERTY
ESTIMATED DEPTH 5,614'

COUNTY NAME
PERMIT

WELL OPERATOR ENERGY CORPORATION OF AMERICA
ADDRESS 501 56TH STREET S.E. CHARLESTON, WV 25304
DESIGNATED AGENT RODNEY A. WINTERS
ADDRESS 501 56TH STREET S.E. CHARLESTON, WV 25304

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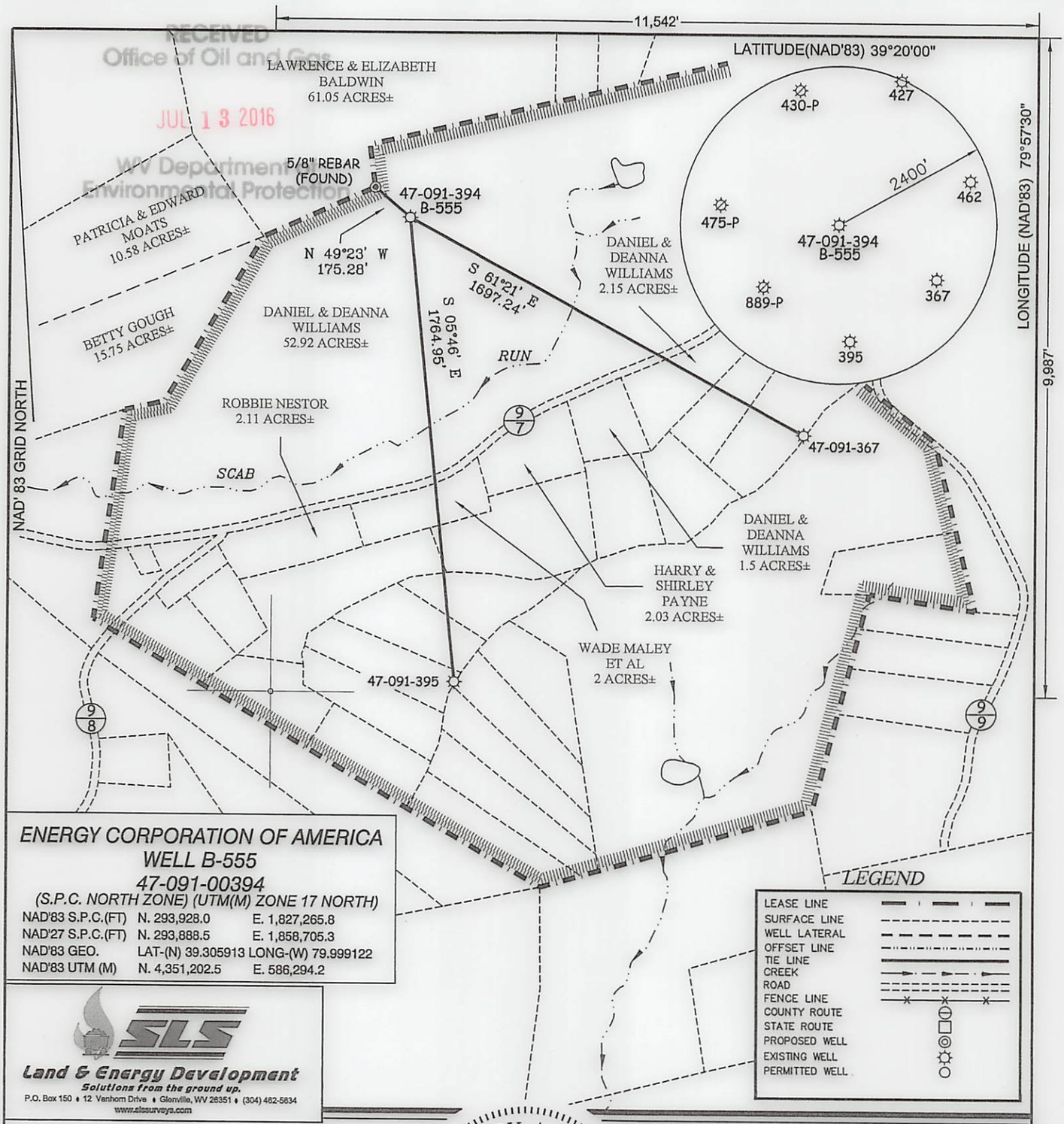

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