



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 16, 2013

WELL WORK PERMIT

Vertical Well

This permit, API Well Number: 47-10501367, issued to CAD ENERGY CORPORATION, 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: CAD 11
Farm Name: HEARTWOOD FORESTLAND IV
API Well Number: 47-10501367
Permit Type: Vertical Well
Date Issued: 07/16/2013

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.

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: CAD Energy Corp. 105 06 271
Operator ID: 310296 County: Wirt District: Spring Creek Quadrangle: Burning Springs

2) Operator's Well Number: CAD 11 3) Elevation: 909

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

5) Proposed Target Formation(s): Devonian Shale Proposed Target Depth: 5600

6) Proposed Total Depth: 5700 Feet Formation at Proposed Total Depth: Devonian Shale

7) Approximate fresh water strata depths: 150'

8) Approximate salt water depths: 1200'

9) Approximate coal seam depths: None

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

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

12) Describe proposed well work and fracturing methods in detail (attach additional sheets if needed)
Foam and nitrogen frac in Devonion Shale

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						
Fresh Water	9-5/8		26 lbs.	250'	250'	CTS
Coal						
Intermediate	7		15.6 lbs.	1400'	1400'	CTS
Production	4-1/2		10.5 lbs.	5700'	5700'	210
Tubing						
Liners						

[Handwritten signature]
C-24-13

Received

JUN 26 2013

Packers: Kind: N/A
Sizes: _____
Depths Set _____

CK# 7507
\$650.⁰⁰

105 01367

WW-2A
(Rev. 6-07)

1.) Date: June 20, 2013
2.) Operator's Well Number CAD 11
State 47- County 105 Permit -
3.) API Well No.: 47- 105 -

**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:
(a) Name Heartwood Forestland Fund IV ✓
Address 3001 Emerson Avenue
Parkersburg, WV 26104
(b) Name _____
Address _____
(c) Name _____
Address _____
6) Inspector Joe Taylor
Address 497 Claylick Road
Ripley, WV 25271
Telephone 304-380-7469

5) (a) Coal Operator
Name None
Address _____
(b) Coal Owner(s) with Declaration
Name None
Address _____
(c) Coal Lessee with Declaration
Name None
Address _____

TO THE PERSONS NAMED ABOVE TAKE NOTICE THAT:

OR Included is the lease or leases or other continuing contract or contracts by which I hold the right to extract oil and gas
x 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 10 on the above named parties by:

- _____ Personal Service (Affidavit attached)
- x _____ 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.

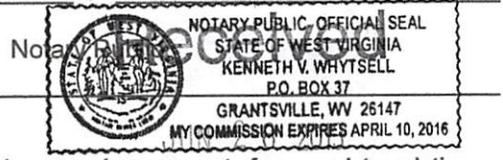
I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete.

I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Well Operator CAD Energy Corp.
By: Russell Hupp *Russell Hupp*
Its: President
Address 10318 Little Kanawha Parkway
Creston, WV 26141
Telephone 304-275-2055

Subscribed and sworn before me this 20th day of June, 2013.

Kenneth V. Whytsell
My Commission Expires April 10, 2016
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 WV Dept. of Environmental Protection

WW-2A Surface Waiver

SURFACE OWNER WAIVER

County Wirt Operator CAD Energy Corp. Operator well number CAD 11

INSTRUCTIONS TO SURFACE OWNERS NAMED ON PAGE WW2-A

The well operator named on page WW2A is applying for a permit from the State to do oil or gas well work. (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.

NOTE: YOU ARE NOT REQUIRED TO FILE ANY COMMENT.

WHERE TO FILE COMMENTS AND OBTAIN ADDITIONAL INFORMATION:

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 FIFTEEN (15) 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 a 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.

List of Water Testing Laboratories. The Office maintains a list of water testing laboratories which you can hire to test your water to establish water quality prior to and after drilling. Contact the Chief to obtain a copy.

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 Well Work Permit on Form WW2-A, and attachments consisting of pages 1 through ___ including a work order on Form WW2-B, a survey plat, and a soil and erosion plan, all for proposed well work on my surface land as described therein.

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

FOR EXECUTION BY A CORPORATION, ETC.

Signature Date

Company Name By Its

Print Name

Signature Date

Office of Oil and Gas
WV Dept. of Environmental Protection

Received

JUN 26 2013

WW-2A1
(Rev. 1/11)

Operator's Well Number CAD 11

**INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE
Chapter 22, Article 6, Section 8(d)
IN LIEU OF FILING LEASE(S) AND OTHER CONTINUING CONTRACT(S)**

Under the oath required to make the verification on page 1 of this Notice and Application, I depose and say that I am the person who signed the Notice and Application for the Applicant, and that -

- (1) the tract of land is the same tract described in this Application, partly or wholly depicted in the accompanying plat, and described in the Construction and Reclamation Plan;
- (2) the parties and recordation data (if recorded) for lease(s) or other continuing contract(s) by which the Applicant claims the right to extract, produce or market the oil or gas are as follows:

Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
WEVA Oil Corporation	CAD Energy Corp.	1/8	117/160

**Acknowledgement of Possible Permitting/Approval
In Addition to the Office of Oil and Gas**

The permit applicant for the proposed well work addressed in this application hereby acknowledges the possibility of the need for permits and/or approvals from local, state, or federal entities in addition to the DEP, Office of Oil and Gas, including but not limited to the following:

- WV Division of Water and Waste Management
- WV Division of Natural Resources
- WV Division of Highways
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- County Floodplain Coordinator

The applicant further acknowledges that any Office of Oil and Gas permit in no way overrides, replaces, or nullifies the need for other permits/approvals that may be necessary and further affirms that all needed permits/approvals should be acquired from the appropriate authority before the affected activity is initiated.

Received
Office of Oil & Gas

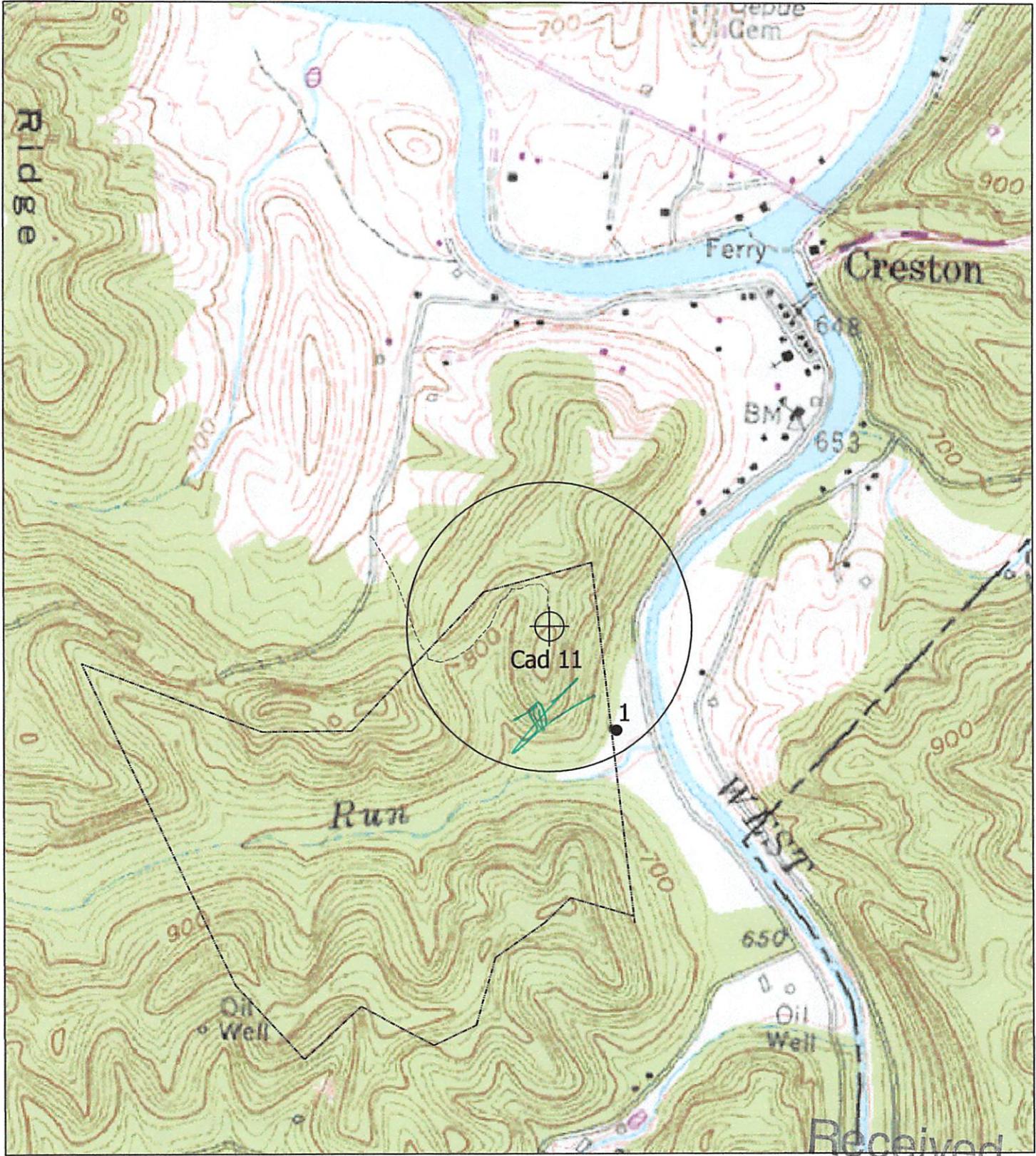
JUL 16 2013

Well Operator:
By: Its:

CAD Energy Corp.
[Signature], President

10391367
Pg. 5

CAD ENERGY CAD 11 WATER



Received

<p>HUPP Surveying & Mapping P.O. BOX 647 GRANTSVILLE, WV 26147 PH: (304)354-7035 E-MAIL: hupp@frontiernet.net</p>	<p>1" = 1000' Burning Springs Quad</p>	<p>JUN 26 2013 CAD ENERGY 10318 LITTLE KANAWHA PARKWAY CRESTON, WV 26141 Office of Oil and Gas Department of Environmental Protection</p>
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10501367
Pg. 4

HUPP Surveying & Mapping
P.O. BOX 647
GRANTSVILLE, WV 26147
(304) 354-7035 hupp@frontiernet.net FAX: (304) 354-6548

June 18, 2013

RE: Water Samples for Cad 11

There appears to be one (1) potable water sources within 1,000' of Cad 11, therefore tests should be offered and samples taken as required.

1. Heartwood Forestland IV
3001 Emerson Ave.
Parkersburg, WV 26104
Tax Map 3 Parcel 61

Received

JUN 26 2013

Office of Oil and Gas
WV Dept. of Environmental Protection

WW-2B1
(5-12)

Well No. CAD 11

West Virginia Department of Environmental Protection
Office of Oil and Gas

NOTICE TO SURFACE OWNERS

The well operator named below is preparing to file for a permit from the state to drill a new well. Before a well work permit can be filed with the Chief of the Office of Oil and Gas, the well operator is required to have given notice of the right to request water well or spring analytical testing. This notice shall be given to the owners or occupants of land which have a water well or spring being utilized for human consumption, domestic animals, or other general use and which is located within 1000 feet of the proposed well site.

With this form, the operator is giving you notice of your right to request analytical testing. The operator is required to sample and analyze the water wells or springs of all owners or occupants who request it. Therefore, if you wish to have your water well or spring tested, contact the operator named below.

All sampling shall be completed prior to drilling. Within thirty (30) days of the receipt of such sample analyses the operator shall submit the results to the Chief of the Office of Oil and Gas and to the owners or occupants who may have requested them.

Be advised, you have the right to sample and analyze any water supply at your own expense.

Listed below is the laboratory chosen by operator to perform analysis, and contactor chosen to collect sample.

Certified Laboratory Name Reliance Laboratories
Sampling Contractor Hupp Surveying

Well Operator CAD Energy Corp.
Address 10318 Little Kanawha Parkway
Creston, WV 26141
Telephone 304-275-2055

FOR OPERATOR'S USE ONLY: Below, or on an attached page, list those persons which were given this notice. Place an asterisk beside the one(s) that contacted you and requested sampling and analyses. If there were no requests made, indicate by underling which one you have selected to sample and analyze. If there are no water wells or springs within 1000 feet of the proposed site, the Chief may require the operator to test wells up to 2000 feet from the proposed site.

SEE Pg 4

Received

JUN 26 2013

WW-9
(5/13)

Page _____ of _____
API Number 47 - 105 - _____
Operator's Well No. CAD 11 _____

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name CAD Energy Corp. OP Code 310296

Watershed (HUC 10) Petes Run of West Fork of Little Kanawha Quadrangle Burning Springs

Elevation 909 County Wirt District Spring Creek

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

Will a pit be used for drill cuttings? Yes X No _____

If so, please describe anticipated pit waste: drill cuttings, drilling and frac. fluids

Will a synthetic liner be used in the pit? Yes X No _____ If so, what ml.? 10-20 MIL.

Proposed Disposal Method For Treated Pit Wastes:

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

Will closed loop system be used? No

Drilling medium anticipated for this well? Air, freshwater, oil based, etc. Air

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

Additives to be used in drilling medium? soap

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

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

-Landfill or offsite name/permit number? _____

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.

Company Official Signature *Russell Hupp*

Company Official (Typed Name) Russell Hupp

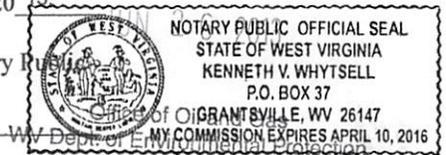
Company Official Title President

Received
6-24-13

Subscribed and sworn before me this 20th day of June, 20 13

Kenneth V. Whytse Notary Public

My commission expires April 10, 2016



Form WW-9

Operator's Well No. CAD 11

Proposed Revegetation Treatment: Acres Disturbed 2 Prevegetation pH 5.5 to 6.0

Lime 3 Tons/acre or to correct to pH 6.5

Fertilizer (10-20-20 or equivalent) 500 lbs/acre (500 lbs minimum)

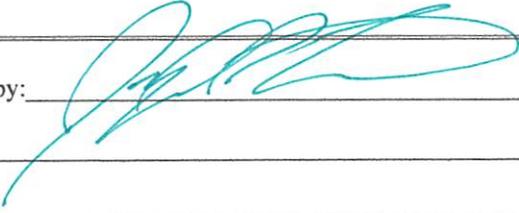
Mulch Hay @ 2 Tons/acre

Seed Mixtures

Area I		Area II	
Seed Type	lbs/acre	Seed Type	lbs/acre
Tall Fescue	40	Tall Fescue	40
Ladino Clover	5	Ladino Clover	5
Annual Rye	10	Annual Rye	10

Attach:
Drawing(s) of road, location, pit and proposed area for land application.

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: 

Comments:

Title: OGC - Inspector Date: 6-24-13

Field Reviewed? () Yes () No

Received

JUN 26 2013

10501367

19.9

Form W-9

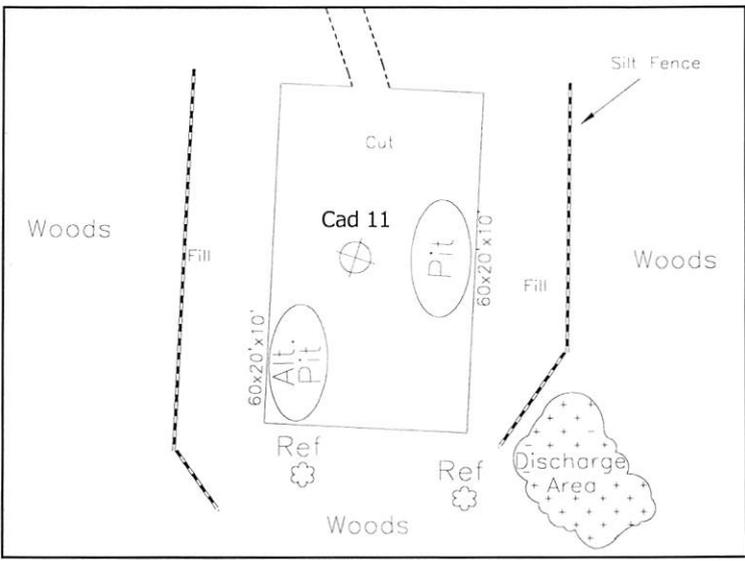
CAD ENERGY CAD 11

Received

JUN 26 2013

Office of Oil and Gas
WV Dept. of Environmental Protection

Detail Sketch for Cad 11



75' +/- @ 14% to 16%
Spacing 60' to 55'

100' +/- @ 2% to 4%
Spacing 250' to 170'

125' +/- @ 9% to 11%
Spacing 90' to 75'

425' +/- @ 4% to 7%
Spacing 170' to 115'

75' +/- @ 10% to 12%
Spacing 80' to 70'

125' +/- @ 2% to 4%
Spacing 250' to 170'

75' +/- @ 11% to 13%
Spacing 75' to 65'

300' +/- @ 2% to 4%
Spacing 250' to 170'

400' +/- @ 13% to 15%
Spacing 65' to 60'

New Construction To Here.
Old Existing Haul Road.
Upgrade Will Be Needed.

450' +/- @ 18% to 20%
Spacing 50' to 45'

100' +/- @ 22% to 24%
Spacing 45' to 40'

○ Install Minimum 12" Culvert

ALL ROADS SHOWN HEREON ARE EXISTING UNLESS OTHERWISE NOTED AND SHALL BE MAINTAINED IN ACCORDANCE WITH DEP OIL AND GAS BMP MANUAL ENTRANCES AT COUNTY/STATE ROADS SHALL BE MAINTAINED IN ACCORDANCE WITH WV DOT REGULATIONS. SEPARATE PERMITS MAY BE REQUIRED BY THE DOT.

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 DEP 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.

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

CONTRACTORS/COMPANY ARE RESPONSIBLE FOR LOCATING UTILITIES WHETHER SHOWN ON THIS PLAN OR NOT.

TEMPORARILY SEED AND MULCH ALL SLOPES AFTER CONSTRUCTION OF LOCATION CUT AND STACK ALL TIMBER ABOVE 6-INCHES IN DIAMETER AND THICKER.

STACK BRUSH BELOW LOCATION FOR SEDIMENT CONTROL.

CAD 11

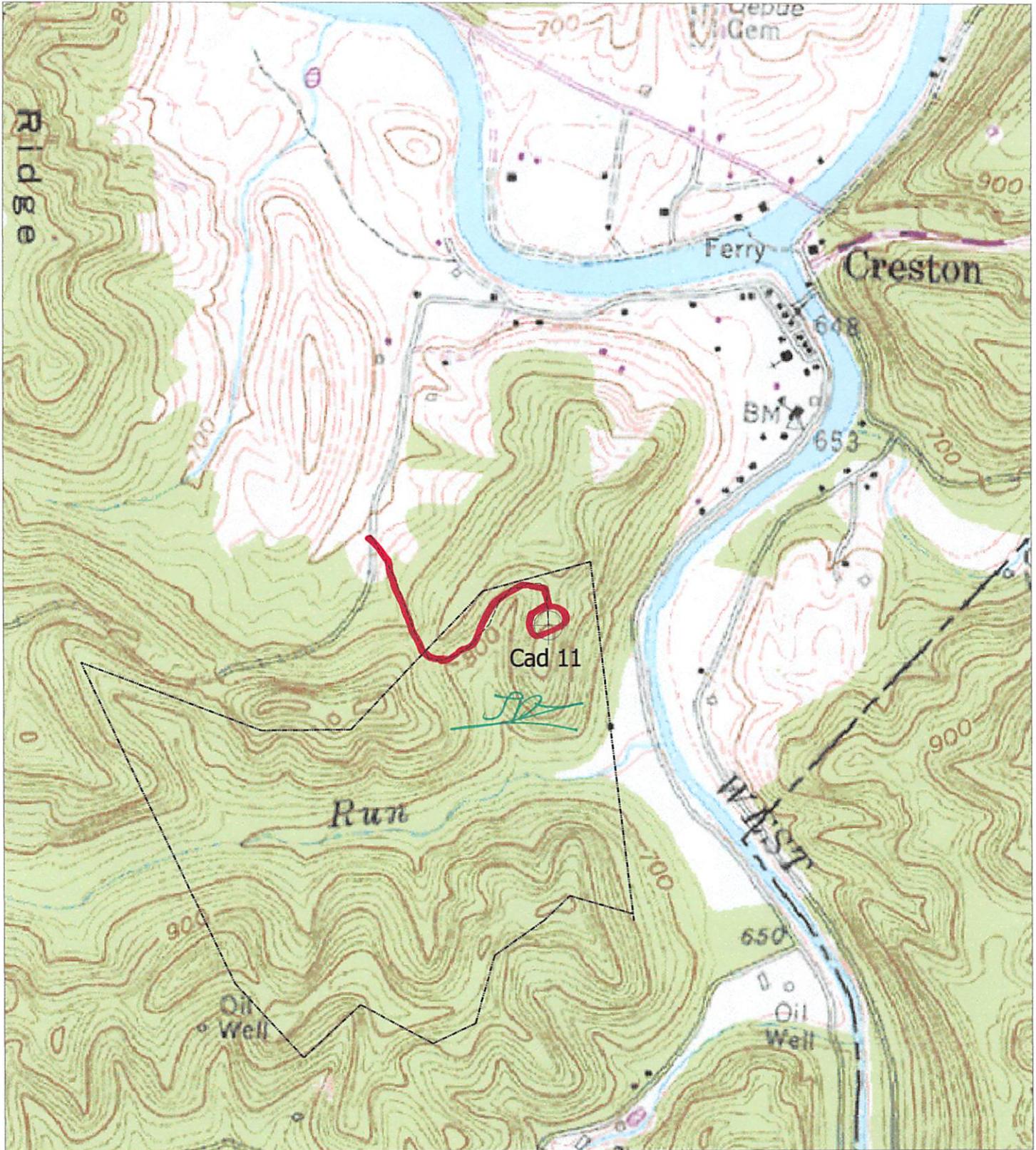
Surface & Lease Boundary

HUPP Surveying & Mapping
 P.O. BOX 647 GRANTSVILLE, WV 26147
 PH:(304)354-7035 E-MAIL: hupp@frontiernet.net

Drafted BY:	Date Drafted:	Job Number:
DB	06/18/13	W20132251

19501367
Pg. 10

CAD ENERGY CAD 11



Received

HUPP Surveying & Mapping

P.O. BOX 647 GRANTSVILLE, WV 26147
PH: (304)354-7035 E-MAIL: hupp@frontiernet.net

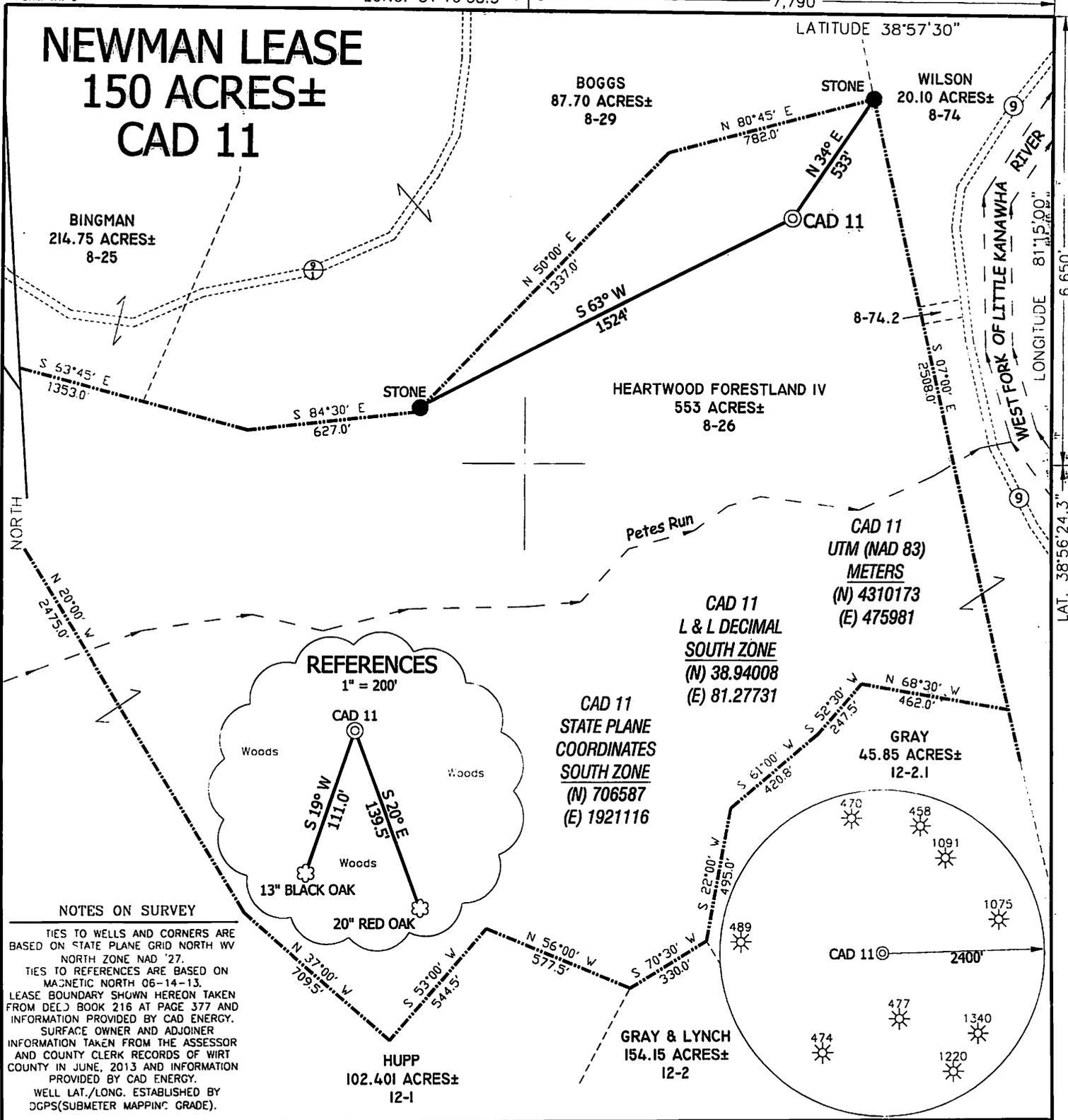
1" = 1000'

~~Elkhurst Quad~~
Burning Springs Quad

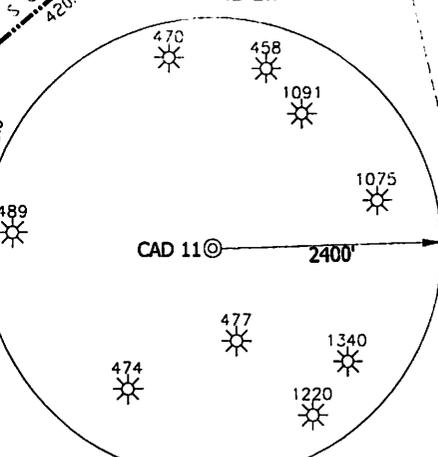
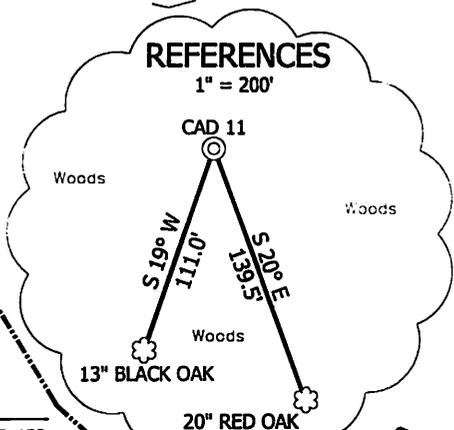
CAD ENERGY
10318 LITTLE KANAWHA PARKWAY
CRESTON, WV 26141

Office of Oil and Gas
WV Dept. of Environmental Protection

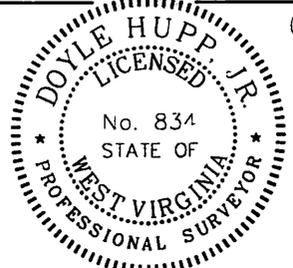
NEWMAN LEASE 150 ACRES± CAD 11



NOTES ON SURVEY
 TIES TO WELLS AND CORNERS ARE BASED ON STATE PLANE GRID NORTH WV NORTH ZONE NAD '27.
 TIES TO REFERENCES ARE BASED ON MAGNETIC NORTH 06-14-13.
 LEASE BOUNDARY SHOWN HEREON TAKEN FROM DEED BOOK 216 AT PAGE 377 AND INFORMATION PROVIDED BY CAD ENERGY.
 SURFACE OWNER AND ADJOINER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF WIRT COUNTY IN JUNE, 2013 AND INFORMATION PROVIDED BY CAD ENERGY.
 WELL LAT./LONG. ESTABLISHED BY DGPS (SUBMETER MAPPING GRADE).



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.



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.
 DATE JUNE 18, 2013
 OPERATORS WELL NO. CAD 11
 API WELL NO. 47-105-01367
 STATE COUNTY PERMIT

P.S. 834

 HUPP Surveying & Mapping
 P.O. Box 647 Grantsville, WV 26147
 (304) 354-7035 EMAIL: hupp@frontiernet.net

MINIMUM DEGREE OF ACCURACY 1/200 FILE NO. W2251 (BK64-64)
 PROVEN SOURCE OF ELEVATION DGPS (SUBMETER GRADE) SCALE 1" = 500

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

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

LOCATION :
 ELEVATION 909' WATERSHED PETES RUN OF WEST FORK OF LITTLE KANAWHA RIVER
 DISTRICT SPRING CREEK COUNTY WIRT QUADRANGLE BURNING SPRINGS 7.5'

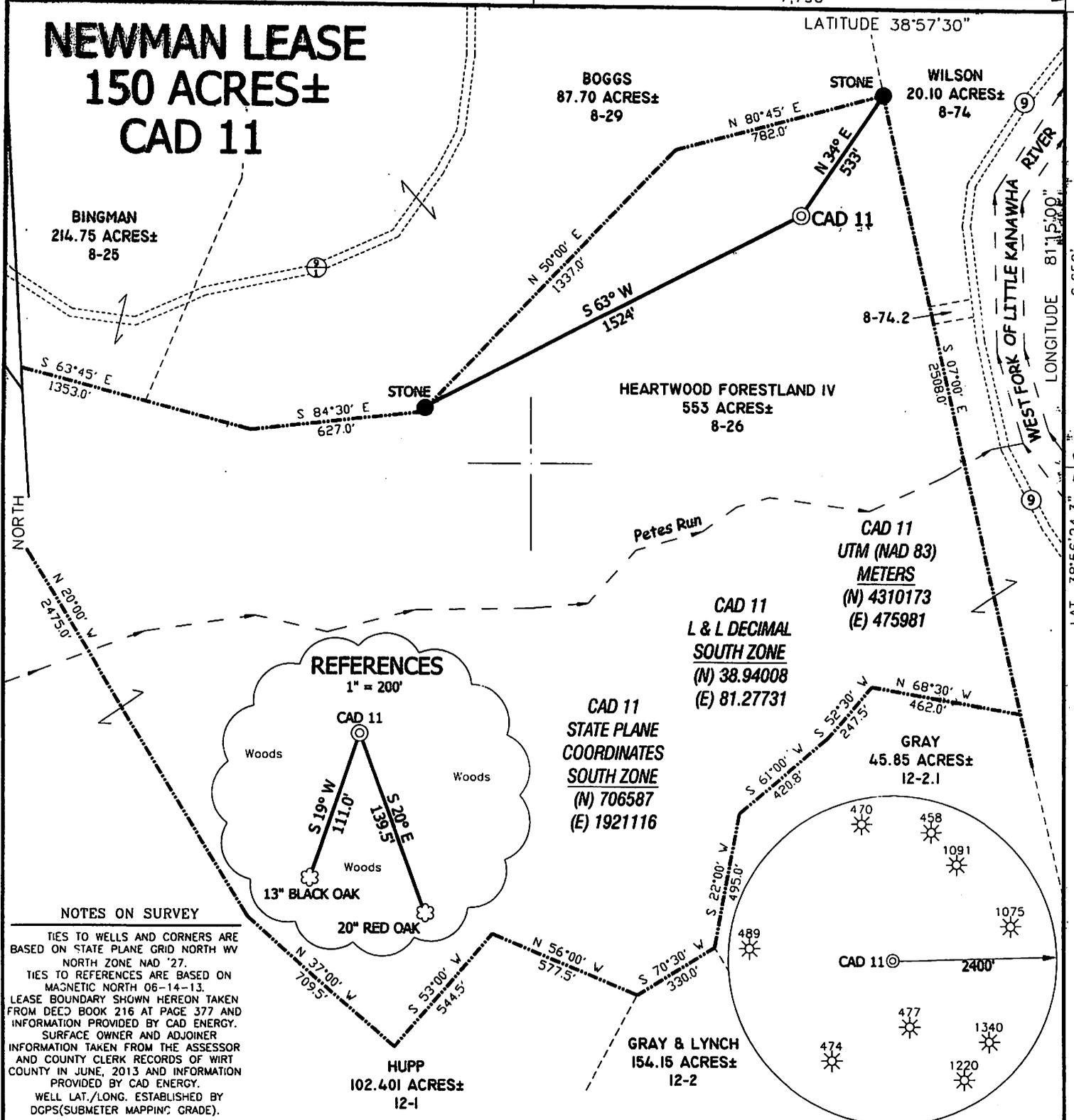
SURFACE OWNER HEARTWOOD FORESTLAND IV ACREAGE 553 ±
 ROYALTY OWNER ROBERT NEWMAN LEASE ACREAGE 150 ±

PROPOSED WORK :
 DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD
 PERFORATE NEW FORMATION PLUG AND ABANDON CLEAN OUT AND REPLUG OTHER
 PHYSICAL CHANGE IN WELL (SPECIFY) _____ TARGET FORMATION DEVONIAN SHALE
 ESTIMATED DEPTH 5,700'

WELL OPERATOR CAD ENERGY DESIGNATED AGENT RUSSELL HUPP
 ADDRESS 10318 LITTLE KANAWHA PARKWAY CRESTON, WV 26141 ADDRESS 10318 LITTLE KANAWHA PARKWAY CRESTON, WV 26141

COUNTY NAME
 PERMIT

NEWMAN LEASE 150 ACRES± CAD 11



NOTES ON SURVEY

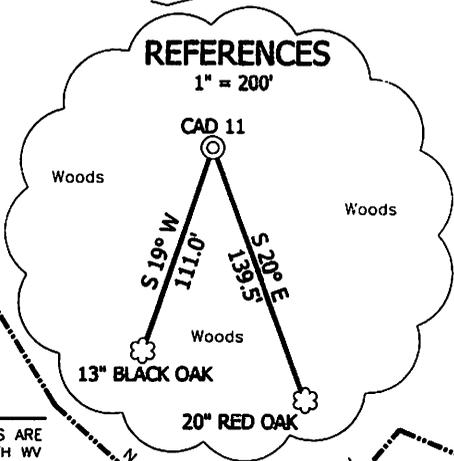
TIES TO WELLS AND CORNERS ARE BASED ON STATE PLANE GRID NORTH WV NORTH ZONE NAD '27.

TIES TO REFERENCES ARE BASED ON MAGNETIC NORTH 06-14-13.

LEASE BOUNDARY SHOWN HEREON TAKEN FROM DEED BOOK 216 AT PAGE 377 AND INFORMATION PROVIDED BY CAD ENERGY.

SURFACE OWNER AND ADJOINER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF WIRT COUNTY IN JUNE, 2013 AND INFORMATION PROVIDED BY CAD ENERGY.

WELL LAT./LONG. ESTABLISHED BY DGPS(SUBMETER MAPPING GRADE).

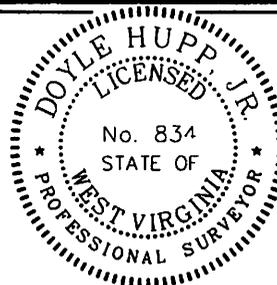


CAD 11 STATE PLANE COORDINATES SOUTH ZONE
(N) 706587
(E) 1921116

CAD 11 L & L DECIMAL SOUTH ZONE
(N) 38.94008
(E) 81.27731

CAD 11 UTM (NAD 83) METERS
(N) 4310173
(E) 475981

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.



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

DATE JUNE 18, 20 13

OPERATORS WELL NO. CAD 11

API WELL NO. 47-105-01367

STATE COUNTY PERMIT

P.S. 834

Doyle Hupp Jr.

HUPP Surveying & Mapping
P.O. Box 647 Grantsville, WV 26147
(304) 354-7035 EMAIL: hupp@frontiernet.net

MINIMUM DEGREE OF ACCURACY 1/200 FILE NO. W2251 (BK64-64)

PROVEN SOURCE OF ELEVATION DGPS (SUBMETER GRADE) SCALE 1" = 500

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

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

LOCATION : ELEVATION 909' WATERSHED PETES RUN OF WEST FORK OF LITTLE KANAWHA RIVER

DISTRICT SPRING CREEK COUNTY WIRT QUADRANGLE BURNING SPRINGS 7.5'

SURFACE OWNER HEARTWOOD FORESTLAND IV ACREAGE 553 ±

ROYALTY OWNER ROBERT NEWMAN LEASE ACREAGE 150 ±

PROPOSED WORK : LEASE NO. _____

DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD _____

FORMATION PERFORATE NEW FORMATION PLUG AND ABANDON CLEAN OUT AND REPLUG OTHER _____

PHYSICAL CHANGE IN WELL (SPECIFY) _____ TARGET FORMATION DEVONIAN SHALE

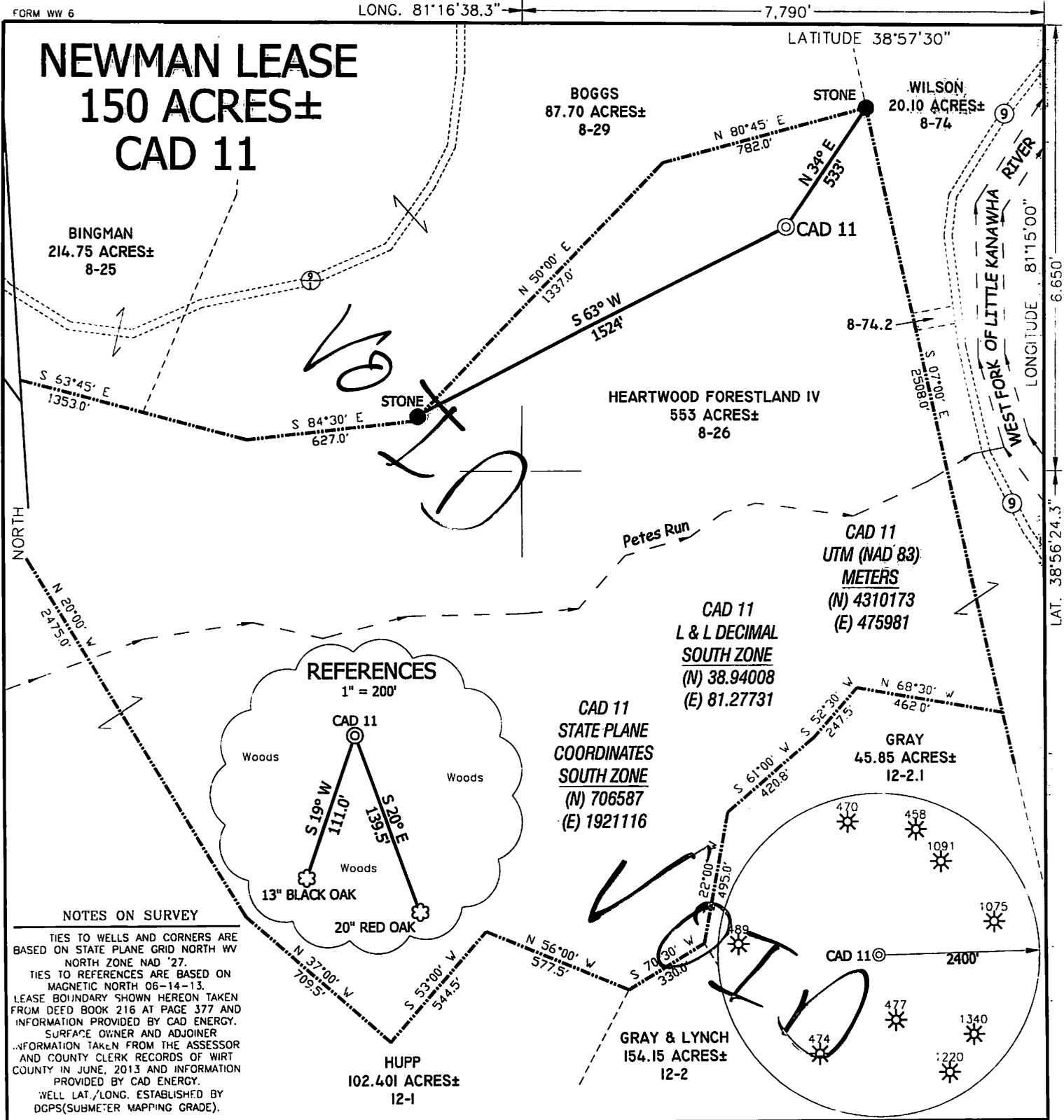
ESTIMATED DEPTH 5,700'

WELL OPERATOR CAD ENERGY DESIGNATED AGENT RUSSELL HUPP

ADDRESS 10318 LITTLE KANAWHA PARKWAY CRESTON, WV 26141 ADDRESS 10318 LITTLE KANAWHA PARKWAY CRESTON, WV 26141

COUNTY NAME
PERMIT

NEWMAN LEASE 150 ACRES± CAD 11



BINGMAN
214.75 ACRES±
8-25

BOGGS
87.70 ACRES±
8-29

WILSON
20.10 ACRES±
8-74

STONE

HEARTWOOD FORESTLAND IV
553 ACRES±
8-26

CAD 11
UTM (NAD 83)
METERS
(N) 4310173
(E) 475981

CAD 11
L & L DECIMAL
SOUTH ZONE
(N) 38.94008
(E) 81.27731

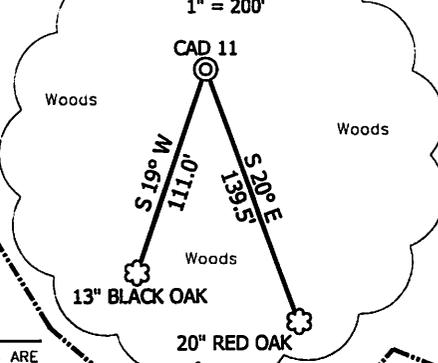
CAD 11
STATE PLANE
COORDINATES
SOUTH ZONE
(N) 706587
(E) 1921116

GRAY
45.85 ACRES±
12-2.1

GRAY & LYNCH
154.15 ACRES±
12-2

HUPP
102.401 ACRES±
12-1

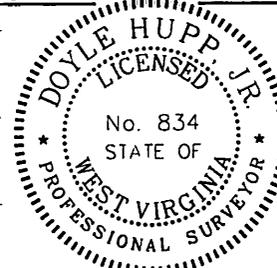
REFERENCES



NOTES ON SURVEY

TIES TO WELLS AND CORNERS ARE BASED ON STATE PLANE GRID NORTH WV NORTH ZONE NAD '27.
TIES TO REFERENCES ARE BASED ON MAGNETIC NORTH 06-14-13.
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WELL LAT./LONG. ESTABLISHED BY DGPS(SUBMETER MAPPING GRADE).

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

DATE JUNE 18, 2013

OPERATORS WELL NO. PIEDMONT-BUFFINGTON #1

API WELL NO. 47-1105
STATE WV COUNTY PUTN PERMIT 10

P.S. 834
Doyle Hupp Jr.
HUPP Surveying & Mapping
P.O. Box 647 Grantsville, WV 26147
(304) 354-7035 EMAIL: hupp@frontiernet.net

MINIMUM DEGREE OF ACCURACY 1/200 FILE NO. W2251 (BK64-64)
PROVEN SOURCE OF ELEVATION DGPS (SUBMETER GRADE) SCALE 1" = 50'

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



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

LOCATION :
ELEVATION 909' WATERSHED PETES RUN OF WEST FORK OF LITTLE KANAWHA RIVER
DISTRICT SPRING CREEK COUNTY WIRT QUADRANGLE BURNING SPRINGS 7.5'

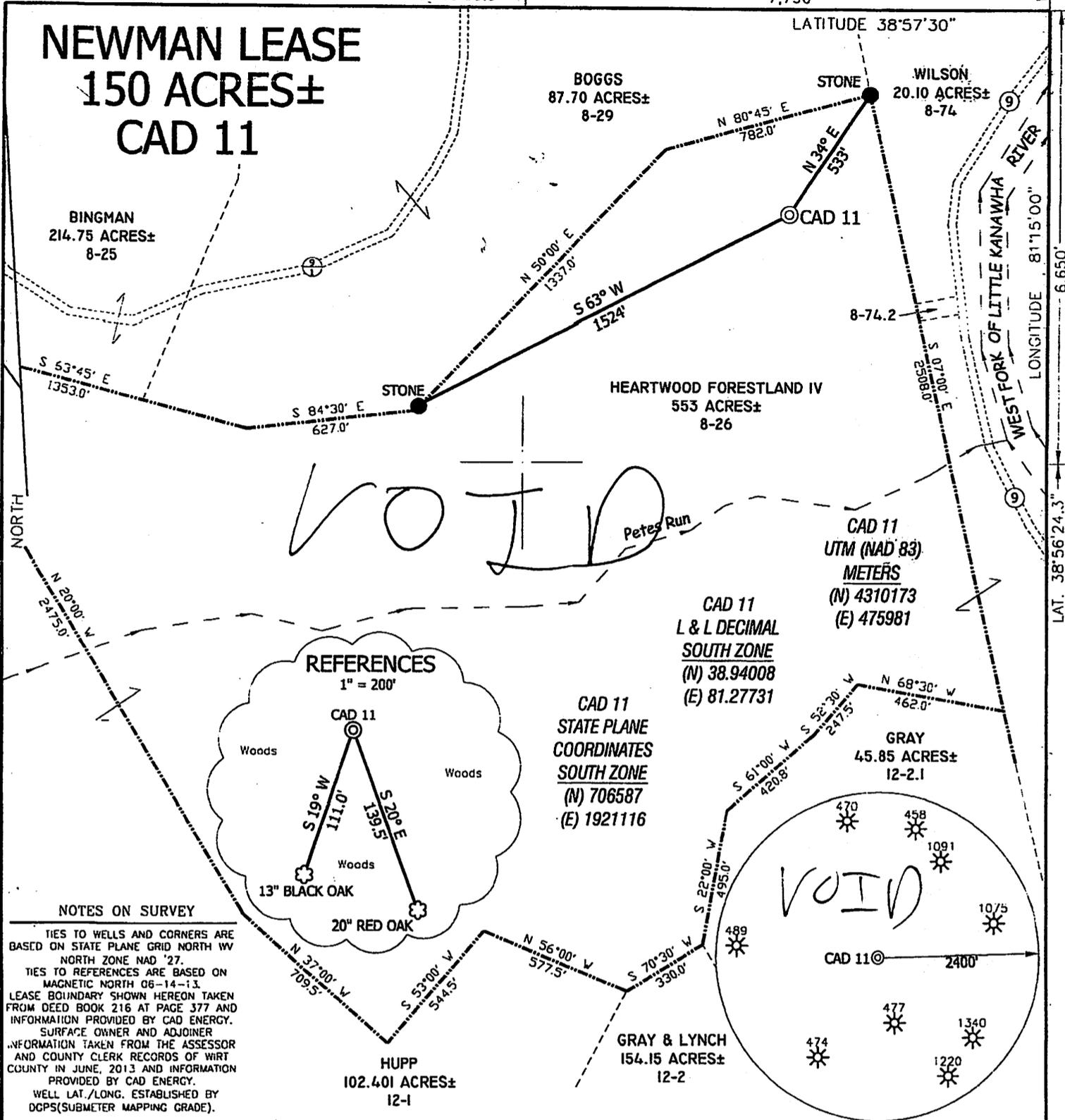
SURFACE OWNER HEARTWOOD FORESTLAND IV ACREAGE 553 ±
ROYALTY OWNER ROBERT NEWMAN LEASE ACREAGE 150 ±

PROPOSED WORK :
DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD
FORMATION PERFORATE NEW FORMATION PLUG AND ABANDON CLEAN OUT AND REPIUG OTHER
PHYSICAL CHANGE IN WELL (SPECIFY) VOID TARGET FORMATION DEVONIAN SHALE
ESTIMATED DEPTH 5,700'

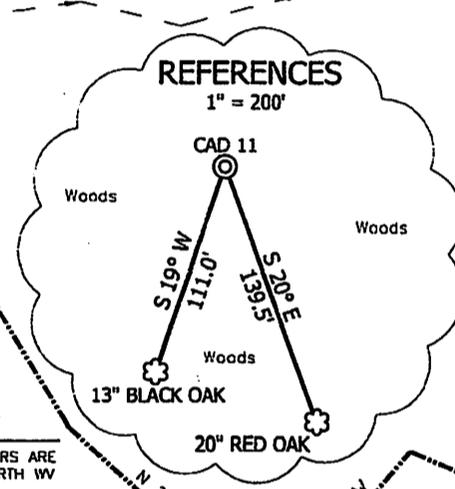
WELL OPERATOR CAD ENERGY DESIGNATED AGENT RUSSELL HUPP
ADDRESS 10318 LITTLE KANAWHA PARKWAY CRESTON, WV 26141 ADDRESS 10318 LITTLE KANAWHA PARKWAY CRESTON, WV 26141

COUNTY NAME
PERMIT

NEWMAN LEASE 150 ACRES± CAD 11



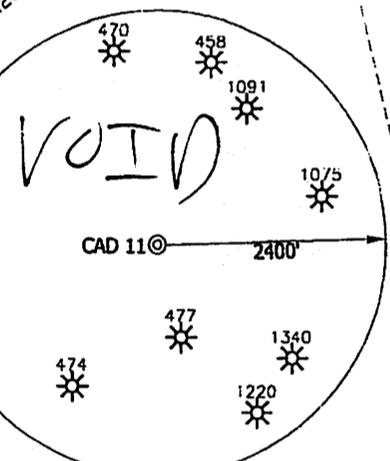
VOID



CAD 11
UTM (NAD 83)
METERS
(N) 4310173
(E) 475981

CAD 11
L & L DECIMAL
SOUTH ZONE
(N) 38.94008
(E) 81.27731

CAD 11
STATE PLANE
COORDINATES
SOUTH ZONE
(N) 706587
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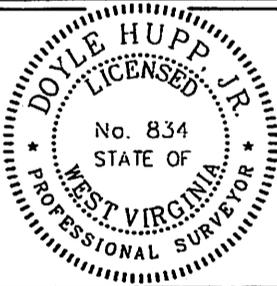
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(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.

DATE JUNE 18 2013

OPERATORS WELL NO. PIEDMONT-BUFFINGTON #1

API WELL NO. 47-1050

STATE WV COUNTY PUTNAM PERMIT 10

MINIMUM DEGREE OF ACCURACY 1/200 FILE NO. W2251 (BK64-64)

PROVEN SOURCE OF ELEVATION DGPS (SUBMETER GRADE) SCALE 1" = 500'

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



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PHYSICAL CHANGE IN WELL (SPECIFY) _____ TARGET FORMATION DEVONIAN SHALE

ESTIMATED DEPTH 5,700'

WELL OPERATOR CAD ENERGY DESIGNATED AGENT RUSSELL HUPP

ADDRESS 1031B LITTLE KANAWHA PARKWAY CRESTON, WV 26141 ADDRESS 1031B LITTLE KANAWHA PARKWAY CRESTON, WV 26141

COUNTY NAME
PERMIT