



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 10, 2013

WELL WORK PERMIT

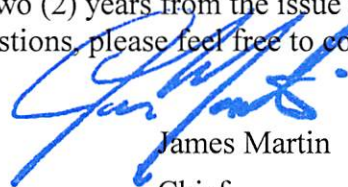
Vertical Well

This permit, API Well Number: 47-1502891, issued to RAVEN RIDGE ENERGY, 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: KING #8
Farm Name: HOLDSWORTH, WADE ,.ET. UX.
API Well Number: 47-1502891
Permit Type: Vertical Well
Date Issued: 07/10/2013

Promoting a healthy environment.

07/12/2013

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 30 mil thickness synthetic liner.

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: Raven Ridge Energy, LLC
Operator ID: 494485865 County: Clay¹⁵ District: Union⁰⁵ Quadrangle: Elkhurst 7.5'³³⁴

2) Operator's Well Number: King #8 3) Elevation: 1,250'

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

5) Proposed Target Formation(s): Berea Proposed Target Depth: 2,150'
6) Proposed Total Depth: 3000' Feet Formation at Proposed Total Depth: 2150' ?
7) Approximate fresh water strata depths: 200'
8) Approximate salt water depths: 1150' - 1650'

9) Approximate coal seam depths: No Coal Listed in Title

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)
Drill, stimulate and frac new well.
XLINX or Foam Frac

13)  6/4/13
CASING AND TUBING PROGRAM

TYPE	SPECIFICATIONS			FOOTAGE INTERVALS		CEMENT
	Size	Grade	Weight per ft	For Drilling	Left in Well	
Conductor	9 5/8"	J55	29	380	380	CTS ^{+40%}
Fresh Water						
Coal						
Intermediate	7"	J55	17	1950	1950	CTS ^{+50% in note}
Production	4 1/2"	J55	10.5	3000	3000'	per 34-4-11.1
Tubing						
Liners						

Packers: Kind: _____
Sizes: _____
Depths Set _____

Received
Office of Oil & Gas

JUN 10 2013

07/12/2013

**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
Sandra Hobeck, Trustee	Cunningham Energy, LLC See Attached Agreement	1/8	51/862


**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.

Well Operator:
By: Its:



 Raven Ridge

 Ryan E.M. Cunningham, Officer

Received
Office of Oil & Gas

JUN 10 2013

07/12/2013

WW-2B1
(5-12)

Well No. KING #8

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 STURM ENVIRONMENTAL
Sampling Contractor HUPP SURVEYING

Well Operator RAVEN RIDGE ENERGY, LLC
Address 3230 PENNSYLVANIA AVENUE
CHARLESTON, WV 25302
Telephone (304) 344-9291

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.

Received
Office of Oil & Gas

JUN 10 2013

07/12/2013

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

April 11, 2013

RE: Water Samples for King #8

There appears to be nine (9) potable water sources within 1,500' of King #8, therefore tests should be offered and samples taken as required.

- ✓ 1. Robert Wayne Taylor
1967 Bomont Rd.
Bomont, WV 25030
Tax Map 17 Parcels 46 & 47
- ✓ 2. W C Mitchell, et ux
1999 Bomont Rd.
Bomont, WV 25030
Tax Map 17 Parcels 47.2 & 48
- ✓ 3. Vincent Mitchell, et ux
2172 Bomont Rd.
Bomont, WV 25030
Tax Map 17 Parcel 18
- ✓ 4. Lucille Hall
2368 Bomont Rd.
Bomont, WV 25030
Tax Map 17 Parcel 19
- ✓ 5. Michael Mullins, et al ✖
2602 West Carla Vista Dr.
Chandler, AZ 85224
Tax Map 17 Parcels 20 & 60
- ✓ 6. Paul Woodard, et ux
53 Decatur Ln.
Bomont, WV 25030
Tax Map 17 Parcel 58
- ✓ 7. Louvena Evans
163 Decatur Ln.
Bomont, WV 25030
Tax Map 17 Parcel 58.4

Received
Office of Oil & Gas

JUN 10 2013

07/12/2013

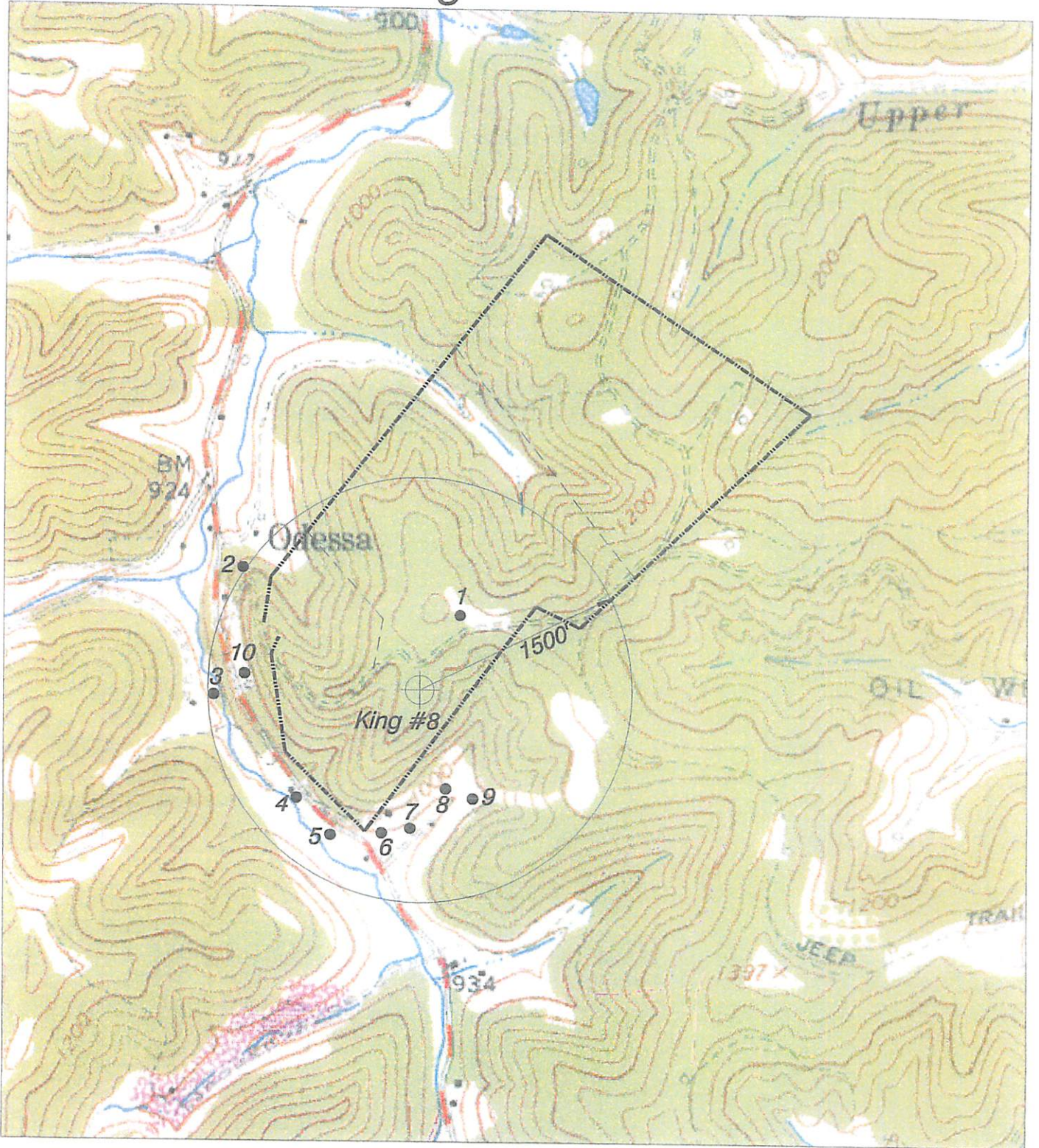
- ✓ 8. Ronald & Jeannie Evans
814 Virginia St.
Charleston, WV 25030
Tax Map 17 Parcel 60.1
- ✓ 9. Billy P. Evans Jr., et ux
2527 Bomont Rd.
Bomont, WV 25030
Tax Map 17 Parcels 58.2, 58.3 & 59
- ✓ 10. Wanda Sue Tomlin
P.O. Box 9076
Bomont, WV 25030
Tax Map 17 Parcel 49
- ✓ 11. Tammy Taylor
569 Shelton Rd.
Bomont WV 25030

Received
Office of Oil & Gas

JUN 10 2013

07/12/2013

Raven Ridge Energy, LLC. King #8 Water



HUPP Surveying & Mapping

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

1" = 1000'
Elkhurst Quad

Raven Ridge Energy, LLC.
3230 Pennsylvania Ave.
Charleston, WV 25302

Received
Office of Oil & Gas

JUN 10 2013

07/12/2013

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name Raven Ridge Energy, LLC OP Code 494485865

Watershed (HUC 10) Tributary of Porter Creek Quadrangle Elkhurst 7.5'

Elevation 1,250' County Clay District Union

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: _____

Will a synthetic liner be used in the pit? Yes X No _____ If so, what ml.? 30 ml

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, freshwater

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

Additives to be used in drilling medium? Soap; KCl and/or Clay

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) Cement and Lime

-Landfill or offsite name/permit number? N/A

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 _____

Company Official (Typed Name) Ryan E. M. Cunningham

Company Official Title Officer

Subscribed and sworn before me this 29th day of May, 2013

Danielle N. Bays Notary Public

My commission expires 05/15/2013 2/10/2015



Received
Office of Oil & Gas

JUN 10 2013

07/12/2013

Proposed Revegetation Treatment: Acres Disturbed 3.5 1.5 Prevegetation pH _____

Lime 3 Tons/acre or to correct to pH 6.5

Fertilizer (10-20-20 or equivalent) 1/3 Ton lbs/acre (500 lbs minimum)

Mulch Hay - 2 Tons/acre

Seed Mixtures

Seed Type	Area I	lbs/acre
Ky 31 - 40		
Alsike Clover - 5		
Annual Rye - 15		

Seed Type	Area II	lbs/acre
Orchid Grass - 15		
Alsike Clover - 5		

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: sediment protection to be in place at all times.

Title: Inspector

Date: 6/4/13

Field Reviewed? Yes No

Received
Office of Oil & Gas

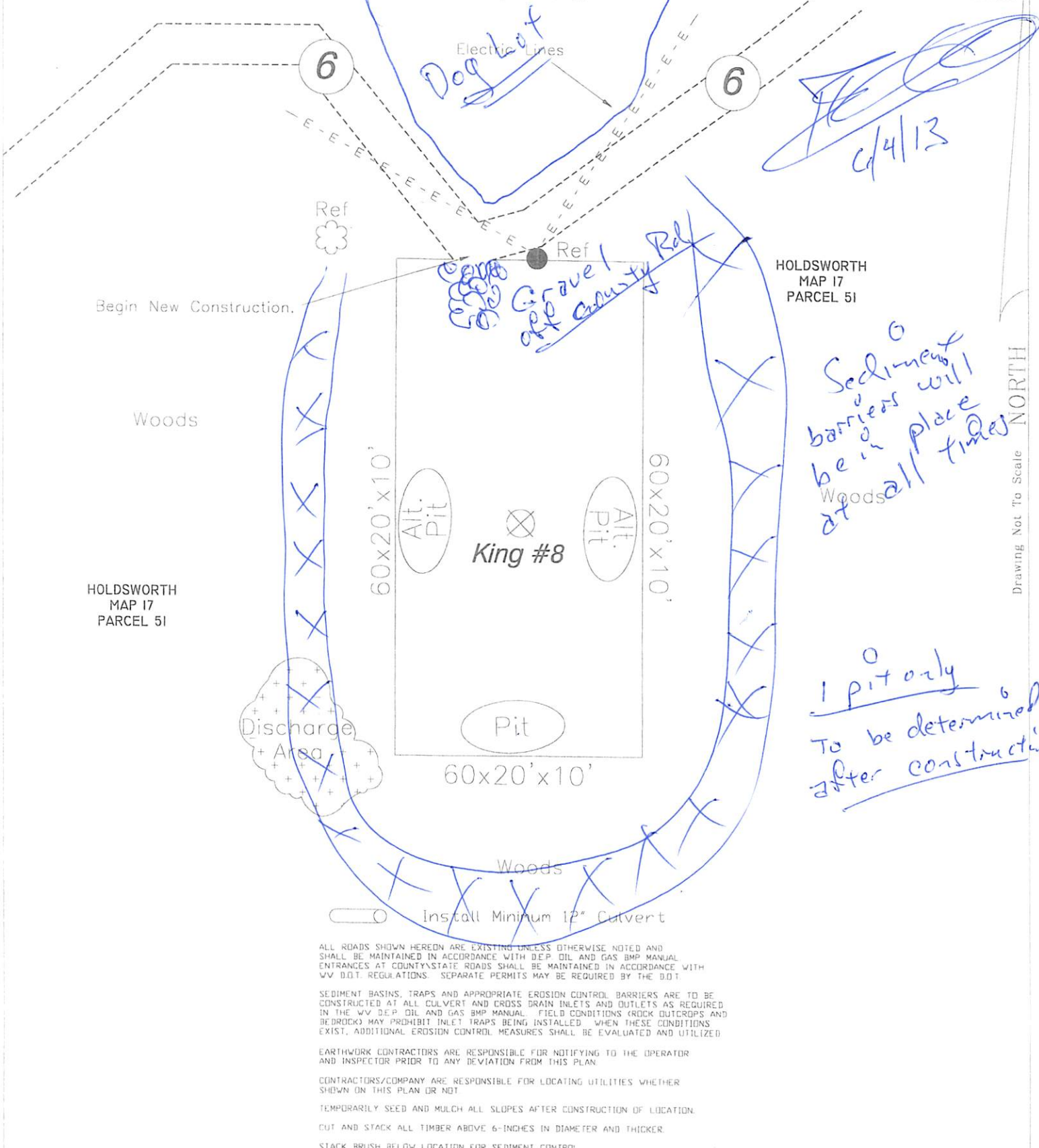
JUN 10 2013

07/12/2013

RAVEN RIDGE ENERGY, LLC. KING #8

Form W-9

Page 1 of 1



[Signature]
c/4/13

HOLDSWORTH
MAP 17
PARCEL 51

Sediment
barriers will
be in place
at all times

1 pit only
to be determined
after construction

Drawing Not To Scale NORTH

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 D.D.T. REGULATIONS. SEPARATE PERMITS MAY BE REQUIRED BY THE D.D.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 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.

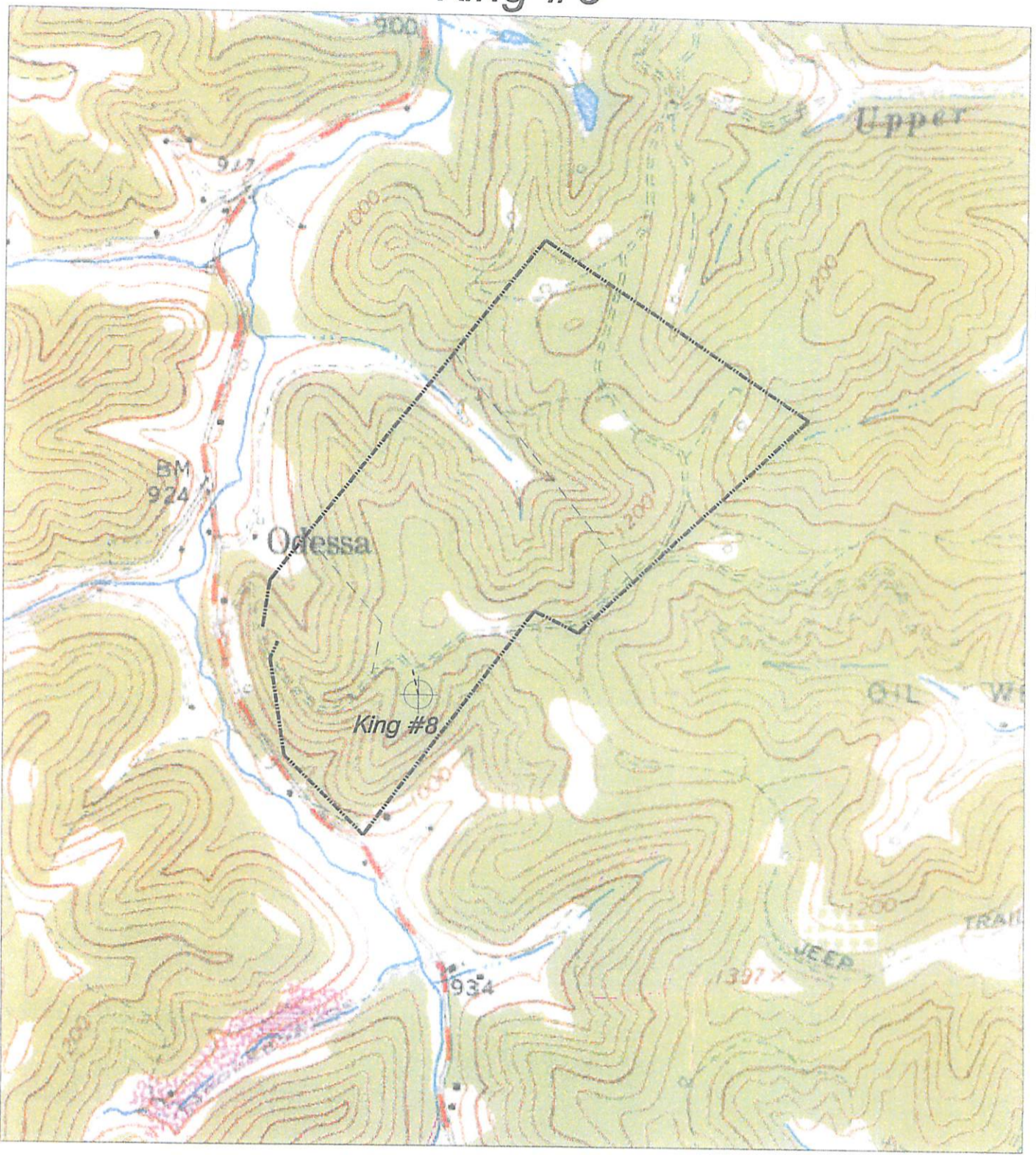
CUT AND STACK ALL TIMBER ABOVE 6-INCHES IN DIAMETER AND THICKER.

STACK BRUSH BELOW LOCATION FOR SEDIMENT CONTROL.

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	04/10/13	W20122138

Received
Office of Oil & Gas
JUN 10 2013
07/12/2013

Raven Ridge Energy, LLC. King #8



NORTH

<p>HUPP Surveying & Mapping P.O. BOX 647 GRANTSVILLE, WV 26147 PH: (304)354-7035 E-MAIL: hupp@frontiernet.net</p>	<p>1" = 1000' Elkhurst Quad</p>	<p>Raven Ridge Energy, LLC. 3230 Pennsylvania Ave. Charleston, WV 25302</p>
--	--	---

Received
 Office of Oil & Gas
 JUN 10 2013

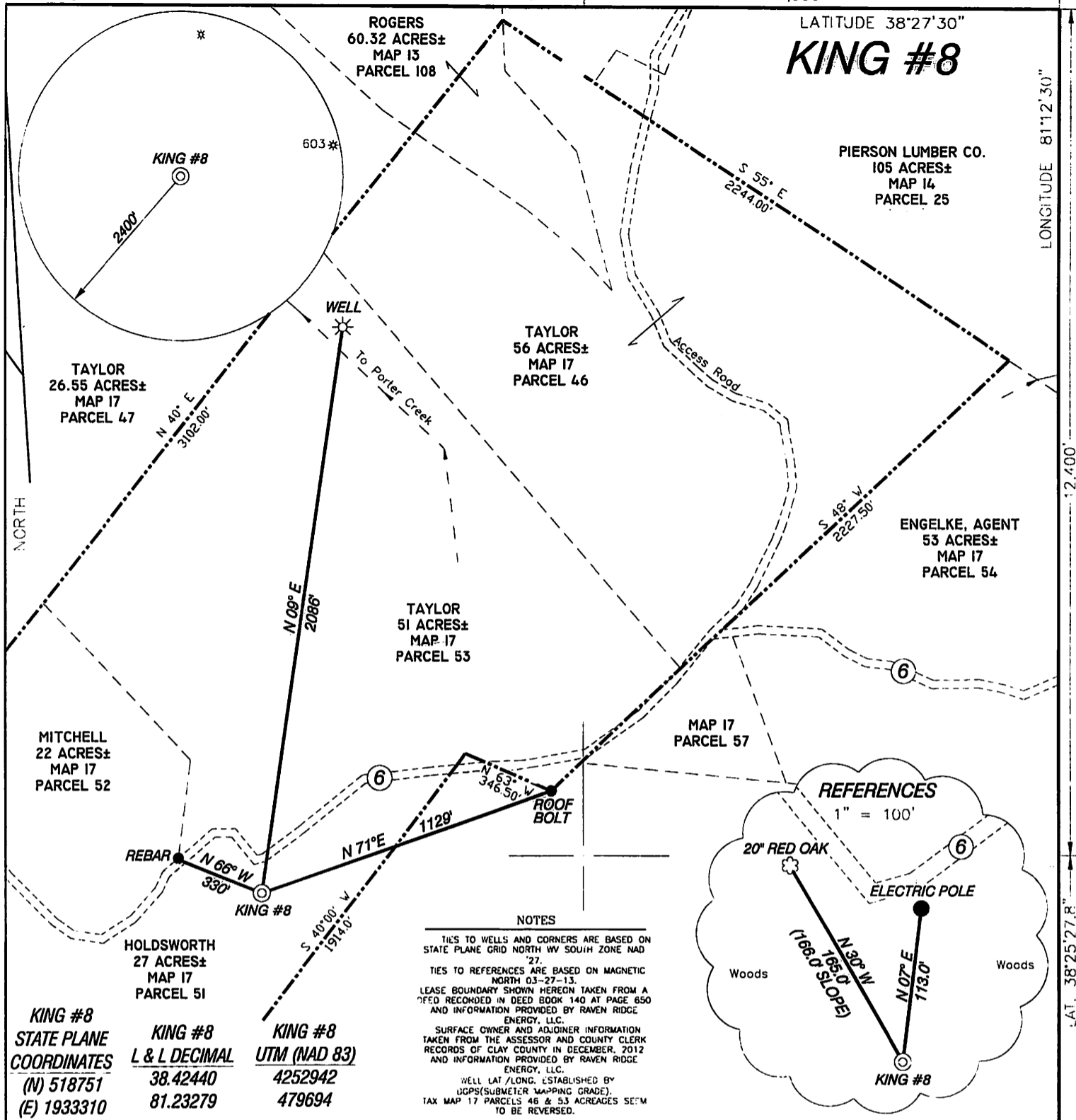
07/12/2013

LATITUDE 38°27'30"
KING #8

LONGITUDE 81°12'30"

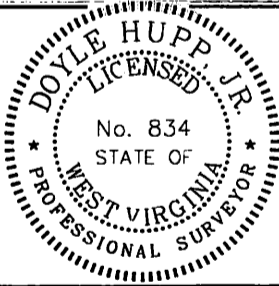
12,400'

LAT. 38°25'27.8"



KING #8 STATE PLANE COORDINATES	KING #8 L & L DECIMAL	KING #8 UTM (NAD 83)
(N) 518751	38.42440	4252942
(E) 1933310	81.23279	479694

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 APRIL 8, 20 13
 OPERATORS WELL NO. KING #8
 API WELL NO. 47-015-02891
 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. W2138 (BK 63-46)
 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 1,250' WATERSHED TRIBUTARY OF PORTER CREEK
 DISTRICT UNION COUNTY CLAY QUADRANGLE ELKHURST 7.5'

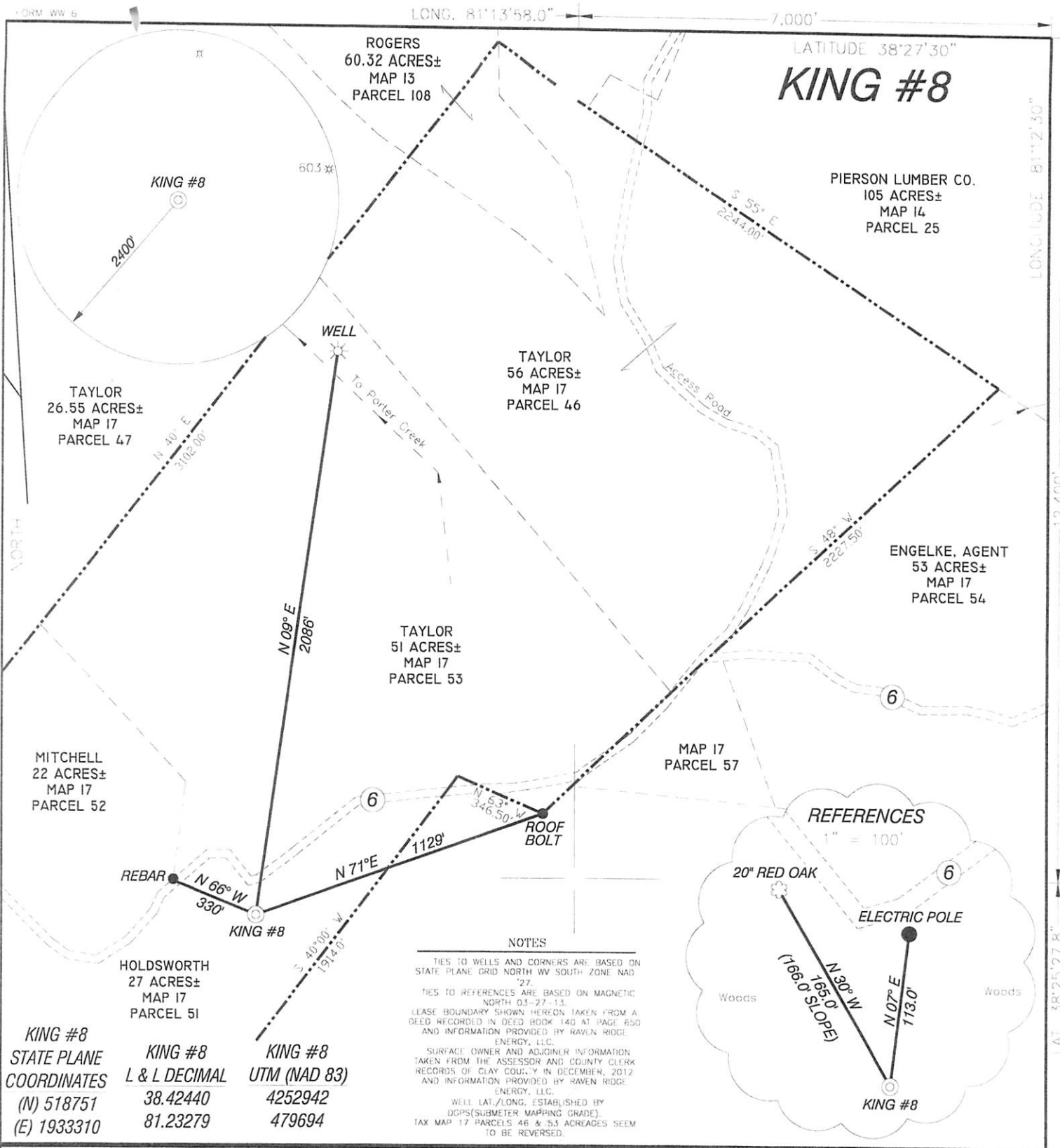
SURFACE OWNER WADE HOLDSWORTH, et ux ACREAGE 27±
 ROYALTY OWNER SANDRA HOBECK, TRUSTEE LEASE ACREAGE 228± LEASE NO. 07/12/2013

PROPOSED WORK: 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 BEREA
 ESTIMATED DEPTH 3,000'

WELL OPERATOR RAVEN RIDGE ENERGY, LLC. DESIGNATED AGENT RYAN CUNNINGHAM
 ADDRESS 3230 PENNSYLVANIA AVE. CHARLESTON, WV 25302 ADDRESS 3230 PENNSYLVANIA AVE. CHARLESTON, WV 25302

COUNTY NAME PERMIT



LATITUDE 38°27'30"
KING #8

LONG. 81°13'58.0" 7,000'

ROGERS
60.32 ACRES±
MAP 13
PARCEL 108

PIERSON LUMBER CO.
105 ACRES±
MAP 14
PARCEL 25

TAYLOR
26.55 ACRES±
MAP 17
PARCEL 47

TAYLOR
56 ACRES±
MAP 17
PARCEL 46

ENGELKE, AGENT
53 ACRES±
MAP 17
PARCEL 54

TAYLOR
51 ACRES±
MAP 17
PARCEL 53

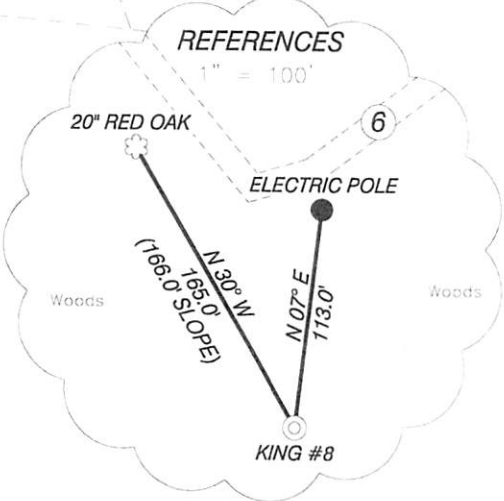
MITCHELL
22 ACRES±
MAP 17
PARCEL 52

MAP 17
PARCEL 57

HOLDSWORTH
27 ACRES±
MAP 17
PARCEL 51

KING #8 STATE PLANE COORDINATES	KING #8 L & L DECIMAL	KING #8 UTM (NAD 83)
(N) 518751	38.42440	4252942
(E) 1933310	81.23279	479694

NOTES
TIES TO WELLS AND CORNERS ARE BASED ON STATE PLANE GRID NORTH WV SOUTH ZONE NAD 83.
TIES TO REFERENCES ARE BASED ON MAGNETIC NORTH 05-27-15.
LEASE BOUNDARY SHOWN HEREON TAKEN FROM A DEED RECORDED IN DEED BOOK 140 AT PAGE 650 AND INFORMATION PROVIDED BY RAVEN RIDGE ENERGY, LLC.
SURFACE OWNER AND ADJOINER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF CLAY COUNTY IN DECEMBER, 2012 AND INFORMATION PROVIDED BY RAVEN RIDGE ENERGY, LLC.
WELL LAT./LONG. ESTABLISHED BY DGPS(SUBMETER MAPPING GRADE).
TAX MAP 17 PARCELS 46 & 53 ACRES SEEM TO BE REVERSED.



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 APRIL 8, 2013
OPERATORS WELL NO. KING #8
API WELL NO. 47-015-02891
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1/200 FILE NO. W2138 (BK 63-46)
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 1,250' WATERSHED TRIBUTARY OF PORTER CREEK
DISTRICT UNION COUNTY CLAY QUADRANGLE ELKHURST 7.5'

SURFACE OWNER WADE HOLDSWORTH, et ux ACREAGE 27±
ROYALTY OWNER SANDRA HOBECK, TRUSTEE LEASE ACREAGE 228±

PROPOSED WORK: 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 BEREA
ESTIMATED DEPTH 3,000'

WELL OPERATOR RAVEN RIDGE ENERGY, LLC. DESIGNATED AGENT RYAN CUNNINGHAM
ADDRESS 3230 PENNSYLVANIA AVE. CHARLESTON, WV 25302 ADDRESS 3230 PENNSYLVANIA AVE. CHARLESTON, WV 25302

07/12/2013