



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

March 31, 2015

WELL WORK PERMIT

Horizontal 6A Well

This permit, API Well Number: 47-9502224, issued to TRIAD HUNTER, LLC, 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: 1400
Farm Name: WELLS, VELMA L.
API Well Number: 47-9502224
Permit Type: Horizontal 6A Well
Date Issued: 03/31/2015

Promoting a healthy environment.

04/03/2015

PERMIT CONDITIONS

West Virginia Code § 22-6A-8(d) allows the Office of Oil and Gas to place specific conditions upon this permit. Permit conditions have the same effect as law. Failure to adhere to the specified permit conditions may result in enforcement action.

CONDITIONS

1. This proposed activity may require permit coverage from the United States Army Corps of Engineers (USACE). Through this permit, you are hereby being advised to consult with USACE regarding this proposed activity.
2. If the operator encounters an unanticipated void, or an anticipated void at an unanticipated depth, the operator shall notify the inspector within 24 hours. Modifications to the casing program may be necessary to comply with W. Va. Code § 22-6A-5a (12), which requires drilling to a minimum depth of thirty feet below the bottom of the void, and installing a minimum of twenty (20) feet of casing. Under no circumstance should the operator drill more than fifty (50) feet below the bottom of the void or install less than twenty (20) feet of casing below the bottom of the void.
3. When compacting fills, each lift before compaction shall not be more than 12 inches in height, and the moisture content of the fill material shall be within limits as determined by the Standard Proctor Density test of the actual soils used in specific engineered fill, ASTM D698, Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort, to achieve 95 % compaction of the optimum density. Each lift shall be tested for compaction, with a minimum of two tests per lift per acre of fill. All test results shall be maintained on site and available for review.
4. Operator shall install signage per § 22-6A-8g (6) (B) at all source water locations included in their approved water management plan within 24 hours of water management plan activation.
5. Oil and gas water supply wells will be registered with the Office of Oil and Gas and all such wells will be constructed and plugged in accordance with the standards of the Bureau for Public Health set forth in its Legislative rule entitled *Water Well Regulations*, 64 C.S.R. 19. Operator is to contact the Bureau of Public Health regarding permit requirements. In lieu of plugging, the operator may transfer the well to the surface owner upon agreement of the parties. All drinking water wells within fifteen hundred feet of the water supply well shall be flow tested by the operator upon request of the drinking well owner prior to operating the water supply well.
6. Pursuant to the requirements pertaining to the sampling of domestic water supply wells/springs the operator shall, no later than thirty (30) days after receipt of analytical data provide a written copy to the Chief and any of the users who may have requested such analyses.
7. If any explosion or other accident causing loss of life or serious personal injury occurs in or about a well or well work on a well, the well operator or its contractor shall give notice, stating the particulars of the explosion or accident, to the oil and gas inspector and the Chief, within 24 hours of said accident.
8. During the casing and cementing process, in the event cement does not return to the surface, the oil and gas inspector shall be notified within 24 hours.
9. Operator shall provide the Office of Oil & Gas notification of the date that drilling commenced on this well. Such notice shall be provided by sending an email to DEPOOGNotify@wv.gov within 30 days of commencement of drilling.



4709502224

west virginia department of environmental protection

Oil and Gas Conservation Commission
601 57th Street, SE Charleston, WV 25304
(304)926-0499, Ext 1656

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
dep.wv.org

January 8, 2015

Department of Environmental Protection
Office of Oil and Gas
Charleston, WV 25304

RE: Application for Deep Well Permit – API #47-095-02224

COMPANY: Triad Hunter, LLC

FARM: Wells – Meckley #1400

COUNTY: Tyler DISTRICT: Lincoln QUAD: Paden City

The deep well review of the application for the above company is **APPROVED FOR UTICA/POINT PLEASANT**. If operator wishes to drill deeper than the Utica/Point Pleasant additional approval must be obtained from the OGCC.

The applicant has complied with the provision of Chapter 22C-9, of the Code of West Virginia, nineteen hundred and thirty-one (1931), as amended, Oil and Gas Conservation Commission as follows:

1. Comments to Notice of Deviation filed? N/A
2. Provided a certified copy of duly acknowledged and recorded consent and easement form from all surface owners; Yes
3. Provided a tabulation of all deep wells within one mile of the proposed location, including the API number of all deep wells, well name, and the name and address of the operator; none
4. Provided a plat showing that the proposed location is a distance of 400+ feet from the nearest lease line or unit boundary and showing the following wells drilled to or capable of producing from the objective formation within 3,000 feet of the proposed location.

Sincerely,

Cindy Raines
Executive Assistant

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

1) Well Operator: Triad Hunter, LLC

| | | | |
|------------------|--------------|----------------|-------------------|
| <u>494494833</u> | <u>Tyler</u> | <u>Lincoln</u> | <u>Paden City</u> |
|------------------|--------------|----------------|-------------------|

Operator ID County District Quadrangle

2) Operator's Well Number: 1400 Well Pad Name: Wells Meckley

3) Farm Name/Surface Owner: Wells Meckley Public Road Access: SR 18

4) Elevation, current ground: 958' Elevation, proposed post-construction: 958'

5) Well Type (a) Gas Oil Underground Storage _____
Other _____

(b) If Gas Shallow _____ Deep
Horizontal

6) Existing Pad: Yes or No Yes

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Associated Pressure(s):
Utica/Point Pleasant Shale Formations; 10,832' TVD, 17,480' TMD, 256' Thk, 7,000-9,000 # BHP

AS
2/5/15

8) Proposed Total Vertical Depth: TVD = 10,832'

9) Formation at Total Vertical Depth: TVD will be in the Utica/Point Pleasant Formation

10) Proposed Total Measured Depth: TMD = 17,480'

11) Proposed Horizontal Leg Length: 6,280'

12) Approximate Fresh Water Strata Depths: 400 feet

13) Method to Determine Fresh Water Depths: Examination of area water wells.

14) Approximate Saltwater Depths: @ 1,000 feet

15) Approximate Coal Seam Depths: Multiple, thin, non-commercial seams between 1,300' and 1,800 feet

16) Approximate Depth to Possible Void (coal mine, karst, other): No coal mines in the area, No known voids

17) Does Proposed well location contain coal seams directly overlying or adjacent to an active mine? Yes No

(a) If Yes, provide Mine Info: Name: _____ **RECEIVED**
Depth: _____ **Office of Oil and Gas**
Seam: _____ **JAN 30 2015**
Owner: _____

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WW-6B
(9/13)

18)

CASING AND TUBING PROGRAM

| TYPE | Size | New or Used | Grade | Weight per ft. (lb/ft) | FOOTAGE: For Drilling | INTERVALS: Left in Well | CEMENT: Fill-up (Cu. Ft.) |
|--------------|-------------|--------------------|--------------|-------------------------------|------------------------------|--------------------------------|----------------------------------|
| Conductor | 26" | new | A500 | 85 lb./ft. | 100' | 100' | 177 cu. ft.-CTS |
| Fresh Water | 20" | new | J-55 | 94 lb./ft. | 450' | 450' | 648 cu. ft.-CTS |
| Coal | 13 3/8" | new | J-55 | 61 lb./ft. | 2,950' | 2,950' | 2,918 cu. ft.-CTS |
| Intermediate | 9 5/8" | new | HCP-110 | 43.5 lb./ft. | 8,700' | 8,700' | 2,120 cu. ft. |
| Production | 5 1/2" | new | P-110 | 23 lb./ft. | N/A | 17,480' | 3,471 cu. ft. |
| Tubing | 2 3/8" | new | P-110 | 4.7 lb./ft. | N/A | 10,700' | N/A |
| Liners | | | | | | | |

Handwritten:
18
2/5/15

| TYPE | Size | Wellbore Diameter | Wall Thickness | Burst Pressure | Cement Type | Cement Yield (cu. ft./k) |
|--------------|-------------|--------------------------|-----------------------|-----------------------|--------------------|---------------------------------|
| Conductor | 26" | 30" | .375 | N/A | Class A | 1.18-1.20 cu.ft./sk. |
| Fresh Water | 20" | 24" | .438 | 2,110 psi. | Class A | 1.18-1.20 cu.ft./sk. |
| Coal | 13 3/8" | 17 1/2" | .480 | 3,090 psi. | Class A | 1.18-1.24 cu.ft./sk. |
| Intermediate | 9 5/8" | 12 1/4" | .435 | 8,700 psi. | Class A | 1.18-3.0 cu.ft./sk. |
| Production | 5 1/2" | 8 1/2" | .415 | 16,800 psi. | Class A & H | 1.51-2.08 cu.ft./sk. |
| Tubing | 2 3/8" | 4 3/4" | .380 | 7,700 psi. | N/A | N/A |
| Liners | | | | | | |

PACKERS

| | | | | |
|-------------|-----|--|--|--|
| Kind: | N/A | | | |
| Sizes: | N/A | | | |
| Depths Set: | N/A | | | |

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19) Describe proposed well work, including the drilling and plugging back of any pilot hole:

SEE ATTACHMENT: I-B

20) Describe fracturing/stimulating methods in detail, including anticipated max pressure and max rate:

SEE ATTACHMENT: II-B

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 0 acres

22) Area to be disturbed for well pad only, less access road (acres): 0 acres

23) Describe centralizer placement for each casing string:

SEE ATTACHMENT: III-B

24) Describe all cement additives associated with each cement type:

SEE ATTACHMENT: IV-B

25) Proposed borehole conditioning procedures:

SEE ATTACHMENT: V-B

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*Note: Attach additional sheets as needed.

(WW-6B)

ATTACHEMENT: I-B

#19 Proposed Well Work:

Drill and complete a new horizontal Utica Shale Well.

1. AIR/SOAP Drill a 30" conductor hole to 100 feet; run 26" casing to T.D., cement / grout to surface with Class A cement.
2. AIR/SOAP Drill a 24" surface hole to depth of 450 feet; run 20" casing to T.D. and cement to surface with Class A Cement.
3. AIR/SOAP Drill a 17 1/2" intermediate hole to a depth of 2,950 feet; run 13 3/8" casing to T.D. and cement to surface with Class A cement.
4. AIR / SOAP Drill a 12 1/4" intermediate hole to a depth of 8,700 feet; run 9 5/8" casing to T.D. and cement back to 2,500 feet with Class A cement.
5. Fluid Drill an 8 1/2" production hole to the projected total measured depth @ 17,480 feet.
6. Run and Cement 5 1/2" production casing to the TMD; cement casing back to 2,500 with Class A and Class H cement.
7. Run Cased-hole logs (Gamma-Ray, CCL, Bond).
8. Open toe sleeve and establish 15 BPM pump rate.
9. Perforate and stimulate multiple stages in Marcellus lateral section.
 - a. Perforations per stage = sixty to seventy
 - b. Average stage length = two hundred fifty feet
10. Clean-out 5 1/2" production casing using a coil tubing rig or a work over rig and snubbing unit.
11. Flow test well for seven to ten days to clean up wellbore and determine overall productivity.
12. Turn well into production.

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(WW-6B)

#20 Fracturing/Stimulation Methods:

Upon the successful cementation of the 5 ½" production casing, completion of the well will be performed as follows:

1. Run a GR/CCL/Bond log from the bottom of the curve to surface.
2. Pressure-up on casing, open the toe sleeve and establish pump rate of 15 bpm through the toe sleeve.
3. Run a GR/CCL log from the toe to the base of the curve and correlate with the GR/CCL/Bon log.
4. Pump down through the casing a solid bridge plug and perforating guns.
5. Set the solid bridge plug just above the toe sleeve and perforate the first stage with 60-70 perforations over a 200'-250' interval (stage#1).
6. Fracture stage #1 with a slick water/sand stimulation using approximately 8,000bbls of water and 450,000lbs of sand. Average treating pressure is expected to range between 6,000psi and 7,000psi and average treating rates are expected to range between 70bbls and 80bbls per minute. Upon completion of the stage, the five minute and ten minute shut in pressures are recorded.
7. Repeat the same methodology of perforating and fracturing on subsequent stages using composite frac plugs instead of solid bridge plugs. Once the heel is reached, completion operations are suspended. The average number of stages completed in each well range between twenty and thirty.
8. Upon completion of the last stage, solid bridge plugs are set in the casing, just above the top of the curve and just below the well head for safety purposes.
9. Well is shut in until clean out and flow back operations are initiated.

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(WW-6B)

#23 Centralizer Placement:

- A. (26") Conductor Casing – No centralizers used.
- B. (20") Surface Casing – Between two and four run based on setting depth of casing.
- C. (13 3/8") 1st Intermediate Casing- Between six and ten run based on setting depth of casing.
- D. (9 5/8") 2nd Intermediate Casing – Between ten and twenty run based on setting depth of casing.
- E. (5 1/2") Production Casing:
 - 1. Spiral centralizers run on every 3rd joint from the toe to KOP (Top of Curve). Roughly 50-60 spiral centralizers run.
 - 2. Bow centralizers run on every 10th joint from the KOP to surface. Roughly 10-15 bow centralizers run.

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(WW-6B)**#24 Cement Additives:**A. Conductor Cement Job (26" csg.)

1. All conductor casings are cemented with standard CLASS A CEMENT.
 - a) Average weight = 15.6lb./gal
 - b) Average yield = 1.18 ft³/5k.
 - c) No additional additives are used.

B. Surface Cement Job (20" csg.)

1. Surface Cement Job (20" csg.)
 - a) Average weight = 15.4 to 15.6 lbs./gal
 - b) Average yield = 1.19 to 1.24 ft³/5k
2. Common Additives
 - a) ¼ lb./5k Cello Flake (Lost circulation material)
 - b) 2%-3% Calcium Chloride (Accelerator)

*Note: Gel Sweep is usually pumped ahead of the cement.

Gel Spacer consists of 6% gel w/cello Flake.

C. Intermediate Cement Job (13 3/8" csg. & 9 5/8" csg.)

Due to depth, most intermediate casings are cemented in two stages.

1. The upper (lead) stage cement job usually consists of CLASS A CEMENT or LIGHT CEMENT.
 - a) Average weight = 13.1 to 13.5 lbs. /gal.
 - b) Average yield = 1.54 to 1.70 ft³/5k.

Common Additives

- a) ¼ lb./5k Cello Flake (Lost circulation material)
- b) 1% - 2% Calcium Chloride (Accelerator)

*Note: Gel Sweep is usually pumped ahead of the cement.

Gel Spacer consists of 6% gel w/cello Flake.

2. The lower (tail) stage usually consists of standard CLASS A CEMENT.

- a) Average weight = 15.4 to 15.6 lbs./gal
- b) Average yield = 1.18 to 1.20 ft³/5k.

Common Additives

- a) ¼ lb./5k Cello Flake (Lost circulation material)
- b) 1% - 2% Calcium Chloride (Accelerator)
- c) 1% bwoc EC-1 (Bonding Agent)
- d) 55% bwoc BA-10A (Bonding Agent)

D. Longstring Cement Job (5 ½" csg.)

Depending on how far cement is brought back into the intermediate casing, the production casing is usually cemented in two stages and a heavy weighted spacer is pumped ahead of the cement to condition the well bore.

1. Weighted Spacer

| | | |
|--------------------------|-----------------------|---------------------------|
| Ultra Flush II | 50 bbs. @ 13lbs. /gal | |
| a) Barite @257 lbs. /bbl | | (Weighting Material) |
| b) US-40 2 gals. /bbl | | (Surface tension reducer) |
| c) ss-2 13 lbs. /gal | | (Suractant) |
2. Weighted Spacer

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- | | | |
|------------|----------------|-----------------------|
| a) Barite | @257 lbs. /bbl | (Weighting Material) |
| b) SS-2 | 1 lb. /gal | (Surfactant) |
| c) MPA-170 | 1 lb. /bbl | (Fluid loss additive) |
3. Lead Slurry 50:50 POZ/Premium NE-1
- | | | |
|--|--|--|
| a) Average Weight = 13.50 lbs. /gal | | |
| b) Average yield = 1.44 ft ³ /5k. | | |
- Common Additives
- | | | |
|--------------|-------------|-----------------------|
| a) BA – 90 | 3lbs. /5k | (Bonding Agent) |
| b) R – 3 | .258 bwoc | (Retarder) |
| c) MPA – 170 | 1 lb. / bbl | (Fluid loss additive) |
4. Tail Slurry CLASS H CEMENT
- | | | |
|---|--|--|
| a) Average Weight = 15.2lbs. /gal | | |
| b) Average Yield = 1.64 ft ³ /5k | | |
- Common Additives
- | | | |
|------------------------|------------|-----------------------|
| a) R-3 | .2% bwoc | (Retarder) |
| b) CD-32 | .75 % bwoc | (Dispersant) |
| c) ASA – 301 | .35 % bwoc | (Free water removal) |
| d) BA-10A | 1.25% bwoc | (Bonding Agent) |
| e) ASCA | 30lbs. /5k | (Solubility additive) |
| f) Sodium Metasilicate | .58 bwoc | (Extender) |

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(WW-6B)

#25 Borehole Conditioning Procedures:

17 ½" hole – Generally this section of the well is drilled on air with air compressors and boosters. It's imperative through this section of the well to have sufficient air volume and pressure on the borehole during drilling to ensure hole conditions remain clean and unobstructed. If a significant volume of freshwater is encountered during drilling "stiff foam" or soap is utilized to assist in lifting drill cuttings and freshwater out of the hole. "Red Rock" is a clay-dominant strata that is sensitive to freshwater in this area. Stiff foam is applied to the borehole when freshwater is encountered to prevent the clays from swelling and sloughing into the borehole.

12 1/4" hole - Generally this section of the well is drilled on air with air compressors and boosters. It's imperative through this section of the well to have sufficient air volume and pressure on the borehole during drilling to ensure hole conditions remain clean and unobstructed. If a significant volume of saltwater is encountered during drilling "stiff foam" or soap is utilized to assist in lifting drill cuttings and freshwater out of the hole. "Red Rock" is a clay-dominant strata that is sensitive to saltwater in this area. Stiff foam is applied to the borehole when saltwater is encountered to prevent the clays from swelling and sloughing into the borehole.

8 ¾" hole – Generally, this section of the well is drilled on fluid. In an effort to keep borehole conditions in good working order several mechanisms are used to condition the borehole:

1. **High Viscosity Sweeps:** Sweeps are mixed and pumped after drilling every 3 joints during the drilling process. Sweeps generally run 20 cp over the active mud system viscosity for 20 bbls.
2. **Clean-Up Cycle:** "Clean-Up Cycles" are utilized every 500' in the lateral section of the well. During this routine conditioning procedure drilling is halted for the amount of time it takes to circulate 2 sweeps to surface. Also, during this process the pipe is continuously rotated and reciprocated at this spot to help circulate out any "cutting beds" lying in the wellbore.
3. **Short Trips:** Short trips are utilized to work out tight spots and cutting beds from the borehole which cause increased torque and drag, and pressure. Two short trips are typically run during the drilling of this section of the wellbore. The first at the half-way point of the lateral. The drill pipe is pulled out of the hole to the "kick-off" point of the well. The second short trip is utilized at total depth (TD). At this point the drill pipe is pulled out of the wellbore to the half-way point of the lateral.
4. **At TOTAL DEPTH:** A clean-up cycle and short trip is utilized to condition the wellbore when total depth (TD) has been reached in preparation for running production casing.

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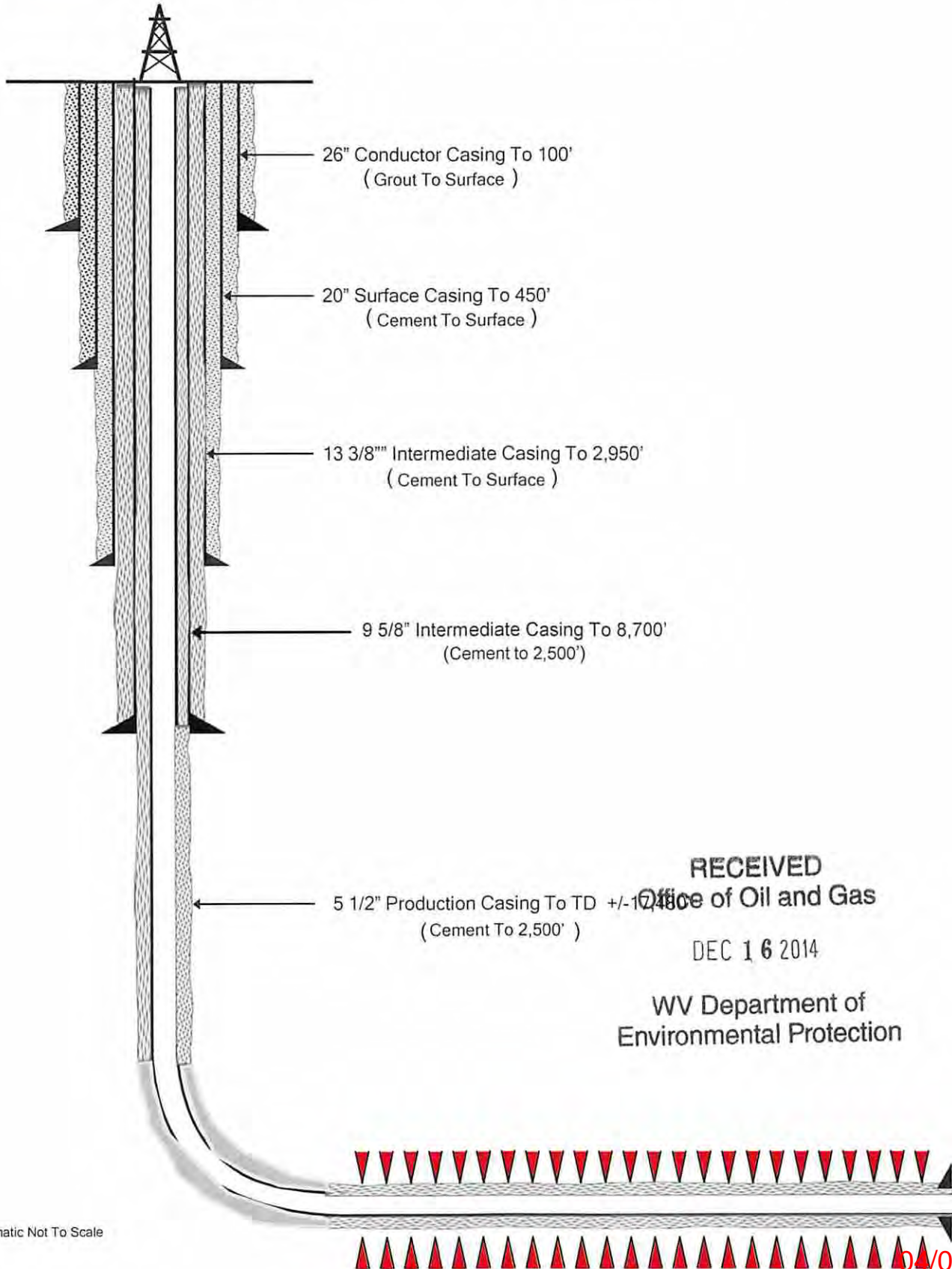
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04/03/2015



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Magnum Hunter Resources Wells Meckley 1400 UTICA SHALE WELLBORE SCHEMATIC*



* Schematic Not To Scale

04/03/2015

WW-9
(9/13)

API Number 47 - 095 - 02224H6A
Operator's Well No. Wells Meckley 1400

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name Triad Hunter, LLC OP Code 494494833

Watershed (HUC 10) Pursley Creek Quadrangle Paden City

Elevation 958' County Tyler District Lincoln

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
- Underground Injection (UIC Permit Number 387 Ohio Disposal Well, 34-121-3995)
- Reuse (at API Number _____)
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain _____)

Will closed loop system be used? If so, describe: Yes, cuttings fluids+gases are separated through a series of vessels. Cuttings are then solidified in debris boxes and hauled to landfill.

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. Top Hole-Air Drilled. Lateral-Syn Mud

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

Additives to be used in drilling medium? See Attachment I-A: Drilling Additives List

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

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

-Landfill or offsite name/permit number? Wetzel County Landfill, SWPU ID 12-10-45

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 [Signature]

Company Official (Typed Name) Rocky Roberts

Company Official Title Senior VP Appalachian Operations

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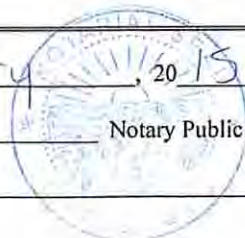
JAN 30 2015

WV Department of
Environmental Protection

Subscribed and sworn before me this 16th day of January, 2015

Elizabeth R. Tebay
Notary Public

My commission expires 2-29-16



ELIZABETH R. TEBAY
NOTARY PUBLIC
In and For The State of Ohio
My Commission Expires
2-29-16

04/03/2015

4709502224

Form WW-9

Operator's Well No. Wells Meckley 1400

Triad Hunter, LLC

Proposed Revegetation Treatment: Acres Disturbed 6.6 Prevegetation pH 6-7

Lime 2-5 Tons/acre or to correct to pH 6.0-7.0

Fertilizer type _____

Fertilizer amount 500 lbs/acre

Mulch 2 Tons/acre

Seed Mixtures

| Temporary | | Permanent | |
|----------------------|----------|-------------------|----------|
| Seed Type | lbs/acre | Seed Type | lbs/acre |
| Common Orchard Grass | 30% | Same as temporary | |
| Perennial Rye | 35% | | |
| Medium Red Clover | 25% | | |
| Common Timothy | 10% | | |

Attach:

Drawing(s) of road, location, pit and proposed area for land application (unless engineered plans including this info have been provided)

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: Michael Doff

Comments: Reseed & mulch any disturbed areas per WV DEP regs. Maintain & upgrade E-ns as necessary

Received
Office of Oil & Gas

DEC 03 2014

Title: Oil & Gas Inspector Date: 11/21/2014

Field Reviewed? () Yes () No

04/03/2015

4709502224

TRIAD HUNTER LLC.

125 Putnam Street
Marietta, Ohio 45750

SITE & SAFETY PLAN

Wells Meckley 1400
Tyler County
West Virginia

Approved:

West Virginia DEP

Michael Hoff

Date: 11/21/2014

Triad Hunter LLC

[Signature]

Date: 11/14/2014

Received
Office of Oil & Gas

DEC 03 2014

04/03/2015

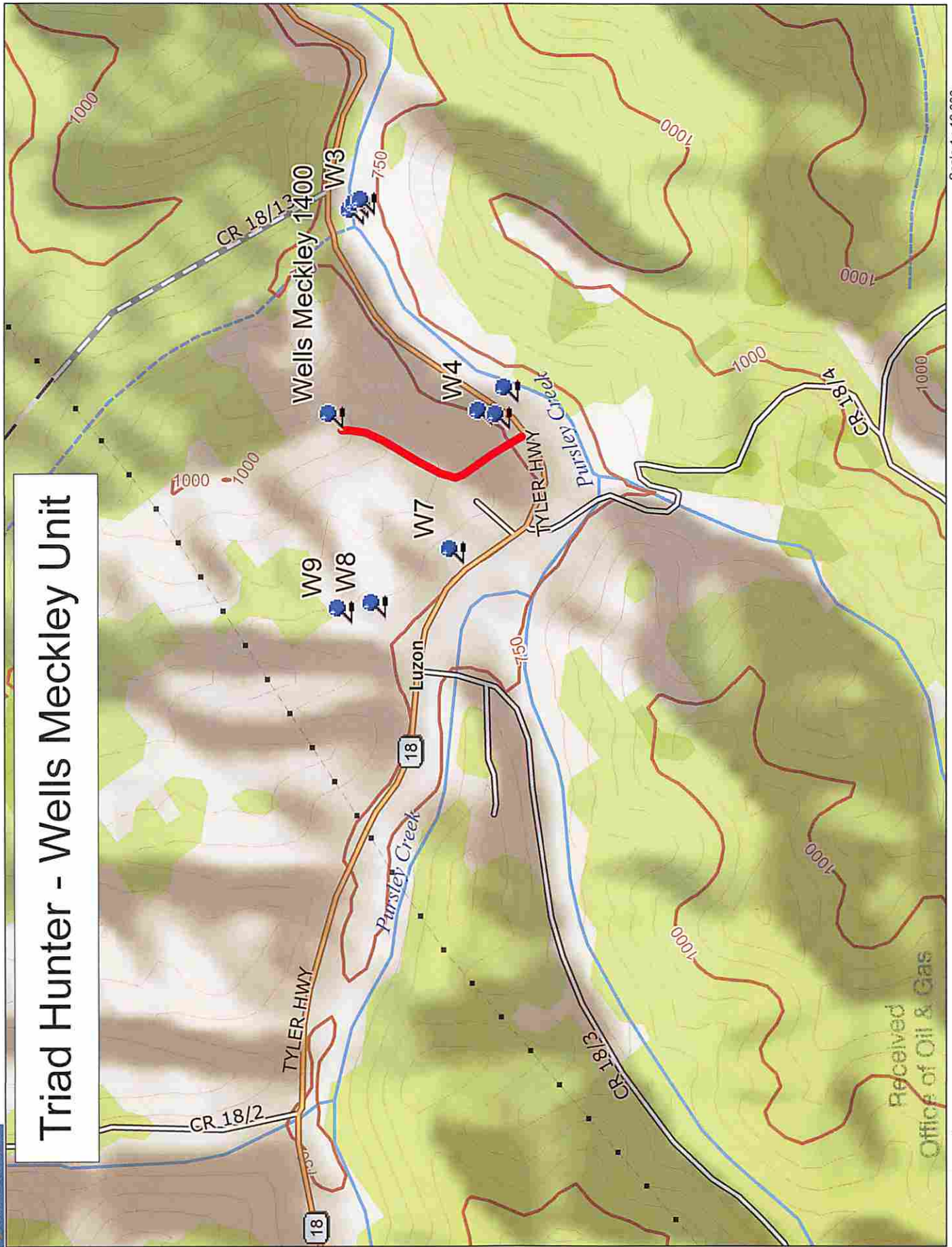
Scanned

4709502224

XMap® 7

DELOORME

Triad Hunter - Wells Meckley Unit



Scale 1 : 12,800



1" = 1,066.7 ft Data Zoom 13:2



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Data use subject to license
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www.delorme.com

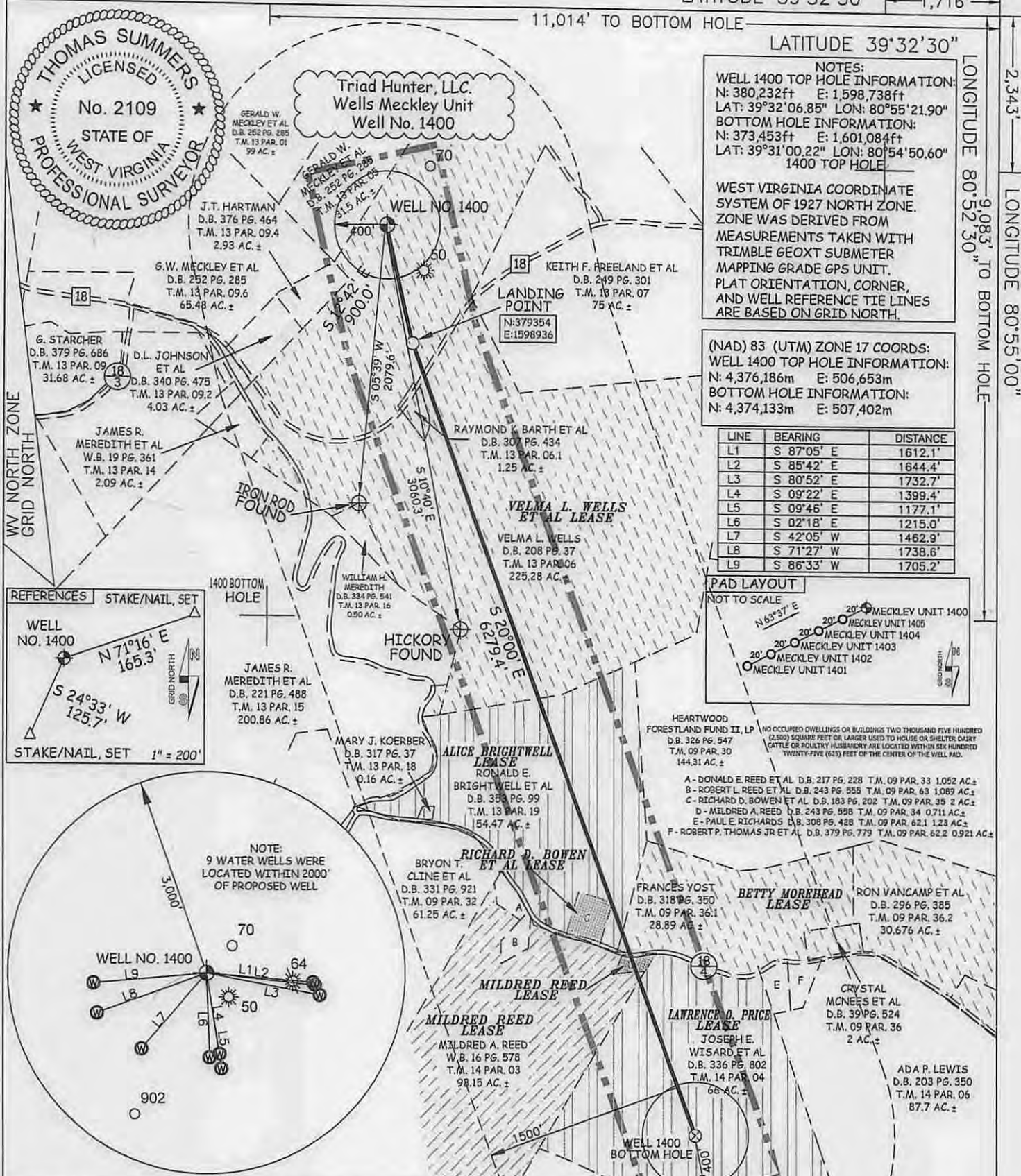
04/03/2015

LATITUDE 39°32'30" 1,716'

11,014' TO BOTTOM HOLE

LATITUDE 39°32'30"

LONGITUDE 80°52'30" TO BOTTOM HOLE
LONGITUDE 80°55'00"



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 RULES ISSUED AND PERSCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

JOB # 12-104WT
DRAWING # MECKLEY1400
SCALE 1" = 1000'
MINIMUM DEGREE OF ACCURACY SUBMETER
PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS

LEGEND
- - - Surface Owner Boundary Lines +/-
--- Unit Boundary Lines +/-
- - - Interior Surface Tracts +/-
- x - x - Existing Fence
⊕ Found monument, as noted

THOMAS SUMMERS P.S. 2109
DATE 12/12/14
OPERATOR'S WELL# WELLS MECKLEY UNIT #1400

API WELL # 47-095-02224 H6A
STATE COUNTY PERMIT

STATE OF WEST VIRGINIA
DEPARTMENT OF ENERGY
DIVISION OF OIL AND GAS

WELL TYPE: OIL ___ GAS LIQUID INJECTION ___ WASTE DISPOSAL ___
(IF "GAS") PRODUCTION STORAGE ___ DEEP SHALLOW ___
LOCATION: ELEVATION 958' WATERSHED PURSLEY CREEK
QUADRANGLE PADEN CITY 7.5'

SURFACE OWNER VELMA L. WELLS
OIL & GAS ROYALTY OWNER VELMA L. WELLS ET AL; ALICE BRIGHTWELL;
RICHARD D. BOWEN; BETTY MOREHEAD; MILDRED REED; MILDRED REED; LAWRENCE O. PRICE
PROPOSED WORK: DRILL CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE
PLUG OFF OLD FORMATION ___ PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL
(SPECIFY) ___ PLUG & ABANDON ___ CLEAN OUT & REPLUG
TARGET FORMATION UTICA ESTIMATED DEPTH 10,832' TVD 17,480' MD

WELL OPERATOR TRIAD HUNTER, LLC. DESIGNATED AGENT KIMBERLY ARNOLD
ADDRESS 777 POST OAK BLVD., SUITE 910 ADDRESS P.O. BOX 154
HOUSTON, TX 77056 WAVERLY, WV 26184



STATE OF WEST VIRGINIA, DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
WILLOW LAND SURVEYING PLLC
220 MASONIC AVE. PENNSBORO WEST VIRGINIA 26415

DISTRICT LINCOLN COUNTY TYLER 04/03/2015
ACREAGE 225.28 ACRES +/-
LEASE ACREAGE 225.28 ACRES +/-; 54.47 ACRES +/-;
2 ACRES +/-; 73.62 ACRES +/-; 0.711 ACRES +/-; 98.15 ACRES +/-; 66 ACRES +/-

Revised