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**west virginia** department of environmental protection

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Office of Oil and Gas  
601 57th Street SE  
Charleston, WV 25304  
(304) 926-0450  
(304) 926-0452 fax

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

August 28, 2015

**WELL WORK PERMIT**

**Horizontal 6A Well**

This permit, API Well Number: 47-9502281, issued to EQT PRODUCTION COMPANY, 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: 512893  
Farm Name: PETER, DONNA J.  
**API Well Number: 47-9502281**  
**Permit Type: Horizontal 6A Well**  
Date Issued: 08/28/2015

**Promoting a healthy environment.**

**08/28/2015**

# 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

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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 one hundred (100) 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.



WW - 6B  
(4/15)

4709502281

API NO. 47 - 095 - \_\_\_\_\_  
OPERATOR WELL NO. \_\_\_\_\_ 512893  
Well Pad Name: \_\_\_\_\_ WEU4

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

1) Well Operator: EQT Production Company  
Operator ID 306686 County 095 District 1 Quadrangle 671  
2) Operator's Well Number: 512893 Well Pad Name WEU4  
3) Farm Name/Surface Owner: Donna J. Peter Public Road Access: WV-18  
4) Elevation, current ground: 1,098.0 Elevation, proposed post-construction: 1,078.0  
5) Well Type: (a) Gas  Oil  Underground Storage   
Other \_\_\_\_\_

(b) If Gas: Shallow  Deep   
Horizontal

*Michael Goff*  
*7/29/15*

6) Existing Pad? Yes or No: No

7) Proposed Target Formation(s), Depth(s), Anticipated Thicknesses and Associated Pressure(s):  
Target formation is Marcellus at a depth of 6680 with the anticipated thickness to be 54 feet and anticipated target pressure of 2747 PSI

8) Proposed Total Vertical Depth: 6680  
9) Formation at Total Vertical Depth: Marcellus  
10) Proposed Total Measured Depth: 10425  
11) Proposed Horizontal Leg Length: 2,870  
12) Approximate Fresh Water Strata Depths: 139,182,193,211  
13) Method to Determine Fresh Water Depth: By offset wells  
14) Approximate Saltwater Depths: 1135, 1226, 1229  
15) Approximate Coal Seam Depths: 237,399,703  
16) Approximate Depth to Possible Void (coal mine, karst, other): None reported  
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: \_\_\_\_\_  
Depth: \_\_\_\_\_  
Seam: \_\_\_\_\_  
Owner: \_\_\_\_\_

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WW - 6B  
(4/15)

API NO. 47 - 095  
OPERATOR WELL NO. 512893  
Well Pad Name: WEU4

CASING AND TUBING PROGRAM

18)

TYPE	Size (in)	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: For Drilling (ft)	INTERVALS: Left in Well (ft)	CEMENT: Fill-up (Cu.Ft.)
Conductor	20	New	MC-50	81	40	40	38 C.T.S.
Fresh Water	13 3/8	New	J-55	54.5	361	361	336 C.T.S.
Coal	-	-	-	-	-	-	-
Intermediate	9 5/8	New	A-500	40	3,024	3,024	1,202 C.T.S.
Production	5 1/2	New	P-110	20	10,425	10,425	See Note 1
Tubing	2 3/8		J-55	4.6			May not be run, if run will be set 100' less than TD
Liners							

*MAC  
7/28/15*

TYPE	Size (in)	Wellbore Diameter (in)	Wall Thickness (in)	Burst Pressure (psi)	Anticipated Max. Internal Pressure (psi)	Cement Type	Cement Yield (cu. ft./k)
Conductor	20	24	0.375	-	18	Construction	1.18
Fresh Water	13 3/8	17 1/2	0.38	2,730	2184	* See Note 2	1.21
Coal							
Intermediate	9 5/8	12 3/8	0.395	3,950	3160	* See Note 2	1.21
Production	5 1/2	8 1/2	0.361	12,640	10112	-	1.27/1.86
Tubing							
Liners							

Packers

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

Note 1: EQT plans to bring the TOC on the production casing cement job 1,000' above kick off point, which is at least 500' above the shallowest production zone, to avoid communication.

Note 2: Reference Variance 2014-17. (Attached)

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WW - 6B  
(10/14)

4709502281

API NO. 47 - 095  
OPERATOR WELL NO. 512893  
Well Pad Name: WEU4

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

Drill and complete a new horizontal well in the Marcellus formation. The vertical drill to go down to an approximate depth of 4684'.  
Then kick off the horizontal leg into the Marcellus using a slick water frac.

MAG  
7/28/15

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

Hydraulic fracturing is completed in accordance with state regulations using water recycled from previously fractured wells and obtained from freshwater sources. This water is mixed with sand and a small percentage (less than 0.3%) of chemicals (including 15% Hydrochloric acid, gelling agent, gel breaker, friction reducer, biocide, and scale inhibitor), referred to in the industry as a "slickwater" completion. Maximum anticipated internal casing pressures is expected to average approximately 8500 psi, maximum anticipated treating rates are expected to average approximately 100 bpm. Stage lengths vary from 150 to 300 feet. Average approximately 200,000 barrels of water per stage. Sand sizes vary from 100 mesh to 20/40 mesh. Average approximately 200,000 pounds of sand per stage.

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

19.18

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

13.17

23) Describe centralizer placement for each casing string.

- Surface: Bow spring centralizers - One at the shoe and one spaced every 500'.
- Intermediate: Bow spring centralizers - One cent at the shoe and one spaced every 500'.
- Production: One spaced every 1000' from KOP to Int csg shoe

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

Surface (Type 1 Cement): 0.3% Calcium Chloride

Used to speed the setting of cement slurries.

0.4% flake. Loss Circulation Material (LCM) is used to combat the loss of the cement slurry to a thief zone.

Intermediate (Type 1 Cement): 0.3% Calcium Chloride. Salt is used in shallow, low temperature formations to speed the setting of cement slurries. 0.4% flake. Loss Circulation Material (LCM) is used to combat the loss of whole drilling fluid or cement slurry (not filtrate) to a thief zone.

Production:

Lead (Type 1 Cement): 0.2-0.7% Lignosulfonate (Retarder). Lengthens thickening time.

0.3% CFR (dispersant). Makes cement easier to mix.

Tail (Type H Cement): 0.25-0.40% Lignosulfonate (Retarder). Lengthens thickening time.

0.2-0.3% CFR (dispersant). This is to make the cement easier to mix.

60 % Calcium Carbonate. Acid solubility.

0.4-0.6% Halad (fluid loss). Reduces amount of water lost to formation.

25) Proposed borehole conditioning procedures. Surface: Circulate hole clean (Approximately 30-45 minutes) rotating & reciprocating

one full joint until cuttings diminish at surface. When cuttings returning to surface diminish, continue to circulate an additional 5 minutes. To ensure that there is no fill, short trip two stands with no circulation. If there is fill, bring compressors back on and circulate hole clean. A constant rate of higher than expected cuttings volume likely indicates washouts that will not clean up.

Intermediate: Circulate hole clean (Approximately 30-45 minutes) rotating & reciprocating one full joint until cuttings diminish at surface. When cuttings returning to surface diminish, continue to circulate an additional 5 minutes. If foam drilling, to enhance hole cleaning use a soap sweep or increase injection rate & foam concentration.

Production: Pump marker sweep with nut plug to determine actual hole washout. Calculate a gauge holes bottoms up volume.

Perform a cleanup cycle by pumping 3-5 bottoms up or until the shakers are clean. Check volume of cuttings coming across the shakers every 15 minutes.

\*Note: Attach additional sheets as needed.

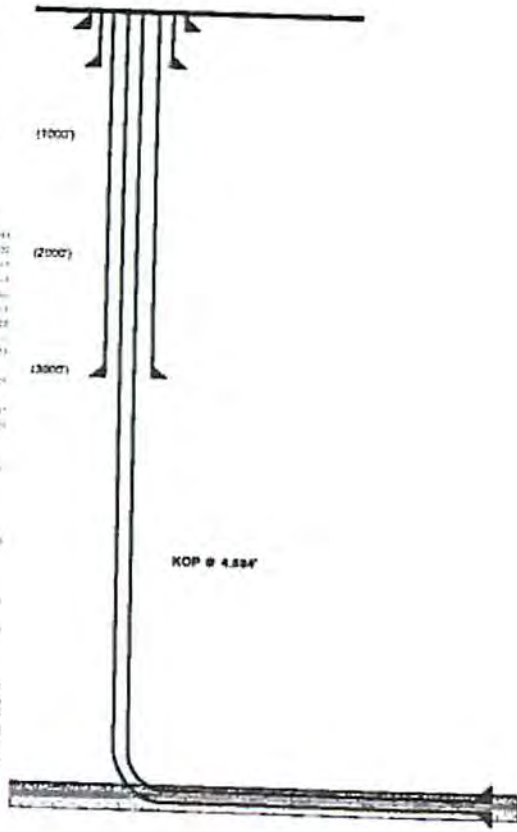
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Well 512893(WEU4H4)  
 EQT Production  
 West Virginia  
 Tyler

Actual  
 Vertical Section

TVD Depth (feet)	Formation	Top (TVD)	Bottom (TVD)
250	Hard Rock	250	
500			
750			
1000			
1250	Hard Rock	1250	
1500			
1750			
2000	Marble	2000	2044
2100	Blue Limestone	2110	2130
2200	Black	2210	2210
2250	Shale	2250	2250
2300	Hard Rock	2300	2300
2500	Hard Rock	2500	2500
2500	Hard Rock	2500	2500
2750	Hard Rock	2750	2750
3000	Hard Rock	3000	3000
3250	Hard Rock	3250	3250
3500	Hard Rock	3500	3500
3750	Hard Rock	3750	3750
4000	Hard Rock	4000	4000
4250	Hard Rock	4250	4250
4500	Hard Rock	4500	4500
4750	Hard Rock	4750	4750
5000	Hard Rock	5000	5000
5250	Hard Rock	5250	5250
5500	Hard Rock	5500	5500
5750	Hard Rock	5750	5750
6000	Hard Rock	6000	6000
6250	Hard Rock	6250	6250
6500	Hard Rock	6500	6500
6750	Target Incline	6750	6750
7000	Target Incline	7000	7000
7250	Target Incline	7250	7250
7500	Target Incline	7500	7500
7750	Target Incline	7750	7750



Well Case	Casing Type	Size (inches)	WT (ppf)/Grade
	Conductor	20	81#M-C-50
	Surface	13.375	54.5#J-55
	Intermediate	11.5	42#A-50
	Production Casing	5.42	20#P-110

Lead curve @ 7.55' H TVD / H MD  
 Est TD @ 6.500' H TVD / 10425' H MD  
 2070' H Lateral

Proposed Well Work  
 Drill and complete a new horizontal well in the formation  
 The vertical drill to go down to an approximate depth of 4594'  
 Then kick off the horizontal leg into the using a slick water frac

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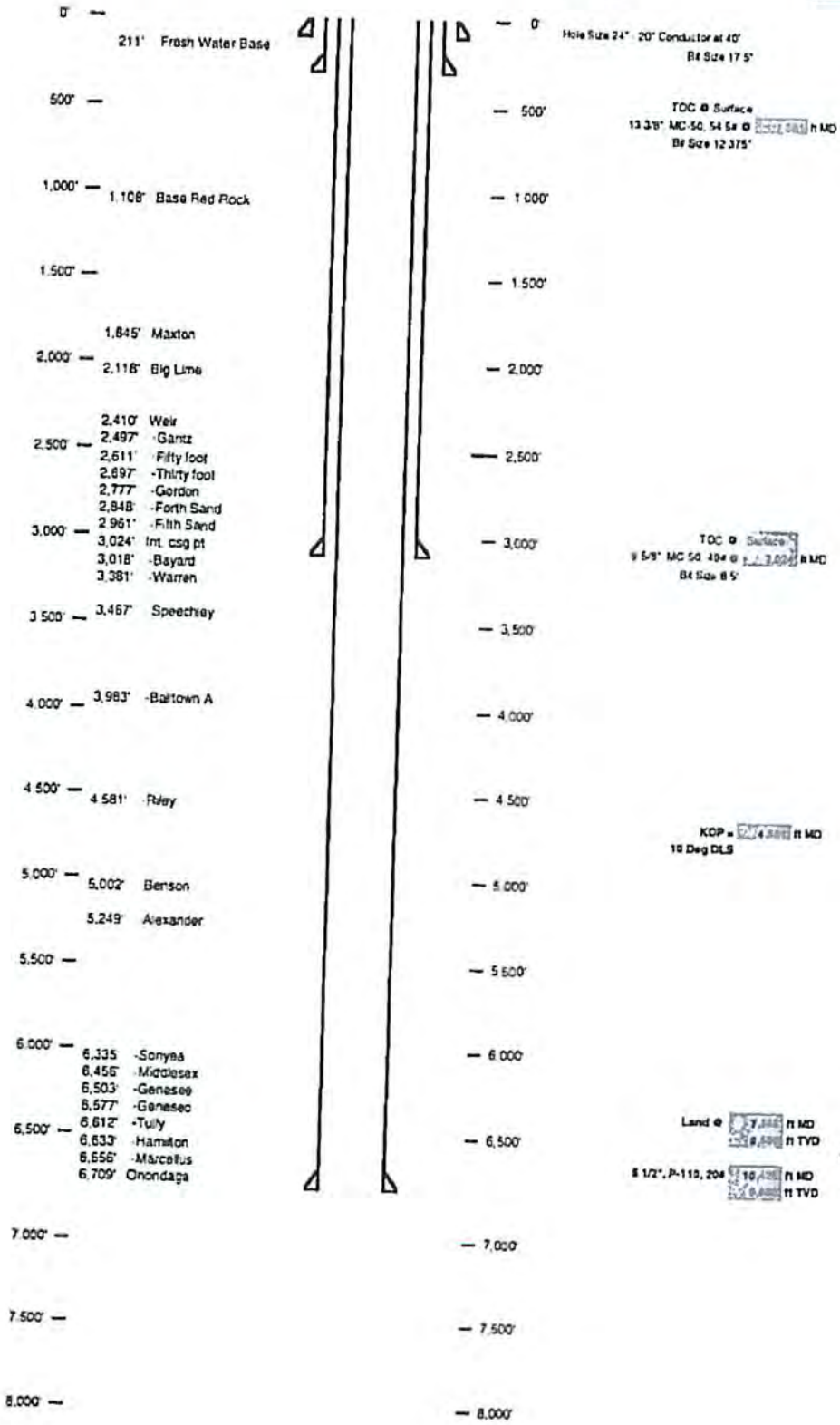
HAC  
-1/29/15

Well Schematic  
EQT Production

Well Name 512308(WELU45)  
County Type  
State West Virginia

Elevation KB  
Target  
Prospect  
Azimuth  
Vertical Section

1000
Marcellus
335
344



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601 57<sup>th</sup> Street, SE  
Charleston, WV 25304  
(304) 928-0450  
(304) 926-0452 fax

Earl Ray Tomblin, Governor  
Kandy C. Huffman, Cabinet Secretary  
dep.wv.gov

March 18, 2014

Nabors Completion & Production Services Company  
1380 Route 286 Hwy E #121  
Indiana PA 15701

Re: Cement Variance Request

4709502281

Dear Sir or Madam,

This agency is approving a variance request for the cement blend listed below to be used on surface and coal protection strings for the drilling of oil and gas wells in the state of West Virginia. The variance cannot be used without requesting its use on a permit application and approval by this agency:

- Type 1 (2% Calcium Chloride-Accelerator, 0.25% Super Flake-Lost Circulation, 5.2% Water, 94% Type "1" Cement)

If you have any questions regarding this matter feel free to contact me at 304-926-0499, ext. 1653.

Sincerely,

James Peterson  
Environmental Resources Specialist / Permitting

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601 57<sup>th</sup> Street, SE  
Charleston, WV 25304  
(304) 926-0450  
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Randy C. Huffman, Cabinet Secretary  
dep.wv.gov

**BEFORE THE OFFICE OF OIL AND GAS  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
STATE OF WEST VIRGINIA**

**IN THE MATTER OF A VARIANCE FROM )  
REGULATION 35 CSR § 4-11.4/11.5/14.1 )  
AND 35 CSR § 8-9.2.h. 4/5/6/8 OF THE )  
THE OPERATIONAL )  
REGULATIONS OF CEMENTING OIL )  
AND GAS WELLS )**

**ORDER NO. 2014 - 17**

**4709502281**

**REPORT OF THE OFFICE**

Nabors Completion & Production Services Co. requests approval of a different cement blend for use in cementing surface and coal protection casing of oil and gas wells.

**FINDINGS OF FACT**

- 1.) Nabors Completion & Production Services Co. proposes the following cement blend:
  - 2% Calcium Chloride (Accelerator)
  - 0.25 % Super Flake (Lost Circulation)
  - 94% Type "1" Cement
  - 5.20 % Water
- 2.) Laboratory testing results indicate that the blend listed in Fact No.1 will achieve a 500 psi compressive strength within 6 hours and a 2,435 psi compressive strength within 24 hours.

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**CONCLUSIONS OF LAW**

Pursuant to Articles 6 and 6A, Chapter 22 of the Code of West Virginia, the Office of Oil and Gas has jurisdiction over the subject matter embraced in said notice, and the persons interested therein, and jurisdiction to promulgate the hereinafter prescribed Order.

Pursuant to 35 CSR § 4-11.5 and 35 CSR § 8-9.2.h.8 the Chief of the Office of Oil and Gas may approve different cement blends upon the well operator providing satisfactory proof that different cement types are adequate.

**ORDER**

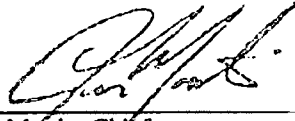
4709502281

It is ordered that Nabors Completion & Production Services Co. may use the cement blend listed in Findings of Fact No.1 for the cementing of surface and coal protection casing of oil and gas wells in the State as may be requested by oil and gas operators. The waiting time on the cement blend shall be 8 hours. The cement blend shall be mixed in strict accordance with the specifications for each blend and weight measurements made on-site to assure the cement slurries meet the minimum weight specifications. A sample shall be collected and, if after 8 hours the cement is not set up, additional time will be required. Nabors Completion & Production Services Co. shall keep a record of cement blend jobs in which the cement blend approved under this order is to be used and made available to the Office of Oil and Gas upon request.

Dated this, the 18th day of March, 2014.

IN THE NAME OF THE STATE OF WEST VIRGINIA

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



James Martin, Chief  
Office of Oil and Gas

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08/28/2015





May 12, 2015

Mr. Gene Smith  
West Virginia Department of Environmental Protection  
Office of Oil and Gas  
601 57th Street SE  
Charleston, WV 25304

4709502281

Re: Casing change on WEU4 (512890, 512891, 512893, 512894, 512895)

Dear Mr. Smith,

EQT is requesting the 13 3/8" surface casing to be set at 361' KB, 150' below the deepest fresh water. We will set the 9-5/8" intermediate string at 3024' KB, 50' below the base of the Fifth Sand.

If you have any questions, please do not hesitate to contact me at (304) 848-0076.

Sincerely,

Vicki Roark  
Permitting Supervisor-WV

Enc.

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WW-9  
(2/15)

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API No. 47 - 095 - 02281  
Operator's Well No. 512893

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF OIL AND GAS  
Fluids/Cuttings Disposal & Reclamation Plan

Operator Name EQT Production Company OP Code 306686  
Watershed (HUC10) Tributary of Camp Mistake Run Quadrangle West Union 7.5'  
Do you anticipate using more than 5,000 bbls of water to complete the proposed well work? Yes x No     

Will a pit be used? Yes: X No:     

If so please describe anticipated pit waste: flowback water & residual solids

Will a synthetic liner be used in the pit? Yes X No      If so, what ml.? 60

Proposed Disposal Method For Treated Pit Wastes:

- Land Application
- Underground Injection ( UIC Permit Number 0014, 8462, 4037 )
- Reuse (at API Number Various )
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain      )

Will closed loop system be used? Yes. The closed loop system will remove drill cuttings from the drilling fluid. The drill cuttings are then prepared for transportation to an off-site disposal facility.

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

Air is used to drill the top hole sections of the wellbore (surface, intermediate, and pilot). Water based mud may be necessary depending on hole conditions to stabilize and drill the intermediate section. The pilot hole, curve, and lateral sections will be drilled with either air, water based mud, or oil based mud.

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

Additives to be used in drilling medium? Air, biodegradable oil lubricant, detergent, defoaming, water. Water based mud - Barite, viscosifier, alkalinity control, lime, filtration control, deflocculants, biodegradable oil lubricant, defoaming, walnut shell, salt, x-cide, carbonates.  
Oil based mud - synthetic base oil, emulsifier, salt, lime, viscosifier, alkalinity control, filtration control, deflocculants, biodegradable oil lubricant, defoaming, carbonates.

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? See Attached List

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 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) Victoria J. Roark  
Company Official Title Permitting Supervisor

Subscribed and sworn before me this 29th day of July, 20 15

Rebecca L. Heater

Notary Public

My commission expires 4-7-20

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08/26/2015



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Form WW-9

Operator's Well No. 512893

Proposed Revegetation Treatment: Acres Disturbed 19.18 Prevegetation pH 6.3

Lime 3 Tons/acre or to correct to pH 6.5

Fertilize type Granular 10-20-20

Fertilizer Amount 13 lbs/acre (500 lbs minimum)

Mulch 2 Tons/acre

Seed Mixtures

Temporary		Permanent	
Seed Type	lbs/acre	Seed Type	lbs/acre
KY-31	40	Orchard Grass	15
Alsike Clover	5	Alsike Clover	5
Annual Rye	15		

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

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: Michael Haff

Comments: Aresced & Mulch any disturbed areas per WVDEP regulations Maintain & upgrade E.A.s as necessary.

Title: Oil & Gas Inspector Date: 7/28/15

Field Reviewed? (v) Yes ( ) No

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08/28/2015

**EQT Production Water plan**  
**Offsite disposals for Marcellus wells**

**CWS TRUCKING INC.**

P.O. Box 391  
Williamstown, WV 26187  
740-516-3586  
Noble County/Noble Township  
Permit # 3390

4709502281

**BROAD STREET ENERGY LLC**

37 West Broad Street  
Suite 1100  
Columbus, Ohio 43215  
740-516-5381  
Washington County/Belpre Twp.  
Permit # 8462

**LAD LIQUID ASSETS DISPOSAL INC.**

226 Rankin Road  
Washington, PA 15301  
724-350-2760  
724-222-6080  
724-229-7034 fax  
Ohio County/Wheeling  
Permit # USEPA WV 0014

**TRIAD ENERGY**

P.O. Box 430  
Reno, OH 45773  
740-516-6021 Well  
740-374-2940 Reno Office Jennifer  
Nobel County/Jackson Township  
Permit # 4037

**TRI COUNTY WASTE WATER MANAGEMENT, INC.**

1487 Toms Run Road  
Holbrook, PA 15341  
724-627-7178 Plant  
724-499-5647 Office  
Greene County/Waynesburg  
Permit # TC-1009

**KING EXCAVATING CO.**

Advanced Waste Services  
101 River Park Drive  
New Castle, Pa. 16101  
Facility Permit# PAR000029132

**Waste Management - Meadowfill Landfill**

Rt. 2, Box 68 Dawson Drive  
Bridgeport, WV 26330  
304-326-6027  
Permit #SWF-1032-98  
Approval #100785WV

**Waste Management - Northwestern Landfill**

512 E. Dry Road  
Parkersburg, WV 26104  
304-428-0602  
Permit #SWF-1025 WV-0109400  
Approval #100833WV

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Fairview Ch

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NOTE: SEE SITE PLAN  
WEU4 FOR COMPLETE  
CONSTRUCTION &  
EROSION & SEDIMENT  
CONTROL DETAILS.


Camp

SHEET 1 OF 2  
SCALE: 1"=500'



08/28/2015

Professional Energy Consultants  
A DIVISION OF BETHUNE/ASH/THOMAS, INC.



30 BY DESIGN  
ENGINEERS  
ENVIRONMENTAL  
PROJECT MGMT

1-813-424-4444  
WWW.SLS-PECONS.COM

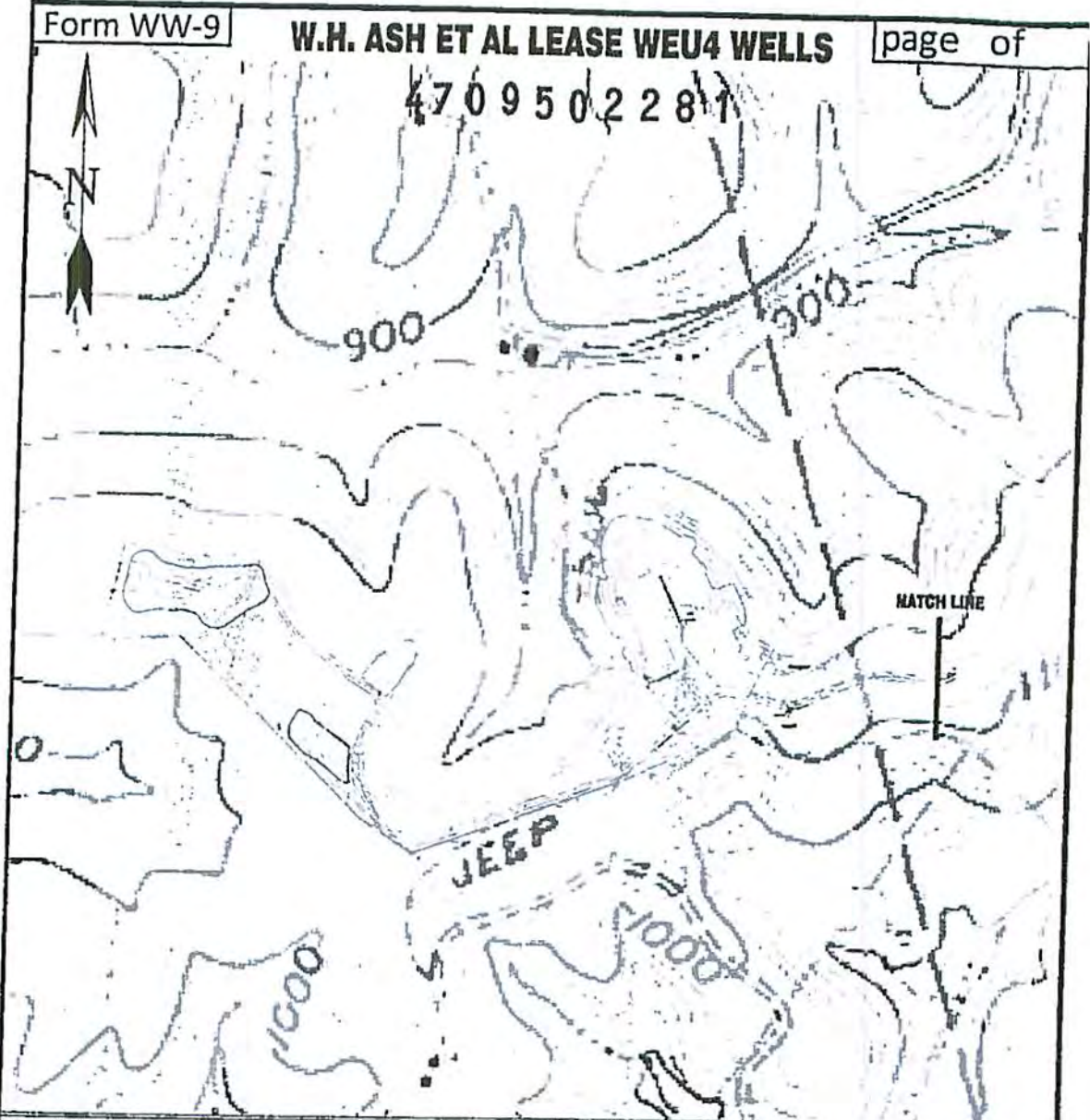
DRAWN BY K.D.W.	FILE NO. 7701	DATE 06-18-15	CADD FILE 770-RECPLAN2.dwg
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TOPO SECTIONS OF WEST UNION  
7.5' TOPO QUADRANGLE

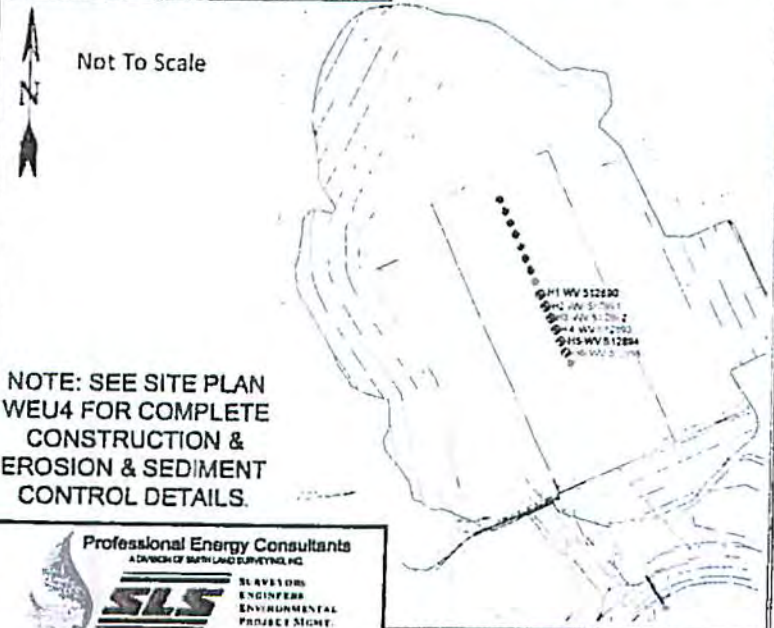
MAG  
7/28/15



4709502281



Detail Sketch for Proposed WEU4 Wells



NOTE: SEE SITE PLAN WEU4 FOR COMPLETE CONSTRUCTION & EROSION & SEDIMENT CONTROL DETAILS.

NOTE: SEE SITE PLAN WEU4 FOR COMPLETE CONSTRUCTION & EROSION & SEDIMENT CONTROL DETAILS.  
 RECORDED  
 Office of Natural Gas

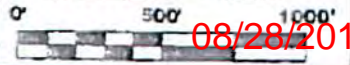
JUL 29 2015  
 WV Department of Environmental Protection

SHEET 2 OF 2  
 SCALE: 1"=500'

Professional Energy Consultants  
 A DIVISION OF BARTH LAND SURVEYING, INC.  
**SLS**  
 SURVEYORS  
 ENGINEERS  
 ENVIRONMENTAL  
 PROJECT SPECIALISTS  
 (304) 482-0376  
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DRAWN BY K.O.W.	FILE NO 7701	DATE 06-18-15	CADD FILE 7701 REC'D.dwg
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TOPO SECTIONS OF WEST UNION  
 7.5' TOPO QUADRANGLE

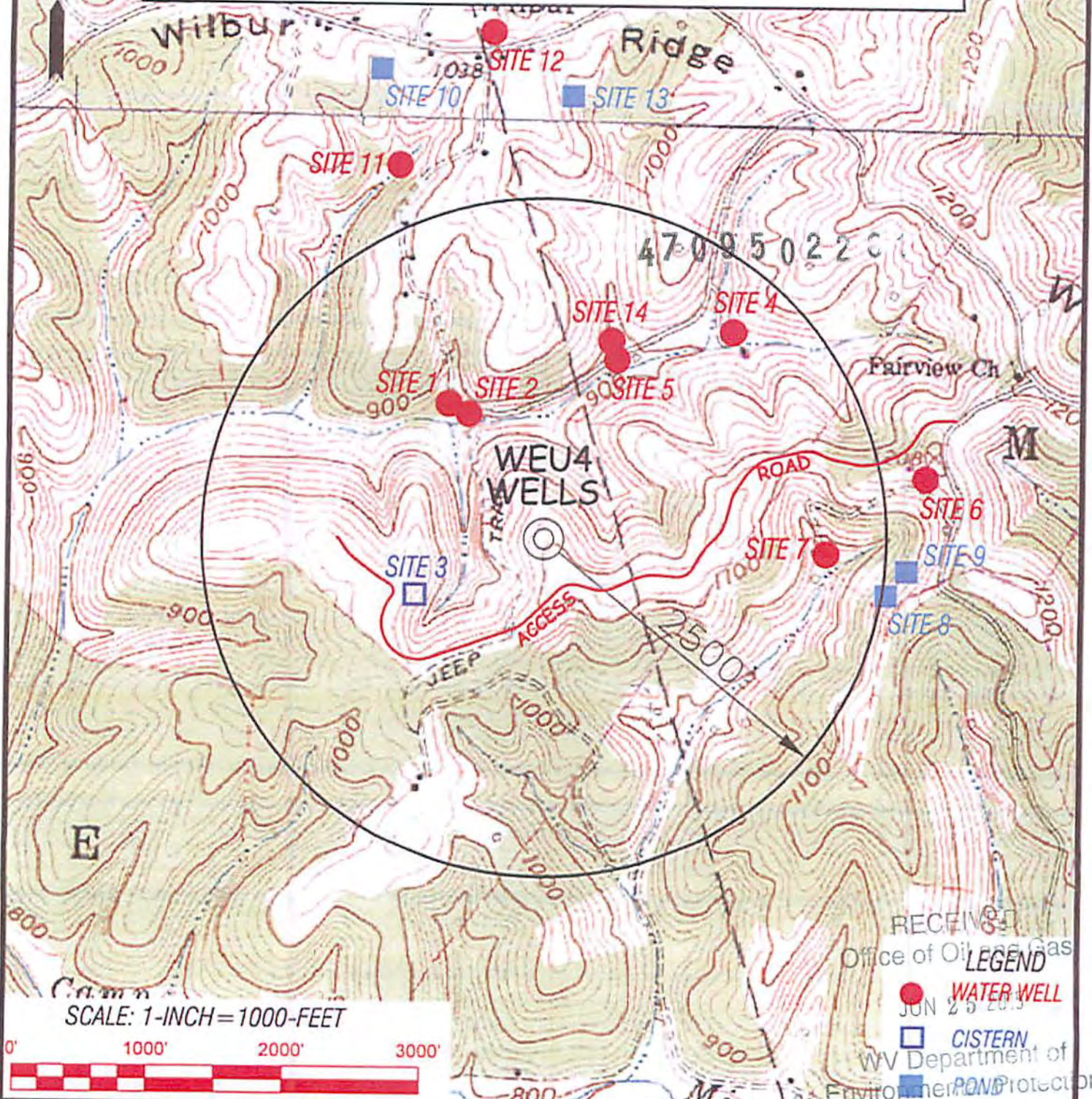


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M DG  
 7/28/15



# WATER SOURCE LOCATIONS FOR W.H. ASH ET AL LEASE WEU4 WELLS



SCALE: 1-INCH=1000-FEET



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**LEGEND**  
● WATER WELL  
□ CISTERN  
WV Department of Environmental Protection

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ENGINEERS  
ENVIRONMENTAL  
PROJECT MGMT.

DRAWN BY: K.D.W.  
FILE NO.: 7701  
DATE: 05/27/15  
CADD FILE: 7701WEM01A.dwg

TOPO SECTION OF:  
WEST UNION, WV 7.5' QUAD

DISTRICT	COUNTY	TAX MAP-PARCEL NO.
CENTERVILLE	TYLER	16-22

OPERATOR:  
**EQT PRODUCTION COMPANY**  
115 PROFESSIONAL PLACE  
P.O. BOX 280  
BRIDGEPORT, WV 26330

08/28/2015





4709502281

Where energy meets innovation.™

# Site Specific Safety Plan

EQT WEU 4 Pad

Alma  
Tyler County, WV

512893

For Wells:

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Office of Oil and Gas

JUL 29 2015

Date Prepared:

May 6, 2015

WV Department of  
Environmental Protection

[Signature]  
EQT Production

[Signature]  
WV Oil and Gas Inspector

Title

Title

Date

Date

6-23-15

7/28/15

08/28/2015



ROYALTY OWNERS		
ROSA B. CRESS ET AL	47 AC±	LEASE NO. 126144

**EQT PRODUCTION COMPANY  
W.H. ASH ET AL LEASE  
152 ACRES±  
WELL NO. WV 512893**

(S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH)  
 NAD'27 S.P.C.(FT) N, 318,322.32 E, 1,626,591.04  
 NAD'27 GEO. LAT.-(N) 39.366447 LONG.-(W) 80.820781  
 NAD'83 UTM (M) N, 4,357,467.22 E, 515,453.34

**LANDING POINT**  
 NAD'27 S.P.C.(FT) N, 317,914.15 E, 1,625,148.09  
 NAD'27 GEO. LAT.-(N) 39.365268 LONG.-(W) 80.825863  
 NAD'83 UTM (M) N, 4,357,335.52 E, 515,015.82

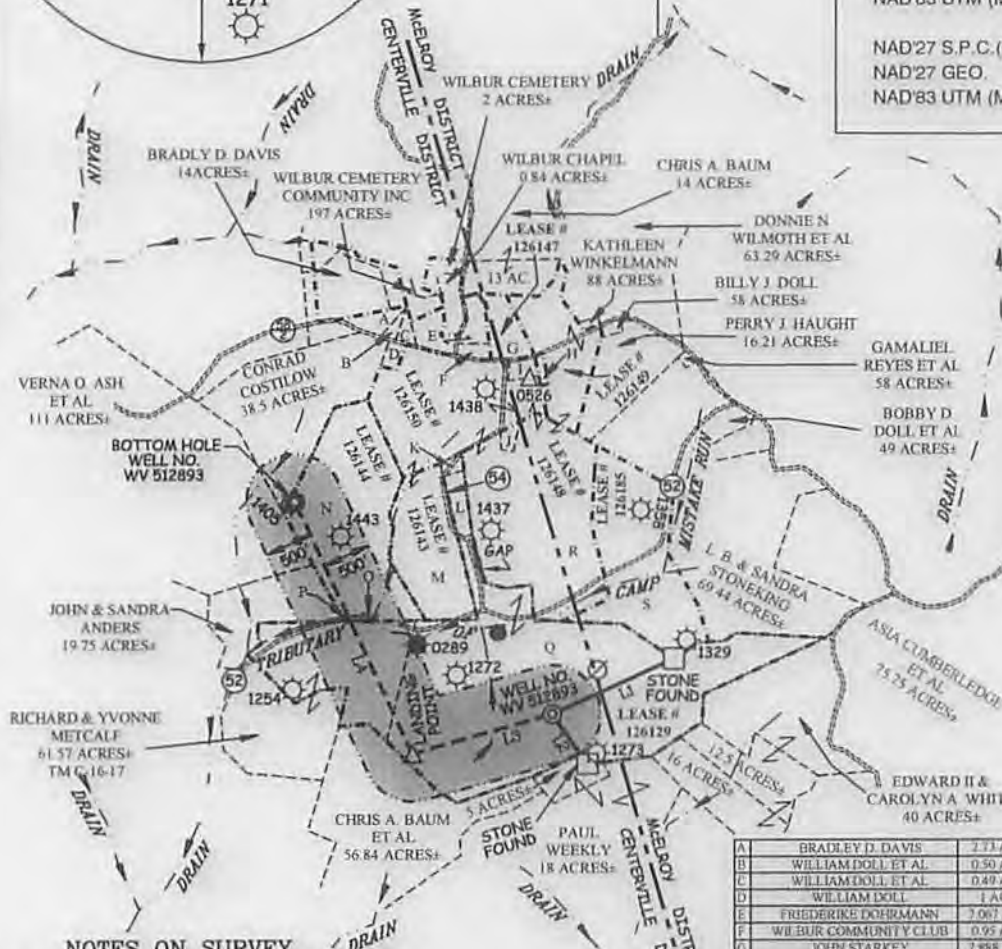
**BOTTOM HOLE**  
 NAD'27 S.P.C.(FT) N, 320,515.26 E, 1,623,935.18  
 NAD'27 GEO. LAT.-(N) 39.372359 LONG.-(W) 80.830269  
 NAD'83 UTM (M) N, 4,358,121.78 E, 514,633.08

NAD'27 GRID NORTH



**LEGEND**

LEASE LINE	---
SURFACE LINE	---
WELL LATERAL	---
OFFSET LINE	---
TIE LINE	---
CREEK	---
ROAD	---
FENCE LINE	---
COUNTY ROUTE	---
PROPOSED WELL	○
EXISTING WELL	●
PERMITTED WELL	○
ABANDONED WELL	○
PLUGGED WELL	○
STORAGE WELL	△
CENTERVILLE DISTRICT TAX MAP--PARCEL	C-00-00



**NOTES ON SURVEY**

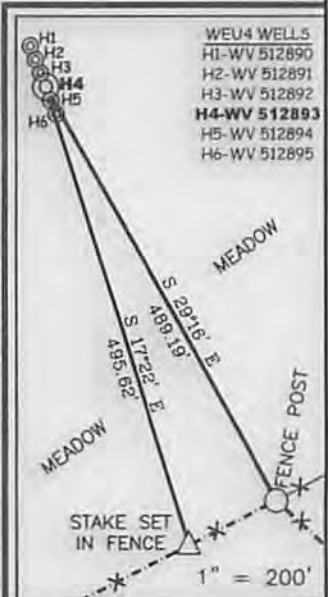
1. NO WATER WELLS WERE FOUND WITHIN 250' OF PROPOSED GAS WELL. NO AGRICULTURAL BUILDINGS ≥ 2500 SQ. FT. OR DWELLINGS WERE FOUND WITHIN 625' OF THE CENTER OF PROPOSED WELL PAD.

CORNER TIES BEARING & DISTANCE	
L1	N 85°53' E 1378.97'
L2	S 34°38' E 631.81'

LATERAL PATH BEARING & DISTANCE	
L3	S 74°12' W 1499.57'
L4	N 25°00' W 2870.00'

A	BRADLEY D. DAVIS	2.73 AC±
B	WILLIAM DOLL ET AL	0.50 AC±
C	WILLIAM DOLL ET AL	0.49 AC±
D	WILLIAM DOLL	1 AC±
E	FRIEDERIKE DOHRMANN	7.067 AC±
F	WILBUR COMMUNITY CLUB	0.95 AC±
G	JOHN STARKEY	7.888 AC±
H	CHRIS A. BAUM ET AL	0.84 AC±
I	TERRY C. WEEKLEY	1.083 AC±
J	RUTH G. & OLIN L. DOLL	1 AC±
K	GARY PROSSER	0.96 AC±
L	GARY & BARBARA PROSSER	2.30 AC±
M	HOWARD SHRYVER ET AL	24.84 AC±
N	CONRAD COSTILOW	46.17 AC±
O	RICHARD & YVONNE METCALF	0.61 AC±
P	JOHN & SANDRA ANDERS	0.09 AC±
Q	DONNA J. PETER	113.4 AC±
R	ELIZABETH ABRUZZIMO	109.94 AC±
S	L.B. & SANDRA STONEKING	42.86 AC±

**REFERENCES**



**Professional Energy Consultants**  
 A DIVISION OF SMITH LAND SURVEYING, INC.  
  
 SURVEYORS  
 ENGINEERS  
 ENVIRONMENTAL  
 PROJECT MGMT.  
 (304) 482-6434  
 WWW.SLSURVEYS.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. 849 *C. Victor Moyers*



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.  
 DATE JUNE 04, 20 15  
 REVISED JUNE 18, 20 15  
 OPERATORS WELL NO. WV 512893  
 API WELL NO. 47-095-02281  
 STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 7701P512893R  
 HORIZONTAL & VERTICAL CONTROL DETERMINED BY DGPS (SURVEY GRADE TIE TO CORS NETWORK) SCALE 1" = 2000'

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 1,098'(GROUND)1,078'(PROPOSED) WATERSHED TRIBUTARY OF CAMP MISTAKE RUN  
 DISTRICT CENTERVILLE COUNTY TYLER QUADRANGLE WEST UNION 7.5'  
 SURFACE OWNER DONNA J. PETER ACREAGE 113.40±  
 ROYALTY OWNER WACO OIL & GAS CO. INC. ET AL ACREAGE 152±  
 PROPOSED WORK: LEASE NO. 126129  
 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 MARCELLUS  
 ESTIMATED DEPTH TVD 6,696'

WELL OPERATOR EQT PRODUCTION COMPANY DESIGNATED AGENT REX C. RAY  
 ADDRESS 115 PROFESSIONAL PLACE P.O. BOX 280 BRIDGEPORT, WV 26330 ADDRESS 115 PROFESSIONAL PLACE P.O. BOX 280 BRIDGEPORT, WV 26330

08/28/2015

COUNTY NAME PERMIT

**INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE  
Chapter 22, Article 6A, Section 5(a)(5)  
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:

Lease Name or Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
<u>126129</u>			Min 1/8 pd	
	William A. Ash, et al	Equitable Gas Company		DB191/321
	Equitable Gas Company	Equitrans, Inc.		DB274/471
	Equitrans, Inc.	Equitable Production Company		DB398/640
	Equitable Production Company	EQT Production Company		DB281/346 Doddridge Co.
			Min 1/8 pd	
<u>126144</u>	Fanny Davis, et al	Equitable Gas Company		DB 191/511
	Equitable Gas Company	Equitrans, Inc.		DB274/471
	Equitrans, Inc.	Equitable Production Company		DB398/640
	Equitable Production Company	EQT Production Company		DB281/346 Doddridge Co.

Upon information and belief, Operator's lease and/or other real property rights permit it to conduct drilling operations for the subject well in the location shown on the plat, including under any public roads that the well lateral crosses.

**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: EQT Production Company  
 By: [Signature]  
 Its: Permitting Supervisor

**RECEIVED**  
Office of Oil and Gas  
JUL 29 2015  
WV Department of Environmental Protection



**STATE OF WEST VIRGINIA**  
**DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS**  
**NOTICE CERTIFICATION**

Date of Notice Certification: \_\_\_\_\_

API No. 47 - 095 - 0  
Operator's Well No. 512893  
Well Pad Name: WEU4

**Notice has been given:**

Pursuant to the provisions in West Virginia Code § 22-6A, the Operator has provided the required parties with the Notice Forms listed below for the tract of land as follows:

State:	<u>WV</u>	UTM NAD 83 Easting:	<u>515,453.34</u>
County:	<u>Tyler</u>	UTM NAD 83 Northing:	<u>4,357,467.22</u>
District:	<u>Centerville</u>	Public Road Access:	<u>WV-18</u>
Quadrangle:	<u>West Union 7.5'</u>	Generally used farm name:	<u>Donna J. Peter</u>
Watershed:	<u>Tributary of Camp Mistake Run</u>		

Pursuant to West Virginia Code § 22-6A-7(b), every permit application filed under this section shall be on a form as may be prescribed by the secretary, shall be verified and shall contain the following information: (14) A certification from the operator that (i) it has provided the owners of the surface described in subdivisions (1), (2) and (4), subsection (b), section ten of this article, the information required by subsections (b) and (c), section sixteen of this article; (ii) that the requirement was deemed satisfied as a result of giving the surface owner notice of entry to survey pursuant to subsection (a), section ten of this article six-a; or (iii) the notice requirements of subsection (b), section sixteen of this article were waived in writing by the surface owner; and Pursuant to West Virginia Code § 22-6A-11(b), the applicant shall tender proof of and certify to the secretary that the notice requirements of section ten of this article have been completed by the applicant.

Pursuant to West Virginia Code § 22-6A, the Operator has attached proof to this Notice Certification that the Operator has properly served the required parties with the following:

\*PLEASE CHECK ALL THAT APPLY

- NOTICE OF SEISMIC ACTIVITY or  NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED
- NOTICE OF ENTRY FOR PLAT SURVEY or  NO PLAT SURVEY WAS CONDUCTED
- NOTICE OF INTENT TO DRILL or  NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED OR
- WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH)
- NOTICE OF PLANNED OPERATION
- PUBLIC NOTICE
- NOTICE OF APPLICATION

**OOG OFFICE USE ONLY**

- RECEIVED/NOT REQUIRED
- RECEIVED
- RECEIVED/NOT REQUIRED
- RECEIVED
- RECEIVED
- RECEIVED

**Required Attachments:**

The Operator shall attach to this Notice Certification Form all Notice Forms and Certifications of Notice that have been provided to the required parties and/or any associated written waivers. For the Public Notice, the operator shall attach a copy of the Class II Legal Advertisement with publication date verification or the associated Affidavit of Publication. The attached Notice Forms and Certifications of Notice shall serve as proof that the required parties have been noticed as required under West Virginia Code § 22-6A. Pursuant to West Virginia Code § 22-6A-11(b), the Certification of Notice to the person may be made by affidavit of personal service, the return receipt card or other postal receipt for certified mailing.

4709502281

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Office of Oil and Gas  
JUN 25 2015  
08/28/2015  
Department of Environmental Protection



**Certification of Notice is hereby given:**

THEREFORE, I *Victoria J. Roark*, have read and understand the notice requirements within West Virginia Code § 22-6A. I certify that as required under West Virginia Code § 22-6A, I have served the attached copies of the Notice Forms, identified above, to the required parties through personal service, by registered mail or by any method of delivery that requires a receipt or signature confirmation. I certify under penalty of law that I have personally examined and am familiar with the information submitted in this Notice Certification 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: EQT Production Company  
By: Victoria J. Roark  
Its: Permitting Supervisor  
Telephone: 304-848-0076

Address: P.O. Box 280  
Bridgeport, WV 26330  
Facsimile: 304-848-0040  
Email: vroark@eqt.com



Subscribed and sworn before me this 24 day of June, 2015

Rebecca L. Heater Notary Public

My Commission Expires 4-7-20

**Oil and Gas Privacy Notice:**

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as 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 or your personal information, please contact DEP's Chief Privacy Officer at [depprivacyofficer@wv.gov](mailto:depprivacyofficer@wv.gov).

470950228

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JUN 25 2015  
WV Department of  
Environmental Protection  
08/28/2015



WW-6A  
(9-13)

API NO. 47 - 095 - 0  
OPERATOR WELL NO. 512893  
Well Pad Name: WEU4

**STATE OF WEST VIRGINIA**  
**DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS**  
**NOTICE OF APPLICATION**

Notice Time Requirement: notice shall be provided no later than the filing date of permit application.

Date of Notice: JUN 24 2015 Date Permit Application Filed: JUN 24 2015

Notice of:

- PERMIT FOR ANY WELL WORK
- CERTIFICATE OF APPROVAL FOR THE CONSTRUCTION OF AN IMPOUNDMENT OR PIT

Delivery method pursuant to West Virginia Code § 22-6A-10(b)

- PERSONAL SERVICE
- REGISTERED MAIL
- METHOD OF DELIVERY THAT REQUIRES A RECEIPT OR SIGNATURE CONFIRMATION

Pursuant to W. Va. Code § 22-6A-10(b) no later than the filing date of the application, the applicant for a permit for any well work or for the construction of an impoundment or pit as required by this article shall deliver, by personal service or by registered mail or by any other method that requires a receipt or signature confirmation, copies of the application, the erosion and sediment control plan required by section seven of this article to each of the following persons: (1) The owners of record of the surface of the tract on which the well is or is proposed to be located; the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for the construction, enlargement, alteration, repair, removal or abandonment of any impoundment or pit as described in section nine of this article; (2) The owner of any water purveyor who is known to the applicant to have a water well, spring or water supply source located within one thousand five hundred feet of the well which is used to provide water for consumption by humans or domestic animals; and (6) The operator of any natural gas storage field work activity is to take place. (c)(1) If more than three tenants in common or other co-owners of interests described in subsection (b) of this article are known to the applicant, the applicant may serve the documents required upon the person described in the records of the sheriff required to be filed in the lands, the applicant may serve the documents required upon the person described in the records of the sheriff required to be filed in the lands, chapter eleven-a of this code. (2) Notwithstanding any provision of this article to the contrary, notice to a lien holder is not required unless the lien holder is the landowner. W. Va. Code R. § 35-8-5.7.a requires, in part, that the operator shall also provide the Well Site Notice to the surface owner and any water purveyor or surface owner subject to notice and water testing as provided in section 15 of this rule.

- Application Notice
- WSSP Notice
- E&S Plan Notice
- Well Plat Notice is hereby provided to

**4709502281**

SURFACE OWNER(S)  
Name: Donna J Peter  
Address: 733 Ridge Rd  
Wilbur WV 26320

COAL OWNER OR LESSEE  
Name: Nancy M. Ash or Heirs Assigns  
Address: 101 Lake Village Road  
Slidell LA 70461

Name: \_\_\_\_\_  
Address: \_\_\_\_\_

COAL OPERATOR  
Name: \_\_\_\_\_  
Address: \_\_\_\_\_

SURFACE OWNERS(S) (Road and/or Other Disturbance)  
Name: Donna J Peter  
Address: 733 Ridge Rd  
Wilbur WV 26320

SURFACE OWNER OF WATER WELL AND/OR WATER PURVEYOR(S)  
Name: Donna J Peter  
Address: 733 Ridge Rd  
Wilbur WV 26320

Name: L. Bruce and Sandra Jean Stoneking  
Address: R.D. 1 Box BB  
Elkins WV 26241  
See attached for additional surface (road/ disturbance)

OPERATOR OF ANY NATURAL GAS STORAGE FIELD  
Name: \_\_\_\_\_  
Address: \_\_\_\_\_

SURFACE OWNER(S) (Impoundments/Pits)  
Name: Donna J Peter  
Address: 733 Ridge Rd  
Wilbur WV 26320

JUN 25 2015

\*Please attach additional forms if necessary

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Office of Oil and Gas  
WV Department of Environment  
**08/28/2015**



**Notice is hereby given:**

Pursuant to West Virginia Code § 22-6A-10(b), notice is hereby given that the undersigned well operator has applied for a permit for well work or for a certificate of approval for the construction of an impoundment or pit.

**This Notice Shall Include:**

Pursuant to W. Va. Code § 22-6A-10(b), this notice shall include: (1) copies of the application; (2) the erosion and sediment control plan required by section seven of this article; and (3) the well plat.

Pursuant to W. Va. Code § 22-6A-10(f), this notice shall include: (1) a statement of the time limits for filing written comments; (2) who may file written comments; (3) the name and address of the secretary for the purpose of filing the comments and obtaining additional information; and (4) a statement that the persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water.

Pursuant to W. Va. Code R. § 35-8-5.7.a, the operator shall provide the Well Site Safety Plan to the surface owner and any water purveyor or surface owner subject to notice and water testing as provided in section 15 of this rule.

Pursuant to W. Va. Code R. § 35-8-15.2.c, this notice shall: (1) contain a statement of the surface owner's and water purveyor's right to request sampling and analysis; (2) advise the surface owner and water purveyor of the rebuttable presumption for contamination or deprivation of a fresh water source or supply; advise the surface owner and water purveyor that refusal to allow the operator to conduct a pre-drilling water well test constitutes a method to rebut the presumption of liability; (3) advise the surface owner and water purveyor of his or her independent right to sample and analyze any water supply at his or her own expense; advise the surface owner and water purveyor whether or not the operator will utilize an independent laboratory to analyze any sample; and (4) advise the surface owner and or water purveyor that he or she can obtain from the Chief a list of water testing laboratories in the subject area capable of and qualified to test water supplies in accordance with standard acceptable methods.

Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting [www.dep.wv.gov/coal-and-gas/pages/default.aspx](http://www.dep.wv.gov/coal-and-gas/pages/default.aspx).

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**Well Location Restrictions**

Pursuant to W. Va. Code § 22-6A-12, Wells may not be drilled within two hundred fifty feet measured horizontally from any existing water well or developed spring used for human or domestic animal consumption. The center of well pads may not be located within six hundred twenty-five feet of an occupied dwelling structure, or a building two thousand five hundred square feet or larger used to house or shelter dairy cattle or poultry husbandry. This limitation is applicable to those wells, developed springs, dwellings or agricultural buildings that existed on the date a notice to the surface owner of planned entry for surveying or staking as provided in section ten of this article or a notice of intent to drill a horizontal well as provided in subsection (b), section sixteen of this article was provided, whichever occurs first, and to any dwelling under construction prior to that date. This limitation may be waived by written consent of the surface owner transmitted to the department and recorded in the real property records maintained by the clerk of the county commission for the county in which such property is located. Furthermore, the well operator may be granted a variance by the secretary from these distance restrictions upon submission of a plan which identifies the sufficient measures, facilities or practices to be employed during well site construction, drilling and operations. The variance, if granted, shall include terms and conditions the department requires to ensure the safety and protection of affected persons and property. The terms and conditions may include insurance, bonding and indemnification, as well as technical requirements. (b) No well pad may be prepared or well drilled within one hundred feet measured horizontally from any perennial stream, natural or artificial lake, pond or reservoir, or a wetland, or within three hundred feet of a naturally reproducing trout stream. No well pad may be located within one thousand feet of a surface or ground water intake of a public water supply. The distance from the public water supply as identified by the department shall be measured as follows: (1) For a surface water intake on a lake or reservoir, the distance shall be measured from the boundary of the lake or reservoir. (2) For a surface water intake on a flowing stream, the distance shall be measured from a semicircular radius extending upstream of the surface water intake. (3) For a groundwater source, the distance shall be measured from the wellhead or spring. The department may, in its discretion, waive these distance restrictions upon submission of a plan identifying sufficient measures, facilities or practices to be employed during well site construction, drilling and operations to protect the waters of the state. A waiver, if granted, shall impose any permit conditions as the secretary considers necessary. (c) Notwithstanding the foregoing provisions of this section, nothing contained in this section prevents an operator from conducting the activities permitted or authorized by a Clean Water Act Section 404 permit or other approval from the United States Army Corps of Engineers within any waters of the state or within the restricted areas referenced in this section. (d) The well location restrictions set forth in this section shall not apply to any well on a multiple well pad if at least one of the wells was permitted prior to the effective date of this article. (e) The secretary shall, by December 31, 2012, report to the Legislature on the noise, light, dust and volatile organic compounds generated by the drilling of horizontal wells as they relate to the well location restrictions regarding occupied dwelling structures pursuant to this section. Upon a finding, if any, by the secretary that the well location restrictions regarding occupied dwelling structures are inadequate or otherwise require alteration to address the items

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Mining & Occupied  
Dwellings

WV Department of  
Environmental Affairs  
08/28/2015

WW-6A  
(8-13)

API NO. 47 - 095 - 0  
OPERATOR WELL NO. 512893  
Well Pad Name: WEU4

examined in the study required by this subsection, the secretary shall have the authority to propose for promulgation legislative rules establishing guidelines and procedures regarding reasonable levels of noise, light, dust and volatile organic compounds relating to drilling horizontal wells, including reasonable means of mitigating such factors, if necessary.

**Water Well Testing:**

Pursuant to West Virginia Code § 22-6A-10(d), notification shall be made, with respect to surface landowners identified in subsection (b) or water purveyors identified in subdivision (5), subsection (b) of this section, of the opportunity for testing their water well. The operator shall provide an analysis to such surface landowner or water purveyor at their request.

**Water Testing Laboratories:**

Pursuant to West Virginia Code § 22-6A-10(i), persons entitled to notice pursuant to subsection (b) of this section may contact the department to ascertain the names and locations of water testing laboratories in the subject area capable and qualified to test water supplies in accordance with standard accepted methods. In compiling that list of names the department shall consult with the state Bureau for Public Health and local health departments. A surface owner and water purveyor has an independent right to sample and analyze any water supply at his or her own expense. The laboratory utilized by the operator shall be approved by the agency as being certified and capable of performing sample analyses in accordance with this section.

**Rebuttable Presumption for Contamination or Deprivation of a Fresh Water Source or Supply:**

W. Va. Code § 22-6A-18 requires that (b) unless rebutted by one of the defenses established in subsection (c) of this section, in any action for contamination or deprivation of a fresh water source or supply within one thousand five hundred feet of the center of the well pad for horizontal well, there is a rebuttable presumption that the drilling and the oil or gas well or either was the proximate cause of the contamination or deprivation of the fresh water source or supply. (c) In order to rebut the presumption of liability established in subsection (b) of this section, the operator must prove by a preponderance of the evidence one of the following defenses: (1) The pollution existed prior to the drilling or alteration activity as determined by a predrilling or prealteration water well test. (2) The landowner or water purveyor refused to allow the operator access to the property to conduct a predrilling or prealteration water well test. (3) The water supply is not within one thousand five hundred feet of the well. (4) The pollution occurred more than six months after completion of drilling or alteration activity. (5) The pollution occurred as the result of some cause other than the drilling or alteration activity. (d) Any operator electing to preserve its defenses under subdivision (c), subsection (c) of this section shall retain the services of an independent certified laboratory to conduct the predrilling or prealteration water well test. A copy of the results of the test shall be submitted to the department and the surface owner or water purveyor in a manner prescribed by the secretary. (e) Any operator shall replace the water supply of an owner of interest in real property who obtains all or part of that owner's supply of water for domestic, agricultural, industrial or other legitimate use from an underground or surface source with a comparable water supply where the secretary determines that the water supply has been affected by contamination, diminution or interruption proximately caused by the oil or gas operation, unless waived in writing by that owner. (f) The secretary may order the operator conducting the oil or gas operation to: (1) Provide an emergency drinking water supply within twenty-four hours; (2) Provide temporary water supply within seventy-two hours; (3) Within thirty days begin activities to establish a permanent water supply or submit a proposal to the secretary outlining the measures and timetables to be used in establishing a permanent supply. The total time in providing a permanent water supply may not exceed two years. If the operator demonstrates that providing a permanent replacement water supply cannot be completed within two years, the secretary may extend the time frame on case-by-case basis; and (4) Pay all reasonable costs incurred by the real property owner in securing a water supply. (g) A person as described in subsection (b) of this section aggrieved under the provisions of subsections (b), (e) or (f) of this section may seek relief in court... (i) Notwithstanding the denial of the operator of responsibility for the damage to the real property owner's water supply or the status of any appeal on determination of liability for the damage to the real property owner's water supply, the operator may not discontinue providing the required water service until authorized to do so by the secretary or a court of competent jurisdiction.

**Written Comment:**

Pursuant to West Virginia Code § 22-6A-11(a), all persons described in subsection (b), section ten of this article may file written comments with the secretary as to the location or construction of the applicant's proposed well work within thirty days after the application is filed with the secretary. All persons described in West Virginia Code § 22-6A-10(b) may file written comments as to the location or construction of the applicant's proposed well work to the Secretary at:

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

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Such persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water.  
NOTE: YOU ARE NOT REQUIRED TO FILE ANY COMMENT.

WV Department of  
Environmental Protection  
08/28/2015

**Time Limits and Methods for Filing Comments.**

The law requires these materials to be served on or before the date the operator files its Application. You have THIRTY (30) 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.

Pursuant to West Virginia Code § 22-6A-11(c)(2), Any objections of the affected coal operators and coal seam owners and lessees shall be addressed through the processes and procedures that exist under sections fifteen, seventeen and forty, article six of this chapter, as applicable and as incorporated into this article by section five of this article. The written comments filed by the parties entitled to notice under subdivisions (1), (2), (4), (5) and (6), subsection (b), section ten of this article shall be considered by the secretary in the permit issuance process, but the parties are not entitled to participate in the processes and proceedings that exist under sections fifteen, seventeen or forty, article six of this chapter, as applicable and as incorporated into this article by section five of this article

**Comment Requirements**

Your comments must be in writing and 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.

Disclaimer: All comments received will be placed on our web site <http://www.dep.wv.gov/oil-and-gas/Horizontal-Permits/Pages/default.aspx> and the applicant will automatically be forwarded an email notice that such comments have been submitted. The applicant will be expected to provide a response to comments submitted by any surface owner, water purveyor or natural gas storage operator noticed within the application.

**Permit Denial or Condition**

The Chief has the power to deny or condition a well work permit. Pursuant to West Virginia Code § 22-6A-8(d), the permit may not be issued or be conditioned, including conditions with respect to the location of the well and access roads prior to issuance if the director determines that:

- (1) The proposed well work will constitute a hazard to the safety of persons;
- (2) The plan for soil erosion and sediment control is not adequate or effective;
- (3) Damage would occur to publicly owned lands or resources; or
- (4) The proposed well work fails to protect fresh water sources or supplies.

A permit may also be denied under West Virginia Code § 22-6A-7(k), the secretary shall deny the issuance of a permit if the secretary determines that the applicant has committed a substantial violation of a previously issued permit for a horizontal well, including the applicable erosion and sediment control plan associated with the previously issued permit, or a substantial violation of one or more of the rules promulgated under this article, and in each instance has failed to abate or seek review of the violation within the time prescribed by the secretary pursuant to the provisions of subdivisions (1) and (2), subsection (a), section five of this article and the rules promulgated hereunder, which time may not be unreasonable.

Pursuant to West Virginia Code § 22-6A-10(g), any person entitled to submit written comments to the secretary pursuant to subsection (a), section eleven of this article, shall also be entitled to receive from the secretary a copy of the permit as issued or a copy of the order modifying or denying the permit if the person requests receipt of them as a part of the written comments submitted concerning the permit application. Such persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water.

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WV Department of  
Environmental Protection



Notice is hereby given by:

Well Operator: EQT Production Company  
Telephone: 304-848-0082  
Email: Vroark@eqt.com

Address: 115 Professional Place P.O. Box 280  
Bridgeport, WV 26330  
Facsimile: 304-848-0041

**Oil and Gas Privacy Notice:**

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as 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 or your personal information, please contact DEP's Chief Privacy Officer at [depprivacyofficer@wv.gov](mailto:depprivacyofficer@wv.gov).

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.

*Victoria Roark*

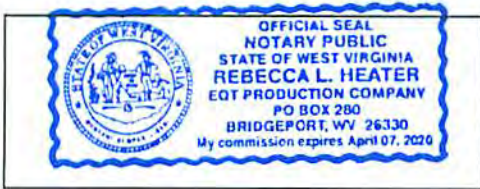
By: Victoria Roark

Its: Permitting Supervisor

Subscribed and sworn before on 24 day of June, 2015

*Rebecca L. Heater* Notary Public

My Commission Expires 4-7-20

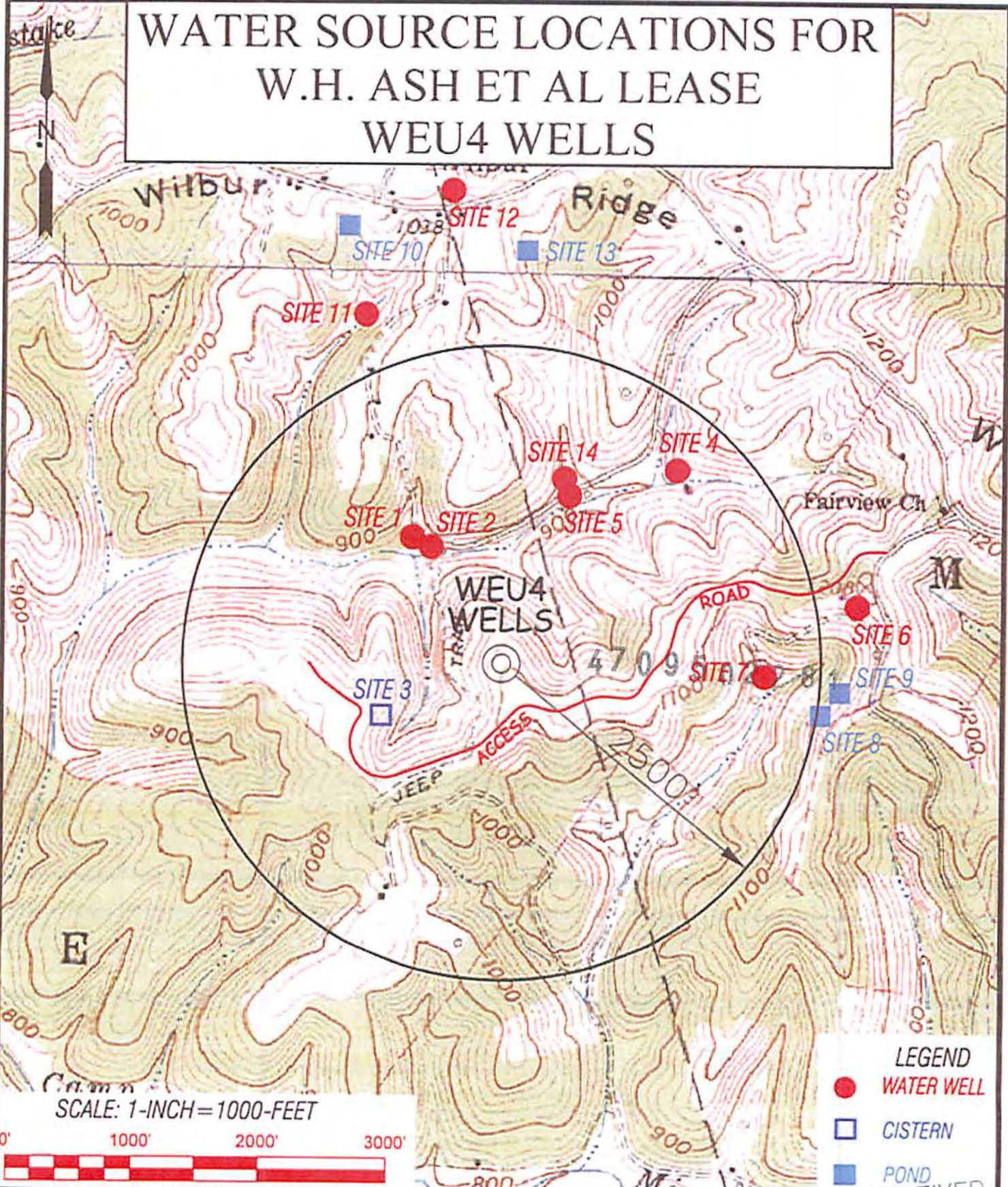


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# WATER SOURCE LOCATIONS FOR W.H. ASH ET AL LEASE WEU4 WELLS



- LEGEND**
- WATER WELL
  - ◻ CISTERN
  - ◻ POND

SCALE: 1-INCH=1000-FEET



**Professional Energy Consultants**  
A DIVISION OF SOUTH LANE SURVEYING, INC.

**SLS**  
SURVEYING  
ENGINEERING  
ENVIRONMENTAL  
PROJECT MGMT.

DRAWN BY: K.O.W.  
FILE NO.: 7701  
DATE: 05/27/15  
CADD FILE: 7701WVNCIA.dwg

TOPO SECTION OF:  
WEST UNION, WV 7.5' QUAD

DISTRICT	COUNTY	TAX MAP-PARCEL NO.
CENTERVILLE	TYLER	16-22

OPERATOR:  
EQT PRODUCTION COMPANY  
115 PROFESSIONAL PLACE  
P.O. BOX 280  
BRIDGEPORT, WV 26330

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WV Dept. of Environmental Protection



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WW6-A

**Additional Coal Owners**

Rosemary Brandon  
3013 Delaware Avenue  
Kenner, LA 70065

Oletha G. Moore or Heirs and Assigns  
2428 Dewey Ave  
Munhall PA 15120

**Surface Owners(road or other disturbance):**

James B. and Brenda J. Stoneking  
2 Deerhaven Drive  
Wheeling WV 26241

Diane L. Morgan and Glenn W. Morgan  
590 Isner Creek Road  
Elkins WV 26241

Richard and Yvonne Metcalf  
128 Village Drive  
Bridgeport WV 26330

**Surface Owners(Pits or impoundments):**

Richard and Yvonne Metcalf  
128 Village Drive  
Bridgeport WV 26330

**Additional Water Purveyors**

Bruce Stoneking  
R.D. 1 Box BB  
Elkins WV 26241

Frank and Elizabeth Abruzzino  
91 Springhill Chapel Road  
Clarksburg, WV 26301

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**WELL INFORMATION AND POTENTIAL WATER WELL SAMPLE DATA SHEET**

**OPERATOR:** EQT Production Company  
**LEASE NAME AND NUMBER:** WEU-4

COMMENTS

The initial field and/or mapping review of the area surrounding the proposed well site revealed the below listed surface owner(s) that were potentially utilizing groundwater (potable) for Human Consumption or other purposes within 2500' of the proposed well site. (For location of each site see attached area map.)

INDIVIDUAL CONTACTED OR NOTIFIED

Site: 1 Spacing 1220' Owner/Occupant: Donna Peter  
 Address: 733 ridge rd. Wilbur, WV 26320 Ph: (304)-758-4495  
 Field Contact Date: 04/23/2015 Located: Yes Date Located: 04/23/2015 Source: Water Well  
 If No, declined by who \_\_\_\_\_ Letter/Notice Date: 1st 04/09/2015 2nd 04/23/2015 Certified (3rd) 04/17/2015  
 Comments: Lat : 39.369336  
Long : 80.823230  
Tax Map 16, Parcel 22

Site: 2 Spacing 1075' Owner/Occupant: Donna Peter  
 Address: 733 ridge rd. Wilbur, WV 26320 Ph: (304)-758-4495  
 Field Contact Date: 04/23/2015 Located: Yes Date Located: 04/23/2015 Source: Water Well  
 If No, declined by who \_\_\_\_\_ Letter/Notice Date: 1st 04/09/2015 2nd 04/23/2015 Certified (3rd) 04/17/2015  
 Comments: Lat : 39.369112  
Long : 80.822699  
Tax Map 16, Parcel 22

Site: 3 Spacing 1030' Owner/Occupant: Donna Peter  
 Address: 733 ridge rd. Wilbur, WV 26320 Ph: (304)-758-4495  
 Field Contact Date: 04/23/2015 Located: Yes Date Located: 04/23/2015 Source: Spring  
 If No, declined by who \_\_\_\_\_ Letter/Notice Date: 1st 04/09/2015 2nd 04/23/2015 Certified (3rd) 04/17/2015  
 Comments: Lat : 39.365439  
Long : 80.823090  
Tax Map 16, Parcel 22

Site: 4 Spacing 2050' Owner/Occupant: Bruce Stoncking  
 Address: RR.1 Box 304 BB Elkins, WV 26241 Ph: \_\_\_\_\_  
 Field Contact Date: 04/23/2015 Located: Yes Date Located: 04/23/2015 Source: Water Well  
 If No, declined by who \_\_\_\_\_ Letter/Notice Date: 1st 04/09/2015 2nd 04/23/2015 Certified (3rd) 04/17/2015  
 Comments: Lat : 39.370837  
Long : 80.815910  
Tax Map 21, Parcels 28 and 29

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Site 5 Spacing 1425' Owner/Occupant Bruce Stoneking  
 Address RR.1 Box 304 BB Elkins, WV 26241 Ph. \_\_\_\_\_  
 Field Contact Date: 04/23/2015 Located: Yes Date Located: 04/23/2015 Source Water Well  
 If No, declined by who \_\_\_\_\_ Letter/Notice Date: 1st 04/09/2015 2nd 04/23/2015 Certified (3rd) 04/17/2015  
 Comments: Lat : 39.370270  
Long : 80.818867  
Tax Map 21, Parcels 28 and 29

Site 6 Spacing 2830' Owner/Occupant Edward and Carolyn White  
 Address 4316 Teen Barnes Rd. Jefferson, MD 21755 Ph: (301)-371-8521  
 Field Contact Date: 05/20/2015 Located: Yes Date Located 05/20/2015 Source: Water Well  
 If No, declined by who \_\_\_\_\_ Letter/Notice Date: 1st 04/09/2015 2nd 04/23/2015 Certified (3rd) 04/17/2015  
 Comments Lat : 39.368035  
Long : 80.810833  
Tax Map 21, Parcel 38

Site 7 Spacing 2070' Owner/Occupant Edward and Carolyn White  
 Address 4316 Teen Barnes Rd. Jefferson, MD 21755 Ph: (301)-371-8521  
 Field Contact Date: 05/20/2015 Located: Yes Date Located: 05/20/2015 Source: Water Well  
 If No, declined by who \_\_\_\_\_ Letter/Notice Date: 1st 04/09/2015 2nd 04/23/2015 Certified (3rd) 04/17/2015  
 Comments: Lat : 39.366470  
Long : 80.813358  
Tax Map 21, Parcel 38

Site: 8 Spacing 2540' Owner/Occupant Edward and Carolyn White  
 Address: 4316 Teen Barnes Rd. Jefferson, MD 21755 Ph. (301)-371-8521  
 Field Contact Date: 05/20/2015 Located: Yes Date Located 05/20/2015 Source: Pond  
 If No, declined by who \_\_\_\_\_ Letter/Notice Date: 1st 04/09/2015 2nd 04/23/2015 Certified (3rd) 04/17/2015  
 Comments: Lat : 39.365666  
Long : 80.811781  
Tax Map 21, Parcel 38

Site: 9 Spacing 2665' Owner/Occupant: Edward and Carolyn White  
 Address: 4316 Teen Barnes Rd. Jefferson, MD 21755 Ph: (301)-371-8521  
 Field Contact Date: 05/20/2015 Located: Yes Date Located 05/20/2015 Source: Pond  
 If No, declined by who \_\_\_\_\_ Letter/Notice Date: 1st 04/09/2015 2nd 04/23/2015 Certified (3rd) 04/17/2015  
 Comments: Lat : 39.366163  
Long : 80.811260  
Tax Map 21, Parcel 38

Site 10 Spacing 3655' Owner/Occupant Frank and Elizabeth Abruzzo  
 Address 91 Springhill Chapel Rd. Clarksburg, WV 26301 Ph: (304)-669-3893  
 Field Contact Date 05/20/2015 Located: Yes Date Located 05/20/2015 Source: Pond  
 If No, declined by who \_\_\_\_\_ Letter/Notice Date: 1st 04/09/2015 2nd 04/23/2015 Certified (3rd) 04/17/2015  
 Comments: Lat : 39.376041  
Long : 80.825199  
Tax Map 16, Parcel 10

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Site: 11 Spacing 2950' Owner/Occupant Frank and Elizabeth Abruzzino  
 Address: 91 Springhill Chapel Rd, Clarksburg, WV 26301 Ph: (304)-669-3892  
 Field Contact Date: 05/20/2015 Located: Yes Date Located 05/20/2015 Source: Water Well  
 If No, declined by who \_\_\_\_\_ Letter/Notice Date: 1st 04/09/2015 2nd 04/23/2015 Certified (3rd) 04/17/2015  
 Comments: Lat : 39.374129  
Long : 80.824661  
Tax Map 16, Parcel 10

Site: 12 Spacing 3750' Owner/Occupant: Frank and Elizabeth Abruzzino  
 Address: 91 Springhill Chapel Rd, Clarksburg, WV 26301 Ph: (304)-669-3892  
 Field Contact Date: 05/20/2015 Located: Yes Date Located: 05/20/2015 Source: Water Well  
 If No, declined by who \_\_\_\_\_ Letter/Notice Date: 1st 04/09/2015 2nd 04/23/2015 Certified (3rd) 04/17/2015  
 Comments: Lat : 39.376858  
Long : 80.822312  
Tax Map 16, Parcel 10

Site: 13 Spacing 3260' Owner/Occupant: Frank and Elizabeth Abruzzino  
 Address: 91 Springhill Chapel Rd, Clarksburg, WV 26301 Ph: (304)-669-3892  
 Field Contact Date: 05/20/2015 Located: Yes Date Located 05/20/2015 Source: Pond  
 If No, declined by who \_\_\_\_\_ Letter/Notice Date: 1st 04/09/2015 2nd 04/23/2015 Certified (3rd) 04/17/2015  
 Comments: Lat : 39.375580  
Long : 80.820202  
Tax Map 16, Parcel 10

Site: 14 Spacing 1535' Owner/Occupant: Frank and Elizabeth Abruzzino  
 Address: 91 Springhill Chapel Rd, Clarksburg, WV 26301 Ph: (304)-669-3892  
 Field Contact Date: 05/20/2015 Located: Yes Date Located 05/20/2015 Source: Water Well  
 If No, declined by who \_\_\_\_\_ Letter/Notice Date: 1st 04/09/2015 2nd 04/23/2015 Certified (3rd) 04/17/2015  
 Comments: Lat : 39.370659  
Long : 80.819027  
Tax Map 16, Parcel 10

Site: 15 Spacing \_\_\_\_\_ Owner/Occupant: Conrad Costlow  
 Address: 13310 Middle island Rd, West Union, WV 26456 Ph: \_\_\_\_\_  
 Field Contact Date: N/A Located: No Date Located: N/A Source: Unknown  
 If No, declined by who \_\_\_\_\_ Letter/Notice Date: 1st 04/09/2015 2nd 04/23/2015 Certified (3rd) 04/17/2015  
 Comments: No Response To Certified Letter As Of 05/29/2015  
Tax Map 16, Parcel 14

Site: 16 Spacing \_\_\_\_\_ Owner/Occupant John McDonald Jr.  
 Address: HC 74 Box 34C Alma, WV 26320 Ph: \_\_\_\_\_  
 Field Contact Date: N/A Located: No Date Located: N/A Source: Unknown  
 If No, declined by who \_\_\_\_\_ Letter/Notice Date: 1st 04/09/2015 2nd 04/23/2015 Certified (3rd) 04/17/2015  
 Comments: No Response To Certified Letter As Of 05/29/2015  
Tax Map 21, Parcel 41

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Site: 17 Spacing \_\_\_\_\_ Owner/Occupant: Paul Weckley (life)  
 Address: 4500 Meelroy creek Rd. Alma, WV 26320 Ph: \_\_\_\_\_  
 Field Contact Date: N/A Located: No Date Located: N/A Source: Unknown  
 If No, declined by who \_\_\_\_\_ Letter/Notice Date: 1st 04/09/2015 2nd 04/23/2015 Certified (3rd) 04/17/2015  
 Comments: No Response To Certified Letter As Of 05/29/2015  
Tax Map 16, Parcel 28

Site: 18 Spacing \_\_\_\_\_ Owner/Occupant: Chris and Herstine Baum  
 Address: 7214 Ridgeview Dr. SE Waynesburg, OH 44688 Ph: \_\_\_\_\_  
 Field Contact Date: N/A Located: No Date Located: N/A Source: Unknown  
 If No, declined by who \_\_\_\_\_ Letter/Notice Date: 1st 04/09/2015 2nd 04/23/2015 Certified (3rd) 04/17/2015  
 Comments: No Response To Certified Letter As Of 05/29/2015  
Tax Map 16, Parcel 23

Site: 19 Spacing \_\_\_\_\_ Owner/Occupant: Leona Lorkovich  
 Address: 1719 Jackson St. Aliquippa, PA 15001 Ph: \_\_\_\_\_  
 Field Contact Date: N/A Located: No Date Located: N/A Source: Unknown  
 If No, declined by who \_\_\_\_\_ Letter/Notice Date: 1st 04/09/2015 2nd 04/23/2015 Certified (3rd) 04/17/2015  
 Comments: No Response To Certified Letter As Of 05/29/2015  
Tax Map 16, Parcel 24

Site: 20 Spacing \_\_\_\_\_ Owner/Occupant: Stonewall Gas Company  
 Address: 501 Martindale St. Ste. 500 Pittsburg, PA 15212 Ph: \_\_\_\_\_  
 Field Contact Date: N/A Located: No Date Located: N/A Source: Unknown  
 If No, declined by who \_\_\_\_\_ Letter/Notice Date: 1st 04/09/2015 2nd 04/23/2015 Certified (3rd) 04/17/2015  
 Comments: No Response To Certified Letter As Of 05/29/2015  
Tax Map 16, Parcel 24.2

Site: 21 Spacing \_\_\_\_\_ Owner/Occupant: Richard Metcalf  
 Address: 128 Village Dr. Bridgeport, WV 26330 Ph: \_\_\_\_\_  
 Field Contact Date: N/A Located: No Date Located: N/A Source: Unknown  
 If No, declined by who \_\_\_\_\_ Letter/Notice Date: 1st 04/09/2015 2nd 04/23/2015 Certified (3rd) 04/17/2015  
 Comments: No Response To Certified Letter As Of 05/29/2015  
Tax Map 16, Parcels 14.1 and 17

Site: 22 Spacing \_\_\_\_\_ Owner/Occupant: John Anders  
 Address: 804 Peters Run Rd. Wheeling, WV 26003 Ph: \_\_\_\_\_  
 Field Contact Date: N/A Located: No Date Located: N/A Source: Unknown  
 If No, declined by who \_\_\_\_\_ Letter/Notice Date: 1st 04/09/2015 2nd 04/23/2015 Certified (3rd) 04/17/2015  
 Comments: No Response To Certified Letter As Of 05/29/2015  
Tax Map 16, Parcel 14.2

Site 23 Spacing \_\_\_\_\_ Owner/Occupant: Gary Prosser  
Address: HCR 74 Box 21 Wilbur, WV 26320 Ph: \_\_\_\_\_  
Field Contact Date N/A Located: No Date Located: N/A Source: Unknown  
If No. declined by who \_\_\_\_\_ Letter/Notice Date: 1st 04/09/2015 2nd 04/23/2015 Certified (3rd) 04/17/2015  
Comments: No Response To Certified Letter As Of 05/29/2015  
Tax Map 16, Parcel 15

Site: 24 Spacing \_\_\_\_\_ Owner/Occupant: Howard and Shannon Shriver  
Address: HCR 74 Box 22A Alma, WV 26320 Ph: \_\_\_\_\_  
Field Contact Date: N/A Located: No Date Located: N/A Source: Unknown  
If No. declined by who \_\_\_\_\_ Letter/Notice Date: 1st 04/09/2015 2nd 04/23/2015 Certified (3rd) 04/17/2015  
Comments: No Response To Certified Letter As Of 05/29/2015  
Tax Map 16, Parcel 16

Site: \_\_\_\_\_ Spacing \_\_\_\_\_ Owner/Occupant: \_\_\_\_\_  
Address: \_\_\_\_\_ Ph: \_\_\_\_\_  
Field Contact Date: \_\_\_\_\_ Located: \_\_\_\_\_ Date Located: \_\_\_\_\_ Source: \_\_\_\_\_  
If No. declined by who \_\_\_\_\_ Letter/Notice Date: 1st \_\_\_\_\_ 2nd \_\_\_\_\_ Certified (3rd) \_\_\_\_\_  
Comments: \_\_\_\_\_

Site \_\_\_\_\_ Spacing \_\_\_\_\_ Owner/Occupant: \_\_\_\_\_  
Address: \_\_\_\_\_ Ph: \_\_\_\_\_  
Field Contact Date: \_\_\_\_\_ Located: \_\_\_\_\_ Date Located: \_\_\_\_\_ Source: \_\_\_\_\_  
If No. declined by who \_\_\_\_\_ Letter/Notice Date: 1st \_\_\_\_\_ 2nd \_\_\_\_\_ Certified (3rd) \_\_\_\_\_  
Comments: \_\_\_\_\_

Site: \_\_\_\_\_ Spacing \_\_\_\_\_ Owner/Occupant: \_\_\_\_\_  
Address: \_\_\_\_\_ Ph: \_\_\_\_\_  
Field Contact Date: \_\_\_\_\_ Located: \_\_\_\_\_ Date Located: \_\_\_\_\_ Source: \_\_\_\_\_  
If No. declined by who \_\_\_\_\_ Letter/Notice Date: 1st \_\_\_\_\_ 2nd \_\_\_\_\_ Certified (3rd) \_\_\_\_\_  
Comments: \_\_\_\_\_

Site: \_\_\_\_\_ Spacing \_\_\_\_\_ Owner/Occupant: \_\_\_\_\_  
Address: \_\_\_\_\_ Ph: \_\_\_\_\_  
Field Contact Date: \_\_\_\_\_ Located: \_\_\_\_\_ Date Located: \_\_\_\_\_ Source: \_\_\_\_\_  
If No. declined by who \_\_\_\_\_ Letter/Notice Date: 1st \_\_\_\_\_ 2nd \_\_\_\_\_ Certified (3rd) \_\_\_\_\_  
Comments: \_\_\_\_\_

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JUL 06 2015



WW-6A5  
(1/12)

Operator Well No. 512893

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
NOTICE OF PLANNED OPERATION

Notice Time Requirement: notice shall be provided no later than the filing date of permit application.

Date of Notice: JUN 24 2015 Date Permit Application Filed: JUN 24 2015

Delivery method pursuant to West Virginia Code § 22-6A-16(c)

CERTIFIED MAIL RETURN RECEIPT REQUESTED  HAND DELIVERY

Pursuant to W. Va. Code § 22-6A-16(c), no later than the date for filing the permit application, an operator shall, by certified mail return receipt requested or hand delivery, give the surface owner whose land will be used for the drilling of a horizontal well notice of the planned operation. The notice required by this subsection shall include: (1) A copy of this code section; (2) The information required to be provided by subsection (b), section ten of this article to a surface owner whose land will be used in conjunction with the drilling of a horizontal well; and (3) A proposed surface use and compensation agreement containing an offer of compensation for damages to the surface affected by oil and gas operations to the extent the damages are compensable under article six-b of this chapter. (d) The notices required by this section shall be given to the surface owner at the address listed in the records of the sheriff at the time of notice.

Notice is hereby provided to the SURFACE OWNER(s)

(at the address listed in the records of the sheriff at the time of notice):

Name: James B and Brenda J Stoneking  
Address: 2 Deerhaven Drive  
Wheeling WV 26241

470950222  
Name: Diane L Morgan and Glenn W Morgan  
Address: 590 Isner Creek Rd  
Elkins WV 26241

Notice is hereby given:

Pursuant to West Virginia Code § 22-6A-16(c), notice is hereby given that the undersigned well operator has developed a planned operation on the surface owner's land for the purpose of drilling a horizontal well on the tract of land as follows:

State: WV UTM NAD 83 Easting: 515,453.340000  
County: Tyler Northing: 4,357,467.220000  
District: Centerville Public Road Access: WV-18  
Quadrangle: West Union 7.5' Generally used farm name: Donna J. Peter  
Watershed: Tributary of Camp Mistake Run

This Notice Shall Include:

Pursuant to West Virginia Code § 22-6A-16(c), this notice shall include: (1) A copy of this code section; (2) The information required to be provided by **W. Va. Code § 22-6A-10(b)** to a surface owner whose land will be used in conjunction with the drilling of a horizontal well; and (3) A proposed surface use and compensation agreement containing an offer of compensation for damages to the surface affected by oil and gas operations to the extent the damages are compensable under article six-b of this chapter. Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting [www.dep.wv.gov/oil-and-gas/pages/default.aspx](http://www.dep.wv.gov/oil-and-gas/pages/default.aspx).

Well Operator: EQT Production Company  
Telephone: 304-848-0082  
Email: vroark@eqt.com

Address: 115 Professional Place, P.O. Box 280  
Bridgeport, WV 26330  
Facsimile: 304-848-0040

Oil and Gas Privacy Notice:

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as 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 or your personal information, please contact DEP's Chief Privacy Officer at [depprivacyofficer@wv.gov](mailto:depprivacyofficer@wv.gov).

RECEIVED  
Office of Oil and Gas  
JUN 25 2015  
WV Department of  
Environmental Protection  
08/28/2015



WW-6A5  
(1/12)

Operator Well No. 512893

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
NOTICE OF PLANNED OPERATION

Notice Time Requirement: notice shall be provided no later than the filing date of permit application.

Date of Notice: JUN 24 2015 Date Permit Application Filed: JUN 24 2015

Delivery method pursuant to West Virginia Code § 22-6A-16(c)

CERTIFIED MAIL RETURN RECEIPT REQUESTED  HAND DELIVERY

Pursuant to W. Va. Code § 22-6A-16(c), no later than the date for filing the permit application, an operator shall, by certified mail return receipt requested or hand delivery, give the surface owner whose land will be used for the drilling of a horizontal well notice of the planned operation. The notice required by this subsection shall include: (1) A copy of this code section; (2) The information required to be provided by subsection (b), section ten of this article to a surface owner whose land will be used in conjunction with the drilling of a horizontal well; and (3) A proposed surface use and compensation agreement containing an offer of compensation for damages to the surface affected by oil and gas operations to the extent the damages are compensable under article six-b of this chapter. (d) The notices required by this section shall be given to the surface owner at the address listed in the records of the sheriff at the time of notice.

4709302281

Notice is hereby provided to the SURFACE OWNER(s)

(at the address listed in the records of the sheriff at the time of notice):

Name: Donna J Peter  
Address: 733 Ridge Rd  
Wilbur WV 26320

Name: L. Bruce and Sandra Jean Stoneking  
Address: R.D. 1 Box BB  
Elkins WV 26241

Notice is hereby given:

Pursuant to West Virginia Code § 22-6A-16(c), notice is hereby given that the undersigned well operator has developed a planned operation on the surface owner's land for the purpose of drilling a horizontal well on the tract of land as follows:

State: WV UTM NAD 83 Easting: 515,453.340000  
County: Tyler Northing: 4,357,467.220000  
District: Centerville Public Road Access: WV-18  
Quadrangle: West Union 7.5' Generally used farm name: Donna J. Peter  
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This Notice Shall Include:

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Well Operator: EQT Production Company  
Telephone: 304-848-0082  
Email: vroark@eqt.com

Address: 115 Professional Place, P.O. Box 280  
Bridgeport, WV 26330  
Facsimile: 304-848-0040

Oil and Gas Privacy Notice:

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as 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 or your personal information, please contact DEP's Chief Privacy Officer at [depprivacyofficer@wv.gov](mailto:depprivacyofficer@wv.gov).

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Office of Oil and Gas  
JUN 25 2015  
WV Department of  
Environment 08/28/2015



WW-6A5  
(1/12)

Operator Well No. 512893

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

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Notice is hereby provided to the SURFACE OWNER(s)

(at the address listed in the records of the sheriff at the time of notice):

Name: Richard and Yvonne Metcalf  
Address: 128 Village Dr  
Bridgeport WV 26330

Name: \_\_\_\_\_  
Address: 4709502281

Notice is hereby given:

Pursuant to West Virginia Code § 22-6A-16(c), notice is hereby given that the undersigned well operator has developed a planned operation on the surface owner's land for the purpose of drilling a horizontal well on the tract of land as follows:

State:	<u>WV</u>	UTM NAD 83	Easting:	<u>515,453.340000</u>
County:	<u>Tyler</u>		Northing:	<u>4,357,467.220000</u>
District:	<u>Centerville</u>	Public Road Access:	<u>WV-18</u>	
Quadrangle:	<u>West Union 7.5'</u>	Generally used farm name:	<u>Donna J. Peter</u>	
Watershed:	<u>Tributary of Camp Mistake Run</u>			

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RECEIVED  
Office of Oil and Gas  
JUN 25 2015  
WV Department of  
Environmental Protection  
08/28/2015



WEST VIRGINIA DEPARTMENT OF TRANSPORTATION  
**Division of Highways**

1900 Kanawha Boulevard East • Building Five • Room 110  
Charleston, West Virginia 25305-0430 • (304) 558-3505

Earl Ray Tomblin  
Governor

Paul A. Mattox, Jr., P. E.  
Secretary of Transportation/  
Commissioner of Highways

June 23, 2015

4709502281

James A. Martin, Chief  
Office of Oil and Gas  
Department of Environmental Protection  
601 57<sup>th</sup> Street, SE  
Charleston, WV 25304

Subject: DOH Permit for the WEU 4 Well Pad, Tyler County

512890 WEU4H1	512891 WEU4H2	512892 WEU4H3
512893 WEU4H4	512894 WEU4H5	512895 WEU4H6
514052 WEU4H7	514053 WEU4H8	514054 WEU4H9
514055 WEU4H10		

Dear Mr. Martin,

This well site will be accessed from DOH Permit #06-2015-0241 issued to EQT Production Company for access to the State Road for a well site located off of Tyler County Route 58 SLS.

The operator has signed a STATEWIDE OIL AND GAS ROAD MAINTENANCE BONDING AGREEMENT and provided the required Bond. This operator is currently in compliance with the DOH OIL AND GAS POLICY dated January 3, 2012.

Very Truly Yours,

Gary K. Clayton P.E.  
Regional Maintenance Engineer  
Central Office Oil & Gas Coordinator

Cc: Nick Bumgardner  
EQT Production Company  
CH, OM, D-6  
File

RECEIVED  
Office of Oil and Gas

JUN 26 2015

WV Department of  
Environmental Protection



**Anticipated Frac Additives**  
**Chemical Names and CAS numbers**

4. 2. 2015 2 8 1

<u>Material</u>	<u>Ingredient</u>	<u>CAS Number</u>
Water		
Sand	Hydrotreated light petroleum distillate	14808-60-7
Friction Reducer	Tributyl tetradecyl phosphonium chloride	64742-47-8
Biocide	Ammonium chloride	81741-28-8
Scale Inhibitor	Hydrochloric Acid	12125-02-9
15% Hydrochloric Acid	Propargyl Alcohol	7647-01-0
Corrosion Inhibitor	Methanol	107-19-7
Corrosion Inhibitor	Guar Gum	67-56-1
Gelling Agent	Sodium Persulfate	9000-30-0
Oxidizing Breaker	Potassium Carbonate	7775-27-1
Buffering Agent		584-08-7

RECEIVED  
Office of Oil and Gas  
JUN 25 2015  
WV Dept. of Environment & Natural Resources  
08/28/2015  
Environmental Protection Section

**PROJECT INFORMATION**

PROJECT NAME: WEU4

TAX PARCEL:  
MCELROY AND CENTERVILLE DISTRICTS  
TYLER COUNTY, WV  
TAX MAP 18 PARCEL 22

SURFACE OWNER:  
DONNA J. PETER  
TOTAL PROPERTY AREA: 113.44 ACRES  
TAX MAP 18 PARCEL 22

L.B. & SANDRA STONEKING  
TOTAL PROPERTY AREA: 69.441 ACRES  
TAX MAP 21 PARCEL 28

RICHARD & YVONNE METCALF  
TOTAL PROPERTY AREA: 61.573 ACRES  
TM 18-17

Oil AND GAS RETAIL OPER:  
PACO CO. & COMPANY, INC. ET AL.  
WEST UNION DISTRICT  
WOODRIDGE COUNTY, WV  
TOTAL PROPERTY AREA: 152.8 ACRES

SITE LOCATION:  
THE WEU4 WELL SITE IS SITUATE ON THE WATERS OF CAMP MISTAKE RUN  
APPROXIMATELY 0.58 MILES WEST OF COUNTY ROUTE 58  
THE ENTRANCE IS LOCATED APPROXIMATELY 0.30 MILES SOUTHWEST FROM  
THE INTERSECTION OF COUNTY ROUTE 82 AND COUNTY ROUTE 58

**LOCATION COORDINATES**

WEU4 SITE ENTRANCE  
LATITUDE: 39.368299 LONGITUDE: -80.810071 (NAD 83 NORTH)

WEU4 RIG FOOTPRINT  
LATITUDE: 39.366719 LONGITUDE: -80.820708 (NAD 83 NORTH)

WEU4 PUMP PAD  
LATITUDE: 39.365669 LONGITUDE: -80.820666 (NAD 83 NORTH)

WEU4 FLOWBACK PIT  
LATITUDE: 39.365319 LONGITUDE: -80.821118 (NAD 83 NORTH)

WEU4 TRUCK PAD  
LATITUDE: 39.364962 LONGITUDE: -80.821367 (NAD 83 NORTH)

WEU4 COMPLETION PIT MANIFOLD PAD  
LATITUDE: 39.365409 LONGITUDE: -80.824945 (NAD 83 NORTH)

WEU4 COMPLETION PIT  
LATITUDE: 39.365644 LONGITUDE: -80.825018 (NAD 83 NORTH)

**SITE DISTURBANCE COMPUTATIONS**

ACCESS ROAD NO. 1 & NO. 2 = 0.01 ACRES  
STOCKPILE SITES 1 & 2 = 4.28 ACRES  
RIG FOOTPRINT = 0.20 ACRES  
MANIFOLD PAD & FLOWBACK PIT = 0.31 ACRES  
COMPLETION PIT = 0.33 ACRES  
TOTAL SITE DISTURBANCE = 19.18 ACRES

**ENTRANCE PERMIT**

EQT PRODUCTION COMPANY WILL OBTAIN AN ENTRANCE PERMIT (FORM  
WM-106) FROM THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS, PRIOR TO COMMENCEMENT OF CONSTRUCTION  
ACTIVITIES.

**MISS UTILITY STATEMENT**

MISS UTILITY OF WEST VIRGINIA WAS NOTIFIED FOR THE LOCATING OF  
UTILITIES PRIOR TO THIS PROJECT DESIGN. TICKET #150617603  
IN ADDITION, MISS UTILITY WILL BE CONTACTED PRIOR TO START OF THE  
PROJECT.

**FLOODPLAIN NOTE**

THE PROPOSED LIMITS OF DISTURBANCE FOR THIS PROJECT IS LOCATED IN  
FEMA FLOOD ZONE X, PER THE FLOOD INSURANCE RATE MAP (FIRM) NUMBER  
540600000, DATED MAY 3, 2010

**ENVIRONMENTAL NOTES**

A WETLAND DELINEATION WAS PERFORMED ON APRIL 25-26, 2013 BY POTESTA AND ASSOCIATES, INC.  
TO REVIEW THE SITE FOR WATERS AND WETLANDS THAT ARE MOST LIKELY WITHIN THE REGULATORY  
FOOTPRINT OF THE U.S. ARMY CORPS OF ENGINEERS (USACE) AND/OR THE WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION (WVDEP). THE MAY 20, 2013 REPORT PROJECT #  
0101-11-147-15701 WAS PREPARED BY POTESTA AND ASSOCIATES, INC. DOCUMENTS THE RESULTS  
OF THE FIELD DELINEATION. THIS REPORT DOES NOT, IN ANY WAY, REPRESENT A JURISDICTIONAL  
DETERMINATION OF THE LANDWARD LIMITS OF WATERS AND WETLANDS WHICH MAY BE REGULATED BY  
THE USACE OR THE WVDEP. IT IS STRONGLY RECOMMENDED THAT THE APPROPRIATE AGENCIES  
BE CONSULTED IN AN EFFORT TO OBTAIN WRITTEN CONFIRMATION OF THE DELINEATION DESCRIBED BY  
THIS REPORT PRIOR TO ENGAGING CONSTRUCTION ON THE PROPERTY DESCRIBED HEREIN. THE  
DESIGNER SHALL OBTAIN THE APPROPRIATE PERMITS FROM THE FEDERAL AND/OR STATE  
REGULATORY AGENCIES PRIOR TO ANY PROPOSED IMPACTS TO WATERS OF THE U.S., INCLUDING  
WETLANDS AND STREAM CROSSINGS.

**HORIZONTAL & VERTICAL CONTROL**

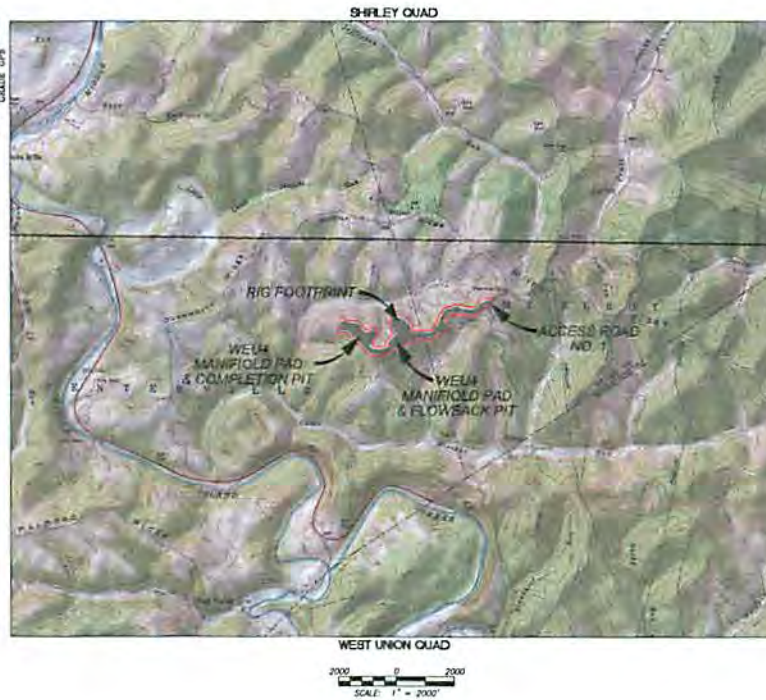
COORDINATES AND ELEVATIONS USED FOR ALL LAYOUTS AND DESIGNS WERE  
BASED UPON MAPPING FURNISHED BY SMITH LAND SURVEYING.

MISS Utility of West Virginia  
1-800-245-4848  
West Virginia State Law  
(Section XIV, Chapter 24-C)  
Requires that you call two  
business days before you dig in  
the state of West Virginia.  
IT'S THE LAW!

# WEU4 SITE PLAN EQT PRODUCTION COMPANY

SITUATE ON THE WATERS OF CAMP MISTAKE RUN IN  
MCELROY AND CENTERVILLE DISTRICTS,  
TYLER COUNTY, WEST VIRGINIA

THIS DOCUMENT WAS  
PREPARED BY  
SMITH LAND SURVEYING  
EXPANDED BY SURVEY  
ENGINEER



WELL	DE	WELL STATUS	DEP.	LSR	LINE	NORTHING	EASTING
W1	512942	PROPOSED	47.295-22778	29.566413	RD 822048	54199.48	159323.70
W2	512949	PROPOSED	47.295-22778	59.566404	RD 822048	54199.43	159324.29
W3	512942	PROPOSED	47.295-22778	59.566568	RD 822049	54199.44	159324.48
W4	512945	PROPOSED	47.295-22778	59.566729	RD 822049	54199.43	159324.88
W5	512946	PROPOSED	47.295-22778	29.566401	RD 822049	54199.42	159325.27
W6	512945	PROPOSED	47.295-22778	59.566451	RD 822049	54199.42	159325.84
W7	512934	PROPOSED	47.295-22778	29.566413	RD 822049	54199.42	159326.03
W8	512935	PROPOSED	47.295-22778	59.566408	RD 822049	54199.41	159326.58
W9	512936	PROPOSED	47.295-22778	29.566413	RD 822049	54199.41	159327.14
W10	512937	PROPOSED	47.295-22778	59.566413	RD 822049	54199.41	159327.70
W11	512938	PROPOSED	47.295-22778	29.566413	RD 822049	54199.41	159328.26
W12	512939	PROPOSED	47.295-22778	59.566413	RD 822049	54199.41	159328.82
W13	512940	PROPOSED	47.295-22778	29.566413	RD 822049	54199.41	159329.38
W14	512941	PROPOSED	47.295-22778	59.566413	RD 822049	54199.41	159329.94
W15	512942	PROPOSED	47.295-22778	29.566413	RD 822049	54199.41	159330.50
W16	512943	PROPOSED	47.295-22778	59.566413	RD 822049	54199.41	159331.06

**LIST OF DRAWINGS**

- 1 - COVER SHEET
- 2 - NOTES
- 3 - OVERALL SHEET THICK & VOLUMES
- 4 - EXISTING UTILITY PLAN
- 5-7 - ACCESS ROAD PLAN
- 8 - RIG FOOTPRINT DET
- 10-11 - FLOWBACK PIT NO. 1 SECTIONS
- 12-13 - FLOWBACK PIT NO. 2 SECTIONS
- 14 - TYPICAL SECTIONS
- 15 - ACCESS ROAD NO. 1 PROFILE
- 18-20 - ACCESS ROAD NO. 1 SECTIONS
- 21 - ACCESS ROAD NO. 1 SECTIONS & ACCESS ROAD NO. 2 PROFILE & SECTIONS
- 22 - ACCESS ROAD COORDINATE LAYOUT
- 23 - 24 TOPSOIL STORAGE AREA PROFILES & SECTIONS
- 25 - SPOIL STORAGE AREA PROFILE & SECTIONS
- 26 - 29 - WEU4 RECLAMATION PLANS
- 30 - 33 - CONSTRUCTION DETAILS



DISTURBED AREA BY PROPERTY OWNER	
PROPERTY OWNER	DISTURBED AREA
L.B. & SANDRA STONEKING	0.42 AC.
RICHARD & YVONNE METCALF	2.25 AC.
DONNA J. PETER	20.08 AC.
TOTAL	22.75 AC.

**OPERATOR**  
EQT PRODUCTION COMPANY  
OPERATOR ID: 306698  
115 PROFESSIONAL PLACE  
P.O. BOX 190  
BRIDGEPORT, WV 26330  
PHONE: (304) 348-3870

**ENGINEER**  
SM&K ENGINEERS  
248 NORTH TORNAO WAY  
SUITE 1  
METZLER, WV 26078  
PHONE: (304) 768-3370

**SURVEYOR**  
SMITH LAND SURVEYING, INC.  
12 VANHORN DRIVE  
P.O. BOX 150  
GLAYVILLE, WV 26031  
PHONE: (304) 482-0654

RIMMEL, KEEFER & HILL  
240 NORTH TORNAO WAY, SUITE 1  
METZLER, WEST VIRGINIA 26078  
TEL: 304.768.3370  
WWW.RK&H.COM



THIS DOCUMENT WAS  
PREPARED BY  
SM&K ENGINEERS  
FOR EQT PRODUCTION  
COMPANY

COVER SHEET  
WEU4  
MCELROY DISTRICT  
CENTERVILLE DISTRICT  
TYLER COUNTY, WV

DATE: 04/30/2015  
SCALE: 1" = 2,000'  
DESIGNED BY: NWH  
FILE NO: J08  
SHEET 1 OF 33  
REV: 05/29/2015



# RIG FOOTPRINT & FLOWBACK PIT NO. 1 LAYOUT

## WEU4PROPOSED WELLS

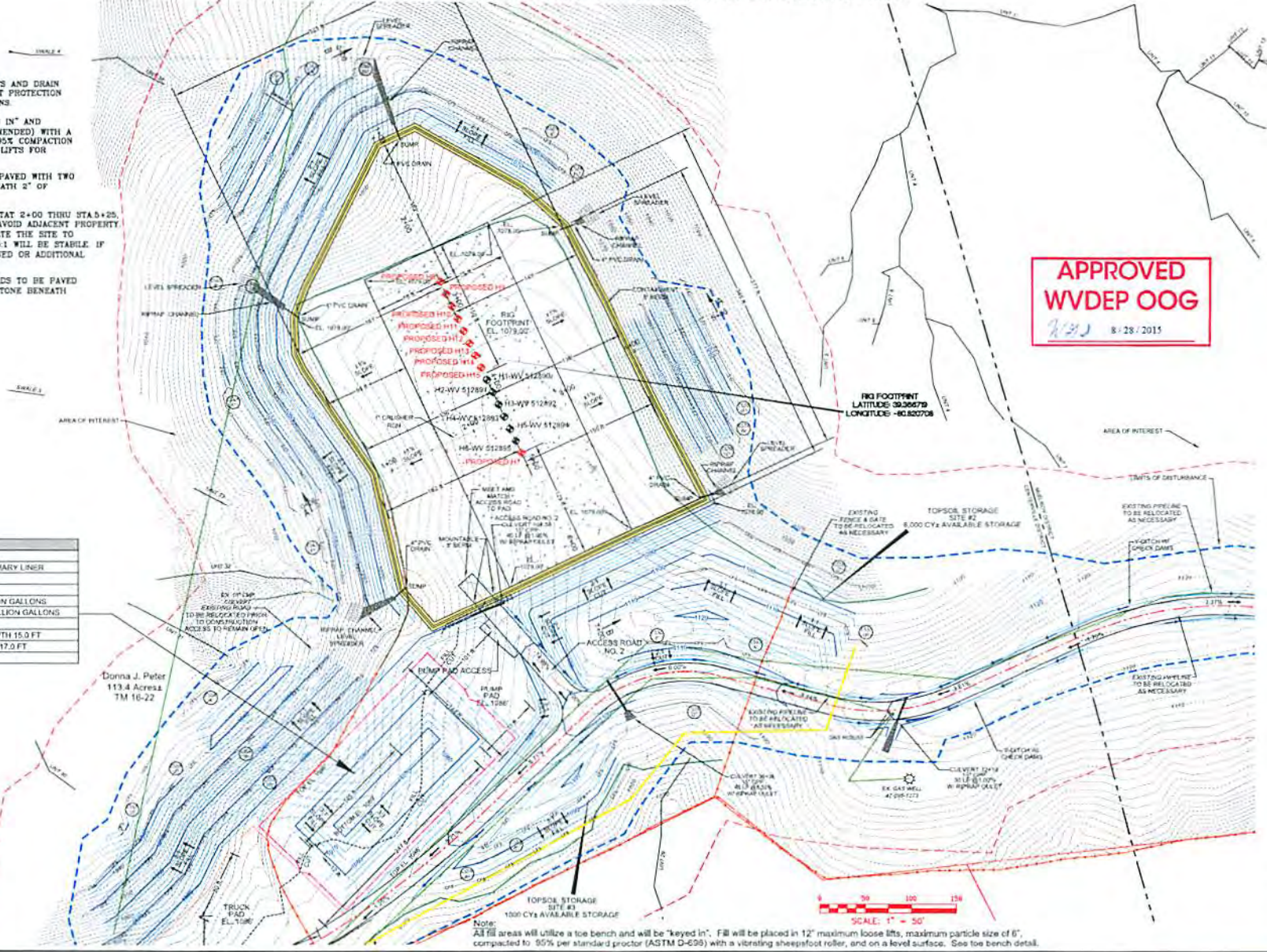
H1-WV 512890, H2-WV 512891, H3-WV 512892, H4-WV 512893, H5-WV 512894, H6-WV 512895

**NOTE**

1. ALL PROPOSED DRAINAGE CULVERTS AND DRAIN PIPES SHALL HAVE ADEQUATE OUTLET PROTECTION (RIP-RAP) AS SHOWN ON THESE PLANS.
2. ALL FILL AREAS SHALL BE "KEYED IN" AND COMPACTED IN 12" LIFTS (9" RECOMMENDED) WITH A VIBRATING SHEEPSFOOT ROLLER TO 95% COMPACTION PER STANDARD PROCTOR. MAXIMUM LIFTS FOR ROCK FILLS EQUAL 36".
3. ACCESS ROAD SURFACES TO BE PAVED WITH TWO 4" LIFTS OF #3-#6 LIMESTONE BENEATH 2" OF CRUSHER RUN LIMESTONE.
4. IN AREA OF ACCESS ROAD NO.1 STAT 2+00 THRU STA 5+25, ROAD CUT IS STEEPER THAN 2:1 TO AVOID ADJACENT PROPERTY. A GEOLOGIST SHALL FIELD INVESTIGATE THE SITE TO DETERMINE IF SLOPE AS SHOWN 1.75:1 WILL BE STABLE. IF NOT, ROAD WILL REQUIRE RE-DESIGNED OR ADDITIONAL STABILIZATION METHODS UTILIZED.
5. RIG FOOTPRINT AND MANIFOLD PADS TO BE PAVED WITH TWO 4" LIFTS OF #3-#6 LIMESTONE BENEATH 2" OF CRUSHER RUN LIMESTONE.

FLOWBACK PIT	
LINER SYSTEM	= 60 MIL TEXTURED PRIMARY LINER = 10 OZ. FLEX LINER
TOTAL VOLUME	= 5.135 AC FT 1.67 MILLION GALLONS
STORAGE VOLUME	= 3.911 AC FT 1.27 MILLION GALLONS
WATER SURFACE ELEVATION	= 1084 DEPTH 15.0 FT
TOP OF BEHM ELEVATION	= 1086 DEPTH 17.0 FT

**APPROVED WVDEP OOG**  
8/28/2015



Note:  
All fill areas will utilize a toe bench and will be "keyed in". Fill will be placed in 12" maximum loose lifts, maximum particle size of 6", compacted to 95% per standard proctor (ASTM D-698) with a vibrating sheepsfoot roller, and on a level surface. See toe bench detail.

**PK&K ENGINEERS**  
RAMEL KLEPER 1648 LP  
24 NORTH GRAND AVE. SUITE 1  
FISHER WEST VIRGINIA 26726  
T-3347833311 F-3347833311  
WWW.PK&K.COM

**Professional Energy Consultants**  
SLS  
SLOANVILLE, WEST VIRGINIA  
SLS ENGINEERS  
PROJECT MGMT  
WWW.SLSWV.COM  
SLS 40-0164

THIS DOCUMENT WAS  
PREPARED BY  
SNAKE ENGINEERS  
FOR THE PRODUCTION  
COMPANY

RIG FOOTPRINT &  
FLOWBACK PIT NO. 1  
WEU4  
MELROY DISTRICT  
TYLER COUNTY, WV

DATE: 04/29/2015  
SCALE: 1" = 50'  
DESIGNED BY: JWH  
FILE NO.: 208  
SHEET 9 OF 33  
REV: 08/25/2015







# ACCESS ROAD NO. 1 PLAN

WELU4 PROPOSED WELLS

H1-WV 512890, H2-WV 512891, H3-WV 512892, H4-WV 512893, H5-WV 512894, H6-WV 512895

4709502281

MATCH LINE SHEET 6

L. & Sandra  
Samsberg  
47.98 Acres  
T12-21-29

L. B. & Sandra  
Samsberg  
69.44 Acres  
T12-21-29

George J. Peter  
113.4 Acres  
T12-21-22

George J. Peter  
113.4 Acres  
T12-21-22

Edward &  
Catherine White  
43 Acres  
T12-21-35



- NOTES**
1. ALL PROPOSED DRAINAGE CURVES AND DRAIN PIPES SHALL HAVE ADEQUATE DRAINAGE PROFILES (GPI) AS SHOWN ON THESE PLANS.
  2. ALL FILL AREAS SHALL BE "KEYED IN" AND COMPACTED IN 16" LIFTS TO DISCOUNTED, WITH A TYPICAL SUBMITTANT PROFILE TO BE CONSTRUCTION PER STANDARD PROFILE METHOD WITH 10% FOR ROCK LIFTS EQUAL 30".
  3. ACCESS ROAD SURFACES TO BE PAVED WITH 180 # 1 1/2" OF #4 CRUSHED GRANITE 2" TO EXTERIOR SURF ELEVATION.
  4. IN AREA OF ACCESS ROAD NO. 1 STATE #000 THRU STA 5+25, ROADWAY IS DEEPER THAN 24" TO AVOID ADJACENT PROPERTY A GLOUCESTER SHALL FILL EXISTENTIAL THE SILL TO DRAINAGE IF PEOPLE AS SHOWN 1.75' WITH AN STAMPS. IF NOT ROAD WEA WAGGON BE-DESIGNED OR ADDITIONAL DIMENSION METHOD LIMITED.

**RKX ENGINEERS**  
RICK K. K...  
REGISTERED PROFESSIONAL ENGINEER  
NO. 123456789  
STATE OF WEST VIRGINIA  
EXPIRES 12/31/2025

**SLS**  
Professional Energy Consultants  
SLS ENERGY SERVICES, INC.  
1111 11th Street, N.E.  
Atlanta, GA 30309  
PH: 404.525.1111  
FAX: 404.525.1112  
WWW.SLS-ENERGY.COM

ACCESS ROAD NO. 1 PLAN  
WELU4  
ANKLNEY DISTRICT  
CENTERVILLE DISTRICT  
PUTA COUNTY WV

DATE: 08/19/2014  
DRAWN BY: HKS  
CHECKED BY: HKS  
FILE NO: 004  
SHEET 6 OF 10  
REV: 08/19/2014

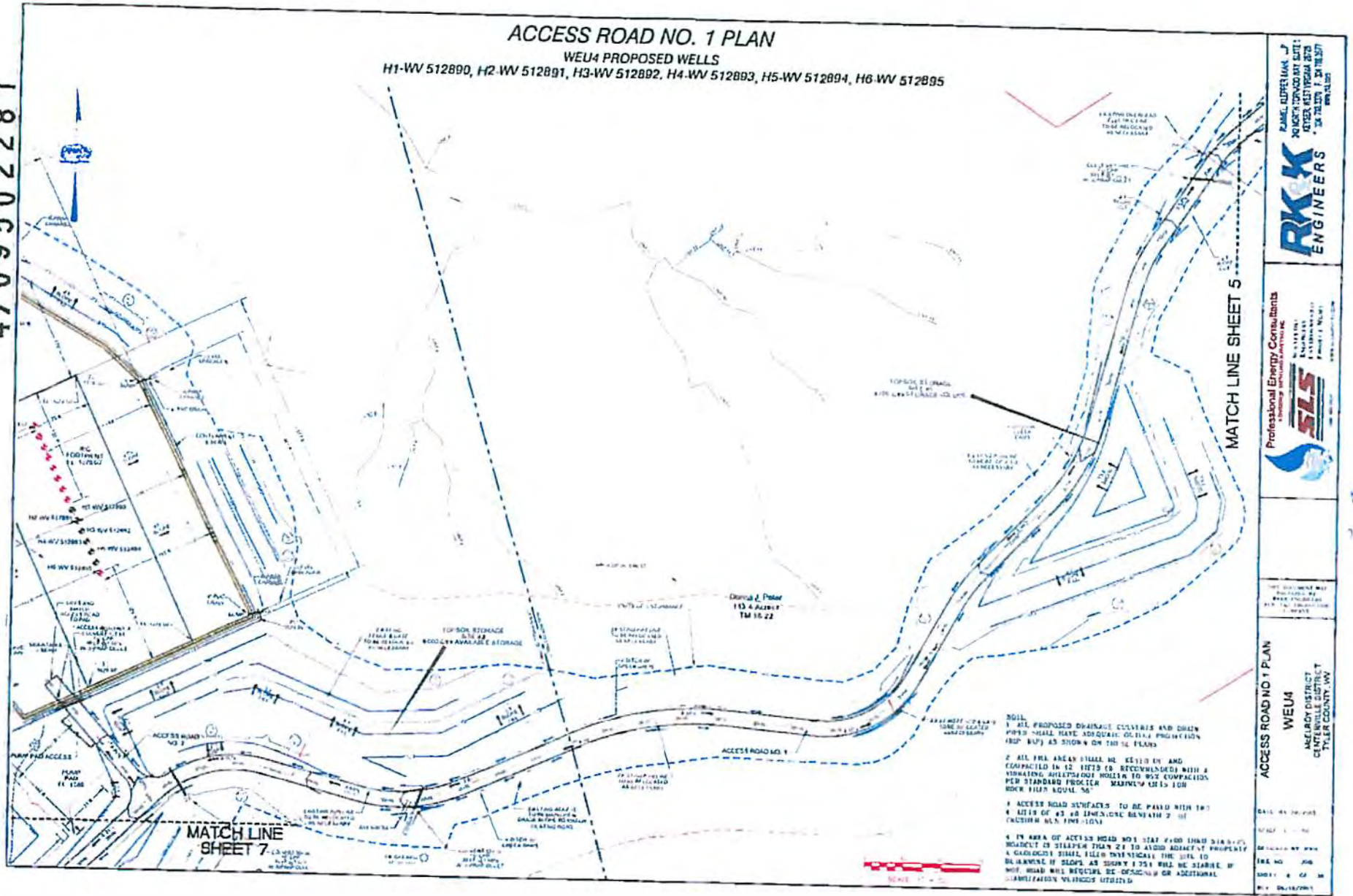
11/16/14  
11/16/14

4709502281

# ACCESS ROAD NO. 1 PLAN

## WEU4 PROPOSED WELLS

H1-WW 512890, H2-WW 512891, H3-WW 512892, H4-WW 512893, H5-WW 512894, H6-WW 512895



MATCH LINE SHEET 7

MATCH LINE SHEET 5

1. ALL PROPOSED DRAINAGE CULVERTS AND DRAIN PIPES SHALL HAVE SUFFICIENT OVERHEAD PROTECTION (BUT NOT AS SHOWN ON THIS PLAN)
2. ALL FRA AREAS SHALL BE EXCISED AND COMPACTED IN 12 LIFTS TO BE RECOMMENDED WITH A VIBRATING ROLLER/FOOT ROLLER TO MAX COMPACT PER STANDARD PRACTICE. MAXIMUM USE IS FOR ROCK FILL EQUAL TO:
3. ACCESS ROAD SURFACES TO BE PAVED WITH TWO LIFTS OF #3 OR EQUIVALENT GRAVEL (CALCULATED PER PLAN)
4. IN AREA OF ACCESS ROAD NO. 1 THAT FRA EXIST, GRAVEL SHOULD BE STRENGTHEN TO 2:1 TO AVOID ADJACENT PROPERTY DAMAGE. IF BLOCK AS SHOWN IN PLAN WILL BE STABLE IF NOT ROAD WILL REQUIRE BE OFFSHORE OR ADDITIONAL STABILIZATION METHODS UTILIZED.

Professional Energy Consultants  
**SLS**  
 SLS ENGINEERS  
 1000 W. 10TH AVENUE  
 DENVER, CO 80202  
 (303) 733-1100  
 www.sls-engineers.com

Professional Engineer  
**RK&K**  
 ENGINEERS  
 1000 W. 10TH AVENUE  
 DENVER, CO 80202  
 (303) 733-1100  
 www.rkandk.com

ACCESS ROAD NO. 1 PLAN  
 WEU4  
 ANDERSON DISTRICT  
 CENTENNIAL DISTRICT  
 TYLER COUNTY, WY

DATE: 04/20/2015  
 SCALE: 1" = 40'  
 DRAWN BY: PWH  
 CHECKED BY: JWB  
 SHEET: 8 OF 10  
 PROJECT: WEU4

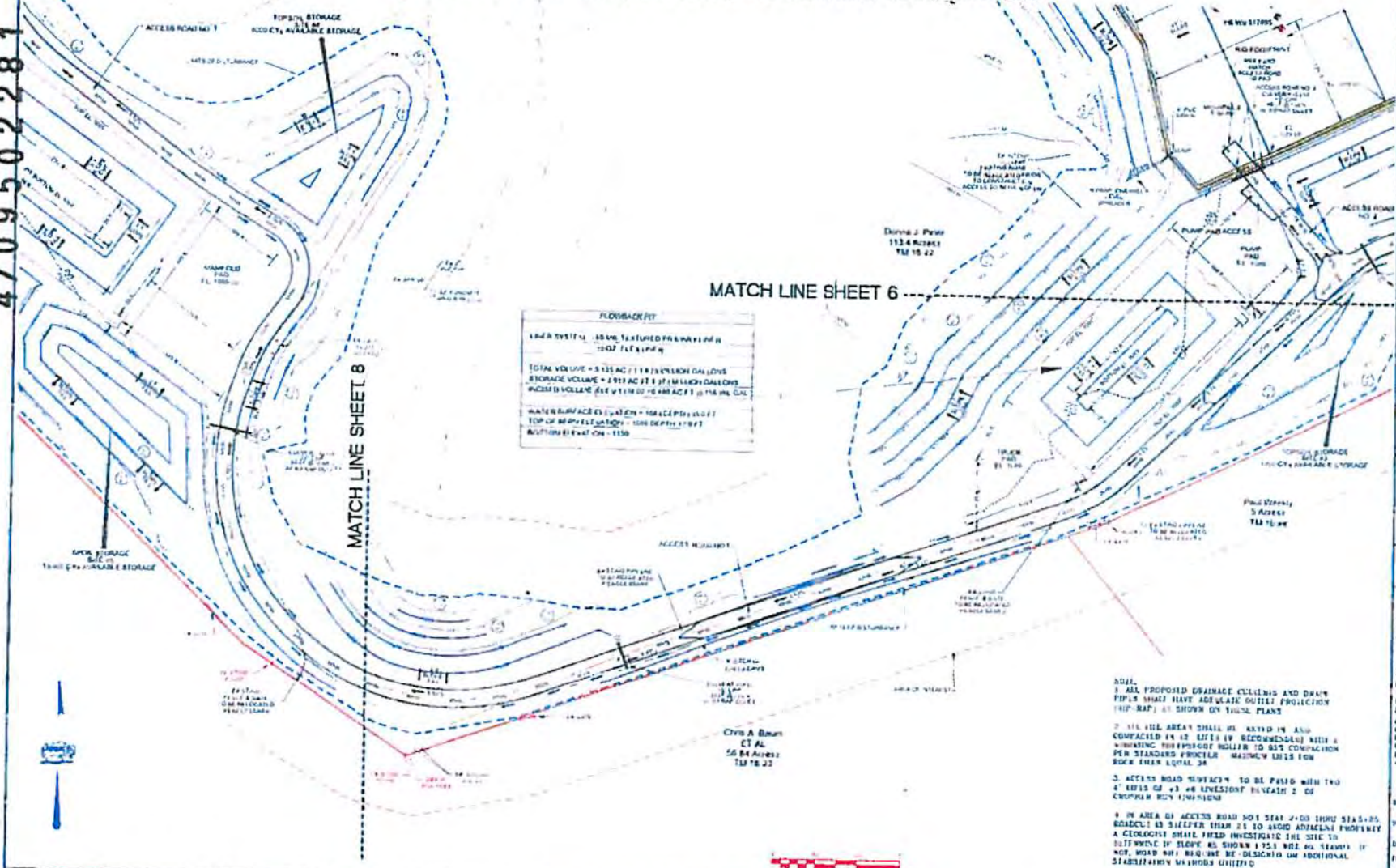


# ACCESS ROAD NO. 1 CONCEPTUAL LAYOUT

WEU4 PROPOSED WELLS

H1-WV 512890, H2-WV 512891, H3-WV 512892, H4-WV 512893, H5-WV 512894, H6-WV 512895

4709502281



FLOODBACK PIT	
AREA SYSTEM	ASME TEXTURED PRECAST CONCRETE
TOTAL VOLUME	5,135 AC FT (187,700 GALLONS)
STORAGE VOLUME	2,919 AC FT (107,100 GALLONS)
PROPOSED VOLUME	2,216 AC FT (80,600 GALLONS)
WATER SURFACE ELEVATION	108.00 (CEILING)
TOP OF REINFORCEMENT	108.00 (DEPTH)
BOTTOM ELEVATION	115.00

1. ALL PROPOSED DRAINAGE CULVERTS AND DRAIN TRENCHES SHALL HAVE 12" SQUARE DRAIN PROTECTION (TRIP-RAP) AS SHOWN ON THESE PLANS.
2. ALL THE AREA SHALL BE KEPT IN AS IS CONDITION IN 12 FEET OR MORE FROM THE PROPERTY LINE WITH A MINIMUM 10% SLOPE TO THE PROPERTY LINE PER STANDARD PRACTICE. MAINTAIN UNITS FOR EACH AREA LOCAL 24.
3. ACCESS ROAD NO. 1 SHALL BE PAVED WITH TWO (2) LAYS OF 4" EXISTING INSTEAD OF 2" OF CONCRETE WITH FINISHING.
4. IN AREA OF ACCESS ROAD NO. 1 SEAT 400 SHOU STAYS, ROAD IS 12 FEET OR MORE FROM THE PROPERTY LINE. A GEOLOGIST SHALL FIELD INVESTIGATE THE SITE TO DETERMINE IF THERE IS SHOWN 1753 HOLE NO. STAYS. IF NOT, ROAD MAY REQUIRE BE DESIGNED ON ADDITIONAL STABILIZATION METHODS UTILIZED.

**ARKX ENGINEERS**  
 R. J. ARKX, P.E.  
 10 NORTH HANCOCK STREET  
 CENTER HILL, MISSOURI 64731  
 TEL: 660-251-1111  
 FAX: 660-251-1112

**Professional Energy Consultants**  
 SLS  
 A Division of SLS Energy Services, Inc.  
 1000 S. W. 10th St.  
 Ft. Lauderdale, FL 33304  
 TEL: 954-562-1111  
 FAX: 954-562-1112

ACCESS ROAD NO. 1 PLAN  
 WEU4  
 WELLS DISTRICT  
 CENTERVILLE DISTRICT  
 TYLER COUNTY, WV

DATE: 04/26/2006  
 PAGE: 1 OF 10  
 DESIGNED BY: HPH  
 PLOT NO: 206  
 SHEET: 1 OF 10  
 BY: GUY, 2005

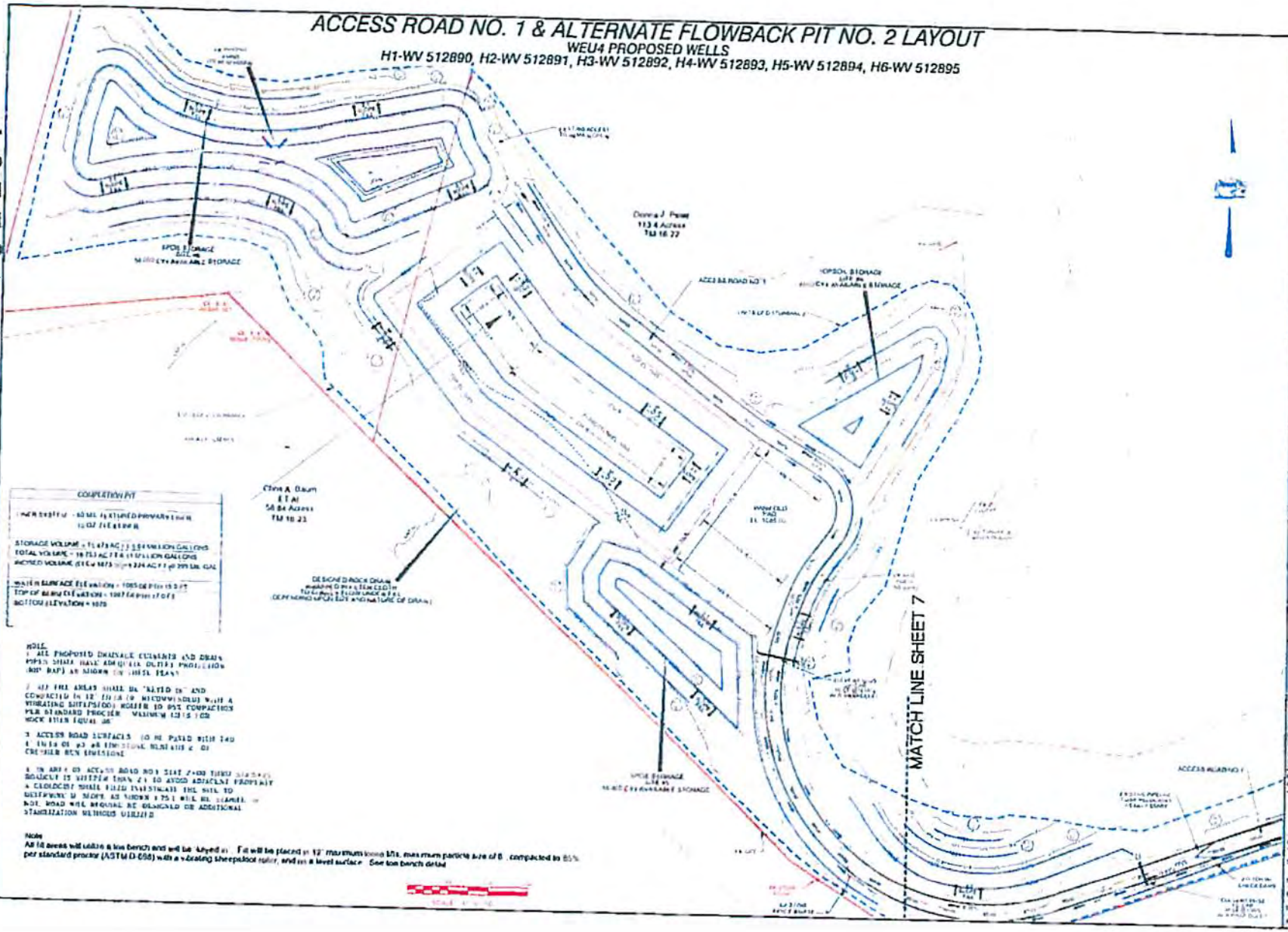
WAC  
 7/25/11



4709502281

# ACCESS ROAD NO. 1 & ALTERNATE FLOWBACK PIT NO. 2 LAYOUT

WEU4 PROPOSED WELLS  
H1-WV 512890, H2-WV 512891, H3-WV 512892, H4-WV 512893, H5-WV 512894, H6-WV 512895



COMPLEVMENT	
WATER SYSTEM	10 MGAL 15 MINUTE PRIMARY TANK 12 OF 150 GPM
STORAGE VOLUME	11,473 AC 2.25 INCHES GALLONS
TOTAL VOLUME	18,753 AC 2.4 INCHES GALLONS
DESIGN VOLUME	81,617 (10.24 AC @ 200 GPM GAL)
WATER SURFACE ELEVATION = 1085.00 (10.50 FT)	
TOP OF MANHOLE ELEVATION = 1087.00 (12.50 FT)	
BOTTOM ELEVATION = 1070	

DESIGN DRAIN DRAIN  
MANHOLE DIA 18 IN. (15 IN. DIA)  
TOP OF MANHOLE ELEVATION 1070  
DEPTH 10 IN. (10 IN. DIA) AND SIGNATURE OF DRAIN

- NOTE:**
1. ALL PROPOSED DRAINAGE CULVERTS AND DRAINS PIPES SHALL HAVE 48 IN. DIA. (18 IN. DIA.) (18 IN. DIA.) AS SHOWN ON THIS PLAN.
  2. ALL FILL AREAS SHALL BE "LIFTED IN" AND COMPACTED IN 12 IN. (3 IN. MINIMUM) WITH A VIBRATING STEEL-DRUM ROLLER TO 95% COMPACTION PER STANDARD PROCEUR - MAXIMUM 12 IN. (3 IN. MINIMUM) LIFT.
  3. ACCESS ROAD SURFACES TO BE PAVED WITH 140 LBS PER CU YD OF EMULSION BITUMENUS & OF CRUSHED RICH GRANITE.
  4. IN AREAS OF ACCESS ROAD NOT PAVED WITH SURF, SURFACE IS VIBRATED TO 95% TO AVOID ADJACENT PROPERTY & CLOSURE OF ROAD SHALL INSTANTLY THE HILL TO BE PAVED IN 12 IN. (3 IN. MINIMUM) WITH 18 IN. (3 IN. MINIMUM) DIA. ROAD WHEEL SHOULD BE GRANULATED OR ADDITIONAL STABILIZATION WITHOUT VIBRATED.

**NOTE:**  
All fill areas will utilize a low borch and will be layered in 12" maximum loose lifts, max. max. particle size of 6", compacted to 95% per standard proceur (ASTM D-1557) with a vibrating steel-drum roller, and on a level surface. See low borch detail.



RAME, CLERKSON, LLP  
40 NORTH ZION ROAD SUITE 111  
REVERA WEST VIRGINIA 26038  
1-207-762-3777  
WWW.RAME.COM

**RKX**  
ENGINEERS

Professional Energy Consultants  
SLS  
SLS  
SLS

DATE: 05/05/14  
PROJECT: WEU4  
SHEET: 4 OF 10

ACCESS ROAD NO. 1  
ALT FLOWBACK PIT NO. 2  
WEU4  
MARSHY DISTRICT  
CENTINELLE DISTRICT  
TYLER COUNTY, WV

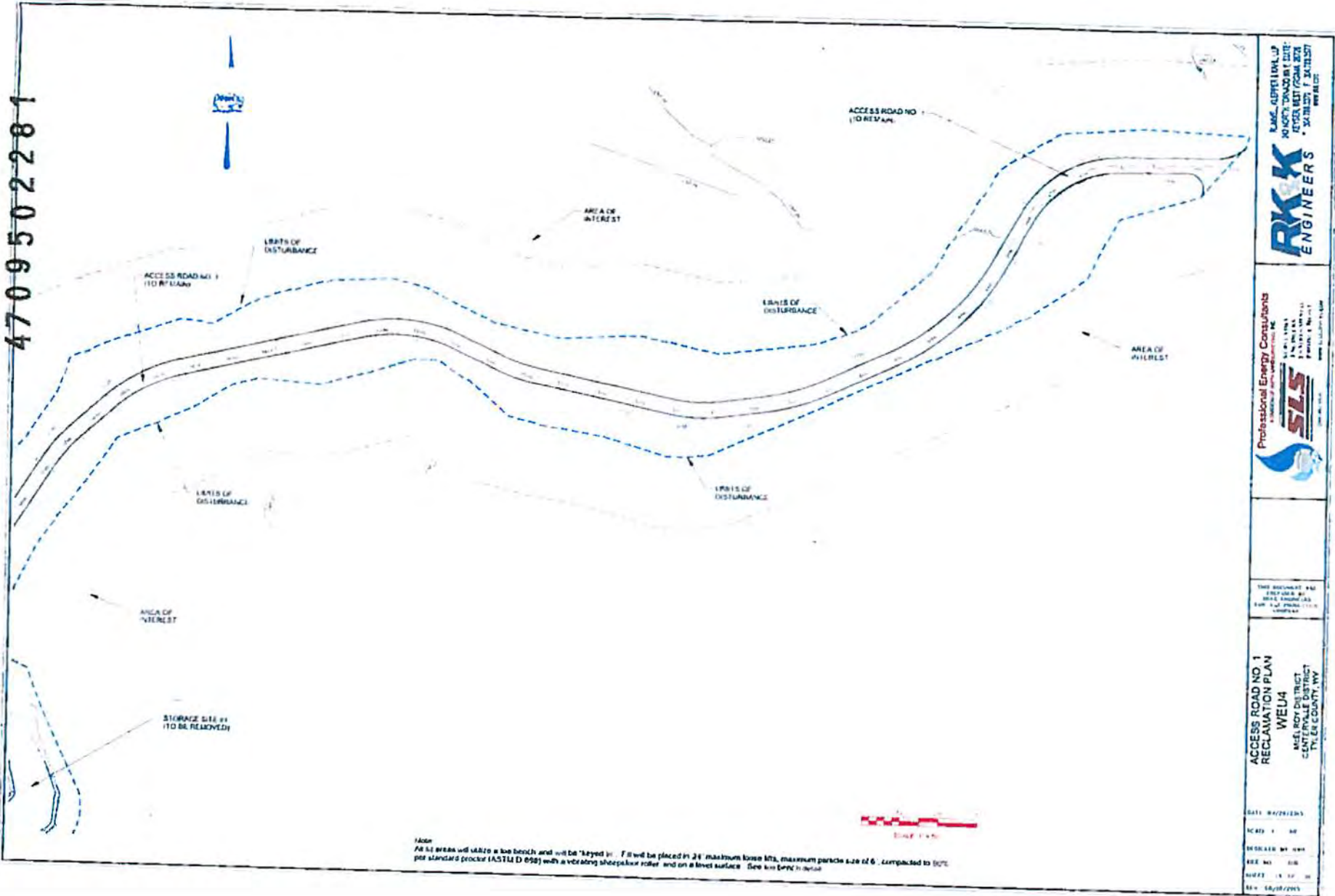
SCALE: 1" = 40'  
DRAWN BY: JMM  
CHECKED BY: JMM  
DATE: 05/05/14  
SHEET: 4 OF 10  
REV: 05/05/14

AKG  
7/20/14





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Note:  
 All fill areas will utilize a base bench and will be keyed in. Fill will be placed in 24" maximum loose lifts, maximum particle size of 6", compacted to 90% per standard proctor (ASTM D 998) with a vibrating sheepsfoot roller and on a level surface. See also SPEC. to detail.

REXX ENGINEERS  
 REXX ENGINEERS, L.L.C.  
 1000 W. 10th Street  
 Suite 100  
 Tulsa, Oklahoma 74103  
 Phone: (918) 438-1111  
 Fax: (918) 438-1112  
 www.rexx.com

Professional Energy Consultants  
 SLS  
 SLS CONSULTANTS, INC.  
 1000 W. 10th Street  
 Suite 100  
 Tulsa, Oklahoma 74103  
 Phone: (918) 438-1111  
 Fax: (918) 438-1112  
 www.sls.com

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 SLS ENGINEERS AS  
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 OBLIGATION

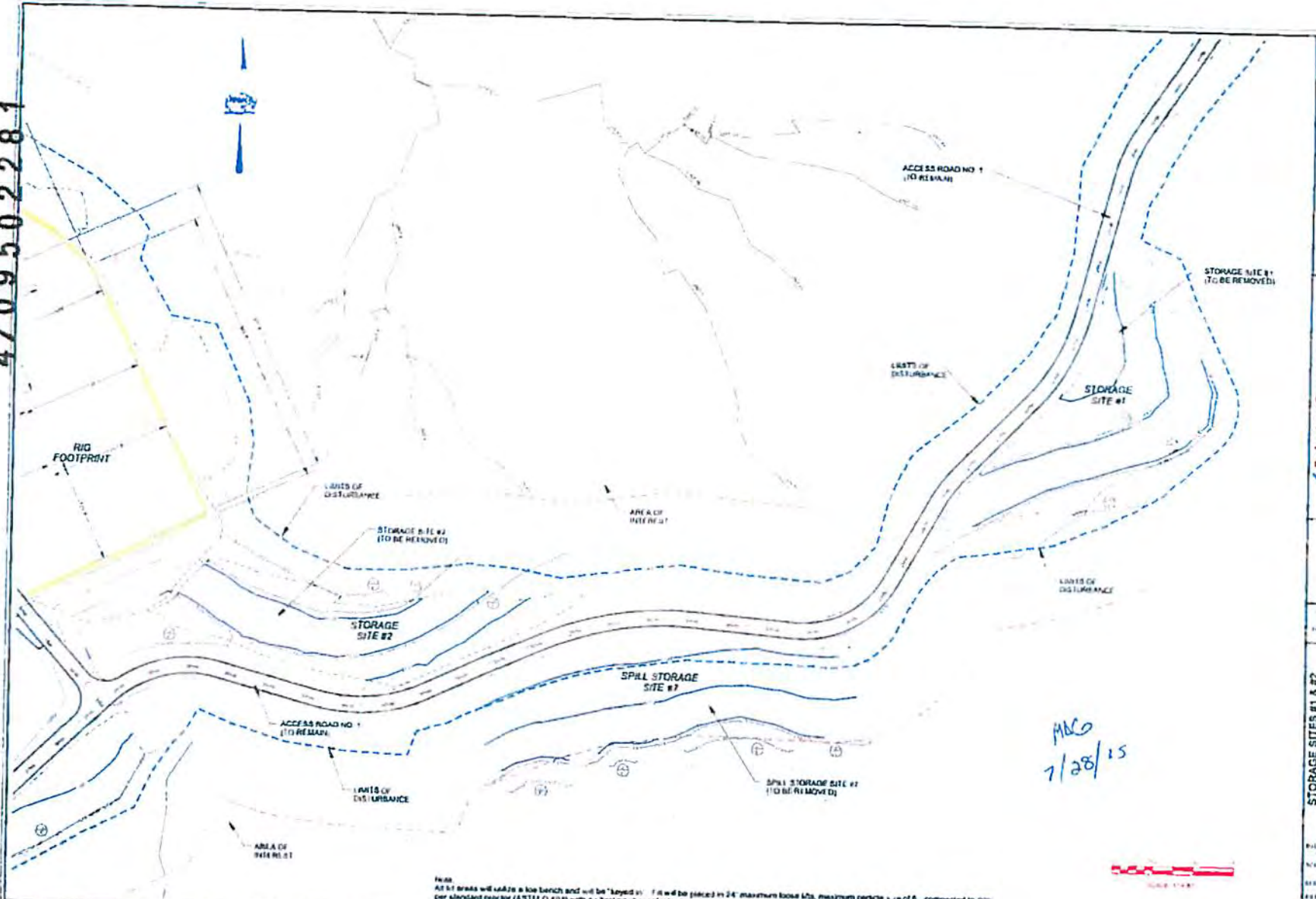
ACCESS ROAD NO. 1  
 RECLAMATION PLAN  
 WEU4  
 MESAEROY DISTRICT  
 CENTRALVILLE DISTRICT  
 TYLER COUNTY, WV

DATE: 04/29/2015  
 SCALE: 1" = 50'  
 DESIGNED BY: GWS  
 DRAWN BY: GWS  
 CHECKED BY: GWS  
 DATE: 04/29/2015

MOC  
7/2/2015



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NOTE:  
 All fill areas will receive a low bench and will be "loped" in. It will be placed in 24" maximum loose lifts, maximum particle size of 8", compacted to 90% per standard proctor (ASTM D 1558) with a vibrating sheepfoot roller, and on a level surface. See low bench detail.

MCO  
 7/28/15

**RKX**  
 ENGINEERS

LAND DEVELOPMENT, LP  
 1600 W. 10TH STREET, SUITE 100  
 DENVER, COLORADO 80202  
 PHONE: 303.733.1100  
 FAX: 303.733.1101  
 WWW.RKXENGINEERS.COM

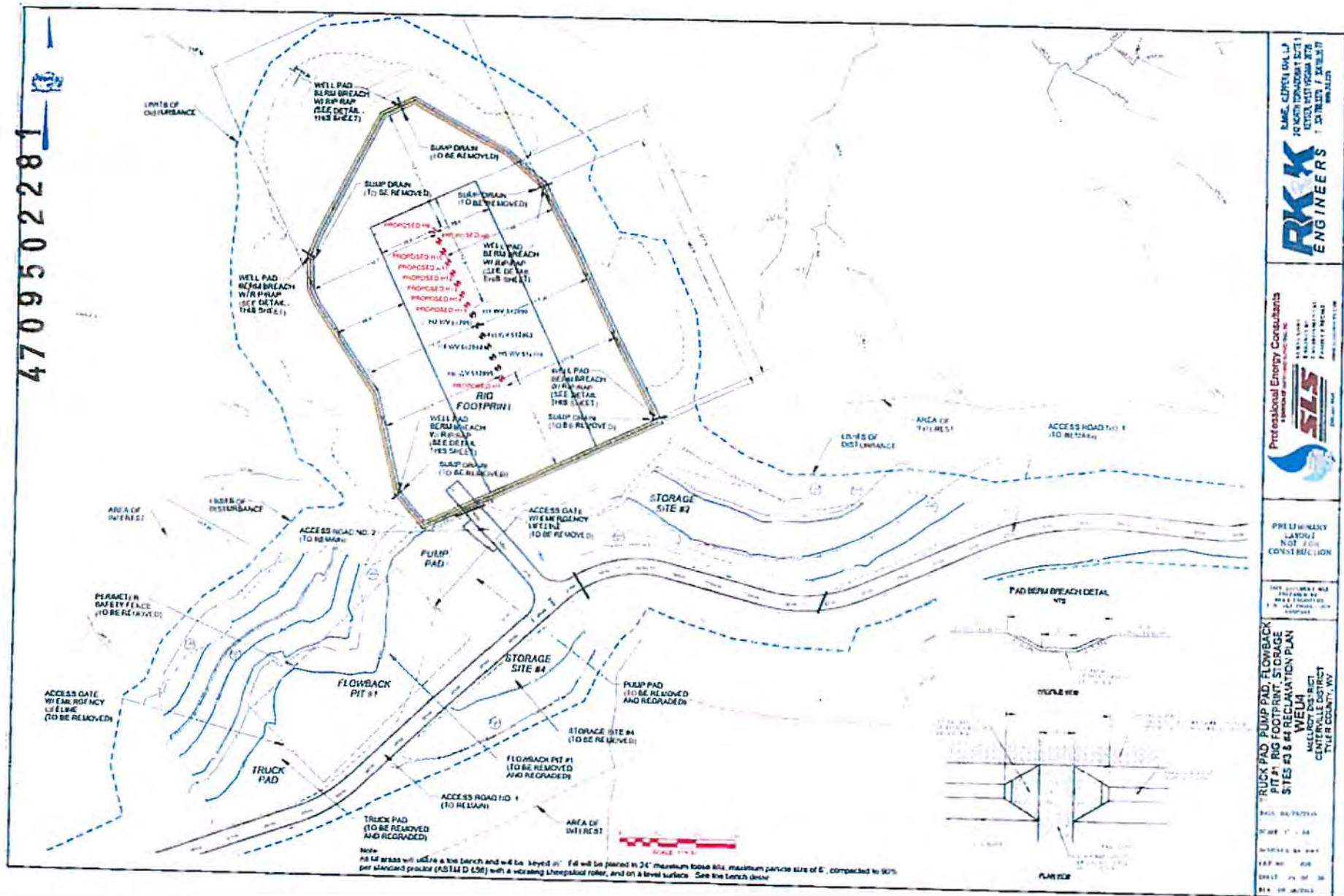
Professional Energy Consultants  
**SLS**  
 CONSULTANTS

1000 W. 10TH STREET, SUITE 100  
 DENVER, COLORADO 80202  
 PHONE: 303.733.1100  
 FAX: 303.733.1101  
 WWW.SLS-PC.COM

STORAGE SITES #1 & #2  
 RECLAMATION PLAN  
 WELU4  
 ALBERTA DISTRICT  
 CENTRAL DISTRICT  
 TYLER COUNTY, WY

DATE: 8/20/14  
 SCALE: 1" = 50'  
 SHEET NO. 04  
 TOTAL SHEETS: 04  
 DATE: 8/20/14  
 BY: [Signature]

4709502281



NAME: JAMES G. LA  
 NO. NORTH TOWNSHIP 3078  
 SECTION 10, TOWNSHIP 3078  
 COUNTY: TYLER COUNTY, WV

**RK K**  
 ENGINEERS

Professional Energy Consultants  
 SLS  
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PRELIMINARY LAYOUT NOT FOR CONSTRUCTION

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TRUCK PAD, PUMP PAD, FLOWBACK PIT #1, BIG FOOTPRINT, STORAGE SITES #3 & #4 RELOCATION PLAN  
 WELLS  
 MACKERSVILLE DISTRICT  
 CENTERVILLE DISTRICT  
 TYLER COUNTY, WV

DATE: 04/27/14  
 SHEET: 17 OF 24  
 DRAWING NO.: 14-001  
 DATE: 04/27/14  
 BY: JG

FILE 2/25/14



