

west virginia department of environmental protection

Office of Oil and Gas 601 57th Street SE Charleston, WV 25304 (304) 926-0450 (304) 926-0452 fax Earl Ray Tomblin, Governor Randy C. Huffman, Cabinet Secretary www.dep.wv.gov

June 02, 2016

WELL WORK PERMIT Horizontal 6A Well

This permit, API Well Number: 47-8510278, 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.

Operator's Well No: 513382

Farm Name: TASCHLER, BRIAN ET AL

API Well Number: 47-8510278

Permit Type: Horizontal 6A Well

Date Issued: 06/02/2016

API	Number:	
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PERMIT CONDITIONS 470 8510278

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

CONDITIONS

- 1. This proposed activity may require permit coverage from the United States Army Corps of Engineers (USACE). Through this permit, you are hereby being advised to consult with USACE regarding this proposed activity.
- 2. If the operator encounters an unanticipated void, or an anticipated void at an unanticipated depth, the operator shall notify the inspector within 24 hours. Modifications to the casing program may be necessary to comply with W. Va. Code § 22-6A-5a (12), which requires drilling to a minimum depth of thirty feet below the bottom of the void, and installing a minimum of twenty (20) feet of casing. Under no circumstance should the operator drill more than 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. The operator shall provide to the Office of Oil and Gas the dates of each of the following within 30 days of their occurrence: completion of construction of the well pad, commencement of drilling, completion of any other permitted well work, and completion of the well. Such notice shall be provided by sending an email to DEPOOGNotify@wv.gov.

WW - 6B (4/15)

4708510278

APINO.	47		085	 0
OPERATO	RWE	LNO.		513382
Well Pad	Nan	ne:		AURSA

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

1) Well Operator: EQT Produ	ction Company	306686	1 085	1 4	224	
		Operator ID	County	District	Quadrangle	
2) Operator's Well Number:	513382		Well Pad Nan	ne	AUB54	
3) Farm Name/Surface Owner:	Brian Taschle	r ot al	Public Road A	Access:	WV RT 47	
4) Elevation, current ground:	1,216.0 Elev	ation, proposed	post-construction	1,200.	0	
5) Well Type: (a) Gas	Oil U	Inderground Stor	age			
Other						
(b) If Gas:	Shallow	Deep				14
	Horizontal .					Mehoel &
) Existing Pad? Yes or No:	No		4708	5102	7 -	1,9/16
Proposed Target Formation(s) Target formation is Marcellus at	a depth of 6627 with the antic	nesses and Ass ipated thickness to b flarcellus: 6603	ociated Pressure	(s):		SI_
Proposed Total Vertical Depth:			6627			_
Formation at Total Vertical Dep	oth:		Marcellus			-
) Proposed Total Measured De			10536			-
) Proposed Horizontal Leg Leng	gth:		3,295			-
) Approximate Fresh Water Str	ata Depths:		130, 324			-
B) Method to Determine Fresh W	ater Depth:		By offset wa	ells		-
Approximate Saltwater Depths	5:		1,914			7
) Approximate Coal Seam Dept	hs:		N/A			
6) Approximate Depth to Possible	e Void (coal mine, karst, oth	9r):		None repo	rted	-
Does proposed well location co	ontain coal seams directly ov	erlying or				
adjacent to an active mine?	11	Yes		No x		
(a) If Yes, provide Mine Info:	Name:					
				100-1-1		
	Production of the last of the	and an order of the contract o				
	Owner:					

Page 1 of 3

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WV Department of Environmental Protection WW - 6B (4/15)

APINO	47		085	 0
OPERATO	R WE	LL NO		 513382
Well Pad	d Nan	ne:		AUB54

CASING AND TUBING PROGRAM

18) TYPE	-						
1166	Size (in)	New or	Grade	Weight per ft. (lb/ft)	FOOTAGE: for Drilling	INTERVALS: Left in Well	CEMENT: Fill- up (Cu.Ft.)
	ļ	Used				3311.11100	1 III- up (Cu.i [.]
Conductor	20	New	A-500	78.6	40	40	60 C.T.S.
Fresh Water	13 3/8	New	J-55	54.5	474	474	472 C.T.S.
Coal	_	_		_		_	172 0.1.0.
Intermediate	9 5/8	New	A-500	40	2,475	2,475	981 C.T.S.
Production	5 1/2	New	P-110	20	10,536	10,536	See Note 1
Tubing	2 3/8		J-55	4.6		10,000	May not be run, if run will be set
Liners							100' less than TD

TYPE	Size (in)	Wellbore Diameter (in)	Wall Thickness (in)	Burst Pressure (psi)	Anticipated Max. Internal Pressure (psi)	<u>Cement</u> Type	Cement Yield (cu. ft./k)
Conductor	20	26	0.375	-	18	Construction	1.18
Fresh Water	13 3/8	17 1/2	0.38	2,730	2,184	* See Note 2	1.19
Coal					2,104		1.10
Intermediate	9 5/8	12 3/8	0.395	3,950	3,160	* See Note 2	1.19
Production	5 1/2	8 1/2	0.361	12,640	10,112	-	1.07/1.86
Tubing					10,112		1.0771.00
iners	-						

Packers

		<u>Packers</u>	4708510970
Kind:	N/A		
Sizes:	N/A		
Depths Set:	N/A		

Note 1: EQT plans to bring the TOC on the production casing cement job 500' above the top producing zone.

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

Page 2 of 3

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WV Department of Environmental Protection

4708510278

WW - 6B	ADINO 47 ADE	
(10/14)	API NO. 47 - 085 - OPERATOR WELL NO.	513382
	Well Pad Name:	AUB54
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 5050'.		
Kick off and drill curve. Drill lateral in the Marcellus. Coment assista		
20) Describe fracturing/stimulating methods in detail, including anticipated max p	ressure and max rate:	
Hydraulic fracturing is completed in accordance with plants and the		μ
gelling agent, gel breaker, friction reducer biocide, and eggle inhibited and eggle inhibited	cals (including 15% Hydrochloric acid,	
approximately 100 bpm. Stage lengths vary from 150 to 300 feet. Average approximately 200,000 barvary from 100 mesh to 20/40 mesh. Average approximately 200,000 pounds of sand per stage.	arrels of water per stage. Sand sizes	-
21) Total area to be disturbed including		·
21) Total area to be disturbed, including roads, stockpile area, pits, etc, (acres):	19.1	
22) Area to be disturbed for well pad only, less access road (acres):	14.3	 _
23) Describe centralizer placement for each casing string. Surface: Bow spring centralizers – One at the shoe and one spaced every 500'. Intermediate: Payr spring the shoe and one spaced every 500'.		70
intermediate, bow spring centralizers— () ne cent at the choo and and annual and annual and annual and annual annu	47085102	. <i>I</i>
Production: One spaced every joint from production casing shoe to KOP	ery 500 .	·
24) Describe all cement additives associated with each cement type.		
Osed to speed the setting of cement slurries	2 (Type 1 Cement): 0-3% Calcium Chloride	
0.25% flake. Loss Circulation Material (LCM) is used to combat the loss of the cement slurr	y to a thief zone.	
Intermediate (Type 1 Cement): 0-3% Calcium Chloride. Salt is used in shallow, low temperature slurries. 0.25% flake. Loss Circulation Material (LCM) is used to combat the loss of whole dito a thief zone.		
to a thief zone.	rining fluid or cement slurry (not filtrate)	
Production:		
Lead (Type H Cement): 0.2% CD-20 (dispersant makes cement easier to mix)15% SuperFL-300	(fluid loss/lamentary at the	
.15% SEC-10 (fluid loss) 50:50 POZ (extender)	(Hold luss/lengthens thickening time)	
Tail (Type H Cement): 0.2% Super CR-1 (Retarder). Lengthens thickening time3% Super FL-200		
.2% SEC-10 (Fluid loss) 2% SuperFL 250 (fluid loss) D. L	(fluid loss)	
.2% SEC-10 (Fluid loss)2% SuperFL-350 (fluid loss) Reduces amount of water lost to form	mation.	
60 % Calcuim Carbonate. Acid solubility.		
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	Office of Oil a	and Gas
25) Proposed borehole conditioning procedures. <u>Surface: Circulate hole clean (Approximant of the following </u>	nately 30-45 minutes) rotating & reciprocation	
one full joint until cuttings diminish at surface. When cuttings returning to surface diminish, co	ontinue to circulate an additional 5	2 016
minutes. A constant rate of higher than expected cuttings volume likely indicates washouts t		
James Halanda Halanda L		
ntermediate: Circulate hole clean (Approximately 20.45 minutes)	<u>Environmental</u>	Protection
ntermediate: Circulate hole clean (Approximately 30-45 minutes) rotating & reciprocating one full jo	oint until cuttings diminish at	<u></u>
urface. When cuttings returning to surface diminish, continue to circulate an additional 5 min		45h
ole cleaning use a soap sweep or increase injection rate & foam concentration.	Office of Oil .	and Ga-
roduction: Pump marker sweep with nut plug to determine actual hole washout. Calculate a gauge	notes bottoms up volume.	TIU Gas
erform a cleanup cycle by pumping 3-5 bottoms up or until the shakers are clean. Check volu		
ne shakers every 15 minutes.	3.4 %	- + 10
	Frydron	Tent of
Note: Attach additional sheets as needed.	Environmental F	rotection

Method

Dertacomoc

.

Ritchia West Virgina Vertical Section TVD Depth Jonathon (foot) Tops (TVD) Casing Hale Size Type Stre WI (ppl) Top of Cement (FOTOS) (inches) 250 26 Contrior 0.375 Tree trees were Surface 500 17 12 Surface 1338 545 1455 0.38 750 478 Surface 1,000 (10007) 1,250 1,500 1.750 10 to 10 to 10 to Cine France 1222 2,000 PERM 1111 (2000) 2,250 12 - TANK 1124 2,500 282 1238 Hemedate 255 95% 40 A.500 0.095 2425 Surface 1774 2. Ey door 7113 2,750 Table was Challen 3.000 F2479 550 2002 (30007) Carry 25/5 4708510273 3.250 PERM -12-2776 3,500 4*9 3,750 4,000 4,250 22.68 4.500 4,750 3535 5,000 KOP @ 5,050 Egende 5250 5,500 5.750 th-prairie CANT CANT 1440 6,000 **** 17552 5,250 7541 11117 1563 2757 < 6.500r Prefuge 2.21 Terget troids Marcellus 0027 6.750 Production Casing Arte P. \$10 G 37 0.361 Proposed Well Work
Dell sind computed a new horizottill swell in the Marcollus formation.
Dell the vertical to be approximate depth of 5550.
Rock off and dell carge, Onli lateral in the Astrophus. Comerci cesting 500' above top Producing Zone Displacement Land cane 0 6,627 11 TVD Est. TD @ 6,027 11 TVD 7,241' BMD 10.536" R.MD 3,295 tr Lateral tal Protection Gas

Well

EQT Production Aubum

513382 (AUB54H4)

Pod History

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west virginia department of environmental protection

Office of Oil and Gas 601 57th Street, SE Charleston, WV 25304 (304) 926-0450 (304) 926-0452 fax Earl Ray Tomblin, Governor Randy C. Huffman, Cabinet Secretary dep.wv.gov

March 18, 2014

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

Re: Cement Variance Request

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.

Vanua >

James Peterson

Environmental Resources Specialist / Permitting

4700510270

Promoting a healthy environment.

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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 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)	ORDER NO. 2014 - 17
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)	470051027a
		005700
DEPODT OF T	HE OFFICE	. 74 / 0

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

Promoting a healthy environment.

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WV Department of Environmental Protection 06/03/2016

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

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

HECEIVED Office of Oil and Gas

4700530270

JAN 1 4 2016

WV Department of Environmental Protection



August 3, 2015

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

Re: Casing Plan on Wells (AUB54 513880, 513882, 513884, 514041)

Dear Mr. Smith,

EQT is requesting the 13-3/8" surface casing be set at 474' KB, 150' deepest freshwater show. We will set the 9-5/8" intermediate string at 2475' KB, 50' below the base of the Weir formation.

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

Sincerely,

Vicki Roark

Permitting Supervisor

Enc.

170 BB 1 D Z Y "

WW-9 (2/15)

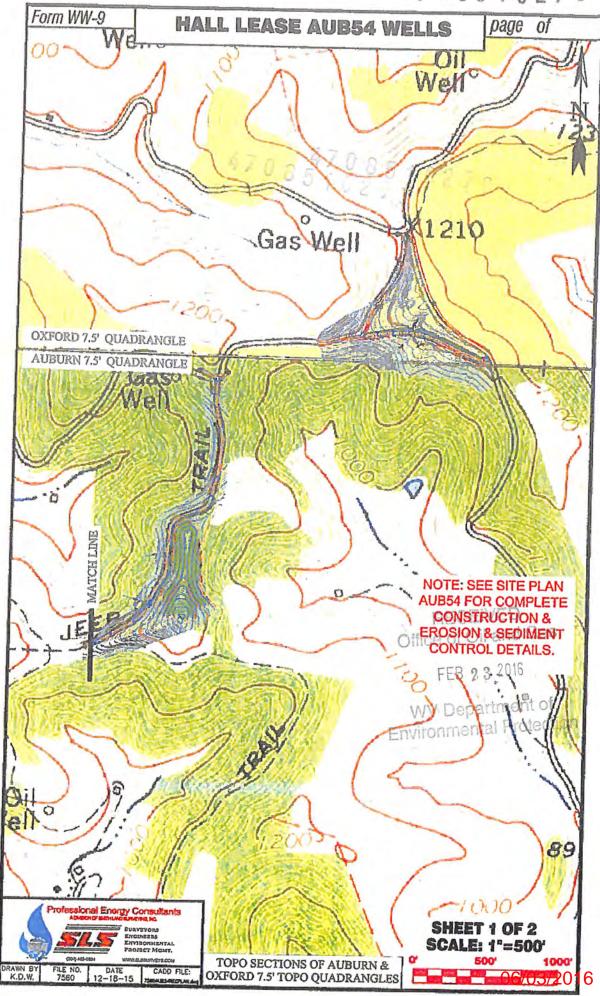
	Page	1	10	2
API No. 47	088	5 "	-	0
Operator's 1	Nell No.			513382

STATE OF WEST VIRGINIA

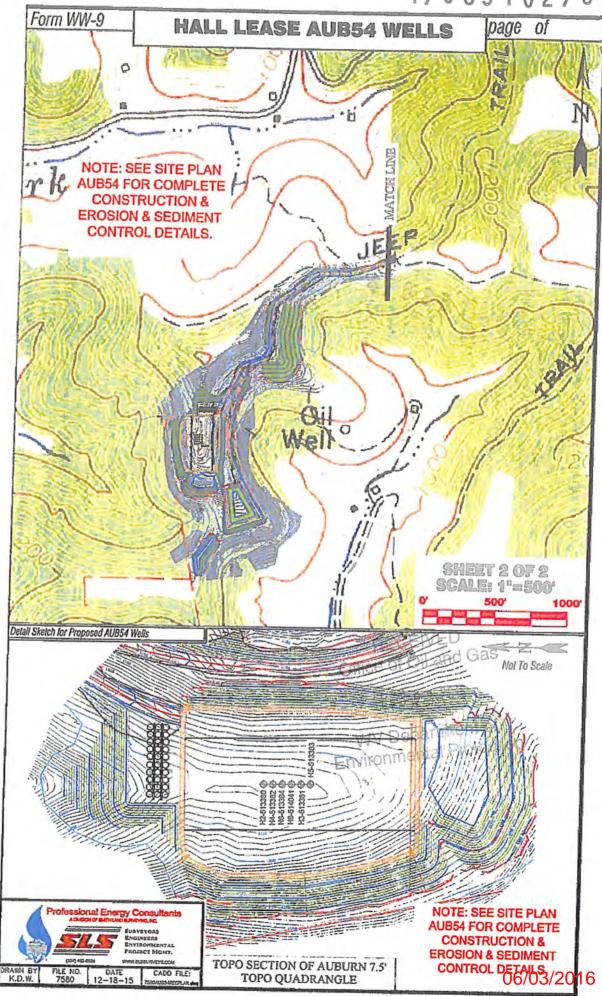
DEPARTMENT OF ENVIRONMENTAL PROTECTION

	DEPARTMENT OF ENVIRONM OFFICE OF OIL	MENTAL PROTECTIO	DN .	7085702=
	Fluids/Cuttings Disposal &	Reclamation Plan		0.5
Operator Name	EQT Production Company	OP Code	305686	100
Watershed (HUC10)	Left Fork & Brushy Fork of Bone Greak	Quadrangle	Auburn 7.5'	
Do you anticipate using m	nore than 5,000 bbls of water to con-	plete the proposed w	ell work? Yes x I	No.
Will a pit be used ? Yes:				
If so pleasa descri	be anticipated pit waste:	flowback water	& residual solids	
Will a synthetic line		No	The second secon	60
0 0 0	sal Method For Treated Pit Wastes: Land Application Underground Injection (Ult Reuse (at API Number Off Site Disposal (Supply for Other (Explain	C Permit Number Vario rm WW-9 for disposa	0014, 8462, 4037 us I location))
Will closed loop system be	used ? Yes, The closed loop system	em will remove drill cuttin	ngs from the drilling	. (2
Drilling medium anticipated Ar is used to citi the top-hole sections of the	is n prepared for transportation to an off- d for this well (vertical and horizontal is wellbore (curloce, Intermediate, and pilot). Water based hole, curve, and lateral accidence will be dished with either	d)? Air, freshwater, oli	on hole conditions to stabilize	2/19/10
Additives to be used in drill alkalinity control, lime, filtration con Oil based mud – synthetic base of biodegradable oil lubricant, defoat Drill cuttings disposal meti Il left in pit end pla	hod? Leave in pit, landfill, removed on to solidly what medium will be used? (Cer	ubricant, detergent, defoaming, v ant, defoaming, welnut she control, filtration control, det offsite, etc.	rater. Water based mud - Bartie, vi il, sail, x-cide, carbonates. locculates, Landfill n/a	eccsilor,
disclose where it was properly		hin 24 hours of rejection	and the permittee shall a	PECEIVED
provisions of the permit are enforce or regulation can lead to enforcement	nd agree to the terms and conditions of the Ci f Oil and Gas of the West Virginia Department eable by faw, Violations of any term or condition ont action. I that I have personally examined and am fail ts thereto and that, based on my inquiry of the formation is true, accurate, and complete. I	tion of the general permit a	nd/or other applicable law	FEB 2.3 2016
the information, I believe that the in submitting false information, includi	of the possibility of fine or imprisonment.	nose individuals immediatel	y responsible for obtaining	N Department Protection
Company Official Signature Company Official (Typed Na Company Official Title		Viptoria J. Roark		=
Subscribed and sworm before	e me this 8 day of s	Jan	. 20 16	
My commission expires	8-24.	20	No	OFFICIAL SEAL STATE OF WEST VIRGINIA BOOTARY PUBLIC Pamela Syles EQT Production PO Bot 280 Bridgeport, WY 25330 ommission Expires Aug. 24, 2022
				06/03/2016

Proposed Revegetation Treat	ment: Acres Disturbed	19.1	Prevegetation pH 6.3	3
Lime 3	Tons/acre or to	correct to pH	6.5	
Fertilize type	Granular 10-20-20		0,	0
Fertilizer Amount	1/3 lbs/ad	ere (500 lbs minimum)		5
Mulch	2	Tons/acre		95
		Seed Mixtures		
Temporal			Permanent	
Seed Type KY-31	lbs/acre 40	Seed Type Orchard Grass	lbs/acre 15	
Alsike Clover	5	Alsike Clover	5	
Annual Rye	15			-
Drawing(s) of road, location,pit		nd application.		
Attach: Drawing(s) of road, location,pit Photocopied section of involved Plan Approved by: Comments: Aceseed Dec. WIV DEF	chael 4	off	turbed area in & upgrad.	5



2/18/16



2/19/16

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

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

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

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

BROAD STREET ENERGY LLC

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

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

KING EXCAVATING CO.

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

\$7000010210

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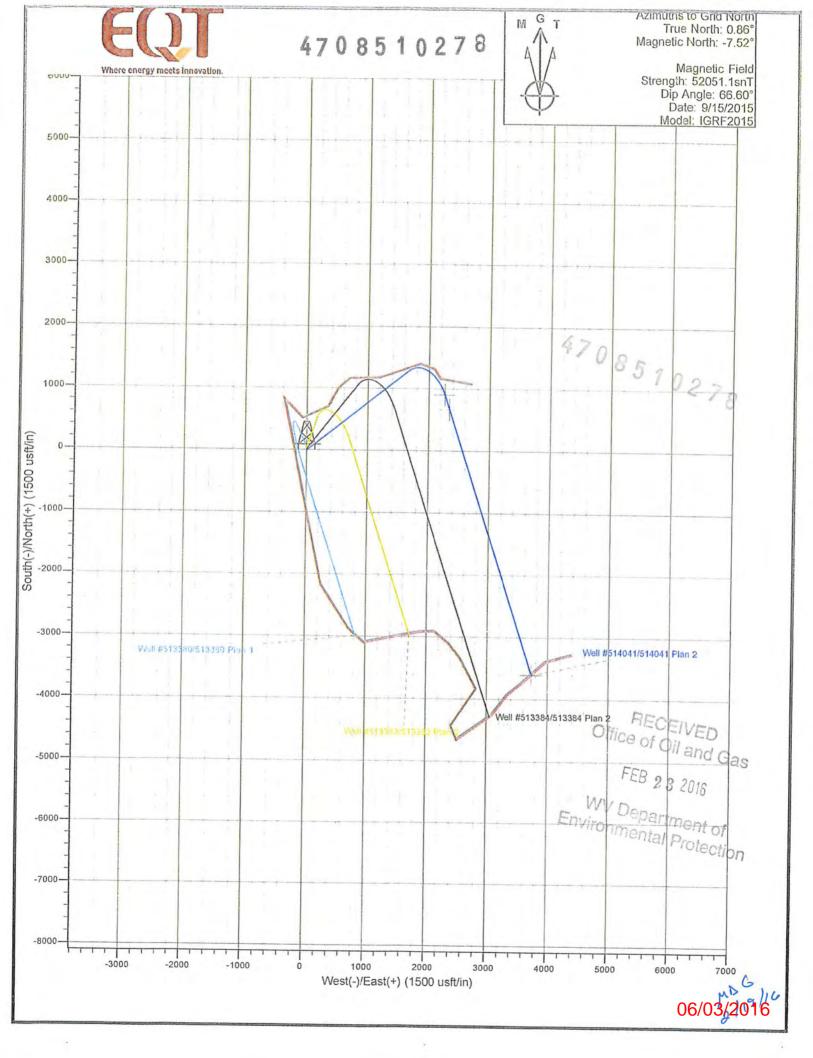
Site Specific Safety Plan

EQT AUB 54 Pad Auburn Quadrant

4708510278

Ritchie County, WV

_513380	513382	513384	For Wells: 514041	
EQT Production Denntin Title 2-12		Date Pre	epared:	February 3, 2016 Mohoul Hoff WV Oil and Gas Inspector Title
Date				Date



(304) 452-5634 • FAX 462-5656

WELL INFORMATION AND POTENTIAL WATER WELL SAMPLE DATA SHEET

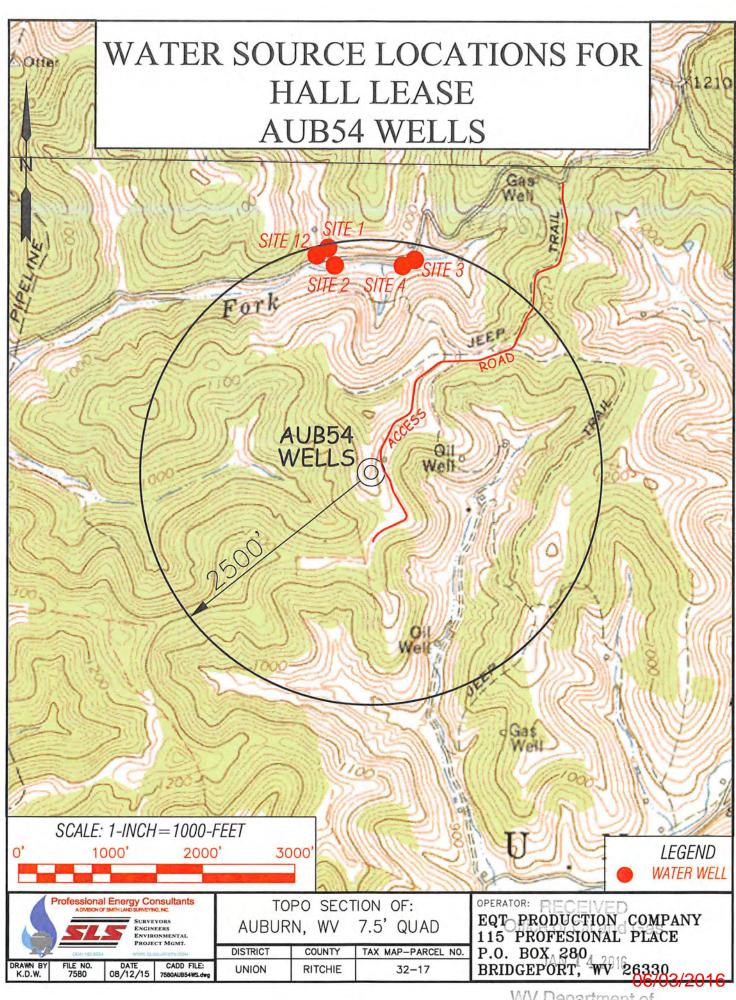
R: EQT Production	combunit.			
ME AND NUMBER	AUB-54 Well Pa	ıd		
	COMMEN	<u>TS</u>	700	
re armenzi mai mele b	DIEDDANN WIGHTON	ounding the propose	d well site re	vealed the below
<u>INDIVI</u>	DUAL CONTACT	<u>ED OR NOTIFIE</u> I	D	
		Ralph Blankenst	līp	
2051 Brushy fork Rd. A	uburn, WV 26325	P	T: (304)	349-2487
ct Date: 05/26/2015 Lo	ocated: Yes D	ate Located: 05/26/2	015 Source	Water Well
l by who	Letter/Notice Date: 1st	05/26/2015 2nd 06	09/2015 Certif	ied (3rd) 06/17/2015
Tox Map 17 . For 10 Nore Mr. 1	lirkmhyhn calleles erd re	person additional a zer won	e be tested an horn	as sale 12 *
Lat 1912/06	The state of the s	ALL COLOR DE LA COLOR DE L	The state of the s	NAME OF TAXABLE PARTY O
long Wayslay				
Snacino 1160	OsunaciOcounnet		-	
Thate negrenous			**************************************	49-2487
03/28/2013 FO	cated: Yes Da	ite Located: 05/26/20	115 Source:	Water Well
Dy Who	Letter/Notice Date: 1st	05/26/2015 2nd 06 (09/2015 Certifi	ed (3rd) 06'17/2015
	ONE STATE OF THE S			
Long: 80.855927				
Spacing 2335	Owner/Occupant:	Louis Kopf		
2220 Brushy fork Rd. Au	burn, 853 26325	The second secon	(3041-3	19-4507
t Date: 06/09/2015 Los		te I ocated 06/09/20		Water Well
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Site: 5	Spacing	Owner/Occupant:	Gregory Adams	
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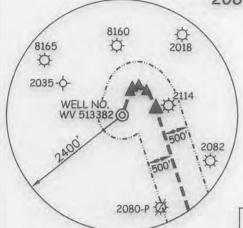
JAN 14 2016

Site:	Spacing)wner/Oc	cupai	nt.	Kiedai	sch an	d Sum	mers Enterp	rises	
Address:	P.O. Box 25	4 Harrisville,	WW 26362					Ph:		Contract Company of Contract C	
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JAN 1 4 2016



EQT PRODUCTION COMPANY - HALL LEASE 208 ACRES±-WELL NO. WV 513382



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 WITHI 625' OF THE CENTER OF PROPOSED WELL PAD.

LONGITUDE 80°50'00'

(S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH) NAD'27 S.P.C.(FT) N. 227,285.04 E. 1,615,644,75 NAD'27 GEO. LAT-(N) 39.116074 LONG-(W) 80.854638 NAD'83 UTM (M) N. 4,329,677.20 E. 512,581.44 LANDING POINT NAD'27 S.P.C.(FT) E. 1,616,343.85 N. 227,429.67 NAD'27 GEO. LAT-(N) 39.116500 LONG-(W) 80.852182 NAD'83 UTM (M) N. 4,329,724.82 E. 512,793.68 **BOTTOM HOLE** NAD'27 S.P.C.(FT) E. 1,617,362,05 N. 224,295.98 NAD'27 GEO. LAT-(N) 39.107939 LONG-(W) 80.848429 NAD'83 UTM (M) N. 4,328,775.35 E. 513,119.80

REFERENCES

A	BRIAN TASCHLER ET AL	200,665 AC.±	TM 32-17
В	BRIAN TASCHLER ET AL	3.915 AC.±	TM 32-17.2
C	DENSEL R. HALL ET AL	2.41 AC.±	
D	LOUIS J. KOPF	83.776 AC.±	
Е	KIEDASCH & SUMMERS ENTERPRISES	40 AC.±	
F	JERRY A. RIDDLE ET AL.	130 AC.±	
G	GERALDINE LUSK	82.21 AC.±	
H	BRIAN TASCHLER ET AL	109.81 AC.±	
I	RUSSEL S. & CLARA A. BLIZARD	102.4 AC.±	
J	VIOLET HARDBARGER	81.3 AC.±	
K	BRIAN TASCHLER ET AL	110 AC.±	
L	GREGORY ADAMS ET AL	100 AC.±	



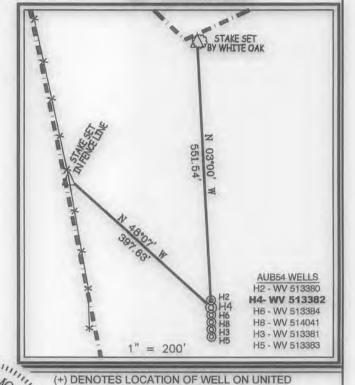
THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MI KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DIVISION OF ENVIRONMENTAL PROTECTION.

P.S 849

MINIMUM DEGREE

1/2500 7580P513441R4 FILE NO.

HORIZONTAL & VERTICAL CONTROL DETERMINED BY DGPS (SURVEY GRADE TIE TO CORS NETWORK)



REVISED , 20 OPERATORS WELL NO. WV 513382 WELL STATE COUNTY PERMIT

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

STATES 7.5' TOPOGRAPHIC MAPS.

DECEMBER 17

DATE_



, 20 _

PROPOSED WORK: DRILL X CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION PERFORATE NEW FORMATION PLUG AND ABANDON CLEAN OUT AND REPLUG OTHER								
ELEVATION 1,216' 1,200' WATERSHED LEFT FORK & BRUSHY FORK OF BONE CREEK DISTRICT UNION COUNTY RITCHIE QUADRANGLE AUBURN 7.5' SURFACE OWNER BRIAN TASCHLER ET AL ROYALTY OWNER KAYRON HALL ET AL PROPOSED WORK: DRILL X CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION PERFORATE NEW FORMATION PLUG AND ABANDON CLEAN OUT AND REPLUG OTHER		GAS_X		- P 100 C		TON_X STORAGE	DEEP	SHALLOW_X
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ROYALTY OWNER KAYRON HALL ET AL PROPOSED WORK: DRILL X CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION PERFORATE NEW FORMATION PLUG AND ABANDON CLEAN OUT AND REPLUG OTHER	DISTRICT	U	NION	COUNTY	RITCHIE	QUADRANGLE _	AUBUR	N 7.5'
PROPOSED WORK: DRILL X CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION PERFORATE NEW FORMATION PLUG AND ABANDON CLEAN OUT AND REPLUG OTHER	SURFACE OWNER	BRIAN	TASCHLER ET AL			ACREAGE	200.665	± Z
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ESTIMATED DEPTHTVD 6,603'	-				-	ESTIMATED DEPTH	TVD 6,6	03'

WELL OPERATOR EQT PRODUCTION COMPANY

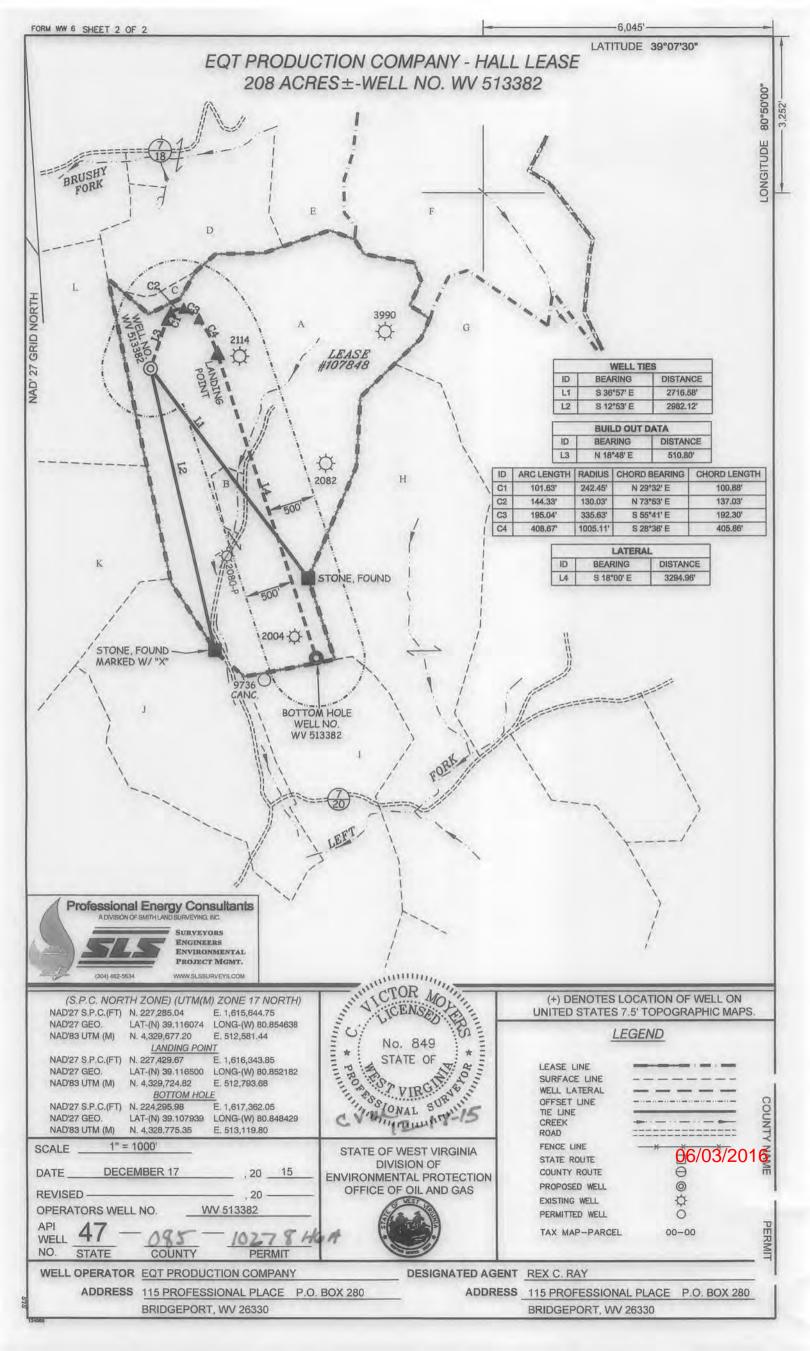
ADDRESS 115 PROFESSIONAL PLACE P.O. BOX 280

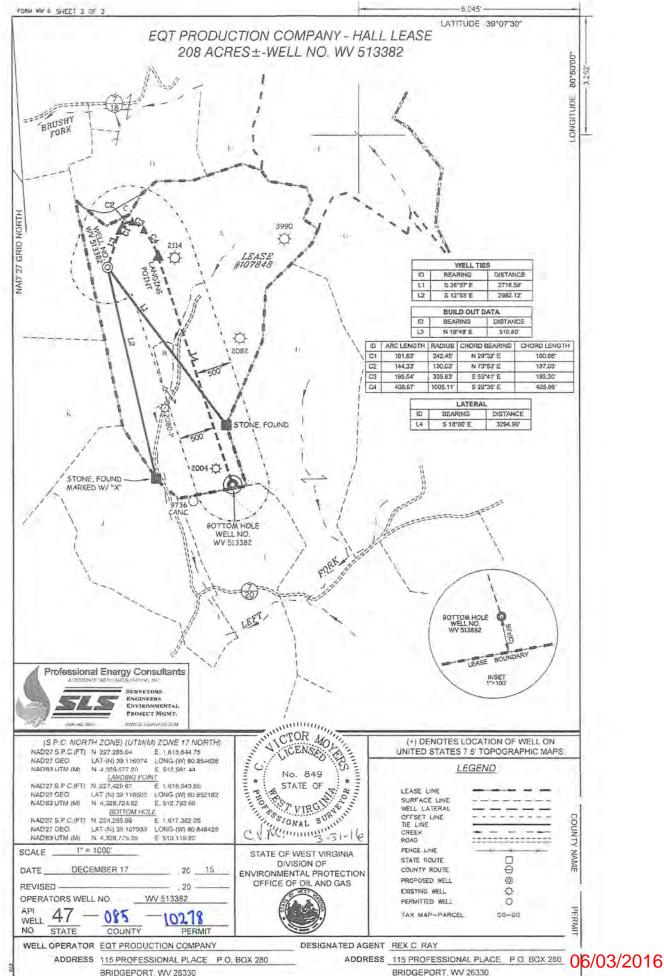
BRIDGEPORT, WV 26330

DESIGNATED AGENT REX C. RAY

ADDRESS 115 PROFESSIONAL PLACE P.O. BOX 280 BRIDGEPORT, WV 26330

OF ACCURACY





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:

		* *	
- 1	Pace	Name	OF

Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
107848	Kayron Hall et al (current royalty owner)		Min 1/8 pd	
	William H Hall et ux (original Lessor)	J.M. Basom		LB29/430
	J.M. Basom	James Gartlan		LB57/540
	James Gartlan	The Philadelphia Co of West Virginia		LB57/542
	The Philadelphia Co of West Virginia	Pittsburgh and West Virginia Gas Co		LB55/359
	Pittsburgh and West Virginia Gas Co	Equitable Gas Company		DB126/473
	Equitable Gas Company	Equitrans, Inc		LB201/253
	Equitrans, Inc	Equitrans, L.P.		433/777 recorded in Tyler Co.
	Equitrans, L.P.	Equitable Production-Eastern States Ir	nc	AB234/830
	Equitable Production-Eastern States Inc	Equitable Production Company		CB281/346 rec in Doddridge Co
	Equitable Production Company	EQT Production Company		CB281/346 rec in Doddridge Co

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

470 85 108

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:

Its: Permitting Supervisor

Page 1 of WV Department of Environmental Protection



January 13, 2016

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

Re: AUB54 well pad, well number 513382

Union District, Ritchie County

Dear Mr. Martin,

EQT Production Company is submitting an application for a new well work permit for the above well number. 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.

Sincerely,

Vicki Roark

Permitting Supervisor-WV

Office of Oil and Gas

JAN 1 4 2016

WV Department of Protection agency, wv 26330 06/03/2016

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

Date of No	otice Certification:/-/	Op	I No. 47	0 513382 AUB54
Notice has	been given:			
		Code § 22-6A, the Operator has provided the	required parties with the Notic	e Forms listed
	e tract of land as follows:			
tate:	WV	UTM NAD 83 Easting:		512,581.44
ounty:	Ritchie	UTM NAD 83 Northing:	- 4,	,329,677.20
istrict:	Union	Public Road Access:		WV RT 47
uadrangle:	Auburn 7.5'	Generally used farm name:	Brian 7	Taschler et al
atershed:	Left Fork & Brushy Fork of I	Bone Creek		
irginia Coo f this articl	de § 22-6A-11(b), the applicant se have been completed by the a		y that the notice requirements	
nat the Ope	erator has properly served the re	e Operator has attached proof to this Notice C quired parties with the following:		OFFICE USE ONLY
PLEASE	CHECK ALL THAT APPLY		PEC	CEIVED/NOT
NOTIC	E OF SEISMIC ACTIVITY or	NOTICE NOT REQUIRED BECAUS SEISMIC ACTIVITY WAS CONDUC	E NO REC	QUIRED
▼ NOTIC	E OF ENTRY FOR PLAT SU	JRVEY or - NO PLAT SURVEY WAS	CONDUCTED REC	CEIVED
□ NOTIC	E OF INTENT TO DRILL or	NOTICE NOT REQUIRED BECAUS ✓ NOTICE OF ENTRY FOR PLAT SU WAS CONDUCTED OR		CEIVED/NOT QUIRED
		WRITTEN WAIVER BY SURFACE (PLEASE ATTACH)	OWNER	
✓ NOTIC	E OF PLANNED OPERATION	N	□ REC	CEIVED
▼ PUBLI	C NOTICE		IT REC	EIVED
▼ NOTIC	E OF APPLICATION		□ REC	EIVED

Required Attachments:

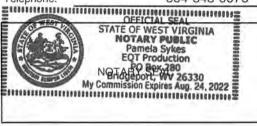
The Operator shall attach to this Notice Certification Form all Notice Forms and Certifications of Notice that have been provided to the required parties and/or any associated written waivers. For the Public Notice, the operator shall attach a copy of the Class II Legal Advertisement with publication 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.

WW-6AC (1/12)

		/	
Certification	of Notice	is hereby	given:

Well Operator:EQT Production CompanyAddress:P.O. Box 280By:Victoria J. RoarkBridgeport, WV 26330Its:Permitting SupervisorFacsimile:304-848-0040Telephone:304-848-0076Email:vroark@eqt.com



Subscribed and sworn before me this

8 day of Jan

Notary Public

2016

My Commission Expires

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.

V2310220

Office of Oil and Gas

JAN 1 4 2016

WV Department of Environmenta 06/03/2016

WW-6A	
(9-13)	

API NO.	47	-	085	40	- 0
OPERATO	R WEL	L NO.		1 1	513382
Well Pad	Nam	par.			AUR54

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

	otice shall be provided no later than the fili Date Permit Application	
Notice of:		
PERMIT FOR ANY WELL WORK		PROVAL FOR THE AN IMPOUNDMENT OR PIT
Denvery method pursuant	to West Virginia Code § 22-6A-10(b)	
PERSONAL SERVICE	REGISTERED MAIL	METHOD OF DELIVERY THAT REQUIRES A RECEIPT OR SIGNATURE CONFIRMATION
for the construction of a requires a receipt or sig plat to each of the follo the surface tract or tract disturbance as describe lessee, in the event the record of the surface tra construction, enlargeme water purveyor who is a which is used to provid work activity is to take in the lands, the applica article one, chapter elec- unless the lien holder is	an impoundment or pit as required nature confirmation, copies of the awing persons: (1) The owners of rests overlying the oil and gas leasehold in the erosion and sediment contract of land on which the well propact or tracts overlying the oil and gasent, alteration, repair, removal or abknown to the applicant to have a water for consumption by human place. (c)(1) If more than three tenant may serve the documents required and this code. (2) Notwithstance the landowner. W. Va. Code R. § any water purveyor or surface owners.	☐ COAL OWNER OR LESSEE
Name: Address:		COAL OPERATOR Name: Address:
SURFACE OWNE Name: Address:	ERS(s) (Road and/or Other Disturba See Attached	
Address:		
Name:	ER(s) (Impoundments/Pits) See Attached	
Address:		Address:
		*Please attach additional forms if necessary W/V Department of

lease attach additional forms if necessary VVV Department of Environment 06/03/20

WW6-A

Surface Owners

Brian Taschler et al 795 Towamensing Rd. Leighton Pa 18235



RECEIVED
Office of Oil and Gas

JAN 1 4 2016

WV Department of Environmental Protection

Surface Owners Access/ Other Disturbance

Brian Taschler et al 795 Towamensing Rd. Leighton Pa 18235

Jerry Riddle 2187 Riddle Hill Rd. Auburn WV 26325

Betty Jean Nutter 2499 Glendale Road Cairo WV 26337

Kiedaisch & Summers ENT., LLC PO Box 254 Harrisville, WV 26362

Louis and Linda Kopf 2220 Brushy Fork Road Auburn WV 26325

Craig & Amy Williams 6390 Rotherby Circle Hudson OH 44236

PECEIVED
Office of Oil and Gas

JAN 14 2016

WV Department of
Environmental Protection

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Surface Owners Pits or Impoundment

Brian Taschler et al 795 Towamensing Rd. Leighton Pa 18235

1708510265

Office of Oil and Gas

JAN 1 4 2016

WV Department of
Environmental Pro6/03/2016

Coal Owners:

Piney Holdings Inc PO Box 5026 Fairmont WV 26555

Eric Dean Goff 1661 Hazelgreen Rd Harrisville WV 26362

Richard L Hall PO Box 112 Kenna WV 25248

Danny Ray Hall 12052 Sheffield Rd Jacksonville FL 32226

Michael L Hall 12052 Sheffield Rd Jacksonville FL 32226

Byron G Hall 4005 Sayre Ave #8 Parkersburg WV 26104

Ella Jean Goff Reed 1661 Hazelgreen Rd Harrisville WV 26362

Carla R Foster 35 Armin Rd Tijeras NM 87059

Thomas Guy Hall 12052 Sheffield Rd Jacksonville FL 32226

Gary Ronald Hall 12052 Sheffield Rd Jacksonville FL 32226

Donna Kayron Porter 12052 Sheffield Rd Jacksonville FL 32226

William Davis Hewitt 37 Willow Glen Atlanta GA 30342 VVVAI :===

Office of Oil and Gas

JAN 14 2016

WV Department of Environmental 06/03/201

Coal Owners:

Union National Bank of West Virginia, Trustee PO Box 659 Wichita Falls TX 76307

Haught Family Trust 210 E Main St Harrisville WV 26362

Kayron B Hall 12052 Sheffield Rd Jacksonville FL 32226

Susan Lee Hewitt 50 Lamsden Ln Atlanta GA 30327

John Kerns Heirs Trust Union Nat'l Bank of Clarksburg PO Box 659 Wichita Falls TX 76307

Elizabeth Hewitt Taylor Ventures LLC 9925 Huntcliff Trace Atlanta GA 30350

Wifee Walks

Office of Oil and Gas

JAN 14 2016

WV Department of
Environmental Pro06/03/2016

WW-6/	١
(8-13)	

API NO. <u>47</u> - 085		
OPERATOR WELL NO.		513382
Well Pad Name:	AUB	54

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 predrilling 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/oil-andgas/pages/default.aspx.

Well Location Restrictions

4700510270 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 Offic 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 distributions received as 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 WV Department of Environmental Protection 2016 WW-6A (8-13)

API NO. 47 -OPERATOR WELL NO. Well Pad Name:

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 activities. (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 (1), 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-bycase 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. 470001227g

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:

Office of Gil and Gas

Chief, Office of Oil and Gas

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

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.

Environmental Protection

Such persons qualified to test water.

Environmental Protection

WW-6A (8-13)

API NO.	<u>47</u>	-	085	-	0
OPERATOR	R WEL	L NO.			513382
Well Pad N	Jame:		-		AUR54

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.

7777777

Well Operator:	EQT Production Company	Address:	115 Professional Place P.O. Box 2			
Telephone:	304-848-0082		Bridgeport, WV 26330			
Email:	Vroark@eqt.com	Facsimile:	304-848-0041			
		_				

Oil and Gas Privacy Notice:

Natica is haraby given by

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.

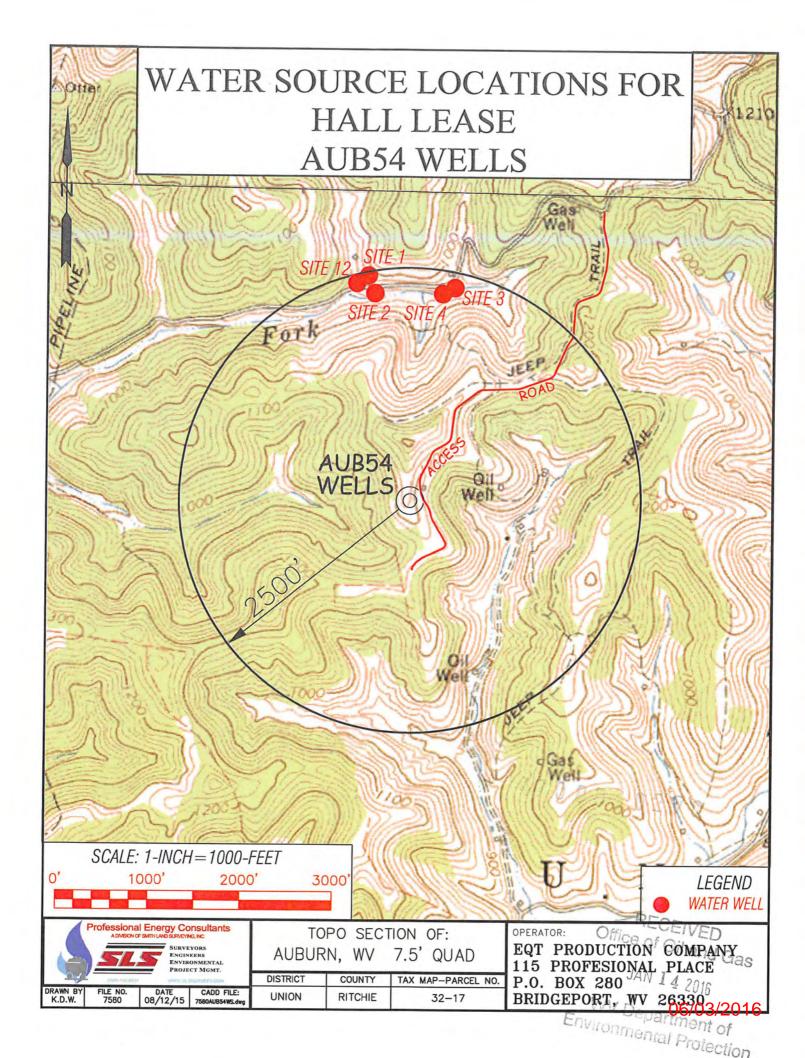
I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true,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

OFFICIAL SEAL Pamela Sykes
EQT Production
PO Box 280
Bridgeport, WV 26330
My Commission Expires Aug. 24, 2022
My Commission Expires Aug. 24, 2022
My Commission Expires Aug. 24, 2022

By: Victoria Roark Its: Permitting Supervisor Subscribed and sworn/before n

HIODEYNERS

2016 Notary Public



STATE OF WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS NOTICE OF ENTRY FOR PLAT SURVEY

Date of Notice:	2/5/2015	Date of Planned B	Date of Planned Entry: 2/13/2015						
Delivery metho	od pursuant to West Virginia Code § 2	2-6A-10(a):							
PERSONA	L SERVICE X CERTIFIED MAIL	METHOD OF DELIVERY THAT REQ	UIRES A RECEIPT OR SIGNATURE CONFIRMATION						
tract to conduct prior to such en pursuant to sec records. The no and gas explora	any plat surveys required pursuant to the atry to: (1) The surface owner of such tra- ction thirty-six, article six, chapter twent atice shall include a statement that copie ation and production may be obtained fro	nis article. Such notice shall be provided at act; (2) to any owner or lessee of coal sea sy-two of this code; and (3) any owner of sof the state Erosion and Sediment Conti	Il provide notice of planned entry on to the surface least seven days but no more than forty-five days ms beneath such tract that has filed a declaration minerals underlying such tract in the county tax of Manual and the statutes and rules related to of clude contact information, including the address for retary.						
Notice is hereb	by provided to:		X = w						
	RFACE OWNER(S)	MIN	ERAL OWNER(S)						
			ENAL OWNER(3)						
700	an Taschler & Rochelle M. Taschler 5 Towamensing Rd.	Name:							
	nighton, PA 18235-5931	Address:							
Co	AL OWNER(S) OR LESSEE(S) al Declaration pursuant to §22-6A-10 an 2-6-36 Not of Record		ase attach additional forms if necessary						
the tract of land	st Virginia Code § 22-6A-10(a), notice is	hereby given that the undersigned well op Approx. Latitude & Longitude:	erator is planning entry to conduct a plat survey or 39.11613/-80.85453						
County:	Ritchie	Public Road Access:							
Dist/Map/Par:	Union / Map 32 / Parcel 17	Watershed:							
Quadrangle:	Auburn	Generally Used Farm Name:							
Copies of the s	he Secretary, at the WV Department of E	anual and the statues and rules related tensionmental Protection headquarters, loc	o oil and gas exploration and production may be ated at 601 57th Street, SE, Charleston, WV 25304						
	. Copies of such documents or addition by/oil-and-gas/pages/default.aspx.	nai information related to nonzontal drillin	g may be obtained from the Secretary by visiting						
Notice is herek	by given by:								
Well Operator:	Data Colonia	Address:	115 Professional Place, Bridgeport, WV 26330						
Telephone:	304-848-0099	EQT Representative:	Kathy Kugel						
Facsimile:	304-848-0040								
Email:	eqtlandentrynotice@eqt.com	Signature:	Kathy Buga						
Oil and Gas Pr		rmation, such a name, address and telepho	one number, as part of 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 depprivacyoffice WW ggv. 2016

WV Department 06/03/2016 Environmenta 06/03/2016

WW-6A5	
(1/12)	

Operator Well No.

513382

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

NOTICE OF PLANNED OPERATION

Notice Time Date of Not		notice shall be pro	ovided no	Date Permit App	g date of permit appl plication Filed:	lication.
Delivery me	thod pursuant	to West Virginia	Code § 22	-6A-16(c)		
	RTIFIED MAIL URN RECEIF	T REQUESTED		HAND DELIVERY		William .
return receip the planned required to b drilling of a h damages to t	t requested or ha operation. The no e provided by su orizontal well; ar he surface affect	and delivery, give the otice required by this bsection (b), section ad (3) A proposed sur ed by oil and gas ope	e surface on subsection ten of this rface use a prations to	wner whose land will n shall include: (1) A article to a surface o nd compensation agr the extent the dama	be used for the drilling copy of this code section wner whose land will be eement containing an o ges are compensable u	or shall, by certified mail g of a horizontal well notice of on; (2) The information be used in conjunction with the offer of compensation for under article six-b of this chapter.
		the SURFACE OWNE				
(at the addre	ss listed in the re	cords of the sheriff a	at the time	of notice):		
400			56	e Attached Nam		
Name:				Addr	ess:	0
Address: Notice is her Pursuant to \ operation on	Vest Virginia Cod	e § 22-6A-16(c), not er's land for the purp	pose of dril	lling a horizontal well	on the tract of land as	has developed a planned follows:
Address: Notice is her Pursuant to \ operation on State: County:	Vest Virginia Cod	e § 22-6A-16(c), not er's land for the purp	pose of dril W Ritch Unio	lling a horizontal well /V UTM NAD 83 ie on Public Road A	on the tract of land as Easting: Northing: ccess:	has developed a planned follows: 512,581.440000 4,329,677.200000 WV RT 47
Notice is her Pursuant to \ operation on State: County: District:	Vest Virginia Cod the surface own	er's land for the purp	pose of dril W Ritch Unic Auburn 7	lling a horizontal well V UTM NAD 83 ie n Public Road A	on the tract of land as Easting: Northing: ccess:	has developed a planned follows: 512,581.440000 4,329,677.200000
Name:	Vest Virginia Cod the surface own	e § 22-6A-16(c), not er's land for the purp Brushy Fork of Bone	pose of dril W Ritch Unic Auburn 7	lling a horizontal well /V UTM NAD 83 ie on Public Road A	on the tract of land as Easting: Northing: ccess:	has developed a planned follows: 512,581.440000 4,329,677.200000 WV RT 47
Notice is her Pursuant to Noperation on State: County: District: Quadrangle: Watershed: This Notice S Pursuant to Notice S to be provide horizontal we surface affecting to the provide horizontal we surface affecting to the surface affecting to th	Left Fork & hall Include: West Virginia Code by W. Va. Code lit; and (3) A proposed by oil and gasteled to horizons, located at 601	Brushy Fork of Bone le § 22-6A-16(c), this e § 22-6A-10(b) to a posed surface use an a operations to the e ental drilling may be o	Ritch Unic Auburn 7. Creek s notice sha surface over the control of the control o	lling a horizontal well V UTM NAD 83 ie Dn Public Road A 5' Generally use sall include: (1)A copy wher whose land will sation agreement cor damages are compens om the Secretary, at	on the tract of land as Easting: Northing: ccess: d farm name: of this code section; (2) be used in conjunction itaining an offer of com sable under article six-backe WV Department of	has developed a planned follows: 512,581.440000 4,329,677.200000 WV RT 47 Brian Taschler et a
Notice is her Pursuant to Noperation on State: County: District: Quadrangle: Watershed: This Notice S Pursuant to Notice S to be provide horizontal we surface affect information headquarter. pages/defau	Left Fork & hall Include: West Virginia Coded by W. Va. Coded by W. Va. Codedl; and (3) A projected by oil and gastelated to horizons, located at 601 lt.aspx.	Brushy Fork of Bone le § 22-6A-16(c), this e § 22-6A-10(b) to a posed surface use an is operations to the e intal drilling may be of	Ritch Unic Auburn 7. Creek s notice sha surface over the control of the control o	lling a horizontal well V UTM NAD 83 ie Dn Public Road A 5' Generally use sall include: (1)A copy wher whose land will sation agreement cor damages are compens om the Secretary, at	on the tract of land as Easting: Northing: ccess: d farm name: of this code section; (2) be used in conjunction itaining an offer of com sable under article six-backe WV Department of	has developed a planned follows: 512,581.440000 4,329,677.200000 WV RT 47 Brian Taschler et a) The information required with the drilling of a npensation for damages to the b of this chapter. Additional Environmental Protection dep.wv.gov/oil-and-gas/
Notice is her Pursuant to Noperation on State: County: District: Quadrangle: Watershed: This Notice S Pursuant to Notice S respond to be provide horizontal wisurface affectinformation headquarter	Left Fork & hall Include: West Virginia Coded by W. Va. Coded by W. Va. Codedl; and (3) A projected by oil and gastelated to horizons, located at 601 lt.aspx.	Brushy Fork of Bone le § 22-6A-16(c), this e § 22-6A-10(b) to a posed surface use an a operations to the e intal drilling may be of 57th Street, SE, Char ction Company	Ritch Unic Auburn 7. Creek s notice sha surface over the control of the control o	lling a horizontal well V UTM NAD 83 ie on Public Road A 5' Generally use all include: (1)A copy wher whose land will sation agreement cor damages are compens om the Secretary, at V 25304 (304-926-04)	on the tract of land as Easting: Northing: ccess: d farm name: of this code section; (2) be used in conjunction staining an offer of com stable under article six-b the WV Department of 50) or by visiting www.t	has developed a planned follows: 512,581.440000 4,329,677.200000 WV RT 47 Brian Taschler et a) The information required with the drilling of a npensation for damages to the b of this chapter. Additional Environmental Protection dep.wv.gov/oil-and-gas/

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

DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.

appropriately secure your personal information. If you have any questions about our use or your personal information, please contact

Office of Oil and Gas

WW6-A

Surface Owner

Brian Taschler 795 Towamensing Rd. Leighton Pa 18235

Surface Owner Access/ Other Disturbance

Brian Taschler 795 Towamensing Rd. Leighton Pa 18235

Jerry Riddle 2187 Riddle Hill Rd. Auburn WV 26325

Betty Jean Nutter 2499 Glendale Road Cairo WV 26337

Kiedaisch & Summers ENT., LLC Po Box 254 Harrisville, WV 26362

Louis and Linda Kopf 2220 Brushy Fork Road Auburn WV 26325

Craig & Amy Williams 6390 Rotherby Circle Hudson OH 44236

Surface Owner Pits or Impoundment

Brian Taschler 795 Towamensing Rd. Leighton Pa 18235

Office of Oil and Gas

JAN 1 4 2016

WC=IVA

WW Departmer06/03/2016 Environmental Protection



WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

Division of Highways

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

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

January 4, 2016

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

4708560270

Subject: DOH Permit for the AUB 54 Pad Site, Ritchie County

513381 AUB54 H3 513380 AUB54 H2 513379 AUB54 H1 513382 AUB54 H4 513383 AUB54 H5 513384 AUB54 H6 514042 AUB54 H9 514041 AUB54 H8 514040 AUB54 H7

514043 AUB54 H10

Dear Mr. Martin,

Earl Ray Tomblin Governor

> This well site will be accessed from Permit #03-2015-0567 issued to EQT Production Company for access to the State Road. The well site is located off of Ritchie County Route 7/13 SLS. Approved permit must be received before the start of construction.

> 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 O&G Coordinator

Nick Bumgardner Cc:

EOT Production Company

CH. OM. D-3, File

RECEIVED Office of Oil and Gas

JAN 14 2016

WV Department of Environmental Protect

Anticipated Frac Additives Chemical Names and CAS numbers

4766510278

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

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EQT Production

Hydraulic Fracturing Monitoring Plan

Pad ID: AUB54

Ritchie County, WV

1/4/2016

Purpose

The purpose of this pad-specific Hydraulic Fracturing Monitoring Plan is to establish a joint effort between EQT, the West Virginia Office of Oil and Gas (OOG), and local conventional well operators in the Ritchie County area. This plan applies to proposed wells on this pad: 513380, 513382, 513384 and 514041.

Due to the apparent presence of unique geological conditions, the potential for communication between deep geologic zones exists in this area. This potential communication, via natural gas, water, or both, may occur between hydraulically fractured wells in the Marcellus formation (approximately 6,600' TVD) and existing conventional natural gas wells in the partially-depleted, relatively high permeability Alexander formation (approximately 5,200' TVD).

The plan is being implemented as an additional safety measure to be utilized in conjunction with existing best management practices and emergency action plans for the site. The plan will further enable the participants to obtain data and information for a root cause analysis in the event communication between zones does occur during hydraulic fracturing.

These additional measures include pre-notification of conventional well operators of the timing and location of the hydraulic fracturing, establishment of measures conventional well operators should implement, and assurance that the OOG is notified of the timeline, as well as any issues that may arise during fracturing.

1. Communications with Conventional Well Operators

EQT, using available data (WV Geological Survey, WVDEP website, and IHS data service), has identified all known conventional wells and well operators within 1,500 feet of this pad and the lateral sections. A map showing these wells along with a list of the wells and operators is included in **Attachment A**.

Upon approval of this plan, EQT will notify these operators, via letter, of the hydraulic fracturing schedule for these wells. A copy of this letter is included in **Attachment B**.

The letter provides recommendations to these conventional operators to 1) increase their monitoring of their wells during that time period, 2) ensure that their well head equipment is sound, and 3) provide immediate notification to EQT and the OOG in the event of any changes in their well conditions.

Specifically, the letter recommends that conventional well operators conduct the following activities during and after fracturing operations:

- Inspect their surface equipment prior to fracturing to establish integrity and establish pre-frac well conditions
- 2. Observe wells closely during and after fracturing and monitor for abnormal increases in water, gas or pressure
- 3. Inspect or install master valves rated to 3,000 psi or other necessary equipment for wellhead integrity
- 4. Notify the OOG and EQT if any changes in water, gas production, pressure, or other are identified

 Office of Oil and Gas

2. Monitoring

JAN 1 4 2016

EQT will conduct pressure monitoring on select conventional wells before, during, and after hydraulic fracturing of this pad. EQT has selected conventional wells which are directly above its lateral section to and completed within the Alexander formation, at approximately 1,000' intervals. EQT will also monitor is protection select conventional wells that lie within the 1500' area identified above. EQT will monitor the wells prior to, during and post fracturing. Wells selected for monitoring are identified in **Attachment A**.

The wells to be monitored are conventional wells operated by Energy Corporation of America (ECA) or EQT. EQT will install pressure transducers and Eagle Research RTU's to obtain real-time pressure readings on these conventional wells. These units will allow continuous sampling of pressure throughout the fracturing operations.

EQT will also utilize chemical tracers during our hydraulic fracturing. Each well will have two different tracers. Should communication occur, these different tracers may allow us to identify which well(s), and which part of the horizontal well may have communicated with the monitored conventional wells. These tracers will be placed into the fracturing fluid.

EQT will closely monitor drilling and hydraulic fracturing activities to identify any abnormalities related to geology such as loss of fluid circulation during drilling or pressure anomalies noted during fracturing.

This pad will be drilled and hydraulically fractured by EQT without any other modifications to our normal practices, unless communication is observed. These include casing and cementing practices, hydraulic fracturing volumes, pumping rates, drillout, and flowback timeframes. This will assist in establishing a baseline for future monitoring of activities in this area. Should communication be observed, EQT may vary the completion design on fracturing stages completed after the communication is observed.

3. Reporting

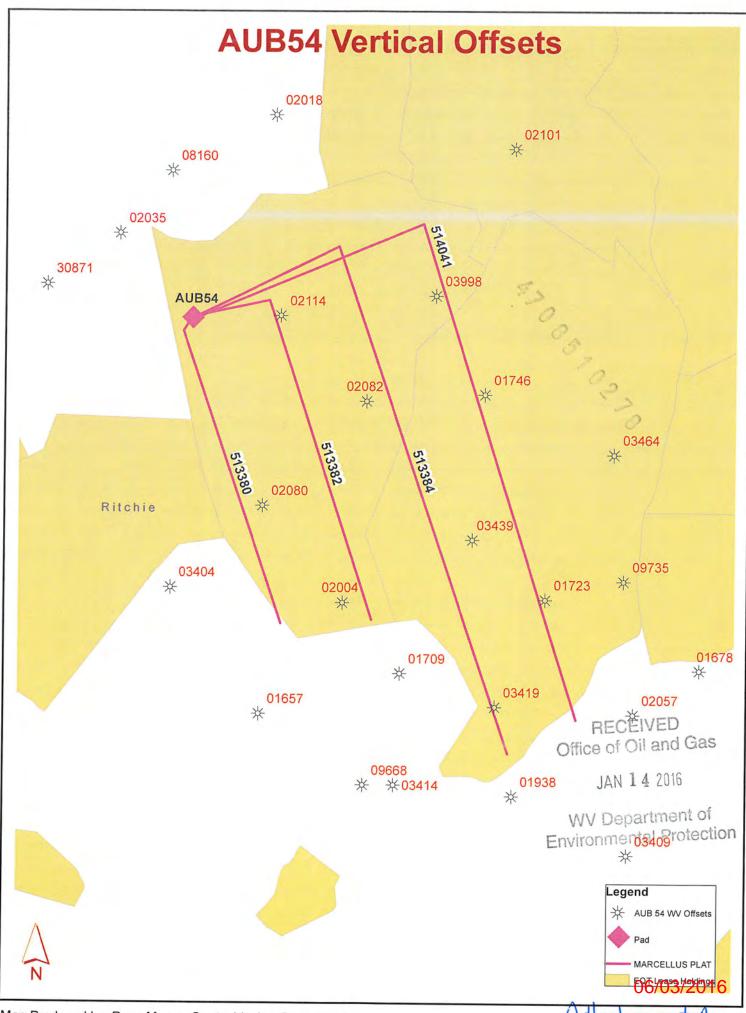
EQT will provide information relating to the hydraulic fracturing schedule, communication with conventional operators, and ongoing monitoring of the work on a regular and routine basis, upon request of OOG, or immediately in the event of any noted abnormalities.

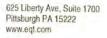
Upon completion of the hydraulic fracturing and monitoring, EQT will provide a written report documenting the monitoring activities identified in this plan.

JAN 1 4 2016 JAN 1 4 2016 W/V Department of Environmental protection	

WellID	Permit		Operator DEP	Latitude	Longitude	Status	DatumEleva	TD SS	TD	Lateral Map Distance (ft)	SS Horiz	horiz - TD	Hypot Diet	Measured from well#
4708501657		B E TALKINGTON	BOSS AND WHARTON GAS COMPANY, INC.	39.10540000000	-80.85230000000	GAS	870,0000	-985.0000	1855.0000	907,5600			7356,199097	
4708501678		J F DEEM O&G	DEEM, J. F. OIL & GAS, LLC	39.10660000000	-80.83700000000	DRY	905,0000	-966.0000	1871.0000			7316	7432.65324	
4708501709		B E TALKINGTON	ROSS AND WHARTON GAS COMPANY, INC.	39.10650000000	-80.84740000000	GAS	1020,0000	-913.0000					7402.344495	
		B E TALKINGTON	ROSS AND WHARTON GAS COMPANY, INC.	39.10850000000	-80.84240000000	GAS	1050,0000	-965.0000		66,5900			7460.297194	7,500,52
4708501746		B E TALKINGTON	ROSS AND WHARTON GAS COMPANY, INC.	39.11400000000	-80.84450000000	GAS	930.0000	-916.0000					7291.610965	
4708501938	01938	B E TALKINGTON	POSTROCK EASTERN PRODUCTION LLC	39.10320000000	-80.84350000000	GAS	900,0000	-965.0000		418.5400				
4708502004		WILLARD E FERRELL	RITCHIE PETROLEUM CORP.	39.10840000000	-80.84940000000	GAS	1009.0000	-938.0000				7310	7321.97212 7394.978379	
4708502018		ALAMCO	TARGA DEVELOPMENT INC	39.12150000000			0.00000000	-1116.0000		1432.2100				320302
4708502035	02035	ALAMCO	ALAMCO INC	39.11830000000	-80.85720000000	DRY		-945.0000			-5445		7685.624665	
4708502057	02057	B E TALKINGTON	OPERATOR UNKNOWN.	39.10540000000				-1006.0000		570.3200			7563.931743	
4708502080	02080	WV DEPT OF O & G	UNKNOWN - DEP PAID PLUGGING CONTRACT	39.111000000000				-1815.0000					7399.013036	
4708502082	02082	WILLARD E FERRELL	OPERATOR UNKNOWN	39.11380000000				-934,0000		205.1300	-5445		8262.546721	513380
4708502101	02101	PURSLEYS PULLING	RITCHIE PETROLEUM CORP.	39.12060000000				-977.0000		213.5500	-5445		7573.011528	513384
4708502114	02114	WILLARD E FERRELL	OPERATOR UNKNOWN	39.11610000000			1070.0000			1172.9900	-5445		7464.736401	514041
4708503404	03404	TROY A BRADY	ROSS AND WHARTON GAS COMPANY, INC.	39.10880000000						67.5400	-5445		7675.29717	51382
4708503409	03409	TROY A BRADY	POSTROCK EASTERN PRODUCTION LLC	39,10160000000				-967.0000		912.8700	-5445		7435.252022	513380
4708503414	03414	TROY A BRADY	ROSS AND WHARTON GAS COMPANY, INC.	39.10350000000				-3957,0000		1423.0900	-5445		10452.33037	514041
4708503419	03419	TROY A BRADY	ROSS AND WHARTON GAS COMPANY, INC.	39.10560000000				-1009.0000		1157.2400	-5445	7306	7397.083237	513384
4708503439		TROY A BRADY	ROSS AND WHARTON GAS COMPANY, INC.					-635.0000		29.8200	-5445	5977	5977,053726	513384
4708503464		TROY A BRADY	ROSS AND WHARTON GAS COMPANY, INC.	39,110100000000				-974.0000		344.4000	-5445	7336	7344,079749	513384
4708503998			EOT PRODUCTION COMPANY	39,11240000000				-968.0000		1136,1900	-5445	7349	7436,311499	514041
4708508160		ALAMCO	SWN PRODUCTION COMPANY, LLC	39.11660000000				2057.0000	The second second	80.2200	-5445	7502	7502.42889	514041
4708509668		ROSS & WHARTON		39.12000000000			1103,0000 -			1391.8500	-5445	8006	8125,086538	513384
4708509735			ROSS AND WHARTON GAS COMPANY, INC.	39.10350000000				4156.0000		1445.5400	-5445	10447	10546,53473	513384
		PGH & WV GAS	ROSS AND WHARTON GAS COMPANY, INC.	39.10900000000				5118.0000		860,2600	-5445	11435	11467.31321	514041
7/00330071	300/1	FOIL OF ANA CHZ		39.11690000000	-80,85970000000	GAS	0.0000 -	1982.0000	1982,0000	1412,1100	-5445	7427	7560.051829	513380

RECEIVED Gas





TEL: (412) 395-3305 FAX: (412) 395-2156

John Centofanti Corporate Director, Environmental Affairs



(date)

[Conventional Well Operator] [address] [state]

RE: Ritchie County Hydraulic Fracturing Notice

Dear Sir/Madam,

EQT has developed a Marcellus pad (Auburn 54 pad) located in Ritchie County, WV. As an owner or operator of conventional natural gas wells in this area, we are requesting your assistance in this matter.

Due to the apparent presence of unique geological conditions, the potential for communication between deep geologic zones exists in this area. This potential communication, via natural gas, water, or both, may occur between hydraulically fractured wells in the Marcellus formation (approximately 6,600' TVD) and existing conventional natural gas wells in the partially-depleted, relatively high permeability, Alexander formation (approximately 5,200' TVD).

EQT anticipates conducting hydraulic fracturing at the Pennsboro 40 pad during the [first,second, third,fourth] quarter of [year]. We have identified conventional natural gas wells operated by your company within 1,500' (lateral distance) of our new/planned laterals. Plats for each well on this pad are attached.

We recommend that conventional well operators conduct the following activities before, during, and after fracturing operations:

- Inspect surface equipment, prior to fracturing, to establish integrity and establish well conditions.
- Observe wells closely during and after fracturing and monitor for abnormal increases in water, gas, or pressure.
- 3. Inspect or install master valves rated to 3,000 psi or other necessary equipment for wellhead integrity.
- Notify the OOG and EQT if any changes in water, gas production, pressure, or other anomalies are identified.

Please feel free to contact me at 412-395-3305 with any questions or comments. You may also contact the West Virginia Office of Oil and Gas at 304-926-0440.

Sincerely, EQT Production

John Centofanti Corporate Director, Environmental Affairs

cc: James Martin, WV Office of Oil and Gas



PROJECT INFORMATION

PROJECT NAME: AUB-54

TAX PARCEL:

BRIAN TASCHLER ET AL.
UNION DISTRICT
RITCHLE COUNTY, BY
TOTAL PROPERTY AREA: 204.58 -/- ACRES

OIL AND GAS ROYALTY OWNER:

SITE LOCATION:
THE AUB-54 SITE IS LOCATED ON THE RIDGE SOUTH OF CO. RT.
7/18 APPROXIMATELY 1.13 MILES SOUTHEAST OF THE CO. RT. 7/18
AND CO. RT 7/13 INTERSECTION.

SURFACE OWNER DISTURBANCE

I BUT OF DISTURBANCE

SHEEFICE VANEE

DVIS J. KOPF ERRY A. RIDDLE ET AL

BRIAN TASCHLER ET AL.

LOCATION COORDINATES

AUB-54 SITE ENTRANCE
LATITUDE: 39.124831 LONGITUDE: -HO.H47288 (NAD HS)

AUB-54 CENTER OF WELL PAD LATITUDE: 38.118949 LONGITUDE: -80.854494 (NAD 83)

AUB-54 FLOW CENTER OF FLOW BACK PIT LATITUDE: 39.114875 LONGITUDE: -80.853488 (NAD 83)

SITE DISTURBANCE COMPLITATIONS
WELL PAD AREA & TANK BATTERY PAD - 5.8 ± ACRES
SHOWN ACCESS AREA - 8.6 ± ACRES
STOCKFILE AREA - 8.4 ± ACRES
JILON BACK PIT & MANIPOLID AREA - 3.0 ± ACRES
CUT THRU AREA - 2.3 ± ACRES

TOTAL SITE DISTURBANCE . 29.1 A ACRES

ENTRANCE PERMIT

EQT PRODUCTION COMPANY WILL OSTAIN AN ENCROACHMENT PERMIT (FORM
AUL-100) FROM THE REST VIRGINIA DEPARTMENT OF THANSFORTATION
CONTROLLED TO PERMIT PRODUCTION
CUTTYPITES.

MISS UTILITY STATEMENT
HIS UTILITY OF WEST VIRGINA WS NOTITED FOR THE LOCATING OF
UTILITIES PRIOR TO THIS PROJECT DESIGN. TICKET ALSOZOPOGG.
HI 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 AN AREA THAT IS NOTED AS "Other Areas" and could be designated either Zone B or Zone X on Tood Insurance Rata Mays \$400600350 & \$4000002050

ENVIRONMENTAL NOTES

A STILAND DELICATION MAS PERFORMED ON 4-18-2016, B-0-2016, AID 8-7-2016 BY POTESTA & ASSOCIATES, INC. TO RECUES THE SITE POR WATERS AND WITHAMS THAT ARE NOT LINKAY WITHIN THE REDUCTION PROTEINS OF THE WEST THE RECULATION PROTEINS OF THE WEST THE RECULATION PROTEINS OF A ASSOCIATES. INC. SUMMARIZES THE RESULTS OF THE PIELD DELINBATION FOR PROTEINS OF THE PROTEINS OF THE PROTEINS AND WEST AND STREET WAS RECULATED BY THE UNABLE OR THE WORD, IT IS STRONGLY RECOMMENDED THAT THE ADMINISTRATION BY THE UNABLE OR THE WORD, IT IS STRONGLY RECOMMENDED THAT THE ADMINISTRATION BY THE UNABLE OR THE WORD, IT IS STRONGLY RECOMMENDED THAT THE ADMINISTRATION BY THE UNABLE OR THE WORD, IT IS STRONGLY RECOMMENDED THAT THE ADMINISTRATION BY THE UNABLE OR THE TOTAL OF THE PROPERTY DESCRIBED MERRIC. IS CONSIDERED BY AND THE PROPERTY DESCRIBED MERRIC. IS CONSIDERED BY THE UNABLE OF THE UNABLE OF THE WATER OF THE WORD AND THE PROPERTY DESCRIBED MERRIC. IS CONSIDERED BY THE UNABLE OF THE WATER OF THE U.S. INCLUDING WETLAND TILLS AND STREAM AND STREAM

CENERAL DESCRIPTION

THE AUB-54 PAD AND PITS ARE BEING CONSTRUCTED TO AID IN THE DEVELOPMENT OF INDIVIDUAL MARCELLES SHALE GAS WELLS.

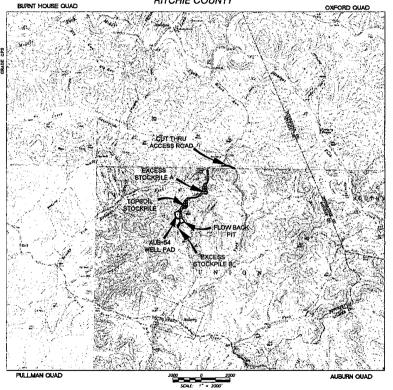
RESTRICTIONS NOTES:

- 1.THERE ARE NO PERENNIAL STREAMS/WETLANDS/OTHER WATER BODIES WITHIN 100 FEET OF THE WELL PAD LOD.
- 2. THERE ARE NO NATURALLY PRODUCING TROUT STREAMS WITHIN 300 FEET OF THE PAD AND LOD
- 3. THERE ARE NO GROUNDWATER INTAKE OR PUBLIC WATER SUPPLY FACILITIES WITHIN 1000 FEET OF THE PAD AND LOD.
- A THERE ARE NO KNOWN EXISTING WATER WELLS OF DEVELOPED SPRINGS WHEN 250 FFFTS OF THE WELLS) BEING DRILLED
- 5. THERE ARE NO OCCUPIED DWELLING STRUCTURES WITHIN 625 FEET OF THE CENTER OF THE PAD.
- 6. THERE ARE NO AGRICULTURAL BUILDINGS LARGER THAN 2,500 SQUARE FEET WITHIN 625 FEET OF THE CENTER OF THE PAD.

AUB-54 FINAL SITE PLAN EQT PRODUCTION COMPANY

PROPOSED WELL NUMBERS: H2-WV513380, H3-WV513381, H4-WV513382, H5-WV513383, H6-WV513384, AND H8-WV514041

SITUATE ON LEFT FORK & BRUSHY FORK OF BONE CREEK IN UNION DISTRICT.



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!!

APPROVED WVDEP OOG 1 6/2/2016

OPERATOR EQT PRODUCTION COMPANY OPERATOR ID: 306898 115 PROPESSIONAL PLACE P.O. BOX 280 BRIDGEPORT, WV 26330 PHONE: (304) 348-3870

ENGINEER/SURVEYOR

SMITH LAND SURVEYING, INC. 12 VANHORN DRIVE P.O. BOX 150 GLENVILLE, WV 26351 PHONE: (304) 462-663-

LIST OF DRAWINGS

- I COVER SKEET
- 2 NOTES
- 4 PRELIMINARY SITE PLAN
- 2 PRESTABLINA STEP DIAM
- 5 ACCESS HOAD PROPILES
- 9 MAIN ACCESS CROSS SECTIONS
- IN FLOW BACK PIT AND CUT THRU ACCESS ROAD PROFILES
- 12 MAIN ROAD CROSS SECTION
- 14 FLOW BACK PIT AND CUT THRU CROSS-SECTIONS
- 16 STOCKPILE CROSS SECTIONS
- 18 CONSTRUCTION DETAILS
- 20 CONSTRUCTION DETAILS
- 21 CONSTRUCTION DETAILS
- 22 CONSTRUCTION DETAILS

LEGEND EX THREX CONTOUR EX THTENADOLITE CONTOUR EX BOUNDARY LINE EX ROLD EDGE OF GRAVEL/DISC EX ROLD EDGE OF PAYEMENT EX ROLD EDGE OF PAYEMENT EX ROLD CONTENDED EX CONTENDED PROP. INTERMEDIATE CONTRUM — PROP. CRAING BIMTS — PROP. LIMTS OF DISTURBANCE — PROP. VEIL PLO PROP. VEIL NEAD PROP. VEIL NEAD PROP. CPU DRAIN PIPE PROP. SUMP DRAIN PROP. CONTANIMENT LEMM PROP. CONTANIMENT LEMM PROP. PRIVADOUNDMENT CL PROP. PROPLETER SAFETY FERCE PROP. PROPLETER SAFETY FERCE PROP. PROPLETER SAFETY FERCE PROP. PROPLETER SAFETY THE SAFETY FERCE PROP. PROPLETER SAFETY THE SAFETY SAFETY FERCE PROP. PROPLETER SAFETY THE SAFETY SAFET • CULVERT GUARDRAIL PENCELINE EX. GASE EX. OVERHEAD UTILITY EX. OVERHEAD UTILITY EX. OVERHEAD UTILITY EX. GUY WIRE EX. GUY WIRE EX. CLESPHONE LINE EX. GASLINE EX. GASTIME EX. GASTIME R/W EX. WATERLINE EX. WATER WELL EX. GAS. WELL EX. TRIELINE EX. REPEMENCE TREE EX. DELINEATED STREAM PROP. ROCK CONSTRUCTION PROP. ROAD EDGE OF GRAVEL --PROP. ROAD CENTERLINE --PROP. V-BITCH BY CHRCK DAMS PROP. DITCH RELET CULVERT (DRC) PROP. RIP-RAP OUTLET PROTECTION EX DELOGRATED METLAND EX. BUILDING PROP. GUARDRAIL OU. MELITAND GALBEYN BITAGEB PROP COUPOR FORES NOCH "A" i







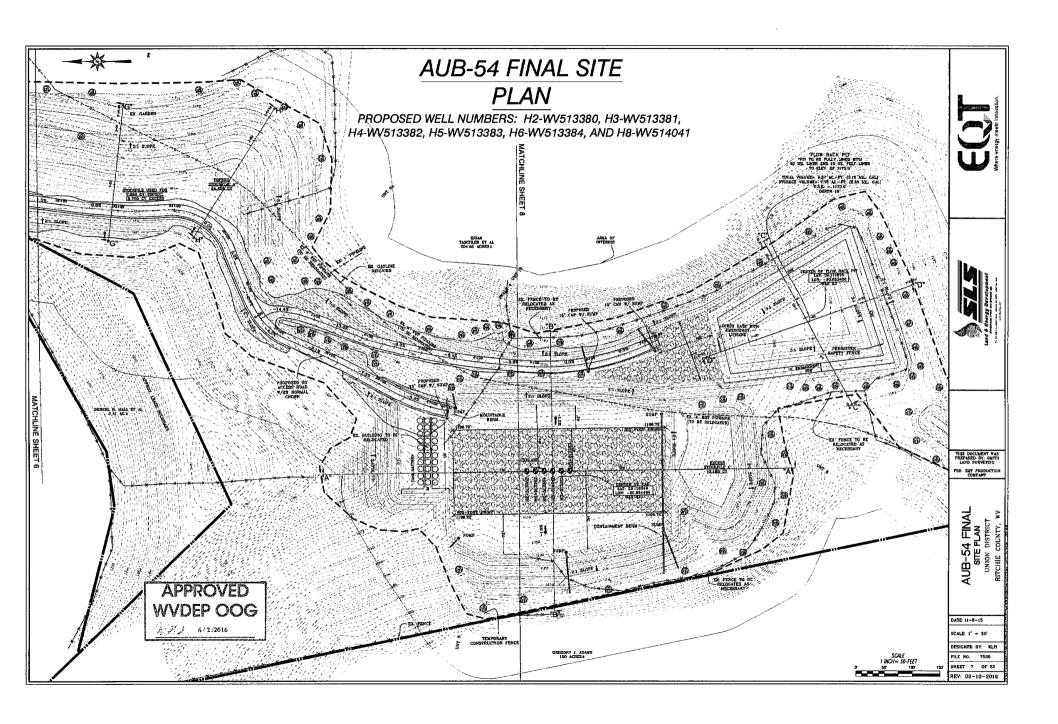
FOR: EQT PRODUCTS

AUB-54 FINAL STE PLAN UNION DISTRICT

DATE: 11-6-15

DESIGNED BY: KLH PILE NO. 7580

SHEET 1 OF 22 REV: 02-11-2016



PROJECT INFORMATION

PROJECT NAME: AUB-54 WHY DEDROYS

SURFACE OWNER

ENDAY TASCHIER ET AL
LUMION DESENCT
AUTOLIC COUNTY, BY
TOTAL PROPERTY AREA 20458 +/~ ACES

OIL AND GAS BOYALTY OWNER

DERSEL HALL, ET AL UNION DISTRICT ET CHE COUNTY, WY LEASE AREA 208 4/- ACRES LEASE AREA 500 107848

STE LOCATION.

INE AUD-64 STEE IS LOCATED ON THE RIEGE SOUTH OF CO. RT.

7/18 APPROXIMATELY 1 IS MEES SOUTHEAST OF THE CO. RT. 7/16

AND CO. RT. 7/13 INTERSECTION.

SURFACE OWNER DISTURBANCE

SUPPLIED OWNER

LOCATION COORDINATES

AUS-54 SITE ENTRANCE EATHTUDE 39 124631 (ONCITUDE: -80 847285 (NAD 83)

AUS-54 CENTER OF WELL PAD LATITUDE 30 116048 IDNOTTIME -60 854474 (Nath 81)

AUB-54 FLOW CENTER OF FLOW BACK FIT LATITUDE: 39114675 LONGITUDE: -80.853465 (NAD 63)

SITE DISTURBANCE COMPUTATIONS
WELL PAD AREA & TANK BATTERY PAD = 58 ± ACRES
MAIN ACCESS AREA = 96 ± ACRES
STOCKPIEL SEZE = 84 ± ACRES
FLOW BACK PIT ANAMOUND AREA = 30 ± ACRES
CUT THEN AREA = 23 ± ACRES
CUT THEN AREA = 23 ± ACRES

TOTAL SHE DISTURBANCE = 291 ± ACRES

ENTRANCE PERMIT

EXT PRODUCTION COMPANY WILL OFFAN

MENT PERMIT

MW-109] PROD THE WEST VINIGINA BEPARAMENT OF TRANSCONTACTION

EXCESSION OF HIGHWAYS, PRIOR TO COMMENCEMENT OF CONSTRUCTION

ACTIVITIES.

MISS UTILITY STATEMENT
MISS UTILITY OF WEST VERDINA WAS NOTIFIED FOR THE LOCATING OF
UTELLIES PROMED TO THE FRONCE DESIGN. TREET PLANTSYMMOOD
IS ADDITION, MISS UTILITY WELL SE CONTACTED PROOF TO START OF THE

FLOODPLAIN NOTE
THE PRODUCED LIMITS OF DISTURBANCE FOR THIS PROJECT IS LOCATED IN
A AZEA TRUIT IS NOTED AS "Other Area" and could be designated either
The Product of The P

ENVIRONMENTAL NOTES

A WILLARS DIRIDATION MAS FEROMEND ON 4-16-2015, 8-4-2015, NO 8-7-2015 BY POTETA & ASSOCIATE, DC. TO RECURE THE SITE FOR MATERIA AND MILLARIO THAT HE WON'T LIBELY WITHOUT ASSOCIATE, DC. TO RECURE THE U.S. AREY COMES OF ENGINEER (CASELY AND/OR THE WEST DER RECURED FOR THE STRUCKHOON SPECIFY THE 8-17-2015 SEDDER MAY PERFARED BY FOTETA & MANUAL PRODUCTION OF THE PERFARED FOR THE STRUCKHOON SPECIFIED BY THE SENDER FROM SPECIFIED

GENERAL DESCRIPTION

THE AUB-54 PAD AND PITS ARE BEING CONSTRUCTED TO AUD IN THE DEVELOPMENT OF ENDIVIDUAL MARCELLUS SHALE CAS WITHS

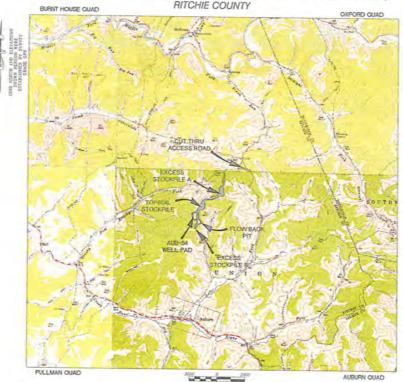
RESTRICTIONS NOTES

- 1.THERE ARE NO PERENNIAL STREAMS, WETLANDS OTHER WATER BODIES WITHIN 100 FEET OF THE WELL PAD LOD.
- 2. THERE ARE NO NATURALLY PRODUCING TROUT STREAMS WITHIN 300 FEET OF THE PAD AND LOD
- 3. THERE ARE NO GROUNDWATER INTAKE OR PUBLIC WATER SUPPLY FACILITIES WITHIN 1000 FEET OF THE PAD AND LOD.
- 4. THERE ARE NO KNOWN EXISTING WATER WELLS OR DEVELOPED SPRINGS WHITH 250 FEETS OF THE WELL(S) BEING DRILLED.
- 5. THERE ARE NO OCCUPIED DWELLING STRUCTURES WITHIN 615 FEET OF THE CENTER OF THE PAD.
- 6. THERE ARE NO AGRECULTURAL BUILDINGS LARGER THAN 2,500 SQUARE FEET WITHIN 625 FEET OF THE CENTER OF THE PAID.

AUB-54 FINAL SITE PLAN EQT PRODUCTION COMPANY

PROPOSED WELL NUMBERS: H2-WV513380, H3-WV513381, H4-WV513382, H5-WV513383, H6-WV513384, AND H8-WV514041

SITUATE ON LEFT FORK & BRUSHY FORK OF BONE CREEK IN UNION DISTRICT,



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!!

LIST OF DRAWINGS

- 1 COVER SHIPT
- 3 OVERALL SHEET INDEX & VOLUMES
- 4 PRELIMINARY SITE PLAN
- 5. POSTRONARY STEE BLAN
- 8 PESTIMINARY STIF PLAN
- 5 ACCESS BOAD PROFILES
- 9 MAIN ACCESS CROSS SECTIONS
- 10 FLOW BACK PIT AND CUT THRU ACCESS HOAD PROPRIES

BOP SITCH RELIEF

CTION LINE

THEFT (DRC)

- 12 MAIN BOAR CROSS SPETION
- 13 MAIN ROAD CROSS SECTION
- 14 FLOW BACK PIT AND CUT THEU CROSS-SECTIONS
- 15 Day and for chare economic 16 - STOCKPILE CROSS SECTIONS
- 17 PRIVINGEN BUT INSTITUTE DE LE
- 18 CONSTRUCTION DETAILS
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- 22 CONSTRUCTION DETAILS

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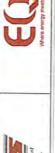
OPERATOR

EQT PRODUCTION COMPANY OPERATOR ID 306686 115 PROFESSIONAL PLACE P.O. BOX 280 BRIDGEPORT, WW 26330 PHONE (304) 345-3870

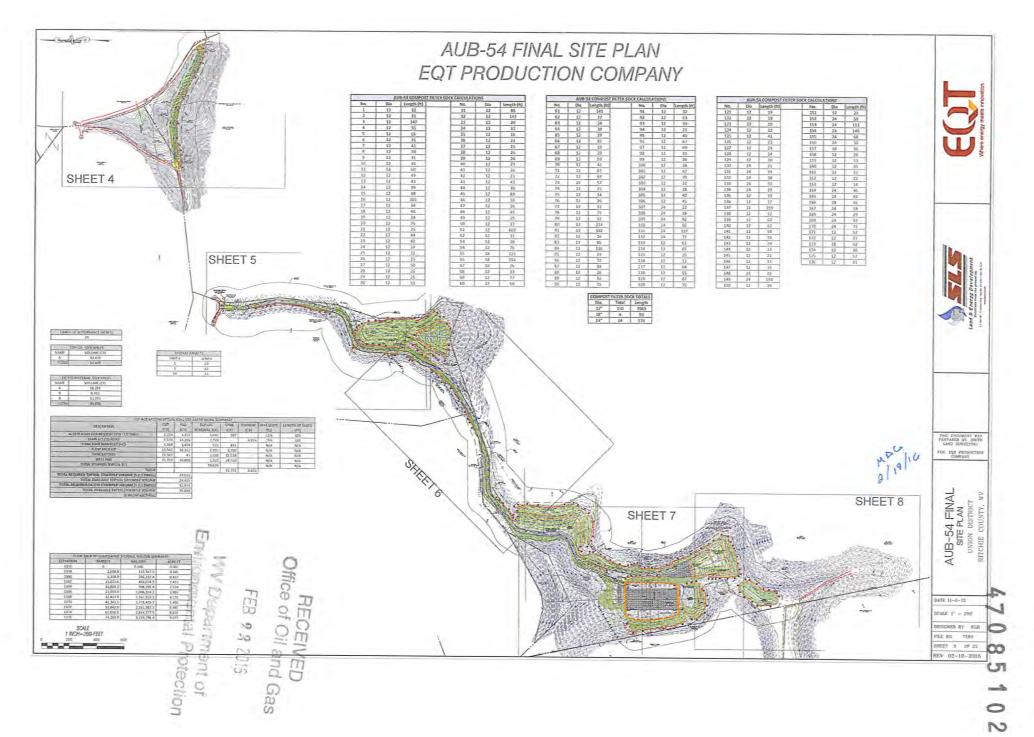
ENGINEER/SURVEYOR SMITH LAND SURVEYING, INC 12 YANHORN DRIVE P.O. BOX 150 GLENVILLE, WY 28351 PHONE (304) 462-5634

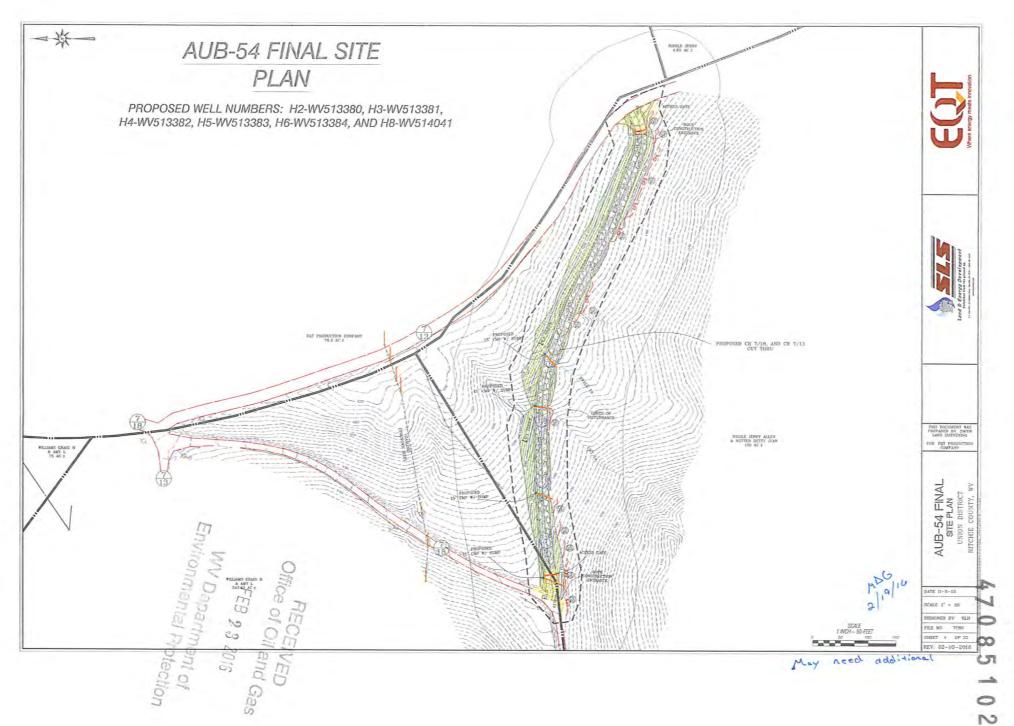
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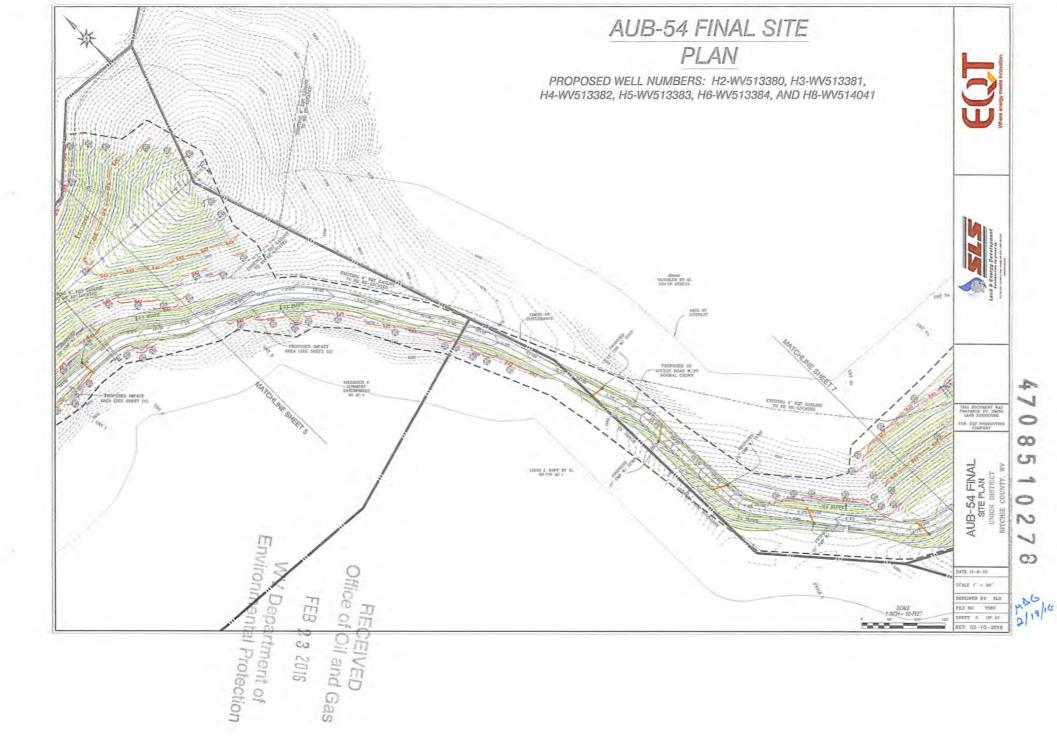












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