



west virginia department of environmental protection

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

Austin Caperton, Cabinet Secretary
www.dep.wv.gov

Tuesday, November 13, 2018
PERMIT MODIFICATION APPROVAL
Horizontal 6A / New Drill

ANTERO RESOURCES CORPORATION
1615 WYNKOOP STREET
DENVER, CO 80202

Re: Permit Modification Approval for GOLIAD UNIT 2H
47-085-10345-00-00

Extend lateral length to 18400'

ANTERO RESOURCES CORPORATION

The Office of Oil and Gas has reviewed the attached permit modification for the above referenced permit. The attached modification has been approved and well work may begin. Please be reminded that the oil and gas inspector is to be notified twenty-four (24) hours before permitted well work is commenced.

If there are any questions, please feel free to contact me at (304) 926- 0450.

A handwritten signature in blue ink, appearing to read "James A. Martin".

James A. Martin
Chief

Operator's Well Number: GOLIAD UNIT 1H
Farm Name: DAVID L. WEEKLEY REVOCABLE TRUST
U.S. WELL NUMBER: 47-085-10345-00-00
Horizontal 6A New Drill
Date Modification Issued: 11/13/2018

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

1) Well Operator: Antero Resources Corporation 494507062 085 - Ritchie Clay Pennsboro 7.5'
Operator ID County District Quadrangle

2) Operator's Well Number: Goliad Unit 2H Well Pad Name: Weekley Trust

3) Farm Name/Surface Owner: David L. Weekley Public Road Access: CR 74-2

4) Elevation, current ground: 1235' Elevation, proposed post-construction: _____

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

Other _____

(b) If Gas Shallow Deep _____

Horizontal _____

*Michael Jeff
8-16-18*

6) Existing Pad: Yes or No Yes

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Marcellus Shale: 7000' TVD, Anticipated Thickness- 75 feet, Associated Pressure- 2800#

8) Proposed Total Vertical Depth: 7000' TVD

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 18400' MD

11) Proposed Horizontal Leg Length: 9726'

12) Approximate Fresh Water Strata Depths: 338', 375'

13) Method to Determine Fresh Water Depths: Offset well records. Depths have been adjusted according to surface elevations.

14) Approximate Saltwater Depths: None Identified

15) Approximate Coal Seam Depths: 887'

16) Approximate Depth to Possible Void (coal mine, karst, other): None Anticipated

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

(a) If Yes, provide Mine Info: Name: _____

Depth: _____

Seam: _____

Owner: _____

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18)

CASING AND TUBING PROGRAM

TYPE	<u>Size (in)</u>	<u>New or Used</u>	<u>Grade</u>	<u>Weight per ft. (lb/ft)</u>	<u>FOOTAGE: For Drilling (ft)</u>	<u>INTERVALS: Left in Well (ft)</u>	<u>CEMENT: Fill-up (Cu. Ft.)/CTS</u>
Conductor	20"	New	H-40	94#	80	80	CTS, 77 Cu. Ft.
Fresh Water	13-3/8"	New	J-55	54.5#	425 *see # 19	425 *see # 19	CTS, 590 Cu. Ft.
Coal	9-5/8"	New	J-55	36#	2500	2500	CTS, 1018 Cu. Ft.
Intermediate							
Production	5-1/2"	New	P-110	23#	18400	18400	4652 Cu. Ft
Tubing	2-3/8"	New	N-80	4.7#			
Liners							

TYPE	<u>Size (in)</u>	<u>Wellbore Diameter (in)</u>	<u>Wall Thickness (in)</u>	<u>Burst Pressure (psi)</u>	<u>Anticipated Max. Internal Pressure (psi)</u>	<u>Cement Type</u>	<u>Cement Yield (cu. ft./k)</u>
Conductor	20"	24"	0.438"	1530	50	Class A	~1.18
Fresh Water	13-3/8"	17-1/2"	0.38"	2730	1000	Class A	~1.18
Coal	9-5/8"	12-1/4"	0.352"	3520	1500	Class A	~1.18
Intermediate							
Production	5-1/2"	8-3/4" & 8-1/2"	0.415"	12,630	2500	Lead-HFOZ & Tail -H	H/POZ-1.44 & H-1.8
Tubing	2-3/8"	4.778"	0.19"	11,200			
Liners							

PACKERS

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

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8-16-18

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

Drill, perforate, fracture a new horizontal shallow well and complete Marcellus Shale.

*Antero will be air drilling the fresh water string which makes it difficult to determine when fresh water is encountered. Therefore, we have built in a buffer for the casing setting depth which helps to ensure that all fresh water zones are covered.

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

Antero plans to pump Slickwater into the Marcellus Shale formation in order to ready the well for production. The fluid will be comprised of approximately 99 percent water and sand, with less than 1 percent special-purpose additives as shown in the attached "List of Anticipated Additives Used for Fracturing or Stimulating Well."

Anticipated Max Pressure - 9300 lbs
Anticipated Max Rate - 80 bpm

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): Existing 32.87 acres

22) Area to be disturbed for well pad only, less access road (acres): Existing 8.15 acres

23) Describe centralizer placement for each casing string:

Conductor: no centralizers
Surface Casing: one centralizer 10' above the float shoe, one on the insert float collar and one every 4th joint spaced up the hole to surface.
Intermediate Casing: one centralizer above float joint, one centralizer 5' above float collar and one every 4th collar to surface.
Production Casing: one centralizer at shoe joint and one every 3 joints to top of cement in intermediate casing.

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

Conductor: no additives, Class A cement.
Surface: Class A cement with 2-3% calcium chloride and 1/4 lb of flake
Intermediate: Class A cement with 1/4 lb of flake, 5 gallons of clay treat
Production: Lead cement- 50/50 Class H/Poz + 1.5% salt + 1% C-45 + 0.5% C-16a + 0.2% C-12 + 0.45% C-20 + 0.05% C-51
Production: Tail cement- Class H + 45 PPS Calcium Carbonate + 1.0% FL-160 + 0.2% ACGB-47 + 0.05% ACSA-51 + 0.2% ACR-20

25) Proposed borehole conditioning procedures:

Conductor: blowhole clean with air, run casing, 10 bbls fresh water.
Surface: blowhole clean with air, trip to conductor shoe, trip to bottom, blowhole clean with air, trip out, run casing, circulate pipe capacity + 40 bbls fresh water followed by 25 bbls bentonite mud, 10 bbls fresh water spacer.
Intermediate: blowhole clean with air, trip to surface casing shoe, trip to bottom, blowhole clean with air, trip out, run casing, circulate 40 bbls brine water followed by 10 bbls fresh water and 25 bbls bentonite mud, pump 10 bbls fresh water.
Production: circulate with 14 lb/gal NaCl mud, trip to middle of lateral, circulate, pump high viscosity sweep, trip to base of curve, pump high viscosity sweep, trip to top of curve, trip to bottom, circulate, pump high viscosity sweep, trip out, run casing, circulate 10 bbls fresh water, pump 48 bbls barite pill, pump 10 bbls fresh water followed by 48 bbls mud flush and 10 bbls water.

*Note: Attach additional sheets as needed.

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Page 3 of 3

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8-16-18

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:

Grantor, lessor, etc.	Grantee, lessee, etc.	Royalty	Book/Page
<u>David L. Weekley Revocable Trust Lease</u>			
David L. Weekley Revocable Trust	Antero Resources Corporation	1/8+	0295/0030
<u>Glenn Ellis Lease</u>			
Glenn Ellis	Alton Skinner	1/8	0135/0085
Alton Skinner	Chase Petroleum Inc.	Assignment	0142/0374
Chase Petroleum Inc.	Antero Resources Appalachian Cororation	Assignment	0254/0133
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	0015/0705
<u>Donald R. Reynolds Lease</u>			
Donald R. Reynolds	Antero Resources Corporation	1/8	0279/0279
<u>Carl F. Baker Jr. Lease</u>			
Carl F. Baker Jr.	Antero Resources Corporation	1/8+	0294/0054
<u>Beverly J. Wright Lease</u>			
Beverly J. Wright	Antero Resources Corporation	1/8+	0282/0995
<u>Emerson McCullough, et al Lease</u>			
Emerson McCullough, et al	Alton Skinner	1/8	0176/0360
Alton Skinner	Chase Petroleum Inc.	Assignment	0142/0374
Chase Petroleum Inc	Antero Resources Appalachian Corporation	Assignment	0254/0133
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1

*Partial Assignments to Antero Resources Corporation include 100% rights to extract, produce and market the oil and gas from the Marcellus and any other formations completed with this well.

****CONTINUED ON NEXT PAGE****

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Environmental Protection

WW-6A1
 (5/13)

Operator's Well No. Goliad Unit 2H

**INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE
 Chapter 22, Article 6A, Section 5(a)(5)
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- (1) the tract of land is the same tract described in this Application, partly or wholly depicted in the accompanying plat, and described in the Construction and Reclamation Plan;
- (2) the parties and recordation data (if recorded) for lease(s) or other continuing contract(s) by which the Applicant claims the right to extract, produce or market the oil or gas are as follows:

Lease Name or Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
<u>Robert McCullough, et ux Lease</u>	Robert McCullough, et ux	Jack Burg	1/8	0130/0297
	Jack Burg	J&J Enterprises, Inc.	Assignment	0152/0109
	J&J Enterprises, Inc.	Eastern American Energy Corporation	Confirmatory	0231/0732
	Eastern American Energy Corporation	Energy Corporation of America	Confirmatory	0306/0836
	Energy Corporation of America	Antero Resources Appalachian Corporation	Assignment	0257/0377
	Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1

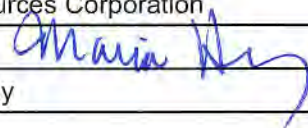
*Partial Assignments to Antero Resources Corporation include 100% rights to extract, produce and market the oil and gas from the Marcellus and any other formations completed with this well.

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

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

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

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

Well Operator: Antero Resources Corporation
 By: Maria Henry 
 Its: VP of Geology

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WV Department of
 Environmental Protection

FORM WV-6A1
EXHIBIT 1

FILED

JUN 10 2013

Natalie E. Tennant
Secretary of State
1900 Kanawha Blvd E
Bldg 1, Suite 157-K
Charleston, WV 25305



Penney Barker, Manager
Corporations Division
Tel: (304)558-8000
Fax: (304)559-8381
Website: www.wvscs.com
E-mail: business@wvscs.com

APPLICATION FOR
AMENDED CERTIFICATE
OF AUTHORITY

Office Hours: Monday - Friday
8:30 a.m. - 5:00 p.m. ET

FILE ONE ORIGINAL
(Two if you want a filed
stamped copy returned to you)
FEE: \$25.00

In accordance with the provisions of the West Virginia Code, the undersigned corporation hereby applies for an Amended Certificate of Authority and submits the following statement:

- 1. Name under which the corporation was authorized to transact business in WV: Antero Resources Appalachian Corporation
- 2. Date Certificate of Authority was issued in West Virginia: 6/28/2009
- 3. Corporate name has been changed to: Antero Resources Corporation
(Attach one Certified Copy of Name Change as filed in home State of incorporation.)
- 4. Name the corporation elects to use in WV: Antero Resources Corporation
(due to home state name not being available)
- 5. Other amendments: _____
(attach additional pages if necessary)

6. Name and phone number of contact person. (This is optional, however, if there is a problem with the filing, listing a contact person and phone number may avoid having to return or reject the document.)

Alwyn A. Schopp (303) 367-7310
Contact Name Phone Number

7. Signature information (See below **Important Legal Notice Regarding Signatures**):

Print Name of Signer: Alwyn A. Schopp Title/Capacity: Authorized Person

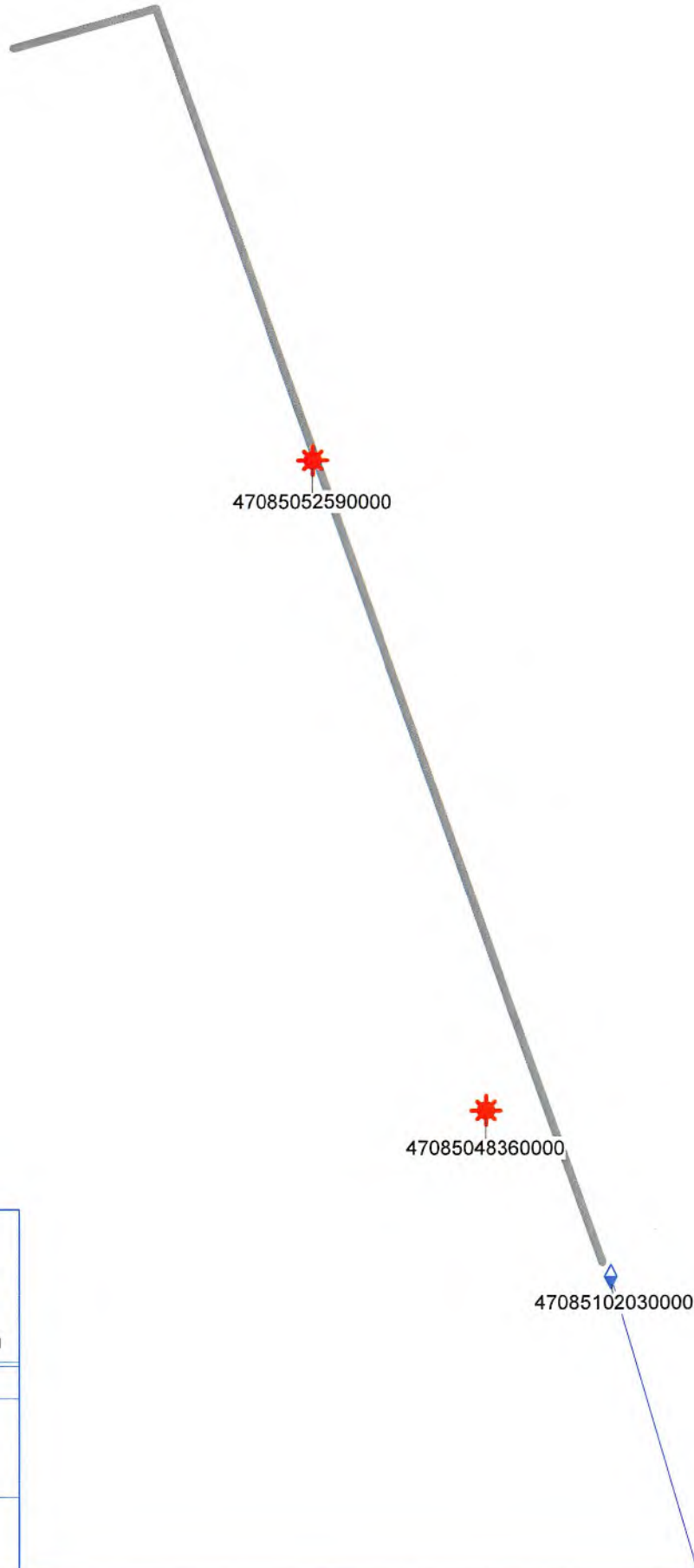
Signature: *Alwyn A. Schopp* Date: June 10, 2013

Important Legal Notice Regarding Signatures For West Virginia Code §31D-1-12b. Penalty for signing false document. Any person who signs a document he or she knows is false in any material respect and knows that the document is to be delivered to the secretary of state for filing is guilty of a misdemeanor and, upon conviction thereof, shall be fined not more than one thousand dollars or confined in the county or regional jail not more than one year, or both.

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Antero Resources Corporation

Goliad Unit 2H - AOR



- WELL SYMBOLS**
Gas Well
Waiting on Completion

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GOLIAD UNIT 2H (WEEKLEY TRUST PAD) - AREA OF REVIEW 35-8-5.11 PAGE 2

Permit Modification API# 47-085-10345

UWI (API#)	Well Name	Well Number	Operator	Historical Operator	TD	Perforated Interval (shallowest, deepest)	Perforated Formation(s)	Producible Formation(s) not perf'd
47085102030000	STRONSNIDER UNIT	3H	ANTERO RESOURCES CORPORATION	ANTERO RESOURCES CORPORATION	15980	N/A	Marcellus Fm	N/A
47085048360000	MCCULLOUGH BEN ETAL	3	ABARTA O&G CO INC	CHASE PETROLEUM CO	5500	4603-5286	Riley, Benson, Alexander	Big Injun, Baltown, Bradford
47085052590000	ELLIS GLEN	1	ABARTA O&G CO INC	CHASE PETROLEUM CO	5556	4130-4630	Huron, Riley	Big Injun, Baltown, Bradford

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LATITUDE 39°22'30" 2,003'

LATITUDE 39°22'30"

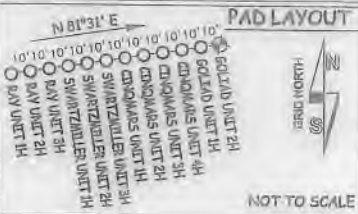
LONGITUDE 80°2'30"

LONGITUDE 80°55'00"

Antero Resources Corporation
Well No. Goliad Unit 2H
47-085-10345

NOTES:
WELL 2H TOP HOLE INFORMATION:
N: 320,644ft E: 1,597,511ft
LAT: 39°22'17.76" LON: 80°55'25.51"
BOTTOM HOLE INFORMATION:
N: 311,714ft E: 1,601,664ft
LAT: 39°20'50.15" LON: 80°54'30.85"
WEST VIRGINIA COORDINATE SYSTEM OF 1927 NORTH ZONE. ZONE WAS DERIVED FROM MEASUREMENTS TAKEN WITH TRIMBLE GEOXT SUBMETER MAPPING GRADE GPS UNIT. PLAT ORIENTATION, CORNER, AND WELL REFERENCE TIE LINES ARE BASED ON GRID NORTH.

(NAD) 83 (UTM) ZONE 17 COORDS:
WELL 2H TOP HOLE INFORMATION:
N: 4,358,026m E: 506,582m
BOTTOM HOLE INFORMATION:
N: 4,355,327m E: 507,893m



1/16/2018

TM-Par	Surface Owner	Book/Pg	Acres
03-06	Cliff Perkins	289/1012	24.1 AC
03-9.1	Steven Hana	222/163	78 AC
03-10	David Weekley Revocable Trust	265/204	25 AC
03-12	David Weekley Revocable Trust	265/204	25 AC
03-19	Hummer Properties	322/625	22.5 AC
03-25	Walter Fleming	286/672	4.38 AC
04-22	Donald Freas	262/167	4.22 AC
04-31	Myron Perkins	186/521	1.39 AC
04-31.1	Burt Newbold Sr.	316/1040	90.656 AC
04-32	Gary Bishop	339/45	4.7 AC
04-35	Gary Bishop	339/43	24.256 AC
04-39	Scott Leggett	346/291	0.75 AC
04-12	Walter Fleming	280/373	0.34 AC
04-12.1	Walter Fleming	286/676	0.47 AC
04-12.2	Walter Fleming	280/373	0.3 AC
04-12.3	Walter Fleming	280/373	LOT
04-13	Walter Fleming	280/373	4.66 AC
04-13.1	Scott Leggett	346/291	0.829 AC
04-14	Donald Morrison	154/251	1.25 AC
04-50	James Mahoney	287/216	5 AC
04-51	Jacob Cox	340/925	2.2 AC
08-6.2	Walter Fleming	280/373	53.7 AC
09-01	James Mahoney	277/660	147.83 AC
09-16	Phillip Ayers	280/1077	13.52 AC
09-17	Rosetta Holmes	295/451	27.43 AC
09-19	Roger Scott	280/625	66 AC
09-20	Walter Smertycha	317/89	70.8 AC

Royalty Owner
A Norman D. Fleming Et Ux
B David L. Weekley Revocable Trust
C Tony Adrian Perkins
D Edward T. Clissold
E Glenn Ellis
F Myron Perkins Et Ux
G Helen N. McCullough
H Donald R. Reynolds
I Carl F. Baker Et Ux
J Emerson McCullough Et Al
K Beverly J. Wright
L Gary R. Davis Et Ux
M Robert McCullough Et Ux
N Gene P. Bond

WV NORTH ZONE
GRID NORTH

NOTE:
4 WATER WELLS WERE
LOCATED WITHIN 2000'
OF CENTER OF PAD



I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE RULES ISSUED AND PERSCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

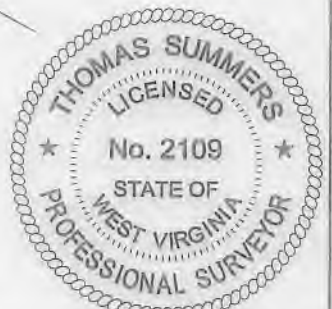


STATE OF WEST VIRGINIA, DIVISION
OF ENVIRONMENTAL PROTECTION,
OFFICE OF OIL AND GAS

WILLOW LAND SURVEYING PLLC
220 MASONIC AVE. PENNSBORO
WEST VIRGINIA 26415

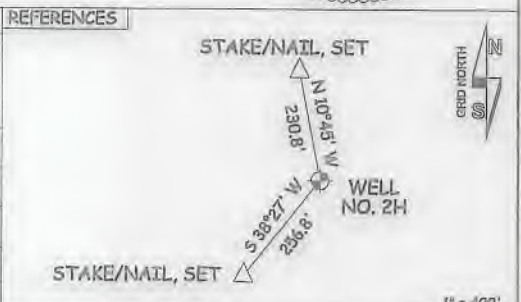
(NAD) 27 (UTM) ZONE 17 COORDS:
WELL 2H TOP HOLE INFORMATION:
N: 14,297,245ft E: 1,661,965ft
POINT OF ENTRY INFORMATION:
N: 14,297,539ft E: 1,662,979ft
BOTTOM HOLE INFORMATION:
N: 14,289,388ft E: 1,666,265ft

NOTE
NO OCCUPIED DWELLINGS OR BUILDINGS TWO THOUSAND FIVE HUNDRED (2,500) SQUARE FEET OR LARGER USED TO HOUSE OR SHELTER DAIRY CATTLE OR POULTRY HUSBANDRY ARE LOCATED WITHIN SIX HUNDRED TWENTY-FIVE (625) FEET OF THE CENTER OF THE WELL PAD.



JOB # 16-051WA
DRAWING # GOLIAD 2HR
SCALE 1" = 2000'
MINIMUM DEGREE OF ACCURACY SUBMETER
PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS
STATE OF WEST VIRGINIA DEPARTMENT OF ENERGY DIVISION OF OIL AND GAS

LEGEND
--- Surface Owner Boundary Lines +/-
--- Interior Surface Tracts +/-
X Existing Fence
Found monument, as noted
THOMAS SUMMERS P.S., 2109
DATE 07/30/18
OPERATOR'S WELL# GOLIAD UNIT #2H



WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___ 47 - 085 - 10345 MOD
(IF "GAS") PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X STATE COUNTY PERMIT
LOCATION: ELEVATION 1,235' AS BUILT WATERSHED NORTH FORK HUGHES RIVER
QUADRANGLE PENNSBORO 7.5 DISTRICT CLAY COUNTY RITCHIE
SURFACE OWNER DAVID L. WEEKLEY REVOCABLE TRUST ACREAGE 203.38 ACRES +/-
OIL & GAS ROYALTY OWNER DAVID L. WEEKLEY REVOCABLE TRUST; GLENN ELLIS; HELEN N. McCULLOUGH; DONALD R. REYNOLDS; CARL F. BAKER ET UX; BEVERLY J. WRIGHT; EMERSON McCULLOUGH ET AL; ROBERT McCULLOUGH ET UX LEASE ACREAGE 229 AC±; 32 AC±; 103 AC±; 0.75 AC±; 4.38 AC±; 1.25 AC±; 154 AC±; 148.5 AC±;
PROPOSED WORK: DRILL ___ CONVERT ___ DRILL DEEPER X REDRILL ___ FRACTURE OR STIMULATE X
PLUG OFF OLD FORMATION ___ PERFORATE NEW FORMATION X OTHER PHYSICAL CHANGE IN WELL
(SPECIFY) MOD BHL PLUG & ABANDON CLEAN OUT & REPLUG
TARGET FORMATION MARCELLUS ESTIMATED DEPTH 7,000' TVD 18,400' MD
WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER - CT CORPORATION SYSTEM
ADDRESS 1615 WYNKOOP ST. ADDRESS 5400 D BIG TYLER ROAD
FORM WW-6 DENVER, CO 80202 CHARLESTON, WV 25313

WW-6B
(04/15)

API NO. 47-085 - 10345 **11/16/2018**

OPERATOR WELL NO. Goliad Unit 2H

Well Pad Name: Weekley Trust

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

1) Well Operator: Antero Resources Corporation

<u>494507062</u>	<u>085 - Ritchie</u>	<u>Clay</u>	<u>Pennsboro 7.5'</u>
------------------	----------------------	-------------	-----------------------

Operator ID County District Quadrangle

2) Operator's Well Number: Goliad Unit 2H Well Pad Name: Weekley Trust

3) Farm Name/Surface Owner: David L. Weekley Public Road Access: CR 74-2

4) Elevation, current ground: 1235' Elevation, proposed post-construction: _____

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

Other _____

(b) If Gas Shallow Deep _____

Horizontal _____

6) Existing Pad: Yes or No Yes

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Marcellus Shale: 7000' TVD, Anticipated Thickness- 75 feet, Associated Pressure- 2800#

8) Proposed Total Vertical Depth: 7000' TVD

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 18400' MD

11) Proposed Horizontal Leg Length: 9726'

12) Approximate Fresh Water Strata Depths: 338', 375'

13) Method to Determine Fresh Water Depths: Offset well records. Depths have been adjusted according to surface elevations.

14) Approximate Saltwater Depths: None Identified

15) Approximate Coal Seam Depths: 887'

16) Approximate Depth to Possible Void (coal mine, karst, other): None Anticipated

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

(a) If Yes, provide Mine Info: Name: _____
Depth: _____
Seam: _____
Owner: _____

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Office of Oil and Gas

AUG 6 2018

WW-6B
(04/15)

API NO. 47- 085 - 10345 **11/16/2018**

OPERATOR WELL NO. Goliad Unit 2H

Well Pad Name: Weekley Trust

18)

CASING AND TUBING PROGRAM

TYPE	<u>Size (in)</u>	<u>New or Used</u>	<u>Grade</u>	<u>Weight per ft. (lb/ft)</u>	<u>FOOTAGE: For Drilling (ft)</u>	<u>INTERVALS: Left in Well (ft)</u>	<u>CEMENT: Fill-up (Cu. Ft.)/CTS</u>
Conductor	20"	New	H-40	94#	80	80	CTS, 77 Cu. Ft.
Fresh Water	13-3/8"	New	J-55	54.5#	425 *see # 19	425 *see # 19	CTS, 590 Cu. Ft.
Coal	9-5/8"	New	J-55	36#	2500	2500	CTS, 1018 Cu. Ft.
Intermediate							
Production	5-1/2"	New	P-110	23#	18400	18400	4652 Cu. Ft
Tubing	2-3/8"	New	N-80	4.7#			
Liners							

TYPE	<u>Size (in)</u>	<u>Wellbore Diameter (in)</u>	<u>Wall Thickness (in)</u>	<u>Burst Pressure (psi)</u>	<u>Anticipated Max. Internal Pressure (psi)</u>	<u>Cement Type</u>	<u>Cement Yield (cu. ft./k)</u>
Conductor	20"	24"	0.438"	1530	50	Class A	~1.18
Fresh Water	13-3/8"	17-1/2"	0.38"	2730	1000	Class A	~1.18
Coal	9-5/8"	12-1/4"	0.352"	3520	1500	Class A	~1.18
Intermediate							
Production	5-1/2"	8-3/4" & 8-1/2"	0.415"	12,630	2500	Lead-H/POZ & Tail - H	H/POZ-1.44 & H-1.8
Tubing	2-3/8"	4.778"	0.19"	11,200			
Liners							

PACKERS

VOID

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

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WV Department of
Environmental Protection

WW-6B
(10/14)

API NO. 47- 085 - 10345 **11/16/2018**

OPERATOR WELL NO. Goliad Unit 2H

Well Pad Name: Weekley Trust

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

Drill, perforate, fracture a new horizontal shallow well and complete Marcellus Shale.

*Antero will be air drilling the fresh water string which makes it difficult to determine when fresh water is encountered. Therefore, we have built in a buffer for the casing setting depth which helps to ensure that all fresh water zones are covered.

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

Antero plans to pump Slickwater into the Marcellus Shale formation in order to ready the well for production. The fluid will be comprised of approximately 99 percent water and sand, with less than 1 percent special-purpose additives as shown in the attached "List of Anticipated Additives Used for Fracturing or Stimulating Well."

Anticipated Max Pressure - 9300 lbs

Anticipated Max Rate - 80 bpm

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): Existing 32.87 acres

22) Area to be disturbed for well pad only, less access road (acres): Existing 8.15 acres

23) Describe centralizer placement for each casing string:

Conductor: no centralizers

Surface Casing: one centralizer 10' above the float shoe, one on the insert float collar and one every 4th joint spaced up the hole to surface.

Intermediate Casing: one centralizer above float joint, one centralizer 5' above float collar and one every 4th collar to surface.

Production Casing: one centralizer at shoe joint and one every 3 joints to top of cement in intermediate casing.

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

Conductor: no additives, Class A cement.

Surface: Class A cement with 2-3% calcium chloride and 1/4 lb of flake

Intermediate: Class A cement with 1/4 lb of flake, 5 gallons of clay treat

Production: Lead cement- 50/50 Class H/Poz + 1.5% salt + 1% C-45 + 0.5% C-16a + 0.2% C-12 + 0.45% C-20 + 0.05% C-51

Production: Tail cement- Class H + 45 PPS Calcium Carbonate + 1.0% FL-160 + 0.2% ACGB-47 + 0.05% ACSA-51 + 0.2% ACR-20



25) Proposed borehole conditioning procedures:

Conductor: blowhole clean with air, run casing, 10 bbls fresh water.

Surface: blowhole clean with air, trip to conductor shoe, trip to bottom, blowhole clean with air, trip out, run casing, circulate pipe capacity + 40 bbls fresh water followed by 25 bbls bentonite mud, 10 bbls fresh water spacer.

Intermediate: blowhole clean with air, trip to surface casing shoe, trip to bottom, blowhole clean with air, trip out, run casing, circulate 40 bbls brine water followed by 10 bbls fresh water and 25 bbls bentonite mud, pump 10 bbls fresh water.

Production: circulate with 14 lb/gal NaCl mud, trip to middle of lateral, circulate, pump high viscosity sweep, trip to base of curve, pump high viscosity sweep, trip to top of curve, trip to bottom, circulate, pump high viscosity sweep, trip out, run casing, circulate 10 bbls fresh water, pump 48 bbls barite pill, pump 10 bbls fresh water followed by 48 bbls mud flush and 10 bbls water.

*Note: Attach additional sheets as needed.

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Page 3 of 3

LATITUDE 39°22'30" 2.003'

LATITUDE 39°22'30"

LONGITUDE 80°55'00"

LONGITUDE 80°55'00"

9,494' TO BOTTOM HOLE

Antero Resources Corporation
Well No. Goliad Unit 2H
47-085-10345

NOTES:
WELL 2H TOP HOLE INFORMATION:
N: 320,644ft E: 1,597,511ft
LAT: 39°22'17.76" LON: 80°55'25.51"
BOTTOM HOLE INFORMATION:
N: 311,714ft E: 1,601,664ft
LAT: 39°20'50.15" LON: 80°54'30.85"
WEST VIRGINIA COORDINATE SYSTEM OF 1927 NORTH ZONE.
ZONE WAS DERIVED FROM MEASUREMENTS TAKEN WITH TRIMBLE GEOXT SUBMETER MAPPING GRADE GPS UNIT. PLAT ORIENTATION, CORNER, AND WELL REFERENCE TIE LINES ARE BASED ON GRID NORTH.

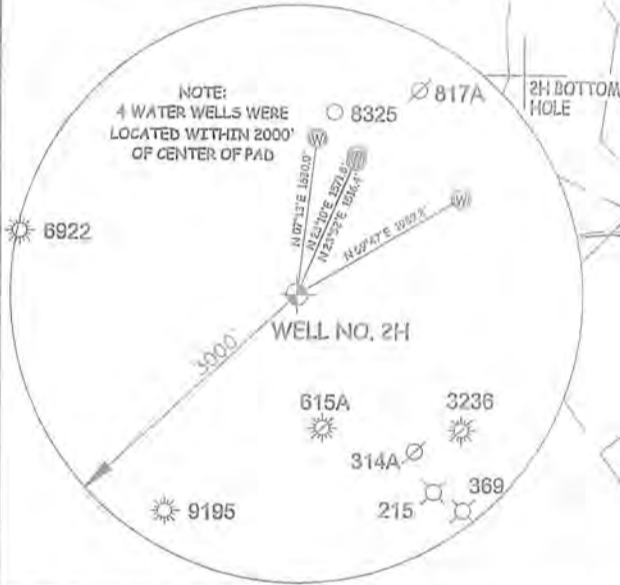
(NAD) 83 (UTM) ZONE 17 COORDS:
WELL 2H TOP HOLE INFORMATION:
N: 4,358,026m E: 506,582m
BOTTOM HOLE INFORMATION:
N: 4,355,327m E: 507,893m



WV NORTH ZONE GRID NORTH

TM-Par	Surface Owner	Book/Pg	Acres
03-06	Cliff Perkins	289/1012	24.1 AC
03-9.1	Steven Haga	222/161	73.36 AC
03-10	David Weekley Revocable Trust	265/201	203.38 AC
03-12	David Weekley Revocable Trust	265/204	25 AC
03-19	Hummer Properties	322/625	22.5 AC
03-25	Walter Fleming	286/672	4.36 AC
04-22	Donald Freas	262/167	42.22 AC
04-31	Myron Perkins	166/521	1.39 AC
04-31.1	Burt Neswald Sr.	316/1040	90.656 AC
04-32	Gary Bishop	339/45	4.7 AC
04-35	Gary Bishop	339/43	24.256 AC
04-39	Scott Leggett	346/291	0.75 AC
04-42	Walter Fleming	280/373	0.34 AC
04-42.1	Walter Fleming	286/676	0.47 AC
04-42.2	Walter Fleming	280/373	0.3 AC
04-42.3	Walter Fleming	280/373	LOT
04-43	Walter Fleming	280/373	4.66 AC
04-43.1	Scott Leggett	346/291	0.529 AC
04-44	Donald Morrison	154/251	1.25 AC
04-50	James Mahoney	257/216	5 AC
04-51	Jacob Cox	340/525	2.2 AC
08-6.2	Walter Fleming	280/373	53.7 AC
09-01	James Mahoney	277/668	147.83 AC
09-16	Phillip Ayers	280/1077	13.52 AC
09-17	Ressiter Holmes	295/451	27.43 AC
09-19	Roger Scott	280/625	66 AC
09-20	Walter Smertycha	317/89	70.5 AC

Royalty Owner	
A	Norman D. Fleming Et Ux
B	David L. Weekley Revocable Trust
C	Tony Adrian Perkins
D	Edward T. Clissold
E	Glenn Ellis
F	Myron Perkins Et Ux
G	Helen N. McCullough
H	Donald R. Reynolds
I	Carl F. Baker Et Ux
J	Emerson McCullough Et Al
K	Beverly J. Wright
L	Gary R. Davis Et Ux
M	Robert McCullough Et Ux
N	Gene P. Bond



I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE RULES ISSUED AND PERSCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

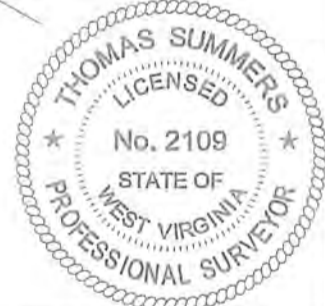


STATE OF WEST VIRGINIA, DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS

WILLOW LAND SURVEYING PLLC
220 MASONIC AVE. PENNSBORO WEST VIRGINIA 26415

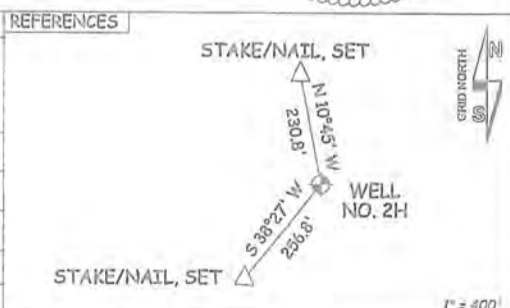
(NAD) 27 (UTM) ZONE 17 COORDS:
WELL 2H TOP HOLE INFORMATION:
N: 14,297,245ft E: 1,661,965ft
POINT OF ENTRY INFORMATION:
N: 14,297,539ft E: 1,662,979ft
BOTTOM HOLE INFORMATION:
N: 14,289,388ft E: 1,666,265ft

NOTE:
NO OCCUPIED DWELLINGS OR BUILDINGS TWO THOUSAND FIVE HUNDRED (2,500) SQUARE FEET OR LARGER USED TO HOUSE OR SHELTER DAIRY CATTLE OR POULTRY HUSBANDRY ARE LOCATED WITHIN SIX HUNDRED TWENTY-FIVE (625) FEET OF THE CENTER OF THE WELL PAD.



JOB # 16-051WA
DRAWING # GOLIAD 2HR
SCALE 1" = 2000'
MINIMUM DEGREE OF ACCURACY SUBMETER
PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS
STATE OF WEST VIRGINIA DEPARTMENT OF ENERGY DIVISION OF OIL AND GAS

LEGEND
Surface Owner Boundary Lines +/-
Interior Surface Tracts +/-
Existing Fence
Found monument as noted
THOMAS SUMMERS P.S. 2109
DATE 07/30/18
OPERATOR'S WELL # GOLIAD UNIT #2H



WELL TYPE: OIL ___ GAS LIQUID INJECTION ___ WASTE DISPOSAL ___ 47 ___ 085 ___ 10345
(IF "GAS") PRODUCTION STORAGE ___ DEEP ___ SHALLOW STATE COUNTY PERMIT
LOCATION: ELEVATION 1,235' AS BUILT WATERSHED NORTH FORK HUGHES RIVER
QUADRANGLE PENNSBORO 7.5' DISTRICT CLAY COUNTY RITCHIE
SURFACE OWNER DAVID L. WEEKLEY REVOCABLE TRUST ACREAGE 203.38 ACRES +/-
OIL & GAS ROYALTY OWNER DAVID L. WEEKLEY REVOCABLE TRUST; GLENN ELLIS; HELEN N. McCULLOUGH; DONALD R. REYNOLDS; CARL F. BAKER ET UX; BEVERLY J. WRIGHT; EMERSON McCULLOUGH ET AL; ROBERT McCULLOUGH ET UX LEASE ACREAGE 229 AC±; 32 AC±; 103 AC±; 0.75 AC±; 4.36 AC±; 1.25 AC±; 154 AC±; 148.5 AC±;
PROPOSED WORK: DRILL ___ CONVERT ___ DRILL DEEPER REDRILL ___ FRACTURE OR STIMULATE
PLUG OFF OLD FORMATION ___ PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) MOD BHL PLUG & ABANDON CLEAN OUT & REPLUG
TARGET FORMATION MARCELLUS ESTIMATED DEPTH 7,000' TVD 18,400' MD
WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER - CT CORPORATION SYSTEM
ADDRESS 1615 WYNKOOP ST. ADDRESS 5400 D BIG TYLER ROAD
FORM WW-6 DENVER, CO 80202 CHARLESTON, WV 25313

COUNTY NAME PERMIT

11/16/2018

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WATER CONTAINMENT PAD & SEDIMENT CONTROL PLAN

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WEST VIRGINIA
RIVER WATERSHED
BORO QUAD MAPS



WEST VIRGINIA STATE PLANE COORDINATE SYSTEM
NORTH ZONE, NAD83
ELEVATION BASED ON NAVD83
ESTABLISHED BY SURVEY GRADE GPS & OPUS
POST-PROCESSING

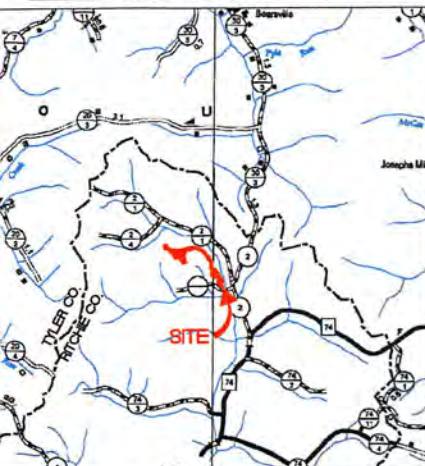
SHEET INDEX

- 1 - COVER SHEET
- 2 - LEGEND
- 3 - OVERALL PLAN SHEET INDEX
- 4 - ACCESS ROAD & WATER CONTAINMENT PAD AS-BUILT PLAN
- 5 - ACCESS ROAD AS-BUILT PLAN
- 6 - WELL PAD AS-BUILT PLAN
- 7 - ACCESS ROAD AS-BUILT PROFILE, WELL PAD & WATER CONTAINMENT PAD AS-BUILT SECTIONS
- 8 - ACCESS ROAD AS-BUILT PROFILE
- 9 - STOCKPILE AS-BUILT SECTIONS

WEEKLEY TRUST LIMITS OF DISTURBANCE AREA (AC)	
Total Site	
Impacts to David L. Weekley, Trustee of the David L. Weekley Revocable Trust UTA TM 3-10	
Access Road "A" (749')	2.72
Access Road "B" (2,486')	10.67
Well Pad	8.15
Water Containment Pad	3.70
Excess/Topsoil Material Stockpiles	7.63
Total Affected Area	32.87
Total Wooded Acres Disturbed	30.22

Proposed Well Name	WV North NAD 27	WV North NAD 83	UTM (METERS) Zone 17	NAD 83 Lat & Long
Ray	N 320527.84	N 320662.16	N 4358020.94	LAT 39-22-17.8714
Unit 1H	E 1597402.38	E 1565961.32	E 506549.28	LONG -80-55-26.2802
Ray	N 320629.32	N 320663.64	N 4358021.44	LAT 39-22-17.8875
Unit 2H	E 1597412.28	E 1565971.21	E 506552.28	LONG -80-55-26.1546
Ray	N 320630.79	N 320665.11	N 4358021.94	LAT 39-22-17.9037
Unit 3H	E 1597422.17	E 1565981.10	E 506555.29	LONG -80-55-26.0290
Swartzmiller	N 320632.26	N 320666.59	N 4358022.44	LAT 39-22-17.9198
Unit 1H	E 1597432.06	E 1565990.99	E 506558.29	LONG -80-55-25.9033
Swartzmiller	N 320633.74	N 320668.06	N 4358022.94	LAT 39-22-17.9359
Unit 2H	E 1597441.95	E 1566000.88	E 506561.30	LONG -80-55-25.7777
Swartzmiller	N 320635.21	N 320669.54	N 4358023.44	LAT 39-22-17.9520
Unit 3H	E 1597451.84	E 1566010.77	E 506564.30	LONG -80-55-25.6520
Cinqmars	N 320636.69	N 320671.01	N 4358023.94	LAT 39-22-17.9682
Unit 1H	E 1597461.73	E 1566020.66	E 506567.31	LONG -80-55-25.5264
Cinqmars	N 320638.16	N 320672.49	N 4358024.44	LAT 39-22-17.9843
Unit 2H	E 1597471.62	E 1566030.55	E 506570.31	LONG -80-55-25.4008
Cinqmars	N 320639.64	N 320673.96	N 4358024.94	LAT 39-22-18.0004
Unit 3H	E 1597481.51	E 1566040.44	E 506573.32	LONG -80-55-25.2751
Cinqmars	N 320641.11	N 320675.44	N 4358025.44	LAT 39-22-18.0165
Unit 4H	E 1597491.40	E 1566050.33	E 506576.33	LONG -80-55-25.1495
Goliad	N 320642.59	N 320676.91	N 4358025.94	LAT 39-22-18.0327
Unit 1H	E 1597501.29	E 1566060.23	E 506579.33	LONG -80-55-25.0239
Goliad	N 320644.06	N 320678.38	N 4358026.44	LAT 39-22-18.0488
Unit 2H	E 1597511.18	E 1566070.12	E 506582.34	LONG -80-55-24.8992
Well Pad Elevation	1,235.0			

WVDOH COUNTY ROAD MAP



5000 0 5000
SCALE: 1" = 5000'

NOTES:

1. ALL BMP'S MUST REMAIN IN PLACE AND FUNCTIONAL UNTIL ALL AREAS WITHIN THE LIMIT OF DISTURBANCE ARE COMPLETE AND PERMANENTLY STABILIZED. MAINTENANCE MUST INCLUDE INSPECTION OF ALL EROSION AND SEDIMENT CONTROLS AFTER EACH RUNOFF EVENT IN EXCESS OF 0.5" AND ON A BIWEEKLY BASIS.
2. THE CONSTRUCTION SITE SHOULD BE STABILIZED AS SOON AS POSSIBLE AFTER COMPLETION. ESTABLISHMENT OF FINAL STABILIZATION MUST BE INITIATED NO LATER THAN 7 DAYS AFTER REACHING FINAL GRADE. FINAL STABILIZATION MEANS THAT ALL SOIL-DISTURBING ACTIVITIES ARE COMPLETED, AND THAT EITHER A PERMANENT VEGETATIVE COVER WITH A DENSITY OF 70% OR GREATER HAS BEEN ESTABLISHED OR THAT THE SURFACE HAS BEEN STABILIZED BY HARD COVER SUCH AS PAVEMENT OR BUILDINGS. IT SHOULD BE NOTED THAT THE 70% REQUIREMENT REFERS TO THE TOTAL AREA VEGETATED AND NOT JUST A PERCENT OF THE SITE.
3. ALL PERMANENT SEDIMENT CONTROL MEASURES CAN BE REMOVED AFTER THE SITE IS PERMANENTLY STABILIZED AND APPROVAL IS RECEIVED FROM THE WVDEP.
4. ANY AREAS DISTURBED BY REMOVAL OF CONTROLS SHALL BE REPAIRED, STABILIZED, AND PERMANENTLY SEEDED.
5. THE AS-BUILT INFORMATION SHOWN HEREON REFLECTS FIELD DATA COLLECTED RELATING TO THE FINAL GRADING OF THE DISTURBED AREA AS OF MARCH 5, 2018. NAVITUS ENGINEERING IS NOT RESPONSIBLE FOR ANY CHANGES MADE TO THE SITE AFTER THE ABOVE MENTIONED DATES.
6. THE EXISTING CONTAINMENT BERM AROUND THE WELL PAD SHALL BE REPAIRED AS NECESSARY TO ENSURE 100% CONTAINMENT OF ALL FLUIDS PRIOR TO DRILLING OPERATIONS
7. THE EXISTING EGRESSES TO THE WELL PAD SHALL HAVE THE MOUNTABLE BERMS REPAIRED AS NECESSARY TO ENSURE 100% CONTAINMENT OF ALL FLUIDS PRIOR TO DRILLING OPERATIONS.

NAVITUS
ENERGY ENGINEERING

Telephone: (888) 662-4185 | www.NavitusEng.com

REVISION

DATE



THIS DOCUMENT
WAS PREPARED FOR:
ANTERO RESOURCES
CORPORATION

COVER SHEET

WEEKLEY TRUST
WELL PAD & WATER CONTAINMENT PAD
CLAY DISTRICT
RITCHIE COUNTY, WEST VIRGINIA



DATE: 03/05/2018
SCALE: AS SHOWN
SHEET 1 OF 9

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!!

LEGEND

LEGEND		
EX. INDEX CONTOUR & CONTOUR LABEL		PR. INDEX CONTOUR
EX. INTERMEDIATE CONTOUR		PR. INTERMEDIATE
EX. PROPERTY LINE		PR. INTERMEDIATE
EX. TOP OF BERM		PR. INDEX ROAD C
EX. ROAD EDGE OF GRAVEL/DIRT		PR. INTERMEDIATE
EX. ROAD EDGE OF PAVEMENT		PR. PADS/STOCKPI
EX. ROAD CENTERLINE		PERMITTED LIMITS
EX. GUARDRAIL		MODIFICATION LIM
EX. BRIDGE		PR. ROAD/IMPOUN
EX. DITCHLINE/DRAINAGE FEATURE		PR. ROAD CENTER
EX. RIP-RAP		PR. GUARDRAIL
EX. CULVERT		PR. ROCK CONSTR
EX. TREELINE		PR. AIR BRIDGE
EX. BUILDING		PR. CULVERT
EX. MISCELLANEOUS FEATURE		PR. DITCH
EX. 100 YR FEMA FLOODPLAIN		PR. RIP-RAP TRAF
EX. DELINEATED STREAM		PR. OUTLET PROTE
EX. DELINEATED WETLAND/POND		PR. DIVERSION
100' WETLAND/STREAM BUFFER		PR. ROCK LEVEL S
STREAM/WETLAND DELINEATION STUDY AREA		PR. COMPOST FILT
EX. FENCELINE		PR. SUPER SILT F
EX. GATE		PR. WELL HEAD
EX. PERIMETER SAFETY FENCE		PR. PAD DEWATER
EX. ACCESS GATE WITH EMERGENCY LIFELINE		PR. TOP OF PAD
EX. WELL HEAD ON DESIGNED PAD		PR. 220' X 320' F
EX. GAS WELL		PR. SPOT SHOT
EX. PIPELINE		PR. PERIMETER SA
EX. PIPELINE R/W		PR. ACCESS GATE
EX. PIPELINE METER		PR. PIPELINE
EX. PIPELINE VALVE		PR. PIPELINE R/W
EX. PIT		PR. OVERHEAD UT
EX. OVERHEAD UTILITY		PR. POWER POLE/G
EX. POWER POLE/GUY WIRE		PR. OVERHEAD UT
EX. UNDERGROUND ELECTRIC		PR. WATERLINE
EX. UNDERGROUND TELEPHONE		BORING LOCATION
EX. UNDERGROUND FIBER OPTIC		X-SECTION/PROFI
EX. UTILITY R/W		X-SECTION/PROFI
EX. WATERLINE		X-SECTION/PROFI
EX. WATER WELL/EX. SPRING		X-SECTION/PROFI
EX. COMPOST SOCK		X-SECTION/PROFI
EX. SUPER SILT FENCE		X-SECTION/PROFI
EX. SILT FENCE		MATCHLINE
APPROX. LOCATION OF SLIDE AREA		EX. METER
APPROX. LOCATION OF BORROW/ SPOIL AREA		EX. TANK
PR. TOE BENCH		EX. COMBUSTOR
EX. APPROX. SURFACE & SUB-SURFACE ELECTRIC LINE AREA		EX. GPU
EX. APPROX. SURFACE & SUB-SURFACE DUMP LINE AREA		EX. SEPARATOR
EX. APPROX. SURFACE & SUB-SURFACE WELL LINE AREA		EX. VRT
EX. APPROX. SURFACE & SUB-SURFACE SALES LINE AREA		EX. KNOCK-OUT



CONTOUR (10' INTERVAL) & CONTOUR LABEL	
CONTOUR (2' INTERVAL)	
CONTOUR (1' INTERVAL)	
CONTOUR (10' INTERVAL) & CONTOUR LABEL	
ROAD CONTOUR (2' INTERVAL)	
TOPO LIMITS	
BOUNDARY OF DISTURBANCE	
BOUNDARY OF DISTURBANCE	
PERMANENT EDGE OF GRAVEL	
LINE	
SECTION ENTRANCE	
CLY #1	
DL #1	
DL #1	
OP #1	
DIY #1	
SPREADER	
R SOCK	
SSSF	
SSSF	
IRIG SYSTEM	
CONTAINMENT BERM	
D FOOTPRINT	
1000' X	
SAFETY FENCE	
FENCE WITH EMERGENCY LIFELINE	
SAFETY	
UTILITY WIRE	
UTILITY R/W	
GRID INDEX	
GRID INTERMEDIATE	
PROPOSED GRADE	
EXISTING GRADE	
WATER SURFACE	
CULVERT	
EX. STAIRS/CATWALK	
EX. DEWATERING SYSTEM	
EX. PIG LAUNCHER	
EX. SECONDARY CONTAINMENT	
EX. ABOVE-GND VAPOR LINE	
EX. ESD	
EX. MAILBOX	
EX. CONTROL PT.	
EX. MUSTER AREA	

REVISION	DATE

Antero
RESOURCES

THIS DOCUMENT
WAS PREPARED FOR:
ANTERO RESOURCES
CORPORATION

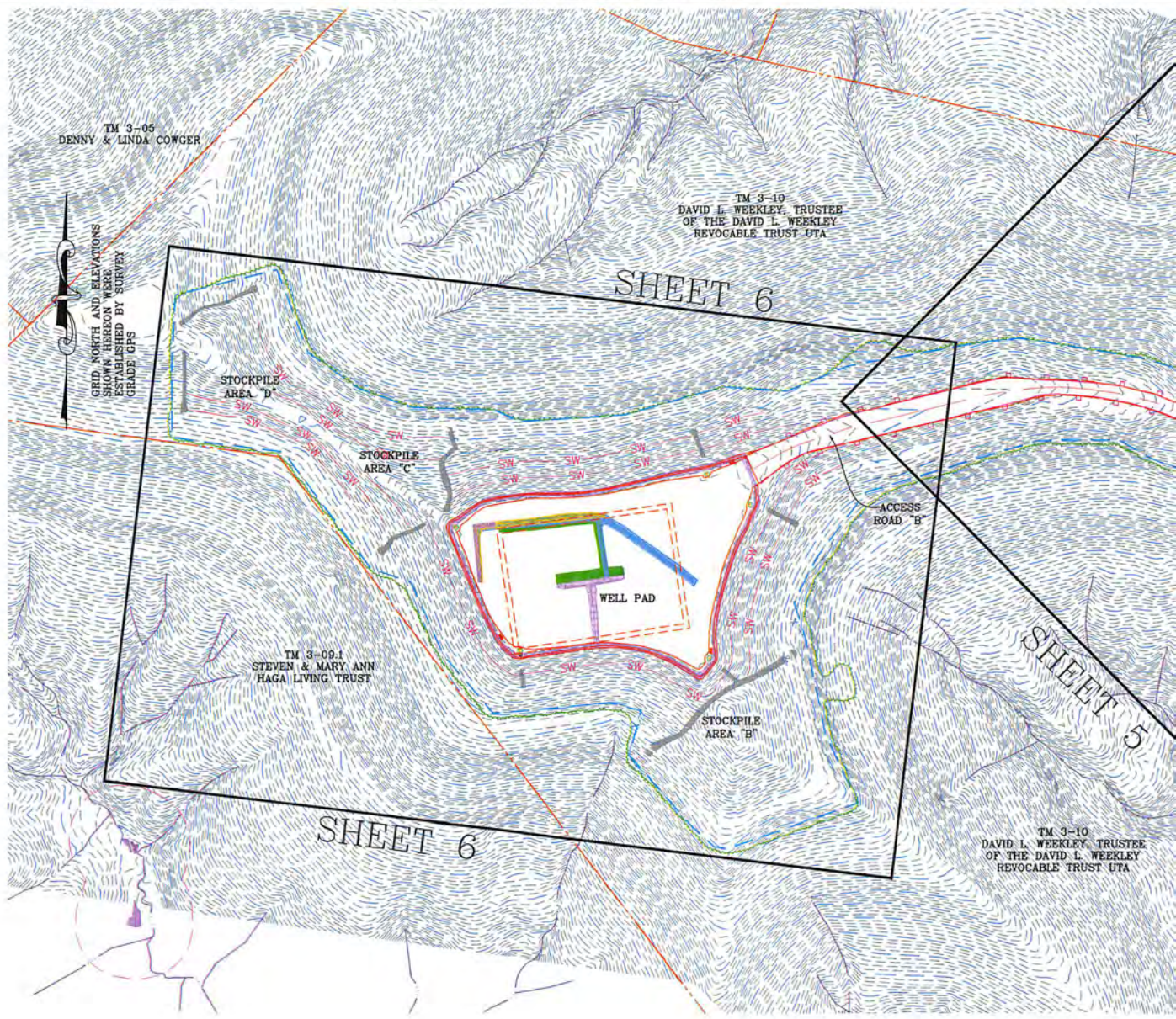
LEGEND

WEEKLEY TRUST
WELL PAD & WATER CONTAINMENT PAD
CLAY DISTRICT
RITCHIE COUNTY, WEST VIRGINIA

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AUG 6 2018
WV Department of
Environmental Protection



DATE: 03/05/2018
SCALE: N/A
SHEET 2 OF 9



GENERAL NOTES:

1. THE TOPOGRAPHIC INFORMATION SHOWN HEREON IS BASED ON APRIL 6, 2014 AERIAL PHOTOGRAPHY COMPILED MAY, 2014 BY BLUE MOUNTAIN AERIAL MAPPING, BURTON, WEST VIRGINIA.
2. AS-BUILT INFORMATION SHOWN HEREON IS BASED ON FIELD SURVEY PERFORMED BY NAVITUS ENGINEERING, INC. BETWEEN OCTOBER 20, 2017 TO MARCH 5, 2018.
3. THE PROPERTY LINES SHOWN HEREON DO NOT REPRESENT A BOUNDARY SURVEY ON ANY OF THE PARCELS SHOWN. PROPERTY CORNERS AND LINES PERTINENT TO WELL LOCATION ARE BASED ON A FIELD SURVEY. THE REMAINDER OF THE PROPERTY LINES ARE BASED ON COUNTY REAL ESTATE TAX MAPS, GIS INFORMATION AND DEEDS OF RECORD.
4. UTILITIES AND THEIR LOCATIONS AS SHOWN HEREON ARE BASED ON: A) OBSERVABLE EVIDENCE OF THOSE VISIBLE, ABOVE-GROUND FACILITIES, FEATURES, AND MARKERS WHICH WERE FOUND ON THE SUBJECT PROPERTY AT THE TIME OF SURVEY PERFORMED BY NAVITUS ENGINEERING AND B) FIELD MARKINGS PLACED BY UTILITY COMPANIES IN RESPONSE TO THE WV 811 TICKET SUBMITTED BY NAVITUS ENGINEERING. NAVITUS ENGINEERING CANNOT GUARANTEE THE ACCURACY OF THE UTILITY MARKINGS PERFORMED BY OTHERS OR THAT ALL UTILITIES EXISTING WITHIN THE LIMITS OF THIS PLAN ARE SHOWN. ANY UTILITIES ENCOUNTERED SUBSEQUENT TO PLAN APPROVAL OR DURING CONSTRUCTION THAT ARE NOT SHOWN ON THE PLAN SHOULD BE REPORTED TO NAVITUS ENGINEERING AND ANTERO RESOURCES CORPORATION.



11/16/2018

OVERALL PLAN SHEET INDEX

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TM 3-06
MYRON D. PERKINS, DEANA M.
HUDKINS, KYLE D. PERKINS, ANDY
W. PERKINS & TONY A. PERKINS

TM 3-26
CHRISTOPHER
K. HAYMOND

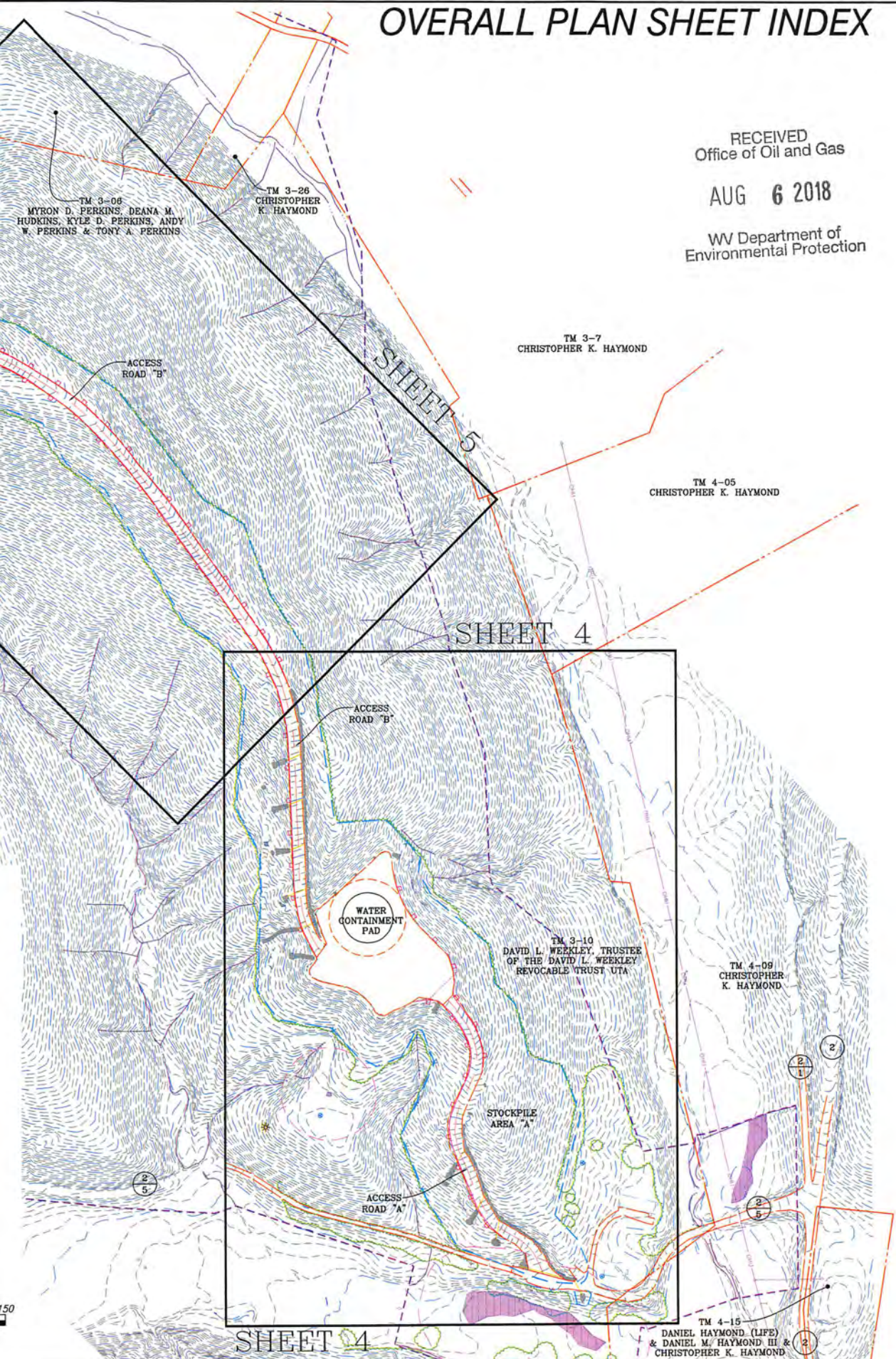
TM 3-7
CHRISTOPHER K. HAYMOND

TM 4-05
CHRISTOPHER K. HAYMOND

TM 3-10
DAVID L. WEEKLEY, TRUSTEE
OF THE DAVID L. WEEKLEY
REVOCABLE TRUST UTA

TM 4-09
CHRISTOPHER
K. HAYMOND

TM 4-15
DANIEL HAYMOND (LIFE)
& DANIEL M. HAYMOND III &
CHRISTOPHER K. HAYMOND



REVISION	DATE



THIS DOCUMENT
WAS PREPARED FOR:
ANTERO RESOURCES
CORPORATION

OVERALL PLAN SHEET INDEX
WEEKLEY TRUST
WELL PAD & WATER CONTAINMENT PAD
CLAY DISTRICT
RITCHIE COUNTY, WEST VIRGINIA



DATE: 03/05/2018
SCALE: 1" = 150'
SHEET 3 OF 9

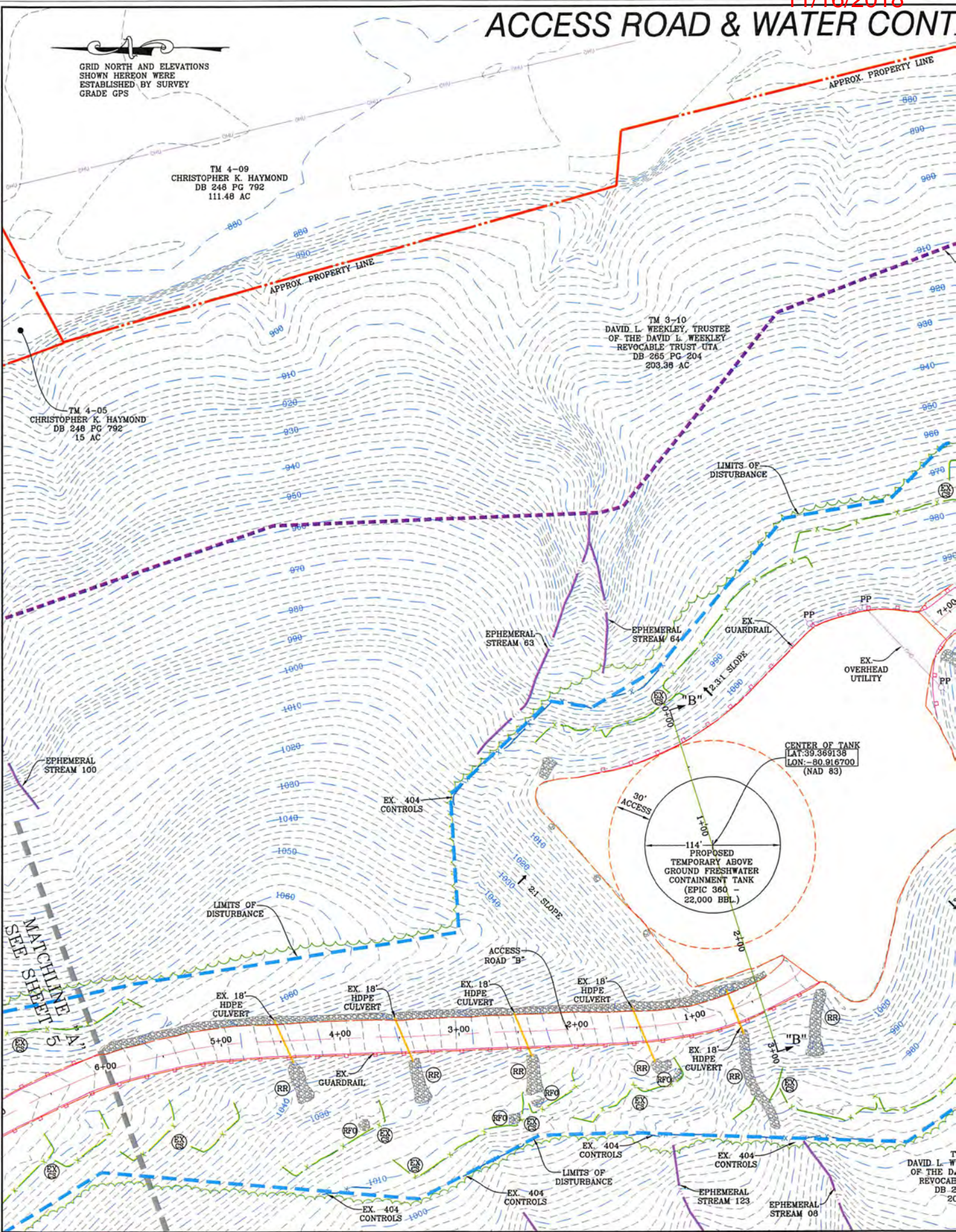
ACCESS ROAD & WATER CONT.

GRID NORTH AND ELEVATIONS SHOWN HEREON WERE ESTABLISHED BY SURVEY GRADE GPS

TM 4-09
CHRISTOPHER K. HAYMOND
DB 248 PG 792
111.48 AC

TM 4-05
CHRISTOPHER K. HAYMOND
DB 248 PG 792
15 AC

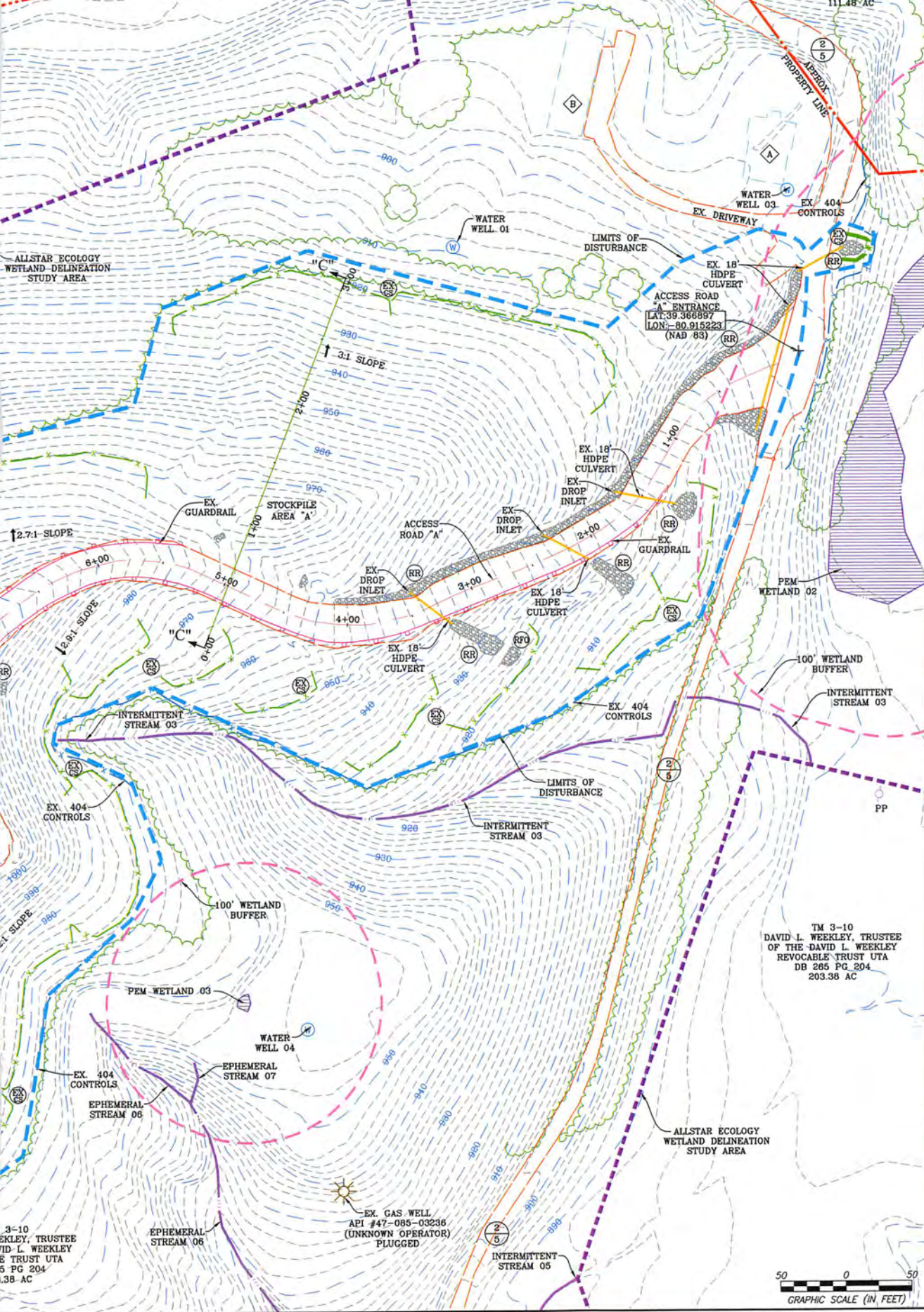
TM 3-10
DAVID L. WEEKLEY, TRUSTEE
OF THE DAVID L. WEEKLEY
REVOCABLE TRUST UTA
DB 285 PG 204
203.88 AC



T
DAVID L. W
OF THE D
REVOCAB
DB 2
20

11/16/2018

CONTAINMENT PAD AS-BUILT PLAN



TM 4-09
 CHRISTOPHER K. HAYMOND
 DB 248 PG 792
 111.48 AC

TM 3-10
 DAVID L. WEEKLEY, TRUSTEE
 OF THE DAVID L. WEEKLEY
 REVOCABLE TRUST UTA
 DB 265 PG 204
 203.38 AC

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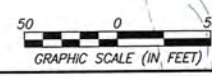
Telephone: (888) 662-4185 | www.NavitusEng.com

REVISION	DATE

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 CORPORATION

ACCESS ROAD & WATER CONTAINMENT PAD
 AS-BUILT PLAN
WEEKLEY TRUST
 WELL PAD & WATER CONTAINMENT PAD
 CLAY DISTRICT
 RITCHIE COUNTY, WEST VIRGINIA

DATE: 03/05/2018
 SCALE: 1" = 50'
 SHEET 4 OF 9



11/16/2018

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Environmental Protection

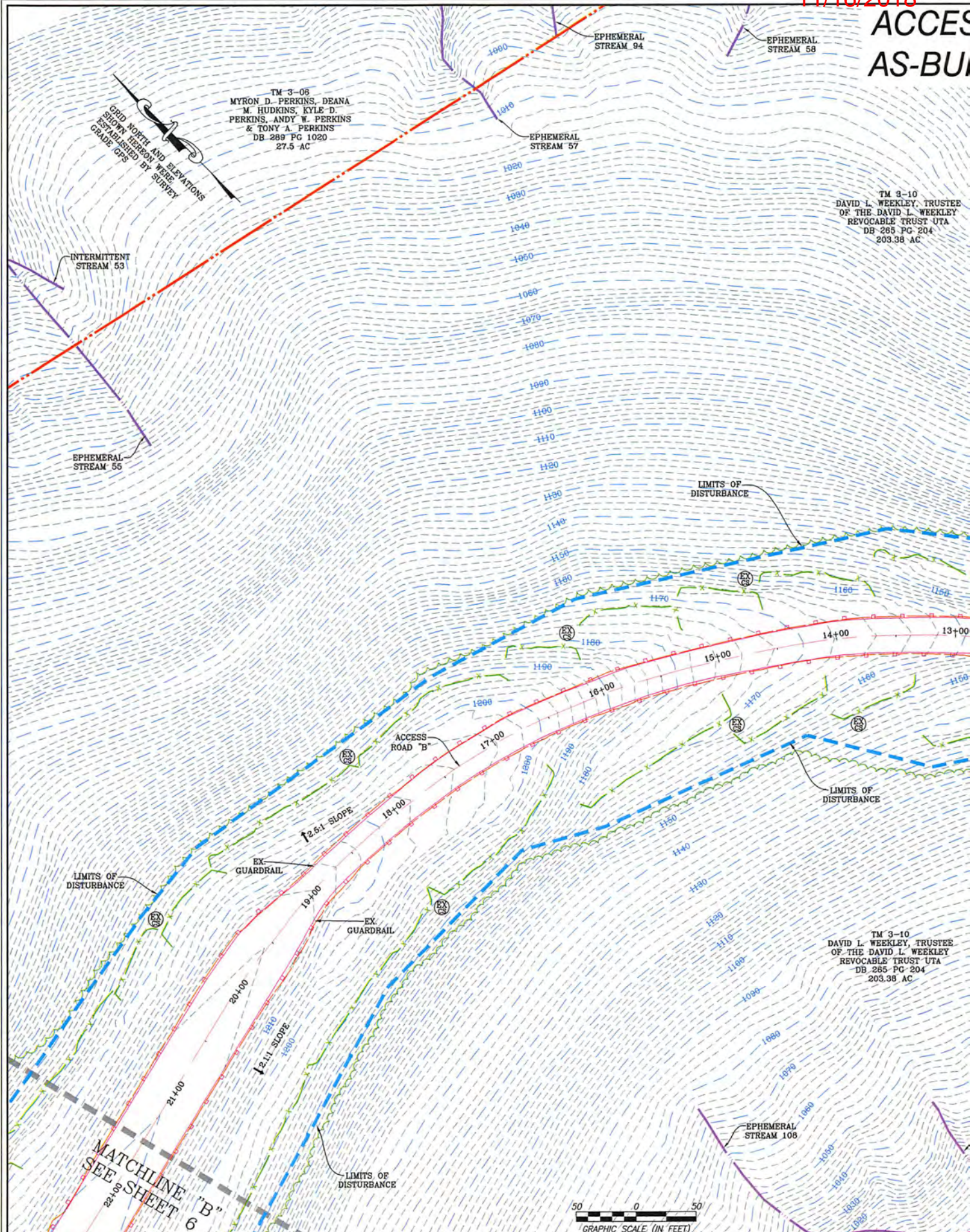
11/16/2018

ACCESS AS-BUILT

GRID NORTH AND ELEVATIONS
SHOWN HEREON WERE
ESTABLISHED BY SURVEY

TM 3-08
MYRON D. PERKINS, DEANA
M. HUDKINS, KYLE D.
PERKINS, ANDY W. PERKINS
& TONY A. PERKINS
DB 289 PG 1020
27.5 AC

TM 3-10
DAVID L. WEEKLEY, TRUSTEE
OF THE DAVID L. WEEKLEY
REVOCABLE TRUST UTA
DB 285 PG 204
203.38 AC



LIMITS OF DISTURBANCE

LIMITS OF DISTURBANCE

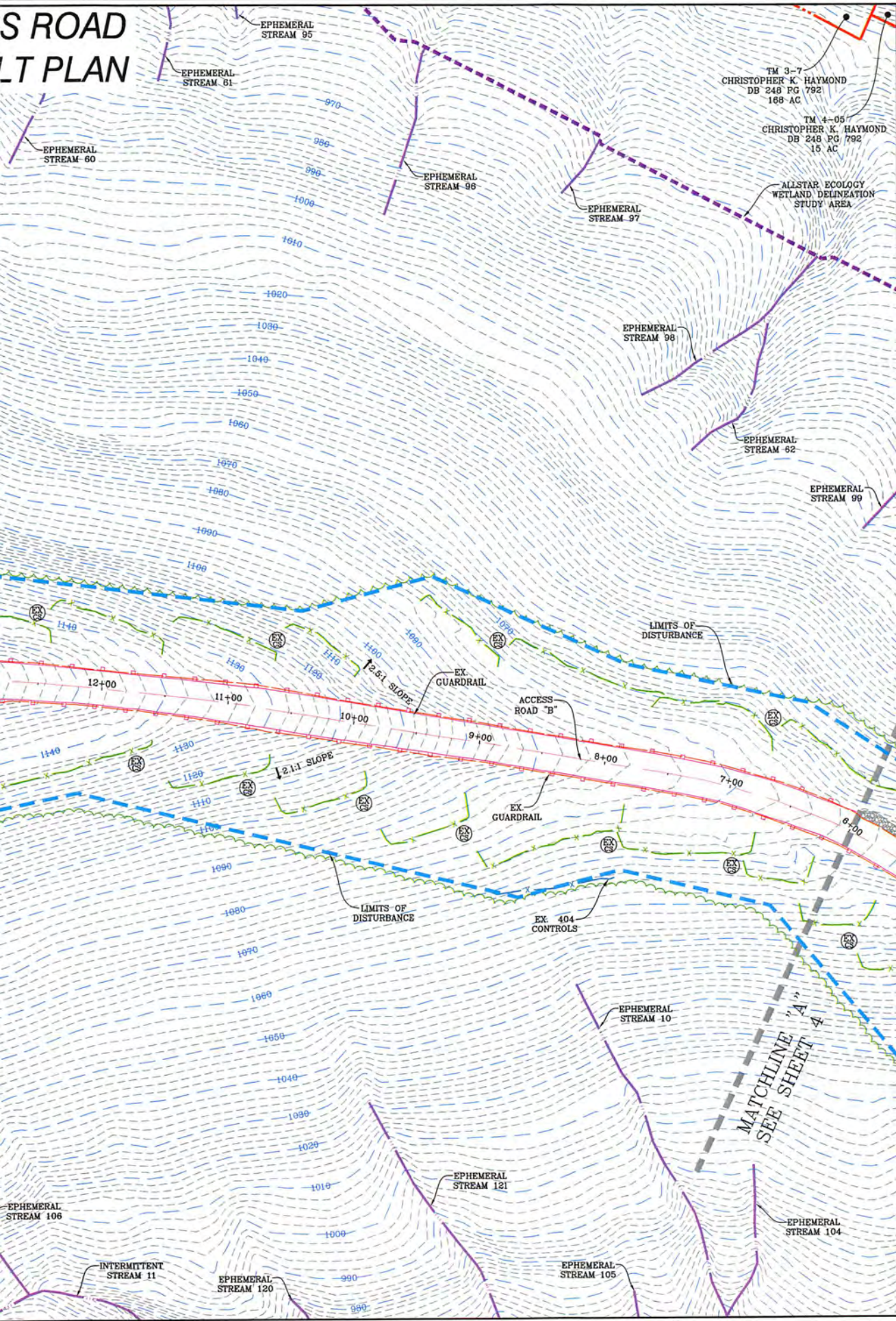
LIMITS OF DISTURBANCE

MATCHLINE
SEE SHEET
6

50 0 50
GRAPHIC SCALE (IN FEET)

TM 3-10
DAVID L. WEEKLEY, TRUSTEE
OF THE DAVID L. WEEKLEY
REVOCABLE TRUST UTA
DB 285 PG 204
203.38 AC

S ROAD ALT PLAN



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ACCESS ROAD AS-BUILT PLAN
WEEKLEY TRUST
WELL PAD & WATER CONTAINMENT PAD
CLAY DISTRICT
RITCHIE COUNTY, WEST VIRGINIA

03/05/2018

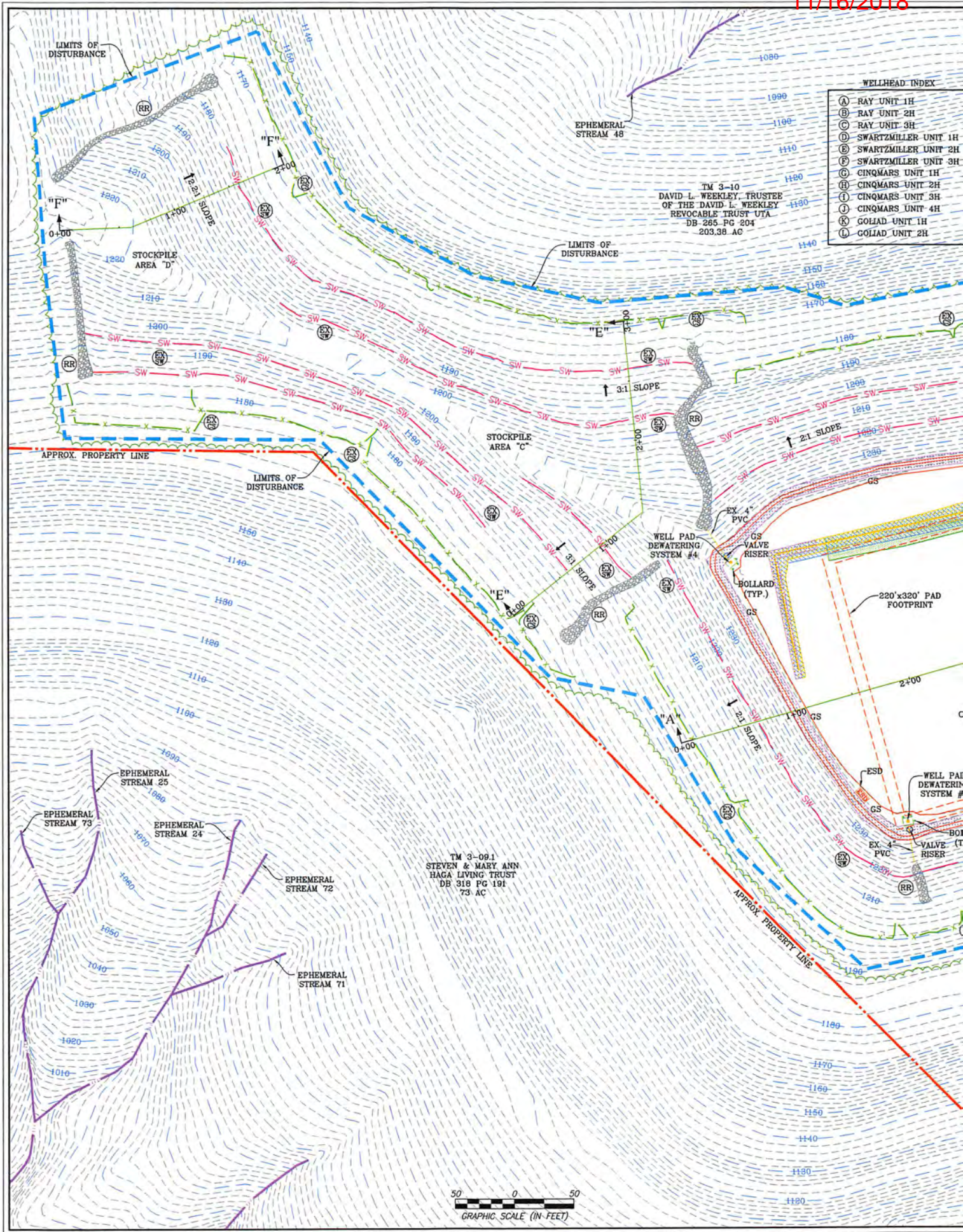
DATE: 03/05/2018
SCALE: 1" = 50'
SHEET 5 OF 9

11/16/2018

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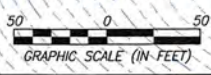


WELLHEAD INDEX

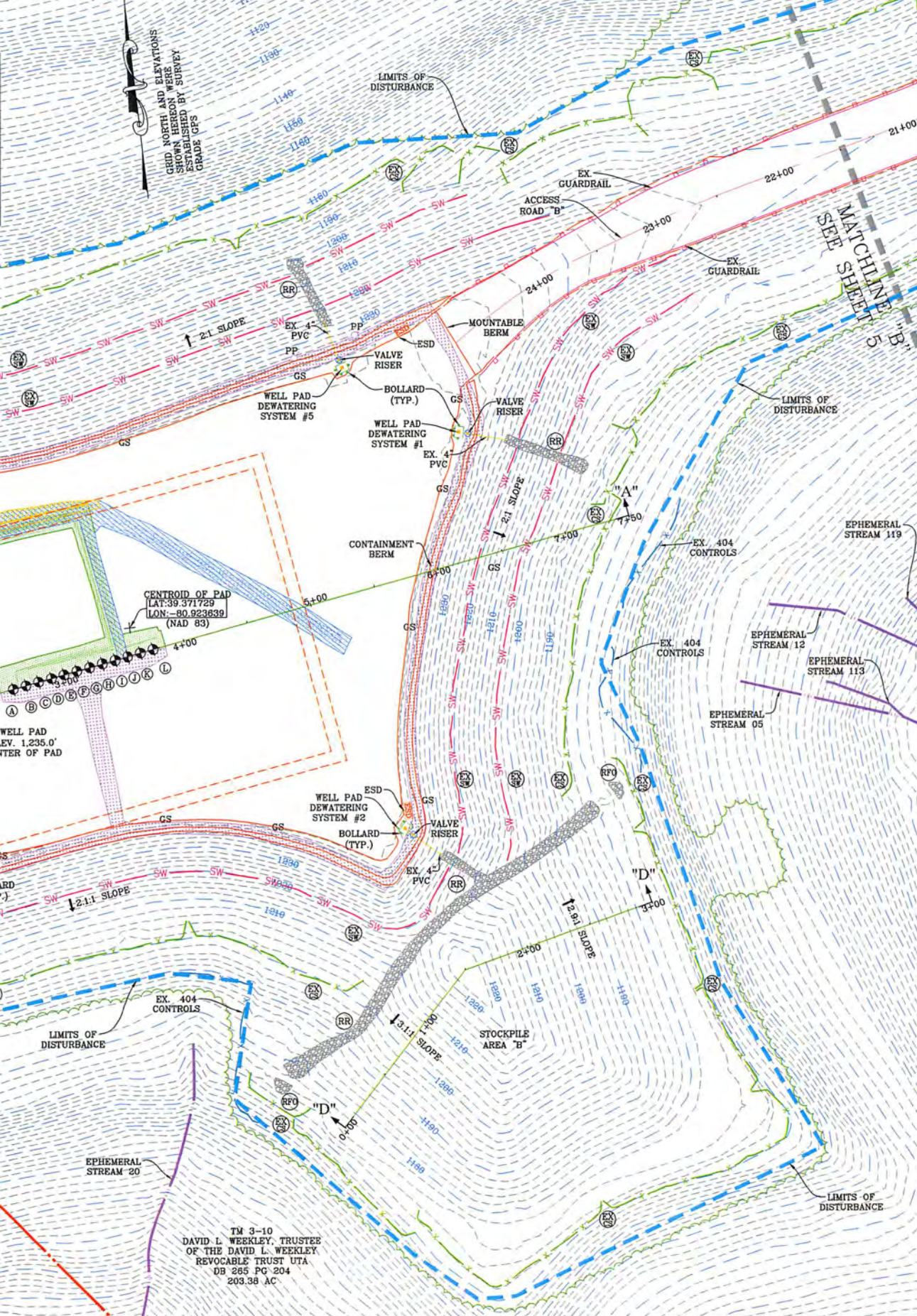
(A)	RAY UNIT 1H
(B)	RAY UNIT 2H
(C)	RAY UNIT 3H
(D)	SWARTZMILLER UNIT 1H
(E)	SWARTZMILLER UNIT 2H
(F)	SWARTZMILLER UNIT 3H
(G)	CINQARS UNIT 1H
(H)	CINQARS UNIT 2H
(I)	CINQARS UNIT 3H
(J)	CINQARS UNIT 4H
(K)	GOLIAD UNIT 1H
(L)	GOLIAD UNIT 2H

TM 3-10
 DAVID L. WEEKLEY TRUSTEE
 OF THE DAVID L. WEEKLEY
 REVOCABLE TRUST UTA
 DB 285 PG 204
 203.38 AC

TM 3-091
 STEVEN & MARY ANN
 HAGA LIVING TRUST
 DB 318 PG 191
 73 AC



WELL PAD AS-BUILT PLAN



GRID NORTH AND ELEVATIONS SHOWN HEREON WERE ESTABLISHED BY SURVEY GRADE CFS

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Antero Resources

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WELL PAD AS-BUILT PLAN

WEEKLEY TRUST

WELL PAD & WATER CONTAINMENT PAD

CLAY DISTRICT

RITCHIE COUNTY, WEST VIRGINIA



DATE: 03/05/2018

SCALE: 1" = 50'

SHEET 6 OF 9

TM 3-10
DAVID L. WEEKLEY, TRUSTEE
OF THE DAVID L. WEEKLEY
REVOCABLE TRUST UTA
DB 265 PG 204
203.38 AC

11/16/2018

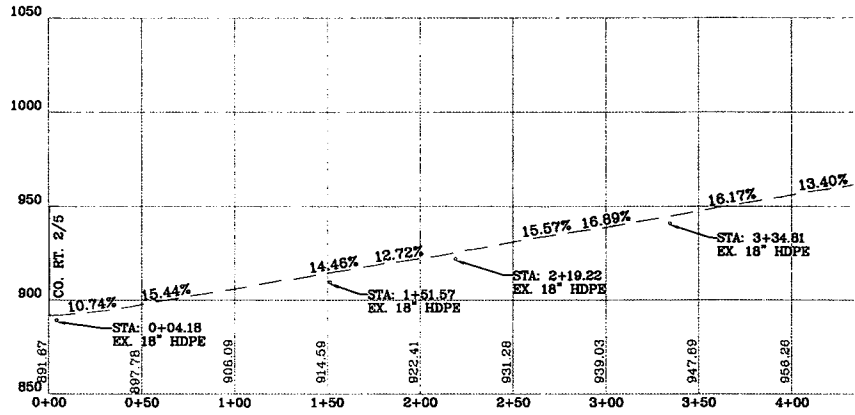
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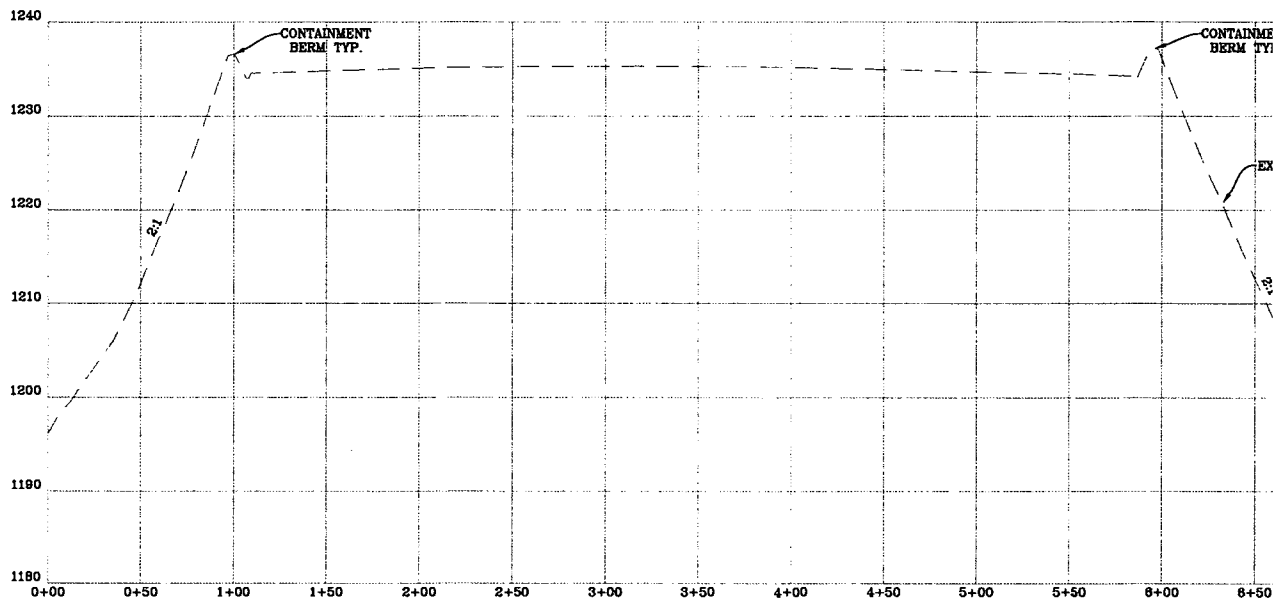
WV Department of
Environmental Protection

11/16/2018

ACCESS ROAD AS-BUILT CONTAINMENT PA

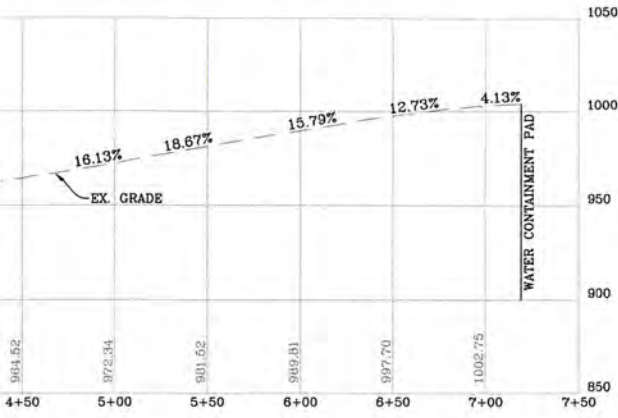


ACCESS ROAD "A" AS-BUILT
SCALE: HORIZ. 1" = 50' VERT. 1" = 10'



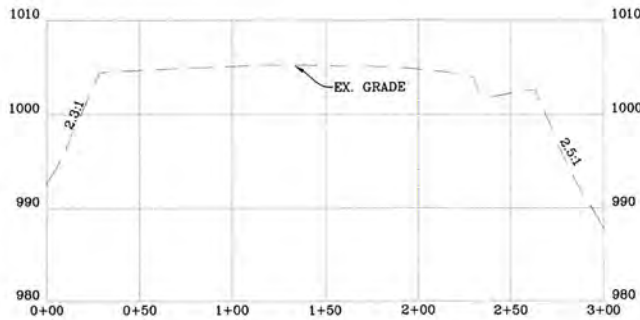
WELL PAD AS-BUILT CROSS-SECTION "A-A"
SCALE: HORIZ. 1" = 50' VERT. 1" = 10'

PROFILE, WELL PAD & WATER CONTAINMENT PAD AS-BUILT SECTIONS



T PROFILE
50'

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WATER CONTAINMENT PAD AS-BUILT CROSS-SECTION "B-B"
SCALE: HORIZ. 1" = 50' VERT. 1" = 10'



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DATE



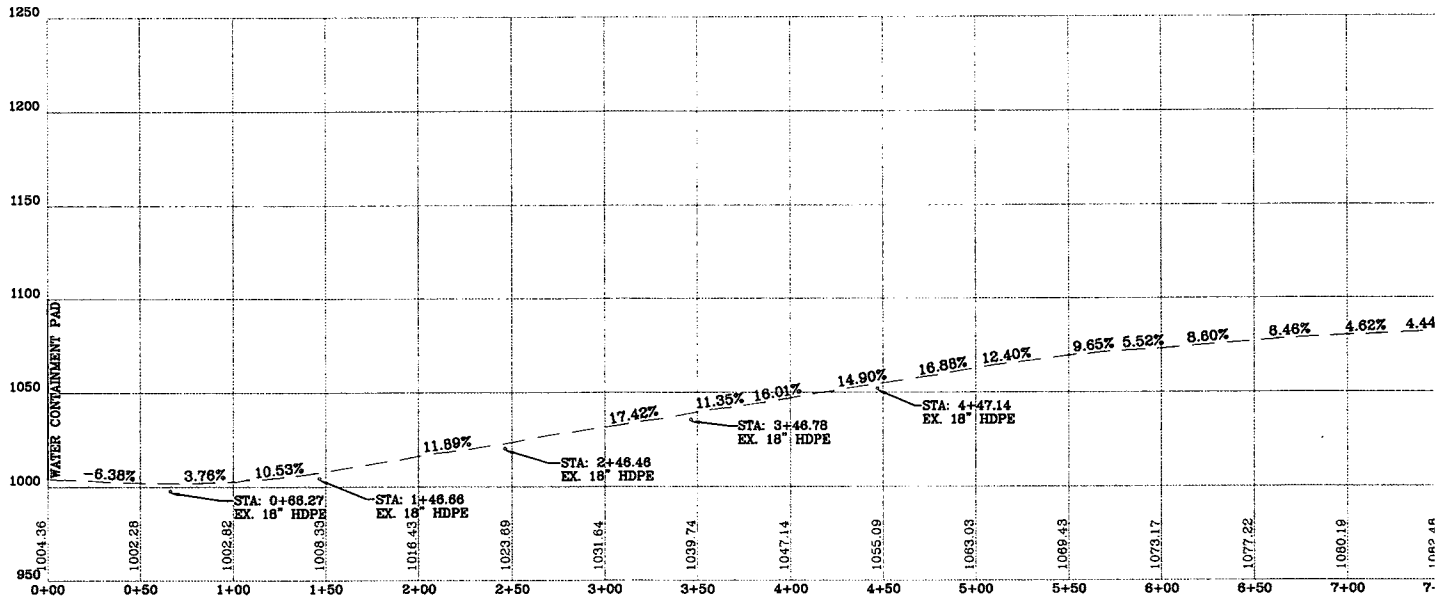
THIS DOCUMENT
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CORPORATION

ACCESS ROAD AS-BUILT PROFILE, WELL PAD &
WATER CONTAINMENT PAD AS-BUILT SECTIONS
WEEKLEY TRUST
WELL PAD & WATER CONTAINMENT PAD
CLAY DISTRICT
RITCHIE COUNTY, WEST VIRGINIA



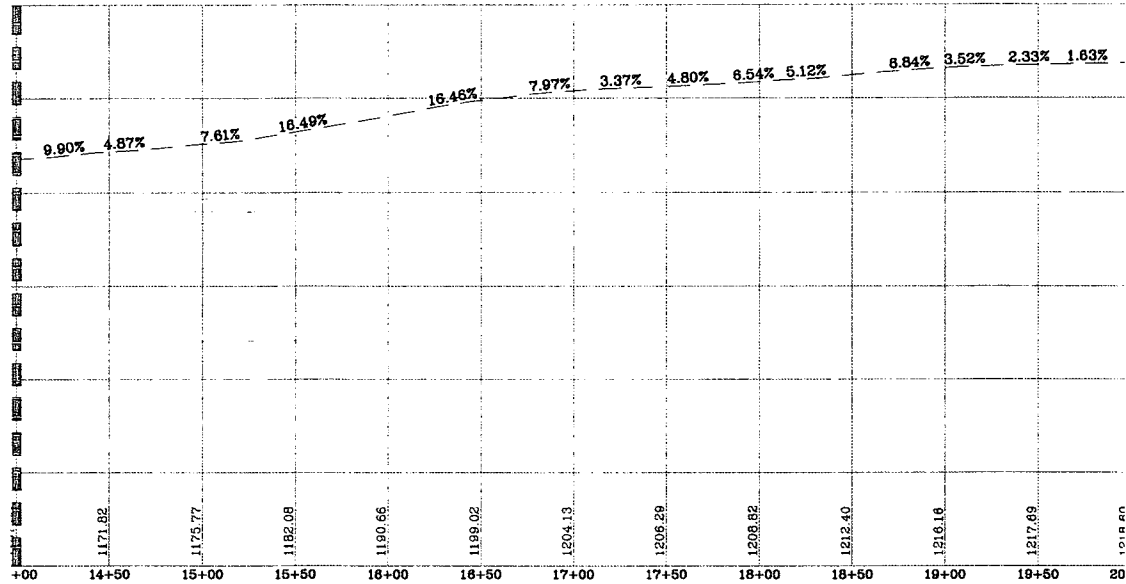
DATE: 03/05/2018
SCALE: AS SHOWN
SHEET 7 OF 9

ACCESS ROAD AS-BU



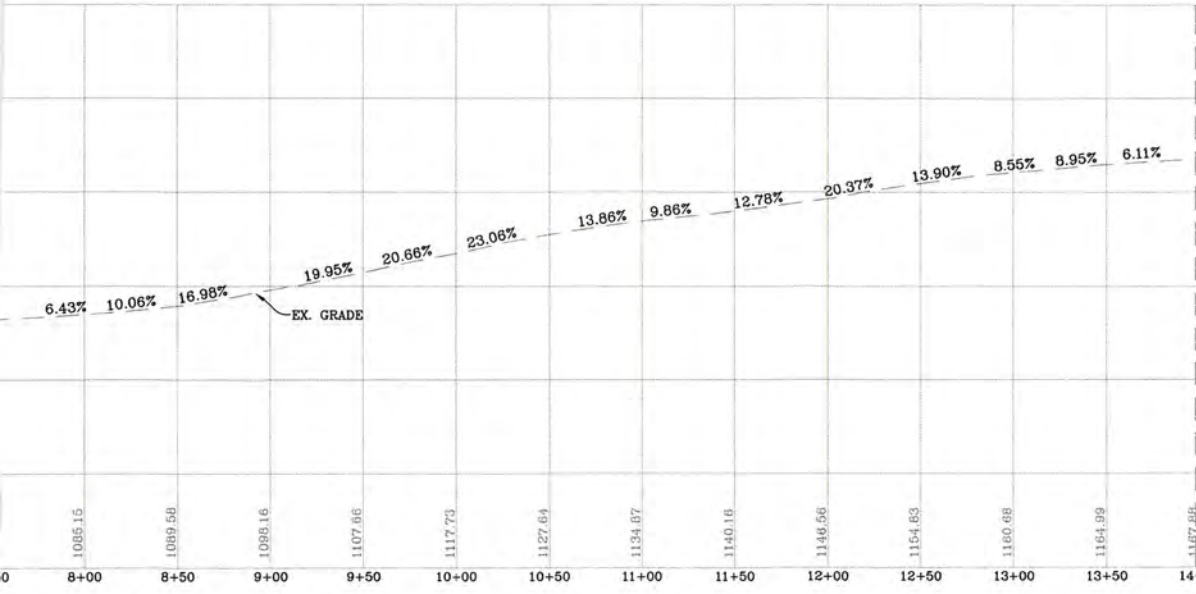
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SCALE: HORIZ. 1" = 50' VERT.

MATCHLINE
SEE ABOVE



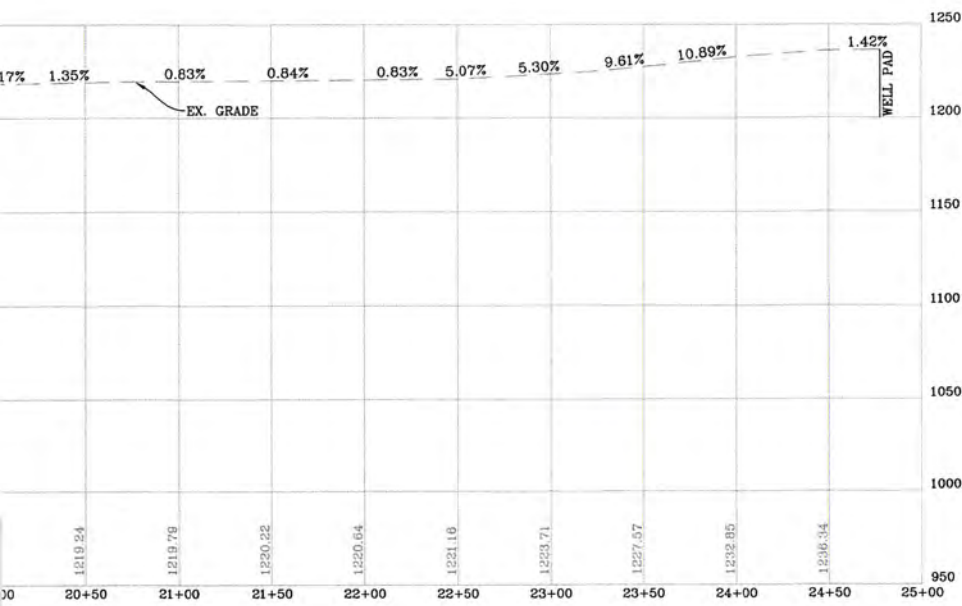
ACCESS ROAD "B" AS-BU
SCALE: HORIZ. 1" = 50' VERT.

BUILT PROFILE



MATCHLINE
SEE BELOW

LT PROFILE
= 50'



LT PROFILE
= 50'

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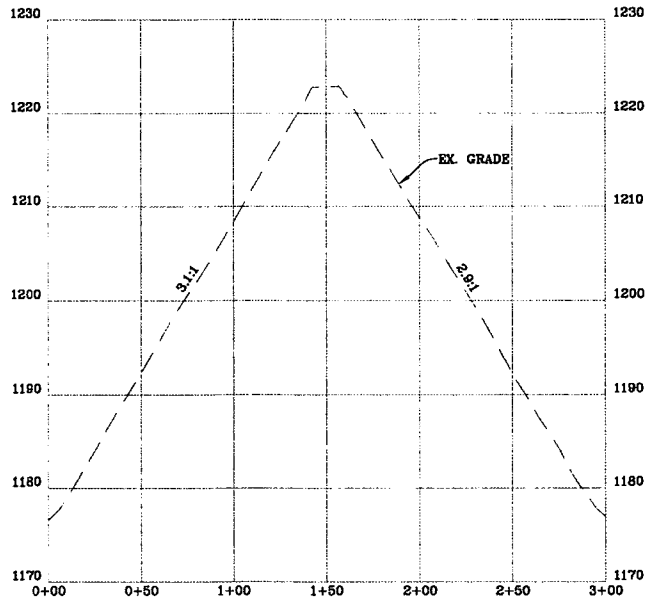
ACCESS ROAD AS-BUILT PROFILE
WEEKLEY TRUST
WELL PAD & WATER CONTAINMENT PAD
CLAY DISTRICT
RITCHIE COUNTY, WEST VIRGINIA

REGISTERED PROFESSIONAL ENGINEER
WEST VIRGINIA
2578
03/05/2018

DATE: 03/05/2018
SCALE: AS SHOWN
SHEET 8 OF 9

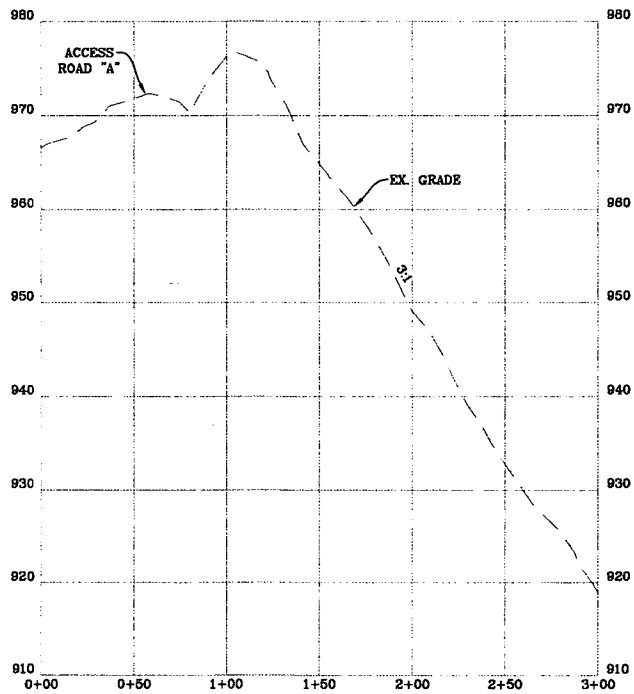
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STOCKPILE AS-BUILT



STOCKPILE AREA "B" AS-BUILT CROSS-SECTION "D-D"

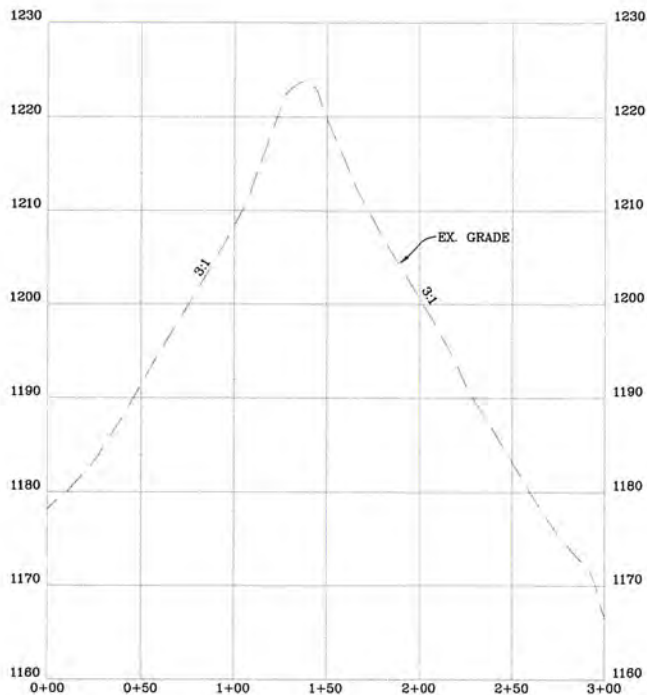
SCALE: HORIZ. 1" = 50' VERT. 1" = 10'



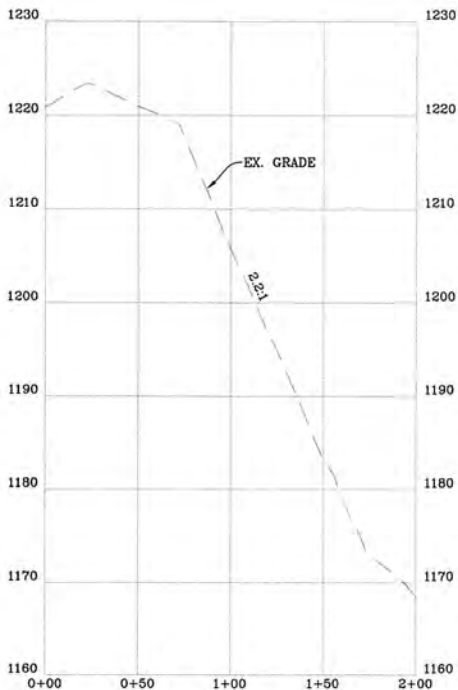
STOCKPILE AREA "A" AS-BUILT CROSS-SECTION "C-C"

SCALE: HORIZ. 1" = 50' VERT. 1" = 10'

T SECTIONS



STOCKPILE AREA "C" AS-BUILT CROSS-SECTION "E-E"
SCALE: HORIZ. 1" = 50' VERT. 1" = 10'



STOCKPILE AREA "D" AS-BUILT CROSS-SECTION "F-F"
SCALE: HORIZ. 1" = 50' VERT. 1" = 10'

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STOCKPILE AS-BUILT SECTIONS

WEEKLEY TRUST
WELL PAD & WATER CONTAINMENT PAD
CLAY DISTRICT
RITCHIE COUNTY, WEST VIRGINIA



DATE: 03/05/2018

SCALE: AS SHOWN

SHEET 9 OF 9

WW-6B
(04/15)

API NO. 47-085 - 10345 **11/16/2018**

OPERATOR WELL NO. Goliad Unit 2H

Well Pad Name: Weekley Trust

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

1) Well Operator: Antero Resources Corporation 494507062 085 - Ritchie Clay Pennsboro 7.5'
Operator ID County District Quadrangle

2) Operator's Well Number: Goliad Unit 2H Well Pad Name: Weekley Trust

3) Farm Name/Surface Owner: David L. Weekley Public Road Access: CR 74-2

4) Elevation, current ground: 1235' Elevation, proposed post-construction: _____

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

Other _____

(b) If Gas Shallow Deep _____

Horizontal _____

6) Existing Pad: Yes or No Yes

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Marcellus Shale: 7000' TVD, Anticipated Thickness- 75 feet, Associated Pressure- 2800#

8) Proposed Total Vertical Depth: 7000' TVD

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 18400' MD

11) Proposed Horizontal Leg Length: 9726'

12) Approximate Fresh Water Strata Depths: 338', 375'

13) Method to Determine Fresh Water Depths: Offset well records. Depths have been adjusted according to surface elevations.

14) Approximate Saltwater Depths: None Identified

15) Approximate Coal Seam Depths: 887'

16) Approximate Depth to Possible Void (coal mine, karst, other): None Anticipated

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

(a) If Yes, provide Mine Info: Name: _____
Depth: _____
Seam: _____
Owner: _____

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WW-6B
(04/15)

API NO. 47- 085 - 10345 **11/16/2018**

OPERATOR WELL NO. Goliad Unit 2H

Well Pad Name: Weekley Trust

18)

CASING AND TUBING PROGRAM

TYPE	<u>Size (in)</u>	<u>New or Used</u>	<u>Grade</u>	<u>Weight per ft. (lb/ft)</u>	<u>FOOTAGE: For Drilling (ft)</u>	<u>INTERVALS: Left in Well (ft)</u>	<u>CEMENT: Fill-up (Cu. Ft.)/CTS</u>
Conductor	20"	New	H-40	94#	80	80	CTS, 77 Cu. Ft.
Fresh Water	13-3/8"	New	J-55	54.5#	425 *see # 19	425 *see # 19	CTS, 590 Cu. Ft.
Coal	9-5/8"	New	J-55	36#	2500	2500	CTS, 1018 Cu. Ft.
Intermediate							
Production	5-1/2"	New	P-110	23#	18400	18400	4652 Cu. Ft
Tubing	2-3/8"	New	N-80	4.7#			
Liners							

TYPE	<u>Size (in)</u>	<u>Wellbore Diameter (in)</u>	<u>Wall Thickness (in)</u>	<u>Burst Pressure (psi)</u>	<u>Anticipated Max. Internal Pressure (psi)</u>	<u>Cement Type</u>	<u>Cement Yield (cu. ft./k)</u>
Conductor	20"	24"	0.438"	1530	50	Class A	~1.18
Fresh Water	13-3/8"	17-1/2"	0.38"	2730	1000	Class A	~1.18
Coal	9-5/8"	12-1/4"	0.352"	3520	1500	Class A	~1.18
Intermediate							
Production	5-1/2"	8-3/4" & 8-1/2"	0.415"	12,630	2500	Lead-H/POZ & Tail - H	H/POZ-1.44 & H-1.8
Tubing	2-3/8"	4.778"	0.19"	11,200			
Liners							

PACKERS

VOID

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

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Environmental Protection

WW-6B
(10/14)

API NO. 47- 085 - 10345 **11/16/2018**

OPERATOR WELL NO. Goliad Unit 2H

Well Pad Name: Weekley Trust

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

Drill, perforate, fracture a new horizontal shallow well and complete Marcellus Shale.

*Antero will be air drilling the fresh water string which makes it difficult to determine when fresh water is encountered. Therefore, we have built in a buffer for the casing setting depth which helps to ensure that all fresh water zones are covered.

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

Antero plans to pump Slickwater into the Marcellus Shale formation in order to ready the well for production. The fluid will be comprised of approximately 99 percent water and sand, with less than 1 percent special-purpose additives as shown in the attached "List of Anticipated Additives Used for Fracturing or Stimulating Well."

Anticipated Max Pressure - 9300 lbs

Anticipated Max Rate - 80 bpm

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): Existing 32.87 acres

22) Area to be disturbed for well pad only, less access road (acres): Existing 8.15 acres

23) Describe centralizer placement for each casing string:

Conductor: no centralizers

Surface Casing: one centralizer 10' above the float shoe, one on the insert float collar and one every 4th joint spaced up the hole to surface.

Intermediate Casing: one centralizer above float joint, one centralizer 5' above float collar and one every 4th collar to surface.

Production Casing: one centralizer at shoe joint and one every 3 joints to top of cement in intermediate casing.

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

Conductor: no additives, Class A cement.

Surface: Class A cement with 2-3% calcium chloride and 1/4 lb of flake

Intermediate: Class A cement with 1/4 lb of flake, 5 gallons of clay treat

Production: Lead cement- 50/50 Class H/Poz + 1.5% salt + 1% C-45 + 0.5% C-16a + 0.2% C-12 + 0.45% C-20 + 0.05% C-51

Production: Tail cement- Class H + 45 PPS Calcium Carbonate + 1.0% FL-160 + 0.2% ACGB-47 + 0.05% ACSA-51 + 0.2% ACR-20



25) Proposed borehole conditioning procedures:

Conductor: blowhole clean with air, run casing, 10 bbls fresh water.

Surface: blowhole clean with air, trip to conductor shoe, trip to bottom, blowhole clean with air, trip out, run casing, circulate pipe capacity + 40 bbls fresh water followed by 25 bbls bentonite mud, 10 bbls fresh water spacer.

Intermediate: blowhole clean with air, trip to surface casing shoe, trip to bottom, blowhole clean with air, trip out, run casing, circulate 40 bbls brine water followed by 10 bbls fresh water and 25 bbls bentonite mud, pump 10 bbls fresh water.

Production: circulate with 14 lb/gal NaCl mud, trip to middle of lateral, circulate, pump high viscosity sweep, trip to base of curve, pump high viscosity sweep, trip to top of curve, trip to bottom, circulate, pump high viscosity sweep, trip out, run casing, circulate 10 bbls fresh water, pump 48 bbls barite pill, pump 10 bbls fresh water followed by 48 bbls mud flush and 10 bbls water.

*Note: Attach additional sheets as needed.

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Page 3 of 3

LATITUDE 39°22'30" 2.003'

LATITUDE 39°22'30"

LONGITUDE 80°55'00"

LONGITUDE 80°55'00"

9,494' TO BOTTOM HOLE

Antero Resources Corporation
Well No. Goliad Unit 2H
47-085-10345

NOTES:
WELL 2H TOP HOLE INFORMATION:
N: 320,644ft E: 1,597,511ft
LAT: 39°22'17.76" LON: 80°55'25.51"
BOTTOM HOLE INFORMATION:
N: 311,714ft E: 1,601,664ft
LAT: 39°20'50.15" LON: 80°54'30.85"
WEST VIRGINIA COORDINATE SYSTEM OF 1927 NORTH ZONE. ZONE WAS DERIVED FROM MEASUREMENTS TAKEN WITH TRIMBLE GEOXT SUBMETER MAPPING GRADE GPS UNIT. PLAT ORIENTATION, CORNER, AND WELL REFERENCE TIE LINES ARE BASED ON GRID NORTH.

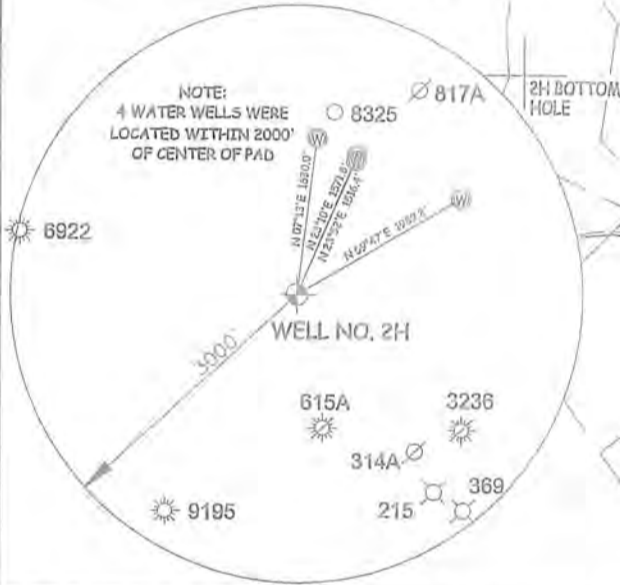
(NAD) 83 (UTM) ZONE 17 COORDS:
WELL 2H TOP HOLE INFORMATION:
N: 4,358,026m E: 506,582m
BOTTOM HOLE INFORMATION:
N: 4,355,327m E: 507,893m



WV NORTH ZONE GRID NORTH

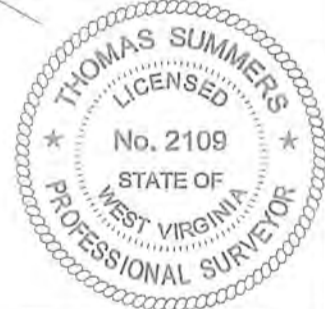
TM-Par	Surface Owner	Book/Pg	Acres
03-06	Cliff Perkins	289/1012	24.1 AC
03-9.1	Steven Haga	222/161	73.36 AC
03-10	David Weekley Revocable Trust	265/201	203.38 AC
03-12	David Weekley Revocable Trust	265/204	25 AC
03-19	Hummer Properties	322/625	22.5 AC
03-25	Walter Fleming	286/672	4.36 AC
04-22	Donald Freas	262/167	42.22 AC
04-31	Myron Perkins	166/521	1.39 AC
04-31.1	Burt Neswald Sr.	316/1040	90.656 AC
04-32	Gary Bishop	339/45	4.7 AC
04-35	Gary Bishop	339/43	24.256 AC
04-39	Scott Leggett	346/291	0.75 AC
04-42	Walter Fleming	280/373	0.34 AC
04-42.1	Walter Fleming	286/676	0.47 AC
04-42.2	Walter Fleming	280/373	0.3 AC
04-42.3	Walter Fleming	280/373	LOT
04-43	Walter Fleming	280/373	4.66 AC
04-43.1	Scott Leggett	346/291	0.529 AC
04-44	Donald Morrison	154/251	1.25 AC
04-50	James Mahoney	257/216	5 AC
04-51	Jacob Cox	340/525	2.2 AC
08-6.2	Walter Fleming	280/373	53.7 AC
09-01	James Mahoney	277/668	147.83 AC
09-16	Phillip Ayers	280/1077	13.52 AC
09-17	Rossiter Holmes	295/451	27.43 AC
09-19	Roger Scott	280/625	66 AC
09-20	Walter Smertycha	317/89	70.5 AC

Royalty Owner	
A	Norman D. Fleming Et Ux
B	David L. Weekley Revocable Trust
C	Tony Adrian Perkins
D	Edward T. Clissold
E	Glenn Ellis
F	Myron Perkins Et Ux
G	Helen N. McCullough
H	Donald R. Reynolds
I	Carl F. Baker Et Ux
J	Emerson McCullough Et Al
K	Beverly J. Wright
L	Gary R. Davis Et Ux
M	Robert McCullough Et Ux
N	Gene P. Bond



(NAD) 27 (UTM) ZONE 17 COORDS:
WELL 2H TOP HOLE INFORMATION:
N: 14,297,245ft E: 1,661,965ft
POINT OF ENTRY INFORMATION:
N: 14,297,539ft E: 1,662,979ft
BOTTOM HOLE INFORMATION:
N: 14,289,388ft E: 1,666,265ft

NOTE:
NO OCCUPIED DWELLINGS OR BUILDINGS TWO THOUSAND FIVE HUNDRED (2,500) SQUARE FEET OR LARGER USED TO HOUSE OR SHELTER DAIRY CATTLE OR POULTRY HUSBANDRY ARE LOCATED WITHIN SIX HUNDRED TWENTY-FIVE (625) FEET OF THE CENTER OF THE WELL PAD.



I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE RULES ISSUED AND PERSCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

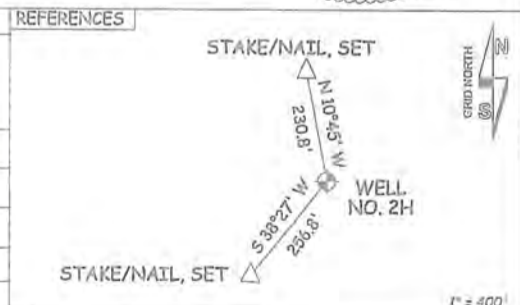


STATE OF WEST VIRGINIA, DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS

WILLOW LAND SURVEYING PLLC
220 MASONIC AVE. PENNSBORO WEST VIRGINIA 26415

JOB # 16-051WA
DRAWING # GOLIAD 2HR
SCALE 1" = 2000'
MINIMUM DEGREE OF ACCURACY SUBMETER
PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS
STATE OF WEST VIRGINIA DEPARTMENT OF ENERGY DIVISION OF OIL AND GAS

LEGEND
Surface Owner Boundary Lines +/-
Interior Surface Tracts +/-
Existing Fence
Found monument as noted
THOMAS SUMMERS P.S. 2109
DATE 07/30/18
OPERATOR'S WELL # GOLIAD UNIT #2H



WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___ 47 ___ 085 ___ 10345
(IF "GAS") PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X STATE COUNTY PERMIT
LOCATION: ELEVATION 1,235' AS BUILT WATERSHED NORTH FORK HUGHES RIVER
QUADRANGLE PENNSBORO 7.5' DISTRICT CLAY COUNTY RITCHIE
SURFACE OWNER DAVID L. WEEKLEY REVOCABLE TRUST ACREAGE 203.38 ACRES +/-
OIL & GAS ROYALTY OWNER DAVID L. WEEKLEY REVOCABLE TRUST; GLENN ELLIS; HELEN N. McCULLOUGH; DONALD R. REYNOLDS; CARL F. BAKER ET UX; BEVERLY J. WRIGHT; EMERSON McCULLOUGH ET AL; ROBERT McCULLOUGH ET UX LEASE ACREAGE 229 AC±; 32 AC±; 103 AC±; 0.75 AC±; 4.36 AC±; 1.25 AC±; 154 AC±; 148.5 AC±;
PROPOSED WORK: DRILL ___ CONVERT ___ DRILL DEEPER X REDRILL ___ FRACTURE OR STIMULATE X
PLUG OFF OLD FORMATION ___ PERFORATE NEW FORMATION X OTHER PHYSICAL CHANGE IN WELL (SPECIFY) MOD BHL PLUG & ABANDON CLEAN OUT & REPLUG
TARGET FORMATION MARCELLUS ESTIMATED DEPTH 7,000' TVD 18,400' MD
WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER - CT CORPORATION SYSTEM
ADDRESS 1615 WYNKOOP ST. ADDRESS 5400 D BIG TYLER ROAD
FORM WW-6 DENVER, CO 80202 CHARLESTON, WV 25313

11/16/2018

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WATER CONTAINMENT PAD & SEDIMENT CONTROL PLAN

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AUG 6 2018

WV Department of
Environmental Protection

WEST VIRGINIA
RIVER WATERSHED
BORO QUAD MAPS



WEST VIRGINIA STATE PLANE COORDINATE SYSTEM
NORTH ZONE, NAD83
ELEVATION BASED ON NAVD83
ESTABLISHED BY SURVEY GRADE GPS & OPUS
POST-PROCESSING

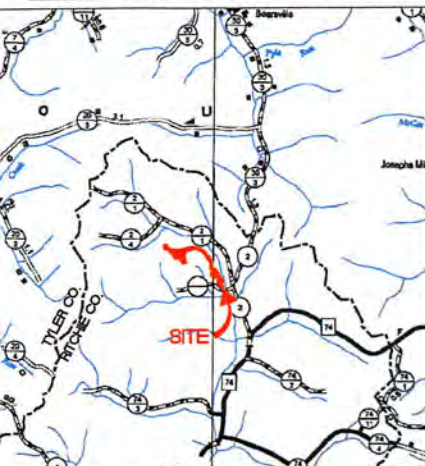
SHEET INDEX

- 1 - COVER SHEET
- 2 - LEGEND
- 3 - OVERALL PLAN SHEET INDEX
- 4 - ACCESS ROAD & WATER CONTAINMENT PAD AS-BUILT PLAN
- 5 - ACCESS ROAD AS-BUILT PLAN
- 6 - WELL PAD AS-BUILT PLAN
- 7 - ACCESS ROAD AS-BUILT PROFILE, WELL PAD & WATER CONTAINMENT PAD AS-BUILT SECTIONS
- 8 - ACCESS ROAD AS-BUILT PROFILE
- 9 - STOCKPILE AS-BUILT SECTIONS

WEEKLEY TRUST LIMITS OF DISTURBANCE AREA (AC)	
Total Site	
Impacts to David L. Weekley, Trustee of the David L. Weekley Revocable Trust UTA TM 3-10	
Access Road "A" (749')	2.72
Access Road "B" (2,486')	10.67
Well Pad	8.15
Water Containment Pad	3.70
Excess/Topsoil Material Stockpiles	7.63
Total Affected Area	32.87
Total Wooded Acres Disturbed	30.22

Proposed Well Name	WV North NAD 27	WV North NAD 83	UTM (METERS) Zone 17	NAD 83 Lat & Long
Ray	N 320527.84	N 320662.16	N 4358020.94	LAT 39-22-17.8714
Unit 1H	E 1597402.38	E 1565961.32	E 506549.28	LONG -80-55-26.2802
Ray	N 320629.32	N 320663.64	N 4358021.44	LAT 39-22-17.8875
Unit 2H	E 1597412.28	E 1565971.21	E 506552.28	LONG -80-55-26.1546
Ray	N 320630.79	N 320665.11	N 4358021.94	LAT 39-22-17.9037
Unit 3H	E 1597422.17	E 1565981.10	E 506555.29	LONG -80-55-26.0290
Swartzmiller	N 320632.26	N 320666.59	N 4358022.44	LAT 39-22-17.9198
Unit 1H	E 1597432.06	E 1565990.99	E 506558.29	LONG -80-55-25.9033
Swartzmiller	N 320633.74	N 320668.06	N 4358022.94	LAT 39-22-17.9359
Unit 2H	E 1597441.95	E 1566000.88	E 506561.30	LONG -80-55-25.7777
Swartzmiller	N 320635.21	N 320669.54	N 4358023.44	LAT 39-22-17.9520
Unit 3H	E 1597451.84	E 1566010.77	E 506564.30	LONG -80-55-25.6520
Cinqmars	N 320636.69	N 320671.01	N 4358023.94	LAT 39-22-17.9682
Unit 1H	E 1597461.73	E 1566020.66	E 506567.31	LONG -80-55-25.5264
Cinqmars	N 320638.16	N 320672.49	N 4358024.44	LAT 39-22-17.9843
Unit 2H	E 1597471.62	E 1566030.55	E 506570.31	LONG -80-55-25.4008
Cinqmars	N 320639.64	N 320673.96	N 4358024.94	LAT 39-22-18.0004
Unit 3H	E 1597481.51	E 1566040.44	E 506573.32	LONG -80-55-25.2751
Cinqmars	N 320641.11	N 320675.44	N 4358025.44	LAT 39-22-18.0165
Unit 4H	E 1597491.40	E 1566050.33	E 506576.33	LONG -80-55-25.1495
Goliad	N 320642.59	N 320676.91	N 4358025.94	LAT 39-22-18.0327
Unit 1H	E 1597501.29	E 1566060.23	E 506579.33	LONG -80-55-25.0239
Goliad	N 320644.06	N 320678.38	N 4358026.44	LAT 39-22-18.0488
Unit 2H	E 1597511.18	E 1566070.12	E 506582.34	LONG -80-55-24.8992
Well Pad Elevation	1,235.0			

WVDOH COUNTY ROAD MAP



5000 0 5000
SCALE: 1" = 5000'

NOTES:

1. ALL BMP'S MUST REMAIN IN PLACE AND FUNCTIONAL UNTIL ALL AREAS WITHIN THE LIMIT OF DISTURBANCE ARE COMPLETE AND PERMANENTLY STABILIZED. MAINTENANCE MUST INCLUDE INSPECTION OF ALL EROSION AND SEDIMENT CONTROLS AFTER EACH RUNOFF EVENT IN EXCESS OF 0.5" AND ON A BIWEEKLY BASIS.
2. THE CONSTRUCTION SITE SHOULD BE STABILIZED AS SOON AS POSSIBLE AFTER COMPLETION. ESTABLISHMENT OF FINAL STABILIZATION MUST BE INITIATED NO LATER THAN 7 DAYS AFTER REACHING FINAL GRADE. FINAL STABILIZATION MEANS THAT ALL SOIL-DISTURBING ACTIVITIES ARE COMPLETED, AND THAT EITHER A PERMANENT VEGETATIVE COVER WITH A DENSITY OF 70% OR GREATER HAS BEEN ESTABLISHED OR THAT THE SURFACE HAS BEEN STABILIZED BY HARD COVER SUCH AS PAVEMENT OR BUILDINGS. IT SHOULD BE NOTED THAT THE 70% REQUIREMENT REFERS TO THE TOTAL AREA VEGETATED AND NOT JUST A PERCENT OF THE SITE.
3. ALL PERMANENT SEDIMENT CONTROL MEASURES CAN BE REMOVED AFTER THE SITE IS PERMANENTLY STABILIZED AND APPROVAL IS RECEIVED FROM THE WVDEP.
4. ANY AREAS DISTURBED BY REMOVAL OF CONTROLS SHALL BE REPAIRED, STABILIZED, AND PERMANENTLY SEEDED.
5. THE AS-BUILT INFORMATION SHOWN HEREON REFLECTS FIELD DATA COLLECTED RELATING TO THE FINAL GRADING OF THE DISTURBED AREA AS OF MARCH 5, 2018. NAVITUS ENGINEERING IS NOT RESPONSIBLE FOR ANY CHANGES MADE TO THE SITE AFTER THE ABOVE MENTIONED DATES.
6. THE EXISTING CONTAINMENT BERM AROUND THE WELL PAD SHALL BE REPAIRED AS NECESSARY TO ENSURE 100% CONTAINMENT OF ALL FLUIDS PRIOR TO DRILLING OPERATIONS
7. THE EXISTING EGRESSES TO THE WELL PAD SHALL HAVE THE MOUNTABLE BERMS REPAIRED AS NECESSARY TO ENSURE 100% CONTAINMENT OF ALL FLUIDS PRIOR TO DRILLING OPERATIONS.

NAVITUS
ENERGY ENGINEERING

Telephone: (888) 662-4185 | www.NavitusEng.com

REVISION

DATE



THIS DOCUMENT WAS PREPARED FOR:
ANTERO RESOURCES CORPORATION

COVER SHEET

WEEKLEY TRUST
WELL PAD & WATER CONTAINMENT PAD
CLAY DISTRICT
RITCHIE COUNTY, WEST VIRGINIA



DATE: 03/05/2018
SCALE: AS SHOWN
SHEET 1 OF 9

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!!

LEGEND

LEGEND		
EX. INDEX CONTOUR & CONTOUR LABEL		PR. INDEX CONTOUR
EX. INTERMEDIATE CONTOUR		PR. INTERMEDIATE
EX. PROPERTY LINE		PR. INTERMEDIATE
EX. TOP OF BERM		PR. INDEX ROAD C
EX. ROAD EDGE OF GRAVEL/DIRT		PR. INTERMEDIATE
EX. ROAD EDGE OF PAVEMENT		PR. PADS/STOCKPI
EX. ROAD CENTERLINE		PERMITTED LIMITS
EX. GUARDRAIL		MODIFICATION LIM
EX. BRIDGE		PR. ROAD/IMPOUN
EX. DITCHLINE/DRAINAGE FEATURE		PR. ROAD CENTER
EX. RIP-RAP		PR. GUARDRAIL
EX. CULVERT		PR. ROCK CONSTR
EX. TREELINE		PR. AIR BRIDGE
EX. BUILDING		PR. CULVERT
EX. MISCELLANEOUS FEATURE		PR. DITCH
EX. 100 YR FEMA FLOODPLAIN		PR. RIP-RAP TRAF
EX. DELINEATED STREAM		PR. OUTLET PROTE
EX. DELINEATED WETLAND/POND		PR. DIVERSION
100' WETLAND/STREAM BUFFER		PR. ROCK LEVEL S
STREAM/WETLAND DELINEATION STUDY AREA		PR. COMPOST FILT
EX. FENCELINE		PR. SUPER SILT F
EX. GATE		PR. WELL HEAD
EX. PERIMETER SAFETY FENCE		PR. PAD DEWATER
EX. ACCESS GATE WITH EMERGENCY LIFELINE		PR. TOP OF PAD
EX. WELL HEAD ON DESIGNED PAD		PR. 220' X 320' F
EX. GAS WELL		PR. SPOT SHOT
EX. PIPELINE		PR. PERIMETER SA
EX. PIPELINE R/W		PR. ACCESS GATE
EX. PIPELINE METER		PR. PIPELINE
EX. PIPELINE VALVE		PR. PIPELINE R/W
EX. PIT		PR. OVERHEAD UT
EX. OVERHEAD UTILITY		PR. POWER POLE/G
EX. POWER POLE/GUY WIRE		PR. OVERHEAD UT
EX. UNDERGROUND ELECTRIC		PR. WATERLINE
EX. UNDERGROUND TELEPHONE		BORING LOCATION
EX. UNDERGROUND FIBER OPTIC		X-SECTION/PROFI
EX. UTILITY R/W		X-SECTION/PROFI
EX. WATERLINE		X-SECTION/PROFI
EX. WATER WELL/EX. SPRING		X-SECTION/PROFI
EX. COMPOST SOCK		X-SECTION/PROFI
EX. SUPER SILT FENCE		X-SECTION/PROFI
EX. SILT FENCE		MATCHLINE
APPROX. LOCATION OF SLIDE AREA		EX. METER
APPROX. LOCATION OF BORROW/ SPOIL AREA		EX. TANK
PR. TOE BENCH		EX. COMBUSTOR
EX. APPROX. SURFACE & SUB-SURFACE ELECTRIC LINE AREA		EX. GPU
EX. APPROX. SURFACE & SUB-SURFACE DUMP LINE AREA		EX. SEPARATOR
EX. APPROX. SURFACE & SUB-SURFACE WELL LINE AREA		EX. VRT
EX. APPROX. SURFACE & SUB-SURFACE SALES LINE AREA		EX. KNOCK-OUT

CONTOUR (10' INTERVAL) & CONTOUR LABEL	1000	
CONTOUR (2' INTERVAL)		
CONTOUR (1' INTERVAL)		
CONTOUR (10' INTERVAL) & CONTOUR LABEL	1000	
ROAD CONTOUR (2' INTERVAL)		
TOPO LIMITS		
BOUNDARY OF DISTURBANCE		
BOUNDARY OF DISTURBANCE		
EXISTING EDGE OF GRAVEL		
EXISTING		
SECTION ENTRANCE		
TRAPEZOIDAL DITCH		
SECTION		
SPREADER		
DRUM SOCK		
SEWER		
IRIG SYSTEM		
CONTAINMENT BERM		
ROAD FOOTPRINT		
	1000 x	
SAFETY FENCE		
FENCE WITH EMERGENCY LIFELINE		
UTILITY		
UTILITY WIRE		
UTILITY R/W		
GRID INDEX		
GRID INTERMEDIATE		
PROPOSED GRADE		
EXISTING GRADE		
WATER SURFACE		
CULVERT		
	EX. STAIRS/CATWALK	
	EX. DEWATERING SYSTEM	
	EX. PIG LAUNCHER	
	EX. SECONDARY CONTAINMENT	
	EX. ABOVE-GND VAPOR LINE	
	EX. ESD	
	EX. MAILBOX	
	EX. CONTROL PT.	
	EX. MUSTER AREA	



DATE	REVISION



LEGEND

WEEKLEY TRUST

WELL PAD & WATER CONTAINMENT PAD

CLAY DISTRICT

RITCHIE COUNTY, WEST VIRGINIA

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AUG 6 2018

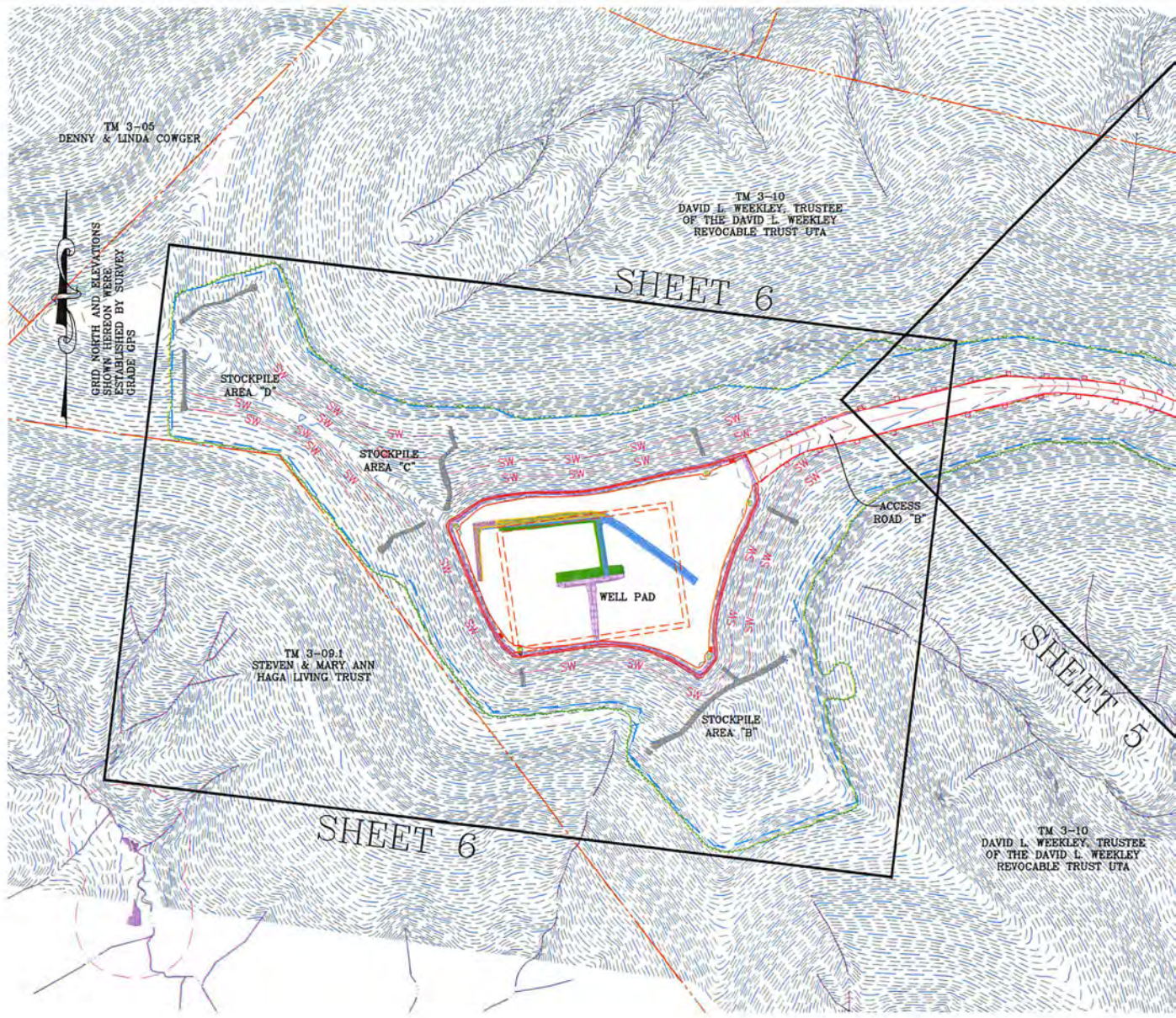
WV Department of
Environmental Protection



DATE: 03/05/2018

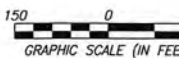
SCALE: N/A

SHEET 2 OF 9



GENERAL NOTES:

1. THE TOPOGRAPHIC INFORMATION SHOWN HEREON IS BASED ON APRIL 6, 2014 AERIAL PHOTOGRAPHY COMPILED MAY, 2014 BY BLUE MOUNTAIN AERIAL MAPPING, BURTON, WEST VIRGINIA.
2. AS-BUILT INFORMATION SHOWN HEREON IS BASED ON FIELD SURVEY PERFORMED BY NAVITUS ENGINEERING, INC. BETWEEN OCTOBER 20, 2017 TO MARCH 5, 2018.
3. THE PROPERTY LINES SHOWN HEREON DO NOT REPRESENT A BOUNDARY SURVEY ON ANY OF THE PARCELS SHOWN. PROPERTY CORNERS AND LINES PERTINENT TO WELL LOCATION ARE BASED ON A FIELD SURVEY. THE REMAINDER OF THE PROPERTY LINES ARE BASED ON COUNTY REAL ESTATE TAX MAPS, GIS INFORMATION AND DEEDS OF RECORD.
4. UTILITIES AND THEIR LOCATIONS AS SHOWN HEREON ARE BASED ON: A) OBSERVABLE EVIDENCE OF THOSE VISIBLE, ABOVE-GROUND FACILITIES, FEATURES, AND MARKERS WHICH WERE FOUND ON THE SUBJECT PROPERTY AT THE TIME OF SURVEY PERFORMED BY NAVITUS ENGINEERING AND B) FIELD MARKINGS PLACED BY UTILITY COMPANIES IN RESPONSE TO THE WV 811 TICKET SUBMITTED BY NAVITUS ENGINEERING. NAVITUS ENGINEERING CANNOT GUARANTEE THE ACCURACY OF THE UTILITY MARKINGS PERFORMED BY OTHERS OR THAT ALL UTILITIES EXISTING WITHIN THE LIMITS OF THIS PLAN ARE SHOWN. ANY UTILITIES ENCOUNTERED SUBSEQUENT TO PLAN APPROVAL OR DURING CONSTRUCTION THAT ARE NOT SHOWN ON THE PLAN SHOULD BE REPORTED TO NAVITUS ENGINEERING AND ANTERO RESOURCES CORPORATION.



11/16/2018

OVERALL PLAN SHEET INDEX

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TM 3-06
MYRON D. PERKINS, DEANA M.
HUDKINS, KYLE D. PERKINS, ANDY
W. PERKINS & TONY A. PERKINS

TM 3-26
CHRISTOPHER
K. HAYMOND

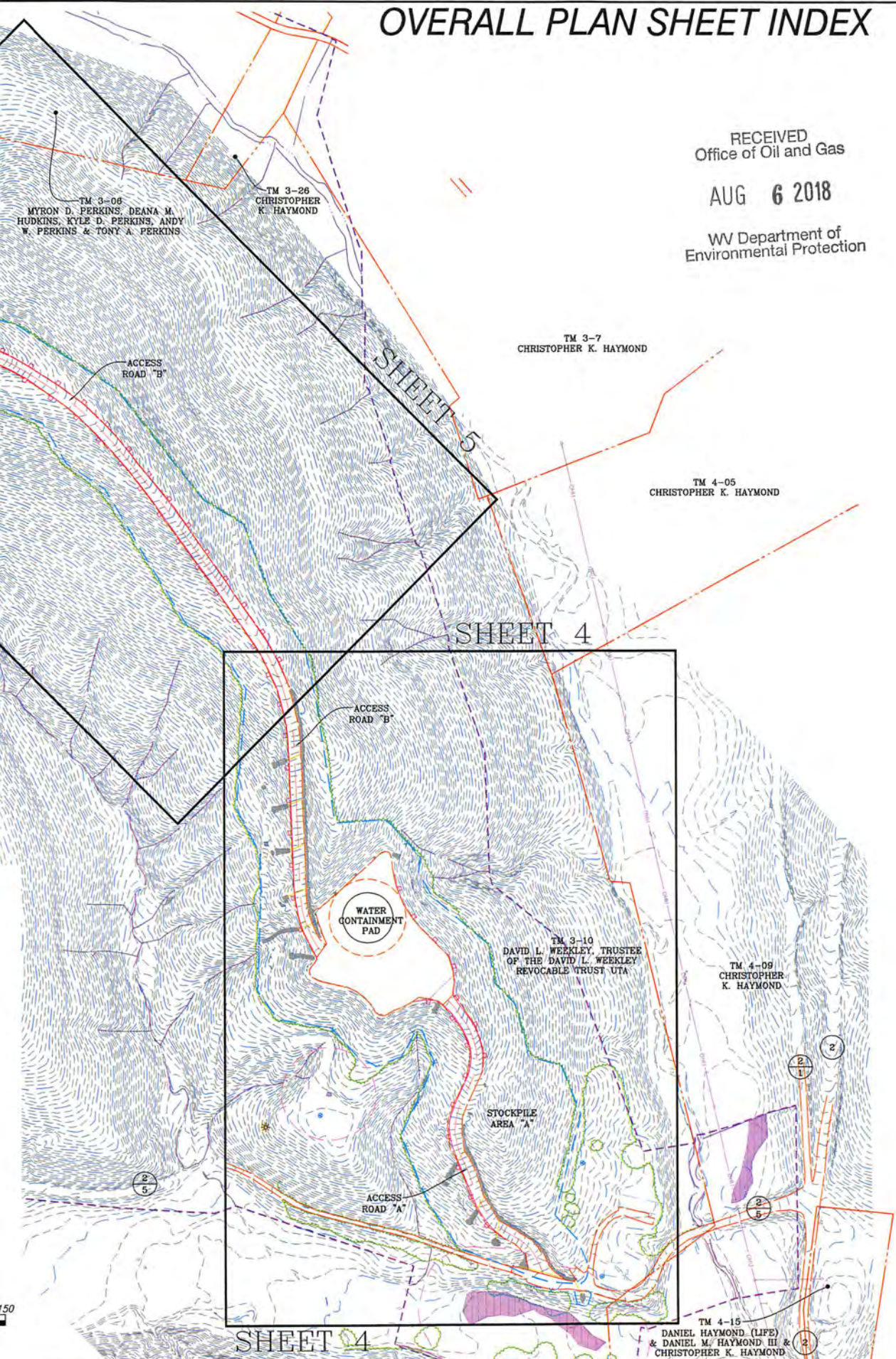
TM 3-7
CHRISTOPHER K. HAYMOND

TM 4-05
CHRISTOPHER K. HAYMOND

TM 3-10
DAVID L. WEEKLEY, TRUSTEE
OF THE DAVID L. WEEKLEY
REVOCABLE TRUST UTA

TM 4-09
CHRISTOPHER
K. HAYMOND

TM 4-15
DANIEL HAYMOND (LIFE)
& DANIEL M. HAYMOND III &
CHRISTOPHER K. HAYMOND



REVISION	DATE



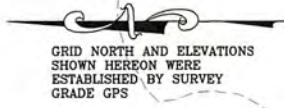
THIS DOCUMENT
WAS PREPARED FOR:
ANTERO RESOURCES
CORPORATION

OVERALL PLAN SHEET INDEX
WEEKLEY TRUST
WELL PAD & WATER CONTAINMENT PAD
CLAY DISTRICT
RITCHIE COUNTY, WEST VIRGINIA



DATE: 03/05/2018
SCALE: 1" = 150'
SHEET 3 OF 9

ACCESS ROAD & WATER CONT.

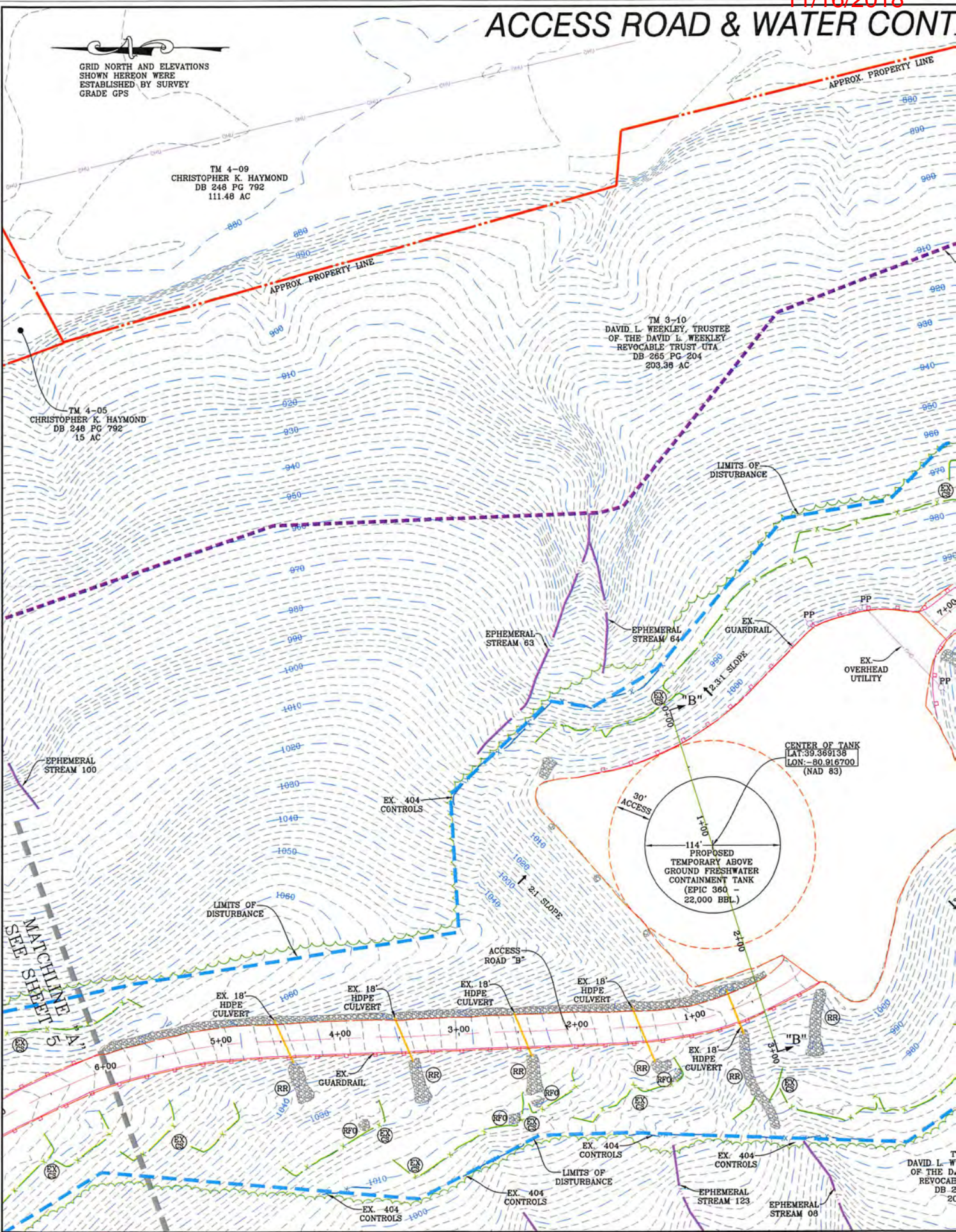


GRID NORTH AND ELEVATIONS SHOWN HEREON WERE ESTABLISHED BY SURVEY GRADE GPS

TM 4-09
CHRISTOPHER K. HAYMOND
DB 248 PG 792
111.48 AC

TM 4-05
CHRISTOPHER K. HAYMOND
DB 248 PG 792
15 AC

TM 3-10
DAVID L. WEEKLEY, TRUSTEE
OF THE DAVID L. WEEKLEY
REVOCABLE TRUST UTA
DB 285 PG 204
203.88 AC



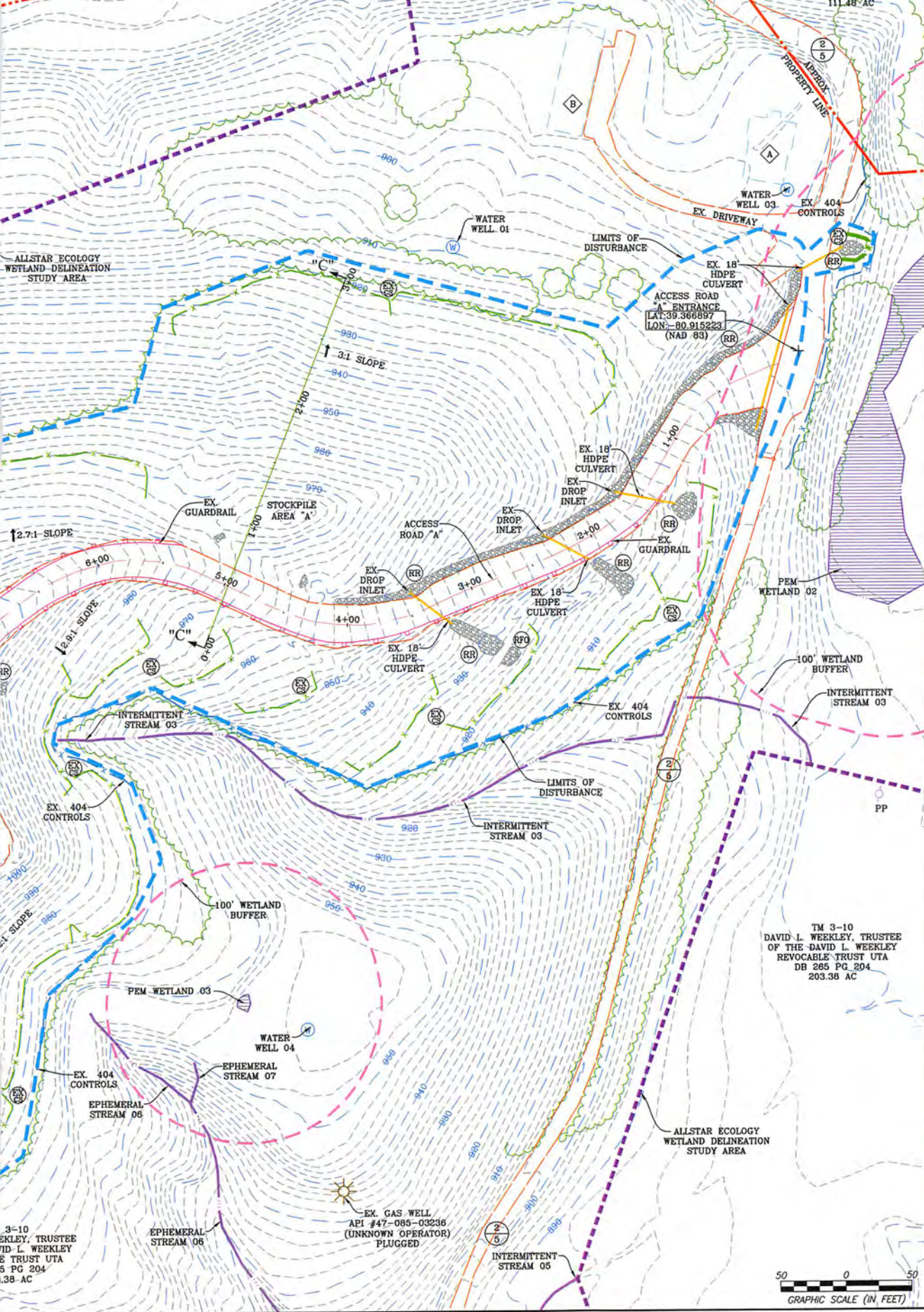
SEE MATCHLINE

CENTER OF TANK
LAT: 39.389138
LON: -80.916700
(NAD 83)

DAVID L. W.
OF THE D.
REVOCAB
DB 2
20

11/16/2018

CONTAINMENT PAD AS-BUILT PLAN



TM 4-09
 CHRISTOPHER K. HAYMOND
 DB 248 PG 792
 111.48 AC

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 ENERGY ENGINEERING
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REVISION	DATE

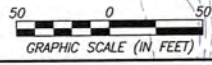
Antero
 RESOURCES
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 ANTERO RESOURCES CORPORATION

ACCESS ROAD & WATER CONTAINMENT PAD
 AS-BUILT PLAN
WEEKLEY TRUST
 WELL PAD & WATER CONTAINMENT PAD
 CLAY DISTRICT
 RITCHIE COUNTY, WEST VIRGINIA

TM 3-10
 DAVID L. WEEKLEY, TRUSTEE
 OF THE DAVID L. WEEKLEY
 REVOCABLE TRUST UTA
 DB 265 PG 204
 203.38 AC



DATE: 03/05/2018
 SCALE: 1" = 50'
 SHEET 4 OF 9



TM 3-10
 DAVID L. WEEKLEY, TRUSTEE
 OF THE DAVID L. WEEKLEY
 REVOCABLE TRUST UTA
 DB 265 PG 204
 203.38 AC

EX. GAS WELL
 API #47-085-03236
 (UNKNOWN OPERATOR)
 PLUGGED

11/16/2018

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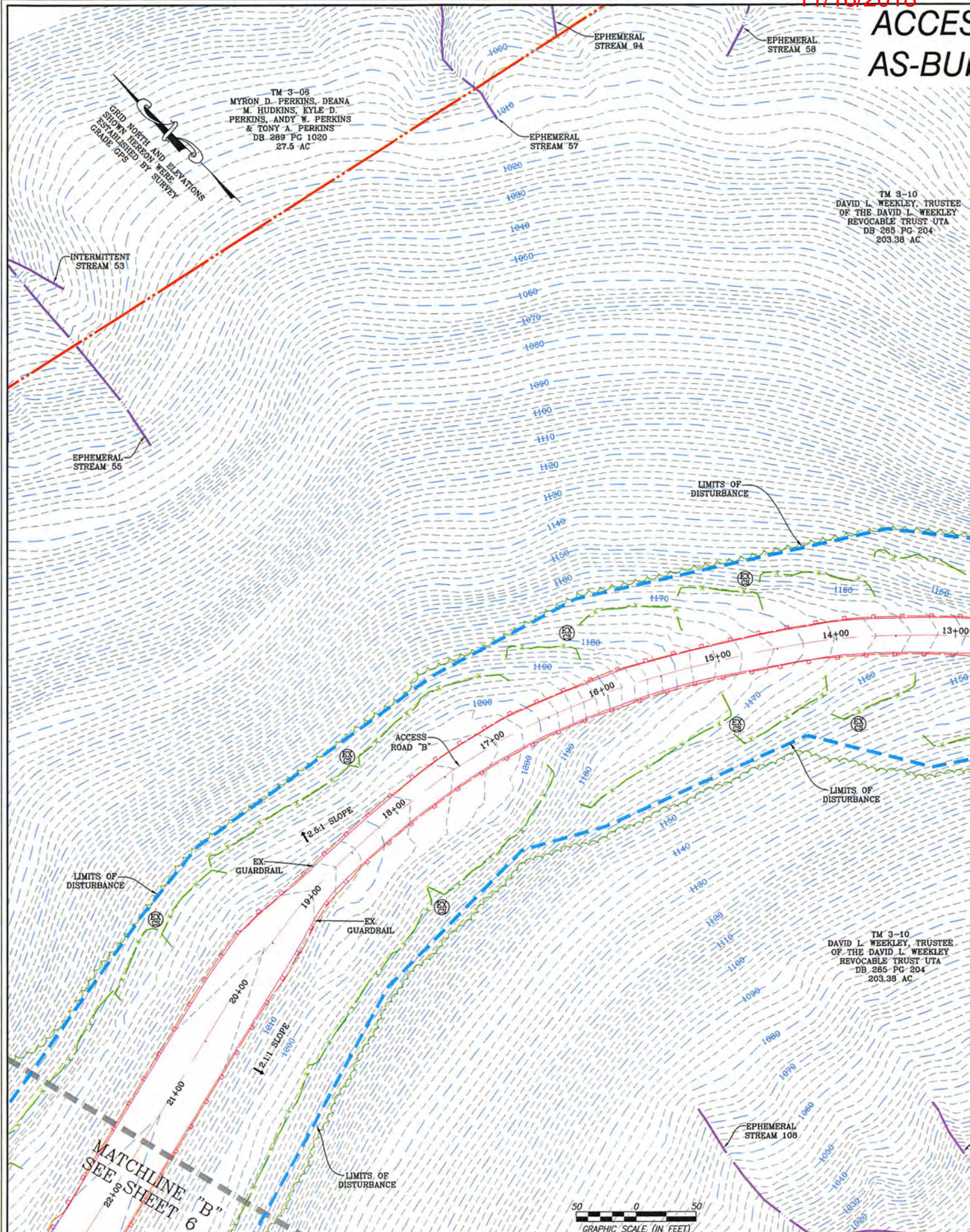
11/16/2018

ACCESS AS-BUILT

GRID NORTH AND ELEVATIONS
SHOWN HEREON WERE
ESTABLISHED BY SURVEY

TM 3-08
MYRON D. PERKINS, DEANA
M. HUDKINS, KYLE D.
PERKINS, ANDY W. PERKINS
& TONY A. PERKINS
DB 289 PG 1020
27.5 AC

TM 3-10
DAVID L. WEEKLEY, TRUSTEE
OF THE DAVID L. WEEKLEY
REVOCABLE TRUST UTA
DB 285 PG 204
203.38 AC

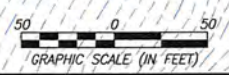


LIMITS OF DISTURBANCE

LIMITS OF DISTURBANCE

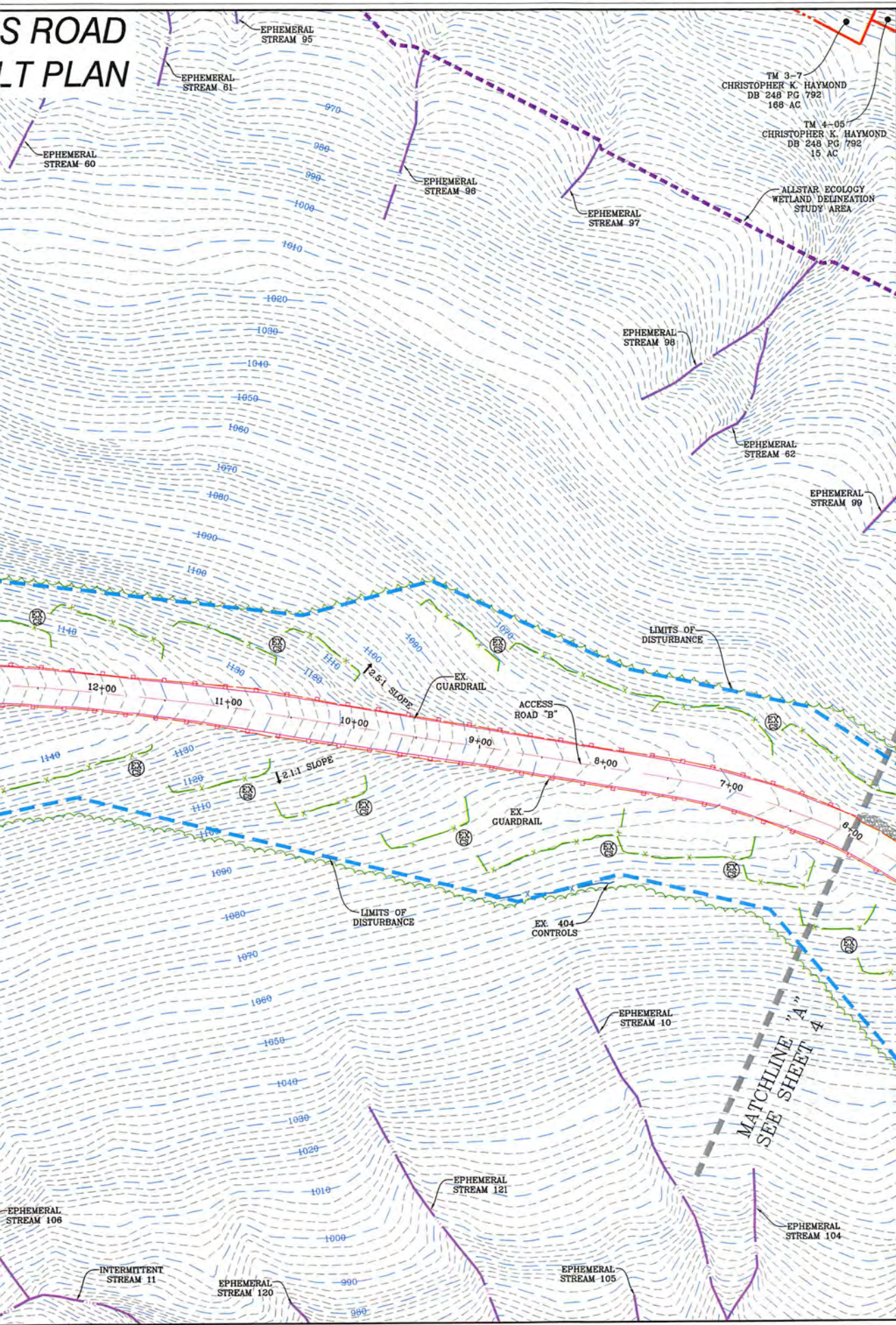
LIMITS OF DISTURBANCE

MATCHLINE
SEE SHEET
"B"
6



TM 3-10
DAVID L. WEEKLEY, TRUSTEE
OF THE DAVID L. WEEKLEY
REVOCABLE TRUST UTA
DB 285 PG 204
203.38 AC

S ROAD ALT PLAN



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REVISION	DATE

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ANTERO RESOURCES
CORPORATION

ACCESS ROAD AS-BUILT PLAN
WEEKLEY TRUST
WELL PAD & WATER CONTAINMENT PAD
CLAY DISTRICT
RITCHIE COUNTY, WEST VIRGINIA

DATE: 03/05/2018
SCALE: 1" = 50'
SHEET 5 OF 9

11/16/2018

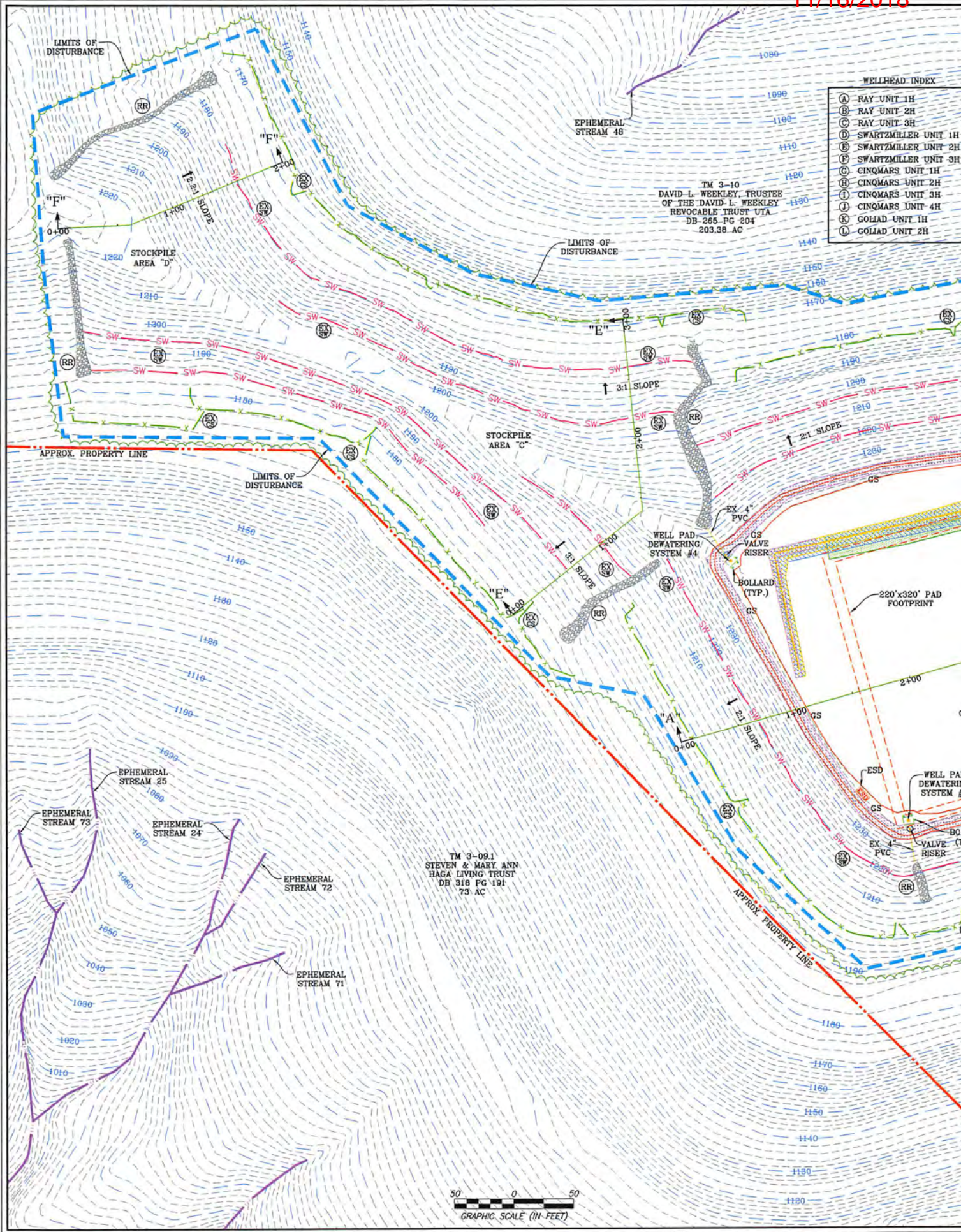
RECEIVED
Office of Oil and Gas

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WV Department of
Environmental Protection

WELLHEAD INDEX

(A)	RAY UNIT 1H
(B)	RAY UNIT 2H
(C)	RAY UNIT 3H
(D)	SWARTZMILLER UNIT 1H
(E)	SWARTZMILLER UNIT 2H
(F)	SWARTZMILLER UNIT 3H
(G)	CINQMARS UNIT 1H
(H)	CINQMARS UNIT 2H
(I)	CINQMARS UNIT 3H
(J)	CINQMARS UNIT 4H
(K)	GOLIAD UNIT 1H
(L)	GOLIAD UNIT 2H



TM 3-09.1
 STEVEN & MARY ANN
 HAGA LIVING TRUST
 DB 318 PG 191
 73 AC



WELL PAD AS-BUILT PLAN



GRID NORTH AND ELEVATIONS SHOWN HEREON ARE ESTABLISHED BY SURVEY GRADE CFS

CENTROID OF PAD
LAT: 39.371729
LON: -90.923639
(NAD 83)

TM 3-10
DAVID L. WEEKLEY, TRUSTEE
OF THE DAVID L. WEEKLEY
REVOCABLE TRUST UTA
DB 265 PG 204
203.38 AC

NAVITUS
ENERGY ENGINEERING
Telephone: (888) 662-4185 | www.NavitusEng.com

REVISION	DATE

Antero
Resources

THIS DOCUMENT WAS PREPARED FOR:
ANTERO RESOURCES CORPORATION

WELL PAD AS-BUILT PLAN
WEEKLEY TRUST
WELL PAD & WATER CONTAINMENT PAD
CLAY DISTRICT
RITCHIE COUNTY, WEST VIRGINIA

PROFESSIONAL ENGINEER
WEST VIRGINIA
19578
03/05/2018

DATE: 03/05/2018
SCALE: 1" = 50'
SHEET 6 OF 9

11/16/2018

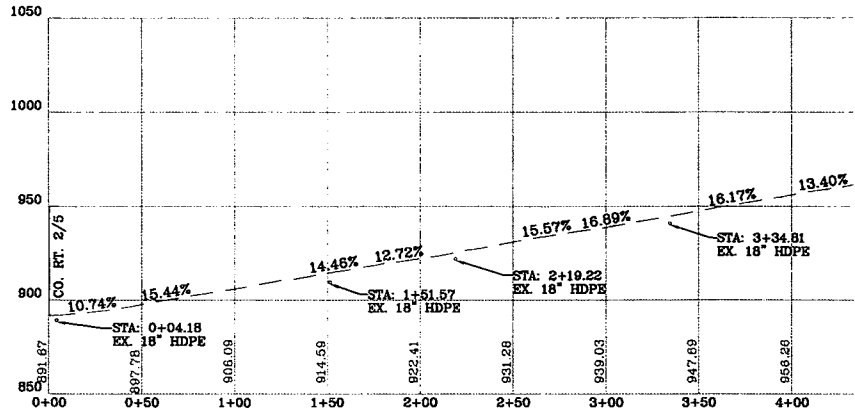
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Office of Oil and Gas

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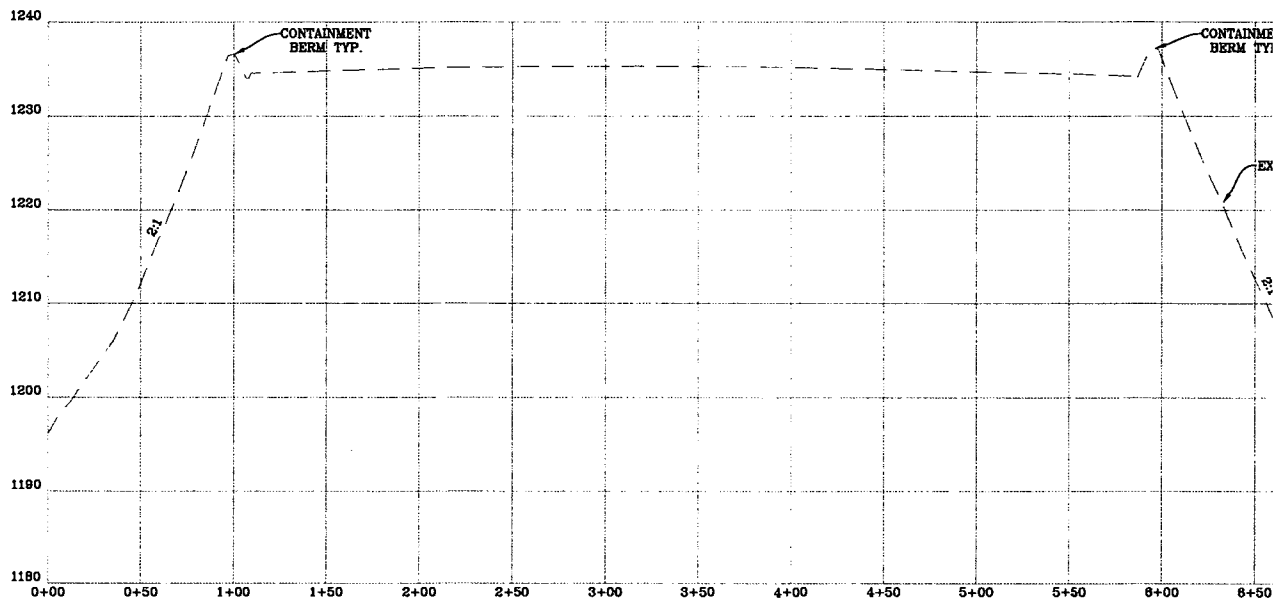
WV Department of
Environmental Protection

11/16/2018

ACCESS ROAD AS-BUILT CONTAINMENT PA

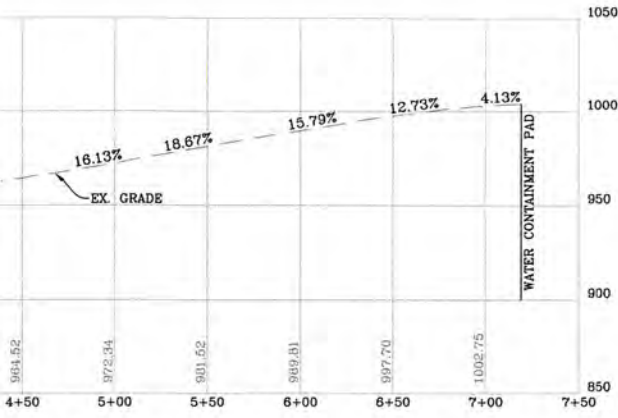


ACCESS ROAD "A" AS-BUILT
SCALE: HORIZ. 1" = 50' VERT. 1" = 10'



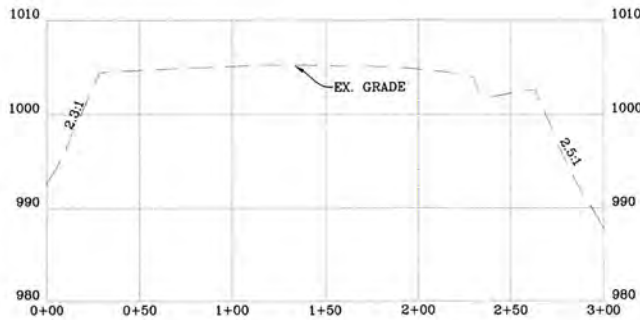
WELL PAD AS-BUILT CROSS-SECTION "A-A"
SCALE: HORIZ. 1" = 50' VERT. 1" = 10'

PROFILE, WELL PAD & WATER CONTAINMENT PAD AS-BUILT SECTIONS



T PROFILE
50'

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WATER CONTAINMENT PAD AS-BUILT CROSS-SECTION "B-B"
SCALE: HORIZ. 1" = 50' VERT. 1" = 10'



REVISION

DATE



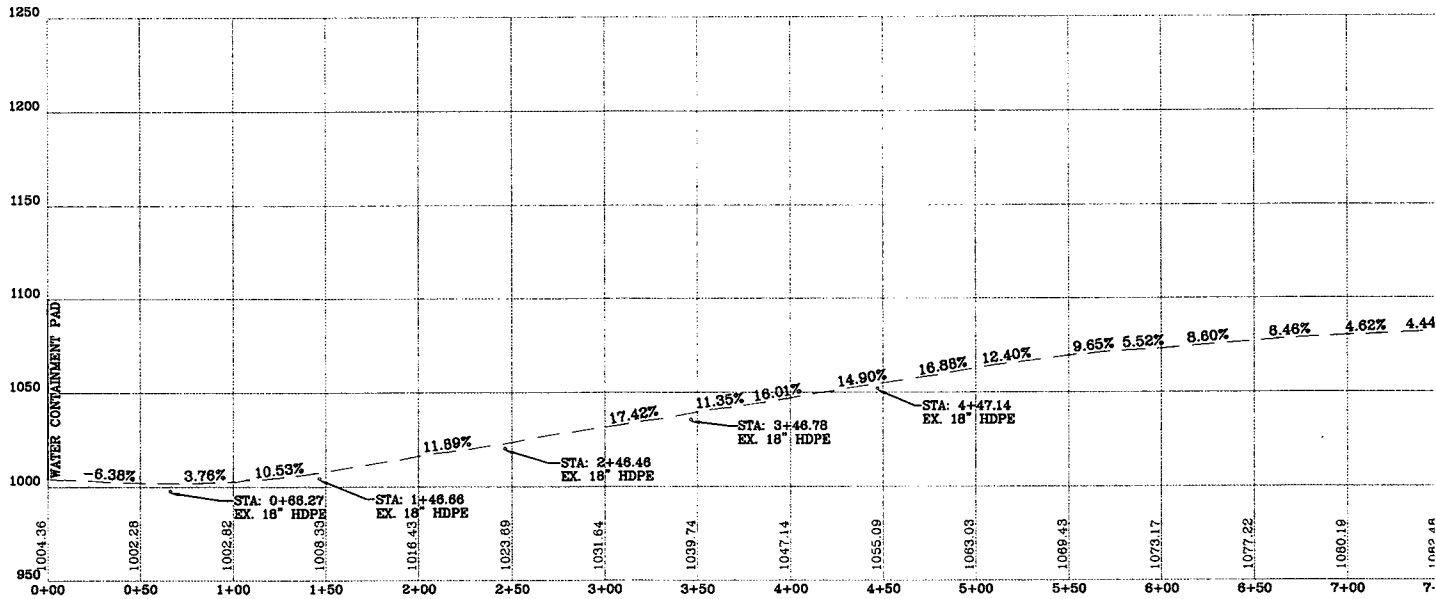
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ACCESS ROAD AS-BUILT PROFILE, WELL PAD &
WATER CONTAINMENT PAD AS-BUILT SECTIONS
WEEKLEY TRUST
WELL PAD & WATER CONTAINMENT PAD
CLAY DISTRICT
RITCHIE COUNTY, WEST VIRGINIA



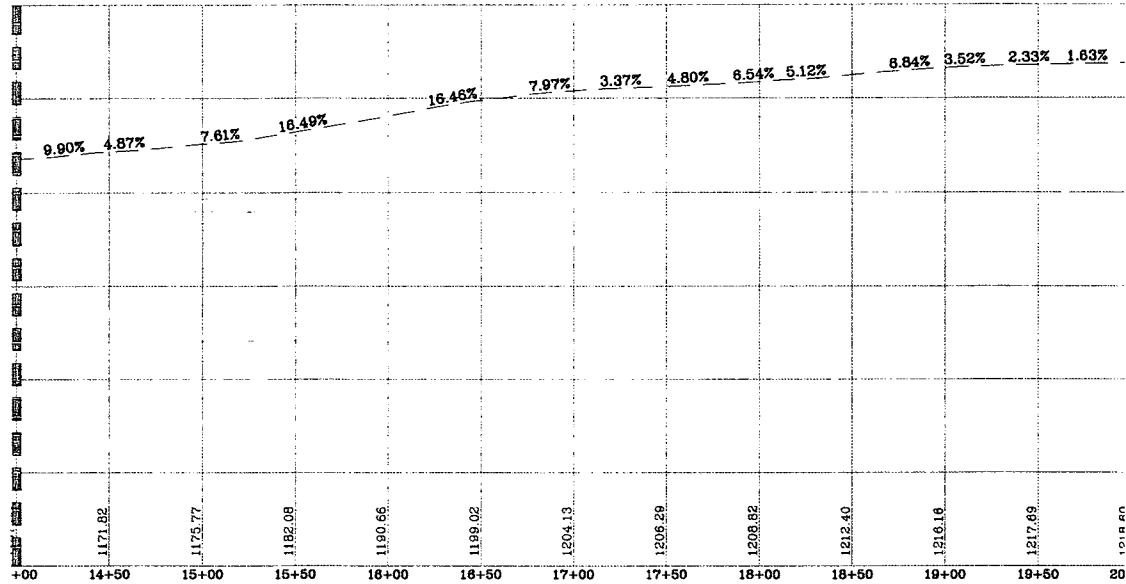
DATE: 03/05/2018
SCALE: AS SHOWN
SHEET 7 OF 9

ACCESS ROAD AS-BU



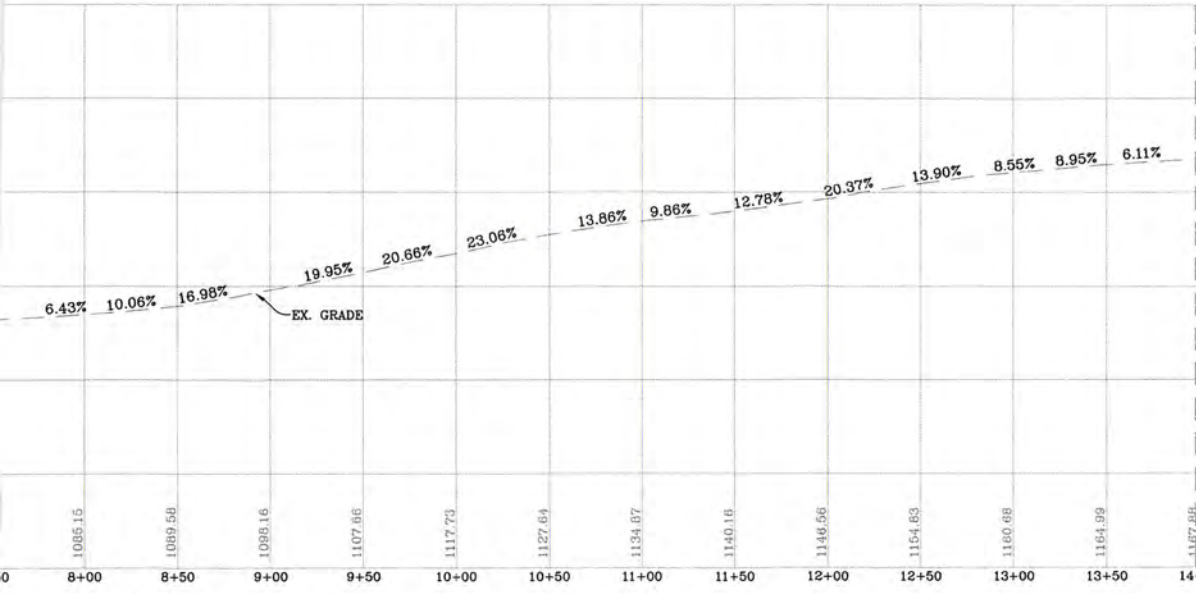
ACCESS ROAD "B" AS-BU
SCALE: HORIZ. 1" = 50' VERT.

MATCHLINE
SEE ABOVE



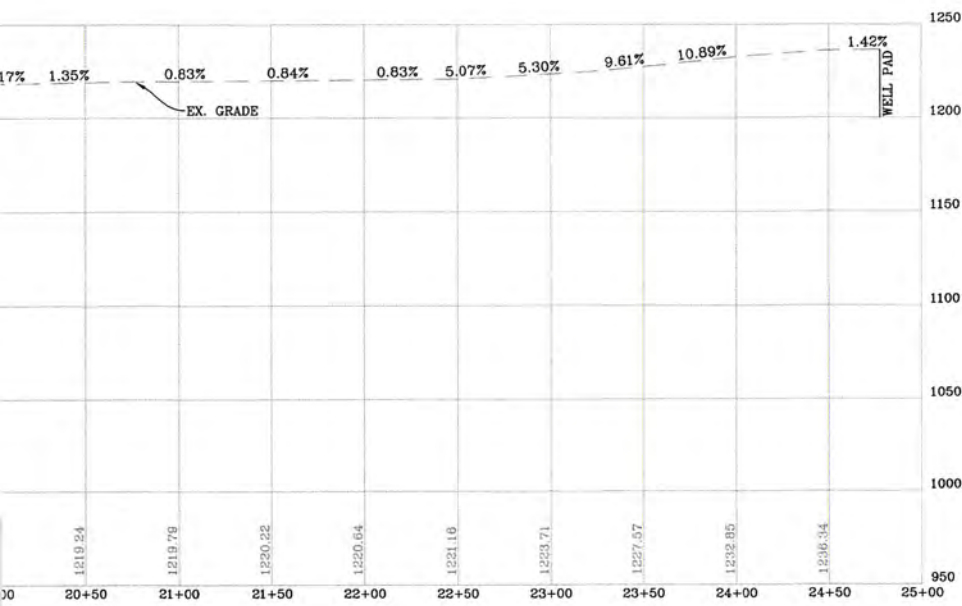
ACCESS ROAD "B" AS-BU
SCALE: HORIZ. 1" = 50' VERT.

BUILT PROFILE



MATCHLINE
SEE BELOW

LT PROFILE
= 50'



LT PROFILE
= 50'

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ACCESS ROAD AS-BUILT PROFILE

WEEKLEY TRUST
WELL PAD & WATER CONTAINMENT PAD
CLAY DISTRICT
RITCHIE COUNTY, WEST VIRGINIA

03/05/2018

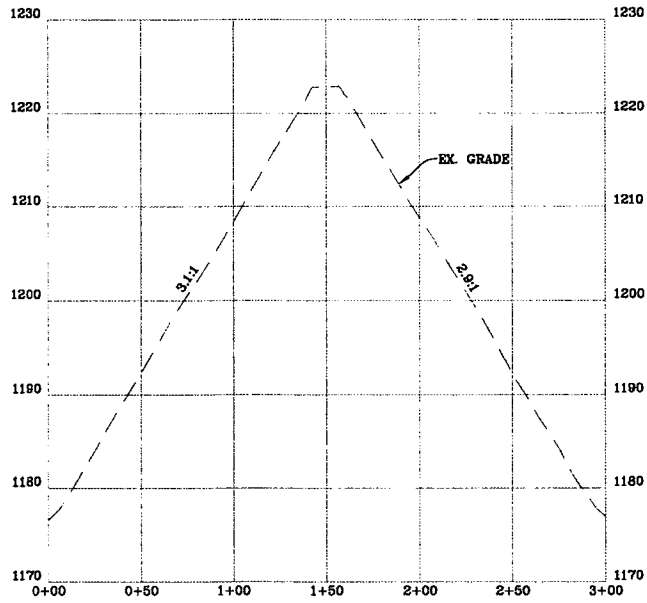
DATE: 03/05/2018
SCALE: AS SHOWN
SHEET 8 OF 9

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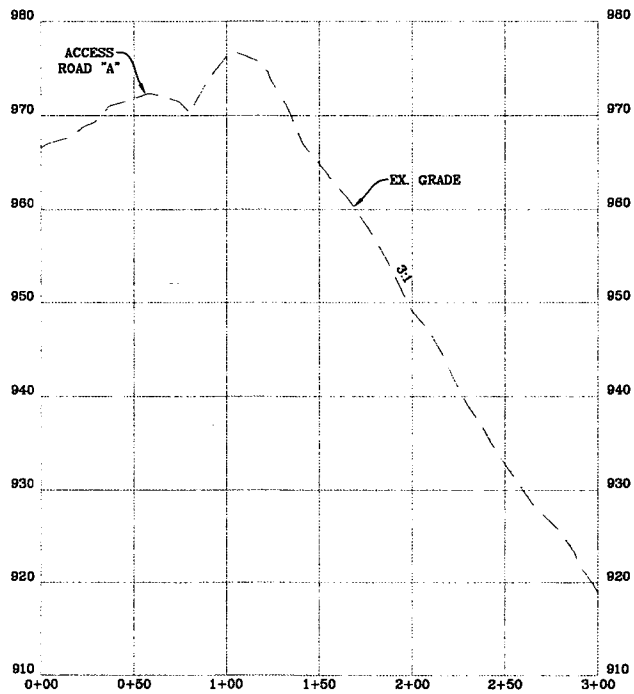
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STOCKPILE AS-BUILT



STOCKPILE AREA "B" AS-BUILT CROSS-SECTION "D-D"

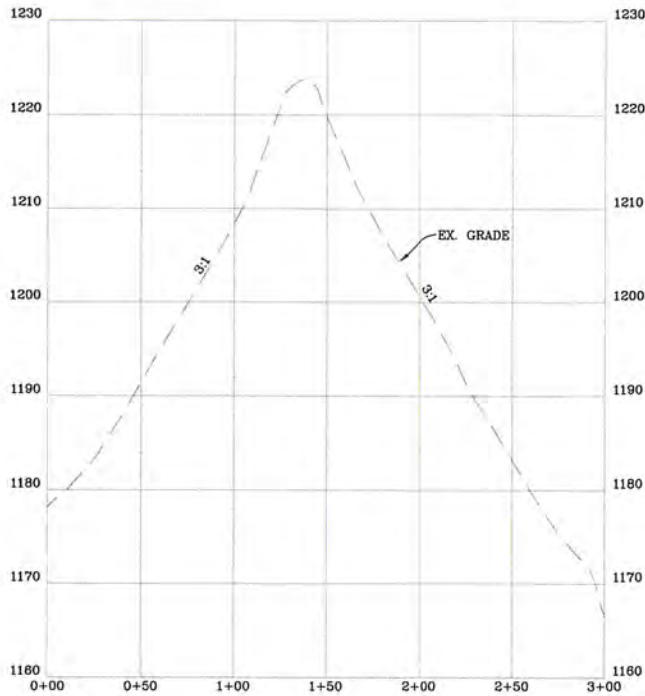
SCALE: HORIZ. 1" = 50' VERT. 1" = 10'



STOCKPILE AREA "A" AS-BUILT CROSS-SECTION "C-C"

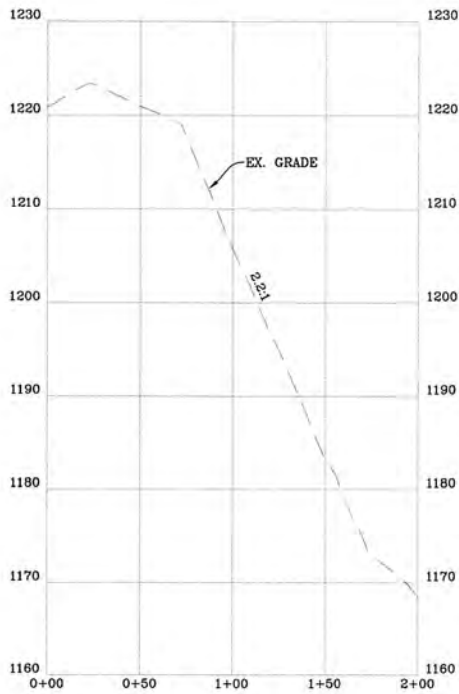
SCALE: HORIZ. 1" = 50' VERT. 1" = 10'

T SECTIONS



STOCKPILE AREA "C" AS-BUILT CROSS-SECTION "E-E"

SCALE: HORIZ. 1" = 50' VERT. 1" = 10'



STOCKPILE AREA "D" AS-BUILT CROSS-SECTION "F-F"

SCALE: HORIZ. 1" = 50' VERT. 1" = 10'

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RITCHIE COUNTY, WEST VIRGINIA



DATE: 03/05/2018
SCALE: AS SHOWN
SHEET 9 OF 9