

State of West Virginia
Department of Environmental Protection - Office of Oil and Gas
Well Operator's Report of Well Work

API 47-069-00159 County Ohio District Triadelphia
Quad Valley Grove Pad Name Roy Ferrell OHI Field/Pool Name _____
Farm name Roy Ferrell OHI 205H Well Number 837094
Operator (as registered with the OOG) Chesapeake Appalachia, L.L.C.
Address P.O. Box 18496 City Oklahoma City State OK Zip 73154-0496

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4432663.72 Easting 540016.04
Landing Point of Curve Northing 4432926.42 Easting 540427.66
Bottom Hole Northing 4435647.43 Easting 539397.60

Elevation (ft) 1,196 GL Type of Well New Existing Type of Report Interim Final
Permit Type Deviated Horizontal Horizontal 6A Vertical Depth Type Deep Shallow
Type of Operation Convert Deepen Drill Plug Back Redrilling Rework Stimulate
Well Type Brine Disposal CBM Gas Oil Secondary Recovery Solution Mining Storage Other _____
Type of Completion Single Multiple Fluids Produced Brine Gas NGL Oil Other _____
Drilled with Cable Rotary

Drilling Media Surface hole Air Mud Fresh Water Intermediate hole Air Mud Fresh Water Brine
Production hole Air Mud Fresh Water Brine
Mud Type(s) and Additive(s)
SOBM

Date permit issued 4-1-2013 Date drilling commenced 8-25-2013 Date drilling ceased 12-27-2013
Date completion activities began 4/3/2014 Date completion activities ceased 5/7/2014
Verbal plugging (Y/N) N Date permission granted _____ Granted by _____

Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug

Freshwater depth(s) ft 340' Open mine(s) (Y/N) depths N
Salt water depth(s) ft 800' Void(s) encountered (Y/N) depths Y 631'
Coal depth(s) ft 631' Cavern(s) encountered (Y/N) depths N

Is coal being mined in area (Y/N) N

APPROVED

NAME: Eric Blend
DATE: 9-23-16

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Reviewed by:

CS

10/28/2016

API 47-069 - 00159

Farm name Roy Ferrell OHI 205H

Well number 837094

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/ N) * Provide details below*
Conductor	26"	20"	118'	New	J-55 / 94#		Y
Surface	17 1/2"	13 3/8"	744'	New	J-55 / 54.5#	605',610'	Y
Coal							
Intermediate 1	12 1/4"	9 5/8"	2,198'	New	J-55 / 40#		Y
Intermediate 2							
Intermediate 3							
Production	8 3/4" / 8 1/2"	5 1/2"	16,884'	New	P-110 / 20#		Y
Tubing							
Packer type and depth set							

Comment Details _____

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft ³ /sks)	Volume (ft ³)	Cement Top (MD)	WOC (hrs)
Conductor	Class A	180	15.60	1.20	216	Surface	8
Surface	Class A	673	15.60	1.20	807.6	Surface	8
Coal							
Intermediate 1	Class A	745	15.60	1.24	923.8	Surface	8
Intermediate 2							
Intermediate 3							
Production	Class A	950 / 2,315	15.40	1.36 / 1.23	4,139.45	431'	8
Tubing							

Drillers TD (ft) 16,892'

Loggers TD (ft) 16,892'

Deepest formation penetrated Marcellus

Plug back to (ft) _____

Plug back procedure _____

Kick off depth (ft) 6,204'

Check all wireline logs run caliper density deviated/directional induction
 neutron resistivity gamma ray temperature sonic

Well cored Yes No Conventional Sidewall Were cuttings collected Yes No

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING

Surface / Coal - Run centralizers in the middle and top of the first joint, top of the third joint and every 4th joint to surface.

Production - Run 1st centralizer 3' from Shoe, 2nd at top of the first joint and then one every 3rd joint to TOC.

WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS _____

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WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

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WERE TRACERS USED Yes No TYPE OF TRACER(S) USED _____

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API 47- 069 - 00159 Farm name Roy Ferrell OHI 205H Well number 837094

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>		
Marcellus	6,639	TVD	7,212 MD

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 1,500 psi Bottom Hole 4,304 psi DURATION OF TEST 72 hrs

OPEN FLOW Gas 2,698 mcfpd Oil 211 bpd NGL _____ bpd Water 382 bpd GAS MEASURED BY Estimated Orifice Pilot

LITHOLOGY/ FORMATION	TOP DEPTH IN FT NAME TVD	BOTTOM DEPTH IN FT TVD	TOP DEPTH IN FT MD	BOTTOM DEPTH IN FT MD	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H ₂ S, ETC)
	0		0		
Ls/Ss	200	400	200	400	
Ls/Shale	400	659	400	659	
Pittsburgh Coal	659	700	659	700	
Ls	700	750	700	750	
Shale/Ss	800	1700	800	1700	
Ls	1700	1792	1700	1801	
Big Injun	1792	2057	1801	2069	
Shale	2057	6474	2069	6773	
Geneseo	6474	6499	6773	6812	Gas 800u
Tully	6499	6526	6812	6854	Gas 950u
Hamilton	6526	6639	6854	7139	Gas 850u
Marcellus	6639	6651	7139	7212	Gas 1600u
TD		6582		16892	

Please insert additional pages as applicable.

Drilling Contractor Nomac Drilling
Address 171 Locust Ave Extension City Mt. Morris State PA Zip 15349

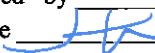
Logging Company Nomac Drilling
Address 171 Locust Ave Extension City Mt. Morris State PA Zip 15349

Cementing Company Schlumberger
Address 1080 U.S. 33 City Weston State WV Zip 26452

Stimulating Company Weatherford, Artificial Lift Systems
Address 286 Weatherford BLVD City Buckhannon State WV Zip 26201

Please insert additional pages as applicable.

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Completed by Jessica Greathouse Telephone 304-353-5240
Signature  Title Manager - Regulatory Operations Date 6/14/2016

Submittal of Hydraulic Fracturing Chemical Disclosure Information Attach copy of FRACFOCUS Registry

10/28/2016

PERFORATION RECORD ATTACHMENT

Well Name and Number: Roy Ferrell OHI 205H

API No. 47-069-00159


STIMULATION RECORD

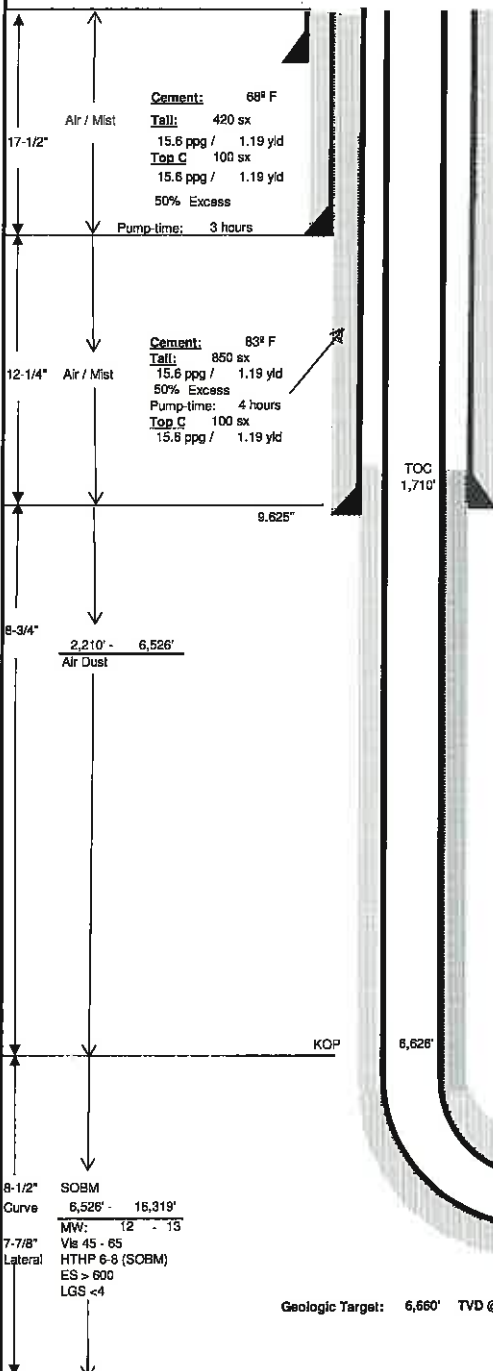
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PERFORATION RECORD

Stage	Interval Perforated		Total Number Of Shots	Interval Treated		Fluid		Propping Agent		Average Injection Rate		
	Date	From		To	Date	Interval Treated	Type	Amount	Type		Amount	
							Type	Amount	Type		Amount	
1	4/3/2014	16518	16712	35	4/3/2014	16518	16712	SLK Wtr	7309	Sand	357968	81.2
2	4/4/2014	16268	16469	35	4/4/2014	16268	16469	SLK Wtr	8528	Sand	357040	71
3	4/9/2014	16018	16219	35	4/9/2014	16018	16219	SLK Wtr	5162	Sand	357980	84.9
4	4/10/2014	15768	15969	35	4/10/2014	15768	15969	SLK Wtr	5780	Sand	357500	84.7
5	4/10/2014	15518	15719	35	4/10/2014	15518	15719	SLK Wtr	5516	Sand	358720	85
6	4/10/2014	15268	15469	35	4/10/2014	15268	15469	SLK Wtr	5512	Sand	466460	85
7	4/10/2014	15018	15219	35	4/10/2014	15018	15219	SLK Wtr	5518	Sand	357860	84.1
8	4/11/2014	14768	14969	35	4/11/2014	14768	14969	SLK Wtr	5574	Sand	356720	80.2
9	4/11/2014	14518	14719	35	4/11/2014	14518	14719	SLK Wtr	7732	Sand	357640	78.3
10	5/2/2014	14268	14469	35	5/2/2014	14268	14469	SLK Wtr	7400	Sand	357160	84.3
11	5/2/2014	14018	14219	35	5/2/2014	14018	14219	SLK Wtr	7279	Sand	357460	80
12	5/2/2014	13768	13969	35	5/2/2014	13768	13969	SLK Wtr	7442	Sand	357060	85
13	5/3/2014	13518	13719	35	5/3/2014	13518	13719	SLK Wtr	7332	Sand	357060	80.4
14	5/3/2014	13268	13469	35	5/3/2014	13268	13469	SLK Wtr	8060	Sand	358000	84.9
15	5/3/2014	13018	13219	35	5/3/2014	13018	13219	SLK Wtr	7281	Sand	357960	85
16	5/3/2014	12768	12969	35	5/3/2014	12768	12969	SLK Wtr	7302	Sand	357000	85
17	5/3/2014	12518	12719	35	5/3/2014	12518	12719	SLK Wtr	7272	Sand	358080	85
18	5/4/2014	12268	12469	35	5/4/2014	12268	12469	SLK Wtr	7267	Sand	357860	83.7
19	5/4/2014	12018	12219	35	5/4/2014	12018	12219	SLK Wtr	8121	Sand	357140	83.1
20	5/4/2014	11768	11969	35	5/4/2014	11768	11969	SLK Wtr	7334	Sand	357220	85
21	5/4/2014	11518	11719	35	5/4/2014	11518	11719	SLK Wtr	7501	Sand	357980	85
22	5/4/2014	11268	11469	35	5/4/2014	11268	11469	SLK Wtr	7480	Sand	357120	85
23	5/5/2014	11018	11219	35	5/5/2014	11018	11219	SLK Wtr	8449	Sand	357080	84
24	5/5/2014	10768	10969	35	5/5/2014	10768	10969	SLK Wtr	7333	Sand	357800	85
25	5/5/2014	10518	10719	35	5/5/2014	10518	10719	SLK Wtr	8078	Sand	357500	84
26	5/5/2014	10268	10469	35	5/5/2014	10268	10469	SLK Wtr	8160	Sand	357440	84
27	5/5/2014	10018	10219	35	5/5/2014	10018	10219	SLK Wtr	7831	Sand	357100	85
28	5/6/2014	9768	9969	35	5/6/2014	9768	9969	SLK Wtr	1314	Sand	357380	83
29	5/6/2014	9518	9719	35	5/6/2014	9518	9719	SLK Wtr	6833	Sand	322900	84

10/28/2016

		Well Name: Roy Ferrell OHI 205H	Drilling Rig: N/A
Drilling Engineer: TBD	Formation: Marcellus	Surface Latitude: 40.043206	Surface Longitude: -80.531194
Superintendent: N/A	County, State: Ohio, WV	BH Latitude: 40.070098	BH Longitude: -80.53823
Asset Manager: N/A	KB Elevation: 1230'	Ground Elevation: 1210'	Directional Drilling: N/A
Geologist: N/A	Land: N/A	Drilling Mud: N/A	Cement Surface: N/A
Land: N/A	Drilling Mud: N/A	Cement Longstrings: N/A	Wellhead: N/A
Drilling Engineer: TBD	Formation: Marcellus	AFE #: N/A	



Wellhead Equipment	
Tree Description	Blanking Cap
Tubing Head **	11" x 5M x 7-1/16" 10M
'B' Section	9-5/8" SOW x 11" 5M
'A' Section	

** Space out such that Blanking Cap is no more than 30" above grade.

Casing Detail						
	Size	Wt	Grd	Conn.	From:	To:
Surface	13.375	54.5 #	J-55	STC	0'	440'
Interm	9.625	40 #	J-55	LTC	0'	2,210'
Prod	5.5	20 #	P-110	GBCD	0'	16,319'

COAL 850' KBTVD

BIG INJUN 1,762' KBTVD

BASE BIG INJUN 2,059' KBTVD

Casing Design						
	Size	ID	Coil	Burst	Tens	MU torq
Surface	13.375	12.615	1130	2740	514	5140
Interm	9.625	8.835	2570	3950	520	5200
Prod	5.5	4.778	12200	12360	641	8530

Report any water or gas flows. Catch liquid sample if possible.

Surface Nudge for Anti-Collision purposes.

Directional Drilling Details								
Section	TMD	Inc.	Azimuth	TVD	BUH	DLS	+N-S	+E-W
Surface	0.00'	0.00	0.00	0.00'	0.00	0.00	0.0'	0.0'
Surface	250'	0.00	0.00	250'	0.00	0.00	0.0'	0.0'
Surface	500'	0.00	0.00	500'	0.00	0.00	0.0'	0.0'
Surface	1,000'	0.00	0.00	1,000'	0.00	0.00	0.0'	0.0'
Surface	2,000'	0.00	0.00	2,000'	0.00	0.00	0.0'	0.0'
KOP1	2,260'	0.00	0.00	2,260'	0.00	0.00	0.0'	0.0'
Hold	3,561'	28.02	56.05	3,517'	2.00	2.00	162.2'	240.9'
KOP2	6,626'	26.02	56.05	6,271'	0.00	0.00	913.1'	1,356.3'
Landing Pt	7,325'	90.00	339.04	6,860'	9.10	12.00	1,422.9'	1,358.0'
TD	16,319'	90.00	339.04	6,860'	0.00	0.00	9,817.9'	-1,856.8'
VS Plane	339.04						VS Length 9,832.44'	
							Lateral Length =>	8,989.80'

Plat Date 7/11/12

Logging Program		
Run	Log Type	Interval
1	TBD	TBD
2	TBD	TBD

Mudlogger operational at: Surface

Formation Depths (TVD)

BASE BIG INJUN	2,059'
GENESECO	6,454'
TULLY	6,484'
HAMILTON	6,512'
MARCELLUS	6,630'
ONONDAGA	6,890'

Cement: 122^o F
Lead: 1,160 sx
15.6 ppg / 1.20 yd
Tall: 1,690 sx
15.6 ppg / 1.20 yd
15% Excess
Pump-time: 6 hours

Geologic Target: 6,660' TVD @ 0° VS w/ 0.00 degrees/100 ft Up-dip

PBHL 5.5"
TMD: 16,319'
TVD: 6,660'
Inclination: 90.00 deg

Drawn by: TBD
Date: 1/2/2013

Office of Oil and Gas

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10/28/2016

Hydraulic Fracturing Fluid Product Component Information Disclosure

Fracture Date:	4/3/2014
State:	WEST VIRGINIA
County:	OHIO
API Number:	4706900159
Operator Name:	CHESAPEAKE APPALACHIA LLC
Well Name and Number:	ROY FERRELL OHI 205H
Longitude:	-80.531128
Latitude:	40.043185
Long/Lat Projection:	NAD27
Production Type:	GAS
True Vertical Depth (TVD):	6,657
Total Water Volume (gal)*:	11,130,294

Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by Mass)**	Maximum Ingredient Concentration in HF Fluid (% by Mass)**	Comments
Fresh Water	CHESAPEAKE ENERGY	Carrier/Base Fluid	Water	007732-18-5	100.00%	83.95996%	
Recycled Produced Water	CHESAPEAKE ENERGY	Carrier/Base Fluid	Water	007732-18-5	100.00%	1.90252%	
EC6110A	NALCO	Anti-Bacterial Agent	Ethanol Glutaraldehyde (Pentanediol) Quaternary Ammonium Compounds	000064-17-5 000111-30-8 N/A	5.00% 60.00% 10.00%	0.00107% 0.01287% 0.00214%	
EC6629A	NALCO	Scale Inhibitor	No Hazardous Components	N/A		0.00000%	
Northern White Sand	WEATHERFORD	Proppant - Natural	Crystalline Silica (Quartz Sand, Silicon Dioxide)	014808-60-7	100.00%	8.83145%	
100 Mesh Sand	WEATHERFORD	Proppant - Natural	Crystalline Silica (Quartz Sand, Silicon Dioxide)	014808-60-7	100.00%	3.75022%	
ACID HYDROCHLORIC, WGR-5L	WEATHERFORD	Acid	Hydrochloric Acid Water	007647-01-0 007732-18-5	15.00% 85.00%	0.13585% 0.76983%	
WPG-84L	WEATHERFORD	Gelling Agent	Petroleum Distillate Hydrotreated Light	064742-47-8	70.00%	0.03360%	
WFR-65LA	WEATHERFORD	pH Adjusting Agent	Potassium Carbonate	000584-08-7	60.00%	0.01479%	
	WEATHERFORD	Friction Reducer	Potassium Hydroxide Ammonium Acetate Petroleum Distillate Hydrotreated Light	001310-58-3 000631-61-8 064742-47-8	40.00% 5.00% 40.00%	0.00986% 0.00535% 0.04283%	

15/02/2016

WIC-641L	WEATHERFORD	Iron Control Agent	Citric Acid	000077-92-9	70.00%	0.00171%
WBK-133 OXIDIZER	WEATHERFORD	Breaker	Ammonium Persulfate	007727-54-0	100.00%	0.00064%
WXL-106L	WEATHERFORD	Cross Linker	Potassium Hydroxide	001310-58-3	13.00%	0.00042%
			Potassium Tetraborate	001332-77-0	40.00%	0.00131%
WBK-134	WEATHERFORD	Breaker	Ammonium Persulfate	007727-54-0	80.00%	0.00016%
			Crystalline Silica (Quartz Sand, Silicon Dioxide)	014808-60-7	10.00%	0.00002%
WAI-251LC	WEATHERFORD	Corrosion Inhibitor	2-Butoxyethanol (Ethylene Glycol Monobutyl Ether)	000111-76-2	7.00%	0.00007%
			Branched-Ethoxylated Nonyl Phenol (Branched-Nonyl Phenol Ethoxylate)	068412-54-4	10.00%	0.00011%
			Cinnamaldehyde	000104-55-2	10.00%	0.00011%
			Dimethyl Formamide	000068-12-2	40.00%	0.00042%
			Ethylene Glycol	000107-21-1	60.00%	0.00063%
			Isopropanol (Isopropyl Alcohol, Propan-2-ol)	000067-63-0	7.00%	0.00007%
			Tar bases, quinoline derivs, benzyl chloride-quaternized	072480-70-7	13.00%	0.00014%
			Triethyl Phosphate	000078-40-0	7.00%	0.00007%

Additional Ingredients Not Listed on MSDS

EC6110A, EC6629A	NALCO	Anti-Bacterial Agent, Scale Inhibitor	Methanol (Methyl Alcohol) Proprietary Acrylate Polymer Proprietary Quaternary Ammonium Salt	000067-56-1 TRADE SECRET TRADE SECRET		0.00690% 0.00690% 0.00690%
WAI-251LC, WBK- 134, WFR-65LA, WGA-15L, WIC- 641L, WPB-584L, WXL-106L	WEATHERFORD	Breaker, Corrosion Inhibitor, Cross Linker, Friction Reducer, Gelling Agent, Iron Control Agent, pH Adjusting Agent	Water Alcohols ethoxylated C12-16 Guar Gum Potassium Carbonate Proprietary Alcohol Proprietary Breaker Additive (WBK- 134) Proprietary Ethoxylated Nonylphenol Proprietary Friction Reducer Additive Sorbitan Water	007732-18-5 068551-12-2 009000-30-0 000584-08-7 TRADE SECRET TRADE SECRET TRADE SECRET TRADE SECRET TRADE SECRET TRADE SECRET 008007-43-0 007732-18-5		0.02260% 0.03295% 0.03295% 0.01551% 0.00035% 0.00008% 0.00035% 0.10166% 0.03295% 0.00459%

10/26/2011

* Total Water Volume sources may include fresh water, produced water, and/or recycled water
** Information is based on the maximum potential for concentration and thus the total may be over 100%
*** Additional Ingredients Not Listed on MSDS* component information were obtained directly from the supplier. As such, the Operator is not responsible for inaccurate and/or incomplete information. Any questions regarding the content of this information should be directed to the supplier who provided it.

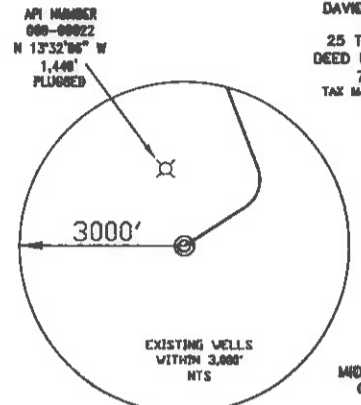
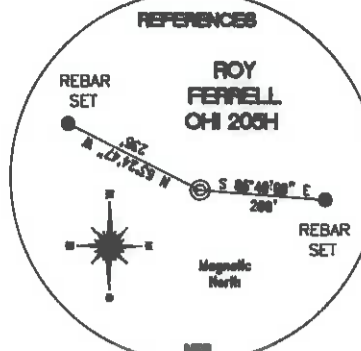
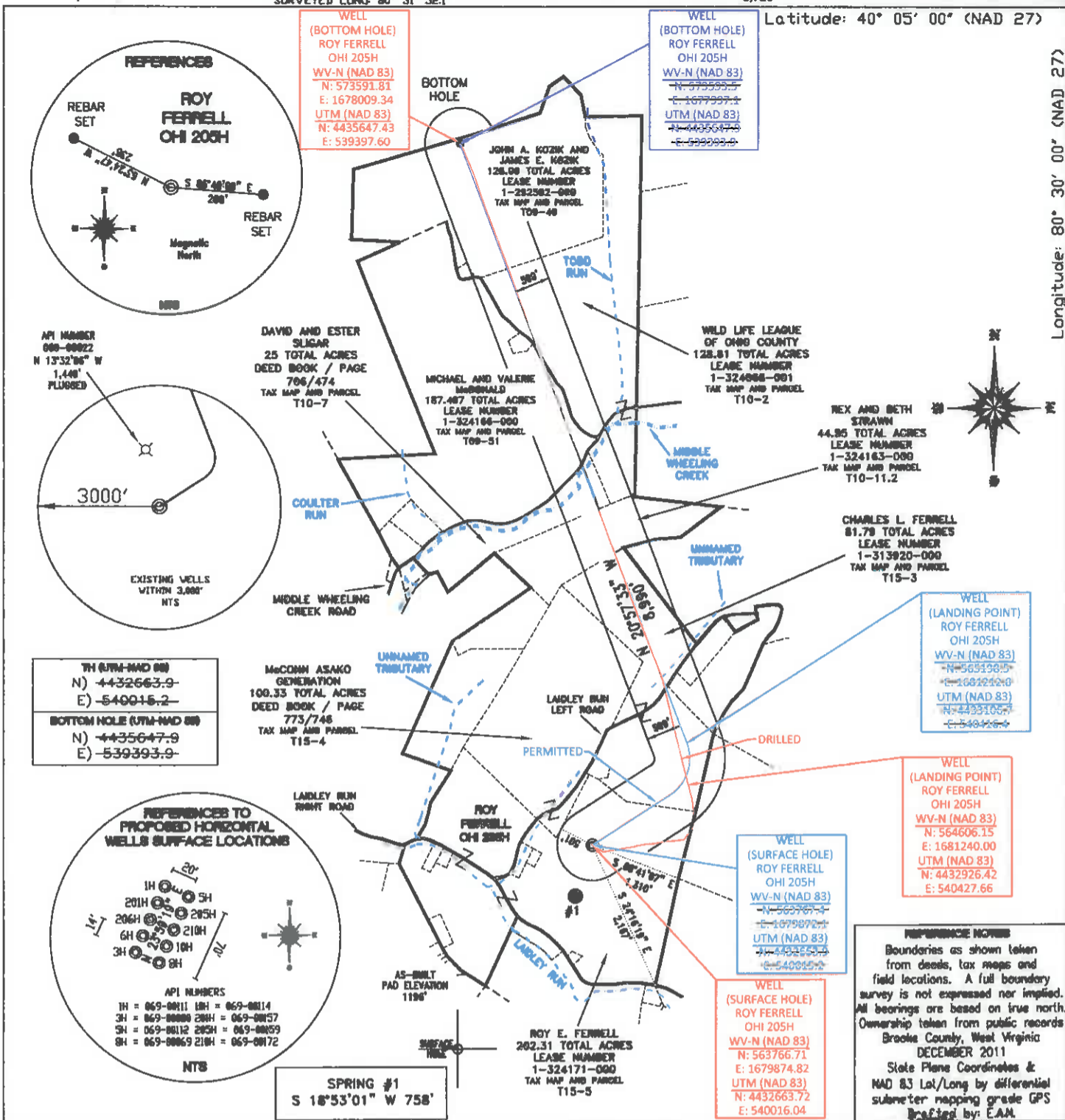
All component information listed was obtained from the supplier's Material Safety Data Sheets (MSDS). As such, the Operator is not responsible for inaccurate and/or incomplete information. Any questions regarding the content of the MSDS should be directed to the supplier who provided it. The Occupational Safety and Health Administration's (OSHA) regulations govern the criteria for the disclosure of this information. Please note that Federal Law protects "proprietary", "trade secret", and "confidential business information" and the criteria for how this information is reported on an MSDS is subject to 29 CFR 1910.1200(i) and Appendix D.

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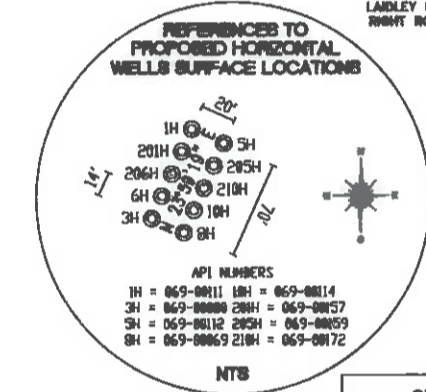
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10/28/2016



TH (UTM-NAD 83)	N) 4432663.9
	E) 540015.2
BOTTOM HOLE (UTM-NAD 83)	N) 4435647.9
	E) 539393.9



SPRING #1
 S 18° 53' 01" W 758'

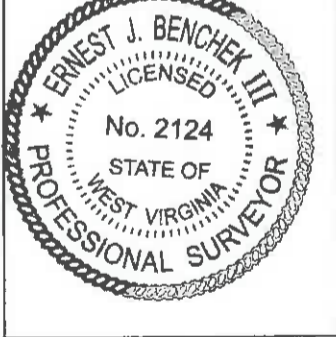
WELL (LANDING POINT)
 ROY FERRELL
 OHI 205H
 WV-N (NAD 83)
 N: 5653190.9
 E: 540427.66
 UTM (NAD 83)
 N: 4435106.9
 E: 540427.66

WELL (LANDING POINT)
 ROY FERRELL
 OHI 205H
 WV-N (NAD 83)
 N: 564606.15
 E: 1681240.00
 UTM (NAD 83)
 N: 4432926.42
 E: 540427.66

REFERENCE NOTES
 Boundaries as shown taken from deeds, tax maps and field locations. A full boundary survey is not expressed nor implied. All bearings are based on true north. Ownership taken from public records Brooke County, West Virginia DECEMBER 2011
 State Plane Coordinates & NAD 83 Lat/Long by differential submeter mapping grade GPS
 Drafted by: E.A.M.

FILE #: CHE 034
 DRAWING #: 1972
 PLAT = 1" - 2000'
 SCALE: TICK MARK = 1" - 2000'
 MINIMUM DEGREE OF ACCURACY: 1/200
 PROVEN SOURCE SUBMETER MAPPING OF ELEVATION: GRADE GPS

I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.
 Signed: *[Signature]*
 L.L.S. #2124: Ernest J. Benchek III



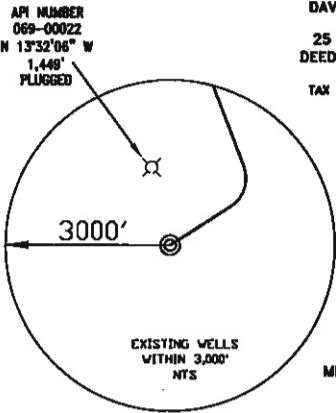
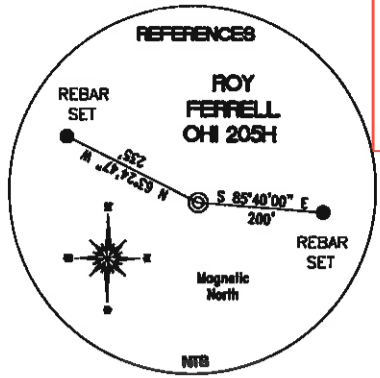
(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS WVDEP
 OFFICE OF OIL & GAS
 601 57TH STREET
 CHARLESTON, WV 25304
 Well Type: Oil Waste Disposal Production Deep
 Gas Liquid Injection Storage Shallow
 WATERSHED: WHEELING CREEK
 COUNTY/DISTRICT: OHIO/TRIADELPHIA
 SURFACE OWNER: ROY E. FERRELL
 OIL & GAS ROYALTY OWNER: ROY E. FERRELL
 LEASE NUMBERS: _____

DATE: MAY 10, 2016
 OPERATOR'S WELL #: ROY FERRELL OHI 205H AS-DRILLED
 API WELL #: 47 69 00159
 STATE COUNTY PERMIT

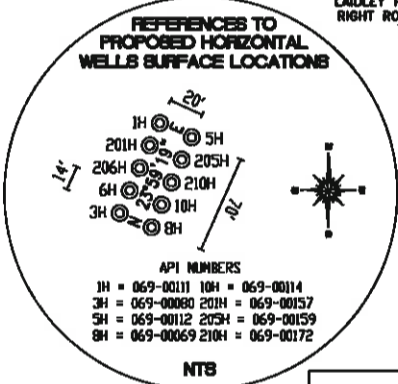
QUADRANGLE: VALLEY GROVE WV.
 ACREAGE: 202.31 +/-
 ACREAGE: 814.117 +/-

DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE
 PLUG OFF FORMATION PERFORATE NEW FORMATION PLUG & ABANDON
 CLEAN OUT & REPLUG OTHER CHANGE (SPECIFY): _____
 TARGET FORMATION: MARCELLUS
 AS-DRILLED DEPTH: TVD: 6,582.561' TMD: 16,892'
 WELL OPERATOR: CHESAPEAKE APPALACHIA, LLC.
 ADDRESS: PO BOX 18496
 CITY: OKLAHOMA CITY STATE: OK ZIP CODE: 73154-0496
 DESIGNATED AGENT: JESSICA GREATHOUSE
 ADDRESS: PO Box 6070
 CITY: CHARLESTON STATE: WV ZIP CODE: 25301

SURFACE HOLE DEC. LAT: 40.083185
 SURVEYED LAT: 40° 08' 33.5"



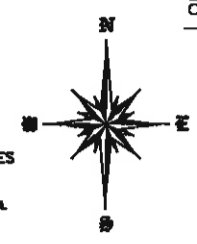
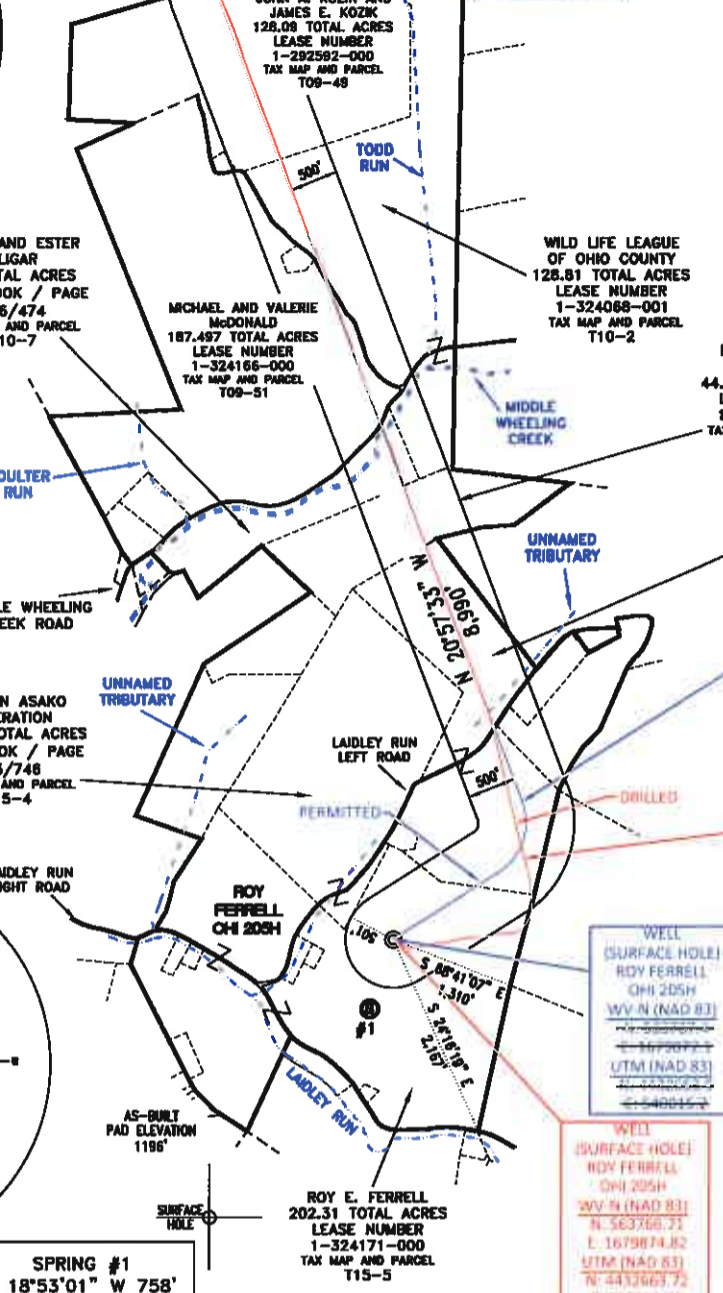
TH (UTM-NAD 83)
 N) 4432663.9
 E) -540015.2
 BOTTOM HOLE (UTM-NAD 83)
 N) 4435647.9
 E) -539393.9



SPRING #1
 S 18°53'01" W 758'

WELL (BOTTOM HOLE)
 ROY FERRELL
 OHI 205H
 WV-N (NAD 83)
 N: 573591.81
 E: 1678009.34
 UTM (NAD 83)
 N: 4435647.43
 E: 539397.60

WELL (BOTTOM HOLE)
 ROY FERRELL
 OHI 205H
 WV-N (NAD 83)
 N: 573591.81
 E: 1678009.34
 UTM (NAD 83)
 N: 4435647.43
 E: 539397.60



WELL (LANDING POINT)
 ROY FERRELL
 OHI 205H
 WV-N (NAD 83)
 UTM (NAD 83)

WELL (LANDING POINT)
 ROY FERRELL
 OHI 205H
 WV-N (NAD 83)
 N: 564906.35
 E: 1681340.00
 UTM (NAD 83)
 N: 4432920.42
 E: 540427.56

WELL (SURFACE HOLE)
 ROY FERRELL
 OHI 205H
 WV-N (NAD 83)
 UTM (NAD 83)

WELL (SURFACE HOLE)
 ROY FERRELL
 OHI 205H
 WV-N (NAD 83)
 N: 563766.21
 E: 1679874.82
 UTM (NAD 83)
 N: 4432663.72
 E: 540018.04

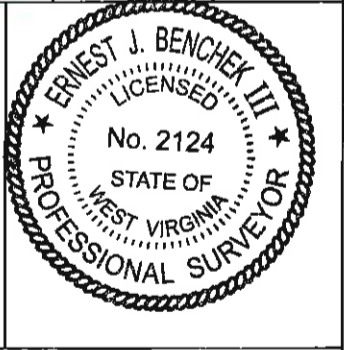
REFERENCE NOTES
 Boundaries as shown taken from deeds, tax maps and field locations. A full boundary survey is not expressed nor implied. All bearings are based on true north. Ownership taken from public records Brooke County, West Virginia DECEMBER 2011
 State Plane Coordinates & NAD 83 Lat/Long by differential submeter mapping grade GPS
 Drafted by: E.A.M.

FILE #: CHE 034
 DRAWING #: 1972
 PLAT = 1" - 2000'
 SCALE: TICK MARK = 1" - 2000'
 MINIMUM DEGREE OF ACCURACY: 1/200
 PROVEN SOURCE SUBMETER MAPPING OF ELEVATION: GRADE GPS

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

Signed: *[Signature]*

L.L.S. #2124 : Ernest J. Benchek III



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS WVDEP
 OFFICE OF OIL & GAS
 601 57TH STREET
 CHARLESTON, WV 25304
 Well Type: Oil Waste Diposal Production Deep Gas Liquid Injection Storage Shallow
 WATERSHED: WHEELING CREEK
 COUNTY/DISTRICT: OHIO/TRIADELPHIA QUADRANGLE: VALLEY GROVE WV.
 SURFACE OWNER: ROY E. FERRELL ACREAGE: 202.31 +/-
 OIL & GAS ROYALTY OWNER: ROY E. FERRELL ACREAGE: 814.117 +/- **10/28/2016**
 LEASE NUMBERS:

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