

JK

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

API 47-103-02873 County Wetzel District Grant
Quad Pine Grove Pad Name PNG129 Field/Pool Name _____
Farm name Coastal Lumber Company Well Number 514375
Operator (as registered with the OOG) EQT Production Company
Address 625 Liberty Ave. EQT Plaza, Suite 1700 City Pittsburgh State PA Zip 15222

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4,378,137 Easting 530,865
Landing Point of Curve Northing 4,378,150 Easting 531,276
Bottom Hole Northing 4,379,588 Easting 530,595

Elevation (ft) 1330 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)
Water base Mud 14.0 ppg barium sulfate, sodium chloride, xanthan gum, polyanionic cellulose, modified starch, sodium hydroxide, phosphonates and alkyl phosphates, glutaraldehyde solution, calcium hydroxide, partially hydrolyzed polyacrylamide/polyacrylate, potassium chloride, sodium carbonate, ground walnut shells, alcohol and modified fatty acid, ferrochrome lignosulfonate, calcium carbonate, fibrous cellulose

Date permit issued 05/22/2013 Date drilling commenced 08/28/2013 Date drilling ceased 4/7/2014
Date completion activities began 8/26/2014 Date completion activities ceased 9/2/2014
Verbal plugging (Y/N) n/a Date permission granted n/a Granted by n/a

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

Freshwater depth(s) ft 734' Open mine(s) (Y/N) depths N
Salt water depth(s) ft 2016', 2365' Void(s) encountered (Y/N) depths N
Coal depth(s) ft 686', 968', 1038', 1052', 1080' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

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Reviewed by: _____

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API 47-103 - 02873 Farm name Coastal Lumber Company Well number 514375

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	28"	26"	40'	New	82.6#/ft	n/a	Y
Surface	17-1/2"	13-3/8"	966'	New	54.5#/ft	140', 632'	Y
Coal							
Intermediate 1	12-3/8"	9-5/8"	3393'	New	40#/ft	1159', 1706'	Y
Intermediate 2							
Intermediate 3							
Production	8-1/2"	5-1/2"	13414'	New	20#/ft	N/A	N
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	49	15.6	1.18	57.82	0	8
Surface	Class A	845	15.6	1.19	1005.55	0	8
Coal							
Intermediate 1	Class A	1265	15.6	1.18	1492.7	0	8
Intermediate 2							
Intermediate 3							
Production	Class A/Class H	695/750	15.2/15.6	1.07/1.86	2138.65	5000	8
Tubing							

Drillers TD (ft) 13419' Loggers TD (ft) N/A
 Deepest formation penetrated Marcellus Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 5357'

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 Conductor-N/A
 Surface-bow spring centralizers set at 920', 591', 222'
 Intermediate-bow spring centralizers set at 3349', 2885', 2379', 1873', 1369', 737', 108'
 Production-composite centralizer ran on every joint from td up to 3773.74'

WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS _____

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

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

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Formation Name	Final Top MD (ftGL) (ft)	Final Top TVD (ft)	Final Btm MD (ftGL) (ft)	Final Btm TVD (ft)
Fresh Water Zone	1	1	734	734
Coal	686	686	688	688
Sand / Shale	688	688	968	968
Sand / Shale	969	969	1038	1038
Coal	1038	1038	1045	1045
Sand / Shale	1045	1045	1052	1052
Coal	1052	1052	1054	1054
Sand / Shale	1054	1054	1080	1080
Coal	1080	1080	1086	1086
Sand / Shale	1086	1086	2183	2183
Maxton	2183	2183	2419	2419
Big Lime	2419	2419	2658	2658
Weir	2658	2658	2856	2856
Gantz	2856	2856	2972	2972
Fifty foot	2972	2972	3045	3045
Thirty foot	3045	3045	3092	3092
Gordon	3092	3092	3212	3212
Forth Sand	3212	3212	3347	3347
Bayard	3347	3347	3763	3763
Warren	3763	3763	3889	3889
Speechley	3889	3889	4763	4763
Riley	4763	4763	5383	5375
Benson	5383	5375	5795	5744
Alexander	5795	5744	7533	7060
Middlesex	7533	7060	7591	7101
Genesee	7591	7101	7720	7185
Genesee	7720	7185	7763	7209
Tully	7763	7209	7809	7232
Hamilton	7809	7232	8030	7309
Marcellus	8030	7309	13419	7311

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514375 - 47-103-02873-0000 - Perforations

Stage Number	Perforation Date	Top Perf Depth (ftKB)	Bottom Perf Depth (ftKB)	Number of Shots	Formation
Initiation Sleeve	8/26/2014	13,389.00	13,391.00	10	MARCELLUS
1	8/26/2014	13,208.00	13,343.00	32	MARCELLUS
2	8/26/2014	12,981.00	13,165.00	40	MARCELLUS
3	8/26/2014	12,759.00	12,936.00	40	MARCELLUS
4	8/27/2014	12,534.00	12,714.00	40	MARCELLUS
5	8/27/2014	12,309.00	12,489.00	40	MARCELLUS
6	8/27/2014	12,084.00	12,264.00	40	MARCELLUS
7	8/27/2014	11,859.00	12,039.00	40	MARCELLUS
8	8/28/2014	11,634.00	11,814.00	40	MARCELLUS
9	8/28/2014	11,409.00	11,589.00	40	MARCELLUS
10	8/28/2014	11,180.00	11,365.00	40	MARCELLUS
11	8/28/2014	10,959.00	11,137.00	40	MARCELLUS
12	8/29/2014	10,734.00	10,914.00	40	MARCELLUS
13	8/29/2014	10,508.00	10,689.00	40	MARCELLUS
14	8/29/2014	10,284.00	10,464.00	40	MARCELLUS
15	8/29/2014	10,059.00	10,241.00	40	MARCELLUS
16	8/30/2014	9,834.00	10,014.00	40	MARCELLUS
17	8/30/2014	9,609.00	9,789.00	40	MARCELLUS
18	8/30/2014	9,384.00	9,564.00	40	MARCELLUS
19	8/31/2014	9,157.00	9,339.00	40	MARCELLUS
20	8/31/2014	8,934.00	9,114.00	40	MARCELLUS
21	9/1/2014	8,709.00	8,889.00	40	MARCELLUS
22	9/2/2014	8,484.00	8,664.00	40	MARCELLUS
23	9/2/2014	8,259.00	8,439.00	40	MARCELLUS
24	9/2/2014	8,035.00	8,214.00	40	MARCELLUS

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514375 - 47-103-02873-0000 - Stimulated Stages

Stage Number	Stimulation Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbbls)	Amount of Nitrogen/other (units)
Initiation Sleeve	8/26/2014	26.50	7,179.00	9,051.00	4,603	0	1,376	0
1	8/26/2014	101.00	8,399.00	8,924.00	4,183	386,245	9,266	0
2	8/26/2014	95.10	8,398.00	8,711.00	5,197	378,569	6,837	0
3	8/27/2014	97.30	8,261.00	8,723.00	4,865	378,793	9,654	0
4	8/27/2014	100.70	8,649.00	9,056.00	4,746	379,159	9,692	0
5	8/27/2014	100.90	8,522.00	9,163.00	4,908	376,555	10,333	0
6	8/27/2014	92.20	8,257.00	8,656.00	4,941	374,909	11,116	0
7	8/28/2014	97.10	8,146.00	8,542.00	4,676	375,604	9,492	0
8	8/28/2014	98.80	8,410.00	8,905.00	4,618	376,470	10,148	0
9	8/28/2014	101.00	8,194.00	8,732.00	4,707	375,001	9,918	0
10	8/28/2014	99.20	7,695.00	8,029.00	5,106	377,710	9,575	0
11	8/29/2014	96.80	8,011.00	8,366.00	4,924	376,826	9,474	0
12	8/29/2014	99.70	8,403.00	9,102.00	4,578	375,775	9,584	0
13	8/29/2014	100.80	8,221.00	8,694.00	4,919	373,553	9,572	0
14	8/29/2014	94.90	7,999.00	8,523.00	5,440	376,099	9,448	0
15	8/30/2014	95.50	8,165.00	8,559.00	5,047	375,860	9,320	0
16	8/30/2014	98.50	8,426.00	8,783.00	4,979	371,608	9,950	0
17	8/30/2014	88.70	8,181.00	8,820.00	5,036	375,782	10,031	0
18	8/31/2014	96.60	7,847.00	8,424.00	4,935	376,539	9,368	0
19	8/31/2014	100.00	8,289.00	8,669.00	4,799	373,323	10,032	0
20	9/1/2014	98.10	8,044.00	8,964.00	4,556	377,342	9,389	0
21	9/1/2014	91.20	8,112.00	8,599.00	5,495	376,501	9,494	0
22	9/2/2014	93.20	7,943.00	8,814.00	5,525	384,894	10,116	0
23	9/2/2014	97.80	8,193.00	8,909.00	5,085	371,935	10,046	0
24	9/2/2014	94.50	7,658.00	9,049.00	4,303	373,208	9,325	0

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Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	8/26/2014
Job End Date:	9/2/2014
State:	West Virginia
County:	Wetzel
API Number:	47-103-02873-00-00
Operator Name:	EQT Production
Well Name and Number:	PNG129 - 514375
Longitude:	-80.64075000
Latitude:	39.55235600
Datum:	NAD83
Federal/Tribal Well:	NO
True Vertical Depth:	7,335
Total Base Water Volume (gal):	9,988,297
Total Base Non Water Volume:	435,587

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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
Water	FTSI	Carrier	Water	7732-18-5	100.00000	89.96204	
Sand	FTSI	Proppant	Crystalline Silica	14808-60-7	100.00000	9.77254	
FRW-600	FTSI	Friction Reducer	Hydrotreated light distillate	64742-47-8	30.00000	0.02359	
			Ammonium acetate	631-61-8	6.00000	0.00472	
Hydrochloric Acid 15%	FTSI	Acidizing	Hydrochloric Acid	7647-01-0	15.00000	0.01958	
B-10	FTSI	Buffer Agent	Potassium carbonate	584-08-7	48.00000	0.00599	
			Potassium hydroxide	1310-58-3	20.00000	0.00250	
HVG-1	FTSI	Gel	Petroleum Distillate	64742-47-8	55.00000	0.00200	
			Guar Gum	9000-30-0	50.00000	0.00182	
			Surfactant	68439-51-0	2.00000	0.00007	
			Clay	14808-60-7	2.00000	0.00007	
CS-500-SI	FTSI	Scale Inhibitor	Ethylene Glycol	107-21-1	10.00000	0.00386	

CIO2	Neptune	Biocide				
			Chlorine Dioxide	10049-04-4	100.00000	0.00061
CI-150	FTSI	Corrosion Inhibitor				
			Organic amine resin salt	Proprietary	30.00000	0.00006
			Isopropanol	67-63-0	30.00000	0.00006
			Ethylene Glycol	107-21-1	30.00000	0.00006
			Aromatic aldehyde	Proprietary	10.00000	0.00002
			Quaternary ammonium compound	Proprietary	10.00000	0.00002
			Dimethylformamide	68-12-2	10.00000	0.00002
FE-100L	FTSI	Iron Control				
			Citric Acid	77-92-9	55.00000	0.00024
NE-100	FTSI	Non-Emulsifier				
			2-Butoxyethanol	111-76-2	10.00000	0.00002
			2-Propanol	67-63-0	10.00000	0.00002
			Dodecylbenzenesulfonic acid	27176-87-0	5.00000	0.00001
APB-1	FTSI	Gel Breaker				
			Ammonium Persulfate	7727-54-0	95.00000	0.00005

Ingredients shown above are subject to 29 CFR 1910.1200(i) and appear on Material Safety Data Sheets (MSDS). Ingredients shown below are Non-MSDS.

* Total Water Volume sources may include fresh water, produced water, and/or recycled water

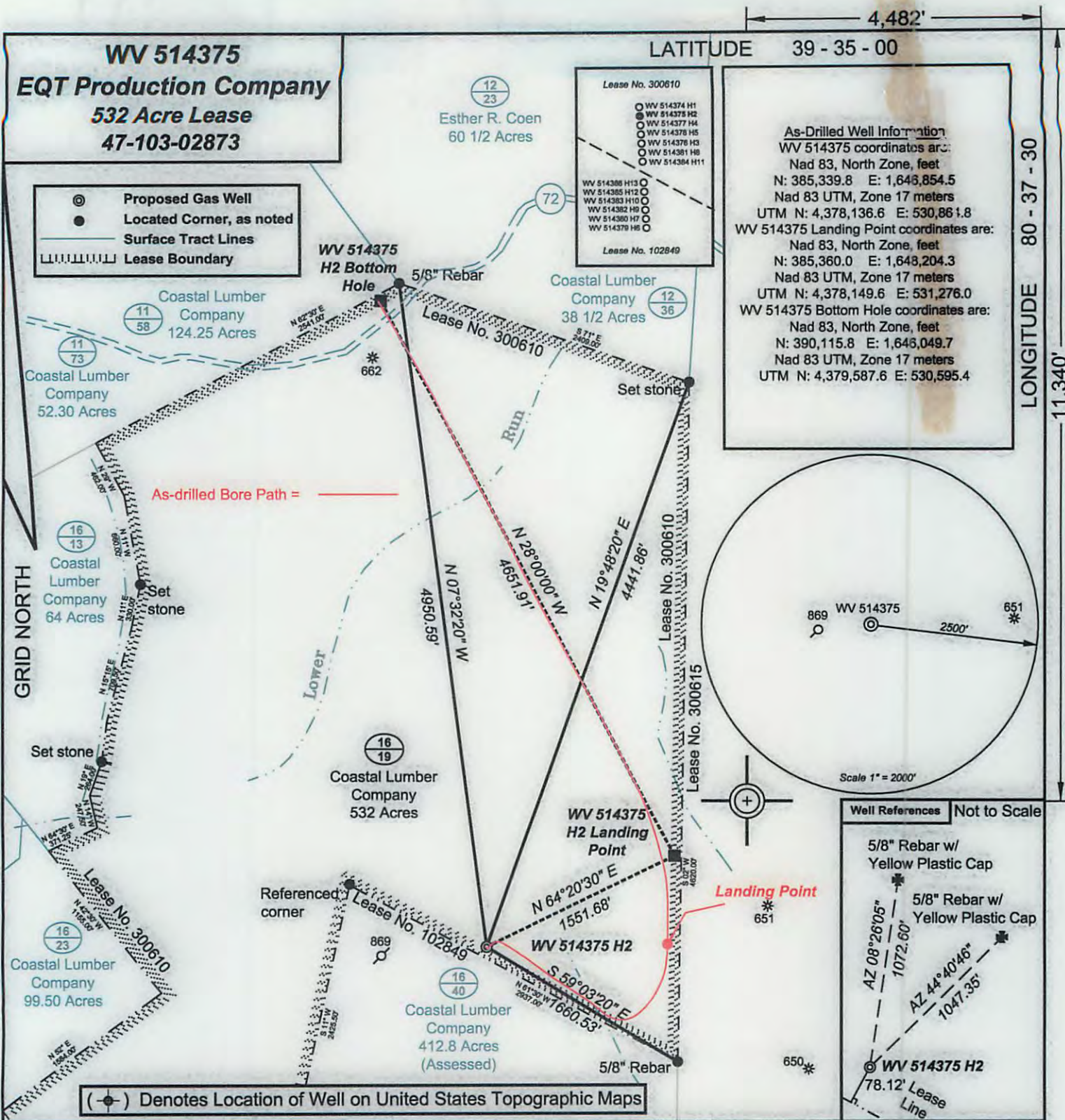
** Information is based on the maximum potential for concentration and thus the total may be over 100%

Note: For Field Development Products (products that begin with FDP), MSDS level only information has been provided.

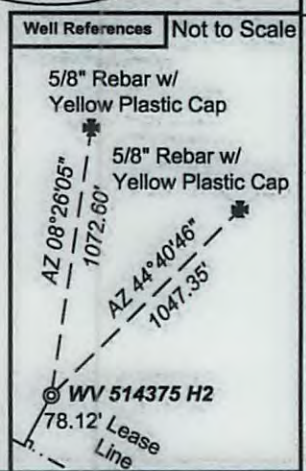
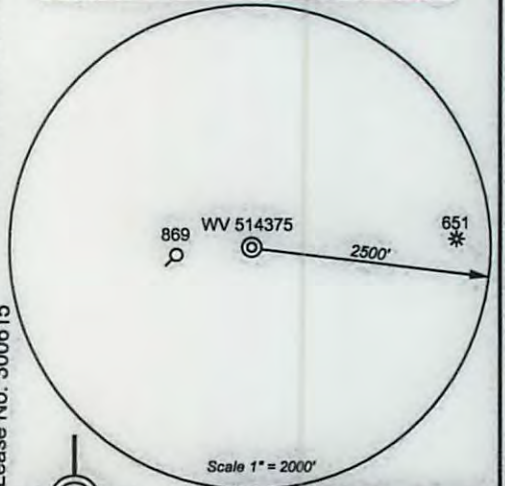
Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)

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As-Drilled Well Information
 WV 514375 coordinates are:
 Nad 83, North Zone, feet
 N: 385,339.8 E: 1,648,854.5
 Nad 83 UTM, Zone 17 meters
 UTM N: 4,378,136.6 E: 530,861.8
 WV 514375 Landing Point coordinates are:
 Nad 83, North Zone, feet
 N: 385,360.0 E: 1,648,204.3
 Nad 83 UTM, Zone 17 meters
 UTM N: 4,378,149.6 E: 531,276.0
 WV 514375 Bottom Hole coordinates are:
 Nad 83, North Zone, feet
 N: 390,115.8 E: 1,648,049.7
 Nad 83 UTM, Zone 17 meters
 UTM N: 4,379,587.6 E: 530,595.4

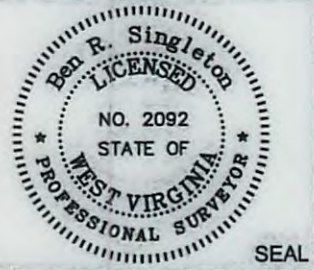


(+) Denotes Location of Well on United States Topographic Maps



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.

[Signature]
 P.S. 2092



FILE NO: 204-34-G-12 EQT PNG 129
 DRAWING NO: 204-12 PNG 129 H2 as drilled
 SCALE: 1" = 1000'
 MINIMUM DEGREE OF ACCURACY: 1:2500
 PROVEN SOURCE OF ELEVATION: NGS CORS Station

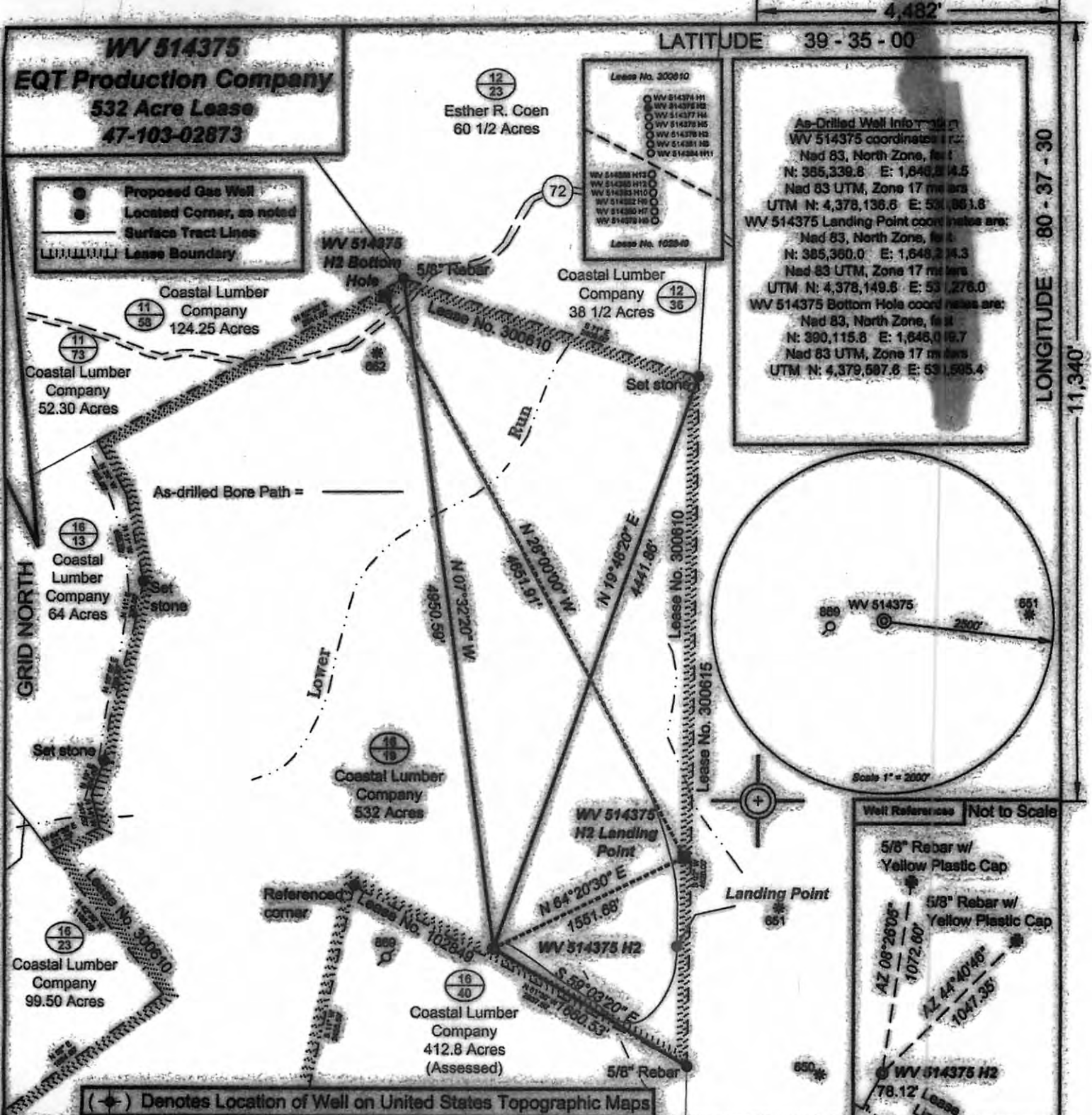
STATE OF WEST VIRGINIA
 DEPARTMENT OF ENVIRONMENTAL PROTECTION
OIL AND GAS DIVISION

DATE: August 22 20 14
 OPERATOR'S WELL NO. WV 514375
 API WELL NO
 47 - 103 - 02873
 STATE COUNTY PERMIT

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
 (IF GAS) PRODUCTION: STORAGE DEEP SHALLOW
 LOCATION: ELEVATION: Ground: 1364.50' Proposed: 1329.50' WATERSHED Upper Run of South Fork of Fishing Creek QUADRANGLE: Pine Grove
 DISTRICT: Grant COUNTY: Wetzel
 SURFACE OWNER: Coastal Lumber Company ACREAGE: 532
 ROYALTY OWNER: Waco Oil & Gas Co., Inc. LEASE NO: 300610 ACREAGE: 532
 PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY)
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus ESTIMATED DEPTH: TVD: 7,700' MD 14,900'

WELL OPERATOR: EQT Production Company DESIGNATED AGENT: Rex C. Ray
 ADDRESS: 115 Professional Place P.O. Box 280 ADDRESS: 115 Professional Place P.O. Box 280
 Bridgeport, WV 26330 Bridgeport, WV 26330

01/16/2015



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.

Ben R. Singleton
P.S. 2092



FILE NO: 204-34-G-12 EQT PNG 129
DRAWING NO: 204-12 PNG 129 H2 as drilled
SCALE: 1" = 1000'
MINIMUM DEGREE OF ACCURACY: 1:2500
PROVEN SOURCE OF ELEVATION: NGS CORS Station



DATE: August 22 20 14
OPERATOR'S WELL NO. WV 514375
API WELL NO. 47 - 103 - 02873
STATE COUNTY PERMIT

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
(IF GAS) PRODUCTION: STORAGE DEEP SHALLOW

LOCATION: ELEVATION: Ground: 1364.50' Proposed: 1329.50' WATERSHED Upper Run of South Fork of Fishing Creek QUADRANGLE: Pine Grove
DISTRICT: Grant COUNTY: Wetzel

SURFACE OWNER: Coastal Lumber Company ACREAGE: 532
ROYALTY OWNER: Waco Oil & Gas Co., Inc. LEASE NO: 300610 ACREAGE: 532

PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY)
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus ESTIMATED DEPTH: TVD: 7,700' MD 14,900'

WELL OPERATOR: EQT Production Company DESIGNATED AGENT: Rex C. Ray
ADDRESS: 115 Professional Place P.O. Box 280 ADDRESS: 115 Professional Place P.O. Box 280
Bridgeport, WV 26330 Bridgeport, WV 26330

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