

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

API 47-103-02869 County Wetzel District Grant
Quad Pine Grove Pad Name PNG129 Field/Pool Name _____
Farm name COASTAL LUMBER COMPANY Well Number 514382
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 4,378,091 Easting 530,868
Landing Point of Curve Northing 4,377,679 Easting 520,833
Bottom Hole Northing 4,376,998 Easting 521,438

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 5/29/2013 Date drilling commenced 8/27/2013 Date drilling ceased 12/16/2013
Date completion activities began 10/4/2014 Date completion activities ceased 10/8/2014
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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WV Department of Environmental Protection 01/23/2015

API 47-103 - 02869 Farm name COASTAL LUMBER COMPANY Well number 514382

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"	948'	New	54.5#/ft	191/437	Y
Coal							
Intermediate 1	12-3/8"	9-5/8"	3379'	New	40#/ft	1222, 3287	Y
Intermediate 2							
Intermediate 3							
Production	8-1/2"	5-1/2"	11345'	New	20#	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	0	8
Coal							
Intermediate 1	Class A	1265	15.6	1.18	1493	0	8
Intermediate 2							
Intermediate 3							
Production	Class A/Class H	930/475	15/15.6	1.21/1.83	1994.6	3635	8
Tubing							

Drillers TD (ft) 11345' Loggers TD (ft) N/A
 Deepest formation penetrated Marcellus Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 5268

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 950,592,270
Intermediate-bow spring centralizers set at 3401,2936,2472,1925,1420,913,535
Production-composite centralizer ran on every joint from td up to 3635'

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
Sand / Shale	1	1	686	686
Coal	686	686	688	688
Sand / Shale	688	688	968	968
Coal	968	968	969	969
Sand / Shale	969	969	1,038.00	1,038.00
Coal	1,038.00	1,038.00	1,045.00	1,045.00
Sand / Shale	1,045.00	1,045.00	1,052.00	1,052.00
Coal	1,052.00	1,052.00	1,054.00	1,054.00
Sand / Shale	1,054.00	1,054.00	1,080.00	1,080.00
Coal	1,080.00	1,080.00	1,086.00	1,086.00
Sand / Shale	1,086.00	1,086.00	2,183.00	2,183.00
Maxton	2,183.00	2,183.00	2,419.00	2,419.00
Big Lime	2,419.00	2,419.00	2,658.00	2,657.90
Weir	2,658.00	2,657.90	2,856.00	2,855.90
Gantz	2,856.00	2,855.90	2,972.00	2,971.90
Fifty foot	2,972.00	2,971.90	3,045.00	3,044.90
Thirty foot	3,045.00	3,044.90	3,092.00	3,091.90
Gordon	3,092.00	3,091.90	3,212.00	3,211.90
Forth Sand	3,212.00	3,211.90	3,347.00	3,346.90
Bayard	3,347.00	3,346.90	3,763.00	3,762.80
Warren	3,763.00	3,762.80	3,889.00	3,888.80
Speechley	3,889.00	3,888.80	4,763.00	4,762.80
Riley	4,763.00	4,762.80	5,374.00	5,372.90
Benson	5,374.00	5,372.90	5,805.00	5,740.50
Alexander	5,805.00	5,740.50	7,511.00	7,042.50
Middlesex	7,511.00	7,042.50	7,561.00	7,080.60
Genesee	7,561.00	7,080.60	7,682.00	7,162.80
Geneseo	7,682.00	7,162.80	7,725.00	7,188.10
Tully	7,725.00	7,188.10	7,766.00	7,209.90
Hamilton	7,766.00	7,209.90	7,950.00	7,286.60
Marcellus	7,950.00	7,286.60	11,345.00	7,351.71

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514382 - 47-103-02869-0000 - Perforations

Stage Number	Perforation Date	Top Perf Depth (ftKB)	Bottom Perf Depth (ftKB)	Number of Shots	Formation
Initiation Sleeve	10/4/2014	11,317.00	11,319.00	10	MARCELLUS
1	10/4/2014	11,136.00	11,271.00	32	MARCELLUS
2	10/4/2014	10,912.00	11,092.00	40	MARCELLUS
3	10/5/2014	10,687.00	10,867.00	40	MARCELLUS
4	10/5/2014	10,462.00	10,642.00	40	MARCELLUS
5	10/5/2014	10,237.00	10,417.00	40	MARCELLUS
6	10/5/2014	10,014.00	10,192.00	40	MARCELLUS
7	10/6/2014	9,787.00	9,967.00	40	MARCELLUS
8	10/6/2014	9,562.00	9,742.00	40	MARCELLUS
9	10/6/2014	9,337.00	9,517.00	40	MARCELLUS
10	10/7/2014	9,112.00	9,292.00	40	MARCELLUS
11	10/7/2014	8,887.00	9,067.00	40	MARCELLUS
12	10/7/2014	8,662.00	8,842.00	40	MARCELLUS
13	10/7/2014	8,437.00	8,617.00	40	MARCELLUS
14	10/7/2014	8,212.00	8,392.00	40	MARCELLUS
15	10/8/2014	7,984.00	8,168.00	40	MARCELLUS

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514382 - 47-103-02869-0000 - 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 (bbls)	Amount of Nitrogen/other (units)
Initiation Sleeve	10/4/2014	12.00	7,682.00	NA	4,236	0	1,216	0
1	10/4/2014	98.30	8,057.00	8,470.00	5,120	298,358	7,750	0
2	10/5/2014	96.50	7,960.00	8,282.00	5,145	301,120	10,855	0
3	10/5/2014	97.20	8,383.00	8,751.00	5,131	301,880	7,805	0
4	10/5/2014	95.20	8,217.00	8,550.00	5,928	288,797	7,472	0
5	10/6/2014	100.20	8,034.00	8,221.00	5,102	304,627	7,805	0
6	10/6/2014	98.20	7,972.00	8,238.00	4,563	303,945	7,696	0
7	10/6/2014	98.30	8,290.00	8,894.00	4,467	262,975	7,145	0
8	10/6/2014	98.50	8,028.00	8,575.00	4,465	303,095	7,454	0
9	10/6/2014	97.80	7,924.00	8,742.00	5,278	307,715	7,785	0
10	10/7/2014	99.70	7,893.00	8,786.00	5,394	302,611	7,836	0
11	10/7/2014	100.10	7,690.00	8,449.00	4,722	308,503	7,662	0
12	10/7/2014	100.20	7,677.00	8,584.00	4,679	304,958	7,635	0
13	10/7/2014	98.10	7,940.00	8,514.00	5,242	304,292	7,715	0
14	10/8/2014	99.20	7,533.00	7,826.00	4,840	303,262	8,473	0
15	10/8/2014	100.10	7,178.00	8,224.00	7,688	250,962	6,417	0

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Hydraulic Fracturing Fluid Product Component Information Disclosure



103-02869

Job Start Date:	10/4/2014
Job End Date:	10/8/2014
State:	West Virginia
County:	Wetzel
API Number:	47-103-02869-00-00
Operator Name:	EQT Production
Well Name and Number:	PNG129 - 514382
Longitude:	-80.64071400
Latitude:	39.55194400
Datum:	NAD83
Federal/Tribal Well:	NO
True Vertical Depth:	7,352
Total Base Water Volume (gal):	5,101,110
Total Base Non Water Volume:	217,910

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	FISI	Carrier	Water	7732-18-5	100.00000	90.22729	
Sand	FISI	Proppant	Crystalline Silica	14808-60-7	100.00000	9.44289	
Hydrochloric Acid 15%	FISI	Acidizing	Hydrochloric Acid	7647-01-0	15.00000	0.02923	
FRW-600	FISI	Friction Reducer	Hydrotreated light distillate	64742-47-8	30.00000	0.02325	
			Ammonium acetate	631-61-8	6.00000	0.00465	
BL10	FISI	Buffer Agent	Potassium carbonate	584-08-7	48.00000	0.00605	
			Potassium hydroxide	1310-58-3	20.00000	0.00252	
HVG-1	FISI	Gel	Petroleum Distillate	64742-47-8	55.00000	0.00402	
			Guar Gum	9000-30-0	50.00000	0.00366	
			Clay	14808-60-7	2.00000	0.00015	
			Surfactant	68439-51-0	2.00000	0.00015	
CI3240	FISI	Biocide					

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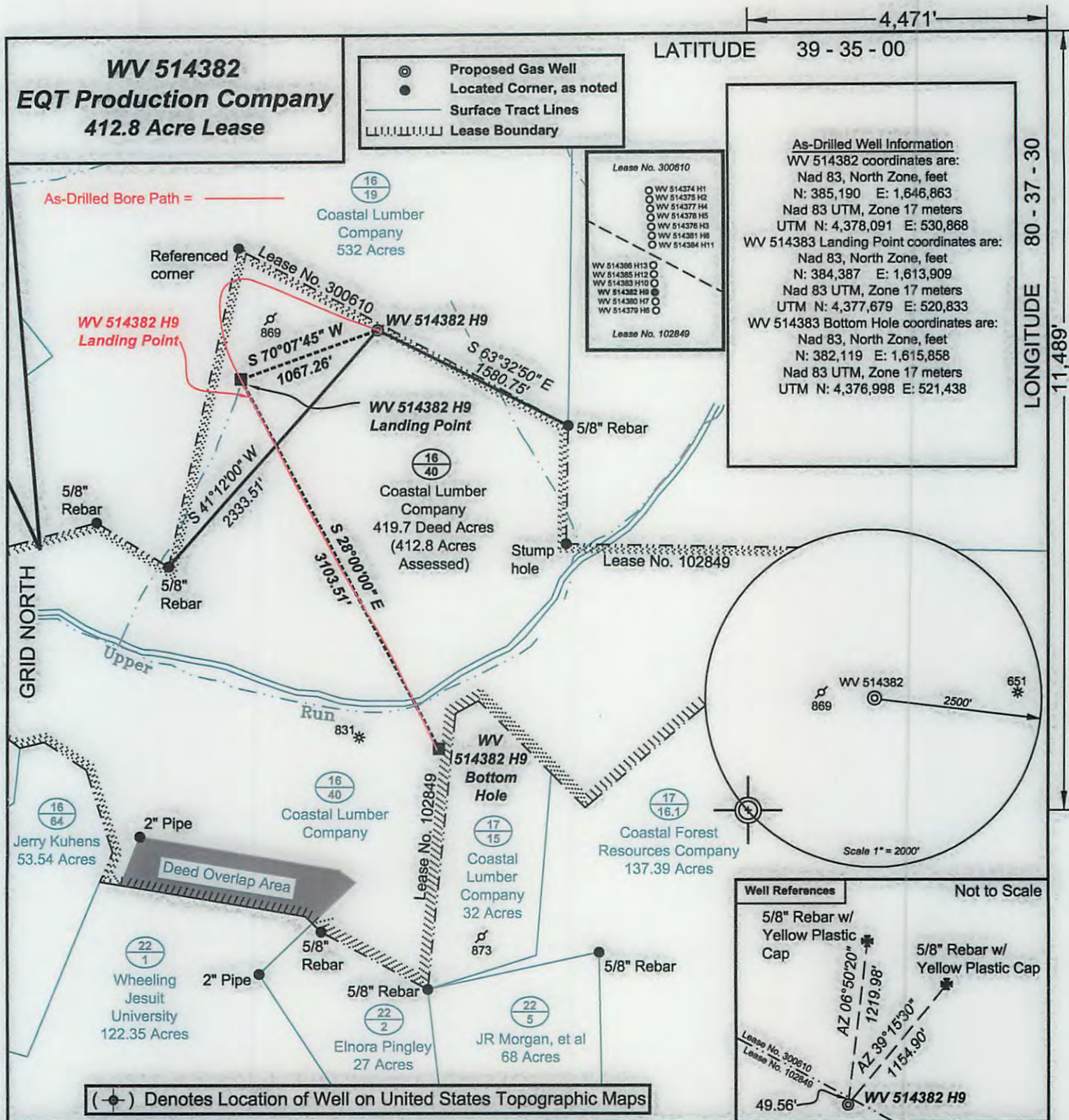
			Dazomet (Tetrahydro-3, 5-dimethyl-2H-1, 3, 5-thiadiazine-2-thione	533-74-4	24.00000	0.00247
CS-500-SI	FTSI	Scale Inhibitor	Sodium Hydroxide	1310-73-2	4.00000	0.00041
CI02	Neptune	Biocide	Ethylene Glycol	107-21-1	10.00000	0.00252
FE-100L	FTSI	Iron Control	Chlorine Dioxide	10049-04-4	100.00000	0.00060
CI-150	FTSI	Corrosion Inhibitor	Citric Acid	77-92-9	55.00000	0.00041
			Organic amine resin salt	Proprietary	30.00000	0.00010
			Isopropanol	67-63-0	30.00000	0.00010
			Ethylene Glycol	107-21-1	30.00000	0.00010
			Dimethylformamide	68-12-2	10.00000	0.00003
			Quaternary ammonium compound	Proprietary	10.00000	0.00003
APB-1	FTSI	Gel Breaker	Aromatic aldehyde	Proprietary	10.00000	0.00003
NE-100	FTSI	Non-Emulsifier	Ammonium Persulfate	7727-54-0	95.00000	0.00008
			2-Butoxyethanol	111-76-2	10.00000	0.00003
			2-Propanol	67-63-0	10.00000	0.00003
			Dodecylbenzenesulfonic acid	27176-87-0	5.00000	0.00001

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%

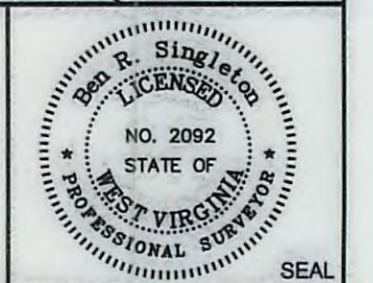
Note: For Field Development Products (products that begin with FDP), MSDS level only information has been provided.
 Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)

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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
 DRAWING NO: 204-12 PNG 129 H9
 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: July 24 20 14
 OPERATOR'S WELL NO. WV 514382
 API WELL NO
 47 - 103 -
 STATE COUNTY PERMIT

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
 (IF GAS) PRODUCTION: STORAGE DEEP SHALLOW
 LOCATION: ELEVATION: Ground 1,359' Proposed 1,329.5' WATERSHED Upper Run of South Fork of Fishing Creek QUADRANGLE: Pine Grove
 DISTRICT: Grant COUNTY: Wetzel
 SURFACE OWNER: Coastal Lumber Company ACREAGE: 412.8
 ROYALTY OWNER: Shiben Estates LEASE NO: 102849 ACREAGE: 419.7
 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 12,750'

WELL OPERATOR: EQT Production Company DESIGNATED AGENT: Rex C. Ray
 ADDRESS: 1710 Pennsylvania Avenue ADDRESS: 1710 Pennsylvania Avenue
Charleston, WV 25302 Charleston, WV 25302

WV 514382
EQT Production Company
412.8 Acre Lease

LATITUDE 39 - 35 - 00

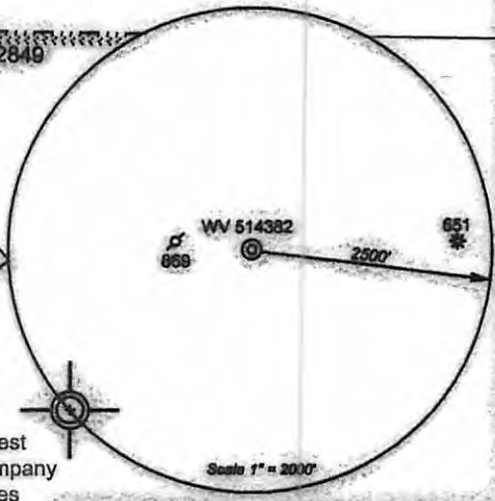
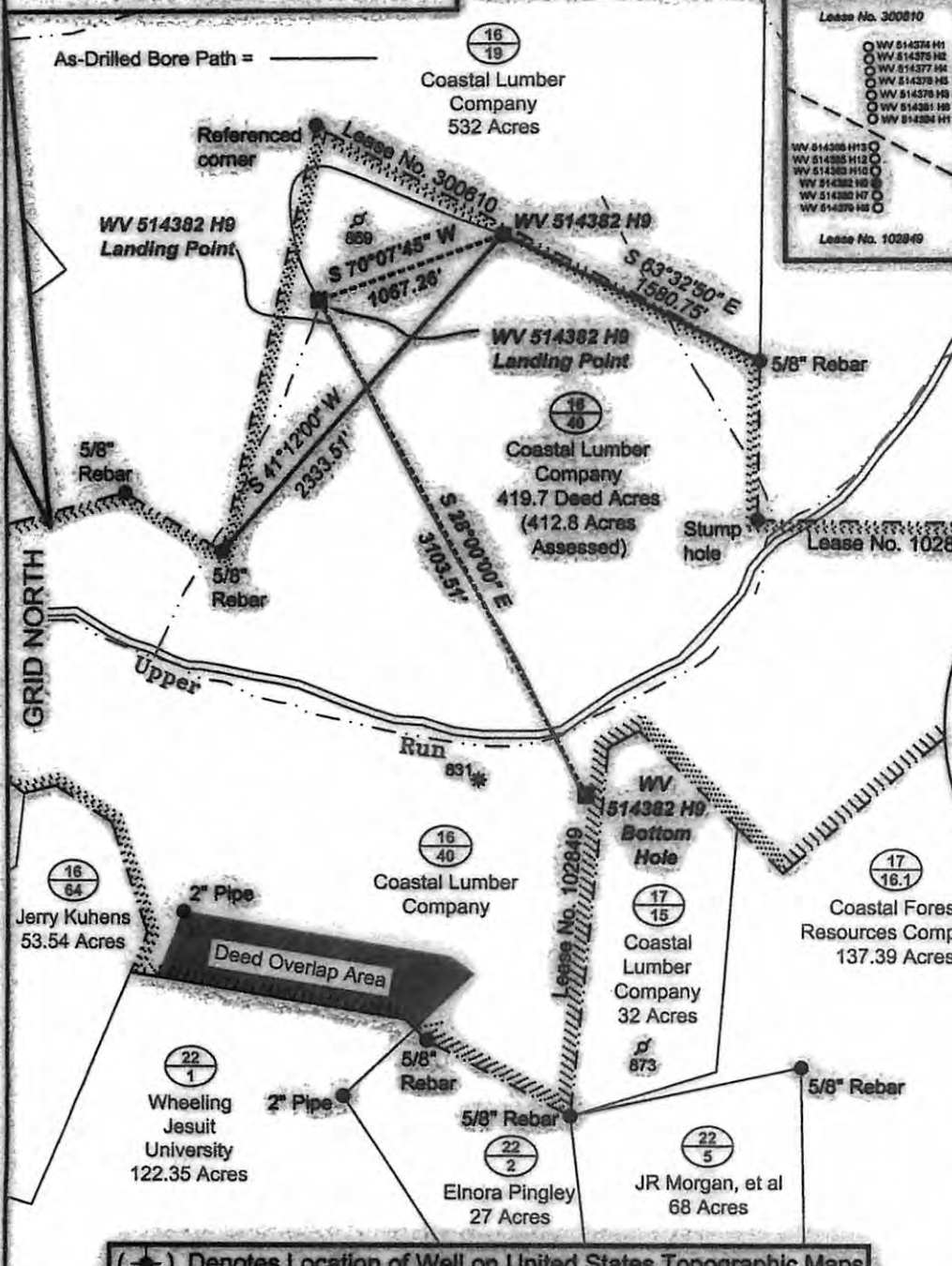
4,471'

LONGITUDE 80 - 37 - 30
 11,489'

- Proposed Gas Well
- Located Corner, as noted
- Surface Tract Lines
- Lease Boundary

As-Drilled Well Information
 WV 514382 coordinates are:
 Nad 83, North Zone, feet
 N: 385,190 E: 1,646,863
 Nad 83 UTM, Zone 17 meters
 UTM N: 4,378,091 E: 530,868
 WV 514383 Landing Point coordinates are:
 Nad 83, North Zone, feet
 N: 384,387 E: 1,613,909
 Nad 83 UTM, Zone 17 meters
 UTM N: 4,377,679 E: 520,833
 WV 514383 Bottom Hole coordinates are:
 Nad 83, North Zone, feet
 N: 382,119 E: 1,615,858
 Nad 83 UTM, Zone 17 meters
 UTM N: 4,376,988 E: 521,438

- Lease No. 300810
- WV 514374 H1
 - WV 514375 H2
 - WV 514377 H4
 - WV 514378 H5
 - WV 514379 H9
 - WV 514381 H8
 - WV 514384 H11
- Lease No. 102849
- WV 514385 H13
 - WV 514385 H12
 - WV 514385 H10
 - WV 514382 H8
 - WV 514382 H7
 - WV 514376 H3



(*) 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.



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OIL AND GAS DIVISION

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 API WELL NO: 47-103-
 STATE COUNTY PERMIT

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 ADDRESS: 1710 Pennsylvania Avenue ADDRESS: 1710 Pennsylvania Avenue
Charleston, WV 25302 Charleston, WV 25302

01/23/2015

Well Operator's Report of Well Work



Where energy meets innovation.

Well Number: 514382

API: 47 - 103 - 02869

Submission: Initial Amended

Notes:

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