

Well Operator's Report of Well Work



Where energy meets innovation.

Well Number: 516534

API: 47 - 095 - 02316

Submission: Initial Amended

Notes:

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Office of Oil and Gas
JUL 12 2016
WV Department of
Environmental Protection

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

API 47-095-02316 County TYLER District CENTERVILLE
Quad WEST UNION 7.5' Pad Name WEU4 Field/Pool Name N/A
Farm name DONNA J. PETER Well Number 516534
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 4,357,454.51 Easting 515,458.48
Landing Point of Curve Northing 4,357,718.42 Easting 516,589.64
Bottom Hole Northing 4,356,760.89 Easting 517,053.10

Elevation (ft) 1079' 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 12.5 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 11/24/2015 Date drilling commenced 12/16/2015 Date drilling ceased 03/26/2016
Date completion activities began 4/4/2016 Date completion activities ceased 4/8/2016
Verbal plugging (Y/N) N Date permission granted N/A Granted by N/A

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N

Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug
Freshwater depth(s) ft 132',175',186',204' Open mine(s) (Y/N) depths N
Salt water depth(s) ft 1128',1219',1222' Void(s) encountered (Y/N) depths N
Coal depth(s) ft 230',290',698' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

WV Department of
Environmental Protection
Reviewed by: _____

API 47-095 - 02316 Farm name DONNA J. PETER Well number 516534

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	24"	20"	40'	NEW	A-500	N/A	Y
Surface	17 1/2"	13 3/8"	754'	NEW	J-55	206'	Y
Coal							
Intermediate 1	12 3/8"	9 5/8"	2865'	NEW	A-500	1769'	Y
Intermediate 2							
Intermediate 3							
Production	8 1/2"	5 1/2"	12958'	NEW	P-110	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	38	15.6	1.18	44.84	0	8
Surface	CLASS A	637	15.6	1.21	770.77	0	8
Coal							
Intermediate 1	CLASS A / CLASS H	575 / 439	15.6 / 16.0	1.20 / 1.25	1238.75	0	8
Intermediate 2							
Intermediate 3							
Production	Class H/Class H	1,559	15.2/15.6	1.25/2.06	2,331	2767	72
Tubing							

Drillers TD (ft) 12,961 Loggers TD (ft) N/A
 Deepest formation penetrated MARCELLUS Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 4775

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: NONE
 SURFACE: 2 CENTRALIZERS (LESS THAN EVERY 500')
 INTERMEDIATE: 6 CENTRALIZERS (LESS THAN EVERY 500')
 PRODUCTION: Composite body spiral centralizers run every joint from bottom to 4558'

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WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS JUL 12 2016

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____ WV Department of Environmental Protection

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

API 47- 095 - 02316 Farm name DONNA J. PETER Well number 516534

Drilling Contractor _____
Address _____ City _____ State _____ Zip _____

Logging Company HOSSCO
Address 614 Trotters Lane City Charleston State WV Zip 25312

Logging Company Phoenix Technology Services
Address 1805 Brittmoore Road City Houston State TX Zip 77043

Cementing Company _____
Address _____ City _____ State _____ Zip _____

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Environmental Protection

WEU4 516534 API#: 47-095-02316

Formation Name	Final Top MD (ftGL) (ft)	Final Top TVD (ft)	Final Btm MD (ftGL) (ft)	Final Btm TVD (ft)
SAND/SHALE	1		240	240
COAL	240	240	242	242
SAND/SHALE	242	242	291	291
COAL	291	291	295	295
SAND/SHALE	295	295	706	706
COAL	706	706	710	710
SAND/SHALE	710	710	1545	1545
MAXTON	1545	1545	1839	1839
BIG LIME	1839	1839	2261	2261
WEIR	2261	2261	2379	2379
GANTZ	2379	2379	2472	2472
50F	2472	2472	2697	2697
GORDON	2697	2697	3017	3017
BAYARD	3017	3017	3349	3349
WARREN	3349	3349	3444	3444
SPEECHLEY	3444	3444	3865	3865
BALLTOWN A	3865	3865	4003	4003
BALLTOWN B	4003	4003	4300	4300
BRADFORD	4300	4300	4564	4564
RILEY	4564	4564	4981	4977
BENSON	4981	4977	5232	5207
ALEXANDER	5232	5207	5826	5566
RHINESTREET	5826	5566	6124	5668
RHINESTREET UPPER	6124	5668	8038	6306
SONYEA	8038	6306	8378	6418
MIDDLESEX	8378	6418	8532	6466
GENESSEE	8532	6466	8782	6544
GENESE0	8782	6544	8911	6575
TULLY	8911	6575	9094	6614
MARCELLUS	9094	6614	12961	6657

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515970- 47-017-06715-0000 - Perforations

Stage Number	Perforation Date	Top Perf Depth (ftKB)	Bottom Perf Depth (ftKB)	Number of Shots	Formation
Initiation Sleeve	4/1/2016	12,957	12,958	10	MARCELLUS
1	4/4/2016	12,811	12,903	32	MARCELLUS
2	4/4/2016	12,661	12,783	40	MARCELLUS
3	4/4/2016	12,511	12,631	40	MARCELLUS
4	4/4/2016	12,365	12,481	40	MARCELLUS
5	4/5/2016	12,211	12,333	40	MARCELLUS
6	4/5/2016	12,061	12,183	40	MARCELLUS
7	4/5/2016	11,911	12,033	40	MARCELLUS
8	4/6/2016	11,761	11,878	40	MARCELLUS
9	4/6/2016	11,611	11,731	40	MARCELLUS
10	4/6/2016	11,461	11,583	40	MARCELLUS
11	4/6/2016	11,313	11,433	40	MARCELLUS
12	4/6/2016	11,161	11,283	40	MARCELLUS
13	4/6/2016	11,011	11,133	40	MARCELLUS
14	4/7/2016	10,861	10,983	40	MARCELLUS
15	4/7/2016	10,711	10,833	40	MARCELLUS
16	4/7/2016	10,561	10,681	40	MARCELLUS
17	4/7/2016	10,411	10,533	40	MARCELLUS
18	4/7/2016	10,261	10,383	40	MARCELLUS
19	4/7/2016	10,111	10,233	40	MARCELLUS
20	4/8/2016	9,961	10,083	40	MARCELLUS
21	4/8/2016	9,811	9,933	40	MARCELLUS
22	4/8/2016	9,661	9,781	40	MARCELLUS
23	4/8/2016	9,511	9,633	40	MARCELLUS
24	4/8/2016	9,361	9,483	40	MARCELLUS
25	4/8/2016	9,211	9,333	40	MARCELLUS

515970- 47-017-06715-0000 - 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	4/4/2016	9.9	7,492	8,409	4,717	0	632	0
1	4/4/2016	94.3	8,336	8,696	3,470	253,600.00	6,553	0
2	4/4/2016	93.1	8,775	9,275	4,362	255,000.00	7,899	0
3	4/4/2016	98	8,094	8,525	3,886	254,440.00	6,851	0
4	4/4/2016	97.4	8,365	8,755	4,131	253,360.00	5,941	0
5	4/5/2016	96.3	8,365	8,751	3,579	252,920.00	6,308	0
6	4/5/2016	97.4	8,362	8,960	4,597	255,120.00	8,677	0
7	4/5/2016	100.2	8,468	8,622	4,534	253,580.00	6,625	0
8	4/6/2016	100.3	8,116	8,707	4,550	252,920.00	5,969	0
9	4/6/2016	90.59	8,698	9,480	4,365	254,980.00	6,357	0
10	4/6/2016	98.45	7,901	9,150	4,713	251,000.00	6,097	0
11	4/6/2016	100.5	7,980	8,561	4,940	254,840.00	6,192	0
12	4/6/2016	100.1	7,945	8,084	4,257	251,520.00	5,908	0
13	4/6/2016	100.1	8,088	8,263	4,585	255,400.00	5,998	0
14	4/7/2016	100.3	7,919	8,113	4,102	254,480.00	6,002	0
15	4/7/2016	100.83	7,540	7,742	4,852	251,720.00	6,109	0
16	4/7/2016	100.47	8,098	8,839	3,919	253,580.00	6,153	0
17	4/7/2016	100.72	7,498	8,191	4,378	252,980.00	6,105	0
18	4/7/2016	100.7	7,583	7,704	4,785	255,840.00	5,910	0
19	4/7/2016	100.4	7,498	7,699	4,825	250,600.00	5,712	0
20	4/8/2016	101.2	7,686	7,970	4,556	252,880.00	5,943	0
21	4/8/2016	100.55	7,345	7,689	4,350	250,860.00	6,168	0
22	4/8/2016	100.87	7,755	8,159	4,489	251,840.00	5,894	0
23	4/8/2016	100.34	8,233	8,607	4,393	251,600.00	5,592	0
24	4/8/2016	100.5	7,659	7,882	4,262	256,140.00	5,642	0
25	4/8/2016	101.5	7,666	7,839	3,803	253,780.00	5,768	0

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	4/4/2016
Job End Date:	4/8/2016
State:	West Virginia
County:	Tyler
API Number:	47-095-02316-00-00
Operator Name:	EQT Production
Well Name and Number:	516534
Latitude:	39.36656000
Longitude:	-80.82084000
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,614
Total Base Water Volume (gal):	6,594,210
Total Base Non Water Volume:	0



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	Keane Group	Carrier/Base Fluid	Water	7732-18-5	100.00000	89.34764	None
			Silica Substrate	14808-60-7	100.00000	10.28583	None
MC MX 5-3886	Multi-Chem	Specialty Brine	Calcium nitrate.4H2O	13477-34-4	100.00000	0.10978	None
			Hydrochloric Acid	7647-01-0	15.00000	0.03195	None
MC MX 8-2544	Multi-Chem	Live Culture - Nitrate Reducing Bacteria	Sodium chloride	7647-14-5	100.00000	0.00965	None
			Sodium nitrate	7631-99-4	5.00000	0.00048	None
			Sodium Phosphate, Tribasic	7601-54-9	5.00000	0.00142	None
EC6330A	Keane Group	Scale Inhibitor	Ethylene Glycol	107-21-1	5.00000	0.00142	None
			Hydrotreated Light Distillate	64742-47-8	30.00000	0.00153	None
FFR760	Keane Group	Friction Reducer	Alkyl Alcohol	68002-96-0	10.00000	0.00051	None

			Oxyalkylated alcohol A	69227-21-0	5.00000	0.00025	None
AI 600	Keane Group	Corrosion Inhibitor					
			Ethylene Glycol	107-21-1	40.00000	0.00021	None
			Dimethylformamide	68-12-2	20.00000	0.00010	None
			Nonyl Phenol Ethoxylate, Branched	127087-87-0	15.00000	0.00008	None
			Pyridine, alkyl derives, quaternized with benzyl chloride	68909-18-2	15.00000	0.00008	None
			Cinnamialdehyde	104-55-2	15.00000	0.00008	None
			2-Butoxyethanol	111-76-2	5.00000	0.00003	None
			1-Octanol	111-87-5	5.00000	0.00003	None
			1-Decanol	112-30-1	5.00000	0.00003	None
			Triethyl Phosphate	78-40-0	2.50000	0.00001	None
			Methanol	67-56-1	2.50000	0.00001	None
			Alkyl Pyridine	68391-11-7	1.00000	0.00001	None

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)

EQT PRODUCTION COMPANY - W.H. ASH ET AL LEASE
152 ACRES±-WELL NO. WV 516534

LATITUDE 39°22'30"

LONGITUDE 80°47'30"

AS DRILLED COORDINATES FOR WELL NO. WV 516534 (WEU4 H7)

(S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH)

NAD'27 S.P.C.(FT)	N. 318,280.32	E. 1,626,607.22
NAD'27 GEO.	LAT-(N) 39.366332	LONG-(W) 80.820722
NAD'83 UTM (M)	N. 4,357,454.51	E. 515,458.48

LANDING POINT

NAD'27 S.P.C.(FT)	N. 319,084.32	E. 1,630,333.59
NAD'27 GEO.	LAT-(N) 39.368689	LONG-(W) 80.807585
NAD'83 UTM (M)	N. 4,357,718.42	E. 516,589.64

BOTTOM HOLE

NAD'27 S.P.C.(FT)	N. 315,916.77	E. 1,631,802.02
NAD'27 GEO.	LAT-(N) 39.360052	LONG-(W) 80.802229
NAD'83 UTM (M)	N. 4,356,760.89	E. 517,053.10

(S.P.C. WV NORTH ZONE) (UTM(M) ZONE 17 NORTH)

NAD'27 S.P.C.(FT)	N. 318,280.32	E. 1,626,607.22
NAD'27 GEO.	LAT-(N) 39.366332	LONG-(W) 80.820722
NAD'83 UTM (M)	N. 4,357,454.51	E. 515,458.48

LANDING POINT

NAD'27 S.P.C.(FT)	N. 319,082.44	E. 1,630,339.15
NAD'27 GEO.	LAT-(N) 39.368684	LONG-(W) 80.807565
NAD'83 UTM (M)	N. 4,357,717.87	E. 516,591.34

BOTTOM HOLE

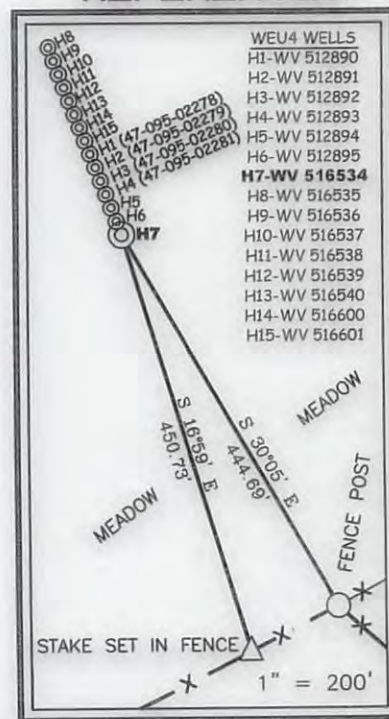
NAD'27 S.P.C.(FT)	N. 319,929.72	E. 1,631,809.27
NAD'27 GEO.	LAT-(N) 39.360087	LONG-(W) 80.802204
NAD'83 UTM (M)	N. 4,356,764.87	E. 517,055.24

ROYALTY OWNERS

JERRY RAY BROWN ET AL	76 AC±	LEASE NO. 126187
HESTER BRITTON ET AL	76 AC±	LEASE NO. 126185
SANDRA FREEMAN	82 AC±	LEASE NO. 126138
FRANKLIN BUTLER	76 AC±	LEASE NO. 126215

A	DONNA J. PETER	113.4 ACRES±	TM C-16-22
B	BRUCE & SANDRA STONEKING	69.44 ACRES±	TM M-21-28
C	ASIA CUMBERLEDGE	75.75 ACRES±	TM M-21-32
D	BRUCE BOLAND	35.43 ACRES±	TM M-21-34
E	BENTON KEYS	60.6 ACRES±	TM M-21-35
F	MYRON & BETTY WHITE	15.15 ACRES±	
G	ISIAH WEEKLY HRS	27.5 ACRES±	
H	ISIAH WEEKLY EST	25 ACRES±	
I	ISIAH WEEKLY EST	29 ACRES±	
J	BRUCE BOLAND	52.46 ACRES±	
K	SCOTT JAMES	30 ACRES±	
L	DONALD BOOHER	3 ACRES±	
M	PEGGY WHITE	45.88 ACRES±	
N	TRUSTEES OF FAIRVIEW CHURCH	1 ACRES±	
O	GARY DAVENPORT	16 ACRES±	
P	EDWARD II & CAROLYN WHITE	40 ACRES±	
Q	BRUCE & SANDRA STONEKING	42.86 ACRES±	
R	ELIZABETH ABRUZZINO	109.94 ACRES±	
S	DAVID WOLFE	24.84 ACRES±	
T	CHRIS BAUM ET AL	56.84 ACRES±	
U	PAUL WEEKLEY (LIFE)	5 ACRES±	
V	PAUL WEEKLEY (LIFE)	18 ACRES±	
W	EDWARD II & CAROLYN WHITE	16 ACRES±	
X	EDWARD II & CAROLYN WHITE	12.5 ACRES±	
Y	CARL PERKINS	50.25 ACRES±	
Z	THOMAS & RICHARD MARTIN	28.99 ACRES±	
AA	ROBERT & MARY SIMPSON	10 ACRES±	
BB	STONEWALL GAS COMPANY	2 ACRES±	
CC	PAUL WEEKLEY (LIFE)	3.37 ACRES±	

REFERENCES



NOTES ON SURVEY

- NO WATER WELLS WERE FOUND WITHIN 250' OF PROPOSED GAS WELL. NO AGRICULTURAL BUILDINGS ≥ 2500 SQ. FT. OR DWELLINGS WERE FOUND WITHIN 625' OF THE CENTER OF PROPOSED WELL PAD.
- AS DRILLED INFORMATION PROVIDED BY EQT.

Professional Energy Consultants
A DIVISION OF SMITH LAND SURVEYING, INC.

SLS
SURVEYORS
ENGINEERS
ENVIRONMENTAL
PROJECT MGMT.

(304) 462-5834 WWW.SLSURVEYS.COM



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 DIVISION OF ENVIRONMENTAL PROTECTION.

P.S. 2288 *Earl N. Thompson*

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.
DATE OCTOBER 1, 20 15
REVISED 04/07/16 & 06/13/16
OPERATORS WELL NO. WV 516534
API WELL NO. 47 - 095 - 02316H
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 7701AD516534R
HORIZONTAL & VERTICAL CONTROL DETERMINED BY DGPS (SURVEY GRADE TIE TO CORS NETWORK)

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

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

LOCATION: GROUND PROPOSED
ELEVATION 1,099' 1,079' WATERSHED TRIBUTARY OF CAMP MISTAKE RUN
DISTRICT CENTERVILLE COUNTY TYLER QUADRANGLE WEST UNION 7.5'

SURFACE OWNER DONNA J. PETER ACREAGE 113.40±
ROYALTY OWNER WACO OIL AND GAS INC. ET AL ACREAGE 152±
LEASE NO. 126129

PROPOSED WORK:
DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION PLUG AND ABANDON CLEAN OUT AND REPLUG OTHER

PHYSICAL CHANGE IN WELL (SPECIFY) _____ TARGET FORMATION MARCELLUS
ESTIMATED DEPTH TVD 6,649'

WELL OPERATOR EQT PRODUCTION COMPANY DESIGNATED AGENT REX C. RAY
ADDRESS 115 PROFESSIONAL PLACE P.O. BOX 280 BRIDGEPORT, WV 26330 ADDRESS 115 PROFESSIONAL PLACE P.O. BOX 280 BRIDGEPORT, WV 26330

COUNTY NAME
PERMIT

LONGITUDE 80°11'30"

LATITUDE 38°55'30"

EQT PRODUCTION COMPANY - W.H. ASH ET AL LEASE
152 ACRES ± - WELL NO. WV 516234

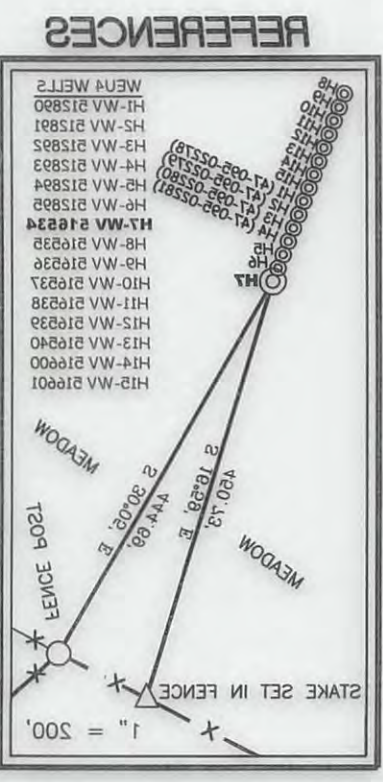
LANDING POINT	
NAD83 UTM (M)	N. 4,327,424.81 E. 212,428.48
NAD27 S.P.C. (FT)	N. 318,280.32 E. 1,628,607.25
BOTTOM HOLE	
NAD83 UTM (M)	N. 4,327,177.87 E. 212,521.34
NAD27 S.P.C. (FT)	N. 318,085.44 E. 1,630,339.12
LANDING POINT	
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NAD27 S.P.C. (FT)	N. 318,280.32 E. 1,628,607.25

AS DRILLED COORDINATES
FOR WELL NO. WV 516234
(WELL H7)

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ROYALTY OWNERS	
JERRY RAY BROWN ET AL	78 AC ±
HESTER BRITTON ET AL	78 AC ±
SANDRA FREEMAN	82 AC ±
FRANKLIN BUTLER	78 AC ±

CC	PAUL WEEKLEY (LIFE)	3.71 ACRES ±
BB	STONEWALL GAS COMPANY	2 ACRES ±
AA	ROBERT & MARY SIMPSON	10 ACRES ±
Z	THOMAS & RICHARD MARTIN	28.99 ACRES ±
Y	CARL PERKINS	30.25 ACRES ±
X	EDWARD II & CAROLYN WHITE	12.5 ACRES ±
W	EDWARD II & CAROLYN WHITE	16 ACRES ±
V	PAUL WEEKLEY (LIFE)	18 ACRES ±
U	PAUL WEEKLEY (LIFE)	2 ACRES ±
T	CHRIS BAUM ET AL	26.84 ACRES ±
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Q	BRUCE & SANDRA STONKING	42.80 ACRES ±
P	EDWARD II & CAROLYN WHITE	40 ACRES ±
O	GARY DAVENPORT	16 ACRES ±
N	TRUSTEES OF FAIRVIEW CHURCH	1 ACRES ±
M	PEGGY WHITE	42.88 ACRES ±
L	DONALD BOOTHER	3 ACRES ±
K	SCOTT JAMES	30 ACRES ±
J	BRUCE BOUND	22.46 ACRES ±
I	ISAIAH WEEKLY EST	29 ACRES ±
H	ISAIAH WEEKLY EST	22 ACRES ±
G	ISAIAH WEEKLY HRS	27.2 ACRES ±
F	MYRON & BETTY WHITE	12.12 ACRES ±
E	BENTON KEYS	60.6 ACRES ±
D	BRUCE BOUND	32.42 ACRES ±
C	ASIA CUMBERLEDGE	72.75 ACRES ±
B	BRUCE & SANDRA STONKING	69.44 ACRES ±
A	DONNA J. PETER	113.4 ACRES ±



NOTES ON SURVEY

- NO WATER WELLS WERE FOUND WITHIN 250' OF PROPOSED GAS WELL. NO AGRICULTURAL BUILDINGS > 2500 SQ. FT. OR DWELLINGS WERE FOUND WITHIN 625' OF THE CENTER OF PROPOSED WELL PAD.
- AS DRILLED INFORMATION PROVIDED BY EQT.

Professional Energy Consultants

A DIVISION OF SMITH LAND SURVEYING INC.

PEC

SURVEYORS
ENGINEERS
PROJECT MGMT.

WWW.PESURVEYS.COM (304) 452-8234

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

DATE: OCTOBER 1, 2015
REVISED: 04/07/16 & 08/13/16
OPERATORS WELL NO.: WV 516234

NO. 47 - 095 - 02316H
WELL PERMIT



I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAN 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 DIVISION OF ENVIRONMENTAL PROTECTION.

P. S. 2288

CONTROL DETERMINED BY DGPS (SURVEY GRADE TIE TO CORS NETWORK)
HORIZONTAL & VERTICAL
OF ACCURACY 1/2500 FILE NO. 1701AD516234R
MINIMUM DEGREE

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

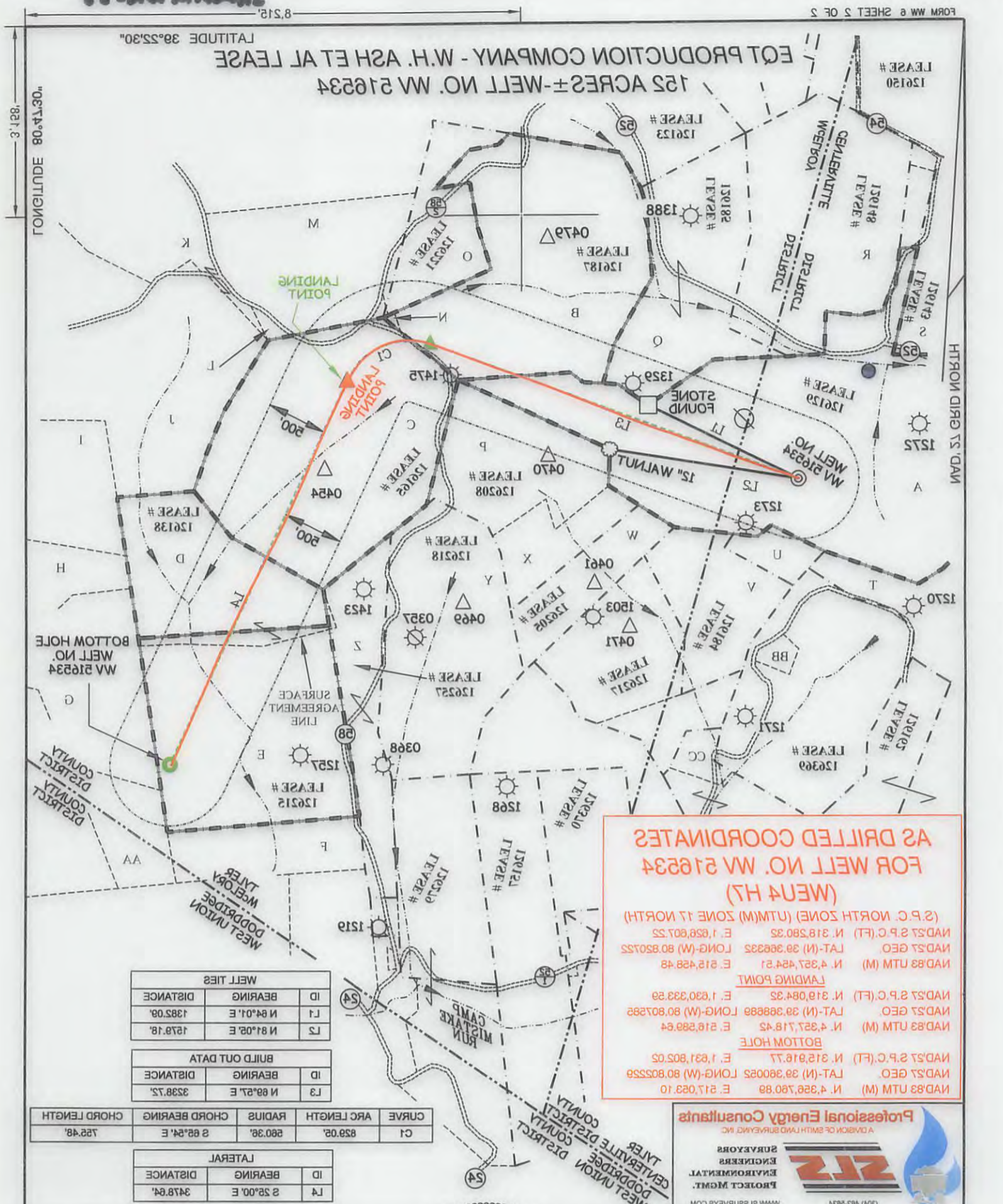
LOCATION: GROUND PROPOSED ELEVATION 1,099' 1,079' WATERSHED _____ COUNTY TYLER QUADRANGLE _____ WEST UNION 7.5' TRIBUTARY OF CAMP MISTAKE RUN

SURFACE OWNER: DONNA J. PETER
ROYALTY OWNER: WACO OIL AND GAS INC. ET AL

PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD PERFORATE NEW FORMATION PLUG AND ABANDON CLEAN OUT AND REPLUG OTHER _____

PHYSICAL CHANGE IN WELL (SPECIFY) _____
ESTIMATED DEPTH: TVD 6,649'
TARGET FORMATION: MARCELLUS

DESIGNATED AGENT: REX C. RAY
WELL OPERATOR: EQT PRODUCTION COMPANY
ADDRESS: 115 PROFESSIONAL PLACE P.O. BOX 280 BRIDGEPORT, WV 26330



AS DRILLED COORDINATES
FOR WELL NO. WV 516534
(WV 47)

(S.P.C. NORTH ZONE) (UTM) ZONE 17 NORTH)

NAD83 UTM (M)	N	4,327,424.21	E	212,428.48
NAD27 GEO.	LAT-(N)	39.38832	LONG-(W)	80.80222
NAD27 S.P.C.(FT)	N	312,803.25	E	1,828,607.22
NAD27 S.P.C.(FT)	N	312,803.25	E	1,828,607.22

LANDING POINT

NAD83 UTM (M)	N	4,327,718.42	E	212,289.64
NAD27 GEO.	LAT-(N)	39.38888	LONG-(W)	80.80288
NAD27 S.P.C.(FT)	N	312,804.32	E	1,830,332.20
NAD27 S.P.C.(FT)	N	312,804.32	E	1,830,332.20

BOTTOM HOLE

NAD83 UTM (M)	N	4,327,718.77	E	1,831,802.02
NAD27 GEO.	LAT-(N)	39.38002	LONG-(W)	80.80222
NAD27 S.P.C.(FT)	N	312,916.77	E	1,831,802.02
NAD27 S.P.C.(FT)	N	312,916.77	E	1,831,802.02

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 WWW.SLSURVEYS.COM (304) 452-2834

WELL TIES			
ID	BEARING	DISTANCE	
L1	N 84°01' E	1382.08	
L2	N 81°02' E	1578.18	

BUILD OUT DATA			
ID	BEARING	DISTANCE	
L3	N 89°27' E	3238.72	

CURVE			
C1	829.02'	280.28'	2 88°24' E
			752.48'

LATERAL			
ID	BEARING	DISTANCE	
L4	S 28°00' E	347.84'	

LEGEND

- LEASE LINE
- - - SURFACE LINE
- - - PROPOSED PATH
- - - AS DRILLED PATH
- - - OFFSET LINE
- - - TIE LINE
- - - CREEK
- - - ROAD
- - - FENCE LINE
- - - COUNTY ROUTE
- PROPOSED WELL
- EXISTING WELL
- PERMITTED WELL
- ABANDONED WELL
- PLUGGED WELL
- STORAGE WELL
- CENTERVILLE DISTRICT TAX MAP-PARCEL
- McELROY DISTRICT TAX MAP-PARCEL

C-00-00
 M-00-00

EARL N. THOMPSON
 LICENSED
 No. 2288
 STATE OF
 WEST VIRGINIA
 PROFESSIONAL SURVEYOR

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

SCALE 1" = 100'

DATE OCTOBER 1, 2012

REVISED 04/07/16 & 06/13/16

OPERATORS WELL NO. WV 516534

API 47 - 095 - 02316H

NO. STATE COUNTY PERMIT

WELL OPERATOR EQT PRODUCTION COMPANY
 ADDRESS 115 PROFESSIONAL PLACE P.O. BOX 280
 BRIDGEPORT, WV 26330

DESIGNATED AGENT REX C. RAY