

AM
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Office of Oil and Gas
OCT 14 2014
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 - 103 - 02900 County Wetzel District Grant
Quad Big Run 7.5' Pad Name BIG 192 Field/Pool Name _____
Farm name Richard Dallison ET AL Well Number 513873
Operator (as registered with the OOG) EQT Production Company
Address EQT Plaza, Suite 1700 625 Liberty Ave 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 4375415 Easting 535899
Landing Point of Curve Northing 4375482 Easting 536441
Bottom Hole Northing 4374644 Easting 537278

Elevation (ft) 1452 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 See Attachment
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 13.5 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 7/30/2013 Date drilling commenced 8/29/2013 Date drilling ceased 11/9/2013
Date completion activities began 4/16/2014 Date completion activities ceased 4/21/2014
Verbal plugging (Y/N) N 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 783 Open mine(s) (Y/N) depths N
Salt water depth(s) ft 2260, 2373 Void(s) encountered (Y/N) depths N
Coal depth(s) ft 737, 807, 922, 1012, 1244 Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed by: _____
10/31/2014

API 47-103 - 02900 Farm name Richard Dallison ET AL Well number 513873

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	30"	26"	40'	New	82.6#		Y
Surface	17-1/2"	13-3/8"	968'	New	54.5#		Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2,790'	New	40#		Y
Intermediate 2							
Intermediate 3							
Production	8-1/2"	5-1/2"	12,430'	New	20#		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	765	15.6	1.25	956	0	8
Coal							
Intermediate 1	Class A	940	15.6	1.25	1175	0	8
Intermediate 2							
Intermediate 3							
Production	Class A/Class H	835/530	14.2/15.2	1.31/1.94	1093.85/1028	4140	8
Tubing							

Drillers TD (ft) 12430 Loggers TD (ft) N/A
 Deepest formation penetrated Marcellus Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 5640

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 to be placed at casing shoe and 468'
Intermediate - -Bow spring centralizers to be placed at shoe, 2290, 1790, 1290, 790, 290

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 _____

Formation Name	Final Top MD (ftGL) (ft)	Final Top TVD (ft)	Final Btm MD (ftGL) (ft)	Final Btm TVD (ft)
SAND / SHALE	0	0	737	737
FRESH WATER	1	1	783	783
COAL	737	737	738	738
SAND / SHALE	738	738	807	807
COAL	807	807	817	817
SAND / SHALE	817	817	922	922
COAL	922	922	927	927
SAND / SHALE	927	927	1,012.00	1,012.00
COAL	1,012.00	1,012.00	1,022.00	1,022.00
SAND / SHALE	1,022.00	1,022.00	1,244.00	1,244.00
COAL	1,244.00	1,244.00	1,246.00	1,246.00
SAND / SHALE	1,246.00	1,246.00	2,484.00	2,479.20
BIG LIME	2,484.00	2,479.20	3,966.00	3,961.10
WARREN	3,966.00	3,961.10	4,117.00	4,112.10
SPEECHLEY	4,117.00	4,112.10	5,006.00	5,001.00
RILEY	5,006.00	5,001.00	5,641.00	5,636.00
BENSON	5,641.00	5,636.00	5,968.00	5,943.30
ALEXANDER	5,968.00	5,943.30	7,186.00	6,860.30
RHINESTREET	7,186.00	6,860.30	7,627.00	7,197.80
Sonyea	7,627.00	7,197.80	7,852.00	7,363.70
Middlesex	7,852.00	7,363.70	7,899.00	7,397.80
Genesee	7,899.00	7,397.80	8,056.00	7,504.10
Geneseo	8,056.00	7,504.10	8,084.00	7,520.80
Tully	8,084.00	7,520.80	8,136.00	7,549.40
Hamilton	8,136.00	7,549.40	8,352.00	7,632.20
Marcellus	8,352.00	7,632.20	12,430.00	7665.8

Amended Report with Flow Back Data
Well #: 513873
API: 47-103-02900

Mylar Plat Attached

10/31/2014

513873 - Perforations

API 47-103-02900

Zone/Stage	Date	Top Perf Depth (ftKB)	Bottom Perf Depth (ftKB)	Number of Perforations	Formation (s)
Initiation Sleeve	4/16/2014	12,404.00	12,406.00	10	MARCELLUS
1	4/16/2014	12,283.00	12,375.00	32	MARCELLUS
2	4/16/2014	12,133.00	12,225.00	40	MARCELLUS
3	4/16/2014	11,983.00	12,105.00	40	MARCELLUS
4	4/17/2014	11,833.00	11,955.00	40	MARCELLUS
5	4/17/2014	11,683.00	11,805.00	40	MARCELLUS
6	4/17/2014	11,533.00	11,653.00	40	MARCELLUS
7	4/18/2014	11,383.00	11,500.00	40	MARCELLUS
8	4/18/2014	11,233.00	11,353.00	40	MARCELLUS
9	4/18/2014	11,083.00	11,203.00	40	MARCELLUS
10	4/18/2014	10,933.00	11,053.00	40	MARCELLUS
11	4/18/2014	10,783.00	10,905.00	40	MARCELLUS
12	4/19/2014	10,633.00	10,755.00	40	MARCELLUS
13	4/19/2014	10,483.00	10,600.00	40	MARCELLUS
14	4/19/2014	10,333.00	10,455.00	40	MARCELLUS
15	4/19/2014	10,183.00	10,305.00	40	MARCELLUS
16	4/19/2014	10,033.00	10,155.00	40	MARCELLUS
17	4/20/2014	9,883.00	10,005.00	40	MARCELLUS
18	4/20/2014	9,733.00	9,855.00	40	MARCELLUS
19	4/20/2014	9,583.00	9,703.00	40	MARCELLUS
20	4/20/2014	9,433.00	9,553.00	40	MARCELLUS
21	4/20/2014	9,283.00	9,405.00	40	MARCELLUS
22	4/20/2014	9,133.00	9,255.00	40	MARCELLUS
23	4/21/2014	8,983.00	9,098.00	40	MARCELLUS
24	4/21/2014	8,833.00	8,953.00	40	MARCELLUS
25	4/21/2014	8,683.00	8,803.00	40	MARCELLUS
26	4/21/2014	8,533.00	8,653.00	40	MARCELLUS
27	4/21/2014	8,383.00	8,505.00	40	MARCELLUS

103.02900

513873 - Stimulated Stages

API 47-103-02900

Zone/Stage	Stimulation Date	Avg rate (bbl/min)	Avg Treat Pressure (psi)	Max Breakdown Pressur (psi)	ISIP (psi)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/other (units)
Initiation Sleeve	4/16/2014	15.4	7,943.00	NA	NA	NA	1,292	0
1	4/16/2014	90.6	8,600.00	6,155.00	4,637.00	202,600	5,605	0
2	4/16/2014	90.4	8,601.00	7,038.00	5,222.00	203,300	5,156	0
3	4/16/2014	91.7	8,530.00	7,282.00	4,681.00	202,300	4,844	0
4	4/17/2014	94.1	8,593.00	7,453.00	5,604.00	202,000	4,965	0
5	4/17/2014	99.2	8,497.00	6,669.00	5,071.00	203,600	5,554	0
6	4/17/2014	96.3	8,467.00	7,008.00	5,502.00	201,900	4,965	0
7	4/18/2014	96.4	8,541.00	6,990.00	5,205.00	202,000	4,799	0
8	4/18/2014	98.9	8,643.00	6,153.00	5,457.00	206,100	5,331	0
9	4/18/2014	98.5	8,524.00	6,406.00	4,904.00	202,400	5,254	0
10	4/18/2014	96.8	8,486.00	6,819.00	5,281.00	201,000	4,692	0
11	4/19/2014	98.2	8,436.00	6,294.00	5,549.00	201,500	4,727	0
12	4/19/2014	96.2	8,375.00	6,589.00	5,192.00	201,800	5,331	0
13	4/19/2014	94.7	8,617.00	6,504.00	5,351.00	202,200	5,469	0
14	4/19/2014	99.3	8,624.00	6,186.00	5,555.00	204,800	5,321	0
15	4/19/2014	99.7	8,575.00	6,056.00	5,734.00	201,800	4,855	0
16	4/19/2014	100.3	8,076.00	6,617.00	5,020.00	201,200	4,802	0
17	4/20/2014	97.3	8,462.00	6,399.00	5,169.00	201,400	4,850	0
18	4/20/2014	99.5	8,062.00	7,493.00	5,226.00	199,900	5,465	0
19	4/20/2014	98.4	8,305.00	7,074.00	4,864.00	203,000	5,141	0
20	4/20/2014	94.4	7,912.00	6,525.00	5,324.00	201,300	5,073	0
21	4/20/2014	99.4	8,081.00	7,660.00	5,391.00	200,200	5,030	0
22	4/20/2014	92.7	7,980.00	6,652.00	5,617.00	200,000	4,879	0
23	4/21/2014	99.5	7,964.00	7,125.00	5,529.00	201,300	4,800	0
24	4/21/2014	100.3	7,932.00	6,740.00	5,721.00	199,900	5,131	0
25	4/21/2014	100.1	8,052.00	6,089.00	5,160.00	201,500	5,031	0
26	4/21/2014	100.4	8,221.00	7,810.00	5,546.00	200,900	6,646	0
27	4/21/2014	99.8	8,122.00	6,995.00	4,801.00	200,300	4,816	0

103-02900

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	4/16/2014
Job End Date:	4/21/2014
State:	West Virginia
County:	Wetzel
API Number:	47-103-02900-00-00
Operator Name:	EQT Production
Well Name and Number:	BIG192 - 513873
Longitude:	-80.58248400
Latitude:	39.52755100
Datum:	NAD83
Federal/Tribal Well:	NO
True Vertical Depth:	7,676
Total Base Water Volume (gal):	5,962,753
Total Base Non Water Volume:	275,738



103-02900

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	Halliburton	Carrier	Water	7732-18-5	100.00000	89.65241	
Sand	Halliburton	Proppant	Crystalline Silica	14808-60-7	100.00000	9.83745	
MX-5	Halliburton	Biocide	Sodium Nitrate	7631-99-4	60.00000	0.05828	
Hydrochloric Acid 15%	Halliburton	Acidizing	Hydrochloric Acid	7647-01-0	15.00000	0.04054	
FR-66	Halliburton	Friction Reducer	Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.02763	
MX-8	Halliburton	Biocide	Bacteria Culture	000-00-0	100.00000	0.00986	
BA-40L	Halliburton	Buffer	Potassium carbonate	584-08-7	60.00000	0.00729	
WG-36	Halliburton	Gelling Agent	Guar Gum	9000-30-0	100.00000	0.00297	
LP-65	Halliburton	Scale Inhibitor	Ammonium Chloride	12125-02-9	10.00000	0.00253	
Methanol	Halliburton	Corrosion inhibitor					

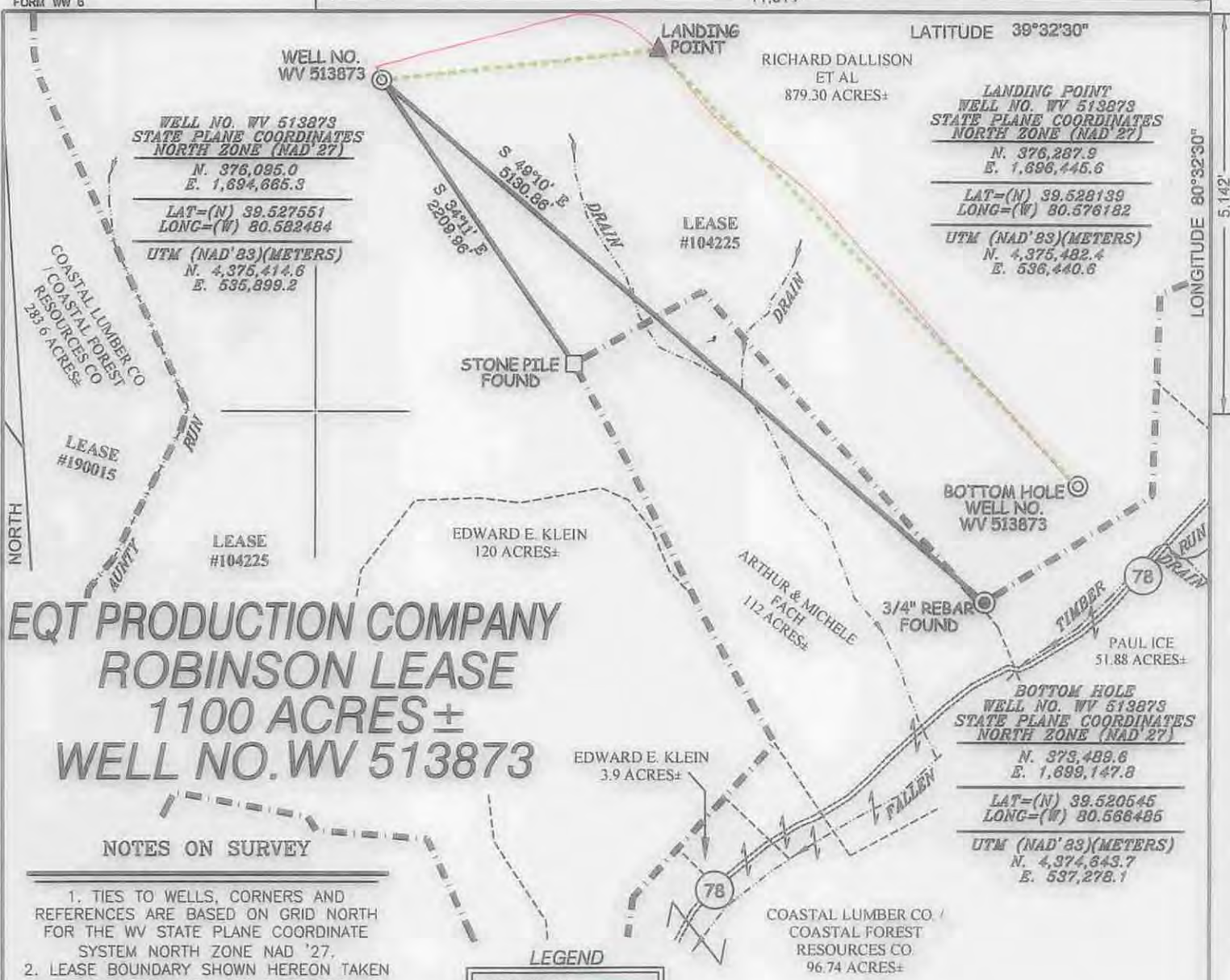
			Methanol	67-56-1	60.00000	0.00025
SP Breaker	Halliburton	Oxidizing Breaker				
			Sodium Persulfate	7775-27-1	100.00000	0.00010
Propargyl Alcohol	Halliburton	Corrosion inhibitor				
			Propargyl Alcohol	107-19-7	0.00004	0.00004

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)

103-02900

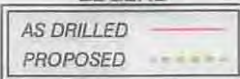


EQT PRODUCTION COMPANY ROBINSON LEASE 1100 ACRES± WELL NO. WV 513873

NOTES ON SURVEY

1. TIES TO WELLS, CORNERS AND REFERENCES ARE BASED ON GRID NORTH FOR THE WV STATE PLANE COORDINATE SYSTEM NORTH ZONE NAD '27.
2. LEASE BOUNDARY SHOWN HEREON TAKEN FROM DEED BOOK 132 PAGE 336.
3. SURFACE OWNER AND ADJOINER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF WETZEL COUNTY IN JULY, 2012.
4. WELL LAT./LONG. (NAD'27) ESTABLISHED BY DGPS(SURVEY GRADE).
5. PLAT DATED 10/2/12 REVISED 3/20/13 TO SHOW NEW LPT & BHL COORDINATES ETC.
6. UPDATED 07/15/14 TO SHOW THE AS-DRILLED PATH COORDINATES FROM INFORMATION PROVIDED BY EQT ON 11/18/13.

LEGEND



AS DRILLED INFORMATION

BOTTOM HOLE WELL NO. WV 513873 STATE PLANE COORDINATES NORTH ZONE (NAD'27)	WELL NO. WV 513873 STATE PLANE COORDINATES NORTH ZONE (NAD'27)
N. 373,474.9 E. 1,899,139.0	N. 376,095.0 E. 1,894,865.3
LAT=(N) 39.520504 LONG=(W) 80.566515	LAT=(N) 39.527551 LONG=(W) 80.582484
UTM (NAD'83)(METERS) N. 4,374,839.2 E. 537,275.5	UTM (NAD'83)(METERS) N. 4,375,414.6 E. 535,899.2



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. 677 *Gregory A. Smith*



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.

DATE APRIL 18, 20 13

REVISED DATE JULY 15, 20 14

OPERATORS WELL NO. WV 513873

API WELL NO. 47 - 103 - 02900

STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 200 FILE NO. 7797ASDRILLED513873

PROVEN SOURCE OF ELEVATION DGPS (SURVEY GRADE TIE TO CORS NETWORK) SCALE 1" = 1000'

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

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

LOCATION: ELEVATION 1,452' WATERSHED AUNTY RUN OF SOUTH FORK FISHING CREEK

DISTRICT GRANT COUNTY WETZEL QUADRANGLE BIG RUN 7.5'

SURFACE OWNER RICHARD DALLISON ET AL ACREAGE 879.30±

ROYALTY OWNER ED BROOM, INC ET AL ACREAGE 1100±

PROPOSED WORK: DRILL X CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE X 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

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

10/31/2014