



west virginia department of environmental protection

Office of Oil and Gas
601 57th Street SE
Charleston, WV 25304
(304) 926-0450
(304) 926-0452 fax

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

PERMIT MODIFICATION APPROVAL

October 25, 2013

EQT PRODUCTION COMPANY
POST OFFICE BOX 280
BRIDGEPORT, WV 26330

Re: Permit Modification Approval for API Number 1706248 , Well #: 514316

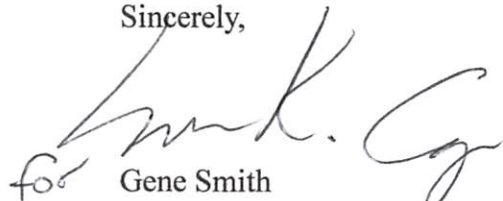
Extend Freshwater Casing

Oil and Gas Operator:

The Office of Oil and Gas has reviewed the attached permit modification for the above referenced permit. The attached modification has been approved and well work may begin. Please be reminded that the oil and gas inspector is to be notified twenty-four (24) hours before permitted well work is commenced.

Please call James Martin at 304-926-0499, extension 1654 if you have any questions.

Sincerely,


for Gene Smith
Regulatory/Compliance Manager
Office of Oil and Gas



October 24, 2013

Mr. Gene Smith
West Virginia Department of Environmental Protection
Office of Oil and Gas
601 57th Street SE
Charleston, WV 25304

Re: Modification of 47-017-06251, 06250, 06249, 06248

Dear Mr. Smith,

Attached in this email are modifications to the above wells. EQT is modifying the fresh water casing because of red rock issues. Mr Adam Scarr spoke with you today concerning this and has asked that the modifications be issued immediately because we are currently drilling these wells.

The CPT 11 Pad has a current permitted casing depth of 804'. We have a proposed casing depth of 1030'. The Ground elevation for this pad is 1111'.

If you have any questions or need additional information, please do not hesitate to contact me at (304) 848-0076.

Sincerely,

Vicki Roark
Permitting Supervisor-WV

Enc.

Received

OCT 24 2013

Office of Oil and Gas
WV Dept. of Environmental Protection

CASING AND TUBING PROGRAM

20)

TYPE	Size	New or Used	Grade	Weight per ft.	FOOTAGE: for Drilling	INTERVALS: Left in Well	CEMENT: Fill-up (Cu.Ft.)
Conductor	20	New	MC-50	81	40	40	38 C.T.S.
Fresh Water	13 3/8	New	MC-50	54	1,030	1,030	893 C.T.S.
Coal	-	New	-	-	-	-	-
Intermediate	9 5/8	New	MC-50	40	5,242	5,242	2058 C.T.S.
Production	5 1/2	New	P-110	20	13,715	13,715	See Note 1
Tubing	2 3/8		J-55	4.6			will be set 100' less than TD
Liners							

LKC
10.25.13

TYPE	Size	Wellbore Diameter	Wall Thickness	Burst Pressure	Cement Type	Cement Yield
Conductor	20	24	0.635	-	Construction	1.18
Fresh Water	13 3/8	17 1/2	0.38	2,480	1	1.21
Coal	-	-	-	-	-	-
Intermediate	9 5/8	12 3/8	0.395	3,590	1	1.21
Production	5 1/2	8 1/2	0.361	12,640	-	1.27/1.86
Tubing						
Liners						

Packers

Kind:	N/A			
Sizes:	N/A			
Depths Set:	N/A			

Note 1: EQT plans to bring the TOC on the production casing cement job 1,000' above kick off point, which is at least 500' above the shallowest production zone, to avoid communication.

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OCT 24 2013

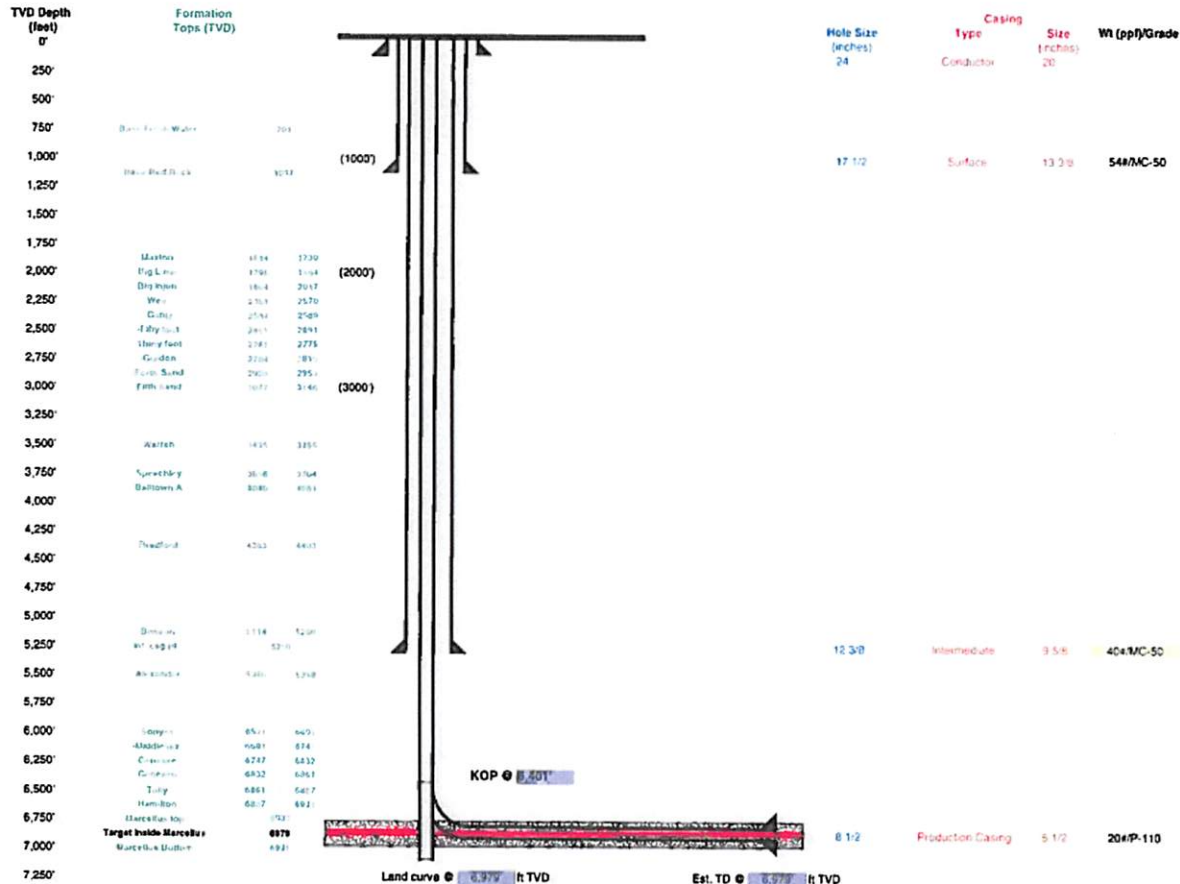
Office of Oil and Gas
WV Dept. of Environmental Protection

10/25/2013

4701706248

Well 514316 (CPT11H1)
 EOT Production
 Center Point
 Doddridge West Virginia

Azimuth 168.87
 Vertical Section 6480



Proposed Well Work:
 Drill and complete a new horizontal well in the Marcellus formation.
 The vertical drill to go down to an approximate depth of 7091'.
 Tag the Onondaga not more than 100' run logs, then plug back to approximately 6401'.
 Then kick off the horizontal leg into the Marcellus formation using a slick water frac.

Land curve @ 6,977' ft TVD / 7,315' ft MD
 Est. TD @ 6,977' ft TVD / 13,215' ft MD
 7,000' ft Lateral

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OCT 24 2013

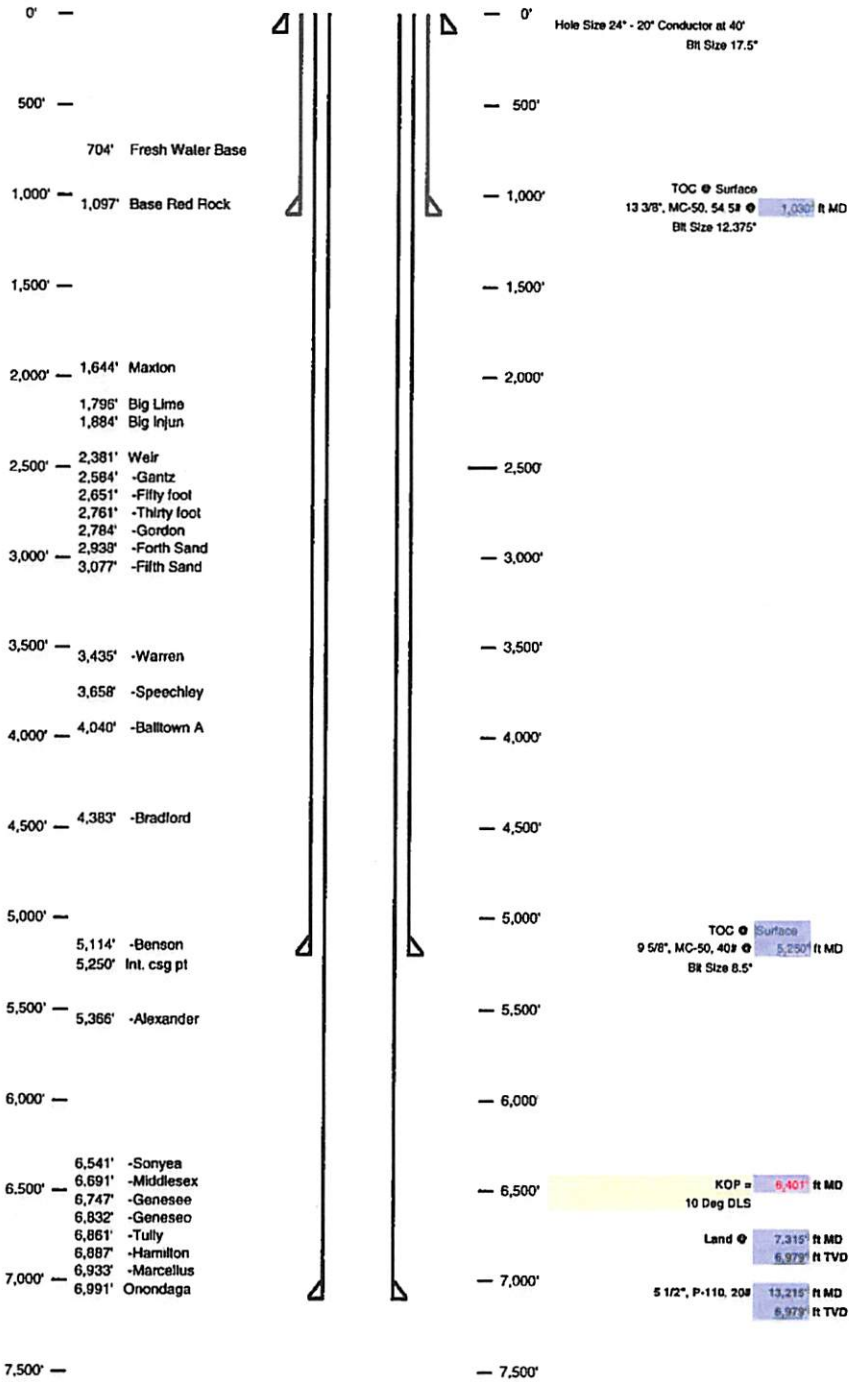
Office of Oil and Gas
 WV Dept. of Environmental Protection

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Well Schematic
EQT Production

Well Name: 514316 (CPTX11HT)
County: 2000002
State: West Virginia

Elevation KB: 1121
Target: Marcellus
Prospect: 185.57
Azimuth: 6480
Vertical Section:



RTV 41.373 #

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OCT 24 2013

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10/25/2013

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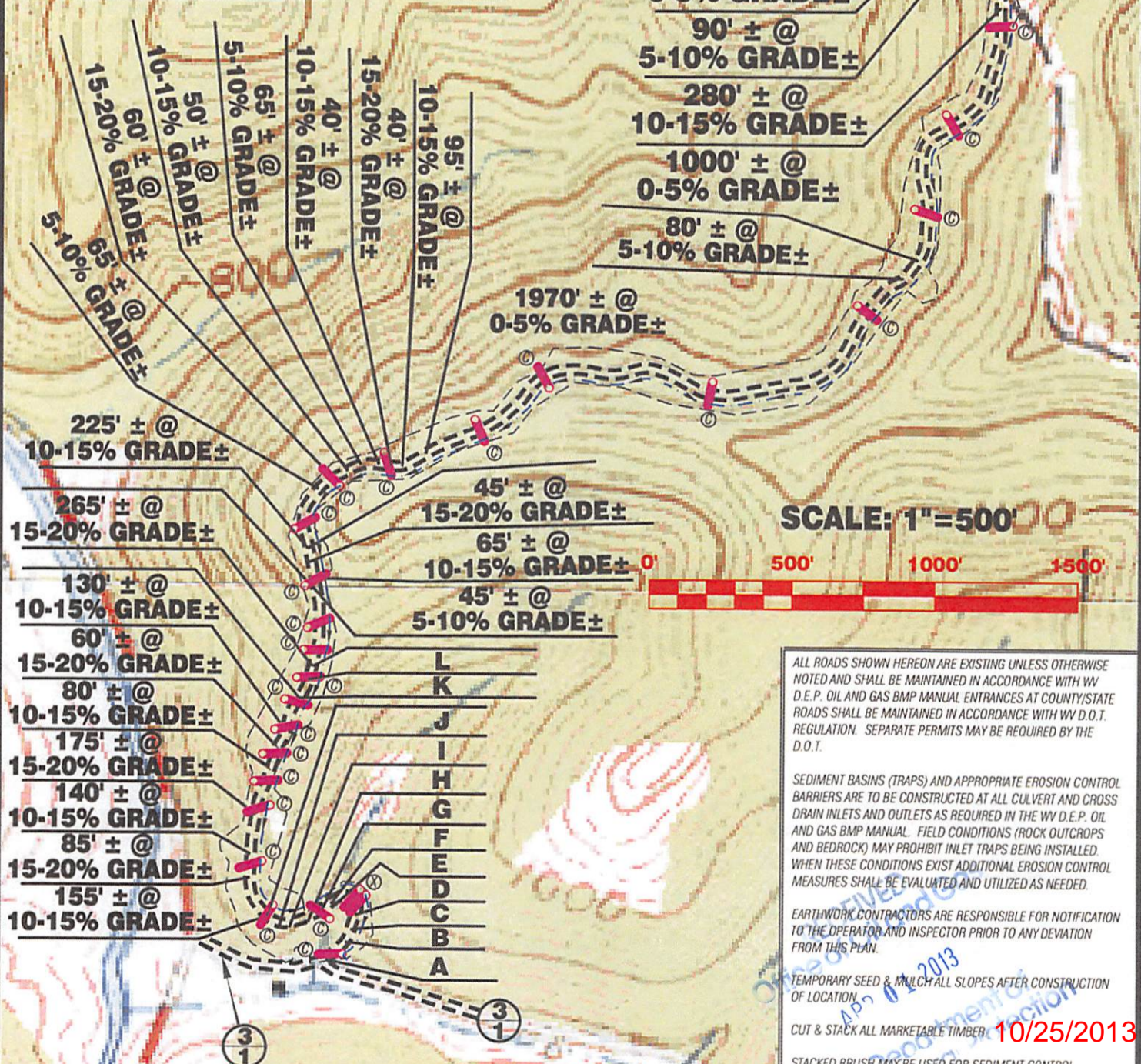
plat spotted

Form WW-9

page of

J.D. McREYNOLDS LEASE WELL NO. WV 514316

	DISTANCE	GRADE
A	95'±	5-10 %
B	50'±	10-15 %
C	60'±	15-20 %
D	90'±	0-5 %
E	60'±	15-20 %
F	40'±	10-15 %
G	60'±	15-20 %
H	50'±	10-15 %
I	40'±	5-10 %
J	50'±	15-20 %
K	75'±	15-20 %
L	50'±	10-15 %



ALL ROADS SHOWN HEREON ARE EXISTING UNLESS OTHERWISE NOTED AND SHALL BE MAINTAINED IN ACCORDANCE WITH WV D.E.P. OIL AND GAS BMP MANUAL ENTRANCES AT COUNTY/STATE ROADS SHALL BE MAINTAINED IN ACCORDANCE WITH WV D.O.T. REGULATION. SEPARATE PERMITS MAY BE REQUIRED BY THE D.O.T.

SEDIMENT BASINS (TRAPS) AND APPROPRIATE EROSION CONTROL BARRIERS ARE TO BE CONSTRUCTED AT ALL CULVERT AND CROSS DRAIN INLETS AND OUTLETS AS REQUIRED IN THE WV D.E.P. OIL AND GAS BMP MANUAL. FIELD CONDITIONS (ROCK OUTCROPS AND BEDROCK) MAY PROHIBIT INLET TRAPS BEING INSTALLED. WHEN THESE CONDITIONS EXIST ADDITIONAL EROSION CONTROL MEASURES SHALL BE EVALUATED AND UTILIZED AS NEEDED.

EARTHWORK CONTRACTORS ARE RESPONSIBLE FOR NOTIFICATION TO THE OPERATOR AND INSPECTOR PRIOR TO ANY DEVIATION FROM THIS PLAN.

TEMPORARY SEED & MULCH ALL SLOPES AFTER CONSTRUCTION OF LOCATION

CUT & STACK ALL MARKETABLE TIMBER. 10/25/2013

STACKED BRUSH MAY BE USED FOR SEDIMENT CONTROL.

APPLICATIONS FOR SEPARATE PLC PERMITS ON THE ACCESS ROAD STREAM CROSSINGS HAVE BEEN PREPARED (IF APPLIES)

- = EXISTING CULVERT
- = PROPOSED CULVERT 15' MIN. UNLESS OTHERWISE NOTED
- = PROPOSED STREAM CROSSING
- = PROPOSED LIMITS OF DISTURBANCE

Professional Energy Consultants
A DIVISION OF SMITH LAND SURVEYING

SURVEYORS PROJECT MGMT. **SLS** ENGINEERS ENVIRONMENTAL

236 West Elm St. P.O. Box 150 Shenandoah, WV 26351 (304) 462-3534

50065 Diller Bottom Road Shenandoah, OH 43847 (740) 671-0411

HONESTY. INTEGRITY. QUALITY

DRAWN BY K.D.W.	FILE NO. 7749	DATE 03/27/13	CADD FILE: 7749REC514316R2.DWG
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4701706248

LATITUDE 39°25'00"

4,320'

LONGITUDE 80°42'30"

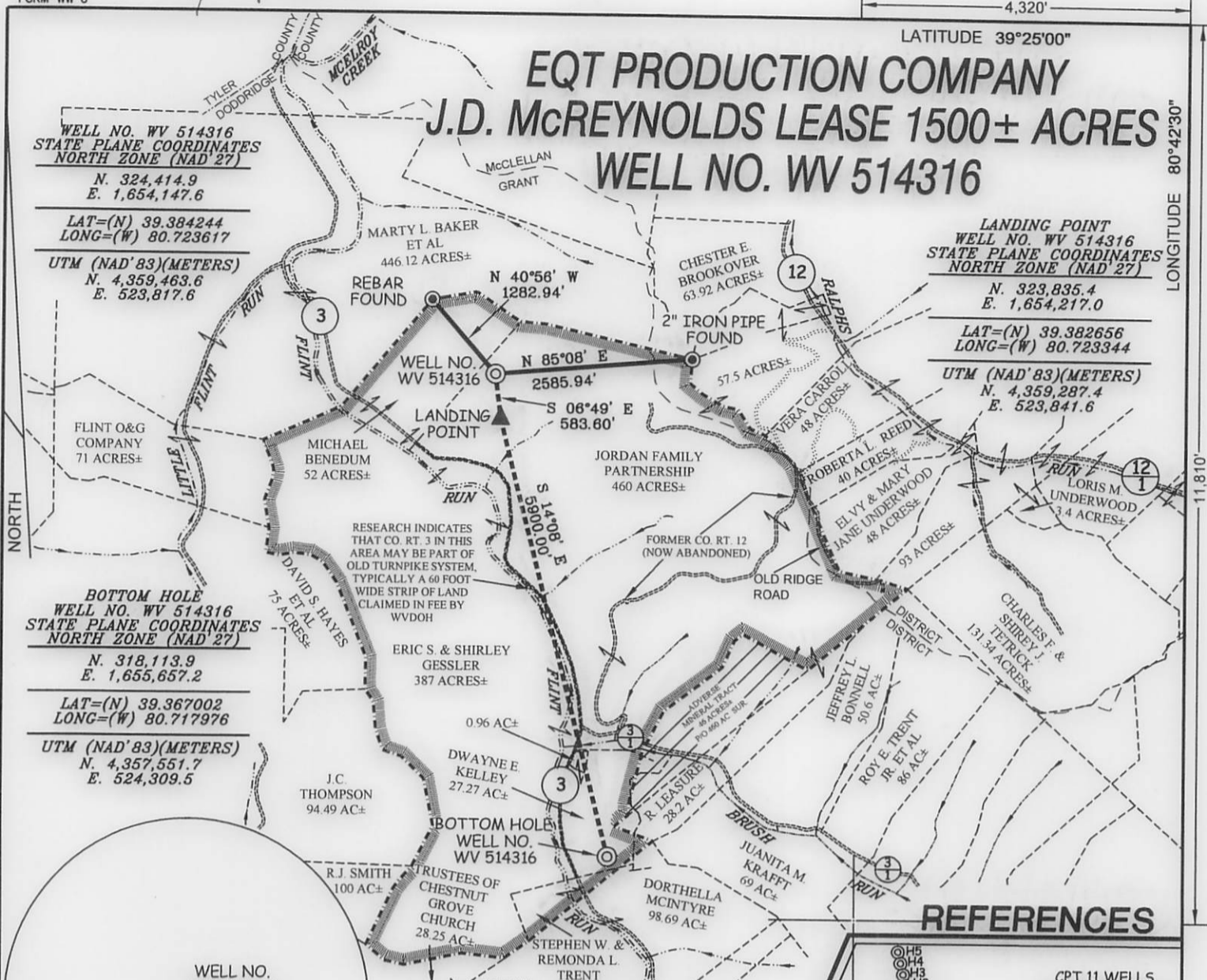
EQT PRODUCTION COMPANY J.D. McREYNOLDS LEASE 1500± ACRES WELL NO. WV 514316

WELL NO. WV 514316
STATE PLANE COORDINATES
NORTH ZONE (NAD'27)
N. 324,414.9
E. 1,654,147.6

LANDING POINT
WELL NO. WV 514316
STATE PLANE COORDINATES
NORTH ZONE (NAD'27)
N. 323,835.4
E. 1,654,217.0

LAT=(N) 39.382656
LONG=(W) 80.723344
UTM (NAD'83)(METERS)
N. 4,359,287.4
E. 523,841.6

LAT=(N) 39.384244
LONG=(W) 80.723617
UTM (NAD'83)(METERS)
N. 4,359,463.6
E. 523,817.6

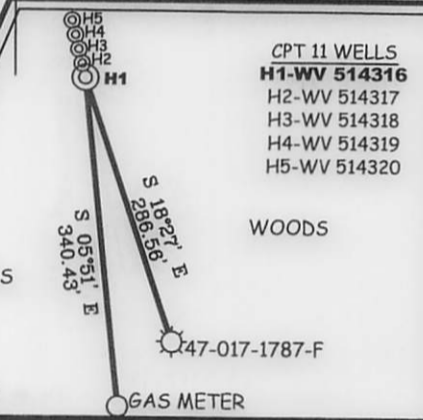


BOTTOM HOLE
WELL NO. WV 514316
STATE PLANE COORDINATES
NORTH ZONE (NAD'27)
N. 318,113.9
E. 1,655,657.2
LAT=(N) 39.367002
LONG=(W) 80.717976
UTM (NAD'83)(METERS)
N. 4,357,551.7
E. 524,309.5



- ### 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 280 PAGE 695, DEED BOOK 223 PAGE 430, DEED BOOK 282 PAGE 406 & DEED BOOK 175 PAGE 633.
 3. SURFACE OWNER AND ADJOINER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF DODDRIDGE COUNTY IN JULY, 2012.
 4. WELL LAT./LONG. (NAD'27) ESTABLISHED BY DGPS (SURVEY GRADE TIE TO CORS NETWORK).

REFERENCES



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 MARCH 15, 20 13
OPERATORS WELL NO. WV 514316
API WELL NO. 47-017-06248
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1/200 FILE NO. 7749P514316R
PROVEN SOURCE OF ELEVATION DGPS (SURVEY GRADE TIE TO CORS NETWORK) SCALE 1" = 2000'

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: ELEVATION 1,130' (GROUND) 1,111 (PROPOSED) WATERSHED FLINT RUN OF McELROY CREEK
DISTRICT GRANT COUNTY DODDRIDGE QUADRANGLE CENTER POINT 7.5'
SURFACE OWNER JORDAN FAMILY PARTNERSHIP ACREAGE 460±
ROYALTY OWNER J.D. McREYNOLDS HEIRS/ASSIGNS ACREAGE 1500±
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 _____

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

10/25/2013