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west virginia department of environmental protection

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Office of Oil and Gas  
601 57<sup>th</sup> Street, S.E.  
Charleston, WV 25304  
(304) 926-0450  
fax: (304) 926-0452

Earl Ray Tomblin, Governor  
Randy C. Huffman, Cabinet Secretary  
[www.dep.wv.gov](http://www.dep.wv.gov)

PERMIT MODIFICATION APPROVAL  
Horizontal 6A / Horizontal 6A Well - 1

EQT PRODUCTION COMPANY  
120 PROFESSIONAL PLACE  
BUILDING II  
BRIDGEPORT, WV 26330

Re: Permit Modification Approval for 513702  
47-017-06771-00-00

Adding Additional Lease

EQT PRODUCTION COMPANY

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.

If there are any questions, please feel free to contact me at (304) 926- 0450.



James A. Martin  
Chief

Operator's Well Number: 513702  
Farm Name: HART, RONALD & JEFFERY  
U.S. WELL NUMBER: 47-017-06771-00-00  
Horizontal 6A / Horizontal 6A Well - 1  
Date Issued: 1/12/2017

Promoting a healthy environment.

01/20/2017



October 20, 2016

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

Re: Modification of 47-01706771

Dear Mr. Smith,

Enclosed is an updated 6A1 form, and mylar plat. Lease number 117513 has been added to both forms, due to the close proximity of the lease to the top hole.

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

Sincerely,

A handwritten signature in blue ink, appearing to read 'Vicki Roark'.

Vicki Roark  
Permitting Supervisor-WV

Enc.

**INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE  
Chapter 22, Article 6A, Section 5(a)(5)  
IN LIEU OF FILING LEASE(S) AND OTHER CONTINUING CONTRACT(S)**

Under the oath required to make the verification on page 1 of this Notice and Application, I depose and say that I am the person who signed the Notice and Application for the Applicant, and that –

- (1) the tract of land is the same tract described in this Application, partly or wholly depicted in the accompanying plat, and described in the Construction and Reclamation Plan;
- (2) the parties and recordation data (if recorded) for lease(s) or other continuing contract(s) by which the Applicant claims the right to extract, produce or market the oil or gas are as follows:

| Lease Name or<br>Number | Grantor, Lessor, etc. | Grantee, Lessee, etc. | Royalty | Book/Page |
|-------------------------|-----------------------|-----------------------|---------|-----------|
|-------------------------|-----------------------|-----------------------|---------|-----------|


see attached

**Acknowledgement of Possible Permitting/Approval  
In Addition to the Office of Oil and Gas**

The permit applicant for the proposed well work addressed in this application hereby acknowledges the possibility of the need for permits and/or approvals from local, state, or federal entities in addition to the DEP, Office of Oil and Gas, including but not limited to the following:

- WV Division of Water and Waste Management
- WV Division of Natural Resources WV Division of Highways
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- County Floodplain Coordinator

The applicant further acknowledges that any Office of Oil and Gas permit in no way overrides, replaces, or nullifies the need for other permits/approvals that may be necessary and further affirms that all needed permits/approvals should be acquired from the appropriate authority before the affected activity is initiated.

Well Operator: EQT Production Company  
 By: Victoria J. Roark   
 Its: Permitting Supervisor

| <b>Lease No.</b> | <b>Grantor, Lessor, etc.</b>  | <b>Grantee, Lessee, etc.</b>             | <b>Royalty</b> | <b>Book/Page</b> |
|------------------|---|--|----------------|------------------|
| <b>107453</b>    | <b><u>Mona R. Cumberledge, et al (current royalty owner)</u></b>              |  | ***            |                  |
|                  | S. E. Gaston, et al (original lessor)   | A. D. Wells                              |                | LB 22/420        |
|                  | A. D. Wells   | Fisher Oil Company/O.D. Harrington       |                | LB 24/16         |
|                  | Fisher Oil Company/O.D. Harrington  | The Philadelphia Company of WV           |                | LB 24/64         |
|                  | The Philadelphia Company of WV  | Pittsburgh & West Virginia Gas Company   |                | 45/102           |
|                  | The Philadelphia Company of WV  | Pittsburgh & West Virginia Gas Company   |                | LB 32/253        |
|                  | Pittsburgh & West Virginia Gas Company  | Equitable Gas Company                    |                | DB 121/257       |
|                  | Equitable Gas Company   | Equitrans, Inc                           |                | LB 154/475       |
|                  | Equitrans, Inc  | Equitrans, L.P.                          |                | 329/645          |
|                  | Equitrans, L.P.   | Equitable Production-Eastern States, Inc |                | LB 192/19        |
|                  | Equitable Production-Eastern States, Inc                                      | EQT Production Company                   |                | DB 281/346       |
| <b>114449</b>    | <b><u>Glenn H. Shive, et al (current royalty owner)</u></b>                   |  | ***            |                  |
|                  | F.E. Gaston, et ux (original lessor)  | The Philadelphia Company of WV           |                | LB 32/463        |
|                  | The Philadelphia Company of WV  | Pittsburgh & WV Gas Company              |                | LB 32/253        |
|                  | Pittsburgh & WV Gas Company   | Equitable Gas Company                    |                | DB 121/257       |
|                  | Equitable Gas Company   | Equitrans, Inc                           |                | LB 154/475       |
|                  | Equitrans, Inc  | Equitrans, L.P.                          |                | 329/645          |
|                  | Equitrans, L.P.   | Equitable Production-Eastern States, Inc |                | LB 192/19        |
|                  | Equitable Production-Eastern States, Inc                                      | EQT Production Company                   |                | DB 281/346       |
| <b>114447</b>    | <b><u>C. Burke Morris &amp; S.A. Smith, et al (current royalty owner)</u></b> |  | ***            |                  |
|                  | Jane Woofler (original lessor)  | The Philadelphia Company of WV           |                | LB 32/468        |
|                  | The Philadelphia Company of WV  | Pittsburgh & WV Gas Company              |                | LB 32/253        |
|                  | Pittsburgh & WV Gas Company   | Equitable Gas Company                    |                | DB 121/257       |
|                  | Equitable Gas Company   | Equitrans, Inc                           |                | LB 154/475       |
|                  | Equitrans, Inc  | Equitrans, L.P.                          |                | 329/645          |
|                  | Equitrans, L.P.   | Equitable Production-Eastern States, Inc |                | LB 192/19        |
|                  | Equitable Production-Eastern States, Inc                                      | EQT Production Company                   |                | DB 281/346       |
| <b>117513</b>    | <b><u>WBM Heirs Properties, LLC, at al (current royalty owner)</u></b>        |  | ***            |                  |
|                  | W. Brent Maxwell, ay ux (original lessor)                                     | Pittsburgh & West Virginia Gas           |                | DB 37/48         |
|                  | Pittsburgh & WV Gas Company   | Equitable Gas Company                    |                | DB 121/257       |
|                  | Equitable Gas Company   | Equitrans, Inc                           |                | LB 154/475       |
|                  | Equitrans, Inc  | Equitrans, L.P.                          |                | 329/645          |
|                  | Equitrans, L.P.   | Equitable Production-Eastern States, Inc |                | LB 192/19        |
|                  | Equitable Production-Eastern States, Inc                                      | EQT Production Company                   |                | DB 281/346       |

\*\*\* We will pay a minimum one-eighth of the total amount paid to or received by or allowed to the owner of the working interest at the wellhead for the oil or gas so extracted, produced, or marketed before deducting the amount to be paid to or set aside for the owner of the oil or gas in place, on all such oil or gas to be extracted, produced, or marketed from the well

**OXF160**  
**WV 513702**  
**EQT PRODUCTION COMPANY**

TH 2,135'

BH 1,384'

LATITUDE 39°12'30"

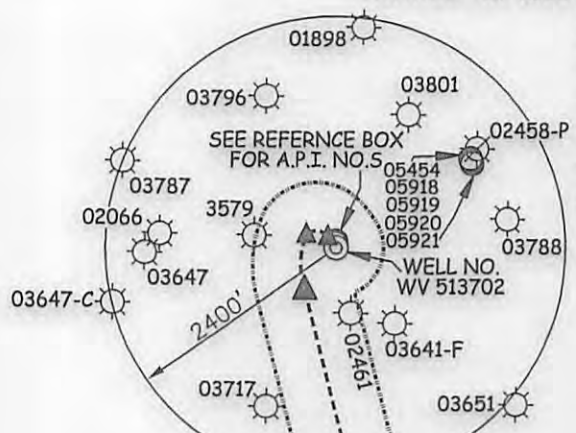
LONGITUDE 80°47'30"

9,792'

14,187'

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

|                      |                   |                    |
|----------------------|-------------------|--------------------|
| NAD'27 S.P.C.(FT)    | N. 250,860.78     | E. 1,631,718.31    |
| NAD'27 GEO.          | LAT-(N) 39.181449 | LONG-(W) 80.799198 |
| NAD'83 UTM (M)       | N. 4,336,941.20   | E. 517,358.30      |
| <b>LANDING POINT</b> |                   |                    |
| NAD'27 S.P.C.(FT)    | N. 250,424.85     | E. 1,631,392.02    |
| NAD'27 GEO.          | LAT-(N) 39.180239 | LONG-(W) 80.800326 |
| NAD'83 UTM (M)       | N. 4,336,806.74   | E. 517,261.11      |
| <b>BOTTOM HOLE</b>   |                   |                    |
| NAD'27 S.P.C.(FT)    | N. 246,455.07     | E. 1,632,405.57    |
| NAD'27 GEO.          | LAT-(N) 39.169381 | LONG-(W) 80.796549 |
| NAD'83 UTM (M)       | N. 4,335,602.52   | E. 517,590.07      |



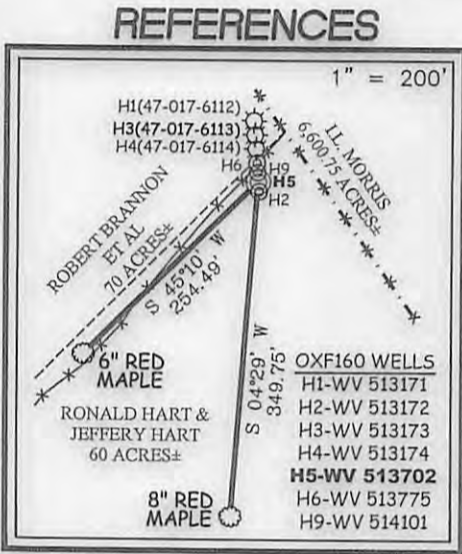
**NOTES ON SURVEY**

- 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.
- WELL SPOT CIRCLE & TOPO MARK SCALE IS 1"=2000'.

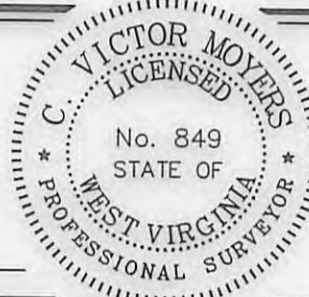
**ROYALTY OWNERS**

|                                    |              |                  |
|------------------------------------|--------------|------------------|
| GLENN H. SHIVE ET AL               | 53 AC.±      | LEASE NO. 114449 |
| C. BURKE MORRIS & S.A. SMITH ET AL | 28 AC.±      | LEASE NO. 114447 |
| WBM HEIRS PROPERTIES, LLC ET AL    | 1891.25 AC.± | LEASE NO. 117513 |

|   |                            |                 |              |
|---|----------------------------|-----------------|--------------|
| A | ROBERT BRANNON ET AL       | 70 ACRES±       | SW TM-09-19  |
| B | RONALD HART & JEFFERY HART | 60 ACRES±       | SW TM-09-20  |
| C | LL. MORRIS                 | 6,600.75 ACRES± | SW TM-10-02  |
| D | ROBERT BRANNON ET AL       | 25.1 ACRES±     | SW TM-13-18  |
| E | RONALD HART & JEFFERY HART | 46 ACRES±       | SW TM-13-12  |
| F | RONALD HART & JEFFERY HART | 45 ACRES±       | SW TM-09-21  |
| G | MARIA HRUSCOV              | 57.5 ACRES±     | SW TM-10-01  |
| H | WILLIAM ARMENTROUT ET AL   | 44.35 ACRES±    | SW TM-14-02  |
| I | MICHAEL & SUSAN ZORN       | 52.5 ACRES±     | SW TM-14-01  |
| J | MICHAEL & SUSAN ZORN       | 47.5 ACRES±     | SW TM-14-1.1 |
| K | WILLIAM ARMENTROUT ET AL   | 16.8 ACRES±     | SW TM-14-04  |
| L | EDWARD & GINA BASSETT      | 41 ACRES±       | SW TM-13-39  |
| M | MARIAN ZORN                | 34.78 ACRES±    | SW TM-13-40  |
| N | WILLIAM ARMENTROUT ET AL   | 76 ACRES±       | SW TM-13-41  |



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. 849 *C. Victor Moyers*

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.  
 DATE MARCH 24, 20 16  
 REVISED OCTOBER 20, 20 16  
 OPERATORS WELL NO. WV 513702  
 API WELL NO. 47-017-06771  
 STATE 47 COUNTY 017 PERMIT 06771

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 7310P513702R5  
 HORIZONTAL & VERTICAL CONTROL DETERMINED BY DGPS (SURVEY GRADE TIE TO CORS NETWORK) SCALE SEE NOTE 2

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:  
 PAD ELEVATION 1,220' WATERSHED UPPER RUN OF MIDDLE FORK OF SOUTH FORK HUGHES RIVER  
 DISTRICT SOUTHWEST COUNTY DODDRIDGE QUADRANGLE OXFORD 7.5'  
 SURFACE OWNER RONALD HART & JEFFERY HART ACREAGE 60±  
 ROYALTY OWNER MONA R. CUMBERLEDGE ET AL ACREAGE 206±  
 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 6,603'

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

01/20/2017

COUNTY NAME PERMIT

**OXF160**  
**WV 513702**  
**EQT PRODUCTION COMPANY**

BH 1,384'  
 LATITUDE 39°12'30"

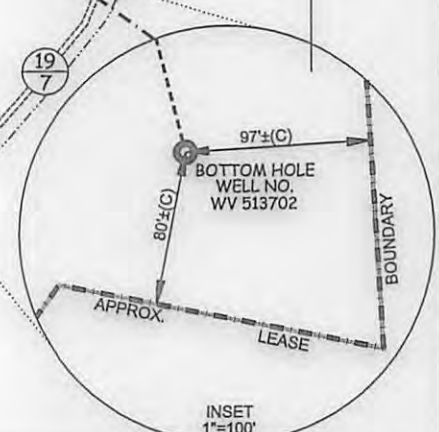
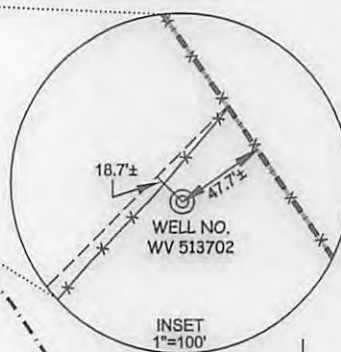
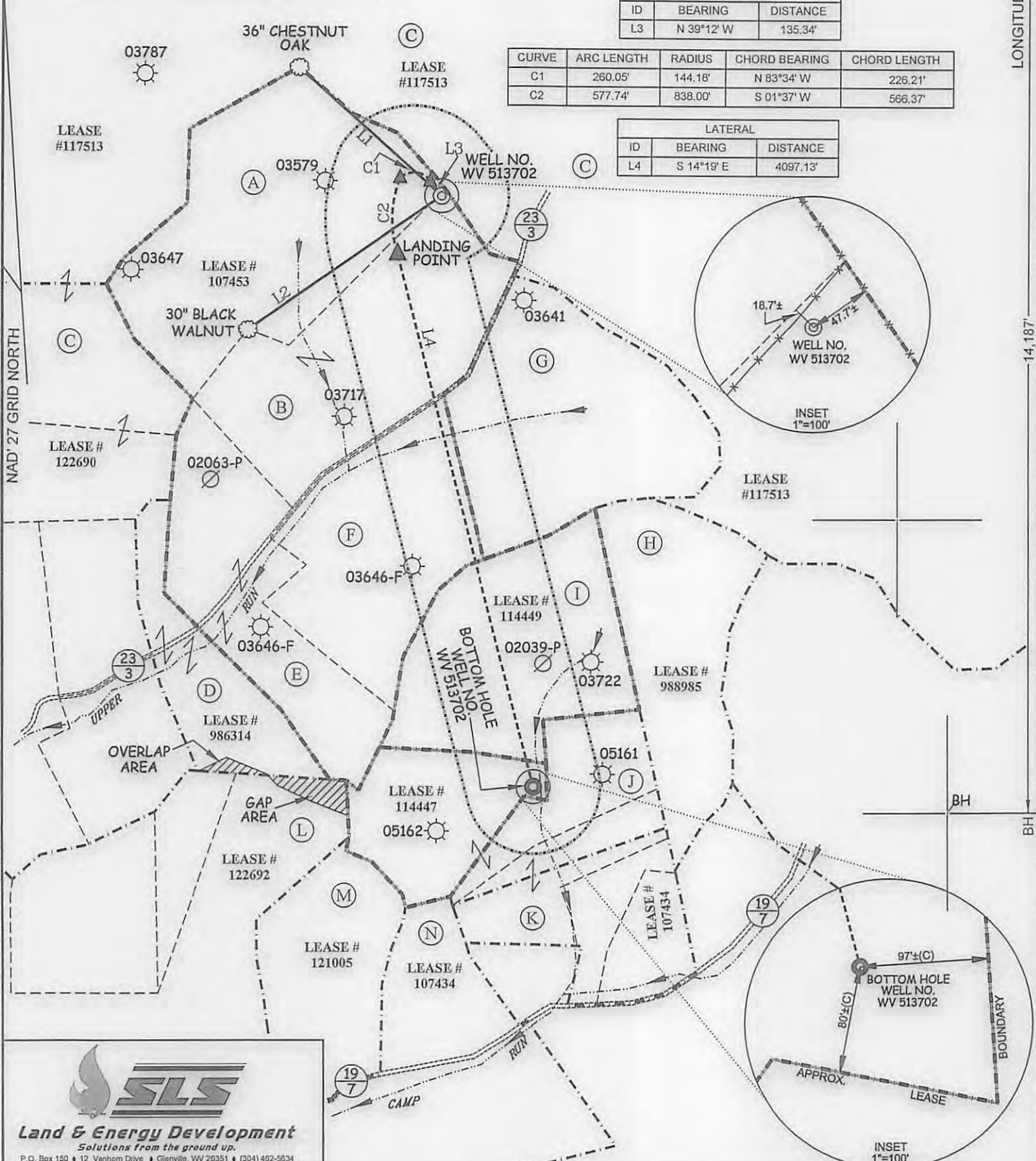
| WELL TIES |            |          |
|-----------|------------|----------|
| ID        | BEARING    | DISTANCE |
| L1        | N 48°16' W | 1430.69' |
| L2        | S 55°15' W | 1762.57' |

| BUILD OUT DATA |            |          |
|----------------|------------|----------|
| ID             | BEARING    | DISTANCE |
| L3             | N 39°12' W | 135.34'  |

| CURVE | ARC LENGTH | RADIUS  | CHORD BEARING | CHORD LENGTH |
|-------|------------|---------|---------------|--------------|
| C1    | 260.05'    | 144.18' | N 83°34' W    | 226.21'      |
| C2    | 577.74'    | 838.00' | S 01°37' W    | 566.37'      |

| LATERAL |            |          |
|---------|------------|----------|
| ID      | BEARING    | DISTANCE |
| L4      | S 14°19' E | 4097.13' |

LONGITUDE 80°47'30"  
 9,792'  
 14,187'  
 TH



**SLS**  
**Land & Energy Development**  
 Solutions from the ground up.  
 P.O. Box 150 • 12 Vanhorn Drive • Glenville, WV 26351 • (304) 452-5634  
 www.slsurveys.com

| (S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH) |                   |                    |  |
|--|-------------------|--------------------|--|
| NAD'27 S.P.C.(FT)                          | N. 250,860.78     | E. 1,631,718.31    |  |
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| NAD'83 UTM (M)                             | N. 4,336,941.20   | E. 517,358.30      |  |
| LANDING POINT                              |                   |                    |  |
| NAD'27 S.P.C.(FT)                          | N. 250,424.85     | E. 1,631,392.02    |  |
| NAD'27 GEO.                                | LAT-(N) 39.180239 | LONG-(W) 80.800326 |  |
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(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.

| LEGEND                             |          |
|------------------------------------|----------|
| LEASE LINE                         | -----    |
| SURFACE LINE                       | -----    |
| WELL LATERAL                       | -----    |
| OFFSET LINE                        | -----    |
| TIE LINE                           | -----    |
| CREEK                              | -----    |
| ROAD                               | -----    |
| COUNTY ROUTE                       | -----    |
| PROPOSED WELL                      | ⊙        |
| EXISTING WELL                      | ⊙        |
| PERMITTED WELL                     | ⊙        |
| SOUTH WEST DISTRICT TAX MAP-PARCEL | SW-00-00 |

SCALE 1" = 1000'  
 DATE MARCH 24, 2016  
 REVISED OCTOBER 20, 2016  
 OPERATORS WELL NO. WV 513702  
 API WELL NO. 47  
 STATE COUNTY PERMIT 017-06771

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

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

01/20/2017