Drilling Finished Date: January 12, 2013
1st Prod Date: March 09, 2013
Completion Date: March 04, 2013

| Drill Type: | HORIZONTAL HOLE | Min Gas Allowable: Yes |
| :--- | :--- | :--- |
| Well Name: TOMCAT 1-12H | Purchaser/Measurer: PVR GAS PROCESSING LLC |  |
| Location: | GARFIELD 12 21N $3 W$ | First Sales Date: $03 / 01 / 2013$ |
|  | NW NW NE NE |  |
|  | 250 FNL 1110 FEL of $1 / 4$ SEC |  |
|  | Derrick Elevation: 1155 Ground Elevation: 1137 |  |
| Operator: |  |  |
|  | LIMESTONE EXPLORATION II LLC 23066 |  |
|  | PO BOX 10280 |  |
|  | 1100 W WALL ST |  |
|  | MIDLAND, TX 79702-7280 |  |


| Completion Type | Location Exception | Increased Density |  |
| :--- | :--- | :--- | :--- |
| $X$ | Single Zone | Order No | Order No |
|  | Multiple Zone | 609545 |  |
|  | Commingled | 611510 |  |


| Casing and Cement |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Type | Size | Weight | Grade | Feet | PSI | SAX | Top of CMT |  |
| CONDUCTOR | 20 | 94 | H-40 | 70 |  | 9 | SURFACE |  |
| SURFACE | $95 / 8$ | 36 | J-55 | 505 |  | 265 | SURFACE |  |
| PRODUCTION | 7 | 26 | P-110 | 5404 |  | 330 | 2400 |  |


| Liner |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Type | Size | Weight | Grade | Length | PSI | SAX | Top Depth | Bottom Depth |  |  |
| LINER | $41 / 2$ | 11.6 | P-110 | 4411 | 0 | 0 | 5076 | 9487 |  |  |

Total Depth: 9488

| Packer |  |
| :---: | :---: |
| Depth | Brand \& Type |
| There are no Packer records to display. |  |


| Plug |  |
| :---: | :---: |
| Depth | Plug Type |
| There are no Plug records to display. |  |


| Initial Test Data |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Test Date | Formation | Oil BBL/Day | Oil-Gravity (API) | Gas MCF/Day | Gas-Oil Ratio $\mathrm{CuFT} / \mathrm{BBL}$ | Water BBL/Day | Pumpin or Flowing | Initial ShutIn Pressure | Choke Size | Flow <br> Tubing Pressure |
| Jun 03, 2013 | MISSISSIPPIAN | 27 | 37.5 | 829 | 30704 | 3183 | PUMPING |  | 64 | 275 |
| Completion and Test Data by Producing Formation |  |  |  |  |  |  |  |  |  |  |
| Formation Name: MISSISSIPPIAN |  |  | Code: 359MSSP |  |  | Class: GAS |  |  |  |  |
| Spacing Orders |  |  | Perforated Intervals |  |  |  |  |  |  |  |
| Ord |  | Unit Size | From |  |  | To |  |  |  |  |
| 604 |  | 640 | 5562 |  |  | 9058 |  |  |  |  |
| Acid Volumes |  |  | Fracture Treatments |  |  |  |  |  |  |  |
| 1,548 BARRELS 15\% HCL |  |  | 64,516 BARRELS SLICK WATER, 1,267,900 POUNDS 20/40 SAND |  |  |  |  |  |  |  |


| Formation | Top |
| :--- | ---: |
| HOGSHOOTER | 4366 |
| BIG LIME | 4746 |
| 1ST OSWEGO | 4805 |
| RED FORK | 5200 |
| MISSISSIPPIAN | 5288 |

Were open hole logs run? Yes
Date last log run: January 13, 2013

Were unusual drilling circumstances encountered? No Explanation:

[^0]
## Lateral Holes

Sec: 12 TWP: 21N RGE: 3W County: GARFIELD
SE SW SE SE

292 FSL 663 FEL of $1 / 4$ SEC
Depth of Deviation: 4427 Radius of Turn: 851 Direction: 175 Total Length: 3884
Measured Total Depth: 9488 True Vertical Depth: 5128 End Pt. Location From Release, Unit or Property Line: 292

FOR COMMISSION USE ONLY

Status: Accepted

| API $35-047-24637$ |
| :--- |
| NO. 35 |
| OTC PROD. |
| UNIT NO. 04721002000000 |

original amended (Reason)

TYPE OF DRILLING OPERATION

straight hole $\square$ directional hole service well
If directional or horizontal, see reverse for bottom hole location


PACKER @ $\qquad$ BRAND \& TYPE $\qquad$ | CASING |
| :--- |
| CONDUC |
| SURFACE |
| INTERME |
| PRODUC |
| LINER |
| PLUG @ |
| PLUG @ |

CASING \& CEMENT (Form 1002C must be attached)

| TYPE | SIZE | WEIGHT | GRADE | FEET | PSI | SAX | TOP OF CMT |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| CONDUCTOR | 20" | $94 \mathrm{lb} / \mathrm{ft}$ | H-40 | 70 |  | 0 | n/a |
| SURFACE | 95/8" | $36 \mathrm{lb} / \mathrm{ft}$ | J-55 | 505 |  | 265 | surface |
| INTERMEDIATE | ( ${ }^{\prime \prime}$ | $26 \mathrm{lb} / \mathrm{ft}$ | P-110 | 5,404 |  | 330 | 2,400 |
| Production $\nearrow$ |  |  |  |  |  |  |  |
| LINER | $41 / 2^{\prime \prime}$ | $11.6 \mathrm{lb} / \mathrm{tt}$ | P-110 | 5,076-9,487 MD |  | 0 | n/a |
|  |  |  |  |  |  |  | 9,488 |

PACKER@ $\qquad$ BRAND \& TYPE $\qquad$ PLUG @ TYPE PLUG ©
$\qquad$ TYPE

locate well

COMPLETION \& TEST DATA BY PRODUCING FORMATION $359 \mathrm{MIS5}$

| FORMATION | Mississippian |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SPACING \& SPACING | 640 ac - 604242 |  |  |  |  |  |
| CLĀSS: Oil, Gas, Dry, Inj, Disp, Comm Disp, Svc | Gas |  |  |  |  |  |
|  | OH pkr/frac port system |  |  |  |  |  |
| PERFORATED intervals | 5,423-9,488 MD |  |  |  |  |  |
|  | 15 frac ports |  |  |  |  |  |
| ACIDNOLUME | 1,548 bbl $15 \% \mathrm{HCl}$ |  |  |  |  |  |
|  | 64,516 bbls slick wtr |  |  |  |  |  |
| FRACTURE TREATMENT <br> (Fluids/Prop Amounts) | 1,267,900 lb 20/40 sd |  |  |  |  |  |
|  |  |  |  |  |  |  |


| Initial test data | Min Gas Allowable | (165:10-17-7) | Gas Purchaser/Measurer First Sales Date | $\begin{aligned} & \hline \text { PVR Gas Processing, LLC } \\ & \hline \text { March } 2013 \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: |
|  | Oil Allowable | (165:10-13-3) |  |  |
| Initial test date | 6/3/2013 |  |  |  |
| oil-biliday | 27 |  |  |  |
| OIL-GRAVITY ( API) | 37.5 |  |  |  |
| GAS-MCFIDAY | 829 |  |  |  |
| GAS-OLL RATIO Cu FT/BBL | 31,084 |  |  |  |
| WATER-bBLJAY | 3,183 |  |  |  |
| PUMPING OR FLOWING | pumping via ESP |  |  |  |
| INITIAL SHUT-IN PRESSURE | 0 |  |  |  |
| CHOKE SIZE | 64 |  |  |  |
| FLOW TUBING PRESSURE | 275 psi (pumping) |  |  |  |

A record of the formations drifled through, and pertinent remarks are presented on the reverse. I declare that I have knowledge of the contents of this report and am authorized by my organization to make this report, which was grepared by me gr under my supervision and direction, with the data and facts stated herein to be true, correct, and complete to the best of my knowledge and belief.




If more than three drainholes are proposed, attach a separate sheet indicating the necessary information.

Direction must be stated in degrees azimuth.
Flease note, the horizontal drainhole and its end point must be located within the boundaries of the lease or spacing unit

Directional surveys are required for all drainholes and directional wells.


## BOTTOM HOLE LOCATION FOR DIRECTIONAL HOLE



BOTTOM HOLE LOCATION FOR HORIZONTAL HOLE: (LATERALS)

| SEC 12 | TWP | 21N | RGE | 03W |  | COUNTY | Garfield |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{gathered} \text { Spot Locati } \\ \hline \end{gathered}$ | $1 / 4$ | SW | 1/4 | SE | 1/4 | SE | 1/4 | Feet From | c Lines | FSL | 292 | FEL | 663 |
| $\begin{aligned} & \text { Depth of } \\ & \text { Deviation } \end{aligned}$ | KOP @ 4,427 MD |  |  | Radius of Turn |  | 851 |  | Direction | 175 | Total Length | 3,884 |  |  |
| 9,488 |  |  |  | 5,128 @ TMD |  |  |  | BHL From Lease, Unit, or Property Line: |  |  |  |  |  |

## LATERAL *2



LATERAL\#3

| SEC TWP | RGE |  | COUNTY |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Spot Location | $1 / 4$ | $1 / 4$ | 1/4 | Feet From $1 / 4 \mathrm{Sec}$ Lines | FSL | FWL |
| $\begin{aligned} & \text { Depth of } \\ & \text { Deviation } \\ & \hline \end{aligned}$ |  | Radius of Turn |  | Direction | Total Length |  |
| Measured Total Depth |  | True Vertical Depth |  | BHL From Lease, Unit, or Property Line: |  |  |

TOPOGRAPHIC LAND SURVEYORS OF OKLAHOMA


Topography \& Vegetation Loc. fell in rolling pasture

Good Drill Site? $\qquad$
Reference Stakes or Alternate Location Stakes Set None

Best Accessibility to Location From North off county road
Distance \& Direction from Hwy Jct or Town $\qquad$ From Covington, OK, go 6 mi . East, then 1 mi . North to the NW Cor. of Sec. 12-T21N-R3W.



RTACNNN JUN 072013 OKLAHOMA CORPORATION 1c16Ez COMMISSION

TYPE OF DRILLING OPERATION


STRAIGHT HOLE $\square$ DIRECTIONAL HOLE SERVICE WELL
If directional or horizontai, see reverse for bottom hole location

| COUNTY | Garfield |  |  | SEC | 12 | TWP 21N | RGE | 03W |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LEASE NAME | Tomcat |  |  |  |  |  | $\begin{aligned} & \text { WELL } \\ & \text { NO. } \end{aligned}$ | 1-12H |
| NW $1 / 4$ | NW 1/4 | NE 1/4 | NE |  | $\begin{aligned} & \mathrm{FNL} \text { OF } \\ & 4 / 4 \mathrm{SEC} \end{aligned}$ | 250 | $\begin{aligned} & \text { FEL OF } \\ & 1 / 4 \mathrm{SEC} \end{aligned}$ | 1,110 |
| ELEVATIO N Derrick | 1,155 | Ground | 1,137 |  | Latitude | (if known) | 36.317 | 7509 N |



| NAME | Limestone-Explaration If,tele |  | RATOR No. | $\underline{23066}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| ADDRESS | P.O. Box 10280 |  |  |  | 20.75 |
| CITY | Midland | STATE | TX | ZIP | 79702-7280 |

## COMPLETION TYPE

COMPLETION TYPE

| X | SINGLE ZONE | Mississippian |
| :--- | :--- | :--- |
|  | MULTIPLE ZONE <br> Application Date |  |
|  | COMMINGLED <br> Application Date |  |
| LOCATION <br> EXCEPTION ORDER | 609545 Final |  |
| INCREASED DENSITY <br> ORDER NO. |  |  |

## PACKER ©

$\qquad$ BRAND \& TYPE $\qquad$ CASING \& CEMENT (Form 1002C must be attached)

PACKER @ $\qquad$ BRAND \& TYPE $\qquad$

| TYPE | SIZE |
| :--- | :---: |
| CONDUCTOR | $20^{\prime \prime}$ |
| SURFACE | $95 / 8^{\prime \prime}$ |
| INTERMEDIATE | $\mathbf{C l}^{\prime \prime}$ |
| PRODUCTION |  |
| LINER | $41 / 2^{\prime \prime}$ |

PLUG @


| WEIGHT | G |
| :---: | :---: |
| $94 \mathrm{lb} / \mathrm{ft}$ | H |
| $36 \mathrm{lb} / \mathrm{ft}$ | J |
| $26 \mathrm{lb} / \mathrm{ft}$ | P |
|  |  |
| $11.6 \mathrm{lb} / \mathrm{ft}$ | P | PLUG 0


| FORMATION | Mississippian | - |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| SPACING \& SPACING ORDER NUMBER | 640 ac - 604242 |  |  |  |  |
| CLASS: Oil, Gas, Dry, Inj, Disp, Comm Disp, Sve | Gas |  |  |  |  |
|  | OH pkr/frac port system |  |  |  |  |
| PERFORATED <br> INTERVALS | 5,423-9,488 MD |  |  |  |  |
|  | 15 frac ports |  |  |  |  |
| ACIDNOLUME | 1,548 bbl 15\% HCl |  |  |  |  |
|  | 64,516 bbls slick wtr |  |  |  |  |
| FRACTURE TREATMENT <br> (Fluids/Prop Amounts) | 1,267,900 lb 20/40 sd |  |  |  |  |
|  |  |  |  |  |  |



\footnotetext{
A record of the formations drilled through, and pertinent remarks are presented on the reverse. I declare that I have knowledge of the contents of this report and am authorized by my organization to make this repoff, which was grepared by me grunder my supervision and direction, with the data and facts stated herein to be true, correct, and complete to the best of my knowledge and belief.



[^0]:    Other Remarks
    MOST HEEL-WARD OPEN HOLE PACKER @ 5,474 MD. MOST TOE-WARD OPEN HOLE PACKER @ 8,358 MD (UNABLE TO SET DEEPER DUE TO RESTRICTION IN OPEN HOLE). FRAC PORTS AT THE FOLLOWING MEASURED DEPTHS: 5,562', 5,738', 5,913', 6,089', 6,265', 6,441', 6,616', 6,835', 7,053', $7,271^{\prime}$ ', $7,489^{\prime}, 7,707 ', 7,967 '$ ' $8,228^{\prime}$, $9,058^{\prime}$. THERE IS A "TANGENT" SECTION IN THE WELLBORE FROM 4,975' TO 5,069' MD AT AN APPROXIMATE INCLINATION OF 48 DEGREES. OCC - THIS WELL IS AN OPEN HOLE COMPLETION FROM BOTTOM OF 7" CASING AT 5,404' TO TERMINUS AT 9,488'. IRREGULAR SECTION.

