

# **Bass Enterprises Production Co.**

**Eddy Co., New Mexico (Nad 83)**

**Big Eddy #153**

**Big Eddy #153**

**Lateral #1**

**Survey: MWD Final Survey**

## **Standard Survey Report**

**19 June, 2006**

# Black Viper Energy

## Survey Report

|                                          |                              |                                    |
|------------------------------------------|------------------------------|------------------------------------|
| Company: Bass Enterprises Production Co. | Local Co-ordinate Reference: | Well Big Eddy #153                 |
| Project: Eddy Co., New Mexico (Nad 83)   | TVD Reference:               | WELL @ 0.00ft (Original Well Elev) |
| Site: Big Eddy #153                      | MD Reference:                | WELL @ 0.00ft (Original Well Elev) |
| Well: Big Eddy #153                      | North Reference:             | Grid                               |
| Wellbore: Lateral #1                     | Survey Calculation Method:   | Minimum Curvature                  |
| Design: Lateral #1                       | Database:                    | EDM 2003.14.1.0 Server DB          |

|                                               |                      |              |
|-----------------------------------------------|----------------------|--------------|
| <b>Project:</b> Eddy Co., New Mexico (Nad 83) |                      |              |
| <b>Map System:</b> US State Plane 1983        | <b>System Datum:</b> | Ground Level |
| <b>Geo Datum:</b> North American Datum 1983   |                      |              |
| <b>Map Zone:</b> New Mexico Eastern Zone      |                      |              |

|                                      |                                |                          |                  |
|--------------------------------------|--------------------------------|--------------------------|------------------|
| <b>Site:</b> Big Eddy #153           |                                |                          |                  |
| <b>Site Position:</b>                | <b>Northing:</b> 531,044.15 ft | <b>Latitude:</b>         | 32° 27' 34.100 N |
| <b>From:</b> Map                     | <b>Easting:</b> 642,744.18 ft  | <b>Longitude:</b>        | 104° 0' 16.406 W |
| <b>Position Uncertainty:</b> 0.00 ft | <b>Slot Radius:</b> "          | <b>Grid Convergence:</b> | 0.18 °           |

|                                      |                                |                      |                  |
|--------------------------------------|--------------------------------|----------------------|------------------|
| <b>Well:</b> Big Eddy #153           |                                |                      |                  |
| <b>Well Position</b>                 | <b>Northing:</b> 531,044.15 ft | <b>Latitude:</b>     | 32° 27' 34.100 N |
| <b>From:</b> N 0.00 ft               | <b>Easting:</b> 642,744.18 ft  | <b>Longitude:</b>    | 104° 0' 16.406 W |
| <b>Position Uncertainty:</b> 0.00 ft | <b>Wellhead Elevation:</b> ft  | <b>Ground Level:</b> | 0.00 ft          |

|                             |                   |                    |                    |                            |
|-----------------------------|-------------------|--------------------|--------------------|----------------------------|
| <b>Wellbore:</b> Lateral #1 |                   |                    |                    |                            |
| <b>Magnetics</b>            | <b>Model Name</b> | <b>Sample Date</b> | <b>Declination</b> | <b>Dip</b>                 |
|                             | IGRF200510        | 6/7/2005           | 8.51               | 60.48                      |
|                             |                   |                    |                    | <b>Field Strength (nT)</b> |
|                             |                   |                    |                    | 49,351                     |

|                           |                         |             |           |                  |
|---------------------------|-------------------------|-------------|-----------|------------------|
| <b>Design:</b> Lateral #1 |                         |             |           |                  |
| <b>Version:</b> 1.0       | <b>Phase:</b> ACTUAL    | <b>Tile</b> | 14,214.00 |                  |
| <b>Vertical Section:</b>  | <b>Depth From (TVD)</b> | <b>N</b>    | <b>E</b>  | <b>Direction</b> |
|                           | (ft)                    | (ft)        | (ft)      | (°)              |
|                           | 0.00                    | 0.00        | 0.00      | 37.80            |

|                                       |                |                                |                  |                    |
|---------------------------------------|----------------|--------------------------------|------------------|--------------------|
| <b>Survey Program</b> Date: 6/19/2006 |                |                                |                  |                    |
| <b>From (ft)</b>                      | <b>To (ft)</b> | <b>Survey (Wellbore)</b>       | <b>Tool Name</b> | <b>Description</b> |
| 30.00                                 | 13,052.00      | Gyro Survey #2 (Side-Track #1) | GM               | Gyro Multi-Shot    |
| 14,214.00                             | 14,702.00      | MWD Survey #2 (Lateral #1)     | MWD              | Standard MWD       |

|                            |       |        |                            |          |          |                              |                    |                   |                  |
|----------------------------|-------|--------|----------------------------|----------|----------|------------------------------|--------------------|-------------------|------------------|
| <b>Survey</b>              |       |        |                            |          |          |                              |                    |                   |                  |
| <b>Measured Depth (ft)</b> |       |        | <b>Vertical Depth (ft)</b> | <b>N</b> | <b>E</b> | <b>Vertical Section (ft)</b> | <b>Dogleg Rate</b> | <b>Build Rate</b> | <b>Turn Rate</b> |
|                            | (ft)  | (ft)   | (ft)                       | (ft)     | (ft)     | (ft)                         | (°/100ft)          | (°/100ft)         | (°/100ft)        |
| 12,240.00                  | 1.50  | 301.93 | 12,236.45                  | 20.29    | -105.52  | -48.64                       | 0.00               | 0.00              | 0.00             |
| 12,315.00                  | 17.60 | 45.20  | 12,310.29                  | 28.87    | -98.25   | -37.41                       | 24.00              | 21.47             | 137.69           |
| 12,338.00                  | 22.60 | 57.10  | 12,331.89                  | 33.73    | -92.06   | -29.78                       | 27.98              | 21.74             | 51.74            |
| 12,371.00                  | 28.40 | 59.20  | 12,361.66                  | 41.19    | -79.99   | -16.47                       | 17.79              | 17.58             | 6.36             |
| 12,401.00                  | 35.90 | 58.10  | 12,387.05                  | 49.51    | -66.37   | -1.56                        | 25.08              | 25.00             | -3.67            |
| 12,431.00                  | 44.40 | 52.50  | 12,409.96                  | 60.57    | -50.55   | 16.88                        | 30.76              | 28.33             | -18.67           |
| 12,468.00                  | 55.30 | 49.90  | 12,433.79                  | 78.30    | -28.57   | 44.36                        | 29.94              | 29.46             | -7.03            |
| 12,514.00                  | 74.00 | 47.00  | 12,453.40                  | 105.81   | 2.34     | 85.04                        | 41.04              | 40.65             | -6.30            |
| 12,559.00                  | 82.80 | 44.40  | 12,462.44                  | 136.57   | 33.84    | 128.66                       | 20.36              | 19.56             | -5.78            |
| 12,578.00                  | 86.60 | 43.30  | 12,464.19                  | 150.21   | 46.95    | 147.47                       | 20.81              | 20.00             | -5.79            |
| 12,611.00                  | 90.40 | 42.30  | 12,465.06                  | 174.41   | 69.36    | 180.32                       | 11.91              | 11.52             | -3.03            |
| 12,643.00                  | 90.20 | 41.90  | 12,464.89                  | 198.16   | 90.81    | 212.23                       | 1.40               | -0.63             | -1.25            |

# Black Viper Energy

## Survey Report

|           |                                 |                              |                                    |
|-----------|---------------------------------|------------------------------|------------------------------------|
| Company:  | Bass Enterprises Production Co. | Local Co-ordinate Reference: | Well Big Eddy #153                 |
| Project:  | Eddy Co., New Mexico (Nad 83)   | TVD Reference:               | WELL @ 0.00ft (Original Well Elev) |
| Site:     | Big Eddy #153                   | MD Reference:                | WELL @ 0.00ft (Original Well Elev) |
| Well:     | Big Eddy #153                   | North Reference:             | Grid                               |
| Wellbore: | Lateral #1                      | Survey Calculation Method:   | Minimum Curvature                  |
| Design:   | Lateral #1                      | Database:                    | EDM 2003.14.1.0 Server DB          |

| Survey | Measured<br>Depth<br>(ft) |       |       | Vertical<br>Depth<br>(ft) | N<br>(ft) | E<br>(ft) | Vertical<br>Section<br>(ft) | Diplog<br>Rate<br>(°) | Bore<br>Rate<br>(°) | Turn<br>Rate<br>(°) |
|--------|---------------------------|-------|-------|---------------------------|-----------|-----------|-----------------------------|-----------------------|---------------------|---------------------|
|        | 12,674.00                 | 88.70 | 42.20 | 12,465.19                 | 221.17    | 111.57    | 243.15                      | 4.93                  | -4.84               | 0.97                |
|        | 12,709.00                 | 86.50 | 40.30 | 12,466.65                 | 247.46    | 134.63    | 278.05                      | 8.30                  | -6.29               | -5.43               |
|        | 12,738.00                 | 85.90 | 38.70 | 12,468.58                 | 269.79    | 153.03    | 306.97                      | 5.88                  | -2.07               | -5.52               |
|        | 12,770.00                 | 86.90 | 38.00 | 12,470.59                 | 294.84    | 172.85    | 338.90                      | 3.81                  | 3.13                | -2.19               |
|        | 12,802.00                 | 88.10 | 37.20 | 12,471.98                 | 320.16    | 192.35    | 370.87                      | 4.51                  | 3.75                | -2.50               |
|        | 12,834.00                 | 89.00 | 38.30 | 12,472.79                 | 345.46    | 211.94    | 402.86                      | 4.44                  | 2.81                | 3.44                |
|        | 12,865.00                 | 89.40 | 38.30 | 12,473.22                 | 369.78    | 231.15    | 433.86                      | 1.29                  | 1.29                | 0.00                |
|        | 12,897.00                 | 87.10 | 37.10 | 12,474.20                 | 395.09    | 250.71    | 465.84                      | 8.11                  | -7.19               | -3.75               |
|        | 12,930.00                 | 84.90 | 36.40 | 12,476.50                 | 421.46    | 270.40    | 498.75                      | 6.99                  | -6.67               | -2.12               |
|        | 12,962.00                 | 83.30 | 35.70 | 12,479.79                 | 447.20    | 289.13    | 530.57                      | 5.45                  | -5.00               | -2.19               |
|        | 12,994.00                 | 84.30 | 36.90 | 12,483.25                 | 472.83    | 307.97    | 562.37                      | 4.86                  | 3.13                | 3.75                |
|        | 13,026.00                 | 85.60 | 38.10 | 12,486.06                 | 498.12    | 327.37    | 594.24                      | 5.52                  | 4.06                | 3.75                |
|        | 13,058.00                 | 86.30 | 38.90 | 12,488.32                 | 523.10    | 347.24    | 626.16                      | 3.32                  | 2.19                | 2.50                |
|        | 13,092.00                 | 85.40 | 39.10 | 12,490.79                 | 549.46    | 368.58    | 660.06                      | 2.71                  | -2.65               | 0.59                |
|        | 13,124.00                 | 85.30 | 39.10 | 12,493.38                 | 574.21    | 388.70    | 691.95                      | 0.31                  | -0.31               | 0.00                |
|        | 13,154.00                 | 87.10 | 40.40 | 12,495.37                 | 597.22    | 407.84    | 721.86                      | 7.40                  | 6.00                | 4.33                |
|        | 13,186.00                 | 87.80 | 40.20 | 12,496.79                 | 621.60    | 428.51    | 753.80                      | 2.27                  | 2.19                | -0.63               |
|        | 13,208.00                 | 87.30 | 40.50 | 12,497.73                 | 638.35    | 442.74    | 775.76                      | 2.65                  | -2.27               | 1.36                |
|        | 13,252.00                 | 87.50 | 41.20 | 12,499.73                 | 671.60    | 471.49    | 819.65                      | 1.65                  | 0.45                | 1.59                |
|        | 13,283.00                 | 87.60 | 41.60 | 12,501.05                 | 694.83    | 491.98    | 850.56                      | 1.33                  | 0.32                | 1.29                |
|        | 13,316.00                 | 88.00 | 41.90 | 12,502.32                 | 719.43    | 513.93    | 883.46                      | 1.51                  | 1.21                | 0.91                |
|        | 13,348.00                 | 87.70 | 41.90 | 12,503.52                 | 743.24    | 535.29    | 915.35                      | 0.94                  | -0.94               | 0.00                |
|        | 13,378.00                 | 88.20 | 43.30 | 12,504.59                 | 765.30    | 555.58    | 945.23                      | 4.95                  | 1.67                | 4.67                |
|        | 13,414.00                 | 88.40 | 42.90 | 12,505.66                 | 791.58    | 580.17    | 981.06                      | 1.24                  | 0.56                | -1.11               |
|        | 13,443.00                 | 87.50 | 42.50 | 12,506.70                 | 812.88    | 599.82    | 1,009.93                    | 3.40                  | -3.10               | -1.38               |
|        | 13,474.00                 | 88.00 | 41.90 | 12,507.92                 | 835.82    | 620.63    | 1,040.82                    | 2.52                  | 1.61                | -1.94               |
|        | 13,508.00                 | 88.20 | 42.30 | 12,509.04                 | 861.04    | 643.41    | 1,074.70                    | 1.31                  | 0.59                | 1.18                |
|        | 13,540.00                 | 87.20 | 39.30 | 12,510.33                 | 885.24    | 664.30    | 1,106.63                    | 9.87                  | -3.13               | -9.38               |
|        | 13,572.00                 | 87.30 | 39.30 | 12,511.86                 | 909.97    | 684.55    | 1,138.58                    | 0.31                  | 0.31                | 0.00                |
|        | 13,604.00                 | 88.00 | 39.00 | 12,513.18                 | 934.77    | 704.73    | 1,170.55                    | 2.38                  | 2.19                | -0.94               |
|        | 13,637.00                 | 88.40 | 39.50 | 12,514.21                 | 960.31    | 725.60    | 1,203.52                    | 1.94                  | 1.21                | 1.52                |
|        | 13,669.00                 | 88.70 | 40.30 | 12,515.02                 | 984.85    | 746.12    | 1,235.49                    | 2.67                  | 0.94                | 2.50                |
|        | 13,701.00                 | 89.00 | 40.00 | 12,515.66                 | 1,009.31  | 766.75    | 1,267.45                    | 1.33                  | 0.94                | -0.94               |
|        | 13,733.00                 | 90.00 | 41.30 | 12,515.94                 | 1,033.58  | 787.59    | 1,299.41                    | 5.13                  | 3.13                | 4.06                |
|        | 13,765.00                 | 90.70 | 41.00 | 12,515.75                 | 1,057.68  | 808.65    | 1,331.36                    | 2.38                  | 2.19                | -0.94               |
|        | 13,796.00                 | 90.70 | 42.00 | 12,515.37                 | 1,080.89  | 829.19    | 1,362.29                    | 3.23                  | 0.00                | 3.23                |
|        | 13,836.00                 | 90.80 | 41.90 | 12,514.85                 | 1,110.64  | 855.93    | 1,402.18                    | 0.35                  | 0.25                | -0.25               |
|        | 13,861.00                 | 91.00 | 41.10 | 12,514.45                 | 1,129.36  | 872.49    | 1,427.13                    | 3.30                  | 0.80                | -3.20               |
|        | 13,892.00                 | 90.10 | 40.40 | 12,514.15                 | 1,152.84  | 892.73    | 1,458.08                    | 3.68                  | -2.90               | -2.26               |
|        | 13,924.00                 | 90.40 | 40.50 | 12,514.02                 | 1,177.19  | 913.49    | 1,490.05                    | 0.99                  | 0.94                | 0.31                |
|        | 13,957.00                 | 90.90 | 40.50 | 12,513.64                 | 1,202.29  | 934.92    | 1,523.01                    | 1.52                  | 1.52                | 0.00                |
|        | 13,989.00                 | 89.50 | 40.00 | 12,513.53                 | 1,226.71  | 955.59    | 1,554.98                    | 4.65                  | -4.38               | -1.56               |
|        | 14,021.00                 | 86.80 | 39.60 | 12,514.56                 | 1,251.28  | 976.06    | 1,586.94                    | 8.53                  | -8.44               | -1.25               |
|        | 14,054.00                 | 87.30 | 39.70 | 12,516.26                 | 1,276.65  | 997.09    | 1,619.88                    | 1.55                  | 1.52                | 0.30                |
|        | 14,086.00                 | 89.60 | 38.80 | 12,517.13                 | 1,301.42  | 1,017.33  | 1,651.85                    | 7.72                  | 7.19                | -2.81               |
|        | 14,149.00                 | 84.10 | 37.50 | 12,520.59                 | 1,350.87  | 1,056.17  | 1,714.73                    | 8.97                  | -8.73               | -2.06               |
|        | 14,181.00                 | 84.60 | 38.00 | 12,523.74                 | 1,376.05  | 1,075.67  | 1,746.58                    | 2.20                  | 1.56                | 1.56                |
|        | 14,214.00                 | 84.10 | 38.30 | 12,526.99                 | 1,401.87  | 1,095.95  | 1,779.42                    | 1.76                  | -1.52               | 0.91                |
|        | 14,248.00                 | 84.90 | 39.00 | 12,530.24                 | 1,428.30  | 1,117.09  | 1,813.26                    | 3.12                  | 2.35                | 2.06                |
|        | 14,280.00                 | 84.00 | 38.50 | 12,533.34                 | 1,453.14  | 1,137.03  | 1,845.10                    | 3.21                  | -2.81               | -1.56               |
|        | 14,312.00                 | 84.90 | 38.50 | 12,536.43                 | 1,478.07  | 1,156.85  | 1,876.95                    | 2.81                  | 2.81                | 0.00                |
|        | 14,342.00                 | 84.50 | 39.10 | 12,539.21                 | 1,501.35  | 1,175.67  | 1,906.81                    | 2.40                  | -1.33               | 2.00                |
|        | 14,376.00                 | 85.50 | 37.40 | 12,542.17                 | 1,527.95  | 1,196.54  | 1,940.68                    | 5.78                  | 2.94                | -5.00               |
|        | 14,408.00                 | 85.20 | 37.30 | 12,544.76                 | 1,553.30  | 1,215.89  | 1,972.58                    | 0.99                  | -0.94               | -0.31               |

# Black Viper Energy

## Survey Report

|           |                                 |                             |                                    |
|-----------|---------------------------------|-----------------------------|------------------------------------|
| Company:  | Bass Enterprises Production Co. | Local Coordinate Reference: | Well Big Eddy #153                 |
| Project:  | Eddy Co., New Mexico (Nad 83)   | TVD Reference:              | WELL @ 0.00ft (Original Well Elev) |
| Site:     | Big Eddy #153                   | MD Reference:               | WELL @ 0.00ft (Original Well Elev) |
| Well:     | Big Eddy #153                   | North Reference:            | Grid                               |
| Wellbore: | Lateral #1                      | Survey Calculation Method:  | Minimum Curvature                  |
| Design:   | Lateral #1                      | Database:                   | EDM 2003.14.1.0 Server DB          |

| Survey              |       |       |                     |          |          |                       |                 |                 |                |  |
|---------------------|-------|-------|---------------------|----------|----------|-----------------------|-----------------|-----------------|----------------|--|
| Measured Depth (ft) |       |       | Vertical Depth (ft) | N (ft)   | E (ft)   | Vertical Section (ft) | Depth Rate (ft) | Build Rate (ft) | Turn Rate (ft) |  |
| 14,440.00           | 85.20 | 35.20 | 12,547.44           | 1,579.02 | 1,234.74 | 2,004.45              | 6.54            | 0.00            | -6.56          |  |
| 14,471.00           | 88.40 | 36.90 | 12,549.17           | 1,604.04 | 1,252.96 | 2,035.38              | 11.68           | 10.32           | 5.48           |  |
| 14,505.00           | 88.60 | 36.70 | 12,550.06           | 1,631.25 | 1,273.32 | 2,069.37              | 0.83            | 0.59            | -0.59          |  |
| 14,537.00           | 89.50 | 35.80 | 12,550.59           | 1,657.05 | 1,292.23 | 2,101.35              | 3.98            | 2.81            | -2.81          |  |
| 14,569.00           | 90.20 | 37.60 | 12,550.68           | 1,682.71 | 1,311.36 | 2,133.34              | 6.04            | 2.19            | 5.63           |  |
| 14,602.00           | 87.70 | 35.40 | 12,551.28           | 1,709.23 | 1,330.98 | 2,166.32              | 10.09           | -7.58           | -6.67          |  |
| 14,634.00           | 87.80 | 38.20 | 12,552.54           | 1,734.83 | 1,350.13 | 2,198.29              | 8.75            | 0.31            | 8.75           |  |
| 14,702.00           | 87.80 | 38.20 | 12,555.15           | 1,788.23 | 1,392.15 | 2,266.24              | 0.00            | 0.00            | 0.00           |  |

| Targets                                                                            |      |        |           |           |            |            |            |                  |                   |  |
|------------------------------------------------------------------------------------|------|--------|-----------|-----------|------------|------------|------------|------------------|-------------------|--|
| Target Name                                                                        | DB   | DB Dlt | TVD       | N         | E          | Northing   | Easting    | Latitude         | Longitude         |  |
| Shape                                                                              | (ft) | (ft)   | (ft)      | (ft)      | (ft)       | (ft)       | (ft)       | (ft)             |                   |  |
| PBHL #4 [BE#153]                                                                   | 0.00 | 359.91 | 12,580.00 | 1,935.66  | 1,501.45   | 532,979.81 | 644,245.63 | 32° 27' 53.208 N | 103° 59' 58.811 W |  |
| - survey misses by 185.20ft at 14702.00ft MD (12555.15 TVD, 1788.23 N, 1392.15 E)  |      |        |           |           |            |            |            |                  |                   |  |
| - Point                                                                            |      |        |           |           |            |            |            |                  |                   |  |
| L#2 [BE#153]                                                                       | 0.00 | 0.00   | 12,000.00 | 4,599.86  | 1,931.14   | 535,644.01 | 644,675.32 | 32° 28' 18.559 N | 103° 59' 53.698 W |  |
| - survey misses by 2916.16ft at 14702.00ft MD (12555.15 TVD, 1788.23 N, 1392.15 E) |      |        |           |           |            |            |            |                  |                   |  |
| - Point                                                                            |      |        |           |           |            |            |            |                  |                   |  |
| PBHL [BE#153]                                                                      | 0.00 | 359.91 | 12,738.00 | 16,349.11 | -50,477.17 | 547,393.26 | 592,267.01 | 32° 30' 17.040 N | 104° 10' 5.271 W  |  |
| - survey misses by 52954.56ft at 12240.00ft MD (12236.45 TVD, 20.29 N, -105.52 E)  |      |        |           |           |            |            |            |                  |                   |  |
| - Point                                                                            |      |        |           |           |            |            |            |                  |                   |  |
| L#4 [BE#153]                                                                       | 0.00 | 0.00   | 12,000.00 | -664.90   | -3,307.54  | 530,379.25 | 639,436.63 | 32° 27' 27.620 N | 104° 0' 55.034 W  |  |
| - survey misses by 3283.04ft at 12240.00ft MD (12236.45 TVD, 20.29 N, -105.52 E)   |      |        |           |           |            |            |            |                  |                   |  |
| - Point                                                                            |      |        |           |           |            |            |            |                  |                   |  |
| L#3 [BE#153]                                                                       | 0.00 | 0.00   | 12,000.00 | -656.74   | 1,981.33   | 530,387.41 | 644,725.50 | 32° 27' 27.540 N | 103° 59' 53.305 W |  |
| - survey misses by 2071.75ft at 13195.88ft MD (12497.19 TVD, 629.13 N, 434.89 E)   |      |        |           |           |            |            |            |                  |                   |  |
| - Point                                                                            |      |        |           |           |            |            |            |                  |                   |  |
| PBHL #2 [BE#153]                                                                   | 0.00 | 359.82 | 12,664.00 | 1,727.31  | 1,318.13   | 532,771.46 | 644,062.31 | 32° 27' 51.152 N | 104° 0' 0.958 W   |  |
| - survey misses by 114.29ft at 14613.21ft MD (12551.73 TVD, 1718.30 N, 1337.54 E)  |      |        |           |           |            |            |            |                  |                   |  |
| - Point                                                                            |      |        |           |           |            |            |            |                  |                   |  |
| L#1 [BE#153]                                                                       | 0.00 | 0.00   | 12,000.00 | 4,591.71  | -3,357.73  | 535,635.86 | 639,386.45 | 32° 28' 19.638 N | 104° 0' 55.437 W  |  |
| - survey misses by 5487.23ft at 13727.64ft MD (12515.94 TVD, 1029.55 N, 784.06 E)  |      |        |           |           |            |            |            |                  |                   |  |
| - Point                                                                            |      |        |           |           |            |            |            |                  |                   |  |
| PBHL #3 [BE#153]                                                                   | 0.00 | 359.91 | 12,580.00 | 20,439.96 | -47,356.75 | 551,484.11 | 595,387.43 | 32° 30' 57.472 N | 104° 9' 28.753 W  |  |
| - survey misses by 51475.82ft at 12240.00ft MD (12236.45 TVD, 20.29 N, -105.52 E)  |      |        |           |           |            |            |            |                  |                   |  |
| - Point                                                                            |      |        |           |           |            |            |            |                  |                   |  |

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_

Bass Enterprises Production Co.  
Big Eddy #153 - MWD Final Survey

Eddy Co., New Mexico (Nad 83)  
Big Eddy #153

| Measured<br>Depth<br>(ft) | Incl.  | Azim.   | Vertical<br>Depth<br>(ft) | Northings<br>(ft) | Eastings<br>(ft) | Vertical<br>Section<br>(ft) | Dogleg<br>Rate<br>(°/100ft) |
|---------------------------|--------|---------|---------------------------|-------------------|------------------|-----------------------------|-----------------------------|
| 12240.00                  | 1.500  | 301.930 | 12236.45                  | 20.29 N           | 105.52 W         | -48.64                      | 0.00                        |
| 12315.00                  | 17.600 | 45.200  | 12310.29                  | 28.87 N           | 98.25 W          | -37.41                      | 24.00                       |
| 12338.00                  | 22.600 | 57.100  | 12331.89                  | 33.73 N           | 92.06 W          | -29.78                      | 27.98                       |
| 12371.00                  | 28.400 | 59.200  | 12361.66                  | 41.19 N           | 79.99 W          | -16.47                      | 17.79                       |
| 12401.00                  | 35.900 | 58.100  | 12387.05                  | 49.51 N           | 66.37 W          | -1.56                       | 25.08                       |
| 12431.00                  | 44.400 | 52.500  | 12409.96                  | 60.57 N           | 50.55 W          | 16.88                       | 30.76                       |
| 12468.00                  | 55.300 | 49.900  | 12433.79                  | 78.30 N           | 28.57 W          | 44.36                       | 29.94                       |
| 12514.00                  | 74.000 | 47.000  | 12453.40                  | 105.81 N          | 2.34 E           | 85.04                       | 41.04                       |
| 12559.00                  | 82.800 | 44.400  | 12462.44                  | 136.57 N          | 33.84 E          | 128.66                      | 20.36                       |
| 12578.00                  | 86.600 | 43.300  | 12464.19                  | 150.21 N          | 46.95 E          | 147.47                      | 20.81                       |
| 12611.00                  | 90.400 | 42.300  | 12465.06                  | 174.41 N          | 69.36 E          | 180.32                      | 11.91                       |
| 12643.00                  | 90.200 | 41.900  | 12464.89                  | 198.16 N          | 90.81 E          | 212.23                      | 1.40                        |
| 12674.00                  | 88.700 | 42.200  | 12465.19                  | 221.17 N          | 111.57 E         | 243.15                      | 4.93                        |
| 12709.00                  | 86.500 | 40.300  | 12466.65                  | 247.46 N          | 134.63 E         | 278.05                      | 8.30                        |
| 12738.00                  | 85.900 | 38.700  | 12468.58                  | 269.79 N          | 153.03 E         | 306.97                      | 5.88                        |
| 12770.00                  | 86.900 | 38.000  | 12470.59                  | 294.84 N          | 172.85 E         | 338.90                      | 3.81                        |
| 12802.00                  | 88.100 | 37.200  | 12471.98                  | 320.16 N          | 192.35 E         | 370.87                      | 4.51                        |
| 12834.00                  | 89.000 | 38.300  | 12472.79                  | 345.46 N          | 211.94 E         | 402.86                      | 4.44                        |
| 12865.00                  | 89.400 | 38.300  | 12473.22                  | 369.78 N          | 231.15 E         | 433.86                      | 1.29                        |
| 12897.00                  | 87.100 | 37.100  | 12474.20                  | 395.09 N          | 250.71 E         | 465.84                      | 8.11                        |
| 12930.00                  | 84.900 | 36.400  | 12476.50                  | 421.46 N          | 270.40 E         | 498.75                      | 6.99                        |
| 12962.00                  | 83.300 | 35.700  | 12479.79                  | 447.20 N          | 289.13 E         | 530.57                      | 5.45                        |
| 12994.00                  | 84.300 | 36.900  | 12483.25                  | 472.83 N          | 307.97 E         | 562.37                      | 4.86                        |
| 13026.00                  | 85.600 | 38.100  | 12486.06                  | 498.12 N          | 327.37 E         | 594.24                      | 5.52                        |
| 13058.00                  | 86.300 | 38.900  | 12488.32                  | 523.10 N          | 347.24 E         | 626.16                      | 3.32                        |
| 13092.00                  | 85.400 | 39.100  | 12490.79                  | 549.46 N          | 368.58 E         | 660.06                      | 2.71                        |
| 13124.00                  | 85.300 | 39.100  | 12493.38                  | 574.21 N          | 388.70 E         | 691.95                      | 0.31                        |
| 13154.00                  | 87.100 | 40.400  | 12495.37                  | 597.22 N          | 407.84 E         | 721.86                      | 7.40                        |
| 13186.00                  | 87.800 | 40.200  | 12496.79                  | 621.60 N          | 428.51 E         | 753.80                      | 2.27                        |
| 13208.00                  | 87.300 | 40.500  | 12497.73                  | 638.35 N          | 442.74 E         | 775.76                      | 2.65                        |
| 13252.00                  | 87.500 | 41.200  | 12499.73                  | 671.60 N          | 471.49 E         | 819.65                      | 1.65                        |
| 13283.00                  | 87.600 | 41.600  | 12501.05                  | 694.83 N          | 491.98 E         | 850.56                      | 1.33                        |
| 13316.00                  | 88.000 | 41.900  | 12502.32                  | 719.43 N          | 513.93 E         | 883.46                      | 1.51                        |
| 13348.00                  | 87.700 | 41.900  | 12503.52                  | 743.24 N          | 535.29 E         | 915.35                      | 0.94                        |
| 13378.00                  | 88.200 | 43.300  | 12504.59                  | 765.30 N          | 555.58 E         | 945.23                      | 4.95                        |
| 13414.00                  | 88.400 | 42.900  | 12505.66                  | 791.58 N          | 580.17 E         | 981.06                      | 1.24                        |
| 13443.00                  | 87.500 | 42.500  | 12506.70                  | 812.88 N          | 599.82 E         | 1009.93                     | 3.40                        |
| 13474.00                  | 88.000 | 41.900  | 12507.92                  | 835.82 N          | 620.63 E         | 1040.82                     | 2.52                        |
| 13508.00                  | 88.200 | 42.300  | 12509.04                  | 861.04 N          | 643.41 E         | 1074.70                     | 1.31                        |
| 13540.00                  | 87.200 | 39.300  | 12510.33                  | 885.24 N          | 664.30 E         | 1106.63                     | 9.87                        |
| 13572.00                  | 87.300 | 39.300  | 12511.86                  | 909.97 N          | 684.55 E         | 1138.58                     | 0.31                        |
| 13604.00                  | 88.000 | 39.000  | 12513.18                  | 934.77 N          | 704.73 E         | 1170.55                     | 2.38                        |

|          | Big Eddy #153 | Plan      | #7 Final  | Report 6-19-06 |
|----------|---------------|-----------|-----------|----------------|
| 13637.00 | 12514.21      | 960.31 N  | 725.60 E  | 1.94           |
| 13669.00 | 12515.02      | 984.85 N  | 746.12 E  | 2.67           |
| 13701.00 | 12515.66      | 1009.31 N | 766.75 E  | 1.33           |
| 13733.00 | 12515.94      | 1033.58 N | 787.59 E  | 5.13           |
| 13765.00 | 12515.75      | 1057.68 N | 808.65 E  | 2.38           |
| 13796.00 | 12515.37      | 1080.89 N | 829.19 E  | 3.23           |
| 13836.00 | 12514.85      | 1110.64 N | 855.93 E  | 0.35           |
| 13861.00 | 12514.45      | 1129.36 N | 872.49 E  | 3.30           |
| 13892.00 | 12514.15      | 1152.84 N | 892.73 E  | 3.68           |
| 13924.00 | 12514.02      | 1177.19 N | 913.49 E  | 0.99           |
| 13957.00 | 12513.64      | 1202.29 N | 934.92 E  | 1.52           |
| 13989.00 | 12513.53      | 1226.71 N | 955.59 E  | 4.65           |
| 14021.00 | 12514.56      | 1251.28 N | 976.06 E  | 8.53           |
| 14054.00 | 12516.26      | 1276.65 N | 997.09 E  | 1.55           |
| 14086.00 | 12517.13      | 1301.42 N | 1017.33 E | 7.72           |
| 14149.00 | 12520.59      | 1350.87 N | 1056.17 E | 8.97           |
| 14181.00 | 12523.74      | 1376.05 N | 1075.67 E | 2.20           |
| 14214.00 | 12526.99      | 1401.87 N | 1095.95 E | 1.76           |
| 14248.00 | 12530.24      | 1428.30 N | 1117.09 E | 3.12           |
| 14280.00 | 12533.34      | 1453.14 N | 1137.03 E | 3.21           |
| 14312.00 | 12536.43      | 1478.07 N | 1156.85 E | 2.81           |
| 14342.00 | 12539.21      | 1501.35 N | 1175.57 E | 2.40           |
| 14376.00 | 12542.17      | 1527.95 N | 1196.54 E | 5.78           |
| 14408.00 | 12544.76      | 1553.30 N | 1215.89 E | 0.99           |
| 14440.00 | 12547.44      | 1579.02 N | 1234.74 E | 6.54           |
| 14471.00 | 12549.17      | 1604.04 N | 1252.96 E | 11.68          |
| 14505.00 | 12550.06      | 1631.25 N | 1273.32 E | 0.83           |
| 14537.00 | 12550.59      | 1657.05 N | 1292.23 E | 3.98           |
| 14569.00 | 12550.68      | 1682.71 N | 1311.36 E | 6.04           |
| 14602.00 | 12551.28      | 1709.23 N | 1330.98 E | 10.09          |
| 14634.00 | 12552.54      | 1734.83 N | 1350.13 E | 8.75           |
| 14702.00 | 12555.15      | 1788.23 N | 1392.15 E | 0.00           |

All data are in feet unless otherwise stated. Directions and coordinates are relative to Grid North. Vertical depths are relative to WELL. Northings and Eastings are relative to well.

The Dogleg Severity is in Degrees per 100 feet.

Vertical Section is from Slot and calculated along an Azimuth of 37.800° (Grid).

Coordinate System is North American Datum 1983 US State Plane 1983, New Mexico Eastern Zone. Central meridian is -104.333°. Grid Convergence at Surface is 0.176°.

Based upon Minimum Curvature type calculations, at a Measured Depth of 14702.00ft., the Bottom Hole Displacement is 2266.24ft., in the Direction of 37.800° (Grid).