

Submit 3 Copies To Appropriate District  
Office  
District I  
1625 N French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Ave., Artesia, NM 88210  
District III  
1000 Rio Brazos Rd., Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy, Minerals and Natural Resources

Form C-103  
June 19, 2008

RECEIVED

SEP 16 2009

HOBBSOCD

CONSERVATION DIVISION  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

|                                                                                                     |
|-----------------------------------------------------------------------------------------------------|
| WELL API NO.<br>30 025 39241                                                                        |
| 5. Indicate Type of Lease<br>STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/> |
| 6. State Oil & Gas Lease No.                                                                        |
| 7. Lease Name or Unit Agreement Name<br>Lucky Penny 10 State                                        |
| 8. Well Number # 1 H                                                                                |
| 9. OGRID Number<br>249099                                                                           |
| 10. Pool name or Wildcat<br>Caprock Upper Penn, East                                                |

SUNDRY NOTICES AND REPORTS ON WELLS  
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

1. Type of Well: Oil Well ☒ Gas Well ☐ Other ☐

2. Name of Operator  
Caza Operating, LLC

3. Address of Operator  
200 N. Loraine, Suite 1550, Midland, Texas 79701

4. Well Location

Unit Letter P : 660 feet from the South line and 990 feet from the East line  
Section 10 Township 12S Range 32E NMPM County LEA

11. Elevation (Show whether DR, RKB, RT, GR, etc.)  
4384ft GR

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐  
TEMPORARILY ABANDON ☐ CHANGE PLANS ☐  
PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐  
DOWNHOLE COMMINGLE ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐  
COMMENCE DRILLING OPNS. ☐ P AND A ☐  
CASING/CEMENT JOB ☐

OTHER: ☐

OTHER: Non Planned sidetracks ☒

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

6/18/09- 7/01/09 \_ Drill Curve and Lateral from 8179 to 10,377. Lost Lateral below 9213 ft. Could not find hole.

7/2/09 - 7/10/09 \_ Drilled 1<sup>st</sup> side track from 9213 ft to 11,649 ft. Lost 1<sup>st</sup> side track below 9215 ft. Could not find hole.

7/11/09 - 7/12/09 \_ Attempted to find hole @ 9215. Failed. Started Side track # 2.

7/13/09 - 7/22/09 \_ Drilled Side Track # 2 to 10,634 MD.

Attached is Survey Info for all three holes. Curve and a portion of lateral were common in all three laterals.

Spud Date:

5/18/09

Rig Release Date:

7/25/09

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Richard L. Wright TITLE Operations Manager DATE August 10, 2009

Type or print name Richard L. Wright E-mail address: rwright@cazapetro.com PHONE: 432 682 7424

For State Use Only

APPROVED BY: [Signature] TITLE PETROLEUM ENGINEER DATE SEP 23 2009

Conditions of Approval (if any):



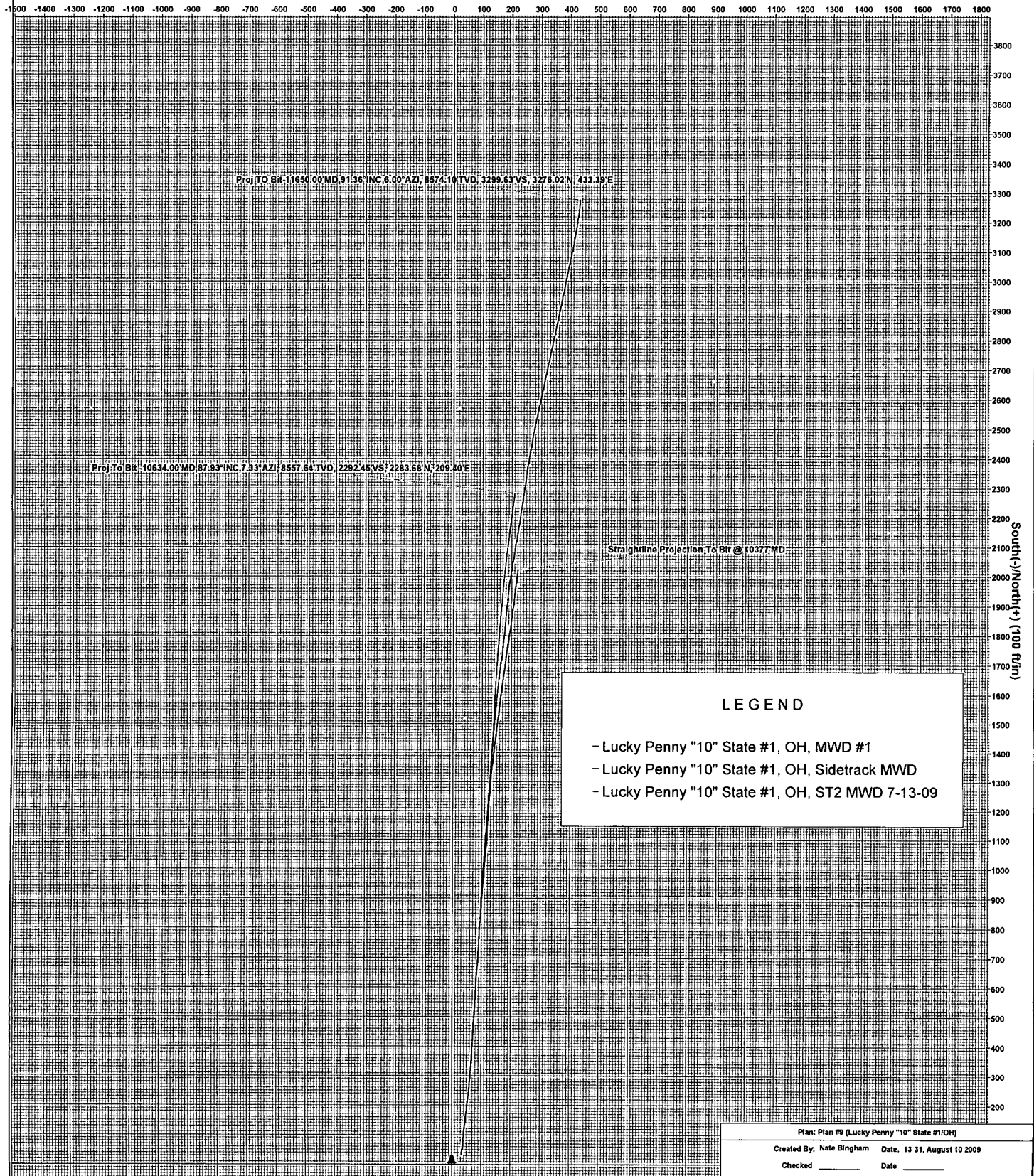
Azimuths to Grid North  
True North: -0.35°  
Magnetic North: 7.63°

**PATHFINDER**

PROJECT DETAILS: Lea County  
Geodetic System: US State Plane 1927 (Exact solution)  
Datum: NAD 1927 (NADCON CONUS)  
Ellipsoid: Clarke 1866  
Zone: New Mexico East 3001  
System Datum: Mean Sea Level  
Local North: Grid

Magnetic Field  
Strength: 49481.2snT  
Dip Angle: 61.21°  
Date: 04/07/2009  
Model: IGRF200510

West(-)/East(+) (100 ft/in)



### LEGEND

- Lucky Penny "10" State #1, OH, MWD #1
- Lucky Penny "10" State #1, OH, Sidetrack MWD
- Lucky Penny "10" State #1, OH, ST2 MWD 7-13-09

Plan: Plan #9 (Lucky Penny "10" State #1/OH)

Created By: Nate Bingham Date: 13 31, August 10 2009

Checked: \_\_\_\_\_ Date: \_\_\_\_\_



# PATHFINDER

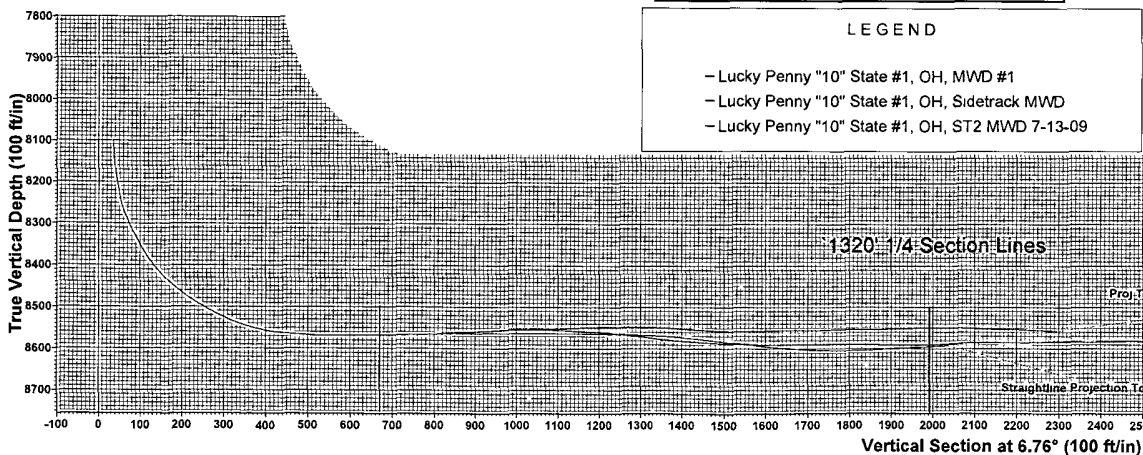
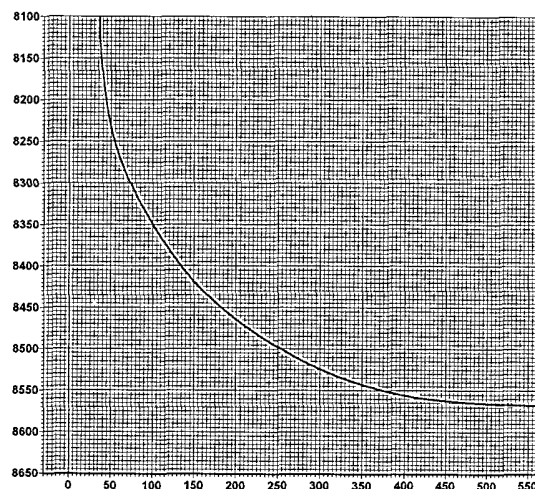
EOW



Azimuths to Grid North  
True North: -0.35°  
Magnetic North: 7.63°

Magnetic Field  
Strength: 49481.2snT  
Dip Angle: 61.21°  
Date: 04/07/2009  
Model: IGRF200510

Project: Lea County  
Site: Lucky Penny "10" State #1  
Well: Lucky Penny "10" State #1  
Wellbore: OH  
Plan: Plan #9 (Lucky Penny "10" State #1/OH)



## WELL DETAILS Lucky Penny "10" State #1

Ground Elevation: 4384.00  
RKB Elevation: WELL @ 4402.00ft (Original Well Elev)  
Rig Name: Original Well Elev

| +N-S | +E-W | Northing   | Easting    | Latitude         | Longitude         | Slot |
|------|------|------------|------------|------------------|-------------------|------|
| 0.00 | 0.00 | 832768.700 | 693595.100 | 33° 17' 15.686 N | 103° 41' 59.332 W |      |

## SECTION DETAILS

| Sec | MD       | Inc   | Azi  | TVD     | +N-S    | +E-W   | DLeg | TFace   | VSac    | Target            |
|-----|----------|-------|------|---------|---------|--------|------|---------|---------|-------------------|
| 1   | 10080.00 | 91.63 | 3.95 | 8555.87 | 1732.92 | 152.66 | 0.00 | 0.00    | 1738.84 |                   |
| 2   | 10160.02 | 93.91 | 8.18 | 8552.00 | 1812.38 | 161.10 | 6.00 | 61.54   | 1818.74 |                   |
| 3   | 10228.79 | 90.47 | 8.18 | 8549.37 | 1880.39 | 170.87 | 5.00 | -179.93 | 1887.42 |                   |
| 4   | 12332.25 | 90.47 | 8.18 | 8532.00 | 3962.40 | 470.00 | 0.00 | 0.00    | 3990.18 | PBHL(LP#1Plan #9) |

## WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

| Name              | TVD     | +N-S    | +E-W   | Northing   | Easting    | Shape |
|-------------------|---------|---------|--------|------------|------------|-------|
| PBHL(LP#1Plan #9) | 8532.00 | 3962.40 | 470.00 | 836731.100 | 694065.100 | Point |
| PBHL              | 8570.00 | 3962.00 | 307.20 | 836730.700 | 693902.300 | Point |
| Enter ST01        | 8590.20 | 1563.77 | 148.24 | 834332.470 | 693743.340 | Point |
| PBHL(LP#1Plan #7) | 8593.00 | 3962.00 | 307.20 | 836730.700 | 693902.300 | Point |

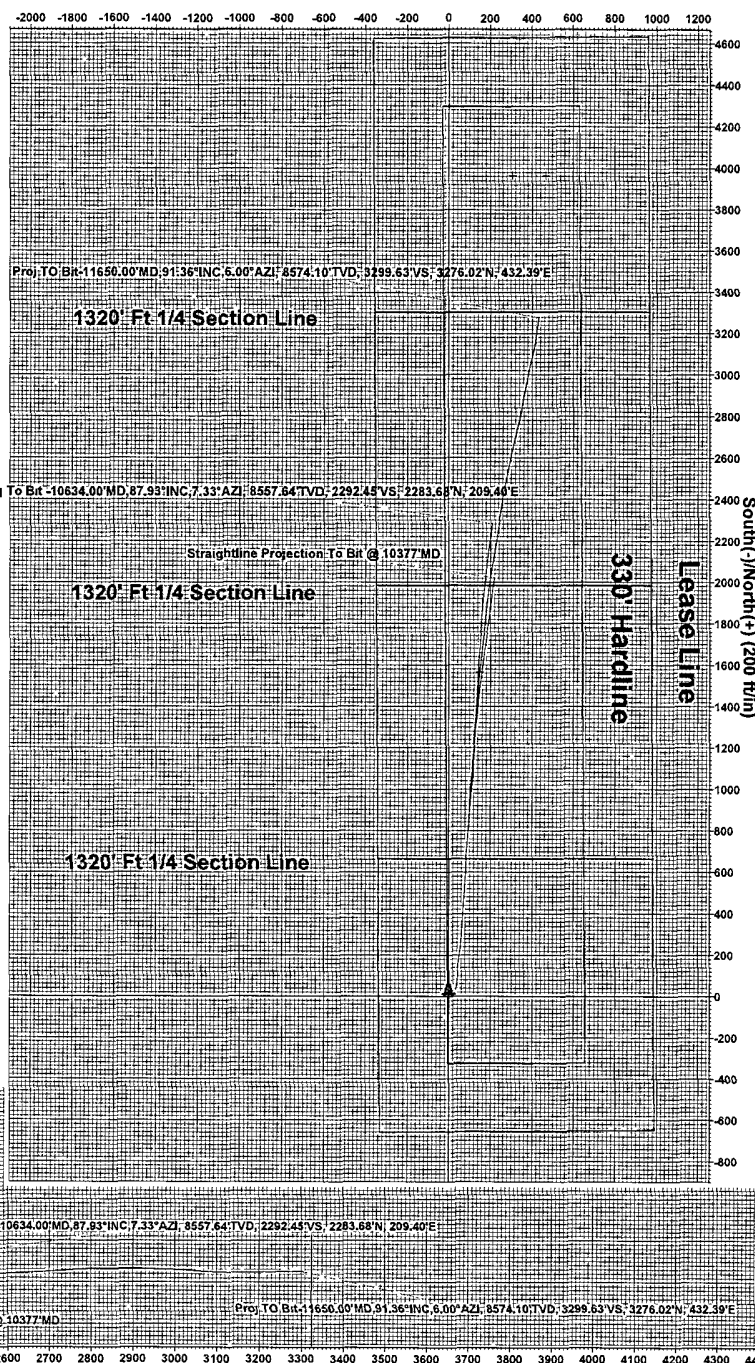
PROJECT DETAILS: Lea County  
Geodetic System: US State Plane 1927 (Exact solution)  
Datum: NAD 1927 (NADCON CONUS)  
Ellipsoid: Clarke 1866  
Zone: New Mexico East 3001  
System Datum: Mean Sea Level  
Local North: Grid

## LEGEND

- Lucky Penny "10" State #1, OH, MWD #1
- Lucky Penny "10" State #1, OH, Sidetrack MWD
- Lucky Penny "10" State #1, OH, ST2 MWD 7-13-09

1320' 1/4 Section Lines

West(-)/East(+) (200 ft/in)



Plan: Plan #9 (Lucky Penny "10" State #1/OH)

Created By: Nate Bingham Date: 13:30, August 10 2009





Project: Lea County  
Site: Lucky Penny "10" State #1  
Well: Lucky Penny "10" State #1  
Wellbore: OH  
Plan: Plan #9 (Lucky Penny "10" State #1/OH)



Azimuths to Grid North  
True North:  $-0.35^\circ$   
Magnetic North:  $7.63^\circ$

Magnetic Field  
Strength: 49481.2snT  
Dip Angle:  $61.21^\circ$   
Date: 04/07/2009  
Model: IGRF200510

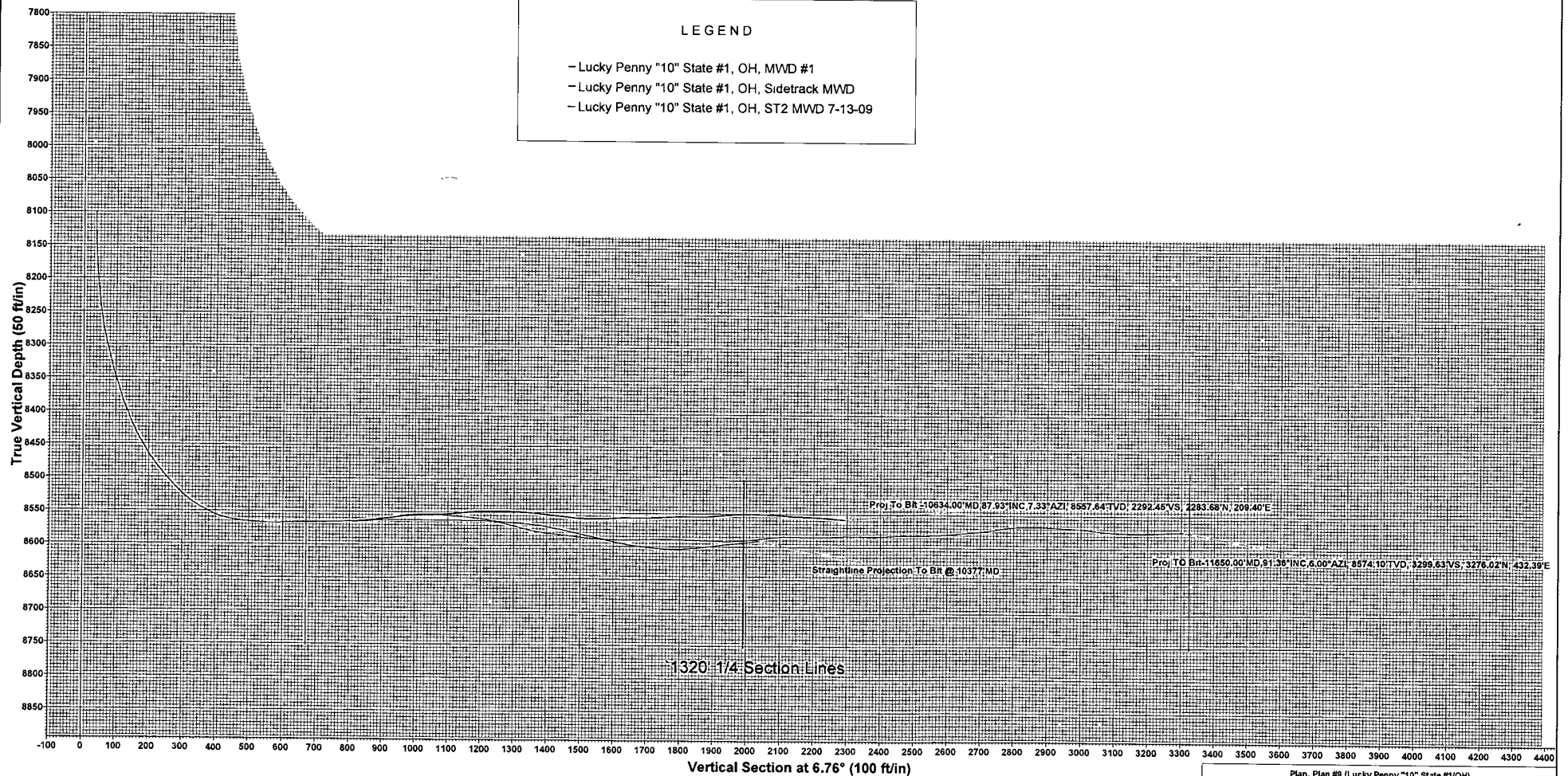
# PATHFINDER

PROJECT DETAILS: Lea County  
Geodetic System: US State Plane 1927 (Exact solution)  
Datum: NAD 1927 (NADCON CONUS)  
Ellipsoid: Clarke 1866  
Zone: New Mexico East 3001  
System Datum: Mean Sea Level  
Local North: Grid

| WELL DETAILS: Lucky Penny "10" State #1 |       |                                       |            |                  |                   |      |  |
|-----------------------------------------|-------|---------------------------------------|------------|------------------|-------------------|------|--|
| Ground Elevation                        |       | 4384.00                               |            |                  |                   |      |  |
| RKB Elevation                           |       | WELL @ 4402.00ft (Original Well Elev) |            |                  |                   |      |  |
| Rig Name                                |       | Original Well Elev                    |            |                  |                   |      |  |
| +N/-S                                   | +E/-W | Northing                              | Easting    | Latitude         | Longitude         | Slot |  |
| 0.00                                    | 0.00  | 832768.700                            | 693595.100 | 33° 17' 15.666 N | 103° 41' 59.332 W |      |  |

### LEGEND

- Lucky Penny "10" State #1, OH, MWD #1
- Lucky Penny "10" State #1, OH, Sidetrack MWD
- Lucky Penny "10" State #1, OH, ST2 MWD 7-13-09



Plan: Plan #9 (Lucky Penny "10" State #1/OH)

Created By: Nate Bingham Date: 13.32, August 10 2009



RECEIVED

SEP 16 2009  
HOBBSOCD

## Caza Petroleum

Lea County  
Lucky Penny "10" State #1  
Lucky Penny "10" State #1  
OH

Survey: MWD #1

## Pathfinder X & Y Survey Report

23 July, 2009

ORIGINAL  
Hole

CURVE is  
COMMON TO  
ALL three holes!

# PATHFINDER



Pathfinder Energy Services  
Pathfinder X & Y Survey Report

**PATHFINDER**

|           |                           |                              |                                       |
|-----------|---------------------------|------------------------------|---------------------------------------|
| Company:  | Caza Petroleum            | Local Co-ordinate Reference: | Well Lucky Penny "10" State #1        |
| Project:  | Lea County                | TVD Reference:               | WELL @ 4402.00ft (Original Well Elev) |
| Site:     | Lucky Penny "10" State #1 | MD Reference:                | WELL @ 4402.00ft (Original Well Elev) |
| Well:     | Lucky Penny "10" State #1 | North Reference:             | Grid                                  |
| Wellbore: | OH                        | Survey Calculation Method:   | Minimum Curvature                     |
| Design:   | OH                        | Database:                    | Midland Database                      |

|             |                                      |               |                |
|-------------|--------------------------------------|---------------|----------------|
| Project:    | Lea County                           |               |                |
| Map System: | US State Plane 1927 (Exact solution) | System Datum: | Mean Sea Level |
| Geo Datum:  | NAD 1927 (NADCON CONUS)              |               |                |
| Map Zone:   | New Mexico East 3001                 |               |                |

|                       |                           |              |                |                   |                   |
|-----------------------|---------------------------|--------------|----------------|-------------------|-------------------|
| Site:                 | Lucky Penny "10" State #1 |              |                |                   |                   |
| Site Position:        |                           | Northing:    | 832,768.700 ft | Latitude:         | 33° 17' 15.686 N  |
| From:                 | Map                       | Easting:     | 693,595.100 ft | Longitude:        | 103° 41' 59.332 W |
| Position Uncertainty: | 0.00 ft                   | Slot Radius: | "              | Grid Convergence: | 0.35 °            |

|                      |                           |         |                     |                |               |                   |
|----------------------|---------------------------|---------|---------------------|----------------|---------------|-------------------|
| Well:                | Lucky Penny "10" State #1 |         |                     |                |               |                   |
| Well Position        | +N-S                      | 0.00 ft | Northing:           | 832,768.700 ft | Latitude:     | 33° 17' 15.686 N  |
|                      | +E-W                      | 0.00 ft | Easting:            | 693,595.100 ft | Longitude:    | 103° 41' 59.332 W |
| Position Uncertainty |                           | 0.00 ft | Wellhead Elevation: | ft             | Ground Level: | 4,384.00 ft       |

|           |            |             |                 |               |                     |
|-----------|------------|-------------|-----------------|---------------|---------------------|
| Wellbore: | OH         |             |                 |               |                     |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
|           | IGRF200510 | 04/07/2009  | 7.98            | 61.21         | 49,481              |

|                   |                          |               |               |                  |      |
|-------------------|--------------------------|---------------|---------------|------------------|------|
| Design:           | OH                       |               |               |                  |      |
| Audit Notes:      |                          |               |               |                  |      |
| Version:          | 1.0                      | Phase:        | ACTUAL        | Tie On Depth:    | 0.00 |
| Vertical Section: | Depth From (TVD)<br>(ft) | +N/-S<br>(ft) | +E/-W<br>(ft) | Direction<br>(°) |      |
|                   | 0.00                     | 0.00          | 0.00          | 6.76             |      |



Pathfinder Energy Services  
Pathfinder X & Y Survey Report

**PATHFINDER**

|           |                           |                              |                                       |
|-----------|---------------------------|------------------------------|---------------------------------------|
| Company:  | Caza Petroleum            | Local Co-ordinate Reference: | Well Lucky Penny "10" State #1        |
| Project:  | Lea County                | TVD Reference:               | WELL @ 4402.00ft (Original Well Elev) |
| Site:     | Lucky Penny "10" State #1 | MD Reference:                | WELL @ 4402.00ft (Original Well Elev) |
| Well:     | Lucky Penny "10" State #1 | North Reference:             | Grid                                  |
| Wellbore: | OH                        | Survey Calculation Method:   | Minimum Curvature                     |
| Design:   | OH                        | Database:                    | Midland Database                      |

| Survey Program | Date       | From (ft) | To (ft)   | Survey (Wellbore)  | Tool Name  | Description                 |
|----------------|------------|-----------|-----------|--------------------|------------|-----------------------------|
|                | 07/21/2009 | 100.00    | 8,100.00  | GYRO (OH)          | CB-GYRO-MS | Camera based gyro multishot |
|                |            | 8,221.00  | 9,147.00  | MWD #1 (OH)        | MWD        | MWD - Standard              |
|                |            | 9,211.00  | 11,650.00 | Sidetrack MWD (OH) |            |                             |

| MD (ft)  | Inc (°) | Azi (°) | TVD (ft) | TVDSS (ft) | N/S (ft) | E/W (ft) | V. Sec (ft) | DLeg (°/100ft) | Northing (ft) | Easting (ft) |
|----------|---------|---------|----------|------------|----------|----------|-------------|----------------|---------------|--------------|
| 8,100.00 | 0.64    | 60.93   | 8,099.64 | 3,697.64   | 32.23    | 33.40    | 35.93       | 0.00           | 832,800.93    | 693,628.50   |
| 8,221.00 | 10.29   | 6.52    | 8,219.96 | 3,817.96   | 43.32    | 35.23    | 47.16       | 8.21           | 832,812.02    | 693,630.33   |
| 8,254.00 | 16.62   | 10.08   | 8,252.04 | 3,850.04   | 50.90    | 36.39    | 54.83       | 19.34          | 832,819.60    | 693,631.49   |
| 8,286.00 | 22.07   | 7.63    | 8,282.22 | 3,880.22   | 61.37    | 37.99    | 65.42       | 17.22          | 832,830.07    | 693,633.09   |
| 8,317.00 | 26.12   | 4.75    | 8,310.52 | 3,908.52   | 73.95    | 39.33    | 78.07       | 13.60          | 832,842.65    | 693,634.43   |
| 8,349.00 | 29.72   | 3.08    | 8,338.79 | 3,936.79   | 88.90    | 40.34    | 93.03       | 11.51          | 832,857.60    | 693,635.44   |
| 8,380.00 | 32.98   | 5.63    | 8,365.26 | 3,963.26   | 104.97   | 41.58    | 109.14      | 11.35          | 832,873.67    | 693,636.68   |
| 8,412.00 | 35.98   | 6.89    | 8,391.64 | 3,989.64   | 122.97   | 43.56    | 127.24      | 9.57           | 832,891.67    | 693,638.66   |
| 8,444.00 | 41.24   | 6.73    | 8,416.64 | 4,014.64   | 142.79   | 45.93    | 147.20      | 16.50          | 832,911.49    | 693,641.03   |
| 8,476.00 | 46.96   | 6.42    | 8,439.61 | 4,037.61   | 164.90   | 48.47    | 169.46      | 17.89          | 832,933.60    | 693,643.57   |
| 8,508.00 | 51.62   | 6.70    | 8,460.47 | 4,058.47   | 188.99   | 51.24    | 193.71      | 14.58          | 832,957.69    | 693,646.34   |
| 8,539.00 | 55.66   | 6.35    | 8,478.85 | 4,076.85   | 213.79   | 54.08    | 218.67      | 13.06          | 832,982.49    | 693,649.18   |
| 8,568.00 | 58.92   | 6.34    | 8,494.52 | 4,092.52   | 238.04   | 56.77    | 243.07      | 11.24          | 833,006.74    | 693,651.87   |
| 8,600.00 | 61.82   | 5.84    | 8,510.34 | 4,108.34   | 265.70   | 59.72    | 270.88      | 9.16           | 833,034.40    | 693,654.82   |
| 8,632.00 | 65.86   | 5.41    | 8,524.44 | 4,122.44   | 294.27   | 62.54    | 299.59      | 12.68          | 833,062.97    | 693,657.64   |
| 8,663.00 | 69.73   | 3.92    | 8,536.16 | 4,134.16   | 322.87   | 64.86    | 328.26      | 13.25          | 833,091.57    | 693,659.96   |
| 8,695.00 | 74.13   | 2.80    | 8,546.08 | 4,144.08   | 353.23   | 66.64    | 358.62      | 14.15          | 833,121.93    | 693,661.74   |
| 8,727.00 | 77.21   | 3.66    | 8,554.00 | 4,152.00   | 384.19   | 68.39    | 389.57      | 9.97           | 833,152.89    | 693,663.49   |
| 8,759.00 | 82.04   | 3.64    | 8,559.76 | 4,157.76   | 415.59   | 70.39    | 420.99      | 15.09          | 833,184.29    | 693,665.49   |
| 8,791.00 | 85.74   | 3.30    | 8,563.16 | 4,161.16   | 447.34   | 72.32    | 452.75      | 11.61          | 833,216.04    | 693,667.42   |



Pathfinder Energy Services  
Pathfinder X & Y Survey Report

**PATHFINDER**

|           |                           |                              |                                       |
|-----------|---------------------------|------------------------------|---------------------------------------|
| Company:  | Caza Petroleum            | Local Co-ordinate Reference: | Well Lucky Penny "10" State #1        |
| Project:  | Lea County                | TVD Reference:               | WELL @ 4402.00ft (Original Well Elev) |
| Site:     | Lucky Penny "10" State #1 | MD Reference:                | WELL @ 4402.00ft (Original Well Elev) |
| Well:     | Lucky Penny "10" State #1 | North Reference:             | Grid                                  |
| Wellbore: | OH                        | Survey Calculation Method:   | Minimum Curvature                     |
| Design:   | OH                        | Database:                    | Midland Database                      |

| MD<br>(ft) | Inc<br>(°) | Azi<br>(°) | TVD<br>(ft) | TVDSS<br>(ft) | N/S<br>(ft) | E/W<br>(ft) | V. Sec.<br>(ft) | DLeg<br>(ft/100ft) | Northing<br>(ft) | Easting<br>(ft) |
|------------|------------|------------|-------------|---------------|-------------|-------------|-----------------|--------------------|------------------|-----------------|
| 8,830.00   | 88.81      | 3.99       | 8,585.70    | 4,163.70      | 486.18      | 74.79       | 491.61          | 3.28               | 833,254.88       | 693,669.89      |
| 8,862.00   | 87.81      | 3.88       | 8,587.20    | 4,165.20      | 518.07      | 76.99       | 523.53          | 3.14               | 833,288.77       | 693,672.09      |
| 8,893.00   | 89.27      | 3.14       | 8,587.99    | 4,165.99      | 549.00      | 78.88       | 554.47          | 5.28               | 833,317.70       | 693,673.98      |
| 8,925.00   | 90.84      | 2.72       | 8,587.96    | 4,165.96      | 580.96      | 80.52       | 586.40          | 5.08               | 833,349.66       | 693,675.62      |
| 8,957.00   | 91.40      | 2.94       | 8,587.33    | 4,165.33      | 612.91      | 82.10       | 618.32          | 1.88               | 833,381.61       | 693,677.20      |
| 8,988.00   | 90.67      | 3.78       | 8,586.77    | 4,164.77      | 643.85      | 83.92       | 649.26          | 3.59               | 833,412.55       | 693,679.02      |
| 9,020.00   | 90.22      | 4.44       | 8,586.53    | 4,164.53      | 675.77      | 86.21       | 681.22          | 2.50               | 833,444.47       | 693,681.31      |
| 9,052.00   | 90.39      | 4.59       | 8,586.36    | 4,164.36      | 707.67      | 88.73       | 713.20          | 0.71               | 833,476.37       | 693,683.83      |
| 9,084.00   | 90.95      | 2.99       | 8,585.98    | 4,163.98      | 739.60      | 90.84       | 745.15          | 5.30               | 833,508.30       | 693,685.94      |
| 9,115.00   | 91.57      | 3.05       | 8,585.30    | 4,163.30      | 770.55      | 92.48       | 776.08          | 2.01               | 833,539.25       | 693,687.58      |
| 9,147.00   | 91.68      | 3.05       | 8,584.39    | 4,162.39      | 802.49      | 94.18       | 808.00          | 0.34               | 833,571.19       | 693,689.28      |
| 9,179.00   | 90.90      | 3.18       | 8,583.67    | 4,161.67      | 834.43      | 95.82       | 839.92          | 2.47               | 833,603.13       | 693,691.02      |
| 9,210.00   | 90.87      | 3.05       | 8,583.25    | 4,161.25      | 865.38      | 97.60       | 870.86          | 0.85               | 833,634.08       | 693,692.70      |
| 9,242.00   | 90.73      | 3.12       | 8,582.88    | 4,160.88      | 897.34      | 99.32       | 902.79          | 0.29               | 833,666.04       | 693,694.42      |
| 9,274.00   | 90.78      | 3.18       | 8,582.43    | 4,160.43      | 929.28      | 101.08      | 934.72          | 0.24               | 833,697.98       | 693,696.18      |
| 9,306.00   | 90.17      | 3.15       | 8,582.17    | 4,160.17      | 961.23      | 102.85      | 966.66          | 1.91               | 833,729.93       | 693,697.95      |
| 9,338.00   | 89.55      | 4.25       | 8,582.25    | 4,160.25      | 993.17      | 104.91      | 998.61          | 3.95               | 833,761.87       | 693,700.01      |
| 9,370.00   | 89.61      | 4.23       | 8,582.48    | 4,160.48      | 1,025.08    | 107.28      | 1,030.58        | 0.20               | 833,793.78       | 693,702.38      |
| 9,402.00   | 89.94      | 4.68       | 8,582.61    | 4,160.61      | 1,056.98    | 109.77      | 1,062.55        | 1.74               | 833,825.68       | 693,704.87      |
| 9,433.00   | 90.06      | 4.58       | 8,582.61    | 4,160.61      | 1,087.88    | 112.27      | 1,093.53        | 0.50               | 833,856.58       | 693,707.37      |
| 9,465.00   | 89.61      | 4.58       | 8,582.70    | 4,160.70      | 1,119.78    | 114.82      | 1,125.51        | 1.41               | 833,888.48       | 693,709.92      |
| 9,497.00   | 89.72      | 5.17       | 8,582.89    | 4,160.89      | 1,151.66    | 117.54      | 1,157.49        | 1.88               | 833,920.36       | 693,712.64      |
| 9,529.00   | 90.17      | 5.57       | 8,582.92    | 4,160.92      | 1,183.52    | 120.54      | 1,189.48        | 1.88               | 833,952.22       | 693,715.64      |
| 9,560.00   | 88.77      | 4.70       | 8,583.20    | 4,161.20      | 1,214.39    | 123.31      | 1,220.47        | 5.32               | 833,983.09       | 693,718.41      |
| 9,591.00   | 87.70      | 4.51       | 8,584.16    | 4,162.16      | 1,245.28    | 125.80      | 1,251.43        | 3.51               | 834,013.98       | 693,720.90      |
| 9,623.00   | 87.54      | 4.49       | 8,585.49    | 4,163.49      | 1,277.15    | 128.31      | 1,283.38        | 0.50               | 834,045.85       | 693,723.41      |
| 9,655.00   | 87.65      | 4.82       | 8,586.83    | 4,164.83      | 1,309.02    | 130.90      | 1,315.33        | 1.09               | 834,077.72       | 693,726.00      |

↑  
Common





Pathfinder Energy Services  
Pathfinder X & Y Survey Report

**PATHFINDER**

Company: Caza Petroleum  
Project: Lea County  
Site: Lucky Penny "10" State #1  
Well: Lucky Penny "10" State #1  
Wellbore: OH  
Design: OH

Local Co-ordinate Reference:  
TVD Reference:  
MD Reference:  
North Reference:  
Survey Calculation Method:  
Database:

Well Lucky Penny "10" State #1  
WELL @ 4402.00ft (Original Well Elev)  
WELL @ 4402.00ft (Original Well Elev)  
Grid  
Minimum Curvature  
Midland Database

Survey

| MD<br>(ft) | Inc<br>(°) | Azi<br>(°) | TVD<br>(ft) | TVDSS<br>(ft) | N/S<br>(ft) | E/W<br>(ft) | V. Sec<br>(ft) | DLeg<br>(%/100ft) | Northing<br>(ft) | Easting<br>(ft) |
|------------|------------|------------|-------------|---------------|-------------|-------------|----------------|-------------------|------------------|-----------------|
| 9,687.00   | 87.54      | 6.06       | 8,568.17    | 4,166.17      | 1,340.85    | 133.93      | 1,347.29       | 3.89              | 834,109.55       | 693,729.03      |
| 9,719.00   | 85.68      | 6.33       | 8,570.07    | 4,168.07      | 1,372.60    | 137.38      | 1,379.23       | 5.87              | 834,141.30       | 693,732.48      |
| 9,750.00   | 84.28      | 6.70       | 8,572.78    | 4,170.78      | 1,403.28    | 140.88      | 1,410.11       | 4.67              | 834,171.98       | 693,735.98      |
| 9,782.00   | 83.77      | 6.48       | 8,576.11    | 4,174.11      | 1,434.90    | 144.54      | 1,441.94       | 1.73              | 834,203.60       | 693,739.64      |
| 9,814.00   | 83.60      | 6.75       | 8,579.63    | 4,177.63      | 1,466.49    | 148.20      | 1,473.74       | 0.99              | 834,235.19       | 693,743.30      |
| 9,846.00   | 83.66      | 6.62       | 8,583.18    | 4,181.18      | 1,498.08    | 151.90      | 1,505.55       | 0.45              | 834,266.78       | 693,747.00      |
| 9,877.00   | 83.72      | 6.70       | 8,586.59    | 4,184.59      | 1,528.68    | 155.48      | 1,536.36       | 0.32              | 834,297.38       | 693,750.58      |
| 9,909.00   | 83.60      | 7.07       | 8,590.12    | 4,188.12      | 1,560.26    | 159.29      | 1,568.16       | 1.21              | 834,328.96       | 693,754.39      |
| 9,941.00   | 83.72      | 7.73       | 8,593.65    | 4,191.65      | 1,591.80    | 163.38      | 1,599.96       | 2.08              | 834,360.50       | 693,758.48      |
| 9,973.00   | 84.95      | 8.09       | 8,596.81    | 4,194.81      | 1,623.34    | 167.77      | 1,631.80       | 4.00              | 834,392.04       | 693,762.87      |
| 10,005.00  | 86.13      | 7.89       | 8,599.30    | 4,197.30      | 1,654.93    | 172.20      | 1,663.70       | 3.74              | 834,423.63       | 693,767.30      |
| 10,037.00  | 86.92      | 7.17       | 8,601.24    | 4,199.24      | 1,686.60    | 176.39      | 1,695.63       | 3.34              | 834,455.30       | 693,771.49      |
| 10,068.00  | 87.59      | 7.65       | 8,602.73    | 4,200.73      | 1,717.30    | 180.38      | 1,726.60       | 2.66              | 834,486.00       | 693,775.48      |
| 10,100.00  | 89.22      | 8.11       | 8,603.62    | 4,201.62      | 1,748.99    | 184.77      | 1,758.58       | 5.29              | 834,517.69       | 693,779.87      |
| 10,132.00  | 90.11      | 9.27       | 8,603.80    | 4,201.80      | 1,780.62    | 189.60      | 1,790.56       | 4.57              | 834,549.32       | 693,784.70      |
| 10,163.00  | 91.96      | 8.58       | 8,603.24    | 4,201.24      | 1,811.24    | 194.41      | 1,821.53       | 6.37              | 834,579.94       | 693,789.51      |
| 10,195.00  | 93.19      | 6.99       | 8,601.81    | 4,199.81      | 1,842.91    | 198.74      | 1,853.49       | 6.28              | 834,611.61       | 693,793.84      |
| 10,227.00  | 93.59      | 7.34       | 8,599.91    | 4,197.91      | 1,874.60    | 202.72      | 1,885.43       | 1.66              | 834,643.30       | 693,797.82      |
| 10,255.00  | 93.21      | 7.04       | 8,598.25    | 4,196.25      | 1,902.33    | 206.22      | 1,913.38       | 1.73              | 834,671.03       | 693,801.32      |
| 10,377.00  | 93.21      | 7.04       | 8,591.42    | 4,189.42      | 2,023.22    | 221.15      | 2,035.19       | 0.00              | 834,791.92       | 693,816.25      |

Straightline Projection To Bit @ 10377MD



Pathfinder Energy Services  
Pathfinder X & Y Survey Report



|           |                           |                              |                                       |
|-----------|---------------------------|------------------------------|---------------------------------------|
| Company:  | Caza Petroleum            | Local Co-ordinate Reference: | Well Lucky Penny "10" State #1        |
| Project:  | Lea County                | TVD Reference:               | WELL @ 4402.00ft (Original Well Elev) |
| Site:     | Lucky Penny "10" State #1 | MD Reference:                | WELL @ 4402.00ft (Original Well Elev) |
| Well:     | Lucky Penny "10" State #1 | North Reference:             | Grid                                  |
| Wellbore: | OH                        | Survey Calculation Method:   | Minimum Curvature                     |
| Design:   | OH                        | Database:                    | Midland Database                      |

| Targets                                                                          |           |          |          |          |        |             |             |                  |                   |
|----------------------------------------------------------------------------------|-----------|----------|----------|----------|--------|-------------|-------------|------------------|-------------------|
| Target Name                                                                      |           |          |          |          |        |             |             |                  |                   |
| -hit/miss target                                                                 | Dip Angle | Dip Dir. | TVD      | +N-S     | +E-W   | Northing    | Easting     | Latitude         | Longitude         |
| -Shape                                                                           | (°)       | (°)      | (ft)     | (ft)     | (ft)   | (ft)        | (ft)        |                  |                   |
| PBHL(LP#1Plan #7)                                                                | 0.00      | 0.00     | 8,593.00 | 3,962.00 | 307.20 | 836,730.700 | 693,902.300 | 33° 17' 54.867 N | 103° 41' 55.430 W |
| - survey misses by 1940.69ft at 10377.00ft MD (8591.42 TVD, 2023.22 N, 221.15 E) |           |          |          |          |        |             |             |                  |                   |
| - Point                                                                          |           |          |          |          |        |             |             |                  |                   |
| PBHL(LP#1HPlan #4)                                                               | 0.00      | 0.00     | 8,570.00 | 3,962.00 | 307.20 | 836,730.700 | 693,902.300 | 33° 17' 54.867 N | 103° 41' 55.430 W |
| - survey misses by 1940.80ft at 10377.00ft MD (8591.42 TVD, 2023.22 N, 221.15 E) |           |          |          |          |        |             |             |                  |                   |
| - Point                                                                          |           |          |          |          |        |             |             |                  |                   |
| PBHL(LP#1Plan #9)                                                                | 0.00      | 0.00     | 8,532.00 | 3,962.40 | 470.00 | 836,731.100 | 694,065.100 | 33° 17' 54.862 N | 103° 41' 53.512 W |
| - survey misses by 1955.98ft at 10377.00ft MD (8591.42 TVD, 2023.22 N, 221.15 E) |           |          |          |          |        |             |             |                  |                   |
| - Point                                                                          |           |          |          |          |        |             |             |                  |                   |
| Enter ST01                                                                       | 0.00      | 0.00     | 8,590.20 | 1,563.77 | 148.24 | 834,332.470 | 693,743.340 | 33° 17' 31.149 N | 103° 41' 57.474 W |
| - survey misses by 11.40ft at 9911.06ft MD (8590.35 TVD, 1562.29 N, 159.54 E)    |           |          |          |          |        |             |             |                  |                   |
| - Point                                                                          |           |          |          |          |        |             |             |                  |                   |

| Survey Annotations |                |                   |           |                                           |
|--------------------|----------------|-------------------|-----------|-------------------------------------------|
| Measured Depth     | Vertical Depth | Local Coordinates |           | Comment                                   |
| (ft)               | (ft)           | +N-S (ft)         | +E-W (ft) |                                           |
| 10,377.00          | 8,591.42       | 2,023.22          | 221.15    | Straightline Projection To Bit @ 10377'MD |

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



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HOBBSOCD

## Caza Petroleum

Lea County

Lucky Penny "10" State #1

Lucky Penny "10" State #1

OH

*1<sup>st</sup> Side Track Hole*

Survey: Sidetrack MWD

## Pathfinder X & Y Survey Report

23 July, 2009

# PATHFINDER



Pathfinder Energy Services  
Pathfinder X & Y Survey Report

PATHFINDER

|           |                           |                              |                                       |
|-----------|---------------------------|------------------------------|---------------------------------------|
| Company:  | Caza Petroleum            | Local Co-ordinate Reference: | Well Lucky Penny "10" State #1        |
| Project:  | Lea County                | TVD Reference:               | WELL @ 4402.00ft (Original Well Elev) |
| Site:     | Lucky Penny "10" State #1 | MD Reference:                | WELL @ 4402.00ft (Original Well Elev) |
| Well:     | Lucky Penny "10" State #1 | North Reference:             | Grid                                  |
| Wellbore: | OH                        | Survey/Calculation Method:   | Minimum Curvature                     |
| Design:   | OH                        | Database:                    | Midland Database                      |

|             |                                      |               |                |
|-------------|--------------------------------------|---------------|----------------|
| Project     | Lea County                           |               |                |
| Map System: | US State Plane 1927 (Exact solution) | System Datum: | Mean Sea Level |
| Geo Datum:  | NAD 1927 (NADCON CONUS)              |               |                |
| Map Zone:   | New Mexico East 3001                 |               |                |

|                       |                           |              |                |                   |                   |
|-----------------------|---------------------------|--------------|----------------|-------------------|-------------------|
| Site                  | Lucky Penny "10" State #1 |              |                |                   |                   |
| Site Position:        |                           | Northing:    | 832,768.700 ft | Latitude:         | 33° 17' 15.686 N  |
| From:                 | Map                       | Easting:     | 693,595.100 ft | Longitude:        | 103° 41' 59.332 W |
| Position Uncertainty: | 0.00 ft                   | Slot Radius: | "              | Grid Convergence: | 0.35 °            |

|                      |                           |         |                     |                |               |                   |
|----------------------|---------------------------|---------|---------------------|----------------|---------------|-------------------|
| Well                 | Lucky Penny "10" State #1 |         |                     |                |               |                   |
| Well Position        | +N-S                      | 0.00 ft | Northing:           | 832,768.700 ft | Latitude:     | 33° 17' 15.686 N  |
|                      | +E-W                      | 0.00 ft | Easting:            | 693,595.100 ft | Longitude:    | 103° 41' 59.332 W |
| Position Uncertainty |                           | 0.00 ft | Wellhead Elevation: | ft             | Ground Level: | 4,384.00 ft       |

|           |            |             |             |           |                |
|-----------|------------|-------------|-------------|-----------|----------------|
| Wellbore  | OH         |             |             |           |                |
| Magnetics | Model Name | Sample Date | Declination | Dip Angle | Field Strength |
|           | IGRF200510 | 04/07/2009  | 7.98        | 61.21     | 49,481         |

|                   |                  |        |        |               |      |
|-------------------|------------------|--------|--------|---------------|------|
| Design            | OH               |        |        |               |      |
| Audit Notes:      |                  |        |        |               |      |
| Version:          | 1.0              | Phase: | ACTUAL | Tie On Depth: | 0.00 |
| Vertical Section: | Depth From (TVD) | +N-S   | +E-W   | Direction     |      |
|                   | (ft)             | (ft)   | (ft)   | (°)           |      |
|                   | 0.00             | 0.00   | 0.00   | 6.76          |      |



**Pathfinder Energy Services**  
Pathfinder X & Y Survey Report



|                  |                           |                                     |                                       |
|------------------|---------------------------|-------------------------------------|---------------------------------------|
| <b>Company:</b>  | Caza Petroleum            | <b>Local Co-ordinate Reference:</b> | Well Lucky Penny "10" State #1        |
| <b>Project:</b>  | Lea County                | <b>TVD Reference:</b>               | WELL @ 4402.00ft (Original Well Elev) |
| <b>Site:</b>     | Lucky Penny "10" State #1 | <b>MD Reference:</b>                | WELL @ 4402.00ft (Original Well Elev) |
| <b>Well:</b>     | Lucky Penny "10" State #1 | <b>North Reference:</b>             | Grid                                  |
| <b>Wellbore:</b> | OH                        | <b>Survey Calculation Method:</b>   | Minimum Curvature                     |
| <b>Design:</b>   | OH                        | <b>Database:</b>                    | Midland Database                      |

| Survey Program |           | Date 07/21/2009    |                   |                                               |
|----------------|-----------|--------------------|-------------------|-----------------------------------------------|
| From (ft)      | To (ft)   | Survey (Wellbore)  | Tool Name         | Description                                   |
| 100.00         | 8,100.00  | GYRO (OH)          | CB-GYRO-MS<br>MWD | Camera based gyro multishot<br>MWD - Standard |
| 8,221.00       | 9,147.00  | MWD #1 (OH)        |                   |                                               |
| 9,211.00       | 11,650.00 | Sidetrack MWD (OH) |                   |                                               |

| MD (ft)  | Inc (°) | Azi (°) | TVD (ft) | TVDSS (ft) | N/S (ft) | E/W (ft) | V. Sec (ft) | DLeg (°/100ft) | Northing (ft) | Easting (ft) |
|----------|---------|---------|----------|------------|----------|----------|-------------|----------------|---------------|--------------|
| 9,147.00 | 91.68   | 3.05    | 8,564.39 | 4,162.39   | 802.49   | 94.18    | 808.00      | 0.00           | 833,571.19    | 693,689.28   |
| 9,211.00 | 93.25   | 4.07    | 8,561.64 | 4,159.64   | 866.30   | 98.15    | 871.83      | 2.92           | 833,635.00    | 693,693.25   |
| 9,236.00 | 94.04   | 4.29    | 8,560.05 | 4,158.05   | 891.19   | 99.97    | 896.76      | 3.28           | 833,659.89    | 693,695.07   |
| 9,275.00 | 93.19   | 5.24    | 8,557.59 | 4,155.59   | 929.97   | 103.20   | 935.66      | 3.26           | 833,698.67    | 693,698.30   |
| 9,307.00 | 91.62   | 5.29    | 8,556.25 | 4,154.25   | 961.81   | 106.13   | 967.62      | 4.91           | 833,730.51    | 693,701.23   |
| 9,338.00 | 91.74   | 5.40    | 8,555.34 | 4,153.34   | 992.66   | 109.02   | 998.59      | 0.53           | 833,761.36    | 693,704.12   |
| 9,370.00 | 90.34   | 5.12    | 8,554.76 | 4,152.76   | 1,024.52 | 111.95   | 1,030.58    | 4.46           | 833,793.22    | 693,707.05   |
| 9,402.00 | 89.33   | 4.45    | 8,554.85 | 4,152.85   | 1,056.41 | 114.62   | 1,062.56    | 3.79           | 833,825.11    | 693,709.72   |
| 9,434.00 | 87.93   | 3.58    | 8,555.62 | 4,153.62   | 1,088.32 | 116.86   | 1,094.51    | 5.15           | 833,857.02    | 693,711.96   |
| 9,465.00 | 87.65   | 3.40    | 8,556.81 | 4,154.81   | 1,119.24 | 118.75   | 1,125.44    | 1.07           | 833,887.94    | 693,713.85   |
| 9,500.00 | 87.65   | 3.39    | 8,558.25 | 4,156.25   | 1,154.15 | 120.82   | 1,160.35    | 0.03           | 833,922.85    | 693,715.92   |
| 9,531.00 | 86.42   | 3.64    | 8,559.85 | 4,157.85   | 1,185.05 | 122.72   | 1,191.25    | 4.05           | 833,953.75    | 693,717.82   |
| 9,563.00 | 84.67   | 3.62    | 8,562.34 | 4,160.34   | 1,216.89 | 124.74   | 1,223.11    | 5.47           | 833,985.59    | 693,719.84   |
| 9,595.00 | 83.20   | 3.68    | 8,565.72 | 4,163.72   | 1,248.64 | 126.76   | 1,254.88    | 4.60           | 834,017.34    | 693,721.86   |
| 9,626.00 | 82.59   | 3.21    | 8,569.55 | 4,167.55   | 1,279.35 | 128.61   | 1,285.59    | 2.48           | 834,048.05    | 693,723.71   |
| 9,658.00 | 82.93   | 3.54    | 8,573.58 | 4,171.58   | 1,311.04 | 130.48   | 1,317.28    | 1.47           | 834,079.74    | 693,725.58   |
| 9,690.00 | 83.94   | 3.63    | 8,577.24 | 4,175.24   | 1,342.76 | 132.47   | 1,349.02    | 3.17           | 834,111.46    | 693,727.57   |
| 9,722.00 | 85.07   | 3.58    | 8,580.31 | 4,178.31   | 1,374.55 | 134.47   | 1,380.83    | 3.53           | 834,143.25    | 693,729.57   |
| 9,753.00 | 86.53   | 3.85    | 8,582.58 | 4,180.58   | 1,405.41 | 136.47   | 1,411.70    | 4.79           | 834,174.11    | 693,731.57   |
| 9,785.00 | 86.81   | 3.77    | 8,584.44 | 4,182.44   | 1,437.28 | 138.60   | 1,443.60    | 0.91           | 834,205.98    | 693,733.70   |





Pathfinder Energy Services  
Pathfinder X & Y Survey Report

**PATHFINDER**

|           |                           |                              |                                       |
|-----------|---------------------------|------------------------------|---------------------------------------|
| Company:  | Caza Petroleum            | Local Co-ordinate Reference: | Well Lucky Penny "10" State #1        |
| Project:  | Lea County                | TVD Reference:               | WELL @ 4402.00ft (Original Well Elev) |
| Site:     | Lucky Penny "10" State #1 | MD Reference:                | WELL @ 4402.00ft (Original Well Elev) |
| Well:     | Lucky Penny "10" State #1 | North Reference:             | Grid                                  |
| Wellbore: | OH                        | Survey Calculation Method:   | Minimum Curvature                     |
| Design:   | OH                        | Database:                    | Midland Database                      |

| MD<br>(ft) | Inc<br>(°) | Azi<br>(°) | TVD<br>(ft) | TVDSS<br>(ft) | N/S<br>(ft) | E/W<br>(ft) | V. Sec<br>(ft) | DLeg<br>(°/100ft) | Northing<br>(ft) | Easting<br>(ft) |
|------------|------------|------------|-------------|---------------|-------------|-------------|----------------|-------------------|------------------|-----------------|
| 9,817.00   | 88.59      | 3.64       | 8,586.28    | 4,184.28      | 1,469.16    | 140.66      | 1,475.50       | 0.80              | 834,237.86       | 693,735.76      |
| 9,848.00   | 87.20      | 4.55       | 8,587.96    | 4,185.96      | 1,500.04    | 142.87      | 1,506.42       | 3.53              | 834,268.74       | 693,737.97      |
| 9,880.00   | 88.15      | 4.83       | 8,589.25    | 4,187.25      | 1,531.90    | 145.49      | 1,538.38       | 3.09              | 834,300.60       | 693,740.59      |
| 9,912.00   | 88.49      | 5.08       | 8,590.19    | 4,188.19      | 1,563.77    | 148.25      | 1,570.35       | 1.32              | 834,332.47       | 693,743.35      |
| 9,943.00   | 89.50      | 5.77       | 8,590.74    | 4,188.74      | 1,594.62    | 151.18      | 1,601.33       | 3.95              | 834,363.32       | 693,746.28      |
| 9,975.00   | 90.82      | 6.07       | 8,590.70    | 4,188.70      | 1,626.45    | 154.48      | 1,633.33       | 3.62              | 834,395.15       | 693,749.58      |
| 10,007.00  | 90.90      | 6.76       | 8,590.28    | 4,188.28      | 1,658.25    | 158.05      | 1,665.33       | 2.33              | 834,426.95       | 693,753.15      |
| 10,039.00  | 90.84      | 7.86       | 8,589.79    | 4,187.79      | 1,689.99    | 162.13      | 1,697.32       | 3.44              | 834,458.69       | 693,757.23      |
| 10,070.00  | 90.28      | 7.92       | 8,589.49    | 4,187.49      | 1,720.69    | 166.38      | 1,728.31       | 1.82              | 834,489.39       | 693,761.48      |
| 10,102.00  | 89.61      | 6.95       | 8,589.52    | 4,187.52      | 1,752.42    | 170.52      | 1,760.31       | 3.68              | 834,521.12       | 693,765.62      |
| 10,165.00  | 88.99      | 5.41       | 8,590.29    | 4,188.29      | 1,815.05    | 177.30      | 1,823.30       | 2.63              | 834,583.75       | 693,772.40      |
| 10,260.00  | 88.99      | 5.61       | 8,591.96    | 4,189.96      | 1,909.59    | 186.42      | 1,918.26       | 0.21              | 834,678.29       | 693,781.52      |
| 10,292.00  | 90.45      | 5.86       | 8,592.12    | 4,190.12      | 1,941.43    | 189.62      | 1,950.26       | 4.63              | 834,710.13       | 693,784.72      |
| 10,324.00  | 92.13      | 7.33       | 8,591.40    | 4,189.40      | 1,973.21    | 193.30      | 1,982.25       | 6.98              | 834,741.91       | 693,788.40      |
| 10,356.00  | 93.30      | 9.03       | 8,589.88    | 4,187.88      | 2,004.85    | 197.84      | 2,014.20       | 6.44              | 834,773.55       | 693,792.94      |
| 10,388.00  | 93.42      | 8.98       | 8,588.01    | 4,186.01      | 2,036.40    | 202.84      | 2,046.12       | 0.41              | 834,805.10       | 693,797.94      |
| 10,419.00  | 92.97      | 9.46       | 8,586.28    | 4,184.28      | 2,066.95    | 207.80      | 2,077.04       | 2.12              | 834,835.65       | 693,802.90      |
| 10,451.00  | 90.90      | 9.56       | 8,585.20    | 4,183.20      | 2,098.49    | 213.09      | 2,108.99       | 6.48              | 834,867.19       | 693,808.19      |
| 10,482.00  | 89.22      | 9.57       | 8,585.17    | 4,183.17      | 2,129.06    | 218.24      | 2,139.95       | 5.42              | 834,897.76       | 693,813.34      |
| 10,524.00  | 89.96      | 8.69       | 8,585.47    | 4,183.47      | 2,170.53    | 224.90      | 2,181.91       | 2.74              | 834,939.23       | 693,820.00      |
| 10,556.00  | 90.75      | 8.69       | 8,585.27    | 4,183.27      | 2,202.16    | 229.74      | 2,213.89       | 2.47              | 834,970.86       | 693,824.84      |
| 10,587.00  | 91.45      | 8.63       | 8,584.68    | 4,182.68      | 2,232.80    | 234.40      | 2,244.87       | 2.27              | 835,001.50       | 693,829.50      |
| 10,619.00  | 91.45      | 8.71       | 8,583.87    | 4,181.87      | 2,264.42    | 239.22      | 2,276.84       | 0.25              | 835,033.12       | 693,834.32      |
| 10,651.00  | 89.87      | 8.52       | 8,583.50    | 4,181.50      | 2,296.06    | 244.02      | 2,308.82       | 4.97              | 835,064.76       | 693,839.12      |
| 10,683.00  | 89.60      | 8.57       | 8,583.65    | 4,181.65      | 2,327.70    | 248.77      | 2,340.80       | 0.86              | 835,096.40       | 693,843.87      |
| 10,714.00  | 89.96      | 8.14       | 8,583.76    | 4,181.76      | 2,358.37    | 253.28      | 2,371.79       | 1.81              | 835,127.07       | 693,848.38      |
| 10,746.00  | 90.66      | 8.66       | 8,583.59    | 4,181.59      | 2,390.03    | 257.95      | 2,403.78       | 2.73              | 835,158.73       | 693,853.05      |



Pathfinder Energy Services  
Pathfinder X & Y Survey Report

**PATHFINDER**

|           |                           |                              |                                       |
|-----------|---------------------------|------------------------------|---------------------------------------|
| Company:  | Caza Petroleum            | Local Co-ordinate Reference: | Well Lucky Penny "10" State #1        |
| Project:  | Lea County                | TVD Reference:               | WELL @ 4402.00ft (Original Well Elev) |
| Site:     | Lucky Penny "10" State #1 | MD Reference:                | WELL @ 4402.00ft (Original Well Elev) |
| Well:     | Lucky Penny "10" State #1 | North Reference:             | Grid                                  |
| Wellbore: | OH                        | Survey/Calculation Method:   | Minimum Curvature                     |
| Design:   | OH                        | Database:                    | Midland Database                      |

| Survey:    |            |            |             |               |             |             |                |                   |                  |                 |
|------------|------------|------------|-------------|---------------|-------------|-------------|----------------|-------------------|------------------|-----------------|
| MD<br>(ft) | Inc<br>(°) | Azi<br>(°) | TVD<br>(ft) | TVDSS<br>(ft) | N/S<br>(ft) | E/W<br>(ft) | V. Sec<br>(ft) | DLeg<br>(%/100ft) | Northing<br>(ft) | Easting<br>(ft) |
| 10,777.00  | 91.98      | 10.48      | 8,582.88    | 4,180.88      | 2,420.59    | 263.10      | 2,434.73       | 7.25              | 835,189.29       | 693,858.20      |
| 10,809.00  | 90.48      | 10.20      | 8,582.19    | 4,180.19      | 2,452.06    | 268.85      | 2,466.66       | 4.77              | 835,220.76       | 693,863.95      |
| 10,841.00  | 88.81      | 9.94       | 8,582.39    | 4,180.39      | 2,483.56    | 274.44      | 2,498.60       | 5.28              | 835,252.26       | 693,869.54      |
| 10,873.00  | 91.45      | 11.77      | 8,582.32    | 4,180.32      | 2,514.99    | 280.47      | 2,530.52       | 10.04             | 835,283.69       | 693,875.57      |
| 10,905.00  | 92.07      | 12.40      | 8,581.33    | 4,179.33      | 2,546.26    | 287.16      | 2,562.36       | 2.76              | 835,314.96       | 693,882.28      |
| 10,937.00  | 92.59      | 12.50      | 8,580.03    | 4,178.03      | 2,577.49    | 294.06      | 2,594.18       | 1.65              | 835,346.19       | 693,889.16      |
| 10,969.00  | 92.59      | 12.15      | 8,578.59    | 4,176.59      | 2,608.72    | 300.88      | 2,626.00       | 1.09              | 835,377.42       | 693,895.98      |
| 11,000.00  | 92.86      | 11.82      | 8,577.11    | 4,175.11      | 2,639.01    | 307.31      | 2,656.83       | 1.37              | 835,407.71       | 693,902.41      |
| 11,032.00  | 92.77      | 11.68      | 8,575.54    | 4,173.54      | 2,670.30    | 313.82      | 2,688.87       | 0.52              | 835,439.00       | 693,908.92      |
| 11,064.00  | 93.83      | 12.34      | 8,573.70    | 4,171.70      | 2,701.54    | 320.46      | 2,720.49       | 3.90              | 835,470.24       | 693,915.56      |
| 11,095.00  | 95.50      | 12.80      | 8,571.18    | 4,169.18      | 2,731.70    | 327.19      | 2,751.22       | 5.59              | 835,500.40       | 693,922.29      |
| 11,127.00  | 93.21      | 12.86      | 8,568.75    | 4,166.75      | 2,762.81    | 334.27      | 2,782.95       | 7.16              | 835,531.51       | 693,929.37      |
| 11,159.00  | 91.01      | 12.23      | 8,567.57    | 4,165.57      | 2,794.02    | 341.22      | 2,814.76       | 7.15              | 835,562.72       | 693,936.32      |
| 11,191.00  | 89.87      | 12.22      | 8,567.32    | 4,165.32      | 2,825.29    | 347.99      | 2,846.62       | 3.56              | 835,593.99       | 693,943.09      |
| 11,222.00  | 89.87      | 12.27      | 8,567.39    | 4,165.39      | 2,855.59    | 354.57      | 2,877.47       | 0.16              | 835,624.29       | 693,949.67      |
| 11,254.00  | 88.81      | 11.98      | 8,567.76    | 4,165.76      | 2,886.87    | 361.29      | 2,909.33       | 3.43              | 835,655.57       | 693,956.39      |
| 11,333.00  | 88.11      | 10.80      | 8,569.89    | 4,167.89      | 2,964.29    | 378.89      | 2,988.04       | 1.74              | 835,732.99       | 693,971.99      |
| 11,349.00  | 87.32      | 10.52      | 8,570.52    | 4,168.52      | 2,980.00    | 379.84      | 3,003.99       | 5.24              | 835,748.70       | 693,974.94      |
| 11,381.00  | 86.26      | 11.35      | 8,572.32    | 4,170.32      | 3,011.37    | 385.90      | 3,035.86       | 4.20              | 835,780.07       | 693,981.00      |
| 11,413.00  | 86.88      | 12.42      | 8,574.23    | 4,172.23      | 3,042.62    | 392.48      | 3,067.67       | 3.86              | 835,811.32       | 693,987.58      |
| 11,445.00  | 88.20      | 12.52      | 8,575.60    | 4,173.60      | 3,073.84    | 399.39      | 3,099.48       | 4.14              | 835,842.54       | 693,994.49      |
| 11,476.00  | 89.52      | 11.57      | 8,576.22    | 4,174.22      | 3,104.15    | 405.85      | 3,130.34       | 5.25              | 835,872.85       | 694,000.95      |
| 11,508.00  | 89.08      | 10.10      | 8,576.61    | 4,174.61      | 3,135.58    | 411.87      | 3,162.26       | 4.79              | 835,904.28       | 694,006.97      |
| 11,539.00  | 90.92      | 9.71       | 8,576.61    | 4,174.61      | 3,166.11    | 417.20      | 3,193.21       | 6.07              | 835,934.81       | 694,012.30      |
| 11,571.00  | 91.36      | 8.67       | 8,575.97    | 4,173.97      | 3,197.70    | 422.31      | 3,225.18       | 3.53              | 835,966.40       | 694,017.41      |
| 11,603.00  | 91.36      | 7.59       | 8,575.22    | 4,173.22      | 3,229.37    | 426.83      | 3,257.16       | 3.37              | 835,998.07       | 694,021.93      |



Pathfinder Energy Services  
Pathfinder X & Y Survey Report



|           |                           |                              |                                       |
|-----------|---------------------------|------------------------------|---------------------------------------|
| Company:  | Caza Petroleum            | Local Co-ordinate Reference: | Well Lucky Penny "10" State #1        |
| Project:  | Lea County                | TVD Reference:               | WELL @ 4402.00ft (Original Well Elev) |
| Site:     | Lucky Penny "10" State #1 | MD Reference:                | WELL @ 4402.00ft (Original Well Elev) |
| Well:     | Lucky Penny "10" State #1 | North Reference:             | Grid                                  |
| Wellbore: | OH                        | Survey Calculation Method:   | Minimum Curvature                     |
| Design:   | OH                        | Database:                    | Midland Database                      |

| MD<br>(ft)                                                                               | Inc<br>(°) | Azi<br>(°) | TVD<br>(ft) | TVDSS<br>(ft) | N/S<br>(ft) | E/W<br>(ft) | V. Sec<br>(ft) | DLeg<br>(°/100ft) | Northing<br>(ft) | Easting<br>(ft) |
|------------------------------------------------------------------------------------------|------------|------------|-------------|---------------|-------------|-------------|----------------|-------------------|------------------|-----------------|
| 11,650.00                                                                                | 91.36      | 6.00       | 8,574.10    | 4,172.10      | 3,276.02    | 432.39      | 3,304.14       | 3.38              | 836,044.72       | 694,027.49      |
| Proj TO Bit-11650.00'MD,91.36°INC,6.00°AZI, 8574.10'TVD, 3299.63'VS, 3276.02'N, 432.39'E |            |            |             |               |             |             |                |                   |                  |                 |

| Targets                                                                                                          |                  |                 |             |               |               |                  |                 |                  |                   |  |
|------------------------------------------------------------------------------------------------------------------|------------------|-----------------|-------------|---------------|---------------|------------------|-----------------|------------------|-------------------|--|
| Target Name<br>- hit/miss target<br>- Shape                                                                      | Dip Angle<br>(°) | Dip Dir.<br>(°) | TVD<br>(ft) | +N/-S<br>(ft) | +E/-W<br>(ft) | Northing<br>(ft) | Easting<br>(ft) | Latitude         | Longitude         |  |
| PBHL(LP#1Plan #7)<br>- survey misses by 697.57ft at 11650.00ft MD (8574.10 TVD, 3276.02 N, 432.39 E)<br>- Point  | 0.00             | 0.00            | 8,593.00    | 3,962.00      | 307.20        | 836,730.700      | 693,902.300     | 33° 17' 54.867 N | 103° 41' 55.430 W |  |
| PBHL(LP#1HPlan #4)<br>- survey misses by 697.32ft at 11650.00ft MD (8574.10 TVD, 3276.02 N, 432.39 E)<br>- Point | 0.00             | 0.00            | 8,570.00    | 3,962.00      | 307.20        | 836,730.700      | 693,902.300     | 33° 17' 54.867 N | 103° 41' 55.430 W |  |
| PBHL(LP#1Plan #9)<br>- survey misses by 688.70ft at 11650.00ft MD (8574.10 TVD, 3276.02 N, 432.39 E)<br>- Point  | 0.00             | 0.00            | 8,532.00    | 3,962.40      | 470.00        | 836,731.100      | 694,065.100     | 33° 17' 54.862 N | 103° 41' 53.512 W |  |
| Enter ST01<br>- survey hits target<br>- Point                                                                    | 0.00             | 0.00            | 8,590.20    | 1,563.77      | 148.24        | 834,332.470      | 693,743.340     | 33° 17' 31.149 N | 103° 41' 57.474 W |  |

| Survey Annotations        |                           |                   |               |                                                                    |
|---------------------------|---------------------------|-------------------|---------------|--------------------------------------------------------------------|
| Measured<br>Depth<br>(ft) | Vertical<br>Depth<br>(ft) | Local Coordinates |               | Comment                                                            |
|                           |                           | +N/-S<br>(ft)     | +E/-W<br>(ft) |                                                                    |
| 11,650.00                 | 8,574.10                  | 3,276.02          | 432.39        | Proj TO Bit-11650.00'MD,91.36°INC,6.00°AZI, 8574.10'TVD, 3299.63'v |

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



## **Caza Petroleum**

Lea County

Lucky Penny "10" State #1

Lucky Penny "10" State #1

OH

Survey: ST2 MWD 7-13-09

## **Pathfinder X & Y Survey Report**

10 August, 2009

*Completed Lateral*

**RECEIVED**  
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# **PATHFINDER**



Pathfinder Energy Services  
Pathfinder X & Y Survey Report



|                  |                           |                                     |                                       |
|------------------|---------------------------|-------------------------------------|---------------------------------------|
| <b>Company:</b>  | Caza Petroleum            | <b>Local Co-ordinate Reference:</b> | Well Lucky Penny "10" State #1        |
| <b>Project:</b>  | Lea County                | <b>TVD Reference:</b>               | WELL @ 4402.00ft (Original Well Elev) |
| <b>Site:</b>     | Lucky Penny "10" State #1 | <b>MD Reference:</b>                | WELL @ 4402.00ft (Original Well Elev) |
| <b>Well:</b>     | Lucky Penny "10" State #1 | <b>North Reference:</b>             | Grid                                  |
| <b>Wellbore:</b> | OH                        | <b>Survey Calculation Method:</b>   | Minimum Curvature                     |
| <b>Design:</b>   | OH                        | <b>Database:</b>                    | Midland Database                      |

|                    |                                      |                      |                |
|--------------------|--------------------------------------|----------------------|----------------|
| <b>Project</b>     | Lea County                           |                      |                |
| <b>Map System:</b> | US State Plane 1927 (Exact solution) | <b>System Datum:</b> | Mean Sea Level |
| <b>Geo Datum:</b>  | NAD 1927 (NADCON CONUS)              |                      |                |
| <b>Map Zone:</b>   | New Mexico East 3001                 |                      |                |

|             |                           |
|-------------|---------------------------|
| <b>Site</b> | Lucky Penny "10" State #1 |
|-------------|---------------------------|

|                              |         |                     |                |                          |                   |
|------------------------------|---------|---------------------|----------------|--------------------------|-------------------|
| <b>Site Position:</b>        |         | <b>Northing:</b>    | 832,768.700 ft | <b>Latitude:</b>         | 33° 17' 15.686 N  |
| <b>From:</b>                 | Map     | <b>Easting:</b>     | 693,595.100 ft | <b>Longitude:</b>        | 103° 41' 59.332 W |
| <b>Position Uncertainty:</b> | 0.00 ft | <b>Slot Radius:</b> | "              | <b>Grid Convergence:</b> | 0.35 °            |

|             |                           |
|-------------|---------------------------|
| <b>Well</b> | Lucky Penny "10" State #1 |
|-------------|---------------------------|

|                             |              |         |                            |                |                      |                   |
|-----------------------------|--------------|---------|----------------------------|----------------|----------------------|-------------------|
| <b>Well Position</b>        | <b>+N/-S</b> | 0.00 ft | <b>Northing:</b>           | 832,768.700 ft | <b>Latitude:</b>     | 33° 17' 15.686 N  |
|                             | <b>+E/-W</b> | 0.00 ft | <b>Easting:</b>            | 693,595.100 ft | <b>Longitude:</b>    | 103° 41' 59.332 W |
| <b>Position Uncertainty</b> |              | 0.00 ft | <b>Wellhead Elevation:</b> | ft             | <b>Ground Level:</b> | 4,384.00 ft       |

|                 |    |
|-----------------|----|
| <b>Wellbore</b> | OH |
|-----------------|----|

| Magnetics | Model Name | Sample Date | Declination<br>(°) | Dip Angle<br>(°) | Field Strength<br>(nT) |
|-----------|------------|-------------|--------------------|------------------|------------------------|
|           | IGRF200510 | 04/07/2009  | 7.98               | 61.21            | 49,481                 |

|               |    |
|---------------|----|
| <b>Design</b> | OH |
|---------------|----|

**Audit Notes:**

|                 |     |               |        |                      |      |
|-----------------|-----|---------------|--------|----------------------|------|
| <b>Version:</b> | 1.0 | <b>Phase:</b> | ACTUAL | <b>Tie On Depth:</b> | 0.00 |
|-----------------|-----|---------------|--------|----------------------|------|

| Vertical Section: | Depth From (TVD)<br>(ft) | +N/-S<br>(ft) | +E/-W<br>(ft) | Direction<br>(°) |
|-------------------|--------------------------|---------------|---------------|------------------|
|                   | 0.00                     | 0.00          | 0.00          | 6.76             |



Pathfinder Energy Services  
Pathfinder X & Y Survey Report



|                  |                           |                                     |                                       |
|------------------|---------------------------|-------------------------------------|---------------------------------------|
| <b>Company:</b>  | Caza Petroleum            | <b>Local Co-ordinate Reference:</b> | Well Lucky Penny "10" State #1        |
| <b>Project:</b>  | Lea County                | <b>TVD Reference:</b>               | WELL @ 4402.00ft (Original Well Elev) |
| <b>Site:</b>     | Lucky Penny "10" State #1 | <b>MD Reference:</b>                | WELL @ 4402.00ft (Original Well Elev) |
| <b>Well:</b>     | Lucky Penny "10" State #1 | <b>North Reference:</b>             | Grid                                  |
| <b>Wellbore:</b> | OH                        | <b>Survey Calculation Method:</b>   | Minimum Curvature                     |
| <b>Design:</b>   | OH                        | <b>Database:</b>                    | Midland Database                      |

| Survey Program |           | Date 08/10/2009    |            |                             |  |
|----------------|-----------|--------------------|------------|-----------------------------|--|
| From (ft)      | To (ft)   | Survey (Wellbore)  | Tool Name  | Description                 |  |
| 100.00         | 8,100.00  | GYRO (OH)          | CB-GYRO-MS | Camera based gyro multishot |  |
| 8,221.00       | 9,147.00  | MWD #1 (OH)        | MWD        | MWD - Standard              |  |
| 9,211.00       | 11,650.00 | Sidetrack MWD (OH) |            |                             |  |

| Survey   |         |         |          |            |          |          |             |                |               |              |
|----------|---------|---------|----------|------------|----------|----------|-------------|----------------|---------------|--------------|
| MD (ft)  | Inc (°) | Azi (°) | TVD (ft) | TVDSS (ft) | N/S (ft) | E/W (ft) | V. Sec (ft) | DLeg (°/100ft) | Northing (ft) | Easting (ft) |
| 9,147.00 | 91.68   | 3.05    | 8,564.39 | 4,162.39   | 802.49   | 94.18    | 808.00      | 0.00           | 833,571.19    | 693,689.28   |
| 9,255.00 | 93.91   | 4.33    | 8,559.13 | 4,157.13   | 910.13   | 101.12   | 915.70      | 2.38           | 833,678.83    | 693,696.22   |
| 9,287.00 | 94.44   | 4.23    | 8,556.80 | 4,154.80   | 941.95   | 103.50   | 947.59      | 1.69           | 833,710.65    | 693,698.60   |
| 9,319.00 | 92.68   | 3.65    | 8,554.81 | 4,152.81   | 973.82   | 105.70   | 979.49      | 5.79           | 833,742.52    | 693,700.80   |
| 9,351.00 | 90.66   | 3.24    | 8,553.88 | 4,151.88   | 1,005.74 | 107.62   | 1,011.42    | 6.44           | 833,774.44    | 693,702.72   |
| 9,383.00 | 90.66   | 2.77    | 8,553.51 | 4,151.51   | 1,037.70 | 109.30   | 1,043.35    | 1.47           | 833,806.40    | 693,704.40   |
| 9,414.00 | 91.01   | 2.85    | 8,553.06 | 4,151.06   | 1,068.66 | 110.81   | 1,074.27    | 1.16           | 833,837.36    | 693,705.91   |
| 9,446.00 | 91.80   | 3.90    | 8,552.27 | 4,150.27   | 1,100.59 | 112.70   | 1,106.20    | 4.11           | 833,869.29    | 693,707.80   |
| 9,477.00 | 93.55   | 4.57    | 8,550.82 | 4,148.82   | 1,131.47 | 114.98   | 1,137.14    | 6.04           | 833,900.17    | 693,710.08   |
| 9,509.00 | 92.59   | 4.20    | 8,549.11 | 4,147.11   | 1,163.33 | 117.43   | 1,169.06    | 3.21           | 833,932.03    | 693,712.53   |
| 9,541.00 | 91.01   | 4.25    | 8,548.11 | 4,146.11   | 1,195.23 | 119.78   | 1,201.02    | 4.94           | 833,963.93    | 693,714.88   |
| 9,572.00 | 89.96   | 4.00    | 8,547.84 | 4,145.84   | 1,226.14 | 122.01   | 1,231.98    | 3.48           | 833,994.84    | 693,717.11   |
| 9,604.00 | 90.13   | 3.84    | 8,547.82 | 4,145.82   | 1,258.07 | 124.20   | 1,263.94    | 0.73           | 834,026.77    | 693,719.30   |
| 9,636.00 | 88.81   | 3.39    | 8,548.11 | 4,146.11   | 1,290.00 | 126.22   | 1,295.89    | 4.36           | 834,058.70    | 693,721.32   |
| 9,668.00 | 87.49   | 3.51    | 8,549.15 | 4,147.15   | 1,321.93 | 128.14   | 1,327.82    | 4.14           | 834,090.63    | 693,723.24   |
| 9,699.00 | 86.79   | 3.90    | 8,550.69 | 4,148.69   | 1,352.82 | 130.14   | 1,358.74    | 2.58           | 834,121.52    | 693,725.24   |
| 9,731.00 | 86.44   | 3.78    | 8,552.58 | 4,150.58   | 1,384.70 | 132.28   | 1,390.64    | 1.16           | 834,153.40    | 693,727.38   |
| 9,763.00 | 86.88   | 3.56    | 8,554.45 | 4,152.45   | 1,416.58 | 134.33   | 1,422.54    | 1.54           | 834,185.28    | 693,729.43   |
| 9,794.00 | 86.97   | 3.02    | 8,556.11 | 4,154.11   | 1,447.48 | 136.10   | 1,453.44    | 1.76           | 834,216.18    | 693,731.20   |
| 9,826.00 | 87.85   | 3.38    | 8,557.56 | 4,155.56   | 1,479.40 | 137.89   | 1,485.34    | 2.97           | 834,248.10    | 693,732.99   |



Pathfinder Energy Services  
Pathfinder X & Y Survey Report



Company: Caza Petroleum  
Project: Lea County  
Site: Lucky Penny "10" State #1  
Well: Lucky Penny "10" State #1  
Wellbore: OH  
Design: OH

Local Co-ordinate Reference: Well Lucky Penny "10" State #1  
TVD Reference: WELL @ 4402.00ft (Original Well Elev)  
MD Reference: WELL @ 4402.00ft (Original Well Elev)  
North Reference: Grid  
Survey Calculation Method: Minimum Curvature  
Database: Midland Database

Survey

| MD<br>(ft) | Inc<br>(°) | Azi<br>(°) | TVD<br>(ft) | TVDSS<br>(ft) | N/S<br>(ft) | E/W<br>(ft) | V. Sec<br>(ft) | DLeg<br>(°/100ft) | Northing<br>(ft) | Easting<br>(ft) |
|------------|------------|------------|-------------|---------------|-------------|-------------|----------------|-------------------|------------------|-----------------|
| 9,858.00   | 89.43      | 3.09       | 8,558.32    | 4,156.32      | 1,511.34    | 139.69      | 1,517.27       | 5.02              | 834,280.04       | 693,734.79      |
| 9,889.00   | 90.48      | 2.81       | 8,558.34    | 4,156.34      | 1,542.30    | 141.29      | 1,548.21       | 3.51              | 834,311.00       | 693,736.39      |
| 9,921.00   | 91.19      | 2.79       | 8,557.87    | 4,155.87      | 1,574.25    | 142.85      | 1,580.13       | 2.22              | 834,342.95       | 693,737.95      |
| 9,953.00   | 91.63      | 2.83       | 8,557.09    | 4,155.09      | 1,606.21    | 144.42      | 1,612.04       | 1.38              | 834,374.91       | 693,739.52      |
| 10,016.00  | 89.69      | 3.98       | 8,556.36    | 4,154.36      | 1,669.09    | 148.16      | 1,674.92       | 3.58              | 834,437.79       | 693,743.26      |
| 10,048.00  | 90.22      | 4.09       | 8,556.39    | 4,154.39      | 1,701.01    | 150.41      | 1,706.89       | 1.69              | 834,469.71       | 693,745.51      |
| 10,080.00  | 91.63      | 3.95       | 8,555.87    | 4,153.87      | 1,732.92    | 152.66      | 1,738.85       | 4.43              | 834,501.62       | 693,747.76      |
| 10,111.00  | 92.07      | 4.17       | 8,554.87    | 4,152.87      | 1,763.83    | 154.85      | 1,769.79       | 1.59              | 834,532.53       | 693,749.95      |
| 10,143.00  | 90.04      | 4.27       | 8,554.28    | 4,152.28      | 1,795.74    | 157.21      | 1,801.76       | 6.35              | 834,564.44       | 693,752.31      |
| 10,175.00  | 89.52      | 4.31       | 8,554.40    | 4,152.40      | 1,827.65    | 159.60      | 1,833.73       | 1.63              | 834,596.35       | 693,754.70      |
| 10,206.00  | 90.48      | 4.38       | 8,554.40    | 4,152.40      | 1,858.56    | 161.95      | 1,864.70       | 3.10              | 834,627.26       | 693,757.05      |
| 10,238.00  | 92.24      | 4.85       | 8,553.64    | 4,151.64      | 1,890.44    | 164.52      | 1,896.67       | 5.69              | 834,659.14       | 693,759.62      |
| 10,270.00  | 92.77      | 5.51       | 8,552.24    | 4,150.24      | 1,922.28    | 167.41      | 1,928.62       | 2.64              | 834,690.98       | 693,762.51      |
| 10,302.00  | 91.71      | 5.40       | 8,550.99    | 4,148.99      | 1,954.11    | 170.45      | 1,960.59       | 3.33              | 834,722.81       | 693,765.55      |
| 10,334.00  | 90.66      | 5.83       | 8,550.33    | 4,148.33      | 1,985.95    | 173.58      | 1,992.58       | 3.55              | 834,754.65       | 693,768.68      |
| 10,365.00  | 89.69      | 5.93       | 8,550.24    | 4,148.24      | 2,016.79    | 176.75      | 2,023.57       | 3.15              | 834,785.49       | 693,771.85      |
| 10,397.00  | 88.46      | 6.42       | 8,550.75    | 4,148.75      | 2,048.60    | 180.19      | 2,055.56       | 4.14              | 834,817.30       | 693,775.29      |
| 10,428.00  | 88.55      | 6.40       | 8,551.56    | 4,149.56      | 2,079.39    | 183.65      | 2,086.55       | 0.30              | 834,848.09       | 693,778.75      |
| 10,460.00  | 88.20      | 6.99       | 8,552.47    | 4,150.47      | 2,111.16    | 187.38      | 2,118.54       | 2.14              | 834,879.86       | 693,782.48      |
| 10,492.00  | 88.64      | 7.34       | 8,553.35    | 4,151.35      | 2,142.90    | 191.37      | 2,150.53       | 1.76              | 834,911.60       | 693,786.47      |
| 10,524.00  | 89.08      | 7.18       | 8,553.99    | 4,151.99      | 2,174.64    | 195.42      | 2,182.52       | 1.46              | 834,943.34       | 693,790.52      |
| 10,556.00  | 87.93      | 7.33       | 8,554.82    | 4,152.82      | 2,206.37    | 199.46      | 2,214.51       | 3.62              | 834,975.07       | 693,794.56      |
| 10,634.00  | 87.93      | 7.33       | 8,557.64    | 4,155.64      | 2,283.68    | 209.40      | 2,292.45       | 0.00              | 835,052.38       | 693,804.50      |

Proj To Bit -10634.00'MD,87.93°INC,7.33°AZI, 8557.64'TVD, 2292.45°VS, 2283.68°N, 209.40°E





Pathfinder Energy Services  
Pathfinder X & Y Survey Report



|                  |                           |                                     |                                       |
|------------------|---------------------------|-------------------------------------|---------------------------------------|
| <b>Company:</b>  | Caza Petroleum            | <b>Local Co-ordinate Reference:</b> | Well Lucky Penny "10" State #1        |
| <b>Project:</b>  | Lea County                | <b>TVD Reference:</b>               | WELL @ 4402.00ft (Original Well Elev) |
| <b>Site:</b>     | Lucky Penny "10" State #1 | <b>MD Reference:</b>                | WELL @ 4402.00ft (Original Well Elev) |
| <b>Well:</b>     | Lucky Penny "10" State #1 | <b>North Reference:</b>             | Grid                                  |
| <b>Wellbore:</b> | OH                        | <b>Survey Calculation Method:</b>   | Minimum Curvature                     |
| <b>Design:</b>   | OH                        | <b>Database:</b>                    | Midland Database                      |

| Targets                                                                          |           |          |          |          |        |             |             |                  |                   |
|----------------------------------------------------------------------------------|-----------|----------|----------|----------|--------|-------------|-------------|------------------|-------------------|
| Target Name                                                                      |           |          |          |          |        |             |             |                  |                   |
| - hit/miss target                                                                | Dip Angle | Dip Dir. | TVD      | +N/-S    | +E/-W  | Northing    | Easting     | Latitude         | Longitude         |
| - Shape                                                                          | (°)       | (°)      | (ft)     | (ft)     | (ft)   | (ft)        | (ft)        |                  |                   |
| PBHL(LP#1Plan #7)                                                                | 0.00      | 0.00     | 8,593.00 | 3,962.00 | 307.20 | 836,730.700 | 693,902.300 | 33° 17' 54.867 N | 103° 41' 55.430 W |
| - survey misses by 1681.54ft at 10634.00ft MD (8557.64 TVD, 2283.68 N, 209.40 E) |           |          |          |          |        |             |             |                  |                   |
| - Point                                                                          |           |          |          |          |        |             |             |                  |                   |
| PBHL(LP#1HPlan #4)                                                               | 0.00      | 0.00     | 8,570.00 | 3,962.00 | 307.20 | 836,730.700 | 693,902.300 | 33° 17' 54.867 N | 103° 41' 55.430 W |
| - survey misses by 1681.21ft at 10634.00ft MD (8557.64 TVD, 2283.68 N, 209.40 E) |           |          |          |          |        |             |             |                  |                   |
| - Point                                                                          |           |          |          |          |        |             |             |                  |                   |
| PBHL(LP#1Plan #9)                                                                | 0.00      | 0.00     | 8,532.00 | 3,962.40 | 470.00 | 836,731.100 | 694,065.100 | 33° 17' 54.862 N | 103° 41' 53.512 W |
| - survey misses by 1699.02ft at 10634.00ft MD (8557.64 TVD, 2283.68 N, 209.40 E) |           |          |          |          |        |             |             |                  |                   |
| - Point                                                                          |           |          |          |          |        |             |             |                  |                   |
| Enter ST01                                                                       | 0.00      | 0.00     | 8,590.20 | 1,563.77 | 148.24 | 834,332.470 | 693,743.340 | 33° 17' 31.149 N | 103° 41' 57.474 W |
| - survey misses by 32.67ft at 9910.32ft MD (8558.07 TVD, 1563.59 N, 142.33 E)    |           |          |          |          |        |             |             |                  |                   |
| - Point                                                                          |           |          |          |          |        |             |             |                  |                   |

| Survey Annotations |                |                   |            |                                                                     |
|--------------------|----------------|-------------------|------------|---------------------------------------------------------------------|
| Measured Depth     | Vertical Depth | Local Coordinates |            | Comment                                                             |
| (ft)               | (ft)           | +N/-S (ft)        | +E/-W (ft) |                                                                     |
| 10,634.00          | 8,557.64       | 2,283.68          | 209.40     | Proj To Bit -10634.00'MD,87.93°INC,7.33°AZI, 8557.64'TVD, 2292.45°v |

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