

**sperry-sun**  
**DRILLING SERVICES**

30-045-32142

End of Well Report

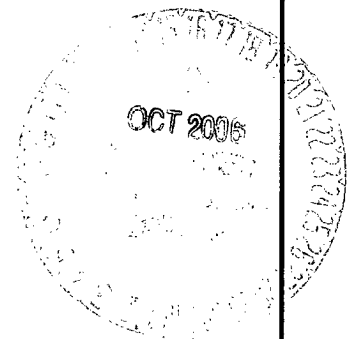
Surface 1025/S 1835/W  
Int BHL 712/S 845/W — BHL @ 3590'  
ml 3590 Tvd 3518

HOLD CTG FOR Bottomhole survey at T.D.

**Cox Canyon Unit #5B**

Williams Production Company

4/18/2006



8

**Customer : Williams Production Company**

**Well Name : Cox Canyon Unit #5B**

**Discussion:**

| BHA # | Bit # | Motor Run # | Hole Size (in) | MD In (ft) | MD Out (ft) | TVD In (ft) | TVD Out (ft) | Inc In (deg) | Inc Out (deg) | Azi In (deg) | Azi Out (deg) | Drig hrs | Circ hrs |
|-------|-------|-------------|----------------|------------|-------------|-------------|--------------|--------------|---------------|--------------|---------------|----------|----------|
| 1     | 3     | 1           | 9.875          | 360        | 2686        | 360         | 2503         | 1.2          | 24.4          | 278          | 255           | 60       | 9        |
| 2     | 4     | 2           | 9.875          | 2686       | 3650        | 2503        | 3437         | 24.4         | 1.0           | 255          | 156           | 38       | 8        |

**Table 1 - BHA Summary**

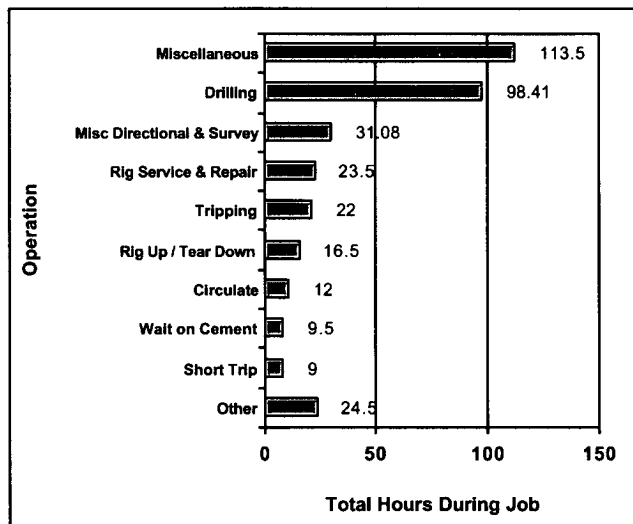
| Motor Run # | Manufacturer | Type        | Lobe | OD (in) | Gauge (in) | Bend (deg) | Adj | DLS (Ori) (*100') | ROP (Ori) (ft/hr) | ROP (Rot) (ft/hr) |
|-------------|--------------|-------------|------|---------|------------|------------|-----|-------------------|-------------------|-------------------|
| 1           | SSDS         | SperryDrill | 8/9  | 6.750   | 8.563      | 1.50       | Y   | 3.50              | 22                | 43                |
| 2           | SSDS         | SperryDrill | 8/9  | 6.750   | 8.563      | 1.50       | Y   | 3.50              | 18                | 30                |

**Table 2 - Motor Run Summary**

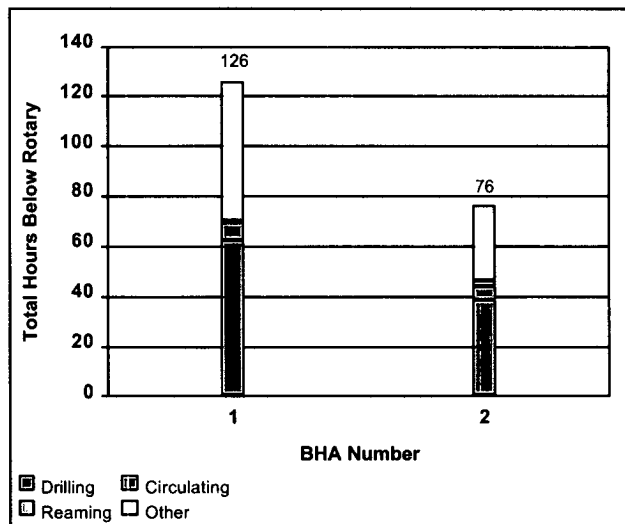
| Bit # | Manufacturer | Style  | OD (in) | Gge Len (in) | Nozzles (/32's) | TFA (in <sup>2</sup> ) | Dull Grades I O D L B G O R | Ftge (ft) | Drig hrs | ROP (ft/hr) |
|-------|--------------|--------|---------|--------------|-----------------|------------------------|-----------------------------|-----------|----------|-------------|
| 3     | HTC          | GT-S09 | 9.875   |              | 3x18            | 0.746                  | 2-2-WT- A-E-2-ER-MWD        | 2326      | 60.41    | 39          |
| 4     | HTC          | GT-S09 | 9.875   |              | 3x18            | 0.746                  | 2-2-WT- A-E-1-NO-CP         | 964       | 38.00    | 25          |

**Table 3 - Bit Run Summary**

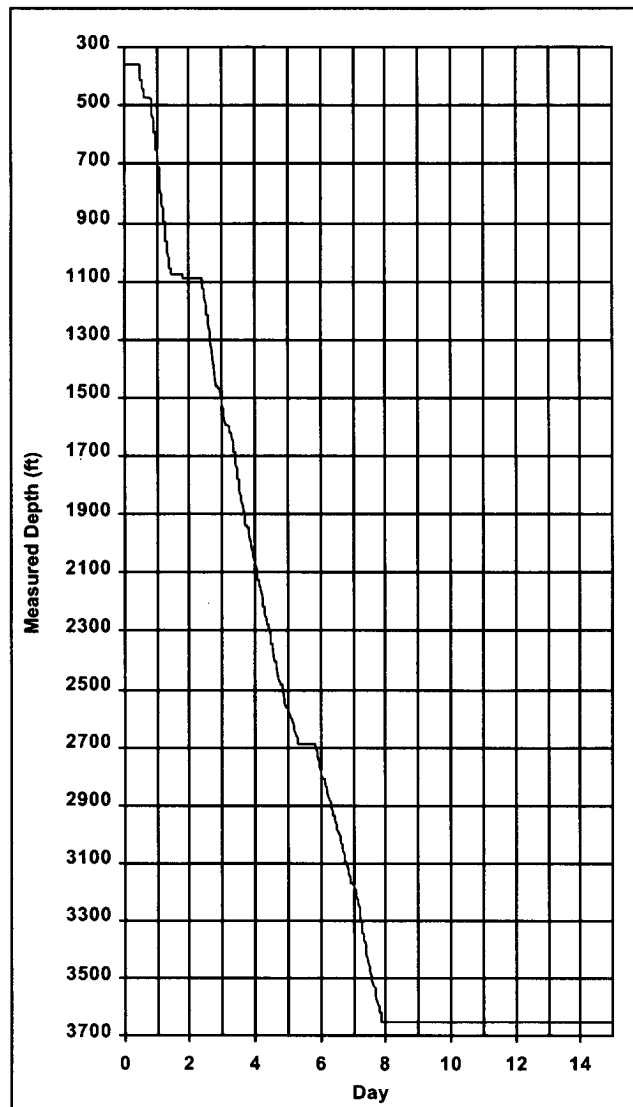
## Hours by Operation Summary



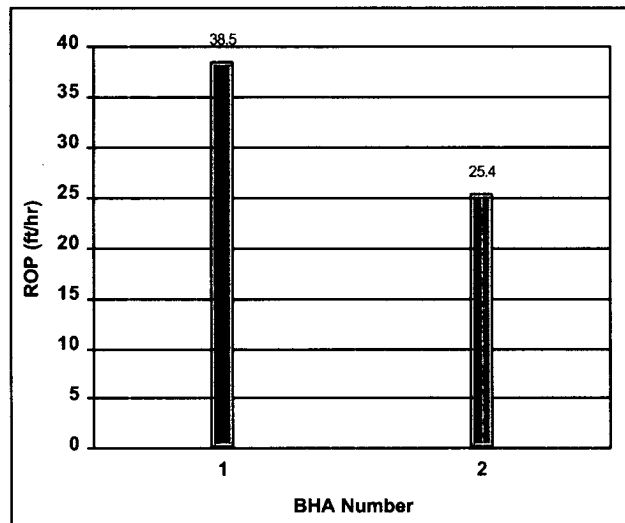
## Hours per BHA Breakdown



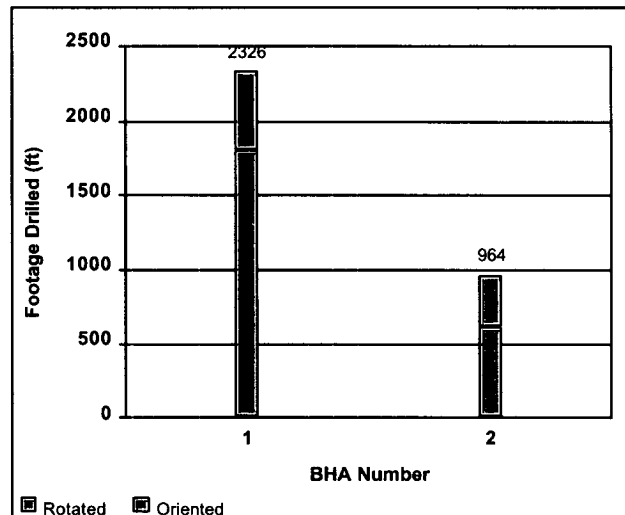
## Days vs. Depth



## Average Rate of Penetration per BHA



## Footage per BHA



Sperry-Sun Drilling Services

Williams Production Company  
Cox Canyon Unit #5B  
AWS # 124

New Mexico  
San Juan  
OK-MJ-0004289678

| MD<br>(ft) | Formation Name<br>MD/TVD | Inclination —<br>DLS | Bit Data | Drilling<br>Parameters | Motor | BHA<br>Stabilizers | Comments | BHA ID |
|------------|--------------------------|----------------------|----------|------------------------|-------|--------------------|----------|--------|
| 300        |                          |                      |          |                        |       |                    |          |        |
| 500        |                          |                      |          |                        |       |                    |          |        |
| 700        |                          |                      |          |                        |       |                    |          |        |
| 900        |                          |                      |          |                        |       |                    |          |        |
| 1100       |                          |                      |          |                        |       |                    |          |        |
| 1300       |                          |                      |          |                        |       |                    |          |        |
| 1500       |                          |                      |          |                        |       |                    |          |        |
| 1700       |                          |                      |          |                        |       |                    |          |        |
| 1900       | Ojo Alamo<br>1817 / 1725 |                      |          |                        |       |                    |          |        |
| 2100       | Kirtland<br>1895 / 1795  |                      |          |                        |       |                    |          |        |
| 2300       |                          |                      |          |                        |       |                    |          |        |
| 2500       |                          |                      |          |                        |       |                    |          |        |
| 2700       |                          |                      |          |                        |       |                    |          |        |
| 2900       |                          |                      |          |                        |       |                    |          |        |
| 3100       |                          |                      |          |                        |       |                    |          |        |
| 3300       | Fruitland<br>3324 / 3112 |                      |          |                        |       |                    |          |        |
| 3500       |                          |                      |          |                        |       |                    |          |        |
| 3700       |                          |                      |          |                        |       |                    |          |        |

# Williams Production Company

**HALLIBURTON**

**Sperry Drilling Services**



**Project: San Juan County NAD27**

**Site: Sec 21-T32N-R11W**

**Well: Cox Canyon Unit #5B**

**Wellbore: Wellbore #1**

**Plan: Plan 032406 (Cox Canyon Unit #5B/Wellbore #1)**

## CASING DETAILS

| TVD     | MD      | Name | Size |
|---------|---------|------|------|
| 3460.00 | 3668.67 | 7"   | 7    |

## SECTION DETAILS

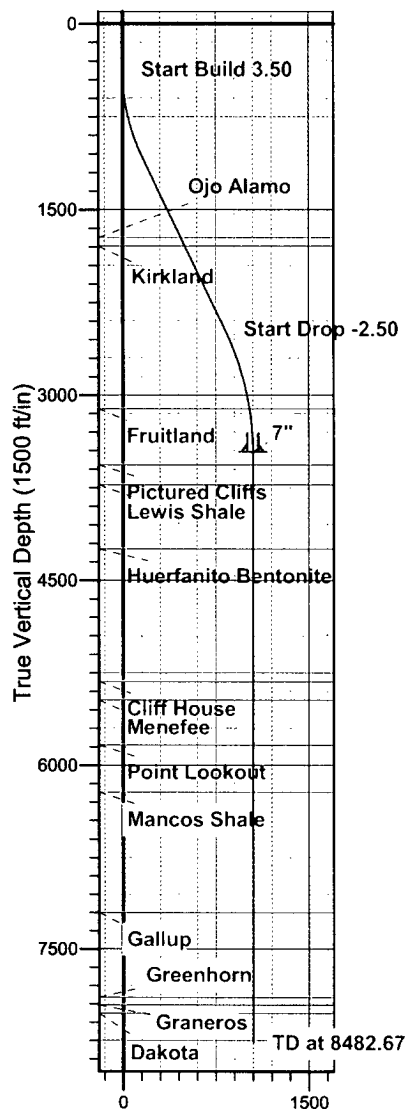
| Sec        | MD      | Inc   | Azi    | TVD     | +N/-S   | +E/-W    | DLeg | TFace  | VSec    | Target            |
|------------|---------|-------|--------|---------|---------|----------|------|--------|---------|-------------------|
| 1          | 0.00    | 0.00  | 0.00   | 0.00    | 0.00    | 0.00     | 0.00 | 0.00   | 0.00    |                   |
| K.O.P.     | 375.00  | 0.00  | 0.00   | 375.00  | 0.00    | 0.00     | 0.00 | 0.00   | 0.00    |                   |
| End Build  | 1106.03 | 25.59 | 252.72 | 1081.97 | -47.69  | -153.28  | 3.50 | 252.72 | 160.53  |                   |
| Start Drop | 2645.23 | 25.59 | 252.72 | 2470.24 | -245.18 | -788.00  | 0.00 | 0.00   | 825.26  |                   |
| End Drop   | 3668.67 | 0.00  | 0.00   | 3460.00 | -311.95 | -1002.59 | 2.50 | 180.00 | 1050.00 | 7" Cgg Pt CCU #5B |
| Target     | 8482.67 | 0.00  | 0.00   | 8274.00 | -311.95 | -1002.59 | 0.00 | 0.00   | 1050.00 |                   |

## WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

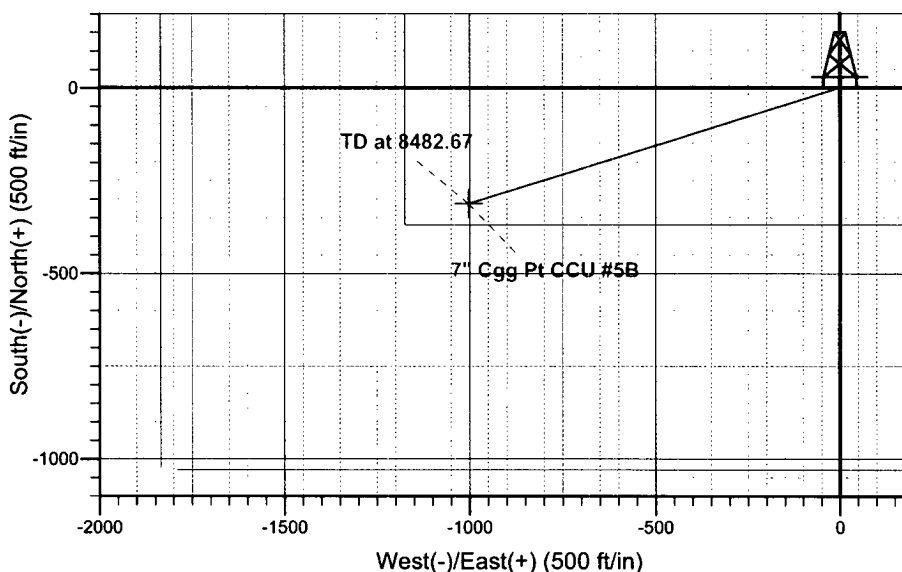
| Name              | TVD     | +N/-S   | +E/-W    | Northing   | Easting   | Shape |
|-------------------|---------|---------|----------|------------|-----------|-------|
| 7" Cgg Pt CCU #5B | 3460.00 | -311.95 | -1002.59 | 2170561.09 | 451604.31 | Point |

## WELL DETAILS: Cox Canyon Unit #5B

| Ground Level: 6880.00 |           |                  |                   |
|-----------------------|-----------|------------------|-------------------|
| Northing              | Easting   | Latitude         | Longitude         |
| 2170871.32            | 452607.44 | 36° 57' 57.000 N | 107° 59' 44.000 W |



Vertical Section at 252.72° (1500 ft/in)



Plan: Plan 032406 (Cox Canyon Unit #5B/Wellbore #1)

Created By: Dennis Cook Date: 3/18/2006

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

Reviewed: \_\_\_\_\_ Date: \_\_\_\_\_

Approved: \_\_\_\_\_ Date: \_\_\_\_\_

# Williams Production Company

San Juan County NAD27

Sec 21-T32N-R11W

Cox Canyon Unit #5B

Wellbore #1

Survey: MWD Survey

## Sperry Drilling Services Combo Report

18 April, 2006

Well Coordinates: 2,170,871.32 N, 452,607.44 E (36° 57' 57.00" N, 107° 59' 44.00" W)  
Ground Level: 6,880.00 ft

Local Coordinate Origin:

Centered on Well Cox Canyon Unit #5B

Viewing Datum:

WELL @ 6892.00ft (Original Well Elev)

TVDs to System:

N

North Reference:

True

Unit System:

API - US Survey Feet

Version: 2003.14 Build: 77

HALLIBURTON

# HALLIBURTON

## Survey Report for Cox Canyon Unit #5B - Wellbore #1 - MWD Survey

| Measured<br>Depth<br>(ft) | Inclination<br>(°) | Azimuth<br>(°) | TVD below<br>System<br>(ft) | Vertical<br>Depth<br>(ft) | Local Coordinates<br>Northing<br>(ft) | Easting<br>(ft) | Map Coordinates<br>Northing<br>(ft) | Easting<br>(ft) | Dogleg<br>Rate<br>(°/100ft) | Vertical<br>Section<br>(ft) | Comments |
|---------------------------|--------------------|----------------|-----------------------------|---------------------------|---------------------------------------|-----------------|-------------------------------------|-----------------|-----------------------------|-----------------------------|----------|
| 0.00                      | 0.00               | 0.00           | 6,892.00                    | 0.00                      | 0.00 N                                | 0.00 E          | 2,170,871.32                        | 452,607.44      | 0.00                        | 0.00                        |          |
| 358.00                    | 1.20               | 278.20         | 6,534.03                    | 357.97                    | 0.53 N                                | 3.71 W          | 2,170,871.87                        | 452,603.73      | 0.34                        | 3.38                        |          |
| 380.00                    | 1.40               | 280.60         | 6,512.03                    | 379.97                    | 0.62 N                                | 4.20 W          | 2,170,871.95                        | 452,603.23      | 0.94                        | 3.83                        |          |
| 411.00                    | 2.00               | 275.80         | 6,481.05                    | 410.95                    | 0.74 N                                | 5.11 W          | 2,170,872.07                        | 452,602.32      | 1.99                        | 4.66                        |          |
| 442.00                    | 2.20               | 278.30         | 6,450.07                    | 441.93                    | 0.88 N                                | 6.24 W          | 2,170,872.22                        | 452,601.20      | 0.71                        | 5.70                        |          |
| 472.00                    | 2.90               | 277.20         | 6,420.10                    | 471.90                    | 1.06 N                                | 7.56 W          | 2,170,872.40                        | 452,599.87      | 2.34                        | 6.91                        |          |
| 501.00                    | 3.40               | 280.60         | 6,391.14                    | 500.86                    | 1.31 N                                | 9.14 W          | 2,170,872.65                        | 452,598.30      | 1.84                        | 8.33                        |          |
| 532.00                    | 4.40               | 281.20         | 6,360.21                    | 531.79                    | 1.71 N                                | 11.21 W         | 2,170,873.05                        | 452,596.23      | 3.23                        | 10.19                       |          |
| 561.00                    | 5.50               | 283.10         | 6,331.32                    | 560.68                    | 2.24 N                                | 13.65 W         | 2,170,873.59                        | 452,593.79      | 3.83                        | 12.37                       |          |
| 592.00                    | 6.60               | 279.20         | 6,300.49                    | 591.51                    | 2.86 N                                | 16.86 W         | 2,170,874.22                        | 452,590.58      | 3.79                        | 15.25                       |          |
| 622.00                    | 7.50               | 280.30         | 6,270.72                    | 621.28                    | 3.49 N                                | 20.48 W         | 2,170,874.85                        | 452,586.96      | 3.03                        | 18.52                       |          |
| 653.00                    | 9.00               | 281.80         | 6,240.04                    | 651.96                    | 4.35 N                                | 24.85 W         | 2,170,875.71                        | 452,582.59      | 4.89                        | 22.44                       |          |
| 684.00                    | 10.00              | 280.60         | 6,209.47                    | 682.53                    | 5.34 N                                | 29.87 W         | 2,170,876.71                        | 452,577.58      | 3.29                        | 26.93                       |          |
| 715.00                    | 10.00              | 273.70         | 6,178.94                    | 713.06                    | 6.01 N                                | 35.20 W         | 2,170,877.39                        | 452,572.25      | 3.86                        | 31.83                       |          |
| 746.00                    | 12.00              | 275.70         | 6,148.51                    | 743.49                    | 6.50 N                                | 41.09 W         | 2,170,877.89                        | 452,566.35      | 6.57                        | 37.31                       |          |
| 777.00                    | 13.10              | 273.60         | 6,118.25                    | 773.75                    | 7.04 N                                | 47.81 W         | 2,170,878.45                        | 452,559.64      | 3.84                        | 43.56                       |          |
| 808.00                    | 13.80              | 270.50         | 6,088.10                    | 803.90                    | 7.29 N                                | 55.01 W         | 2,170,878.71                        | 452,552.44      | 3.24                        | 50.36                       |          |
| 839.00                    | 14.90              | 270.00         | 6,058.07                    | 833.93                    | 7.33 N                                | 62.69 W         | 2,170,878.76                        | 452,544.75      | 3.57                        | 57.69                       |          |
| 870.00                    | 15.70              | 267.70         | 6,028.17                    | 863.83                    | 7.16 N                                | 70.87 W         | 2,170,878.60                        | 452,536.58      | 3.24                        | 65.54                       |          |
| 902.00                    | 16.10              | 264.00         | 5,997.39                    | 894.61                    | 6.52 N                                | 79.61 W         | 2,170,877.98                        | 452,527.84      | 3.40                        | 74.08                       |          |
| 933.00                    | 16.70              | 260.90         | 5,967.65                    | 924.35                    | 5.37 N                                | 88.28 W         | 2,170,876.84                        | 452,519.16      | 3.42                        | 82.70                       |          |
| 965.00                    | 17.50              | 259.20         | 5,937.07                    | 954.93                    | 3.74 N                                | 97.55 W         | 2,170,875.23                        | 452,509.89      | 2.95                        | 92.03                       |          |
| 996.00                    | 18.30              | 258.00         | 5,907.57                    | 984.43                    | 1.85 N                                | 106.89 W        | 2,170,873.36                        | 452,500.55      | 2.84                        | 101.51                      |          |
| 1,028.00                  | 18.80              | 255.40         | 5,877.23                    | 1,014.77                  | 0.49 S                                | 116.79 W        | 2,170,871.03                        | 452,490.64      | 3.02                        | 111.67                      |          |
| 1,059.00                  | 19.50              | 253.70         | 5,847.94                    | 1,044.06                  | 3.20 S                                | 126.59 W        | 2,170,868.34                        | 452,480.84      | 2.89                        | 121.83                      |          |
| 1,091.00                  | 20.20              | 251.90         | 5,817.84                    | 1,074.16                  | 6.42 S                                | 136.97 W        | 2,170,865.14                        | 452,470.46      | 2.90                        | 132.69                      |          |
| 1,122.00                  | 21.00              | 250.70         | 5,788.83                    | 1,103.17                  | 9.92 S                                | 147.30 W        | 2,170,861.66                        | 452,460.12      | 2.92                        | 143.60                      |          |
| 1,154.00                  | 21.80              | 250.00         | 5,759.03                    | 1,132.97                  | 13.85 S                               | 158.29 W        | 2,170,857.75                        | 452,449.12      | 2.62                        | 155.26                      |          |
| 1,185.00                  | 22.60              | 249.00         | 5,730.33                    | 1,161.67                  | 17.95 S                               | 169.26 W        | 2,170,853.66                        | 452,438.14      | 2.85                        | 166.96                      |          |
| 1,217.00                  | 23.80              | 249.40         | 5,700.92                    | 1,191.08                  | 22.42 S                               | 181.05 W        | 2,170,849.21                        | 452,426.35      | 3.78                        | 179.54                      |          |
| 1,248.00                  | 24.30              | 248.10         | 5,672.61                    | 1,219.39                  | 27.00 S                               | 192.82 W        | 2,170,844.65                        | 452,414.57      | 2.35                        | 192.14                      |          |
| 1,279.00                  | 25.50              | 248.80         | 5,644.49                    | 1,247.51                  | 31.80 S                               | 204.96 W        | 2,170,839.88                        | 452,402.42      | 3.99                        | 205.16                      |          |
| 1,343.00                  | 26.10              | 248.60         | 5,586.87                    | 1,305.13                  | 41.92 S                               | 230.91 W        | 2,170,829.80                        | 452,376.45      | 0.95                        | 232.94                      |          |
| 1,405.00                  | 27.50              | 249.80         | 5,531.53                    | 1,360.47                  | 51.83 S                               | 257.05 W        | 2,170,819.93                        | 452,350.30      | 2.42                        | 260.84                      |          |
| 1,437.00                  | 28.60              | 250.20         | 5,503.29                    | 1,388.71                  | 56.98 S                               | 271.19 W        | 2,170,814.81                        | 452,336.15      | 3.49                        | 275.87                      |          |
| 1,469.00                  | 28.90              | 250.20         | 5,475.24                    | 1,416.76                  | 62.19 S                               | 285.67 W        | 2,170,809.62                        | 452,321.66      | 0.94                        | 291.25                      |          |
| 1,501.00                  | 28.70              | 249.10         | 5,447.20                    | 1,444.80                  | 67.55 S                               | 300.12 W        | 2,170,804.28                        | 452,307.20      | 1.77                        | 306.64                      |          |
| 1,532.00                  | 28.60              | 249.00         | 5,419.99                    | 1,472.01                  | 72.87 S                               | 314.00 W        | 2,170,798.99                        | 452,293.31      | 0.36                        | 321.48                      |          |
| 1,563.00                  | 28.20              | 248.10         | 5,392.72                    | 1,499.28                  | 78.26 S                               | 327.73 W        | 2,170,793.62                        | 452,279.58      | 1.89                        | 336.18                      |          |
| 1,595.00                  | 27.70              | 249.20         | 5,364.45                    | 1,527.55                  | 83.72 S                               | 341.69 W        | 2,170,788.19                        | 452,265.60      | 2.24                        | 351.14                      |          |

# HALLIBURTON

## Survey Report for Cox Canyon Unit #5B - Wellbore #1 - MWD Survey

| Measured<br>Depth<br>(ft) | Inclination<br>(°) | Azimuth<br>(°) | TVD below<br>System<br>(ft) | Vertical<br>Depth<br>(ft) | Local Coordinates |                 | Map Coordinates  |                 | Dogleg<br>Rate<br>(°/100ft) | Vertical<br>Section<br>(ft) | Comments |
|---------------------------|--------------------|----------------|-----------------------------|---------------------------|-------------------|-----------------|------------------|-----------------|-----------------------------|-----------------------------|----------|
|                           |                    |                |                             |                           | Northing<br>(ft)  | Easting<br>(ft) | Northing<br>(ft) | Easting<br>(ft) |                             |                             |          |
| 1,625.00                  | 27.00              | 249.60         | 5,337.81                    | 1,554.19                  | 88.57 S           | 354.60 W        | 2,170,783.36     | 452,252.69      | 2.41                        | 364.90                      |          |
| 1,657.00                  | 26.80              | 249.20         | 5,309.27                    | 1,582.73                  | 93.86 S           | 368.15 W        | 2,170,778.29     | 452,239.13      | 0.84                        | 379.35                      |          |
| 1,689.00                  | 26.40              | 248.30         | 5,280.66                    | 1,611.34                  | 98.86 S           | 381.50 W        | 2,170,773.12     | 452,225.77      | 1.77                        | 393.65                      |          |
| 1,720.00                  | 26.40              | 249.10         | 5,252.89                    | 1,639.11                  | 103.86 S          | 394.34 W        | 2,170,768.13     | 452,212.91      | 1.15                        | 407.40                      |          |
| 1,751.00                  | 27.10              | 249.40         | 5,225.21                    | 1,666.79                  | 108.81 S          | 407.39 W        | 2,170,763.21     | 452,199.86      | 2.30                        | 421.32                      |          |
| 1,782.00                  | 27.30              | 250.70         | 5,197.64                    | 1,694.36                  | 113.84 S          | 420.71 W        | 2,170,758.40     | 452,186.53      | 2.02                        | 435.48                      |          |
| 1,814.00                  | 27.20              | 250.20         | 5,169.19                    | 1,722.81                  | 118.54 S          | 434.52 W        | 2,170,753.52     | 452,172.72      | 0.78                        | 450.12                      |          |
| 1,846.00                  | 27.00              | 249.80         | 5,140.70                    | 1,751.30                  | 123.53 S          | 448.22 W        | 2,170,748.56     | 452,159.01      | 0.85                        | 464.68                      |          |
| 1,877.00                  | 26.70              | 249.50         | 5,113.04                    | 1,778.96                  | 128.40 S          | 461.34 W        | 2,170,743.71     | 452,145.87      | 1.06                        | 478.66                      |          |
| 1,908.00                  | 26.30              | 249.40         | 5,085.30                    | 1,806.70                  | 133.25 S          | 474.30 W        | 2,170,738.88     | 452,132.91      | 1.30                        | 492.47                      |          |
| 1,940.00                  | 26.10              | 249.80         | 5,056.59                    | 1,835.41                  | 138.18 S          | 487.54 W        | 2,170,733.98     | 452,119.66      | 0.83                        | 506.58                      |          |
| 1,972.00                  | 25.80              | 249.30         | 5,027.81                    | 1,864.19                  | 143.07 S          | 500.66 W        | 2,170,729.11     | 452,106.53      | 1.16                        | 520.56                      |          |
| 2,003.00                  | 25.80              | 248.70         | 4,999.90                    | 1,892.10                  | 147.91 S          | 513.25 W        | 2,170,724.29     | 452,093.93      | 0.84                        | 534.02                      |          |
| 2,034.00                  | 25.70              | 248.40         | 4,971.98                    | 1,920.02                  | 152.83 S          | 525.79 W        | 2,170,719.39     | 452,081.39      | 0.53                        | 547.45                      |          |
| 2,064.00                  | 26.30              | 248.30         | 4,945.02                    | 1,946.98                  | 157.68 S          | 538.01 W        | 2,170,714.56     | 452,069.16      | 2.01                        | 560.57                      |          |
| 2,095.00                  | 26.00              | 248.40         | 4,917.19                    | 1,974.81                  | 162.72 S          | 550.71 W        | 2,170,709.54     | 452,056.45      | 0.98                        | 574.19                      |          |
| 2,125.00                  | 25.90              | 250.10         | 4,890.22                    | 2,001.78                  | 167.37 S          | 562.99 W        | 2,170,704.91     | 452,044.17      | 2.50                        | 587.29                      |          |
| 2,156.00                  | 26.70              | 249.10         | 4,862.42                    | 2,029.58                  | 172.16 S          | 575.86 W        | 2,170,700.14     | 452,031.28      | 2.95                        | 601.01                      |          |
| 2,187.00                  | 27.70              | 250.70         | 4,834.85                    | 2,057.15                  | 177.03 S          | 589.17 W        | 2,170,695.30     | 452,017.97      | 4.00                        | 615.16                      |          |
| 2,218.00                  | 27.90              | 250.90         | 4,807.43                    | 2,084.57                  | 181.78 S          | 602.82 W        | 2,170,690.57     | 452,004.31      | 0.71                        | 629.61                      |          |
| 2,250.00                  | 27.60              | 250.60         | 4,779.11                    | 2,112.89                  | 186.70 S          | 616.89 W        | 2,170,685.68     | 451,990.23      | 1.03                        | 644.50                      |          |
| 2,281.00                  | 27.20              | 250.80         | 4,751.59                    | 2,140.41                  | 191.41 S          | 630.35 W        | 2,170,680.99     | 451,976.76      | 1.32                        | 658.76                      |          |
| 2,344.00                  | 26.50              | 250.50         | 4,695.38                    | 2,196.62                  | 200.84 S          | 657.20 W        | 2,170,671.61     | 451,949.90      | 1.13                        | 687.19                      |          |
| 2,406.00                  | 26.80              | 250.00         | 4,639.97                    | 2,252.03                  | 210.24 S          | 683.37 W        | 2,170,662.25     | 451,923.71      | 0.60                        | 714.97                      |          |
| 2,469.00                  | 27.20              | 250.10         | 4,583.83                    | 2,308.17                  | 219.99 S          | 710.26 W        | 2,170,652.54     | 451,896.81      | 0.64                        | 743.54                      |          |
| 2,500.00                  | 27.90              | 250.80         | 4,556.35                    | 2,335.65                  | 224.79 S          | 723.77 W        | 2,170,647.77     | 451,883.29      | 2.49                        | 757.87                      |          |
| 2,532.00                  | 27.10              | 250.20         | 4,527.97                    | 2,364.03                  | 229.72 S          | 737.70 W        | 2,170,642.86     | 451,869.35      | 2.65                        | 772.64                      |          |
| 2,563.00                  | 26.60              | 250.60         | 4,500.31                    | 2,391.69                  | 234.42 S          | 750.89 W        | 2,170,638.18     | 451,856.15      | 1.71                        | 786.63                      |          |
| 2,595.00                  | 26.20              | 251.50         | 4,471.65                    | 2,420.35                  | 239.04 S          | 764.34 W        | 2,170,633.59     | 451,842.69      | 1.77                        | 800.85                      |          |
| 2,626.00                  | 25.60              | 252.50         | 4,443.76                    | 2,448.24                  | 243.23 S          | 777.22 W        | 2,170,629.42     | 451,829.80      | 2.39                        | 814.39                      |          |
| 2,657.00                  | 25.10              | 254.00         | 4,415.74                    | 2,476.26                  | 247.05 S          | 789.93 W        | 2,170,625.62     | 451,817.09      | 2.63                        | 827.66                      |          |
| 2,689.00                  | 24.30              | 254.60         | 4,386.67                    | 2,505.33                  | 250.67 S          | 802.80 W        | 2,170,622.02     | 451,804.21      | 2.62                        | 841.02                      |          |
| 2,720.00                  | 23.40              | 254.10         | 4,358.32                    | 2,533.68                  | 254.05 S          | 814.87 W        | 2,170,618.66     | 451,792.13      | 2.98                        | 853.55                      |          |
| 2,751.00                  | 22.90              | 254.50         | 4,329.82                    | 2,562.18                  | 257.35 S          | 826.60 W        | 2,170,615.38     | 451,780.40      | 1.69                        | 865.74                      |          |
| 2,781.00                  | 22.60              | 254.10         | 4,302.15                    | 2,589.85                  | 260.49 S          | 837.77 W        | 2,170,612.26     | 451,769.22      | 1.13                        | 877.33                      |          |
| 2,812.00                  | 22.00              | 253.30         | 4,273.47                    | 2,618.53                  | 263.79 S          | 849.06 W        | 2,170,608.98     | 451,757.93      | 2.17                        | 889.09                      |          |
| 2,843.00                  | 21.30              | 252.70         | 4,244.65                    | 2,647.35                  | 267.13 S          | 860.00 W        | 2,170,605.66     | 451,746.98      | 2.37                        | 900.53                      |          |
| 2,874.00                  | 20.40              | 252.00         | 4,215.69                    | 2,676.31                  | 270.48 S          | 870.51 W        | 2,170,602.33     | 451,736.46      | 3.01                        | 911.56                      |          |
| 2,906.00                  | 19.40              | 251.00         | 4,185.60                    | 2,706.40                  | 273.93 S          | 880.84 W        | 2,170,598.89     | 451,726.13      | 3.30                        | 922.45                      |          |

# HALLIBURTON

## Survey Report for Cox Canyon Unit #5B - Wellbore #1 - MWD Survey

| Measured<br>Depth<br>(ft) | Inclination<br>(°) | Azimuth<br>(°) | TVD below<br>System<br>(ft) | Vertical<br>Depth<br>(ft) | Local Coordinates<br>Northing<br>(ft) | Easting<br>(ft) | Map Coordinates<br>Northing<br>(ft) | Easting<br>(ft) | Dogleg<br>Rate<br>(°/100ft) | Vertical<br>Section<br>(ft) | Comments         |
|---------------------------|--------------------|----------------|-----------------------------|---------------------------|---------------------------------------|-----------------|-------------------------------------|-----------------|-----------------------------|-----------------------------|------------------|
| 2,935.00                  | 18.40              | 249.90         | 4,158.16                    | 2,733.84                  | 277.07 S                              | 889.69 W        | 2,170,595.77                        | 451,717.27      | 3.66                        | 931.84                      |                  |
| 2,965.00                  | 17.60              | 248.20         | 4,129.63                    | 2,762.37                  | 280.38 S                              | 898.35 W        | 2,170,592.47                        | 451,708.61      | 3.19                        | 941.09                      |                  |
| 2,996.00                  | 16.30              | 248.30         | 4,099.98                    | 2,792.02                  | 283.73 S                              | 906.75 W        | 2,170,589.14                        | 451,700.21      | 4.19                        | 950.10                      |                  |
| 3,028.00                  | 15.70              | 248.90         | 4,069.22                    | 2,822.78                  | 286.95 S                              | 914.96 W        | 2,170,585.93                        | 451,691.99      | 1.94                        | 958.90                      |                  |
| 3,059.00                  | 15.50              | 248.90         | 4,039.36                    | 2,852.64                  | 289.95 S                              | 922.74 W        | 2,170,582.94                        | 451,684.21      | 0.65                        | 967.21                      |                  |
| 3,089.00                  | 14.60              | 250.90         | 4,010.39                    | 2,881.61                  | 292.63 S                              | 930.05 W        | 2,170,580.28                        | 451,676.89      | 3.46                        | 974.99                      |                  |
| 3,121.00                  | 13.60              | 249.80         | 3,979.35                    | 2,912.65                  | 295.25 S                              | 937.39 W        | 2,170,577.67                        | 451,669.54      | 3.24                        | 982.78                      |                  |
| 3,152.00                  | 13.10              | 252.50         | 3,949.19                    | 2,942.81                  | 297.57 S                              | 944.16 W        | 2,170,575.37                        | 451,662.77      | 2.58                        | 989.94                      |                  |
| 3,183.00                  | 12.40              | 253.30         | 3,918.95                    | 2,973.05                  | 299.58 S                              | 950.70 W        | 2,170,573.36                        | 451,656.23      | 2.33                        | 996.78                      |                  |
| 3,213.00                  | 11.70              | 250.80         | 3,889.61                    | 3,002.39                  | 301.51 S                              | 956.66 W        | 2,170,571.45                        | 451,650.27      | 2.91                        | 1,003.04                    |                  |
| 3,244.00                  | 10.60              | 255.60         | 3,859.20                    | 3,032.80                  | 303.25 S                              | 962.39 W        | 2,170,569.72                        | 451,644.53      | 4.64                        | 1,009.03                    |                  |
| 3,276.00                  | 9.30               | 256.80         | 3,827.68                    | 3,064.32                  | 304.57 S                              | 967.76 W        | 2,170,568.40                        | 451,639.16      | 4.11                        | 1,014.55                    |                  |
| 3,308.00                  | 8.80               | 258.60         | 3,796.08                    | 3,095.92                  | 305.65 S                              | 972.67 W        | 2,170,567.34                        | 451,634.24      | 1.80                        | 1,019.56                    |                  |
| 3,339.00                  | 7.70               | 263.00         | 3,765.40                    | 3,126.60                  | 306.37 S                              | 977.06 W        | 2,170,566.62                        | 451,629.86      | 4.09                        | 1,023.96                    |                  |
| 3,370.00                  | 6.60               | 260.30         | 3,734.64                    | 3,157.36                  | 306.92 S                              | 980.88 W        | 2,170,566.07                        | 451,626.04      | 3.71                        | 1,027.77                    |                  |
| 3,402.00                  | 5.30               | 254.50         | 3,702.81                    | 3,189.19                  | 307.63 S                              | 984.11 W        | 2,170,565.38                        | 451,622.80      | 4.47                        | 1,031.07                    |                  |
| 3,434.00                  | 4.40               | 248.50         | 3,670.93                    | 3,221.07                  | 308.47 S                              | 986.68 W        | 2,170,564.54                        | 451,620.23      | 3.22                        | 1,033.77                    |                  |
| 3,464.00                  | 3.00               | 232.00         | 3,640.99                    | 3,251.01                  | 309.38 S                              | 988.37 W        | 2,170,563.63                        | 451,618.54      | 5.82                        | 1,035.66                    |                  |
| 3,497.00                  | 2.20               | 226.00         | 3,608.03                    | 3,283.97                  | 310.35 S                              | 989.51 W        | 2,170,562.66                        | 451,617.40      | 2.56                        | 1,037.03                    |                  |
| 3,527.00                  | 2.30               | 195.70         | 3,578.05                    | 3,313.95                  | 311.33 S                              | 990.08 W        | 2,170,561.68                        | 451,616.82      | 3.93                        | 1,037.87                    |                  |
| 3,559.00                  | 1.80               | 190.30         | 3,546.07                    | 3,345.93                  | 312.44 S                              | 990.35 W        | 2,170,560.57                        | 451,616.56      | 1.67                        | 1,038.45                    |                  |
| 3,590.00                  | 1.10               | 156.10         | 3,515.08                    | 3,376.92                  | 313.19 S                              | 990.31 W        | 2,170,559.82                        | 451,616.59      | 3.50                        | 1,038.65                    |                  |
| 5,104.00                  | 1.00               | 340.00         | 2,001.16                    | 4,890.84                  | 314.06 S                              | 988.94 W        | 2,170,558.95                        | 451,617.96      | 0.14                        | 1,037.60                    |                  |
| 8,100.00                  | 0.50               | 359.00         | -994.57                     | 7,886.57                  | 276.42 S                              | 998.11 W        | 2,170,596.60                        | 451,608.85      | 0.02                        | 1,035.17                    | projection to TD |

# HALLIBURTON

## North Reference Sheet for Sec 21-T32N-R11W - Cox Canyon Unit #5B - Wellbore #1

All data is in US Feet unless otherwise stated. Directions and Coordinates are relative to True North Reference.

Vertical Depths are relative to WELL @ 6892.00ft (Original Well Elev). Northing and Easting are relative to Cox Canyon Unit #5B

Coordinate System is US State Plane 1927 (Exact solution), New Mexico West 3003 using datum NAD 1927 (NADCON CONUS), ellipsoid Clarke 1866

Projection method is Transverse Mercator (Gauss-Kruger)

Central Meridian is 107° 50' 0.000 W", Longitude Origin: 0° 0' 0.000 E", Latitude Origin: 0° 0' 0.000 N"

False Easting: 500,000.00ft, False Northing: 0.00ft, Scale Reduction: 0.99991924

Grid Coordinates of Well: 2,170,871.32 ft N, 452,607.44 ft E

Geographical Coordinates of Well: 36° 57' 57.00" N, 107° 59' 44.00" W

Grid Convergence at Surface is: -0.10°

Based upon Minimum Curvature type calculations, at a Measured Depth of 8,100.00ft the Bottom Hole Displacement is 1,035.68ft in the Direction of 254.52° (Grid).

Magnetic Convergence at surface is: -10.79° (21 March 2006, , BGGM2005)

