

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENTJUN - 2 2009  
OCD-ARTESIA  
FORM APPROVED  
OMB NO. 1004-0137  
Expires March 31 2007

## WELL COMPLETION OR RECOMPLETION REPORT AND LOG

|                                                                                                                                                                                                                  |                                        |                                                                                                                                                                                                                                                                                                                       |                     |                |                         |                               |                          |                   |                   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|----------------|-------------------------|-------------------------------|--------------------------|-------------------|-------------------|
| 1a Type of Well <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Dry <input type="checkbox"/> Other                                                       |                                        | 5 Lease Serial No<br>NM-15295                                                                                                                                                                                                                                                                                         |                     |                |                         |                               |                          |                   |                   |
| b Type of Completion <input type="checkbox"/> New Well <input type="checkbox"/> Work Over <input type="checkbox"/> Deepen <input type="checkbox"/> Plug Back <input type="checkbox"/> Diff. Resv.<br>Other _____ |                                        | 6 If Indian Allottee or Tribe Name<br>N/A                                                                                                                                                                                                                                                                             |                     |                |                         |                               |                          |                   |                   |
| 2 Name of Operator <b>ENCORE OPERATING, L.P.</b>                                                                                                                                                                 |                                        | 7 Unit or CA Agreement Name and No<br>N/A                                                                                                                                                                                                                                                                             |                     |                |                         |                               |                          |                   |                   |
| 3 Address <b>777 MAIN STREET, STE. 1400<br/>FORT WORTH, TX. 76102</b>                                                                                                                                            |                                        | 8 Lease Name and Well No<br><b>CK FEDERAL # 4</b>                                                                                                                                                                                                                                                                     |                     |                |                         |                               |                          |                   |                   |
| 3a Phone No. (include area code)<br><b>817-877-9955</b>                                                                                                                                                          |                                        | 9 API Well No<br><b>30-015-35942</b>                                                                                                                                                                                                                                                                                  |                     |                |                         |                               |                          |                   |                   |
| 4 Location of Well (Report location clearly and in accordance with Federal requirements)*<br><br>At surface<br><br>At top prod. interval reported below<br><br>At total depth                                    |                                        | 10 Field and Pool or Exploratory<br><b>WHITE CITY PENN-GAS</b>                                                                                                                                                                                                                                                        |                     |                |                         |                               |                          |                   |                   |
| 14 Date Spudded<br><b>05/13/2008</b>                                                                                                                                                                             |                                        | 11 Sec. T. R. M. on Block and<br>Survey or Area <b>SEC. 8-24S-26E</b>                                                                                                                                                                                                                                                 |                     |                |                         |                               |                          |                   |                   |
| 15 Date T.D. Reached<br><b>06/28/2008</b>                                                                                                                                                                        |                                        | 12 County or Parish<br><b>EDDY</b>                                                                                                                                                                                                                                                                                    |                     |                |                         |                               |                          |                   |                   |
| 16 Date Completed <b>10/22/2008</b><br><input type="checkbox"/> D & A <input checked="" type="checkbox"/> Ready to Prod                                                                                          |                                        | 13 State<br><b>NM</b>                                                                                                                                                                                                                                                                                                 |                     |                |                         |                               |                          |                   |                   |
| 17 Elevations (DF, RKB, RT, GL)*<br><b>3724</b>                                                                                                                                                                  |                                        |                                                                                                                                                                                                                                                                                                                       |                     |                |                         |                               |                          |                   |                   |
| 18. Total Depth MD <b>12,350</b><br>TVD <b>12,350</b>                                                                                                                                                            |                                        | 19 Plug Back T.D. MD <b>12,288</b><br>TVD <b>12,288</b>                                                                                                                                                                                                                                                               |                     |                |                         |                               |                          |                   |                   |
| 20 Depth Bridge Plug Set MD<br>TVD                                                                                                                                                                               |                                        |                                                                                                                                                                                                                                                                                                                       |                     |                |                         |                               |                          |                   |                   |
| 21 Type Electric & Other Mechanical Logs Run (Submit copy of each)<br><b>GR/CCL</b>                                                                                                                              |                                        | 22 Was well cored? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (Submit analysis)<br>Was DST run? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (Submit report)<br>Directional Survey? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes (Submit copy) |                     |                |                         |                               |                          |                   |                   |
| 23 Casing and Liner Record (Report all strings set in well)                                                                                                                                                      |                                        |                                                                                                                                                                                                                                                                                                                       |                     |                |                         |                               |                          |                   |                   |
| Hole Size                                                                                                                                                                                                        | Size/Grade                             | Wt (# ft)                                                                                                                                                                                                                                                                                                             | Top (MD)            | Bottom (MD)    | Stage Cementer<br>Depth | No of Sks &<br>Type of Cement | Slurry Vol<br>(BBL)      | Cement Top*       | Amount Pulled     |
| 17 1/2                                                                                                                                                                                                           | 13 3/8 H                               | 48                                                                                                                                                                                                                                                                                                                    | 0                   | 430            |                         | 440                           |                          | 0                 |                   |
| 12 1/4                                                                                                                                                                                                           | 9 5/8 J55                              | 40                                                                                                                                                                                                                                                                                                                    | 0                   | 2032           |                         | 1675                          |                          | 0                 |                   |
| 8 3/4                                                                                                                                                                                                            | 5 1/2 P11                              | 20                                                                                                                                                                                                                                                                                                                    | 0                   | 12350          | 6005                    | 2520                          |                          | 0                 |                   |
| 24 Tubing Record                                                                                                                                                                                                 |                                        |                                                                                                                                                                                                                                                                                                                       |                     |                |                         |                               |                          |                   |                   |
| Size                                                                                                                                                                                                             | Depth Set (MD)                         | Packer Depth (MD)                                                                                                                                                                                                                                                                                                     | Size                | Depth Set (MD) | Packer Depth (MD)       | Size                          | Depth Set (MD)           | Packer Depth (MD) |                   |
| 2 3/8                                                                                                                                                                                                            | 11,597                                 | 11,597                                                                                                                                                                                                                                                                                                                |                     |                |                         |                               |                          |                   |                   |
| 25 Producing Intervals                                                                                                                                                                                           |                                        |                                                                                                                                                                                                                                                                                                                       |                     |                |                         |                               |                          |                   |                   |
| Formation                                                                                                                                                                                                        | Top                                    | Bottom                                                                                                                                                                                                                                                                                                                | Perforated Interval | Size           | No Holes                | Perf. Status                  |                          |                   |                   |
| A) MORROW                                                                                                                                                                                                        | 11404                                  | 12084                                                                                                                                                                                                                                                                                                                 | 11616 - 11626       | 6 SPF          | 67                      | OPEN                          |                          |                   |                   |
| B)                                                                                                                                                                                                               |                                        |                                                                                                                                                                                                                                                                                                                       | 11746 - 11752       | 6 SPF          | 37                      | CLOSED                        |                          |                   |                   |
| C)                                                                                                                                                                                                               |                                        |                                                                                                                                                                                                                                                                                                                       | 11830 - 11893       | 6 SPF          | 80                      | CLOSED                        |                          |                   |                   |
| D)                                                                                                                                                                                                               |                                        |                                                                                                                                                                                                                                                                                                                       | 12020 - 12168       | 6 SPF          | 71                      | CLOSED                        |                          |                   |                   |
| 27 Acid Fracture, Treatment, Cement Squeeze, etc.                                                                                                                                                                |                                        |                                                                                                                                                                                                                                                                                                                       |                     |                |                         |                               |                          |                   |                   |
| Depth Interval                                                                                                                                                                                                   | Amount and Type of Material            |                                                                                                                                                                                                                                                                                                                       |                     |                |                         |                               |                          |                   |                   |
| 11615 - 11626                                                                                                                                                                                                    | FRAC: W/30,000 # 20/40 VERSARPROP SAND |                                                                                                                                                                                                                                                                                                                       |                     |                |                         |                               |                          |                   |                   |
| 28 Production - Interval A                                                                                                                                                                                       |                                        |                                                                                                                                                                                                                                                                                                                       |                     |                |                         |                               |                          |                   |                   |
| Date First<br>Produced                                                                                                                                                                                           | Test<br>Date                           | Hours<br>Tested                                                                                                                                                                                                                                                                                                       | Test<br>Production  | Oil<br>BBL     | Gas<br>MCF              | Water<br>BBL                  | Oil Gravity<br>Corr. API | Gas<br>Gravity    | Production Method |
| 10/23/2008                                                                                                                                                                                                       | 10/26/2008                             | 24                                                                                                                                                                                                                                                                                                                    | →                   | 0              | 112                     | 0                             |                          | .579              | Flowing           |
| Choke<br>Size                                                                                                                                                                                                    | Tbg. Press<br>Flwg<br>SI               | Csg.<br>Press<br>SI                                                                                                                                                                                                                                                                                                   | 24 Hr<br>Rate       | Oil<br>BBL     | Gas<br>MCF              | Water<br>BBL                  | Gas/Oil<br>Ratio         | Well Status       |                   |
| 18/64                                                                                                                                                                                                            | 180                                    | 0                                                                                                                                                                                                                                                                                                                     | →                   | 0              | 112                     | 0                             | 0                        | PRODUCING         |                   |
| 28a Production - Interval B                                                                                                                                                                                      |                                        |                                                                                                                                                                                                                                                                                                                       |                     |                |                         |                               |                          |                   |                   |
| Date First<br>Produced                                                                                                                                                                                           | Test<br>Date                           | Hours<br>Tested                                                                                                                                                                                                                                                                                                       | Test<br>Production  | Oil<br>BBL     | Gas<br>MCF              | Water<br>BBL                  | Oil Gravity<br>Corr. API | Gas<br>Gravity    | Production Method |
|                                                                                                                                                                                                                  |                                        |                                                                                                                                                                                                                                                                                                                       | →                   |                |                         |                               |                          |                   |                   |
| Choke<br>Size                                                                                                                                                                                                    | Tbg. Press<br>Flwg<br>SI               | Csg.<br>Press<br>SI                                                                                                                                                                                                                                                                                                   | 24 Hr<br>Rate       | Oil<br>BBL     | Gas<br>MCF              | Water<br>BBL                  | Gas/Oil<br>Ratio         | Well Status       |                   |
|                                                                                                                                                                                                                  |                                        |                                                                                                                                                                                                                                                                                                                       | →                   |                |                         |                               |                          |                   |                   |

\*(See instructions and spaces for additional data on page 2)

ACCEPTED FOR RECORD

MAY 31 2009

BUREAU OF LAND MANAGEMENT  
CARLSBAD FIELD OFFICE

**McVAY DRILLING COMPANY**

P.O. Box 2450  
Hobbs, New Mexico 88241  
(575) 397-3311  
FAX: 39-DRILL

Well Name and Num: CK Federal #4  
Location: Sec. 8, T24S, R26E  
Operator: Encore Operating  
Drilling Contractor: McVay Drilling Company

The undersigned certifies that he is an authorized representative of the drilling contractor who drilled the above described well and that he has conducted deviation tests and obtained the following results:

| <u>Degrees @</u> | <u>Depth</u> | <u>Degrees @</u> | <u>Depth</u> | <u>Degrees @</u> | <u>Depth</u> | <u>Degrees @</u> | <u>Depth</u> |
|------------------|--------------|------------------|--------------|------------------|--------------|------------------|--------------|
| 1.00             | 240          | 14.00            | 3928         | 14.25            | 6852         | 0.75             | 9475         |
| 0.25             | 430          | 13.75            | 4116         | 14.25            | 7040         | 1.00             | 9568         |
| 1.50             | 636          | 13.00            | 4398         | 15.50            | 7134         | 1.25             | 10229        |
| 1.00             | 904          | 14.00            | 4584         | 10.25            | 7228         | 1.00             | 10417        |
| 0.75             | 1127         | 14.00            | 4772         | 14.50            | 7415         | 1.25             | 10605        |
| 4.75             | 1445         | 14.50            | 4961         | 16.25            | 7602         | 0.75             | 10699        |
| 3.50             | 1570         | 14.75            | 5149         | 16.75            | 7696         | 0.40             | 10795        |
| 3.75             | 1727         | 1.00             | 5337         | 15.50            | 7790         | 1.00             | 11209        |
| 3.25             | 1884         | 1.00             | 5525         | 12.50            | 7979         | 0.25             | 11301        |
| 2.30             | 2138         | 13.75            | 5711         | 11.50            | 8168         | 1.50             | 11394        |
| 0.75             | 2234         | 13.25            | 5806         | 6.50             | 8357         | 1.50             | 11488        |
| 1.50             | 2228         | 14.00            | 5900         | 5.25             | 8450         | 1.75             | 11582        |
| 4.25             | 2516         | 14.00            | 5994         | 3.75             | 8544         | 0.75             | 11666        |
| 7.50             | 2799         | 14.50            | 6088         | 4.25             | 8638         | 0.75             | 11784        |
| 9.75             | 2893         | 14.00            | 6182         | 3.00             | 8821         | 1.75             | 11854        |
| 12.25            | 3081         | 14.75            | 6282         | 2.50             | 8915         | 1.75             | 11993        |
| 14.00            | 3270         | 10.50            | 6476         | 2.00             | 9010         | 1.00             | 12047        |
| 13.50            | 3458         | 11.00            | 6570         | 2                | 9103         | 1.75             | 12136        |
| 13.25            | 3740         | 13.00            | 6664         | 1                | 9290         | 1.75             | 12229        |
|                  |              |                  |              |                  |              | 2.00             | 12304        |

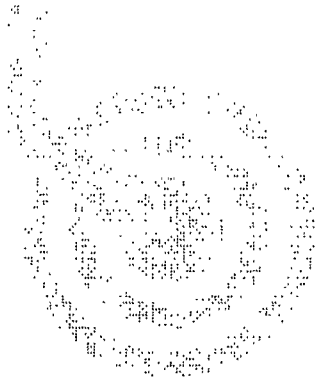
Drilling Contractor: McVay Drilling Company

By: H. H. [Signature]

Subscribed and sworn to before me this 10th day of July, 2008

[Signature]  
Notary Public

My Commission Expires 9-16-2009 Lea County, New Mexico



# Scientific Drilling

## ENCORE

Field: White City Penn  
Site: Eddy County, NM  
Well: CK Federal #4  
Wellpath: VH - Job #32K0508376  
Survey: 05/25/08

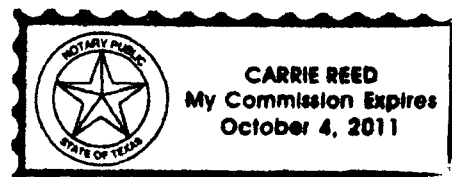
This survey is correct to the best of my knowledge  
and is supported by actual field data.

.....*Richardson*.....Company Representative

Notorized this date 24th of June, 2008.

*Carrie Reed*

Notary Signature  
County of Midland  
State of Texas





Scientific  
Drilling

# Scientific Drilling International

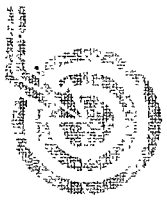
## Survey Report

Company: ENCORE Date: 06/23/2008 Time: 10:56:36 Page: 1  
Field: White City Penn Co-ordinate(NE) Reference: Site: Eddy County, NM, Grid North  
Site: Eddy County, NM Vertical (TVD) Reference: SITE 0.0  
Well: CK Federal #4 Section (VS) Reference: Well (0.00N,0.00E,149.38Azi)  
Wellpath: VH - Job #32K0508376 Survey Calculation Method: Minimum Curvature Db: Sybase

Survey: 05/25/08 Start Date: 05/25/2008  
KSRG 0'-1982'  
Company: Scientific Drilling Internatio Engineer: Garza w/Halliburton  
Tool: Keeper;Keeper Gyro Tied-to: From Surface

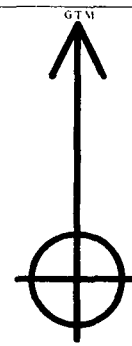
### Survey

| MD<br>ft | Incl<br>deg | Azim<br>deg | TVD<br>ft | VS<br>ft | N/S<br>ft | E/W<br>ft | DLS<br>deg/100ft | ClsD<br>ft | ClsA<br>deg |
|----------|-------------|-------------|-----------|----------|-----------|-----------|------------------|------------|-------------|
| 0.00     | 0.00        | 359.99      | 0.00      | 0.00     | 0.00      | 0.00      | 0.00             | 0.00       | 0.00        |
| 100.00   | 0.51        | 101.13      | 100.00    | 0.30     | -0.09     | 0.44      | 0.51             | 0.45       | 101.13      |
| 200.00   | 1.11        | 126.52      | 199.99    | 1.49     | -0.75     | 1.65      | 0.69             | 1.81       | 114.37      |
| 300.00   | 0.73        | 123.78      | 299.98    | 2.95     | -1.68     | 2.96      | 0.38             | 3.40       | 119.56      |
| 400.00   | 0.41        | 20.73       | 399.97    | 3.30     | -1.70     | 3.62      | 0.91             | 3.99       | 115.16      |
| 500.00   | 2.76        | 251.12      | 499.94    | 2.59     | -2.14     | 1.46      | 3.04             | 2.60       | 145.66      |
| 600.00   | 3.16        | 261.74      | 599.80    | 1.05     | -3.32     | -3.54     | 0.68             | 4.85       | 226.87      |
| 700.00   | 1.65        | 253.98      | 699.71    | -0.36    | -4.11     | -7.65     | 1.54             | 8.69       | 241.76      |
| 800.00   | 1.54        | 226.53      | 799.68    | -0.42    | -5.43     | -10.01    | 0.76             | 11.39      | 241.51      |
| 900.00   | 1.69        | 211.13      | 899.64    | 0.57     | -7.62     | -11.75    | 0.46             | 14.00      | 237.04      |
| 1000.00  | 0.95        | 224.24      | 999.61    | 1.49     | -9.48     | -13.09    | 0.79             | 16.16      | 234.10      |
| 1100.00  | 0.62        | 280.40      | 1099.60   | 1.35     | -9.97     | -14.20    | 0.79             | 17.35      | 234.92      |
| 1200.00  | 1.15        | 230.37      | 1199.59   | 1.15     | -10.51    | -15.51    | 0.89             | 18.74      | 235.86      |
| 1300.00  | 1.87        | 282.86      | 1299.56   | 0.18     | -10.79    | -17.87    | 1.48             | 20.88      | 238.87      |
| 1400.00  | 4.80        | 302.85      | 1399.38   | -4.68    | -8.16     | -22.98    | 3.11             | 24.38      | 250.45      |
| 1500.00  | 4.85        | 302.30      | 1499.03   | -12.19   | -3.63     | -30.06    | 0.07             | 30.28      | 263.12      |
| 1600.00  | 4.20        | 323.84      | 1598.72   | -19.60   | 1.59      | -35.80    | 1.81             | 35.83      | 272.54      |
| 1700.00  | 4.26        | 348.84      | 1698.46   | -26.75   | 8.19      | -38.68    | 1.83             | 39.54      | 281.95      |
| 1800.00  | 3.83        | 352.39      | 1798.21   | -33.32   | 15.14     | -39.84    | 0.50             | 42.62      | 290.81      |
| 1900.00  | 4.14        | 353.57      | 1897.97   | -39.69   | 22.04     | -40.69    | 0.32             | 46.27      | 298.44      |
| 1982.00  | 3.79        | 351.19      | 1979.77   | -44.91   | 27.66     | -41.43    | 0.47             | 49.82      | 303.72      |



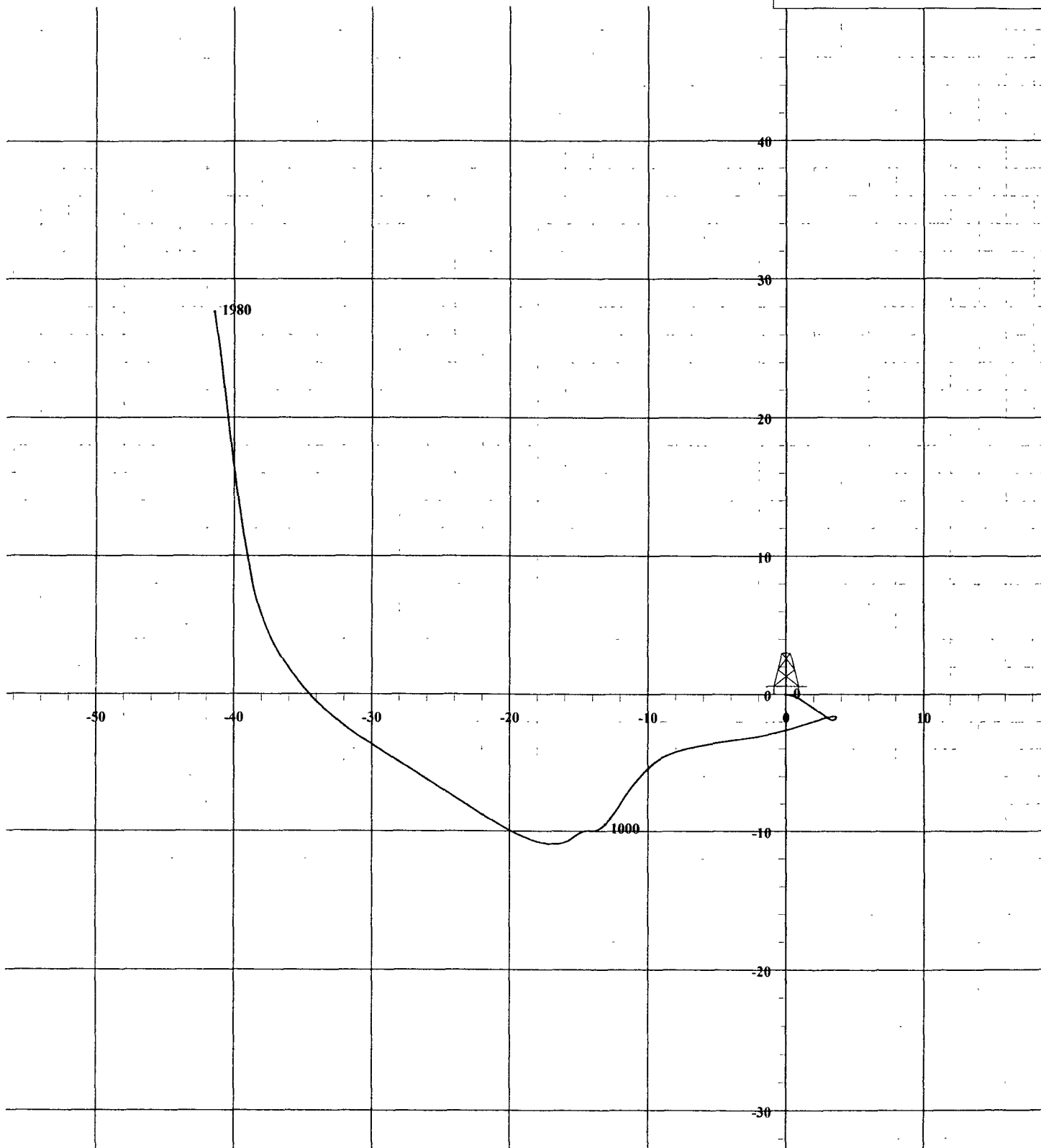
Scientific  
Drilling

Field: White City Penn  
Site: Eddy County, NM  
Well: CK Federal #4  
Wellpath: VH - Job #32K0508376  
Survey: 05/25/08



Azimuths to Grid North  
True North 0 00°  
Magnetic North 0 00°  
Magnetic Field  
Strength 0uT  
Dip Angle 0 00°  
Date 06/23/2008  
Model gr2000

South(-)/North(+) [10ft/in]



West(-)/East(+) [10ft/in]

# HALLIBURTON

## DUAL LATEROLOG MICROGUARD

|                                   |                          |                              |                |                     |                                       |            |                                            |  |
|-----------------------------------|--------------------------|------------------------------|----------------|---------------------|---------------------------------------|------------|--------------------------------------------|--|
| COMPANY<br>ENCORE OPERATING, L.P. | WELL<br>CK FEDERAL No. 4 | FIELD<br>WHITE CITY PENN-GAS | COUNTY<br>EDDY | STATE<br>NEW MEXICO | COMPANY <b>ENCORE OPERATING, L.P.</b> |            |                                            |  |
|                                   |                          |                              |                |                     | WELL <b>CK FEDERAL No. 4</b>          |            |                                            |  |
|                                   |                          |                              |                |                     | FIELD <b>WHITE CITY PENN-GAS</b>      |            |                                            |  |
|                                   |                          |                              |                |                     | COUNTY <b>EDDY</b>                    |            |                                            |  |
|                                   |                          |                              |                |                     | STATE <b>NEW MEXICO</b>               |            |                                            |  |
|                                   |                          |                              |                |                     | API No 30-015-35942                   |            | Other Services:<br>DSN/SDL<br>BSAT<br>SFTT |  |
|                                   |                          |                              |                |                     | Location 2540' FNL & 180' FWL         |            |                                            |  |
|                                   |                          |                              |                |                     | Sect. 8                               |            | Twp 24S                                    |  |
|                                   |                          |                              |                |                     | Rge 26E                               |            |                                            |  |
| Permanent Datum                   |                          |                              |                |                     | GROUND LEVEL                          |            | Elev. 3724.0 ft                            |  |
| Log measured from                 |                          |                              |                |                     | KELLY BUSHING                         |            | Elev. K.B 3741.5 ft                        |  |
| Drilling measured from            |                          |                              |                |                     | KELLY BUSHING                         |            | D F 3740.5 ft                              |  |
|                                   |                          |                              |                |                     |                                       |            | G.L. 3724.0 ft                             |  |
| Date                              |                          |                              |                |                     | 25-Jun-08                             |            |                                            |  |
| Run No                            |                          |                              |                |                     | ONE                                   |            |                                            |  |
| Depth - Driller                   |                          |                              |                |                     | 12350.0 ft                            |            |                                            |  |
| Depth - Logger                    |                          |                              |                |                     | 12331.0 ft                            |            |                                            |  |
| Bottom - Logged Interval          |                          |                              |                |                     | 12329.0 ft                            |            |                                            |  |
| Top - Logged Interval             |                          |                              |                |                     | 1984.0 ft                             |            |                                            |  |
| Casing - Driller                  |                          |                              |                |                     | 9.625 in @ 2032.0 ft                  |            | @                                          |  |
| Casing - Logger                   |                          |                              |                |                     | 1979.0 ft                             |            |                                            |  |
| Bit Size                          |                          |                              |                |                     | 8.750 in                              |            | 12.250 in @ 2032.00 ft                     |  |
| Type Fluid in Hole                |                          |                              |                |                     | BRINE                                 |            |                                            |  |
| Density                           |                          | Viscosity                    |                | 10.3 ppg            |                                       | 41.00 s/qt |                                            |  |
| PH                                |                          | Fluid Loss                   |                | 8.50 pH             |                                       | 7.2 cpm    |                                            |  |
| Source of Sample                  |                          |                              |                |                     | FLOWLINE                              |            |                                            |  |
| Rm @ Meas Temperature             |                          |                              |                |                     | 0.06 ohmm @ 85.00 degF                |            | @                                          |  |
| Rmf @ Meas Temperature            |                          |                              |                |                     | 0.05 ohmm @ 85.00 degF                |            | @                                          |  |
| Rmc @ Meas Temperature            |                          |                              |                |                     | 0.08 ohmm @ 85.00 degF                |            | @                                          |  |
| Source Rmf                        |                          | Rmc                          |                | CALC                |                                       | CALC       |                                            |  |
| Rm @ BHT                          |                          |                              |                |                     | 0.03 ohmm @ 196.0 degF                |            | @                                          |  |
| Time Since Circulation            |                          |                              |                |                     | 11.5 hr                               |            |                                            |  |
| Time on Bottom                    |                          |                              |                |                     | 25-Jun-08 21.23                       |            |                                            |  |
| Max Rec Temperature               |                          |                              |                |                     | 196.0 degF @ 12334.0 ft               |            | @                                          |  |
| Equipment                         |                          | Location                     |                | 798                 |                                       | HOBBS, NM  |                                            |  |
| Recorded By                       |                          |                              |                |                     | MATTHEW GRAVES                        |            | RICK RAMSEY                                |  |
| Witnessed By                      |                          |                              |                |                     | BRENT JOHNSON                         |            |                                            |  |

# HALLIBURTON

## SPECTRAL DENSITY DUAL SPACED NEUTRON

|                                                                                                                                                                                     |                           |                                                                                                                                                                                            |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>ENCORE OPERATING, L.P.</b><br><b>CK FEDERAL No. 4</b><br><b>WHITE CITY PENN-GAS</b><br><b>EDDY</b><br><b>NEW MEXICO</b>                                                          |                           | <b>COMPANY</b> <b>ENCORE OPERATING, L.P.</b><br><b>WELL</b> <b>CK FEDERAL No. 4</b><br><b>FIELD</b> <b>WHITE CITY PENN-GAS</b><br><b>COUNTY</b> <b>EDDY</b> <b>STATE</b> <b>NEW MEXICO</b> |  |
| <b>API No</b> 30-015-35942<br><b>Location</b> 2540' FNL & 180' FWL                                                                                                                  |                           | <b>Other Services</b><br>DLLT/MGRD<br>BSAT<br>SFTT                                                                                                                                         |  |
| <b>Sect</b> 8 <b>Twp</b> 24S <b>Rge</b> 26E                                                                                                                                         |                           |                                                                                                                                                                                            |  |
| <b>Permanent Datum</b> GROUND LEVEL <b>Elev</b> 3724 0 ft<br><b>Log measured from</b> KELLY BUSHING <b>17 5 ft above perm. Datum</b><br><b>Drilling measured from</b> KELLY BUSHING |                           | <b>Elev. K B.</b> 3741 5 ft<br><b>D.F</b> 3740 5 ft<br><b>G L.</b> 3724.0 ft                                                                                                               |  |
| <b>Date</b> 25-Jun-08                                                                                                                                                               |                           |                                                                                                                                                                                            |  |
| <b>Run No.</b> ONE                                                                                                                                                                  |                           |                                                                                                                                                                                            |  |
| <b>Depth - Driller</b> 12350 0 ft                                                                                                                                                   |                           |                                                                                                                                                                                            |  |
| <b>Depth - Logger</b> 12331 0 ft                                                                                                                                                    |                           |                                                                                                                                                                                            |  |
| <b>Bottom - Logged Interval</b> 12265.0 ft                                                                                                                                          |                           |                                                                                                                                                                                            |  |
| <b>Top - Logged Interval</b> 190.0 ft                                                                                                                                               |                           |                                                                                                                                                                                            |  |
| <b>Casing - Driller</b> 9 625 in @ 2032.0 ft                                                                                                                                        |                           | @                                                                                                                                                                                          |  |
| <b>Casing - Logger</b> 1979.0 ft                                                                                                                                                    |                           |                                                                                                                                                                                            |  |
| <b>Bit Size</b> 8 750 in                                                                                                                                                            |                           | 12 250 in @ 2032.00 ft                                                                                                                                                                     |  |
| <b>Type Fluid in Hole</b> BRINE                                                                                                                                                     |                           |                                                                                                                                                                                            |  |
| <b>Density</b>                                                                                                                                                                      | <b>Viscosity</b> 10.3 ppg | 41 00 s/qt                                                                                                                                                                                 |  |
| <b>PH</b>                                                                                                                                                                           | <b>Fluid Loss</b> 8.50 pH | 7 2 cpm                                                                                                                                                                                    |  |
| <b>Source of Sample</b> FLOWLINE                                                                                                                                                    |                           |                                                                                                                                                                                            |  |
| <b>Rm @ Meas Temperature</b> 0 06 ohmm @ 85 00 degF                                                                                                                                 |                           | @                                                                                                                                                                                          |  |
| <b>Rmf @ Meas Temperature</b> 0 05 ohmm @ 85 00 degF                                                                                                                                |                           | @                                                                                                                                                                                          |  |
| <b>Rmc @ Meas Temperature</b> 0 08 ohmm @ 85.00 degF                                                                                                                                |                           | @                                                                                                                                                                                          |  |
| <b>Source Rmf</b>                                                                                                                                                                   | <b>Rmc</b> CALC           | CALC                                                                                                                                                                                       |  |
| <b>Rm @ BHT</b> 0.03 ohmm @ 196 0 degF                                                                                                                                              |                           | @                                                                                                                                                                                          |  |
| <b>Time Since Circulation</b> 11 5 hr                                                                                                                                               |                           |                                                                                                                                                                                            |  |
| <b>Time on Bottom</b> 25-Jun-08 21 23                                                                                                                                               |                           |                                                                                                                                                                                            |  |
| <b>Max Rec Temperature</b> 196 0 degF @ 12334 0 ft                                                                                                                                  |                           | @                                                                                                                                                                                          |  |
| <b>Equipment</b>                                                                                                                                                                    | <b>Location</b> 798       | HOBBS, NM                                                                                                                                                                                  |  |
| <b>Recorded By</b> MATTHEW GRAVES                                                                                                                                                   |                           | RICK RAMSEY                                                                                                                                                                                |  |
| <b>Witnessed By</b> BRENT JOHNSON                                                                                                                                                   |                           |                                                                                                                                                                                            |  |



**Encore**  
Operating, L.P.

## **Encore Operating, L.P.**

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

**CK Federal #4**

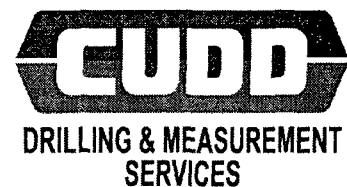
**CK Federal #4**

**S-Well #1**

**Survey: MWD Survey #1**

## **Standard Survey Report**

**25 June, 2008**





# CUDD Drilling & Measurement Services

## Survey Report



|           |                               |                              |                                       |
|-----------|-------------------------------|------------------------------|---------------------------------------|
| Company:  | Encore Operating, L.P.        | Local Co-ordinate Reference: | Well CK Federal #4                    |
| Project:  | Eddy Co., New Mexico (Nad 83) | TVD Reference:               | WELL @ 3749 00ft (Original Well Elev) |
| Site:     | CK Federal #4                 | MD Reference:                | WELL @ 3749 00ft (Original Well Elev) |
| Well:     | CK Federal #4                 | North Reference:             | Grid                                  |
| Wellbore: | S-Well #1                     | Survey Calculation Method:   | Minimum Curvature                     |
| Design:   | S-Well #1                     | Database:                    | EDM 2003 21 Single User Db            |

|             |                               |               |                |
|-------------|-------------------------------|---------------|----------------|
| Project:    | Eddy Co., New Mexico (Nad 83) |               |                |
| Map System: | US State Plane 1983           | System Datum: | Mean Sea Level |
| Geo Datum:  | North American Datum 1983     |               |                |
| Map Zone:   | New Mexico Eastern Zone       |               |                |

|                       |                                    |              |               |                   |                   |
|-----------------------|------------------------------------|--------------|---------------|-------------------|-------------------|
| Site:                 | CK Federal #4, Sec 8, T-24S, R-26E |              |               |                   |                   |
| Site Position:        |                                    | Northing:    | 448,127.45 ft | Latitude:         | 32° 13' 55.121 N  |
| From:                 | Map                                | Easting:     | 544,411.69 ft | Longitude:        | 104° 19' 24.208 W |
| Position Uncertainty: | 0.00 ft                            | Slot Radius: | "             | Grid Convergence: | 0.01 °            |

|                      |               |         |                     |               |               |                   |
|----------------------|---------------|---------|---------------------|---------------|---------------|-------------------|
| Well                 | CK Federal #4 |         |                     |               |               |                   |
| Well Position        | +N/-S         | 0 00 ft | Northing:           | 448,127.45 ft | Latitude:     | 32° 13' 55.121 N  |
|                      | +E/-W         | 0 00 ft | Easting:            | 544,411.69 ft | Longitude:    | 104° 19' 24.208 W |
| Position Uncertainty |               | 0 00 ft | Wellhead Elevation: | 3,749.00 ft   | Ground Level: | 3,724.00 ft       |

|           |            |             |                    |                  |                        |
|-----------|------------|-------------|--------------------|------------------|------------------------|
| Wellbore  | S-Well #1  |             |                    |                  |                        |
| Magnetics | Model Name | Sample Date | Declination<br>(°) | Dip Angle<br>(°) | Field Strength<br>(nT) |
|           | IGRF200510 | 5/1/2008    | 8 29               | 60 15            | 48,868                 |

|                   |                  |           |        |               |      |
|-------------------|------------------|-----------|--------|---------------|------|
| Design:           |                  | S-Well #1 |        |               |      |
| 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   | 149 38        |      |

| Survey Program |            | Date                       | 6/25/2008   |                                |  |
|----------------|------------|----------------------------|-------------|--------------------------------|--|
| From<br>(ft)   | To<br>(ft) | Survey (Wellbore)          | Tool Name   | Description                    |  |
| 100 00         | 1,982 00   | Gyro Survey #1 (S-Well #1) | SRG-GYRO-MS | surface readout gyro multishot |  |
| 2,045 00       | 12,350 00  | MWD Survey #1 (S-Well #1)  | CUDD MWD    | CUDD MWD - Standard            |  |

| Survey                         | Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Bulld Rate (°/100ft) | Turn Rate (°/100ft) |
|--------------------------------|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|
|                                | 1,982.00            | 3.79            | 351.19      | 1,979.77            | 27.66      | -41.43     | -44.91                | 0.00                  | 0.00                 | 0.00                |
|                                | 2,045.00            | 3.10            | 353.00      | 2,042.66            | 31.41      | -41.96     | -48.40                | 1.11                  | -1.10                | 2.87                |
| First MWD Survey (8 3/4" Hole) |                     |                 |             |                     |            |            |                       |                       |                      |                     |
|                                | 2,138.00            | 2.30            | 2.60        | 2,135.55            | 35.77      | -42.18     | -52.26                | 0.99                  | -0.86                | 10.32               |
|                                | 2,234.00            | 0.70            | 337.80      | 2,231.52            | 38.23      | -42.32     | -54.46                | 1.76                  | -1.67                | -25.83              |
|                                | 2,328.00            | 1.50            | 203.50      | 2,325.51            | 37.64      | -43.02     | -54.30                | 2.18                  | 0.85                 | -142.87             |
|                                | 2,422.00            | 2.90            | 194.30      | 2,419.44            | 34.20      | -44.10     | -51.90                | 1.53                  | 1.49                 | -9.79               |
|                                | 2,516.00            | 4.40            | 180.90      | 2,513.24            | 28.29      | -44.75     | -47.14                | 1.83                  | 1.60                 | -14.26              |
|                                | 2,610.00            | 5.10            | 170.30      | 2,606.92            | 20.57      | -44.10     | -40.16                | 1.19                  | 0.74                 | -11.28              |
|                                | 2,705.00            | 6.40            | 159.90      | 2,701.45            | 11.44      | -41.57     | -31.01                | 1.75                  | 1.37                 | -10.95              |
|                                | 2,799.00            | 7.60            | 153.50      | 2,794.74            | 0.95       | -36.99     | -19.66                | 1.52                  | 1.28                 | -6.81               |
|                                | 2,893.00            | 9.70            | 150.00      | 2,887.67            | -11.47     | -30.26     | -5.54                 | 2.30                  | 2.23                 | -3.72               |



Encore  
Operating, L.P.

# CUDD Drilling & Measurement Services

## Survey Report



Company: Encore Operating, L.P.  
Project: Eddy Co., New Mexico (Nad 83)  
Site: CK Federal #4  
Well: CK Federal #4  
Wellbore: S-Well #1  
Design: S-Well #1

Local Co-ordinate Reference: Well: CK Federal #4  
TVD Reference: WELL @ 3749 00ft (Original Well Elev)  
MD Reference: WELL @ 3749 00ft (Original Well Elev)  
North Reference: Grid  
Survey Calculation Method: Minimum Curvature  
Database: EDM 2003 21 Single User Db

### Survey

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|
| 2,987 00            | 11 20           | 146 30      | 2,980 11            | -25 92     | -21 23     | 11 49                 | 1 75                  | 1 60                 | -3 94               |
| 3,081 00            | 12 30           | 146 20      | 3,072 14            | -41 84     | -10 60     | 30 61                 | 1 17                  | 1 17                 | -0 11               |
| 3,175 00            | 13 30           | 145 70      | 3,163 80            | -59 09     | 1 07       | 51 40                 | 1 07                  | 1 06                 | -0 53               |
| 3,270 00            | 13 90           | 144 20      | 3,256 14            | -77 37     | 13 90      | 73 66                 | 0 73                  | 0 63                 | -1 58               |
| 3,363 00            | 13 90           | 141 90      | 3,346 42            | -95 23     | 27 33      | 95 87                 | 0 59                  | 0 00                 | -2 47               |
| 3,458 00            | 13 60           | 142 00      | 3,438 69            | -113 01    | 41 24      | 118 26                | 0 32                  | -0 32                | 0 11                |
| 3,552 00            | 13 70           | 142 50      | 3,530 04            | -130 55    | 54 82      | 140 27                | 0 16                  | 0 11                 | 0 53                |
| 3,646 00            | 13 30           | 142 00      | 3,621 44            | -147 90    | 68 26      | 162 04                | 0 44                  | -0 43                | -0 53               |
| 3,740 00            | 13 30           | 143 20      | 3,712 92            | -165 08    | 81 39      | 183 51                | 0 29                  | 0 00                 | 1 28                |
| 3,834 00            | 14 10           | 144 80      | 3,804 24            | -183 09    | 94 47      | 205 68                | 0 94                  | 0 85                 | 1 70                |
| 3,928 00            | 14 20           | 147 40      | 3,895 39            | -202 16    | 107 28     | 228 61                | 0 68                  | 0 11                 | 2 77                |
| 4,022 00            | 13 60           | 147 30      | 3,986 64            | -221 17    | 119 46     | 251 18                | 0 64                  | -0 64                | -0 11               |
| 4,116 00            | 13 80           | 149 40      | 4,077 97            | -240 12    | 131 14     | 273 44                | 0 57                  | 0 21                 | 2 23                |
| 4,210 00            | 14 00           | 149 50      | 4,169 21            | -259 57    | 142 62     | 296 02                | 0 21                  | 0 21                 | 0 11                |
| 4,304 00            | 13 40           | 148 40      | 4,260 54            | -278 64    | 154 09     | 318 28                | 0 70                  | -0 64                | -1 17               |
| 4,398 00            | 13 10           | 150 50      | 4,352 04            | -297 19    | 165 05     | 339 82                | 0 60                  | -0 32                | 2 23                |
| 4,492 00            | 13 80           | 150 00      | 4,443 46            | -316 17    | 175 90     | 361 68                | 0 75                  | 0 74                 | -0 53               |
| 4,584 00            | 14 40           | 147 00      | 4,532 69            | -335 27    | 187 62     | 384 08                | 1 03                  | 0 65                 | -3 26               |
| 4,678 00            | 14 30           | 147 90      | 4,623 76            | -354 91    | 200 15     | 407 37                | 0 26                  | -0 11                | 0 96                |
| 4,772 00            | 14 00           | 148 20      | 4,714 90            | -374 41    | 212 31     | 430 34                | 0 33                  | -0 32                | 0 32                |
| 4,867 00            | 13 20           | 148 60      | 4,807 24            | -393 43    | 224 02     | 452 67                | 0 85                  | -0 84                | 0 42                |
| 4,961 00            | 13 60           | 150 10      | 4,898 68            | -412 17    | 235 12     | 474 46                | 0 56                  | 0 43                 | 1 60                |
| 5,055 00            | 14 70           | 150 80      | 4,989 83            | -432 16    | 246 45     | 497 43                | 1 18                  | 1 17                 | 0 74                |
| 5,149 00            | 14 80           | 151 60      | 5,080 73            | -453 14    | 257 98     | 521 35                | 0 24                  | 0 11                 | 0 85                |
| 5,243 00            | 14 00           | 148 10      | 5,171 78            | -473 35    | 269 70     | 544 72                | 1 26                  | -0 85                | -3 72               |
| 5,337 00            | 13 90           | 149 00      | 5,263 00            | -492 68    | 281 52     | 567 37                | 0 25                  | -0 11                | 0 96                |
| 5,431 00            | 14 00           | 145 50      | 5,354 23            | -511 73    | 293 78     | 590 01                | 0 90                  | 0 11                 | -3 72               |
| 5,525 00            | 14 20           | 145 20      | 5,445 40            | -530 57    | 306 80     | 612 85                | 0 23                  | 0 21                 | -0 32               |
| 5,617 00            | 13 90           | 146 90      | 5,534 65            | -549 09    | 319 27     | 635 15                | 0 55                  | -0 33                | 1 85                |
| 5,711 00            | 13 80           | 147 60      | 5,625 92            | -568 02    | 331 44     | 657 63                | 0 21                  | -0 11                | 0 74                |
| 5,806 00            | 13 80           | 148 70      | 5,718 17            | -587 26    | 343 40     | 680 29                | 0 28                  | 0 00                 | 1 16                |
| 5,900 00            | 14 30           | 148 40      | 5,809 36            | -606 73    | 355 31     | 703 11                | 0 54                  | 0 53                 | -0 32               |
| 5,994 00            | 13 80           | 148 00      | 5,900 55            | -626 13    | 367 33     | 725 92                | 0 54                  | -0 53                | -0 43               |
| 6,088 00            | 14 50           | 143 70      | 5,991 70            | -645 12    | 380 24     | 748 84                | 1 34                  | 0 74                 | -4 57               |
| 6,182 00            | 14 10           | 142 80      | 6,082 79            | -663 72    | 394 13     | 771 92                | 0 49                  | -0 43                | -0 96               |
| 6,282 00            | 14 80           | 151 30      | 6,179 63            | -684 63    | 407 63     | 796 79                | 2 23                  | 0 70                 | 8 50                |
| 6,381 00            | 12 90           | 151 40      | 6,275 75            | -705 43    | 418 99     | 820 48                | 1 92                  | -1 92                | 0 10                |
| 6,476 00            | 10 40           | 153 50      | 6,368 79            | -722 41    | 427 90     | 839 63                | 2 67                  | -2 63                | 2 21                |
| 6,570 00            | 11 20           | 154 40      | 6,461 12            | -738 24    | 435 63     | 857 19                | 0 87                  | 0 85                 | 0 96                |
| 6,664 00            | 12 90           | 151 00      | 6,553 05            | -755 65    | 444 66     | 876 77                | 1 96                  | 1 81                 | -3 62               |
| 6,757 00            | 12 40           | 146 10      | 6,643 79            | -773 02    | 455 26     | 897 12                | 1 27                  | -0 54                | -5 27               |
| 6,852 00            | 14 40           | 143 00      | 6,736 20            | -790 92    | 468 06     | 919 04                | 2 24                  | 2 11                 | -3 26               |
| 6,946 00            | 14 60           | 150 90      | 6,827 22            | -810 61    | 480 86     | 942 50                | 2 11                  | 0 21                 | 8 40                |
| 7,040 00            | 13 30           | 153 20      | 6,918 44            | -830 61    | 491 50     | 965 14                | 1 50                  | -1 38                | 2 45                |
| 7,134 00            | 15 60           | 154 00      | 7,009 47            | -851 63    | 501 91     | 988 53                | 2 46                  | 2 45                 | 0 85                |
| 7,228 00            | 16 40           | 151 60      | 7,099 82            | -874 66    | 513 77     | 1,014 39              | 1 10                  | 0 85                 | -2 55               |
| 7,320 00            | 14 80           | 151 20      | 7,188 43            | -896 39    | 525 60     | 1,039 11              | 1 74                  | -1 74                | -0 43               |
| 7,415 00            | 14 50           | 149 00      | 7,280 34            | -917 21    | 537 57     | 1,063 13              | 0 67                  | -0 32                | -2 32               |
| 7,509 00            | 14 60           | 145 50      | 7,371 33            | -937 06    | 550 35     | 1,086 72              | 0 94                  | 0 11                 | -3 72               |
| 7,602 00            | 16 40           | 145 70      | 7,460 95            | -957 57    | 564 39     | 1,111 52              | 1 94                  | 1 94                 | 0 22                |
| 7,696 00            | 16 60           | 149 30      | 7,551 08            | -980 08    | 578 72     | 1,138 19              | 1 11                  | 0 21                 | 3 83                |
| 7,790 00            | 15 40           | 150 00      | 7,641 43            | -1,002 44  | 591 82     | 1,164 10              | 1 29                  | -1 28                | 0 74                |
| 7,884 00            | 15 20           | 144 50      | 7,732 11            | -1,023 28  | 605 21     | 1,188 86              | 1 56                  | -0 21                | -5 85               |
| 7,979 00            | 12 50           | 146 30      | 7,824 34            | -1,041 97  | 618 15     | 1,211 54              | 2 88                  | -2 84                | 1 89                |



**Company:** Encore Operating, L.P.  
**Project:** Eddy Co., New Mexico (Nad 83)  
**Site:** CK Federal #4  
**Well:** CK Federal #4  
**Wellbore:** S-Well #1  
**Design:** S-Well #1

**Local Co-ordinate Reference:** Well CK Federal #4  
**TVD Reference:** WELL @ 3749 00ft (Original Well Elev)  
**MD Reference:** WELL @ 3749 00ft (Original Well Elev)  
**North Reference:** Grid  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 2003.21 Single User Db.

**Survey**

| Measured<br>Depth<br>(ft)            | Inclination<br>(°) | Azimuth<br>(°) | Vertical<br>Depth<br>(ft) | +N/-S<br>(ft) | +E/-W<br>(ft) | Vertical<br>Section<br>(ft) | Dogleg<br>Rate<br>(°/100ft) | Build<br>Rate<br>(°/100ft) | Turn<br>Rate<br>(°/100ft) |
|--------------------------------------|--------------------|----------------|---------------------------|---------------|---------------|-----------------------------|-----------------------------|----------------------------|---------------------------|
| 8,073 00                             | 11 80              | 143 40         | 7,916 23                  | -1,058 15     | 629 53        | 1,231 25                    | 0 99                        | -0 74                      | -3 09                     |
| 8,168 00                             | 11 50              | 144 70         | 8,009 27                  | -1,073 68     | 640 79        | 1,250 35                    | 0 42                        | -0 32                      | 1 37                      |
| 8,262 00                             | 9 50               | 150 30         | 8,101 70                  | -1,088 07     | 650 05        | 1,267 45                    | 2 39                        | -2 13                      | 5 96                      |
| 8,357 00                             | 6 60               | 152 80         | 8,195 75                  | -1,099 74     | 656 43        | 1,280 74                    | 3 07                        | -3 05                      | 2 63                      |
| 8,450 00                             | 5 30               | 159 10         | 8,288 25                  | -1,108 50     | 660 41        | 1,290 31                    | 1 56                        | -1 40                      | 6 77                      |
| 8,544 00                             | 3 60               | 162 90         | 8,381 96                  | -1,115 38     | 662 82        | 1,297 46                    | 1 83                        | -1 81                      | 4 04                      |
| 8,638 00                             | 4 30               | 151 50         | 8,475 74                  | -1,121 30     | 665 37        | 1,303 85                    | 1 12                        | 0 74                       | -12 13                    |
| 8,729 00                             | 3 50               | 160 70         | 8,566 53                  | -1,126 92     | 667 92        | 1,309 98                    | 1 11                        | -0 88                      | 10 11                     |
| 8,821 00                             | 2 90               | 155 10         | 8,658 39                  | -1,131 68     | 669 83        | 1,315 05                    | 0 73                        | -0 65                      | -6 09                     |
| 8,916 00                             | 2 60               | 155 40         | 8,753 28                  | -1,135 82     | 671 73        | 1,319 59                    | 0 32                        | -0 32                      | 0 32                      |
| 9,010 00                             | 1 90               | 138 40         | 8,847 21                  | -1,138 92     | 673 66        | 1,323 24                    | 1 02                        | -0 74                      | -18 09                    |
| 9,103 00                             | 1 90               | 130 80         | 8,940 15                  | -1,141 08     | 675 85        | 1,326 21                    | 0 27                        | 0 00                       | -8 17                     |
| 9,197 00                             | 1 40               | 112 80         | 9,034 12                  | -1,142 54     | 678 09        | 1,328 61                    | 0 76                        | -0 53                      | -19 15                    |
| 9,290 00                             | 0 10               | 244 20         | 9,127 11                  | -1,143 02     | 679 06        | 1,329 52                    | 1 58                        | -1 40                      | 141 29                    |
| 9,381 00                             | 0 40               | 311 00         | 9,218 11                  | -1,142 85     | 678 75        | 1,329 21                    | 0 41                        | 0 33                       | 73 41                     |
| 9,475 00                             | 0 60               | 274 10         | 9,312 10                  | -1,142 60     | 678 01        | 1,328 62                    | 0 39                        | 0 21                       | -39 26                    |
| 9,569 00                             | 1 00               | 259 60         | 9,406 09                  | -1,142 71     | 676 71        | 1,328 05                    | 0 47                        | 0 43                       | -15 43                    |
| 9,664 00                             | 1 10               | 266 90         | 9,501 08                  | -1,142 91     | 674 99        | 1,327 34                    | 0 18                        | 0 11                       | 7 68                      |
| 9,757 00                             | 0 90               | 271 70         | 9,594 06                  | -1,142 93     | 673 37        | 1,326 54                    | 0 23                        | -0 22                      | 5 16                      |
| 9,852 00                             | 1 00               | 312 50         | 9,689 05                  | -1,142 35     | 672 01        | 1,325 35                    | 0 70                        | 0 11                       | 42 95                     |
| 9,946 00                             | 1 30               | 16 60          | 9,783 04                  | -1,140 78     | 671 71        | 1,323 84                    | 1 33                        | 0 32                       | 68 19                     |
| 10,040 00                            | 1 10               | 65 40          | 9,877 02                  | -1,139 38     | 672 83        | 1,323 21                    | 1 07                        | -0 21                      | 51 91                     |
| 10,134 00                            | 0 40               | 263 80         | 9,971 01                  | -1,139 04     | 673 33        | 1,323 17                    | 1 58                        | -0 74                      | -171 92                   |
| 10,229 00                            | 1 30               | 22 80          | 10,066 00                 | -1,138 08     | 673 42        | 1,322 39                    | 1 62                        | 0 95                       | 125 26                    |
| 10,324 00                            | 0 80               | 89 10          | 10,160 99                 | -1,137 08     | 674 50        | 1,322 08                    | 1 29                        | -0 53                      | 69 79                     |
| 10,417 00                            | 0 90               | 66 60          | 10,253 98                 | -1,136 78     | 675 82        | 1,322 49                    | 0 37                        | 0 11                       | -24 19                    |
| 10,512 00                            | 0 80               | 108 80         | 10,348 97                 | -1,136 69     | 677 13        | 1,323 09                    | 0 65                        | -0 11                      | 44 42                     |
| 10,605 00                            | 1 30               | 120 60         | 10,441 96                 | -1,137 44     | 678 65        | 1,324 51                    | 0 58                        | 0 54                       | 12 69                     |
| 10,699 00                            | 0 70               | 51 70          | 10,535 94                 | -1,137 63     | 680 02        | 1,325 36                    | 1 31                        | -0 64                      | -73 30                    |
| 10,795 00                            | 0 40               | 78 30          | 10,631 94                 | -1,137 20     | 680 81        | 1,325 39                    | 0 40                        | -0 31                      | 27 71                     |
| 10,887 00                            | 0 60               | 112 30         | 10,723 94                 | -1,137 31     | 681 57        | 1,325 88                    | 0 38                        | 0 22                       | 36 96                     |
| <b>Last MWD Survey</b>               |                    |                |                           |               |               |                             |                             |                            |                           |
| 11,083 00                            | 1 00               | 257 40         | 10,919 93                 | -1,138 08     | 680 85        | 1,326 17                    | 0 78                        | 0 20                       | 74 03                     |
| <b>First MultiShot Single Shot</b>   |                    |                |                           |               |               |                             |                             |                            |                           |
| 11,209 00                            | 1 00               | 250 70         | 11,045 91                 | -1,138 68     | 678 74        | 1,325 62                    | 0 09                        | 0 00                       | -5 32                     |
| 11,301 00                            | 1 40               | 254 00         | 11,137 89                 | -1,139 25     | 676 90        | 1,325 17                    | 0 44                        | 0 43                       | 3 59                      |
| 11,394 00                            | 1 40               | 244 90         | 11,230 86                 | -1,140 05     | 674 78        | 1,324 78                    | 0 24                        | 0 00                       | -9 78                     |
| 11,488 00                            | 1 40               | 245 50         | 11,324 83                 | -1,141 01     | 672 69        | 1,324 55                    | 0 02                        | 0 00                       | 0 64                      |
| 11,582 00                            | 1 70               | 260 70         | 11,418 80                 | -1,141 71     | 670 27        | 1,323 92                    | 0 54                        | 0 32                       | 16 17                     |
| <b>Last MultiShot Single Shot</b>    |                    |                |                           |               |               |                             |                             |                            |                           |
| 11,666 00                            | 0 70               | 253 40         | 11,502 78                 | -1,142 06     | 668 55        | 1,323 34                    | 1 20                        | -1 19                      | -8 69                     |
| <b>First MWD Survey</b>              |                    |                |                           |               |               |                             |                             |                            |                           |
| 11,761 00                            | 0 80               | 125 90         | 11,597 78                 | -1,142 62     | 668 53        | 1,323 81                    | 1 42                        | 0 11                       | -134 21                   |
| 11,854 00                            | 1 80               | 106 30         | 11,690 75                 | -1,143 41     | 670 46        | 1,325 47                    | 1 16                        | 1 08                       | -21 08                    |
| 11,948 00                            | 1 70               | 105 90         | 11,784 71                 | -1,144 20     | 673 22        | 1,327 56                    | 0 11                        | -0 11                      | -0 43                     |
| 12,042 00                            | 1 70               | 109 90         | 11,878 67                 | -1,145 06     | 675 87        | 1,329 65                    | 0 13                        | 0 00                       | 4 26                      |
| 12,136 00                            | 1 80               | 116 60         | 11,972 62                 | -1,146 20     | 678 50        | 1,331 96                    | 0 24                        | 0 11                       | 7 13                      |
| 12,229 00                            | 1 80               | 104 20         | 12,065 58                 | -1,147 21     | 681 22        | 1,334 22                    | 0 42                        | 0 00                       | -13 33                    |
| <b>Last MWD Survey (8 3/4" Hole)</b> |                    |                |                           |               |               |                             |                             |                            |                           |
| 12,350 00                            | 1 80               | 104 20         | 12,186 52                 | -1,148 14     | 684 91        | 1,336 90                    | 0 00                        | 0 00                       | 0 00                      |
| <b>Proj to Bit.</b>                  |                    |                |                           |               |               |                             |                             |                            |                           |



**Company:** Encore Operating, L.P.  
**Project:** Eddy Co , New Mexico (Nad 83)  
**Site:** CK Federal #4  
**Well:** CK Federal #4  
**Wellbore:** S-Well #1  
**Design:** S-Well #1

**Local Co-ordinate Reference:** Well CK Federal #4  
**TVD Reference:** WELL @ 3749 00ft (Original Well Elev)  
**MD Reference:** WELL @ 3749 00ft (Original Well Elev)  
**North Reference:** Grid  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 2003 21 Single User Db

**Survey Annotations**

| Measured<br>Depth<br>(ft) | Vertical<br>Depth<br>(ft) | Local Coordinates |               | Comment                        |
|---------------------------|---------------------------|-------------------|---------------|--------------------------------|
|                           |                           | +N/-S<br>(ft)     | +E/-W<br>(ft) |                                |
| 2,045 00                  | 2,042 66                  | 31 41             | -41 96        | First MWD Survey (8 3/4" Hole) |
| 10,887 00                 | 10,723 94                 | -1,137 31         | 681 57        | Last MWD Survey                |
| 11,083 00                 | 10,919 93                 | -1,138 08         | 680 85        | First MultiShot Single Shot    |
| 11,582 00                 | 11,418 80                 | -1,141 71         | 670 27        | Last MultiShot Single Shot     |
| 11,666 00                 | 11,502 78                 | -1,142 06         | 668 55        | First MWD Survey               |
| 12,229 00                 | 12,065 58                 | -1,147 21         | 681 22        | Last MWD Survey (8 3/4" Hole)  |
| 12,350 00                 | 12,186 52                 | -1,148 14         | 684 91        | Proj to Bit                    |

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