Form 3160-5
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED
MAR 24 2009
Bureau of Land Management
Farmington Field Office

FORM APPROVED
OMB NO. 1004-0137
Expires July 31, 2010

**SUNDRY NOTICES AND REPORTS ON WELLS**

***Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.***

***SUBMIT IN TRIPLICATE*** - *Other instructions on page 2*

5. Lease Serial No.
NMSF-079485A

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.
San Juan30-4 Unit

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

8. Well Name and No.
San Juan 30-4 Unit #105

2. Name of Operator
Energen Resources Corporation

9. API Well No.
30-039-30158

3a. Address
2010 Afton Place, Farmington, NM 87401

3b. Phone No. (*include area code*)
(505) 325-6800

10. Field and Pool, or Exploratory Area
Basin Fruitland Coal

4 Location of Well (*Footage, Sec., T., R., M., or Survey Description*)
1180' FSL, 1965' FWL Sec.18, T30N, R04W NMPM
(O) SW/SE

11. County or Parish, State
Rio Arriba NM

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

| TYPE OF SUBMISSION | TYPE OF ACTION | | | |
|---|---|---|---|---|
| ☒ Notice of Intent | ☐ Acidize | ☐ Deepen | ☐ Production (Start/Resume) | ☐ Water Shut-Off |
| ☐ Subsequent Report | ☐ Alter Casing | ☐ Fracture Treat | ☐ Reclamation | ☐ Well Integrity |
| ☐ Final Abandonment Notice | ☐ Casing Repair | ☐ New Construction | ☐ Recomplete | ☐ Other |
| | ☒ Change Plans | ☐ Plug and Abandon | ☐ Temporarily Abandon | |
| | ☐ Convert to Injection | ☐ Plug Back | ☐ Water Disposal | |

KP

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the final site is ready for final inspection.)

The San Juan 30-4 #105 had drilled the curve and cemented in the 7" intermediate when the winter closure came into effect last winter. A bridge plug was placed in the well at 4316'/4098' MD/TVD. Due to economic constraints this well will now be sidetracked into a "S" well.

To accomplish this 200 linear feet of class "G" will be placed on top of the bridge plug after tagging the plug. The cement plug will then be tagged to verify the top. The cement job for the 7" casing circulaed cement to surface on both stages and with the cement inside of the casing will isolate the Fruitland formation from possible communication.

The sidetrack operations plan as well as directional plan and C-102 are attached.

HOLD C104 FOR Directional survey
As Drilled GL02
Wellbore diagram

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MAR 2009
OIL CONS. DIV. DIST. 3

14. I hereby certify that the foregoing is true and correct
Name (*Printed/Typed*) Devin Mills — Title Drilling Engineer

Signature — Date 3/24/08

**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved by Original Signed: Stephen Mason — Title — Date MAR 25 2009

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon. — Office

Title 18 U.S.C. Section 1001, and Title 43 U.S.C. Section 1212, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

NMOCD

# Operations Plan

March 24, 2009

## San Juan 30-4 Unit #105st

### General Information

| | |
|---|---|
| Location | 1180' fsl, 1965' fwl at surface<br>1000' fsl, 1500' fel at bottom<br>swsw S18, T30N, R4W<br>Rio Arriba County, New Mexico |
| Elevations | 7423' GL |
| Total Depth | 4453' (MD), 4240' (TVD) |
| Formation Objective | Basin Fruitland Coal |

### Formation Tops

| | |
|---|---|
| San Jose | Surface |
| Nacimiento | 1929' (TVD), 1949' (MD) |
| Ojo Alamo Ss | 3174' (TVD), 3366' (MD) |
| Kirtland Sh | 3422' (TVD), 3628' (MD) |
| Fruitland Fm | 3432' (TVD), 3638' (MD) |
| Top Coal | 3801' (TVD), 4014' (MD) |
| Bottom Coal | 3821' (TVD), 4034' (MD) |
| **Total Depth** | **4240' (TVD), 4453' (MD)** |

### Drilling

The original wellbore was drilled to 5152'/4144' MD/TVD at 91.27°. 7" casing was run to bottom and cemented in place with cement circulated to surface on both stages. A bridge plug has been set at 4316'/4098' MD/TVD at 72.59°.
After tagging the bridge plug pump 200 linear feet (44 $ft^3$) of class "G" neat at 15.6 ppg.
A 6 ¼" window will be milled in the 7" casing at 1000' MD/TVD on an azimuth of 100°. The wellbore will be drilled fresh water LSND with a weight 8.6-8.9 ppg. Anticipated BHP can be as high as 1100 psi.

Blowout Control Specifications:

A 2000 psi minimum double ram or annulus BOP stack will be used following nipple up of casing head. During air drilling operations, a Shaffer Type 50 or equivalent rotating head will be installed on top of the stack. A 2" nominal, 2000 psi minimum choke manifold will also be used. An upper Kelly Cock valve handle and drill string valve should be available to fit each drill string and be available on the rig floor during drilling operations.

Logging Program:

Open hole logs: None
Mud logs: From 3432' (TVD), 3432' (MD) to TD. (Top of Fruitland Fm)
Surveys: Surface to TD every 250'.

## Tubulars

Casing, Tubing, & Casing Equipment:

| String | Interval | Wellbore | Casing | Csg Wt | Grade |
|---|---|---|---|---|---|
| Surface | 0'-200' | 12 ¼" | 9 5/8" | 32.3 ppf | H-40 ST&C |
| Intermediate | 0'-1000' (TVD) | 8 ¾" | 7" | 23.0 ppf | J-55 LT&C |
| Production | 0'-4240' (TVD)<br>0'-4453' (MD) | 6 ¼" | 5 ½" | 15.5 ppf | J-55 UF |
| Tubing | 0'-4270' (MD) | | 2 3/8" | 4.7 ppf | J-55 |

Casing Equipment:

Production: A self fill float shoe on the bottom of the first joint with self fill float collar on top of first joint and casing centralization with double bow spring and rigid centralizers to optimize standoff. Two turbolating centralizers at the base of the Ojo Alamo are recommended. If substantial lost circulation occurs place stage tool at the base of the Kirtland.

## Wellhead

3000 psi 11" x 9 5/8" casing head. 9 5/8" x 7"x 2 3/8" 3000 psi Flanged Wellhead with a 11" x 5 ½" 3000 psi spool.

## Cementing

Production Casing: Before cementing, circulate hole at least 1 ½ hole volumes of mud and reduce funnel viscosity to minimum to aide in hole cleanout. Depending on wellbore conditions, cement may consist of 462 sks 65/35 with 6.0 % Bentonite, 2.0 % $CaCl_2$, 10 #/sk Gilsonite, and ½ #/sk Flocele (12.3 ppg, 1.93 $ft^3$/sk) and a tail of 125 sks Sks with ¼ #/sk Flocele (15.6 ppg, 1.18 $ft^3$/sk). (545 $ft^3$ of slurry, 100 % excess to circulate to surface).

## Other Information

1) If lost circulation is encountered, sufficient LCM will be added to the mud system to maintain well control (Only acid soluable LCM may be used once into the Fruitland FM.. The production string may need to be cemented in multiple stages with a slurry design deviated from that listed above.
3) If high reservoir pressures or water flows are encountered slurry design may need to be deviated to from those listed above to satisfy wellbore and formation conditions.
4) No abnormal temperatures or pressures are anticipated. This gas is dedicated.

# Energen Resources

**30-4**
**Sec. 18 T 30N R 4W**
**San Juan 30-4 Unit #105**
**"S" Sidetrack**

**Plan: Design #1**

# APD REPORT

**24 March, 2009**

# Energen

APD REPORT

| | | | |
|---|---|---|---|
| **Company:** | Energen Resources | **Local Co-ordinate Reference:** | Well San Juan 30-4 Unit #105 |
| **Project:** | 30-4 | **TVD Reference:** | WELL @ 7438.0ft (Original Well Elev) |
| **Site:** | Sec. 18 T 30N R 4W | **MD Reference:** | WELL @ 7438.0ft (Original Well Elev) |
| **Well:** | San Juan 30-4 Unit #105 | **North Reference:** | True |
| **Wellbore:** | "S" Sidetrack | **Survey Calculation Method:** | Minimum Curvature |
| **Design:** | Design #1 | **Database:** | EDM 2003.21 Single User Db |

**Project** 30-4

| | | | |
|---|---|---|---|
| **Map System:** | US State Plane 1983 | **System Datum:** | Mean Sea Level |
| **Geo Datum:** | North American Datum 1983 | | |
| **Map Zone:** | New Mexico Central Zone | | |

**Site** Sec. 18 T 30N R 4W

| | | | | | |
|---|---|---|---|---|---|
| **Site Position:** | | **Northing:** | 2,114,944.40ft | **Latitude:** | 36° 48' 27.540 N |
| **From:** | Lat/Long | **Easting:** | 1,334,252.68ft | **Longitude:** | 107° 17' 45.060 W |
| **Position Uncertainty:** | 0.0 ft | **Slot Radius:** | " | **Grid Convergence:** | -0.63 ° |

**Well** San Juan 30-4 Unit #105

| | | | | | | |
|---|---|---|---|---|---|---|
| **Well Position** | **+N/-S** | 0.0 ft | **Northing:** | 2,114,944.40 ft | **Latitude:** | 36° 48' 27.540 N |
| | **+E/-W** | 0.0 ft | **Easting:** | 1,334,252.68 ft | **Longitude:** | 107° 17' 45.060 W |
| **Position Uncertainty** | | 0.0 ft | **Wellhead Elevation:** | ft | **Ground Level:** | 7,423.0ft |

**Wellbore** "S" Sidetrack

| **Magnetics** | **Model Name** | **Sample Date** | **Declination (°)** | **Dip Angle (°)** | **Field Strength (nT)** |
|---|---|---|---|---|---|
| | IGRF200510 | 3/23/2009 | 9.96 | 63.68 | 51,077 |

**Design** Design #1

**Audit Notes:**

| | | | | | |
|---|---|---|---|---|---|
| **Version:** | | **Phase:** | PROTOTYPE | **Tie On Depth:** | 1,000.0 |

| **Vertical Section:** | **Depth From (TVD) (ft)** | **+N/-S (ft)** | **+E/-W (ft)** | **Direction (°)** |
|---|---|---|---|---|
| | 0.0 | 0.0 | 0.0 | 100.29 |

**Survey Tool Program** **Date** 3/24/2009

| **From (ft)** | **To (ft)** | **Survey (Wellbore)** | **Tool Name** | **Description** |
|---|---|---|---|---|
| 0.0 | 1,000.0 | Design #1 (Wellbore #1) | MWD | MWD - Standard |
| 1,000 0 | 4,453.4 | Design #1 ("S" Sidetrack) | MWD | MWD - Standard |

**Planned Survey**

| **MD (ft)** | **TVD (ft)** | **Inc (°)** | **Azi (azimuth) (°)** | **Build (°/100ft)** | **V. Sec (ft)** | **Northing (ft)** | **Easting (ft)** |
|---|---|---|---|---|---|---|---|
| 1,000.0 | 1,000.0 | 0.00 | 0.00 | 0.00 | 0.0 | 2,114,944.40 | 1,334,252.68 |
| 1,100.0 | 1,100.0 | 2.17 | 100.29 | 2.17 | 1.9 | 2,114,944.04 | 1,334,254.53 |
| 1,200.0 | 1,199.8 | 4.33 | 100.29 | 2.17 | 7.6 | 2,114,942.97 | 1,334,260.09 |
| 1,300.0 | 1,299.4 | 6 50 | 100.29 | 2.17 | 17.0 | 2,114,941.18 | 1,334,269.36 |
| 1,400.0 | 1,398.5 | 8.66 | 100.29 | 2.17 | 30.2 | 2,114,938.68 | 1,334,282.30 |
| 1,500.0 | 1,497.0 | 10.83 | 100.29 | 2.17 | 47.1 | 2,114,935.47 | 1,334,298.92 |
| 1,600.0 | 1,594.9 | 12.99 | 100.29 | 2.17 | 67.7 | 2,114,931.57 | 1,334,319.18 |
| 1,700 0 | 1,691.9 | 15.16 | 100.29 | 2.17 | 92.0 | 2,114,926.96 | 1,334,343.05 |
| 1,800.0 | 1,787.9 | 17.32 | 100.29 | 2.17 | 120.0 | 2,114,921.66 | 1,334,370.51 |
| 1,900.0 | 1,882.8 | 19.49 | 100.29 | 2.17 | 151.6 | 2,114,915.68 | 1,334,401.50 |
| 2,000.0 | 1,976.4 | 21.65 | 100.29 | 2.17 | 186.7 | 2,114,909.02 | 1,334,436.00 |

# Energen
APD REPORT

| | | | |
|---|---|---|---|
| **Company:** | Energen Resources | **Local Co-ordinate Reference:** | Well San Juan 30-4 Unit #105 |
| **Project:** | 30-4 | **TVD Reference:** | WELL @ 7438.0ft (Original Well Elev) |
| **Site:** | Sec. 18 T 30N R 4W | **MD Reference:** | WELL @ 7438.0ft (Original Well Elev) |
| **Well:** | San Juan 30-4 Unit #105 | **North Reference:** | True |
| **Wellbore:** | "S" Sidetrack | **Survey Calculation Method:** | Minimum Curvature |
| **Design:** | Design #1 | **Database:** | EDM 2003.21 Single User Db |

**Planned Survey**

| MD (ft) | TVD (ft) | Inc (°) | Azi (azimuth) (°) | Build (°/100ft) | V. Sec (ft) | Northing (ft) | Easting (ft) |
|---|---|---|---|---|---|---|---|
| 2,100.0 | 2,068.6 | 23.82 | 100.29 | 2.17 | 225.3 | 2,114,901.70 | 1,334,473.94 |
| 2,200.0 | 2,159.3 | 25.98 | 100.29 | 2.17 | 267.4 | 2,114,893.73 | 1,334,515.28 |
| 2,300.0 | 2,248.3 | 28.15 | 100.29 | 2.17 | 312.9 | 2,114,885.11 | 1,334,559.95 |
| 2,400.0 | 2,335.6 | 30.31 | 100.29 | 2 17 | 361.8 | 2,114,875.86 | 1,334,607.89 |
| 2,500.0 | 2,421.0 | 32.48 | 100.29 | 2.17 | 413.9 | 2,114,865.99 | 1,334,659.04 |
| 2,600.0 | 2,504.3 | 34.64 | 100.29 | 2.17 | 469.1 | 2,114,855.51 | 1,334,713.31 |
| 2,659.7 | 2,553.0 | 35.93 | 100.29 | 2.17 | 503.6 | 2,114,848.98 | 1,334,747.16 |
| 2,700.0 | 2,585.8 | 35.06 | 100.29 | -2.17 | 527.0 | 2,114,844.55 | 1,334,770.15 |
| 2,800.0 | 2,668.7 | 32.90 | 100.29 | -2.17 | 582.9 | 2,114,833.96 | 1,334,825.02 |
| 2,900.0 | 2,753.7 | 30.73 | 100 29 | -2.17 | 635.6 | 2,114,823.97 | 1,334,876.78 |
| 3,000.0 | 2,840.6 | 28.57 | 100.29 | -2.17 | 685.12 | 2,114,814.60 | 1,334,925.35 |
| 3,100.0 | 2,929.3 | 26.40 | 100.29 | -2.17 | 731.2 | 2,114,805.86 | 1,334,970.66 |
| 3,200.0 | 3,019.7 | 24.24 | 100.29 | -2.17 | 774.0 | 2,114,797.76 | 1,335,012.64 |
| 3,300.0 | 3,111.7 | 22.07 | 100.29 | -2.17 | 813.3 | 2,114,790.31 | 1,335,051.25 |
| 3,400.0 | 3,205.0 | 19.91 | 100.29 | -2.17 | 849.1 | 2,114,783.52 | 1,335,086.41 |
| 3,500.0 | 3,299.7 | 17.74 | 100.29 | -2.17 | 881.4 | 2,114,777.41 | 1,335,118.09 |
| 3,600.0 | 3,395.5 | 15.57 | 100.29 | -2.17 | 910.0 | 2,114,771.98 | 1,335,146.23 |
| 3,700.0 | 3,492.3 | 13.41 | 100.29 | -2.17 | 935.12 | 2,114,767.24 | 1,335,170.80 |
| 3,800.0 | 3,590.0 | 11.24 | 100.29 | -2.17 | 956.4 | 2,114,763.19 | 1,335,191.77 |
| 3,900.0 | 3,688.4 | 9.08 | 100.29 | -2.17 | 974.12 | 2,114,759.85 | 1,335,209.09 |
| 4,000.0 | 3,787.4 | 6.91 | 100.29 | -2.17 | 988.0 | 2,114,757.22 | 1,335,222.75 |
| 4,100.0 | 3,886.9 | 4.75 | 100.29 | -2.17 | 998.12 | 2,114,755.29 | 1,335,232.73 |
| 4,200.0 | 3,986.7 | 2.58 | 100.29 | -2.17 | 1,004.5 | 2,114,754.08 | 1,335,239.00 |
| 4,300.0 | 4,086.6 | 0.42 | 100.29 | -2.17 | 1,007.1 | 2,114,753.58 | 1,335,241.58 |
| 4,319.4 | 4,106.0 | 0.00 | 0.00 | -2.17 | 1,007.2 | 2,114,753.57 | 1,335,241.65 |
| 4,400.0 | 4,186.6 | 0.00 | 0.00 | 0.00 | 1,007.2 | 2,114,753.57 | 1,335,241.65 |
| 4,453 4 | 4,240.0 | 0.00 | 0.00 | 0.00 | 1,007.2 | 2,114,753 57 | 1,335,241.65 |

Checked By: _____ Approved By: _____ Date: J-24-09

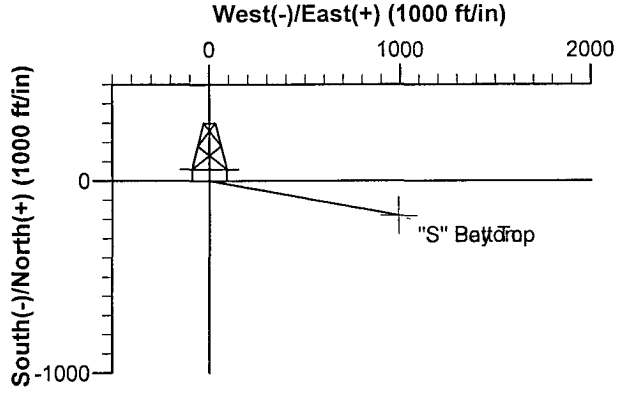
| PROJECT DETAILS: 30-4 | |
|---|---|
| Geodetic System: | US State Plane 1983 |
| Datum: | North American Datum 1983 |
| Ellipsoid: | GRS 1980 |
| Zone: | New Mexico Central Zone |
| System Datum: | Mean Sea Level |

Azimuths to True North
Magnetic North: 9.96°

Magnetic Field
Strength: 51077.1snT
Dip Angle: 63.67°
Date: 3/23/2009
Model: IGRF200510

SECTION DETAILS

| Sec | MD | Inc | Azi | TVD | +N/-S | +E/-W | DLeg | TFace | VSec | Target |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1000.0 | 0.00 | 0.00 | 1000.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.0 | |
| 2 | 2659.7 | 35.93 | 100.29 | 2553.0 | -90.0 | 495.5 | 2.17 | 100.29 | 503.6 | |
| 3 | 4319.4 | 0.00 | 0.00 | 4106.0 | -180.0 | 991.0 | 2.17 | 180.00 | 1007.2 | "S" Pay Top |
| 4 | 4453.4 | 0.00 | 0.00 | 4240.0 | -180.0 | 991.0 | 0.00 | 0.00 | 1007.2 | "S" Bottom |



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

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised October 12, 2005
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

# WELL LOCATION AND ACREAGE DEDICATION PLAT

| [1] API Number | [2] Pool Code | [3] Pool Name |
|---|---|---|
| 30-039-30159 | 71629 | Basin Fruitland Coal |

| [4] Property Code | [5] Property Name | [6] Well Number |
|---|---|---|
| | San Juan 30-4 Unit | #105 |

| [7] OGRID No. | [8] Operator Name | [9] Elevation |
|---|---|---|
| 162928 | Energen Resources Corporation | 7423' GL |

## [10] Surface Location

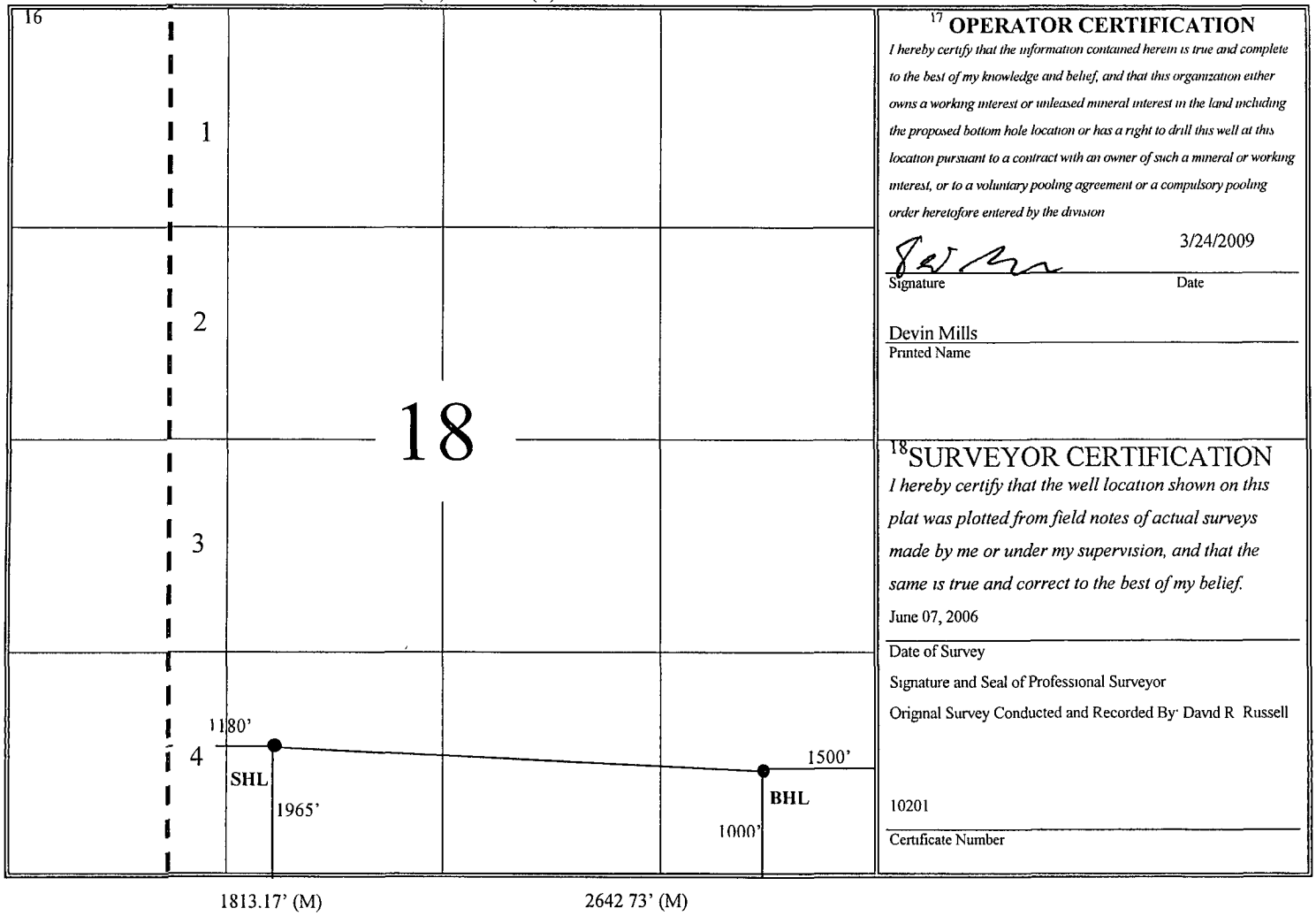
| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---|---|---|---|---|---|---|---|---|---|
| F | 18 | 30N | 4W | | 1180 | South | 1965 | West | Rio Arriba |

## [11] Bottom Hole Location If Different From Surface

| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---|---|---|---|---|---|---|---|---|---|
| A | 18 | 30N | 4W | | 1000 | South | 1500 | East | Rio Arriba |

| [12] Dedicated Acres | [13] Joint or Infill | [14] Consolidation Code | [15] Order No. |
|---|---|---|---|
| 320.57 E/2 | | | |

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.




## [17] OPERATOR CERTIFICATION

*I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division*

3/24/2009

Signature Date

Devin Mills
Printed Name

## [18] SURVEYOR CERTIFICATION

*I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.*

June 07, 2006
Date of Survey

Signature and Seal of Professional Surveyor

Orignal Survey Conducted and Recorded By: David R Russell

10201
Certificate Number