

dugan production corp.

March 24, 2005

New Mexico Oil Conservation Division  
1000 Rio Brazos Road  
Aztec, NM 87410

**Re: Dugan Production Corp.**  
Federal I Com #103  
API #30 045 32587  
Unit E Sec. 12, T29N, R14W  
San Juan County, NM



Ladies/Gentlemen:

Attached is the survey made by the steering company while drilling this well.

If you have any questions, please contact me at 325-1821.

Sincerely,

  
John Alexander  
Vice-President

JA/tmf

State of New Mexico) ss  
County of San Juan )

Subscribed and sworn to before me this 24<sup>th</sup> day of March, 2005

My Commission Expires:

03/07/07

  
Notary Public

5K8 175/N 10/W  
BHC 174/N 14/W



# Scientific Drilling International

## Survey Completion Report

**Company:** Dugan Production Corp. **Date:** 2005-03-22 **Time:** 14:12:07 **Page:** 1  
**Field:** San Juan County, NM **Co-ordinate(NE) Reference:** Well: 103, True North  
**Site:** Federal I Com **Vertical (TVD) Reference:** GL 5473.0  
**Well:** 103 **Section (VS) Reference:** Well (0.00N,0.00E,90.00Azi)  
**Wellpath:** OH **Survey Calculation Method:** Minimum Curvature **Db:** Sybase

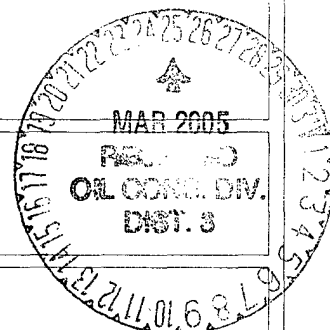
**Survey:** Survey #1 **Start Date:** 2005-03-09  
**Company:** Scientific Drilling Internatio **Engineer:** S. Robertson  
**Tool:** MWD-SDI; **Tied-to:** From Surface

**Field:** San Juan County, NM  
 USA  
**Map System:** US State Plane Coordinate System 1927 **Map Zone:** New Mexico, Western Zone  
**Geo Datum:** NAD27 (Clarke 1866) **Coordinate System:** Well Centre  
**Sys Datum:** Mean Sea Level **Geomagnetic Model:** igrf2005

**Site:** Federal I Com  
 Sec. 12, T29N, R14W  
**Site Position:** **Northing:** 2090019.38 ft **Latitude:** 36 44 35.000 N  
**From:** Geographic **Easting:** 372221.34 ft **Longitude:** 108 16 10.000 W  
**Position Uncertainty:** 0.00 ft **North Reference:** True  
**Ground Level:** 0.00 ft **Grid Convergence:** -0.26 deg

**Well:** 103 **Slot Name:**  
**Well Position:** +N/-S 0.00 ft **Northing:** 2090019.38 ft **Latitude:** 36 44 35.000 N  
 +E/-W 0.00 ft **Easting:** 372221.34 ft **Longitude:** 108 16 10.000 W  
**Position Uncertainty:** 0.00 ft

**Wellpath:** OH **Drilled From:** Surface  
**Current Datum:** GL **Tie-on Depth:** 0.00 ft  
**Magnetic Data:** 2004-12-30 **Above System Datum:** Mean Sea Level  
**Field Strength:** 51363 nT **Declination:** 10.88 deg  
**Vertical Section:** Depth From (TVD) +N/-S 0.00 ft **Mag Dip Angle:** 63.51 deg  
 ft +E/-W 0.00 ft **Direction** deg  
 0.00 0.00 0.00 90.00



### Survey

| Meas Depth<br>ft | Inclination<br>deg | Azimuth<br>deg | TVD<br>ft | Vert Sect<br>ft | N/S<br>ft | E/W<br>ft | DLS<br>deg/100ft | CLen<br>ft | CLD<br>ft | CLsA<br>deg |
|------------------|--------------------|----------------|-----------|-----------------|-----------|-----------|------------------|------------|-----------|-------------|
| 0.00             | 0.00               | 0.00           | 0.00      | 0.00            | 0.00      | 0.00      | 0.00             | 0.00       | 0.00      | 0.00        |
| 154.00           | 0.18               | 182.54         | 154.00    | -0.01           | -0.24     | -0.01     | 0.12             | 154.00     | 0.24      | 182.54      |
| 194.00           | 0.26               | 207.15         | 194.00    | -0.05           | -0.39     | -0.05     | 0.31             | 40.00      | 0.39      | 188.11      |
| 234.00           | 0.35               | 213.47         | 234.00    | -0.16           | -0.57     | -0.16     | 0.24             | 40.00      | 0.59      | 196.08      |
| 294.00           | 0.26               | 209.78         | 294.00    | -0.33           | -0.84     | -0.33     | 0.15             | 60.00      | 0.90      | 201.61      |
| 354.00           | 0.35               | 234.74         | 354.00    | -0.55           | -1.08     | -0.55     | 0.26             | 60.00      | 1.20      | 207.35      |
| 414.00           | 0.26               | 241.69         | 414.00    | -0.82           | -1.23     | -0.82     | 0.16             | 60.00      | 1.48      | 213.59      |
| 475.00           | 0.35               | 221.74         | 475.00    | -1.07           | -1.44     | -1.07     | 0.23             | 61.00      | 1.79      | 216.53      |
| 535.00           | 0.35               | 203.45         | 534.99    | -1.26           | -1.74     | -1.26     | 0.19             | 60.00      | 2.15      | 215.87      |
| 595.00           | 0.35               | 144.39         | 594.99    | -1.23           | -2.06     | -1.23     | 0.58             | 60.00      | 2.40      | 210.76      |
| 655.00           | 0.44               | 106.42         | 654.99    | -0.90           | -2.27     | -0.90     | 0.45             | 60.00      | 2.45      | 201.56      |
| 715.00           | 0.88               | 76.01          | 714.99    | -0.23           | -2.23     | -0.23     | 0.91             | 60.00      | 2.24      | 185.91      |
| 775.00           | 1.06               | 76.54          | 774.98    | 0.76            | -1.99     | 0.76      | 0.30             | 60.00      | 2.13      | 159.16      |
| 835.00           | 0.88               | 78.56          | 834.97    | 1.75            | -1.77     | 1.75      | 0.31             | 60.00      | 2.49      | 135.31      |
| 895.00           | 0.88               | 89.64          | 894.96    | 2.66            | -1.67     | 2.66      | 0.28             | 60.00      | 3.14      | 122.16      |
| 955.00           | 0.62               | 105.19         | 954.96    | 3.43            | -1.75     | 3.43      | 0.55             | 60.00      | 3.86      | 117.06      |
| 1015.00          | 0.88               | 74.61          | 1014.95   | 4.19            | -1.72     | 4.19      | 0.78             | 60.00      | 4.53      | 112.28      |
| 1075.00          | 1.23               | 69.77          | 1074.94   | 5.24            | -1.37     | 5.24      | 0.60             | 60.00      | 5.42      | 104.67      |
| 1135.00          | 1.41               | 59.31          | 1134.93   | 6.48            | -0.77     | 6.48      | 0.50             | 60.00      | 6.53      | 96.80       |
| 1195.00          | 0.79               | 49.82          | 1194.92   | 7.43            | -0.13     | 7.43      | 1.07             | 60.00      | 7.43      | 91.00       |
| 1250.09          | 0.79               | 49.82          | 1250.00   | 8.01            | 0.36      | 8.01      | 0.00             | 55.09      | 8.02      | 87.42       |
| 1300.00          | 0.79               | 49.82          | 1299.91   | 8.54            | 0.80      | 8.54      | 0.00             | 49.91      | 8.57      | 84.61       |



# Scientific Drilling International

## Survey Completion Report

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Field: San Juan County, NM  
Site: Federal I Com  
Well: 103  
Wellpath: OH

Date: 2005-03-22 Time: 14:12:07 Page: 2  
Co-ordinate(NE) Reference: Well: 103, True North  
Vertical (TVD) Reference: GL 5473.0  
Section (VS) Reference: Well (0.00N,0.00E,90.00Azi)  
Survey Calculation Method: Minimum Curvature Db: Sybase

### Annotation

| MD<br>ft | TVD<br>ft |                  |
|----------|-----------|------------------|
| 1300.00  | 1299.91   | Projection to TD |

