

CASE NOS. 22161-22164

**APPLICATIONS OF MEWBOURNE OIL COMPANY
FOR COMPULSORY POOLING,
LEA COUNTY, NEW MEXICO**

EXHIBIT LIST

1. Application and Proposed Notice
2. Landman's Affidavit
3. Geologist's Affidavit
4. Affidavits of Mailing
5. Publication Affidavit
6. Pooling Checklist

PART II

**STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION**

**APPLICATION OF MEWBOURNE OIL COMPANY
FOR COMPULSORY POOLING, LEA COUNTY,
NEW MEXICO.**

Case No. 22161

**APPLICATION OF MEWBOURNE OIL COMPANY
FOR COMPULSORY POOLING, LEA COUNTY,
NEW MEXICO.**

Case No. 22162

**APPLICATION OF MEWBOURNE OIL COMPANY
FOR COMPULSORY POOLING, LEA COUNTY,
NEW MEXICO.**

Case No. 22163

**APPLICATION OF MEWBOURNE OIL COMPANY
FOR COMPULSORY POOLING, LEA COUNTY,
NEW MEXICO.**

Case No. 22164

SELF-AFFIRMED STATEMENT OF JORDAN CARRELL

Jordan Carrell deposes and states:

1. I am over the age of 18, and have personal knowledge of the matters stated herein.
2. I am a geologist for Mewbourne Oil Company ("Mewbourne"), and I am familiar with the geological matters involved in these cases. I have been qualified by the Division as an expert petroleum geologist.
3. The following geological plats are attached hereto:
 - (a) Attachment A is a structure map on the Bone Spring top. It shows that structure is dipping to the southeast across the proration unit. It also shows all the 1st and 2nd Bone Spring horizontal wells in the area, a line of cross-section, and the locations of the proposed wells: The Spanish Bay 18/19 B1DM Fed Com 1H, Spanish Bay 18/19 B2DM Fed Com 1H, Spanish Bay 18/19 B1CN Fed Com 1H, Spanish Bay 18/19 B2CN Fed Com 1H, Spanish Bay 18/19 B1BO Fed Com 1H, Spanish Bay 18/19 B2BO Fed Com 1H, Spanish Bay 18/19 B1AP Fed Com 1H, and Spanish Bay 18/19 B2AP Fed Com 1H.
 - (b) Attachment B is a cross section of the 1st and 2nd Bone Spring intervals and shows the planned target zones within the 1st and 2nd Bone Spring.

EXHIBIT

3

The well logs on the cross-section give a representative sample of the Bone Spring Formation in this area. The sands are continuous and uniformly thick across the well units.

4. I conclude from the maps that:

(a) The horizontal spacing units are justified from a geologic standpoint.

(b) The target zones are continuous and of relatively uniform thickness across the well units.

(c) Each quarter-quarter section in the well units will contribute more or less equally to production from the target zone.


(d) There is no faulting or other geologic impediment in the area which will affect drilling of the subject wells.

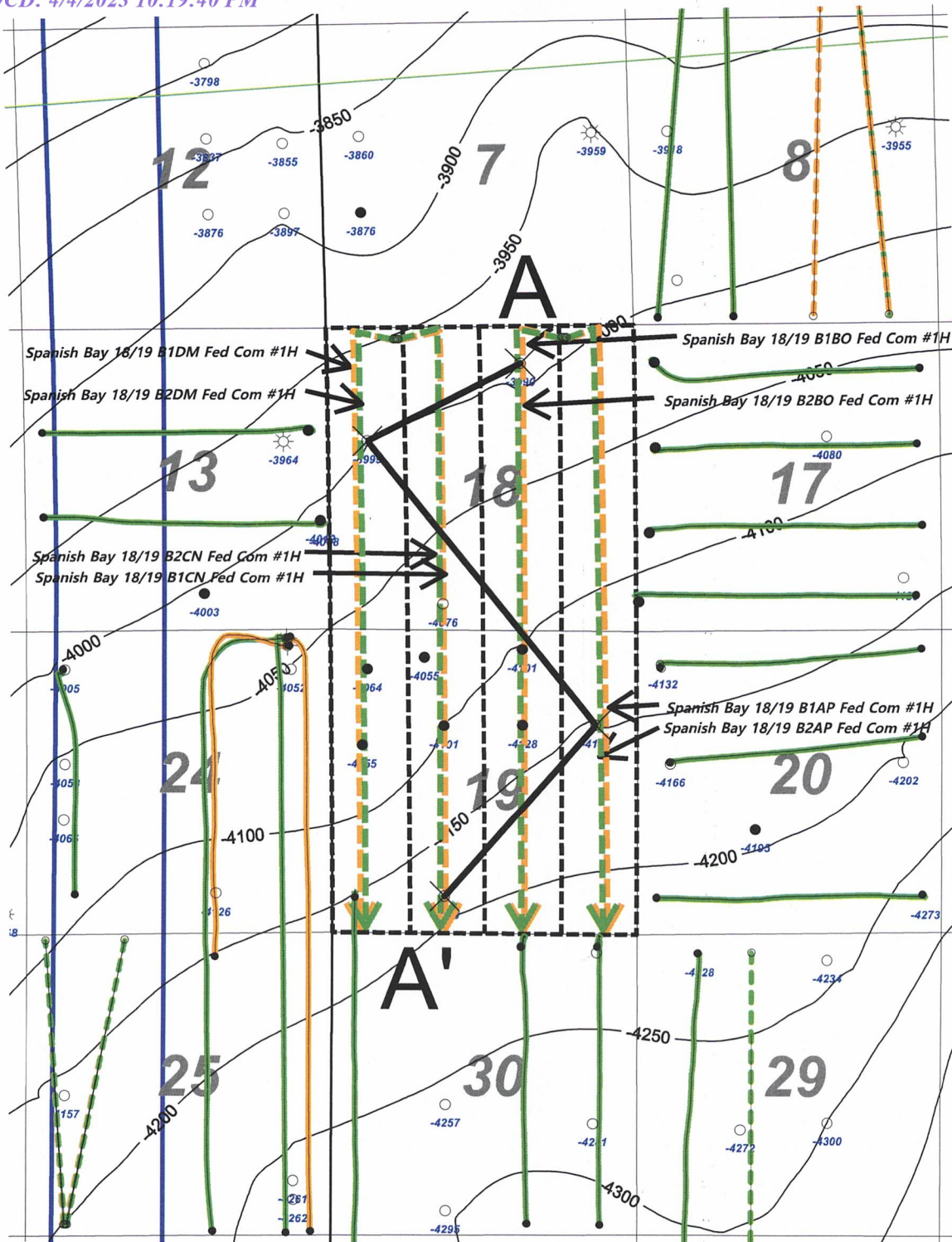
(e) Based on the wells in the area (see Attachment A), there is no preference for standup or laydown wells. However, due to existing wells, in order for Mewbourne to drill extended laterals the wells must be standups.

5. Attachments C-1 through C-4 contain the horizontal drilling plans for the proposed wells. The producing intervals of the wells will be orthodox.

6. I understand that this Self-Affirmed Statement will be used as written testimony in these cases. I affirm that my testimony in paragraphs 1 through 5 above is true and correct and is made under penalty of perjury under the laws of the State of New Mexico. My testimony is made as of the date handwritten next to my signature below.

Date: 2-8-2023


Jordan Carrell
Jordan Carrell



A

Wells deeper than 7000'

Bone Spring Top
(sub sea ft)

1 inch = 2100 feet



ATTACHMENT

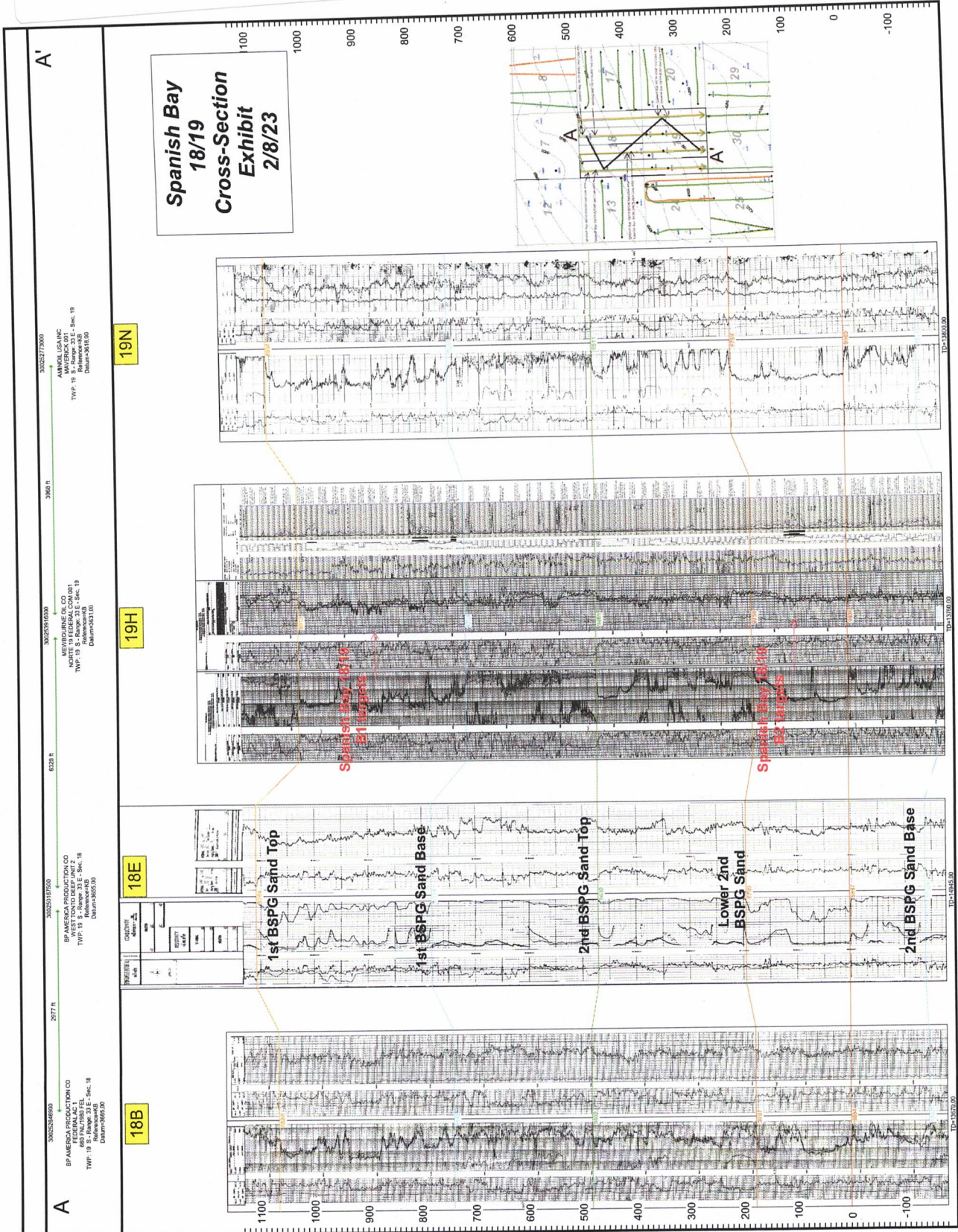
BSPG Horizontal Color Code

- 1st BSPG Sand Permit
- 1st BSPG Sand Well
- 2nd BSPG Sand Permit
- 2nd BSPG Sand Well

| | | |
|---|------------|------------|
| MOC Mewbourne Oil Company | | |
| Spanish Bay 18/19 Bone Spring Top Structure Map C.I. = 50' | | |
| 2/8/23 | Lea County | New Mexico |
| Scale: 1" = 2100' | | |

ATTACHMENT

B



ATTACHMENT

Mewbourne Oil Company

SURVEY CALCULATION REPORT
Minimum Curvature Calculations

Operator: Mewbourne Oil Company
Lease Name: Spanish Bay 18/19 BIDM Fed Com 1H
KOP 8470.54

Target KBTVD: 8,948 Feet 8948.00
Target Angle: 88.97 Degrees 88.97
Section Plane: 183.55 Degrees
Declination Corrected to True North: 6.63 Degrees
Bit to Survey Offset: 44 Feet

Table with columns: Survey No., Measured Depth-ft, Drift (Deg), Azimuth (Deg), Course Length, TVD (Feet), Vertical Section, +/-S (Feet), +/-W (Feet), Closure Distance, Closure Direction, BUR, DLS, KBTVD, +Above -Below Target, DRIFT RADIANS, AZIMUTH (RADIANS). Rows 1-56.

C-1

| | | | | | | | | | | | | | | | | | |
|-----|----------|-------|--------|--------|--------|---------|----------|--------|---------|-------|-----|-----|--------|-----|---------|------|-------|
| 57 | 13000.00 | 88 07 | 183 55 | 100 | 9032.0 | 5156.2 | -5146.3 | -319.5 | 5156.2 | 183.6 | 0.0 | 0.0 | 8939.5 | 8.5 | 1.55285 | 3.20 | 1E-10 |
| 58 | 14000.00 | 88 07 | 183 55 | 100 | 9033.8 | 5256.2 | -5246.1 | -325.7 | 5256.2 | 183.6 | 0.0 | 0.0 | 8939.5 | 8.5 | 1.55285 | 3.20 | 1E-10 |
| 59 | 14100.00 | 88 07 | 183 55 | 100 | 9035.6 | 5356.1 | -5345.8 | -331.9 | 5356.1 | 183.6 | 0.0 | 0.0 | 8939.5 | 8.5 | 1.55285 | 3.20 | 1E-10 |
| 60 | 14200.00 | 88 07 | 183 55 | 100 | 9037.4 | 5456.1 | -5445.6 | -338.1 | 5456.1 | 183.6 | 0.0 | 0.0 | 8939.5 | 8.5 | 1.55285 | 3.20 | 1E-10 |
| 61 | 14300.00 | 88 07 | 183 55 | 100 | 9039.2 | 5556.1 | -5545.4 | -344.3 | 5556.1 | 183.6 | 0.0 | 0.0 | 8939.5 | 8.5 | 1.55285 | 3.20 | 1E-10 |
| 62 | 14400.00 | 88 07 | 183 55 | 100 | 9041.0 | 5656.1 | -5645.2 | -350.5 | 5656.1 | 183.6 | 0.0 | 0.0 | 8939.5 | 8.5 | 1.55285 | 3.20 | 1E-10 |
| 63 | 14500.00 | 88 07 | 183 55 | 100 | 9042.8 | 5756.1 | -5745.0 | -356.7 | 5756.1 | 183.6 | 0.0 | 0.0 | 8939.5 | 8.5 | 1.55285 | 3.20 | 1E-10 |
| 64 | 14600.00 | 88 07 | 183 55 | 100 | 9044.6 | 5856.1 | -5844.8 | -362.9 | 5856.1 | 183.6 | 0.0 | 0.0 | 8939.5 | 8.5 | 1.55285 | 3.20 | 1E-10 |
| 65 | 14700.00 | 88 07 | 183 55 | 100 | 9046.4 | 5956.0 | -5944.6 | -369.1 | 5956.0 | 183.6 | 0.0 | 0.0 | 8939.5 | 8.5 | 1.55285 | 3.20 | 1E-10 |
| 66 | 14800.00 | 88 07 | 183 55 | 100 | 9048.2 | 6056.0 | -6044.4 | -375.3 | 6056.0 | 183.6 | 0.0 | 0.0 | 8939.5 | 8.5 | 1.55285 | 3.20 | 1E-10 |
| 67 | 14900.00 | 88 07 | 183 55 | 100 | 9050.0 | 6156.0 | -6144.2 | -381.5 | 6156.0 | 183.6 | 0.0 | 0.0 | 8939.5 | 8.5 | 1.55285 | 3.20 | 1E-10 |
| 68 | 15000.00 | 88 07 | 183 55 | 100 | 9051.8 | 6256.0 | -6244.0 | -387.7 | 6256.0 | 183.6 | 0.0 | 0.0 | 8939.5 | 8.5 | 1.55285 | 3.20 | 1E-10 |
| 69 | 15100.00 | 88 07 | 183 55 | 100 | 9053.6 | 6356.0 | -6343.8 | -393.9 | 6356.0 | 183.6 | 0.0 | 0.0 | 8939.5 | 8.5 | 1.55285 | 3.20 | 1E-10 |
| 70 | 15200.00 | 88 07 | 183 55 | 100 | 9055.4 | 6456.0 | -6443.6 | -400.1 | 6456.0 | 183.6 | 0.0 | 0.0 | 8939.5 | 8.5 | 1.55285 | 3.20 | 1E-10 |
| 71 | 15300.00 | 88 07 | 183 55 | 100 | 9057.2 | 6556.0 | -6543.4 | -406.3 | 6556.0 | 183.6 | 0.0 | 0.0 | 8939.5 | 8.5 | 1.55285 | 3.20 | 1E-10 |
| 72 | 15400.00 | 88 07 | 183 55 | 100 | 9059.0 | 6655.9 | -6643.1 | -412.5 | 6655.9 | 183.6 | 0.0 | 0.0 | 8939.5 | 8.5 | 1.55285 | 3.20 | 1E-10 |
| 73 | 15500.00 | 88 07 | 183 55 | 100 | 9060.7 | 6755.9 | -6742.9 | -418.6 | 6755.9 | 183.6 | 0.0 | 0.0 | 8939.5 | 8.5 | 1.55285 | 3.20 | 1E-10 |
| 74 | 15600.00 | 88 07 | 183 55 | 100 | 9062.5 | 6855.9 | -6842.7 | -424.8 | 6855.9 | 183.6 | 0.0 | 0.0 | 8939.5 | 8.5 | 1.55285 | 3.20 | 1E-10 |
| 75 | 15700.00 | 88 07 | 183 55 | 100 | 9064.3 | 6955.9 | -6942.5 | -431.0 | 6955.9 | 183.6 | 0.0 | 0.0 | 8939.5 | 8.5 | 1.55285 | 3.20 | 1E-10 |
| 76 | 15800.00 | 88 07 | 183 55 | 100 | 9066.1 | 7055.9 | -7042.3 | -437.2 | 7055.9 | 183.6 | 0.0 | 0.0 | 8939.5 | 8.5 | 1.55285 | 3.20 | 1E-10 |
| 77 | 15900.00 | 88 07 | 183 55 | 100 | 9067.9 | 7155.9 | -7142.1 | -443.4 | 7155.9 | 183.6 | 0.0 | 0.0 | 8939.5 | 8.5 | 1.55285 | 3.20 | 1E-10 |
| 78 | 16000.00 | 88 07 | 183 55 | 100 | 9069.7 | 7255.8 | -7241.9 | -449.6 | 7255.8 | 183.6 | 0.0 | 0.0 | 8939.5 | 8.5 | 1.55285 | 3.20 | 1E-10 |
| 79 | 16100.00 | 88 07 | 183 55 | 100 | 9071.5 | 7355.8 | -7341.7 | -455.8 | 7355.8 | 183.6 | 0.0 | 0.0 | 8939.5 | 8.5 | 1.55285 | 3.20 | 1E-10 |
| 80 | 16200.00 | 88 07 | 183 55 | 100 | 9073.3 | 7455.8 | -7441.5 | -462.0 | 7455.8 | 183.6 | 0.0 | 0.0 | 8939.5 | 8.5 | 1.55285 | 3.20 | 1E-10 |
| 81 | 16300.00 | 88 07 | 183 55 | 100 | 9075.1 | 7555.8 | -7541.3 | -468.2 | 7555.8 | 183.6 | 0.0 | 0.0 | 8939.5 | 8.5 | 1.55285 | 3.20 | 1E-10 |
| 82 | 16400.00 | 88 07 | 183 55 | 100 | 9076.9 | 7655.8 | -7641.1 | -474.4 | 7655.8 | 183.6 | 0.0 | 0.0 | 8939.5 | 8.5 | 1.55285 | 3.20 | 1E-10 |
| 83 | 16500.00 | 88 07 | 183 55 | 100 | 9078.7 | 7755.8 | -7740.9 | -480.6 | 7755.8 | 183.6 | 0.0 | 0.0 | 8939.5 | 8.5 | 1.55285 | 3.20 | 1E-10 |
| 84 | 16600.00 | 88 07 | 183 55 | 100 | 9080.5 | 7855.7 | -7840.6 | -486.8 | 7855.7 | 183.6 | 0.0 | 0.0 | 8939.5 | 8.5 | 1.55285 | 3.20 | 1E-10 |
| 85 | 16700.00 | 88 07 | 183 55 | 100 | 9082.3 | 7955.7 | -7940.4 | -493.0 | 7955.7 | 183.6 | 0.0 | 0.0 | 8939.5 | 8.5 | 1.55285 | 3.20 | 1E-10 |
| 86 | 16800.00 | 88 07 | 183 55 | 100 | 9084.1 | 8055.7 | -8040.2 | -499.2 | 8055.7 | 183.6 | 0.0 | 0.0 | 8939.5 | 8.5 | 1.55285 | 3.20 | 1E-10 |
| 87 | 16900.00 | 88 07 | 183 55 | 100 | 9085.9 | 8155.7 | -8140.0 | -505.4 | 8155.7 | 183.6 | 0.0 | 0.0 | 8939.5 | 8.5 | 1.55285 | 3.20 | 1E-10 |
| 88 | 17000.00 | 88 07 | 183 55 | 100 | 9087.7 | 8255.7 | -8239.8 | -511.6 | 8255.7 | 183.6 | 0.0 | 0.0 | 8939.5 | 8.5 | 1.55285 | 3.20 | 1E-10 |
| 89 | 17100.00 | 88 07 | 183 55 | 100 | 9089.5 | 8355.7 | -8339.6 | -517.8 | 8355.7 | 183.6 | 0.0 | 0.0 | 8939.5 | 8.5 | 1.55285 | 3.20 | 1E-10 |
| 90 | 17200.00 | 88 07 | 183 55 | 100 | 9091.3 | 8455.6 | -8439.4 | -524.0 | 8455.6 | 183.6 | 0.0 | 0.0 | 8939.5 | 8.5 | 1.55285 | 3.20 | 1E-10 |
| 91 | 17300.00 | 88 07 | 183 55 | 100 | 9093.0 | 8555.6 | -8539.2 | -530.2 | 8555.6 | 183.6 | 0.0 | 0.0 | 8939.5 | 8.5 | 1.55285 | 3.20 | 1E-10 |
| 92 | 17400.00 | 88 07 | 183 55 | 100 | 9094.8 | 8655.6 | -8639.0 | -536.4 | 8655.6 | 183.6 | 0.0 | 0.0 | 8939.5 | 8.5 | 1.55285 | 3.20 | 1E-10 |
| 93 | 17500.00 | 88 07 | 183 55 | 100 | 9096.6 | 8755.6 | -8738.8 | -542.6 | 8755.6 | 183.6 | 0.0 | 0.0 | 8939.5 | 8.5 | 1.55285 | 3.20 | 1E-10 |
| 94 | 17600.00 | 88 07 | 183 55 | 100 | 9098.4 | 8855.6 | -8838.6 | -548.8 | 8855.6 | 183.6 | 0.0 | 0.0 | 8939.5 | 8.5 | 1.55285 | 3.20 | 1E-10 |
| 95 | 17700.00 | 88 07 | 183 55 | 100 | 9100.2 | 8955.6 | -8938.4 | -555.0 | 8955.6 | 183.6 | 0.0 | 0.0 | 8939.5 | 8.5 | 1.55285 | 3.20 | 1E-10 |
| 96 | 17800.00 | 88 07 | 183 55 | 100 | 9102.0 | 9055.5 | -9038.1 | -561.2 | 9055.5 | 183.6 | 0.0 | 0.0 | 8939.5 | 8.5 | 1.55285 | 3.20 | 1E-10 |
| 97 | 17900.00 | 88 07 | 183 55 | 100 | 9103.8 | 9155.5 | -9137.9 | -567.3 | 9155.5 | 183.6 | 0.0 | 0.0 | 8939.5 | 8.5 | 1.55285 | 3.20 | 1E-10 |
| 98 | 18000.00 | 88 07 | 183 55 | 100 | 9105.6 | 9255.5 | -9237.7 | -573.5 | 9255.5 | 183.6 | 0.0 | 0.0 | 8939.5 | 8.5 | 1.55285 | 3.20 | 1E-10 |
| 99 | 18100.00 | 88 07 | 183 55 | 100 | 9107.4 | 9355.5 | -9337.5 | -579.7 | 9355.5 | 183.6 | 0.0 | 0.0 | 8939.5 | 8.5 | 1.55285 | 3.20 | 1E-10 |
| 100 | 18200.00 | 88 07 | 183 55 | 100 | 9109.2 | 9455.5 | -9437.3 | -585.9 | 9455.5 | 183.6 | 0.0 | 0.0 | 8939.5 | 8.5 | 1.55285 | 3.20 | 1E-10 |
| 101 | 18300.00 | 88 07 | 183 55 | 100 | 9111.0 | 9555.5 | -9537.1 | -592.1 | 9555.5 | 183.6 | 0.0 | 0.0 | 8939.5 | 8.5 | 1.55285 | 3.20 | 1E-10 |
| 102 | 18400.00 | 88 07 | 183 55 | 100 | 9112.8 | 9655.5 | -9636.9 | -598.3 | 9655.5 | 183.6 | 0.0 | 0.0 | 8939.5 | 8.5 | 1.55285 | 3.20 | 1E-10 |
| 103 | 18500.00 | 88 07 | 183 55 | 100 | 9114.6 | 9755.4 | -9736.7 | -604.5 | 9755.4 | 183.6 | 0.0 | 0.0 | 8939.5 | 8.5 | 1.55285 | 3.20 | 1E-10 |
| 104 | 18600.00 | 88 07 | 183 55 | 100 | 9116.4 | 9855.4 | -9836.5 | -610.7 | 9855.4 | 183.6 | 0.0 | 0.0 | 8939.5 | 8.5 | 1.55285 | 3.20 | 1E-10 |
| 105 | 18700.00 | 88 07 | 183 55 | 100 | 9118.2 | 9955.4 | -9936.3 | -616.9 | 9955.4 | 183.6 | 0.0 | 0.0 | 8939.5 | 8.5 | 1.55285 | 3.20 | 1E-10 |
| 106 | 18800.00 | 88 07 | 183 55 | 100 | 9120.0 | 10055.4 | -10036.1 | -623.1 | 10055.4 | 183.6 | 0.0 | 0.0 | 8939.5 | 8.5 | 1.55285 | 3.20 | 1E-10 |
| 107 | 18900.00 | 88 07 | 183 55 | 100 | 9121.8 | 10155.4 | -10135.9 | -629.3 | 10155.4 | 183.6 | 0.0 | 0.0 | 8939.5 | 8.5 | 1.55285 | 3.20 | 1E-10 |
| 108 | 18972.13 | 88 07 | 183 55 | 72.128 | 9123.0 | 10227.5 | -10207.8 | -633.8 | 10227.5 | 183.6 | 0.0 | 0.0 | 8939.5 | 8.5 | 1.55285 | 3.20 | 1E-10 |

Mewbourne Oil Company

SURVEY CALCULATION REPORT
Minimum Curvature Calculations

Operator: Mewbourne Oil Company
Lease Name: Spanish Bay 18/19 B2DM Fed Com 1H
KOP 9335.54

Target KBTVD: 9,813 Feet 9813.00
Target Angle: 89.24 Degrees 89.24
Section Plane: 183.72 Degrees
Declination Corrected to True North: 6.63 Degrees
Bit to Survey Offset: 44 Feet

| Survey No. | Measured Depth-ft | Drift (Deg.) | Azimuth (Deg.) | Course Length | TVD (Feet) | Vertical Section | +N/-S (Feet) | +E/-W (Feet) | Closure Distance | Closure Direction | BUR | DLS | KBTVD | +Above -Below | | DRIFT RADIANS | AZIMUTH (RADIANS) |
|------------|-------------------|--------------|----------------|---------------|------------|------------------|--------------|--------------|------------------|-------------------|------|------|---------|------------------|---------|---------------|-------------------|
| | | | | | | | | | | | | | | Target | Target | | |
| T/1 | 9335.54 | 0.00 | 183.72 | N/A | 9335.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | N/A | N/A | -9335.5 | 477.5 | 1E-12 | 3.21 | #VALUE! |
| 1 | 9409.90 | 8.92 | 183.72 | 74.364 | 9409.6 | 5.8 | -5.8 | -0.4 | 5.8 | 183.7 | 12.0 | 12.0 | 9409.5 | 403.5 | 0.15575 | 3.21 | 0.155747 |
| 2 | 9484.20 | 17.85 | 183.72 | 74.364 | 9481.9 | 23.0 | -22.9 | -1.5 | 23.0 | 183.7 | 12.0 | 12.0 | 9481.6 | 331.4 | 0.31149 | 3.21 | 0.155747 |
| 3 | 9558.03 | 26.77 | 183.72 | 74.364 | 9550.6 | 51.2 | -51.1 | -3.3 | 51.2 | 183.7 | 12.0 | 12.0 | 9549.9 | 263.1 | 0.46724 | 3.21 | 0.155747 |
| 4 | 9632.90 | 35.69 | 183.72 | 74.364 | 9614.1 | 89.7 | -89.5 | -5.8 | 89.7 | 183.7 | 12.0 | 12.0 | 9612.9 | 200.1 | 0.62299 | 3.21 | 0.155747 |
| 5 | 9707.35 | 44.62 | 183.72 | 74.364 | 9670.9 | 137.6 | -137.3 | -8.9 | 137.6 | 183.7 | 12.0 | 12.0 | 9669.1 | 143.9 | 0.77873 | 3.21 | 0.155747 |
| 6 | 9781.72 | 53.54 | 183.72 | 74.364 | 9719.6 | 193.7 | -193.3 | -12.6 | 193.7 | 183.7 | 12.0 | 12.0 | 9717.0 | 96.0 | 0.93448 | 3.21 | 0.155747 |
| 7 | 9856.08 | 62.47 | 183.72 | 74.364 | 9758.9 | 256.7 | -256.2 | -16.7 | 256.7 | 183.7 | 12.0 | 12.0 | 9755.5 | 57.5 | 1.09023 | 3.21 | 0.155747 |
| 8 | 9930.44 | 71.39 | 183.72 | 74.364 | 9788.0 | 325.1 | -324.4 | -21.1 | 325.1 | 183.7 | 12.0 | 12.0 | 9783.7 | 29.3 | 1.24597 | 3.21 | 0.155747 |
| 9 | 10004.81 | 80.31 | 183.72 | 74.364 | 9806.2 | 397.1 | -396.3 | -25.8 | 397.1 | 183.7 | 12.0 | 12.0 | 9800.9 | 12.1 | 1.40172 | 3.21 | 0.155747 |
| 10 | 10079.17 | 89.24 | 183.72 | 74.364 | 9813.0 | 471.1 | -470.1 | -30.6 | 471.1 | 183.7 | 12.0 | 12.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 0.155747 |
| 11 | 10100.00 | 89.24 | 183.72 | 20.829 | 9813.2 | 491.9 | -490.9 | -31.9 | 491.9 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 12 | 10200.00 | 89.24 | 183.72 | 100 | 9814.6 | 591.9 | -590.7 | -38.4 | 591.9 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 13 | 10300.00 | 89.24 | 183.72 | 100 | 9815.9 | 691.9 | -690.5 | -44.9 | 691.9 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 14 | 10400.00 | 89.24 | 183.72 | 100 | 9817.2 | 791.9 | -790.2 | -51.4 | 791.9 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 15 | 10500.00 | 89.24 | 183.72 | 100 | 9818.6 | 891.9 | -890.0 | -57.9 | 891.9 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 16 | 10600.00 | 89.24 | 183.72 | 100 | 9819.9 | 991.9 | -989.8 | -64.4 | 991.9 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 17 | 10700.00 | 89.24 | 183.72 | 100 | 9821.2 | 1091.9 | -1089.6 | -70.9 | 1091.9 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 18 | 10800.00 | 89.24 | 183.72 | 100 | 9822.6 | 1191.9 | -1189.4 | -77.4 | 1191.9 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 19 | 10900.00 | 89.24 | 183.72 | 100 | 9823.9 | 1291.9 | -1289.1 | -83.9 | 1291.9 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 20 | 11000.00 | 89.24 | 183.72 | 100 | 9825.2 | 1391.8 | -1388.9 | -90.3 | 1391.8 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 21 | 11100.00 | 89.24 | 183.72 | 100 | 9826.6 | 1491.8 | -1488.7 | -96.8 | 1491.8 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 22 | 11200.00 | 89.24 | 183.72 | 100 | 9827.9 | 1591.8 | -1588.5 | -103.3 | 1591.8 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 23 | 11300.00 | 89.24 | 183.72 | 100 | 9829.2 | 1691.8 | -1688.3 | -109.8 | 1691.8 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 24 | 11400.00 | 89.24 | 183.72 | 100 | 9830.6 | 1791.8 | -1788.0 | -116.3 | 1791.8 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 25 | 11500.00 | 89.24 | 183.72 | 100 | 9831.9 | 1891.8 | -1887.8 | -122.8 | 1891.8 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 26 | 11600.00 | 89.24 | 183.72 | 100 | 9833.2 | 1991.8 | -1987.6 | -129.3 | 1991.8 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 27 | 11700.00 | 89.24 | 183.72 | 100 | 9834.6 | 2091.8 | -2087.4 | -135.8 | 2091.8 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 28 | 11800.00 | 89.24 | 183.72 | 100 | 9835.9 | 2191.8 | -2187.2 | -142.3 | 2191.8 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 29 | 11900.00 | 89.24 | 183.72 | 100 | 9837.2 | 2291.8 | -2286.9 | -148.8 | 2291.8 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 30 | 12000.00 | 89.24 | 183.72 | 100 | 9838.6 | 2391.8 | -2386.7 | -155.2 | 2391.8 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 31 | 12100.00 | 89.24 | 183.72 | 100 | 9839.9 | 2491.8 | -2486.5 | -161.7 | 2491.8 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 32 | 12200.00 | 89.24 | 183.72 | 100 | 9841.2 | 2591.7 | -2586.3 | -168.2 | 2591.7 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 33 | 12300.00 | 89.24 | 183.72 | 100 | 9842.6 | 2691.7 | -2686.1 | -174.7 | 2691.7 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 34 | 12400.00 | 89.24 | 183.72 | 100 | 9843.9 | 2791.7 | -2785.8 | -181.2 | 2791.7 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 35 | 12500.00 | 89.24 | 183.72 | 100 | 9845.2 | 2891.7 | -2885.6 | -187.7 | 2891.7 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 36 | 12600.00 | 89.24 | 183.72 | 100 | 9846.6 | 2991.7 | -2985.4 | -194.2 | 2991.7 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 37 | 12700.00 | 89.24 | 183.72 | 100 | 9847.9 | 3091.7 | -3085.2 | -200.7 | 3091.7 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 38 | 12800.00 | 89.24 | 183.72 | 100 | 9849.2 | 3191.7 | -3185.0 | -207.2 | 3191.7 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 39 | 12900.00 | 89.24 | 183.72 | 100 | 9850.6 | 3291.7 | -3284.7 | -213.7 | 3291.7 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 40 | 13000.00 | 89.24 | 183.72 | 100 | 9851.9 | 3391.7 | -3384.5 | -220.1 | 3391.7 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 41 | 13100.00 | 89.24 | 183.72 | 100 | 9853.2 | 3491.7 | -3484.3 | -226.6 | 3491.7 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 42 | 13200.00 | 89.24 | 183.72 | 100 | 9854.6 | 3591.7 | -3584.1 | -233.1 | 3591.7 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 43 | 13300.00 | 89.24 | 183.72 | 100 | 9855.9 | 3691.6 | -3683.9 | -239.6 | 3691.6 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 44 | 13400.00 | 89.24 | 183.72 | 100 | 9857.2 | 3791.6 | -3783.6 | -246.1 | 3791.6 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 45 | 13500.00 | 89.24 | 183.72 | 100 | 9858.6 | 3891.6 | -3883.4 | -252.6 | 3891.6 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 46 | 13600.00 | 89.24 | 183.72 | 100 | 9859.9 | 3991.6 | -3983.2 | -259.1 | 3991.6 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 47 | 13700.00 | 89.24 | 183.72 | 100 | 9861.2 | 4091.6 | -4083.0 | -265.6 | 4091.6 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 48 | 13800.00 | 89.24 | 183.72 | 100 | 9862.5 | 4191.6 | -4182.8 | -272.1 | 4191.6 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 49 | 13900.00 | 89.24 | 183.72 | 100 | 9863.9 | 4291.6 | -4282.5 | -278.6 | 4291.6 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 50 | 14000.00 | 89.24 | 183.72 | 100 | 9865.2 | 4391.6 | -4382.3 | -285.0 | 4391.6 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 51 | 14100.00 | 89.24 | 183.72 | 100 | 9866.5 | 4491.6 | -4482.1 | -291.5 | 4491.6 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 52 | 14200.00 | 89.24 | 183.72 | 100 | 9867.9 | 4591.6 | -4581.9 | -298.0 | 4591.6 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 53 | 14300.00 | 89.24 | 183.72 | 100 | 9869.2 | 4691.6 | -4681.7 | -304.5 | 4691.6 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 54 | 14400.00 | 89.24 | 183.72 | 100 | 9870.5 | 4791.5 | -4781.4 | -311.0 | 4791.5 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 55 | 14500.00 | 89.24 | 183.72 | 100 | 9871.9 | 4891.5 | -4881.2 | -317.5 | 4891.5 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 56 | 14600.00 | 89.24 | 183.72 | 100 | 9873.2 | 4991.5 | -4981.0 | -324.0 | 4991.5 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |

| | | | | | | | | | | | | | | | | | |
|-----|----------|-------|--------|-----|--------|---------|----------|--------|---------|-------|-----|-----|--------|-----|---------|------|-------|
| 57 | 14700.00 | 89 24 | 183 72 | 100 | 9874.5 | 5091.5 | -5080.8 | -330.5 | 5091.5 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 58 | 14800.00 | 89 24 | 183 72 | 100 | 9875.9 | 5191.5 | -5180.6 | -337.0 | 5191.5 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 59 | 14900.00 | 89 24 | 183 72 | 100 | 9877.2 | 5291.5 | -5280.3 | -343.5 | 5291.5 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 60 | 15000.00 | 89 24 | 183 72 | 100 | 9878.5 | 5391.5 | -5380.1 | -349.9 | 5391.5 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 61 | 15100.00 | 89 24 | 183 72 | 100 | 9879.9 | 5491.5 | -5479.9 | -356.4 | 5491.5 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 62 | 15200.00 | 89 24 | 183 72 | 100 | 9881.2 | 5591.5 | -5579.7 | -362.9 | 5591.5 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 63 | 15300.00 | 89 24 | 183 72 | 100 | 9882.5 | 5691.5 | -5679.5 | -369.4 | 5691.5 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 64 | 15400.00 | 89 24 | 183 72 | 100 | 9883.9 | 5791.5 | -5779.2 | -375.9 | 5791.5 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 65 | 15500.00 | 89 24 | 183 72 | 100 | 9885.2 | 5891.4 | -5879.0 | -382.4 | 5891.4 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 66 | 15600.00 | 89 24 | 183 72 | 100 | 9886.5 | 5991.4 | -5978.8 | -388.9 | 5991.4 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 67 | 15700.00 | 89 24 | 183 72 | 100 | 9887.9 | 6091.4 | -6078.6 | -395.4 | 6091.4 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 68 | 15800.00 | 89 24 | 183 72 | 100 | 9889.2 | 6191.4 | -6178.4 | -401.9 | 6191.4 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 69 | 15900.00 | 89 24 | 183 72 | 100 | 9890.5 | 6291.4 | -6278.1 | -408.4 | 6291.4 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 70 | 16000.00 | 89 24 | 183 72 | 100 | 9891.9 | 6391.4 | -6377.9 | -414.8 | 6391.4 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 71 | 16100.00 | 89 24 | 183 72 | 100 | 9893.2 | 6491.4 | -6477.7 | -421.3 | 6491.4 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 72 | 16200.00 | 89 24 | 183 72 | 100 | 9894.5 | 6591.4 | -6577.5 | -427.8 | 6591.4 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 73 | 16300.00 | 89 24 | 183 72 | 100 | 9895.9 | 6691.4 | -6677.3 | -434.3 | 6691.4 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 74 | 16400.00 | 89 24 | 183 72 | 100 | 9897.2 | 6791.4 | -6777.0 | -440.8 | 6791.4 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 75 | 16500.00 | 89 24 | 183 72 | 100 | 9898.5 | 6891.4 | -6876.8 | -447.3 | 6891.4 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 76 | 16600.00 | 89 24 | 183 72 | 100 | 9899.9 | 6991.4 | -6976.6 | -453.8 | 6991.4 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 77 | 16700.00 | 89 24 | 183 72 | 100 | 9901.2 | 7091.3 | -7076.4 | -460.3 | 7091.3 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 78 | 16800.00 | 89 24 | 183 72 | 100 | 9902.5 | 7191.3 | -7176.2 | -466.8 | 7191.3 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 79 | 16900.00 | 89 24 | 183 72 | 100 | 9903.9 | 7291.3 | -7275.9 | -473.3 | 7291.3 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 80 | 17000.00 | 89 24 | 183 72 | 100 | 9905.2 | 7391.3 | -7375.7 | -479.8 | 7391.3 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 81 | 17100.00 | 89 24 | 183 72 | 100 | 9906.5 | 7491.3 | -7475.5 | -486.2 | 7491.3 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 82 | 17200.00 | 89 24 | 183 72 | 100 | 9907.9 | 7591.3 | -7575.3 | -492.7 | 7591.3 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 83 | 17300.00 | 89 24 | 183 72 | 100 | 9909.2 | 7691.3 | -7675.1 | -499.2 | 7691.3 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 84 | 17400.00 | 89 24 | 183 72 | 100 | 9910.5 | 7791.3 | -7774.9 | -505.7 | 7791.3 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 85 | 17500.00 | 89 24 | 183 72 | 100 | 9911.9 | 7891.3 | -7874.6 | -512.2 | 7891.3 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 86 | 17600.00 | 89 24 | 183 72 | 100 | 9913.2 | 7991.3 | -7974.4 | -518.7 | 7991.3 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 87 | 17700.00 | 89 24 | 183 72 | 100 | 9914.5 | 8091.3 | -8074.2 | -525.2 | 8091.3 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 88 | 17800.00 | 89 24 | 183 72 | 100 | 9915.9 | 8191.2 | -8174.0 | -531.7 | 8191.2 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 89 | 17900.00 | 89 24 | 183 72 | 100 | 9917.2 | 8291.2 | -8273.8 | -538.2 | 8291.2 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 90 | 18000.00 | 89 24 | 183 72 | 100 | 9918.5 | 8391.2 | -8373.5 | -544.7 | 8391.2 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 91 | 18100.00 | 89 24 | 183 72 | 100 | 9919.9 | 8491.2 | -8473.3 | -551.1 | 8491.2 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 92 | 18200.00 | 89 24 | 183 72 | 100 | 9921.2 | 8591.2 | -8573.1 | -557.6 | 8591.2 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 93 | 18300.00 | 89 24 | 183 72 | 100 | 9922.5 | 8691.2 | -8672.9 | -564.1 | 8691.2 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 94 | 18400.00 | 89 24 | 183 72 | 100 | 9923.9 | 8791.2 | -8772.7 | -570.6 | 8791.2 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 95 | 18500.00 | 89 24 | 183 72 | 100 | 9925.2 | 8891.2 | -8872.4 | -577.1 | 8891.2 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 96 | 18600.00 | 89 24 | 183 72 | 100 | 9926.5 | 8991.2 | -8972.2 | -583.6 | 8991.2 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 97 | 18700.00 | 89 24 | 183 72 | 100 | 9927.9 | 9091.2 | -9072.0 | -590.1 | 9091.2 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 98 | 18800.00 | 89 24 | 183 72 | 100 | 9929.2 | 9191.2 | -9171.8 | -596.6 | 9191.2 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 99 | 18900.00 | 89 24 | 183 72 | 100 | 9930.5 | 9291.1 | -9271.6 | -603.1 | 9291.1 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 100 | 19000.00 | 89 24 | 183 72 | 100 | 9931.9 | 9391.1 | -9371.3 | -609.6 | 9391.1 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 101 | 19100.00 | 89 24 | 183 72 | 100 | 9933.2 | 9491.1 | -9471.1 | -616.0 | 9491.1 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 102 | 19200.00 | 89 24 | 183 72 | 100 | 9934.5 | 9591.1 | -9570.9 | -622.5 | 9591.1 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 103 | 19300.00 | 89 24 | 183 72 | 100 | 9935.9 | 9691.1 | -9670.7 | -629.0 | 9691.1 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 104 | 19400.00 | 89 24 | 183 72 | 100 | 9937.2 | 9791.1 | -9770.5 | -635.5 | 9791.1 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 105 | 19500.00 | 89 24 | 183 72 | 100 | 9938.5 | 9891.1 | -9870.2 | -642.0 | 9891.1 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 106 | 19600.00 | 89 24 | 183 72 | 100 | 9939.9 | 9991.1 | -9970.0 | -648.5 | 9991.1 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 107 | 19700.00 | 89 24 | 183 72 | 100 | 9941.2 | 10091.1 | -10069.8 | -655.0 | 10091.1 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 108 | 19800.00 | 89 24 | 183 72 | 100 | 9942.5 | 10191.1 | -10169.6 | -661.5 | 10191.1 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |
| 109 | 19838.64 | 89 24 | 183 72 | 100 | 9943.0 | 10229.7 | -10208.2 | -661.5 | 10191.1 | 183.7 | 0.0 | 0.0 | 9806.7 | 6.3 | 1.55747 | 3.21 | 1E-10 |

Mewbourne Oil Company

SURVEY CALCULATION REPORT
Minimum Curvature Calculations

Operator: Mewbourne Oil Company
Lease Name: Spanish Bay 18/19 B1CN Fed Com 1H
KOP 9334.54

Target KBTVD: 9,812 Feet 9812.00
Target Angle: 89.24 Degrees 89.24
Section Plane: 175.94 Degrees
Declination Corrected to True North: 6.63 Degrees
Bit to Survey Offset: 44 Feet

| Survey No. | Measured Depth-ft | Drift (Deg) | Azimuth (Deg) | Course Length | TVD (Feet) | Vertical Section | +N/-S (Feet) | +E/-W (Feet) | Closure Distance | Closure Direction | BUR | DLS | KBTVD | +Above -Below | | | DRIFT RADIANS | AZIMUTH (RADIANS) |
|------------|-------------------|-------------|---------------|---------------|------------|------------------|--------------|--------------|------------------|-------------------|------|------|--------|------------------|---------|------|---------------|-------------------|
| | | | | | | | | | | | | | | Target | | | | |
| T/1 | 9334.54 | 0.00 | 175.94 | N/A | 9334.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | N/A | N/A | 9334.5 | 477.5 | 1E-12 | 3.07 | #VALUE! | |
| 1 | 9408.90 | 8.92 | 175.94 | 74.365 | 9408.6 | 5.8 | -5.8 | 0.4 | 5.8 | 175.9 | 12.0 | 12.0 | 9408.5 | 403.5 | 0.15575 | 3.07 | 0.15575 | |
| 2 | 9483.27 | 17.85 | 175.94 | 74.365 | 9480.9 | 23.0 | -22.9 | 1.6 | 23.0 | 175.9 | 12.0 | 12.0 | 9480.6 | 331.4 | 0.3115 | 3.07 | 0.15575 | |
| 3 | 9557.03 | 26.77 | 175.94 | 74.365 | 9549.6 | 51.2 | -51.1 | 3.6 | 51.2 | 175.9 | 12.0 | 12.0 | 9548.9 | 263.1 | 0.46725 | 3.07 | 0.15575 | |
| 4 | 9632.00 | 35.70 | 175.94 | 74.365 | 9613.1 | 89.7 | -89.5 | 6.4 | 89.7 | 175.9 | 12.0 | 12.0 | 9611.9 | 200.1 | 0.623 | 3.07 | 0.15575 | |
| 5 | 9706.36 | 44.62 | 175.94 | 74.365 | 9669.9 | 137.6 | -137.3 | 9.7 | 137.6 | 175.9 | 12.0 | 12.0 | 9668.1 | 143.9 | 0.77875 | 3.07 | 0.15575 | |
| 6 | 9780.72 | 53.54 | 175.94 | 74.365 | 9718.6 | 193.7 | -193.3 | 13.7 | 193.7 | 175.9 | 12.0 | 12.0 | 9716.0 | 96.0 | 0.9345 | 3.07 | 0.15575 | |
| 7 | 9855.09 | 62.47 | 175.94 | 74.365 | 9757.9 | 256.7 | -256.1 | 18.2 | 256.7 | 175.9 | 12.0 | 12.0 | 9754.5 | 57.5 | 1.09025 | 3.07 | 0.15575 | |
| 8 | 9929.45 | 71.39 | 175.94 | 74.365 | 9787.0 | 325.1 | -324.3 | 23.0 | 325.1 | 175.9 | 12.0 | 12.0 | 9782.7 | 29.3 | 1.246 | 3.07 | 0.15575 | |
| 9 | 10003.82 | 80.31 | 175.94 | 74.365 | 9805.2 | 397.1 | -396.1 | 28.1 | 397.1 | 175.9 | 12.0 | 12.0 | 9799.9 | 12.1 | 1.40175 | 3.07 | 0.15575 | |
| 10 | 10078.18 | 89.24 | 175.94 | 74.365 | 9812.0 | 471.1 | -469.9 | 33.4 | 471.1 | 175.9 | 12.0 | 12.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 0.15575 | |
| 11 | 10100.00 | 89.24 | 175.94 | 21.815 | 9812.2 | 492.9 | -491.7 | 34.9 | 492.9 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 | |
| 12 | 10200.00 | 89.24 | 175.94 | 100 | 9813.6 | 592.9 | -591.4 | 42.0 | 592.9 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 | |
| 13 | 10300.00 | 89.24 | 175.94 | 100 | 9814.9 | 692.9 | -691.2 | 49.1 | 692.9 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 | |
| 14 | 10400.00 | 89.24 | 175.94 | 100 | 9816.2 | 792.9 | -790.9 | 56.1 | 792.9 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 | |
| 15 | 10500.00 | 89.24 | 175.94 | 100 | 9817.6 | 892.9 | -890.7 | 63.2 | 892.9 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 | |
| 16 | 10600.00 | 89.24 | 175.94 | 100 | 9818.9 | 992.9 | -990.4 | 70.3 | 992.9 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 | |
| 17 | 10700.00 | 89.24 | 175.94 | 100 | 9820.2 | 1092.9 | -1090.1 | 77.4 | 1092.9 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 | |
| 18 | 10800.00 | 89.24 | 175.94 | 100 | 9821.6 | 1192.9 | -1189.9 | 84.5 | 1192.9 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 | |
| 19 | 10900.00 | 89.24 | 175.94 | 100 | 9822.9 | 1292.9 | -1289.6 | 91.6 | 1292.9 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 | |
| 20 | 11000.00 | 89.24 | 175.94 | 100 | 9824.2 | 1392.8 | -1389.4 | 98.6 | 1392.8 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 | |
| 21 | 11100.00 | 89.24 | 175.94 | 100 | 9825.5 | 1492.8 | -1489.1 | 105.7 | 1492.8 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 | |
| 22 | 11200.00 | 89.24 | 175.94 | 100 | 9826.9 | 1592.8 | -1588.8 | 112.8 | 1592.8 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 | |
| 23 | 11300.00 | 89.24 | 175.94 | 100 | 9828.2 | 1692.8 | -1688.6 | 119.9 | 1692.8 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 | |
| 24 | 11400.00 | 89.24 | 175.94 | 100 | 9829.5 | 1792.8 | -1788.3 | 127.0 | 1792.8 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 | |
| 25 | 11500.00 | 89.24 | 175.94 | 100 | 9830.9 | 1892.8 | -1888.1 | 134.0 | 1892.8 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 | |
| 26 | 11600.00 | 89.24 | 175.94 | 100 | 9832.2 | 1992.8 | -1987.8 | 141.1 | 1992.8 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 | |
| 27 | 11700.00 | 89.24 | 175.94 | 100 | 9833.5 | 2092.8 | -2087.5 | 148.2 | 2092.8 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 | |
| 28 | 11800.00 | 89.24 | 175.94 | 100 | 9834.9 | 2192.8 | -2187.3 | 155.3 | 2192.8 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 | |
| 29 | 11900.00 | 89.24 | 175.94 | 100 | 9836.2 | 2292.8 | -2287.0 | 162.4 | 2292.8 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 | |
| 30 | 12000.00 | 89.24 | 175.94 | 100 | 9837.5 | 2392.8 | -2386.8 | 169.4 | 2392.8 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 | |
| 31 | 12100.00 | 89.24 | 175.94 | 100 | 9838.8 | 2492.8 | -2486.5 | 176.5 | 2492.8 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 | |
| 32 | 12200.00 | 89.24 | 175.94 | 100 | 9840.2 | 2592.7 | -2586.2 | 183.6 | 2592.7 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 | |
| 33 | 12300.00 | 89.24 | 175.94 | 100 | 9841.5 | 2692.7 | -2686.0 | 190.7 | 2692.7 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 | |
| 34 | 12400.00 | 89.24 | 175.94 | 100 | 9842.8 | 2792.7 | -2785.7 | 197.8 | 2792.7 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 | |
| 35 | 12500.00 | 89.24 | 175.94 | 100 | 9844.2 | 2892.7 | -2885.5 | 204.8 | 2892.7 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 | |
| 36 | 12600.00 | 89.24 | 175.94 | 100 | 9845.5 | 2992.7 | -2985.2 | 211.9 | 2992.7 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 | |
| 37 | 12700.00 | 89.24 | 175.94 | 100 | 9846.8 | 3092.7 | -3084.9 | 219.0 | 3092.7 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 | |
| 38 | 12800.00 | 89.24 | 175.94 | 100 | 9848.2 | 3192.7 | -3184.7 | 226.1 | 3192.7 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 | |
| 39 | 12900.00 | 89.24 | 175.94 | 100 | 9849.5 | 3292.7 | -3284.4 | 233.2 | 3292.7 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 | |
| 40 | 13000.00 | 89.24 | 175.94 | 100 | 9850.8 | 3392.7 | -3384.2 | 240.2 | 3392.7 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 | |
| 41 | 13100.00 | 89.24 | 175.94 | 100 | 9852.1 | 3492.7 | -3483.9 | 247.3 | 3492.7 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 | |
| 42 | 13200.00 | 89.24 | 175.94 | 100 | 9853.5 | 3592.7 | -3583.6 | 254.4 | 3592.7 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 | |
| 43 | 13300.00 | 89.24 | 175.94 | 100 | 9854.8 | 3692.6 | -3683.4 | 261.5 | 3692.6 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 | |
| 44 | 13400.00 | 89.24 | 175.94 | 100 | 9856.1 | 3792.6 | -3783.1 | 268.6 | 3792.6 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 | |
| 45 | 13500.00 | 89.24 | 175.94 | 100 | 9857.5 | 3892.6 | -3882.9 | 275.7 | 3892.6 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 | |
| 46 | 13600.00 | 89.24 | 175.94 | 100 | 9858.8 | 3992.6 | -3982.6 | 282.7 | 3992.6 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 | |
| 47 | 13700.00 | 89.24 | 175.94 | 100 | 9860.1 | 4092.6 | -4082.3 | 289.8 | 4092.6 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 | |
| 48 | 13800.00 | 89.24 | 175.94 | 100 | 9861.5 | 4192.6 | -4182.1 | 296.9 | 4192.6 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 | |
| 49 | 13900.00 | 89.24 | 175.94 | 100 | 9862.8 | 4292.6 | -4281.8 | 304.0 | 4292.6 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 | |
| 50 | 14000.00 | 89.24 | 175.94 | 100 | 9864.1 | 4392.6 | -4381.6 | 311.1 | 4392.6 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 | |
| 51 | 14100.00 | 89.24 | 175.94 | 100 | 9865.4 | 4492.6 | -4481.3 | 318.1 | 4492.6 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 | |
| 52 | 14200.00 | 89.24 | 175.94 | 100 | 9866.8 | 4592.6 | -4581.0 | 325.2 | 4592.6 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 | |
| 53 | 14300.00 | 89.24 | 175.94 | 100 | 9868.1 | 4692.6 | -4680.8 | 332.3 | 4692.6 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 | |
| 54 | 14400.00 | 89.24 | 175.94 | 100 | 9869.4 | 4792.5 | -4780.5 | 339.4 | 4792.5 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 | |
| 55 | 14500.00 | 89.24 | 175.94 | 100 | 9870.8 | 4892.5 | -4880.3 | 346.5 | 4892.5 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 | |
| 56 | 14600.00 | 89.24 | 175.94 | 100 | 9872.1 | 4992.5 | -4980.0 | 353.5 | 4992.5 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 | |

ATTACHMENT

C-2

| | | | | | | | | | | | | | | | | | |
|-----|----------|-------|--------|-----|--------|---------|----------|-------|---------|-------|-----|-----|--------|-----|--------|------|-------|
| 57 | 14700.00 | 89.24 | 175.94 | 100 | 9873.4 | 5092.5 | -5079.7 | 360.6 | 5092.5 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 |
| 58 | 14900.00 | 89.24 | 175.94 | 100 | 9874.8 | 5192.5 | -5179.5 | 367.7 | 5192.5 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 |
| 59 | 14900.00 | 89.24 | 175.94 | 100 | 9876.1 | 5292.5 | -5279.2 | 374.8 | 5292.5 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 |
| 60 | 15000.00 | 89.24 | 175.94 | 100 | 9877.4 | 5392.5 | -5379.0 | 381.9 | 5392.5 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 |
| 61 | 15100.00 | 89.24 | 175.94 | 100 | 9878.7 | 5492.5 | -5478.7 | 388.9 | 5492.5 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 |
| 62 | 15200.00 | 89.24 | 175.94 | 100 | 9880.1 | 5592.5 | -5578.4 | 396.0 | 5592.5 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 |
| 63 | 15300.00 | 89.24 | 175.94 | 100 | 9881.4 | 5692.5 | -5678.2 | 403.1 | 5692.5 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 |
| 64 | 15400.00 | 89.24 | 175.94 | 100 | 9882.7 | 5792.5 | -5777.9 | 410.2 | 5792.5 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 |
| 65 | 15500.00 | 89.24 | 175.94 | 100 | 9884.1 | 5892.5 | -5877.7 | 417.3 | 5892.5 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 |
| 66 | 15600.00 | 89.24 | 175.94 | 100 | 9885.4 | 5992.4 | -5977.4 | 424.3 | 5992.4 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 |
| 67 | 15700.00 | 89.24 | 175.94 | 100 | 9886.7 | 6092.4 | -6077.1 | 431.4 | 6092.4 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 |
| 68 | 15800.00 | 89.24 | 175.94 | 100 | 9888.1 | 6192.4 | -6176.9 | 438.5 | 6192.4 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 |
| 69 | 15900.00 | 89.24 | 175.94 | 100 | 9889.4 | 6292.4 | -6276.6 | 445.6 | 6292.4 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 |
| 70 | 16000.00 | 89.24 | 175.94 | 100 | 9890.7 | 6392.4 | -6376.4 | 452.7 | 6392.4 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 |
| 71 | 16100.00 | 89.24 | 175.94 | 100 | 9892.0 | 6492.4 | -6476.1 | 459.8 | 6492.4 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 |
| 72 | 16200.00 | 89.24 | 175.94 | 100 | 9893.4 | 6592.4 | -6575.8 | 466.8 | 6592.4 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 |
| 73 | 16300.00 | 89.24 | 175.94 | 100 | 9894.7 | 6692.4 | -6675.6 | 473.9 | 6692.4 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 |
| 74 | 16400.00 | 89.24 | 175.94 | 100 | 9896.0 | 6792.4 | -6775.3 | 481.0 | 6792.4 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 |
| 75 | 16500.00 | 89.24 | 175.94 | 100 | 9897.4 | 6892.4 | -6875.1 | 488.1 | 6892.4 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 |
| 76 | 16600.00 | 89.24 | 175.94 | 100 | 9898.7 | 6992.4 | -6974.8 | 495.2 | 6992.4 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 |
| 77 | 16700.00 | 89.24 | 175.94 | 100 | 9900.0 | 7092.3 | -7074.5 | 502.2 | 7092.3 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 |
| 78 | 16800.00 | 89.24 | 175.94 | 100 | 9901.4 | 7192.3 | -7174.3 | 509.3 | 7192.3 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 |
| 79 | 16900.00 | 89.24 | 175.94 | 100 | 9902.7 | 7292.3 | -7274.0 | 516.4 | 7292.3 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 |
| 80 | 17000.00 | 89.24 | 175.94 | 100 | 9904.0 | 7392.3 | -7373.8 | 523.5 | 7392.3 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 |
| 81 | 17100.00 | 89.24 | 175.94 | 100 | 9905.3 | 7492.3 | -7473.5 | 530.6 | 7492.3 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 |
| 82 | 17200.00 | 89.24 | 175.94 | 100 | 9906.7 | 7592.3 | -7573.2 | 537.6 | 7592.3 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 |
| 83 | 17300.00 | 89.24 | 175.94 | 100 | 9908.0 | 7692.3 | -7673.0 | 544.7 | 7692.3 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 |
| 84 | 17400.00 | 89.24 | 175.94 | 100 | 9909.3 | 7792.3 | -7772.7 | 551.8 | 7792.3 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 |
| 85 | 17500.00 | 89.24 | 175.94 | 100 | 9910.7 | 7892.3 | -7872.5 | 558.9 | 7892.3 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 |
| 86 | 17600.00 | 89.24 | 175.94 | 100 | 9912.0 | 7992.3 | -7972.2 | 566.0 | 7992.3 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 |
| 87 | 17700.00 | 89.24 | 175.94 | 100 | 9913.3 | 8092.3 | -8071.9 | 573.0 | 8092.3 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 |
| 88 | 17800.00 | 89.24 | 175.94 | 100 | 9914.7 | 8192.2 | -8171.7 | 580.1 | 8192.2 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 |
| 89 | 17900.00 | 89.24 | 175.94 | 100 | 9916.0 | 8292.2 | -8271.4 | 587.2 | 8292.2 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 |
| 90 | 18000.00 | 89.24 | 175.94 | 100 | 9917.3 | 8392.2 | -8371.2 | 594.3 | 8392.2 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 |
| 91 | 18100.00 | 89.24 | 175.94 | 100 | 9918.6 | 8492.2 | -8470.9 | 601.4 | 8492.2 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 |
| 92 | 18200.00 | 89.24 | 175.94 | 100 | 9920.0 | 8592.2 | -8570.6 | 608.4 | 8592.2 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 |
| 93 | 18300.00 | 89.24 | 175.94 | 100 | 9921.3 | 8692.2 | -8670.4 | 615.5 | 8692.2 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 |
| 94 | 18400.00 | 89.24 | 175.94 | 100 | 9922.6 | 8792.2 | -8770.1 | 622.6 | 8792.2 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 |
| 95 | 18500.00 | 89.24 | 175.94 | 100 | 9924.0 | 8892.2 | -8869.9 | 629.7 | 8892.2 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 |
| 96 | 18600.00 | 89.24 | 175.94 | 100 | 9925.3 | 8992.2 | -8969.6 | 636.8 | 8992.2 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 |
| 97 | 18700.00 | 89.24 | 175.94 | 100 | 9926.6 | 9092.2 | -9069.3 | 643.8 | 9092.2 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 |
| 98 | 18800.00 | 89.24 | 175.94 | 100 | 9928.0 | 9192.2 | -9169.1 | 650.9 | 9192.2 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 |
| 99 | 18900.00 | 89.24 | 175.94 | 100 | 9929.3 | 9292.1 | -9268.8 | 658.0 | 9292.1 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 |
| 100 | 19000.00 | 89.24 | 175.94 | 100 | 9930.6 | 9392.1 | -9368.6 | 665.1 | 9392.1 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 |
| 101 | 19100.00 | 89.24 | 175.94 | 100 | 9931.9 | 9492.1 | -9468.3 | 672.2 | 9492.1 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 |
| 102 | 19200.00 | 89.24 | 175.94 | 100 | 9933.3 | 9592.1 | -9568.0 | 679.3 | 9592.1 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 |
| 103 | 19300.00 | 89.24 | 175.94 | 100 | 9934.6 | 9692.1 | -9667.8 | 686.3 | 9692.1 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 |
| 104 | 19400.00 | 89.24 | 175.94 | 100 | 9935.9 | 9792.1 | -9767.5 | 693.4 | 9792.1 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 |
| 105 | 19500.00 | 89.24 | 175.94 | 100 | 9937.3 | 9892.1 | -9867.3 | 700.5 | 9892.1 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 |
| 106 | 19600.00 | 89.24 | 175.94 | 100 | 9938.6 | 9992.1 | -9967.0 | 707.6 | 9992.1 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 |
| 107 | 19700.00 | 89.24 | 175.94 | 100 | 9939.9 | 10092.1 | -10066.7 | 714.7 | 10092.1 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 |
| 108 | 19800.00 | 89.24 | 175.94 | 100 | 9941.3 | 10192.1 | -10166.5 | 721.7 | 10192.1 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 |
| 109 | 19858.20 | 89.24 | 175.94 | 100 | 9942.0 | 10250.3 | -10224.7 | 721.7 | 10192.1 | 175.9 | 0.0 | 0.0 | 9805.7 | 6.3 | 1.5575 | 3.07 | 1E-10 |

Mewbourne Oil Company

SURVEY CALCULATION REPORT Minimum Curvature Calculations

Operator: Mewbourne Oil Company
Lease Name: Spanish Bay 18/19 B2CN Fed Com 1H
KOP 9324.54

Target KBTVD: 9,802 Feet 9802.00
Target Angle: 89.18 Degrees 89.18
Section Plane: 176.05 Degrees
Declination Corrected to True North: 6.63 Degrees
Bit to Survey Offset: 44 Feet

| Survey No. | Measured Depth-R | Drift (Deg.) | Azimuth (Deg.) | Course Length | TVD (Feet) | Vertical Section | +N/-S (Feet) | +E/-W (Feet) | Closure Distance | Closure Direction | BUR | DLS | KBTVD | +Above -Below | | |
|------------|------------------|--------------|----------------|---------------|------------|------------------|--------------|--------------|------------------|-------------------|------|------|--------|------------------|---------------|-------------------|
| | | | | | | | | | | | | | | Target | DRIFT RADIANS | AZIMUTH (RADIANS) |
| T/I | 9324.54 | 0.00 | 176.05 | N/A | 9324.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | N/A | N/A | 9324.5 | 477.5 | 1E-12 | 3.07 #VALUE! |
| 1 | 9368.85 | 8.92 | 176.05 | 74.316 | 9398.6 | 5.8 | -5.8 | 0.4 | 5.8 | 176.0 | 12.0 | 12.0 | 9398.5 | 403.5 | 0.15565 | 3.07 0.155647 |
| 2 | 9473.17 | 17.84 | 176.05 | 74.316 | 9470.8 | 22.9 | -22.9 | 1.6 | 22.9 | 176.0 | 12.0 | 12.0 | 9470.4 | 331.6 | 0.31129 | 3.07 0.155647 |
| 3 | 9547.48 | 26.75 | 176.05 | 74.316 | 9539.5 | 51.1 | -51.0 | 3.5 | 51.1 | 176.0 | 12.0 | 12.0 | 9538.7 | 263.3 | 0.46694 | 3.07 0.155647 |
| 4 | 9621.80 | 35.67 | 176.05 | 74.316 | 9603.0 | 89.6 | -89.4 | 6.2 | 89.6 | 176.0 | 12.0 | 12.0 | 9601.7 | 200.3 | 0.62259 | 3.07 0.155647 |
| 5 | 9696.12 | 44.59 | 176.05 | 74.316 | 9659.7 | 137.4 | -137.1 | 9.5 | 137.4 | 176.0 | 12.0 | 12.0 | 9657.8 | 144.2 | 0.77824 | 3.07 0.155647 |
| 6 | 9770.43 | 53.51 | 176.05 | 74.316 | 9708.4 | 193.5 | -193.0 | 13.3 | 193.5 | 176.0 | 12.0 | 12.0 | 9705.6 | 96.4 | 0.93388 | 3.07 0.155647 |
| 7 | 9844.75 | 62.43 | 176.05 | 74.316 | 9747.8 | 256.4 | -255.8 | 17.7 | 256.4 | 176.0 | 12.0 | 12.0 | 9744.1 | 57.9 | 1.08953 | 3.07 0.155647 |
| 8 | 9919.06 | 71.34 | 176.05 | 74.316 | 9776.9 | 324.7 | -324.0 | 22.4 | 324.7 | 176.0 | 12.0 | 12.0 | 9772.3 | 29.7 | 1.24518 | 3.07 0.155647 |
| 9 | 9993.38 | 80.26 | 176.05 | 74.316 | 9795.1 | 396.7 | -395.8 | 27.3 | 396.7 | 176.0 | 12.0 | 12.0 | 9789.4 | 12.6 | 1.40082 | 3.07 0.155647 |
| 10 | 10067.70 | 89.18 | 176.05 | 74.316 | 9802.0 | 470.6 | -469.5 | 32.4 | 470.6 | 176.0 | 12.0 | 12.0 | 9795.2 | 6.8 | 1.55647 | 3.07 0.155647 |
| 11 | 10100.00 | 89.18 | 176.05 | 32.305 | 9802.4 | 502.9 | -501.7 | 34.7 | 502.9 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 1E-10 |
| 12 | 10200.00 | 89.18 | 176.05 | 100 | 9803.8 | 602.9 | -601.5 | 41.5 | 602.9 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 1E-10 |
| 13 | 10300.00 | 89.18 | 176.05 | 100 | 9805.3 | 702.9 | -701.2 | 48.4 | 702.9 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 1E-10 |
| 14 | 10400.00 | 89.18 | 176.05 | 100 | 9806.7 | 802.9 | -801.0 | 55.3 | 802.9 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 1E-10 |
| 15 | 10500.00 | 89.18 | 176.05 | 100 | 9808.1 | 902.9 | -900.7 | 62.2 | 902.9 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 1E-10 |
| 16 | 10600.00 | 89.18 | 176.05 | 100 | 9809.6 | 1002.9 | -1000.5 | 69.1 | 1002.9 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 1E-10 |
| 17 | 10700.00 | 89.18 | 176.05 | 100 | 9811.0 | 1102.9 | -1100.2 | 76.0 | 1102.9 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 1E-10 |
| 18 | 10800.00 | 89.18 | 176.05 | 100 | 9812.4 | 1202.9 | -1200.0 | 82.9 | 1202.9 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 1E-10 |
| 19 | 10900.00 | 89.18 | 176.05 | 100 | 9813.9 | 1302.8 | -1299.7 | 89.8 | 1302.8 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 1E-10 |
| 20 | 11000.00 | 89.18 | 176.05 | 100 | 9815.3 | 1402.8 | -1399.5 | 96.7 | 1402.8 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 1E-10 |
| 21 | 11100.00 | 89.18 | 176.05 | 100 | 9816.7 | 1502.8 | -1499.3 | 103.6 | 1502.8 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 1E-10 |
| 22 | 11200.00 | 89.18 | 176.05 | 100 | 9818.2 | 1602.8 | -1599.0 | 110.4 | 1602.8 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 1E-10 |
| 23 | 11300.00 | 89.18 | 176.05 | 100 | 9819.6 | 1702.8 | -1698.8 | 117.3 | 1702.8 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 1E-10 |
| 24 | 11400.00 | 89.18 | 176.05 | 100 | 9821.0 | 1802.8 | -1798.5 | 124.2 | 1802.8 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 1E-10 |
| 25 | 11500.00 | 89.18 | 176.05 | 100 | 9822.5 | 1902.8 | -1898.3 | 131.1 | 1902.8 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 1E-10 |
| 26 | 11600.00 | 89.18 | 176.05 | 100 | 9823.9 | 2002.8 | -1998.0 | 138.0 | 2002.8 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 1E-10 |
| 27 | 11700.00 | 89.18 | 176.05 | 100 | 9825.3 | 2102.8 | -2097.8 | 144.9 | 2102.8 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 1E-10 |
| 28 | 11800.00 | 89.18 | 176.05 | 100 | 9826.8 | 2202.8 | -2197.5 | 151.8 | 2202.8 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 1E-10 |
| 29 | 11900.00 | 89.18 | 176.05 | 100 | 9828.2 | 2302.7 | -2297.3 | 158.7 | 2302.7 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 1E-10 |
| 30 | 12000.00 | 89.18 | 176.05 | 100 | 9829.6 | 2402.7 | -2397.0 | 165.6 | 2402.7 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 1E-10 |
| 31 | 12100.00 | 89.18 | 176.05 | 100 | 9831.1 | 2502.7 | -2496.8 | 172.4 | 2502.7 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 1E-10 |
| 32 | 12200.00 | 89.18 | 176.05 | 100 | 9832.5 | 2602.7 | -2596.5 | 179.3 | 2602.7 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 1E-10 |
| 33 | 12300.00 | 89.18 | 176.05 | 100 | 9833.9 | 2702.7 | -2696.3 | 186.2 | 2702.7 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 1E-10 |
| 34 | 12400.00 | 89.18 | 176.05 | 100 | 9835.4 | 2802.7 | -2796.0 | 193.1 | 2802.7 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 1E-10 |
| 35 | 12500.00 | 89.18 | 176.05 | 100 | 9836.8 | 2902.7 | -2895.8 | 200.0 | 2902.7 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 1E-10 |
| 36 | 12600.00 | 89.18 | 176.05 | 100 | 9838.2 | 3002.7 | -2995.5 | 206.9 | 3002.7 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 1E-10 |
| 37 | 12700.00 | 89.18 | 176.05 | 100 | 9839.7 | 3102.7 | -3095.3 | 213.8 | 3102.7 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 1E-10 |
| 38 | 12800.00 | 89.18 | 176.05 | 100 | 9841.1 | 3202.6 | -3195.0 | 220.7 | 3202.6 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 1E-10 |
| 39 | 12900.00 | 89.18 | 176.05 | 100 | 9842.5 | 3302.6 | -3294.8 | 227.6 | 3302.6 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 1E-10 |
| 40 | 13000.00 | 89.18 | 176.05 | 100 | 9844.0 | 3402.6 | -3394.5 | 234.5 | 3402.6 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 1E-10 |
| 41 | 13100.00 | 89.18 | 176.05 | 100 | 9845.4 | 3502.6 | -3494.3 | 241.3 | 3502.6 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 1E-10 |
| 42 | 13200.00 | 89.18 | 176.05 | 100 | 9846.8 | 3602.6 | -3594.0 | 248.2 | 3602.6 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 1E-10 |
| 43 | 13300.00 | 89.18 | 176.05 | 100 | 9848.3 | 3702.6 | -3693.8 | 255.1 | 3702.6 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 1E-10 |
| 44 | 13400.00 | 89.18 | 176.05 | 100 | 9849.7 | 3802.6 | -3793.6 | 262.0 | 3802.6 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 1E-10 |
| 45 | 13500.00 | 89.18 | 176.05 | 100 | 9851.1 | 3902.6 | -3893.3 | 268.9 | 3902.6 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 1E-10 |
| 46 | 13600.00 | 89.18 | 176.05 | 100 | 9852.6 | 4002.6 | -3993.1 | 275.8 | 4002.6 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 1E-10 |
| 47 | 13700.00 | 89.18 | 176.05 | 100 | 9854.0 | 4102.6 | -4092.8 | 282.7 | 4102.6 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 1E-10 |
| 48 | 13800.00 | 89.18 | 176.05 | 100 | 9855.4 | 4202.5 | -4192.6 | 289.6 | 4202.5 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 1E-10 |
| 49 | 13900.00 | 89.18 | 176.05 | 100 | 9856.9 | 4302.5 | -4292.3 | 296.5 | 4302.5 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 1E-10 |
| 50 | 14000.00 | 89.18 | 176.05 | 100 | 9858.3 | 4402.5 | -4392.1 | 303.4 | 4402.5 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 1E-10 |
| 51 | 14100.00 | 89.18 | 176.05 | 100 | 9859.7 | 4502.5 | -4491.8 | 310.2 | 4502.5 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 1E-10 |
| 52 | 14200.00 | 89.18 | 176.05 | 100 | 9861.1 | 4602.5 | -4591.6 | 317.1 | 4602.5 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 1E-10 |
| 53 | 14300.00 | 89.18 | 176.05 | 100 | 9862.6 | 4702.5 | -4691.3 | 324.0 | 4702.5 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 1E-10 |
| 54 | 14400.00 | 89.18 | 176.05 | 100 | 9864.0 | 4802.5 | -4791.1 | 330.9 | 4802.5 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 1E-10 |
| 55 | 14500.00 | 89.18 | 176.05 | 100 | 9865.4 | 4902.5 | -4890.8 | 337.8 | 4902.5 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 1E-10 |
| 56 | 14600.00 | 89.18 | 176.05 | 100 | 9866.9 | 5002.5 | -4990.6 | 344.7 | 5002.5 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 1E-10 |

| | | | | | | | | | | | | | | | | | |
|-----|----------|-------|--------|-----|--------|---------|----------|-------|---------|-------|-----|-----|--------|-----|---------|------|-------|
| 57 | 14700.00 | 89.18 | 176.05 | 100 | 9868.3 | 5102.5 | -5090.3 | 351.6 | 5102.5 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 | 1E-10 |
| 58 | 14800.00 | 89.18 | 176.05 | 100 | 9869.7 | 5202.4 | -5190.1 | 358.5 | 5202.4 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 | 1E-10 |
| 59 | 14900.00 | 89.18 | 176.05 | 100 | 9871.2 | 5302.4 | -5289.8 | 365.4 | 5302.4 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 | 1E-10 |
| 60 | 15000.00 | 89.18 | 176.05 | 100 | 9872.6 | 5402.4 | -5389.6 | 372.2 | 5402.4 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 | 1E-10 |
| 61 | 15100.00 | 89.18 | 176.05 | 100 | 9874.0 | 5502.4 | -5489.3 | 379.1 | 5502.4 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 | 1E-10 |
| 62 | 15200.00 | 89.18 | 176.05 | 100 | 9875.5 | 5602.4 | -5589.1 | 386.0 | 5602.4 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 | 1E-10 |
| 63 | 15300.00 | 89.18 | 176.05 | 100 | 9876.9 | 5702.4 | -5688.8 | 392.9 | 5702.4 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 | 1E-10 |
| 64 | 15400.00 | 89.18 | 176.05 | 100 | 9878.3 | 5802.4 | -5788.6 | 399.8 | 5802.4 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 | 1E-10 |
| 65 | 15500.00 | 89.18 | 176.05 | 100 | 9879.8 | 5902.4 | -5888.3 | 406.7 | 5902.4 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 | 1E-10 |
| 66 | 15600.00 | 89.18 | 176.05 | 100 | 9881.2 | 6002.4 | -5988.1 | 413.6 | 6002.4 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 | 1E-10 |
| 67 | 15700.00 | 89.18 | 176.05 | 100 | 9882.6 | 6102.4 | -6087.8 | 420.5 | 6102.4 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 | 1E-10 |
| 68 | 15800.00 | 89.18 | 176.05 | 100 | 9884.1 | 6202.3 | -6187.6 | 427.4 | 6202.3 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 | 1E-10 |
| 69 | 15900.00 | 89.18 | 176.05 | 100 | 9885.5 | 6302.3 | -6287.4 | 434.3 | 6302.3 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 | 1E-10 |
| 70 | 16000.00 | 89.18 | 176.05 | 100 | 9886.9 | 6402.3 | -6387.1 | 441.1 | 6402.3 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 | 1E-10 |
| 71 | 16100.00 | 89.18 | 176.05 | 100 | 9888.4 | 6502.3 | -6486.9 | 448.0 | 6502.3 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 | 1E-10 |
| 72 | 16200.00 | 89.18 | 176.05 | 100 | 9889.8 | 6602.3 | -6586.6 | 454.9 | 6602.3 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 | 1E-10 |
| 73 | 16300.00 | 89.18 | 176.05 | 100 | 9891.2 | 6702.3 | -6686.4 | 461.8 | 6702.3 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 | 1E-10 |
| 74 | 16400.00 | 89.18 | 176.05 | 100 | 9892.7 | 6802.3 | -6786.1 | 468.7 | 6802.3 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 | 1E-10 |
| 75 | 16500.00 | 89.18 | 176.05 | 100 | 9894.1 | 6902.3 | -6885.9 | 475.6 | 6902.3 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 | 1E-10 |
| 76 | 16600.00 | 89.18 | 176.05 | 100 | 9895.5 | 7002.3 | -6985.6 | 482.5 | 7002.3 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 | 1E-10 |
| 77 | 16700.00 | 89.18 | 176.05 | 100 | 9897.0 | 7102.2 | -7085.4 | 489.4 | 7102.2 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 | 1E-10 |
| 78 | 16800.00 | 89.18 | 176.05 | 100 | 9898.4 | 7202.2 | -7185.1 | 496.3 | 7202.2 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 | 1E-10 |
| 79 | 16900.00 | 89.18 | 176.05 | 100 | 9899.8 | 7302.2 | -7284.9 | 503.2 | 7302.2 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 | 1E-10 |
| 80 | 17000.00 | 89.18 | 176.05 | 100 | 9901.3 | 7402.2 | -7384.6 | 510.0 | 7402.2 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 | 1E-10 |
| 81 | 17100.00 | 89.18 | 176.05 | 100 | 9902.7 | 7502.2 | -7484.4 | 516.9 | 7502.2 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 | 1E-10 |
| 82 | 17200.00 | 89.18 | 176.05 | 100 | 9904.1 | 7602.2 | -7584.1 | 523.8 | 7602.2 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 | 1E-10 |
| 83 | 17300.00 | 89.18 | 176.05 | 100 | 9905.6 | 7702.2 | -7683.9 | 530.7 | 7702.2 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 | 1E-10 |
| 84 | 17400.00 | 89.18 | 176.05 | 100 | 9907.0 | 7802.2 | -7783.6 | 537.6 | 7802.2 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 | 1E-10 |
| 85 | 17500.00 | 89.18 | 176.05 | 100 | 9908.4 | 7902.2 | -7883.4 | 544.5 | 7902.2 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 | 1E-10 |
| 86 | 17600.00 | 89.18 | 176.05 | 100 | 9909.9 | 8002.2 | -7983.1 | 551.4 | 8002.2 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 | 1E-10 |
| 87 | 17700.00 | 89.18 | 176.05 | 100 | 9911.3 | 8102.1 | -8082.9 | 558.3 | 8102.1 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 | 1E-10 |
| 88 | 17800.00 | 89.18 | 176.05 | 100 | 9912.7 | 8202.1 | -8182.6 | 565.2 | 8202.1 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 | 1E-10 |
| 89 | 17900.00 | 89.18 | 176.05 | 100 | 9914.2 | 8302.1 | -8282.4 | 572.0 | 8302.1 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 | 1E-10 |
| 90 | 18000.00 | 89.18 | 176.05 | 100 | 9915.6 | 8402.1 | -8382.1 | 578.9 | 8402.1 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 | 1E-10 |
| 91 | 18100.00 | 89.18 | 176.05 | 100 | 9917.0 | 8502.1 | -8481.9 | 585.8 | 8502.1 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 | 1E-10 |
| 92 | 18200.00 | 89.18 | 176.05 | 100 | 9918.4 | 8602.1 | -8581.7 | 592.7 | 8602.1 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 | 1E-10 |
| 93 | 18300.00 | 89.18 | 176.05 | 100 | 9919.9 | 8702.1 | -8681.4 | 599.6 | 8702.1 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 | 1E-10 |
| 94 | 18400.00 | 89.18 | 176.05 | 100 | 9921.3 | 8802.1 | -8781.2 | 606.5 | 8802.1 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 | 1E-10 |
| 95 | 18500.00 | 89.18 | 176.05 | 100 | 9922.7 | 8902.1 | -8880.9 | 613.4 | 8902.1 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 | 1E-10 |
| 96 | 18600.00 | 89.18 | 176.05 | 100 | 9924.2 | 9002.1 | -8980.7 | 620.3 | 9002.1 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 | 1E-10 |
| 97 | 18700.00 | 89.18 | 176.05 | 100 | 9925.6 | 9102.0 | -9080.4 | 627.2 | 9102.0 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 | 1E-10 |
| 98 | 18800.00 | 89.18 | 176.05 | 100 | 9927.0 | 9202.0 | -9180.2 | 634.1 | 9202.0 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 | 1E-10 |
| 99 | 18900.00 | 89.18 | 176.05 | 100 | 9928.5 | 9302.0 | -9279.9 | 640.9 | 9302.0 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 | 1E-10 |
| 100 | 19000.00 | 89.18 | 176.05 | 100 | 9929.9 | 9402.0 | -9379.7 | 647.8 | 9402.0 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 | 1E-10 |
| 101 | 19100.00 | 89.18 | 176.05 | 100 | 9931.3 | 9502.0 | -9479.4 | 654.7 | 9502.0 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 | 1E-10 |
| 102 | 19200.00 | 89.18 | 176.05 | 100 | 9932.8 | 9602.0 | -9579.2 | 661.6 | 9602.0 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 | 1E-10 |
| 103 | 19300.00 | 89.18 | 176.05 | 100 | 9934.2 | 9702.0 | -9678.9 | 668.5 | 9702.0 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 | 1E-10 |
| 104 | 19400.00 | 89.18 | 176.05 | 100 | 9935.6 | 9802.0 | -9778.7 | 675.4 | 9802.0 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 | 1E-10 |
| 105 | 19500.00 | 89.18 | 176.05 | 100 | 9937.1 | 9902.0 | -9878.4 | 682.3 | 9902.0 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 | 1E-10 |
| 106 | 19600.00 | 89.18 | 176.05 | 100 | 9938.5 | 10002.0 | -9978.2 | 689.2 | 10002.0 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 | 1E-10 |
| 107 | 19700.00 | 89.18 | 176.05 | 100 | 9939.9 | 10101.9 | -10077.9 | 696.1 | 10101.9 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 | 1E-10 |
| 108 | 19800.00 | 89.18 | 176.05 | 100 | 9941.4 | 10201.9 | -10177.7 | 703.0 | 10201.9 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 | 1E-10 |
| 109 | 19846.43 | 89.18 | 176.05 | 100 | 9942.0 | 10248.4 | -10224.1 | 703.0 | 10201.9 | 176.0 | 0.0 | 0.0 | 9795.2 | 6.8 | 1.55647 | 3.07 | 1E-10 |

Mewbourne Oil Company

SURVEY CALCULATION REPORT Minimum Curvature Calculations

Operator: Mewbourne Oil Company
Lease Name: Spanish Bay 18/19 B1B0 Fed Com LH
KOP 8510.54

Target KBTVD: 8,988 Feet 8988.00
Target Angle: 89.02 Degrees 89.02
Section Plane: 183.98 Degrees
Declination Corrected to True North: 6.63 Degrees
Bit to Survey Offset: 44 Feet

| Survey No. | Measured Depth-ft | Drift (Deg.) | Azimuth (Deg.) | Course Length | TVD (Feet) | Vertical Section | +N/-S (Feet) | +E/-W (Feet) | Closure Distance | Closure Direction | BUR | DLS | KBTVD | +Above -Below | | DRIFT RADIANS | AZIMUTH (RADIANS) |
|------------|-------------------|--------------|----------------|---------------|------------|------------------|--------------|--------------|------------------|-------------------|------|------|--------|------------------|---------|---------------|-------------------|
| | | | | | | | | | | | | | | Target | Target | | |
| T/1 | 8510.54 | 0.00 | 183.00 | N/A | 8510.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | N/A | N/A | 8510.5 | 477.5 | 1E-12 | 3.21 | #VALUE! |
| 1 | 8584.72 | 8.90 | 183.00 | 74.185 | 8584.4 | 5.8 | -5.7 | -0.4 | 5.8 | 184.0 | 12.0 | 12.0 | 8584.3 | 403.7 | 0.15537 | 3.21 | 0.155373 |
| 2 | 8658.91 | 17.80 | 183.00 | 74.185 | 8656.5 | 22.9 | -22.8 | -1.6 | 22.9 | 184.0 | 12.0 | 12.0 | 8656.1 | 331.9 | 0.31075 | 3.21 | 0.155373 |
| 3 | 8733.00 | 26.71 | 183.00 | 74.185 | 8725.1 | 50.9 | -50.8 | -3.5 | 50.9 | 184.0 | 12.0 | 12.0 | 8724.2 | 263.8 | 0.46612 | 3.21 | 0.155373 |
| 4 | 8807.28 | 35.61 | 183.00 | 74.185 | 8788.5 | 89.3 | -89.1 | -6.2 | 89.3 | 184.0 | 12.0 | 12.0 | 8787.0 | 201.0 | 0.62149 | 3.21 | 0.155373 |
| 5 | 8881.48 | 44.51 | 183.00 | 74.185 | 8845.3 | 137.0 | -136.6 | -9.5 | 137.0 | 184.0 | 12.0 | 12.0 | 8842.9 | 145.1 | 0.77687 | 3.21 | 0.155373 |
| 6 | 8955.65 | 53.41 | 183.00 | 74.185 | 8893.9 | 192.9 | -192.4 | -13.4 | 192.9 | 184.0 | 12.0 | 12.0 | 8890.6 | 97.4 | 0.93224 | 3.21 | 0.155373 |
| 7 | 9029.83 | 62.32 | 183.00 | 74.185 | 8933.3 | 255.6 | -255.0 | -17.7 | 255.6 | 184.0 | 12.0 | 12.0 | 8929.0 | 59.0 | 1.08761 | 3.21 | 0.155373 |
| 8 | 9104.02 | 71.22 | 183.00 | 74.185 | 8962.6 | 323.7 | -323.0 | -22.5 | 323.7 | 184.0 | 12.0 | 12.0 | 8957.1 | 30.9 | 1.24299 | 3.21 | 0.155373 |
| 9 | 9178.20 | 80.12 | 183.00 | 74.185 | 8980.9 | 395.5 | -394.6 | -27.5 | 395.5 | 184.0 | 12.0 | 12.0 | 8974.2 | 13.8 | 1.39836 | 3.21 | 0.155373 |
| 10 | 9252.39 | 89.02 | 183.00 | 74.185 | 8987.9 | 469.3 | -468.2 | -32.6 | 469.3 | 184.0 | 12.0 | 12.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 0.155373 |
| 11 | 9300.00 | 89.02 | 183.00 | 47.612 | 8988.7 | 516.9 | -515.7 | -35.9 | 516.9 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 12 | 9400.00 | 89.02 | 183.00 | 100 | 8990.4 | 616.9 | -615.4 | -42.8 | 616.9 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 13 | 9500.00 | 89.02 | 183.00 | 100 | 8992.2 | 716.9 | -715.2 | -49.8 | 716.9 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 14 | 9600.00 | 89.02 | 183.00 | 100 | 8993.9 | 816.9 | -814.9 | -56.7 | 816.9 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 15 | 9700.00 | 89.02 | 183.00 | 100 | 8995.6 | 916.9 | -914.7 | -63.6 | 916.9 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 16 | 9800.00 | 89.02 | 183.00 | 100 | 8997.3 | 1016.9 | -1014.4 | -70.6 | 1016.9 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 17 | 9900.00 | 89.02 | 183.00 | 100 | 8999.0 | 1116.8 | -1114.1 | -77.5 | 1116.8 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 18 | 10000.00 | 89.02 | 183.00 | 100 | 9000.7 | 1216.8 | -1213.9 | -84.5 | 1216.8 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 19 | 10100.00 | 89.02 | 183.00 | 100 | 9002.4 | 1316.8 | -1313.6 | -91.4 | 1316.8 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 20 | 10200.00 | 89.02 | 183.00 | 100 | 9004.1 | 1416.8 | -1413.4 | -98.3 | 1416.8 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 21 | 10300.00 | 89.02 | 183.00 | 100 | 9005.8 | 1516.8 | -1513.1 | -105.3 | 1516.8 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 22 | 10400.00 | 89.02 | 183.00 | 100 | 9007.5 | 1616.8 | -1612.9 | -112.2 | 1616.8 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 23 | 10500.00 | 89.02 | 183.00 | 100 | 9009.2 | 1716.7 | -1712.6 | -119.2 | 1716.7 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 24 | 10600.00 | 89.02 | 183.00 | 100 | 9010.9 | 1816.7 | -1812.4 | -126.1 | 1816.7 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 25 | 10700.00 | 89.02 | 183.00 | 100 | 9012.6 | 1916.7 | -1912.1 | -133.0 | 1916.7 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 26 | 10800.00 | 89.02 | 183.00 | 100 | 9014.3 | 2016.7 | -2011.8 | -140.0 | 2016.7 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 27 | 10900.00 | 89.02 | 183.00 | 100 | 9016.0 | 2116.7 | -2111.6 | -146.9 | 2116.7 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 28 | 11000.00 | 89.02 | 183.00 | 100 | 9017.8 | 2216.7 | -2211.3 | -153.9 | 2216.7 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 29 | 11100.00 | 89.02 | 183.00 | 100 | 9019.5 | 2316.7 | -2311.1 | -160.8 | 2316.7 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 30 | 11200.00 | 89.02 | 183.00 | 100 | 9021.2 | 2416.6 | -2410.8 | -167.7 | 2416.6 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 31 | 11300.00 | 89.02 | 183.00 | 100 | 9022.9 | 2516.6 | -2510.6 | -174.7 | 2516.6 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 32 | 11400.00 | 89.02 | 183.00 | 100 | 9024.6 | 2616.6 | -2610.3 | -181.6 | 2616.6 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 33 | 11500.00 | 89.02 | 183.00 | 100 | 9026.3 | 2716.6 | -2710.1 | -188.6 | 2716.6 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 34 | 11600.00 | 89.02 | 183.00 | 100 | 9028.0 | 2816.6 | -2809.8 | -195.5 | 2816.6 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 35 | 11700.00 | 89.02 | 183.00 | 100 | 9029.7 | 2916.6 | -2909.5 | -202.4 | 2916.6 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 36 | 11800.00 | 89.02 | 183.00 | 100 | 9031.4 | 3016.6 | -3009.3 | -209.4 | 3016.6 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 37 | 11900.00 | 89.02 | 183.00 | 100 | 9033.1 | 3116.5 | -3109.0 | -216.3 | 3116.5 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 38 | 12000.00 | 89.02 | 183.00 | 100 | 9034.8 | 3216.5 | -3208.8 | -223.3 | 3216.5 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 39 | 12100.00 | 89.02 | 183.00 | 100 | 9036.5 | 3316.5 | -3308.5 | -230.2 | 3316.5 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 40 | 12200.00 | 89.02 | 183.00 | 100 | 9038.2 | 3416.5 | -3408.3 | -237.1 | 3416.5 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 41 | 12300.00 | 89.02 | 183.00 | 100 | 9039.9 | 3516.5 | -3508.0 | -244.1 | 3516.5 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 42 | 12400.00 | 89.02 | 183.00 | 100 | 9041.6 | 3616.5 | -3607.7 | -251.0 | 3616.5 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 43 | 12500.00 | 89.02 | 183.00 | 100 | 9043.3 | 3716.5 | -3707.5 | -258.0 | 3716.5 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 44 | 12600.00 | 89.02 | 183.00 | 100 | 9045.1 | 3816.4 | -3807.2 | -264.9 | 3816.4 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 45 | 12700.00 | 89.02 | 183.00 | 100 | 9046.8 | 3916.4 | -3907.0 | -271.8 | 3916.4 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 46 | 12800.00 | 89.02 | 183.00 | 100 | 9048.5 | 4016.4 | -4006.7 | -278.8 | 4016.4 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 47 | 12900.00 | 89.02 | 183.00 | 100 | 9050.2 | 4116.4 | -4106.5 | -285.7 | 4116.4 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 48 | 13000.00 | 89.02 | 183.00 | 100 | 9051.9 | 4216.4 | -4206.2 | -292.7 | 4216.4 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 49 | 13100.00 | 89.02 | 183.00 | 100 | 9053.6 | 4316.4 | -4306.0 | -299.6 | 4316.4 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 50 | 13200.00 | 89.02 | 183.00 | 100 | 9055.3 | 4416.4 | -4405.7 | -306.5 | 4416.4 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 51 | 13300.00 | 89.02 | 183.00 | 100 | 9057.0 | 4516.3 | -4505.4 | -313.5 | 4516.3 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 52 | 13400.00 | 89.02 | 183.00 | 100 | 9058.7 | 4616.3 | -4605.2 | -320.4 | 4616.3 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 53 | 13500.00 | 89.02 | 183.00 | 100 | 9060.4 | 4716.3 | -4704.9 | -327.4 | 4716.3 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 54 | 13600.00 | 89.02 | 183.00 | 100 | 9062.1 | 4816.3 | -4804.7 | -334.3 | 4816.3 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 55 | 13700.00 | 89.02 | 183.00 | 100 | 9063.8 | 4916.3 | -4904.4 | -341.2 | 4916.3 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 56 | 13800.00 | 89.02 | 183.00 | 100 | 9065.5 | 5016.3 | -5004.2 | -348.2 | 5016.3 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |

ATTACHMENT C-3

| | | | | | | | | | | | | | | | | | |
|-----|----------|-------|--------|-----|--------|---------|----------|--------|---------|-------|-----|-----|--------|-----|---------|------|-------|
| 57 | 13000.00 | 89.02 | 183.98 | 100 | 9067.2 | 5116.3 | -5103.9 | -355.1 | 5116.3 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 58 | 14000.00 | 89.02 | 183.98 | 100 | 9068.9 | 5216.2 | -5203.7 | -362.1 | 5216.2 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 59 | 14100.00 | 89.02 | 183.98 | 100 | 9070.6 | 5316.2 | -5303.4 | -369.0 | 5316.2 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 60 | 14200.00 | 89.02 | 183.98 | 100 | 9072.4 | 5416.2 | -5403.1 | -375.9 | 5416.2 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 61 | 14300.00 | 89.02 | 183.98 | 100 | 9074.1 | 5516.2 | -5502.9 | -382.9 | 5516.2 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 62 | 14400.00 | 89.02 | 183.98 | 100 | 9075.8 | 5616.2 | -5602.6 | -389.8 | 5616.2 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 63 | 14500.00 | 89.02 | 183.98 | 100 | 9077.5 | 5716.2 | -5702.4 | -396.8 | 5716.2 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 64 | 14600.00 | 89.02 | 183.98 | 100 | 9079.2 | 5816.2 | -5802.1 | -403.7 | 5816.2 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 65 | 14700.00 | 89.02 | 183.98 | 100 | 9080.9 | 5916.1 | -5901.9 | -410.6 | 5916.1 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 66 | 14800.00 | 89.02 | 183.98 | 100 | 9082.6 | 6016.1 | -6001.6 | -417.6 | 6016.1 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 67 | 14900.00 | 89.02 | 183.98 | 100 | 9084.3 | 6116.1 | -6101.4 | -424.5 | 6116.1 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 68 | 15000.00 | 89.02 | 183.98 | 100 | 9086.0 | 6216.1 | -6201.1 | -431.5 | 6216.1 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 69 | 15100.00 | 89.02 | 183.98 | 100 | 9087.7 | 6316.1 | -6300.8 | -438.4 | 6316.1 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 70 | 15200.00 | 89.02 | 183.98 | 100 | 9089.4 | 6416.1 | -6400.6 | -445.3 | 6416.1 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 71 | 15300.00 | 89.02 | 183.98 | 100 | 9091.1 | 6516.0 | -6500.3 | -452.3 | 6516.0 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 72 | 15400.00 | 89.02 | 183.98 | 100 | 9092.8 | 6616.0 | -6600.1 | -459.2 | 6616.0 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 73 | 15500.00 | 89.02 | 183.98 | 100 | 9094.5 | 6716.0 | -6699.8 | -466.2 | 6716.0 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 74 | 15600.00 | 89.02 | 183.98 | 100 | 9096.2 | 6816.0 | -6799.6 | -473.1 | 6816.0 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 75 | 15700.00 | 89.02 | 183.98 | 100 | 9097.9 | 6916.0 | -6899.3 | -480.0 | 6916.0 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 76 | 15800.00 | 89.02 | 183.98 | 100 | 9099.7 | 7016.0 | -6999.1 | -487.0 | 7016.0 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 77 | 15900.00 | 89.02 | 183.98 | 100 | 9101.4 | 7116.0 | -7098.8 | -493.9 | 7116.0 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 78 | 16000.00 | 89.02 | 183.98 | 100 | 9103.1 | 7215.9 | -7198.5 | -500.9 | 7215.9 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 79 | 16100.00 | 89.02 | 183.98 | 100 | 9104.8 | 7315.9 | -7298.3 | -507.8 | 7315.9 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 80 | 16200.00 | 89.02 | 183.98 | 100 | 9106.5 | 7415.9 | -7398.0 | -514.7 | 7415.9 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 81 | 16300.00 | 89.02 | 183.98 | 100 | 9108.2 | 7515.9 | -7497.7 | -521.7 | 7515.9 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 82 | 16400.00 | 89.02 | 183.98 | 100 | 9109.9 | 7615.9 | -7597.5 | -528.6 | 7615.9 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 83 | 16500.00 | 89.02 | 183.98 | 100 | 9111.6 | 7715.9 | -7697.3 | -535.6 | 7715.9 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 84 | 16600.00 | 89.02 | 183.98 | 100 | 9113.3 | 7815.9 | -7797.0 | -542.5 | 7815.9 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 85 | 16700.00 | 89.02 | 183.98 | 100 | 9115.0 | 7915.8 | -7896.8 | -549.4 | 7915.8 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 86 | 16800.00 | 89.02 | 183.98 | 100 | 9116.7 | 8015.8 | -7996.5 | -556.4 | 8015.8 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 87 | 16900.00 | 89.02 | 183.98 | 100 | 9118.4 | 8115.8 | -8096.2 | -563.3 | 8115.8 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 88 | 17000.00 | 89.02 | 183.98 | 100 | 9120.1 | 8215.8 | -8196.0 | -570.3 | 8215.8 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 89 | 17100.00 | 89.02 | 183.98 | 100 | 9121.8 | 8315.8 | -8295.7 | -577.2 | 8315.8 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 90 | 17200.00 | 89.02 | 183.98 | 100 | 9123.5 | 8415.8 | -8395.5 | -584.1 | 8415.8 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 91 | 17300.00 | 89.02 | 183.98 | 100 | 9125.2 | 8515.8 | -8495.2 | -591.1 | 8515.8 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 92 | 17400.00 | 89.02 | 183.98 | 100 | 9127.0 | 8615.7 | -8595.0 | -598.0 | 8615.7 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 93 | 17500.00 | 89.02 | 183.98 | 100 | 9128.7 | 8715.7 | -8694.7 | -605.0 | 8715.7 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 94 | 17600.00 | 89.02 | 183.98 | 100 | 9130.4 | 8815.7 | -8794.5 | -611.9 | 8815.7 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 95 | 17700.00 | 89.02 | 183.98 | 100 | 9132.1 | 8915.7 | -8894.2 | -618.8 | 8915.7 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 96 | 17800.00 | 89.02 | 183.98 | 100 | 9133.8 | 9015.7 | -8993.9 | -625.8 | 9015.7 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 97 | 17900.00 | 89.02 | 183.98 | 100 | 9135.5 | 9115.7 | -9093.7 | -632.7 | 9115.7 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 98 | 18000.00 | 89.02 | 183.98 | 100 | 9137.2 | 9215.7 | -9193.4 | -639.7 | 9215.7 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 99 | 18100.00 | 89.02 | 183.98 | 100 | 9138.9 | 9315.6 | -9293.2 | -646.6 | 9315.6 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 100 | 18200.00 | 89.02 | 183.98 | 100 | 9140.6 | 9415.6 | -9392.9 | -653.5 | 9415.6 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 101 | 18300.00 | 89.02 | 183.98 | 100 | 9142.3 | 9515.6 | -9492.7 | -660.5 | 9515.6 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 102 | 18400.00 | 89.02 | 183.98 | 100 | 9144.0 | 9615.6 | -9592.4 | -667.4 | 9615.6 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 103 | 18500.00 | 89.02 | 183.98 | 100 | 9145.7 | 9715.6 | -9692.2 | -674.4 | 9715.6 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 104 | 18600.00 | 89.02 | 183.98 | 100 | 9147.4 | 9815.6 | -9791.9 | -681.3 | 9815.6 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 105 | 18700.00 | 89.02 | 183.98 | 100 | 9149.1 | 9915.6 | -9891.6 | -688.2 | 9915.6 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 106 | 18800.00 | 89.02 | 183.98 | 100 | 9150.8 | 10015.5 | -9991.4 | -695.2 | 10015.5 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 107 | 18900.00 | 89.02 | 183.98 | 100 | 9152.5 | 10115.5 | -10091.1 | -702.1 | 10115.5 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 108 | 19000.00 | 89.02 | 183.98 | 100 | 9154.3 | 10215.5 | -10190.9 | -709.1 | 10215.5 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |
| 109 | 19046.32 | 89.02 | 183.98 | 100 | 9155.0 | 10261.8 | -10237.2 | -709.1 | 10215.5 | 184.0 | 0.0 | 0.0 | 8979.9 | 8.1 | 1.55373 | 3.21 | 1E-10 |

Mewbourne Oil Company

SURVEY CALCULATION REPORT
Minimum Curvature Calculations

Operator: Mewbourne Oil Company
Lease Name: Spanish Bay 18/19 B2B0 Fed Com 1H
KOP 9350.54

Target KBTVD: 9,828 Feet 9828.00
Target Angle: 89.24 Degrees 89.24
Section Plane: 183.87 Degrees
Declination Corrected to True North: -6.63 Degrees
Bit to Survey Offset: 44 Feet

| Survey No. | Measured Depth-ft | Drift (Deg) | Azimuth (Deg) | Course Length | TVD (Feet) | Vertical Section | +N/-S (Feet) | +E/-W (Feet) | Closure Distance | Closure Direction | BUR | DLS | KBTVD | +Above -Below | | | AZIMUTH (RADIANS) |
|------------|-------------------|-------------|---------------|---------------|------------|------------------|--------------|--------------|------------------|-------------------|------|------|--------|------------------|---------|-----------------|-------------------|
| | | | | | | | | | | | | | | Target | RADIANS | DRIFT (RADIANS) | |
| T/I | 9350.54 | 0.00 | 183.87 | N/A | 9350.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | N/A | N/A | 9350.5 | 477.5 | 1E-12 | 3.21 | #VALUE! |
| 1 | 9424.90 | 8.92 | 183.87 | 74.366 | 9424.6 | 5.8 | -5.8 | -0.4 | 5.8 | 183.9 | 12.0 | 12.0 | 9424.5 | 403.5 | 0.15575 | 3.21 | 0.155751 |
| 2 | 9499.27 | 17.85 | 183.87 | 74.366 | 9496.9 | 23.0 | -22.9 | -1.6 | 23.0 | 183.9 | 12.0 | 12.0 | 9496.6 | 331.4 | 0.3115 | 3.21 | 0.155751 |
| 3 | 9573.63 | 26.77 | 183.87 | 74.366 | 9565.6 | 51.2 | -51.1 | -3.5 | 51.2 | 183.9 | 12.0 | 12.0 | 9564.9 | 263.1 | 0.46725 | 3.21 | 0.155751 |
| 4 | 9648.00 | 35.70 | 183.87 | 74.366 | 9629.1 | 89.7 | -89.5 | -6.1 | 89.7 | 183.9 | 12.0 | 12.0 | 9627.9 | 200.1 | 0.623 | 3.21 | 0.155751 |
| 5 | 9722.36 | 44.62 | 183.87 | 74.366 | 9685.9 | 137.6 | -137.3 | -9.3 | 137.6 | 183.9 | 12.0 | 12.0 | 9684.1 | 143.9 | 0.77876 | 3.21 | 0.155751 |
| 6 | 9798.73 | 53.54 | 183.87 | 74.366 | 9734.6 | 193.7 | -193.3 | -13.1 | 193.7 | 183.9 | 12.0 | 12.0 | 9732.0 | 96.0 | 0.93451 | 3.21 | 0.155751 |
| 7 | 9871.10 | 62.47 | 183.87 | 74.366 | 9773.9 | 256.8 | -256.2 | -17.3 | 256.8 | 183.9 | 12.0 | 12.0 | 9770.5 | 57.5 | 1.09026 | 3.21 | 0.155751 |
| 8 | 9945.46 | 71.39 | 183.87 | 74.366 | 9803.0 | 325.1 | -324.4 | -21.9 | 325.1 | 183.9 | 12.0 | 12.0 | 9798.7 | 29.3 | 1.24601 | 3.21 | 0.155751 |
| 9 | 10019.83 | 80.31 | 183.87 | 74.366 | 9821.2 | 397.1 | -396.2 | -26.8 | 397.1 | 183.9 | 12.0 | 12.0 | 9815.9 | 12.1 | 1.40176 | 3.21 | 0.155751 |
| 10 | 10094.19 | 89.24 | 183.87 | 74.366 | 9828.0 | 471.1 | -470.0 | -31.8 | 471.1 | 183.9 | 12.0 | 12.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 0.155751 |
| 11 | 10100.00 | 89.24 | 183.87 | 5.8078 | 9828.0 | 476.9 | -475.8 | -32.2 | 476.9 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 12 | 10200.00 | 89.24 | 183.87 | 100 | 9829.4 | 576.9 | -575.6 | -38.9 | 576.9 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 13 | 10300.00 | 89.24 | 183.87 | 100 | 9830.7 | 676.9 | -675.4 | -45.7 | 676.9 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 14 | 10400.00 | 89.24 | 183.87 | 100 | 9832.0 | 776.9 | -775.1 | -52.4 | 776.9 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 15 | 10500.00 | 89.24 | 183.87 | 100 | 9833.3 | 876.9 | -874.9 | -59.2 | 876.9 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 16 | 10600.00 | 89.24 | 183.87 | 100 | 9834.7 | 976.9 | -974.7 | -65.9 | 976.9 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 17 | 10700.00 | 89.24 | 183.87 | 100 | 9836.0 | 1076.9 | -1074.4 | -72.7 | 1076.9 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 18 | 10800.00 | 89.24 | 183.87 | 100 | 9837.3 | 1176.9 | -1174.2 | -79.4 | 1176.9 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 19 | 10900.00 | 89.24 | 183.87 | 100 | 9838.7 | 1276.9 | -1273.9 | -86.2 | 1276.9 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 20 | 11000.00 | 89.24 | 183.87 | 100 | 9840.0 | 1376.8 | -1373.7 | -92.9 | 1376.8 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 21 | 11100.00 | 89.24 | 183.87 | 100 | 9841.3 | 1476.8 | -1473.5 | -99.7 | 1476.8 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 22 | 11200.00 | 89.24 | 183.87 | 100 | 9842.6 | 1576.8 | -1573.2 | -106.4 | 1576.8 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 23 | 11300.00 | 89.24 | 183.87 | 100 | 9844.0 | 1676.8 | -1673.0 | -113.2 | 1676.8 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 24 | 11400.00 | 89.24 | 183.87 | 100 | 9845.3 | 1776.8 | -1772.8 | -119.9 | 1776.8 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 25 | 11500.00 | 89.24 | 183.87 | 100 | 9846.6 | 1876.8 | -1872.5 | -126.7 | 1876.8 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 26 | 11600.00 | 89.24 | 183.87 | 100 | 9848.0 | 1976.8 | -1972.3 | -133.4 | 1976.8 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 27 | 11700.00 | 89.24 | 183.87 | 100 | 9849.3 | 2076.8 | -2072.1 | -140.2 | 2076.8 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 28 | 11800.00 | 89.24 | 183.87 | 100 | 9850.6 | 2176.8 | -2171.8 | -146.9 | 2176.8 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 29 | 11900.00 | 89.24 | 183.87 | 100 | 9851.9 | 2276.8 | -2271.6 | -153.7 | 2276.8 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 30 | 12000.00 | 89.24 | 183.87 | 100 | 9853.3 | 2376.8 | -2371.3 | -160.4 | 2376.8 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 31 | 12100.00 | 89.24 | 183.87 | 100 | 9854.6 | 2476.8 | -2471.1 | -167.2 | 2476.8 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 32 | 12200.00 | 89.24 | 183.87 | 100 | 9855.9 | 2576.7 | -2570.9 | -173.9 | 2576.7 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 33 | 12300.00 | 89.24 | 183.87 | 100 | 9857.3 | 2676.7 | -2670.6 | -180.7 | 2676.7 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 34 | 12400.00 | 89.24 | 183.87 | 100 | 9858.6 | 2776.7 | -2770.4 | -187.4 | 2776.7 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 35 | 12500.00 | 89.24 | 183.87 | 100 | 9859.9 | 2876.7 | -2870.2 | -194.2 | 2876.7 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 36 | 12600.00 | 89.24 | 183.87 | 100 | 9861.2 | 2976.7 | -2969.9 | -200.9 | 2976.7 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 37 | 12700.00 | 89.24 | 183.87 | 100 | 9862.6 | 3076.7 | -3069.7 | -207.7 | 3076.7 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 38 | 12800.00 | 89.24 | 183.87 | 100 | 9863.9 | 3176.7 | -3169.4 | -214.4 | 3176.7 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 39 | 12900.00 | 89.24 | 183.87 | 100 | 9865.2 | 3276.7 | -3269.2 | -221.2 | 3276.7 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 40 | 13000.00 | 89.24 | 183.87 | 100 | 9866.6 | 3376.7 | -3369.0 | -227.9 | 3376.7 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 41 | 13100.00 | 89.24 | 183.87 | 100 | 9867.9 | 3476.7 | -3468.7 | -234.7 | 3476.7 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 42 | 13200.00 | 89.24 | 183.87 | 100 | 9869.2 | 3576.7 | -3568.5 | -241.4 | 3576.7 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 43 | 13300.00 | 89.24 | 183.87 | 100 | 9870.5 | 3676.6 | -3668.3 | -248.2 | 3676.6 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 44 | 13400.00 | 89.24 | 183.87 | 100 | 9871.9 | 3776.6 | -3768.0 | -254.9 | 3776.6 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 45 | 13500.00 | 89.24 | 183.87 | 100 | 9873.2 | 3876.6 | -3867.8 | -261.7 | 3876.6 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 46 | 13600.00 | 89.24 | 183.87 | 100 | 9874.5 | 3976.6 | -3967.6 | -268.4 | 3976.6 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 47 | 13700.00 | 89.24 | 183.87 | 100 | 9875.9 | 4076.6 | -4067.3 | -275.1 | 4076.6 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 48 | 13800.00 | 89.24 | 183.87 | 100 | 9877.2 | 4176.6 | -4167.1 | -281.9 | 4176.6 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 49 | 13900.00 | 89.24 | 183.87 | 100 | 9878.5 | 4276.6 | -4266.8 | -288.6 | 4276.6 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 50 | 14000.00 | 89.24 | 183.87 | 100 | 9879.8 | 4376.6 | -4366.6 | -295.4 | 4376.6 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 51 | 14100.00 | 89.24 | 183.87 | 100 | 9881.2 | 4476.6 | -4466.4 | -302.1 | 4476.6 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 52 | 14200.00 | 89.24 | 183.87 | 100 | 9882.5 | 4576.6 | -4566.1 | -308.9 | 4576.6 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 53 | 14300.00 | 89.24 | 183.87 | 100 | 9883.8 | 4676.6 | -4665.9 | -315.6 | 4676.6 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 54 | 14400.00 | 89.24 | 183.87 | 100 | 9885.2 | 4776.5 | -4765.7 | -322.4 | 4776.5 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 55 | 14500.00 | 89.24 | 183.87 | 100 | 9886.5 | 4876.5 | -4865.4 | -329.1 | 4876.5 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 56 | 14600.00 | 89.24 | 183.87 | 100 | 9887.8 | 4976.5 | -4965.2 | -335.9 | 4976.5 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |

| | | | | | | | | | | | | | | | | | |
|-----|----------|-------|--------|-----|--------|---------|----------|--------|---------|-------|-----|-----|--------|-----|---------|------|-------|
| 57 | 14700.00 | 89 24 | 183 87 | 100 | 9889.1 | 5076.5 | -5064.9 | -342.6 | 5076.5 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 58 | 14800.00 | 89 24 | 183 87 | 100 | 9890.5 | 5176.5 | -5164.7 | -349.4 | 5176.5 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 59 | 14900.00 | 89 24 | 183 87 | 100 | 9891.8 | 5276.5 | -5264.5 | -356.1 | 5276.5 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 60 | 15000.00 | 89 24 | 183 87 | 100 | 9893.1 | 5376.5 | -5364.2 | -362.9 | 5376.5 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 61 | 15100.00 | 89 24 | 183 87 | 100 | 9894.5 | 5476.5 | -5464.0 | -369.6 | 5476.5 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 62 | 15200.00 | 89 24 | 183 87 | 100 | 9895.8 | 5576.5 | -5563.8 | -376.4 | 5576.5 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 63 | 15300.00 | 89 24 | 183 87 | 100 | 9897.1 | 5676.5 | -5663.5 | -383.1 | 5676.5 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 64 | 15400.00 | 89 24 | 183 87 | 100 | 9898.4 | 5776.5 | -5763.3 | -389.9 | 5776.5 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 65 | 15500.00 | 89 24 | 183 87 | 100 | 9899.8 | 5876.5 | -5863.1 | -396.6 | 5876.5 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 66 | 15600.00 | 89 24 | 183 87 | 100 | 9901.1 | 5976.4 | -5962.8 | -403.4 | 5976.4 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 67 | 15700.00 | 89 24 | 183 87 | 100 | 9902.4 | 6076.4 | -6062.6 | -410.1 | 6076.4 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 68 | 15800.00 | 89 24 | 183 87 | 100 | 9903.8 | 6176.4 | -6162.3 | -416.9 | 6176.4 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 69 | 15900.00 | 89 24 | 183 87 | 100 | 9905.1 | 6276.4 | -6262.1 | -423.6 | 6276.4 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 70 | 16000.00 | 89 24 | 183 87 | 100 | 9906.4 | 6376.4 | -6361.9 | -430.4 | 6376.4 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 71 | 16100.00 | 89 24 | 183 87 | 100 | 9907.7 | 6476.4 | -6461.6 | -437.1 | 6476.4 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 72 | 16200.00 | 89 24 | 183 87 | 100 | 9909.1 | 6576.4 | -6561.4 | -443.9 | 6576.4 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 73 | 16300.00 | 89 24 | 183 87 | 100 | 9910.4 | 6676.4 | -6661.2 | -450.6 | 6676.4 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 74 | 16400.00 | 89 24 | 183 87 | 100 | 9911.7 | 6776.4 | -6760.9 | -457.4 | 6776.4 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 75 | 16500.00 | 89 24 | 183 87 | 100 | 9913.1 | 6876.4 | -6860.7 | -464.1 | 6876.4 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 76 | 16600.00 | 89 24 | 183 87 | 100 | 9914.4 | 6976.4 | -6960.4 | -470.9 | 6976.4 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 77 | 16700.00 | 89 24 | 183 87 | 100 | 9915.7 | 7076.3 | -7060.2 | -477.6 | 7076.3 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 78 | 16800.00 | 89 24 | 183 87 | 100 | 9917.0 | 7176.3 | -7160.0 | -484.4 | 7176.3 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 79 | 16900.00 | 89 24 | 183 87 | 100 | 9918.4 | 7276.3 | -7259.7 | -491.1 | 7276.3 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 80 | 17000.00 | 89 24 | 183 87 | 100 | 9919.7 | 7376.3 | -7359.5 | -497.9 | 7376.3 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 81 | 17100.00 | 89 24 | 183 87 | 100 | 9921.0 | 7476.3 | -7459.3 | -504.6 | 7476.3 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 82 | 17200.00 | 89 24 | 183 87 | 100 | 9922.4 | 7576.3 | -7559.0 | -511.4 | 7576.3 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 83 | 17300.00 | 89 24 | 183 87 | 100 | 9923.7 | 7676.3 | -7658.8 | -518.1 | 7676.3 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 84 | 17400.00 | 89 24 | 183 87 | 100 | 9925.0 | 7776.3 | -7758.6 | -524.9 | 7776.3 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 85 | 17500.00 | 89 24 | 183 87 | 100 | 9926.3 | 7876.3 | -7858.3 | -531.6 | 7876.3 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 86 | 17600.00 | 89 24 | 183 87 | 100 | 9927.7 | 7976.3 | -7958.1 | -538.4 | 7976.3 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 87 | 17700.00 | 89 24 | 183 87 | 100 | 9929.0 | 8076.3 | -8057.8 | -545.1 | 8076.3 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 88 | 17800.00 | 89 24 | 183 87 | 100 | 9930.3 | 8176.2 | -8157.6 | -551.9 | 8176.2 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 89 | 17900.00 | 89 24 | 183 87 | 100 | 9931.7 | 8276.2 | -8257.4 | -558.6 | 8276.2 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 90 | 18000.00 | 89 24 | 183 87 | 100 | 9933.0 | 8376.2 | -8357.1 | -565.4 | 8376.2 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 91 | 18100.00 | 89 24 | 183 87 | 100 | 9934.3 | 8476.2 | -8456.9 | -572.1 | 8476.2 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 92 | 18200.00 | 89 24 | 183 87 | 100 | 9935.6 | 8576.2 | -8556.7 | -578.8 | 8576.2 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 93 | 18300.00 | 89 24 | 183 87 | 100 | 9937.0 | 8676.2 | -8656.4 | -585.6 | 8676.2 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 94 | 18400.00 | 89 24 | 183 87 | 100 | 9938.3 | 8776.2 | -8756.2 | -592.3 | 8776.2 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 95 | 18500.00 | 89 24 | 183 87 | 100 | 9939.6 | 8876.2 | -8855.9 | -599.1 | 8876.2 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 96 | 18600.00 | 89 24 | 183 87 | 100 | 9941.0 | 8976.2 | -8955.7 | -605.8 | 8976.2 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 97 | 18700.00 | 89 24 | 183 87 | 100 | 9942.3 | 9076.2 | -9055.5 | -612.6 | 9076.2 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 98 | 18800.00 | 89 24 | 183 87 | 100 | 9943.6 | 9176.2 | -9155.2 | -619.3 | 9176.2 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 99 | 18900.00 | 89 24 | 183 87 | 100 | 9944.9 | 9276.2 | -9255.0 | -626.1 | 9276.2 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 100 | 19000.00 | 89 24 | 183 87 | 100 | 9946.3 | 9376.1 | -9354.8 | -632.8 | 9376.1 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 101 | 19100.00 | 89 24 | 183 87 | 100 | 9947.6 | 9476.1 | -9454.5 | -639.6 | 9476.1 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 102 | 19200.00 | 89 24 | 183 87 | 100 | 9948.9 | 9576.1 | -9554.3 | -646.3 | 9576.1 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 103 | 19300.00 | 89 24 | 183 87 | 100 | 9950.3 | 9676.1 | -9654.1 | -653.1 | 9676.1 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 104 | 19400.00 | 89 24 | 183 87 | 100 | 9951.6 | 9776.1 | -9753.8 | -659.8 | 9776.1 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 105 | 19500.00 | 89 24 | 183 87 | 100 | 9952.9 | 9876.1 | -9853.6 | -666.6 | 9876.1 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 106 | 19600.00 | 89 24 | 183 87 | 100 | 9954.2 | 9976.1 | -9953.3 | -673.3 | 9976.1 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 107 | 19700.00 | 89 24 | 183 87 | 100 | 9955.6 | 10076.1 | -10053.1 | -680.1 | 10076.1 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 108 | 19800.00 | 89 24 | 183 87 | 100 | 9956.9 | 10176.1 | -10152.9 | -686.8 | 10176.1 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |
| 109 | 19865.67 | 89 24 | 183 87 | 100 | 9958.0 | 10261.7 | -10238.5 | -686.8 | 10176.1 | 183.9 | 0.0 | 0.0 | 9821.7 | 6.3 | 1.55751 | 3.21 | 1E-10 |

Mewbourne Oil Company

SURVEY CALCULATION REPORT
Minimum Curvature Calculations

Operator: Mewbourne Oil Company
Lcase Name: Spanish Bay 18/19 B1AP Fed Com 1H
KOP 8540.54

Target KBTVD: 9,018 Feet 9018.00
Target Angle: 89.15 Degrees 89.15
Section Plane: 176.39 Degrees
Declination Corrected to True North: 6.63 Degrees
Bit to Survey Offset: 44 Feet

| Survey No. | Measured Depth-ft | Drift (Deg) | Azimuth (Deg) | Course Length | TVD (Feet) | Vertical Section | +N/-S (Feet) | +E/-W (Feet) | Closure Distance | Closure Direction | BUR | DLS | KBTVD | +Above | | DRIFT RADIANS | AZIMUTH (RADIANS) |
|------------|-------------------|-------------|---------------|---------------|------------|------------------|--------------|--------------|------------------|-------------------|------|------|--------|---------------|---------|---------------|-------------------|
| | | | | | | | | | | | | | | -Below Target | | | |
| T/I | 8540.54 | 0.00 | 176.39 | N/A | 8540.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | N/A | N/A | 8540.5 | 477.5 | 1E-12 | 3.08 | #VALUE! |
| 1 | 8614.82 | 8.91 | 176.39 | 74.289 | 8614.5 | 5.8 | -5.8 | 0.4 | 5.8 | 176.4 | 12.0 | 12.0 | 8614.4 | 403.6 | 0.15559 | 3.08 | 0.15559 |
| 2 | 8689.11 | 17.83 | 176.39 | 74.289 | 8686.7 | 22.9 | -22.9 | 1.4 | 22.9 | 176.4 | 12.0 | 12.0 | 8686.4 | 331.6 | 0.31118 | 3.08 | 0.15559 |
| 3 | 8763.40 | 26.74 | 176.39 | 74.289 | 8755.4 | 51.1 | -51.0 | 3.2 | 51.1 | 176.4 | 12.0 | 12.0 | 8754.6 | 263.4 | 0.46677 | 3.08 | 0.15559 |
| 4 | 8837.69 | 35.66 | 176.39 | 74.289 | 8818.9 | 89.5 | -89.3 | 5.6 | 89.5 | 176.4 | 12.0 | 12.0 | 8817.5 | 200.5 | 0.62236 | 3.08 | 0.15559 |
| 5 | 8911.98 | 44.57 | 176.39 | 74.289 | 8875.6 | 137.3 | -137.1 | 8.7 | 137.3 | 176.4 | 12.0 | 12.0 | 8873.6 | 144.4 | 0.77795 | 3.08 | 0.15559 |
| 6 | 8986.27 | 53.49 | 176.39 | 74.289 | 8924.3 | 193.4 | -193.0 | 12.2 | 193.4 | 176.4 | 12.0 | 12.0 | 8921.4 | 96.6 | 0.93354 | 3.08 | 0.15559 |
| 7 | 9060.56 | 62.40 | 176.39 | 74.289 | 8963.7 | 256.3 | -255.8 | 16.1 | 256.3 | 176.4 | 12.0 | 12.0 | 8959.9 | 58.1 | 1.08913 | 3.08 | 0.15559 |
| 8 | 9134.84 | 71.32 | 176.39 | 74.289 | 8992.8 | 324.5 | -323.9 | 20.4 | 324.5 | 176.4 | 12.0 | 12.0 | 8988.0 | 30.0 | 1.24472 | 3.08 | 0.15559 |
| 9 | 9209.13 | 80.23 | 176.39 | 74.289 | 9011.1 | 396.5 | -395.7 | 25.0 | 396.5 | 176.4 | 12.0 | 12.0 | 9005.2 | 12.8 | 1.40031 | 3.08 | 0.15559 |
| 10 | 9283.42 | 89.15 | 176.39 | 74.289 | 9017.9 | 470.4 | -469.4 | 29.6 | 470.4 | 176.4 | 12.0 | 12.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 0.15559 |
| 11 | 9300.00 | 89.15 | 176.39 | 16.579 | 9018.2 | 486.9 | -486.0 | 30.7 | 486.9 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 12 | 9400.00 | 89.15 | 176.39 | 100 | 9019.7 | 586.9 | -585.8 | 37.0 | 586.9 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 13 | 9500.00 | 89.15 | 176.39 | 100 | 9021.2 | 686.9 | -685.5 | 43.3 | 686.9 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 14 | 9600.00 | 89.15 | 176.39 | 100 | 9022.7 | 786.9 | -785.3 | 49.6 | 786.9 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 15 | 9700.00 | 89.15 | 176.39 | 100 | 9024.2 | 886.9 | -885.1 | 55.9 | 886.9 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 16 | 9800.00 | 89.15 | 176.39 | 100 | 9025.6 | 986.9 | -984.9 | 62.2 | 986.9 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 17 | 9900.00 | 89.15 | 176.39 | 100 | 9027.1 | 1086.9 | -1084.7 | 68.5 | 1086.9 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 18 | 10000.00 | 89.15 | 176.39 | 100 | 9028.6 | 1186.9 | -1184.5 | 74.8 | 1186.9 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 19 | 10100.00 | 89.15 | 176.39 | 100 | 9030.1 | 1286.8 | -1284.3 | 81.1 | 1286.8 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 20 | 10200.00 | 89.15 | 176.39 | 100 | 9031.6 | 1386.8 | -1384.1 | 87.4 | 1386.8 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 21 | 10300.00 | 89.15 | 176.39 | 100 | 9033.1 | 1486.8 | -1483.9 | 93.7 | 1486.8 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 22 | 10400.00 | 89.15 | 176.39 | 100 | 9034.6 | 1586.8 | -1583.7 | 100.0 | 1586.8 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 23 | 10500.00 | 89.15 | 176.39 | 100 | 9036.1 | 1686.8 | -1683.4 | 106.3 | 1686.8 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 24 | 10600.00 | 89.15 | 176.39 | 100 | 9037.6 | 1786.8 | -1783.2 | 112.6 | 1786.8 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 25 | 10700.00 | 89.15 | 176.39 | 100 | 9039.1 | 1886.8 | -1883.0 | 118.9 | 1886.8 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 26 | 10800.00 | 89.15 | 176.39 | 100 | 9040.5 | 1986.8 | -1982.8 | 125.2 | 1986.8 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 27 | 10900.00 | 89.15 | 176.39 | 100 | 9042.0 | 2086.8 | -2082.6 | 131.5 | 2086.8 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 28 | 11000.00 | 89.15 | 176.39 | 100 | 9043.5 | 2186.7 | -2182.4 | 137.8 | 2186.7 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 29 | 11100.00 | 89.15 | 176.39 | 100 | 9045.0 | 2286.7 | -2282.2 | 144.1 | 2286.7 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 30 | 11200.00 | 89.15 | 176.39 | 100 | 9046.5 | 2386.7 | -2382.0 | 150.4 | 2386.7 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 31 | 11300.00 | 89.15 | 176.39 | 100 | 9048.0 | 2486.7 | -2481.8 | 156.7 | 2486.7 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 32 | 11400.00 | 89.15 | 176.39 | 100 | 9049.5 | 2586.7 | -2581.6 | 163.0 | 2586.7 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 33 | 11500.00 | 89.15 | 176.39 | 100 | 9051.0 | 2686.7 | -2681.3 | 169.3 | 2686.7 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 34 | 11600.00 | 89.15 | 176.39 | 100 | 9052.5 | 2786.7 | -2781.1 | 175.6 | 2786.7 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 35 | 11700.00 | 89.15 | 176.39 | 100 | 9054.0 | 2886.7 | -2880.9 | 181.9 | 2886.7 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 36 | 11800.00 | 89.15 | 176.39 | 100 | 9055.4 | 2986.7 | -2980.7 | 188.2 | 2986.7 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 37 | 11900.00 | 89.15 | 176.39 | 100 | 9056.9 | 3086.6 | -3080.5 | 194.5 | 3086.6 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 38 | 12000.00 | 89.15 | 176.39 | 100 | 9058.4 | 3186.6 | -3180.3 | 200.8 | 3186.6 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 39 | 12100.00 | 89.15 | 176.39 | 100 | 9059.9 | 3286.6 | -3280.1 | 207.1 | 3286.6 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 40 | 12200.00 | 89.15 | 176.39 | 100 | 9061.4 | 3386.6 | -3379.9 | 213.4 | 3386.6 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 41 | 12300.00 | 89.15 | 176.39 | 100 | 9062.9 | 3486.6 | -3479.7 | 219.7 | 3486.6 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 42 | 12400.00 | 89.15 | 176.39 | 100 | 9064.4 | 3586.6 | -3579.5 | 226.0 | 3586.6 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 43 | 12500.00 | 89.15 | 176.39 | 100 | 9065.9 | 3686.6 | -3679.2 | 232.3 | 3686.6 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 44 | 12600.00 | 89.15 | 176.39 | 100 | 9067.4 | 3786.6 | -3779.0 | 238.6 | 3786.6 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 45 | 12700.00 | 89.15 | 176.39 | 100 | 9068.9 | 3886.6 | -3878.8 | 244.9 | 3886.6 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 46 | 12800.00 | 89.15 | 176.39 | 100 | 9070.3 | 3986.5 | -3978.6 | 251.2 | 3986.5 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 47 | 12900.00 | 89.15 | 176.39 | 100 | 9071.8 | 4086.5 | -4078.4 | 257.5 | 4086.5 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 48 | 13000.00 | 89.15 | 176.39 | 100 | 9073.3 | 4186.5 | -4178.2 | 263.8 | 4186.5 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 49 | 13100.00 | 89.15 | 176.39 | 100 | 9074.8 | 4286.5 | -4278.0 | 270.1 | 4286.5 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 50 | 13200.00 | 89.15 | 176.39 | 100 | 9076.3 | 4386.5 | -4377.8 | 276.4 | 4386.5 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 51 | 13300.00 | 89.15 | 176.39 | 100 | 9077.8 | 4486.5 | -4477.6 | 282.7 | 4486.5 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 52 | 13400.00 | 89.15 | 176.39 | 100 | 9079.3 | 4586.5 | -4577.4 | 289.0 | 4586.5 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 53 | 13500.00 | 89.15 | 176.39 | 100 | 9080.8 | 4686.5 | -4677.2 | 295.3 | 4686.5 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 54 | 13600.00 | 89.15 | 176.39 | 100 | 9082.3 | 4786.5 | -4776.9 | 301.6 | 4786.5 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 55 | 13700.00 | 89.15 | 176.39 | 100 | 9083.8 | 4886.4 | -4876.7 | 307.9 | 4886.4 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 56 | 13800.00 | 89.15 | 176.39 | 100 | 9085.2 | 4986.4 | -4976.5 | 314.2 | 4986.4 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |

ATTACHMENT

C-4

| | | | | | | | | | | | | | | | | | |
|-----|----------|-------|--------|-----|--------|---------|----------|-------|---------|-------|-----|-----|--------|-----|--------|------|-------|
| 57 | 13900.00 | 89 15 | 176 39 | 100 | 9086.7 | 5086.4 | -5076.3 | 320.5 | 5086.4 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 58 | 14000.00 | 89 15 | 176 39 | 100 | 9088.2 | 5186.4 | -5176.1 | 326.8 | 5186.4 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 59 | 14100.00 | 89 15 | 176 39 | 100 | 9089.7 | 5286.4 | -5275.9 | 333.1 | 5286.4 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 60 | 14200.00 | 89 15 | 176 39 | 100 | 9091.2 | 5386.4 | -5375.7 | 339.4 | 5386.4 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 61 | 14300.00 | 89 15 | 176 39 | 100 | 9092.7 | 5486.4 | -5475.5 | 345.7 | 5486.4 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 62 | 14400.00 | 89 15 | 176 39 | 100 | 9094.2 | 5586.4 | -5575.3 | 352.0 | 5586.4 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 63 | 14500.00 | 89 15 | 176 39 | 100 | 9095.7 | 5686.4 | -5675.1 | 358.3 | 5686.4 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 64 | 14600.00 | 89 15 | 176 39 | 100 | 9097.2 | 5786.3 | -5774.8 | 364.6 | 5786.3 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 65 | 14700.00 | 89 15 | 176 39 | 100 | 9098.6 | 5886.3 | -5874.6 | 370.9 | 5886.3 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 66 | 14800.00 | 89 15 | 176 39 | 100 | 9100.1 | 5986.3 | -5974.4 | 377.2 | 5986.3 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 67 | 14900.00 | 89 15 | 176 39 | 100 | 9101.6 | 6086.3 | -6074.2 | 383.5 | 6086.3 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 68 | 15000.00 | 89 15 | 176 39 | 100 | 9103.1 | 6186.3 | -6174.0 | 389.8 | 6186.3 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 69 | 15100.00 | 89 15 | 176 39 | 100 | 9104.6 | 6286.3 | -6273.8 | 396.1 | 6286.3 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 70 | 15200.00 | 89 15 | 176 39 | 100 | 9106.1 | 6386.3 | -6373.6 | 402.4 | 6386.3 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 71 | 15300.00 | 89 15 | 176 39 | 100 | 9107.6 | 6486.3 | -6473.4 | 408.7 | 6486.3 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 72 | 15400.00 | 89 15 | 176 39 | 100 | 9109.1 | 6586.3 | -6573.2 | 415.0 | 6586.3 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 73 | 15500.00 | 89 15 | 176 39 | 100 | 9110.6 | 6686.2 | -6673.0 | 421.3 | 6686.2 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 74 | 15600.00 | 89 15 | 176 39 | 100 | 9112.1 | 6786.2 | -6772.7 | 427.6 | 6786.2 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 75 | 15700.00 | 89 15 | 176 39 | 100 | 9113.5 | 6886.2 | -6872.5 | 433.9 | 6886.2 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 76 | 15800.00 | 89 15 | 176 39 | 100 | 9115.0 | 6986.2 | -6972.3 | 440.2 | 6986.2 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 77 | 15900.00 | 89 15 | 176 39 | 100 | 9116.5 | 7086.2 | -7072.1 | 446.5 | 7086.2 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 78 | 16000.00 | 89 15 | 176 39 | 100 | 9118.0 | 7186.2 | -7171.9 | 452.8 | 7186.2 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 79 | 16100.00 | 89 15 | 176 39 | 100 | 9119.5 | 7286.2 | -7271.7 | 459.1 | 7286.2 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 80 | 16200.00 | 89 15 | 176 39 | 100 | 9121.0 | 7386.2 | -7371.5 | 465.4 | 7386.2 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 81 | 16300.00 | 89 15 | 176 39 | 100 | 9122.5 | 7486.2 | -7471.3 | 471.7 | 7486.2 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 82 | 16400.00 | 89 15 | 176 39 | 100 | 9124.0 | 7586.1 | -7571.1 | 478.0 | 7586.1 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 83 | 16500.00 | 89 15 | 176 39 | 100 | 9125.5 | 7686.1 | -7670.9 | 484.3 | 7686.1 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 84 | 16600.00 | 89 15 | 176 39 | 100 | 9127.0 | 7786.1 | -7770.6 | 490.6 | 7786.1 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 85 | 16700.00 | 89 15 | 176 39 | 100 | 9128.4 | 7886.1 | -7870.4 | 496.9 | 7886.1 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 86 | 16800.00 | 89 15 | 176 39 | 100 | 9129.9 | 7986.1 | -7970.2 | 503.2 | 7986.1 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 87 | 16900.00 | 89 15 | 176 39 | 100 | 9131.4 | 8086.1 | -8070.0 | 509.5 | 8086.1 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 88 | 17000.00 | 89 15 | 176 39 | 100 | 9132.9 | 8186.1 | -8169.8 | 515.8 | 8186.1 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 89 | 17100.00 | 89 15 | 176 39 | 100 | 9134.4 | 8286.1 | -8269.6 | 522.1 | 8286.1 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 90 | 17200.00 | 89 15 | 176 39 | 100 | 9135.9 | 8386.1 | -8369.4 | 528.4 | 8386.1 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 91 | 17300.00 | 89 15 | 176 39 | 100 | 9137.4 | 8486.0 | -8469.2 | 534.7 | 8486.0 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 92 | 17400.00 | 89 15 | 176 39 | 100 | 9138.9 | 8586.0 | -8569.0 | 541.0 | 8586.0 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 93 | 17500.00 | 89 15 | 176 39 | 100 | 9140.4 | 8686.0 | -8668.8 | 547.3 | 8686.0 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 94 | 17600.00 | 89 15 | 176 39 | 100 | 9141.9 | 8786.0 | -8768.6 | 553.6 | 8786.0 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 95 | 17700.00 | 89 15 | 176 39 | 100 | 9143.3 | 8886.0 | -8868.3 | 559.9 | 8886.0 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 96 | 17800.00 | 89 15 | 176 39 | 100 | 9144.8 | 8986.0 | -8968.1 | 566.2 | 8986.0 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 97 | 17900.00 | 89 15 | 176 39 | 100 | 9146.3 | 9086.0 | -9067.9 | 572.5 | 9086.0 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 98 | 18000.00 | 89 15 | 176 39 | 100 | 9147.8 | 9186.0 | -9167.7 | 578.8 | 9186.0 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 99 | 18100.00 | 89 15 | 176 39 | 100 | 9149.3 | 9286.0 | -9267.5 | 585.1 | 9286.0 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 100 | 18200.00 | 89 15 | 176 39 | 100 | 9150.8 | 9385.9 | -9367.3 | 591.4 | 9385.9 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 101 | 18300.00 | 89 15 | 176 39 | 100 | 9152.3 | 9485.9 | -9467.1 | 597.7 | 9485.9 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 102 | 18400.00 | 89 15 | 176 39 | 100 | 9153.8 | 9585.9 | -9566.9 | 604.0 | 9585.9 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 103 | 18500.00 | 89 15 | 176 39 | 100 | 9155.3 | 9685.9 | -9666.7 | 610.3 | 9685.9 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 104 | 18600.00 | 89 15 | 176 39 | 100 | 9156.8 | 9785.9 | -9766.5 | 616.6 | 9785.9 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 105 | 18700.00 | 89 15 | 176 39 | 100 | 9158.2 | 9885.9 | -9866.2 | 622.9 | 9885.9 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 106 | 18800.00 | 89 15 | 176 39 | 100 | 9159.7 | 9985.9 | -9966.0 | 629.2 | 9985.9 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 107 | 18900.00 | 89 15 | 176 39 | 100 | 9161.2 | 10085.9 | -10065.8 | 635.5 | 10085.9 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 108 | 19000.00 | 89 15 | 176 39 | 100 | 9162.7 | 10185.9 | -10165.6 | 641.8 | 10185.9 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |
| 109 | 19088.89 | 89 15 | 176 39 | 100 | 9164.0 | 10274.5 | -10254.3 | 641.8 | 10274.5 | 176.4 | 0.0 | 0.0 | 9010.9 | 7.1 | 1.5559 | 3.08 | 1E-10 |

Mewbourne Oil Company

SURVEY CALCULATION REPORT
Minimum Curvature Calculations

Operator: Mewbourne Oil Company
Lease Name: Spanish Bay 18/19 B2AP Fed Com 1H
KOP 9370.54

Target KBTVD: 9,848 Feet 9848.00
Target Angle: 89.24 Degrees 89.24
Section Plane: 176.22 Degrees
Declination Corrected to True North: 6.63 Degrees
Bit to Survey Offset: 44 Feet

| Survey No. | Measured Depth-ft | Drift (Deg) | Azimuth (Deg) | Course Length | TVD (Feet) | Vertical Section | +N/-S (Feet) | +E/-W (Feet) | Closure Distance | Closure Direction | BUR | DLS | KBTVD | +Above -Below | | DRIFT RADIANS | AZIMUTH (RADIAN) |
|------------|-------------------|-------------|---------------|---------------|------------|------------------|--------------|--------------|------------------|-------------------|------|------|--------|------------------|---------|---------------|------------------|
| | | | | | | | | | | | | | | Target | Target | | |
| T/1 | 9370.54 | 0.00 | 176.22 | N/A | 9370.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | N/A | N/A | 9370.5 | 477.5 | 1E-12 | 3.08 | #VALUE! |
| 1 | 9444.90 | 8.92 | 176.22 | 74.367 | 9444.6 | 5.8 | -5.8 | 0.4 | 5.8 | 176.2 | 12.0 | 12.0 | 9444.5 | 403.5 | 0.15575 | 3.08 | 0.155753 |
| 2 | 9519.27 | 17.85 | 176.22 | 74.367 | 9516.9 | 23.0 | -22.9 | 1.5 | 23.0 | 176.2 | 12.0 | 12.0 | 9516.6 | 331.4 | 0.31151 | 3.08 | 0.155753 |
| 3 | 9593.64 | 26.77 | 176.22 | 74.367 | 9585.6 | 51.2 | -51.1 | 3.4 | 51.2 | 176.2 | 12.0 | 12.0 | 9584.9 | 263.1 | 0.46726 | 3.08 | 0.155753 |
| 4 | 9668.00 | 35.70 | 176.22 | 74.367 | 9649.1 | 89.7 | -89.5 | 5.9 | 89.7 | 176.2 | 12.0 | 12.0 | 9647.9 | 200.1 | 0.62301 | 3.08 | 0.155753 |
| 5 | 9742.37 | 44.62 | 176.22 | 74.367 | 9705.9 | 137.6 | -137.3 | 9.1 | 137.6 | 176.2 | 12.0 | 12.0 | 9704.1 | 143.9 | 0.77877 | 3.08 | 0.155753 |
| 6 | 9816.74 | 53.54 | 176.22 | 74.367 | 9754.6 | 193.8 | -193.3 | 12.8 | 193.8 | 176.2 | 12.0 | 12.0 | 9752.0 | 96.0 | 0.93452 | 3.08 | 0.155753 |
| 7 | 9891.10 | 62.47 | 176.22 | 74.367 | 9793.9 | 256.8 | -256.2 | 16.9 | 256.8 | 176.2 | 12.0 | 12.0 | 9790.5 | 57.5 | 1.09027 | 3.08 | 0.155753 |
| 8 | 9965.47 | 71.39 | 176.22 | 74.367 | 9823.0 | 325.1 | -324.4 | 21.4 | 325.1 | 176.2 | 12.0 | 12.0 | 9818.7 | 29.3 | 1.24603 | 3.08 | 0.155753 |
| 9 | 10039.84 | 80.32 | 176.22 | 74.367 | 9841.2 | 397.1 | -396.3 | 26.2 | 397.1 | 176.2 | 12.0 | 12.0 | 9835.9 | 12.1 | 1.40178 | 3.08 | 0.155753 |
| 10 | 10114.20 | 89.24 | 176.22 | 74.367 | 9848.0 | 471.1 | -470.1 | 31.1 | 471.1 | 176.2 | 12.0 | 12.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 0.155753 |
| 11 | 10200.00 | 89.24 | 176.22 | 85.798 | 9849.1 | 556.9 | -555.7 | 36.7 | 556.9 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 12 | 10300.00 | 89.24 | 176.22 | 100 | 9850.4 | 656.9 | -655.5 | 43.3 | 656.9 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 13 | 10400.00 | 89.24 | 176.22 | 100 | 9851.7 | 756.9 | -755.3 | 49.9 | 756.9 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 14 | 10500.00 | 89.24 | 176.22 | 100 | 9853.1 | 856.9 | -855.0 | 56.5 | 856.9 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 15 | 10600.00 | 89.24 | 176.22 | 100 | 9854.4 | 956.9 | -954.8 | 63.1 | 956.9 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 16 | 10700.00 | 89.24 | 176.22 | 100 | 9855.7 | 1056.9 | -1054.6 | 69.7 | 1056.9 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 17 | 10800.00 | 89.24 | 176.22 | 100 | 9857.1 | 1156.9 | -1154.4 | 76.3 | 1156.9 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 18 | 10900.00 | 89.24 | 176.22 | 100 | 9858.4 | 1256.9 | -1254.1 | 82.9 | 1256.9 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 19 | 11000.00 | 89.24 | 176.22 | 100 | 9859.7 | 1356.9 | -1353.9 | 89.5 | 1356.9 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 20 | 11100.00 | 89.24 | 176.22 | 100 | 9861.0 | 1456.8 | -1453.7 | 96.0 | 1456.8 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 21 | 11200.00 | 89.24 | 176.22 | 100 | 9862.4 | 1556.8 | -1553.4 | 102.6 | 1556.8 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 22 | 11300.00 | 89.24 | 176.22 | 100 | 9863.7 | 1656.8 | -1653.2 | 109.2 | 1656.8 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 23 | 11400.00 | 89.24 | 176.22 | 100 | 9865.0 | 1756.8 | -1753.0 | 115.8 | 1756.8 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 24 | 11500.00 | 89.24 | 176.22 | 100 | 9866.3 | 1856.8 | -1852.8 | 122.4 | 1856.8 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 25 | 11600.00 | 89.24 | 176.22 | 100 | 9867.7 | 1956.8 | -1952.5 | 129.0 | 1956.8 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 26 | 11700.00 | 89.24 | 176.22 | 100 | 9869.0 | 2056.8 | -2052.3 | 135.6 | 2056.8 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 27 | 11800.00 | 89.24 | 176.22 | 100 | 9870.3 | 2156.8 | -2152.1 | 142.2 | 2156.8 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 28 | 11900.00 | 89.24 | 176.22 | 100 | 9871.6 | 2256.8 | -2251.9 | 148.8 | 2256.8 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 29 | 12000.00 | 89.24 | 176.22 | 100 | 9873.0 | 2356.8 | -2351.6 | 155.4 | 2356.8 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 30 | 12100.00 | 89.24 | 176.22 | 100 | 9874.3 | 2456.8 | -2451.4 | 162.0 | 2456.8 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 31 | 12200.00 | 89.24 | 176.22 | 100 | 9875.6 | 2556.7 | -2551.2 | 168.6 | 2556.7 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 32 | 12300.00 | 89.24 | 176.22 | 100 | 9877.0 | 2656.7 | -2651.0 | 175.2 | 2656.7 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 33 | 12400.00 | 89.24 | 176.22 | 100 | 9878.3 | 2756.7 | -2750.7 | 181.7 | 2756.7 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 34 | 12500.00 | 89.24 | 176.22 | 100 | 9879.6 | 2856.7 | -2850.5 | 188.3 | 2856.7 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 35 | 12600.00 | 89.24 | 176.22 | 100 | 9880.9 | 2956.7 | -2950.3 | 194.9 | 2956.7 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 36 | 12700.00 | 89.24 | 176.22 | 100 | 9882.3 | 3056.7 | -3050.1 | 201.5 | 3056.7 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 37 | 12800.00 | 89.24 | 176.22 | 100 | 9883.6 | 3156.7 | -3149.8 | 208.1 | 3156.7 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 38 | 12900.00 | 89.24 | 176.22 | 100 | 9884.9 | 3256.7 | -3249.6 | 214.7 | 3256.7 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 39 | 13000.00 | 89.24 | 176.22 | 100 | 9886.2 | 3356.7 | -3349.4 | 221.3 | 3356.7 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 40 | 13100.00 | 89.24 | 176.22 | 100 | 9887.6 | 3456.7 | -3449.1 | 227.9 | 3456.7 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 41 | 13200.00 | 89.24 | 176.22 | 100 | 9888.9 | 3556.7 | -3548.9 | 234.5 | 3556.7 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 42 | 13300.00 | 89.24 | 176.22 | 100 | 9890.2 | 3656.6 | -3648.7 | 241.1 | 3656.6 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 43 | 13400.00 | 89.24 | 176.22 | 100 | 9891.5 | 3756.6 | -3748.5 | 247.7 | 3756.6 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 44 | 13500.00 | 89.24 | 176.22 | 100 | 9892.9 | 3856.6 | -3848.2 | 254.3 | 3856.6 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 45 | 13600.00 | 89.24 | 176.22 | 100 | 9894.2 | 3956.6 | -3948.0 | 260.9 | 3956.6 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 46 | 13700.00 | 89.24 | 176.22 | 100 | 9895.5 | 4056.6 | -4047.8 | 267.4 | 4056.6 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 47 | 13800.00 | 89.24 | 176.22 | 100 | 9896.8 | 4156.6 | -4147.6 | 274.0 | 4156.6 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 48 | 13900.00 | 89.24 | 176.22 | 100 | 9898.2 | 4256.6 | -4247.3 | 280.6 | 4256.6 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 49 | 14000.00 | 89.24 | 176.22 | 100 | 9899.5 | 4356.6 | -4347.1 | 287.2 | 4356.6 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 50 | 14100.00 | 89.24 | 176.22 | 100 | 9900.8 | 4456.6 | -4446.9 | 293.8 | 4456.6 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 51 | 14200.00 | 89.24 | 176.22 | 100 | 9902.2 | 4556.6 | -4546.7 | 300.4 | 4556.6 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 52 | 14300.00 | 89.24 | 176.22 | 100 | 9903.5 | 4656.6 | -4646.4 | 307.0 | 4656.6 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 53 | 14400.00 | 89.24 | 176.22 | 100 | 9904.8 | 4756.6 | -4746.2 | 313.6 | 4756.6 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 54 | 14500.00 | 89.24 | 176.22 | 100 | 9906.1 | 4856.5 | -4846.0 | 320.2 | 4856.5 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 55 | 14600.00 | 89.24 | 176.22 | 100 | 9907.5 | 4956.5 | -4945.8 | 326.8 | 4956.5 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 56 | 14700.00 | 89.24 | 176.22 | 100 | 9908.8 | 5056.5 | -5045.5 | 333.4 | 5056.5 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |

| | | | | | | | | | | | | | | | | | |
|-----|----------|-------|--------|--------|--------|---------|----------|-------|---------|-------|-----|-----|--------|-----|---------|------|-------|
| 57 | 14800.00 | 89.24 | 176.22 | 100 | 9910.1 | 5156.5 | -5145.3 | 340.0 | 5156.5 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 58 | 14900.00 | 89.24 | 176.22 | 100 | 9911.4 | 5256.5 | -5245.1 | 346.6 | 5256.5 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 59 | 15000.00 | 89.24 | 176.22 | 100 | 9912.8 | 5356.5 | -5344.8 | 353.1 | 5356.5 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 60 | 15100.00 | 89.24 | 176.22 | 100 | 9914.1 | 5456.5 | -5444.6 | 359.7 | 5456.5 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 61 | 15200.00 | 89.24 | 176.22 | 100 | 9915.4 | 5556.5 | -5544.4 | 366.3 | 5556.5 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 62 | 15300.00 | 89.24 | 176.22 | 100 | 9916.7 | 5656.5 | -5644.2 | 372.9 | 5656.5 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 63 | 15400.00 | 89.24 | 176.22 | 100 | 9918.1 | 5756.5 | -5743.9 | 379.5 | 5756.5 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 64 | 15500.00 | 89.24 | 176.22 | 100 | 9919.4 | 5856.5 | -5843.7 | 386.1 | 5856.5 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 65 | 15600.00 | 89.24 | 176.22 | 100 | 9920.7 | 5956.4 | -5943.5 | 392.7 | 5956.4 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 66 | 15700.00 | 89.24 | 176.22 | 100 | 9922.0 | 6056.4 | -6043.3 | 399.3 | 6056.4 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 67 | 15800.00 | 89.24 | 176.22 | 100 | 9923.4 | 6156.4 | -6143.0 | 405.9 | 6156.4 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 68 | 15900.00 | 89.24 | 176.22 | 100 | 9924.7 | 6256.4 | -6242.8 | 412.5 | 6256.4 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 69 | 16000.00 | 89.24 | 176.22 | 100 | 9926.0 | 6356.4 | -6342.6 | 419.1 | 6356.4 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 70 | 16100.00 | 89.24 | 176.22 | 100 | 9927.4 | 6456.4 | -6442.4 | 425.7 | 6456.4 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 71 | 16200.00 | 89.24 | 176.22 | 100 | 9928.7 | 6556.4 | -6542.1 | 432.3 | 6556.4 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 72 | 16300.00 | 89.24 | 176.22 | 100 | 9930.0 | 6656.4 | -6641.9 | 438.8 | 6656.4 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 73 | 16400.00 | 89.24 | 176.22 | 100 | 9931.3 | 6756.4 | -6741.7 | 445.4 | 6756.4 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 74 | 16500.00 | 89.24 | 176.22 | 100 | 9932.7 | 6856.4 | -6841.5 | 452.0 | 6856.4 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 75 | 16600.00 | 89.24 | 176.22 | 100 | 9934.0 | 6956.4 | -6941.2 | 458.6 | 6956.4 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 76 | 16700.00 | 89.24 | 176.22 | 100 | 9935.3 | 7056.4 | -7041.0 | 465.2 | 7056.4 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 77 | 16800.00 | 89.24 | 176.22 | 100 | 9936.6 | 7156.3 | -7140.8 | 471.8 | 7156.3 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 78 | 16900.00 | 89.24 | 176.22 | 100 | 9938.0 | 7256.3 | -7240.5 | 478.4 | 7256.3 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 79 | 17000.00 | 89.24 | 176.22 | 100 | 9939.3 | 7356.3 | -7340.3 | 485.0 | 7356.3 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 80 | 17100.00 | 89.24 | 176.22 | 100 | 9940.6 | 7456.3 | -7440.1 | 491.6 | 7456.3 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 81 | 17200.00 | 89.24 | 176.22 | 100 | 9941.9 | 7556.3 | -7539.9 | 498.2 | 7556.3 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 82 | 17300.00 | 89.24 | 176.22 | 100 | 9943.3 | 7656.3 | -7639.6 | 504.8 | 7656.3 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 83 | 17400.00 | 89.24 | 176.22 | 100 | 9944.6 | 7756.3 | -7739.4 | 511.4 | 7756.3 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 84 | 17500.00 | 89.24 | 176.22 | 100 | 9945.9 | 7856.3 | -7839.2 | 518.0 | 7856.3 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 85 | 17600.00 | 89.24 | 176.22 | 100 | 9947.2 | 7956.3 | -7939.0 | 524.5 | 7956.3 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 86 | 17700.00 | 89.24 | 176.22 | 100 | 9948.6 | 8056.3 | -8038.7 | 531.1 | 8056.3 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 87 | 17800.00 | 89.24 | 176.22 | 100 | 9949.9 | 8156.3 | -8138.5 | 537.7 | 8156.3 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 88 | 17900.00 | 89.24 | 176.22 | 100 | 9951.2 | 8256.2 | -8238.3 | 544.3 | 8256.2 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 89 | 18000.00 | 89.24 | 176.22 | 100 | 9952.6 | 8356.2 | -8338.1 | 550.9 | 8356.2 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 90 | 18100.00 | 89.24 | 176.22 | 100 | 9953.9 | 8456.2 | -8437.8 | 557.5 | 8456.2 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 91 | 18200.00 | 89.24 | 176.22 | 100 | 9955.2 | 8556.2 | -8537.6 | 564.1 | 8556.2 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 92 | 18300.00 | 89.24 | 176.22 | 100 | 9956.5 | 8656.2 | -8637.4 | 570.7 | 8656.2 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 93 | 18400.00 | 89.24 | 176.22 | 100 | 9957.9 | 8756.2 | -8737.2 | 577.3 | 8756.2 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 94 | 18500.00 | 89.24 | 176.22 | 100 | 9959.2 | 8856.2 | -8836.9 | 583.9 | 8856.2 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 95 | 18600.00 | 89.24 | 176.22 | 100 | 9960.5 | 8956.2 | -8936.7 | 590.5 | 8956.2 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 96 | 18700.00 | 89.24 | 176.22 | 100 | 9961.8 | 9056.2 | -9036.5 | 597.1 | 9056.2 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 97 | 18800.00 | 89.24 | 176.22 | 100 | 9963.2 | 9156.2 | -9136.2 | 603.7 | 9156.2 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 98 | 18900.00 | 89.24 | 176.22 | 100 | 9964.5 | 9256.2 | -9236.0 | 610.2 | 9256.2 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 99 | 19000.00 | 89.24 | 176.22 | 100 | 9965.8 | 9356.1 | -9335.8 | 616.8 | 9356.1 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 100 | 19100.00 | 89.24 | 176.22 | 100 | 9967.1 | 9456.1 | -9435.6 | 623.4 | 9456.1 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 101 | 19200.00 | 89.24 | 176.22 | 100 | 9968.5 | 9556.1 | -9535.3 | 630.0 | 9556.1 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 102 | 19300.00 | 89.24 | 176.22 | 100 | 9969.8 | 9656.1 | -9635.1 | 636.6 | 9656.1 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 103 | 19400.00 | 89.24 | 176.22 | 100 | 9971.1 | 9756.1 | -9734.9 | 643.2 | 9756.1 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 104 | 19500.00 | 89.24 | 176.22 | 100 | 9972.5 | 9856.1 | -9834.7 | 649.8 | 9856.1 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 105 | 19600.00 | 89.24 | 176.22 | 100 | 9973.8 | 9956.1 | -9934.4 | 656.4 | 9956.1 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 106 | 19700.00 | 89.24 | 176.22 | 100 | 9975.1 | 10056.1 | -10034.2 | 663.0 | 10056.1 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 107 | 19800.00 | 89.24 | 176.22 | 100 | 9976.4 | 10156.1 | -10134.0 | 669.6 | 10156.1 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 108 | 19900.00 | 89.24 | 176.22 | 100 | 9977.8 | 10256.1 | -10233.8 | 676.2 | 10256.1 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |
| 109 | 19920.63 | 89.24 | 176.22 | 20.631 | 9978.0 | 10276.7 | -10254.3 | 677.5 | 10276.7 | 176.2 | 0.0 | 0.0 | 9841.7 | 6.3 | 1.55753 | 3.08 | 1E-10 |

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

APPLICATIONS OF MEWBOURNE OIL
COMPANY FOR COMPULSORY POOLING,
LEA COUNTY, NEW MEXICO.


Case Nos. 22161 - 22164

SELF-AFFIRMED STATEMENT OF NOTICE

James Bruce deposes and states:

1. I am over the age of 18, and have personal knowledge of the matters stated herein.
2. I am an attorney for Mewbourne Oil Company.
3. Mewbourne Oil Company has conducted a good faith, diligent effort to find the names and correct addresses of the interest owners entitled to receive notice of the application filed herein.
4. Notice of the application was provided to the interest owners, at their last known addresses, by certified mail. Copies of the notice letter and certified return receipts are attached hereto as Attachment A.
5. Applicant has complied with the notice provisions of Division Rules.
6. I understand that this Self-Affirmed Statement will be used as written testimony in this case. I affirm that my testimony in paragraphs 1 through 5 above is true and correct and is made under penalty of perjury under the laws of the State of New Mexico. My testimony is made as of the date handwritten next to my signature below.

Date: 4/4/23


James Bruce

EXHIBIT

JAMES BRUCE
ATTORNEY AT LAW

POST OFFICE BOX 1056
SANTA FE, NEW MEXICO 87504

369 MONTEZUMA, NO. 213
SANTA FE, NEW MEXICO 87501

(505) 982-2043 (Phone)
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(505) 982-2151 (Fax)

jamesbruc@aol.com

August 19, 2021

To: Persons on Exhibit A

Ladies and gentlemen:

Enclosed are copies of four applications for compulsory pooling, filed with the New Mexico Oil Conservation Division by Mewbourne Oil Company, seeking to pool the following well units as to the Bone Spring formation:

- a. The W/2W/2 of Section 18 and the W/2W/2 of Section 19 (Case 22161);
- b. The E/2W/2 of Section 18 and the E/2W/2 of Section 19 (Case 22162);
- c. The W/2E/2 of Section 18 and the W/2E/2 of Section 19 (Case 22163); and
- d. The E/2E/2 of Section 18 and the E/2E/2 of Section 19 (Case 22164).

All lands are located in Township 19 South, Range 33 East, NMPM, Lea County, New Mexico.

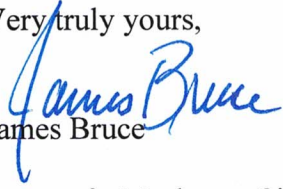
These matters are scheduled for hearing at 8:15 a.m. on Thursday, September 9, 2021. During the COVID-19 Public Health Emergency, state buildings are closed to the public and the hearing will be conducted remotely. To determine the location of the hearing or to participate in an electronic hearing, go to emnrd.state.nm.us/OCD/hearings or see the instructions posted on the Division's website, <http://emnrd.state.nm.us/OCD/announcements.html>. You are not required to attend this hearing, but as an owner of an interest who may be affected by the applications, you may appear and present testimony. Failure to appear at that time and become a party of record will preclude you from contesting these matters at a later date.

A party appearing in a Division case is required by Division Rules to file a Pre-Hearing Statement no later than Thursday, September 2, 2021. This statement may be filed online with the Division at ocd.hearings@state.nm.us, and should include: The name of the party and his or her attorney; a concise statement of the case; the name(s) of the witness(es) the party will call to testify at the hearing; the approximate time the party will need to present his or her case; and

ATTACHMENT **A**

identification of any procedural matters that need to be resolved prior to the hearing. The Pre-Hearing Statement must also be provided to the undersigned.

Very truly yours,



James Bruce

Attorney for Mewbourne Oil Company

Exhibit A

McCombs Exploration, LLC
755 East Mulberry Ave. Suite 600
San Antonio, TX 78212

COG Operating, LLC
One Concho Center
600 West Illinois Avenue
Midland, Texas 79701

Chisholm Energy Operating, LLC
801 Cherry Street, Suite 1200, Unit 20
Fort Worth, Texas 76102

Occidental Permian Limited Partnership
5 Greenway Plaza, Suite 110
Houston, Texas 77046