

WARD PETROLEUM

| | | | |
|--------------|------------------|----------|------------------------|
| Location | ADAMS COUNTY, CO | Slot | Slot #8 |
| Field | West Brighton | Well | Sharp #24-3-11HC |
| Installation | Sharp Pad | Wellbore | Sharp #24-3-11HC (PWB) |

Tie on - 0.00 Inc, 15.00 MD, 15.00 TVD, 0.00 VS

Scale 1 cm = 200 ft East (feet) ->

-400 0 400 800 1200

9 5/8in Surface Casing

3DS Kick off Point - 0.00 Inc, 1300.00 MD, 1300.00 TVD, 0.00 VS

End of Build - 6.90 Inc, 1644.92 MD, 1644.08 TVD, -8.51 VS

Sharp #24-3-11HC Heel

WELL PROFILE DATA

| Point | MD | Inc | Azi | TVD | North | East | deg/100ft | V. Sect |
|-------------------------|----------|-------|--------|---------|---------|--------|-----------|---------|
| Tie on | 15.00 | 0.00 | 0.00 | 15.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| KOP | 1300.00 | 0.00 | 0.00 | 1300.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| End of Build | 1644.92 | 6.90 | 121.83 | 1644.08 | -10.94 | 17.62 | 2.00 | -8.51 |
| End of Hold | 7206.63 | 6.90 | 121.83 | 7165.53 | -363.22 | 585.18 | 0.00 | -282.51 |
| Target Sharp #24-3-11H | 8146.78 | 90.34 | 359.58 | 7772.00 | 212.40 | 643.35 | 10.00 | 295.74 |
| T.D. & Target Sharp #24 | 12507.33 | 90.34 | 359.58 | 7746.00 | 4572.76 | 611.07 | 0.00 | 4613.40 |

Created by admin
Date plotted 10-Dec-2013
Plot reference is Sharp #24-3-11HC (PWB).
Ref wellpath is W #5 (PWP#1).
Coordinates are in feet reference Slot #8.
True Vertical Depths are reference Rig Datum.
Measured Depths are reference Rig Datum.
Rig Datum: Planned Datum #1
Rig Datum to Mean Sea Level: 5034.00 ft.
Plot North is aligned to GRID North.

Sharp #24-3-11HC Heel

Surface 0.00 N 0.00 E

End of Hold - 6.90 Inc, 7206.63 MD, 7165.53 TVD, -282.51 VS

7.0in Intermediate Casing

Sharp #24-3-11HC Heel

T.D. & End of Hold - 7746.00 TVD, 4572.76 N 611.07 E

S/C Kick off Point - 90.34 Inc, 8146.78 MD, 7772.00 TVD, 295.74 VS

4 1/2in Production Liner

Sharp #24-3-11HC Heel

<- North(feet)

Scale 1 cm = 200 ft

Vertical Section (feet) ->

Azimuth 7.61 with reference 0.00 N, 0.00 E from Slot #8

Scale 1 cm = 200 ft



INTEGRATED PETROLEUM TECHNOLOGIES, INC
SYSDRILL
Well Design Combined Report
Wellbore: Sharp #24-3-11HC (PWB)

| Wellhead Details | | | | | | | |
|------------------|--------------|--------------|-------------|---------------|--------|--------|-----------------------|
| Name | Northing | Easting | Latitude | Longitude | North | East | Elevation Above Inst. |
| Slot #8 | 1223134.9013 | 3183399.9969 | 39.94403000 | -104.84589000 | 14.41S | 22.54E | -0.00 |

| Declination | | | |
|-------------|----------------------------|------|-------|
| Date | Source | Time | |
| 27-Nov-2013 | IGRF Model [1900.0-2015.0] | | 14:20 |

| Site Details | | | | |
|--------------|--------------|--------------|--|-----------------|
| Name | Northing | Easting | Coord System Name | North Alignment |
| Sharp Pad | 1223149.3063 | 3183377.4593 | CO83-NF on NORTH AMERICAN DATUM 1983 datum | Grid |

| Summary Wellpath | | | | | | | | | |
|------------------|----------|----------|---------|-----------|----------|--------------------|----------------------|------------|------------|
| MD[ft] | Inc[deg] | Azi[deg] | TVD[ft] | North[ft] | East[ft] | Dogleg [deg/100ft] | Vertical Section[ft] | Northing | Easting |
| 15.00 | 0.00 | 0.000 | 15.00 | 0.00N | 0.00E | | 0.00 | 1223134.90 | 3183400.00 |
| 1300.00 | 0.00 | 0.000 | 1300.00 | 0.00N | 0.00E | ==> | 0.00 | 1223134.90 | 3183400.00 |
| 1644.92 | 6.90 | 121.830 | 1644.08 | 10.94S | 17.62E | 2.00 | -8.51 | 1223123.96 | 3183417.62 |
| 7206.63 | 6.90 | 121.830 | 7165.53 | 363.22S | 585.18E | ==> | -282.51 | 1222771.69 | 3183985.16 |
| 8146.78 | 90.34 | 359.580 | 7772.00 | 212.40N | 643.35E | 10.00 | 295.74 | 1223347.30 | 3184043.32 |
| 12507.33 | 90.34 | 359.580 | 7746.00 | 4572.76N | 611.07E | ==> | 4613.40 | 1227707.52 | 3184011.05 |

| Interpolated Wellpath | | | | | | | | | |
|-----------------------|----------|----------|---------|-----------|----------|--------------------|----------------------|------------|------------|
| MD[ft] | Inc[deg] | Azi[deg] | TVD[ft] | North[ft] | East[ft] | Dogleg [deg/100ft] | Vertical Section[ft] | Northing | Easting |
| 0.00 | 0.00 | 0.000 | 0.00 | 0.00N | 0.00E | | 0.00 | 1223134.90 | 3183400.00 |
| 15.00 | 0.00 | 0.000 | 15.00 | 0.00N | 0.00E | ==> | 0.00 | 1223134.90 | 3183400.00 |
| 100.00 | 0.00 | 0.000 | 100.00 | 0.00N | 0.00E | ==> | 0.00 | 1223134.90 | 3183400.00 |
| 200.00 | 0.00 | 0.000 | 200.00 | 0.00N | 0.00E | ==> | 0.00 | 1223134.90 | 3183400.00 |
| 300.00 | 0.00 | 0.000 | 300.00 | 0.00N | 0.00E | ==> | 0.00 | 1223134.90 | 3183400.00 |
| 400.00 | 0.00 | 0.000 | 400.00 | 0.00N | 0.00E | ==> | 0.00 | 1223134.90 | 3183400.00 |
| 500.00 | 0.00 | 0.000 | 500.00 | 0.00N | 0.00E | ==> | 0.00 | 1223134.90 | 3183400.00 |
| 600.00 | 0.00 | 0.000 | 600.00 | 0.00N | 0.00E | ==> | 0.00 | 1223134.90 | 3183400.00 |
| 700.00 | 0.00 | 0.000 | 700.00 | 0.00N | 0.00E | ==> | 0.00 | 1223134.90 | 3183400.00 |
| 800.00 | 0.00 | 0.000 | 800.00 | 0.00N | 0.00E | ==> | 0.00 | 1223134.90 | 3183400.00 |
| 900.00 | 0.00 | 0.000 | 900.00 | 0.00N | 0.00E | ==> | 0.00 | 1223134.90 | 3183400.00 |
| 1000.00 | 0.00 | 0.000 | 1000.00 | 0.00N | 0.00E | ==> | 0.00 | 1223134.90 | 3183400.00 |
| 1100.00 | 0.00 | 0.000 | 1100.00 | 0.00N | 0.00E | ==> | 0.00 | 1223134.90 | 3183400.00 |
| 1200.00 | 0.00 | 0.000 | 1200.00 | 0.00N | 0.00E | ==> | 0.00 | 1223134.90 | 3183400.00 |
| 1285.00 | 0.00 | 0.000 | 1285.00 | 0.00N | 0.00E | ==> | 0.00 | 1223134.90 | 3183400.00 |
| 1300.00 | 0.00 | 0.000 | 1300.00 | 0.00N | 0.00E | ==> | 0.00 | 1223134.90 | 3183400.00 |
| 1385.00 | 1.70 | 121.830 | 1384.99 | 0.66S | 1.07E | 2.00 | -0.52 | 1223134.24 | 3183401.07 |
| 1485.00 | 3.70 | 121.830 | 1484.87 | 3.15S | 5.07E | 2.00 | -2.45 | 1223131.75 | 3183405.07 |
| 1585.00 | 5.70 | 121.830 | 1584.53 | 7.47S | 12.03E | 2.00 | -5.81 | 1223127.43 | 3183412.03 |
| 1644.92 | 6.90 | 121.830 | 1644.08 | 10.94S | 17.62E | 2.00 | -8.51 | 1223123.96 | 3183417.62 |
| 1700.00 | 6.90 | 121.830 | 1698.77 | 14.43S | 23.24E | ==> | -11.22 | 1223120.48 | 3183423.24 |
| 1800.00 | 6.90 | 121.830 | 1798.04 | 20.76S | 33.45E | ==> | -16.15 | 1223114.14 | 3183433.44 |
| 1900.00 | 6.90 | 121.830 | 1897.32 | 27.09S | 43.65E | ==> | -21.07 | 1223107.81 | 3183443.65 |
| 2000.00 | 6.90 | 121.830 | 1996.60 | 33.43S | 53.86E | ==> | -26.00 | 1223101.47 | 3183453.85 |
| 2100.00 | 6.90 | 121.830 | 2095.87 | 39.76S | 64.06E | ==> | -30.93 | 1223095.14 | 3183464.06 |
| 2200.00 | 6.90 | 121.830 | 2195.15 | 46.10S | 74.27E | ==> | -35.85 | 1223088.81 | 3183474.26 |
| 2300.00 | 6.90 | 121.830 | 2294.43 | 52.43S | 84.47E | ==> | -40.78 | 1223082.47 | 3183484.46 |
| 2400.00 | 6.90 | 121.830 | 2393.70 | 58.76S | 94.67E | ==> | -45.71 | 1223076.14 | 3183494.67 |
| 2500.00 | 6.90 | 121.830 | 2492.98 | 65.10S | 104.88E | ==> | -50.63 | 1223069.80 | 3183504.87 |
| 2600.00 | 6.90 | 121.830 | 2592.25 | 71.43S | 115.08E | ==> | -55.56 | 1223063.47 | 3183515.08 |
| 2700.00 | 6.90 | 121.830 | 2691.53 | 77.77S | 125.29E | ==> | -60.49 | 1223057.14 | 3183525.28 |
| 2800.00 | 6.90 | 121.830 | 2790.81 | 84.10S | 135.49E | ==> | -65.41 | 1223050.80 | 3183535.49 |
| 2900.00 | 6.90 | 121.830 | 2890.08 | 90.44S | 145.70E | ==> | -70.34 | 1223044.47 | 3183545.69 |
| 3000.00 | 6.90 | 121.830 | 2989.36 | 96.77S | 155.90E | ==> | -75.27 | 1223038.13 | 3183555.90 |
| 3100.00 | 6.90 | 121.830 | 3088.63 | 103.10S | 166.11E | ==> | -80.19 | 1223031.80 | 3183566.10 |
| 3200.00 | 6.90 | 121.830 | 3187.91 | 109.44S | 176.31E | ==> | -85.12 | 1223025.47 | 3183576.30 |
| 3300.00 | 6.90 | 121.830 | 3287.19 | 115.77S | 186.52E | ==> | -90.05 | 1223019.13 | 3183586.51 |
| 3400.00 | 6.90 | 121.830 | 3386.46 | 122.11S | 196.72E | ==> | -94.97 | 1223012.80 | 3183596.71 |

All data is in Feet unless otherwise stated
Coordinates are from Slot MD's are from Rig and TVD's are from Rig (Planned Datum #1 5034.0ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 7.610 degrees
Bottom hole distance is 4613.40 Feet on azimuth 7.61 degrees from Wellhead
Calculation method uses Minimum Curvature method
Prepared by Integrated Petroleum Technologies, Inc.
Date Printed: 10-Dec-2013



INTEGRATED PETROLEUM TECHNOLOGIES, INC
SYSDRILL

Well Design Combined Report
Wellbore: Sharp #24-3-11HC (PWB)

| Interpolated Wellpath | | | | | | | | | |
|-----------------------|----------|----------|---------|-----------|----------|-----------------------|-------------------------|------------|------------|
| MD[ft] | Inc[deg] | Azi[deg] | TVD[ft] | North[ft] | East[ft] | Dogleg [deg/100ft] | Vertical Section[ft] | Northing | Easting |
| 3500.00 | 6.90 | 121.830 | 3485.74 | 128.44S | 206.93E | ==> | -99.90 | 1223006.46 | 3183606.92 |
| 3600.00 | 6.90 | 121.830 | 3585.01 | 134.77S | 217.13E | ==> | -104.83 | 1223000.13 | 3183617.12 |
| 3700.00 | 6.90 | 121.830 | 3684.29 | 141.11S | 227.34E | ==> | -109.75 | 1222993.80 | 3183627.33 |
| 3800.00 | 6.90 | 121.830 | 3783.57 | 147.44S | 237.54E | ==> | -114.68 | 1222987.46 | 3183637.53 |
| 3900.00 | 6.90 | 121.830 | 3882.84 | 153.78S | 247.75E | ==> | -119.61 | 1222981.13 | 3183647.74 |
| 4000.00 | 6.90 | 121.830 | 3982.12 | 160.11S | 257.95E | ==> | -124.53 | 1222974.80 | 3183657.94 |
| 4100.00 | 6.90 | 121.830 | 4081.39 | 166.45S | 268.16E | ==> | -129.46 | 1222968.46 | 3183668.14 |
| 4200.00 | 6.90 | 121.830 | 4180.67 | 172.78S | 278.36E | ==> | -134.39 | 1222962.13 | 3183678.35 |
| 4300.00 | 6.90 | 121.830 | 4279.95 | 179.11S | 288.57E | ==> | -139.31 | 1222955.79 | 3183688.55 |
| 4400.00 | 6.90 | 121.830 | 4379.22 | 185.45S | 298.77E | ==> | -144.24 | 1222949.46 | 3183698.76 |
| 4500.00 | 6.90 | 121.830 | 4478.50 | 191.78S | 308.97E | ==> | -149.17 | 1222943.13 | 3183708.96 |
| 4600.00 | 6.90 | 121.830 | 4577.78 | 198.12S | 319.18E | ==> | -154.09 | 1222936.79 | 3183719.17 |
| 4700.00 | 6.90 | 121.830 | 4677.05 | 204.45S | 329.38E | ==> | -159.02 | 1222930.46 | 3183729.37 |
| 4800.00 | 6.90 | 121.830 | 4776.33 | 210.78S | 339.59E | ==> | -163.95 | 1222924.12 | 3183739.58 |
| 4900.00 | 6.90 | 121.830 | 4875.60 | 217.12S | 349.79E | ==> | -168.87 | 1222917.79 | 3183749.78 |
| 5000.00 | 6.90 | 121.830 | 4974.88 | 223.45S | 360.00E | ==> | -173.80 | 1222911.46 | 3183759.98 |
| 5100.00 | 6.90 | 121.830 | 5074.16 | 229.79S | 370.20E | ==> | -178.73 | 1222905.12 | 3183770.19 |
| 5200.00 | 6.90 | 121.830 | 5173.43 | 236.12S | 380.41E | ==> | -183.65 | 1222898.79 | 3183780.39 |
| 5300.00 | 6.90 | 121.830 | 5272.71 | 242.45S | 390.61E | ==> | -188.58 | 1222892.45 | 3183790.60 |
| 5400.00 | 6.90 | 121.830 | 5371.98 | 248.79S | 400.82E | ==> | -193.51 | 1222886.12 | 3183800.80 |
| 5500.00 | 6.90 | 121.830 | 5471.26 | 255.12S | 411.02E | ==> | -198.43 | 1222879.79 | 3183811.01 |
| 5600.00 | 6.90 | 121.830 | 5570.54 | 261.46S | 421.23E | ==> | -203.36 | 1222873.45 | 3183821.21 |
| 5700.00 | 6.90 | 121.830 | 5669.81 | 267.79S | 431.43E | ==> | -208.29 | 1222867.12 | 3183831.42 |
| 5800.00 | 6.90 | 121.830 | 5769.09 | 274.13S | 441.64E | ==> | -213.21 | 1222860.78 | 3183841.62 |
| 5900.00 | 6.90 | 121.830 | 5868.36 | 280.46S | 451.84E | ==> | -218.14 | 1222854.45 | 3183851.82 |
| 6000.00 | 6.90 | 121.830 | 5967.64 | 286.79S | 462.05E | ==> | -223.07 | 1222848.12 | 3183862.03 |
| 6100.00 | 6.90 | 121.830 | 6066.92 | 293.13S | 472.25E | ==> | -227.99 | 1222841.78 | 3183872.23 |
| 6200.00 | 6.90 | 121.830 | 6166.19 | 299.46S | 482.46E | ==> | -232.92 | 1222835.45 | 3183882.44 |
| 6300.00 | 6.90 | 121.830 | 6265.47 | 305.80S | 492.66E | ==> | -237.85 | 1222829.11 | 3183892.64 |
| 6400.00 | 6.90 | 121.830 | 6364.74 | 312.13S | 502.87E | ==> | -242.77 | 1222822.78 | 3183902.85 |
| 6500.00 | 6.90 | 121.830 | 6464.02 | 318.46S | 513.07E | ==> | -247.70 | 1222816.45 | 3183913.05 |
| 6600.00 | 6.90 | 121.830 | 6563.30 | 324.80S | 523.28E | ==> | -252.63 | 1222810.11 | 3183923.26 |
| 6700.00 | 6.90 | 121.830 | 6662.57 | 331.13S | 533.48E | ==> | -257.55 | 1222803.78 | 3183933.46 |
| 6800.00 | 6.90 | 121.830 | 6761.85 | 337.47S | 543.68E | ==> | -262.48 | 1222797.44 | 3183943.66 |
| 6900.00 | 6.90 | 121.830 | 6861.13 | 343.80S | 553.89E | ==> | -267.41 | 1222791.11 | 3183953.87 |
| 7000.00 | 6.90 | 121.830 | 6960.40 | 350.14S | 564.09E | ==> | -272.33 | 1222784.78 | 3183964.07 |
| 7100.00 | 6.90 | 121.830 | 7059.68 | 356.47S | 574.30E | ==> | -277.26 | 1222778.44 | 3183974.28 |
| 7200.00 | 6.90 | 121.830 | 7158.95 | 362.80S | 584.50E | ==> | -282.19 | 1222772.11 | 3183984.48 |
| 7206.63 | 6.90 | 121.830 | 7165.53 | 363.22S | 585.18E | ==> | -282.51 | 1222771.69 | 3183985.16 |
| 7300.00 | 8.13 | 45.360 | 7258.30 | 361.54S | 594.66E | 10.00 | -279.58 | 1222773.38 | 3183994.64 |
| 7400.00 | 16.69 | 19.570 | 7355.94 | 342.98S | 604.53E | 10.00 | -259.89 | 1222791.93 | 3184004.51 |
| 7500.00 | 26.28 | 11.570 | 7448.90 | 307.67S | 613.81E | 10.00 | -223.66 | 1222827.24 | 3184013.79 |
| 7600.00 | 36.08 | 7.690 | 7534.36 | 256.68S | 622.21E | 10.00 | -172.00 | 1222878.23 | 3184022.19 |
| 7700.00 | 45.96 | 5.290 | 7609.72 | 191.54S | 629.48E | 10.00 | -106.48 | 1222943.36 | 3184029.46 |
| 7800.00 | 55.87 | 3.590 | 7672.70 | 114.25S | 635.40E | 10.00 | -29.08 | 1223020.65 | 3184035.38 |
| 7900.00 | 65.80 | 2.250 | 7721.37 | 27.15S | 639.79E | 10.00 | 57.83 | 1223107.75 | 3184039.77 |
| 8000.00 | 75.74 | 1.100 | 7754.27 | 67.11N | 642.52E | 10.00 | 151.62 | 1223202.01 | 3184042.50 |
| 8100.00 | 85.69 | 0.050 | 7770.38 | 165.67N | 643.50E | 10.00 | 249.44 | 1223300.56 | 3184043.48 |
| 8146.78 | 90.34 | 359.580 | 7772.00 | 212.40N | 643.35E | 10.00 | 295.74 | 1223347.30 | 3184043.32 |
| 8200.00 | 90.34 | 359.580 | 7771.68 | 265.62N | 642.95E | ==> | 348.45 | 1223400.52 | 3184042.93 |
| 8300.00 | 90.34 | 359.580 | 7771.09 | 365.62N | 642.21E | ==> | 447.46 | 1223500.51 | 3184042.19 |
| 8400.00 | 90.34 | 359.580 | 7770.49 | 465.61N | 641.47E | ==> | 546.48 | 1223600.50 | 3184041.45 |
| 8500.00 | 90.34 | 359.580 | 7769.89 | 565.61N | 640.73E | ==> | 645.50 | 1223700.49 | 3184040.71 |
| 8600.00 | 90.34 | 359.580 | 7769.30 | 665.61N | 639.99E | ==> | 744.51 | 1223800.49 | 3184039.97 |
| 8700.00 | 90.34 | 359.580 | 7768.70 | 765.60N | 639.25E | ==> | 843.53 | 1223900.48 | 3184039.23 |
| 8800.00 | 90.34 | 359.580 | 7768.11 | 865.60N | 638.51E | ==> | 942.54 | 1224000.47 | 3184038.49 |
| 8900.00 | 90.34 | 359.580 | 7767.51 | 965.59N | 637.77E | ==> | 1041.56 | 1224100.46 | 3184037.75 |
| 9000.00 | 90.34 | 359.580 | 7766.91 | 1065.59N | 637.03E | ==> | 1140.58 | 1224200.46 | 3184037.01 |
| 9100.00 | 90.34 | 359.580 | 7766.32 | 1165.58N | 636.29E | ==> | 1239.59 | 1224300.45 | 3184036.27 |
| 9200.00 | 90.34 | 359.580 | 7765.72 | 1265.58N | 635.55E | ==> | 1338.61 | 1224400.44 | 3184035.53 |
| 9300.00 | 90.34 | 359.580 | 7765.12 | 1365.57N | 634.81E | ==> | 1437.63 | 1224500.43 | 3184034.79 |

All data is in Feet unless otherwise stated
Coordinates are from Slot MD's are from Rig and TVD's are from Rig (Planned Datum #1 5034.0ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 7.610 degrees
Bottom hole distance is 4613.40 Feet on azimuth 7.61 degrees from Wellhead
Calculation method uses Minimum Curvature method
Prepared by Integrated Petroleum Technologies, Inc.
Date Printed: 10-Dec-2013



INTEGRATED PETROLEUM TECHNOLOGIES, INC
SYSDRILL
Well Design Combined Report
Wellbore: Sharp #24-3-11HC (PWB)

| Interpolated Wellpath | | | | | | | | | |
|-----------------------|----------|----------|---------|-----------|----------|------------------------------|-------------------------|------------|------------|
| MD[ft] | Inc[deg] | Azi[deg] | TVD[ft] | North[ft] | East[ft] | Dogleg [deg/100ft] ==> | Vertical Section[ft] | Northing | Easting |
| 9400.00 | 90.34 | 359.580 | 7764.53 | 1465.57N | 634.07E | | 1536.64 | 1224600.43 | 3184034.05 |
| 9500.00 | 90.34 | 359.580 | 7763.93 | 1565.57N | 633.33E | ==> | 1635.66 | 1224700.42 | 3184033.31 |
| 9600.00 | 90.34 | 359.580 | 7763.34 | 1665.56N | 632.59E | ==> | 1734.68 | 1224800.41 | 3184032.57 |
| 9700.00 | 90.34 | 359.580 | 7762.74 | 1765.56N | 631.85E | ==> | 1833.69 | 1224900.40 | 3184031.83 |
| 9800.00 | 90.34 | 359.580 | 7762.14 | 1865.55N | 631.11E | ==> | 1932.71 | 1225000.40 | 3184031.09 |
| 9900.00 | 90.34 | 359.580 | 7761.55 | 1965.55N | 630.37E | ==> | 2031.72 | 1225100.39 | 3184030.35 |
| 10000.00 | 90.34 | 359.580 | 7760.95 | 2065.54N | 629.63E | ==> | 2130.74 | 1225200.38 | 3184029.61 |
| 10100.00 | 90.34 | 359.580 | 7760.35 | 2165.54N | 628.89E | ==> | 2229.76 | 1225300.37 | 3184028.87 |
| 10200.00 | 90.34 | 359.580 | 7759.76 | 2265.53N | 628.15E | ==> | 2328.77 | 1225400.36 | 3184028.13 |
| 10300.00 | 90.34 | 359.580 | 7759.16 | 2365.53N | 627.41E | ==> | 2427.79 | 1225500.36 | 3184027.39 |
| 10400.00 | 90.34 | 359.580 | 7758.57 | 2465.52N | 626.67E | ==> | 2526.81 | 1225600.35 | 3184026.65 |
| 10500.00 | 90.34 | 359.580 | 7757.97 | 2565.52N | 625.93E | ==> | 2625.82 | 1225700.34 | 3184025.91 |
| 10600.00 | 90.34 | 359.580 | 7757.37 | 2665.52N | 625.19E | ==> | 2724.84 | 1225800.33 | 3184025.17 |
| 10700.00 | 90.34 | 359.580 | 7756.78 | 2765.51N | 624.45E | ==> | 2823.86 | 1225900.33 | 3184024.43 |
| 10800.00 | 90.34 | 359.580 | 7756.18 | 2865.51N | 623.71E | ==> | 2922.87 | 1226000.32 | 3184023.69 |
| 10900.00 | 90.34 | 359.580 | 7755.58 | 2965.50N | 622.97E | ==> | 3021.89 | 1226100.31 | 3184022.94 |
| 11000.00 | 90.34 | 359.580 | 7754.99 | 3065.50N | 622.23E | ==> | 3120.90 | 1226200.30 | 3184022.20 |
| 11100.00 | 90.34 | 359.580 | 7754.39 | 3165.49N | 621.49E | ==> | 3219.92 | 1226300.30 | 3184021.46 |
| 11200.00 | 90.34 | 359.580 | 7753.79 | 3265.49N | 620.75E | ==> | 3318.94 | 1226400.29 | 3184020.72 |
| 11300.00 | 90.34 | 359.580 | 7753.20 | 3365.48N | 620.01E | ==> | 3417.95 | 1226500.28 | 3184019.98 |
| 11400.00 | 90.34 | 359.580 | 7752.60 | 3465.48N | 619.27E | ==> | 3516.97 | 1226600.27 | 3184019.24 |
| 11500.00 | 90.34 | 359.580 | 7752.01 | 3565.47N | 618.53E | ==> | 3615.99 | 1226700.27 | 3184018.50 |
| 11600.00 | 90.34 | 359.580 | 7751.41 | 3665.47N | 617.79E | ==> | 3715.00 | 1226800.26 | 3184017.76 |
| 11700.00 | 90.34 | 359.580 | 7750.81 | 3765.47N | 617.05E | ==> | 3814.02 | 1226900.25 | 3184017.02 |
| 11800.00 | 90.34 | 359.580 | 7750.22 | 3865.46N | 616.31E | ==> | 3913.04 | 1227000.24 | 3184016.28 |
| 11900.00 | 90.34 | 359.580 | 7749.62 | 3965.46N | 615.57E | ==> | 4012.05 | 1227100.24 | 3184015.54 |
| 12000.00 | 90.34 | 359.580 | 7749.02 | 4065.45N | 614.82E | ==> | 4111.07 | 1227200.23 | 3184014.80 |
| 12100.00 | 90.34 | 359.580 | 7748.43 | 4165.45N | 614.08E | ==> | 4210.08 | 1227300.22 | 3184014.06 |
| 12200.00 | 90.34 | 359.580 | 7747.83 | 4265.44N | 613.34E | ==> | 4309.10 | 1227400.21 | 3184013.32 |
| 12300.00 | 90.34 | 359.580 | 7747.24 | 4365.44N | 612.60E | ==> | 4408.12 | 1227500.20 | 3184012.58 |
| 12400.00 | 90.34 | 359.580 | 7746.64 | 4465.43N | 611.86E | ==> | 4507.13 | 1227600.20 | 3184011.84 |
| 12500.00 | 90.34 | 359.580 | 7746.04 | 4565.43N | 611.12E | ==> | 4606.15 | 1227700.19 | 3184011.10 |
| 12507.33 | 90.34 | 359.580 | 7746.00 | 4572.76N | 611.07E | ==> | 4613.40 | 1227707.52 | 3184011.05 |

All data is in Feet unless otherwise stated
Coordinates are from Slot MD's are from Rig and TVD's are from Rig (Planned Datum #1 5034.0ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 7.610 degrees
Bottom hole distance is 4613.40 Feet on azimuth 7.61 degrees from Wellhead
Calculation method uses Minimum Curvature method
Prepared by Integrated Petroleum Technologies, Inc.
Date Printed: 10-Dec-2013



INTEGRATED PETROLEUM TECHNOLOGIES, INC
SYSDRILL
Well Design Combined Report
Wellbore: Sharp #24-3-11HC (PWB)

| Hole Sections | | | | | | | | |
|------------------|-----------------|------------------|--------------------|-------------------|---------------|----------------|------------------|-----------------|
| Diameter [in] | Start MD[ft] | Start TVD[ft] | Start North[ft] | Start East[ft] | End MD[ft] | End TVD[ft] | End North[ft] | End East[ft] |
| 13 1/2 | 15.00 | 15.00 | 0.00N | 0.00E | 1200.00 | 1200.00 | 0.00N | 0.00E |
| 8 3/4 | 1200.00 | 1200.00 | 0.00N | 0.00E | 8146.00 | 7772.00 | 211.63N | 643.35E |
| 6 1/8 | 8146.00 | 7772.00 | 211.63N | 643.35E | 12507.33 | 7746.00 | 4572.76N | 611.07E |

| Casings | | | | | | | | |
|---------------------------|---------------|----------------|------------------|-----------------|----------------|-----------------|-------------------|------------------|
| Name | Top MD[ft] | Top TVD[ft] | Top North[ft] | Top East[ft] | Shoe MD[ft] | Shoe TVD[ft] | Shoe North[ft] | Shoe East[ft] |
| 9 5/8in Surface Casing | 15.00 | 15.00 | 0.00N | 0.00E | 1200.00 | 1200.00 | 0.00N | 0.00E |
| 7.0in Intermediate Casing | 15.00 | 15.00 | 0.00N | 0.00E | 8146.00 | 7772.00 | 211.63N | 643.35E |
| 4 1/2in Production Liner | 7206.00 | 7164.91 | 363.18S | 585.12E | 12507.33 | 7746.00 | 4572.76N | 611.07E |

| Targets | | | | | | | | |
|--------------------------|-----------|----------|---------|-------------|---------------|------------|------------|--------------|
| Name | North[ft] | East[ft] | TVD[ft] | Latitude | Longitude | Northing | Easting | Last Revised |
| Sharp #24-3-11HC Heel | 4572.76N | 611.07E | 7746.00 | 39.95657000 | -104.84359000 | 1227707.52 | 3184011.05 | 27-Nov-2013 |
| Sharp #24-3-11HC Heel | 212.40N | 643.35E | 7772.00 | 39.94460000 | -104.84359000 | 1223347.30 | 3184043.32 | 27-Nov-2013 |

| Survey Tool Program | | | | | |
|---------------------|-------------|----------|---------|---------------|-------------|
| Reference | Survey Name | MD[ft] | TVD[ft] | Survey Tool | Error Model |
| 141612 | Planned | 12507.33 | 7746.00 | WdW Rate Gyro | Standard |

| Notes |
|-------|
| |



SYSDRILL
Closest Approach + Clearance Factor Summary Report
Wellbore: Sharp #24-3-11HC (PWB)

Ellipse separations are reported ONLY if BOTH wells have uncertainty data
Only Depth and Magnetic Reference Field error terms are correlated across tie points
Proximities beyond 2500.00ft with expansion rate of 0.00ft/1000ft are not reported
Scan limit is calculated on CENTRE to CENTRE distance

Summary data uses Closest Approach clearance calculation for all minima
Hole size/Casings ARE included
Hole size/Casings are NOT subtracted from Centre-Centre distance
Confidence limit of 95.00% / 2.80 SD.

| Wellbore | | | |
|------------------------|------------|--------------|--|
| Name | Created | Last Revised | |
| Sharp #24-3-11HC (PWB) | 5-Dec-2013 | 10-Dec-2013 | |

| Well | | |
|------------------|---------------|--------------|
| Name | Government ID | Last Revised |
| Sharp #24-3-11HC | | 10-Dec-2013 |

| Slot | | | | | | |
|---------|---------------|--------------|-------------|---------------|--------|--------|
| Name | Grid Northing | Grid Easting | Latitude | Longitude | North | East |
| Slot #8 | 1223134.9013 | 3183399.9969 | 39.94403000 | -104.84589000 | 14.41S | 22.54E |

| Installation | | | | |
|--------------|--------------|--------------|------------------------|-----------------|
| Name | Easting | Northing | Coord System Name | North Alignment |
| Sharp Pad | 3183377.4593 | 1223149.3063 | CO83-NF on NAD83 datum | Grid |

| Field | | | | |
|---------------|--------------|--------------|------------------------|-----------------|
| Name | Easting | Northing | Coord System Name | North Alignment |
| West Brighton | 3178196.4983 | 1231661.3262 | CO83-NF on NAD83 datum | Grid |

| Clearance Summary | | | | | | | | | | |
|---------------------|---------------------------|-------------------|------------------|-----------------|---------|--------------------|-------------------------|----------------|------------------|------------------|
| Offset WellName | Offset Wellbore | Offset Slot | Offset Structure | Separation [ft] | MD[ft] | Diverging From[ft] | Ellipse Separation [ft] | Ellipse MD[ft] | Clearance Factor | Clearance MD[ft] |
| W #7 | W #7 (PWB) | Slot #7 | Sharp Pad | 13.88 | 1327.34 | 8184.29 | 11.12 | 1343.74 | 4.89 | 1196.10 |
| W #2 | W #2 (PWB) | Slot #2 | Sharp Pad | 14.85 | 1400.00 | 7482.20 | 8.92 | 7478.91 | 1.60 | 7478.91 |
| W #9 | W #9 (PWB) | Slot #9 | Sharp Pad | 16.82 | 1250.00 | 12507.33 | 13.96 | 1196.10 | 5.87 | 1196.10 |
| W #3 | W #3 (PWB) | Slot #3 | Sharp Pad | 16.83 | 1275.00 | 7635.47 | 13.96 | 1196.10 | 5.87 | 1196.10 |
| W #1 | W #1 (PWB) | Slot #1 | Sharp Pad | 22.34 | 1425.76 | 7580.35 | 19.41 | 1425.76 | 7.55 | 1458.57 |
| W #4 | W #4 (PWB) | Slot #4 | Sharp Pad | 26.75 | 1200.00 | 1200.00 | 23.88 | 1200.00 | 9.31 | 1200.00 |
| W #6 | W #6 (PWB) | Slot #6 | Sharp Pad | 28.04 | 1250.00 | 1250.00 | 25.17 | 1196.10 | 9.78 | 1196.10 |
| Sharp #24-3-9HC | Sharp #24-3-9HC (PWB) | Slot #10 | Sharp Pad | 30.84 | 1200.00 | 12503.66 | 27.97 | 1200.00 | 10.54 | 12507.33 |
| W #5 | W #5 (PWB) | Slot #5 | Sharp Pad | 44.86 | 1200.00 | 1200.00 | 41.99 | 1200.00 | 15.62 | 1200.00 |
| W Adams Aggregate 1 | W Adams Aggregate 1 (AWB) | Adams Aggregate 1 | Offsets | 2239.23 | 1300.00 | 1300.00 | 2229.52 | 1310.93 | 139.88 | 3935.60 |