

Great Western Operating Company, LLC

Location

Field

Installation

Colorado

Wattenburg

Schneider - South

Slot 11 - Schneider HD 11-369HC

Well Schneider HD 11-369HC

Wellbore Schneider HD 11-369HC (AWB)

Created by: admin

Date plotted: 25-Apr-2018

Plot reference is Schneider HD 11-369HC (AWB).

Ref wellpath is Schneider HD 11-369HC (AWP#1).

Coordinates are in Feet reference Slot 11 - Schneider HD 11-369HC.

True Vertical Depths are reference Rig Datum.

Measured Depths are reference Rig Datum.

Rig Datum: Actual Datum #1

Rig Datum to Mean Sea Level: 4751.30 ft.

Plot North is aligned to TRUE North.

East (Feet) ->

Scale 1 cm = 400 ft

E

N

TRUE

IGRF Model [1900.0-2020.0] Dip: 66.86 deg Field: 52652.2 nT
Lat: N40 19 21.9792 Long: W104 49 43.4100 Elev: 4735.10 ft
Magnetic North is 6.55 deg East of TRUE North
To correct azimuth from Magnetic to TRUE add 6.55 deg

Jul-22-2014

<- True Vertical Depth (Feet)

Scale 1 cm = 400 ft

7200

6400

5600

4800

4000

3200

2400

1600

800

0

-800

-1600

9.625" Csg: 1445 MD/TVD

460 Setback: 7728 / 7234 MD/TVD, 479 FSL, 460 FEL Sec 12
Top Perf: 7838 / 7230 MD/TVD, 480 FSL, 570 FEL Sec 12

Btm perf: 14,588 / 7179 MD/TVD, 479 FSL, 2057 FEL Sec 11
Btm Toe Sub: 14,620 / 7179 MD/TVD, 479 FSL, 2089 FEL Sec 11
PBTD: 14,660 / 7180 MD/TVD, 478 FSL, 2129 FEL Sec 11

BHL: 14,700 / 7180 MD/TVD, 477 FSL, 2169 FEL Sec 11
5.5" Csg: 14,700 / 7180 MD/TVD, 477 FSL, 2169 FEL Sec 11

Scale 1 cm = 400 ft

Vertical Section (Feet) ->

Azimuth 265.21 with reference 0.00 N, 0.00 E from Slot 11 - Schneider HD 11-369HC

Great Western Operating Co, LLC
Wellbore Survey Report
Wellpath: Schneider HD 11-369HC (AWP#1)
MDs and TVDs are from Rig (Actual Datum #1 4751.3ft above Mean Sea Level)

Wellbore Information

Date Created	Date Revised	API #	Name
Mar-31-2016	Apr-25-2018	05-123-41746	Schneider HD 11-369HC (AWB)

Slot Coordinates

Latitude	Longitude
40.32236103	-104.82871794

Pad Information

Name	Ground Elev
Schneider - South	4735.10

Field

Name
Wattenburg

Wellpath Report

MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]
0.00	0.00	0.000	0.00	0.00	0.00		0.00
137.00	0.82	111.780	137.00	-0.36	0.91	0.60	-0.88
139.00	0.39	149.800	139.00	-0.37	0.93	28.31	-0.89
229.00	0.92	99.420	228.99	-0.76	1.79	0.82	-1.72
231.00	0.57	195.530	230.99	-0.77	1.81	56.63	-1.74
322.00	0.40	234.740	321.99	-1.39	1.43	0.40	-1.31
330.00	1.36	66.880	329.99	-1.37	1.49	21.91	-1.37
441.00	2.46	35.750	440.93	1.08	4.09	1.33	-4.17
531.00	1.18	4.200	530.88	3.57	5.29	1.76	-5.57
621.00	0.87	244.050	620.87	4.20	4.74	1.98	-5.08
711.00	2.15	244.580	710.84	3.18	2.61	1.42	-2.86
802.00	2.30	252.310	801.77	1.89	-0.68	0.37	0.52
892.00	1.50	255.010	891.72	1.03	-3.53	0.89	3.44
982.00	1.14	252.580	981.70	0.46	-5.53	0.40	5.47
1072.00	1.53	244.750	1071.67	-0.32	-7.47	0.48	7.47
1163.00	1.58	225.860	1162.64	-1.71	-9.47	0.56	9.58
1253.00	1.27	227.180	1252.61	-3.25	-11.09	0.35	11.32
1343.00	0.92	102.550	1342.60	-4.09	-11.12	2.16	11.42
1389.00	1.23	98.420	1388.59	-4.24	-10.27	0.69	10.58
1400.00	1.23	98.420	1399.59	-4.27	-10.03	==>	10.35
1445.20	0.67	101.320	1444.79	-4.40	-9.29	1.24	9.63
1503.00	0.09	219.190	1502.58	-4.50	-8.99	1.24	9.33
1591.00	0.06	350.030	1590.58	-4.51	-9.04	0.16	9.39
1677.00	0.22	296.260	1676.58	-4.39	-9.20	0.22	9.53
1763.00	0.17	74.940	1762.58	-4.28	-9.22	0.42	9.55
1850.00	0.09	130.940	1849.58	-4.30	-9.05	0.16	9.37
1937.00	0.06	319.470	1936.58	-4.31	-9.02	0.17	9.35
2025.00	0.16	103.710	2024.58	-4.30	-8.93	0.24	9.26
2112.00	0.00	98.580	2111.58	-4.33	-8.82	0.18	9.15
2200.00	0.09	195.490	2199.58	-4.39	-8.84	0.10	9.17
2287.00	0.09	158.610	2286.58	-4.52	-8.83	0.07	9.18
2374.00	0.06	278.490	2373.58	-4.58	-8.85	0.15	9.20
2461.00	0.07	78.320	2460.58	-4.56	-8.84	0.15	9.19
2549.00	0.04	61.800	2548.58	-4.54	-8.76	0.04	9.11
2636.00	0.04	224.940	2635.58	-4.55	-8.76	0.09	9.11
2724.00	0.09	81.870	2723.58	-4.56	-8.71	0.14	9.06
2812.00	0.07	78.580	2811.58	-4.54	-8.59	0.02	8.94
2900.00	0.06	106.130	2899.58	-4.54	-8.49	0.04	8.84
2988.00	0.07	88.050	2987.58	-4.55	-8.39	0.03	8.74
3076.00	0.04	343.540	3075.58	-4.52	-8.35	0.10	8.70
3164.00	0.13	32.510	3163.58	-4.41	-8.30	0.12	8.64
3251.00	0.25	59.940	3250.58	-4.23	-8.09	0.17	8.41
3338.00	0.19	32.290	3337.58	-4.01	-7.85	0.14	8.15
3426.00	0.03	17.280	3425.58	-3.86	-7.76	0.18	8.06
3514.00	0.23	12.090	3513.58	-3.67	-7.72	0.23	8.00
3602.00	0.04	54.220	3601.58	-3.48	-7.65	0.23	7.92
3689.00	0.07	229.840	3688.58	-3.50	-7.67	0.13	7.94
3779.00	0.15	215.770	3778.58	-3.63	-7.78	0.09	8.06
3866.00	0.14	99.530	3865.58	-3.74	-7.74	0.28	8.03
3954.00	0.23	168.590	3953.58	-3.93	-7.60	0.25	7.90
4041.00	0.25	230.350	4040.58	-4.22	-7.71	0.28	8.04
4128.00	0.11	277.830	4127.58	-4.33	-7.94	0.22	8.28
4216.00	0.13	215.030	4215.58	-4.40	-8.08	0.14	8.42
4303.00	0.10	165.240	4302.58	-4.55	-8.12	0.12	8.47
4391.00	0.07	202.180	4390.58	-4.68	-8.12	0.07	8.48
4478.00	0.07	133.190	4477.58	-4.76	-8.10	0.09	8.47
4566.00	0.37	195.680	4565.58	-5.07	-8.14	0.39	8.54
4654.00	0.38	7.830	4653.58	-5.06	-8.18	0.85	8.57
4742.00	0.06	104.230	4741.58	-4.78	-8.09	0.44	8.46
4829.00	0.11	245.200	4828.58	-4.83	-8.13	0.19	8.50
4917.00	0.11	317.590	4916.58	-4.80	-8.26	0.15	8.63
5004.00	0.09	190.940	5003.58	-4.81	-8.33	0.21	8.70
5092.00	0.16	331.440	5091.58	-4.77	-8.40	0.27	8.77
5179.00	0.07	233.870	5178.58	-4.69	-8.50	0.21	8.86
5267.00	0.13	148.680	5266.58	-4.81	-8.49	0.16	8.86
5354.00	0.25	240.390	5353.58	-4.99	-8.61	0.33	8.99
5442.00	0.13	196.590	5441.58	-5.18	-8.80	0.20	9.20
5529.00	3.39	210.750	5528.52	-7.48	-10.15	3.75	10.73
5617.00	5.64	206.630	5616.24	-13.58	-13.41	2.58	14.50

MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]
5704.00	6.11	202.810	5702.79	-21.67	-17.13	0.70	18.87
5791.00	8.34	195.450	5789.09	-32.02	-20.60	2.77	23.20
5879.00	11.38	196.130	5875.78	-46.52	-24.72	3.46	28.51
5966.00	14.07	206.360	5960.65	-64.25	-31.80	4.02	37.05
6054.00	17.38	204.870	6045.34	-85.76	-42.08	3.79	49.09
6141.00	19.62	196.500	6127.86	-111.56	-51.69	3.99	60.82
6229.00	18.85	193.760	6210.95	-139.54	-59.27	1.35	70.71
6316.00	20.80	193.620	6292.79	-168.20	-66.25	2.24	80.06
6404.00	26.26	194.900	6373.44	-202.23	-74.94	6.23	91.56
6491.00	31.01	197.330	6449.78	-242.25	-86.58	5.62	106.49
6579.00	29.95	198.430	6525.62	-284.73	-100.27	1.36	123.68
6666.00	32.11	201.460	6600.17	-326.86	-115.60	3.06	142.47
6753.00	32.24	200.880	6673.81	-370.06	-132.33	0.39	162.75
6840.00	32.22	199.010	6747.40	-413.67	-148.16	1.15	182.16
6928.00	32.28	200.110	6821.83	-457.91	-163.88	0.67	201.52
7017.00	33.14	217.920	6896.89	-499.52	-187.05	10.83	228.09
7105.00	39.04	232.790	6968.11	-535.36	-224.01	11.96	267.91
7193.00	45.73	238.600	7033.10	-568.58	-273.05	8.80	319.55
7282.00	54.48	242.660	7090.14	-601.89	-332.55	10.43	381.62
7369.00	60.24	251.410	7137.11	-630.25	-399.95	10.74	451.14
7456.00	66.38	260.080	7176.22	-649.21	-475.19	11.35	527.70
7543.00	73.75	262.740	7205.87	-661.37	-556.00	8.94	609.25
7631.00	83.43	265.070	7223.26	-670.49	-641.66	11.30	695.38
7701.00	87.12	269.540	7229.03	-673.75	-711.32	8.27	765.06
7717.00	87.97	270.560	7229.71	-673.74	-727.31	8.27	780.99
7727.73	87.94	270.500	7230.10	-673.64	-738.03	0.65	791.67
7805.00	87.69	270.060	7233.05	-673.26	-815.24	0.65	868.58
7838.00	88.40	269.500	7234.17	-673.39	-848.22	2.74	901.45
7892.00	89.57	268.590	7235.13	-674.29	-902.20	2.74	955.32
7980.00	89.48	267.810	7235.85	-677.05	-990.16	0.89	1043.20
8068.00	90.12	270.620	7236.16	-678.26	-1078.14	3.27	1130.98
8155.00	90.31	271.590	7235.84	-676.58	-1165.12	1.14	1217.51
8241.00	90.65	272.550	7235.12	-673.48	-1251.06	1.18	1302.90
8328.00	89.91	272.000	7234.69	-670.02	-1337.99	1.06	1389.23
8415.00	90.00	271.350	7234.76	-667.48	-1424.95	0.75	1475.68
8503.00	89.69	270.530	7235.00	-666.03	-1512.94	1.00	1563.24
8590.00	89.78	269.570	7235.40	-665.96	-1599.94	1.11	1649.93
8679.00	89.75	268.510	7235.76	-667.45	-1688.92	1.19	1738.73
8765.00	89.94	269.740	7236.00	-668.76	-1774.91	1.45	1824.53
8852.00	89.91	271.220	7236.11	-668.03	-1861.90	1.70	1911.16
8940.00	90.00	270.470	7236.18	-666.74	-1949.89	0.86	1998.73
9027.00	89.41	269.150	7236.63	-667.03	-2036.89	1.66	2085.45
9114.00	89.66	269.760	7237.33	-667.85	-2123.88	0.76	2172.21
9201.00	89.45	269.710	7238.01	-668.26	-2210.88	0.25	2258.93
9289.00	89.94	269.780	7238.48	-668.65	-2298.88	0.56	2346.66
9375.00	90.22	269.150	7238.36	-669.45	-2384.87	0.80	2432.42
9462.00	90.22	268.900	7238.02	-670.93	-2471.86	0.29	2519.23
9550.00	90.00	269.580	7237.85	-672.10	-2559.85	0.81	2607.01
9638.00	90.06	270.390	7237.81	-672.12	-2647.85	0.92	2694.70
9725.00	89.94	271.380	7237.81	-670.78	-2734.84	1.15	2781.27
9812.00	90.03	272.470	7237.83	-667.85	-2821.79	1.26	2867.68
9900.00	89.85	272.820	7237.92	-663.79	-2909.69	0.45	2954.94
9987.00	90.43	272.530	7237.71	-659.73	-2996.60	0.75	3041.20
10074.00	92.19	272.090	7235.72	-656.23	-3083.50	2.09	3127.51
10162.00	92.03	271.160	7232.48	-653.73	-3171.41	1.07	3214.90
10250.00	92.03	269.980	7229.36	-652.86	-3259.34	1.34	3302.46
10337.00	91.97	270.300	7226.33	-652.65	-3346.29	0.37	3389.08
10424.00	91.51	269.290	7223.69	-652.96	-3433.25	1.28	3475.76
10512.00	90.83	268.560	7221.89	-654.61	-3521.21	1.13	3563.56
10600.00	89.88	268.040	7221.34	-657.22	-3609.17	1.23	3651.43
10688.00	89.75	267.850	7221.63	-660.37	-3697.12	0.26	3739.33
10775.00	89.75	268.310	7222.01	-663.29	-3784.07	0.53	3826.22
10863.00	89.69	269.530	7222.44	-664.95	-3872.05	1.39	3914.03
10952.00	89.97	269.800	7222.70	-665.47	-3961.05	0.44	4002.76
11039.00	91.05	271.350	7221.93	-664.60	-4048.03	2.17	4089.37
11125.00	90.92	271.460	7220.45	-662.49	-4133.99	0.20	4174.86
11213.00	90.98	271.770	7218.99	-660.01	-4221.95	0.36	4262.30
11301.00	90.80	271.400	7217.62	-657.57	-4309.90	0.47	4349.74
11389.00	90.71	271.440	7216.46	-655.39	-4397.87	0.11	4437.22
11476.00	90.06	269.690	7215.88	-654.53	-4484.86	2.15	4523.84
11564.00	89.97	270.090	7215.86	-654.70	-4572.86	0.47	4611.54
11651.00	90.15	270.850	7215.77	-653.99	-4659.85	0.90	4698.18
11738.00	90.15	270.260	7215.54	-653.15	-4746.85	0.68	4784.80
11826.00	90.40	271.040	7215.11	-652.15	-4834.84	0.93	4872.40
11914.00	90.06	270.370	7214.76	-651.07	-4922.83	0.85	4959.99
12002.00	90.98	269.840	7213.96	-650.91	-5010.83	1.21	5047.67
12090.00	91.11	269.450	7212.36	-651.45	-5098.81	0.47	5135.39
12177.00	91.11	269.500	7210.67	-652.25	-5185.79	0.06	5222.13
12266.00	91.45	269.420	7208.68	-653.09	-5274.77	0.39	5310.87
12354.00	91.35	270.240	7206.53	-653.35	-5362.74	0.94	5398.55
12444.00	91.51	270.300	7204.29	-652.92	-5452.71	0.19	5488.18
12531.00	92.06	270.600	7201.58	-652.24	-5539.66	0.72	5574.77
12618.00	92.03	271.180	7198.47	-650.89	-5626.60	0.67	5661.29
12706.00	91.05	270.530	7196.11	-649.58	-5714.56	1.34	5748.83
12793.00	90.25	269.470	7195.12	-649.58	-5801.55	1.53	5835.52
12881.00	90.89	268.670	7194.25	-651.01	-5889.53	1.16	5923.31
12968.00	91.97	267.670	7192.08	-653.78	-5976.46	1.69	6010.17
13057.00	92.25	268.580	7188.80	-656.69	-6065.35	1.07	6098.99
13145.00	91.94	269.130	7185.58	-658.45	-6153.27	0.72	6186.76
13232.00	92.09	269.560	7182.52	-659.44	-6240.21	0.52	6273.48
13320.00	92.31	270.400	7179.14	-659.47	-6328.15	0.99	6361.11
13408.00	92.49	271.140	7175.46	-658.29	-6416.06	0.86	6448.61

MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]
13495.00	92.43	271.460	7171.73	-656.32	-6502.96	0.37	6535.04
13583.00	90.31	270.250	7169.62	-655.01	-6590.92	2.77	6622.59
13670.00	89.66	268.740	7169.64	-655.78	-6677.91	1.89	6709.34
13757.00	89.78	269.180	7170.07	-657.35	-6764.89	0.52	6796.15
13844.00	90.12	271.030	7170.15	-657.20	-6851.89	2.16	6882.83
13931.00	90.62	270.880	7169.58	-655.75	-6938.88	0.60	6969.39
14020.00	89.11	272.740	7169.79	-652.93	-7027.82	2.69	7057.80
14107.00	89.14	272.150	7171.12	-649.22	-7114.73	0.68	7144.10
14195.00	89.08	269.960	7172.49	-647.60	-7202.70	2.49	7231.62
14282.00	89.11	269.550	7173.86	-647.98	-7289.69	0.47	7318.34
14371.00	89.11	271.550	7175.25	-647.12	-7378.67	2.25	7406.94
14459.00	89.02	270.210	7176.68	-645.77	-7466.65	1.53	7494.49
14547.00	89.14	269.960	7178.09	-645.64	-7554.64	0.32	7582.16
14588.00	89.13	269.850	7178.71	-645.71	-7595.63	0.26	7623.02
14619.62	89.11	269.770	7179.20	-645.81	-7627.25	0.26	7654.54
14632.00	89.11	269.740	7179.39	-645.86	-7639.63	0.26	7666.88
14660.18	89.11	270.340	7179.83	-645.84	-7667.80	2.11	7694.95
14676.00	89.11	270.670	7180.08	-645.70	-7683.62	2.11	7710.70
14700.00	89.11	270.670	7180.45	-645.42	-7707.62	==>	7734.59

Comments

MD[ft]	TVD[ft]	North[ft]	East[ft]	Comment			
1445.20	1444.79	-4.40	-9.29	9.625" Csg: 1445 MD/TVD			
7727.73	7230.10	-673.64	-738.03	460 Setback: 7728 / 7230 MD/TVD, 479 FSL, 460 FEL Sec 12			
7838.00	7234.17	-673.39	-848.22	Top Perf: 7838 / 7234 MD/TVD, 480 FSL, 570 FEL Sec 12			
14588.00	7178.71	-645.71	-7595.63	Btm perf: 14,588 / 7179 MD/TVD, 479 FSL, 2057 FEL Sec 11			
14619.62	7179.20	-645.81	-7627.25	Btm Toe Sub: 14,620 / 7179 MD/TVD, 479 FSL, 2089 FEL Sec 11			
14660.18	7179.83	-645.84	-7667.80	PBTD: 14,660 / 7180 MD/TVD, 478 FSL, 2129 FEL Sec 11			
14700.00	7180.45	-645.42	-7707.62	5.5" Csg: 14,700 / 7180 MD/TVD, 477 FSL, 2169 FEL Sec 11			
14700.00	7180.45	-645.42	-7707.62	BHL: 14,700 / 7180 MD/TVD, 477 FSL, 2169 FEL Sec 11			

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]
13.500	0.00	0.00	0.00	0.00	1451.20	1450.79	-4.41	-9.23
8.500	1451.20	1450.79	-4.41	-9.23	14700.00	7180.45	-645.42	-7707.62

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 Casing	0.00	0.00	0.00	0.00	1445.20	1444.79	-4.40	-9.29
5 1/2in Casing	0.00	0.00	0.00	0.00	14700.00	7180.45	-645.42	-7707.62

Survey Tool Program

Reference	Survey Name	MD[ft]	TVD[ft]	Survey Tool	Error Model
84563	As Drilled - 20160331	14700.00	7180.45	MWD	

Coordinates are from Slot MD's are from Rig and TVD's are from Rig (Actual Datum #1 4751.3ft above Mean Sea Level) Vertical Section is from 0.00 0.00 on azimuth 265.210 degrees Bottom hole distance is 7734.59 Feet on azimuth 265.21 degrees from Wellhead Calculation method uses Minimum Curvature method Prepared by Great Western Operating Co. Date Printed:
