

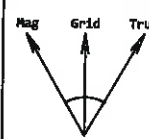


CONSOL ENERGY
PHL-3D-HS PLAN 2
BARBOUR COUNTY, WV
PVA

Plan Data for 3D-HS

Plan Point Information:

Dogleg Severity Unit: °/100.00ft									
MD	Inc	Az	TVD	+N/-S	+E/-W	VSec	DLS	Build	Turn
(USft)	(°)	(°)	(USft)	(USft)	(USft)	(USft)	(DLSU)	(DLSU)	(DLSU)
2350.00	0.82	98.40	2349.94	-4.83	13.65	11.01	0.03	0.02	-1.76
2400.00	0.82	98.40	2399.93	-4.93	14.35	11.46	0.00	0.00	0.00
2482.00	0.00	0.00	2481.93	-5.02	14.94	11.82	1.00	-1.00	0.00
2875.00	0.00	0.00	2874.93	-5.02	14.94	11.82	0.00	0.00	0.00
3305.54	25.83	227.67	3291.03	-69.28	-55.61	32.09	6.00	6.00	0.00
7498.33	25.83	227.67	7064.84	-1299.64	-1406.18	420.15	0.00	0.00	0.00
8433.69	92.00	133.68	7592.13	-1899.14	-1162.00	1061.31	10.00	7.07	-10.05
15430.41	92.00	133.68	7348.00	-6728.30	3895.05	7774.40	0.00	0.00	0.00



Grid Convergence: -0.35°
Mag Declination: -8.94°
Bearing:
True = Mag - 8.94°
Grid = True + 0.35°

Survey Data for 3D-HS

Field: CONSOL ENERGY BARBOUR COUNTY, WV_MAD 27 (WV NORTH)
Map Unit: USFT Vertical Reference Datum (VRD):
Projected Coordinate System: NAD27 / West Virginia North

Site: PHL PAD
Unit: USFeet TVD Reference:
Company Name:
Position: Northing: 253828.23USft Latitude: 39°11'44.8"
Easting: 1842549.33USft Longitude: -80°3'19.9"
North Reference: Grid Grid Convergence: -0.35°
Elevation Above VRD: 1443.13USft

Slot: 3D-HS
Position:
Offset is from Site centre
+N/-S: -11.74USft Northing: 253808.50USft Latitude: 39°11'43.9"
+E/-W: -15.87USft Easting: 1842533.46USft Longitude: -80°3'20.1"
Elevation Above VRD: 1443.06USft

Mall: 3D-HS
Type: Main-Mall
File Number:
Vertical Section: Position offset of origin from Slot centre:
+N/-S: 0.00USft Azimuth: 90.00°
+E/-W: 0.00USft
Magnetic Parameters:
Model: Field Strength: Declination: Dip: Date:
Default 50000(nT) 0.00° 0.00° 2014-07-15

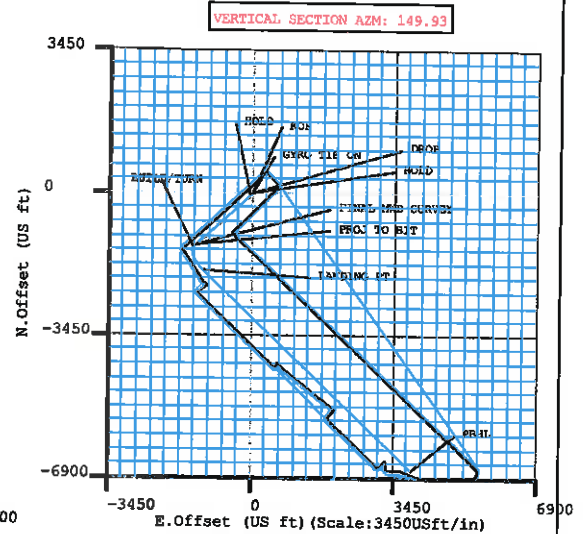
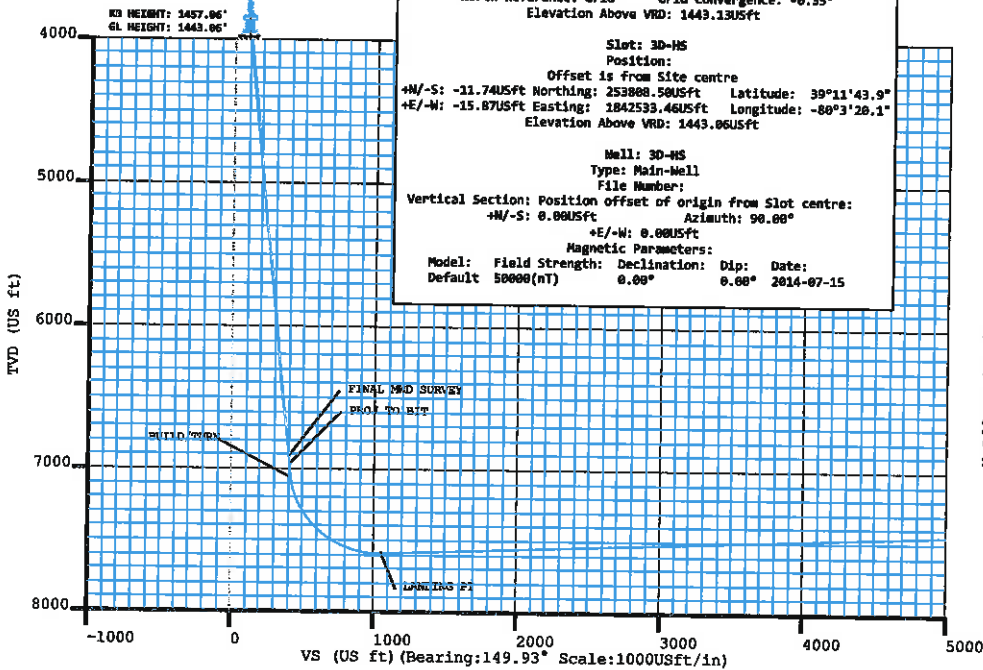
Plan Data for 3D-HS

Target Set Information:

Name: PHL 3D-HS TARGETS

Position offsets from Slot centre

Name	TVD Elevation	+N/-S	+E/-W	Northing	Easting
	(USft)	(USft)	(USft)	(USft)	(USft)
3D-HS LP P1	7592.13	-6135.07	-1899.14	-1162.00	251909.36
3D-HS PBHL P1	7348.00	-5890.94	-6728.30	3895.05	247080.20



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JUN 29 2015

wwellboredirsurveydata PHL3DHS

md	inclination	azimuth	surveymetl	tvdcalc	vscalc	departcalc	nscalc	ewcalc	dscalc	buildratec	turnratecal	displaceunwr	wrapcalc
Measured Depth	Inclination	Azimuth	Survey Me	TVD	VS	Departure	NS	EW	DLS	Build Rate	Turn Rate	Unwrapped Displace	
28.5	0	75.29	MWD	0	0	0	0	0	0	0	0	0	0
114.5	0.23	75.29	MWD	86	0.09	0.17	0.04	0.17	0.27	0.27	0	0.17	
214.5	0.2	4.51	MWD	186	0.09	0.46	0.27	0.37	0.25	-0.03	-70.78	0.48	
314.5	0.07	64.98	MWD	286	0.01	0.65	0.47	0.44	0.18	-0.13	60.47	0.69	
414.5	0.48	88.53	MWD	386	0.33	1.05	0.51	0.92	0.42	0.41	23.55	1.17	
514.5	0.27	98.53	MWD	486	0.82	1.64	0.48	1.57	0.22	-0.21	10	1.82	
614.5	0.34	97.68	MWD	585.99	1.26	2.14	0.41	2.1	0.07	0.07	-0.85	2.35	
714.5	0.41	99.57	MWD	685.99	1.8	2.76	0.31	2.74	0.07	0.07	1.89	3	
814.5	0.42	106.07	MWD	785.99	2.42	3.45	0.15	3.45	0.05	0.01	6.5	3.73	
914.5	0.1	114.31	MWD	885.99	2.83	3.88	0.01	3.88	0.32	-0.32	8.24	4.18	
1,014.50	0.25	126.24	MWD	985.99	3.13	4.14	-0.16	4.14	0.15	0.15	11.93	4.49	
1,114.50	0.36	130.43	MWD	1,085.99	3.66	4.58	-0.49	4.55	0.11	0.11	4.19	5.02	
1,214.50	0.41	134.42	MWD	1,185.98	4.33	5.13	-0.94	5.05	0.06	0.05	3.99	5.69	
1,314.50	0.26	132.32	MWD	1,285.98	4.92	5.63	-1.35	5.47	0.15	-0.15	-2.1	6.27	
1,414.50	0.3	118.28	MWD	1,385.98	5.4	6.09	-1.62	5.87	0.08	0.04	-14.04	6.76	
1,514.50	0.36	117.77	MWD	1,485.98	5.95	6.65	-1.89	6.38	0.06	0.06	-0.51	7.33	
1,614.50	0.27	116.73	MWD	1,585.98	6.48	7.19	-2.15	6.86	0.09	-0.09	-1.04	7.88	
1,714.50	0.39	102.72	MWD	1,685.98	7	7.76	-2.33	7.41	0.14	0.12	-14.01	8.46	
1,814.50	0.75	101.53	MWD	1,785.97	7.86	8.75	-2.53	8.38	0.36	0.36	-1.19	9.45	
1,914.50	0.33	128.05	MWD	1,885.97	8.7	9.67	-2.84	9.25	0.48	-0.42	26.52	10.37	
2,014.50	0.42	121.98	MWD	1,985.96	9.35	10.3	-3.21	9.79	0.1	0.09	-6.07	11.03	
2,114.50	0.83	119.23	MWD	2,085.96	10.41	11.37	-3.76	10.73	0.41	0.41	-2.75	12.12	
2,214.50	0.58	118.92	MWD	2,185.95	11.61	12.58	-4.36	11.8	0.25	-0.25	-0.31	13.35	
2,314.50	0.81	99.28	MWD	2,285.94	12.68	13.78	-4.72	12.94	0.33	0.23	-19.64	14.54	
2,364.50	0.82	98.4	MWD	2,335.94	13.27	14.48	-4.83	13.65	0.03	0.02	-1.76	15.25	
2,432.50	0.84	113.62	MWD	2,403.93	14.14	15.45	-5.1	14.59	0.32	0.03	22.38	16.23	
2,496.50	0.61	117.45	MWD	2,467.93	14.91	16.26	-5.44	15.32	0.37	-0.36	5.98	17.04	
2,558.50	0.37	125.79	MWD	2,529.92	15.43	16.77	-5.71	15.77	0.4	-0.39	13.45	17.57	
2,622.50	0.25	135.4	MWD	2,593.92	15.77	17.1	-5.93	16.04	0.2	-0.19	15.02	17.91	
2,685.50	0.29	140.31	MWD	2,656.92	16.07	17.36	-6.15	16.24	0.07	0.06	7.79	18.21	
2,717.50	0.39	138.84	MWD	2,688.92	16.26	17.53	-6.3	16.36	0.31	0.31	-4.59	18.4	
2,748.50	0.4	174.24	MWD	2,719.92	16.45	17.67	-6.48	16.44	0.78	0.03	114.19	18.6	
2,780.50	0.93	225.91	MWD	2,751.92	16.52	17.62	-6.78	16.26	2.35	1.66	161.47	18.94	
2,811.50	2.06	233.17	MWD	2,782.91	16.41	17.25	-7.28	15.64	3.69	3.65	23.42	19.75	
2,843.50	3.41	231.81	MWD	2,814.87	16.16	16.61	-8.22	14.43	4.22	4.22	-4.25	21.28	
2,874.50	4.71	232.73	MWD	2,845.79	15.8	15.89	-9.56	12.69	4.2	4.19	2.97	23.47	
2,906.50	5.83	235.2	MWD	2,877.66	15.24	15.28	-11.28	10.31	3.57	3.5	7.72	26.41	
2,937.50	7.37	232.72	MWD	2,908.45	14.57	15.31	-13.38	7.44	5.05	4.97	-8	29.97	
2,969.50	8.71	233.27	MWD	2,940.13	13.79	16.53	-16.08	3.86	4.19	4.19	1.72	34.45	
3,000.50	10.12	234.16	MWD	2,970.72	12.84	19.08	-19.08	-0.23	4.57	4.55	2.87	39.52	
3,031.50	11.78	232.62	MWD	3,001.15	11.79	23.13	-22.59	-4.95	5.44	5.35	-4.97	45.41	
3,063.50	13.14	231.43	MWD	3,032.40	10.71	28.78	-26.84	-10.39	4.32	4.25	-3.72	52.31	
3,095.50	14.96	228.65	MWD	3,063.44	9.77	35.79	-31.84	-16.33	6.06	5.69	-8.69	60.08	
3,127.50	16.15	228.86	MWD	3,094.27	8.91	43.88	-37.5	-22.79	3.72	3.72	0.66	68.66	
3,158.50	17.7	226.86	MWD	3,123.92	8.15	52.59	-43.56	-29.47	5.34	5	-6.45	77.68	
3,190.50	19.59	227.28	MWD	3,154.24	7.42	62.6	-50.52	-36.96	5.92	5.91	1.31	87.91	
3,221.50	21.57	227.68	MWD	3,183.26	6.57	73.32	-57.89	-45	6.4	6.39	1.29	98.81	
3,253.50	23.51	229.4	MWD	3,212.82	5.38	85.4	-66	-54.19	6.4	6.06	5.38	111.07	
3,348.50	26.3	227.81	MWD	3,298.97	1.5	125.05	-92.47	-84.18	3.02	2.94	-1.67	151.07	
3,443.50	27.28	228.55	MWD	3,383.78	-2.37	167.7	-121.02	-116.09	1.09	1.03	0.78	193.89	
3,539.50	25.68	227.59	MWD	3,469.70	-6.16	210.41	-149.61	-147.94	1.73	-1.67	-1	236.69	
3,633.50	25.9	225.51	MWD	3,554.34	-8.69	251.28	-177.74	-177.63	0.99	0.23	-2.21	277.58	
3,727.50	26.65	226.19	MWD	3,538.63	-10.76	292.89	-206.72	-207.48	0.86	0.8	0.72	319.19	
3,822.50	25.85	225.5	MWD	3,723.83	-12.85	334.9	-235.98	-237.63	0.9	-0.84	-0.73	361.21	
3,917.50	25.7	223.51	MWD	3,809.38	-13.94	376.2	-265.44	-266.59	0.92	-0.16	-2.09	402.51	
4,012.50	25.11	228.88	MWD	3,895.21	-16.19	416.91	-293.64	-295.96	2.5	-0.62	5.65	443.23	
4,107.50	25.84	228.41	MWD	3,980.97	-20.21	457.71	-320.64	-326.63	0.8	0.77	-0.49	484.09	
4,202.50	26.66	228.95	MWD	4,066.17	-24.37	499.66	-348.38	-358.19	0.9	0.86	0.57	526.11	
4,296.50	25.24	226.06	MWD	4,150.70	-27.62	540.77	-376.14	-388.52	2.02	-1.51	-3.07	567.23	
4,388.50	25.31	226.81	MWD	4,233.89	-29.98	580.05	-403.21	-416.99	0.36	0.08	0.82	606.51	
4,481.50	25.87	226.03	MWD	4,317.77	-32.37	620.21	-430.9	-446.08	0.7	0.6	-0.84	646.68	
4,577.50	25.98	229.86	MWD	4,404.11	-35.99	662.14	-459	-477.23	1.75	0.11	3.99	688.63	
4,672.50	26.28	229.29	MWD	4,489.40	-40.78	703.91	-486.13	-509.08	0.41	0.32	-0.6	730.46	
4,763.50	26.44	230.65	MWD	4,570.94	-45.68	744.23	-512.11	-540.02	0.69	0.18	1.49	770.87	
4,859.50	26.74	228.29	MWD	4,556.79	-50.52	787.14	-540.04	-572.67	1.14	0.31	-2.46	813.83	
4,952.50	26.41	228.34	MWD	4,739.96	-54.37	828.73	-567.7	-603.74	0.36	-0.35	0.05	855.43	
5,048.50	26.02	230.91	MWD	4,826.09	-59.26	871.08	-595.17	-636.04	1.25	-0.41	2.68	897.83	
5,142.50	26.34	231.25	MWD	4,910.45	-65.09	912.44	-621.23	-668.3	0.38	0.34	0.36	939.3	
5,237.50	26.09	229.69	MWD	4,995.68	-70.55	954.33	-647.93	-700.67	0.77	-0.26	-1.64	981.27	
5,332.50	26.42	229.75	MWD	5,080.88	-75.46	996.32	-675.1	-732.73	0.35	0.35	0.06	1,023.29	

5,426.50	25.37	229.36	MWD	5,165.44	-80.15	1,037.34	-701.73	-763.97	1.13	-1.12	-0.41	1,064.34
5,521.50	25.05	226.12	MWD	5,251.39	-83.5	1,077.79	-728.93	-793.91	1.49	-0.34	-3.41	1,104.79
5,616.50	23.47	221.88	MWD	5,338.01	-84.23	1,116.74	-756.96	-821.04	2.47	-1.66	-4.46	1,143.80
5,710.50	22.62	221.44	MWD	5,424.51	-83.37	1,153.36	-784.45	-845.5	0.92	-0.9	-0.47	1,180.60
5,806.50	23.24	221.84	MWD	5,512.92	-82.48	1,190.59	-812.4	-870.36	0.67	0.65	0.42	1,218.00
5,900.50	24.2	224.76	MWD	5,598.98	-82.7	1,228.32	-839.9	-896.29	1.61	1.02	3.11	1,255.80
5,994.50	24.25	227.65	MWD	5,684.71	-84.86	1,266.88	-866.58	-924.13	1.26	0.05	3.07	1,294.36
6,089.50	24.79	228.68	MWD	5,771.14	-88.41	1,306.29	-892.88	-953.5	0.72	0.57	1.08	1,333.78
6,182.50	25.95	229.36	MWD	5,855.17	-92.59	1,346.11	-919	-983.59	1.29	1.25	0.73	1,373.63
6,274.50	25.23	227.28	MWD	5,938.15	-96.29	1,385.83	-945.42	-1,013.27	1.25	-0.78	-2.26	1,413.36
6,369.50	25.19	229.91	MWD	6,024.10	-100.23	1,426.27	-972.17	-1,043.61	1.18	-0.04	2.77	1,453.81
6,464.50	25.44	231.85	MWD	6,109.98	-105.8	1,466.80	-997.8	-1,075.13	0.91	0.26	2.04	1,494.43
6,559.50	26.12	231.96	MWD	6,195.52	-112.2	1,507.97	-1,023.29	-1,107.64	0.72	0.72	0.12	1,535.75
6,654.50	27.21	231.52	MWD	6,280.42	-118.67	1,550.48	-1,049.69	-1,141.11	1.17	1.15	-0.46	1,578.38
6,749.50	27.19	229.72	MWD	6,364.91	-124.43	1,593.83	-1,077.24	-1,174.68	0.87	-0.02	-1.89	1,621.80
6,843.50	26.21	226.78	MWD	6,448.89	-128.31	1,636.05	-1,105.34	-1,206.19	1.75	-1.04	-3.13	1,664.02
6,937.50	26.67	225.07	MWD	6,533.06	-130.44	1,677.89	-1,134.45	-1,236.25	0.95	0.49	-1.82	1,705.87
7,030.50	27.2	224.42	MWD	6,615.97	-131.72	1,719.97	-1,164.38	-1,265.91	0.65	0.57	-0.7	1,748.00
7,124.50	27.31	226.78	MWD	6,699.54	-133.68	1,762.99	-1,194.49	-1,296.66	1.16	0.12	2.51	1,791.04
7,218.50	27.14	224.97	MWD	6,783.13	-135.84	1,805.97	-1,224.42	-1,327.53	0.9	-0.18	-1.93	1,834.04
7,282.50	27.38	222.18	MWD	6,840.02	-136.13	1,835.22	-1,245.66	-1,347.72	2.03	0.37	-4.36	1,863.35
7,345.50	27.1	226.21	MWD	6,896.04	-136.72	1,864.00	-1,266.32	-1,367.81	2.96	-0.44	6.4	1,892.17
7,388.00	26.99	227.29	MWD	6,933.89	-137.99	1,883.32	-1,279.56	-1,381.89	1.18	-0.26	2.54	1,911.49
7,419.00	25.2	223.44	MWD	6,961.73	-138.56	1,896.94	-1,289.13	-1,391.59	7.95	-5.77	-12.42	1,925.12
7,450.00	24.57	216.06	MWD	6,989.86	-137.84	1,909.86	-1,299.13	-1,399.93	10.22	-2.03	-23.81	1,938.14
7,482.00	25.76	208.96	MWD	7,018.83	-135.34	1,923.00	-1,310.60	-1,407.21	10.13	3.72	-22.19	1,951.72
7,512.00	28.21	205.32	MWD	7,045.56	-131.61	1,935.79	-1,322.71	-1,413.40	9.85	8.17	-12.13	1,965.33
7,544.00	30.72	200.38	MWD	7,073.43	-126.17	1,950.15	-1,337.22	-1,419.49	10.91	7.84	-15.44	1,981.06
7,575.00	32.29	192.45	MWD	7,099.87	-118.91	1,964.12	-1,352.73	-1,424.03	14.28	5.06	-25.58	1,997.22
7,607.00	32.1	184.73	MWD	7,126.96	-109.29	1,977.58	-1,369.56	-1,426.58	12.86	-0.59	-24.13	2,014.24
7,638.00	31.17	177.04	MWD	7,153.36	-98.42	1,989.04	-1,385.79	-1,426.84	13.34	-3	-24.81	2,030.47
7,669.00	30.57	170.39	MWD	7,179.98	-86.39	1,998.84	-1,401.58	-1,425.11	11.17	-1.94	-21.45	2,046.36
7,701.00	31	167.78	MWD	7,207.47	-73.15	2,007.95	-1,417.66	-1,422.01	4.39	1.34	-8.16	2,062.73
7,732.00	31.99	168.21	MWD	7,233.91	-59.89	2,016.79	-1,433.50	-1,418.64	3.27	3.19	1.39	2,078.92
7,826.00	32.36	170.89	MWD	7,313.47	-19.69	2,045.80	-1,482.71	-1,409.57	1.57	0.39	2.85	2,128.97
7,920.00	32.46	167.85	MWD	7,392.84	20.87	2,075.68	-1,532.21	-1,400.28	1.74	0.11	-3.23	2,179.34
7,951.00	33.42	163.45	MWD	7,418.86	35.06	2,084.95	-1,548.53	-1,396.09	8.31	3.1	-14.19	2,196.18
7,982.00	35.05	160.67	MWD	7,444.49	50.3	2,093.72	-1,565.12	-1,390.71	7.29	5.26	-8.97	2,213.62
8,014.00	37	159.79	MWD	7,470.37	67.04	2,102.80	-1,582.83	-1,384.34	6.3	6.09	-2.75	2,232.44
8,045.00	39.41	159.54	MWD	7,494.72	84.17	2,112.01	-1,600.80	-1,377.68	7.79	7.77	-0.81	2,251.61
8,076.00	42.04	160.18	MWD	7,518.22	102.21	2,121.93	-1,619.79	-1,370.72	8.59	8.48	2.06	2,271.83
8,108.00	44.33	160.36	MWD	7,541.55	121.68	2,132.98	-1,640.40	-1,363.33	7.17	7.16	0.56	2,293.73
8,139.00	47.79	158.72	MWD	7,563.05	141.65	2,144.15	-1,661.31	-1,355.52	11.79	11.16	-5.29	2,316.05
8,170.00	51.9	156.47	MWD	7,583.04	163.19	2,155.50	-1,683.20	-1,346.48	14.37	13.26	-7.26	2,339.73
8,202.00	55.65	154.98	MWD	7,601.95	187	2,167.36	-1,706.72	-1,335.86	12.31	11.72	-4.66	2,365.54
8,233.00	59.87	153.52	MWD	7,618.48	211.43	2,179.05	-1,730.33	-1,324.47	14.18	13.61	-4.71	2,391.75
8,264.00	62.19	152.68	MWD	7,633.50	236.9	2,190.93	-1,754.52	-1,312.19	7.85	7.48	-2.71	2,418.87
8,296.00	62.77	152.25	MWD	7,648.28	263.66	2,203.37	-1,779.68	-1,299.07	2.17	1.81	-1.34	2,447.25
8,327.00	64.7	151.11	MWD	7,662.00	289.99	2,215.50	-1,804.15	-1,285.89	7.05	6.23	-3.68	2,475.05
8,358.00	68.42	149.91	MWD	7,674.33	317.11	2,227.68	-1,828.90	-1,271.88	12.51	12	-3.87	2,503.49
8,390.00	70.98	149.25	MWD	7,685.43	345.87	2,240.42	-1,854.78	-1,256.69	8.23	8	-2.06	2,533.50
8,421.00	71.99	149.5	MWD	7,695.28	374.07	2,253.11	-1,880.07	-1,241.71	3.35	3.26	0.81	2,562.89
8,452.00	73.5	149.35	MWD	7,704.47	402.47	2,266.24	-1,905.56	-1,226.65	4.89	4.87	-0.48	2,592.50
8,483.00	75.35	148.74	MWD	7,712.80	431.17	2,279.61	-1,931.17	-1,211.30	6.26	5.97	-1.97	2,622.36
8,515.00	76.65	148.35	MWD	7,720.54	461.08	2,293.61	-1,957.65	-1,195.09	4.23	4.06	-1.22	2,653.40
8,546.00	77.63	147.53	MWD	7,727.44	490.28	2,307.27	-1,983.27	-1,179.05	4.08	3.16	-2.65	2,683.63
8,577.00	79.19	146.2	MWD	7,733.67	519.76	2,320.81	-2,008.69	-1,162.45	6.56	5.03	-4.29	2,713.99
8,609.00	81.48	144.18	MWD	7,739.04	550.59	2,334.37	-2,034.59	-1,144.44	9.48	7.16	-6.31	2,745.53
8,640.00	84.73	142.17	MWD	7,742.76	580.88	2,346.97	-2,059.22	-1,126.00	12.3	10.48	-6.48	2,776.30
8,671.00	88.46	139.97	MWD	7,744.60	611.51	2,358.93	-2,083.28	-1,106.56	13.96	12.03	-7.1	2,807.24
8,703.00	91.57	137.2	MWD	7,744.59	643.35	2,370.38	-2,107.28	-1,085.39	13.01	9.72	-8.66	2,839.23
8,734.00	92.12	134.2	MWD	7,743.59	674.3	2,380.36	-2,129.45	-1,063.76	9.83	1.77	-9.68	2,870.22
8,765.00	92.09	132.72	MWD	7,742.45	705.28	2,389.56	-2,150.76	-1,041.27	4.77	-0.1	-4.77	2,901.19
8,859.00	92.19	131.8	MWD	7,738.94	799.2	2,417.80	-2,213.93	-971.75	0.98	0.11	-0.98	2,995.13
8,953.00	92.74	131.26	MWD	7,734.90	893.08	2,448.20	-2,276.19	-901.45	0.82	0.59	-0.57	3,089.04
9,047.00	92.62	130.17	MWD	7,730.51	986.9	2,480.52	-2,337.44	-830.28	1.17	-0.13	-1.16	3,182.93
9,142.00	92.74	131.55	MWD	7,726.06	1,081.73	2,516.55	-2,399.52	-758.51	1.46	0.13	1.45	3,277.83
9,236.00	92.34	131.71	MWD	7,721.90	1,175.61	2,556.32	-2,461.91	-688.32	0.46	-0.43	0.17	3,371.74
9,329.00	92.34	131.57	MWD	7,718.10	1,268.51	2,598.42	-2,523.65	-618.87	0.15	0	-0.15	3,464.66
9,423.00	92.12	132.95	MWD	7,714.44	1,362.43	2,644.50	-2,586.81	-549.36	1.49	-0.23	1.47	3,558.58
9,517.00	92.31	131.26	MWD	7,710.81	1,456.34	2,692.86	-2,649.79	-479.67	1.81	0.2	-1.8	3,652.51
9,611.00	92.98	129.78	MWD	7,706.47	1,550.15	2,741.37	-2,710.80	-408.3	1.73	0.71	-1.57	3,746.41
9,705.00	92.89	131.65	MWD	7,701.66	1,643.95	2,792.46	-2,772.03	-337.14	1.99	-0.1	1.99	3,840.28

9,800.00	92.77	133.88	MWD	7,696.97	1,738.83	2,849.04	-2,836.45	-267.49	2.35	-0.13	2.35	3,935.16
9,894.00	92.83	133.41	MWD	7,692.38	1,832.71	2,908.11	-2,901.25	-199.55	0.5	0.06	-0.5	4,029.05
9,988.00	92.89	133.02	MWD	7,687.69	1,926.59	2,968.43	-2,965.54	-131.13	0.42	0.06	-0.41	4,122.93
10,081.00	92.46	133.36	MWD	7,683.35	2,019.49	3,029.78	-3,029.12	-63.4	0.59	-0.46	0.37	4,215.83
10,175.00	92.12	134.95	MWD	7,679.59	2,113.39	3,094.55	-3,094.54	3.99	1.73	-0.36	1.69	4,309.75
10,269.00	92.06	134.78	MWD	7,676.16	2,207.28	3,161.60	-3,160.81	70.57	0.19	-0.06	-0.18	4,403.69
10,363.00	92.06	134.7	MWD	7,672.78	2,301.17	3,229.85	-3,226.93	137.29	0.09	0	-0.09	4,497.63
10,457.00	92.12	134.52	MWD	7,669.35	2,395.07	3,299.23	-3,292.90	204.17	0.2	0.06	-0.19	4,591.56
10,551.00	91.75	133.52	MWD	7,666.18	2,489.00	3,369.16	-3,358.19	271.72	1.13	-0.39	-1.06	4,685.51
10,645.00	92.12	131.36	MWD	7,663.01	2,582.94	3,438.54	-3,421.58	341.05	2.33	0.39	-2.3	4,779.45
10,739.00	92.12	131.08	MWD	7,659.53	2,676.83	3,507.72	-3,483.48	411.71	0.3	0	-0.3	4,873.38
10,833.00	92.62	132.77	MWD	7,655.64	2,770.73	3,578.78	-3,546.23	481.58	1.87	0.53	1.8	4,967.30
10,927.00	91.72	133.99	MWD	7,652.08	2,864.66	3,652.37	-3,610.74	549.85	1.61	-0.96	1.3	5,061.23
11,021.00	91.75	133.4	MWD	7,649.24	2,958.61	3,727.21	-3,675.65	617.78	0.63	0.03	-0.63	5,155.19
11,114.00	91.72	132.43	MWD	7,646.42	3,051.56	3,801.33	-3,738.95	685.86	1.04	-0.03	-1.04	5,248.14
11,208.00	91.75	132.51	MWD	7,643.57	3,145.52	3,876.65	-3,802.39	755.17	0.09	0.03	0.09	5,342.10
11,302.00	92.03	133.65	MWD	7,640.47	3,239.46	3,953.34	-3,866.55	823.79	1.25	0.3	1.21	5,436.05
11,396.00	92.09	134.55	MWD	7,637.09	3,333.38	4,031.67	-3,931.93	891.25	0.96	0.06	0.96	5,529.99
11,490.00	92.03	134.7	MWD	7,633.72	3,427.29	4,111.12	-3,997.92	958.11	0.17	-0.06	0.16	5,623.92
11,583.00	92	133.53	MWD	7,630.45	3,520.21	4,189.88	-4,062.61	1,024.83	1.26	-0.03	-1.26	5,716.87
11,677.00	92.03	133.58	MWD	7,627.14	3,614.15	4,269.59	-4,127.34	1,092.91	0.06	0.03	0.05	5,810.81
11,771.00	92.22	133.95	MWD	7,623.65	3,708.07	4,350.04	-4,192.32	1,160.75	0.44	0.2	0.39	5,904.74
11,865.00	92.03	133.75	MWD	7,620.17	3,802.00	4,431.09	-4,257.39	1,228.49	0.29	-0.2	-0.21	5,998.68
11,960.00	91.45	133.48	MWD	7,617.28	3,896.95	4,513.34	-4,322.89	1,297.24	0.67	-0.61	-0.28	6,093.63
12,053.00	91.6	131.67	MWD	7,614.81	3,989.91	4,593.50	-4,385.79	1,365.70	1.95	0.16	-1.95	6,186.60
12,147.00	92.03	131.03	MWD	7,611.83	4,083.82	4,673.99	-4,447.86	1,436.23	0.82	0.46	-0.68	6,280.55
12,241.00	91.97	130.96	MWD	7,608.55	4,177.71	4,754.67	-4,509.49	1,507.13	0.1	-0.06	-0.07	6,374.49
12,335.00	92.53	130.98	MWD	7,604.86	4,271.58	4,835.80	-4,571.07	1,578.05	0.6	0.6	0.02	6,468.42
12,429.00	93.08	131.83	MWD	7,600.26	4,365.43	4,917.69	-4,633.16	1,648.47	1.08	0.59	0.9	6,562.30
12,523.00	93.94	135.4	MWD	7,594.50	4,459.23	5,001.60	-4,697.87	1,716.39	3.9	0.91	3.8	6,656.11
12,617.00	93.88	133.95	MWD	7,588.09	4,552.97	5,086.57	-4,763.81	1,783.07	1.54	-0.06	-1.54	6,749.89
12,711.00	92.8	132.46	MWD	7,582.62	4,646.80	5,170.88	-4,828.05	1,851.47	1.96	-1.15	-1.59	6,843.73
12,806.00	92.77	131.49	MWD	7,578.00	4,741.67	5,255.57	-4,891.51	1,922.01	1.02	-0.03	-1.02	6,938.61
12,900.00	92.89	128.69	MWD	7,573.36	4,835.43	5,338.29	-4,951.96	1,993.83	2.98	0.13	-2.98	7,032.49
12,994.00	92.93	129.95	MWD	7,568.59	4,929.11	5,420.78	-5,011.45	2,066.46	1.34	0.04	1.34	7,126.37
13,088.00	92.99	134.03	MWD	7,563.73	5,022.95	5,505.57	-5,074.24	2,136.22	4.34	0.06	4.34	7,220.22
13,182.00	92.8	133.62	MWD	7,558.98	5,116.82	5,591.89	-5,139.25	2,203.95	0.48	-0.2	-0.44	7,314.10
13,276.00	92.49	132.79	MWD	7,554.65	5,210.72	5,678.07	-5,203.53	2,272.39	0.94	-0.33	-0.88	7,408.00
13,370.00	91.91	133.29	MWD	7,551.04	5,304.65	5,764.42	-5,267.64	2,341.04	0.81	-0.62	0.53	7,501.93
13,463.00	91.94	133.26	MWD	7,547.91	5,397.60	5,850.23	-5,331.35	2,408.71	0.05	0.03	-0.03	7,594.88
13,557.00	92.03	135.78	MWD	7,544.66	5,491.50	5,937.93	-5,397.22	2,475.69	2.68	0.1	2.68	7,688.81
13,651.00	91.51	138.6	MWD	7,541.75	5,585.19	6,027.26	-5,466.14	2,539.53	3.05	-0.55	3	7,782.76
13,745.00	91.45	135.1	MWD	7,539.32	5,678.94	6,116.57	-5,534.68	2,603.79	3.72	-0.06	-3.72	7,876.71
13,839.00	91.39	130.56	MWD	7,536.99	5,772.88	6,203.79	-5,598.55	2,672.69	4.83	-0.06	-4.83	7,970.66
13,933.00	91.23	131.45	MWD	7,534.84	5,866.80	6,290.10	-5,660.21	2,743.61	0.96	-0.17	0.95	8,064.63
14,027.00	92.18	133.7	MWD	7,532.05	5,960.75	6,377.57	-5,723.77	2,812.79	2.6	1.01	2.39	8,158.58
14,121.00	92.65	133.54	MWD	7,528.09	6,054.66	6,465.78	-5,788.56	2,880.78	0.53	0.5	-0.17	8,252.50
14,215.00	92.59	131.25	MWD	7,523.79	6,148.55	6,553.44	-5,851.87	2,950.12	2.43	-0.06	-2.44	8,346.40
14,309.00	92.62	129.87	MWD	7,519.52	6,242.36	6,640.18	-5,912.93	3,021.46	1.47	0.03	-1.47	8,440.30
14,403.00	92.65	129.25	MWD	7,515.19	6,336.09	6,726.47	-5,972.73	3,093.85	0.66	0.03	-0.66	8,534.20
14,497.00	92.62	131.75	MWD	7,510.87	6,429.90	6,813.55	-6,033.71	3,165.25	2.66	-0.03	2.66	8,628.09
14,591.00	91.51	133.74	MWD	7,507.48	6,523.83	6,902.13	-6,097.47	3,234.23	2.42	-1.18	2.12	8,722.02
14,685.00	92.09	133.31	MWD	7,504.53	6,617.78	6,991.27	-6,162.17	3,302.36	0.77	0.62	-0.46	8,815.98
14,779.00	92.9	133.89	MWD	7,500.44	6,711.68	7,080.54	-6,226.93	3,370.36	1.06	0.86	0.62	8,909.89
14,873.00	92.89	134.88	MWD	7,495.69	6,805.54	7,170.28	-6,292.60	3,437.45	1.05	-0.01	1.05	9,003.76
14,967.00	92.8	134.35	MWD	7,491.03	6,899.38	7,260.23	-6,358.53	3,504.28	0.57	-0.1	-0.56	9,097.65
15,060.00	92.19	133.77	MWD	7,486.98	6,992.28	7,349.10	-6,423.15	3,571.05	0.9	-0.66	-0.62	9,190.56
15,154.00	91.66	133.3	MWD	7,483.82	7,086.22	7,438.80	-6,487.86	3,639.16	0.75	-0.56	-0.5	9,284.51
15,248.00	91.66	134.02	MWD	7,481.10	7,180.17	7,528.68	-6,552.72	3,707.13	0.77	0	0.77	9,378.47
15,342.00	91.69	134.65	MWD	7,478.35	7,274.11	7,618.97	-6,618.39	3,774.34	0.67	0.03	0.67	9,472.43
15,436.00	91.63	134.55	MWD	7,475.63	7,368.03	7,709.46	-6,684.36	3,841.24	0.12	-0.06	-0.11	9,566.39
15,479.00	91.63	134.55	MWD	7,474.40	7,411.00	7,750.88	-6,714.52	3,871.87	0	0	0	9,609.37
15,504.00	91.63	134.55	MWD	7,473.69	7,435.98	7,774.97	-6,732.05	3,889.68	0	0	0	9,634.36