554805

Sandia National Laboratories

Operated for the U.S. Department of Energy by Sandia Corporation

Carlsbad, New Mexico 88220

date: January 19, 2011

to: Records Center

from: Patricia Johnson, SNL Contractor PBJohnson

subject: Memo of Correction
2010 Calculated Densities

A review of the data included in the 2010 Calculated Densities memo submittal (dated January 12, 2011) resulted in the following errors being discovered and corrected:

1. An error in the Troll installation depth for monitoring well H-12 has been corrected and details are provided following:
   - The Troll installation depth was listed as 820.0 ft BTOC and should have been 826.4 ft BTOC.
   - Page 113 of LTM-15 is included in the 2010 Calculated Densities memo submittal (dated January 12, 2011) and confirms the total depth of the well at 826.4 ft BTOC; the depth at which the Troll was inadvertently installed due to well caving/collapsing issues.
   - The calculated density for H-12 included in the 2010 Calculated Densities memo submittal (dated January 12, 2011) was 1.124; the corrected calculated density is 1.105.

2. An error in the Troll installation depth for monitoring well H-3b2 has been corrected and details are provided following:
   - The Troll installation depth was listed as 670.6 ft BTOC and should have been 672.7 ft BTOC.
   - Page 112 of LTM-15 is included in the 2010 Calculated Densities memo submittal (dated January 12, 2011) and confirms the total depth of the well at 672.7 ft BTOC; the depth at which the Troll was inadvertently installed due to well caving/collapsing issues.
   - The calculated density for H-3b2 included in the 2010 Calculated Densities memo submittal (dated January 12, 2011) was 1.048; the corrected calculated density is 1.041.

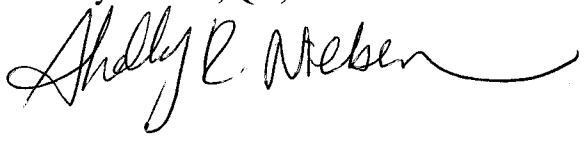
WIPP: TD: 1.4.2.3: TD: QA-L: RECERT: 554738 544153 1/24/11 RH 1/20/11

3. An error in the filename referenced in Item 2 (*Identification/Listing of Input, Input sources, and Output*) of the 2010 Calculated Densities memo (dated January 12, 2011) has been corrected:
    - Excel spreadsheet including the data – 2009 Calc Densities.xls, *should read*
    - Excel spreadsheet including the data – 2010 Calc Densities.xls

The following documents are included as attachments to this Memo of Correction:

- 2010 Calc Densities.xls (Excel spreadsheet print-out)
- 2010 Calc Densities Formulas.xls (Excel spreadsheet print-out)
- H-3b2 (Worksheet 8 in Excel spreadsheet – print-out)
- H-12 (Worksheet 16 in Excel spreadsheet – print-out)

Shelly Nielsen, QA, concurs with the above corrections.



2010 Calculated Densities

A	B	C	D	E	F	G	H	I	J	K	L	M	N
Monitor Well	2010 Avg Calc Dens (g/cm^3)	2009 Avg Calc Dens (g/cm^3)	2010 - 2009 Diff (g/cm^3)	# of Dens Averaged	Troll - Mini/Level, Vented (v)/Non-Vented (nv)	Timeframe of Data	Troll File Name(s)	Troll Install Depth (ft BTOC/T)	Troll Ideal Install Depth (ft BTOC/T) (ERMS 549564)	Length Off Ideal Depth (ft)	Date of Install	Installation Logbook Page	Comments/Explanations
AEC-7	1.076	1.078	-0.002	6	Level - nv	June - August	SN106823 121609 AEC-7 (C9) 2010-08-12 11.39.03.wsl	872.4	872.4	0.00	12/16/2009	LTM-12, 142	
C-2737	1.025	1.025	0.000	6	Level - nv	June - August	SN110390 021810 C-2737 (C21) 2010-11-17 12.29.50.wsl	688.9	691.0	2.15	2/18/2010	LTM-13, 60	
ERDA-9	1.070	1.068	0.002	5	Level - nv	June - August	SN102927 052610 ERDA-9 (C13) 2010-11-30 13.38.57.wsl	717.2	716.8	-0.42	5/26/2010	LTM-14, 61	
H-2b2	1.011	1.009	0.002	6	Level - nv	June - August	SN116305 011210 H-2b2 (C7) 2010-11-17 09.07.03.wsl	635.5	635.5	0.00	1/12/2010	LTM-13, 14	
H-3b2	1.041	1.040	0.001	6	Level - nv	June - August	SN116299 121709 H-3b2 (C8) 2010-08-31 10.29.00.wsl	672.7	687.7	15.02	12/17/2009	LTM-15, 112	Actual Troll depth measured on 1/7/11. Historical Troll depth was exaggerated (687.7' BTOC) because Troll was hung up and additional cable had been erroneously installed in the well.
H-4bR	1.016	1.016	0.000	5	Level - nv	June - August	SN116306 052610 H-4bR (C4) 2010-12-10 09.33.26.wsl	507.9	504.1	-3.80	5/26/2010	LTM-14, 60	
H-5b	1.091	1.094	-0.003	5	Level - nv	June - August	SN146412 062509 H-5b (C9) 2010-06-04 07.45.57.wsl, SN162603 060410 H-5b (C10) 2010-12-08 14.29.26.wsl	910.3	910.3	0.00	6/25/2009 6/4/2010	LTM-11, 33 LTM-14, 89	
H-6bR	1.035	1.035	0.000	6	Level - nv	June - August	SN121360 100109 H-6bR (C2) 2010-07-28 10.11.54.wsl, SN147945 072810 H-6bR (C3) 2010-11-05 10.46.51.wsl	616.6	617.5	0.90	10/1/2009 7/28/10	LTM-12, 33 LTM-14, 148	
H-7b1	1.004	1.004	0.000	8	Level - nv	June - August	SN122638 050510 H-7b1 (C13) 2010-08-10 10.36.43.wsl, SN146411 081210 H-7b1 (C14) 2010-12-07 12.24.30.wsl	269.9	269.9	0.00	5/5/2010 8/12/10	LTM-14, 31 LTM-14, 182	
H-9bR	Unable to calculate - well drilled in October 2010 and water levels not available for calculation												
H-9c	1.004	1.004	0.000	5	Level - nv	June - August	SN133569 022410 H-9c (C18) 2010-06-30 10.15.52.wsl, SN123367 063010 H-9c (C19) 2010-08-04 11.47.27.wsl, SN123367 090810 H-9c (C20) 2010-09-26 10.04.02.wsl	663.5	663.5	0.00	8/6/2009 6/30/2010	LTM-11, 93 LTM-14, 110	Plugged back to Magenta in October 2010, Measurements referenced to BTOT
H-10c	1.089	1.089	0.000	7	Level - nv	January - April	SN129649 072709 H-10c (C8) 2010-05-03 13.23.02.wsl	1372.1	1372.1	0.00	7/27/2009	LTM-11, 65	
H-11b4	1.049	1.058	-0.009	6	Level - nv	June - August	SN123356 021010 H-11b4(C12) 2010-06-30 11.44.23.wsl, SN136296 063010 H-11b4 (C13) 2010-12-06 12.48.32.wsl	736.3	736.2	-0.08	2/10/2010 6/30/2010	LTM-13, 54 LTM-14, 111	
H-12	1.105	1.095	0.010	7	Level - nv	June - August	SN149041 092309 H-12 (C19) 2010-07-07 08.44.41.wsl, SN102920 070810 H-12 (C20) 2010-12-06 13.27.04.wsl	826.4	838.4	12.00	1/7/2011	LTM-15, 113	Actual Troll depth measured on 1/7/11. Historical Troll depth was exaggerated (838.4' BTOC) because Troll was hung up and additional cable had been erroneously installed in the well.
H-15R	1.117	1.118	-0.001	6	Level - nv	June - August	SN141106 021810 H-15R (C7) 2010-11-30 12.57.04.wsl	872.5	872.5	0.04	2/18/2010	LTM-13, 63	
H-16	1.035	1.037	-0.002	6	Level - nv	June - August	SN121047 111909 H-16 (C2) 2010-10-05 09.09.17.wsl	715.1	715.1	-0.01	11/19/2009	LTM-12, 117	
H-17	1.134	1.133	0.001	6	Level - nv	June - August	SN123357 052010 H-17 (C7) 2010-09-01 11.55.37.wsl	700.6	720.4	19.80	11/9/2009 5/20/2010	LTM-12, 85 LTM-14, 57	
H-19b0	1.066	1.065	0.001	6	Level - nv	June - August	SN116300 021810 H-19b0 (C11) 2010-11-30 11.50.03.wsl	753.6	754.0	0.42	2/18/2010	LTM-13, 61	
IMC-461	1.003	1.005	-0.002	6	Level - nv	June - August	SN121033 050510 IMC-461 (C19) 2010-12-07 14.21.45.wsl	375.3	376.5	1.18	5/5/2010	LTM-14, 36	Reference in logbook is to top of environmental casing, which is 1.18' above top of reference casing
SNL-1	1.026	1.028	-0.002	7	Level - nv	June - August	SN121361 102009 SNL-1 (C17) 2010-08-17 11.05.35.wsl, SN116453 081710 SNL-1 (C18) 2010-12-08 11.04.55.wsl	612.9	612.9	-0.03	10/20/2009 8/17/2010	LTM-12, 61 LTM-14, 187	
SNL-2	1.007	1.006	0.001	6	Level - nv	June - August	SN147947 022510 SNL-2(C26) 2010-06-29 10.09.40.wsl, SN164456 062910 SNL-2 (C27) 2010-12-07 15.08.20.wsl	470.7	470.7	0.00	6/29/2010	LTM-14, 106	
SNL-3	1.026	1.030	-0.004	6	Level - nv	June - August	SN110411 111809 SNL-3 (C12) 2010-10-14 09.46.29.wsl	766.5	766.5	0.00	11/18/2009	LTM-12, 103	
SNL-5	1.006	1.007	-0.001	6	Level - nv	June - August	SN149045 050510 SNL-5 (C16) 2010-12-08 09.18.31.wsl	649.0	649.0	0.00	5/5/2010	LTM-14, 39	
SNL-6	1.231	1.230	0.001	6	Level - nv	June - August	SN159432 050310 SNL-6 (C10) 2010-12-08 11.54.31.wsl	1338.2	1338.2	0.00	5/3/2010	LTM-14, 15	
SNL-8	1.092	1.091	0.001	7	Level - nv	June - August	SN121786 102009 SNL-8 (C27) 2010-08-17 09.45.35.wsl, SN134838 081710 SNL-8(C28) 2010-12-08 14.09.18.wsl	969.7	969.7	0.00	10/20/2009 8/17/2010	LTM-12, 63 LTM-14, 186	
SNL-9	1.016	1.016	0.000	5	Level - nv	June - August	SN123363 093009 SNL-9 (C21) 2010-07-28 09.26.36.wsl, SN102924 072810 SNL-9(C22) 2010-12-07 14.06.52.wsl	567.2	567.2	0.00	9/30/2009 7/28/2010	LTM-12, 23 LTM-14, 147	
SNL-10	1.007	1.007	0.000	6	Level - nv	June - August	SN110383 082709 SNL-10 (C11) 2010-07-28 11.34.10.wsl, SN134842 072810 SNL-10 (C12) 2010-12-10 11.29.58.wsl	613.5	613.5	-0.04	8/27/2009 7/28/2010	LTM-11, 133 LTM-14, 150	
SNL-12	1.003	1.002	0.001	6	Level - nv	June - August	SN143789 050410 SNL-12 (C14) 2010-12-06 15.07.25.wsl	570.9	570.9	0.00	5/4/2010	LTM-14, 25	
SNL-13	1.021	1.023	-0.002	6	Level - nv	June - August	SN122629 050610 SNL-13 (C13) 2010-12-10 08.58.19.wsl	401.2	401.2	-0.04	5/6/2010	LTM-14, 48	
SNL-14	1.044	1.044	0.000	6	Level - nv	June - August	SN126691 033010 SNL-14 (C22) 2010-11-30 10.49.01.wsl	670.1	669.5	-0.58	3/25/2010	LTM-13, 107	
SNL-15	1.226	1.223	0.003	6	Level - nv	June - August	SN126694 033010 SNL-15 (C17) 2010-11-30 14.28.25.wsl	922.8	922.8	0.00	3/25/2010	LTM-13, 109	
SNL-16	1.007	1.013	-0.006	6	Level - nv	June - August	SN112784 050510 SNL-16 (C9) 2010-10-21 08.56.01.wsl	206.3	206.3	0.00	5/5/2010	LTM-14, 32	
SNL-17A	1.002	1.003	-0.001	6	Level - nv	June - August	SN122632 050410 SNL-17 (C14) 2010-11-17 10.52.20.wsl	349.6	349.6	-0.04	5/4/2010	LTM-14, 29	
SNL-18	1.004	1.003	0.001	6	Level - nv	June - August	SN148779 011210 SNL-18 (C15) 2010-07-15 09.49.25.wsl, SN116454 071510 SNL-18 (C16) 2010-12-08 09.48.49.wsl	551.3	551.2	-0.11	1/12/2010 7/15/2010	LTM-13, 19 LTM-14, 142	
SNL-19	1.004	1.005	-0.001	6	Level - nv	June - August	SN121791 091509 SNL-19 (C12) 2010-07-15 11.24.32.wsl, SN146412 071510 SNL-19 (C13) 2010-12-07 14.51.33.wsl	355.1	355.1	0.00	9/15/2009 7/15/2010	LTM-11, 147 LTM-14, 143	
WIPP-11	1.035	1.035	0.000	7	Level - nv	June - August	SN110407 102809 WIPP-11 (C20) 2010-08-12 08.57.08.wsl, SN110407 081210 WIPP-11 (C21) 2010-09-01 13.07.56.wsl	857.8	857.8	0.00	10/28/2009 8/12/2010	LTM-12, 78 LTM-14, 181	
WIPP-13	1.042	1.043	-0.001	7	Level - nv	June - August	SN134838 110909 WIPP-13 (C12) 2010-06-02 08.56.46.wsl, SN143794 060410 WIPP-13 (C13) 2010-11-05 10.06.08.wsl	715.3	715.3	0.00	11/9/2009 6/4/2010	LTM-12, 82 LTM-14, 87	
WIPP-19	1.049	1.049	0.000	7	Level - nv	June - August	SN134842 072809 WIPP-19 (C4) 2010-06-02 08.16.07.wsl, SN143793 060410 WIPP-19(C5) 2010-12-08 14.50.14.wsl	770.2	770.2	0.00	7/28/2009 6/4/10	LTM-11, 79 LTM-14, 85	

Notes:

Attempts have been made to explain changes in calculated density between 2009 and 2010 = to or >0.02 g/c
ft BTOC = feet below top of casing
ft BTOT = feet below top of tubing
(v) = vented
(nv) = non-vented
NA = not applicable/available
LTM = Long-Term Monitoring
WSWT = WIPP Well Site Testing
Barometric data are from SN10532 2009-10-28 120000 prt-a-cmp(BARO5).bin, SN11064 2010-05-11 120000 P-A-C (baro7).bin, SN13500 2010-06-17 100000 P-A-C (baro8).bin

2010 Calculated Densities

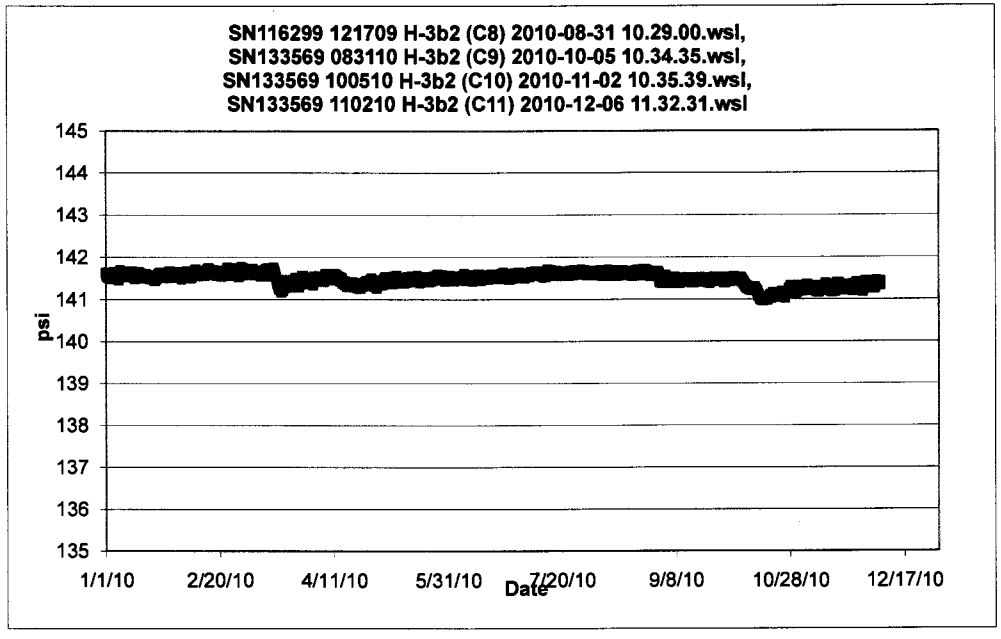
A	B	C	D	E	F	G	H	I	J	K	L	M	N
Monitor Well	2010 Avg Calc Dens (g/cm^3)	2009 Avg Calc Dens (g/cm^3)	2010 - 2009 Diff (g/cm^3)	# of Dens Averaged	Troll - Mini/Level, Vented (v)/Non-Vented (nv)	Timeframe of Data	Troll File Name(s)	Troll Install Depth (ft BTOC/T)	Troll Ideal Install Depth (ft BTOC/T) (ERMS 549564)	Length Off Ideal Depth (ft)	Date of Install	Installation Logbook Page	Comments/Explanations
AEC-7	1.076	1.0778	=B4-C4	6	Level - nv	June - August	SN106823 121609 AEC-7 (C9) 2010-08-12 11.39.03.wsl	872.4	872.4	=J4-I4	40163	LTM-12, 142	
C-2737	1.025	1.0246	=B5-C5	6	Level - nv	June - August	SN110390 021810 C-2737 (C21) 2010-11-17 12.29.50.wsl	688.85	691	=J5-I5	40227	LTM-13, 60	
ERDA-9	1.07	1.0682	=B6-C6	5	Level - nv	June - August	SN102927 052610 ERDA-9 (C13) 2010-11-30 13.38.57.wsl	717.2	716.78	=J6-I6	40324	LTM-14, 61	
H-2b2	1.011	1.0088	=B7-C7	6	Level - nv	June - August	SN116305 011210 H-2b2 (C7) 2010-11-17 09.07.03.wsl	635.5	635.5	=J7-I7	40190	LTM-13, 14	
H-3b2	1.041	1.04	=B8-C8	6	Level - nv	June - August	SN116299 121709 H-3b2 (C8) 2010-08-31 10.29.00.wsl	672.68	687.7	=J8-I8	40164	LTM-15, 112	Actual Troll depth measured on 1/7/11. Historical Troll depth was exaggerated (687.7' BTOC) because Troll was hung up and additional cable had been erroneously installed in
H-4bR	1.016	1.016	=B9-C9	5	Level - nv	June - August	SN116306 052610 H-4bR (C4) 2010-12-10 09.33.26.wsl	507.9	504.1	=J9-I9	40324	LTM-14, 60	
H-5b	1.091	1.0939	=B10-C10	5	Level - nv	June - August	SN146412 062509 H-5b (C9) 2010-06-04 07.45.57.wsl, SN162603 060410 H-5b (C10) 2010-12-08 14.29.26.wsl	910.3	910.3	=J10-I10	6/25/2009 6/4/2010	LTM-11, 33 LTM-14, 89	
H-6bR	1.035	1.0353	=B11-C11	6	Level - nv	June - August	SN121360 100109 H-6bR (C2) 2010-07-28 10.11.54.wsl, SN147945 072810 H-6bR (C3) 2010-11-05 10.46.51.wsl	616.6	617.5	=J11-I11	10/1/2009 7/28/10	LTM-12, 33 LTM-14, 148	
H-7b1	1.004	1.0037	=B12-C12	8	Level - nv	June - August	SN122638 050510 H-7b1 (C13) 2010-08-10 10.36.43.wsl, SN146411 081210 H-7b1 (C14) 2010-12-07 12.24.30.wsl	269.9	269.9	=J12-I12	5/5/2010 8/12/10	LTM-14, 31 LTM-14, 182	
H-9bR	Unable to calculate - well drilled in October 2010 and water levels not available for calculation												
H-9c	1.004	1.0035	=B14-C14	5	Level - nv	June - August	SN133569 022410 H-9c (C18) 2010-06-30 10.15.52.wsl, SN123367 063010 H-9c (C19) 2010-08-04 11.47.27.wsl,	663.5	663.5	=J14-I14	8/6/2009 6/30/2010	LTM-11, 93 LTM-14, 110	Plugged back to Magenta in October 2010, Measurements referenced to BTOT
H-10c	1.089	1.089	=B15-C15	7	Level - nv	January - April	SN129649 072709 H-10c (C8) 2010-05-03 13.23.02.wsl	1372.1	1372.1	=J15-I15	40021	LTM-11, 65	
H-11b4	1.049	1.0576	=B16-C16	6	Level - nv	June - August	SN123356 021010 H-11b4(C12) 2010-06-30 11.44.23.wsl, SN136296 063010 H-11b4 (C13) 2010-12-06 12.48.32.wsl	736.28	736.2	=J16-I16	2/10/2010 6/30/2010	LTM-13, 54 LTM-14, 111	
H-12	1.105	1.095	=B17-C17	7	Level - nv	June - August	SN149041 092309 H-12 (C19) 2010-07-07 08.44.41.wsl, SN102920 070810 H-12 (C20) 2010-12-06 13.27.04.wsl	826.4	838.4	=J17-I17	40550	LTM-15, 113	Actual Troll depth measured on 1/7/11. Historical Troll depth was exaggerated (838.4' BTOC) because Troll was hung up and additional cable had been erroneously installed in the well.
H-15R	1.117	1.1181	=B18-C18	6	Level - nv	June - August	SN141106 021810 H-15R (C7) 2010-11-30 12.57.04.wsl	872.5	=870.5+2.04	=J18-I18	40227	LTM-13, 63	
H-16	1.035	1.0367	=B19-C19	6	Level - nv	June - August	SN121047 111909 H-16 (C2) 2010-10-05 09.09.17.wsl	715.1	=713.5+1.59	=J19-I19	40136	LTM-12, 117	
H-17	1.134	1.1332	=B20-C20	6	Level - nv	June - August	SN123357 052010 H-17 (C7) 2010-09-01 11.55.37.wsl	700.6	720.4	=J20-I20	11/9/2009 5/20/2010	LTM-12, 85 LTM-14, 57	
H-19b0	1.066	1.065	=B21-C21	6	Level - nv	June - August	SN116300 021810 H-19b0 (C11) 2010-11-30 11.50.03.wsl	753.58	754	=J21-I21	40227	LTM-13, 61	
IMC-461	1.003	1.005	=B22-C22	6	Level - nv	June - August	SN121033 050510 IMC-461 (C19) 2010-12-07 14.21.45.wsl	375.32	376.5	=J22-I22	40303	LTM-14, 36	Reference in logbook is to top of environmental casing, which is 1.18' above top of reference casing
SNL-1	1.026	1.0275	=B23-C23	7	Level - nv	June - August	SN121361 102009 SNL-1 (C17) 2010-08-17 11.05.35.wsl, SN116453 081710 SNL-1 (C18) 2010-12-08 11.04.55.wsl	612.9	612.87	=J23-I23	10/20/2009 8/17/2010	LTM-12, 61 LTM-14, 187	
SNL-2	1.007	1.0058	=B24-C24	6	Level - nv	June - August	SN147947 022510 SNL-2(C26) 2010-06-29 10.09.40.wsl, SN164456 062910 SNL-2 (C27) 2010-12-07 15.08.20.wsl	470.7	470.7	=J24-I24	40358	LTM-14, 106	
SNL-3	1.026	1.03	=B25-C25	6	Level - nv	June - August	SN110411 111809 SNL-3 (C12) 2010-10-14 09.46.29.wsl	766.5	766.5	=J25-I25	40135	LTM-12, 103	
SNL-5	1.006	1.0067	=B26-C26	6	Level - nv	June - August	SN149045 050510 SNL-5 (C16) 2010-12-08 09.18.31.wsl	649	649	=J26-I26	40303	LTM-14, 39	
SNL-6	1.231	1.23	=B27-C27	6	Level - nv	June - August	SN159432 050310 SNL-6 (C10) 2010-12-08 11.54.31.wsl	1338.2	1338.2	=J27-I27	40301	LTM-14, 15	
SNL-8	1.092	1.091	=B28-C28	7	Level - nv	June - August	SN121786 102009 SNL-8 (C27) 2010-08-17 09.45.35.wsl, SN134838 081710 SNL-8(C28) 2010-12-08 14.09.18.wsl	969.7	969.7	=J28-I28	10/20/2009 8/17/2010	LTM-12, 63 LTM-14, 186	
SNL-9	1.016	1.016	=B29-C29	5	Level - nv	June - August	SN123363 093009 SNL-9 (C21) 2010-07-28 09.26.36.wsl, SN102924 072810 SNL-9(C22) 2010-12-07 14.06.52.wsl	567.2	567.2	=J29-I29	9/30/2009 7/28/2010	LTM-12, 23 LTM-14, 147	
SNL-10	1.007	1.007	=B30-C30	6	Level - nv	June - August	SN110383 082709 SNL-10 (C11) 2010-07-28 11.34.10.wsl, SN134842 072810 SNL-10 (C12) 2010-12-10 11.29.58.wsl	613.5	613.46	=J30-I30	8/27/2009 7/28/2010	LTM-11, 133 LTM-14, 150	
SNL-12	1.003	1.002	=B31-C31	6	Level - nv	June - August	SN143789 050410 SNL-12 (C14) 2010-12-06 15.07.25.wsl	570.9	570.9	=J31-I31	40302	LTM-14, 25	
SNL-13	1.021	1.023	=B32-C32	6	Level - nv	June - August	SN122629 050610 SNL-13 (C13) 2010-12-10 08.58.19.wsl	401.2	401.16	=J32-I32	40304	LTM-14, 48	
SNL-14	1.044	1.044	=B33-C33	6	Level - nv	June - August	SN126691 033010 SNL-14 (C22) 2010-11-30 10.49.01.wsl	670.08	669.5	=J33-I33	40262	LTM-13, 107	
SNL-15	1.226	1.223	=B34-C34	6	Level - nv	June - August	SN126694 033010 SNL-15 (C17) 2010-11-30 14.28.25.wsl	922.8	922.8	=J34-I34	40262	LTM-13, 109	
SNL-16	1.007	1.013	=B35-C35	6	Level - nv	June - August	SN112784 050510 SNL-16 (C9) 2010-10-21 08.56.01.wsl	206.3	206.3	=J35-I35	40303	LTM-14, 32	
SNL-17A	1.002	1.003	=B36-C36	6	Level - nv	June - August	SN122632 050410 SNL-17 (C14) 2010-11-17 10.52.20.wsl	349.6	349.56	=J36-I36	40302	LTM-14, 29	
SNL-18	1.004	1.003	=B37-C37	6	Level - nv	June - August	SN148779 011210 SNL-18 (C15) 2010-07-15 09.49.25.wsl, SN116454 071510 SNL-18 (C16) 2010-12-08 09.48.49.wsl	551.3	551.19	=J37-I37	1/12/2010 7/15/2010	LTM-13, 19 LTM-14, 142	
SNL-19	1.004	1.005	=B38-C38	6	Level - nv	June - August	SN121791 091509 SNL-19 (C12) 2010-07-15 11.24.32.wsl, SN146412 071510 SNL-19 (C13) 2010-12-07 14.51.33.wsl	355.1	355.1	=J38-I38	9/15/2009 7/15/2010	LTM-11, 147 LTM-14, 143	
WIPP-11	1.035	1.035	=B39-C39	7	Level - nv	June - August	SN110407 102809 WIPP-11 (C20) 2010-08-12 08.57.08.wsl, SN110407 081210 WIPP-11 (C21) 2010-09-01 13.07.56.wsl	857.8	857.8	=J39-I39	10/28/2009 8/12/2010	LTM-12, 78 LTM-14, 181	
WIPP-13	1.042	1.043	=B40-C40	7	Level - nv	June - August	SN134838 110909 WIPP-13 (C12) 2010-06-02 08.56.46.wsl, SN143794 060410 WIPP-13 (C13) 2010-11-05 10.06.08.wsl	715.3	715.3	=J40-I40	11/9/2009 6/4/2010	LTM-12, 82 LTM-14, 87	
WIPP-19	1.049	1.049	=B41-C41	7	Level - nv	June - August	SN134842 072809 WIPP-19 (C4) 2010-06-02 08.16.07.wsl, SN143793 060410 WIPP-19(C5) 2010-12-08 14.50.14.wsl	770.2	770.2	=J41-I41	7/28/2009 6/4/10	LTM-11, 79 LTM-14, 85	

H-3b2 Culebra Troll Install. Z (ft BTOC) = 672.68

Troll files - SN116299 121709 H-3b2 (C8) 2010-08-31 10.29.00.wsl, SN133569 083110 H-3b2 (C9) 2010-10-05 10.34.35.wsl, SN133569 100510 H-3b2 (C10) 2010-11-02 10.35.39.wsl, SN133569 110210 H-3b2 (C11) 2010-12-06 11.32.31.wsl

Date/Time	WL (psi)	DTW (ft BTOC)
1/1/2010 0:00	141.61	
1/1/2010 1:00	141.638	
1/1/2010 2:00	141.625	
1/1/2010 3:00	141.578	
1/1/2010 4:00	141.569	
1/1/2010 5:00	141.558	
1/1/2010 6:00	141.589	
1/1/2010 7:00	141.577	
1/1/2010 8:00	141.544	
1/1/2010 9:00	141.59	
1/1/2010 10:00	141.563	
1/1/2010 11:00	141.566	
1/1/2010 12:00	141.535	
1/1/2010 13:00	141.562	
1/1/2010 14:00	141.522	
1/1/2010 15:00	141.516	
1/1/2010 16:00	141.512	
1/1/2010 17:00	141.537	
1/1/2010 18:00	141.531	
1/1/2010 19:00	141.528	
1/1/2010 20:00	141.537	
1/1/2010 21:00	141.555	
1/1/2010 22:00	141.565	
1/1/2010 23:00	141.548	
1/2/2010 0:00	141.527	
1/2/2010 1:00	141.553	
1/2/2010 2:00	141.516	
1/2/2010 3:00	141.528	
1/2/2010 4:00	141.525	
1/2/2010 5:00	141.558	
1/2/2010 6:00	141.518	
1/2/2010 7:00	141.53	
1/2/2010 8:00	141.563	
1/2/2010 9:00	141.538	
1/2/2010 10:00	141.55	
1/2/2010 11:00	141.537	
1/2/2010 12:00	141.524	
1/2/2010 13:00	141.489	
1/2/2010 14:00	141.52	
1/2/2010 15:00	141.491	
1/2/2010 16:00	141.479	
1/2/2010 17:00	141.521	
1/2/2010 18:00	141.505	
1/2/2010 19:00	141.503	
1/2/2010 20:00	141.509	
1/2/2010 21:00	141.524	
1/2/2010 22:00	141.535	
1/2/2010 23:00	141.532	
1/3/2010 0:00	141.541	
1/3/2010 1:00	141.543	
1/3/2010 2:00	141.535	
1/3/2010 3:00	141.538	
1/3/2010 4:00	141.544	
1/3/2010 5:00	141.56	
1/3/2010 6:00	141.577	

Date/Time	PSI	DTW (ft BTOC)	DTW Source	Troll Depth (ft BTOC)	Baro psi	Calc Dens	Average
6/2/2010 10:19	141.495	387.58	S	672.68	12.918	1.040	1.041
6/8/2010 8:20	141.512	387.79	W	672.68	13.049	1.040	
7/6/2010 10:55	141.597	387.58	S	672.68	13.014	1.040	
7/13/2010 15:15	141.71	387.54	W	672.68	12.947	1.042	
8/3/2010 10:02	141.641	387.61	S	672.68	13.065	1.040	
8/11/2010 14:07	141.647	387.65	W	672.68	12.995	1.041	



H-12 Culebra Troll Install. Z (ft BTOC) = 826.4

Troll files - SN149041 092309 H-12 (C19) 2010-07-07 08.44.41.wsl, SN102920 070810 H-12 (C20) 2010-12-06 13.27.04.wsl

Date/Time	WL (psi)	DTW (ft BTOC)
1/1/2010 0:00	190.666	
1/1/2010 1:00	190.608	
1/1/2010 2:00	190.652	
1/1/2010 3:00	190.643	
1/1/2010 4:00	190.642	
1/1/2010 5:00	190.627	
1/1/2010 6:00	190.634	
1/1/2010 7:00	190.561	
1/1/2010 8:00	190.612	
1/1/2010 9:00	190.618	
1/1/2010 10:00	190.611	
1/1/2010 11:00	190.566	
1/1/2010 12:00	190.596	
1/1/2010 13:00	190.551	
1/1/2010 14:00	190.558	
1/1/2010 15:00	190.498	
1/1/2010 16:00	190.527	
1/1/2010 17:00	190.503	
1/1/2010 18:00	190.554	
1/1/2010 19:00	190.558	
1/1/2010 20:00	190.545	
1/1/2010 21:00	190.524	
1/1/2010 22:00	190.575	
1/1/2010 23:00	190.512	
1/2/2010 0:00	190.552	
1/2/2010 1:00	190.498	
1/2/2010 2:00	190.492	
1/2/2010 3:00	190.496	
1/2/2010 4:00	190.53	
1/2/2010 5:00	190.539	
1/2/2010 6:00	190.532	
1/2/2010 7:00	190.479	
1/2/2010 8:00	190.541	
1/2/2010 9:00	190.539	
1/2/2010 10:00	190.526	
1/2/2010 11:00	190.521	
1/2/2010 12:00	190.5	
1/2/2010 13:00	190.504	
1/2/2010 14:00	190.468	
1/2/2010 15:00	190.415	
1/2/2010 16:00	190.483	
1/2/2010 17:00	190.462	
1/2/2010 18:00	190.476	
1/2/2010 19:00	190.435	
1/2/2010 20:00	190.481	
1/2/2010 21:00	190.489	
1/2/2010 22:00	190.498	
1/2/2010 23:00	190.449	
1/3/2010 0:00	190.48	
1/3/2010 1:00	190.501	
1/3/2010 2:00	190.496	
1/3/2010 3:00	190.506	
1/3/2010 4:00	190.524	
1/3/2010 5:00	190.537	
1/3/2010 6:00	190.561	
1/3/2010 7:00	190.569	

Date/Time	PSI	DTW (ft BTOC)	DTW Source	Troll Depth (ft BTOC)	Baro psi	Calc Dens	Average
6/2/2010 12:39	190.693	455.85	S	826.4	12.897	1.107	
6/7/2010 13:52	190.808	455.98	W	826.4	13.05	1.107	
7/7/2010 8:42	190.761	456.01	S	826.4	13.032	1.107	
7/8/2010 13:07	190.35	455.71	S	826.4	13.065	1.103	1.105
7/13/2010 11:18	190.183	456.07	W	826.4	12.966	1.104	
8/4/2010 9:53	190.14	456.12	S	826.4	13.051	1.103	
8/11/2010 12:42	190.118	456.23	W	826.4	13.011	1.104