



Department of Energy
 Carlsbad Field Office
 P. O. Box 3090
 Carlsbad, New Mexico 88221



FEB -3 2012

Mr. John Kieling, Acting Chief
 Hazardous Waste Bureau
 New Mexico Environment Department
 2905 Rodeo Park Drive East, Building 1
 Santa Fe, New Mexico 87505-6303

Subject: Waste Isolation Pilot Plant Groundwater Level Measurements for January 2012

Dear Mr. Kieling:

The purpose of this letter is to submit the Waste Isolation Pilot Plant Groundwater Level Measurements for January 2012, as required by Permit Part 5, Permit Condition 5.10.2.2. of Hazardous Waste Facility Permit No. NM4890139088-TSDF.

We certify under penalty of law that this document and all attachments were prepared under our direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on our inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of our knowledge and belief, true, accurate, and complete. We are aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

Please feel free to contact Mr. Daniel J. Ferguson at (575) 234-7018, if you have any questions regarding this data transmittal.

Sincerely,

Edward Ziemianski, Interim Manager
 Carlsbad Field Office

M. F. Sharif, General Manager
 Washington TRU Solutions LLC

Enclosure

cc: w/enclosure

J. Davis, NMED	* ED	R. Maestas, NMED	ED
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T. Kliphuis, NMED	ED	*ED denotes electronic distribution	



Mr. John Kieling

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bcc: w/o enclosure

G. Basabilvazo, CBFO	*ED
D. Ferguson, CBFO	ED
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S. McCauslin, CBFO	ED
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R. Chavez, RES	ED
E. D'Amico, RES	ED
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R. Kehrman, RES	ED
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bcc: w/enclosure

RCRA Chronology	ED
WIPP Operating Record	ED

*ED denote electronic distribution

SUMMARY COMMENTS FOR THE WIPP GROUNDWATER LEVEL
MEASUREMENTS FOR THE MONTH OF JANUARY, 2012

1. The WIPP Hazardous Waste Facility Permit (Permit), Attachment L, Section L-4c (1) requires reporting of cumulative fluctuations noted in the Detection Monitoring Program (DMP) wells of more than two feet in the course of one year which are not attributable to site tests and subsequent stabilization. Changes in DMP well water levels greater than two feet for calendar year 2011 will be in the 2011 Annual Site Environmental Report (ASER).
2. Calculations used to derive water level and fresh water head elevations in Table 1:
 - $\text{Adjusted depth to water(ft)} = \text{depth to water from measuring point(ft)} - \text{adjustment(ft)}$
 - $\text{Water level(ft amsl)} = \text{top of surveyed casing elevation(ft amsl)} - \text{adjusted depth to water(ft)}$
 - $\text{Column height(ft)} = \text{water level(ft amsl)} - \text{culebra midpoint elevation(ft amsl)}$
 - $\text{Fresh-water head(ft amsl)} = \text{specific gravity} \times \text{column Height(ft)} + \text{culebra midpoint elevation(ft amsl)}$
3. For production-injection packers (PIPs) installed on tubing or Water Quality Sampling Program wells with tubing access ports, an adjustment is necessary to reference the water level to the surveyed fixed permanent casing [top of casing(TOC)]. If the measuring point is above the TOC, the depth to water relative to TOC is less. If the measuring point is below the TOC, the depth to water relative to TOC is greater (ref: WP 02-EM1014, Rev 6).
4. Groundwater level measurements were taken at H-11b4R. However, fluid density for this well has not been measured since construction; therefore the equivalent freshwater head cannot be calculated. The fluid density for this well will be determined when the 2012 pressure density survey has been completed. The surveyed elevation for H-11b4R has not been determined; supplemental data will be submitted upon completion.
5. Prior to this report, the specific gravity for H-09bR was not obtained since the well was completed in 2010 and under going SNL testing. A new water density has been calculated and is applied to the current water level as well as water levels reported since August 2011. This adjustment to the water levels is shown in Table 2 and is referred to as "errata" since it represents an update to previously reported values.

Table 1
WIPP Groundwater level Measurements for January 2012

Well Number	Zone	Top of Surveyed Casing Elevation (ft amsl)	Date	Time	Depth to Water from Measuring Point (feet)	Adjustment (feet)	Adjusted Depth to Water (feet)	Adjusted Depth to Water (m)	Water Level (ft amsl)	Water Level (m amsl)	Fresh-water Head (ft amsl)	Culebra Midpoint Elevation (ft amsl)	Specific Gravity	Column Height (feet)	Notes
AEC-7	CUL	3657.06	01/10/12	07:45	612.64	0.00	612.64	186.73	3044.42	927.94	3062.87	2784.60	1.071	259.82	N/A
C-2737 (PIP)	CUL	3400.76	01/11/12	14:00	386.50	-0.60	387.10	117.99	3013.66	918.56	3021.87	2709.70	1.027	303.96	N/A
ERDA-9	CUL	3410.17	01/11/12	14:27	399.26	-0.03	399.29	121.70	3010.88	917.72	3034.09	2693.00	1.073	317.88	N/A
H-02b2	CUL	3378.36	01/10/12	14:15	336.20	0.00	336.20	102.47	3042.16	927.25	3045.75	2742.80	1.012	299.36	N/A
H-03b2	CUL	3389.91	01/11/12	13:30	388.13	0.00	388.13	118.30	3001.78	914.94	3014.06	2702.20	1.041	299.58	N/A
H-04bR	CUL	3334.64	01/10/12	10:15	330.60	0.00	330.60	100.77	3004.04	915.63	3007.05	2826.76	1.017	177.28	N/A
H-05b	CUL	3506.78	01/09/12	12:52	465.69	0.00	465.69	141.94	3041.09	926.92	3084.22	2596.50	1.097	444.59	N/A
H-06bR	CUL	3349.22	01/09/12	11:28	291.11	0.00	291.11	88.73	3058.11	932.11	3070.51	2731.90	1.038	326.21	N/A
H-07b1	CUL	3163.72	01/10/12	10:30	166.31	0.00	166.31	50.69	2997.41	913.61	2998.03	2893.80	1.006	103.61	N/A
H-09bR	CUL	3408.34	01/10/12	11:47	412.82	0.00	412.82	125.83	2995.52	913.03	2995.52	2743.50	1.000	252.02	N/A
H-10c	CUL	3688.40	01/11/12	09:30	719.55	0.00	719.55	219.32	2968.85	904.91	3030.19	2316.30	1.094	652.55	N/A
H-12	CUL	3427.33	01/11/12	13:10	456.75	0.00	456.75	139.22	2970.58	905.43	3011.42	2588.90	1.107	381.68	N/A
H-15R	CUL	3482.02	01/11/12	14:18	507.44	0.00	507.44	154.67	2974.58	906.65	3018.05	2609.30	1.119	365.28	N/A
H-16	CUL	3410.06	01/11/12	12:28	376.41	0.00	376.41	114.73	3033.65	924.66	3046.16	2695.63	1.037	338.02	N/A
H-17	CUL	3385.24	01/09/12	14:25	417.85	0.00	417.85	127.36	2967.39	904.46	3008.54	2664.80	1.136	302.59	N/A
H-19b0	CUL	3418.33	01/10/12	09:34	426.02	0.00	426.02	129.85	2992.31	912.06	3013.95	2664.40	1.066	327.91	N/A
I-461	CUL	3283.61	01/09/12	09:42	240.68	0.00	240.68	73.36	3042.93	927.49	3042.93	2907.10	1.000	135.83	N/A
SNL-01	CUL	3512.84	01/09/12	07:53	435.32	0.00	435.32	132.69	3077.52	938.03	3083.02	2900.00	1.031	177.52	N/A
SNL-02	CUL	3323.06	01/09/12	08:55	254.32	0.00	254.32	77.52	3068.74	935.35	3070.69	2852.30	1.009	216.44	N/A
SNL-03	CUL	3490.35	01/09/12	12:27	419.87	0.00	419.87	127.98	3070.48	935.88	3080.19	2723.80	1.028	346.68	N/A
SNL-05	CUL	3379.98	01/09/12	08:38	309.41	0.00	309.41	94.31	3070.57	935.91	3073.63	2731.00	1.009	339.57	N/A
SNL-06	CUL	3646.11	01/16/12	14:15	650.00	0.00	650.00	198.12	2996.11	913.21	3161.97	2307.90	1.241	688.21	N/A
SNL-08	CUL	3555.73	01/09/12	13:13	543.12	0.00	543.12	165.54	3012.61	918.24	3052.71	2586.00	1.094	426.61	N/A
SNL-09	CUL	3360.96	01/09/12	11:00	312.14	0.00	312.14	95.14	3048.82	929.28	3053.41	2793.80	1.018	255.02	N/A
SNL-10	CUL	3377.59	01/09/12	10:37	326.89	0.00	326.89	99.64	3050.70	929.85	3053.28	2764.10	1.009	286.60	N/A
SNL-12	CUL	3339.46	01/10/12	11:31	337.98	0.00	337.98	103.02	3001.48	914.85	3002.64	2768.60	1.005	232.88	N/A
SNL-13	CUL	3294.22	01/10/12	10:30	276.56	0.00	276.56	84.30	3017.66	919.78	3020.77	2893.10	1.025	124.56	N/A
SNL-14	CUL	3368.41	01/09/12	14:15	377.19	0.00	377.19	114.97	2991.22	911.72	3004.96	2698.90	1.047	292.32	N/A
SNL-15	CUL	3479.93	01/10/12	09:05	561.04	0.00	561.04	171.00	2918.89	889.68	3002.83	2557.10	1.232	361.79	N/A
SNL-16	CUL	3133.00	01/09/12	10:10	124.91	0.00	124.91	38.07	3008.09	916.87	3008.74	2926.70	1.008	81.39	N/A
SNL-17	CUL	3238.06	01/10/12	11:15	233.12	0.00	233.12	71.05	3004.94	915.91	3005.64	2888.50	1.006	116.44	N/A
SNL-18	CUL	3375.44	01/09/12	08:08	303.29	0.00	303.29	92.44	3072.15	936.39	3073.89	2824.20	1.007	247.95	N/A
SNL-19	CUL	3222.65	01/09/12	09:09	153.01	0.00	153.01	46.64	3069.64	935.63	3070.85	2867.60	1.006	202.04	N/A
WIPP-11	CUL	3427.78	01/10/12	13:42	364.57	0.00	364.57	111.12	3063.21	933.67	3081.95	2570.00	1.038	493.21	N/A
WIPP-13	CUL	3405.67	01/09/12	12:08	344.71	0.00	344.71	105.07	3060.96	932.98	3076.90	2690.30	1.043	370.66	N/A
WIPP-19	CUL	3435.11	01/11/12	14:40	390.76	0.00	390.76	119.10	3044.35	927.92	3064.08	2665.00	1.052	379.35	N/A
WQSP-1	CUL	3419.25	01/11/12	15:20	361.09	0.18	360.91	110.01	3058.34	932.18	3075.62	2705.60	1.049	352.74	N/A
WQSP-2	CUL	3463.87	01/11/12	15:10	401.06	0.20	400.86	122.18	3063.01	933.61	3083.37	2638.80	1.048	424.21	N/A
WQSP-3	CUL	3480.14	01/11/12	14:52	464.66	0.19	464.47	141.57	3015.67	919.18	3073.39	2620.30	1.146	395.37	N/A
WQSP-4	CUL	3433.09	01/10/12	09:50	443.46	0.18	443.28	135.11	2989.81	911.29	3015.47	2652.20	1.076	337.61	N/A
WQSP-5	CUL	3384.38	01/10/12	13:25	378.84	0.20	378.64	115.41	3005.74	916.15	3013.30	2725.70	1.027	280.04	N/A
WQSP-6	CUL	3364.72	01/10/12	13:02	343.77	0.19	343.58	104.72	3021.14	920.84	3025.45	2767.60	1.017	253.54	N/A

Table 1
WIPP Groundwater level Measurements for January 2012

Well Number	Zone	Top of Surveyed Casing Elevation (ft amsl)	Date	Time	Depth to Water from Measuring Point (feet)	Adjustment (feet)	Adjusted Depth to Water (feet)	Adjusted Depth to Water (m)	Water Level (ft amsl)	Water Level (m amsl)	Fresh-water Head (ft amsl)	Culebra Midpoint Elevation (ft amsl)	Specific Gravity	Column Height (feet)	Notes
C-2737 (ANNULUS)	MAG	3400.76	01/11/12	14:05	256.35	0.00	256.35	78.14	3144.41	958.42	N/A	N/A	N/A	N/A	N/A
H-02b1	MAG	3378.49	01/10/12	14:25	244.65	0.00	244.65	74.57	3133.84	955.19	N/A	N/A	N/A	N/A	N/A
H-03b1	MAG	3390.72	01/11/12	13:55	243.80	0.00	243.80	74.31	3146.92	959.18	N/A	N/A	N/A	N/A	N/A
H-04c	MAG	3334.28	01/10/12	10:06	188.04	0.00	188.04	57.31	3146.24	958.97	N/A	N/A	N/A	N/A	N/A
H-06c	MAG	3348.69	01/09/12	11:22	277.52	0.00	277.52	84.59	3071.17	936.09	N/A	N/A	N/A	N/A	N/A
H-08a	MAG	3433.28	01/10/12	12:20	406.85	0.00	406.85	124.01	3026.43	922.46	N/A	N/A	N/A	N/A	N/A
H-09c	MAG	3407.05	01/10/12	11:52	269.89	0.00	269.89	82.26	3137.16	956.21	N/A	N/A	N/A	N/A	N/A
H-10a	MAG	3688.45	01/11/12	09:21	575.63	0.00	575.63	175.45	3112.82	948.79	N/A	N/A	N/A	N/A	N/A
H-11b2	MAG	3411.86	01/09/12	13:44	272.07	0.00	272.07	82.93	3139.79	957.01	N/A	N/A	N/A	N/A	N/A
H-14	MAG	3347.08	01/10/12	12:49	208.93	0.00	208.93	63.68	3138.15	956.51	N/A	N/A	N/A	N/A	N/A
H-15	MAG	3483.50	01/11/12	14:14	338.60	0.00	338.60	103.21	3144.90	958.57	N/A	N/A	N/A	N/A	N/A
H-18	MAG	3414.21	01/09/12	11:54	259.26	0.00	259.26	79.02	3154.95	961.63	N/A	N/A	N/A	N/A	N/A
WIPP-18	MAG	3457.57	01/11/12	14:46	307.21	0.00	307.21	93.64	3150.36	960.23	N/A	N/A	N/A	N/A	N/A
WQSP-6a	DL	3363.80	01/10/12	13:08	167.56	0.25	167.31	51.00	3196.49	974.29	N/A	N/A	N/A	N/A	N/A
CB-1	B/C	3329.12	01/09/12	14:45	310.79	0.00	310.79	94.73	3018.33	919.99	N/A	N/A	N/A	N/A	N/A
DOE-2	B/C	3419.18	01/10/12	13:55	351.91	0.00	351.91	107.26	3067.27	934.90	N/A	N/A	N/A	N/A	N/A
H-11b4R	CUL		01/09/12	13:55	427.85	0.00	427.85	130.41	2991.15	911.70					

Notes

B/C= Bell Canyon
 CUL=Culebra
 MAG=Magenta
 DL=Dewey Lake
 SR= Santa Rosa

Table 2
Errata Water Level Elevation Data for 2011

Well Number	Zone	Top of Surveyed Casing Elevation (ft amsl)	Date	Time	Depth to Water from Measuring Point (feet)	Adjustment (feet)	Adjusted Depth to Water (feet)	Adjusted Depth to Water (m)	Water Level (ft amsl)	Water Level (m amsl)	Fresh-water Head (ft amsl)	Culebra Midpoint Elevation (ft amsl)	Specific Gravity	Column Height (feet)	Notes
H-09bR	CUL	3408.34	08/08/11	12:55	413.15	0.00	413.15	125.93	2995.19	912.93	2995.19	2743.50	1.000	251.69	1
H-09bR	CUL	3408.34	09/12/11	14:35	413.10	0.00	413.10	125.91	2995.24	912.95	2995.24	2743.50	1.000	251.74	1
H-09bR	CUL	3408.34	10/11/11	09:50	412.85	0.00	412.85	125.84	2995.49	913.03	2995.49	2743.50	1.000	251.99	1
H-09bR	CUL	3408.34	11/08/11	14:44	412.71	0.00	412.71	125.79	2995.63	913.07	2995.63	2743.50	1.000	252.13	1
H-09bR	CUL	3408.34	12/05/11	12:51	413.01	0.00	413.01	125.89	2995.33	912.98	2995.33	2743.50	1.000	251.83	1

Notes

1. 2012 specific gravity used retroactively for H-09bR, after it was calculated in December 2011.