3.0 Monitoring Results

This section presents the results of the VOC Monitoring Program from July 1, 2007 to December 31, 2007.

3.1 Repository Monitoring Data

The repository VOC monitoring results for this reporting period are summarized in Table 3. The individual monitoring results for all nine target analytes for each sample collected at location VOC-A and VOC-B are provided in Attachment 1.

Table 3. Summary of Repository VOC Monitoring Results

Target Compound	No. of Samples	Maximum Detected Value VOC-A (ppbv)	Maximum Detected Value VOC-B (ppbv)	MRLs (ppbv)	No. of Samples > MRL
Carbon Tetrachloride	104	37.65	8.03	2	49
Chlorobenzene	104	"ND"	"ND"	2	0
Chloroform	104	0.84"J"	0.30"J"	2	0
1,1-Dichloroethene	104	2.60 "J"	"ND"	5	0
1,2-Dichloroethane	104	"ND"	"ND"	2	0
Methylene Chloride	104	8.07 "J"	1.26"J"	5	5
1,1,2,2-Tetrachloroethane	104	"ND"	"ND"	2	0
Toluene	104	1.36"J"	0.87"J"	5	0
1,1,1-Trichloroethane	104	30.01	5.37"J"	5	46

ppbv = part per billion by volume

Analytical results qualified as "J" indicate that the compound is above the Practical Quantitation Limit but below the MRL. Since these results are below the MRL, they are not used to evaluate concentration differences between VOC-A and VOC-B. Only VOC-A values above the MRL are used to evaluate concentration differences between VOC-A and VOC-B. If VOC-A results are above the MRL, those results are compared to the VOC-B reported results. If the corresponding VOC-B sample is a Non Detect (ND) or an estimated value (J), it will be assigned a value of zero. This comparison will be the most conservative comparison.

Repository sample results are normalized based on airflow requirements described in the HWFP. Some values that were normalized are qualified with a "J" flag even though the final result was above the MRL. The laboratory qualification is still applicable and is treated as an estimated value. Additionally, some normalized results are not "J" flagged though they are below the MRL.

3.1.2 Discussion of Repository Monitoring Results

For the reporting period, there were 104 samples analyzed for each of the 9 target compounds, representing a total of 936 data points. One hundred of these data points were above the individual MRL (99 at VOC-A and 1 at VOC-B). Values shown in Attachment 1 include all values reported by the analytical laboratories regardless of the associated MRL.

The running annual average of sample set differences is compared to the concentrations of concern. Table 4 shows that, during this reporting period, none of the running annual average concentrations of target VOCs exceeded the associated COC.

Table 4. Summary of Concentration Differences

Target Compound	Running Annual Average Concentration Difference Values (ppbv)	MRLs (ppbv)	COC (ppbv)
Carbon Tetrachloride	10.42	2	165
Chlorobenzene	<MRL	2	220
Chloroform	<MRL	2	180
1,1-Dichloroethene	<MRL	5	100
1,2-Dichloroethane	<MRL	2	45
Methylene Chloride	<MRL	5	1930
1,1,2,2-Tetrachloroethane	<MRL	2	50
Toluene	<MRL	5	190
1,1,1-Trichloroethane	9.33	5	590

ppbv = part per billion by volume

3.2 Disposal Room Monitoring Data

The following summarizes disposal room monitoring results for the reporting period. Associated data are reported in Attachment 2A and Attachment 2B.

3.2.1 Waste Disposal Activities

Waste disposal is the determining factor in which VOC monitoring locations are activated. As soon as a room receives waste, it is subject to monitoring at one location (exhaust side). When "filled" it continues to be monitored, and the inlet side is added to the sampling schedule. On July 1, 2007 the active CH waste emplacement was in Room 6 of Panel 4, the active RH emplacement was in Room 5 of Panel 4. At this stage of filling a panel, Room 7 had two active

VOC Monitoring Program Data - Station VOC-A

For Samples Collected Between 7/1/2007 and 12/31/2007 – Concentration (ppbV)

Sample Date	Analysis Date	Lab ID	Sample ID	111TA	1122T	11DCE	12DCA	CCL4	CHBNZ	CHFRM	DCM	C7H8
7/2/2007	7/10/2007	0707060_01A	2559	16.66*	ND	0.91* J	ND	15.91*	ND	0.36* J	6.90*	0.64* J
7/3/2007	7/10/2007	0707060_03	2561	14.91*	ND	1.16* J	ND	15.49*	ND	0.33* J	5.20* J	0.59* J
7/10/2007	7/19/2007	0707180_13A	2575	12.50*	ND	1.78* J	ND	15.32*	ND	ND	4.44* J	0.71* J
7/11/2007	7/19/2007	0707180_15A	2577	7.92* J	ND	1.23* J	ND	10.04*	ND	ND	2.86* J	0.48* J
7/16/2007	7/23/2007	0707200_02A	2587	11.93*	ND	1.90* J	ND	14.94*	ND	ND	4.19* J	0.95* J
7/17/2007	7/23/2007	0707200_04	2589	10.89*	ND	1.41* J	ND	13.21*	ND	ND	4.04* J	0.50* J
7/23/2007	8/1/2007	0707260_02A	2603	9.51*	ND	1.81* J	ND	12.84*	ND	ND	2.40* J	0.49* J
7/24/2007	8/1/2007	0707260_04	2605	11.24*	ND	1.81* J	ND	13.97*	ND	ND	4.15* J	0.37* J
7/31/2007	8/12/2007	0708030_02A	2615	3.99* J	ND	0.77* J	ND	4.85*	ND	ND	1.21* J	0.39* J
8/1/2007	8/12/2007	0708030_04	2617	5.71*	ND	0.92* J	ND	6.71*	ND	ND	1.64* J	0.38* J
8/7/2007	8/14/2007	0708090_02A	2631	11.51*	ND	1.26* J	ND	12.90*	ND	ND	3.50* J	1.02* J
8/8/2007	8/14/2007	0708090_04	2633	9.96*	ND	1.31* J	ND	12.16*	ND	ND	3.09* J	0.55* J
8/15/2007	8/21/2007	0708170_02A	2643	7.48*	ND	1.08* J	ND	8.83*	ND	ND	2.38* J	0.44* J
8/16/2007	8/21/2007	0708170_04	2645	7.18*	ND	0.89* J	ND	8.14*	ND	ND	2.63* J	0.41* J
8/21/2007	8/28/2007	0708270_02A	2659	5.67*	ND	0.73* J	ND	6.98*	ND	ND	1.73* J	0.24* J
8/22/2007	8/28/2007	0708270_04	2661	5.49*	ND	0.77* J	ND	7.05*	ND	ND	1.56* J	0.23* J
8/29/2007	9/7/2007	0709040_02	2671	10.41*	ND	1.28* J	ND	12.02*	ND	ND	3.91* J	0.41* J
8/30/2007	9/7/2007	0709040_04	2673	11.76*	ND	1.29* J	ND	13.25*	ND	ND	3.51* J	0.69* J
9/5/2007	9/12/2007	0709100_02A	2687	12.38*	ND	1.85* J	ND	14.11*	ND	ND	4.13* J	0.47* J
9/6/2007	9/12/2007	0709100_04	2689	10.97*	ND	1.52* J	ND	12.29*	ND	ND	3.46* J	0.54* J
9/11/2007	9/17/2007	0709130_02	2699	9.02*	ND	0.47* J	ND	8.80*	ND	ND	2.79* J	0.44* J
9/12/2007	9/17/2007	0709130_04	2701	13.74*	ND	2.04* J	ND	16.41*	ND	ND	3.93* J	0.56* J
9/18/2007	9/25/2007	0709240_02A	2715	12.86*	ND	1.49* J	ND	14.23*	ND	ND	3.91* J	0.44* J
9/19/2007	9/25/2007	0709240_04	2717	11.55*	ND	1.45* J	ND	12.81*	ND	ND	3.43* J	0.40* J
9/26/2007	10/1/2007	0709280_02A	2727	14.72*	ND	1.26* J	ND	16.47*	ND	0.38* J	4.05* J	0.66* J
9/27/2007	10/1/2007	0709280_04	2729	14.01*	ND	1.80* J	ND	16.21*	ND	0.37* J	3.89* J	1.36* J
10/2/2007	10/11/2007	0710090_02A	2743	5.88*	ND	0.93* J	ND	7.00*	ND	ND	1.75* J	0.29* J
10/3/2007	10/11/2007	0710090_04	2745	9.95*	ND	1.15* J	ND	10.98*	ND	ND	2.98* J	0.87* J
10/9/2007	10/16/2007	0710120_02A	2755	5.61*	ND	0.69* J	ND	6.10*	ND	ND	2.22* J	0.33* J
10/10/2007	10/16/2007	0710120_04	2757	7.75*	ND	1.07* J	ND	8.73*	ND	ND	2.59* J	0.41* J
10/16/2007	10/22/2007	0710180_02A	2771	14.30*	ND	1.21* J	ND	16.42*	ND	0.40* J	4.14* J	0.73* J
10/17/2007	10/22/2007	0710180_04	2773	10.76*	ND	1.80* J	ND	12.99*	ND	ND	3.34* J	0.60* J
10/23/2007	10/29/2007	0710260_02A	2783	13.90*	ND	1.20* J	ND	14.52*	ND	0.34* J	4.34* J	0.64* J
10/24/2007	10/29/2007	0710260_04	2785	12.24*	ND	1.42* J	ND	12.40*	ND	ND	4.02* J	0.93* J
10/30/2007	11/2/2007	0711010_02	2799	15.97*	ND	1.38* J	ND	17.19*	ND	0.39* J	4.80* J	0.50* J
10/31/2007	11/2/2007	0711010_04	2801	15.94*	ND	1.24* J	ND	16.45*	ND	0.37* J	5.04* J	0.50* J
11/6/2007	11/12/2007	0711080_01A	2811	8.58* J	ND	0.36* J	ND	5.68*	ND	ND	3.92* J	0.79* J
11/7/2007	11/12/2007	0711080_03	2813	14.59*	ND	1.61* J	ND	12.39*	ND	0.46* J	5.7* J	0.99* J
11/13/2007	11/19/2007	0711150_02A	2829	13.32*	ND	1.33* J	ND	13.56*	ND	0.37* J	4.44* J	1.11* J
11/14/2007	11/19/2007	0711150_04	2831	14.66*	ND	1.64* J	ND	16.90*	ND	0.44* J	4.48* J	0.81* J
11/20/2007	11/28/2007	0711270_02A	2841	3.54*	ND	0.77* J	ND	6.07*	ND	0.09* J	0.71* J	0.15* J
11/21/2007	11/28/2007	0711270_04	2843	18.02*	ND	0.66* J	ND	17.16*	ND	0.56* J	6.61* J	0.95* J
11/27/2007	12/3/2007	0711290_01A	2857	19.16*	ND	0.71* J	ND	19.26*	ND	0.58* J	6.28* J	1.00* J
11/28/2007	12/3/2007	0711290_03	2859	30.01*	ND	2.60* J	ND	37.65*	ND	0.84* J	8.07* J	0.98* J
12/4/2007	12/10/2007	0712060_01A	2869	ND	ND	ND	ND	ND	ND	ND	ND	ND
12/5/2007	12/10/2007	0712060_03	2871	ND	ND	ND	ND	ND	ND	ND	ND	0.83* J
12/11/2007	12/14/2007	0712130_02A	2887	ND	ND	ND	ND	ND	ND	ND	ND	ND
12/12/2007	12/14/2007	0712130_04	2889	ND	ND	ND	ND	ND	ND	ND	ND	ND
12/19/2007	1/3/2008	0712200_02A	2899	15.15*	ND	1.29* J	ND	17.68*	ND	0.45* J	4.14* J	0.79* J
12/20/2007	1/3/2008	0712200_04	2901	12.50*	ND	0.94* J	ND	13.83*	ND	0.35* J	3.93* J	0.50* J
12/26/2007	1/7/2008	0801030_01A	2915	11.09*	ND	0.44* J	ND	11.15*	ND	ND	3.83* J	0.50* J
12/27/2007	1/7/2008	0801030_03	2917	22.85*	ND	2.60* J	ND	29.70*	ND	0.60* J	6.27* J	0.55* J

Number of Samples: 52

Detection Summary

Compound	Detection Average	Detection Count
1,1,1-Trichloroethane	11.86	48
1,1,2,2-Tetrachloroethane	0	0
1,1-Dichloroethene	1.27	48
1,2-Dichloroethane	0	0
Carbon Tetrachloride	13.32	48
Chlorobenzene	0	0
Chloroform	0.42	18
Methylene Chloride	3.80	48
Toluene	0.61	49

Legend

111TA = 1,1,1-Trichloroethane

1122T = 1,1,2,2-Tetrachloroethane

11DCE = 1,1-Dichloroethene

12DCA = 1,2-Dichloroethane

CCL4 = Carbon tetrachloride

CHBNZ = Chlorobenzene

CHFRM = Chloroform

DCM = Methylene chloride

C7H8 = Toluene

Flags

B = Compound present in the laboratory blank, background subtraction not performed.

J = Estimated value: Below Method Reporting Limits (MRL), but above Practical Quantitation Limits (PQL).

* = Normalized concentration

ND/U = Compound not detected above Method Detection Limit (MDL)

!!! = Compound exceeds concentration of concern

VOC Monitoring Program Data - Station VOC-B

For Samples Collected Between 7/1/2007 and 12/31/2007 – Concentration (ppbV)

Sample Date	Analysis Date	Lab ID	Sample ID	111TA	1122T	11DCE	12DCA	CCL4	CHBNZ	CHFRM	DCM	C7H8
7/2/2007	7/10/2007	0707060_02	2560	ND	ND	ND	ND	ND	ND	ND	ND	ND
7/3/2007	7/10/2007	0707060_04	2562	ND	ND	ND	ND	ND	ND	ND	ND	ND
7/10/2007	7/19/2007	0707180_14	2576	ND	ND	ND	ND	ND	ND	ND	ND	ND
7/11/2007	7/19/2007	0707180_16	2578	ND	ND	ND	ND	ND	ND	ND	ND	ND
7/16/2007	7/23/2007	0707200_01	2586	ND	ND	ND	ND	ND	ND	ND	ND	0.55* J
7/17/2007	7/23/2007	0707200_03	2588	ND	ND	ND	ND	ND	ND	ND	ND	ND
7/23/2007	8/1/2007	0707260_01	2602	ND	ND	ND	ND	ND	ND	ND	ND	ND
7/24/2007	8/1/2007	0707260_03	2604	ND	ND	ND	ND	ND	ND	ND	ND	ND
7/31/2007	8/12/2007	0708030_01	2614	ND	ND	ND	ND	ND	ND	ND	0.26* J	0.25* J
8/1/2007	8/12/2007	0708030_03	2616	ND	ND	ND	ND	ND	ND	ND	ND	ND
8/7/2007	8/14/2007	0708090_01	2630	ND	ND	ND	ND	ND	ND	ND	ND	0.50* J
8/8/2007	8/14/2007	0708090_03	2632	ND	ND	ND	ND	ND	ND	ND	ND	ND
8/15/2007	8/21/2007	0708170_01	2642	ND	ND	ND	ND	ND	ND	ND	ND	ND
8/16/2007	8/21/2007	0708170_03	2644	ND	ND	ND	ND	ND	ND	ND	ND	ND
8/21/2007	8/29/2007	0708270_01	2658	ND	ND	ND	ND	ND	ND	ND	ND	ND
8/22/2007	8/28/2007	0708270_03	2660	ND	ND	ND	ND	ND	ND	ND	ND	ND
8/29/2007	9/7/2007	0709040_01	2670	ND	ND	ND	ND	ND	ND	ND	ND	ND
8/30/2007	9/7/2007	0709040_03	2672	ND	ND	ND	ND	ND	ND	ND	ND	0.36* J
9/5/2007	9/12/2007	0709100_01	2686	ND	ND	ND	ND	ND	ND	ND	ND	ND
9/6/2007	9/12/2007	0709100_03	2688	0.43* J	ND	ND	ND	ND	ND	ND	0.49* J	ND
9/11/2007	9/17/2007	0709130_01	2698	ND	ND	ND	ND	ND	ND	ND	ND	ND
9/12/2007	9/17/2007	0709130_03	2700	ND	ND	ND	ND	ND	ND	ND	ND	ND
9/18/2007	9/25/2007	0709240_01	2714	ND	ND	ND	ND	ND	ND	ND	ND	ND
9/19/2007	9/25/2007	0709240_03	2716	ND	ND	ND	ND	ND	ND	ND	ND	ND
9/26/2007	10/1/2007	0709280_01	2726	ND	ND	ND	ND	ND	ND	ND	ND	0.38* J
9/27/2007	10/1/2007	0709280_03	2728	ND	ND	ND	ND	ND	ND	ND	ND	0.54* J
10/2/2007	10/11/2007	0710090_01	2742	ND	ND	ND	ND	ND	ND	ND	ND	ND
10/3/2007	10/11/2007	0710090_03	2744	ND	ND	ND	ND	ND	ND	ND	ND	0.49* J
10/9/2007	10/16/2007	0710120_01	2754	ND	ND	ND	ND	ND	ND	ND	ND	ND
10/10/2007	10/16/2007	0710120_03	2756	ND	ND	ND	ND	ND	ND	ND	ND	ND
10/16/2007	10/22/2007	0710180_01	2770	ND	ND	ND	ND	ND	ND	ND	ND	ND
10/17/2007	10/22/2007	0710180_03	2772	ND	ND	ND	ND	ND	ND	ND	ND	ND
10/23/2007	10/29/2007	0710260_01	2782	ND	ND	ND	ND	ND	ND	ND	ND	ND
10/24/2007	10/29/2007	0710260_03	2784	ND	ND	ND	ND	ND	ND	ND	ND	0.35* J
10/30/2007	11/2/2007	0711010_01	2798	ND	ND	ND	ND	ND	ND	ND	ND	ND
10/31/2007	11/2/2007	0711010_03A	2800	ND	ND	ND	ND	ND	ND	ND	ND	ND
11/6/2007	11/12/2007	0711080_02	2812	ND	ND	ND	ND	ND	ND	ND	ND	ND
11/7/2007	11/12/2007	0711080_04	2814	ND	ND	ND	ND	ND	ND	ND	ND	0.40* J
11/13/2007	11/19/2007	0711150_01	2828	ND	ND	ND	ND	ND	ND	ND	ND	0.61* J
11/14/2007	11/19/2007	0711150_03	2830	ND	ND	ND	ND	ND	ND	ND	ND	ND
11/20/2007	11/28/2007	0711270_01	2840	5.37*	ND	ND	ND	8.03*	ND	0.30* J	1.26* J	0.18* J
11/21/2007	11/28/2007	0711270_03	2842	ND	ND	ND	ND	0.31* J	ND	ND	ND	0.35* J
11/27/2007	12/3/2007	0711290_02	2858	ND	ND	ND	ND	ND	ND	ND	ND	0.44* J
11/28/2007	12/3/2007	0711290_04	2860	ND	ND	ND	ND	0.75* J	ND	ND	ND	ND
12/4/2007	12/10/2007	0712060_02	2870	ND	ND	ND	ND	ND	ND	ND	ND	ND
12/5/2007	12/10/2007	0712060_04	2872	ND	ND	ND	ND	ND	ND	ND	ND	0.87* J
12/11/2007	12/14/2007	0712130_01	2886	ND	ND	ND	ND	ND	ND	ND	ND	0.31* J
12/12/2007	12/14/2007	0712130_03	2888	ND	ND	ND	ND	ND	ND	ND	ND	ND
12/19/2007	1/3/2008	0712200_01	2898	ND	ND	ND	ND	ND	ND	ND	ND	0.46* J
12/20/2007	1/3/2008	0712200_03	2900	ND	ND	ND	ND	ND	ND	ND	ND	ND
12/26/2007	1/7/2008	0801030_02	2916	ND	ND	ND	ND	ND	ND	ND	ND	ND
12/27/2007	1/7/2008	0801030_04	2918	ND	ND	ND	ND	ND	ND	ND	ND	ND

Number of Samples: 52

Detection Summary

Compound	Detection Average	Detection Count
1,1,1-Trichloroethane	0.11	2
1,1,2,2-Tetrachloroethane	0	0
1,1-Dichloroethene	0	0
1,2-Dichloroethane	0	0
Carbon Tetrachloride	0.17	3
Chlorobenzene	0	0
Chloroform	0.01	1
Methylene Chloride	0.04	3
Toluene	0.14	16

Legend

111TA = 1,1,1-Trichloroethane

1122T = 1,1,2,2-Tetrachloroethane

11DCE = 1,1-Dichloroethene

12DCA = 1,2-Dichloroethane

CCL4 = Carbon tetrachloride

CHBNZ = Chlorobenzene

CHFRM = Chloroform

DCM = Methylene chloride

C7H8 = Toluene

Flags

B = Compound present in the laboratory blank, background subtraction not performed.

J = Estimated value: Below Method Reporting Limits (MRL), but above Practical Quantitation Limits (PQL).

* = Normalized concentration

ND/U = Compound not detected above Method Detection Limit (MDL)

!!! = Compound exceeds concentration of concern