Rockwell ER Program
Rocky Flats Plant

(06/09/89)

# ER PROGRAM DATA ASSESSMENT SUMMARY REPORT FORM

**Batch No.** E88-3369/4th Quarter 1988 **Site** Area 2 - 881 Hillside

**Laboratory** RFP 881 General Labs **No. of Samples/Matrix** 16/Water

**SOW #** 7/87 **Reviewer Org.** TechLaw

**Sample Numbers** 43-87, 52-87, 45-87, 70-86, 55-86, 55-86D, 69-86, 4-87, 9-74, 10-74, 3-81, 8-87, 1-87, 2-87, 62-86, 5-87.

## Data Assessment Summary

| | | VOA | Comments |
|---|---|---|---|
| 1. | **Holding Times** | V | Within 40 CFR 136 holding times. |
| 2. | **GC/MS Tune/Instr. Perf.** | V | Some GC/MS tune data does not match summaries. |
| 3. | **Calibrations** | A | Initial (2 TCL out 10/24, 4 TCL out 11/20) Continuing (2CCC out, %D 25 TCL out Total, 2-butanone<.05+J/-R). |
| 4. | **Blanks** | A | Chloroform contamination, methylene chloride and toluene in 11/22/88 blank. |
| 5. | **Surrogates** | A | 43-87 (+(J)/non-detect (R)) 9-74 and 10-74X50 Dil (+J/non-detect UJ) |
| 6. | **Matrix Spike/Dup.** | V | |
| 7. | **Other QC** | A | Methylene chloride, acetone, 2-butanone, trichloroethene contamination in trip and field blank. |
| 8. | **Internal Standards** | V | |
| 9. | **Compound Identification** | V | |
| 10. | **System Performance** | A | 1) Chloroform, Methylene chloride, Toluene blank contamination. 2) Surr. out (43-87, 9-74, 10-74X50). 3) Calib. %D, 25 TCL out. |
| 11. | **Overall Assessment** | A | Date acceptable, with qualifications. |

V = Data had no problems.
A = Data acceptable but qualified due to problems.
R = Data rejected.
X = Problems, but do not affect data.

**Data Quality:** Data contained in this batch were reviewed and found to be acceptable with qualifications. Acceptable, qualified data may be used provided that individual values impacted by the "Action Items'" listed below are appropriately flagged. (Refer to attached Results Summary Table).

"REVIEWED FOR CLASSIFICATION
By R. B. Hoffman
Date 7-11-90

ADMIN RECORD

1 REVIEWED FOR CLASSIFICATION/UCNI
By George H. Setlock
Date 6/27/90

A-OU01-000037

**Action Items:** 1) Initial Calibration: Chloromethane values for 55-86, 55-86D, 69-86, 4-87, 9-74, 9-74X50 Dilution, 10-74, 10-74X50 Dilution, 3-87, 8-87, 1-87, and associated Trip and Field Blanks are estimated and undetected (UJ) because the percent relative standard deviation values (RSD) were excessively high. Chloromethane and Chloroethane non-detect values for 2-87, 62-86, 5-87, and associated Trip and Field Blanks are rejected because the percent RSD was >50%.

2) Continuing Calibration: Chloromethane and Chloroethane non-detect values for 43-87, 43-87X100 Dilution, 52-87, 45-87, 70-86, and associated Trip and Field Blanks are rejected (R) because the % difference between the initial and continuing calibration was >50%. Chloroethane non-detect values for samples 55-86, 55-86D, 69-86, 4-87, 9-74, 10-74, 3-87, 8-87, 2-87, 62-86, 5-87, and associated Trip and Field Blanks are rejected (R) because the % difference between the initial and continuing calibrations was >50%. Non-detect values for Bromomethane, 4-Methyl-2-Pentanone, and Ethylbenzene are estimated and undetected (UJ) for samples 2-87, 62-86, 5-87 and associated Trip and Field Blanks (all run on 11/22/88), because the % difference between initial and continuing calibration was >25%. The positive Tetrachloroethene value for sample 62-86 is estimated because the % difference between the initial and continuing calibration was >25%. CCC (Vinyl Chloride) % difference value was >25% for the continuing calibration run on 10/25/88. CCC (Ethylbenzene) % difference value was >25% for the continuing calibration run on 11/22/88.

3) Blanks: Chloroform was found in all reagent blanks. As a result, all positive values were estimated and undetected (UJ). Methylene Chloride and Toluene was found in the reagent blank run on 11/22/88. All positive values for methylene chloride and toluene are estimated and undetected (UJ).

4) Surrogates: Surrogate recovery was >10% but less than the lower recovery criteria for samples 9-74 and 10-74X50 Dilution. All positive values are estimated (J) and all non-detects are estimated and undetected (UJ). Surrogate recovery was <10% for sample 43-87. All positive values are estimated (J) and all non-detects are rejected (R).

5) Other QC: Trichloroethene contamination at 4ug/l found in the Field Blank for samples collected 10/24/88. Positive Trichloroethane value for sample 3-87 is estimated (J) because of possible cross-contamination or analytical carry-over from previous samples. Subsequent reanalysis of 3-87 showed the Trichloroethene value is a non-detect.

**Comments:** All values below method detection limits will be estimated (J) and quantified as acceptable until the quantitation limits are supplied. Samples that do not meet surrogate recovery criteria must be reanalyzed. Chloroform contamination was found in the Reagent Blanks.

**Note: Data Summary Tables are attached.**

Robert J. Thiel

Reviewer Signature

06/09/89

Date

TABLE #: 1-E88-3369 Page 1 of 5

SITE NAME: Area 2 4th Quarter - 881 Hillside

SAMPLING DATE: 10/17/88, 10/19/88, 10/24/88, 11/14/88

CLP VOLATILE ORGANIC ANALYSIS: Low Water ANALYTICAL RESULTS (ppb)

| Sample Location | | Rgnt B | Trip Blank | | Field Blank | | 43-87 | | 43-87 | | 45-87 | | 70-86 | | 52-87 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Number | | | | | | | | | X100 | | | | | | | |
| Sampling Date | | | 10/17/88 | | 10/17/88 | | 10/17/88 | | 10/17/88 | | 10/17/88 | | 10/17/88 | | 10/17/88 | |
| Remarks | | | | | | | | | | | | | | | | |
| Volatile Organic Compound | Detection Limit (ppb) | (DQ) | | (DQ) | | (DQ) | | (DQ) | | (DQ) | | (DQ) | | (DQ) | | (DQ) |
| Chloromethane | 10 | | 10 U | R | 10 U | R | 10 U | R | 1000 U | R | 10 U | R | 10 U | R | 10 U | R |
| Bromomethane | 10 | | 10 U | V | 10 U | V | 10 U | R | 1000 U | V | 10 U | V | 10 U | V | 10 U | V |
| Vinyl Chloride | 10 | | 10 U | V | 10 U | V | 10 U | R | 1000 U | V | 10 U | V | 10 U | V | 10 U | V |
| Chloroethane | 10 | | 10 U | R | 10 U | R | 10 U | R | 1000 U | R | 10 U | R | 10 U | R | 10 U | R |
| Methylene Chloride | 5 | | 3 J | A | 2 J | A | 31 J | A | 500 U | V | 5 U | V | 5 U | V | 5 U | V |
| Acetone | 10 | | 3 J | A | 2 J | A | 10 U | R | 1000 U | V | 10 U | V | 10 U | V | 10 U | V |
| Carbon Disulfide | 5 | | 5 U | V | 5 U | V | 5 U | R | 500 U | V | 5 U | V | 5 U | V | 5 U | V |
| 1,1-Dichloroethene | 5 | | 5 U | V | 5 U | V | 17000 E | A | 11000 | V | 5 U | V | 5 U | V | 5 U | V |
| 1,1-Dichloroethane | 5 | | 5 U | V | 5 U | V | 350 E | A | 500 U | V | 5 U | V | 5 U | V | 5 U | V |
| 1,2-Dichloroethene (Total) | 5 | | 5 U | V | 5 U | V | 5 U | R | 500 U | V | 5 U | V | 5 U | V | 5 U | V |
| Chloroform | 5 | 9 ppb | 5 U | V | 5 U | V | 5 U | R | 500 U | V | 5 U | V | 5 U | V | 5 U | V |
| 1,2-Dichloroethane | 5 | | 5 U | V | 5 U | V | 5 U | R | 500 U | V | 5 U | V | 5 U | V | 5 U | V |
| 2-Butanone | 10 | | 3 J | A | 2 J | A | 10 U | R | 1000 U | V | 10 U | V | 10 U | V | 10 U | V |
| 1,1,1-Trichloroethane | 5 | | 5 U | V | 5 U | V | 5800 E | A | 25000 E | A | 5 U | V | 5 U | V | 5 U | V |
| Carbon Tetrachloride | 5 | | 5 U | V | 5 U | V | 5 U | R | 500 U | V | 5 U | V | 5 U | V | 5 U | V |
| Vinyl Acetate | 10 | | 10 U | V | 10 U | V | 10 U | R | 1000 U | V | 10 U | V | 10 U | V | 10 U | V |
| Bromodichloromethane | 5 | | 5 U | V | 5 U | V | 5 U | R | 500 U | V | 5 U | V | 5 U | V | 5 U | V |
| 1,2-Dichloropropane | 5 | | 5 U | V | 5 U | V | 5 U | R | 500 U | V | 5 U | V | 5 U | V | 5 U | V |
| cis-1,3 Dichloropropene | 5 | | 5 U | V | 5 U | V | 5 U | R | 500 U | V | 5 U | V | 5 U | V | 5 U | V |
| Trichloroethene | 5 | | 5 U | V | 5 U | V | 5300 E | A | 17000 | V | 5 U | V | 5 U | V | 2 J | A |
| Dibromochloromethane | 5 | | 5 U | V | 5 U | V | 5 U | R | 500 U | V | 5 U | V | 5 U | V | 5 U | V |
| 1,1,2-Trichloroethane | 5 | | 5 U | V | 5 U | V | 83 J | A | 500 U | V | 5 U | V | 5 U | V | 5 U | V |
| Benzene | 5 | | 5 U | V | 5 U | V | 5 U | R | 500 U | V | 5 U | V | 5 U | V | 5 U | V |
| Trans-1,3-Dichloropropene | 5 | | 5 U | V | 5 U | V | 5 U | R | 500 U | V | 5 U | V | 5 U | V | 5 U | V |
| Bromoform | 5 | | 5 U | V | 5 U | V | 5 U | R | 500 U | V | 5 U | V | 5 U | V | 5 U | V |
| 4-Methyl-2-pentanone | 10 | | 10 U | V | 10 U | V | 10 U | R | 1000 U | V | 10 U | V | 10 U | V | 10 U | V |
| 2-Hexanone | 10 | | 10 U | V | 10 U | V | 10 U | R | 1000 U | V | 10 U | V | 10 U | V | 10 U | V |
| Tetrachloroethene | 5 | | 5 U | V | 5 U | V | 2500 E | A | 8100 | V | 5 U | V | 5 U | V | 2 J | A |
| 1,1,2,2-Tetrachloroethane | 5 | | 5 U | V | 5 U | V | 5 U | R | 500 U | V | 5 U | V | 5 U | V | 5 U | V |
| Toluene | 5 | | 5 U | V | 5 U | V | 180 J | A | 500 U | V | 5 U | V | 5 U | V | 5 U | V |
| Chlorobenzene | 5 | | 5 U | V | 5 U | V | 5 U | R | 500 U | V | 5 U | V | 5 U | V | 5 U | V |
| Ethylbenzene | 5 | | 5 U | V | 5 U | V | 4 J | A | 500 U | V | 5 U | V | 5 U | V | 5 U | V |
| Styrene | 5 | | 5 U | V | 5 U | V | 5 U | R | 500 U | V | 5 U | V | 5 U | V | 5 U | V |
| Xylene (Total) | 5 | | 5 U | V | 5 U | V | 5 U | R | 500 U | V | 5 U | V | 5 U | V | 5 U | V |
| Total volatile organic concentration (ppb) | | 9 | 9 | | 6 | | 31248 | | 61100 | | 0 | | 0 | | 4 | |

U Indicates the compound was not detected above the Required Quantitation Limit.
J Quantitation is approximate due to limitations identified during the quality control review (data validation).
* Value is rejected due to other contractual criteria examined during the quality control review (data validation).
** Value is rejected due to blank contamination identified during the quality control review (data validation).
ppb Parts per billion.

DQ Data Qualifier
V Valid
A Acceptable with qualifications
R Rejected, data unusable
E Exceeds calib. range; diluted & reanalyzed

TABLE #: 1-E88-3369 Page 2 of 5

SITE NAME: Area 2 4th Quarter - 881 Hillside

SAMPLING DATE: 10/17/88, 10/19/88, 10/24/88, 11/14/88

CLP VOLATILE ORGANIC ANALYSIS: Low Water ANALYTICAL RESULTS (ppb)

| Sample Location | | Rgnt B | Trip Blank | | Field Blank | | 55-86 | | 55-86D | | 69-86 | | 4-87 | | Rgnt B |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Number | | | | | | | | | | | | | | | |
| Sampling Date | | | 10/19/88 | | 10/19/88 | | 10/19/88 | | 10/19/88 | | 10/19/88 | | 10/19/88 | | |
| Remarks | | | | | | | | | | | | | | | |
| Volatile Organic Compound | Detection Limit (ppb) | | | (DQ) | | (DQ) | | (DQ) | | (DQ) | | (DQ) | | (DQ) | |
| Chloromethane | 10 | | 10 UJ | A | 10 UJ | A | 10 UJ | A | 10 UJ | A | 10 UJ | A | 10 UJ | A | |
| Bromomethane | 10 | | 10 U | V | 10 U | V | 10 U | V | 10 U | V | 10 U | V | 10 U | V | |
| Vinyl Chloride | 10 | | 10 U | V | 10 U | V | 10 U | V | 10 U | V | 10 U | V | 10 U | V | |
| Chloroethane | 10 | | 10 U | R | 10 U | R | 10 U | R | 10 U | R | 10 U | R | 10 U | R | |
| Methylene Chloride | 5 | | 3 J | A | 3 J | A | 5 U | V | 5 U | V | 5 U | V | 5 U | V | |
| Acetone | 10 | | 10 U | V | 10 U | V | 10 U | V | 10 U | V | 10 U | V | 10 U | V | |
| Carbon Disulfide | 5 | | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V | |
| 1,1-Dichloroethene | 5 | | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V | |
| 1,1-Dichloroethane | 5 | | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V | |
| 1,2-Dichloroethene (Total) | 5 | | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V | |
| Chloroform | 5 | 11ppb | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 9 ppb |
| 1,2-Dichloroethane | 5 | | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V | |
| 2-Butanone | 10 | | 10 U | V | 10 U | V | 10 U | V | 10 U | V | 10 U | V | 10 U | V | |
| 1,1,1-Trichloroethane | 5 | | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V | |
| Carbon Tetrachloride | 5 | | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V | |
| Vinyl Acetate | 10 | | 10 U | V | 10 U | V | 10 U | V | 10 U | V | 10 U | V | 10 U | V | |
| Bromodichloromethane | 5 | | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V | |
| 1,2-Dichloropropane | 5 | | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V | |
| cis-1,3 Dichloropropene | 5 | | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V | |
| Trichloroethene | 5 | | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 56 | V | |
| Dibromochloromethane | 5 | | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V | |
| 1,1,2-Trichloroethane | 5 | | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V | |
| Benzene | 5 | | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V | |
| Trans-1,3-Dichloropropene | 5 | | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V | |
| Bromoform | 5 | | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V | |
| 4-Methyl-2-pentanone | 10 | | 10 U | V | 10 U | V | 10 U | V | 10 U | V | 10 U | V | 10 U | V | |
| 2-Hexanone | 10 | | 10 U | V | 10 U | V | 10 U | V | 10 U | V | 10 U | V | 10 U | V | |
| Tetrachloroethene | 5 | | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 3 J | A | |
| 1,1,2,2-Tetrachloroethane | 5 | | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V | |
| Toluene | 5 | | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V | |
| Chlorobenzene | 5 | | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V | |
| Ethylbenzene | 5 | | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V | |
| Styrene | 5 | | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V | |
| Xylene (Total) | 5 | | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V | |
| Total volatile organic concentration (ppb) | | 11 | 3 | | 3 | | 0 | | 0 | | 0 | | 59 | | 9 |

U Indicates the compound was not detected above the Required Quantitation Limit.
J Quantitation is approximate due to limitations identified during the quality control review (data validation).
* Value is rejected due to other contractual criteria examined during the quality control review (data validation).
** Value is rejected due to blank contamination identified during the quality control review (data validation).
ppb Parts per billion.

DQ Data Qualifier
V Valid
A Acceptable with qualifications
R Rejected, data unusable
E Exceeds calib. range; diluted & reanalyzed

Form V-1

**TABLE #:** 1-E88-3369 **Page** 3 **of** 5

**SITE NAME:** Area 2 4th Quarter - 881 Hillside

**SAMPLING DATE:** 10/17/88, 10/19/88, 10/24/88, 11/14/88

**CLP VOLATILE ORGANIC ANALYSIS:** Low Water **ANALYTICAL RESULTS (ppb)**

| Sample Location | | Trip Blank | | Field Blank | | 9-74 | | 10-74 | | 3-87 | | 8-87 | | Trip Blank | | Field Blank | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Number | | | | | | | | | | | | | | | | | |
| Sampling Date | | 10/24/88 | | 10/24/88 | | 10/24/88 | | 10/24/88 | | 10/24/88 | | 10/24/88 | | 10/24/88 | | 10/24/88 | |
| Remarks | | | | | | | | | | | | | | | | | |
| Volatile Organic Compound | Detection Limit (ppb) | | (DQ) | | (DQ) | | (DQ) | | (DQ) | | (DQ) | | (DQ) | | (DQ) | | (DQ) |
| Chloromethane | 10 | 10 UJ | A | 10 UJ | A | 10 UJ | A | 10 UJ | A | 10 UJ | A | 10 UJ | A | 10 UJ | A | 10 UJ | A |
| Bromomethane | 10 | 10 U | V | 10 U | V | 10 UJ | A | 10 U | V | 10 U | V | 10 U | V | 10 U | V | 10 U | V |
| Vinyl Chloride | 10 | 10 U | V | 10 U | V | 10 UJ | A | 10 U | V | 10 U | V | 10 U | V | 10 U | V | 10 U | V |
| Chloroethane | 10 | 10 U | R | 10 U | R | 10 UJ | R | 10 U | R | 10 U | R | 10 U | R | 10 U | R | 10 U | R |
| Methylene Chloride | 5 | 23 | V | 4 J | A | 13 J | A | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V |
| Acetone | 10 | 10 U | V | 10 U | V | 10 UJ | A | 10 U | V | 10 U | V | 10 U | V | 10 U | V | 10 U | V |
| Carbon Disulfide | 5 | 5 U | V | 5 U | V | 5 UJ | A | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V |
| 1,1-Dichloroethene | 5 | 5 U | V | 5 U | V | 4600 E | A | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V |
| 1,1-Dichloroethane | 5 | 5 U | V | 5 U | V | 23 J | A | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V |
| 1,2-Dichloroethene (Total) | 5 | 5 U | V | 5 U | V | 5 UJ | A | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V |
| Chloroform | 5 | 5 U | V | 5 U | V | 5 UJ | A | 30 UJ | A | 5 U | V | 5 U | V | 5 U | V | 5 U | V |
| 1,2-Dichloroethane | 5 | 5 U | V | 5 U | V | 5 UJ | A | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V |
| 2-Butanone | 10 | 10 | V | 10 U | V | 10 UJ | A | 10 U | V | 10 U | V | 10 U | V | 10 U | V | 4 J | A |
| 1,1,1-Trichloroethane | 5 | 5 U | V | 5 U | V | 6900 E | A | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V |
| Carbon Tetrachloride | 5 | 5 U | V | 5 U | V | 5 UJ | A | 2500 E | A | 5 U | V | 5 U | V | 5 U | V | 5 U | V |
| Vinyl Acetate | 10 | 10 U | V | 10 U | V | 10 UJ | A | 10 U | V | 10 U | V | 10 U | V | 10 U | V | 10 U | V |
| Bromodichloromethane | 5 | 5 U | V | 5 U | V | 5 UJ | A | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V |
| 1,2-Dichloropropane | 5 | 5 U | V | 5 U | V | 5 UJ | A | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V |
| cis-1,3 Dichloropropene | 5 | 5 U | V | 5 U | V | 5 UJ | A | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V |
| Trichloroethene | 5 | 5 U | V | 5 U | V | 5500 E | A | 1300 E | A | 6 | V | 5 U | V | 5 U | V | 4 J | A |
| Dibromochloromethane | 5 | 5 U | V | 5 U | V | 5 UJ | A | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V |
| 1,1,2-Trichloroethane | 5 | 5 U | V | 5 U | V | 73 J | A | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V |
| Benzene | 5 | 5 U | V | 5 U | V | 5 UJ | A | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V |
| Trans-1,3-Dichloropropene | 5 | 5 U | V | 5 U | V | 5 UJ | A | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V |
| Bromoform | 5 | 5 U | V | 5 U | V | 5 UJ | A | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V |
| 4-Methyl-2-pentanone | 10 | 10 U | V | 10 U | V | 10 UJ | A | 10 U | V | 10 U | V | 10 U | V | 10 U | V | 10 U | V |
| 2-Hexanone | 10 | 10 U | V | 10 U | V | 10 UJ | A | 10 U | V | 10 U | V | 10 U | V | 10 U | V | 10 U | V |
| Tetrachloroethene | 5 | 5 U | V | 5 U | V | 3800 E | A | 5 U | V | 5 J | A | 5 U | V | 5 U | V | 5 U | V |
| 1,1,2,2-Tetrachloroethane | 5 | 5 U | V | 5 U | V | 5 UJ | A | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V |
| Toluene | 5 | 5 U | V | 5 U | V | 2 J | A | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V |
| Chlorobenzene | 5 | 5 U | V | 5 U | V | 5 UJ | A | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V |
| Ethylbenzene | 5 | 5 U | V | 5 U | V | 5 UJ | A | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V |
| Styrene | 5 | 5 U | V | 5 U | V | 5 UJ | A | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V |
| Xylene (Total) | 5 | 5 U | V | 5 U | V | 5 UJ | A | 5 U | V | 5 U | V | 5 U | V | 5 U | V | 5 U | V |
| Total volatile organic concentration (ppb) | | 33 | | 4 | | 20911 | | 3800 | | 11 | | 0 | | 0 | | 8 | |

U Indicates the compound was not detected above the Required Quantitation Limit.
J Quantitation is approximate due to limitations identified during the quality control review (data validation).
* Value is rejected due to other contractual criteria examined during the quality control review (data validation).
** Value is rejected due to blank contamination identified during the quality control review (data validation).
ppb Parts per billion.

DQ Data Qualifier
V Valid
A Acceptable with qualifications
R Rejected, data unusable
E Exceeds calib. range; diluted & reanalyzed

TABLE #: 1-E88-3369 Page 4 of 5

SITE NAME: Area 2 4th Quarter - 881 Hillside

SAMPLING DATE: 10/17/88, 10/19/88, 10/24/88, 11/14/88

CLP VOLATILE ORGANIC ANALYSIS: Low Water ANALYTICAL RESULTS (ppb)

| Sample Location | | 1-87 | | Rgnt B | 9-74 | | 10-74 | | 3-87 | | Rgnt B | 2-87 | | 62-86 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Number | | | | | X50 | | X50 | | Rerun | | | | | | |
| Sampling Date | | 10/24/88 | | | 10/24/88 | | 10/24/88 | | 10/24/88 | | | 11/14/88 | | 11/14/88 | |
| Remarks | | | | | | | | | | | | | | | |
| Volatile Organic Compound | Detection Limit (ppb) | | (DQ) | | | (DQ) | | (DQ) | | (DQ) | | | (DQ) | | (DQ) |
| Chloromethane | 10 | 10 UJ | A | | 500 UJ | A | 500 UJ | A | 10 UJ | A | | 10 U | R | 10 U | R |
| Bromomethane | 10 | 10 U | V | | 500 U | V | 500 UJ | A | 10 U | V | | 10 UJ | A | 10 UJ | A |
| Vinyl Chloride | 10 | 10 U | V | | 500 U | V | 500 UJ | A | 10 U | V | | 10 U | V | 10 U | V |
| Chloroethane | 10 | 10 U | R | | 500 UJ | A | 500 UJ | A | 10 UJ | A | | 10 U | R | 10 U | R |
| Methylene Chloride | 5 | 5 U | V | | 250 U | V | 250 UJ | A | 5 U | V | 5 ppb | 5 UJ | A | 5 UJ | A |
| Acetone | 10 | 10 U | V | | 500 U | V | 500 UJ | A | 10 U | V | | 10 U | V | 10 U | V |
| Carbon Disulfide | 5 | 5 U | V | | 250 U | V | 250 UJ | A | 5 U | V | | 5 U | V | 5 U | V |
| 1,1-Dichloroethene | 5 | 5 U | V | | 4800 | V | 250 UJ | A | 5 U | V | | 5 U | V | 5 U | V |
| 1,1-Dichloroethane | 5 | 5 U | V | | 250 U | V | 250 UJ | A | 5 U | V | | 5 U | V | 5 U | V |
| 1,2-Dichloroethene (Total) | 5 | 5 U | V | | 250 U | V | 250 UJ | A | 5 U | V | | 5 U | V | 5 U | V |
| Chloroform | 5 | 5 U | V | 12 ppb | 460 UJ | A | 250 UJ | A | 5 U | V | 11 ppb | 5 UJ | A | 5 UJ | A |
| 1,2-Dichloroethane | 5 | 5 U | V | | 250 U | V | 250 UJ | A | 5 U | V | | 5 U | V | 5 U | V |
| 2-Butanone | 10 | 10 U | V | | 500 U | V | 500 UJ | A | 10 U | V | | 10 U | R | 10 U | R |
| 1,1,1-Trichloroethane | 5 | 5 U | V | | 8200 | V | 250 UJ | A | 5 U | V | | 5 U | V | 5 U | V |
| Carbon Tetrachloride | 5 | 5 U | V | | 250 U | V | 1600 J | A | 5 U | V | | 5 U | V | 5 U | V |
| Vinyl Acetate | 10 | 10 U | V | | 500 U | V | 500 UJ | A | 10 U | V | | 10 U | V | 10 U | V |
| Bromodichloromethane | 5 | 5 U | V | | 250 U | V | 250 UJ | A | 5 U | V | | 5 U | V | 5 U | V |
| 1,2-Dichloropropane | 5 | 5 U | V | | 250 U | V | 250 UJ | A | 5 U | V | | 5 U | V | 5 U | V |
| cis-1,3 Dichloropropene | 5 | 5 U | V | | 250 U | V | 250 UJ | A | 5 U | V | | 5 U | V | 5 U | V |
| Trichloroethene | 5 | 5 U | V | | 9500 | V | 600 J | A | 5 U | V | | 5 U | V | 5 U | V |
| Dibromochloromethane | 5 | 5 U | V | | 250 U | V | 250 UJ | A | 5 U | V | | 5 U | V | 5 U | V |
| 1,1,2-Trichloroethane | 5 | 5 U | V | | 250 U | V | 250 UJ | A | 5 U | V | | 5 U | V | 5 U | V |
| Benzene | 5 | 5 U | V | | 250 U | V | 250 UJ | A | 5 U | V | | 5 U | V | 5 U | V |
| Trans-1,3-Dichloropropene | 5 | 5 U | V | | 250 U | V | 250 UJ | A | 5 U | V | | 5 U | V | 5 U | V |
| Bromoform | 5 | 5 U | V | | 250 U | V | 250 UJ | A | 5 U | V | | 5 U | V | 5 U | V |
| 4-Methyl-2-pentanone | 10 | 10 U | V | | 500 U | V | 500 UJ | A | 10 U | V | | 10 UJ | A | 10 UJ | A |
| 2-Hexanone | 10 | 10 U | V | | 500 U | V | 500 UJ | A | 10 U | V | | 10 U | V | 10 U | V |
| Tetrachloroethene | 5 | 5 U | V | | 2500 | V | 250 UJ | A | 5 U | V | | 5 U | V | 29 J | A |
| 1,1,2,2-Tetrachloroethane | 5 | 5 U | V | | 250 U | V | 250 UJ | A | 5 U | V | | 5 U | V | 5 U | V |
| Toluene | 5 | 5 U | V | | 250 U | V | 250 UJ | A | 5 U | V | 6 ppb | 5 UJ | A | 5 UJ | A |
| Chlorobenzene | 5 | 5 U | V | | 250 U | V | 250 UJ | A | 5 U | V | | 5 U | V | 5 U | V |
| Ethylbenzene | 5 | 5 U | V | | 250 U | V | 250 UJ | A | 5 U | V | | 5 UJ | A | 5 UJ | A |
| Styrene | 5 | 5 U | V | | 250 U | V | 250 UJ | A | 5 U | V | | 5 U | V | 5 U | V |
| Xylene (Total) | 5 | 5 U | V | | 250 U | V | 250 UJ | A | 5 U | V | | 5 U | V | 5 U | V |
| Total volatile organic concentration (ppb) | | 0 | | 12 | 25000 | | 2200 | | 0 | | 22 | 0 | | 29 | |

U Indicates the compound was not detected above the Required Quantitation Limit.
J Quantitation is approximate due to limitations identified during the quality control review (data validation).
* Value is rejected due to other contractual criteria examined during the quality control review (data validation).
** Value is rejected due to blank contamination identified during the quality control review (data validation).
ppb Parts per billion.

DQ Data Qualifier
V Valid
A Acceptable with qualifications
R Rejected, data unusable
E Exceeds calib. range; diluted & reanalyzed

Form V-1

TABLE #: 1-E88-3369 Page 5 of 5

SITE NAME: Area 2 4th Quarter - 881 Hillside

SAMPLING DATE: 10/17/88, 10/19/88, 10/24/88, 11/14/88

CLP VOLATILE ORGANIC ANALYSIS: Low Water ANALYTICAL RESULTS (ppb)

| Sample Location | | 5-87 | | Trip Blank | | Field Blank | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Number | | | | | | | | | | | | |
| Sampling Date | | 11/14/88 | | 11/14/88 | | 11/14/88 | | | | | | |
| Remarks | | | | | | | | | | | | |
| Volatile Organic Compound | Detection Limit (ppb) | | (DQ) | | (DQ) | | (DQ) | | | | | |
| Chloromethane | 10 | 10 U | R | 10 U | R | 10 U | R | | | | | |
| Bromomethane | 10 | 10 UJ | A | 10 UJ | A | 10 UJ | A | | | | | |
| Vinyl Chloride | 10 | 10 U | V | 10 U | V | 10 U | V | | | | | |
| Chloroethane | 10 | 10 U | R | 10 U | R | 10 U | R | | | | | |
| Methylene Chloride | 5 | 5 UJ | A | 9 UJ | A | 7 UJ | A | | | | | |
| Acetone | 10 | 10 U | V | 10 U | V | 10 U | V | | | | | |
| Carbon Disulfide | 5 | 5 U | V | 5 U | V | 5 U | V | | | | | |
| 1,1-Dichloroethene | 5 | 5 U | V | 5 U | V | 5 U | V | | | | | |
| 1,1-Dichloroethane | 5 | 5 U | V | 5 U | V | 5 U | V | | | | | |
| 1,2-Dichloroethene (Total) | 5 | 5 U | V | 5 U | V | 5 U | V | | | | | |
| Chloroform | 5 | 5 UJ | A | 5 UJ | A | 5 UJ | A | | | | | |
| 1,2-Dichloroethane | 5 | 5 U | V | 5 U | V | 5 U | V | | | | | |
| 2-Butanone | 10 | 10 U | R | 13 J | A | 10 U | R | | | | | |
| 1,1,1-Trichloroethane | 5 | 5 U | V | 5 U | V | 5 U | V | | | | | |
| Carbon Tetrachloride | 5 | 5 U | V | 5 U | V | 5 U | V | | | | | |
| Vinyl Acetate | 10 | 10 U | V | 10 U | V | 10 U | V | | | | | |
| Bromodichloromethane | 5 | 5 U | V | 5 U | V | 5 U | V | | | | | |
| 1,2-Dichloropropane | 5 | 5 U | V | 5 U | V | 5 U | V | | | | | |
| cis-1,3 Dichloropropene | 5 | 5 U | V | 5 U | V | 5 U | V | | | | | |
| Trichloroethene | 5 | 5 U | V | 5 U | V | 5 U | V | | | | | |
| Dibromochloromethane | 5 | 5 U | V | 5 U | V | 5 U | V | | | | | |
| 1,1,2-Trichloroethane | 5 | 5 U | V | 5 U | V | 5 U | V | | | | | |
| Benzene | 5 | 5 U | V | 5 U | V | 5 U | V | | | | | |
| Trans-1,3-Dichloropropene | 5 | 5 U | V | 5 U | V | 5 U | V | | | | | |
| Bromoform | 5 | 5 U | V | 5 U | V | 5 U | V | | | | | |
| 4-Methyl-2-pentanone | 10 | 10 UJ | A | 10 UJ | A | 10 UJ | A | | | | | |
| 2-Hexanone | 10 | 10 U | V | 10 U | V | 10 U | V | | | | | |
| Tetrachloroethene | 5 | 5 U | V | 5 U | V | 5 U | V | | | | | |
| 1,1,2,2-Tetrachloroethane | 5 | 5 U | V | 5 U | V | 5 U | V | | | | | |
| Toluene | 5 | 6 UJ | A | 5 U | V | 5 U | V | | | | | |
| Chlorobenzene | 5 | 5 U | V | 5 U | V | 5 U | V | | | | | |
| Ethylbenzene | 5 | 5 UJ | A | 5 UJ | A | 5 UJ | A | | | | | |
| Styrene | 5 | 5 U | V | 5 U | V | 5 U | V | | | | | |
| Xylene (Total) | 5 | 5 U | V | 5 U | V | 5 U | V | | | | | |
| Total volatile organic concentration (ppb) | | 0 | | 13 | | 0 | | 0 | 0 | | 0 | 0 |

U Indicates the compound was not detected above the Required Quantitation Limit.
J Quantitation is approximate due to limitations identified during the quality control review (data validation).
* Value is rejected due to other contractual criteria examined during the quality control review (data validation).
** Value is rejected due to blank contamination identified during the quality control review (data validation).
ppb Parts per billion.

DQ Data Qualifier
V Valid
A Acceptable with qualifications
R Rejected, data unusable
E Exceeds calib. range; diluted & reanalyzed

Form V-1