1300031

Centrum Analytical Laboratories, Inc.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

LABORATORY REPORT FORM

Laboratory Name: Centrum Analytical Laboratories, Inc.

Address: 290 Tennessee Street, Redlands, CA 92373

Telephone/FAX: (909) 798-9338/(909) 793-1559

Laboratory Certification:
(ELAP) No.: 1184 Expiration Date: May 1998

Laboratory Director's Name: Dr. Robert R. Clark

Laboratory Director's Signature :

Client: Ogden Environmental and Energy Services

Project No: 313150002

Analytical Method:	EPA 502.1	EPA 502.2	EPA 524.1
			EPA 524.2
	EPA 601		EPA 624
	EPA 8010	EPA 8021	EPA 8240
			EPA 8260
Other:			**GC/MS**
Analytical Batch:			970617M2V016
Date Sampled:			06/17/97
Date Received:			06/17/97
Date Reported:			08/15/97
Sample Matrix:			Vapor
Extraction Method:			EPA 5030
Extraction Material:			NA

Chain of Custody Received: **Yes** No

Sample Condition: Samples were received by the mobile laboratory in covered, 100-150 ml glass bulbs.

Comments:

(RWQCB LabForm; Ves 8/97)

ydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** OGDEN **Date** 6/17/97

Sample Location LSV175Φ1 **Sample ID** RV2Φ4

Depth 5' feet or from _____ to _____ feet

Probe Installed Date/Time 5/16/97

Sample Time: start 12:45 end 10:56 **Purge Time** 11 min

Flow Rate 15Φ ml/min **Total Purge Volume** _____ ml

Bulb ID J2 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp _____C Weather SUNNY Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/17/97

Received By: (~~mobile lab~~) SAME _____ **Time** 10:57

Received By / Mobile lab: _____ Time 1135

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD Client OGDEN Date 6/17/97

Sample Location LSV1754Z Sample ID RV2@5

Depth 10 feet or from _____ to _____ feet

Probe Installed Date/Time 5/16/97

Sample Time: start 10:45 end 10:58 Purge Time 13 min

Flow Rate 150 ml/min Total Purge Volume _____ ml

Bulb ID A3 Bulb Volume 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp _____C Weather SUNNY Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy ~~✓~~ 24 Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane: _____ Isopentane: ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ Date 6/17/97

Received By: (~~mobile lab~~ Shuttle): _____ Time 10:59

Received By (mobile lab): _____ Time 1135

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** ODEQ **Date** 6/17/97

Sample Location ILSV17S03 **Sample ID** RV206

Depth 15 feet or from _____ to _____ feet

Probe Installed Date/Time _____

Sample Time: start 10:45 end 11:00 **Purge Time** 15 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID T1 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane _____ Isopropanol _____

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/17/97

Received By: (~~mobile lab~~) Shuttle _____ **Time** 11:41

Received By (mobile lab): _____ Time 1135

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** ~~AD~~ dDen DB **Date** 6/17/97

Sample Location 12SV18SØ1 **Sample ID** RV2Ø7

Depth 5 feet or from _____ to _____ feet

Probe Installed Date/Time ~~5/24/97~~ 6/16/97 DB

Sample Time: start 14:56 end 11:07 **Purge Time** _____ min

Flow Rate 15Ø ml/min **Total Purge Volume** _____ ml

Bulb ID A2 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp _____C Weather SUNNY Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/17/97

Received By: (mobile lab) Shuttle _____ **Time** 11:Ø8

Received By (Mobile Lab): _____ Time 1135

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** LODEN **Date** 6/17/97

Sample Location LSV255Φ1 **Sample ID** RV2ΦB

Depth 5 feet or from _____ to _____ feet

Probe Installed Date/Time 5/2Φ/97

Sample Time: start 11:13 end 11:25 **Purge Time** ~~13~~ 11 min

Flow Rate 1ΦΦ ml/min **Total Purge Volume** _____ ml

Bulb ID R6 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/17/97

Received By: (~~mobile lab~~) SLUTTE _____ **Time** 11:25

Received By (Mobile Lab) _____ Time 1135

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** OGDEN **Date** 6/17/97

Sample Location LGV25SG2 **Sample ID** RV2@9

Depth 8.5 feet or from _____ to _____ feet

Probe Installed Date/Time 5/28/97

Sample Time: start 11:13 end 11:26 **Purge Time** 13 min

Flow Rate 100 ml/min **Total Purge Volume** _____ ml

Bulb ID L5 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp _____C Weather SUNNY Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMk ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/17/97

Received By: ~~(mobile lab):~~ SHUTTLE _____ **Time** 11:27

Received By: / MOBILE LAB: _____ Time 1135

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD *Client* DeN *Date* 6/17/97

Sample Location AASVP8SP1 08:30 *Sample ID* RV210

Depth 6 feet or from _____ to _____ feet

Probe Installed Date/Time 6/17/97

Sample Time: start 14:58 end 15:10 *Purge Time* 12 min

Flow Rate 150 ml/min *Total Purge Volume* _____ ml

Bulb ID 47 *Bulb Volume* 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other Soil

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ *Date* 6/17/97

Received By: (~~mobile lab~~) Shuttle _____ *Time* 15:11

Received By (Mobile Lab) _____ / / Time 1620

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** OGDEN **Date** 6/17/97

Sample Location AASV1150' E **Sample ID** RV211

Depth 5 feet or from _____ to _____ feet

Probe Installed Date/Time 6/17/97 0850

Sample Time: start 1507 end 1518 **Purge Time** 11 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID Y2 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other SOIL

Ambient Temp _____C Weather SUNNY Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe _____ Manual ✓ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMk ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/17/97

Received By: (mobile lab): _____ **Time** 1620

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** OGDEN **Date** 6/17/97

Sample Location AASV1@S@1 **Sample ID** RV212

Depth 1.5' feet or from _____ to _____ feet

Probe Installed Date/Time 6/17/97 @91@

Sample Time: start 15:2@ end 15:31 **Purge Time** 11 min

Flow Rate 15@ ml/min **Total Purge Volume** _____ ml

Bulb ID N7 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other DRY GRASS

Ambient Temp _____C Weather SUNNY Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe _____ Manual ✓ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane _____ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/17/97

Received By: (~~mobile lab~~) shuttle _____ **Time** 15:32

Received by (MOBILE LAB): _____ Time 1620

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** DGDeW **Date** 6/17/97

Sample Location AASV@95@1 **Sample ID** RV213

Depth 2 feet or from _____ to _____ feet

Probe Installed Date/Time 6/17/97 @92@

Sample Time: start 15:28 end 15:39 **Purge Time** _____ min

Flow Rate 15@ ml/min **Total Purge Volume** _____ ml

Bulb ID Y6 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions : DRY

Soil Type _____ Asphalt _____ Cement _____ Other Grass

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe _____ Manual ✓ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed: Pentane: _____ Isopentane: ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/17/97

Received By: (~~mobile lab~~) Shuttle _____ **Time** 15:4@

Received By (Mobile lab): _____ Time 1620

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** OGDEN **Date** 6/17/97

Sample Location ~~#~~ EVSV035Ø1 **Sample ID** RV214 (~~273~~, ~~2<B~~)

Depth 5' feet or from ______ to ______ feet

Probe Installed Date/Time 6/3/97

Sample Time: start 15:5Ø end 16:Ø1 **Purge Time** 11 min

Flow Rate 15Ø ml/min **Total Purge Volume** ______ ml

Bulb ID B2 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate ______ Daily QA ______

Purge Test ______ Train Blank ______ Vacuum Equilibrium ______

Surface Conditions :

Soil Type ______ Asphalt ✓ Cement ______ Other ______

Ambient Temp ______ C Weather SUNNY Humidity ______ Barometric Pressure ______

Installation Difficulty:

Easy ______ Moderate ✓ Difficult ______ Pipes Lost ______ Pipes Damaged ______

MeisterProbe ✓ Manual ______ Slam Bar ______ Drill Rig ______ SVE ______

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane ______ Isopentane ______ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): [signature] **Date** 6/17/97

Received By: (~~mobile lab~~ Shuttle): [signature] **Time** 16:Ø2

Received By: (Mobile lab): [signature] Time 1620

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** DGDEN **Date** 6/17/97

Sample Location EVSVΦ4SΦ1 **Sample ID** RV215

Depth 5 feet or from _____ to _____ feet

Probe Installed Date/Time 6/17/97

Sample Time: start 15:54 end 16:05 **Purge Time** 11 min

Flow Rate 15Φ ml/min **Total Purge Volume** _____ ml

Bulb ID Y4 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp _____C Weather SUNNY Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane: _____ Isopentane: ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/17/97

Received By: ~~(mobile lab)~~ SCOTT/C **Time** 16:06

Received By (Mobile Lab): _____ TIME 1620

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** DOE **Date** 6/17/97

Sample Location EVSV045D2 **Sample ID** RV216

Depth 9.5' feet or from _____ to _____ feet

Probe Installed Date/Time 6/3/97

Sample Time: start 15:54 end 16:07 **Purge Time** 13 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID A4 **Bulb Volume** 125 ml

Sample Type: Normal _____ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp ____C Weather SUNNY Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe _____ Manual ✓ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/17/97

Received By: (~~mobile lab~~) Shuttle _____ **Time** 16:08

Received By (Mobile Lab) _____ Time 1620

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** ofDev **Date** 6/17/97

Sample Location OCSVØ1SØ1 **Sample ID** RV217

Depth 6 feet or from _____ to _____ feet

Probe Installed Date/Time 6/9/97

Sample Time: start 1731 end 1946 **Purge Time** 15 min

Flow Rate 8Ø ml/min **Total Purge Volume** _____ ml

Bulb ID J2 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/17/97

Received By: (mobile lab): _____ **Time** 19:44

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD *Client* OLDEN *Date* 6/17/97

Sample Location DASV@1S@1 *Sample ID* RV218

Depth 4 feet or from _____ to _____ feet

Probe Installed Date/Time 6/13/97

Sample Time: start 18:48 end 18:19 *Purge Time* 11 min

Flow Rate 150 ml/min *Total Purge Volume* _____ ml

Bulb ID T1 *Bulb Volume* 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp _____C Weather SUNNY Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ *Date* 6/17/97

Received By: (mobile lab): _____ *Time* 19:44

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** DBDeN **Date** 6/17/97

Sample Location DASV@150Z **Sample ID** RV219

Depth 8 feet or from _____ to _____ feet

Probe Installed Date/Time 6/13/97

Sample Time: start 18:04 end 18:16 **Purge Time** 12 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID A3 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMk ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/17/97

Received By: (mobile lab): _____ **Time** 19:44

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** DSDEN **Date** 6/17/97

Sample Location ILSV03D04 **Sample ID** RV220

Depth 20 feet or from _____ to _____ feet

Probe Installed Date/Time 5/12/97

Sample Time: start 18:37 end ~~1915~~ 18:54 **Purge Time** 17 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID AZ **Bulb Volume** 125 ml

Sample Type: Normal _____ Duplicate ✓ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/17/97

Received By: (mobile lab): _____ **Time** 19:44

HydroGeoSpectrum SOIL VAPOR CHAIN OF CUSTODY

PROJECT SSFL / Rocketdyne CLIENT Boeing DATE 11/5/21

SAMPLE ID-Depth(ft) ↓	↓	INSTALLED	SAMPLED DATE	Interval	BULB ID	FLOW ml/min	TIME min	Purge Vol	Iso Butane Leak Check	MISC SWMU	EPA ID
OLSV16S01	1.5'	11/7/21	11/5	0734-0745	X2	150	11	125	✓	7.4	MW15
OLSV17S01	2.0'	11/7/21	11/5	0746-0751	R7	150	11	125	✓	7.4	MW16
OLSV18S01	4.0'	11/7/21	11/5	0748-0755	F6	150	12	125	✓	7.4	MW17
OLSV19S01	4.0'	11/7/21	11/5	0751-0800	G1	150	12	125	✓	7.4	MW18

SURROGATES: D6-Benzene____ D8-Toluene____ D-Chloroform____ D6-DMK____ D-DCM____

RELINQUISHED BY: _____ RECEIVED BY _____ DATE/TIME 11/5/21 0810

RELINQUISHED BY _____ RECEIVED BY _____ DATE/TIME _____

HydroGeoSpectrum SOIL VAPOR CHAIN OF CUSTODY

~~MVC-26~~ MVC-19 MW-315

PROJECT 55FG/Rocketdyne CLIENT Bering DATE 11/3/11

SAMPLE ID-Depth(ft) ↓	↓	INSTALLED	SAMPLED DATE	Interval	BULB ID	FLOW ml/min	TIME min	Purge Vol	Iso-Butane Leak Check	MISC SWMU	EPA ID
ILSV745Ø1	4'	11/2/11	11/3	0832-0844	~~EG~~ N11	150	12	12.5	✓	4.3	MVC19
ILSV745Ø2	12'		11/3	0852-0906	~~AH~~ E6	150	14		✓	4.3	MVC20
ILSV745Ø3	17'		11/3	0832 0848	X 19	150	16		✓	4.3	MVC21
ILSV735Ø1	6'		11/3	0900-0912	F6	150	12		✓	4.3	MVC22
ILSV735Ø2	12'		11/3	0900 0914	H9	150	14		✓	4.3	MVC23
ILSV735Ø3	18'		11/3	0900-0916	B5	150	16		✓	4.3	MVC24
BISV265Ø1	4'		11/3	0926-0938	I53	150	12		✓	4.1	MVC25
BISV275Ø1	4'	↓	11/3	0936-0942	N1	150	12	↓	✓	4.1	MVC26

SURROGATES: D6-Benzene____ D8-Toluene____ D-Chloroform____ D6-DMK____ D-DCM____

RELINQUISHED BY: _____ **RECEIVED BY** _____ **DATE/TIME** 11/3/11

RELINQUISHED BY _____ **RECEIVED BY** _____ **DATE/TIME** _____

HydroGeoSpectrum Inc, POB 49259, LA. CA 90049 Phone(310)458-0973

HydroGeoSpectrum SOIL VAPOR CHAIN OF CUSTODY

MW-315 MVC27

PROJECT SSFL/Rocketdyne CLIENT Boeing DATE 11/8/01

SAMPLE ID-Depth(ft) ↓	↓	INSTALLED	SAMPLED DATE	Interval	BULB ID	FLOW ml/min	TIME min	Purge Vol	Leak Check	MISC SWMU	EPA ID
AFSV18S01	6'	11/7/01	11/8	1114-1126	F6	150	12	125	✓	4.9	MVC27
AFSV18S02	12'	↓	↓	1117-1129	G1	↓	14	↓	✓	↓	MVC28
AFSV18S03	18'	↓	↓	1114-1130	R7	↓	16	↓	✓	↓	MVC29
AFSV18S04	24'	↓	↓	1132-1145	X2	↓	15	↓	✓	↓	MVC30

SURROGATES: D6-Benzene____ D8-Toluene____ D-Chloroform____ D6-DMK____ D-DCM____

RELINQUISHED BY: [signature] **RECEIVED BY** [signature] **DATE/TIME** 11/8/01 1205

RELINQUISHED BY _____ **RECEIVED BY** _____ **DATE/TIME** _____

HydroGeoSpectrum Inc, POB 49259, LA. CA 90049 Phone(310)458-0973

HydroGeoSpectrum SOIL VAPOR CHAIN OF CUSTODY

MW-31

PROJECT AFSV/Richelieu CLIENT Boeing DATE 11/5/01

SAMPLE ID-Depth(ft) ↓	↓	INSTALLED	SAMPLED DATE	Interval	BULB ID	FLOW ml/min	TIME min	Purge Vol	Iso-Butane Leak Check	SWMU	MISC EPA ID
AFSV175Ø1	65'	11/7/01	11/8	1345-1358	X19	150	13	125	.	4.9	MW-33
AFSV17D01	65'	11/7/01	11/5	1359-1412	N11	150	13	125	.	4.9	MW-34
B15V30S01	6'	11/7/01	11/8	illegible	E6	150	13	125	.	7.1	MW-31
B15V30S02	12'	11/2/01	11/8	1417-1421	F6	150	14	125	.	7.1	MW-32

SURROGATES: D6-Benzene____ D8-Toluene____ D-Chloroform____ D6-DMK____ D-DCM____

RELINQUISHED BY: [signature] **RECEIVED BY** [signature] **DATE/TIME** 11/5/01 1430

RELINQUISHED BY _____ **RECEIVED BY** _____ **DATE/TIME** _____

HydroGeoSpectrum Inc, POB 49259, LA. CA 90049 Phone(310)458-0973

HydroGeoSpectrum SOIL VAPOR CHAIN OF CUSTODY

ILS # PROJECT Rocketdyne CLIENT Ogden DATE 6/16/99

	SAMPLE ID-Depth(ft)	INSTALLED	SAMPLED	BULB ID	FLOW ml/min	TIME min	Purge Vol	Leak Check	MISC EPA ID#	
5	ILSV53QØ1-5'	Summer 1997	0914-0917	F4	150	3		IPA 1HF 1220	RQØ3Ø	1
5	ILSV53QØ2-5'	↓	0914-0925	E5	150	11		IPA 1020	RQØ31	2
5	ILSV53QØ3-5'	↓	0914-0936	A3	150	22		IPA 1020	RQØ32	3
5	OCSVØ7SØ1-5'	6/14/99	1024-1035	L6	150	11		IPA 1050	RV7ØØ	4
5	OCSVØ7SØ2-13'	↓	1023-1035	N11	150	14		IPA 1055 1400	RV7Ø1	5
6	OCSVØ8SØ1-7'	↓	1027-1039	F7	150	12		IPA 1150	RV7Ø2	6
4	OCSVØ9SØ1-6'	↓	1127-1138	X2	150	11		1200	RV7Ø3	7
0	OCSV14SØ1-4'	↓	1129-1140	Y3	150	11		1205	RV7Ø4	8
1	OCSV15SØ1-6'	↓	1135-1146	F6	150	11		1210 1345	RV7Ø5	9
3	OCSV13SØ1-5'	↓	1156-1207	N1	↓	11		1240	RV7Ø6	10
2	OCSV12SØ1-6'	↓	1200-1211	Y2	↓	11		1245	RV7Ø7	11
1	OCSV11SØ1 25'	↓	1204-1211	L3	↓	7		1250	RV7Ø8	12
1	DCSV10SØ1-5'	↓	1208-1219	R7	↓	11		↓ 1255	RV7Ø9	13
9	~~OCSVØ9DØ1-6'~~	↓			↓	11			~~RV71Ø~~	
8	OCSV13DØ1-5'	↓	1252-1303	N12	↓	11		↓ 140	RV71Ø	14

SURROGATES: D6-Benzene____ D8-Toluene____ D-Chloroform____ D6-DMK____ D-DCM____

RELINQUISHED BY [signature] RECEIVED BY [signature] DATE/TIME 1325 6/16/99

RELINQUISHED BY____ RECEIVED BY____ DATE/TIME____

T300V045

RECEIVED

Centrum Analytical Laboratories, Inc.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

LABORATORY REPORT FORM

Laboratory Name: Centrum Analytical Laboratories, Inc.

Address: 290 Tennessee Street, Redlands, CA 92373

Telephone/FAX: (909) 798-9338/(909) 793-1559

Laboratory Certification:
(ELAP) No.: 1184 Expiration Date: May 1998

Laboratory Director's Name: Dr. Robert R. Clark

Laboratory Director's Signature :

Client: Ogden Environmental and Energy Services

Project No: 313150002

Analytical Method:	EPA 502.1	EPA 502.2	EPA 524.1
			EPA 524.2
	EPA 601		EPA 624
	EPA 8010	EPA 8021	EPA 8240
			EPA 8260
Other:			**GC/MS**
Analytical Batch:			970728M2V042
Date Sampled:			07/28/97
Date Received:			07/28/97
Date Reported:			08/28/97
Sample Matrix:			Vapor
Extraction Method:			EPA 5030
Extraction Material:			NA

Chain of Custody Received: **Yes** No

Sample Condition: Samples were received by the mobile laboratory in covered, 100-150 ml glass bulbs.

Comments:

(RWQCB LabForm; Ves 8/97)

290 TENNESSEE STREET • REDLANDS, CA 92373 • (909) 798-9336 • FAX (909) 793-1559 • (800) 798-9336

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 07/28/97

Sample Location ECSV17S01 **Sample ID** RV6C9

Depth 4' feet or from _____ to _____ feet

Probe Installed Date/Time 07/25/97

Sample Time: start 08:22 end 08:33 **Purge Time** 11 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID A3 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement ✓ Other _____

Ambient Temp _____C Weather foggy Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane: _____ Isopentane: ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 7/28/97

Received By: (mobile lab): _____ **Time** 900

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 07/28/97

Sample Location OCSV06D01 **Sample ID** RV610

Depth 5' feet or from _____ to _____ feet

Probe Installed Date/Time 07/28/97

Sample Time: start 08:43 end 08:54 **Purge Time** 11 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID V2 **Bulb Volume** 125 ml

Sample Type: Normal X Duplicate _____ Daily QA X

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt X Cement _____ Other _____

Ambient Temp _____ C Weather Foggy Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate X Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane _____ Isopropanol X

REMARKS/COMMENTS:

Relinquished By (sampler): [signature] **Date** 7/28/97

Received By: (mobile lab): [signature] **Time** 900

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD Client Ogden Date 07/28/97

Sample Location CLSV32SG1 Sample ID RV611

Depth 4 feet or from _____ to _____ feet

Probe Installed Date/Time 07/28/97 12:00

Sample Time: start 13:42 end 14:53 Purge Time 11 min

Flow Rate 150 ml/min Total Purge Volume _____ ml

Bulb ID T1 Bulb Volume 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other Gravel

Ambient Temp _____ C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMC ✓ TDF ✓

Leak Check Performed: Pentane _____ Isopentane _____ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ Date 7/28/97

Received By: (mobile lab): _____ Time 1420

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD Client ~~ODE~~ Ogden Date 07/28/97

Sample Location CLSV32S02 Sample ID RV612

Depth 8' feet or from ______ to ______ feet

Probe Installed Date/Time 07/28/97 12:00

Sample Time: Start 13:42 End 13:54 Purge Time 12 min

Flow Rate 130 ml/min Total Purge Volume ______ ml

Bulb ID J2 Bulb Volume 125 ml

Sample Type: Normal ✓ Duplicate ______ Daily QA ______

Purge Test ______ Train Blank ______ Vacuum Equilibrium ______

Surface Conditions :

Soil Type ______ Asphalt ______ Cement ______ Other Gravel

Ambient Temp ______ C Weather Sunny Humidity ______ Barometric Pressure ______

Installation Difficulty:

Easy ______ Moderate ✓ Difficult ______ Pipes Lost ______ Pipes Damaged ______

MeisterProbe ✓ Manual ______ Slam Bar ______ Drill Rig ______ SVE ______

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed: Pentane ______ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): [signature] Date 7/28/97

Received By: (mobile lab): [signature] Time 1420

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 07/28/97

Sample Location CLSV33S01 **Sample ID** RV613

Depth 41 feet or from _____ to _____ feet

Probe Installed Date/Time 07/25/97 12:20

Sample Time: start 14:00 end 14:11 **Purge Time** 11 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID B2 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp _____ C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe _____ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane: _____ Isopentane: ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 7/28/97

Received By: (mobile lab): _____ **Time** 1420

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 07/28/17

Sample Location CLSV33S&2 **Sample ID** RVG14

Depth 8' feet or from _____ to _____ feet

Probe Installed Date/Time [illegible] 12:20

Sample Time: start 14:00 [illegible] 2 **Purge Time** 12 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID A2 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp ____ C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): [signature] **Date** 7/28/17

Received By: (mobile lab): [signature] **Time** 1420

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD Client Ogden Date 07/28/17

Sample Location CLSV345&7 Sample ID RV615

Depth 5' feet or from _____ to _____ feet

Probe Installed Date/Time 7/27 13:00

Sample Time: Start 14:50 Stop 01 Purge Time 11 min

Flow Rate 150 ml/min Total Purge Volume _____ ml

Bulb ID X8 Bulb Volume 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp _____ C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: DC Benzene ✓ Chloroform ✓ 1,2 DCM ✓ DCDMK ✓ TDF ✓

Leak Check Performed: Shut-in _____ Tracer Gas _____ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): [signature] Date 7/28/17

Received By: (mobile lab): [signature] Time 1515

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 07/28/97

Sample Location CLSV345&2 **Sample ID** RVG16

Depth 10' feet or from _____ to _____ feet

Probe Installed Date/Time 07/28/97 13:00

Sample Time: start 14:50 end 15:03 **Purge Time** 13 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID L5 **Bulb Volume** 125 ml

Sample Type: Normal 1 Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt 1 Cement _____ Other _____

Ambient Temp _____ C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Diffibnity:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

Meister Type _____ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed: Pentane _____ Isopentane _____ Isopropanol 2

REMARKS/COMMENTS

Relinquished By (sampler): [signature] **Date** 7/28/97

Received By: (mobile lab): [signature] **Time** 1511

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD *Client* Ogden *Date* 07/28/97

Sample Location CLSV34SQ3 *Sample ID* RV617

Depth 17 feet or from ______ to ______ feet

Probe Installed Date/Time 07/28/97 13:00

Sample Time: start 14:50 end 15:06 *Purge Time* 16 min

Flow Rate 150 ml/min *Total Purge Volume* ______ ml

Bulb ID N1 *Bulb Volume* 125 ml

Sample Type: Normal ✓ Duplicate ______ Daily QA ______

Purge Test ______ Train Blank ______ Vacuum Equilibrium ______

Surface Conditions :

Soil Type ______ Asphalt ✓ Cement ______ Other ______

Ambient Temp ______ C Weather [illegible] Humidity ______ Barometric Pressure ______

Installation Difficulty:

Easy ______ Moderate ✓ Difficult ______ Pipes Lost ______ Pipes Damaged ______

MeisterProbe ✓ Manual ______ Slam Bar ______ [illegible] ______

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed: Pentane ______ Isopentane ______ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): [signature] *Date* 7/28/97

Received By: (mobile lab): [signature] *Time* 1515

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD Client Ogden Date 07/28/97

Sample Location CLSV3558 Sample ID RV618

Depth 5' feet or from _____ to _____ feet

Probe Installed Date/Time 7/28/97 14:00

Sample Time: start 1648 end 1659 Purge Time 11 min

Flow Rate 150 ml/min Total Purge Volume _____ ml

Bulb ID X8 Bulb Volume 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other Dirt

Ambient Temp _____ C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate _____ Difficult _____ Pipes Lost _____ Pipes Damaged _____

Meister Probe _____ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed: Helium _____ Isopentane _____ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ Date 7/28/97

Received By: (mobile lab): _____ Time 1730

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD Client Ogden Date 07/28/97

Sample Location OCSV@6S@2 Sample ID RV619

Depth 10 feet or from _____ to _____ feet

Probe Installed Date/Time 07/28/97 14:45

Sample Time: start 17:14 end 17:27 Purge Time 13 min

Flow Rate 150 ml/min Total Purge Volume _____ ml

Bulb ID N1 Bulb Volume 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed : Pentane _____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): Donald Wright Date 7/28/97

Received By: (mobile lab): _____ Time 1730

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD Client Ogden Date 07/28/97

Sample Location OC SV06 F03 (Dup) Sample ID RV620

Depth 0 feet or from _____ to _____ feet

Probe Installed Date/Time _____

Sample Time: start 17:14 end 17:27 Purge Time 13 min

Flow Rate 160 ml/min Total Purge Volume _____ ml

Bulb ID 25 Bulb Volume 125 ml

Sample Type: Normal _____ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank ✓ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other _____

Ambient Temp _____ C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe _____ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed: Pentane _____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): [signature] Date 7/30/97

Received By: (mobile lab): [signature] Time 1730

7300V036

Centrum Analytical Laboratories, Inc.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

LABORATORY REPORT FORM

Laboratory Name: Centrum Analytical Laboratories, Inc.

Address: 290 Tennessee Street, Redlands, CA 92373

Telephone/FAX: (909) 798-9338/(909) 793-1559

Laboratory Certification:
(ELAP) No.: 1184 Expiration Date: May 1998

Laboratory Director's Name: Dr. Robert R. Clark

Laboratory Director's Signature :

Client: Ogden Environmental and Energy Services

Project No: 313150002

Analytical Method:	EPA 502.1	EPA 502.2	EPA 524.1
			EPA 524.2
	EPA 601		EPA 624
	EPA 8010	EPA 8021	EPA 8240
			EPA 8260
Other:			**GC/MS**
Analytical Batch:			970725M2V041
Date Sampled:			07/25/97
Date Received:			07/25/97
Date Reported:			08/15/97
Sample Matrix:			Vapor
Extraction Method:			EPA 5030
Extraction Material:			NA

Chain of Custody Received: **Yes** No

Sample Condition: Samples were received by the mobile laboratory in covered, 100-150 ml glass bulbs.

Comments:

(RWQCB LabForm; Ves 8/97)

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 07/25/97

Sample Location CLSV27S02 **Sample ID** RV592

Depth 8' feet or from _____ to _____ feet

Probe Installed Date/Time 07/24/97

Sample Time: start 09:39 stop 09:51 **Purge Time** 12 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID X8 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other Gravel

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): [signature] **Date** 7/25/97

Received By: (mobile lab): [signature] **Time** 1010

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 07/25/97

Sample Location CLSV27_03 **Sample ID** RV593

Depth 12' feet or from _____ to _____ feet

Probe Installed Date/Time 07/24/97

Sample Time: start 09:39 end 09:53 **Purge Time** 14 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID A3 **Bulb Volume** 125 ml

Sample Type: Normal 2 Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other Gravel

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate 1 Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe 2 Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane ✓ Isopentane 2 Isopropanol 2

REMARKS/COMMENTS:

Relinquished By (sampler): [signature] **Date** 7/25/97

Received By: (mobile lab): [signature] **Time** 1010

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 07/25/07

Sample Location ELSV045Q1 **Sample ID** RV594

Depth 2' feet or from _____ to _____ feet

Probe Installed Date/Time 07/25/07 08:15

Sample Time: start 10:45 end 10:56 **Purge Time** 11 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID A6 **Bulb Volume** 125 ml

Sample Type: Normal X Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other Sand

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate 1 Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe _____ Manual 1 Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane: _____ Isopentane: 2 Isopropanol 2

REMARKS/COMMENTS:

Relinquished By (sampler): [signature] **Date** 7/25/07

Received By: (mobile lab): [signature] **Time** 1150

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 07/25/97

Sample Location ELSV055&1 **Sample ID** RV595

Depth 3' feet or from _____ to _____ feet

Probe Installed Date/Time 07/25/97 08:20

Sample Time: start 09:46 (10:46 cm) end 10:57 (10:57 cm) **Purge Time** 11 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID I5 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other Sand

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe _____ Manual ✓ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane: _____ Isopentane: ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): [signature] **Date** 7/25/97

Received By: (mobile lab): [signature] **Time** 1130

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 07/25/07

Sample Location ELSV@6SG1 **Sample ID** RV596

Depth 5' feet or from _____ to _____ feet

Probe Installed Date/Time 07/25/07 08:05

Sample Time: start ~~10~~ 11 11:09 end 11:20 **Purge Time** 11 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID X1 **Bulb Volume** 125 ml

Sample Type: Normal 2 Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other Grass

Ambient Temp _____ C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe 2 Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane: _____ Isopentane: ✓ Isopropanol 2

REMARKS/COMMENTS:

Relinquished By (sampler): [signature] **Date** 7/25/07

Received By: (mobile lab): [signature] **Time** 1130

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 07/25/97

Sample Location ELSV06S02 **Sample ID** RV597

Depth 10' feet or from _____ to _____ feet

Probe Installed Date/Time 07/25/97 08:05

Sample Time: start ~~0~~ 11:09 end 11:22 **Purge Time** 13 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID Y6 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other Grass

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMB ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): [signature] **Date** 7/25/97

Received By: (mobile lab): [signature] **Time** 1130

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 07/25/17

Sample Location AFSVP6S&2 **Sample ID** RV598

Depth 10' feet or from _____ to _____ feet

Probe Installed Date/Time 07/[illegible]/17 11:15

Sample Time: start 13:17 end 13:30 **Purge Time** 13 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID T1 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other Gravel

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate _____ Difficult ✓ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): [signature] **Date** 7/25/17

Received By: (mobile lab): [signature] **Time** 1430

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 07/25/17

Sample Location LFSV05S&3 **Sample ID** RV599

Depth 15' feet or from _____ to _____ feet

Probe Installed Date/Time 07/24/17 11:40

Sample Time: start 13:39 end 15:04 **Purge Time** 15 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID A2 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 7/25/17

Received By: (mobile lab): _____ **Time** 1430

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 07/25/97

Sample Location LFSV055R2 **Sample ID** RV600

Depth 5'10' feet or from _____ to _____ feet

Probe Installed Date/Time 07/25/97 11:40

Sample Time: start 13:40 end 13:53 **Purge Time** 13 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID N5 **Bulb Volume** 125 ml

Sample Type: Normal 2 Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt 2 Cement _____ Other _____

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate 2 Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe 2 Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane 2 Isopropanol 2

REMARKS/COMMENTS:

Relinquished By (sampler): Reynaldo Reynoso **Date** 7/28/97

Received By: (mobile lab): _____ **Time** 1430

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 07/25/17

Sample Location CLSV2553 **Sample ID** RV601

Depth 13' feet or from _____ to _____ feet

Probe Installed Date/Time 07/25/17 12:10

Sample Time: start 15:02 end 15:17 **Purge Time** 15 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID B2 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium ✓

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chlotoform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane: _____ Isopentane: ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): [signature] **Date** 7/25/17

Received By: (mobile lab): [signature] **Time** 1745

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 07/25/97

Sample Location CLSV31SO3 **Sample ID** RV602

Depth 11 feet or from _____ to _____ feet

Probe Installed Date/Time 07/25/97 12:30

Sample Time: start 15:19 end 15:32 **Purge Time** 13 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID N1 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other Gravel

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): [signature] **Date** 7/24/97

Received By: (mobile lab): [signature] **Time** 1745

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 07/25/17

Sample Location OCSV055801 **Sample ID** RV603

Depth 41 feet or from _____ to _____ feet

Probe Installed Date/Time 07/25/17 10:05

Sample Time: start 15:49 end 16:00 **Purge Time** 11 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID A3 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane: _____ Isopentane: ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): [signature] **Date** 7/25/17

Received By: (mobile lab): [signature] **Time** 1830

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 07/25/17

Sample Location OCSV@6SG1 **Sample ID** RV604

Depth 5' feet or from _____ to _____ feet

Probe Installed Date/Time 07/25/17 10:15

Sample Time: start 15:52 end 16:03 **Purge Time** 11 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID Y2 **Bulb Volume** 125 ml

Sample Type: Normal 2 Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt 2 Cement _____ Other _____

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate _____ Difficult 2 Pipes Lost _____ Pipes Damaged _____

MeisterProbe 2 Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chlorofoam ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane 2 Isopropanol 2

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 7/25/17

Received By: (mobile lab): _____ **Time** 1630

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 07/25/17

Sample Location ~~OCSV065S02~~ OCSV045S02 **Sample ID** RV605

Depth 104' feet or from _____ to _____ feet

Probe Installed Date/Time 7/25/17 ~~10:05~~ 10:00

Sample Time: start ~~15:52~~ 16:03 and ~~16:55~~ 16:38 **Purge Time** ~~13~~11 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID ~~45~~ J2 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other Sand

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed: Pentane _____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 7/25/17

Received By: (mobile lab): _____ **Time** 1830

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 07/25/97

Sample Location CLSV28SQ1 **Sample ID** RV606

Depth 41 feet or from _____ to _____ feet

Probe Installed Date/Time 07/24/97

Sample Time: start 16:53 end 17:04 **Purge Time** 11 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID X8 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other Sand

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane: _____ Isopentane: _____ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 7/25/97

Received By: (mobile lab): _____ **Time** 1745

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 07/25/17

Sample Location CLSV29S&I **Sample ID** RV607

Depth 2' feet or from _____ to _____ feet

Probe Installed Date/Time 07/24/17

Sample Time: start 16:58 and 17:09 **Purge Time** 11 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID N7 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other Sand

Ambient Temp ____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe _____ Manual ✓ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 7/25/17

Received By: (mobile lab): _____ **Time** 1748

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 07/25/97

Sample Location CLSV3@58' **Sample ID** RV608

Depth 1' feet or from _____ to _____ feet

Probe Installed Date/Time 07/24/97

Sample Time: start 17:16 end 17:27 **Purge Time** 11 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID L3 **Bulb Volume** 125 ml

Sample Type: Normal 1 Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other Sand

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate 1/2 Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe 1/2 Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMF ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane ✓ Isopropanol _____

REMARKS/COMMENTS:

Relinquished By (sampler): [signature] **Date** 7/25/97

Received By: (mobile lab): [signature] **Time** 0745

T300V039

Centrum Analytical Laboratories, Inc.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

LABORATORY REPORT FORM

Laboratory Name: Centrum Analytical Laboratories, Inc.

Address: 290 Tennessee Street, Redlands, CA 92373

Telephone/FAX: (909) 798-9338/(909) 793-1559

Laboratory Certification:
(ELAP) No.: 1184 Expiration Date: May 1998

Laboratory Director's Name: Dr. Robert R. Clark

Laboratory Director's Signature :

Client: Ogden Environmental and Energy Services

Project No: 313150002

Analytical Method:	EPA 502.1	EPA 502.2	EPA 524.1
			EPA 524.2
	EPA 601		EPA 624
	EPA 8010	EPA 8021	EPA 8240
			EPA 8260
Other:			**GC/MS**
Analytical Batch:			970630M2V025
Date Sampled:			06/30/97
Date Received:			06/30/97
Date Reported:			08/18/97
Sample Matrix:			Vapor
Extraction Method:			EPA 5030
Extraction Material:			NA

Chain of Custody Received: **Yes** No

Sample Condition: Samples were received by the mobile laboratory in covered, 100-150 ml glass bulbs.

Comments:

(RWQCB LabForm; Ves 8/97)

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 06/30/97

Sample Location SLSV15SQ1 **Sample ID** RV338

Depth 2.5' feet or from _____ to _____ feet

Probe Installed Date/Time 06/30/97 09:00

Sample Time: start 13:38 end 13:49 **Purge Time** 11 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID N7 **Bulb Volume** 125 ml

Sample Type: Normal Y Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other Sand

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate Y Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe _____ Manual Y Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane Y Isopropanol Y

REMARKS/COMMENTS:

Relinquished By (sampler): [signature] **Date** 06/30/97

Received By: (mobile lab): [signature] **Time** 1800

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 06/30/17

Sample Location SLSV145&1 **Sample ID** RV339

Depth 2.0' feet or from _____ to _____ feet

Probe Installed Date/Time 06/30/17 10:00

Sample Time: start 13:55 end 14:06 **Purge Time** 11 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID Y7 **Bulb Volume** 125 ml

Sample Type: Normal Y Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other Sand

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate Y Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe _____ Manual Y Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane Y Isopropanol Y

REMARKS/COMMENTS:

Relinquished By (sampler): [signature] **Date** 06/30/17

Received By: (mobile lab): [signature] **Time** 1500

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 06/30/97

Sample Location SLSV13S01 **Sample ID** RV340

Depth 4' feet or from _____ to _____ feet

Probe Installed Date/Time 06/30/97 0940

Sample Time: start 14:10 end 14:21 **Purge Time** 11 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID B2 **Bulb Volume** 125 ml

Sample Type: Normal Y Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other Sand

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate Y Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe _____ Manual Y Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMk ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane Y Isopropanol Y

REMARKS/COMMENTS:

Relinquished By (sampler): Lonnie Meyer **Date** 06/30/97

Received By: (mobile lab): _____ **Time** 1500

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 06/30/17

Sample Location CFSV055@1 **Sample ID** RV341

Depth 3' feet or from _____ to _____ feet

Probe Installed Date/Time 06/30/17 10:50

Sample Time: start 14:29 end 14:40 **Purge Time** 11 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID R6 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other Sand

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe _____ Manual ✓ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMC ✓ TDF ✓

Leak Check Performed Pentane: _____ Isopentane: ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): [signature] **Date** 06/30/17

Received By: (mobile lab): [signature] **Time** 1500

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 06/30/97

Sample Location ILSV06S01 **Sample ID** RV342

Depth 5' feet or from _____ to _____ feet

Probe Installed Date/Time 06/30/97 1525

Sample Time: start 17:01 end 17:12 **Purge Time** 11 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID A3 **Bulb Volume** 125 ml

Sample Type: Normal Y Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt Y Cement _____ Other _____

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate Y Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe _____ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane: Y Isopropanol Y

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 06/30/97

Received By: (mobile lab): _____ **Time** 1800

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 06/30/97

Sample Location TLSV05S&I **Sample ID** RV343

Depth 5' feet or from _____ to _____ feet

Probe Installed Date/Time 06/30/97 16:00

Sample Time: start 17:15 end 17:26 **Purge Time** 11 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID A6 **Bulb Volume** 125 ml

Sample Type: Normal Y Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt Y Cement _____ Other _____

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate Y Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe _____ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✔ D-Chloroform ✔ D2-DCM ✔ D6-DMK ✔ TDF ✔

Leak Check Performed Pentane: _____ Isopentane: Y Isopropanol Y

REMARKS/COMMENTS:

Relinquished By (sampler): [signature] **Date** 6/30/97

Received By: (mobile lab): [signature] **Time** 1800

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 06/30/17

Sample Location ILSV425 & 3 **Sample ID** RV344

Depth 15.5' feet or from _____ to _____ feet

Probe Installed Date/Time 06/30/17 15:30

Sample Time: start 17:31 end 17:47 **Purge Time** 16 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID L5 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

Meisterprobe _____ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane: _____ Isopentane: ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/30/17

Received By: (mobile lab): _____ **Time** 1800

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 06/30/97

Sample Location ILSV42$\frac{D}{on}$01 **Sample ID** RV345

Depth 5' feet or from _____ to _____ feet

Probe Installed Date/Time _____

Sample Time: start 17:36 end 17:47 **Purge Time** 11 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID A9 **Bulb Volume** 125 ml

Sample Type: Normal X Duplicate _____ Daily QA Y

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt Y Cement _____ Other _____

Ambient Temp ____C Weather Sunny Humidity ____ Barometric Pressure ____

Installation Difficulty:

Easy ____ Moderate ✓ Difficult ____ Pipes Lost ____ Pipes Damaged ____

MeisterProbe ____ Manual ✓ Slam Bar ____ Drill Rig ____ SVE ____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane: ____ Isopentane: ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): [signature] **Date** 6/30/97

Received By: (mobile lab): [signature] **Time** 1800

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 06/30/97

Sample Location OCSV@1S@1 **Sample ID** RV346

Depth 5.5 feet or from _____ to _____ feet

Probe Installed Date/Time 06/30/97 11:56

Sample Time: start 18:16 end 18:28 **Purge Time** 12 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID Y6 **Bulb Volume** 125 ml

Sample Type: Normal X Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other Sand

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate X Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe _____ Manual X Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane X Isopropanol X

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/30/97

Received By: (mobile lab): _____ **Time** _____

1300V033

Centrum Analytical Laboratories, Inc.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

LABORATORY REPORT FORM

Laboratory Name: Centrum Analytical Laboratories, Inc.

Address: 290 Tennessee Street, Redlands, CA 92373

Telephone/FAX: (909) 798-9338/(909) 793-1559

Laboratory Certification:
(ELAP) No.: 1184 Expiration Date: May 1998

Laboratory Director's Name: Dr. Robert R. Clark

Laboratory Director's Signature :

Client: Ogden Environmental and Energy Services

Project No: 313150002

Analytical Method:	EPA 502.1	EPA 502.2	EPA 524.1
			EPA 524.2
	EPA 601		EPA 624
	EPA 8010	EPA 8021	EPA 8240
			EPA 8260
Other:			**GC/MS**
Analytical Batch:			970619M2V018
Date Sampled:			06/19/97
Date Received:			06/19/97
Date Reported:			08/15/97
Sample Matrix:			Vapor
Extraction Method:			EPA 5030
Extraction Material:			NA

Chain of Custody Received: **Yes** No

Sample Condition: Samples were received by the mobile laboratory in covered, 100-150 ml glass bulbs.

Comments:

(RWQCB LabForm; Ves 8/97)

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** DGDen **Date** 6/19/97

Sample Location BSV/3501 **Sample ID** RY238

Depth 4 feet or from _____ to _____ feet

Probe Installed Date/Time 6/17/97

Sample Time: start 09:55 end 14:06 **Purge Time** 11 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID Y4 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other Green Grass

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe: ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/19/97

Received By: (mobile lab): _____ **Time** 1100

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** OGDEN **Date** 6/19/97

Sample Location BASP@150@1 **Sample ID** RV239

Depth 4 feet or from _____ to _____ feet

Probe Installed Date/Time 6/19/97

Sample Time: start 09:59 end 10:10 **Purge Time** 11 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID N7 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other DRY GRASS

Ambient Temp _____C Weather SUNNY Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/19/97

Received By: (mobile lab): _____ **Time** 1100

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** OGDEN **Date** 6/19/97

Sample Location DCRM BP02$03 **Sample ID** RV240

Depth 13 feet or from ______ to ______ feet

Probe Installed Date/Time 6/19/97

Sample Time: start 1020 end 1034 **Purge Time** 14 min

Flow Rate 150 ml/min **Total Purge Volume** ______ ml

Bulb ID R6 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate ______ Daily QA ______

Purge Test ______ Train Blank ______ Vacuum Equilibrium ______

Surface Conditions :

Soil Type ______ Asphalt ______ Cement ______ Other GRASS

Ambient Temp ____C Weather SUNNY Humidity ______ Barometric Pressure ______

Installation Difficulty:

Easy ______ Moderate ✓ Difficult ______ Pipes Lost ______ Pipes Damaged ______

MeisterProbe ✓ Manual ______ Slam Bar ______ Drill Rig ______ SVE ______

Surrogate Added: D6-Benzene ✓ D Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane ______ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): [signature] **Date** 6/19/97

Received By: (mobile lab): [signature] **Time** 1100

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** DGDEQ **Date** 6/19/97

Sample Location BVSV1Φ5Φ1 **Sample ID** RV241

Depth 3 feet or from _____ to _____ feet

Probe Installed Date/Time 6/17/97

Sample Time: start 10:40 end 1035 **Purge Time** 11 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID 46 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other SOIL

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane _____ Isopropanol ✓

REMARKS/COMMENTS

Relinquished By (sampler): _____ **Date** 6/19/97

Received By: (mobile lab): _____ **Time** 1100

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** GDeW **Date** 6/19/97

Sample Location BVSV@95@1 **Sample ID** RV242

Depth 2.5 feet or from _____ to _____ feet

Probe Installed Date/Time 6/17/97

Sample Time: start 10:45 end 10:57 **Purge Time** 12 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID A3 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other DRY GRASS

Ambient Temp _____C Weather SUNNY Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe _____ Manual ✓ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane ✓ Isopropanol _____

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/19/97

Received By: (mobile lab): _____ **Time** 1100

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** ODeQ **Date** 6/19/97

Sample Location LSV38SD1 **Sample ID** RV243

Depth 6 feet or from _____ to _____ feet

Probe Installed Date/Time 5/22/97

Sample Time: start 13:04 end 13:16 **Purge Time** 12 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID _____ **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/19/97

Received By: (mobile lab): _____ **Time** 1430

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** ODEP **Date** 6/19/97

Sample Location ILSV245@5 **Sample ID** RV244

Depth 28 feet or from _____ to _____ feet

Probe Installed Date/Time 5/19/97

Sample Time: start 13:24 end 13:46 **Purge Time** 22 min

Flow Rate 90 ml/min **Total Purge Volume** _____ ml

Bulb ID B2 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe _____ Manual ✓ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/19/97

Received By: (mobile lab): _____ **Time** 1430

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** ODOT **Date** 6/19/97

Sample Location 125V245Φ4 **Sample ID** RV245

Depth 2Φ feet or from _____ to _____ feet

Probe Installed Date/Time 5/19/97

Sample Time: start ~~1127~~ 13:27 **end** 1344 **Purge Time** 17 min

Flow Rate 15Φ ml/min **Total Purge Volume** _____ ml

Bulb ID 25 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane _____ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/19/97

Received By: (mobile lab): _____ **Time** 1430

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** DGDen **Date** 6/19/97

Sample Location ILSV245@3 **Sample ID** RV246

Depth 15 feet or from _____ to _____ feet

Probe Installed Date/Time 5/18/97

Sample Time: start 13:29 end 13:44 **Purge Time** 15 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID T1 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/19/97

Received By: (mobile lab): _____ **Time** 1430

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** DoD **Date** 6/19/97

Sample Location LSV245Ø2 **Sample ID** RV247

Depth 1Ø feet or from _____ to _____ feet

Probe Installed Date/Time 5/19/97

Sample Time: start 13:5Ø end 14:Ø3 **Purge Time** 13 min

Flow Rate 15Ø ml/min **Total Purge Volume** _____ ml

Bulb ID X1 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane _____ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/19/97

Received By: (mobile lab): _____ **Time** 1430

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** OGDEN **Date** 6/19/97

Sample Location RSV28D02 **Sample ID** RV24B

Depth 10 feet or from ______ to ______ feet

Probe Installed Date/Time 5/24/97

Sample Time: start 13:59 end 1401 **Purge Time** ______ min

Flow Rate 150 ml/min **Total Purge Volume** ______ ml

Bulb ID 97 **Bulb Volume** 125 ml

Sample Type: Normal ______ Duplicate ✓ Daily QA ______

Purge Test ______ Train Blank ______ Vacuum Equilibrium ______

Surface Conditions :

Soil Type ______ Asphalt ✓ Cement ______ Other ______

Ambient Temp ______ C Weather SUNNY Humidity ______ Barometric Pressure ______

Installation Difficulty:

Easy ______ Moderate ✓ Difficult ______ Pipes Lost ______ Pipes Damaged ______

MeisterProbe ✓ Manual ______ Slam Bar ______ Drill Rig ______ SVE ______

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane ______ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): [signature] Date 6/19/97

Received By: (mobile lab): [signature] Time 1430

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** ODOE **Date** 6/19/97

Sample Location DCSVΦ3SΦ1 **Sample ID** RV249

Depth 4 feet or from _____ to _____ feet

Probe Installed Date/Time 6/19/97

Sample Time: start 15:14 end 15:25 **Purge Time** 11 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID A9 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane _____ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/19/97

Received By: (mobile lab): _____ **Time** 1545

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** DTSC **Date** 6/19/97

Sample Location DTSVP3SP2 **Sample ID** RV25P

Depth 8 feet or from _____ to _____ feet

Probe Installed Date/Time 6/9/97

Sample Time: start 15:14 end 15:26 **Purge Time** 12 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID 42 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate _____ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe _____ Manual ✓ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane: _____ Isopentane: ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/19/97

Received By: (mobile lab): _____ **Time** 1545

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** 06Dec **Date** 6/19/97

Sample Location DCSV@25@1 **Sample ID** RV251

Depth 4' feet or from _____ to _____ feet

Probe Installed Date/Time 6/9/97

Sample Time: start 15:18 end 15:29 **Purge Time** 11 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID N7 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane _____ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/19/97

Received By: (mobile lab): _____ **Time** 1545

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** OGDEN **Date** 6/19/97

Sample Location 12SV10S05 **Sample ID** RV252

Depth 24 feet or from _____ to _____ feet

Probe Installed Date/Time 5/22/97

Sample Time: start 1612 end 1630 **Purge Time** 18 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID 96 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed: Pentane _____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/19/97

Received By: (mobile lab): _____ **Time** 1715

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** SDeW **Date** 6/19/97

Sample Location ILSV1@5@4 **Sample ID** RV253

Depth 2@ feet or from _____ to _____ feet

Probe Installed Date/Time 5/22/97 3@

Sample Time: start 16:13 end 16:28 **Purge Time** 17 min

Flow Rate 15@ ml/min **Total Purge Volume** _____ ml

Bulb ID R6 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane ✓ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/19/97

Received By: (mobile lab): _____ **Time** 1715

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** DGDOW **Date** 6/19/97

Sample Location CLSP@25@1 **Sample ID** RV254

Depth 5 feet or from _____ to _____ feet

Probe Installed Date/Time 5/27/97 17:

Sample Time: start 09:44 end 13:55 **Purge Time** 11 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID L5 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other SOIL

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/19/97

Received By: (mobile lab): _____ **Time** 18:46

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Glen **Date** 6/19/97

Sample Location CLSP@25@2 **Sample ID** RV255

Depth 10 feet or from _____ to _____ feet

Probe Installed Date/Time 5/27/97

Sample Time: start 15:44 end 15:57 **Purge Time** 13 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID A6 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other GRASS

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane: _____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/19/97

Received By: (mobile lab): _____ **Time** 18:46

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD ***Client*** OGDEN ***Date*** 6/19/97

Sample Location CLSPØ25Ø3 ***Sample ID*** RV256

Depth 17 feet or from ______ to ______ feet

Probe Installed Date/Time 5/27/97

Sample Time: start ~~15~~ 17:44 end 18:00 ***Purge Time*** 16 min

Flow Rate 15Ø ml/min ***Total Purge Volume*** ______ ml

Bulb ID J2 ***Bulb Volume*** 125 ml

Sample Type: Normal ✓ Duplicate ______ Daily QA ______

Purge Test ______ Train Blank ______ Vacuum Equilibrium ______

Surface Conditions :

Soil Type ______ Asphalt ______ Cement ______ Other GRASS

Ambient Temp ______ C Weather SUNNY Humidity ______ Barometric Pressure ______

Installation Difficulty:

Easy ______ Moderate ✓ Difficult ______ Pipes Lost ______ Pipes Damaged ______

MeisterProbe ✓ Manual ______ Slam Bar ______ Drill Rig ______ SVE ______

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane ______ Isopentane ______ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): [signature] ***Date*** 6/19/97

Received By: (mobile lab): [signature] ***Time*** 18:46

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** OGDEN **Date** 6/19/97

Sample Location CLSP@1S@1 **Sample ID** RV257

Depth 5 feet or from _____ to _____ feet

Probe Installed Date/Time 5/27/97

Sample Time: start 18:13 end 18:24 **Purge Time** 11 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID Y4 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other Soil

Ambient Temp _____C Weather _____ Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe _____ Manual ✓ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane _____ Isopropanol _____

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/19/97

Received By: (mobile lab): _____ **Time** 18:46

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD *Client* OGDEN *Date* 6/19/97

Sample Location CLSPΦ1SΦ2 *Sample ID* RV258

Depth 9 feet or from ______ to ______ feet

Probe Installed Date/Time 5/27/97

Sample Time: start 18:13 end 18:26 *Purge Time* 13 min

Flow Rate 150 ml/min *Total Purge Volume* ______ ml

Bulb ID A2 *Bulb Volume* 125 ml

Sample Type: Normal ✓ Duplicate ______ Daily QA ______

Purge Test ______ Train Blank ______ Vacuum Equilibrium ______

Surface Conditions :

Soil Type ______ Asphalt ______ Cement ______ Other Soil

Ambient Temp ____C Weather Sunny Humidity ______ Barometric Pressure ______

Installation Difficulty:

Easy ______ Moderate ✓ Difficult ______ Pipes Lost ______ Pipes Damaged ______

MeisterProbe ✓ Manual ______ Slam Bar ______ Drill Rig ______ SVE ______

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed: Pentane ______ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): [signature] *Date* 6/19/97

Received By: (mobile lab): [signature] *Time* 18:46

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** OGDEN **Date** 6/19/97

Sample Location CLSP#1 SD3 **Sample ID** RV259

Depth 13 feet or from _____ to _____ feet

Probe Installed Date/Time 6/27/97

Sample Time: start 18:13 end 18:27 **Purge Time** 14 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID B2 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other SOIL

Ambient Temp _____C Weather SUNNY Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane _____ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/19/97

Received By: (mobile lab): _____ **Time** 18:48

Chain of Custody Record

Centrum Job # M4-791

Centrum Analytical Laboratories, Inc.
www.centrum-labs.com
lab@centrum-labs.com

1401 Research Park Drive, Suite 100
Riverside, CA 92507
Voice: 909.779.0310 ● 800.798.9336
Fax: 909.779.0344

3299 Hill Street, Suite 305
Signal Hill, CA 90755
Voice: 562.498.7005
Fax: 562.498.8617

Project No: 1890863.011209

Project Name: Boeing SSFL

Project Manager: Dixie Hambrick

Phone: 626.568.6348 **Fax:** 858 751-1201 Attn: Lisa Tucker

Client Name: (Report and Billing) Montgomery Watson Harza

Address: (Report and Billing) 300 N. Lake Avenue, #1200, Pasadena, CA 91101

Turn-Around Time
- ☐ 24 Hr. RUSH*
- ☐ 48 Hr. RUSH*
- ☐ Normal TAT

*Requires PRIOR approval, additional charges apply

Requested due date: _____

Centrum ID (Lab use only)	Sample ID (As it should appear on report)	Depth (ft)	EPA ID	BULB ID	Time Sampled start	Time Sampled stop	Flow (ml/min)	Date sampled	Sample matrix	Containers: # and type	Analyses Requested: Isopropyl Alcohol Leak Check	Analyses Requested: GCMS: 8260B mod. LARWQCB 23 soil gas	Remarks/Special Instructions
1	SRSV08 S01	3'	MV565	M4-8	0903	0915	150	2/27/06	SV	125cc Glass Bulb	X	X	
2	SRSV09 S01	4'	MV566	M4-12	0919	0931	150				X	X	
3	SRSV10 S01	4~~5~~ FB	MV567	M4-13	0940	0954	150				X	X	
4	SRSV11 S01	5	MV568	M4-5	0957	1009					X	X	brown - shortest
5	SRSV11 S02	13	MV569	M4-6	1009	1024					X	X	green - 2nd shortest
6	SRSV11 S03	20	MV570	M4-2	1026	1043					X	X	red
7	SRSV11 D03	20	MV571	M4-10	1026	1043					X	X	red
8	SRSV11 S04	27	MV572	M4-11	1047	1106					X	X	clear
9	OCSV01 S01	7	MV573	M4-9	1114	1127					X	X	
10	OCSV03 S01	7	MV574	M4-7	1128	1141	↓	↓	↓	↓	X	X	

	Date:	Time:
1) Relinquished by: (Sampler's Signature)	2/27/06	1145
2) Received by:		
3) Relinquished by:		
4) Received by:		
5) Relinquished by:		
6) Received for Laboratory by:	4/27/06	1145

The delivery of samples and the signature on this chain of custody form constitutes authorization to perform the analyses specified above under the Terms and Conditions set forth on the back hereof.

To be completed by Laboratory personnel:

Samples chilled? ☐ Yes ☐ No ☒ From Field

Custody seals? ☐ Yes ☒ No

All sample containers intact? ☒ Yes ☐ No

☐ Courier ☐ UPS/Fed Ex ☒ Hand carried

Sample Disposal
- ☐ Client will pick up
- ☐ Return to client
- ☐ Lab disposal

Laboratory Notes:

Sample Locator No.

12269 East Vassar Drive, Aurora, CO 80014
720.535.5502, Fax 720.535.7555

DATA ASSESSMENT FORM

Project Title:	Boeing SSFL RFI, Group 6 Data Gap
Project Manager:	D. Hambrick
Analysis/Method:	Volatiles by EPA Method 8260B
QC Level:	V[1]
SDG:	M4-791
Matrix:	Soil Vapor
No. of Samples:	10
No. of Reanalyses/Dilutions:	0
Date Reviewed:	March 16, 2006
Reviewer:	P. Meeks
Reference:	USEPA *Contract Laboratory Program National Functional Guidelines for Organic Data Review* (2/94), and *Interim Guidance for Active Soil Gas Investigations*, State of California Regional Water Quality Control Board - Los Angeles Region (LARWQCB, 1997), and *Advisory – Active Soil Gas Investigations*, LARWQCB and Department of Toxic Substance Control (2003)
Samples Reviewed:	MV565, MV566, MV567, MV568, MV569, MV570, MV571, MV572, MV573, MV574

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The COC was signed and dated by field and mobile laboratory personnel. According to the COC and the instrument run log, the eight-hour holding time was met for all samples.	No qualifications were required.
3. Calibration	The BFB tune was acceptable and all samples were analyzed within 12 hours of the BFB tune. The %RSDs for the initial calibration were all within the control limit of ≤20% and ≤30% for trichlorofluoromethane, dichlorodifluoromethane, trichlorotrifluoromethane, chloroethane, and vinyl chloride.	No qualifications were required.

	Findings	Qualifications
3. Calibration (cont.)	The %Ds for the continuing calibrations were within the control limit of ≤15% and ≤25% for trichlorofluoromethane, dichlorodifluoromethane, trichlorotrifluoromethane, chloroethane, and vinyl chloride.	
4. Method Blanks	One ambient air method blank was analyzed in association with the samples in this SDG. No target compounds were reported above the CRDL.	No qualifications were required.
6. Surrogates	All surrogate recoveries were within the LARWQCB method-established control limits of 75-125%.	No qualifications were required.
10. Other	Samples MV570 and MV571 were identified as the field duplicate pair associated with the samples in this SDG. No target compounds were detected in either sample and the pair was considered to be in agreement. As there were no sample detects, the mobile laboratory analyzed an LCS spiked at the reporting limit. All %Ds were considered acceptable.	No qualifications were required
Comments	Per previous conversations with the analyst, compounds crossed out in the mass spectrometer raw data and annotated with, "ID," refer to compounds reported by the instrument but which lacked a spectral match.	No qualifications were required.

[1] Level V validation consists of cursory review of the summary forms only; raw data is not evaluated. The reported values on the summary forms are presumed to be correct and no verification of the values from the raw instrument output is performed. Criteria not reviewed included instrument performance, analytical sequence, initial calibration, continuing calibration, compound identification, and compound quantification.

Centrum Analytical Laboratories, Inc.

Project No: Boeing SSFL / 1890863.011209 (RWQCB labFrom 10A; Ver6/00)

ANALYTICAL RESULT FOR ORGANICS

METHOD: GCMS **REPORTING UNIT: µg/L of Air**

DATE ANALYZED			02/27/06	02/27/06	02/27/06	02/27/06	02/27/06
ANALYTICAL BATCH			022706M4V1369	022706M4V1369	022706M4V1369	022706M4V1369	022706M4V1369
LAB SAMPLE I.D.			Amb. Blank	M4-791-01	M4-791-02	M4-791-03	M4-791-04
CLIENT SAMPLE I.D.			NA	SRSV08S01	SRSV09S01	SRSV10S01	SRSV11S01
DEPTH			NA	3'	4'	4'	5'
EPA ID			NA	MV565	MV566	MV567	MV568
DILUTION FACTOR			1	1	1	1	1
COMPOUND	**CRDL**						
Benzene	1.0		ND	ND U	ND U	ND U	ND U
Carbon tetrachloride	1.0		ND	ND	ND	ND	ND
Chloroethane	1.0		ND	ND	ND	ND	ND
Chloroform	1.0		ND	ND	ND	ND	ND
Dichlorodifluoromethane	1.0		ND	ND	ND	ND	ND
1,1-Dichloroethane	1.0		ND	ND	ND	ND	ND
1,2-Dichloroethane	1.0		ND	ND	ND	ND	ND
1,1-Dichloroethene	1.0		ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	1.0		ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	1.0		ND	ND	ND	ND	ND
Ethylbenzene	1.0		ND	ND	ND	ND	ND
Methylene chloride	50		ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	1.0		ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	2.0		ND	ND	ND	ND	ND
Tetrachloroethene	1.0		ND	ND	ND	ND	ND
Toluene	1.0		ND	ND	ND	ND	ND
1,1,1-Trichloroethane	1.0		ND	ND	ND	ND	ND
1,1,2-Trichloroethane	1.0		ND	ND	ND	ND	ND
Trichloroethene	1.0		ND	ND	ND	ND	ND
Trichlorofluoromethane	1.0		ND	ND	ND	ND	ND
Trichlorotrifluoroethane	5.0		ND	ND	ND	ND	ND
Vinyl chloride	2.0		ND	ND	ND	ND	ND
Xylenes, m-,p-	2.0		ND	ND	ND	ND	ND
Xylene, o-	1.0		ND	ND	ND	ND	ND
TENTATIVELY IDENTIFIED COMPOUNDS							
Isopropyl Alcohol (Tracer)			ND	ND	ND	ND	ND
SURROGATE	**SPK CONC**	**ACP%**	**%RC**	**%RC**	**%RC**	**%RC**	**%RC**
d-Methylene Chloride	50	70-130	123	117	113	109	115
d-Chloroform	50	70-130	116	113	108	107	109
d-Benzene	50	70-130	121	117	112	109	111
Dibromofluoromethane	50	70-130	97	99	98	100	99
Toluene-d8	50	70-130	102	101	101	105	101
Bromofluorobenzene	50	70-130	100	101	101	101	100

LEVEL V

Centrum Analytical Laboratories, Inc.

Project No: Boeing SSFL / 1890863.011209 (RWQCB labFrom 10A; Ver6/00)

ANALYTICAL RESULT FOR ORGANICS

METHOD: GCMS **REPORTING UNIT: µg/L of Air**

DATE ANALYZED		02/27/06	02/27/06	02/27/06	02/27/06	02/27/06	
ANALYTICAL BATCH		022706M4V1369	022706M4V1369	022706M4V1369	022706M4V1369	022706M4V1369	
LAB SAMPLE I.D.		M4-791-05	M4-791-06	M4-791-07	M4-791-08	M4-791-09	
CLIENT SAMPLE I.D.		SRSV11S02	SRSV11S03	SRSV11D03	SRSV11S04	OCSV01S01	
DEPTH		13'	20'	20'	27'	7'	
EPA ID		MV569	MV570	MV571	MV572	MV573	
DILUTION FACTOR		1	1	1	1	1	
COMPOUND	**CRDL**						
Benzene	1.0	ND U	ND U	ND U	ND U	ND U	
Carbon tetrachloride	1.0	ND	ND	ND	ND	ND	
Chloroethane	1.0	ND	ND	ND	ND	ND	
Chloroform	1.0	ND	ND	ND	ND	ND	
Dichlorodifluoromethane	1.0	ND	ND	ND	ND	ND	
1,1-Dichloroethane	1.0	ND	ND	ND	ND	ND	
1,2-Dichloroethane	1.0	ND	ND	ND	ND	ND	
1,1-Dichloroethene	1.0	ND	ND	ND	ND	ND	
cis-1,2-Dichloroethene	1.0	ND	ND	ND	ND	ND	
trans-1,2-Dichloroethene	1.0	ND	ND	ND	ND	ND	
Ethylbenzene	1.0	ND	ND	ND	ND	ND	
Methylene chloride	50	ND	ND	ND	ND	ND	
1,1,1,2-Tetrachloroethane	1.0	ND	ND	ND	ND	ND	
1,1,2,2-Tetrachloroethane	2.0	ND	ND	ND	ND	ND	
Tetrachloroethene	1.0	ND	ND	ND	ND	ND	
Toluene	1.0	ND	ND	ND	ND	ND	
1,1,1-Trichloroethane	1.0	ND	ND	ND	ND	ND	
1,1,2-Trichloroethane	1.0	ND	ND	ND	ND	ND	
Trichloroethene	1.0	ND	ND	ND	ND	ND	
Trichlorofluoromethane	1.0	ND	ND	ND	ND	ND	
Trichlorotrifluoroethane	5.0	ND	ND	ND	ND	ND	
Vinyl chloride	2.0	ND	ND	ND	ND	ND	
Xylenes, m-,p-	2.0	ND	ND	ND	ND	ND	
Xylene, o-	1.0	ND	ND	ND	ND	ND	
TENTATIVELY IDENTIFIED COMPOUNDS							
Isopropyl Alcohol (Tracer)		ND	ND	ND	ND	ND	
SURROGATE	**SPK CONC**	**ACP%**	**%RC**	**%RC**	**%RC**	**%RC**	**%RC**
d-Methylene Chloride	50	70-130	113	117	112	111	112
d-Chloroform	50	70-130	107	113	106	104	108
d-Benzene	50	70-130	110	117	107	107	110
Dibromofluoromethane	50	70-130	100	100	98	93	97
Toluene-d8	50	70-130	103	103	102	92	101
Bromofluorobenzene	50	70-130	100	102	101	99	99

LEVEL IV

Centrum Analytical Laboratories, Inc.

Project No: Boeing SSFL / 1890863.011209 (RWQCB labFrom 10A; Ver6/00)

ANALYTICAL RESULT FOR ORGANICS

METHOD: GCMS **REPORTING UNIT: µg/L of Air**

DATE ANALYZED			02/27/06				
ANALYTICAL BATCH			022706M4V1369				
LAB SAMPLE I.D.			M4-791-10				
CLIENT SAMPLE I.D.			OCSV03S01				
DEPTH			7'				
EPA ID			MV574				
DILUTION FACTOR			1 Rev	Qual			
COMPOUND		**CRDL**	Qual	Code			
Benzene		1.0	ND	U			
Carbon tetrachloride		1.0	ND				
Chloroethane		1.0	ND				
Chloroform		1.0	ND				
Dichlorodifluoromethane		1.0	ND				
1,1-Dichloroethane		1.0	ND				
1,2-Dichloroethane		1.0	ND				
1,1-Dichloroethene		1.0	ND				
cis-1,2-Dichloroethene		1.0	ND				
trans-1,2-Dichloroethene		1.0	ND				
Ethylbenzene		1.0	ND				
Methylene chloride		50	ND				
1,1,1,2-Tetrachloroethane		1.0	ND				
1,1,2,2-Tetrachloroethane		2.0	ND				
Tetrachloroethene		1.0	ND				
Toluene		1.0	ND				
1,1,1-Trichloroethane		1.0	ND				
1,1,2-Trichloroethane		1.0	ND				
Trichloroethene		1.0	ND				
Trichlorofluoromethane		1.0	ND				
Trichlorotrifluoroethane		5.0	ND				
Vinyl chloride		2.0	ND				
Xylenes, m-,p-		2.0	ND				
Xylene, o-		1.0	ND	↓			
TENTATIVELY IDENTIFIED COMPOUNDS							
Isopropyl Alcohol (Tracer)			ND				
SURROGATE	**SPK CONC**	**ACP%**	**%RC**				
d-Methylene Chloride	50	70-130	107				
d-Chloroform	50	70-130	108				
d-Benzene	50	70-130	105				
Dibromofluoromethane	50	70-130	104				
Toluene-d8	50	70-130	116				
Bromofluorobenzene	50	70-130	107				

LEVEL IV

OGDEN ENVIRONMENTAL AND ENERGY SERVICES

1

550 South Wadsworth Blvd. Ste. 500
Denver, CO 80226
(303) 935-6505

Rocketdyne - SSFL RFI Program
No. of Samples: 17
Matrix: Soil Vapor
Date Validated: November 19, 1997
Reviewer: E. Wessling
Reference: *USEPA Contract Laboratory Program National Functional Guidelines For Organic Data Review, (Feb. 1994)*, and Interim Guidance For Active Soil Gas Investigation, State of California Regional Water Quality Control Board (LA Region). Unless otherwise noted, all qualification of data is based upon summary form information.

EPA Level V- Volatiles Assessment

1. DATA VALIDATION FINDINGS

	Problems	Qualifications
1. Sample Management	Sample RV213 did not note the purge time. Sample RV220 had crossouts without initials and dates of correction.	No qualifications were required. Purge time was obtained by subtracting sample start time from sample finish time. Crossouts were not verifiable from field logs.
4. Method Blanks	No problems were noted with the method blank. One method blank was analyzed with this SDG. No target compounds were detected in the method blank.	No qualifications were required.
6. Surrogates	Samples RV218 and RV220 had surrogate recovery deficiencies.	Samples with surrogate recovery below the QC limits were qualified estimated, "UJ" for nondetects and "J" for detects. Samples with surrogate recovery above the QC limits were qualified estimated, "J," for detects. Sample results associated with surrogate recoveries above QC limits may be considered biased high.
7. Calibration	There were no calibration outliers.	No qualifications were required.
9. Other	None	None

	Problems	Qualifications
Comments	Sample RV214 was rejected for a more technically acceptable analysis as these samples were affected by incomplete bulb decontamination procedures.	None

ANALYTICAL TEST RESULTS

Reporting Unit: ug/L

DATE ANALYZED		06/17/97	06/17/97	06/17/97	06/17/97
ANALYTICAL BATCH		970617M2V016	970617M2V016	970617M2V016	970617M2V016
DILUTION FACTOR		1.0	1.0	1.0	1.0
CLIENT SAMPLE I.D.		NA	ILSV17S01	ILSV17S02	ILSV17S03
EPA I.D. & DEPTH		NA	RV204 5'	RV205 10'	RV206 15'
LAB SAMPLE I.D.		970617BLANK1	M2-466-1	M2-466-2	M2-466-3
COMPOUND	**RL**				
Dichlorodifluoromethane	1.0	ND	ND U	ND U	ND U
Vinyl Chloride	1.0	ND	ND	ND	ND
Chloroethane	1.0	ND	ND	ND	ND
Trichlorofluoromethane	1.0	ND	ND	ND	ND
1,1-Dichloroethene	1.0	ND	**33**	**44**	**51**
Methylene Chloride	1.0	ND	ND U	ND U	ND U
cis-1,2-Dichloroethene	1.0	ND	ND U	ND U	ND U
1,1-Dichloroethane	1.0	ND	**1.1**	**1.8**	**2**
trans-1,2-Dichloroethene	1.0	ND	ND U	ND U	ND U
Chloroform	1.0	ND	ND U	ND U	ND U
1,1,1-Trichloroethane	1.0	ND	**50**	**50**	**58**
Carbon Tetrachloride	1.0	ND	ND U	ND U	ND U
1,2-Dichloroethane	1.0	ND	ND	ND	ND
Benzene	1.0	ND	ND	ND	ND
Trichloroethene	1.0	ND	**130**	**180**	**200**
Toluene	1.0	ND	ND U	ND U	ND U
1,1,2-Trichloroethane	1.0	ND	ND	ND	ND
Tetrachloroethene	1.0	ND	ND	ND	ND
Ethylbenzene	1.0	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	1.0	ND	ND	ND	ND
m,p-Xylenes	1.0	ND	ND	ND	ND
o-Xylene	1.0	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	1.0	ND	ND	ND	ND
1,1,2-Trichloro-trifluoroethane	1.0	ND	**64**	**110**	**120**
SURROGATE	**SPK CONC**	**ACP%**	**%REC**	**%REC**	**%REC**	**%REC**
d-Methylene Chloride	25	75-125	NA	100	104	93
d-Chloroform	25	75-125	NA	103	108	93
d-Benzene	25	75-125	NA	103	110	99
Dibromofluoromethane	50	75-125	111	108	109	110
Toluene-d8	50	75-125	98	97	99	96
Bromofluorobenzene	50	75-125	99	98	99	99

SPK CONC = Spiking Concentration; ACP % = Acceptable Range of Percent; %REC = % Recovery

RL = Reporting Limit; MB = Method Blank; ND = Not Detected (Below RL); NA = Not Applicable

OGDEN VALIDATED

Centrum
(800) 798-9336

ANALYTICAL TEST RESULTS

Reporting Unit: ug/L

DATE ANALYZED		06/17/97	06/17/97	06/17/97	06/17/97	
ANALYTICAL BATCH		970617M2V016	970617M2V016	970617M2V016	970617M2V016	
DILUTION FACTOR		1.0	1.0	1.0	1.0	
CLIENT SAMPLE I.D.		ILSV18S01	ILSV25S01	ILSV25S02	AASV08S01	
EPA I.D. & DEPTH		RV207 5'	RV208 5'	RV209 8.5'	RV210 6'	
LAB SAMPLE I.D.		M2-466-4	M2-466-5	M2-466-6	M2-466-7	
COMPOUND	**RL**	Rev Qual	Qual Code / Rev Qual	Qual Code / Rev Qual	Qual Code / Rev Qual	Qual Code
Dichlorodifluoromethane	1.0	ND U	ND U	ND U	ND U	
Vinyl Chloride	1.0	ND	ND	ND	ND	
Chloroethane	1.0	ND	ND	ND	ND	
Trichlorofluoromethane	1.0	ND	ND	ND	ND	
1,1-Dichloroethene	1.0	**12**	**160**	**260**	**9.5**	
Methylene Chloride	1.0	ND U	ND U	ND U	ND U	
cis-1,2-Dichloroethene	1.0	**1.1**	**2.6**	**1.8**	ND	
1,1-Dichloroethane	1.0	**4.5**	**7.7**	**11**	ND	
trans-1,2-Dichloroethene	1.0	ND U	ND U	ND U	ND	
Chloroform	1.0	ND U	ND U	ND U	ND	
1,1,1-Trichloroethane	1.0	**550**	**1,900**	**2,700**	**8.5**	
Carbon Tetrachloride	1.0	ND U	ND U	ND U	ND U	
1,2-Dichloroethane	1.0	ND	ND	ND	ND	
Benzene	1.0	ND	ND	ND	ND	
Trichloroethene	1.0	**2,800**	**200**	**160**	**16**	
Toluene	1.0	ND U	ND U	ND U	ND U	
1,1,2-Trichloroethane	1.0	ND U	ND U	ND	ND	
Tetrachloroethene	1.0	**3.0**	**1.6**	ND	ND	
Ethylbenzene	1.0	ND U	ND U	ND	ND	
1,1,1,2-Tetrachloroethane	1.0	ND	ND	ND	ND	
m,p-Xylenes	1.0	ND	ND	ND	ND	
o-Xylene	1.0	ND	ND	ND	ND	
1,1,2,2-Tetrachloroethane	1.0	ND	ND	ND	ND	
1,1,2-Trichloro-trifluoroethane	1.0	**35**	**26**	**39**	**2.7**	

SURROGATE	**SPK CONC**	**ACP%**	**%REC**	**%REC**	**%REC**	**%REC**
d-Methylene Chloride	25	75-125	105	96	104	94
d-Chloroform	25	75-125	107	98	106	93
d-Benzene	25	75-125	107	99	108	95
Dibromofluoromethane	50	75-125	109	109	108	107
Toluene-d8	50	75-125	94	95	96	96
Bromofluorobenzene	50	75-125	96	96	96	98

SPK CONC = Spiking Concentration; ACP % = Acceptable Range of Percent; %REC = % Recovery

RL = Reporting Limit; MB = Method Blank; ND = Not Detected (Below RL); NA = Not Applicable

OGDEN VALIDATED

Centrum
(800) 798-9336

ANALYTICAL TEST RESULTS

Reporting Unit: ug/L

DATE ANALYZED			06/17/97	06/17/97	06/17/97	06/17/97
ANALYTICAL BATCH			970617M2V016	970617M2V016	970617M2V016	970617M2V016
DILUTION FACTOR			1.0	1.0	1.0	1.0
CLIENT SAMPLE I.D.			AASV11S05	AASV10S01	AASV09S01	EVSV03S01
EPA I.D. & DEPTH			RV211 5'	RV212 1.5'	RV213 2'	RV214 5'
LAB SAMPLE I.D.			M2-466-8	M2-466-9	M2-466-10	M2-466-11
COMPOUND		**RL**	Rev Qual	Qual Code / Rev Qual	Qual Code / Rev Qual	Qual Code / Rev Qual
Dichlorodifluoromethane		1.0	ND U	ND U	ND U	ND R / D
Vinyl Chloride		1.0	ND	ND	ND	ND
Chloroethane		1.0	ND	ND	ND	ND
Trichlorofluoromethane		1.0	ND	ND	ND	ND
1,1-Dichloroethene		1.0	ND	**3.9**	ND	ND
Methylene Chloride		1.0	ND	ND U	ND	ND
cis-1,2-Dichloroethene		1.0	**1.3**	ND	ND	ND
1,1-Dichloroethane		1.0	ND U	ND	ND	ND
trans-1,2-Dichloroethene		1.0	ND	ND	ND	ND
Chloroform		1.0	ND	ND	ND	ND
1,1,1-Trichloroethane		1.0	**3.4**	**16**	**1.7**	**13**
Carbon Tetrachloride		1.0	ND U	ND U	ND U	ND
1,2-Dichloroethane		1.0	ND	ND	ND	ND
Benzene		1.0	ND	ND	ND	ND
Trichloroethene		1.0	**310** J	*9 **7.0**	**2.5**	**240**
Toluene		1.0	ND U	ND U	ND U	ND
1,1,2-Trichloroethane		1.0	ND	ND	ND	ND
Tetrachloroethene		1.0	ND	ND	ND	ND
Ethylbenzene		1.0	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane		1.0	ND	ND	ND	ND
m,p-Xylenes		1.0	ND	ND	ND	ND
o-Xylene		1.0	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane		1.0	ND	ND	ND	ND
1,1,2-Trichloro-trifluoroethane		1.0	ND	**1.9**	ND	ND
SURROGATE	**SPK CONC**	**ACP%**	**%REC**	**%REC**	**%REC**	**%REC**
d-Methylene Chloride	25	75-125	94	108	96	113
d-Chloroform	25	75-125	95	110	97	115
d-Benzene	25	75-125	96	110	97	114
Dibromofluoromethane	50	75-125	107	108	110	110
Toluene-d8	50	75-125	96	98	97	98
Bromofluorobenzene	50	75-125	99	99	99	100

SPK CONC = Spiking Concentration; ACP % = Acceptable Range of Percent; %REC = % Recovery

RL = Reporting Limit; MB = Method Blank; ND = Not Detected (Below RL); NA = Not Applicable

OGDEN VALIDATED

Centrum
(800) 798-9336

ANALYTICAL TEST RESULTS

Reporting Unit: ug/L

DATE ANALYZED			06/17/97	06/17/97	06/18/97	06/17/97
ANALYTICAL BATCH			970617M2V016	970617M2V016	970617M2V016	970617M2V016
DILUTION FACTOR			1.0	1.0	1.0	1.0
CLIENT SAMPLE I.D.			EVSV04S01	EVSV04S02	OCSV01S01RE	DASV01S01
EPA I.D. & DEPTH			RV215 5'	RV216 9.5'	RV217 6'	RV218 4'
LAB SAMPLE I.D.			M2-466-12	M2-466-13	M2-466-14	M2-466-15
COMPOUND		**RL**	Rev Qual	Qual Code / Rev Qual	Qual Code / Rev Qual	Qual Code / Rev Qual
Dichlorodifluoromethane		1.0	ND U	ND U	ND U	ND U
Vinyl Chloride		1.0	ND	ND	ND	ND
Chloroethane		1.0	ND	ND	ND	ND
Trichlorofluoromethane		1.0	ND	ND	ND	ND
1,1-Dichloroethene		1.0	**1.1**	ND	**10**	**2.8** J S
Methylene Chloride		1.0	ND U	ND	ND U	ND U
cis-1,2-Dichloroethene		1.0	ND	**1.3**	ND	ND
1,1-Dichloroethane		1.0	ND	ND U	ND	ND
trans-1,2-Dichloroethene		1.0	ND	ND	ND	ND
Chloroform		1.0	ND	ND	ND	ND
1,1,1-Trichloroethane		1.0	ND	ND	**15**	**3.4** J S
Carbon Tetrachloride		1.0	ND	ND	ND U	ND U
1,2-Dichloroethane		1.0	ND	ND	ND	ND
Benzene		1.0	ND	ND	ND	ND
Trichloroethene		1.0	**92**	**2,500**	**66**	**31** J S
Toluene		1.0	ND U	ND U	ND U	ND U
1,1,2-Trichloroethane		1.0	ND	ND	ND	ND
Tetrachloroethene		1.0	ND	ND	ND	ND
Ethylbenzene		1.0	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane		1.0	ND	ND	ND	ND
m,p-Xylenes		1.0	ND	ND	ND	ND
o-Xylene		1.0	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane		1.0	ND	ND	ND	ND
1,1,2-Trichloro-trifluoroethane		1.0	ND	**3.0**	**3.5**	**1.1** J S
SURROGATE	**SPK CONC**	**ACP%**	**%REC**	**%REC**	**%REC**	**%REC**
d-Methylene Chloride	25	75-125	106	115	99	127
d-Chloroform	25	75-125	100	108	98	121
d-Benzene	25	75-125	102	112	102	130
Dibromofluoromethane	50	75-125	113	107	110	110
Toluene-d8	50	75-125	99	97	96	98
Bromofluorobenzene	50	75-125	98	98	95	101

SPK CONC = Spiking Concentration; ACP % = Acceptable Range of Percent; %REC = % Recovery

RL = Reporting Limit; MB = Method Blank; ND = Not Detected (Below RL); NA = Not Applicable;RE=Reanalysis

OGDEN VALIDATED

Centrum
(800) 798-9336

ANALYTICAL TEST RESULTS

Reporting Unit: ug/L

DATE ANALYZED		06/18/97	06/18/97			
ANALYTICAL BATCH		970617M2V016	970617M2V016			
DILUTION FACTOR		1.0	1.0			
CLIENT SAMPLE I.D.		DASV01S02RE	ILSV03D04			
EPA I.D. & DEPTH		RV219 8'	RV220 20'			
LAB SAMPLE I.D.		M2-466-16	M2-466-17			
COMPOUND	**RL**		Rev Qual	Qual Code	Rev Qual	Qual Code
Dichlorodifluoromethane	1.0	ND	U		ND	U		
Vinyl Chloride	1.0	ND			ND			
Chloroethane	1.0	ND			ND			
Trichlorofluoromethane	1.0	ND			ND			
1,1-Dichloroethene	1.0	**5.7**			**530**	J	S	
Methylene Chloride	1.0	ND	U		ND	U		
cis-1,2-Dichloroethene	1.0	ND			**18**	J	S	
1,1-Dichloroethane	1.0	ND			**12**	J	S	
trans-1,2-Dichloroethene	1.0	ND			ND	U		
Chloroform	1.0	ND			ND	U		
1,1,1-Trichloroethane	1.0	**6.8**			**630**	J	S	
Carbon Tetrachloride	1.0	ND	U		ND	U		
1,2-Dichloroethane	1.0	ND			ND			
Benzene	1.0	ND			ND			
Trichloroethene	1.0	**24**			**540**	J	S	
Toluene	1.0	ND	U		ND	U		
1,1,2-Trichloroethane	1.0	ND			ND	U		
Tetrachloroethene	1.0	ND			**5.3**	J	S	
Ethylbenzene	1.0	ND			ND	U		
1,1,1,2-Tetrachloroethane	1.0	ND			ND			
m,p-Xylenes	1.0	ND			ND			
o-Xylene	1.0	ND			ND			
1,1,2,2-Tetrachloroethane	1.0	ND			ND			
1,1,2-Trichloro-trifluoroethane	1.0	**1.3**			**600**	J	S	

SURROGATE	**SPK CONC**	**ACP%**	**%REC**	**%REC**		
d-Methylene Chloride	25	75-125	96	131°		
d-Chloroform	25	75-125	94	128°		
d-Benzene	25	75-125	96	141°		
Dibromofluoromethane	50	75-125	105	113		
Toluene-d8	50	75-125	97	99		
Bromofluorobenzene	50	75-125	95	101		

SPK CONC = Spiking Concentration; ACP % = Acceptable Range of Percent; %REC = % Recovery

RL = Reporting Limit; MB = Method Blank; ND = Not Detected (Below RL); NA = Not Applicable;RE=Reanalysis

° Surrogate %REC out of ACP%.

OGDEN VALIDATED

OGDEN ENVIRONMENTAL AND ENERGY SERVICES
550 South Wadsworth Blvd., Suite 500, Lakewood, CO 80226
303/935-6505, Fax 303/935-6575

DATA ASSESSMENT FORM

Project Title: Rocketdyne SSFL RFI
QC Level: V[1]
SDG: 9
Matrix: Soil Vapor
No. of Samples: 14
Date Reviewed: March 06, 2001
Reviewer: K. Chapman
Reference: *USEPA Contract Laboratory Program National Functional Guidelines For Organic Data Review, (Feb. 1994)*, and Interim Guidance For Active Soil Gas Investigation, State of California Regional Water Quality Control Board (LA Region).

EPA Level V – Volatiles Assessment

Data Validation Findings

	Problems	Qualifications
1. Sample Management	No COCs yet	No qualifications were required as field logs were reviewed to verify the accuracy of the undocumented corrections.
4 Method Blanks	No problems were noted with the method blank. One method blank was analyzed with this SDG. No target compounds were detected in the method blank.	No qualifications were required.
6 Surrogates	Samples RV703 and RV709 had surrogate recovery deficiencies. Sample RV709 was analyzed twice, with the surrogate recovery for d-chloroform being reported from the second analysis. The reviewer corrected the Form I to reflect the surrogate recovery from the original analysis.	Samples with surrogate recovery below the QC limit were qualified estimated, "UJ" for nondetects.

	Problems	Qualifications
7. Calibration	Two calibration verification standards were analyzed with these samples, one at 20 ppb and the other at 30 ppb. Qualifications were assigned to the sample results for outliers in either CCV. Toluene and 1,1,2-trichloroethane in the 30 ppb standard and vinyl choride, trichlorofluoromethane, and 1,1,2,2-tetrachloroethane in the 20 ppb standard were outliers.	Samples were qualified as estimated, "UJ" for the noted compounds.
10. Other	According to the laboratory, the reporting limit of 1.0 ppb on the Form Is for 1,1,2-trichloro-trifluoroethane is incorrect. This reporting limit should be 5.0 ppb. The reviewer hand-corrected the Form Is to reflect the correct reporting limit.	Reporting limits were changed on the Form Is.
Comments	None	No qualifications were required.

[1] A modified level V validation was performed, reviewing only the sample management, surrogate, blank, and calibration data. The blank and surrogate qualifications are based solely upon summary information, unless otherwise noted. The reported values on the summary forms are presumed to be correct and no verification of the values from the raw instrument output is performed.

ANALYTICAL TEST RESULTS

Reporting Unit: ug/L

DATE ANALYZED		06/16/99	06/16/99	06/16/99	06/16/99
ANALYTICAL BATCH		990616M4V001	990616M4V001	990616M4V001	990616M4V001
DILUTION FACTOR		1.0	1.0	1.0	1.0
CLIENT SAMPLE I.D.		NA	ILSV53Q01	ILSV53Q02	ILSV53Q03
EPA I.D. & DEPTH		NA	RQ030 5'	RQ031 5'	RQ032 5'
LAB SAMPLE I.D.		990616BLANK1	M4-025-1	M4-025-2	M4-025-3
COMPOUND	**RL**		Result Qual	Qual Code / Result Qual	Qual Code / Result Qual
Dichlorodifluoromethane	1.0	ND	ND UJ	H ND UJ	H ND UJ
Vinyl Chloride	1.0	ND	ND	ND	ND
Chloroethane	1.0	ND	ND	ND	ND
Trichlorofluoromethane	1.0	ND	ND	ND	ND
1,1-Dichloroethene	1.0	ND	**23** J	**16** J	**22** J
Methylene Chloride	1.0	ND	ND UJ	ND UJ	ND UJ
cis-1,2-Dichloroethene	1.0	ND	ND	ND	ND
1,1-Dichloroethane	1.0	ND	ND	ND	ND
trans-1,2-Dichloroethene	1.0	ND	ND	ND	ND
Chloroform	1.0	ND	ND	ND	ND
1,1,1-Trichloroethane	1.0	ND	**8.7** J	**8.8** J	**9.3** J
Carbon Tetrachloride	1.0	ND	ND UJ	ND UJ	ND UJ
1,2-Dichloroethane	1.0	ND	ND	ND	ND
Benzene	1.0	ND	ND	ND	ND
Trichloroethene	1.0	ND	**34** J	**36** J	**36** J
Toluene	1.0	ND	ND UJ	C ND UJ	C ND UJ
1,1,2-Trichloroethane	1.0	ND	ND	ND	ND
Tetrachloroethene	1.0	ND	ND	ND	ND
Ethylbenzene	1.0	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	1.0	ND	ND	ND	ND
m,p-Xylenes	1.0	ND	ND	ND	ND
o-Xylene	1.0	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	1.0	ND	ND	ND	ND
1,1,2-Trichloro-trifluoroethane	1.0	ND	**42** J	**28** J	**38** J
SURROGATE	**SPK CONC**	**ACP%**	**%REC**	**%REC**	**%REC**
d-Methylene Chloride	25	75-125	NA	118	82	96
d-Chloroform	25	75-125	NA	86	101	120
d-Benzene	25	75-125	NA	75	88	98
Dibromofluoromethane	50	75-125	83	114	80	113
Toluene-d8	50	75-125	97	107	98	99
Bromofluorobenzene	50	75-125	93	92	96	94

SPK CONC = Spiking Concentration; ACP % = Acceptable Range of Percent; %REC = % Recovery

RL = Reporting Limit; MB = Method Blank; ND = Not Detected (Below RL); NA = Not Applicable

° Surrogate %REC out of ACP%.

AMEC VALIDATED

ANALYTICAL TEST RESULTS

Reporting Unit: ug/L

DATE ANALYZED		06/16/99	06/16/99	06/16/99	06/16/99
ANALYTICAL BATCH		990616M4V001	990616M4V001	990616M4V001	990616M4V001
DILUTION FACTOR		1.0	1.0	1.0	1.0
CLIENT SAMPLE I.D.		OCSV07S01	OCSV07S02	OCSV08S01	OCSV09S01
EPA I.D. & DEPTH		RV700 5'	RV701 13'	RV702 7'	RV703 6'
LAB SAMPLE I.D.		M4-025-4	M4-025-5	M4-025-6	M4-025-7
COMPOUND	**RL**				
Dichlorodifluoromethane	1.0	ND U	ND U	ND U	ND U
Vinyl Chloride	1.0	ND	ND	ND	ND
Chloroethane	1.0	ND	ND	ND	ND
Trichlorofluoromethane	1.0	ND	ND	ND	ND
1,1-Dichloroethene	1.0	ND	ND	ND	ND
Methylene Chloride	1.0	ND	ND	ND	ND
cis-1,2-Dichloroethene	1.0	ND	ND	ND	ND
1,1-Dichloroethane	1.0	ND	ND	ND	ND
trans-1,2-Dichloroethene	1.0	ND	ND	ND	ND
Chloroform	1.0	ND	ND	ND	ND
1,1,1-Trichloroethane	1.0	ND	ND	ND	ND
Carbon Tetrachloride	1.0	ND	ND	ND	ND
1,2-Dichloroethane	1.0	ND	ND	ND	ND
Benzene	1.0	ND	ND	ND	ND
Trichloroethene	1.0	ND	ND	ND	ND
Toluene	1.0	ND	ND	ND	ND
1,1,2-Trichloroethane	1.0	ND	ND	ND	ND
Tetrachloroethene	1.0	ND U	ND U	ND U	ND U
Ethylbenzene	1.0	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	1.0	ND	ND	ND	ND
m,p-Xylenes	1.0	ND	ND	ND	ND
o-Xylene	1.0	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	1.0	ND	ND	ND	ND
1,1,2-Trichloro-trifluoroethane	1.0	ND	ND	ND	ND
SURROGATE	**SPK CONC**	**ACP%**	**%REC**	**%REC**	**%REC**	**%REC**
d-Methylene Chloride	25	75-125	102	93	111	85
d-Chloroform	25	75-125	76	118	76	116
d-Benzene	25	75-125	75	123	118	83
Dibromofluoromethane	50	75-125	85	81	82	84
Toluene-d8	50	75-125	100	77	79	75
Bromofluorobenzene	50	75-125	94	92	93	93

SPK CONC = Spiking Concentration; ACP % = Acceptable Range of Percent; %REC = % Recovery

RL = Reporting Limit; MB = Method Blank; ND = Not Detected (Below RL); NA = Not Applicable

° Surrogate %REC out of ACP%.

AMEC VALIDATED

ANALYTICAL TEST RESULTS

Reporting Unit: ug/L

DATE ANALYZED		06/16/99	06/16/99	06/16/99	06/16/99
ANALYTICAL BATCH		990616M4V001	990616M4V001	990616M4V001	990616M4V001
DILUTION FACTOR		1.0	1.0	1.0	1.0
CLIENT SAMPLE I.D.		OCSV14S01	OCSV15S01	OCSV13S01	OCSV12S01
EPA I.D. & DEPTH		RV704 4'	RV705 6'	RV706 5'	RV707 6'
LAB SAMPLE I.D.		M4-025-8	M4-025-9	M4-025-10	M4-025-11
COMPOUND	**RL**				
Dichlorodifluoromethane	1.0	ND U	ND U	ND U	ND U
Vinyl Chloride	1.0	ND	ND	ND	ND
Chloroethane	1.0	ND	ND	ND	ND
Trichlorofluoromethane	1.0	ND	ND	ND	ND
1,1-Dichloroethene	1.0	ND	ND	ND	ND
Methylene Chloride	1.0	ND	ND	ND	ND
cis-1,2-Dichloroethene	1.0	ND	ND	ND	ND
1,1-Dichloroethane	1.0	ND	ND	ND	ND
trans-1,2-Dichloroethene	1.0	ND	ND	ND	ND
Chloroform	1.0	ND	ND	ND	ND
1,1,1-Trichloroethane	1.0	ND	ND	ND	ND
Carbon Tetrachloride	1.0	ND	ND	ND	ND
1,2-Dichloroethane	1.0	ND	ND	ND	ND
Benzene	1.0	ND	ND	ND	ND
Trichloroethene	1.0	ND	ND	ND	ND
Toluene	1.0	ND UJ	ND UJ	ND UJ	ND UJ
1,1,2-Trichloroethane	1.0	ND	ND	ND	ND
Tetrachloroethene	1.0	ND U	ND U	ND U	ND U
Ethylbenzene	1.0	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	1.0	ND	ND	ND	ND
m,p-Xylenes	1.0	ND	ND	ND	ND
o-Xylene	1.0	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	1.0	ND	ND	ND	ND
1,1,2-Trichloro-trifluoroethane	1.0	ND	ND	ND	ND
SURROGATE	**SPK CONC**	**ACP%**	**%REC**	**%REC**	**%REC**	**%REC**
d-Methylene Chloride	25	75-125	120	83	94	83
d-Chloroform	25	75-125	80	102	124	100
d-Benzene	25	75-125	92	77	97	84
Dibromofluoromethane	50	75-125	117	81	81	88
Toluene-d8	50	75-125	102	99	98	100
Bromofluorobenzene	50	75-125	95	94	95	92

SPK CONC = Spiking Concentration; ACP % = Acceptable Range of Percent; %REC = % Recovery

RL = Reporting Limit; MB = Method Blank; ND = Not Detected (Below RL); NA = Not Applicable

° Surrogate %REC out of ACP%.

AMEC VALIDATED

ANALYTICAL TEST RESULTS

Reporting Unit: ug/L

DATE ANALYZED		06/16/99	06/16/99	06/16/99	
ANALYTICAL BATCH		990616M4V001	990616M4V001	990616M4V001	
DILUTION FACTOR		1.0	1.0	1.0	
CLIENT SAMPLE I.D.		OCSV11S01	OCSV10S01	OCSV13D01	
EPA I.D. & DEPTH		RV708 2.5'	RV709 5'	RV710 5'	
LAB SAMPLE I.D.		M4-025-12	M4-025-13	M4-025-14	
COMPOUND	**RL**	Result Qual	Qual Code / Result Qual	Qual Code / Result Qual	Qual Code
Dichlorodifluoromethane	1.0	ND U	ND UJ	S ND U	
Vinyl Chloride	1.0	ND	ND	ND	
Chloroethane	1.0	ND	ND	ND	
Trichlorofluoromethane	1.0	ND	ND	ND	
1,1-Dichloroethene	1.0	ND	ND	ND	
Methylene Chloride	1.0	ND	ND	ND	
cis-1,2-Dichloroethene	1.0	ND	ND	ND	
1,1-Dichloroethane	1.0	ND	ND	ND	
trans-1,2-Dichloroethene	1.0	ND	ND	ND	
Chloroform	1.0	ND	ND	ND	
1,1,1-Trichloroethane	1.0	ND	ND	ND	
Carbon Tetrachloride	1.0	ND	ND	ND	
1,2-Dichloroethane	1.0	ND	ND	ND	
Benzene	1.0	ND	ND	ND	
Trichloroethene	1.0	ND ↓	ND	ND ↓	
Toluene	1.0	ND UJ	C ND	C ND UJ	C
1,1,2-Trichloroethane	1.0	ND ↓	↓ ND	↓ ND ↓	↓
Tetrachloroethene	1.0	ND U	ND	ND U	
Ethylbenzene	1.0	ND	ND	ND	
1,1,1,2-Tetrachloroethane	1.0	ND	ND	ND	
m,p-Xylenes	1.0	ND	ND	ND	
o-Xylene	1.0	ND	ND	ND	
1,1,2,2-Tetrachloroethane	1.0	ND	ND	ND	
1,1,2-Trichloro-trifluoroethane	1.0	ND ↓	ND ↓	↓ ND ↓	
SURROGATE	**SPK CONC**	**ACP%**	**%REC**	**%REC**	**%REC**	
d-Methylene Chloride	25	75-125	91	72°	113	
d-Chloroform	25	75-125	90	67°	83	
d-Benzene	25	75-125	93	75	101	
Dibromofluoromethane	50	75-125	85	87	76	
Toluene-d8	50	75-125	99	103	93	
Bromofluorobenzene	50	75-125	92	87	92	

SPK CONC = Spiking Concentration; ACP % = Acceptable Range of Percent; %REC = % Recovery

RL = Reporting Limit; MB = Method Blank; ND = Not Detected (Below RL); NA = Not Applicable

° Surrogate %REC out of ACP%.

AMEC VALIDATED

OGDEN ENVIRONMENTAL AND ENERGY SERVICES
[redacted] 1
550 South Wadsworth Blvd. Ste. 500
Denver, CO 80226
(303) 935-6505

Rocketdyne - SSFL RFI Program
No. of Samples: 12
Matrix: Soil Vapor
Date Validated: November 19, 1997
Reviewer: E. Wessling
Reference: *USEPA Contract Laboratory Program National Functional Guidelines For Organic Data Review, (Feb. 1994)*, and Interim Guidance For Active Soil Gas Investigation, State of California Regional Water Quality Control Board (LA Region). Unless otherwise noted, all qualification of data is based upon summary form information.

EPA Level V- Volatiles Assessment

1. DATA VALIDATION FINDINGS

	Problems	Qualifications
1. Sample Management	Sample RV612 had cross-outs without initials and date for corrections.	No qualifications were required as field logs were reviewed to verify the accuracy of the undocumented corrections.
4. Method Blanks	No problems were noted with the method blank. One method blank was analyzed with this SDG. No target compounds were detected in the method blank.	No qualifications were required.
6. Surrogates	Samples RV609, RV610, RV611, RV612, RV613, RV614, RV615, RV616, RV617, RV618, RV619, and RV620 had surrogate recovery deficiencies.	Samples with surrogate recovery below the QC limits were qualified estimated, "UJ" for nondetects and "J" for detects. Samples with surrogate recovery above the QC limits were qualified estimated, "J," for detects. Sample results associated with surrogate recoveries above QC limits may be considered biased high.
7. Calibration	Dichlorodifluoromethane, vinyl chloride, trichlorofluoromethane, 1,1-dichloroethene, 1,1,1-trichloroethane, carbon, tetrachloride, toluene, tetrachloroethene, 1,1,2,2-tetrachloroethane, trans-1.2-dichloroethene. 1.1.1.2-tetrachloroethane.	Samples were qualified as estimated, "UJ" for nondetects and "J" for detects for the noted compounds.

	Problems	Qualifications
	ethylbenzene, and the xylenes were calibration outliers.	
9. Other	None.	No qualifications were required.
Comments	None	None

ANALYTICAL TEST RESULTS

Reporting Unit: ug/L

DATE ANALYZED		07/28/97	07/28/97	07/28/97	07/28/97
ANALYTICAL BATCH		970728M2V042	970728M2V042	970728M2V042	970728M2V042
DILUTION FACTOR		1.0	1.0	1.0	1.0
CLIENT SAMPLE I.D.		NA	ECSV17S01	OCSV06D01	CLSV32S01
EPA I.D. & DEPTH		NA	RV609 4'	RV610 5'	RV611 4'
LAB SAMPLE I.D.		970728BLANK1	M2-494-1	M2-494-2	M2-494-3
COMPOUND	**RL**				
Dichlorodifluoromethane	1.0	ND	ND UJ	ND UJ	ND UJ
Vinyl Chloride	1.0	ND	ND UJ	ND UJ	ND
Chloroethane	1.0	ND	ND U	ND U	ND
Trichlorofluoromethane	1.0	ND	ND UJ	ND UJ	ND
1,1-Dichloroethene	1.0	ND	ND UJ	ND UJ	ND
Methylene Chloride	1.0	ND	ND U	ND U	ND
cis-1,2-Dichloroethene	1.0	ND	ND	ND	ND
1,1-Dichloroethane	1.0	ND	ND	ND	ND
trans-1,2-Dichloroethene	1.0	ND	ND UJ	ND UJ	ND
Chloroform	1.0	ND	ND U	ND U	ND
1,1,1-Trichloroethane	1.0	ND	ND UJ	ND UJ	ND
Carbon Tetrachloride	1.0	ND	ND UJ	ND UJ	ND
1,2-Dichloroethane	1.0	ND	ND U	ND U	ND
Benzene	1.0	ND	ND	ND	ND
Trichloroethene	1.0	ND	ND	ND	2.4 J
Toluene	1.0	ND	ND UJ	ND UJ	ND UJ
1,1,2-Trichloroethane	1.0	ND	ND U	ND U	ND
Tetrachloroethene	1.0	ND	ND UJ	ND UJ	ND
Ethylbenzene	1.0	ND	ND UJ	ND	ND
1,1,1,2-Tetrachloroethane	1.0	ND	ND UJ	ND	ND
m,p-Xylenes	1.0	ND	ND UJ	ND	ND
o-Xylene	1.0	ND	ND UJ	ND	ND
1,1,2,2-Tetrachloroethane	1.0	ND	ND UJ	ND	ND
1,1,2-Trichloro-trifluoroethane	1.0	ND	ND U	ND U	ND

SURROGATE	**SPK CONC**	**ACP%**	**%REC**	**%REC**	**%REC**	**%REC**
d-Methylene Chloride	25	75-125	NA	118	111	131°
d-Chloroform	25	75-125	NA	115	114	127°
d-Benzene	25	75-125	NA	118	113	134°
Dibromofluoromethane	50	75-125	109	168o	176o	106
Toluene-d8	50	75-125	93	120	126o	73o
Bromofluorobenzene	50	75-125	96	114	117	64o

SPK CONC = Spiking Concentration; ACP % = Acceptable Range of Percent; %REC = % Recovery

RL = Reporting Limit; MB = Method Blank; ND = Not Detected (Below RL); NA = Not Applicable

° Surrogate %REC out of ACP%.

OGDEN VALIDATED

ANALYTICAL TEST RESULTS

Reporting Unit: ug/L

DATE ANALYZED		07/28/97	07/28/97	07/28/97	07/28/97
ANALYTICAL BATCH		970728M2V042	970728M2V042	970728M2V042	970728M2V042
DILUTION FACTOR		1.0	1.0	1.0	1.0
CLIENT SAMPLE I.D.		CLSV32S02	CLSV33S01	CLSV33S02	CLSV34S01
EPA I.D. & DEPTH		RV612 8'	RV613 4'	RV614 8'	RV615 5'
LAB SAMPLE I.D.		M2-494-4	M2-494-5	M2-494-6	M2-494-7
COMPOUND	**RL**				
Dichlorodifluoromethane	1.0	ND UJ	SC ND UJ	C ND UJ	SC ND UJ C
Vinyl Chloride	1.0	ND	C ND UJ	C ND	C ND UJ C
Chloroethane	1.0	ND	ND U	ND	ND U
Trichlorofluoromethane	1.0	ND	C ND UJ	C ND	C ND UJ C
1,1-Dichloroethene	1.0	ND	C ND UJ	C ND	C ND UJ C
Methylene Chloride	1.0	ND	ND U	ND	ND U
cis-1,2-Dichloroethene	1.0	ND	ND	ND	ND
1,1-Dichloroethane	1.0	ND	ND	ND	ND
trans-1,2-Dichloroethene	1.0	ND	C ND UJ	C ND	C ND UJ C
Chloroform	1.0	ND	ND U	ND	ND U
1,1,1-Trichloroethane	1.0	ND	C ND UJ	C ND	C ND UJ C
Carbon Tetrachloride	1.0	ND	C ND UJ	C ND	C ND UJ C
1,2-Dichloroethane	1.0	ND	ND U	ND	ND U
Benzene	1.0	ND	ND U	ND	ND
Trichloroethene	1.0	**1.8** J	S **2.5** J	S **7.9** J	S ND
Toluene	1.0	ND UJ	SC ND UJ	C ND UJ	SC ND UJ C
1,1,2-Trichloroethane	1.0	ND	C ND U	ND	ND U
Tetrachloroethene	1.0	ND	C ND UJ	C ND	C ND UJ C
Ethylbenzene	1.0	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	1.0	ND	ND	ND	ND
m,p-Xylenes	1.0	ND	ND	ND	ND
o-Xylene	1.0	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	1.0	ND	ND	ND	ND
1,1,2-Trichloro-trifluoroethane	1.0	ND	ND U	ND	ND U

SURROGATE	**SPK CONC**	**ACP%**	**%REC**	**%REC**	**%REC**	**%REC**
d-Methylene Chloride	25	75-125	103	91	104	136°
d-Chloroform	25	75-125	99	90	104	132°
d-Benzene	25	75-125	107	87	97	135°
Dibromofluoromethane	50	75-125	105	110	113	163o
Toluene-d8	50	75-125	73o	142o	144o	117
Bromofluorobenzene	50	75-125	81	111	73o	104

SPK CONC = Spiking Concentration; ACP % = Acceptable Range of Percent; %REC = % Recovery

RL = Reporting Limit; MB = Method Blank; ND = Not Detected (Below RL); NA = Not Applicable

° Surrogate %REC out of ACP%.

12/30/97

OGDEN VALIDATED

ANALYTICAL TEST RESULTS

Reporting Unit: ug/L

DATE ANALYZED		07/28/97	07/28/97	07/28/97	07/28/97
ANALYTICAL BATCH		970728M2V042	970728M2V042	970728M2V042	970728M2V042
DILUTION FACTOR		1.0	1.0	1.0	1.0
CLIENT SAMPLE I.D.		CLSV34S02	CLSV34S03	CLSV35S01	OCSV06S02
EPA I.D. & DEPTH		RV616 10'	RV617 17'	RV618 5'	RV619 10'
LAB SAMPLE I.D.		M2-494-8	M2-494-9	M2-494-10	M2-494-11
COMPOUND	**RL**				
Dichlorodifluoromethane	1.0	ND uj	sc ND w	sc ND w	sc ND uj c
Vinyl Chloride	1.0	ND	c ND	c ND	c ND uj c
Chloroethane	1.0	ND	ND	ND	ND u
Trichlorofluoromethane	1.0	ND	c ND	c ND	c ND uj c
1,1-Dichloroethene	1.0	ND	c ND	c ND	c ND uj c
Methylene Chloride	1.0	ND	ND	ND	ND u
cis-1,2-Dichloroethene	1.0	ND	ND	ND	ND
1,1-Dichloroethane	1.0	ND	ND	ND	ND
trans-1,2-Dichloroethene	1.0	ND	c ND	c ND	c ND uj c
Chloroform	1.0	ND	ND	ND	ND u
1,1,1-Trichloroethane	1.0	ND	c ND	c ND	c ND uj c
Carbon Tetrachloride	1.0	ND	c ND	c ND	c ND uj c
1,2-Dichloroethane	1.0	ND	ND	ND	ND u
Benzene	1.0	ND	ND	ND	ND
Trichloroethene	1.0	ND	ND	ND	ND
Toluene	1.0	ND	c ND	c ND	c ND uj c
1,1,2-Trichloroethane	1.0	ND	ND	ND	ND u
Tetrachloroethene	1.0	ND	c ND	c ND	c ND uj c
Ethylbenzene	1.0	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	1.0	ND	ND	ND	ND
m,p-Xylenes	1.0	ND	ND	ND	ND
o-Xylene	1.0	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	1.0	ND	ND	ND	ND
1,1,2-Trichloro-trifluoroethane	1.0	ND	ND	ND	ND u

SURROGATE	**SPK CONC**	**ACP%**	**%REC**	**%REC**	**%REC**	**%REC**
d-Methylene Chloride	25	75-125	115	114	71°	130°
d-Chloroform	25	75-125	110	113	71°	121
d-Benzene	25	75-125	112	113	39°	132°
Dibromofluoromethane	50	75-125	111	107	181o	106
Toluene-d8	50	75-125	75	76	126o	77
Bromofluorobenzene	50	75-125	67o	68o	110	64o

SPK CONC = Spiking Concentration; ACP % = Acceptable Range of Percent; %REC = % Recovery

RL = Reporting Limit; MB = Method Blank; ND = Not Detected (Below RL); NA = Not Applicable

° Surrogate %REC out of ACP%.

OGDEN VALIDATED

ANALYTICAL TEST RESULTS

Reporting Unit: ug/L

DATE ANALYZED		07/28/97			
ANALYTICAL BATCH		970728M2V042			
DILUTION FACTOR		1.0			
CLIENT SAMPLE I.D.		OCQV06F03			
EPA I.D. & DEPTH		RV620			
LAB SAMPLE I.D.		M2-494-12			
COMPOUND	**RL**				
Dichlorodifluoromethane	1.0	ND	UJ		
Vinyl Chloride	1.0	ND			
Chloroethane	1.0	ND			
Trichlorofluoromethane	1.0	ND			
1,1-Dichloroethene	1.0	ND			
Methylene Chloride	1.0	ND			
cis-1,2-Dichloroethene	1.0	ND			
1,1-Dichloroethane	1.0	ND			
trans-1,2-Dichloroethene	1.0	ND			
Chloroform	1.0	ND			
1,1,1-Trichloroethane	1.0	ND			
Carbon Tetrachloride	1.0	ND			
1,2-Dichloroethane	1.0	ND			
Benzene	1.0	ND			
Trichloroethene	1.0	ND			
Toluene	1.0	ND			
1,1,2-Trichloroethane	1.0	ND			
Tetrachloroethene	1.0	ND			
Ethylbenzene	1.0	ND			
1,1,1,2-Tetrachloroethane	1.0	ND			
m,p-Xylenes	1.0	ND			
o-Xylene	1.0	ND			
1,1,2,2-Tetrachloroethane	1.0	ND			
1,1,2-Trichloro-trifluoroethane	1.0	ND			

SURROGATE	**SPK CONC**	**ACP%**	**%REC**			
d-Methylene Chloride	25	75-125	121			
d-Chloroform	25	75-125	117			
d-Benzene	25	75-125	121			
Dibromofluoromethane	50	75-125	106			
Toluene-d8	50	75-125	97			
Bromofluorobenzene	50	75-125	64o			

SPK CONC = Spiking Concentration; ACP % = Acceptable Range of Percent; %REC = % Recovery

RL = Reporting Limit; MB = Method Blank; ND = Not Detected (Below RL); NA = Not Applicable

° Surrogate %REC out of ACP%.

OGDEN VALIDATED

OGDEN ENVIRONMENTAL AND ENERGY SERVICES
[redacted] 1
550 South Wadsworth Blvd. Ste. 500
Denver, CO 80226
(303) 935-6505

Rocketdyne - SSFL RFI Program
No. of Samples: 10
Matrix: Soil Vapor
Date Validated: November 19, 1997
Reviewer: E. Wessling
Reference: *USEPA Contract Laboratory Program National Functional Guidelines For Organic Data Review, (Feb. 1994)*, and Interim Guidance For Active Soil Gas Investigation, State of California Regional Water Quality Control Board (LA Region). Unless otherwise noted, all qualification of data is based upon summary form information.

EPA Level V- Volatiles Assessment

1. DATA VALIDATION FINDINGS

	Problems	Qualifications
1. Sample Management	No COC was provided for sample RV337. No other problems were noted with sample handling.	No qualifications were required. A copy of the COC was obtained from the San Diego office.
4. Method Blanks	No problems were noted with the method blank. One method blank was analyzed with this SDG. No target compounds were detected in the method blank.	No qualifications were required.
6. Surrogates	All surrogate recoveries were acceptable. All sample bulb surrogates were noted to be present in the sample; however, were not quantitated by the laboratory. All samples were considered to have calibration deficiencies.	Samples were qualified as estimated, "UJ" for nondetects and "J" for detects for the noted compound.
7. Calibration	Initial calibration was performed on two nonconsecutive days; which is noncompliant with the method and good laboratory practice.	All sample quantitations and reporting limits were qualified as estimated, "J" for detects, "UJ" for nondetects.
9. Other	The detect for freon 113 in sample RV344	Freon 113 in sample RV344 was qualified as

	Problems	Qualifications
	exceeded the linear calibration range of the instrument.	estimated, "J."
Comments	Samples RV345 and RV338 were rejected due to a more technically acceptable dilution as these samples were affected by incomplete bulb decontamination procedures.	

Centrum
(800) 798-9336

ANALYTICAL TEST RESULTS

Reporting Unit: ug/L

DATE ANALYZED		06/30/97	06/30/97	06/30/97	06/30/97	
ANALYTICAL BATCH		970630M2V025	970630M2V025	970630M2V025	970630M2V025	
DILUTION FACTOR		1.0	1.0	1.0	1.0	
CLIENT SAMPLE I.D.		NA	SLSV16S01	SLSV15S01	SLSV14S01	
EPA I.D. & DEPTH		NA	RV337 5'	RV338 2.5'	RV339 2.0'	
LAB SAMPLE I.D.		970630BLANK1	M2-477-1	M2-477-2	M2-477-3	
COMPOUND	**RL**					
Dichlorodifluoromethane	1.0	ND	ND UJ	c S ND R	D ND UJ	c S
Vinyl Chloride	1.0	ND	ND	ND	ND	
Chloroethane	1.0	ND	ND	ND	ND	
Trichlorofluoromethane	1.0	ND	ND	ND	ND	
1,1-Dichloroethene	1.0	ND	**1.7** J	c S **2.5**	**1.5** J	
Methylene Chloride	1.0	ND	ND UJ	ND	ND UJ	
cis-1,2-Dichloroethene	1.0	ND	**170** J	c **5.4**	**3.1** J	
1,1-Dichloroethane	1.0	ND	ND UJ	ND	ND UJ	
trans-1,2-Dichloroethene	1.0	ND	ND	ND	ND	
Chloroform	1.0	ND	ND	ND	ND	
1,1,1-Trichloroethane	1.0	ND	ND	**5.2**	**4.1** J	
Carbon Tetrachloride	1.0	ND	ND	ND	ND UJ	
1,2-Dichloroethane	1.0	ND	ND	ND	ND	
Benzene	1.0	ND	ND	ND	ND	
Trichloroethene	1.0	ND	**310** J	c, 395 **20**	**9.3** J	
Toluene	1.0	ND	ND UJ	c S ND	ND UJ	
1,1,2-Trichloroethane	1.0	ND	ND	ND	ND	
Tetrachloroethene	1.0	ND	ND	ND	ND	
Ethylbenzene	1.0	ND	ND	ND	ND	
1,1,1,2-Tetrachloroethane	1.0	ND	ND	ND	ND	
m,p-Xylenes	1.0	ND	ND	ND	ND	
o-Xylene	1.0	ND	ND	ND	ND	
1,1,2,2-Tetrachloroethane	1.0	ND	ND	ND	ND	
1,1,2-Trichloro-trifluoroethane	1.0	ND	**2.6** J	c **1.3**	**6.5** J	

SURROGATE	**SPK CONC**	**ACP%**	**%REC**	**%REC**	**%REC**	**%REC**
d-Methylene Chloride	25	75-125	NA	^	^	^
d-Chloroform	25	75-125	NA	^	^	^
d-Benzene	25	75-125	NA	^	^	^
Dibromofluoromethane	50	75-125	110	117	119	117
Toluene-d8	50	75-125	87	89	92	89
Bromofluorobenzene	50	75-125	94	96	98	95

SPK CONC = Spiking Concentration; ACP % = Acceptable Range of Percent; %REC = % Recovery

RL = Reporting Limit; MB = Method Blank; ND = Not Detected (Below RL); NA = Not Applicable

^ %REC for HGS surrogates cannot be ascertained due to lack of data.

OGDEN VALIDATED

Centrum
(800) 798-9336

ANALYTICAL TEST RESULTS

Reporting Unit: ug/L

DATE ANALYZED		06/30/97	06/30/97	06/30/97	06/30/97
ANALYTICAL BATCH		970630M2V025	970630M2V025	970630M2V025	970630M2V025
DILUTION FACTOR		1.0	1.0	1.0	1.0
CLIENT SAMPLE I.D.		SLSV13S01	CFSV05S01	ILSV06S01	ILSV05S01
EPA I.D. & DEPTH		RV340 4'	RV341 3'	RV342 5'	RV343 5'
LAB SAMPLE I.D.		M2-477-4	M2-477-5	M2-477-6	M2-477-7
COMPOUND	**RL**	Rev Qual	Qual Code / Rev Qual	Qual Code / Rev Qual	Qual Code / Rev Qual
Dichlorodifluoromethane	1.0	**18** J	CS ND UJ	CS ND UJ	CS ND UJ
Vinyl Chloride	1.0	**2.0** J	ND	ND	ND
Chloroethane	1.0	ND UJ	ND	ND	ND
Trichlorofluoromethane	1.0	ND ↓	ND	ND ↓	ND ↓
1,1-Dichloroethene	1.0	**3.0** J	ND	**6.3** J	**40** J
Methylene Chloride	1.0	ND UJ	ND ↓	ND UJ	ND UJ
cis-1,2-Dichloroethene	1.0	**11** J	**4.8** J	**210** J	**5.7** J
1,1-Dichloroethane	1.0	ND UJ	ND UJ	ND UJ	ND UJ
trans-1,2-Dichloroethene	1.0	ND	ND ↓	ND ↓	ND ↓
Chloroform	1.0	ND	ND ↓	ND ↓	ND ↓
1,1,1-Trichloroethane	1.0	ND	**4.1** J	**3.4** J	**42** J
Carbon Tetrachloride	1.0	ND	ND UJ	ND UJ	ND UJ
1,2-Dichloroethane	1.0	ND	ND ↓	ND ↓	ND ↓
Benzene	1.0	ND ↓	ND ↓	ND ↓	ND ↓
Trichloroethene	1.0	**4.1** J	**9.1** J	**270** J	**48** J
Toluene	1.0	ND UJ	ND UJ	ND UJ	ND UJ
1,1,2-Trichloroethane	1.0	ND	ND ↓	ND ↓	ND ↓
Tetrachloroethene	1.0	ND	ND ↓	ND ↓	ND ↓
Ethylbenzene	1.0	ND	ND ↓	ND ↓	ND ↓
1,1,1,2-Tetrachloroethane	1.0	ND	ND ↓	ND ↓	ND ↓
m,p-Xylenes	1.0	ND	ND ↓	ND ↓	ND ↓
o-Xylene	1.0	ND	ND ↓	ND ↓	ND ↓
1,1,2,2-Tetrachloroethane	1.0	ND ↓	ND ↓	ND ↓	ND ↓
1,1,2-Trichloro-trifluoroethane	1.0	**920** J	**2.2** J	**18** J	**31** J

Qual Code: C S

SURROGATE	**SPK CONC**	**ACP%**	**%REC**	**%REC**	**%REC**	**%REC**
d-Methylene Chloride	25	75-125	^	^	^	^
d-Chloroform	25	75-125	^	^	^	^
d-Benzene	25	75-125	^	^	^	^
Dibromofluoromethane	50	75-125	116	123	114	116
Toluene-d8	50	75-125	89	92	91	89
Bromofluorobenzene	50	75-125	92	98	97	95

SPK CONC = Spiking Concentration; ACP % = Acceptable Range of Percent; %REC = % Recovery

RL = Reporting Limit; MB = Method Blank; ND = Not Detected (Below RL); NA = Not Applicable

^ %REC for HGS surrogates cannot be ascertained due to lack of data.

OGDEN VALIDATED

Centrum
(800) 798-9336

ANALYTICAL TEST RESULTS

Reporting Unit: ug/L

DATE ANALYZED		06/30/97		06/30/97		06/30/97	
ANALYTICAL BATCH		970630M2V025		970630M2V025		970630M2V025	
DILUTION FACTOR		1.0		5.0		1.0	
CLIENT SAMPLE I.D.		ILSV42S03		ILSV42D01		OCSV01S01	
EPA I.D. & DEPTH		RV344 15.5'		RV345 5'		RV346 5.5'	
LAB SAMPLE I.D.		M2-477-8		M2-477-9		M2-477-10	
COMPOUND	**RL**		Rev Qual	Qual Code	Rev Qual	Qual Code	Rev Qual	Qual Code
Dichlorodifluoromethane	1.0	ND	UJ	CS	ND	UJ	CS	ND	UJ	CS
Vinyl Chloride	1.0	ND			ND			ND		
Chloroethane	1.0	ND			ND			ND		
Trichlorofluoromethane	1.0	ND			ND			ND		
1,1-Dichloroethene	1.0	**22**	J		**18**	J		**2.8**	J	
Methylene Chloride	1.0	ND	UJ		ND	UJ		ND	UJ	
cis-1,2-Dichloroethene	1.0	**6.2**	J		**360**	J		**15**	J	
1,1-Dichloroethane	1.0	ND	UJ		ND	UJ		ND	UJ	
trans-1,2-Dichloroethene	1.0	ND			ND			ND		
Chloroform	1.0	ND			ND			ND		
1,1,1-Trichloroethane	1.0	**4.6**	J		ND			**2.1**	J	
Carbon Tetrachloride	1.0	ND	UJ		ND			ND	UJ	
1,2-Dichloroethane	1.0	ND			ND			ND		
Benzene	1.0	ND			ND			ND		
Trichloroethene	1.0	**34**	J		**2,700**	J		**28**	J	
Toluene	1.0	ND	UJ		ND	UJ		ND	UJ	
1,1,2-Trichloroethane	1.0	ND			ND			ND		
Tetrachloroethene	1.0	ND			ND			ND		
Ethylbenzene	1.0	ND			ND			ND		
1,1,1,2-Tetrachloroethane	1.0	ND			ND			ND		
m,p-Xylenes	1.0	ND			ND			ND		
o-Xylene	1.0	ND			ND			ND		
1,1,2,2-Tetrachloroethane	1.0	ND			ND			ND		
1,1,2-Trichloro-trifluoroethane	1.0	**1,600***	J		**740***	J		**2.8**	J	

SURROGATE	**SPK CONC**	**ACP%**	**%REC**	**%REC**	**%REC**	
d-Methylene Chloride	25	75-125	^	^	^	
d-Chloroform	25	75-125	^	^	^	
d-Benzene	25	75-125	^	^	^	
Dibromofluoromethane	50	75-125	116	118	122	
Toluene-d8	50	75-125	90	85	84	
Bromofluorobenzene	50	75-125	92	87	92	

SPK CONC = Spiking Concentration; ACP % = Acceptable Range of Percent; %REC = % Recovery

RL = Reporting Limit; MB = Method Blank; ND = Not Detected (Below RL); NA = Not Applicable

* Reported value above upper calibration range.

^ %REC for HGS surrogates cannot be ascertained due to lack of data.

OGDEN VALIDATED

OGDEN ENVIRONMENTAL AND ENERGY SERVICES
1
550 South Wadsworth Blvd. Ste. 500
Denver, CO 80226
(303) 935-6505

Rocketdyne - SSFL RFI Program
No. of Samples: 22
Matrix: Soil Vapor
Date Validated: November 19, 1997
Reviewer: E. Wessling
Reference: *USEPA Contract Laboratory Program National Functional Guidelines For Organic Data Review, (Feb. 1994)*, and Interim Guidance For Active Soil Gas Investigation, State of California Regional Water Quality Control Board (LA Region). Unless otherwise noted, all qualification of data is based upon summary form information.

EPA Level V- Volatiles Assessment

1. DATA VALIDATION FINDINGS

	Problems	Qualifications
1. Sample Management	The clinet IDs for samples RV594 and RV595 were changed per a memo from Ogden personnel dated 8/06/99. No other problems were noted with sample management.	The reviewer hand-corrected the client IDs on the Form I for samples RV594 and RV595. No qualifications were required.
4. Method Blanks	No problems were noted with the method blank. One method blank was analyzed with this SDG. No target compounds were detected in the method blank.	No qualifications were required.
6. Surrogates	Samples RV588, RV591, RV599, RV604, and RV605 had surrogate recovery deficiencies.	Samples with surrogate recovery below the QC limits were qualified estimated, "UJ" for nondetects and "J" for detects. Samples with surrogate recovery above the QC limits were qualified estimated, "J," for detects. Sample results associated with surrogate recoveries above QC limits may be considered biased high.

	Problems	Qualifications
7. Calibration	Vinyl chloride, methylene chloride, carbon tetrachloride, toluene, 1,1,2-trichloroethane, and 1,1,2,2-tetrachloroethane were calibration outliers.	Samples were qualified as estimated, "UJ" for nondetects and "J" for detects for the noted compounds.
9. Other	None.	No qualifications were required.
Comments	None	None

Centrum
(800) 798-9336

ANALYTICAL TEST RESULTS

Reporting Unit: ug/L

DATE ANALYZED		07/25/97	07/25/97	07/25/97	07/25/97	
ANALYTICAL BATCH		970725M2V041	970725M2V041	970725M2V041	970725M2V041	
DILUTION FACTOR		1.0	1.0	1.0	1.0	
CLIENT SAMPLE I.D.		NA	AFSV06S03	LFSV05S01	CLSV31S01	
EPA I.D. & DEPTH		NA	RV587 15'	RV588 5'	RV589 4'	
LAB SAMPLE I.D.		970725BLANK1	M2-493-1	M2-493-2	M2-493-3	
COMPOUND	**RL**					
Dichlorodifluoromethane	1.0	ND	ND U	ND U	ND U	
Vinyl Chloride	1.0	ND	ND UJ	ND UJ	ND UJ	
Chloroethane	1.0	ND	ND U	ND U	ND U	
Trichlorofluoromethane	1.0	ND	ND	ND	ND	
1,1-Dichloroethene	1.0	ND	ND	ND	ND	
Methylene Chloride	1.0	ND	ND UJ	ND UJ	ND UJ	
cis-1,2-Dichloroethene	1.0	ND	ND U	ND U	ND U	
1,1-Dichloroethane	1.0	ND	ND	ND	ND	
trans-1,2-Dichloroethene	1.0	ND	ND	ND	ND	
Chloroform	1.0	ND	ND	ND	ND	
1,1,1-Trichloroethane	1.0	ND	ND	ND	ND	
Carbon Tetrachloride	1.0	ND	ND UJ	ND UJ	ND UJ	
1,2-Dichloroethane	1.0	ND	ND U	ND U	ND U	
Benzene	1.0	ND	ND U	ND	ND	
Trichloroethene	1.0	ND	**12**	ND	ND	
Toluene	1.0	ND	ND UJ	ND UJ	ND UJ	
1,1,2-Trichloroethane	1.0	ND	ND UJ	ND UJ	ND UJ	
Tetrachloroethene	1.0	ND	ND U	ND U	ND U	
Ethylbenzene	1.0	ND	ND	ND	ND	
1,1,1,2-Tetrachloroethane	1.0	ND	ND	ND	ND	
m,p-Xylenes	1.0	ND	ND	ND	ND	
o-Xylene	1.0	ND	ND	ND	ND	
1,1,2,2-Tetrachloroethane	1.0	ND	ND UJ	ND UJ	ND UJ	
1,1,2-Trichloro-trifluoroethane	1.0	ND	ND U	ND U	ND U	
SURROGATE	**SPK CONC**	**ACP%**	**%REC**	**%REC**	**%REC**	**%REC**
d-Methylene Chloride	25	75-125	NA	81	87	84
d-Chloroform	25	75-125	NA	90	94	89
d-Benzene	25	75-125	NA	87	91	86
Dibromofluorobenzene	50	75-125	112	122	124	117
Toluene-d8	50	75-125	103	122	124	121
Bromofluorobenzene	50	75-125	112	122	126°	123

SPK CONC = Spiking Concentration; ACP % = Acceptable Range of Percent; %REC = % Recovery

RL = Reporting Limit; MB = Method Blank; ND = Not Detected (Below RL); NA = Not Applicable

° Surrogate %REC out of ACP%.

OGDEN VALIDATED

Centrum
(800) 798-9336

ANALYTICAL TEST RESULTS

Reporting Unit: ug/L

DATE ANALYZED		07/25/97	07/25/97	07/25/97	07/25/97
ANALYTICAL BATCH		970725M2V041	970725M2V041	970725M2V041	970725M2V041
DILUTION FACTOR		1.0	1.0	1.0	1.0
CLIENT SAMPLE I.D.		CLSV31S02	CLSV27S01	CLSV27S02	CLSV27S03
EPA I.D. & DEPTH		RV590 8'	RV591 4'	RV592 8'	RV593 12'
LAB SAMPLE I.D.		M2-493-4	M2-493-5	M2-493-6	M2-493-7
COMPOUND	**RL**	Rev Qual	Qual Code / Rev Qual	Qual Code / Rev Qual	Qual Code / Rev Qual / Qual Code
Dichlorodifluoromethane	1.0	ND U	ND UJ	ND U	ND U
Vinyl Chloride	1.0	ND UJ	ND	ND UJ	ND UJ
Chloroethane	1.0	ND U	ND	ND U	ND U
Trichlorofluoromethane	1.0	ND	**3.6** J	**17**	**33**
1,1-Dichloroethene	1.0	ND	ND UJ	ND U	ND U
Methylene Chloride	1.0	ND UJ	ND	ND UJ	ND UJ
cis-1,2-Dichloroethene	1.0	ND U	ND	ND U	ND U
1,1-Dichloroethane	1.0	ND	ND	ND	ND
trans-1,2-Dichloroethene	1.0	ND	ND	ND	ND
Chloroform	1.0	ND	ND	ND	ND
1,1,1-Trichloroethane	1.0	ND	ND	ND	ND
Carbon Tetrachloride	1.0	ND UJ	ND	ND UJ	ND UJ
1,2-Dichloroethane	1.0	ND U	ND	ND U	ND U
Benzene	1.0	ND	ND	ND	ND
Trichloroethene	1.0	ND	ND	ND	ND
Toluene	1.0	ND UJ	ND	ND UJ	ND UJ
1,1,2-Trichloroethane	1.0	ND UJ	ND	ND UJ	ND UJ
Tetrachloroethene	1.0	ND U	ND	ND U	ND U
Ethylbenzene	1.0	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	1.0	ND	ND	ND	ND
m,p-Xylenes	1.0	ND	ND	ND	ND
o-Xylene	1.0	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	1.0	ND UJ	ND	ND UJ	ND UJ
1,1,2-Trichloro-trifluoroethane	1.0	ND U	**17** J	**79**	**150**

SURROGATE	**SPK CONC**	**ACP%**	**%REC**	**%REC**	**%REC**	**%REC**
d-Methylene Chloride	25	75-125	102	83	103	86
d-Chloroform	25	75-125	105	90	113	88
d-Benzene	25	75-125	102	86	105	80
Dibromofluorobenzene	50	75-125	119	116	119	122
Toluene-d8	50	75-125	76	74°	75	75
Bromofluorobenzene	50	75-125	89	85	85	85

SPK CONC = Spiking Concentration; ACP % = Acceptable Range of Percent; %REC = % Recovery

RL = Reporting Limit; MB = Method Blank; ND = Not Detected (Below RL); NA = Not Applicable

° Surrogate %REC out of ACP%.

OGDEN VALIDATED

ANALYTICAL TEST RESULTS

Reporting Unit: ug/L

DATE ANALYZED		07/25/97	07/25/97	07/25/97	07/25/97
ANALYTICAL BATCH		970725M2V041	970725M2V041	970725M2V041	970725M2V041
DILUTION FACTOR		1.0	1.0	1.0	1.0
CLIENT SAMPLE I.D.		~~ELSV04S01~~	~~ELSV05S01~~	ELSV06S01	ELSV06S02
EPA I.D. & DEPTH		RV594 2'	RV595 3'	RV596 5'	RV597 10'
LAB SAMPLE I.D.		M2-493-8	M2-493-9	M2-493-10	M2-493-11
COMPOUND	RL	Rev Qual	Qual Code / Rev Qual	Qual Code / Rev Qual	Qual Code / Rev Qual
Dichlorodifluoromethane	1.0	ND U	ND U	ND U	ND U
Vinyl Chloride	1.0	ND UJ	C ND UJ	C ND UJ	C ND UJ
Chloroethane	1.0	ND U	ND U	ND U	ND U
Trichlorofluoromethane	1.0	ND	ND	ND	ND
1,1-Dichloroethene	1.0	ND	ND	ND	ND
Methylene Chloride	1.0	ND UJ	C ND UJ	C ND UJ	C ND UJ
cis-1,2-Dichloroethene	1.0	ND U	ND U	ND U	ND U
1,1-Dichloroethane	1.0	ND	ND	ND	ND
trans-1,2-Dichloroethene	1.0	ND	ND	ND	ND
Chloroform	1.0	ND	ND	ND	ND
1,1,1-Trichloroethane	1.0	ND	ND	ND	ND
Carbon Tetrachloride	1.0	ND UJ	C ND UJ	C ND UJ	C ND UJ
1,2-Dichloroethane	1.0	ND U	ND U	ND U	ND U
Benzene	1.0	ND	ND	ND	ND
Trichloroethene	1.0	ND	ND	ND	ND
Toluene	1.0	ND UJ	C ND UJ	C ND UJ	C ND UJ
1,1,2-Trichloroethane	1.0	ND UJ	C ND UJ	C ND UJ	C ND UJ
Tetrachloroethene	1.0	ND U	ND U	ND U	ND U
Ethylbenzene	1.0	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	1.0	ND	ND	ND	ND
m,p-Xylenes	1.0	ND	ND	ND	ND
o-Xylene	1.0	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	1.0	ND UJ	C ND UJ	C ND UJ	C ND UJ
1,1,2-Trichloro-trifluoroethane	1.0	ND U	ND U	ND U	ND U

SURROGATE	SPK CONC	ACP%	%REC	%REC	%REC	%REC
d-Methylene Chloride	25	75-125	93	85	84	94
d-Chloroform	25	75-125	94	87	86	97
d-Benzene	25	75-125	95	83	82	95
Dibromofluorobenzene	50	75-125	119	120	120	119
Toluene-d8	50	75-125	125	119	123	122
Bromofluorobenzene	50	75-125	123	119	120	119

SPK CONC = Spiking Concentration; ACP % = Acceptable Range of Percent; %REC = % Recovery

RL = Reporting Limit; MB = Method Blank; ND = Not Detected (Below RL); NA = Not Applicable

OGDEN VALIDATED

Centrum
(800) 798-9336

ANALYTICAL TEST RESULTS

Reporting Unit: ug/L

DATE ANALYZED			07/25/97		07/25/97		07/25/97	07/25/97
ANALYTICAL BATCH			970725M2V041		970725M2V041		970725M2V041	970725M2V041
DILUTION FACTOR			1.0		1.0		1.0	1.0
CLIENT SAMPLE I.D.			AFSV06S02		LFSV05S03		LFSV05S02	CLSV25S03
EPA I.D. & DEPTH			RV598 10'		RV599 15'		RV600 10'	RV601 13'
LAB SAMPLE I.D.			M2-493-12		M2-493-13		M2-493-14	M2-493-15
COMPOUND		**RL**		Rev Qual	Qual Code	Rev Qual	Qual Code	Rev Qual Qual Code
Dichlorodifluoromethane		1.0	ND	U		ND	U	ND U
Vinyl Chloride		1.0	ND	UJ	C	ND	C	ND UJ C
Chloroethane		1.0	ND	U		ND	U	ND U
Trichlorofluoromethane		1.0	ND			ND		ND U
1,1-Dichloroethene		1.0	ND			ND		**6.7**
Methylene Chloride		1.0	ND	UJ	C	ND	C	ND UJ C
cis-1,2-Dichloroethene		1.0	ND	U		ND	U	**280**
1,1-Dichloroethane		1.0	ND			ND		**1.3**
trans-1,2-Dichloroethene		1.0	ND			ND		**1.5**
Chloroform		1.0	ND			ND		ND U
1,1,1-Trichloroethane		1.0	**2.4**			ND		ND U
Carbon Tetrachloride		1.0	ND	UJ	C	ND	C	ND UJ C
1,2-Dichloroethane		1.0	ND	U		ND	U	ND U
Benzene		1.0	ND	U		ND		ND U
Trichloroethene		1.0	**19**			ND		**36**
Toluene		1.0	ND	UJ	C	ND	C	ND UJ C
1,1,2-Trichloroethane		1.0	ND	UJ	C	ND	C	ND UJ C
Tetrachloroethene		1.0	ND	U		ND	U	ND U
Ethylbenzene		1.0	ND			ND		ND
1,1,1,2-Tetrachloroethane		1.0	ND			ND		ND
m,p-Xylenes		1.0	ND			ND		ND
o-Xylene		1.0	ND			ND		ND
1,1,2,2-Tetrachloroethane		1.0	ND	UJ	C	ND	C	ND UJ C
1,1,2-Trichloro-trifluoroethane		1.0	**2.1**			ND	U	**17**
SURROGATE	**SPK CONC**	**ACP%**	**%REC**		**%REC**		**%REC**	**%REC**
d-Methylene Chloride	25	75-125	104		82		84	106
d-Chloroform	25	75-125	111		87		88	107
d-Benzene	25	75-125	109		83		82	106
Dibromofluorobenzene	50	75-125	121		116		124	123
Toluene-d8	50	75-125	124		73°		76	122
Bromofluorobenzene	50	75-125	124		82		87	119

SPK CONC = Spiking Concentration; ACP % = Acceptable Range of Percent; %REC = % Recovery

RL = Reporting Limit; MB = Method Blank; ND = Not Detected (Below RL); NA = Not Applicable

° Surrogate %REC out of ACP%.

OGDEN VALIDATED

Centrum
(800) 798-9336

ANALYTICAL TEST RESULTS

Reporting Unit: ug/L

DATE ANALYZED		07/25/97		07/25/97		07/25/97		07/25/97
ANALYTICAL BATCH		970725M2V041		970725M2V041		970725M2V041		970725M2V041
DILUTION FACTOR		1.0		1.0		1.0		1.0
CLIENT SAMPLE I.D.		CLSV31S03		OCSV05S01		OCSV06S01		OCSV04S01
EPA I.D. & DEPTH		RV602 11'		RV603 4'		RV604 5'		RV605 4'
LAB SAMPLE I.D.		M2-493-16		M2-493-17		M2-493-18		M2-493-19
COMPOUND	**RL**	Rev Qual	Qual Code	Rev Qual	Qual Code	Rev Qual	Qual Code	Rev Qual
Dichlorodifluoromethane	1.0	ND U		ND U		ND U		ND UJ
Vinyl Chloride	1.0	ND UJ	C	ND UJ	C	ND UJ	C	ND
Chloroethane	1.0	ND U		ND U		ND U		ND
Trichlorofluoromethane	1.0	ND		ND		ND		ND
1,1-Dichloroethene	1.0	ND		ND		ND		ND
Methylene Chloride	1.0	ND UJ	C	ND UJ	C	ND UJ	C	ND
cis-1,2-Dichloroethene	1.0	ND U		ND U		ND U		ND
1,1-Dichloroethane	1.0	ND		ND		ND		ND
trans-1,2-Dichloroethene	1.0	ND		ND		ND		ND
Chloroform	1.0	ND		ND		ND		ND
1,1,1-Trichloroethane	1.0	ND		ND		ND		ND
Carbon Tetrachloride	1.0	ND UJ	C	ND UJ	C	ND UJ	C	ND
1,2-Dichloroethane	1.0	ND U		ND U		ND U		ND
Benzene	1.0	ND		ND		ND		ND
Trichloroethene	1.0	ND		ND		ND		ND
Toluene	1.0	ND UJ	C	ND UJ	C	ND UJ	C	ND
1,1,2-Trichloroethane	1.0	ND UJ	C	ND UJ	C	ND UJ	C	ND
Tetrachloroethene	1.0	ND U		ND U		ND U		ND
Ethylbenzene	1.0	ND		ND		ND		ND
1,1,1,2-Tetrachloroethane	1.0	ND		ND		ND		ND
m,p-Xylenes	1.0	ND		ND		ND		ND
o-Xylene	1.0	ND		ND		ND		ND
1,1,2,2-Tetrachloroethane	1.0	ND UJ	C	ND UJ	C	ND UJ	C	ND
1,1,2-Trichloro-trifluoroethane	1.0	ND U		ND U		ND U		ND

Qual Code: S, C, C, C, C, C, C

SURROGATE	**SPK CONC**	**ACP%**	**%REC**	**%REC**	**%REC**	**%REC**
d-Methylene Chloride	25	75-125	81	102	89	77
d-Chloroform	25	75-125	83	103	93	78
d-Benzene	25	75-125	83	102	91	74°
Dibromofluorobenzene	50	75-125	120	121	120	120
Toluene-d8	50	75-125	124	118	126°	121
Bromofluorobenzene	50	75-125	125	124	121	121

SPK CONC = Spiking Concentration; ACP % = Acceptable Range of Percent; %REC = % Recovery

RL = Reporting Limit; MB = Method Blank; ND = Not Detected (Below RL); NA = Not Applicable

° Surrogate %REC out of ACP%.

OGDEN VALIDATED

Centrum
(800) 798-9336

ANALYTICAL TEST RESULTS

Reporting Unit: ug/L

DATE ANALYZED		07/25/97	07/25/97	07/25/97	
ANALYTICAL BATCH		970725M2V041	970725M2V041	970725M2V041	
DILUTION FACTOR		1.0	1.0	1.0	
CLIENT SAMPLE I.D.		CLSV28S01	CLSV29S01	CLSV30S01	
EPA I.D. & DEPTH		RV606 4'	RV607 2'	RV608 1'	
LAB SAMPLE I.D.		M2-493-20	M2-493-21	M2-493-22	
COMPOUND	**RL**	Rev Qual	Qual Code / Rev Qual	Qual code / Rev Qual	Qual Code
Dichlorodifluoromethane	1.0	ND U	ND U	ND U	
Vinyl Chloride	1.0	ND UJ	C ND UJ	C ND UJ	C
Chloroethane	1.0	ND U	ND U	ND U	
Trichlorofluoromethane	1.0	ND ↓	ND ↓	ND ↓	
1,1-Dichloroethene	1.0	ND ↓	ND ↓	ND ↓	
Methylene Chloride	1.0	ND UJ	C ND UJ	C ND UJ	C
cis-1,2-Dichloroethene	1.0	ND U	ND U	ND U	
1,1-Dichloroethane	1.0	ND ↓	ND ↓	ND ↓	
trans-1,2-Dichloroethene	1.0	ND ↓	ND ↓	ND ↓	
Chloroform	1.0	ND ↓	ND ↓	ND ↓	
1,1,1-Trichloroethane	1.0	ND ↓	ND ↓	ND ↓	
Carbon Tetrachloride	1.0	ND UJ	C ND UJ	C ND UJ	C
1,2-Dichloroethane	1.0	ND U	ND U	ND U	
Benzene	1.0	ND ↓	ND ↓	ND ↓	
Trichloroethene	1.0	ND ↓	ND ↓	ND ↓	
Toluene	1.0	ND UJ	C ND UJ	C ND UJ	C
1,1,2-Trichloroethane	1.0	ND UJ	C ND UJ	C ND UJ	C
Tetrachloroethene	1.0	ND U	ND U	ND U	
Ethylbenzene	1.0	ND ↓	ND ↓	ND ↓	
1,1,1,2-Tetrachloroethane	1.0	ND ↓	ND ↓	ND ↓	
m,p-Xylenes	1.0	ND ↓	ND ↓	ND ↓	
o-Xylene	1.0	ND ↓	ND ↓	ND ↓	
1,1,2,2-Tetrachloroethane	1.0	ND UJ	C ND UJ	C ND UJ	C
1,1,2-Trichloro-trifluoroethane	1.0	ND U	ND U	ND U	

SURROGATE	**SPK CONC**	**ACP%**	**%REC**	**%REC**	**%REC**	
d-Methylene Chloride	25	75-125	111	99	89	
d-Chloroform	25	75-125	115	104	92	
d-Benzene	25	75-125	110	101	89	
Dibromofluorobenzene	50	75-125	117	117	114	
Toluene-d8	50	75-125	120	77	75	
Bromofluorobenzene	50	75-125	78	85	85	

SPK CONC = Spiking Concentration; ACP % = Acceptable Range of Percent; %REC = % Recovery

RL = Reporting Limit; MB = Method Blank; ND = Not Detected (Below RL); NA = Not Applicable

OGDEN VALIDATED

OGDEN ENVIRONMENTAL AND ENERGY SERVICES

1

550 South Wadsworth Blvd. Ste. 500
Denver, CO 80226
(303) 935-6505

Rocketdyne - SSFL RFI Program
No. of Samples: 22
Matrix: Soil Vapor
Date Validated: November 19, 1997
Reviewer: E. Wessling
Reference: *USEPA Contract Laboratory Program National Functional Guidelines For Organic Data Review, (Feb. 1994)*, and Interim Guidance For Active Soil Gas Investigation, State of California Regional Water Quality Control Board (LA Region). Unless otherwise noted, all qualification of data is based upon summary form information.

EPA Level V- Volatiles Assessment

1. DATA VALIDATION FINDINGS

	Problems	Qualifications
1. Sample Management	Samples RV238, RV245, RV248, RV253, and RV254 had cross-outs without initials and dates. Sample RV243 did not identify the bulb used for collection. The client ID for sample RV248 was listed incorrectly on the Form I. The ID was corrected in a memo from Montgomery Watson personnel dated 12/17/02; therefore, the reviewer hand-corrected the client ID.	No qualifications were required. Field logs were reviewed to verify the Ogden identification for samples RV238 and RV248. No documentation was present for the other deficiencies.
4. Method Blanks	No problems were noted with the method blank. One method blank was analyzed with this SDG. No target compounds were detected in the method blank.	No qualifications were required.
6. Surrogates	Samples RV256, RV253, RV258, and RV255 had surrogate recovery deficiencies.	Samples with surrogate recovery below the QC limits were qualified estimated, "UJ" for nondetects and "J" for detects. Samples with surrogate recovery above the QC limits were qualified estimated, "J," for detects. Sample results associated with surrogate recoveries above QC limits may be considered biased

	Problems	Qualifications
		high.
7. Calibration	The xylenes were calibration outliers.	Samples were qualified as estimated, "UJ" for nondetects and "J" for detects for the noted compounds.
9. Other	Trichloroethene in samples RV258 and RV259 were quantitated above the linear range of the instrument. Sample RV248 was identified as a field duplicate of RV130; however, as sample RV248 was not sampled at the same time, it was not evaluated as a field duplicate.	Mentioned compounds in the noted samples were qualified as estimated, "J."
Comments	Sample RV242 was rejected for a more technically acceptable analysis as this sample was affected by incomplete bulb decontamination procedures.	None

Centrum
(800) 798-9336

ANALYTICAL TEST RESULTS

Reporting Unit: ug/L

DATE ANALYZED		06/19/97	06/19/97	06/19/97	06/19/97	
ANALYTICAL BATCH		970619M2V018	970619M2V018	970619M2V018	970619M2V018	
DILUTION FACTOR		1.0	1.0	1.0	1.0	
CLIENT SAMPLE I.D.		NA	BVSV13S01	BVSP01S01	BVSP02D03	
EPA I.D. & DEPTH		NA	RV238 4'	RV239 4'	RV240 13'	
LAB SAMPLE I.D.		970619BLANK1	M2-468-1	M2-468-2	M2-468-3	
COMPOUND	RL		Raw Qual	Qual Code / Raw Qual	Qual Code / Raw Qual	Qual Code
Dichlorodifluoromethane	1.0	ND	ND U	ND U	ND U	
Vinyl Chloride	1.0	ND	ND	ND	ND	
Chloroethane	1.0	ND	ND	ND	ND	
Trichlorofluoromethane	1.0	ND	ND	ND	ND	
1,1-Dichloroethene	1.0	ND	ND	ND	**2.4**	
Methylene Chloride	1.0	ND	ND	ND	ND U	
cis-1,2-Dichloroethene	1.0	ND	ND	ND	ND	
1,1-Dichloroethane	1.0	ND	ND	ND	ND	
trans-1,2-Dichloroethene	1.0	ND	ND	ND	ND	
Chloroform	1.0	ND	ND	ND	ND	
1,1,1-Trichloroethane	1.0	ND	ND	**2.0**	**6.5**	
Carbon Tetrachloride	1.0	ND	ND	ND U	ND U	
1,2-Dichloroethane	1.0	ND	ND	ND	ND	
Benzene	1.0	ND	ND	ND	ND	
Trichloroethene	1.0	ND	**1.1**	**1.2**	**8.7**	
Toluene	1.0	ND	ND U	ND U	ND U	
1,1,2-Trichloroethane	1.0	ND	ND	ND	ND	
Tetrachloroethene	1.0	ND	ND	ND	ND	
Ethylbenzene	1.0	ND	ND	ND	ND	
1,1,1,2-Tetrachloroethane	1.0	ND	ND	ND	ND	
m,p-Xylenes	1.0	ND	ND UJ	ND UJ C	ND UJ C	C
o-Xylene	1.0	ND	ND UJ	ND UJ C	ND UJ C	C
1,1,2,2-Tetrachloroethane	1.0	ND	ND U	ND U	ND U	
1,1,2-Trichloro-trifluoroethane	1.0	ND	ND U	ND U	**6.6**	
SURROGATE	**SPK CONC**	**ACP%**	**%REC**	**%REC**	**%REC**	**%REC**
d-Methylene Chloride	25	75-125	NA	108	90	119
d-Chloroform	25	75-125	NA	107	91	117
d-Benzene	25	75-125	NA	115	92	112
Dibromofluoromethane	50	75-125	105	104	103	113
Toluene-d8	50	75-125	96	97	94	96
Bromofluorobenzene	50	75-125	95	95	94	98

SPK CONC = Spiking Concentration; ACP % = Acceptable Range of Percent; %REC = % Recovery

RL = Reporting Limit; MB = Method Blank; ND = Not Detected (Below RL); NA = Not Applicable

OGDEN VALIDATED

Centrum
(800) 798-9336

ANALYTICAL TEST RESULTS

Reporting Unit: ug/L

DATE ANALYZED		06/19/97	06/19/97	06/19/97	06/19/97
ANALYTICAL BATCH		970619M2V018	970619M2V018	970619M2V018	970619M2V018
DILUTION FACTOR		1.0	1.0	1.0	1.0
CLIENT SAMPLE I.D.		BVSV10S01	BVSV09S01	ILSV38S01	ILSV24S05
EPA I.D. & DEPTH		RV241 3'	RV242 2.5'	RV243 6'	RV244 28'
LAB SAMPLE I.D.		M2-468-4	M2-468-5	M2-468-6	M2-468-7
COMPOUND	**RL**	Rev Qual	Qual Code / Rev Qual	Qual Code / Rev Qual	Qual Code / Rev Qual
Dichlorodifluoromethane	1.0	ND U	ND R	D ND U	ND U
Vinyl Chloride	1.0	ND	ND	ND	ND
Chloroethane	1.0	ND	ND	ND	ND
Trichlorofluoromethane	1.0	ND	ND	ND	ND
1,1-Dichloroethene	1.0	**2.1**	**22** J	J ND	**35**
Methylene Chloride	1.0	ND U	ND	ND	ND U
cis-1,2-Dichloroethene	1.0	ND	ND	ND	**1.1**
1,1-Dichloroethane	1.0	ND	ND	ND	ND U
trans-1,2-Dichloroethene	1.0	ND	ND	ND	ND
Chloroform	1.0	ND	ND	ND	ND
1,1,1-Trichloroethane	1.0	**3.2**	**82** J	J ND	**11**
Carbon Tetrachloride	1.0	ND U	ND	ND	ND U
1,2-Dichloroethane	1.0	ND	ND	ND	ND
Benzene	1.0	ND	ND	ND	ND
Trichloroethene	1.0	**7.0**	**42** J	J **2.0**	**68**
Toluene	1.0	ND U	ND	ND U	ND U
1,1,2-Trichloroethane	1.0	ND	ND	ND	ND
Tetrachloroethene	1.0	ND	ND	ND	ND
Ethylbenzene	1.0	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	1.0	ND	ND	ND	ND
m,p-Xylenes	1.0	ND UJ C	ND	ND UJ C	ND UJ C
o-Xylene	1.0	ND UJ C	ND	ND UJ C	ND UJ C
1,1,2,2-Tetrachloroethane	1.0	ND U	ND	ND U	ND U
1,1,2-Trichloro-trifluoroethane	1.0	**5.3**	**18** J	J ND U	**73**

SURROGATE	SPK CONC	ACP%	%REC	%REC	%REC	%REC
d-Methylene Chloride	25	75-125	118	135°	118	121
d-Chloroform	25	75-125	104	120	116	116
d-Benzene	25	75-125	109	132°	121	118
Dibromofluoromethane	50	75-125	103	104	103	106
Toluene-d8	50	75-125	95	95	95	96
Bromofluorobenzene	50	75-125	95	94	92	93

SPK CONC = Spiking Concentration; ACP % = Acceptable Range of Percent; %REC = % Recovery

RL = Reporting Limit; MB = Method Blank; ND = Not Detected (Below RL); NA = Not Applicable

° Surrogate %REC out of ACP%.

OGDEN VALIDATED

Centrum
(800) 798-9336

ANALYTICAL TEST RESULTS

Reporting Unit: ug/L

DATE ANALYZED		06/19/97	06/19/97	06/19/97	06/19/97
ANALYTICAL BATCH		970619M2V018	970619M2V018	970619M2V018	970619M2V018
DILUTION FACTOR		1.0	1.0	1.0	1.0
CLIENT SAMPLE I.D.		ILSV24S04	ILSV24S03	ILSV24S02	ILSV28S02
EPA I.D. & DEPTH		RV245 20'	RV246 15'	RV247 10'	RV248 10'
LAB SAMPLE I.D.		M2-468-8	M2-468-9	M2-468-10	M2-468-11
COMPOUND	**RL**	Rev Qual	Qual Code / Rev Qual	Qual Code / Rev Qual	Qual Code / Rev Qual
Dichlorodifluoromethane	1.0	ND U	ND U	ND U	ND U
Vinyl Chloride	1.0	ND	ND	ND	ND
Chloroethane	1.0	ND	ND	ND	ND
Trichlorofluoromethane	1.0	ND	ND	ND	ND
1,1-Dichloroethene	1.0	**27**	**29**	**29**	**540**
Methylene Chloride	1.0	ND U	ND U	ND U	ND U
cis-1,2-Dichloroethene	1.0	ND	ND	ND	ND U
1,1-Dichloroethane	1.0	ND	ND	ND	**1.8**
trans-1,2-Dichloroethene	1.0	ND	ND	ND	ND U
Chloroform	1.0	ND	ND	ND	ND U
1,1,1-Trichloroethane	1.0	**15**	**13**	**10**	**110**
Carbon Tetrachloride	1.0	ND U	ND U	ND U	ND U
1,2-Dichloroethane	1.0	ND	ND	ND	ND
Benzene	1.0	ND	ND	ND	ND
Trichloroethene	1.0	**63**	**73**	**68**	**160**
Toluene	1.0	ND U	ND U	ND U	ND U
1,1,2-Trichloroethane	1.0	ND	ND	ND	ND
Tetrachloroethene	1.0	ND	ND	ND	ND
Ethylbenzene	1.0	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	1.0	ND	ND	ND	ND
m,p-Xylenes	1.0	ND UJ C	ND UJ C	ND UJ C	ND UJ C
o-Xylene	1.0	ND UJ C	ND UJ C	ND UJ C	ND UJ C
1,1,2,2-Tetrachloroethane	1.0	ND U	ND U	ND U	ND U
1,1,2-Trichloro-trifluoroethane	1.0	**60**	**60**	**51**	**230**

SURROGATE	**SPK CONC**	**ACP%**	**%REC**	**%REC**	**%REC**	**%REC**
d-Methylene Chloride	25	75-125	119	97	103	103
d-Chloroform	25	75-125	116	93	99	94
d-Benzene	25	75-125	120	96	105	105
Dibromofluoromethane	50	75-125	103	106	105	105
Toluene-d8	50	75-125	94	95	98	95
Bromofluorobenzene	50	75-125	94	93	95	95

SPK CONC = Spiking Concentration; ACP % = Acceptable Range of Percent; %REC = % Recovery

RL = Reporting Limit; MB = Method Blank; ND = Not Detected (Below RL); NA = Not Applicable

OGDEN VALIDATED

Centrum
(800) 798-9336

ANALYTICAL TEST RESULTS

Reporting Unit: ug/L

DATE ANALYZED		06/19/97	06/19/97	06/19/97	06/20/97
ANALYTICAL BATCH		970619M2V018	970619M2V018	970619M2V018	970619M2V018
DILUTION FACTOR		1.0	1.0	1.0	1.0
CLIENT SAMPLE I.D.		OCSV03S01	OCSV03S02	OCSV02S01	ILSV10S05
EPA I.D. & DEPTH		RV249 4'	RV250 8'	RV251 4'	RV252 24'
LAB SAMPLE I.D.		M2-468-12	M2-468-13	M2-468-14	M2-468-15
COMPOUND	**RL**	Rev Qual	Qual Code / Rev Qual	Qual Code / Rev Qual	Qual Code / Rev Qual
Dichlorodifluoromethane	1.0	ND U	ND U	ND U	ND U
Vinyl Chloride	1.0	ND	ND	ND	ND
Chloroethane	1.0	ND	ND	ND	ND
Trichlorofluoromethane	1.0	ND	ND	ND	ND
1,1-Dichloroethene	1.0	**1.8**	ND	ND	**600**
Methylene Chloride	1.0	ND U	ND	ND	ND U
cis-1,2-Dichloroethene	1.0	ND	ND	ND	**1.7**
1,1-Dichloroethane	1.0	ND	ND	ND	**3.3**
trans-1,2-Dichloroethene	1.0	ND	ND	ND	ND U
Chloroform	1.0	ND	ND	ND	ND U
1,1,1-Trichloroethane	1.0	**2.0**	ND	ND	**2,400**
Carbon Tetrachloride	1.0	ND U	ND	ND	ND U
1,2-Dichloroethane	1.0	ND	**1.5**	ND	ND
Benzene	1.0	ND	ND U	ND	ND
Trichloroethene	1.0	**11**	**1.9**	ND	**2,100**
Toluene	1.0	ND U	ND U	ND	ND U
1,1,2-Trichloroethane	1.0	ND	ND	ND	ND U
Tetrachloroethene	1.0	ND	ND	ND	**31**
Ethylbenzene	1.0	ND	ND	ND	ND U
1,1,1,2-Tetrachloroethane	1.0	ND	ND	ND	ND U
m,p-Xylenes	1.0	ND U5 C	ND U5 C	ND U5 C	ND U5 C
o-Xylene	1.0	ND U5 C	ND U5 C	ND U5 C	ND U5 C
1,1,2,2-Tetrachloroethane	1.0	ND U	ND U	ND U	ND U
1,1,2-Trichloro-trifluoroethane	1.0	**1.9**	**1.4**	ND U	**1,500**

SURROGATE	**SPK CONC**	**ACP%**	**%REC**	**%REC**	**%REC**	**%REC**
d-Methylene Chloride	25	75-125	111	114	103	82
d-Chloroform	25	75-125	105	107	98	80
d-Benzene	25	75-125	116	112	107	86
Dibromofluoromethane	50	75-125	104	105	103	100
Toluene-d8	50	75-125	98	97	97	99
Bromofluorobenzene	50	75-125	95	107	94	92

SPK CONC = Spiking Concentration; ACP % = Acceptable Range of Percent; %REC = % Recovery

RL = Reporting Limit; MB = Method Blank; ND = Not Detected (Below RL); NA = Not Applicable

OGDEN VALIDATED

Centrum
(800) 798-9336

ANALYTICAL TEST RESULTS

Reporting Unit: ug/L

DATE ANALYZED		06/20/97	06/20/97	06/20/97	06/20/97
ANALYTICAL BATCH		970619M2V018	970619M2V018	970619M2V018	970619M2V018
DILUTION FACTOR		1.0	1.0	1.0	1.0
CLIENT SAMPLE I.D.		ILSV10S04	CLSP02S01	CLSP02S02	CLSP02S03
EPA I.D. & DEPTH		RV253 20'	RV254 5'	RV255 10'	RV256 17'
LAB SAMPLE I.D.		M2-468-16	M2-468-17	M2-468-18	M2-468-19
COMPOUND	**RL**	Rev Qual / Qual Code	Qual Code / Rev Qual	Qual Code / Rev Qual	Qual Code / Rev Qual
Dichlorodifluoromethane	1.0	ND U	ND U	ND U	ND U
Vinyl Chloride	1.0	ND	ND	ND	ND
Chloroethane	1.0	ND	ND	ND	ND
Trichlorofluoromethane	1.0	ND	**1.3**	**13** J	**15** J
1,1-Dichloroethene	1.0	**390**	**13**	**1.3** J	**1.5** J
Methylene Chloride	1.0	ND U	ND U	ND U	ND U
cis-1,2-Dichloroethene	1.0	**1.4** J	ND	ND	ND
1,1-Dichloroethane	1.0	**2.8** J	ND	ND	ND
trans-1,2-Dichloroethene	1.0	ND U	ND	ND	ND
Chloroform	1.0	ND U	ND	ND	ND
1,1,1-Trichloroethane	1.0	**1,300**	**67**	ND	ND
Carbon Tetrachloride	1.0	ND U	ND U	ND	ND
1,2-Dichloroethane	1.0	ND	ND	ND	ND
Benzene	1.0	ND	ND	ND	ND
Trichloroethene	1.0	**780**	**190**	**900**	**1,100** J
Toluene	1.0	ND U	ND U	ND U	ND U
1,1,2-Trichloroethane	1.0	ND U	ND	ND	ND
Tetrachloroethene	1.0	**47** J	**1.0**	ND	ND
Ethylbenzene	1.0	ND U	ND U	ND	ND
1,1,1,2-Tetrachloroethane	1.0	ND U	ND	ND	ND
m,p-Xylenes	1.0	ND UJ	ND UJ	ND UJ	ND UJ
o-Xylene	1.0	ND UJ	ND UJ	ND UJ	ND UJ
1,1,2,2-Tetrachloroethane	1.0	ND U	ND U	ND U	ND U
1,1,2-Trichloro-trifluoroethane	1.0	**1,200**	**54**	**190** J	**230** J

SURROGATE	**SPK CONC**	**ACP%**	**%REC[1]**	**%REC**	**%REC[1]**	**%REC**
d-Methylene Chloride	25	75-125	116	90	107	130°
d-Chloroform	25	75-125	106	88	87	118
d-Benzene	25	75-125	105	95	119	132°
Dibromofluoromethane	50	75-125	103	101	99	104
Toluene-d8	50	75-125	99	97	95	99
Bromofluorobenzene	50	75-125	96	96	92	93

SPK CONC = Spiking Concentration; ACP % = Acceptable Range of Percent; %REC = % Recovery

RL = Reporting Limit; MB = Method Blank; ND = Not Detected (Below RL); NA = Not Applicable

[1] Dilution surrogate %REC reported.

° Surrogate %REC out of ACP%.

OGDEN VALIDATED

Centrum
(800) 798-9336

ANALYTICAL TEST RESULTS

Reporting Unit: ug/L

DATE ANALYZED		06/20/97	06/20/97	06/20/97	
ANALYTICAL BATCH		970619M2V018	970619M2V018	970619M2V018	
DILUTION FACTOR		1.0	1.0	1.0	
CLIENT SAMPLE I.D.		CLSP01S01	CLSP01S02	CLSP01S03	
EPA I.D. & DEPTH		RV257 5'	RV258 9'	RV259 13'	
LAB SAMPLE I.D.		M2-468-20	M2-468-21	M2-468-22	
COMPOUND	**RL**	Rev Qual	Qual Code / Rev Qual	Qual Code / Rev Qual	Qual Code
Dichlorodifluoromethane	1.0	ND U	ND U	ND U	
Vinyl Chloride	1.0	ND ↓	ND ↓	ND ↓	
Chloroethane	1.0	ND ↓	ND ↓	ND ↓	
Trichlorofluoromethane	1.0	**1.4**	**3.8** J	J **5.8**	
1,1-Dichloroethene	1.0	ND U	**2.6** J	J **6.1**	
Methylene Chloride	1.0	ND ↓	ND U	ND U	
cis-1,2-Dichloroethene	1.0	ND ↓	**2.7** J	J **3.3**	
1,1-Dichloroethane	1.0	ND ↓	ND U	ND U	
trans-1,2-Dichloroethene	1.0	ND ↓	ND ↓	ND ↓	
Chloroform	1.0	ND ↓	ND ↓	ND ↓	
1,1,1-Trichloroethane	1.0	ND ↓	**4.9** J	J **1.7**	
Carbon Tetrachloride	1.0	ND ↓	ND U	ND U	
1,2-Dichloroethane	1.0	ND ↓	ND ↓	ND ↓	
Benzene	1.0	ND ↓	ND ↓	ND ↓	
Trichloroethene	1.0	**880**	**1,800**** J	#9 J **2,000**** J	#9
Toluene	1.0	ND U	ND U	ND U	
1,1,2-Trichloroethane	1.0	ND ↓	ND ↓	ND ↓	
Tetrachloroethene	1.0	ND ↓	ND ↓	ND ↓	
Ethylbenzene	1.0	ND ↓	ND ↓	ND ↓	
1,1,1,2-Tetrachloroethane	1.0	ND ↓	ND ↓	ND ↓	
m,p-Xylenes	1.0	ND UJ	C ND UJ	C ND UJ	C
o-Xylene	1.0	ND UJ	C ND UJ	C ND UJ	C
1,1,2,2-Tetrachloroethane	1.0	ND U	ND U	ND U	
1,1,2-Trichloro-trifluoroethane	1.0	**24**	**68** J	J **100**	

SURROGATE	**SPK CONC**	**ACP%**	**%REC**	**%REC**	**%REC**	
d-Methylene Chloride	25	75-125	114	124	120	
d-Chloroform	25	75-125	107	116	103	
d-Benzene	25	75-125	124	129°	125	
Dibromofluoromethane	50	75-125	107	103	101	
Toluene-d8	50	75-125	100	99	97	
Bromofluorobenzene	50	75-125	96	94	93	

SPK CONC = Spiking Concentration; ACP % = Acceptable Range of Percent; %REC = % Recovery

RL = Reporting Limit; MB = Method Blank; ND = Not Detected (Below RL); NA = Not Applicable

° Surrogate %REC out of ACP%.

** Reported value above upper calibration range. Dilution value less than 25% of reported value.

OGDEN VALIDATED

550 South Wadsworth Boulevard, Suite 500, Lakewood, CO 80026
303.935.6505, Fax 303.935.6575

DATA ASSESSMENT FORM

Project Title: Rocketdyne SSFL RFI
Project Manager: D. Hambrick
Analysis/Method: Volatiles by 8260B
QC Level: V[1]
SDG: M4-315
Matrix: Soil Vapor
No. of Samples: 20
Date Reviewed: December 05, 2001
Reviewer: P. Meeks
Reference: *USEPA Contract Laboratory Program National Functional Guidelines For Organic Data Review, (Feb. 1994), and Interim Guidance For Active Soil Gas Investigation, State of California Regional Water Quality Control Board (LA Region).*
Samples Reviewed: MV015, MV016, MV017, MV018, MV019, MV020, MV021, MV022, MV023, MV024, MV025, MV026, MV027, MV028, MV029, MV030, MV031, MV032, MV033, MV034

Data Validation Findings

	Findings	Qualifications
1. Sample Management	All samples in this SDG were accounted for. For sample MV022, there was an uninitialed correction to the purge time information on the COC. There was no sample receipt time listed on the COC for samples MV019-MV026. A review of the instrument run log indicates that these samples were the second group collected and delivered to the mobile laboratory. The reviewer deemed it appropriate to use the receipt time for the first group of samples collected. The eight-hour holding time was met for all samples.	No qualifications were required.
3. Method Blanks	Three method blanks were analyzed this SDG. Chloroform was detected above the reporting limit in the method blank analyzed on 11/08/01 at 07:14. No other target compounds were detected in the method blanks above the applicable reporting limit.	As chloroform was not reported in any of the associated site samples, no qualifications were required.

	Findings	Qualifications
6. Surrogates	All samples analyzed in this SDG had surrogate recoveries within the control limits of 75-125%.	No qualifications were required.
7. Calibration	The BFB tune was run twice, once before the calibration verification standards and once after. The laboratory only provided data for the second BFB tune. As the BFB tune was run after the calibration verification standard, there was no calbration verification standard associated with the samples in this SDG. The %RSDs for the initial calibrations were all less than the control limit of 20%, or 30% where applicable. The %Ds for the calibration verification standards were all less than the control limit of 15%, or 25% where applicable, with the following exception: 1,1,2,2-tetrachloroethane = 16.4%	Method 8260B explicitly states that the BFB tune must be run prior to the analysis of calibration verification standards and samples; therefore, all results for the samples in this SDG were qualified as estimated, "J," for detects and "UJ," for nondetects. Nondetected results for trans-1,1,2,2-tetrachloroethane were qualified as estimated "UJ."
10. Other	The laboratory noted the presence of isobutane in sample MV016. Isobutane was used during the sampling effort as a leak detection compound. As isobutane was detected in MV016, it was the reviewer's professional judgement that the integrity of sample MV016 was compromised. Field QC There were no field QC samples associated with the samples in this SDG. Field Duplicates MV033/MV034: trichloroethene was reported in MV033 but was not reported in MV034. 1,1,2-Trichloro-trifluoroethane was reported in both samples, with an RPD of 16.7%.	As this sample was subsequently resampled (EPA ID: MV051) with acceptable results, all nondetected target analytes in sample MV016 were rejected, "R."
Comments	None	None

[1] Level V validation consists of cursory review of the summary forms only. The reported values on the summary forms are presumed to be correct and no verification of the values from the raw instrument output is performed.

Centrum Analytical Laboratories, Inc.

ANALYTICAL TEST RESULTS

Reporting Unit: ug/L

DATE ANALYZED			11/08/01	11/08/01	11/08/01	11/08/01
ANALYTICAL BATCH			110801M4V550	110801M4V550	110801M4V550	110801M4V550
DILUTION FACTOR			1.0	1.0	1.0	1.0
CLIENT SAMPLE I.D.			NA	OCSV16S01	OCSV17S01*	OCSV18S01
EPA I.D. & DEPTH			NA	MV015 1.5'	MV016 2.0'	MV017 4.0'
LAB SAMPLE I.D.			Blank	M4-315-01	M4-315-02	M4-315-03
COMPOUND		RL		Res Qual / Qual Code	Res Qual / Qual Code	Res Qual / Qual Code
Dichlorodifluoromethane		1.0	ND	ND UJ C	ND UJ C	ND UJ C
Vinyl Chloride		1.0	ND	ND	ND	ND
Chloroethane		1.0	ND	ND	ND	ND
Trichlorofluoromethane		1.0	ND	ND	ND	ND
1,1-Dichloroethene		1.0	ND	ND	ND	ND
Methylene Chloride		20	ND	ND	ND	ND
cis-1,2-Dichloroethene		1.0	ND	ND	ND	ND
1,1-Dichloroethane		1.0	ND	ND	ND	ND
trans-1,2-Dichloroethene		1.0	ND	ND	ND	ND
Chloroform		1.0	ND	ND	ND	ND
1,1,1-Trichloroethane		1.0	ND	ND	ND	ND
Carbon Tetrachloride		1.0	ND	ND	ND	ND
1,2-Dichloroethane		1.0	ND	ND	ND	ND
Benzene		1.0	ND	ND	ND	ND
Trichloroethene		1.0	ND	ND	ND	ND
Toluene		1.0	ND	ND	ND	ND
1,1,2-Trichloroethane		1.0	ND	ND	ND	ND
Tetrachloroethene		1.0	ND	ND	ND	ND
Ethylbenzene		1.0	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane		1.0	ND	ND	ND	ND
m,p-Xylenes		2.0	ND	ND	ND	ND
o-Xylene		1.0	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane		1.0	ND	ND	ND	ND
1,1,2-Trichloro-trifluoroethane		5.0	ND	ND	ND	ND
SURROGATE	SPK CONC	ACP%	%REC	%REC	%REC	%REC
d-Methylene Chloride	25	75-125	99	96	92	94
d-Chloroform	25	75-125	99	92	90	92
d-Benzene	25	75-125	97	94	91	92
Dibromofluoromethane	50	75-125	104	103	100	103
Toluene-d8	50	75-125	97	100	100	100
Bromofluorobenzene	50	75-125	104	101	102	103

SPK CONC = Spiking Concentration; ACP % = Acceptable Range of Percent; %REC = % Recovery

RL = Reporting Limit; MB = Method Blank; ND = Not Detected (Below RL); NA = Not Applicable

*Isobutane detected in this sample.

AMEC VALIDATED

LEVEL V

Centrum Analytical Laboratories, Inc.

ANALYTICAL TEST RESULTS

Reporting Unit: ug/L

DATE ANALYZED		11/08/01	11/08/01	11/08/01	11/08/01
ANALYTICAL BATCH		110801M4V550	110801M4V550	110801M4V550	110801M4V550
DILUTION FACTOR		1.0	1.0	1.0	1.0
CLIENT SAMPLE I.D.		OCSV19S01	ILSV74S01	ILSV74S02	ILSV74S03
EPA I.D. & DEPTH		MV018 4.0'	MV019 4.0'	MV020 12'	MV021 17'
LAB SAMPLE I.D.		M4-315-04	M4-315-05	M4-315-06	M4-315-07
COMPOUND	**RL**	Result Qual	Result Qual Code	Result Qual Code	Result Qual Code
Dichlorodifluoromethane	1.0	ND UJ	ND UJ C	ND UJ C	ND UJ C
Vinyl Chloride	1.0	ND	ND	ND	ND
Chloroethane	1.0	ND	ND	ND	ND
Trichlorofluoromethane	1.0	ND	ND	ND	ND
1,1-Dichloroethene	1.0	ND	ND	ND	ND
Methylene Chloride	20	ND	ND	ND	ND
cis-1,2-Dichloroethene	1.0	ND	ND	ND	ND
1,1-Dichloroethane	1.0	ND	ND	ND	ND
trans-1,2-Dichloroethene	1.0	ND	ND	ND	ND
Chloroform	1.0	ND	ND	ND	ND
1,1,1-Trichloroethane	1.0	ND	ND	ND	ND
Carbon Tetrachloride	1.0	ND	ND	ND	ND
1,2-Dichloroethane	1.0	ND	ND	ND	ND
Benzene	1.0	ND	ND	ND	ND
Trichloroethene	1.0	ND	ND	ND	ND
Toluene	1.0	ND	ND	ND	ND
1,1,2-Trichloroethane	1.0	ND	ND	ND	ND
Tetrachloroethene	1.0	ND	ND	ND	ND
Ethylbenzene	1.0	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	1.0	ND	ND	ND	ND
m,p-Xylenes	2.0	ND	ND	ND	ND
o-Xylene	1.0	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	1.0	ND	ND	ND	ND
1,1,2-Trichloro-trifluoroethane	5.0	ND	ND	ND	ND

SURROGATE	SPK CONC	ACP%	%REC	%REC	%REC	%REC
d-Methylene Chloride	25	75-125	95	89	97	93
d-Chloroform	25	75-125	92	88	96	92
d-Benzene	25	75-125	93	88	95	91
Dibromofluoromethane	50	75-125	101	101	101	100
Toluene-d8	50	75-125	100	102	102	101
Bromofluorobenzene	50	75-125	101	100	103	102

SPK CONC = Spiking Concentration; ACP % = Acceptable Range of Percent; %REC = % Recovery

RL = Reporting Limit; MB = Method Blank; ND = Not Detected (Below RL); NA = Not Applicable

AMEC VALIDATED
LEVEL V

Centrum Analytical Laboratories, Inc.

ANALYTICAL TEST RESULTS

Reporting Unit: ug/L

DATE ANALYZED		11/08/01	11/08/01	11/08/01	11/08/01
ANALYTICAL BATCH		110801M4V550	110801M4V550	110801M4V550	110801M4V550
DILUTION FACTOR		1.0	1.0	1.0	1.0
CLIENT SAMPLE I.D.		ILSV73S01	ILSV73S02	ILSV73S03	B1SV26S01
EPA I.D. & DEPTH		MV022 6'	MV023 12'	MV024 18'	MV025 4'
LAB SAMPLE I.D.		M4-315-08	M4-315-09	M4-315-10	M4-315-11
COMPOUND	RL	Result / Qual	Qual Code / Result	Qual Code / Result	Qual Code / Result / Qual Code
Dichlorodifluoromethane	1.0	ND UJ	C ND UJ	C ND UJ	C ND UJ C
Vinyl Chloride	1.0	ND	ND	ND	ND
Chloroethane	1.0	ND	ND	ND	ND
Trichlorofluoromethane	1.0	ND	ND	ND	ND
1,1-Dichloroethene	1.0	ND	ND	ND	ND
Methylene Chloride	20	ND	ND	ND	ND
cis-1,2-Dichloroethene	1.0	ND	ND	ND	ND
1,1-Dichloroethane	1.0	ND	ND	ND	ND
trans-1,2-Dichloroethene	1.0	ND	ND	ND	ND
Chloroform	1.0	ND	ND	ND	ND
1,1,1-Trichloroethane	1.0	ND	ND	ND	ND
Carbon Tetrachloride	1.0	ND	ND	ND	ND
1,2-Dichloroethane	1.0	ND	ND	ND	ND
Benzene	1.0	ND	ND	ND	ND
Trichloroethene	1.0	ND	ND	ND	ND
Toluene	1.0	ND	ND	ND	ND
1,1,2-Trichloroethane	1.0	ND	ND	ND	ND
Tetrachloroethene	1.0	ND	ND	ND	ND
Ethylbenzene	1.0	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	1.0	ND	ND	ND	ND
m,p-Xylenes	2.0	ND	ND	ND	ND
o-Xylene	1.0	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	1.0	ND	ND	ND	ND
1,1,2-Trichloro-trifluoroethane	5.0	ND	ND	ND	ND
SURROGATE	**SPK CONC**	**ACP%**	**%REC**	**%REC**	**%REC**	**%REC**
d-Methylene Chloride	25	75-125	96	85	78	77
d-Chloroform	25	75-125	94	84	88	86
d-Benzene	25	75-125	94	84	85	81
Dibromofluoromethane	50	75-125	102	100	109	109
Toluene-d8	50	75-125	102	102	100	100
Bromofluorobenzene	50	75-125	104	103	107	107

SPK CONC = Spiking Concentration; ACP % = Acceptable Range of Percent; %REC = % Recovery

RL = Reporting Limit; MB = Method Blank; ND = Not Detected (Below RL); NA = Not Applicable

AMEC VALIDATED

Centrum Analytical Laboratories, Inc.

ANALYTICAL TEST RESULTS

Reporting Unit: ug/L

DATE ANALYZED		11/08/01	11/08/01	11/08/01	11/08/01
ANALYTICAL BATCH		110801M4V550	110801M4V550	110801M4V550	110801M4V550
DILUTION FACTOR		1.0	1.0	1.0	1.0
CLIENT SAMPLE I.D.		BISV27S01	AFSV18S01	AFSV18S02	AFSV18S03
EPA I.D. & DEPTH		MV026 4'	MV027 6'	MV028 12'	MV029 18'
LAB SAMPLE I.D.		M4-315-12	M4-315-13	M4-315-14	M4-315-15
COMPOUND	**RL**				
Dichlorodifluoromethane	1.0	ND UJ	ND UJ	ND UJ	ND UJ
Vinyl Chloride	1.0	ND	ND	ND	ND
Chloroethane	1.0	ND	ND	ND	ND
Trichlorofluoromethane	1.0	ND	ND	ND	ND
1,1-Dichloroethene	1.0	ND	ND	ND	ND
Methylene Chloride	20	ND	ND	ND	ND
cis-1,2-Dichloroethene	1.0	ND	ND	ND	ND
1,1-Dichloroethane	1.0	ND	ND	ND	ND
trans-1,2-Dichloroethene	1.0	ND	ND	ND	ND
Chloroform	1.0	ND	ND	ND	ND
1,1,1-Trichloroethane	1.0	ND	ND	ND	ND
Carbon Tetrachloride	1.0	ND	ND	ND	ND
1,2-Dichloroethane	1.0	ND	ND	ND	ND
Benzene	1.0	ND	ND	ND	ND
Trichloroethene	1.0	**2.9** J	ND	**1.1** J	ND
Toluene	1.0	ND UJ	ND	ND UJ	ND
1,1,2-Trichloroethane	1.0	ND	ND	ND	ND
Tetrachloroethene	1.0	ND	ND	ND	ND
Ethylbenzene	1.0	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	1.0	ND	ND	ND	ND
m,p-Xylenes	2.0	ND	ND	ND	ND
o-Xylene	1.0	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	1.0	ND	ND	ND	ND
1,1,2-Trichloro-trifluoroethane	5.0	ND	ND	ND	ND

SURROGATE	**SPK CONC**	**ACP%**	**%REC**	**%REC**	**%REC**	**%REC**
d-Methylene Chloride	25	75-125	91	82	92	93
d-Chloroform	25	75-125	87	80	90	90
d-Benzene	25	75-125	86	76	87	85
Dibromofluoromethane	50	75-125	103	106	105	105
Toluene-d8	50	75-125	98	100	99	99
Bromofluorobenzene	50	75-125	105	107	105	105

SPK CONC = Spiking Concentration; ACP % = Acceptable Range of Percent; %REC = % Recovery

RL = Reporting Limit; MB = Method Blank; ND = Not Detected (Below RL); NA = Not Applicable

AMEC VALIDATED

Centrum Analytical Laboratories, Inc.

ANALYTICAL TEST RESULTS

Reporting Unit: ug/L

DATE ANALYZED		11/08/01	11/08/01	11/08/01	11/08/01	
ANALYTICAL BATCH		110801M4V550	110801M4V550	110801M4V550	110801M4V550	
DILUTION FACTOR		1.0	1.0	1.0	1.0	
CLIENT SAMPLE I.D.		AFSV18S04	B1SV30S01	B1SV30S02	AFSV17S01	
EPA I.D. & DEPTH		MV030 24'	MV031 6'	MV032 12'	MV033 6.5'	
LAB SAMPLE I.D.		M4-315-16	M4-315-17	M4-315-18	M4-315-19	
COMPOUND	**RL**	Result Qual	Result Qual	Result Qual	Result Qual	Qual Code
Dichlorodifluoromethane	1.0	ND UJ	ND UJ	ND UJ	ND UJ	C
Vinyl Chloride	1.0	ND	ND	ND	ND	
Chloroethane	1.0	ND	ND	ND	ND	
Trichlorofluoromethane	1.0	ND	ND	ND	ND	
1,1-Dichloroethene	1.0	ND	ND	**1.2** J	ND	
Methylene Chloride	20	ND	ND	ND UJ	ND	
cis-1,2-Dichloroethene	1.0	ND	ND	**4.2** J	ND	
1,1-Dichloroethane	1.0	ND	ND	ND UJ	ND	
trans-1,2-Dichloroethene	1.0	ND	ND	ND	ND	
Chloroform	1.0	ND	ND	ND	ND	
1,1,1-Trichloroethane	1.0	ND	ND	**2.2** J	ND	
Carbon Tetrachloride	1.0	ND	ND	ND UJ	ND	
1,2-Dichloroethane	1.0	ND	ND	ND	ND	
Benzene	1.0	ND	ND	ND	ND	
Trichloroethene	1.0	ND	**7.4** J	**36** J	**1.3** J	
Toluene	1.0	ND	ND UJ	ND UJ	ND UJ	
1,1,2-Trichloroethane	1.0	ND	ND	ND	ND	
Tetrachloroethene	1.0	ND	ND	ND	ND	
Ethylbenzene	1.0	ND	ND	ND	ND	
1,1,1,2-Tetrachloroethane	1.0	ND	ND	ND	ND	
m,p-Xylenes	2.0	ND	ND	ND	ND	
o-Xylene	1.0	ND	ND	ND	ND	
1,1,2,2-Tetrachloroethane	1.0	ND	ND	ND	ND	
1,1,2-Trichloro-trifluoroethane	5.0	ND	ND	ND	**11** J	

SURROGATE	**SPK CONC**	**ACP%**	**%REC**	**%REC**	**%REC**	**%REC**
d-Methylene Chloride	25	75-125	90	92	100	88
d-Chloroform	25	75-125	90	93	101	87
d-Benzene	25	75-125	87	89	98	84
Dibromofluoromethane	50	75-125	103	103	102	104
Toluene-d8	50	75-125	98	98	98	99
Bromofluorobenzene	50	75-125	104	103	106	106

SPK CONC = Spiking Concentration; ACP % = Acceptable Range of Percent; %REC = % Recovery

RL = Reporting Limit; MB = Method Blank; ND = Not Detected (Below RL); NA = Not Applicable

AMEC VALIDATED

Centrum Analytical Laboratories, Inc.

ANALYTICAL TEST RESULTS

Reporting Unit: ug/L

DATE ANALYZED		11/08/01			
ANALYTICAL BATCH		110801M4V550			
DILUTION FACTOR		1.0			
CLIENT SAMPLE I.D.		AFSV17D01			
EPA I.D. & DEPTH		MV034 6.5'			
LAB SAMPLE I.D.		M4-315-20			
COMPOUND	**RL**		Res Qual	Qual Code	
Dichlorodifluoromethane	1.0	ND	UJ	C	
Vinyl Chloride	1.0	ND			
Chloroethane	1.0	ND			
Trichlorofluoromethane	1.0	ND			
1,1-Dichloroethene	1.0	ND			
Methylene Chloride	20	ND			
cis-1,2-Dichloroethene	1.0	ND			
1,1-Dichloroethane	1.0	ND			
trans-1,2-Dichloroethene	1.0	ND			
Chloroform	1.0	ND			
1,1,1-Trichloroethane	1.0	ND			
Carbon Tetrachloride	1.0	ND			
1,2-Dichloroethane	1.0	ND			
Benzene	1.0	ND			
Trichloroethene	1.0	ND			
Toluene	1.0	ND			
1,1,2-Trichloroethane	1.0	ND			
Tetrachloroethene	1.0	ND			
Ethylbenzene	1.0	ND			
1,1,1,2-Tetrachloroethane	1.0	ND			
m,p-Xylenes	2.0	ND			
o-Xylene	1.0	ND			
1,1,2,2-Tetrachloroethane	1.0	ND			
1,1,2-Trichloro-trifluoroethane	5.0	**13**	J		

SURROGATE	SPK CONC	ACP%	%REC			
d-Methylene Chloride	25	75-125	96			
d-Chloroform	25	75-125	96			
d-Benzene	25	75-125	93			
Dibromofluoromethane	50	75-125	102			
Toluene-d8	50	75-125	99			
Bromofluorobenzene	50	75-125	105			

SPK CONC = Spiking Concentration; ACP % = Acceptable Range of Percent; %REC = % Recovery

RL = Reporting Limit; MB = Method Blank; ND = Not Detected (Below RL); NA = Not Applicable

AMEC VALIDATED

1300031

Centrum Analytical Laboratories, Inc.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

LABORATORY REPORT FORM

Laboratory Name: Centrum Analytical Laboratories, Inc.

Address: 290 Tennessee Street, Redlands, CA 92373

Telephone/FAX: (909) 798-9338/(909) 793-1559

Laboratory Certification:
(ELAP) No.: 1184 Expiration Date: May 1998

Laboratory Director's Name: Dr. Robert R. Clark

Laboratory Director's Signature :

Client: Ogden Environmental and Energy Services

Project No: 313150002

Analytical Method:	EPA 502.1	EPA 502.2	EPA 524.1
			EPA 524.2
	EPA 601		EPA 624
	EPA 8010	EPA 8021	EPA 8240
			EPA 8260
Other:			**GC/MS**
Analytical Batch:			970617M2V016
Date Sampled:			06/17/97
Date Received:			06/17/97
Date Reported:			08/15/97
Sample Matrix:			Vapor
Extraction Method:			EPA 5030
Extraction Material:			NA

Chain of Custody Received: **Yes** No

Sample Condition: Samples were received by the mobile laboratory in covered, 100-150 ml glass bulbs.

Comments:

(RWQCB LabForm; Ves 8/97)

ydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** OGDEN **Date** 6/17/97

Sample Location LSV175Φ1 **Sample ID** RV2Φ4

Depth 5' feet or from _____ to _____ feet

Probe Installed Date/Time 5/16/97

Sample Time: start 12:45 end 10:56 **Purge Time** 11 min

Flow Rate 15Φ ml/min **Total Purge Volume** _____ ml

Bulb ID J2 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp _____C Weather SUNNY Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/17/97

Received By: (~~mobile lab~~) SAME _____ **Time** 10:57

Received By / Mobile lab: _____ Time 1135

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD Client OGDEN Date 6/17/97

Sample Location LSV1754Z Sample ID RV2@5

Depth 10 feet or from _____ to _____ feet

Probe Installed Date/Time 5/16/97

Sample Time: start 10:45 end 10:58 Purge Time 13 min

Flow Rate 150 ml/min Total Purge Volume _____ ml

Bulb ID A3 Bulb Volume 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp _____C Weather SUNNY Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy ~~✓~~ 24 Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane: _____ Isopentane: ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ Date 6/17/97

Received By: (~~mobile lab~~ Shuttle): _____ Time 10:59

Received By (mobile lab): _____ Time 1135

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** ODEQ **Date** 6/17/97

Sample Location ILSV17S03 **Sample ID** RV206

Depth 15 feet or from _____ to _____ feet

Probe Installed Date/Time _____

Sample Time: start 10:45 end 11:00 **Purge Time** 15 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID T1 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane _____ Isopropanol _____

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/17/97

Received By: (~~mobile lab~~) Shuttle _____ **Time** 11:41

Received By (mobile lab): _____ Time 1135

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** ~~AD~~ dDen DB **Date** 6/17/97

Sample Location 12SV18SØ1 **Sample ID** RV2Ø7

Depth 5 feet or from _____ to _____ feet

Probe Installed Date/Time ~~5/24/97~~ 6/16/97 DB

Sample Time: start 14:56 end 11:07 **Purge Time** _____ min

Flow Rate 15Ø ml/min **Total Purge Volume** _____ ml

Bulb ID A2 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp _____C Weather SUNNY Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/17/97

Received By: (mobile lab) Shuttle _____ **Time** 11:Ø8

Received By (Mobile Lab): _____ Time 1135

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** LODEN **Date** 6/17/97

Sample Location LSV255Φ1 **Sample ID** RV2ΦB

Depth 5 feet or from _____ to _____ feet

Probe Installed Date/Time 5/2Φ/97

Sample Time: start 11:13 end 11:25 **Purge Time** ~~13~~ 11 min

Flow Rate 1ΦΦ ml/min **Total Purge Volume** _____ ml

Bulb ID R6 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/17/97

Received By: (~~mobile lab~~) SLUTTE _____ **Time** 11:25

Received By (Mobile Lab) _____ Time 1135

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** OGDEN **Date** 6/17/97

Sample Location LGV25SG2 **Sample ID** RV2@9

Depth 8.5 feet or from _____ to _____ feet

Probe Installed Date/Time 5/28/97

Sample Time: start 11:13 end 11:26 **Purge Time** 13 min

Flow Rate 100 ml/min **Total Purge Volume** _____ ml

Bulb ID L5 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp _____C Weather SUNNY Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMk ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/17/97

Received By: ~~(mobile lab):~~ SHUTTLE _____ **Time** 11:27

Received By: / MOBILE LAB: _____ Time 1135

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD *Client* DeN *Date* 6/17/97

Sample Location AASVP8SP1 08:30 *Sample ID* RV210

Depth 6 feet or from _____ to _____ feet

Probe Installed Date/Time 6/17/97

Sample Time: start 14:58 end 15:10 *Purge Time* 12 min

Flow Rate 150 ml/min *Total Purge Volume* _____ ml

Bulb ID 47 *Bulb Volume* 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other Soil

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ *Date* 6/17/97

Received By: (~~mobile lab~~) Shuttle _____ *Time* 15:11

Received By (Mobile Lab) _____ / / Time 1620

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** OGDEN **Date** 6/17/97

Sample Location AASV1150' E **Sample ID** RV211

Depth 5 feet or from _____ to _____ feet

Probe Installed Date/Time 6/17/97 0850

Sample Time: start 1507 end 1518 **Purge Time** 11 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID Y2 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other SOIL

Ambient Temp _____C Weather SUNNY Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe _____ Manual ✓ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMk ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/17/97

Received By: (mobile lab): _____ **Time** 1620

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** OGDEN **Date** 6/17/97

Sample Location AASV1@S@1 **Sample ID** RV212

Depth 1.5' feet or from _____ to _____ feet

Probe Installed Date/Time 6/17/97 @91@

Sample Time: start 15:2@ end 15:31 **Purge Time** 11 min

Flow Rate 15@ ml/min **Total Purge Volume** _____ ml

Bulb ID N7 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other DRY GRASS

Ambient Temp _____C Weather SUNNY Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe _____ Manual ✓ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane _____ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/17/97

Received By: (~~mobile lab~~) shuttle _____ **Time** 15:32

Received by (MOBILE LAB): _____ Time 1620

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** DGDeW **Date** 6/17/97

Sample Location AASV@95@1 **Sample ID** RV213

Depth 2 feet or from _____ to _____ feet

Probe Installed Date/Time 6/17/97 @92@

Sample Time: start 15:28 end 15:39 **Purge Time** _____ min

Flow Rate 15@ ml/min **Total Purge Volume** _____ ml

Bulb ID Y6 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions : DRY

Soil Type _____ Asphalt _____ Cement _____ Other Grass

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe _____ Manual ✓ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed: Pentane: _____ Isopentane: ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/17/97

Received By: (~~mobile lab~~) Shuttle _____ **Time** 15:4@

Received By (Mobile lab): _____ Time 1620

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** OGDEN **Date** 6/17/97

Sample Location ~~#~~ EVSV03S01 **Sample ID** RV214 ~~273~~ ~~2B~~

Depth 5' feet or from ______ to ______ feet

Probe Installed Date/Time 6/3/97

Sample Time: start 15:50 end 16:01 **Purge Time** 11 min

Flow Rate 150 ml/min **Total Purge Volume** ______ ml

Bulb ID B2 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate ______ Daily QA ______

Purge Test ______ Train Blank ______ Vacuum Equilibrium ______

Surface Conditions :

Soil Type ______ Asphalt ✓ Cement ______ Other ______

Ambient Temp ____C Weather Sunny Humidity ______ Barometric Pressure ______

Installation Difficulty:

Easy ______ Moderate ✓ Difficult ______ Pipes Lost ______ Pipes Damaged ______

MeisterProbe ✓ Manual ______ Slam Bar ______ Drill Rig ______ SVE ______

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed: Pentane ______ Isopentane ______ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): [signature] **Date** 6/17/97

Received By: (~~mobile lab~~ Shuttle): [signature] **Time** 16:02

Received By: (Mobile lab): [signature] Time 1620

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** DGDEN **Date** 6/17/97

Sample Location EVSVΦ4SΦ1 **Sample ID** RV215

Depth 5 feet or from _____ to _____ feet

Probe Installed Date/Time 6/17/97

Sample Time: start 15:54 end 16:05 **Purge Time** 11 min

Flow Rate 15Φ ml/min **Total Purge Volume** _____ ml

Bulb ID Y4 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp _____C Weather SUNNY Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane: _____ Isopentane: ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/17/97

Received By: ~~(mobile lab)~~ SCOTT/C **Time** 16:06

Received By (Mobile Lab): _____ TIME 1620

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** DOE **Date** 6/17/97

Sample Location EVSV045D2 **Sample ID** RV216

Depth 9.5' feet or from _____ to _____ feet

Probe Installed Date/Time 6/3/97

Sample Time: start 15:54 end 16:07 **Purge Time** 13 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID A4 **Bulb Volume** 125 ml

Sample Type: Normal _____ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp ____C Weather SUNNY Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe _____ Manual ✓ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/17/97

Received By: (~~mobile lab~~) Shuttle _____ **Time** 16:08

Received By (Mobile Lab) _____ Time 1620

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** ofDev **Date** 6/17/97

Sample Location OCSVØ1SØ1 **Sample ID** RV217

Depth 6 feet or from _____ to _____ feet

Probe Installed Date/Time 6/9/97

Sample Time: start 1731 end 1946 **Purge Time** 15 min

Flow Rate 8Ø ml/min **Total Purge Volume** _____ ml

Bulb ID J2 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/17/97

Received By: (mobile lab): _____ **Time** 19:44

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD *Client* OLDEN *Date* 6/17/97

Sample Location DASV@1S@1 *Sample ID* RV218

Depth 4 feet or from _____ to _____ feet

Probe Installed Date/Time 6/13/97

Sample Time: start 18:48 end 18:19 *Purge Time* 11 min

Flow Rate 150 ml/min *Total Purge Volume* _____ ml

Bulb ID T1 *Bulb Volume* 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp _____C Weather SUNNY Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ *Date* 6/17/97

Received By: (mobile lab): _____ *Time* 19:44

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** DBDeN **Date** 6/17/97

Sample Location DASV@150Z **Sample ID** RV219

Depth 8 feet or from _____ to _____ feet

Probe Installed Date/Time 6/13/97

Sample Time: start 18:04 end 18:16 **Purge Time** 12 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID A3 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMk ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/17/97

Received By: (mobile lab): _____ **Time** 19:44

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** DSDEN **Date** 6/17/97

Sample Location ILSV03D04 **Sample ID** RV220

Depth 20 feet or from _____ to _____ feet

Probe Installed Date/Time 5/12/97

Sample Time: start 18:37 end ~~1915~~ 18:54 **Purge Time** 17 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID AZ **Bulb Volume** 125 ml

Sample Type: Normal _____ Duplicate ✓ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/17/97

Received By: (mobile lab): _____ **Time** 19:44

HydroGeoSpectrum SOIL VAPOR CHAIN OF CUSTODY

PROJECT SSFL / Rocketdyne CLIENT Boeing DATE 11/5/21

SAMPLE ID-Depth(ft) ↓	↓	INSTALLED	SAMPLED DATE	Interval	BULB ID	FLOW ml/min	TIME min	Purge Vol	Iso Butane Leak Check	MISC SWMU	EPA ID
OLSV16S01	1.5'	11/7/21	11/5	0734-0745	X2	150	11	125	✓	7.4	MW15
OLSV17S01	2.0'	11/7/21	11/5	0746-0751	R7	150	11	125	✓	7.4	MW16
OLSV18S01	4.0'	11/7/21	11/5	0748-0755	F6	150	12	125	✓	7.4	MW17
OLSV19S01	4.0'	11/7/21	11/5	0751-0800	G1	150	12	125	✓	7.4	MW18

SURROGATES: D6-Benzene____ D8-Toluene____ D-Chloroform____ D6-DMK____ D-DCM____

RELINQUISHED BY: _____ RECEIVED BY _____ DATE/TIME 11/5/21 0810

RELINQUISHED BY _____ RECEIVED BY _____ DATE/TIME _____

HydroGeoSpectrum SOIL VAPOR CHAIN OF CUSTODY

~~MVC-26~~ MVC-19 MW-315

PROJECT 55FG/Rocketdyne CLIENT Bering DATE 11/3/11

SAMPLE ID-Depth(ft) ↓	↓	INSTALLED	SAMPLED DATE	Interval	BULB ID	FLOW ml/min	TIME min	Purge Vol	Iso-Butane Leak Check	MISC SWMU	EPA ID
ILSV745Ø1	4'	11/2/11	11/3	0832-0844	~~EG~~ N11	150	12	12.5	✓	4.3	MVC19
ILSV745Ø2	12'		11/3	0852-0906	~~AH~~ E6	150	14		✓	4.3	MVC20
ILSV745Ø3	17'		11/3	0832 0848	X 19	150	16		✓	4.3	MVC21
ILSV735Ø1	6'		11/3	0900-0912	F6	150	12		✓	4.3	MVC22
ILSV735Ø2	12'		11/3	0900 0914	H9	150	14		✓	4.3	MVC23
ILSV735Ø3	18'		11/3	0900-0916	B5	150	16		✓	4.3	MVC24
BISV265Ø1	4'		11/3	0926-0938	I53	150	12		✓	4.1	MVC25
BISV275Ø1	4'	↓	11/3	0936-0942	N1	150	12	↓	✓	4.1	MVC26

SURROGATES: D6-Benzene____ D8-Toluene____ D-Chloroform____ D6-DMK____ D-DCM____

RELINQUISHED BY: _____ **RECEIVED BY** _____ **DATE/TIME** 11/3/11

RELINQUISHED BY _____ **RECEIVED BY** _____ **DATE/TIME** _____

HydroGeoSpectrum Inc, POB 49259, LA. CA 90049 Phone(310)458-0973

HydroGeoSpectrum SOIL VAPOR CHAIN OF CUSTODY

MW-315 MVC27

PROJECT SSFL/Rocketdyne CLIENT Boeing DATE 11/8/01

SAMPLE ID-Depth(ft) ↓	↓	INSTALLED	SAMPLED DATE	Interval	BULB ID	FLOW ml/min	TIME min	Purge Vol	Leak Check	MISC SWMU	EPA ID
AFSV18S01	6'	11/7/01	11/8	1114-1126	F6	150	12	125	✓	4.9	MVC27
AFSV18S02	12'	↓	↓	1117-1129	G1	↓	14	↓	✓	↓	MVC28
AFSV18S03	18'	↓	↓	1114-1130	R7	↓	16	↓	✓	↓	MVC29
AFSV18S04	24'	↓	↓	1132-1145	X2	↓	15	↓	✓	↓	MVC30

SURROGATES: D6-Benzene____ D8-Toluene____ D-Chloroform____ D6-DMK____ D-DCM____

RELINQUISHED BY: [signature] **RECEIVED BY** [signature] **DATE/TIME** 11/8/01 1205

RELINQUISHED BY _____ **RECEIVED BY** _____ **DATE/TIME** _____

HydroGeoSpectrum Inc, POB 49259, LA. CA 90049 Phone(310)458-0973

HydroGeoSpectrum SOIL VAPOR CHAIN OF CUSTODY

MW-31

PROJECT AFSV/Richelieu CLIENT Boeing DATE 11/5/01

SAMPLE ID-Depth(ft) ↓	↓	INSTALLED	SAMPLED DATE	Interval	BULB ID	FLOW ml/min	TIME min	Purge Vol	Iso-Butane Leak Check	SWMU	MISC EPA ID
AFSV175Ø1	65'	11/7/01	11/8	1345-1358	X19	150	13	125	.	4.9	MW-33
AFSV17D01	65'	11/7/01	11/5	1359-1412	N11	150	13	125	.	4.9	MW-34
B15V30S01	6'	11/7/01	11/8	illegible	E6	150	13	125	.	7.1	MW-31
B15V30S02	12'	11/2/01	11/8	1417-1421	F6	150	14	125	.	7.1	MW-32

SURROGATES: D6-Benzene____ D8-Toluene____ D-Chloroform____ D6-DMK____ D-DCM____

RELINQUISHED BY: [signature] **RECEIVED BY** [signature] **DATE/TIME** 11/5/01 1430

RELINQUISHED BY _____ **RECEIVED BY** _____ **DATE/TIME** _____

HydroGeoSpectrum Inc, POB 49259, LA. CA 90049 Phone(310)458-0973

HydroGeoSpectrum SOIL VAPOR CHAIN OF CUSTODY

ILS # PROJECT Rocketdyne CLIENT Ogden DATE 6/16/99

	SAMPLE ID-Depth(ft)	INSTALLED	SAMPLED	BULB ID	FLOW ml/min	TIME min	Purge Vol	Leak Check	MISC EPA ID#	
5	ILSV53QØ1-5'	Summer 1997	0914-0917	F4	150	3		IPA 1HF 1220	RQØ3Ø	1
5	ILSV53QØ2-5'	↓	0914-0925	E5	150	11		IPA 1020	RQØ31	2
5	ILSV53QØ3-5'	↓	0914-0936	A3	150	22		IPA 1020	RQØ32	3
5	OCSVØ7SØ1-5'	6/14/99	1024-1035	L6	150	11		IPA 1050	RV7ØØ	4
5	OCSVØ7SØ2-13'	↓	1023-1035	N11	150	14		IPA 1055 1400	RV7Ø1	5
6	OCSVØ8SØ1-7'	↓	1027-1039	F7	150	12		IPA 1150	RV7Ø2	6
4	OCSVØ9SØ1-6'	↓	1127-1138	X2	150	11		1200	RV7Ø3	7
0	OCSV14SØ1-4'	↓	1129-1140	Y3	150	11		1205	RV7Ø4	8
1	OCSV15SØ1-6'	↓	1135-1146	F6	150	11		1210 1345	RV7Ø5	9
3	OCSV13SØ1-5'	↓	1156-1207	N1	↓	11		1240	RV7Ø6	10
2	OCSV12SØ1-6'	↓	1200-1211	Y2	↓	11		1245	RV7Ø7	11
1	OCSV11SØ1 25'	↓	1204-1211	L3	↓	7		1250	RV7Ø8	12
1	DCSV10SØ1-5'	↓	1208-1219	R7	↓	11		↓ 1255	RV7Ø9	13
9	~~OCSVØ9DØ1-6'~~	↓			↓	11			~~RV71Ø~~	
8	OCSV13DØ1-5'	↓	1252-1303	N12	↓	11		↓ 140	RV71Ø	14

SURROGATES: D6-Benzene____ D8-Toluene____ D-Chloroform____ D6-DMK____ D-DCM____

RELINQUISHED BY [signature] RECEIVED BY [signature] DATE/TIME 1325 6/16/99

RELINQUISHED BY____ RECEIVED BY____ DATE/TIME____

T300V045

RECEIVED

Centrum Analytical Laboratories, Inc.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

LABORATORY REPORT FORM

Laboratory Name: Centrum Analytical Laboratories, Inc.

Address: 290 Tennessee Street, Redlands, CA 92373

Telephone/FAX: (909) 798-9338/(909) 793-1559

Laboratory Certification:
(ELAP) No.: 1184 Expiration Date: May 1998

Laboratory Director's Name: Dr. Robert R. Clark

Laboratory Director's Signature :

Client: Ogden Environmental and Energy Services

Project No: 313150002

Analytical Method:	EPA 502.1	EPA 502.2	EPA 524.1
			EPA 524.2
	EPA 601		EPA 624
	EPA 8010	EPA 8021	EPA 8240
			EPA 8260
Other:			**GC/MS**
Analytical Batch:			970728M2V042
Date Sampled:			07/28/97
Date Received:			07/28/97
Date Reported:			08/28/97
Sample Matrix:			Vapor
Extraction Method:			EPA 5030
Extraction Material:			NA

Chain of Custody Received: **Yes** No

Sample Condition: Samples were received by the mobile laboratory in covered, 100-150 ml glass bulbs.

Comments:

(RWQCB LabForm; Ves 8/97)

290 TENNESSEE STREET • REDLANDS, CA 92373 • (909) 798-9336 • FAX (909) 793-1559 • (800) 798-9336

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 07/28/97

Sample Location ECSV17S01 **Sample ID** RV6C9

Depth 4' feet or from _____ to _____ feet

Probe Installed Date/Time 07/25/97

Sample Time: start 08:22 end 08:33 **Purge Time** 11 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID A3 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement ✓ Other _____

Ambient Temp _____C Weather foggy Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane: _____ Isopentane: ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 7/28/97

Received By: (mobile lab): _____ **Time** 900

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 07/28/97

Sample Location OCSV06D01 **Sample ID** RV610

Depth 5' feet or from _____ to _____ feet

Probe Installed Date/Time 07/28/97

Sample Time: start 08:43 end 08:54 **Purge Time** 11 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID V2 **Bulb Volume** 125 ml

Sample Type: Normal X Duplicate _____ Daily QA X

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt X Cement _____ Other _____

Ambient Temp _____ C Weather Foggy Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate X Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane _____ Isopropanol X

REMARKS/COMMENTS:

Relinquished By (sampler): [signature] **Date** 7/28/97

Received By: (mobile lab): [signature] **Time** 900

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD Client Ogden Date 07/28/97

Sample Location CLSV32SG1 Sample ID RV611

Depth 4 feet or from _____ to _____ feet

Probe Installed Date/Time 07/28/97 12:00

Sample Time: start 13:42 end 14:53 Purge Time 11 min

Flow Rate 150 ml/min Total Purge Volume _____ ml

Bulb ID T1 Bulb Volume 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other Gravel

Ambient Temp _____ C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMC ✓ TDF ✓

Leak Check Performed: Pentane _____ Isopentane _____ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ Date 7/28/97

Received By: (mobile lab): _____ Time 1420

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD Client ~~ODE~~ Ogden Date 07/28/97

Sample Location CLSV32S02 Sample ID RV612

Depth 8' feet or from ______ to ______ feet

Probe Installed Date/Time 07/28/97 12:00

Sample Time: Start 13:42 End 13:54 Purge Time 12 min

Flow Rate 130 ml/min Total Purge Volume ______ ml

Bulb ID J2 Bulb Volume 125 ml

Sample Type: Normal ✓ Duplicate ______ Daily QA ______

Purge Test ______ Train Blank ______ Vacuum Equilibrium ______

Surface Conditions :

Soil Type ______ Asphalt ______ Cement ______ Other Gravel

Ambient Temp ______ C Weather Sunny Humidity ______ Barometric Pressure ______

Installation Difficulty:

Easy ______ Moderate ✓ Difficult ______ Pipes Lost ______ Pipes Damaged ______

Meister Probe ✓ Manual ______ Slam Bar ______ Drill Rig ______ SVE ______

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed: [illegible] Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): [signature] Date 7/28/97

Received By: (mobile lab): [signature] Time 1420

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 07/28/97

Sample Location CLSV33S01 **Sample ID** RV613

Depth 41 feet or from _____ to _____ feet

Probe Installed Date/Time 07/25/97 12:20

Sample Time: start 14:00 end 14:11 **Purge Time** 11 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID B2 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp _____ C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe _____ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane: _____ Isopentane: ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 7/28/97

Received By: (mobile lab): _____ **Time** 1420

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 07/28/17

Sample Location CLSV33S&2 **Sample ID** RVG14

Depth 8' feet or from _____ to _____ feet

Probe Installed Date/Time [illegible] 12:20

Sample Time: start 14:00 [illegible] 2 **Purge Time** 12 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID A2 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp ____ C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): [signature] **Date** 7/28/17

Received By: (mobile lab): [signature] **Time** 1420

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD Client Ogden Date 07/28/17

Sample Location CLSV345&7 Sample ID RV615

Depth 5' feet or from _____ to _____ feet

Probe Installed Date/Time 7/27 13:00

Sample Time: Start 14:50 Stop 01 Purge Time 11 min

Flow Rate 150 ml/min Total Purge Volume _____ ml

Bulb ID X8 Bulb Volume 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp _____ C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: DC Benzene ✓ Chloroform ✓ 1,2 DCM ✓ DCDMK ✓ TDF ✓

Leak Check Performed: Shut-in _____ Tracer Gas _____ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): [signature] Date 7/28/17

Received By: (mobile lab): [signature] Time 1515

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 07/28/97

Sample Location CLSV345&2 **Sample ID** RVG16

Depth 10' feet or from _____ to _____ feet

Probe Installed Date/Time 07/28/97 13:00

Sample Time: start 14:50 end 15:03 **Purge Time** 13 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID L5 **Bulb Volume** 125 ml

Sample Type: Normal 1 Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt 1 Cement _____ Other _____

Ambient Temp _____ C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Diffibnity:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

Meister Type _____ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed: Pentane _____ Isopentane _____ Isopropanol 2

REMARKS/COMMENTS

Relinquished By (sampler): [signature] **Date** 7/28/97

Received By: (mobile lab): [signature] **Time** 1511

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 07/28/97

Sample Location CLSV34SQ3 **Sample ID** RV617

Depth 17 feet or from ____ to ____ feet

Probe Installed Date/Time 07/28/97 13:00

Sample Time: start 14:50 end 15:06 **Purge Time** 16 min

Flow Rate 150 ml/min **Total Purge Volume** ____ ml

Bulb ID N1 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate ____ Daily QA ____

Purge Test ____ Train Blank ____ Vacuum Equilibrium ____

Surface Conditions :

Soil Type ____ Asphalt ✓ Cement ____ Other ____

Ambient Temp ____ C Weather Sunny Humidity ____ Barometric Pressure ____

Installation Difficulty:

Easy ____ Moderate ✓ Difficult ____ Pipes Lost ____ Pipes Damaged ____

MeisterProbe ✓ Manual ____ Slam Bar ____ ____ ____

Surrogate Added: D6-Benzene ✓ D-chloroform ✓ ____ ✓ ____ ✓ TDF ✓

Leak Check Performed: Pentane ____ ____ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): [signature] Date 7/28/97

Received By: (mobile lab): [signature] Time 1515

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD Client Ogden Date 07/28/97

Sample Location CLSV3558 Sample ID RV618

Depth 5' feet or from _____ to _____ feet

Probe Installed Date/Time 7/28/97 14:00

Sample Time: start 1648 end 1659 Purge Time 11 min

Flow Rate 150 ml/min Total Purge Volume _____ ml

Bulb ID X8 Bulb Volume 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other Dirt

Ambient Temp _____ C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate _____ Difficult _____ Pipes Lost _____ Pipes Damaged _____

Meister Probe _____ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed: Helium _____ Isopentane _____ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ Date 7/28/97

Received By: (mobile lab): _____ Time 1730

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD Client Ogden Date 07/28/97

Sample Location OCSV@6S@2 Sample ID RV619

Depth 10 feet or from _____ to _____ feet

Probe Installed Date/Time 07/28/97 14:45

Sample Time: start 17:14 end 17:27 Purge Time 13 min

Flow Rate 150 ml/min Total Purge Volume _____ ml

Bulb ID N1 Bulb Volume 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed : Pentane _____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): Donald Wright Date 7/28/97

Received By: (mobile lab): _____ Time 1730

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD Client Ogden Date 07/28/97

Sample Location OC SV06 F03 (Dup) Sample ID RV620

Depth 0 feet or from _____ to _____ feet

Probe Installed Date/Time _____

Sample Time: start 17:14 end 17:27 Purge Time 13 min

Flow Rate 160 ml/min Total Purge Volume _____ ml

Bulb ID 25 Bulb Volume 125 ml

Sample Type: Normal _____ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank ✓ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other _____

Ambient Temp _____ C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe _____ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed: Pentane _____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): [signature] Date 7/30/97

Received By: (mobile lab): [signature] Time 1730

7300V036

Centrum Analytical Laboratories, Inc.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

LABORATORY REPORT FORM

Laboratory Name: Centrum Analytical Laboratories, Inc.

Address: 290 Tennessee Street, Redlands, CA 92373

Telephone/FAX: (909) 798-9338/(909) 793-1559

Laboratory Certification:
(ELAP) No.: 1184 Expiration Date: May 1998

Laboratory Director's Name: Dr. Robert R. Clark

Laboratory Director's Signature :

Client: Ogden Environmental and Energy Services

Project No: 313150002

Analytical Method:	EPA 502.1	EPA 502.2	EPA 524.1
			EPA 524.2
	EPA 601		EPA 624
	EPA 8010	EPA 8021	EPA 8240
			EPA 8260
Other:			**GC/MS**
Analytical Batch:			970725M2V041
Date Sampled:			07/25/97
Date Received:			07/25/97
Date Reported:			08/15/97
Sample Matrix:			Vapor
Extraction Method:			EPA 5030
Extraction Material:			NA

Chain of Custody Received: **Yes** No

Sample Condition: Samples were received by the mobile laboratory in covered, 100-150 ml glass bulbs.

Comments:

(RWQCB LabForm; Ves 8/97)

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 07/25/97

Sample Location CLSV27S02 **Sample ID** RV592

Depth 8' feet or from _____ to _____ feet

Probe Installed Date/Time 07/24/97

Sample Time: start 09:39 stop 09:51 **Purge Time** 12 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID X8 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other Gravel

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): [signature] **Date** 7/25/97

Received By: (mobile lab): [signature] **Time** 1010

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 07/25/97

Sample Location CLSV27_03 **Sample ID** RV593

Depth 12' feet or from _____ to _____ feet

Probe Installed Date/Time 07/24/97

Sample Time: start 09:39 end 09:53 **Purge Time** 14 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID A3 **Bulb Volume** 125 ml

Sample Type: Normal 2 Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other Gravel

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate 1 Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe 2 Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane ✓ Isopentane 2 Isopropanol 2

REMARKS/COMMENTS:

Relinquished By (sampler): [signature] **Date** 7/25/97

Received By: (mobile lab): [signature] **Time** 1010

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 07/25/07

Sample Location ELSV045Q1 **Sample ID** RV594

Depth 2' feet or from _____ to _____ feet

Probe Installed Date/Time 07/25/07 08:15

Sample Time: start 10:45 end 10:56 **Purge Time** 11 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID A6 **Bulb Volume** 125 ml

Sample Type: Normal X Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other Sand

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate 1 Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe _____ Manual 1 Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane: _____ Isopentane: 2 Isopropanol 2

REMARKS/COMMENTS:

Relinquished By (sampler): [signature] **Date** 7/25/07

Received By: (mobile lab): [signature] **Time** 1150

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 07/25/97

Sample Location ELSV055&1 **Sample ID** RV595

Depth 3' feet or from _____ to _____ feet

Probe Installed Date/Time 07/25/97 08:20

Sample Time: start 09:46 (10:46 cm) end 10:57 (10:57 cm) **Purge Time** 11 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID I5 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other Sand

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe _____ Manual ✓ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane: _____ Isopentane: ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): [signature] **Date** 7/25/97

Received By: (mobile lab): [signature] **Time** 1130

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 07/25/07

Sample Location ELSV@6SG1 **Sample ID** RV596

Depth 5' feet or from _____ to _____ feet

Probe Installed Date/Time 07/25/07 08:05

Sample Time: start ~~10~~ 11 11:09 end 11:20 **Purge Time** 11 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID X1 **Bulb Volume** 125 ml

Sample Type: Normal 2 Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other Grass

Ambient Temp _____ C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe 2 Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane: _____ Isopentane: ✓ Isopropanol 2

REMARKS/COMMENTS:

Relinquished By (sampler): [signature] **Date** 7/25/07

Received By: (mobile lab): [signature] **Time** 1130

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 07/25/97

Sample Location ELSV06S02 **Sample ID** RV597

Depth 10' feet or from _____ to _____ feet

Probe Installed Date/Time 07/25/97 08:05

Sample Time: start ~~0~~ 11:09 end 11:22 **Purge Time** 13 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID Y6 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other Grass

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMB ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): [signature] **Date** 7/25/97

Received By: (mobile lab): [signature] **Time** 1130

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 07/25/17

Sample Location AFSVP6S&2 **Sample ID** RV598

Depth 10' feet or from _____ to _____ feet

Probe Installed Date/Time 07/[illegible]/17 11:15

Sample Time: start 13:17 end 13:30 **Purge Time** 13 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID T1 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other Gravel

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate _____ Difficult ✓ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): [signature] **Date** 7/25/17

Received By: (mobile lab): [signature] **Time** 1430

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 07/25/17

Sample Location LFSV05S&3 **Sample ID** RV599

Depth 15' feet or from _____ to _____ feet

Probe Installed Date/Time 07/24/17 11:40

Sample Time: start 13:39 end 15:04 **Purge Time** 15 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID A2 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 7/25/17

Received By: (mobile lab): _____ **Time** 1430

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 07/25/97

Sample Location LFSV055R2 **Sample ID** RV600

Depth 5'10' feet or from _____ to _____ feet

Probe Installed Date/Time 07/25/97 11:40

Sample Time: start 13:40 end 13:53 **Purge Time** 13 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID N5 **Bulb Volume** 125 ml

Sample Type: Normal 2 Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt 2 Cement _____ Other _____

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate 2 Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe 2 Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane 2 Isopropanol 2

REMARKS/COMMENTS:

Relinquished By (sampler): Reynaldo Reynoso **Date** 7/28/97

Received By: (mobile lab): _____ **Time** 1430

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 07/25/17

Sample Location CLSV2553 **Sample ID** RV601

Depth 13' feet or from _____ to _____ feet

Probe Installed Date/Time 07/25/17 12:10

Sample Time: start 15:02 end 15:17 **Purge Time** 15 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID B2 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium ✓

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chlotoform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane: _____ Isopentane: ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): [signature] **Date** 7/25/17

Received By: (mobile lab): [signature] **Time** 1745

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 07/25/97

Sample Location CLSV31SO3 **Sample ID** RV602

Depth 11 feet or from _____ to _____ feet

Probe Installed Date/Time 07/25/97 12:30

Sample Time: start 15:19 end 15:32 **Purge Time** 13 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID N1 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other Gravel

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): [signature] **Date** 7/24/97

Received By: (mobile lab): [signature] **Time** 1745

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 07/25/17

Sample Location OCSV055801 **Sample ID** RV603

Depth 41 feet or from _____ to _____ feet

Probe Installed Date/Time 07/25/17 10:05

Sample Time: start 15:49 end 16:00 **Purge Time** 11 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID A3 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane: _____ Isopentane: ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): [signature] **Date** 7/25/17

Received By: (mobile lab): [signature] **Time** 1830

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 07/25/17

Sample Location OCSV@6SG1 **Sample ID** RV604

Depth 5' feet or from _____ to _____ feet

Probe Installed Date/Time 07/25/17 10:15

Sample Time: start 15:52 end 16:03 **Purge Time** 11 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID Y2 **Bulb Volume** 125 ml

Sample Type: Normal 2 Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt 2 Cement _____ Other _____

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate _____ Difficult 2 Pipes Lost _____ Pipes Damaged _____

MeisterProbe 2 Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chlorofoam ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane 2 Isopropanol 2

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 7/25/17

Received By: (mobile lab): _____ **Time** 1630

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 07/25/17

Sample Location ~~OCSV065S02~~ OCSV045S02 **Sample ID** RV605

Depth 104' feet or from _____ to _____ feet

Probe Installed Date/Time 7/25/17 ~~10:05~~ 10:00

Sample Time: start ~~15:52~~ 16:03 and ~~16:55~~ 16:38 **Purge Time** ~~13~~11 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID ~~45~~ J2 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other Sand

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed: Pentane _____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 7/25/17

Received By: (mobile lab): _____ **Time** 1830

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 07/25/97

Sample Location CLSV28SQ1 **Sample ID** RV606

Depth 41 feet or from _____ to _____ feet

Probe Installed Date/Time 07/24/97

Sample Time: start 16:53 end 17:04 **Purge Time** 11 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID X8 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other Sand

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane: _____ Isopentane: _____ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 7/25/97

Received By: (mobile lab): _____ **Time** 1745

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 07/25/17

Sample Location CLSV29S&I **Sample ID** RV607

Depth 2' feet or from _____ to _____ feet

Probe Installed Date/Time 07/24/17

Sample Time: start 16:58 and 17:09 **Purge Time** 11 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID N7 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other Sand

Ambient Temp ____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe _____ Manual ✓ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 7/25/17

Received By: (mobile lab): _____ **Time** 1748

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 07/25/97

Sample Location CLSV3@58' **Sample ID** RV608

Depth 1' feet or from _____ to _____ feet

Probe Installed Date/Time 07/24/97

Sample Time: start 17:16 end 17:27 **Purge Time** 11 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID L3 **Bulb Volume** 125 ml

Sample Type: Normal 1 Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other Sand

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate 1/2 Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe 1/2 Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMF ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane ✓ Isopropanol _____

REMARKS/COMMENTS:

Relinquished By (sampler): [signature] **Date** 7/25/97

Received By: (mobile lab): [signature] **Time** 0745

T300V039

Centrum Analytical Laboratories, Inc.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

LABORATORY REPORT FORM

Laboratory Name: Centrum Analytical Laboratories, Inc.

Address: 290 Tennessee Street, Redlands, CA 92373

Telephone/FAX: (909) 798-9338/(909) 793-1559

Laboratory Certification:
(ELAP) No.: 1184 Expiration Date: May 1998

Laboratory Director's Name: Dr. Robert R. Clark

Laboratory Director's Signature :

Client: Ogden Environmental and Energy Services

Project No: 313150002

Analytical Method:	EPA 502.1	EPA 502.2	EPA 524.1
			EPA 524.2
	EPA 601		EPA 624
	EPA 8010	EPA 8021	EPA 8240
			EPA 8260
Other:			**GC/MS**
Analytical Batch:			970630M2V025
Date Sampled:			06/30/97
Date Received:			06/30/97
Date Reported:			08/18/97
Sample Matrix:			Vapor
Extraction Method:			EPA 5030
Extraction Material:			NA

Chain of Custody Received: **Yes** No

Sample Condition: Samples were received by the mobile laboratory in covered, 100-150 ml glass bulbs.

Comments:

(RWQCB LabForm; Ves 8/97)

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 06/30/97

Sample Location SLSV15SQ1 **Sample ID** RV338

Depth 2.5' feet or from _____ to _____ feet

Probe Installed Date/Time 06/30/97 09:00

Sample Time: start 13:38 end 13:49 **Purge Time** 11 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID N7 **Bulb Volume** 125 ml

Sample Type: Normal Y Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other Sand

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate Y Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe _____ Manual Y Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane Y Isopropanol Y

REMARKS/COMMENTS:

Relinquished By (sampler): [signature] **Date** 06/30/97

Received By: (mobile lab): [signature] **Time** 1800

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 06/30/17

Sample Location SLSV145&1 **Sample ID** RV339

Depth 2.0' feet or from _____ to _____ feet

Probe Installed Date/Time 06/30/17 10:00

Sample Time: start 13:55 end 14:06 **Purge Time** 11 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID Y7 **Bulb Volume** 125 ml

Sample Type: Normal Y Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other Sand

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate Y Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe _____ Manual Y Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane Y Isopropanol Y

REMARKS/COMMENTS:

Relinquished By (sampler): [signature] **Date** 06/30/17

Received By: (mobile lab): [signature] **Time** 1500

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 06/30/97

Sample Location SLSV13S01 **Sample ID** RV340

Depth 4' feet or from _____ to _____ feet

Probe Installed Date/Time 06/30/97 0940

Sample Time: start 14:10 end 14:21 **Purge Time** 11 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID B2 **Bulb Volume** 125 ml

Sample Type: Normal Y Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other Sand

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate Y Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe _____ Manual Y Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMk ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane Y Isopropanol Y

REMARKS/COMMENTS:

Relinquished By (sampler): Lonnie Meyer **Date** 06/30/97

Received By: (mobile lab): _____ **Time** 1500

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 06/30/17

Sample Location CFSV055@1 **Sample ID** RV341

Depth 3' feet or from _____ to _____ feet

Probe Installed Date/Time 06/30/17 10:50

Sample Time: start 14:29 end 14:40 **Purge Time** 11 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID R6 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other Sand

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe _____ Manual ✓ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMC ✓ TDF ✓

Leak Check Performed Pentane: _____ Isopentane: ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): [signature] **Date** 06/30/17

Received By: (mobile lab): [signature] **Time** 1500

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 06/30/97

Sample Location ILSV06S01 **Sample ID** RV342

Depth 5' feet or from _____ to _____ feet

Probe Installed Date/Time 06/30/97 1525

Sample Time: start 17:01 end 17:12 **Purge Time** 11 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID A3 **Bulb Volume** 125 ml

Sample Type: Normal Y Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt Y Cement _____ Other _____

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate Y Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe _____ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane: Y Isopropanol Y

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 06/30/97

Received By: (mobile lab): _____ **Time** 1800

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 06/30/97

Sample Location TLSV05S&I **Sample ID** RV343

Depth 5' feet or from _____ to _____ feet

Probe Installed Date/Time 06/30/97 16:00

Sample Time: start 17:15 end 17:26 **Purge Time** 11 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID A6 **Bulb Volume** 125 ml

Sample Type: Normal Y Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt Y Cement _____ Other _____

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate Y Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe _____ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✔ D-Chloroform ✔ D2-DCM ✔ D6-DMK ✔ TDF ✔

Leak Check Performed Pentane: _____ Isopentane: Y Isopropanol Y

REMARKS/COMMENTS:

Relinquished By (sampler): [signature] **Date** 6/30/97

Received By: (mobile lab): [signature] **Time** 1800

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 06/30/17

Sample Location ILSV425 & 3 **Sample ID** RV344

Depth 15.5' feet or from _____ to _____ feet

Probe Installed Date/Time 06/30/17 15:30

Sample Time: start 17:31 end 17:47 **Purge Time** 16 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID L5 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

Meisterprobe _____ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane: _____ Isopentane: ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/30/17

Received By: (mobile lab): _____ **Time** 1800

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 06/30/97

Sample Location ILSV42$\frac{D}{on}$01 **Sample ID** RV345

Depth 5' feet or from _____ to _____ feet

Probe Installed Date/Time _____

Sample Time: start 17:36 end 17:47 **Purge Time** 11 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID A9 **Bulb Volume** 125 ml

Sample Type: Normal X Duplicate _____ Daily QA Y

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt Y Cement _____ Other _____

Ambient Temp ____C Weather Sunny Humidity ____ Barometric Pressure ____

Installation Difficulty:

Easy ____ Moderate ✓ Difficult ____ Pipes Lost ____ Pipes Damaged ____

MeisterProbe ____ Manual ✓ Slam Bar ____ Drill Rig ____ SVE ____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane: ____ Isopentane: ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): [signature] **Date** 6/30/97

Received By: (mobile lab): [signature] **Time** 1800

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Ogden **Date** 06/30/97

Sample Location OCSV@1S@1 **Sample ID** RV346

Depth 5.5 feet or from _____ to _____ feet

Probe Installed Date/Time 06/30/97 11:56

Sample Time: start 18:16 end 18:28 **Purge Time** 12 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID Y6 **Bulb Volume** 125 ml

Sample Type: Normal X Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other Sand

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate X Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe _____ Manual X Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane X Isopropanol X

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/30/97

Received By: (mobile lab): _____ **Time** _____

1300V033

Centrum Analytical Laboratories, Inc.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

LABORATORY REPORT FORM

Laboratory Name: Centrum Analytical Laboratories, Inc.

Address: 290 Tennessee Street, Redlands, CA 92373

Telephone/FAX: (909) 798-9338/(909) 793-1559

Laboratory Certification:
(ELAP) No.: 1184 Expiration Date: May 1998

Laboratory Director's Name: Dr. Robert R. Clark

Laboratory Director's Signature :

Client: Ogden Environmental and Energy Services

Project No: 313150002

Analytical Method:	EPA 502.1	EPA 502.2	EPA 524.1
			EPA 524.2
	EPA 601		EPA 624
	EPA 8010	EPA 8021	EPA 8240
			EPA 8260
Other:			**GC/MS**
Analytical Batch:			970619M2V018
Date Sampled:			06/19/97
Date Received:			06/19/97
Date Reported:			08/15/97
Sample Matrix:			Vapor
Extraction Method:			EPA 5030
Extraction Material:			NA

Chain of Custody Received: **Yes** No

Sample Condition: Samples were received by the mobile laboratory in covered, 100-150 ml glass bulbs.

Comments:

(RWQCB LabForm; Ves 8/97)

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** DGDen **Date** 6/19/97

Sample Location BSV/3501 **Sample ID** RY238

Depth 4 feet or from _____ to _____ feet

Probe Installed Date/Time 6/17/97

Sample Time: start 09:55 end 14:06 **Purge Time** 11 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID Y4 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other Green Grass

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe: ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/19/97

Received By: (mobile lab): _____ **Time** 1100

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** OGDEN **Date** 6/19/97

Sample Location BASP@150@1 **Sample ID** RV239

Depth 4 feet or from _____ to _____ feet

Probe Installed Date/Time 6/19/97

Sample Time: start 09:59 end 10:10 **Purge Time** 11 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID N7 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other DRY GRASS

Ambient Temp _____C Weather SUNNY Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/19/97

Received By: (mobile lab): _____ **Time** 1100

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** OGDEN **Date** 6/19/97

Sample Location BP02003 (Dcsm) **Sample ID** RV240

Depth 13 feet or from ______ to ______ feet

Probe Installed Date/Time 6/19/97

Sample Time: start 1020 end 1034 **Purge Time** 14 min

Flow Rate 150 ml/min **Total Purge Volume** ______ ml

Bulb ID R6 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate ______ Daily QA ______

Purge Test ______ Train Blank ______ Vacuum Equilibrium ______

Surface Conditions :

Soil Type ______ Asphalt ______ Cement ______ Other GRASS

Ambient Temp ____C Weather SUNNY Humidity ______ Barometric Pressure ______

Installation Difficulty:

Easy ______ Moderate ✓ Difficult ______ Pipes Lost ______ Pipes Damaged ______

MeisterProbe ✓ Manual ______ Slam Bar ______ Drill Rig ______ SVE ______

Surrogate Added: D6-Benzene ✓ D Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane ______ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): [signature] **Date** 6/19/97

Received By: (mobile lab): [signature] **Time** 1100

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** DGDEQ **Date** 6/19/97

Sample Location BVSV1Φ5Φ1 **Sample ID** RV241

Depth 3 feet or from _____ to _____ feet

Probe Installed Date/Time 6/17/97

Sample Time: start 10:40 end 1035 **Purge Time** 11 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID 46 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other SOIL

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane _____ Isopropanol ✓

REMARKS/COMMENTS

Relinquished By (sampler): _____ **Date** 6/19/97

Received By: (mobile lab): _____ **Time** 1100

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** GDeW **Date** 6/19/97

Sample Location BVSV@95@1 **Sample ID** RV242

Depth 2.5 feet or from _____ to _____ feet

Probe Installed Date/Time 6/17/97

Sample Time: start 10:45 end 10:57 **Purge Time** 12 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID A3 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other DRY GRASS

Ambient Temp _____C Weather SUNNY Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe _____ Manual ✓ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane ✓ Isopropanol _____

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/19/97

Received By: (mobile lab): _____ **Time** 1100

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** ODeQ **Date** 6/19/97

Sample Location LSV38SD1 **Sample ID** RV243

Depth 6 feet or from _____ to _____ feet

Probe Installed Date/Time 5/22/97

Sample Time: start 13:04 end 13:16 **Purge Time** 12 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID _____ **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/19/97

Received By: (mobile lab): _____ **Time** 1430

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** ODEP **Date** 6/19/97

Sample Location ILSV245@5 **Sample ID** RV244

Depth 28 feet or from _____ to _____ feet

Probe Installed Date/Time 5/19/97

Sample Time: start 13:24 end 13:46 **Purge Time** 22 min

Flow Rate 90 ml/min **Total Purge Volume** _____ ml

Bulb ID B2 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe _____ Manual ✓ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/19/97

Received By: (mobile lab): _____ **Time** 1430

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** ODOT **Date** 6/19/97

Sample Location 125V245Φ4 **Sample ID** RV245

Depth 2Φ feet or from _____ to _____ feet

Probe Installed Date/Time 5/19/97

Sample Time: start ~~1127~~ 13:27 **end** 1344 **Purge Time** 17 min

Flow Rate 15Φ ml/min **Total Purge Volume** _____ ml

Bulb ID 25 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane _____ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/19/97

Received By: (mobile lab): _____ **Time** 1430

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** DGDen **Date** 6/19/97

Sample Location ILSV245@3 **Sample ID** RV246

Depth 15 feet or from _____ to _____ feet

Probe Installed Date/Time 5/18/97

Sample Time: start 13:29 end 13:44 **Purge Time** 15 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID T1 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/19/97

Received By: (mobile lab): _____ **Time** 1430

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** DoD **Date** 6/19/97

Sample Location LSV245Ø2 **Sample ID** RV247

Depth 1Ø feet or from _____ to _____ feet

Probe Installed Date/Time 5/19/97

Sample Time: start 13:5Ø end 14:Ø3 **Purge Time** 13 min

Flow Rate 15Ø ml/min **Total Purge Volume** _____ ml

Bulb ID X1 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane _____ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/19/97

Received By: (mobile lab): _____ **Time** 1430

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** OGDEN **Date** 6/19/97

Sample Location RSV28D02 **Sample ID** RV248

Depth 10 feet or from ____ to ____ feet

Probe Installed Date/Time 5/24/97

Sample Time: start 13:57 end 1401 **Purge Time** ____ min

Flow Rate 150 ml/min **Total Purge Volume** ____ ml

Bulb ID 97 **Bulb Volume** 125 ml

Sample Type: Normal ____ Duplicate ✓ Daily QA ____

Purge Test ____ Train Blank ____ Vacuum Equilibrium ____

Surface Conditions :

Soil Type ____ Asphalt ✓ Cement ____ Other ____

Ambient Temp ____ C Weather SUNNY Humidity ____ Barometric Pressure ____

Installation Difficulty:

Easy ____ Moderate ✓ Difficult ____ Pipes Lost ____ Pipes Damaged ____

MeisterProbe ✓ Manual ____ Slam Bar ____ Drill Rig ____ SVE ____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane ____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): [signature] **Date** 6/19/97

Received By: (mobile lab): [signature] **Time** 1430

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** ODOE **Date** 6/19/97

Sample Location DCSVΦ3SΦ1 **Sample ID** RV249

Depth 4 feet or from _____ to _____ feet

Probe Installed Date/Time 6/19/97

Sample Time: start 15:14 end 15:25 **Purge Time** 11 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID A9 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane _____ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/19/97

Received By: (mobile lab): _____ **Time** 1545

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** DTSC **Date** 6/19/97

Sample Location DTSVP3SP2 **Sample ID** RV25P

Depth 8 feet or from _____ to _____ feet

Probe Installed Date/Time 6/9/97

Sample Time: start 15:14 end 15:26 **Purge Time** 12 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID 42 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate _____ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe _____ Manual ✓ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane: _____ Isopentane: ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/19/97

Received By: (mobile lab): _____ **Time** 1545

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** 06Dec **Date** 6/19/97

Sample Location DCSV@25@1 **Sample ID** RV251

Depth 4' feet or from _____ to _____ feet

Probe Installed Date/Time 6/9/97

Sample Time: start 15:18 end 15:29 **Purge Time** 11 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID N7 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane _____ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/19/97

Received By: (mobile lab): _____ **Time** 1545

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** OGDEN **Date** 6/19/97

Sample Location 12SV10S05 **Sample ID** RV252

Depth 24 feet or from _____ to _____ feet

Probe Installed Date/Time 5/22/97

Sample Time: start 1612 end 1630 **Purge Time** 18 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID 96 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed: Pentane _____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/19/97

Received By: (mobile lab): _____ **Time** 1715

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** SDeW **Date** 6/19/97

Sample Location ILSV1@5@4 **Sample ID** RV253

Depth 2@ feet or from _____ to _____ feet

Probe Installed Date/Time 5/22/97 3@

Sample Time: start 16:13 end 16:28 **Purge Time** 17 min

Flow Rate 15@ ml/min **Total Purge Volume** _____ ml

Bulb ID R6 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt ✓ Cement _____ Other _____

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane ✓ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/19/97

Received By: (mobile lab): _____ **Time** 1715

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** DGDOW **Date** 6/19/97

Sample Location CLSP@25@1 **Sample ID** RV254

Depth 5 feet or from _____ to _____ feet

Probe Installed Date/Time 5/27/97 17:

Sample Time: start 09:44 end 13:55 **Purge Time** 11 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID L5 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other SOIL

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/19/97

Received By: (mobile lab): _____ **Time** 18:46

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** Glen **Date** 6/19/97

Sample Location CLSP@25@2 **Sample ID** RV255

Depth 10 feet or from _____ to _____ feet

Probe Installed Date/Time 5/27/97

Sample Time: start 15:44 end 15:57 **Purge Time** 13 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID A6 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other GRASS

Ambient Temp _____C Weather Sunny Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane: _____ Isopentane ✓ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/19/97

Received By: (mobile lab): _____ **Time** 18:46

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** OGDEN **Date** 6/19/97

Sample Location DLSPØ25Ø3 **Sample ID** RV256

Depth 17 feet or from ______ to ______ feet

Probe Installed Date/Time 5/27/97

Sample Time: start ~~15~~ 17:44 end 18:00 **Purge Time** 16 min

Flow Rate 15Ø ml/min **Total Purge Volume** ______ ml

Bulb ID J2 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate ______ Daily QA ______

Purge Test ______ Train Blank ______ Vacuum Equilibrium ______

Surface Conditions :

Soil Type ______ Asphalt ______ Cement ______ Other GRASS

Ambient Temp ______ C Weather SUNNY Humidity ______ Barometric Pressure ______

Installation Difficulty:

Easy ______ Moderate ✓ Difficult ______ Pipes Lost ______ Pipes Damaged ______

MeisterProbe ✓ Manual ______ Slam Bar ______ Drill Rig ______ SVE ______

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane ______ Isopentane ______ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): [signature] **Date** 6/19/97

Received By: (mobile lab): [signature] **Time** 18:46

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** OGDEN **Date** 6/19/97

Sample Location CLSP@1S@1 **Sample ID** RV257

Depth 5 feet or from _____ to _____ feet

Probe Installed Date/Time 5/27/97

Sample Time: start 18:13 end 18:24 **Purge Time** 11 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID Y4 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other Soil

Ambient Temp _____C Weather _____ Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe _____ Manual ✓ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane _____ Isopropanol _____

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/19/97

Received By: (mobile lab): _____ **Time** 18:46

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD ***Client*** OGDEN ***Date*** 6/19/97

Sample Location CLSP01S02 ***Sample ID*** RV258

Depth 9 feet or from ______ to ______ feet

Probe Installed Date/Time 5/27/97

Sample Time: start 18:13 end 18:26 ***Purge Time*** 13 min

Flow Rate 150 ml/min ***Total Purge Volume*** ______ ml

Bulb ID A2 ***Bulb Volume*** 125 ml

Sample Type: Normal ✓ Duplicate ______ Daily QA ______

Purge Test ______ Train Blank ______ Vacuum Equilibrium ______

Surface Conditions :

Soil Type ______ Asphalt ______ Cement ______ Other Soil

Ambient Temp ______C Weather Sunny Humidity ______ Barometric Pressure ______

Installation Difficulty:

Easy ______ Moderate ✓ Difficult ______ Pipes Lost ______ Pipes Damaged ______

MeisterProbe ✓ Manual ______ Slam Bar ______ Drill Rig ______ SVE ______

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed: Pentane ______ Isopentane ______ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): [signature] ***Date*** 6/19/97

Received By: (mobile lab): [signature] ***Time*** 18:46

HydroGeoSpectrum

SOIL VAPOR CHAIN-OF-CUSTODY AND FIELD DATA SHEET

Project RD **Client** OGDEN **Date** 6/19/97

Sample Location CLSP#1 SD3 **Sample ID** RV259

Depth 13 feet or from _____ to _____ feet

Probe Installed Date/Time 6/27/97

Sample Time: start 18:13 end 18:27 **Purge Time** 14 min

Flow Rate 150 ml/min **Total Purge Volume** _____ ml

Bulb ID B2 **Bulb Volume** 125 ml

Sample Type: Normal ✓ Duplicate _____ Daily QA _____

Purge Test _____ Train Blank _____ Vacuum Equilibrium _____

Surface Conditions :

Soil Type _____ Asphalt _____ Cement _____ Other SOIL

Ambient Temp _____C Weather SUNNY Humidity _____ Barometric Pressure _____

Installation Difficulty:

Easy _____ Moderate ✓ Difficult _____ Pipes Lost _____ Pipes Damaged _____

MeisterProbe ✓ Manual _____ Slam Bar _____ Drill Rig _____ SVE _____

Surrogate Added: D6-Benzene ✓ D-Chloroform ✓ D2-DCM ✓ D6-DMK ✓ TDF ✓

Leak Check Performed Pentane _____ Isopentane _____ Isopropanol ✓

REMARKS/COMMENTS:

Relinquished By (sampler): _____ **Date** 6/19/97

Received By: (mobile lab): _____ **Time** 18:48

Chain of Custody Record

Centrum Job # M4-791

Centrum Analytical Laboratories, Inc.
www.centrum-labs.com
lab@centrum-labs.com

1401 Research Park Drive, Suite 100
Riverside, CA 92507
Voice: 909.779.0310 ● 800.798.9336
Fax: 909.779.0344

3299 Hill Street, Suite 305
Signal Hill, CA 90755
Voice: 562.498.7005
Fax: 562.498.8617

Project No: 1890863.011209

Project Name: Boeing SSFL

Project Manager: Dixie Hambrick

Phone: 626.568.6348 **Fax:** 858 751-1201 Attn: Lisa Tucker

Client Name: (Report and Billing) Montgomery Watson Harza

Address: (Report and Billing) 300 N. Lake Avenue, #1200, Pasadena, CA 91101

Turn-Around Time
- ☐ 24 Hr. RUSH*
- ☐ 48 Hr. RUSH*
- ☐ Normal TAT

*Requires PRIOR approval, additional charges apply

Requested due date: _____

Centrum ID (Lab use only)	Sample ID (As it should appear on report)	Depth (ft)	EPA ID	BULB ID	Time Sampled start	Time Sampled stop	Flow (ml/min)	Date sampled	Sample matrix	Containers: # and type	Analyses Requested: Isopropyl Alcohol Leak Check	Analyses Requested: GCMS: 8260B mod. LARWQCB 23 soil gas	Remarks/Special Instructions
1	SRSV08 S01	3'	MV565	M4-8	0903	0915	150	2/27/06	SV	125cc Glass Bulb	X	X	
2	SRSV09 S01	4'	MV566	M4-12	0919	0931	150				X	X	
3	SRSV10 S01	4~~5~~ FB	MV567	M4-13	0940	0954	150				X	X	
4	SRSV11 S01	5	MV568	M4-5	0957	1009					X	X	brown - shortest
5	SRSV11 S02	13	MV569	M4-6	1009	1024					X	X	green - 2nd shortest
6	SRSV11 S03	20	MV570	M4-2	1026	1043					X	X	red
7	SRSV11 D03	20	MV571	M4-10	1026	1043					X	X	red
8	SRSV11 S04	27	MV572	M4-11	1047	1106					X	X	clear
9	OCSV01 S01	7	MV573	M4-9	1114	1127					X	X	
10	OCSV03 S01	7	MV574	M4-7	1128	1141	↓	↓	↓	↓	X	X	

	Date:	Time:
1) Relinquished by: (Sampler's Signature)	2/27/06	1145
2) Received by:		
3) Relinquished by:		
4) Received by:		
5) Relinquished by:		
6) Received for Laboratory by:	4/27/06	1145

The delivery of samples and the signature on this chain of custody form constitutes authorization to perform the analyses specified above under the Terms and Conditions set forth on the back hereof.

To be completed by Laboratory personnel:

Samples chilled? ☐ Yes ☐ No ☒ From Field

Custody seals? ☐ Yes ☒ No

All sample containers intact? ☒ Yes ☐ No

☐ Courier ☐ UPS/Fed Ex ☒ Hand carried

Sample Disposal
- ☐ Client will pick up
- ☐ Return to client
- ☐ Lab disposal

Laboratory Notes:

Sample Locator No.

APPENDIX A2-4

INFORMATION REGARDING OLD CONSERVATION YARD BERMS

MWH

Former AST-732

X BS47

Out crop

Tree

X BS46

X BS40

Site Sketch Map

Boring #: BS46 MW#:	Sheet 1 of 1
Project: Group 6 Data Gap	
Job #:	Site: SSFL - OCY
Logged By: JDolmat Reviewed By:	
Drilling Contractor: NA	
Drill Rig Type/Method: hand trowel	
Drillers Name: B Stewart	
Borehole Diam./Drill Bit Type: 3"	Total Depth: 0.5' / Ref. Elev.:
Sampler Type:	
Depth to 1st Water (▽): Time/Date:	Drill Start Time/Date: 2/17/06 Drill Finish Time/Date:
Depth to Water After Drilling (▼): Time/Date:	Well Completion Time/Date: —
Depth to other Water Bearing Zones:	Soil Boring Backfill Time/Date: —

AST 732

BERM Soil spread

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of: Gravel	Sand: Coarse	Sand: Medium	Sand: Fine	Silt/clay
	X			X			0.5'		surface sloping 10-20 E/SE low vegitation, NO ash layer	—	—	—	60	40
							1	SM	SILTY SAND dark yellowish Brown (10YR 4/4) dense slightly moist Boring NOT deepened to bedrock					
							2							
							3							
							4							
							5							
							6							
							7							
							8							
							9							
							10							
							11							
							12							

QA/QC

MWH

N↑

outcrop

Former AST

X SW

X BS40

X BS47

Site Sketch Map

Boring #: BS47 MW#: Sheet 1 of 1

Project: Group 6 Data Gap

Job #: Site: SSFL-OCY

Logged By: JDolmat Reviewed By:

Drilling Contractor: —

Drill Rig Type/Method: Hand Auger

Drillers Name: B Burton

Borehole Diam./Drill Bit Type: 3" Total Depth 0.5' Ref. Elev.

Sampler Type:

Depth to 1st Water (▽): Time/Date:

Depth to Water After Drilling (▼): Time/Date:

Depth to other Water Bearing Zones:

Drill Start Time/Date: 2/17/06 Drill Finish Time/Date:

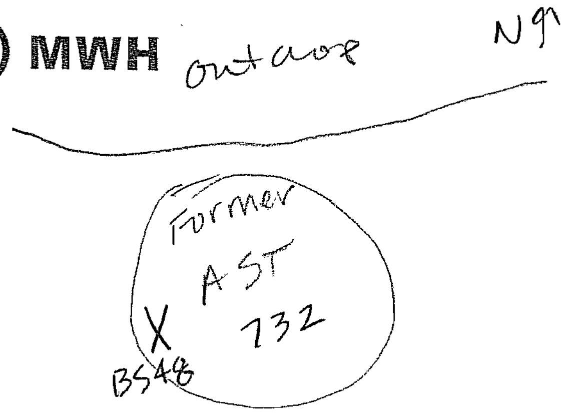
Well Completion Time/Date: —

Soil Boring Backfill Time/Date: —

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of: Gravel	Sand: Coarse	Sand: Medium	Sand: Fine	Silt/clay
NA	X			X			0.5'	SM	Surface sloping East/SE 10-20° low vegitation	—	—	—	60	40
							1		SILTY SAND, dark yellowish brown, (10YR 4/4) dense slightly moist					
							2		Boring NOT deepened to bedrock					
							3		no ash layer					
							4							
							5							
							6							
							7							
							8							
							9							
							10							
							11							
							12							

QA/QC

MWH



Site Sketch Map

Boring #: OC-BS48	MW#:
Sheet 1 of 1	
Project: Group 6 Data Gap	
Job #:	Site: SSFL -OC4
Logged By: J Dolmat	Reviewed By:
Drilling Contractor: —	
Drill Rig Type/Method: Hand Auger	
Drillers Name: B Stewart	
Borehole Diam./Drill Bit Type: 3"	Total Depth: 0.5'
	Ref. Elev.
Sampler Type:	
Drill Start Time/Date: 2/17/06	Drill Finish Time/Date:
Well Completion Time/Date: —	
Soil Boring Backfill Time/Date: —	

Depth to 1st Water (▽):	Time/Date:
Depth to Water After Drilling (▼):	Time/Date:
Depth to other Water Bearing Zones:	

Berm AST 732 spread Soils

	PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Gravel	Sand: Coarse	Sand: Medium	Sand: Fine	Silt/clay
S01	NA	X			X			0.5'	SM	surface flat low vegitation SILTY SAND dark yellowish Brown (10YR 4/4) dense slightly moist no ash layer NOT deepened to bedrock	—	—	—	60	40
								1							
								2							
								3							
								4							
								5							
								6							
								7							
								8							
								9							
								10							
								11							
								12							

QA/QC

MWH

NT

Boring #: OC BS49 MW#: Sheet 1 of

Project: Group 6 Data Gap

Job #: Site: SSFL - OCY

Logged By: JDahmat Reviewed By:

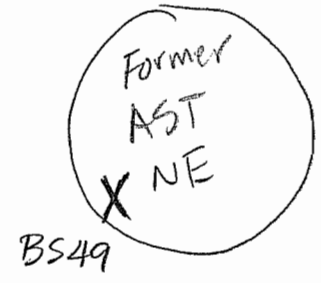
Drilling Contractor: —

Drill Rig Type/Method: Hand Auger

Drillers Name: B Stewart

Borehole Diam./Drill Bit Type: 3" Total Depth: 0.5'

Ref. Elev.:



Site Sketch Map

Sampler Type:

Depth to 1st Water (▽): Time/Date:

Drill Start Time/Date: 2/17/06 Drill Finish Time/Date:

Depth to Water After Drilling (▼): Time/Date:

Well Completion Time/Date: —

Depth to other Water Bearing Zones:

Soil Boring Backfill Time/Date:

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of: Gravel	Sand: Coarse	Sand: Medium	Sand: Fine	Silt/clay
	X			X			0.5'	SM	Surface flat grassy vegitation No ash layer	—	—	—	60	40
							1		SILTY SAND dark yellowish brown (10YR 4/4) dense slightly moist, Boring NOT deepened to bedrock					
							2							
							3							
							4							
							5							
							6							
							7							
							8							
							9							
							10							
							11							
							12							

QA/QC

MEMORANDUM

DATE: **September 21, 2006**

TO: **Dixie Hambrick/MWH-Pasadena**

FROM: **Thomas Burton/MWH-San Diego** TB.

SUBJECT: Volume Estimates for OCY Berms

The following calculations provide the volume estimates for the former storage tank berms at the Old Conservation Yard RFI site at the SSFL.

1. Northern Tank
   - Shape of berm is a trapezoid
   - Height is 6ft
   - Width of center-flat section is 3ft
   - Base of side trangle areas is 8.67ft
   - The estimated area of the berm is 70 ft^2
   - The estimated length of the berm is 200ft
   - The estimated volume of the berm is 14,000 ft^3 or 520 yds^3

(The information used to make the volume estimates is contained in Section C of Boeing Figure 303-735-C1, dated 10-29-76.)

2. Northern Tank
   - Shape of berm is a trapezoid
   - Height is 6ft
   - Width of center-flat section is 6ft
   - Base of side trangle areas is 13.5ft
   - The estimated area of the berm is 117 ft^2
   - The estimated length of the berm is 400ft
   - The estimated volume of the berm is 46,800 ft^3 or 1730 yds^3

(The information used to make the volume estimates is contained in Section C of Boeing Figure 303-732-C2, not dated.)

3. To check these calculations, the estimated area that this amount of soil would cover was calculated and compared to the site maps. The approximate area is 250ft by 250ft, which is similar to the map area estimates.


OCTSØ5
SØ1


OCTSØ6
SØ1


OCTSØ7
SØ1

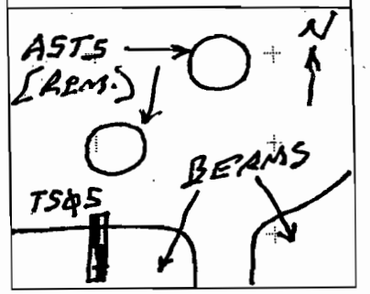

OCTSØ8
SØ1


OCTSIØ
SØ1

Project Name	DOE			FIELD TRENCHING	
Trench Number	OC TS05 ULS #36	Project Number	313150004	Elevation Datum	Location OLYMPIA	Sheet 1 of 1
Equipment Supplier	TYREE	Operator	DAVE	Date and Time Started 6/17/99; 0925	Date and Time Completed	Refusal? (Circle One) Yes (No) If Yes, Depth =
Equipment Type	CASE 580 L	Trench Orientation	N30W	Total Depth	Total Number of Samples 1	Photo (Circle One) Yes No No.
Bucket Width 2'	Trench Length 14'	Trench Width	4'	No. of Samples / Bulk / Grab	Drive / Hand Auger	% Man-Made Debris 0
Geologist or Hydrogeologist/Date	D. BARRIE			Checked by/Date		Wall of Trench Shown (Circle One) N S (E) W NE NW SE SW

OGDEN

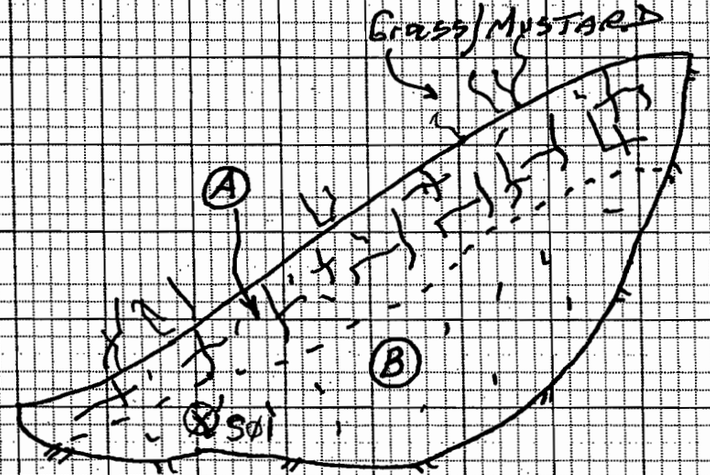
Plan View-Site Location
(Provide Sketch)



LENGTH (FEET)

DEPTH (FEET)

ENTER TRENCH DIRECTION N30W
SCALE: 1" = 4'



GRAV/S/F:
((T-)10/90)

UNIT (A): LEAN CLAY (CL); DK. YEL. BRN (10YR 3/6); DRY-MOIST; V. STIFF; BLOCKY TEXTURE; ABUN. ROOTS IN UPPER FT (BERM FILL)

UNIT (B): AS ABOVE (CL) BUT V. STIFF-HARD; MOIST; MORE INTACT/ LESS BLOCKY; GRAD. CONTACT W/ UNIT (A) (BERM FILL)

@ 1040 TS05S01 (From Unit B)

EXPLANATION

- SOIL TYPE CONTACT (SHARP)
- OTHER CONTACT (AS INDICATED ON LOG
- FILL/NATIVE BOUNDARY
- X ANALYICAL SAMPLE LOCATION (WRITE SAMPLE NUMBI OUT TO SIDE)
- G GEOTECHNICAL SAMPI LOCATION (WRITE SAMPLE NUMB OUT TO SIDE)
- SHADING TO DENOTE STAINING
- BASE OF EXCAVATION
- SHOW LOCATIONS ANI TYPES OF ALL MAJOR DEBRIS

Project Name				FIELD TRENCH LOG	
Trench Number: CTS06 (WS #35)	Project Number: 313150004	Elevation/Datum	Location: OLSON	Sheet 1 of 1	
Equipment Supplier	Operator: DAVE	Date and Time Started: 6/17/99; 0940	Date and Time Completed: 6/17/99; 1110	Refusal? (Circle One) Yes (No)	If Yes Depth =
Equipment Type: CASE 580B HOE	Trench Orientation: N42E	Total Depth	Total Number of Samples: 3	Photo (Circle One) Yes No	No.
Bucket Width: 2' / Trench Length: 15'	Trench Width: 4'	No. of Samples / Bulk / Grab	Drive: 1 / Hand Auger	% Man-Made Debris: 0	
Geologist or Hydrogeologist/Date: D. BARRIE		Checked by/Date		Wall of Trench Shown (Circle One) N (S) E W NE NW SE SW	

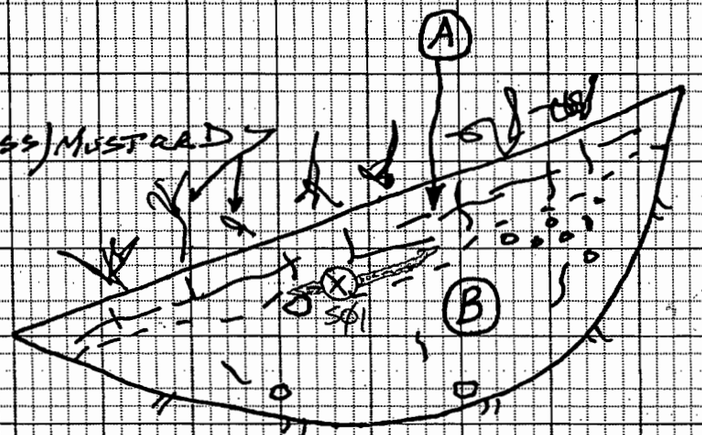
OGDEN

LENGTH (FEET)

DEPTH (FEET)

ENTER TRENCH DIRECTION → N42E →

SCALE: 1" = 4' Hor



Q = SS BEDROCK FRAG.

N42E →

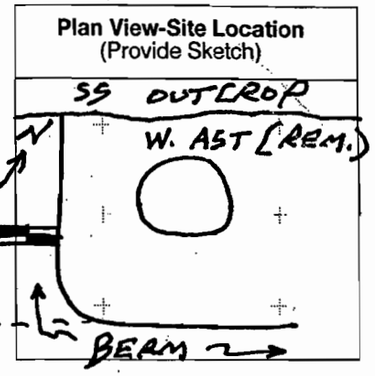
UNIT (A): LEAN clay [CL]; DK. Yel. BRN [10 YR 3/6]; AS IN OCTSA05; T; 10/90; DRY-MOIST; SOFT-STIFF; BLOCKY TEXTURE; ABUN. ROOTS, UPPER 6" [BERM FILL]

UNIT (B): LEAN clay [CL]; AS ABOVE BUT MOIST; V. STIFF;

NOTE: NO VISUAL IMPACTS REL. TO HYDROCARBONS

@1100 TS06SO1 from 1" black layer (asphaltic) between Units A+B; layer pinches out in trench

Plan View-Site Location (Provide Sketch)



EXPLANATION

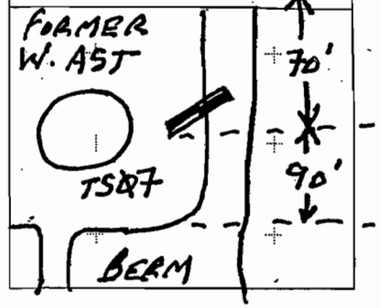
- SOIL TYPE CONTACT (SHARP)
- OTHER CONTACT (AS INDICATED ON LOG)
- FILL/NATIVE BOUNDARY
- X — ANALYICAL SAMPLE LOCATION (WRITE SAMPLE NUMBE OUT TO SIDE)
- G — GEOTECHNICAL SAMPL LOCATION (WRITE SAMPLE NUMBE OUT TO SIDE)
- SHADING TO DENOTE STAINING
- BASE OF EXCAVATION
- SHOW LOCATIONS AND TYPES OF ALL MAJOR DEBRIS

Project Name: DOE				FIELD TRENCH LOG	
Trench Number: CTS07 ULS37	Project Number:	Elevation/Datum:		Location: OLDCAN	Sheet 1 of 1
Equipment Supplier: Tyree	Operator: DAVE	Date and Time Started: 6/17/99		Date and Time Completed: 6/17/99 1145	Refusal? (Circle One) Yes (No) If Yes Depth =
Equipment Type: Case 580 B Hoe	Trench Orientation: N35E	Total Depth:		Total Number of Samples: 1	Photo (Circle One) (Yes) No No.
Bucket Width:	Trench Length: 15'	Trench Width: 4'	No. of Samples: Bulk: Grab:	Drive: 1 Hand Auger:	% Man-Made Debris: Tr
Geologist or Hydrogeologist/Date: D. BARRIE		Checked by/Date:			Wall of Trench Shown (Circle One) (N) S E W NE NW SE SW

OGDEN

ROCK OUTCROP

Plan View-Site Location (Provide Sketch)



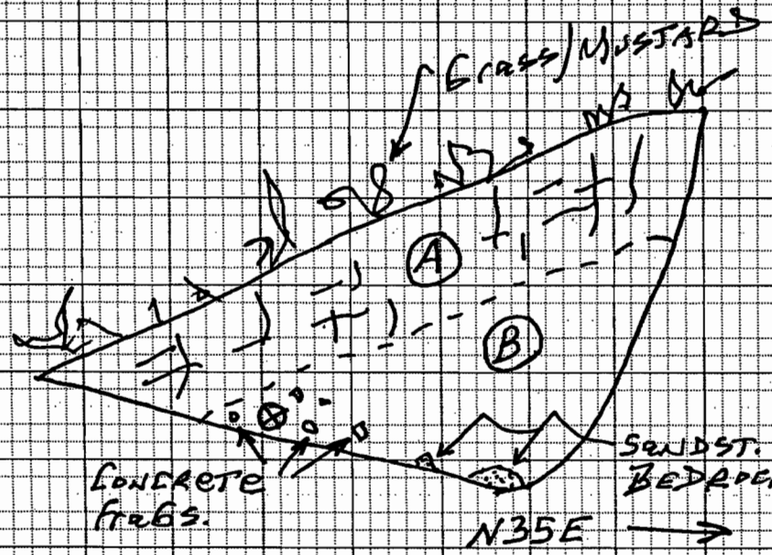
N

LENGTH (FEET)

DEPTH (FEET)

ENTER TRENCH DIRECTION

SCALE:



Tr/10/90

UNIT (A) LEAN CLAY (CL); AS IN UNIT (A), TS06; DRY-MOIST; SOFT-HARD (BERM FILL)

UNIT (B) LEAN CLAY (CL); Tr/10/90; AS IN UNIT (B), TS06; (BERM FILL)

NOTE: NO VISUAL EVIDENCE OF HYDROCARBON IMPACTS

⊗ OCTS07S01D2.5'

EXPLANATION

- SOIL TYPE CONTACT (SHARP)
- OTHER CONTACT (AS INDICATED ON LOG)
- FILL/NATIVE BOUNDARY
- X ANALYICAL SAMPLE LOCATION (WRITE SAMPLE NUMBE OUT TO SIDE)
- G GEOTECHNICAL SAMPLI LOCATION (WRITE SAMPLE NUMBE OUT TO SIDE)
- SHADING TO DENOTE STAINING
- BASE OF EXCAVATION
- SHOW LOCATIONS AND TYPES OF ALL MAJOR DEBRIS

FIELD TRENCH LOG

OGDEN

Project Name				
Trench Number: DCTSØB	Project Number: 313150004	Elevation/Datum:	Location: OLDCON	Sheet 1 of 1
Equipment Supplier: TYREE	Operator: DAVE	Date and Time Started: 6/17/99	Date and Time Completed: 6/17/99 1225	Refusal? (Circle One) Yes **No** If Yes Depth =
Equipment Type: Case 580B HOE	Trench Orientation: S50W	Total Depth	Total Number of Samples: 1	Photo (Circle One) **Yes** No No.
Bucket Width: 2' / Trench Length: 10'	Trench Width: 4'	No. of Samples / Bulk / Grab	Drive: 1 / Hand Auger	% Man-Made Debris
Geologist or Hydrogeologist/Date: D. Barrie		Checked by/Date		Wall of Trench Shown (Circle One) **N** S E W NE NW SE SW

LENGTH (FEET)

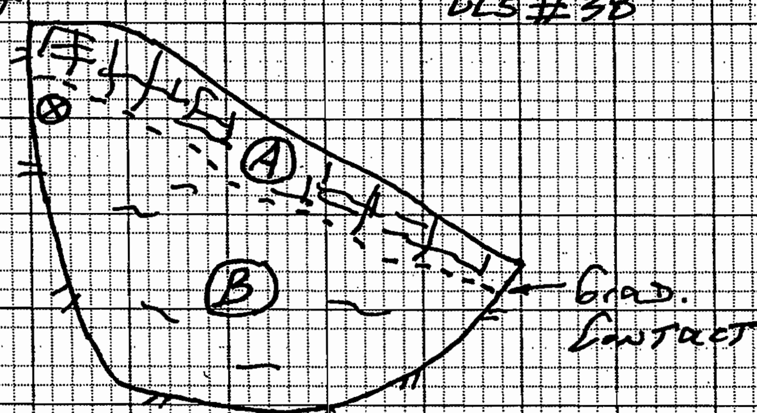
DEPTH (FEET)

ENTER TRENCH DIRECTION S50W
SCALE: 1" = 4' H&V

← S50W

NOTE: ABUN. Asphalt frags on top of BERM (left over from former Asphalt coating – now removed)

OLS #38



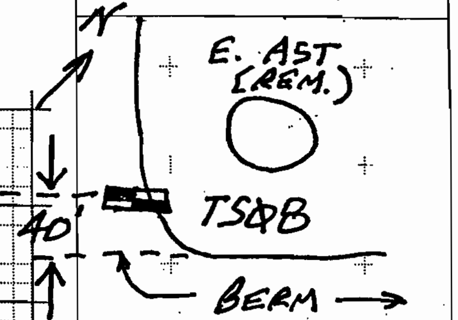
⊗ DCTSØBSØ1D2.0'

UNIT (A): LEAN Clay (CL); AS in UNIT (A), DCTSØ7; MOIST; Blocky TEXTURE; SOFT-HARD (Berm Fill)

UNIT (B): Lean Clay (CL); AS in UNIT (B), DCTSØ7; V. STIFF-HARD; MOIST; Less Blocky; (Berm Fill)

NOTE: No Visual Evidence of Hydrocarbon Impacts

Plan View-Site Location
(Provide Sketch)



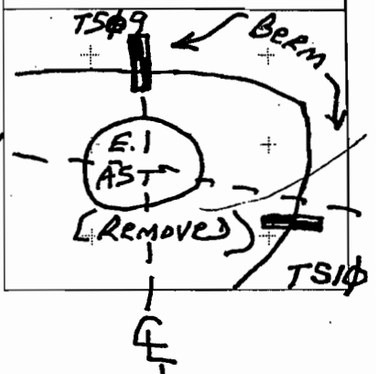
EXPLANATION

- SOIL TYPE CONTACT (SHARP)
- OTHER CONTACT (AS INDICATED ON LOG)
- FILL/NATIVE BOUNDARY
- X — ANALYTICAL SAMPLE LOCATION (WRITE SAMPLE NUMBE OUT TO SIDE)
- G — GEOTECHNICAL SAMPLI LOCATION (WRITE SAMPLE NUMBE OUT TO SIDE)
- SHADING TO DENOTE STAINING
- BASE OF EXCAVATION
- SHOW LOCATIONS AND TYPES OF ALL MAJOR DEBRIS

Project Name	DOE	OCTSIØ (ULS #40)		FIELD TRENCH LOG
Trench Number	OCT-Ø9 (ULS#39) +	Project Number	313150004	Elevation Datum	Location	OLDCON	Sheet 1 of ___
Equipment Supplier	TYREE	Operator	DAVE	Date and Time Started	6/17/99 1330	Date and Time Completed	6/17/99	Refusal? (Circle One) Yes (No) If Yes Depth =
Equipment Type	CASE 580 B HOE	Trench Orientation		Total Depth		Total Number of Samples	1	Photo (Circle One) (Yes) No No.
Bucket Width	2'	Trench Length		Trench Width	4'	No. of Samples	Bulk	Grab	Drive	1	Hand Auger	% Man-Made Debris	Ø
Geologist or Hydrogeologist/Date	D. BARRIE			Checked by/Date				Wall of Trench Shown (Circle One) N S E W (NE) NW SE SW

OGDEN

Plan View-Site Location
(Provide Sketch)



LENGTH (FEET)

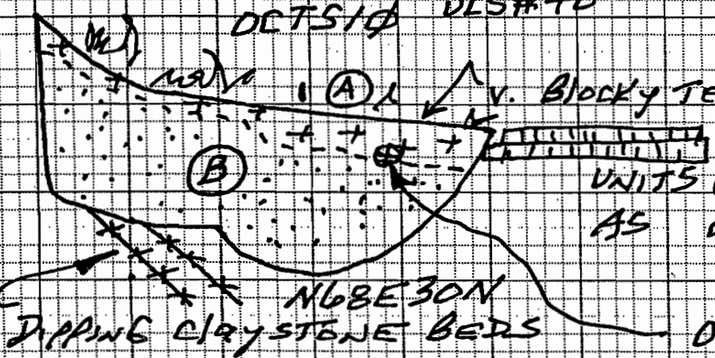
DEPTH (FEET)

ENTER TRENCH DIRECTION
SCALE: 1" = 2' H=V

Gr/S/F (5/60/35)

UNIT (A): SILTY SAND (SM); DK. YEL. BRN (10YR 3/6); MOIST; MED. DENSE - DENSE; F. GR.; LOW-NO PLAST.; (BERM FILL)

UNIT (B): SILTY SAND (SM); TC/80/20; F-C GR.; DENSE; YEL. BRN (10YR 5/6) (W. CHATSWORTH FM.)



UNITS (A) & (B), OCTSIØ, SAME AS OCTSØ9, ABOVE

2 SIDE BY SIDE PERF. 6' PLASTIC PIPES - BURIED 6" BGS - EXTENDING FROM FORMER AST TO END OF TRENCH.

→ PIPES COMPOSED OF 6" PVC WELL SCREEN; SOILS INSIDE PIPES LOCALLY STAINED DK. GREY..

OCTSIØSØ1DI.Ø' (BASE, UNIT A)
HEADSP. = Ø

EXPLANATION

- SOIL TYPE CONTACT (SHARP)
- OTHER CONTACT (AS INDICATED ON LOG)
- FILL/NATIVE BOUNDARY
- X — ANALYICAL SAMPLE LOCATION (WRITE SAMPLE NUMBE OUT TO SIDE)
- G — GEOTECHNICAL SAMPLI LOCATION (WRITE SAMPLE NUMBE OUT TO SIDE)
- SHADING TO DENOTE STAINING
- BASE OF EXCAVATION
- SHOW LOCATIONS AND TYPES OF ALL MAJOR DEBRIS

Table 1
RFI Soil Sample Data
OCY Earthen Berm -Before Spread

EPA_NO	OGDEN_ID	Collection Date	Depth ft bgs	Method Group	Analyte	Conc.	units	Qualifier	over Background?	Background Level	over Res RBSL?	Res RBSL	over Eco RBSL?	Eco RBSL
RS287	OCTS05S01	6/17/1999	3	Metals	Aluminum	12000	mg/kg		no	20000	no	75000	yes	14
RS287	OCTS05S01	6/17/1999	3	Metals	Antimony	11	mg/kg	UJ	yes	8.7	no	30	yes	0.096
RS287	OCTS05S01	6/17/1999	3	Metals	Arsenic	5	mg/kg	UJ	no	15	yes	0.095	yes	0.34
RS287	OCTS05S01	6/17/1999	3	Metals	Barium	89	mg/kg		no	140	no	15000	yes	15
RS287	OCTS05S01	6/17/1999	3	Metals	Beryllium	0.6	mg/kg		no	1.1	no	150	no	5.7
RS287	OCTS05S01	6/17/1999	3	Metals	Boron	11	mg/kg	U	yes	9.7	no	15000	yes	6.3
RS287	OCTS05S01	6/17/1999	3	Metals	Cadmium	1	mg/kg	U	no	1	no	2.6	yes	0.0031
RS287	OCTS05S01	6/17/1999	3	Metals	Chromium	14	mg/kg		no	36.8	no	3400	no	940
RS287	OCTS05S01	6/17/1999	3	Metals	Cobalt	6	mg/kg		no	21	no	1500	no	10
RS287	OCTS05S01	6/17/1999	3	Metals	Copper	9	mg/kg		no	29	no	3000	yes	1.1
RS287	OCTS05S01	6/17/1999	3	Metals	Lead	8	mg/kg		no	34	no	150	yes	0.063
RS287	OCTS05S01	6/17/1999	3	Metals	Mercury	0.2	mg/kg	U	yes	0.09	no	23	no	0.89
RS287	OCTS05S01	6/17/1999	3	Metals	Molybdenum	11	mg/kg	U	yes	5.3	no	380	yes	0.11
RS287	OCTS05S01	6/17/1999	3	Metals	Nickel	10	mg/kg		no	29	no	1500	yes	0.1
RS287	OCTS05S01	6/17/1999	3	Metals	Selenium	5	mg/kg	UJ	yes	0.655	no	380	yes	0.18
RS287	OCTS05S01	6/17/1999	3	Metals	Silver	1	mg/kg	U	yes	0.79	no	380	yes	0.55
RS287	OCTS05S01	6/17/1999	3	Metals	Thallium	5	mg/kg	U	yes	0.46	no	6.1	yes	3.2
RS287	OCTS05S01	6/17/1999	3	Metals	Vanadium	29	mg/kg		no	62	no	76	yes	1.6
RS287	OCTS05S01	6/17/1999	3	Metals	Zinc	61	mg/kg	J	no	110	no	23000	yes	22
RS287	OCTS05S01	6/17/1999	3	PH	pH	8.1	pH units	J						
RS287	OCTS05S01	6/17/1999	3	SVOCSIM	Acenaphthene	32	µg/kg	U			no	3400000	no	2500
RS287	OCTS05S01	6/17/1999	3	SVOCSIM	Acenaphthylene	32	µg/kg	U			no	1700000	no	810000
RS287	OCTS05S01	6/17/1999	3	SVOCSIM	Anthracene	32	µg/kg	U			no	17000000	no	2400
RS287	OCTS05S01	6/17/1999	3	SVOCSIM	Benzo(a)anthracene	32	µg/kg	U			no	600	no	1700
RS287	OCTS05S01	6/17/1999	3	SVOCSIM	Benzo(a)pyrene	32	µg/kg	U			yes	6	no	4700
RS287	OCTS05S01	6/17/1999	3	SVOCSIM	Benzo(b)fluoranthene	32	µg/kg	U			no	600	no	5500
RS287	OCTS05S01	6/17/1999	3	SVOCSIM	Benzo(g,h,i)perylene	32	µg/kg	U					no	6400
RS287	OCTS05S01	6/17/1999	3	SVOCSIM	Benzo(k)fluoranthene	32	µg/kg	U			no	600	no	3700
RS287	OCTS05S01	6/17/1999	3	SVOCSIM	bis(2-Ethylhexyl)phthalate	100	µg/kg	U			no	250000	no	4900
RS287	OCTS05S01	6/17/1999	3	SVOCSIM	Chrysene	32	µg/kg	U			no	6000	no	2400
RS287	OCTS05S01	6/17/1999	3	SVOCSIM	Dibenzo(a,h)anthracene	32	µg/kg	U			no	170	no	1700
RS287	OCTS05S01	6/17/1999	3	SVOCSIM	Diethylphthalate	100	µg/kg	U			no	46000000	no	7000000
RS287	OCTS05S01	6/17/1999	3	SVOCSIM	Di-n-butyl phthalate	100	µg/kg	U			no	5700000	no	500
RS287	OCTS05S01	6/17/1999	3	SVOCSIM	Fluoranthene	32	µg/kg	U			no	2300000	no	130000
RS287	OCTS05S01	6/17/1999	3	SVOCSIM	Fluorene	32	µg/kg	U			no	2300000	no	1600
RS287	OCTS05S01	6/17/1999	3	SVOCSIM	Indeno(1,2,3-cd)pyrene	32	µg/kg	U			no	600	no	3900
RS287	OCTS05S01	6/17/1999	3	SVOCSIM	Naphthalene	32	µg/kg	U			no	6000	no	240000
RS287	OCTS05S01	6/17/1999	3	SVOCSIM	N-nitrosodimethylamine	2	µg/kg	U			no	45	no	60000
RS287	OCTS05S01	6/17/1999	3	SVOCSIM	N-nitrosodiphenylamine	32	µg/kg	U			no	80000	no	60000
RS287	OCTS05S01	6/17/1999	3	SVOCSIM	Phenanthrene	32	µg/kg	U			no	1700000	no	1300
RS287	OCTS05S01	6/17/1999	3	SVOCSIM	Pyrene	32	µg/kg	U			no	1700000	no	79000
RS287	OCTS05S01	6/17/1999	3	TPH	C08-C11 (Gasoline Range)	11	mg/kg	U			yes	1.1		
RS287	OCTS05S01	6/17/1999	3	TPH	C11-C14 (Kerosene Range)	11	mg/kg	U			no	1400		
RS287	OCTS05S01	6/17/1999	3	TPH	C14-C20 (Diesel Range)	11	mg/kg	U			no	1400		
RS287	OCTS05S01	6/17/1999	3	TPH	C20-C30 (Lubricant Oil Range)	11	mg/kg	U			no	1400		
RS287	OCTS05S01	6/17/1999	3	VOC	1,1,1,2-Tetrachloroethane	21	µg/kg	U			yes	0.25	no	82000
RS287	OCTS05S01	6/17/1999	3	VOC	1,1,1-Trichloroethane	5	µg/kg	U			no	490	no	2800000

Table 1
RFI Soil Sample Data
OCY Earthen Berm -Before Spread

EPA_NO	OGDEN_ID	Collection Date	Depth ft bgs	Method Group	Analyte	Conc.	units	Qualifier	over Background?	Background Level	over Res RBSL?	Res RBSL	over Eco RBSL?	Eco RBSL
RS287	OCTS05S01	6/17/1999	3	VOC	1,1,2,2-Tetrachloroethane	5	µg/kg	U			yes	1.4	no	6400
RS287	OCTS05S01	6/17/1999	3	VOC	1,1,2-Trichloroethane	5	µg/kg	U			yes	1.2	no	9000
RS287	OCTS05S01	6/17/1999	3	VOC	1,1,2-Trichlorotrifluoroethane	21	µg/kg	U			no	16000	no	200000
RS287	OCTS05S01	6/17/1999	3	VOC	1,1-Dichloroethane	5	µg/kg	U			yes	1.6	no	230000
RS287	OCTS05S01	6/17/1999	3	VOC	1,1-Dichloroethene	5	µg/kg	U			no	23	no	12000
RS287	OCTS05S01	6/17/1999	3	VOC	1,2,4-Trimethylbenzene	21	µg/kg	U			no	35	no	690000
RS287	OCTS05S01	6/17/1999	3	VOC	1,2-Dibromo-3-chloropropane	21	µg/kg	U						
RS287	OCTS05S01	6/17/1999	3	VOC	1,2-Dichlorobenzene	11	µg/kg	U			no	1800	no	390000
RS287	OCTS05S01	6/17/1999	3	VOC	1,2-Dichloroethane	5	µg/kg	U			yes	0.5	no	76000
RS287	OCTS05S01	6/17/1999	3	VOC	1,2-Dichloropropane	5	µg/kg	U						
RS287	OCTS05S01	6/17/1999	3	VOC	1,3,5-Trimethylbenzene	21	µg/kg	U			no	36	no	690000
RS287	OCTS05S01	6/17/1999	3	VOC	1,3-Dichlorobenzene	11	µg/kg	U			no	1700	no	350000
RS287	OCTS05S01	6/17/1999	3	VOC	1,4-Dichlorobenzene	11	µg/kg	U			yes	10	no	170000
RS287	OCTS05S01	6/17/1999	3	VOC	2-Butanone	53	µg/kg	U			no	62000	no	8200000
RS287	OCTS05S01	6/17/1999	3	VOC	2-Chloro-1,1,1-trifluoroethane	21	µg/kg	U					no	17000
RS287	OCTS05S01	6/17/1999	3	VOC	2-Chloroethyl vinyl ether	53	µg/kg	U						
RS287	OCTS05S01	6/17/1999	3	VOC	Acetone	53	µg/kg	U			no	51000	no	46000
RS287	OCTS05S01	6/17/1999	3	VOC	Benzene	5	µg/kg	U			yes	0.13	no	4600
RS287	OCTS05S01	6/17/1999	3	VOC	Bromodichloromethane	5	µg/kg	U						
RS287	OCTS05S01	6/17/1999	3	VOC	Bromoform	10	µg/kg	UJ						
RS287	OCTS05S01	6/17/1999	3	VOC	Bromomethane	11	µg/kg	U						
RS287	OCTS05S01	6/17/1999	3	VOC	Carbon tetrachloride	5	µg/kg	U			yes	0.042	no	1600
RS287	OCTS05S01	6/17/1999	3	VOC	Chlorobenzene	5	µg/kg	U			no	97	no	63000
RS287	OCTS05S01	6/17/1999	3	VOC	Chloroethane	11	µg/kg	U						
RS287	OCTS05S01	6/17/1999	3	VOC	Chloroform	10	µg/kg	UJ			yes	0.77	no	920
RS287	OCTS05S01	6/17/1999	3	VOC	Chloromethane	11	µg/kg	U						
RS287	OCTS05S01	6/17/1999	3	VOC	Chlorotrifluoroethene	21	µg/kg	U					no	12000
RS287	OCTS05S01	6/17/1999	3	VOC	cis-1,2-Dichloroethene	5	µg/kg	U			no	14	no	74000
RS287	OCTS05S01	6/17/1999	3	VOC	cis-1,3-Dichloropropene	5	µg/kg	U						
RS287	OCTS05S01	6/17/1999	3	VOC	Dichlorodifluoromethane	11	µg/kg	U			no	15	no	69000
RS287	OCTS05S01	6/17/1999	3	VOC	Ethylbenzene	5	µg/kg	U			no	1200	no	220000
RS287	OCTS05S01	6/17/1999	3	VOC	m,p-Xylene	5	µg/kg	U			no	150	no	690000
RS287	OCTS05S01	6/17/1999	3	VOC	Methylene chloride	21	µg/kg	U			yes	4	no	27000
RS287	OCTS05S01	6/17/1999	3	VOC	o-Xylene	5	µg/kg	U			no	190	no	690000
RS287	OCTS05S01	6/17/1999	3	VOC	Tetrachloroethene	5	µg/kg	U			yes	0.43	no	2300
RS287	OCTS05S01	6/17/1999	3	VOC	Toluene	5	µg/kg	U			no	300	no	2700
RS287	OCTS05S01	6/17/1999	3	VOC	trans-1,2-Dichloroethene	5	µg/kg	U			no	16	no	1000000
RS287	OCTS05S01	6/17/1999	3	VOC	trans-1,3-Dichloropropene	5	µg/kg	U						
RS287	OCTS05S01	6/17/1999	3	VOC	Trichloroethene	5	µg/kg	U			yes	2.2	no	3200
RS287	OCTS05S01	6/17/1999	3	VOC	Trichlorofluoromethane	5	µg/kg	U			no	110	no	320000
RS287	OCTS05S01	6/17/1999	3	VOC	Vinyl chloride	11	µg/kg	U			yes	0.0096	no	780
RS288	OCTS06S01	6/17/1999	2	Metals	Aluminum	21000	mg/kg		yes	20000	no	75000	yes	14
RS288	OCTS06S01	6/17/1999	2	Metals	Antimony	11	mg/kg	UJ	yes	8.7	no	30	yes	0.096
RS288	OCTS06S01	6/17/1999	2	Metals	Arsenic	5	mg/kg	UJ	no	15	yes	0.095	yes	0.34
RS288	OCTS06S01	6/17/1999	2	Metals	Barium	113	mg/kg		no	140	no	15000	yes	15
RS288	OCTS06S01	6/17/1999	2	Metals	Beryllium	0.9	mg/kg		no	1.1	no	150	no	5.7
RS288	OCTS06S01	6/17/1999	2	Metals	Boron	11	mg/kg	U	yes	9.7	no	15000	yes	6.3

Table 1
RFI Soil Sample Data
OCY Earthen Berm -Before Spread

EPA_NO	OGDEN_ID	Collection Date	Depth ft bgs	Method Group	Analyte	Conc.	units	Qualifier	over Background?	Background Level	over Res RBSL?	Res RBSL	over Eco RBSL?	Eco RBSL
RS288	OCTS06S01	6/17/1999	2	Metals	Cadmium	1	mg/kg	U	no	1	no	2.6	yes	0.0031
RS288	OCTS06S01	6/17/1999	2	Metals	Chromium	25	mg/kg		no	36.8	no	3400	no	940
RS288	OCTS06S01	6/17/1999	2	Metals	Cobalt	9	mg/kg		no	21	no	1500	no	10
RS288	OCTS06S01	6/17/1999	2	Metals	Copper	14	mg/kg		no	29	no	3000	yes	1.1
RS288	OCTS06S01	6/17/1999	2	Metals	Lead	12	mg/kg		no	34	no	150	yes	0.063
RS288	OCTS06S01	6/17/1999	2	Metals	Mercury	0.2	mg/kg	U	yes	0.09	no	23	no	0.89
RS288	OCTS06S01	6/17/1999	2	Metals	Molybdenum	11	mg/kg	U	yes	5.3	no	380	yes	0.11
RS288	OCTS06S01	6/17/1999	2	Metals	Nickel	22	mg/kg		no	29	no	1500	yes	0.1
RS288	OCTS06S01	6/17/1999	2	Metals	Selenium	5	mg/kg	UJ	yes	0.655	no	380	yes	0.18
RS288	OCTS06S01	6/17/1999	2	Metals	Silver	1	mg/kg	U	yes	0.79	no	380	yes	0.55
RS288	OCTS06S01	6/17/1999	2	Metals	Thallium	5	mg/kg	U	yes	0.46	no	6.1	yes	3.2
RS288	OCTS06S01	6/17/1999	2	Metals	Vanadium	57	mg/kg		no	62	no	76	yes	1.6
RS288	OCTS06S01	6/17/1999	2	Metals	Zinc	66	mg/kg	J	no	110	no	23000	yes	22
RS288	OCTS06S01	6/17/1999	2	PCB	Aroclor 1016	110	µg/kg	U			no	3900	no	1600
RS288	OCTS06S01	6/17/1999	2	PCB	Aroclor 1221	110	µg/kg	U			no	350	no	1600
RS288	OCTS06S01	6/17/1999	2	PCB	Aroclor 1232	110	µg/kg	U			no	350	yes	79
RS288	OCTS06S01	6/17/1999	2	PCB	Aroclor 1242	110	µg/kg	U			no	350	yes	80
RS288	OCTS06S01	6/17/1999	2	PCB	Aroclor 1248	110	µg/kg	U			no	350	yes	12
RS288	OCTS06S01	6/17/1999	2	PCB	Aroclor 1254	110	µg/kg	U			no	350	yes	79
RS288	OCTS06S01	6/17/1999	2	PCB	Aroclor 1260	110	µg/kg	U			no	350	yes	79
RS288	OCTS06S01	6/17/1999	2	PH	pH	8.2	pH units	J						
RS288	OCTS06S01	6/17/1999	2	TPH	C08-C11 (Gasoline Range)	54	mg/kg	U			yes	1.1		
RS288	OCTS06S01	6/17/1999	2	TPH	C11-C14 (Kerosene Range)	54	mg/kg	U			no	1400		
RS288	OCTS06S01	6/17/1999	2	TPH	C14-C20 (Diesel Range)	76	mg/kg				no	1400		
RS288	OCTS06S01	6/17/1999	2	TPH	C20-C30 (Lubricant Oil Range)	250	mg/kg				no	1400		
RS288DL	OCTS06S01	6/17/1999	2	SVOCSIM	Acenaphthene	3200	µg/kg	U			no	3400000	yes	2500
RS288DL	OCTS06S01	6/17/1999	2	SVOCSIM	Acenaphthylene	3200	µg/kg	U			no	1700000	no	810000
RS288DL	OCTS06S01	6/17/1999	2	SVOCSIM	Anthracene	3200	µg/kg	U			no	17000000	yes	2400
RS288DL	OCTS06S01	6/17/1999	2	SVOCSIM	Benzo(a)anthracene	3200	µg/kg	U			yes	600	yes	1700
RS288DL	OCTS06S01	6/17/1999	2	SVOCSIM	Benzo(a)pyrene	3200	µg/kg	U			yes	6	no	4700
RS288DL	OCTS06S01	6/17/1999	2	SVOCSIM	Benzo(b)fluoranthene	3200	µg/kg	U			yes	600	no	5500
RS288DL	OCTS06S01	6/17/1999	2	SVOCSIM	Benzo(g,h,i)perylene	3200	µg/kg	U					no	6400
RS288DL	OCTS06S01	6/17/1999	2	SVOCSIM	Benzo(k)fluoranthene	3200	µg/kg	U			yes	600	no	3700
RS288DL	OCTS06S01	6/17/1999	2	SVOCSIM	bis(2-Ethylhexyl)phthalate	11000	µg/kg	U			no	250000	yes	4900
RS288DL	OCTS06S01	6/17/1999	2	SVOCSIM	Chrysene	3200	µg/kg	U			no	6000	yes	2400
RS288DL	OCTS06S01	6/17/1999	2	SVOCSIM	Dibenzo(a,h)anthracene	3200	µg/kg	U			yes	170	yes	1700
RS288DL	OCTS06S01	6/17/1999	2	SVOCSIM	Diethylphthalate	11000	µg/kg	U			no	46000000	no	7000000
RS288DL	OCTS06S01	6/17/1999	2	SVOCSIM	Di-n-butyl phthalate	11000	µg/kg	U			no	5700000	yes	500
RS288DL	OCTS06S01	6/17/1999	2	SVOCSIM	Fluoranthene	3200	µg/kg	U			no	2300000	no	130000
RS288DL	OCTS06S01	6/17/1999	2	SVOCSIM	Fluorene	3200	µg/kg	U			no	2300000	yes	1600
RS288DL	OCTS06S01	6/17/1999	2	SVOCSIM	Indeno(1,2,3-cd)pyrene	3200	µg/kg	U			yes	600	no	3900
RS288DL	OCTS06S01	6/17/1999	2	SVOCSIM	Naphthalene	3200	µg/kg	U			no	6000	no	240000
RS288DL	OCTS06S01	6/17/1999	2	SVOCSIM	N-nitrosodimethylamine	**220**	µg/kg	U			yes	45	no	60000
RS288DL	OCTS06S01	6/17/1999	2	SVOCSIM	N-nitrosodiphenylamine	3200	µg/kg	U			no	80000	no	60000
RS288DL	OCTS06S01	6/17/1999	2	SVOCSIM	Phenanthrene	3200	µg/kg	U			no	1700000	yes	1300
RS288DL	OCTS06S01	6/17/1999	2	SVOCSIM	Pyrene	3200	µg/kg	U			no	1700000	no	79000
RS289	OCTS07S01	6/17/1999	2.5	Metals	Aluminum	13000	mg/kg		no	20000	no	75000	yes	14

Table 1
RFI Soil Sample Data
OCY Earthen Berm -Before Spread

EPA_NO	OGDEN_ID	Collection Date	Depth ft bgs	Method Group	Analyte	Conc.	units	Qualifier	over Background?	Background Level	over Res RBSL?	Res RBSL	over Eco RBSL?	Eco RBSL
RS289	OCTS07S01	6/17/1999	2.5	Metals	Antimony	10	mg/kg	UJ	yes	8.7	no	30	yes	0.096
RS289	OCTS07S01	6/17/1999	2.5	Metals	Arsenic	5	mg/kg	UJ	no	15	yes	0.095	yes	0.34
RS289	OCTS07S01	6/17/1999	2.5	Metals	Barium	100	mg/kg		no	140	no	15000	yes	15
RS289	OCTS07S01	6/17/1999	2.5	Metals	Beryllium	**0.6**	mg/kg		no	1.1	no	150	no	5.7
RS289	OCTS07S01	6/17/1999	2.5	Metals	Boron	10	mg/kg	U	yes	9.7	no	15000	yes	6.3
RS289	OCTS07S01	6/17/1999	2.5	Metals	Cadmium	1	mg/kg	U	no	1	no	2.6	yes	0.0031
RS289	OCTS07S01	6/17/1999	2.5	Metals	Chromium	19	mg/kg		no	36.8	no	3400	no	940
RS289	OCTS07S01	6/17/1999	2.5	Metals	Cobalt	7	mg/kg		no	21	no	1500	no	10
RS289	OCTS07S01	6/17/1999	2.5	Metals	Copper	10	mg/kg		no	29	no	3000	yes	1.1
RS289	OCTS07S01	6/17/1999	2.5	Metals	Lead	7	mg/kg		no	34	no	150	yes	0.063
RS289	OCTS07S01	6/17/1999	2.5	Metals	Mercury	0.2	mg/kg		yes	0.09	no	23	no	0.89
RS289	OCTS07S01	6/17/1999	2.5	Metals	Molybdenum	10	mg/kg	U	yes	5.3	no	380	yes	0.11
RS289	OCTS07S01	6/17/1999	2.5	Metals	Nickel	12	mg/kg		no	29	no	1500	yes	0.1
RS289	OCTS07S01	6/17/1999	2.5	Metals	Selenium	5	mg/kg	UJ	yes	0.655	no	380	yes	0.18
RS289	OCTS07S01	6/17/1999	2.5	Metals	Silver	3	mg/kg		yes	0.79	no	380	yes	0.55
RS289	OCTS07S01	6/17/1999	2.5	Metals	Thallium	5	mg/kg	U	yes	0.46	no	6.1	yes	3.2
RS289	OCTS07S01	6/17/1999	2.5	Metals	Vanadium	33	mg/kg		no	62	no	76	yes	1.6
RS289	OCTS07S01	6/17/1999	2.5	Metals	Zinc	72	mg/kg	J	no	110	no	23000	yes	22
RS289	OCTS07S01	6/17/1999	2.5	PH	pH	8.4	pH units	J						
RS289	OCTS07S01	6/17/1999	2.5	TPH	C08-C11 (Gasoline Range)	10	mg/kg	U			yes	1.1		
RS289	OCTS07S01	6/17/1999	2.5	TPH	C11-C14 (Kerosene Range)	10	mg/kg	U			no	1400		
RS289	OCTS07S01	6/17/1999	2.5	TPH	C14-C20 (Diesel Range)	10	mg/kg	U			no	1400		
RS289	OCTS07S01	6/17/1999	2.5	TPH	C20-C30 (Lubricant Oil Range)	39	mg/kg				no	1400		
RS289DL	OCTS07S01	6/17/1999	2.5	SVOCSIM	Acenaphthene	320	µg/kg	U			no	3400000	no	2500
RS289DL	OCTS07S01	6/17/1999	2.5	SVOCSIM	Acenaphthylene	320	µg/kg	U			no	1700000	no	810000
RS289DL	OCTS07S01	6/17/1999	2.5	SVOCSIM	Anthracene	320	µg/kg	U			no	17000000	no	2400
RS289DL	OCTS07S01	6/17/1999	2.5	SVOCSIM	Benzo(a)anthracene	320	µg/kg	U			no	600	no	1700
RS289DL	OCTS07S01	6/17/1999	2.5	SVOCSIM	Benzo(a)pyrene	320	µg/kg	U			yes	6	no	4700
RS289DL	OCTS07S01	6/17/1999	2.5	SVOCSIM	Benzo(b)fluoranthene	320	µg/kg	U			no	600	no	5500
RS289DL	OCTS07S01	6/17/1999	2.5	SVOCSIM	Benzo(g,h,i)perylene	320	µg/kg	U					no	6400
RS289DL	OCTS07S01	6/17/1999	2.5	SVOCSIM	Benzo(k)fluoranthene	320	µg/kg	U			no	600	no	3700
RS289DL	OCTS07S01	6/17/1999	2.5	SVOCSIM	bis(2-Ethylhexyl)phthalate	1100	µg/kg	U			no	250000	no	4900
RS289DL	OCTS07S01	6/17/1999	2.5	SVOCSIM	Chrysene	320	µg/kg	U			no	6000	no	2400
RS289DL	OCTS07S01	6/17/1999	2.5	SVOCSIM	Dibenzo(a,h)anthracene	320	µg/kg	U			yes	170	no	1700
RS289DL	OCTS07S01	6/17/1999	2.5	SVOCSIM	Diethylphthalate	1100	µg/kg	U			no	46000000	no	7000000
RS289DL	OCTS07S01	6/17/1999	2.5	SVOCSIM	Di-n-butyl phthalate	1100	µg/kg	U			no	5700000	yes	500
RS289DL	OCTS07S01	6/17/1999	2.5	SVOCSIM	Fluoranthene	320	µg/kg	U			no	2300000	no	130000
RS289DL	OCTS07S01	6/17/1999	2.5	SVOCSIM	Fluorene	320	µg/kg	U			no	2300000	no	1600
RS289DL	OCTS07S01	6/17/1999	2.5	SVOCSIM	Indeno(1,2,3-cd)pyrene	320	µg/kg	U			no	600	no	3900
RS289DL	OCTS07S01	6/17/1999	2.5	SVOCSIM	Naphthalene	320	µg/kg	U			no	6000	no	240000
RS289DL	OCTS07S01	6/17/1999	2.5	SVOCSIM	N-nitrosodimethylamine	21	µg/kg	U			no	45	no	60000
RS289DL	OCTS07S01	6/17/1999	2.5	SVOCSIM	N-nitrosodiphenylamine	320	µg/kg	U			no	80000	no	60000
RS289DL	OCTS07S01	6/17/1999	2.5	SVOCSIM	Phenanthrene	320	µg/kg	U			no	1700000	no	1300
RS289DL	OCTS07S01	6/17/1999	2.5	SVOCSIM	Pyrene	320	µg/kg	U			no	1700000	no	79000
RS290	OCTS08S01	6/17/1999	2	Metals	Aluminum	19000	mg/kg		no	20000	no	75000	yes	14
RS290	OCTS08S01	6/17/1999	2	Metals	Antimony	11	mg/kg	UJ	yes	8.7	no	30	yes	0.096
RS290	OCTS08S01	6/17/1999	2	Metals	Arsenic	6	mg/kg	UJ	no	15	yes	0.095	yes	0.34

Table 1
RFI Soil Sample Data
OCY Earthen Berm -Before Spread

EPA_NO	OGDEN_ID	Collection Date	Depth ft bgs	Method Group	Analyte	Conc.	units	Qualifier	over Background?	Background Level	over Res RBSL?	Res RBSL	over Eco RBSL?	Eco RBSL
RS290	OCTS08S01	6/17/1999	2	Metals	Barium	110	mg/kg		no	140	no	15000	yes	15
RS290	OCTS08S01	6/17/1999	2	Metals	Beryllium	0.8	mg/kg		no	1.1	no	150	no	5.7
RS290	OCTS08S01	6/17/1999	2	Metals	Boron	11	mg/kg	U	yes	9.7	no	15000	yes	6.3
RS290	OCTS08S01	6/17/1999	2	Metals	Cadmium	1	mg/kg	U	no	1	no	2.6	yes	0.0031
RS290	OCTS08S01	6/17/1999	2	Metals	Chromium	24	mg/kg		no	36.8	no	3400	no	940
RS290	OCTS08S01	6/17/1999	2	Metals	Cobalt	9	mg/kg		no	21	no	1500	no	10
RS290	OCTS08S01	6/17/1999	2	Metals	Copper	21	mg/kg		no	29	no	3000	yes	1.1
RS290	OCTS08S01	6/17/1999	2	Metals	Lead	13	mg/kg		no	34	no	150	yes	0.063
RS290	OCTS08S01	6/17/1999	2	Metals	Mercury	0.2	mg/kg		yes	0.09	no	23	no	0.89
RS290	OCTS08S01	6/17/1999	2	Metals	Molybdenum	11	mg/kg	U	yes	5.3	no	380	yes	0.11
RS290	OCTS08S01	6/17/1999	2	Metals	Nickel	17	mg/kg		no	29	no	1500	yes	0.1
RS290	OCTS08S01	6/17/1999	2	Metals	Selenium	6	mg/kg	UJ	yes	0.655	no	380	yes	0.18
RS290	OCTS08S01	6/17/1999	2	Metals	Silver	1	mg/kg	U	yes	0.79	no	380	yes	0.55
RS290	OCTS08S01	6/17/1999	2	Metals	Thallium	6	mg/kg	U	yes	0.46	no	6.1	yes	3.2
RS290	OCTS08S01	6/17/1999	2	Metals	Vanadium	46	mg/kg		no	62	no	76	yes	1.6
RS290	OCTS08S01	6/17/1999	2	Metals	Zinc	74	mg/kg	J	no	110	no	23000	yes	22
RS290	OCTS08S01	6/17/1999	2	PH	pH	8.2	pH units	J						
RS290	OCTS08S01	6/17/1999	2	SVOCSIM	Acenaphthene	33	µg/kg	U			no	3400000	no	2500
RS290	OCTS08S01	6/17/1999	2	SVOCSIM	Acenaphthylene	33	µg/kg	U			no	1700000	no	810000
RS290	OCTS08S01	6/17/1999	2	SVOCSIM	Anthracene	33	µg/kg	U			no	17000000	no	2400
RS290	OCTS08S01	6/17/1999	2	SVOCSIM	Benzo(a)anthracene	33	µg/kg	U			no	600	no	1700
RS290	OCTS08S01	6/17/1999	2	SVOCSIM	Benzo(a)pyrene	33	µg/kg	U			yes	6	no	4700
RS290	OCTS08S01	6/17/1999	2	SVOCSIM	Benzo(b)fluoranthene	**33**	µg/kg	U			no	600	no	5500
RS290	OCTS08S01	6/17/1999	2	SVOCSIM	Benzo(g,h,i)perylene	33	µg/kg	U					no	6400
RS290	OCTS08S01	6/17/1999	2	SVOCSIM	Benzo(k)fluoranthene	33	µg/kg	U			no	600	no	3700
RS290	OCTS08S01	6/17/1999	2	SVOCSIM	bis(2-Ethylhexyl)phthalate	110	µg/kg	U			no	250000	no	4900
RS290	OCTS08S01	6/17/1999	2	SVOCSIM	Chrysene	33	µg/kg	U			no	6000	no	2400
RS290	OCTS08S01	6/17/1999	2	SVOCSIM	Dibenzo(a,h)anthracene	33	µg/kg	U			no	170	no	1700
RS290	OCTS08S01	6/17/1999	2	SVOCSIM	Diethylphthalate	110	µg/kg	U			no	46000000	no	7000000
RS290	OCTS08S01	6/17/1999	2	SVOCSIM	Di-n-butyl phthalate	110	µg/kg	U			no	5700000	no	500
RS290	OCTS08S01	6/17/1999	2	SVOCSIM	Fluoranthene	33	µg/kg	U			no	2300000	no	130000
RS290	OCTS08S01	6/17/1999	2	SVOCSIM	Fluorene	33	µg/kg	U			no	2300000	no	1600
RS290	OCTS08S01	6/17/1999	2	SVOCSIM	Indeno(1,2,3-cd)pyrene	33	µg/kg	U			no	600	no	3900
RS290	OCTS08S01	6/17/1999	2	SVOCSIM	Naphthalene	33	µg/kg	U			no	6000	no	240000
RS290	OCTS08S01	6/17/1999	2	SVOCSIM	N-nitrosodimethylamine	2	µg/kg	U			no	45	no	60000
RS290	OCTS08S01	6/17/1999	2	SVOCSIM	N-nitrosodiphenylamine	33	µg/kg	U			no	80000	no	60000
RS290	OCTS08S01	6/17/1999	2	SVOCSIM	Phenanthrene	33	µg/kg	U			no	1700000	no	1300
RS290	OCTS08S01	6/17/1999	2	SVOCSIM	Pyrene	33	µg/kg	U			no	1700000	no	79000
RS290	OCTS08S01	6/17/1999	2	TPH	C08-C11 (Gasoline Range)	11	mg/kg	U			yes	1.1		
RS290	OCTS08S01	6/17/1999	2	TPH	C11-C14 (Kerosene Range)	11	mg/kg	U			no	1400		
RS290	OCTS08S01	6/17/1999	2	TPH	C14-C20 (Diesel Range)	11	mg/kg	U			no	1400		
RS290	OCTS08S01	6/17/1999	2	TPH	C20-C30 (Lubricant Oil Range)	42	mg/kg				no	1400		
RS291	OCTS09S01	6/17/1999	1	Metals	Aluminum	9200	mg/kg		no	20000	no	75000	yes	14
RS291	OCTS09S01	6/17/1999	1	Metals	Antimony	11	mg/kg	UJ	yes	8.7	no	30	yes	0.096
RS291	OCTS09S01	6/17/1999	1	Metals	Arsenic	4	mg/kg	J	no	15	yes	0.095	yes	0.34
RS291	OCTS09S01	6/17/1999	1	Metals	Barium	61	mg/kg		no	140	no	15000	yes	15
RS291	OCTS09S01	6/17/1999	1	Metals	Beryllium	0.5	mg/kg	U	no	1.1	no	150	no	5.7

Table 1
RFI Soil Sample Data
OCY Earthen Berm -Before Spread

EPA_NO	OGDEN_ID	Collection Date	Depth ft bgs	Method Group	Analyte	Conc.	units	Qualifier	over Background?	Background Level	over Res RBSL?	Res RBSL	over Eco RBSL?	Eco RBSL
RS291	OCTS09S01	6/17/1999	1	Metals	Boron	11	mg/kg	U	yes	9.7	no	15000	yes	6.3
RS291	OCTS09S01	6/17/1999	1	Metals	Cadmium	1	mg/kg	U	no	1	no	2.6	yes	0.0031
RS291	OCTS09S01	6/17/1999	1	Metals	Chromium	15	mg/kg		no	36.8	no	3400	no	940
RS291	OCTS09S01	6/17/1999	1	Metals	Cobalt	7	mg/kg		no	21	no	1500	no	10
RS291	OCTS09S01	6/17/1999	1	Metals	Copper	6	mg/kg		no	29	no	3000	yes	1.1
RS291	OCTS09S01	6/17/1999	1	Metals	Lead	5	mg/kg	U	no	34	no	150	yes	0.063
RS291	OCTS09S01	6/17/1999	1	Metals	Mercury	0.2	mg/kg	U	yes	0.09	no	23	no	0.89
RS291	OCTS09S01	6/17/1999	1	Metals	Molybdenum	11	mg/kg	U	yes	5.3	no	380	yes	0.11
RS291	OCTS09S01	6/17/1999	1	Metals	Nickel	8	mg/kg		no	29	no	1500	yes	0.1
RS291	OCTS09S01	6/17/1999	1	Metals	Selenium	5	mg/kg	UJ	yes	0.655	no	380	yes	0.18
RS291	OCTS09S01	6/17/1999	1	Metals	Silver	1	mg/kg	U	yes	0.79	no	380	yes	0.55
RS291	OCTS09S01	6/17/1999	1	Metals	Thallium	5	mg/kg	U	yes	0.46	no	6.1	yes	3.2
RS291	OCTS09S01	6/17/1999	1	Metals	Vanadium	26	mg/kg		no	62	no	76	yes	1.6
RS291	OCTS09S01	6/17/1999	1	Metals	Zinc	41	mg/kg	J	no	110	no	23000	yes	22
RS291	OCTS09S01	6/17/1999	1	PH	pH	**7.2**	pH units	J						
RS291	OCTS09S01	6/17/1999	1	SVOCSIM	Acenaphthene	32	µg/kg	U			no	3400000	no	2500
RS291	OCTS09S01	6/17/1999	1	SVOCSIM	Acenaphthylene	32	µg/kg	U			no	1700000	no	810000
RS291	OCTS09S01	6/17/1999	1	SVOCSIM	Anthracene	32	µg/kg	U			no	17000000	no	2400
RS291	OCTS09S01	6/17/1999	1	SVOCSIM	Benzo(a)anthracene	32	µg/kg	U			no	600	no	1700
RS291	OCTS09S01	6/17/1999	1	SVOCSIM	Benzo(a)pyrene	32	µg/kg	U			yes	6	no	4700
RS291	OCTS09S01	6/17/1999	1	SVOCSIM	Benzo(b)fluoranthene	32	µg/kg	U			no	600	no	5500
RS291	OCTS09S01	6/17/1999	1	SVOCSIM	Benzo(g,h,i)perylene	32	µg/kg	U					no	6400
RS291	OCTS09S01	6/17/1999	1	SVOCSIM	Benzo(k)fluoranthene	32	µg/kg	U			no	600	no	3700
RS291	OCTS09S01	6/17/1999	1	SVOCSIM	bis(2-Ethylhexyl)phthalate	110	µg/kg	U			no	250000	no	4900
RS291	OCTS09S01	6/17/1999	1	SVOCSIM	Chrysene	32	µg/kg	U			no	6000	no	2400
RS291	OCTS09S01	6/17/1999	1	SVOCSIM	Dibenzo(a,h)anthracene	32	µg/kg	U			no	170	no	1700
RS291	OCTS09S01	6/17/1999	1	SVOCSIM	Diethylphthalate	110	µg/kg	U			no	46000000	no	7000000
RS291	OCTS09S01	6/17/1999	1	SVOCSIM	Di-n-butyl phthalate	110	µg/kg	U			no	5700000	no	500
RS291	OCTS09S01	6/17/1999	1	SVOCSIM	Fluoranthene	32	µg/kg	U			no	2300000	no	130000
RS291	OCTS09S01	6/17/1999	1	SVOCSIM	Fluorene	32	µg/kg	U			no	2300000	no	1600
RS291	OCTS09S01	6/17/1999	1	SVOCSIM	Indeno(1,2,3-cd)pyrene	32	µg/kg	U			no	600	no	3900
RS291	OCTS09S01	6/17/1999	1	SVOCSIM	Naphthalene	32	µg/kg	U			no	6000	no	240000
RS291	OCTS09S01	6/17/1999	1	SVOCSIM	N-nitrosodimethylamine	2	µg/kg	U			no	45	no	60000
RS291	OCTS09S01	6/17/1999	1	SVOCSIM	N-nitrosodiphenylamine	32	µg/kg	U			no	80000	no	60000
RS291	OCTS09S01	6/17/1999	1	SVOCSIM	Phenanthrene	32	µg/kg	U			no	1700000	no	1300
RS291	OCTS09S01	6/17/1999	1	SVOCSIM	Pyrene	32	µg/kg	U			no	1700000	no	79000
RS291	OCTS09S01	6/17/1999	1	TPH	C08-C11 (Gasoline Range)	11	mg/kg	U			yes	1.1		
RS291	OCTS09S01	6/17/1999	1	TPH	C11-C14 (Kerosene Range)	11	mg/kg	U			no	1400		
RS291	OCTS09S01	6/17/1999	1	TPH	C14-C20 (Diesel Range)	11	mg/kg	U			no	1400		
RS291	OCTS09S01	6/17/1999	1	TPH	C20-C30 (Lubricant Oil Range)	11	mg/kg	U			no	1400		
RS291	OCTS09S01	6/17/1999	1	VOC	1,1,1,2-Tetrachloroethane	22	µg/kg	U			yes	0.25	no	82000
RS291	OCTS09S01	6/17/1999	1	VOC	1,1,1-Trichloroethane	5	µg/kg	U			no	490	no	2800000
RS291	OCTS09S01	6/17/1999	1	VOC	1,1,2,2-Tetrachloroethane	5	µg/kg	U			yes	1.4	no	6400
RS291	OCTS09S01	6/17/1999	1	VOC	1,1,2-Trichloroethane	5	µg/kg	U			yes	1.2	no	9000
RS291	OCTS09S01	6/17/1999	1	VOC	1,1,2-Trichlorotrifluoroethane	22	µg/kg	U			no	16000	no	200000
RS291	OCTS09S01	6/17/1999	1	VOC	1,1-Dichloroethane	5	µg/kg	U			yes	1.6	no	230000
RS291	OCTS09S01	6/17/1999	1	VOC	1,1-Dichloroethene	5	µg/kg	U			no	23	no	12000

Table 1
RFI Soil Sample Data
OCY Earthen Berm -Before Spread

EPA_NO	OGDEN_ID	Collection Date	Depth ft bgs	Method Group	Analyte	Conc.	units	Qualifier	over Background?	Background Level	over Res RBSL?	Res RBSL	over Eco RBSL?	Eco RBSL
RS291	OCTS09S01	6/17/1999	1	VOC	1,2,4-Trimethylbenzene	22	µg/kg	U			no	35	no	690000
RS291	OCTS09S01	6/17/1999	1	VOC	1,2-Dibromo-3-chloropropane	22	µg/kg	U						
RS291	OCTS09S01	6/17/1999	1	VOC	1,2-Dichlorobenzene	11	µg/kg	U			no	1800	no	390000
RS291	OCTS09S01	6/17/1999	1	VOC	1,2-Dichloroethane	5	µg/kg	U			yes	0.5	no	76000
RS291	OCTS09S01	6/17/1999	1	VOC	1,2-Dichloropropane	5	µg/kg	U						
RS291	OCTS09S01	6/17/1999	1	VOC	1,3,5-Trimethylbenzene	22	µg/kg	U			no	36	no	690000
RS291	OCTS09S01	6/17/1999	1	VOC	1,3-Dichlorobenzene	11	µg/kg	U			no	1700	no	350000
RS291	OCTS09S01	6/17/1999	1	VOC	1,4-Dichlorobenzene	11	µg/kg	U			yes	10	no	170000
RS291	OCTS09S01	6/17/1999	1	VOC	2-Butanone	54	µg/kg	U			no	62000	no	8200000
RS291	OCTS09S01	6/17/1999	1	VOC	2-Chloro-1,1,1-trifluoroethane	22	µg/kg	U					no	17000
RS291	OCTS09S01	6/17/1999	1	VOC	2-Chloroethyl vinyl ether	54	µg/kg	U						
RS291	OCTS09S01	6/17/1999	1	VOC	Acetone	54	µg/kg	U			no	51000	no	46000
RS291	OCTS09S01	6/17/1999	1	VOC	Benzene	5	µg/kg	U			yes	0.13	no	4600
RS291	OCTS09S01	6/17/1999	1	VOC	Bromodichloromethane	5	µg/kg	U						
RS291	OCTS09S01	6/17/1999	1	VOC	Bromoform	10	µg/kg	UJ						
RS291	OCTS09S01	6/17/1999	1	VOC	Bromomethane	11	µg/kg	U						
RS291	OCTS09S01	6/17/1999	1	VOC	Carbon tetrachloride	5	µg/kg	U			yes	0.042	no	1600
RS291	OCTS09S01	6/17/1999	1	VOC	Chlorobenzene	5	µg/kg	U			no	97	no	63000
RS291	OCTS09S01	6/17/1999	1	VOC	Chloroethane	11	µg/kg	U						
RS291	OCTS09S01	6/17/1999	1	VOC	Chloroform	10	µg/kg	UJ			yes	0.77	no	920
RS291	OCTS09S01	6/17/1999	1	VOC	Chloromethane	11	µg/kg	U						
RS291	OCTS09S01	6/17/1999	1	VOC	Chlorotrifluoroethene	22	µg/kg	U					no	12000
RS291	OCTS09S01	6/17/1999	1	VOC	cis-1,2-Dichloroethene	5	µg/kg	U			no	14	no	74000
RS291	OCTS09S01	6/17/1999	1	VOC	cis-1,3-Dichloropropene	5	µg/kg	U						
RS291	OCTS09S01	6/17/1999	1	VOC	Dichlorodifluoromethane	11	µg/kg	U			no	15	no	69000
RS291	OCTS09S01	6/17/1999	1	VOC	Ethylbenzene	5	µg/kg	U			no	1200	no	220000
RS291	OCTS09S01	6/17/1999	1	VOC	m,p-Xylene	5	µg/kg	U			no	150	no	690000
RS291	OCTS09S01	6/17/1999	1	VOC	Methylene chloride	22	µg/kg	U			yes	4	no	27000
RS291	OCTS09S01	6/17/1999	1	VOC	o-Xylene	5	µg/kg	U			no	190	no	690000
RS291	OCTS09S01	6/17/1999	1	VOC	Tetrachloroethene	5	µg/kg	U			yes	0.43	no	2300
RS291	OCTS09S01	6/17/1999	1	VOC	Toluene	5	µg/kg	U			no	300	no	2700
RS291	OCTS09S01	6/17/1999	1	VOC	trans-1,2-Dichloroethene	5	µg/kg	U			no	16	no	1000000
RS291	OCTS09S01	6/17/1999	1	VOC	trans-1,3-Dichloropropene	5	µg/kg	U						
RS291	OCTS09S01	6/17/1999	1	VOC	Trichloroethene	5	µg/kg	U			yes	2.2	no	3200
RS291	OCTS09S01	6/17/1999	1	VOC	Trichlorofluoromethane	5	µg/kg	U			no	110	no	320000
RS291	OCTS09S01	6/17/1999	1	VOC	Vinyl chloride	11	µg/kg	U			yes	0.0096	no	780
RS292	OCTS10S01	6/17/1999	1	Metals	Aluminum	17000	mg/kg		no	20000	no	75000	yes	14
RS292	OCTS10S01	6/17/1999	1	Metals	Antimony	11	mg/kg	UJ	yes	8.7	no	30	yes	0.096
RS292	OCTS10S01	6/17/1999	1	Metals	Arsenic	6	mg/kg	UJ	no	15	yes	0.095	yes	0.34
RS292	OCTS10S01	6/17/1999	1	Metals	Barium	54	mg/kg		no	140	no	15000	yes	15
RS292	OCTS10S01	6/17/1999	1	Metals	Beryllium	0.6	mg/kg		no	1.1	no	150	no	5.7
RS292	OCTS10S01	6/17/1999	1	Metals	Boron	11	mg/kg	U	yes	9.7	no	15000	yes	6.3
RS292	OCTS10S01	6/17/1999	1	Metals	Cadmium	1	mg/kg	U	no	1	no	2.6	yes	0.0031
RS292	OCTS10S01	6/17/1999	1	Metals	Chromium	11	mg/kg		no	36.8	no	3400	no	940
RS292	OCTS10S01	6/17/1999	1	Metals	Cobalt	3	mg/kg		no	21	no	1500	no	10
RS292	OCTS10S01	6/17/1999	1	Metals	Copper	3	mg/kg		no	29	no	3000	yes	1.1
RS292	OCTS10S01	6/17/1999	1	Metals	Lead	6	mg/kg	U	no	34	no	150	yes	0.063

Table 1
RFI Soil Sample Data
OCY Earthen Berm -Before Spread

EPA_NO	OGDEN_ID	Collection Date	Depth ft bgs	Method Group	Analyte	Conc.	units	Qualifier	over Background?	Background Level	over Res RBSL?	Res RBSL	over Eco RBSL?	Eco RBSL
RS292	OCTS10S01	6/17/1999	1	Metals	Mercury	0.2	mg/kg	U	yes	0.09	no	23	no	0.89
RS292	OCTS10S01	6/17/1999	1	Metals	Molybdenum	11	mg/kg	U	yes	5.3	no	380	yes	0.11
RS292	OCTS10S01	6/17/1999	1	Metals	Nickel	6	mg/kg	U	no	29	no	1500	yes	0.1
RS292	OCTS10S01	6/17/1999	1	Metals	Selenium	6	mg/kg	UJ	yes	0.655	no	380	yes	0.18
RS292	OCTS10S01	6/17/1999	1	Metals	Silver	1	mg/kg	U	yes	0.79	no	380	yes	0.55
RS292	OCTS10S01	6/17/1999	1	Metals	Thallium	6	mg/kg	U	yes	0.46	no	6.1	yes	3.2
RS292	OCTS10S01	6/17/1999	1	Metals	Vanadium	25	mg/kg		no	62	no	76	yes	1.6
RS292	OCTS10S01	6/17/1999	1	Metals	Zinc	36	mg/kg	J	no	110	no	23000	yes	22
RS292	OCTS10S01	6/17/1999	1	PH	pH	7.6	pH units	J						
RS292	OCTS10S01	6/17/1999	1	SVOCSIM	Acenaphthene	34	µg/kg	U			no	3400000	no	2500
RS292	OCTS10S01	6/17/1999	1	SVOCSIM	Acenaphthylene	34	µg/kg	U			no	1700000	no	810000
RS292	OCTS10S01	6/17/1999	1	SVOCSIM	Anthracene	34	µg/kg	U			no	17000000	no	2400
RS292	OCTS10S01	6/17/1999	1	SVOCSIM	Benzo(a)anthracene	34	µg/kg	U			no	600	no	1700
RS292	OCTS10S01	6/17/1999	1	SVOCSIM	Benzo(a)pyrene	34	µg/kg	U			yes	6	no	4700
RS292	OCTS10S01	6/17/1999	1	SVOCSIM	Benzo(b)fluoranthene	34	µg/kg	U			no	600	no	5500
RS292	OCTS10S01	6/17/1999	1	SVOCSIM	Benzo(g,h,i)perylene	34	µg/kg	U					no	6400
RS292	OCTS10S01	6/17/1999	1	SVOCSIM	Benzo(k)fluoranthene	34	µg/kg	U			no	600	no	3700
RS292	OCTS10S01	6/17/1999	1	SVOCSIM	bis(2-Ethylhexyl)phthalate	120	µg/kg	U			no	250000	no	4900
RS292	OCTS10S01	6/17/1999	1	SVOCSIM	Chrysene	34	µg/kg	U			no	6000	no	2400
RS292	OCTS10S01	6/17/1999	1	SVOCSIM	Dibenzo(a,h)anthracene	34	µg/kg	U			no	170	no	1700
RS292	OCTS10S01	6/17/1999	1	SVOCSIM	Diethylphthalate	120	µg/kg	U			no	46000000	no	7000000
RS292	OCTS10S01	6/17/1999	1	SVOCSIM	Di-n-butyl phthalate	120	µg/kg	U			no	5700000	no	500
RS292	OCTS10S01	6/17/1999	1	SVOCSIM	Fluoranthene	34	µg/kg	U			no	2300000	no	130000
RS292	OCTS10S01	6/17/1999	1	SVOCSIM	Fluorene	34	µg/kg	U			no	2300000	no	1600
RS292	OCTS10S01	6/17/1999	1	SVOCSIM	Indeno(1,2,3-cd)pyrene	34	µg/kg	U			no	600	no	3900
RS292	OCTS10S01	6/17/1999	1	SVOCSIM	Naphthalene	34	µg/kg	U			no	6000	no	240000
RS292	OCTS10S01	6/17/1999	1	SVOCSIM	N-nitrosodimethylamine	2	µg/kg	U			no	45	no	60000
RS292	OCTS10S01	6/17/1999	1	SVOCSIM	N-nitrosodiphenylamine	34	µg/kg	U			no	80000	no	60000
RS292	OCTS10S01	6/17/1999	1	SVOCSIM	Phenanthrene	34	µg/kg	U			no	1700000	no	1300
RS292	OCTS10S01	6/17/1999	1	SVOCSIM	Pyrene	34	µg/kg	U			no	1700000	no	79000
RS292	OCTS10S01	6/17/1999	1	TPH	C08-C11 (Gasoline Range)	11	mg/kg	U			yes	1.1		
RS292	OCTS10S01	6/17/1999	1	TPH	C11-C14 (Kerosene Range)	11	mg/kg	U			no	1400		
RS292	OCTS10S01	6/17/1999	1	TPH	C14-C20 (Diesel Range)	11	mg/kg	U			no	1400		
RS292	OCTS10S01	6/17/1999	1	TPH	C20-C30 (Lubricant Oil Range)	11	mg/kg	U			no	1400		

Table 2
RFI Soil Sample Data
OCY Earthen Berm - After Spreading

EPA_NO	OGDEN_ID	Collection Date	Depth ft bgs	Method Group	Analyte	Conc.	units	Qualifier	over Background?	Background Level	over Res RBSL?	Res RBSL	over Eco RBSL?	Eco RBSL
MJ700	OCBS46S01	2/17/2006	0.5	METALS	Aluminum	15000	mg/kg		no	20000	no	75000	yes	14
MJ700	OCBS46S01	2/17/2006	0.5	METALS	Antimony	0.36	mg/kg	UJ	no	8.7	no	30	yes	0.096
MJ700	OCBS46S01	2/17/2006	0.5	METALS	Arsenic	4	mg/kg	J	no	15	yes	0.095	yes	0.34
MJ700	OCBS46S01	2/17/2006	0.5	METALS	Barium	100	mg/kg	J	no	140	no	15000	yes	15
MJ700	OCBS46S01	2/17/2006	0.5	METALS	Beryllium	0.65	mg/kg		no	1.1	no	150	no	5.7
MJ700	OCBS46S01	2/17/2006	0.5	METALS	Boron	8.6	mg/kg	J	no	9.7	no	15000	yes	6.3
MJ700	OCBS46S01	2/17/2006	0.5	METALS	Cadmium	0.2	mg/kg	J	no	1	no	2.6	yes	0.0031
MJ700	OCBS46S01	2/17/2006	0.5	METALS	Chromium	20	mg/kg	J	no	36.8	no	3400	no	940
MJ700	OCBS46S01	2/17/2006	0.5	METALS	Cobalt	7.9	mg/kg	J	no	21	no	1500	no	10
MJ700	OCBS46S01	2/17/2006	0.5	METALS	Copper	13	mg/kg	J	no	29	no	3000	yes	1.1
MJ700	OCBS46S01	2/17/2006	0.5	METALS	Lead	8.8	mg/kg		no	34	no	150	yes	0.063
MJ700	OCBS46S01	2/17/2006	0.5	METALS	Mercury	0.0072	mg/kg	J	no	0.09	no	23	no	0.89
MJ700	OCBS46S01	2/17/2006	0.5	METALS	Molybdenum	0.6	mg/kg		no	5.3	no	380	yes	0.11
MJ700	OCBS46S01	2/17/2006	0.5	METALS	Nickel	15	mg/kg	J	no	29	no	1500	yes	0.1
MJ700	OCBS46S01	2/17/2006	0.5	METALS	Selenium	0.78	mg/kg	UJ	yes	0.655	no	380	yes	0.18
MJ700	OCBS46S01	2/17/2006	0.5	METALS	Silver	0.052	mg/kg		no	0.79	no	380	no	0.55
MJ700	OCBS46S01	2/17/2006	0.5	METALS	Thallium	0.38	mg/kg		no	0.46	no	6.1	no	3.2
MJ700	OCBS46S01	2/17/2006	0.5	METALS	Vanadium	40	mg/kg	J	no	62	no	76	yes	1.6
MJ700	OCBS46S01	2/17/2006	0.5	METALS	Zinc	51	mg/kg	J	no	110	no	23000	yes	22
MJ700	OCBS46S01	2/17/2006	0.5	SVOCSIM	1-Methylnaphthalene	23	ug/kg	U					no	230000
MJ700	OCBS46S01	2/17/2006	0.5	SVOCSIM	2-Methylnaphthalene	23	ug/kg	U			no	230000	no	230000
MJ700	OCBS46S01	2/17/2006	0.5	SVOCSIM	Acenaphthene	23	ug/kg	U			no	3400000	no	2500
MJ700	OCBS46S01	2/17/2006	0.5	SVOCSIM	Acenaphthylene	23	ug/kg	U			no	1700000	no	810000
MJ700	OCBS46S01	2/17/2006	0.5	SVOCSIM	Anthracene	23	ug/kg	U			no	17000000	no	2400
MJ700	OCBS46S01	2/17/2006	0.5	SVOCSIM	Benzo(a)anthracene	23	ug/kg	U			no	600	no	1700
MJ700	OCBS46S01	2/17/2006	0.5	SVOCSIM	Benzo(a)pyrene	23	ug/kg	U			yes	6	no	4700
MJ700	OCBS46S01	2/17/2006	0.5	SVOCSIM	Benzo(b)fluoranthene	23	ug/kg	U			no	600	no	5500
MJ700	OCBS46S01	2/17/2006	0.5	SVOCSIM	Benzo(g,h,i)perylene	23	ug/kg	U					no	6400
MJ700	OCBS46S01	2/17/2006	0.5	SVOCSIM	Benzo(k)fluoranthene	23	ug/kg	U			no	600	no	3700
MJ700	OCBS46S01	2/17/2006	0.5	SVOCSIM	Chrysene	23	ug/kg	U			no	6000	no	2400
MJ700	OCBS46S01	2/17/2006	0.5	SVOCSIM	Dibenzo(a,h)anthracene	23	ug/kg	U			no	170	no	1700
MJ700	OCBS46S01	2/17/2006	0.5	SVOCSIM	Fluoranthene	23	ug/kg	U			no	2300000	no	130000
MJ700	OCBS46S01	2/17/2006	0.5	SVOCSIM	Fluorene	23	ug/kg	U			no	2300000	no	1600
MJ700	OCBS46S01	2/17/2006	0.5	SVOCSIM	Indeno(1,2,3-cd)pyrene	23	ug/kg	U			no	600	no	3900
MJ700	OCBS46S01	2/17/2006	0.5	SVOCSIM	Naphthalene	23	ug/kg	U			no	6000	no	240000
MJ700	OCBS46S01	2/17/2006	0.5	SVOCSIM	Phenanthrene	23	ug/kg	U			no	1700000	no	1300
MJ700	OCBS46S01	2/17/2006	0.5	SVOCSIM	Pyrene	23	ug/kg	U			no	1700000	no	79000
MJ701	OCBS47S01	2/17/2006	0.5	METALS	Aluminum	17000	mg/kg		no	20000	no	75000	yes	14
MJ701	OCBS47S01	2/17/2006	0.5	METALS	Antimony	0.36	mg/kg	UJ	no	8.7	no	30	yes	0.096
MJ701	OCBS47S01	2/17/2006	0.5	METALS	Arsenic	4.2	mg/kg	J	no	15	yes	0.095	yes	0.34
MJ701	OCBS47S01	2/17/2006	0.5	METALS	Barium	99	mg/kg	J	no	140	no	15000	yes	15
MJ701	OCBS47S01	2/17/2006	0.5	METALS	Beryllium	0.67	mg/kg		no	1.1	no	150	no	5.7
MJ701	OCBS47S01	2/17/2006	0.5	METALS	Boron	12	mg/kg	J	yes	9.7	no	15000	yes	6.3
MJ701	OCBS47S01	2/17/2006	0.5	METALS	Cadmium	0.22	mg/kg	J	no	1	no	2.6	yes	0.0031
MJ701	OCBS47S01	2/17/2006	0.5	METALS	Chromium	22	mg/kg	J	no	36.8	no	3400	no	940
MJ701	OCBS47S01	2/17/2006	0.5	METALS	Cobalt	9	mg/kg	J	no	21	no	1500	no	10
MJ701	OCBS47S01	2/17/2006	0.5	METALS	Copper	14	mg/kg	J	no	29	no	3000	yes	1.1

Table 2
RFI Soil Sample Data
OCY Earthen Berm - After Spreading

EPA_NO	OGDEN_ID	Collection Date	Depth ft bgs	Method Group	Analyte	Conc.	units	Qualifier	over Background?	Background Level	over Res RBSL?	Res RBSL	over Eco RBSL?	Eco RBSL
MJ701	OCBS47S01	2/17/2006	0.5	METALS	Lead	9.7	mg/kg		no	34	no	150	yes	0.063
MJ701	OCBS47S01	2/17/2006	0.5	METALS	Mercury	0.0044	mg/kg	J	no	0.09	no	23	no	0.89
MJ701	OCBS47S01	2/17/2006	0.5	METALS	Molybdenum	0.45	mg/kg		no	5.3	no	380	yes	0.11
MJ701	OCBS47S01	2/17/2006	0.5	METALS	Nickel	16	mg/kg	J	no	29	no	1500	yes	0.1
MJ701	OCBS47S01	2/17/2006	0.5	METALS	Selenium	0.77	mg/kg	UJ	yes	0.655	no	380	yes	0.18
MJ701	OCBS47S01	2/17/2006	0.5	METALS	Silver	0.043	mg/kg		no	0.79	no	380	no	0.55
MJ701	OCBS47S01	2/17/2006	0.5	METALS	Thallium	0.31	mg/kg		no	0.46	no	6.1	no	3.2
MJ701	OCBS47S01	2/17/2006	0.5	METALS	Vanadium	42	mg/kg	J	no	62	no	76	yes	1.6
MJ701	OCBS47S01	2/17/2006	0.5	METALS	Zinc	61	mg/kg	J	no	110	no	23000	yes	22
MJ701	OCBS47S01	2/17/2006	0.5	SVOCSIM	1-Methylnaphthalene	22	ug/kg	U					no	230000
MJ701	OCBS47S01	2/17/2006	0.5	SVOCSIM	2-Methylnaphthalene	22	ug/kg	U			no	230000	no	230000
MJ701	OCBS47S01	2/17/2006	0.5	SVOCSIM	Acenaphthene	22	ug/kg	U			no	3400000	no	2500
MJ701	OCBS47S01	2/17/2006	0.5	SVOCSIM	Acenaphthylene	22	ug/kg	U			no	1700000	no	810000
MJ701	OCBS47S01	2/17/2006	0.5	SVOCSIM	Anthracene	22	ug/kg	U			no	17000000	no	2400
MJ701	OCBS47S01	2/17/2006	0.5	SVOCSIM	Benzo(a)anthracene	22	ug/kg	U			no	600	no	1700
MJ701	OCBS47S01	2/17/2006	0.5	SVOCSIM	Benzo(a)pyrene	22	ug/kg	U			yes	6	no	4700
MJ701	OCBS47S01	2/17/2006	0.5	SVOCSIM	Benzo(b)fluoranthene	22	ug/kg	U			no	600	no	5500
MJ701	OCBS47S01	2/17/2006	0.5	SVOCSIM	Benzo(g,h,i)perylene	22	ug/kg	U					no	6400
MJ701	OCBS47S01	2/17/2006	0.5	SVOCSIM	Benzo(k)fluoranthene	22	ug/kg	U			no	600	no	3700
MJ701	OCBS47S01	2/17/2006	0.5	SVOCSIM	Chrysene	22	ug/kg	U			no	6000	no	2400
MJ701	OCBS47S01	2/17/2006	0.5	SVOCSIM	Dibenzo(a,h)anthracene	22	ug/kg	U			no	170	no	1700
MJ701	OCBS47S01	2/17/2006	0.5	SVOCSIM	Fluoranthene	22	ug/kg	U			no	2300000	no	130000
MJ701	OCBS47S01	2/17/2006	0.5	SVOCSIM	Fluorene	22	ug/kg	U			no	2300000	no	1600
MJ701	OCBS47S01	2/17/2006	0.5	SVOCSIM	Indeno(1,2,3-cd)pyrene	22	ug/kg	U			no	600	no	3900
MJ701	OCBS47S01	2/17/2006	0.5	SVOCSIM	Naphthalene	22	ug/kg	U			no	6000	no	240000
MJ701	OCBS47S01	2/17/2006	0.5	SVOCSIM	Phenanthrene	22	ug/kg	U			no	1700000	no	1300
MJ701	OCBS47S01	2/17/2006	0.5	SVOCSIM	Pyrene	22	ug/kg	U			no	1700000	no	79000
MJ702	OCBS48S01	2/17/2006	0.5	METALS	Aluminum	19000	mg/kg		no	20000	no	75000	yes	14
MJ702	OCBS48S01	2/17/2006	0.5	METALS	Antimony	0.42	mg/kg	UJ	no	8.7	no	30	yes	0.096
MJ702	OCBS48S01	2/17/2006	0.5	METALS	Arsenic	4.1	mg/kg	J	no	15	yes	0.095	yes	0.34
MJ702	OCBS48S01	2/17/2006	0.5	METALS	Barium	100	mg/kg	J	no	140	no	15000	yes	15
MJ702	OCBS48S01	2/17/2006	0.5	METALS	Beryllium	0.65	mg/kg		no	1.1	no	150	no	5.7
MJ702	OCBS48S01	2/17/2006	0.5	METALS	Boron	9.2	mg/kg	J	no	9.7	no	15000	yes	6.3
MJ702	OCBS48S01	2/17/2006	0.5	METALS	Cadmium	0.25	mg/kg	J	no	1	no	2.6	yes	0.0031
MJ702	OCBS48S01	2/17/2006	0.5	METALS	Chromium	23	mg/kg	J	no	36.8	no	3400	no	940
MJ702	OCBS48S01	2/17/2006	0.5	METALS	Cobalt	8.2	mg/kg	J	no	21	no	1500	no	10
MJ702	OCBS48S01	2/17/2006	0.5	METALS	Copper	14	mg/kg	J	no	29	no	3000	yes	1.1
MJ702	OCBS48S01	2/17/2006	0.5	METALS	Lead	9.6	mg/kg		no	34	no	150	yes	0.063
MJ702	OCBS48S01	2/17/2006	0.5	METALS	Mercury	0.01	mg/kg	J	no	0.09	no	23	no	0.89
MJ702	OCBS48S01	2/17/2006	0.5	METALS	Molybdenum	0.46	mg/kg		no	5.3	no	380	yes	0.11
MJ702	OCBS48S01	2/17/2006	0.5	METALS	Nickel	16	mg/kg	J	no	29	no	1500	yes	0.1
MJ702	OCBS48S01	2/17/2006	0.5	METALS	Selenium	0.78	mg/kg	UJ	yes	0.655	no	380	yes	0.18
MJ702	OCBS48S01	2/17/2006	0.5	METALS	Silver	0.068	mg/kg		no	0.79	no	380	no	0.55
MJ702	OCBS48S01	2/17/2006	0.5	METALS	Thallium	0.3	mg/kg		no	0.46	no	6.1	no	3.2
MJ702	OCBS48S01	2/17/2006	0.5	METALS	Vanadium	43	mg/kg	J	no	62	no	76	yes	1.6
MJ702	OCBS48S01	2/17/2006	0.5	METALS	Zinc	56	mg/kg	J	no	110	no	23000	yes	22
MJ702	OCBS48S01	2/17/2006	0.5	SVOCSIM	1-Methylnaphthalene	22	ug/kg	U					no	230000

Table 2
RFI Soil Sample Data
OCY Earthen Berm - After Spreading

EPA_NO	OGDEN_ID	Collection Date	Depth ft bgs	Method Group	Analyte	Conc.	units	Qualifier	over Background?	Background Level	over Res RBSL?	Res RBSL	over Eco RBSL?	Eco RBSL
MJ702	OCBS48S01	2/17/2006	0.5	SVOCSIM	2-Methylnaphthalene	22	ug/kg	U			no	230000	no	230000
MJ702	OCBS48S01	2/17/2006	0.5	SVOCSIM	Acenaphthene	22	ug/kg	U			no	3400000	no	2500
MJ702	OCBS48S01	2/17/2006	0.5	SVOCSIM	Acenaphthylene	22	ug/kg	U			no	1700000	no	810000
MJ702	OCBS48S01	2/17/2006	0.5	SVOCSIM	Anthracene	22	ug/kg	U			no	17000000	no	2400
MJ702	OCBS48S01	2/17/2006	0.5	SVOCSIM	Benzo(a)anthracene	22	ug/kg	U			no	600	no	1700
MJ702	OCBS48S01	2/17/2006	0.5	SVOCSIM	Benzo(a)pyrene	22	ug/kg	U			yes	6	no	4700
MJ702	OCBS48S01	2/17/2006	0.5	SVOCSIM	Benzo(b)fluoranthene	22	ug/kg	U			no	600	no	5500
MJ702	OCBS48S01	2/17/2006	0.5	SVOCSIM	Benzo(g,h,i)perylene	22	ug/kg	U					no	6400
MJ702	OCBS48S01	2/17/2006	0.5	SVOCSIM	Benzo(k)fluoranthene	22	ug/kg	U			no	600	no	3700
MJ702	OCBS48S01	2/17/2006	0.5	SVOCSIM	Chrysene	22	ug/kg	U			no	6000	no	2400
MJ702	OCBS48S01	2/17/2006	0.5	SVOCSIM	Dibenzo(a,h)anthracene	22	ug/kg	U			no	170	no	1700
MJ702	OCBS48S01	2/17/2006	0.5	SVOCSIM	Fluoranthene	22	ug/kg	U			no	2300000	no	130000
MJ702	OCBS48S01	2/17/2006	0.5	SVOCSIM	Fluorene	22	ug/kg	U			no	2300000	no	1600
MJ702	OCBS48S01	2/17/2006	0.5	SVOCSIM	Indeno(1,2,3-cd)pyrene	22	ug/kg	U			no	600	no	3900
MJ702	OCBS48S01	2/17/2006	0.5	SVOCSIM	Naphthalene	22	ug/kg	U			no	6000	no	240000
MJ702	OCBS48S01	2/17/2006	0.5	SVOCSIM	Phenanthrene	22	ug/kg	U			no	1700000	no	1300
MJ702	OCBS48S01	2/17/2006	0.5	SVOCSIM	Pyrene	22	ug/kg	U			no	1700000	no	79000
MJ703	OCBS49S01	2/17/2006	0.5	METALS	Aluminum	13000	mg/kg		no	20000	no	75000	yes	14
MJ703	OCBS49S01	2/17/2006	0.5	METALS	Antimony	0.59	mg/kg	UJ	no	8.7	no	30	yes	0.096
MJ703	OCBS49S01	2/17/2006	0.5	METALS	Arsenic	4.1	mg/kg	J	no	15	yes	0.095	yes	0.34
MJ703	OCBS49S01	2/17/2006	0.5	METALS	Barium	72	mg/kg	J	no	140	no	15000	yes	15
MJ703	OCBS49S01	2/17/2006	0.5	METALS	Beryllium	0.48	mg/kg		no	1.1	no	150	no	5.7
MJ703	OCBS49S01	2/17/2006	0.5	METALS	Boron	7	mg/kg	J	no	9.7	no	15000	yes	6.3
MJ703	OCBS49S01	2/17/2006	0.5	METALS	Cadmium	0.22	mg/kg	J	no	1	no	2.6	yes	0.0031
MJ703	OCBS49S01	2/17/2006	0.5	METALS	Chromium	15	mg/kg	J	no	36.8	no	3400	no	940
MJ703	OCBS49S01	2/17/2006	0.5	METALS	Cobalt	5	mg/kg	J	no	21	no	1500	no	10
MJ703	OCBS49S01	2/17/2006	0.5	METALS	Copper	9.6	mg/kg	J	no	29	no	3000	yes	1.1
MJ703	OCBS49S01	2/17/2006	0.5	METALS	Lead	8.5	mg/kg		no	34	no	150	yes	0.063
MJ703	OCBS49S01	2/17/2006	0.5	METALS	Mercury	0.029	mg/kg		no	0.09	no	23	no	0.89
MJ703	OCBS49S01	2/17/2006	0.5	METALS	Molybdenum	0.52	mg/kg		no	5.3	no	380	yes	0.11
MJ703	OCBS49S01	2/17/2006	0.5	METALS	Nickel	9.7	mg/kg	J	no	29	no	1500	yes	0.1
MJ703	OCBS49S01	2/17/2006	0.5	METALS	Selenium	0.74	mg/kg	UJ	yes	0.655	no	380	yes	0.18
MJ703	OCBS49S01	2/17/2006	0.5	METALS	Silver	0.052	mg/kg		no	0.79	no	380	no	0.55
MJ703	OCBS49S01	2/17/2006	0.5	METALS	Thallium	0.23	mg/kg		no	0.46	no	6.1	no	3.2
MJ703	OCBS49S01	2/17/2006	0.5	METALS	Vanadium	30	mg/kg	J	no	62	no	76	yes	1.6
MJ703	OCBS49S01	2/17/2006	0.5	METALS	Zinc	45	mg/kg	J	no	110	no	23000	yes	22
MJ703	OCBS49S01	2/17/2006	0.5	SVOCSIM	1-Methylnaphthalene	21	ug/kg	U					no	230000
MJ703	OCBS49S01	2/17/2006	0.5	SVOCSIM	2-Methylnaphthalene	21	ug/kg	U			no	230000	no	230000
MJ703	OCBS49S01	2/17/2006	0.5	SVOCSIM	Acenaphthene	21	ug/kg	U			no	3400000	no	2500
MJ703	OCBS49S01	2/17/2006	0.5	SVOCSIM	Acenaphthylene	21	ug/kg	U			no	1700000	no	810000
MJ703	OCBS49S01	2/17/2006	0.5	SVOCSIM	Anthracene	21	ug/kg	U			no	17000000	no	2400
MJ703	OCBS49S01	2/17/2006	0.5	SVOCSIM	Benzo(a)anthracene	**21**	ug/kg	U			no	600	no	1700
MJ703	OCBS49S01	2/17/2006	0.5	SVOCSIM	Benzo(a)pyrene	21	ug/kg	U			yes	6	no	4700
MJ703	OCBS49S01	2/17/2006	0.5	SVOCSIM	Benzo(b)fluoranthene	21	ug/kg	U			no	600	no	5500
MJ703	OCBS49S01	2/17/2006	0.5	SVOCSIM	Benzo(g,h,i)perylene	21	ug/kg	U					no	6400
MJ703	OCBS49S01	2/17/2006	0.5	SVOCSIM	Benzo(k)fluoranthene	21	ug/kg	U			no	600	no	3700
MJ703	OCBS49S01	2/17/2006	0.5	SVOCSIM	Chrysene	21	ug/kg	U			no	6000	no	2400

Table 2
RFI Soil Sample Data
OCY Earthen Berm - After Spreading

EPA_NO	OGDEN_ID	Collection Date	Depth ft bgs	Method Group	Analyte	Conc.	units	Qualifier	over Background?	Background Level	over Res RBSL?	Res RBSL	over Eco RBSL?	Eco RBSL
MJ703	OCBS49S01	2/17/2006	0.5	SVOCSIM	Dibenzo(a,h)anthracene	21	ug/kg	U			no	170	no	1700
MJ703	OCBS49S01	2/17/2006	0.5	SVOCSIM	Fluoranthene	21	ug/kg	U			no	2300000	no	130000
MJ703	OCBS49S01	2/17/2006	0.5	SVOCSIM	Fluorene	**21**	ug/kg	U			no	2300000	no	1600
MJ703	OCBS49S01	2/17/2006	0.5	SVOCSIM	Indeno(1,2,3-cd)pyrene	21	ug/kg	U			no	600	no	3900
MJ703	OCBS49S01	2/17/2006	0.5	SVOCSIM	Naphthalene	21	ug/kg	U			no	6000	no	240000
MJ703	OCBS49S01	2/17/2006	0.5	SVOCSIM	Phenanthrene	21	ug/kg	U			no	1700000	no	1300
MJ703	OCBS49S01	2/17/2006	0.5	SVOCSIM	Pyrene	21	ug/kg	U			no	1700000	no	79000