



EMCON

15055 SW Sequoia Parkway • Suite 140 • Portland, Oregon 97224 • (503) 624-7200 • Fax (503) 620-7658

Intel: IRAM

March 18, 1996

Project 40388-015.032

DEPT OF ENVIRONMENTAL QUALITY
RECEIVED

MAR 19 1996

Mr. Jim Anderson
Oregon Department of Environmental Quality
Northwest Region
2020 SW Fourth Avenue, Suite 400
Portland, Oregon 97201-4987

Re: Interim Removal Action Measures (IRAM) Effectiveness Monitoring, Intel
Corporation Facility, Aloha, Oregon

NORTHWEST REGION

Dear Jim:

This letter is to confirm my March 13, 1996, voice-mail message to you regarding the changed analytical method for testing groundwater samples from monitoring wells during the first year of IRAM effectiveness monitoring at the referenced facility.

The January 10, 1996, IRAM effectiveness monitoring workplan specified on page 3-3 that the samples would be tested for volatile organic compounds (VOCs) by U.S. Environmental Protection Agency (USEPA) Method 8260. This is the method that has been used for past general-purpose on-site groundwater monitoring.

The specific purpose of the IRAM samples, however, is to document changes in groundwater quality with the continued operation of the IRAM groundwater extraction wells. This purpose can be met by switching to less expensive USEPA Method 8010. This switch, which is effective immediately, does not compromise other potential uses of the data (such as for risk assessment), because Method 8010 still addresses the same chlorinated VOCs that have been detected in site groundwater by Method 8260 and at the same method reporting limits as Method 8260 (compare attached analyte lists).

Please call if you have questions.

Sincerely,

EMCON

Russ Bunker

Russ Bunker, R.G.
Supervising Project Geologist

→ correct! GW samples in Phase 2 d R I detected:

- chloroethane - 1,1-DCE
- 1,1-DCE - TCE
- trans-1,2-DCE

+ elevated hits of: Vinylchloride + cis-1,2-DCE.
The MRL for these chlorinated solvents is the same for methods 8010 + 8260.

JMA 3/20/96

Attachments: Analyte Lists for USEPA Methods 8010 and 8260

cc/att: John Arand; Intel, Hillsboro
Ralph Moon; HSA Environmental, Inc.
Greg Eiche, Steve Jordan, and Eric Roth; EMCON, Portland



COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:
Project:
Sample Matrix: Water

Service Request:
Date Collected:
Date Received:
Date Extracted:

Volatile Organic Compounds
EPA Method 8260
Units: µg/L (ppb)

8260 LIST -
Page 1 of 2

Sample Name:
Lab Code:
Date Analyzed:

hits

Analyte	MRL	8010			
Dichlorodifluoromethane (CFC 12)	0.5	1.0	ND	ND	ND
Chloromethane	0.5	1.0	ND	ND	ND
XX Vinyl Chloride	0.5	—	ND	ND	ND
Bromomethane	0.5	—	ND	ND	ND
X Chloroethane	0.5	—	ND	ND	ND
Trichlorofluoromethane (CFC 11)	0.5	—	ND	ND	ND
Acetone	20	NA	ND	ND	ND
X 1,1-Dichloroethene	0.5	—	ND	ND	ND
Carbon Disulfide	0.5	NA	ND	ND	ND
Methylene Chloride	1	5	ND	ND	ND
X trans-1,2-Dichloroethene	0.5	—	ND	ND	ND
X 1,1-Dichloroethane	0.5	—	ND	ND	ND
2-Butanone (MEK)	20	NA	ND	ND	ND
2,2-Dichloropropane	0.5	NA	ND	ND	ND
XX cis-1,2-Dichloroethene	0.5	—	ND	ND	ND
Chloroform	0.5	—	ND	ND	ND
Bromochloromethane	0.5	NA	ND	ND	ND
1,1,1-Trichloroethane (TCA)	0.5	—	ND	ND	ND
1,1-Dichloropropene	0.5	NA	ND	ND	ND
Carbon Tetrachloride	0.5	—	ND	ND	ND
1,2-Dichloroethane	0.5	—	ND	ND	ND
Benzene	0.5	NA	ND	ND	ND
X Trichloroethene (TCE)	0.5	—	ND	ND	ND
1,2-Dichloropropane	0.5	—	ND	ND	ND
Bromodichloromethane	0.5	—	ND	ND	ND
Dibromomethane	0.5	NA	ND	ND	ND
2-Hexanone	20	NA	ND	ND	ND
cis-1,3-Dichloropropene	0.5	—	ND	ND	ND
Toluene	0.5	NA	ND	ND	ND
trans-1,3-Dichloropropene	0.5	—	ND	ND	ND
1,1,2-Trichloroethane	0.5	—	ND	ND	ND
4-Methyl-2-pentanone (MIBK)	20	NA	ND	ND	ND
1,3-Dichloropropane	0.5	NA	ND	ND	ND

8260 missing:

Trichlorotrifluoroethane (CFC 113)
2-chloroethyl Vinyl Ether

Approved By: _____

Date: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:
Project:
Sample Matrix: Water

Service Request:
Date Collected:
Date Received:
Date Extracted:

Volatile Organic Compounds
EPA Method 8260
Units: µg/L (ppb)

8260 LIST
page 2 of 2

Sample Name:
Lab Code:
Date Analyzed:

Analyte	MRL	8010			
X Tetrachloroethene (PCE)	0.5	—	ND	ND	ND
Dibromochloromethane	0.5	—	ND	ND	ND
1,2-Dibromoethane (EDB)	2	NA	ND	ND	ND
Chlorobenzene	0.5	—	ND	ND	ND
1,1,1,2-Tetrachloroethane	0.5	—	ND	ND	ND
Ethylbenzene	0.5	NA	ND	ND	ND
Total Xylenes	0.5	NA	ND	ND	ND
Styrene	0.5	NA	ND	ND	ND
Bromoform	0.5	—	ND	ND	ND
Isopropylbenzene	2	NA	ND	ND	ND
1,1,2,2-Tetrachloroethane	0.5	NA	ND	ND	ND
1,2,3-Trichloropropane	0.5	NA	ND	ND	ND
Bromobenzene	0.5	NA	ND	ND	ND
n-Propylbenzene	2	NA	ND	ND	ND
2-Chlorotoluene	2	NA	ND	ND	ND
4-Chlorotoluene	2	NA	ND	ND	ND
1,3,5-Trimethylbenzene	2	NA	ND	ND	ND
tert-Butylbenzene	2	NA	ND	ND	ND
1,2,4-Trimethylbenzene	2	NA	ND	ND	ND
sec-Butylbenzene	2	NA	ND	ND	ND
1,3-Dichlorobenzene	0.5	1.0	ND	ND	ND
4-Isopropyltoluene	2	NA	ND	ND	ND
1,4-Dichlorobenzene	0.5	1.0	ND	ND	ND
n-Butylbenzene	2	NA	ND	ND	ND
1,2-Dichlorobenzene	0.5	1.0	ND	ND	ND
1,2-Dibromo-3-chloropropane (DBCP)	2	NA	ND	ND	ND
1,2,4-Trichlorobenzene	2	NA	ND	ND	ND
1,2,3-Trichlorobenzene	2	NA	ND	ND	ND
Naphthalene	2	NA	ND	ND	ND
Hexachlorobutadiene	2	NA	ND	ND	ND

X XYLENE

Approved By: _____ Date: _____

COLUMBIA ANALYTICAL SERVICE, INC.

Analytical Report

Client:

Project:

Sample Matrix: Water

Service Request:

Date Collected:

Date Received:

Date Extracted:

Halogenated Volatile Organic Compounds

EPA Methods 5030A/8010A

Units: µg/L (ppb)

8010 LIST
page 1 of 2

Sample Name:

Lab Code:

Date Analyzed:

Analyte

MRL 8260

Dichlorodifluoromethane (CFC 12)	1	0.5	ND	ND	ND
Chloromethane	1	0.5	ND	ND	ND
Vinyl Chloride	0.5	—	ND	ND	ND
Bromomethane	0.5	—	ND	ND	ND
Chloroethane	0.5	—	ND	ND	ND
Trichlorofluoromethane (CFC 11)	0.5	—	ND	ND	ND
1,1-Dichloroethene	0.5	—	ND	ND	ND
Trichlorotrifluoroethane (CFC 113)	0.5	NA	ND	ND	ND
Methylene Chloride	5	1	ND	ND	ND
trans-1,2-Dichloroethene	0.5	—	ND	ND	ND
cis-1,2-Dichloroethene	0.5	—	ND	ND	ND
1,1-Dichloroethane	0.5	—	ND	ND	ND
Chloroform	0.5	—	ND	ND	ND
1,1,1-Trichloroethane (TCA)	0.5	—	ND	ND	ND
Carbon Tetrachloride	0.5	—	ND	ND	ND
1,2-Dichloroethane	0.5	—	ND	ND	ND
Trichloroethene (TCE)	0.5	—	ND	ND	ND
1,2-Dichloropropane	0.5	—	ND	ND	ND
Bromodichloromethane	0.5	—	ND	ND	ND
2-Chloroethyl Vinyl Ether	5	NA	ND	ND	ND
trans-1,3-Dichloropropene	0.5	—	ND	ND	ND
cis-1,3-Dichloropropene	0.5	—	ND	ND	ND
1,1,2-Trichloroethane	0.5	—	ND	ND	ND
Tetrachloroethene (PCE)	0.5	—	ND	ND	ND
Dibromochloromethane	0.5	—	ND	ND	ND
Chlorobenzene	0.5	—	ND	ND	ND
Bromoform	0.5	—	ND	ND	ND
1,1,2,2-Tetrachloroethane	0.5	—	ND	ND	ND
1,3-Dichlorobenzene	1	0.5	ND	ND	ND
1,4-Dichlorobenzene	1	0.5	ND	ND	ND
1,2-Dichlorobenzene	1	0.5	ND	ND	ND

8010 missing:

Acetone
Carbon disulfide
MEK (2-Butanone)
2,2-Dichloropropane
Bromochloromethane
1,1-Dichloropropene

Toluene

4-Methyl-2-pentanone (MIBK)

1,3-Dichloropropane

1,2-Dibromomethane (EDB)

↓
many more

Approved By: _____

Date: _____

Benzene
Dibromomethane
2-Hexanone

COLUMBIA ANALYTICAL SERVICE, INC.

Analytical Report

Client:
Project:
Sample Matrix: Water

Service Request:
Date Collected:
Date Received:
Date Extracted:

Halogenated Volatile Organic Compounds
EPA Methods 5030A/8010A
Units: µg/L (ppb)

8010 LIST-
page 2 of 2

Sample Name:
Lab Code:
Date Analyzed:

Analyte	MRL			
Dichlorodifluoromethane (CFC 12)	1	ND	ND	ND
Chloromethane	1	ND	ND	ND
Vinyl Chloride	0.5	ND	ND	ND
Bromomethane	0.5	ND	ND	ND
Chloroethane	0.5	ND	ND	ND
Trichlorofluoromethane (CFC 11)	0.5	ND	ND	ND
1,1-Dichloroethene	0.5	ND	ND	ND
Trichlorotrifluoroethane (CFC 113)	0.5	ND	ND	ND
Methylene Chloride	5	ND	ND	ND
trans-1,2-Dichloroethene	0.5	ND	ND	ND
cis-1,2-Dichloroethene	0.5	ND	ND	ND
1,1-Dichloroethane	0.5	ND	ND	ND
Chloroform	0.5	ND	ND	ND
1,1,1-Trichloroethane (TCA)	0.5	ND	ND	ND
Carbon Tetrachloride	0.5	ND	ND	ND
1,2-Dichloroethane	0.5	ND	ND	ND
Trichloroethene (TCE)	0.5	ND	ND	ND
1,2-Dichloropropane	0.5	ND	ND	ND
Bromodichloromethane	0.5	ND	ND	ND
2-Chloroethyl Vinyl Ether	5	ND	ND	ND
trans-1,3-Dichloropropene	0.5	ND	ND	ND
cis-1,3-Dichloropropene	0.5	ND	ND	ND
1,1,2-Trichloroethane	0.5	ND	ND	ND
Tetrachloroethene (PCE)	0.5	ND	ND	ND
Dibromochloromethane	0.5	ND	ND	ND
Chlorobenzene	0.5	ND	ND	ND
Bromoform	0.5	ND	ND	ND
1,1,2,2-Tetrachloroethane	0.5	ND	ND	ND
1,3-Dichlorobenzene	1	ND	ND	ND
1,4-Dichlorobenzene	1	ND	ND	ND
1,2-Dichlorobenzene	1	ND	ND	ND

Approved By: _____ Date: _____