

5,14.92

TEST NAME ARSENIC

TEST CODE AS\_ICP

Arsenic was analyzed by inductively coupled argon plasma (ICP) spectroscopy according to USEPA method 6010.

TEST NAME TCLP BVA ANALYSIS

TEST CODE BNTCLP

The samples were extracted according to the TCLP protocol as outlined by Vol 55, No. 126 6/29/90. The TCLP extract is then extracted for semivolatile organics compounds by USEPA Method 3550. The extract is concentrated and an aliquot is analyzed for semivolatiles organic compounds by USEPA Method 8270 utilizing gas chromatography-mass spectrometry.



TEST NAME MERCURY

TEST CODE HG\_AA

The sample was prepared and analyzed for mercury by cold-vapor atomic absorption (CVAA) spectroscopy according to USEPA method 7471 (solids) or method 7470 (liquids).

TEST NAME RCRA ICAP METALS

TEST CODE IRCRA

The following RCRA metals were analyzed by ICP according to USEPA method 6010: barium, cadmium, chromium, lead and silver. The remaining RCRA metals were analyzed by graphite furnace atomic absorption (arsenic and selenium) or cold-vapor atomic absorption (mercury).

TEST NAME TCLP METALS EXTRACTION

TEST CODE TCLPMX

The sample was extracted according to EPA Toxicity Characteristic Leaching Procedure (TCLP) Method 1311.

TEST NAME TCLP VOLATILES BY ZHE

TEST CODE TCLP\_V

Method 8240-Test Methods for Evaluating Solid Wastes, 3rd Edition, November 1986. Purge and trap GC/MS analysis.

IT CORPORATION  
336 WEST ANAHEIM  
WILMINGTON, CA 90744  
DON GRANT

**PRELIMINARY  
RESULTS**

Date: 05/14/92

Work Order: C2-04-232

HOLLOMAN

This is the Certificate of Analysis for the following samples:

Client Work ID: HOLLOMAN AFB  
Date Received: 04/30/92  
Number of Samples: 11  
Sample Type: SOIL

The TCLP pesticide/herbicide analysis was performed by ITAS-Middlebrook. The Certificate of Analysis for those analyses are attached to the back of this report.

Samples were labeled as follows:

<u>SAMPLE IDENTIFICATION</u>	<u>LABORATORY #</u>
SP-1	C2-04-232-01
SP-2	C2-04-232-02
SP-3	C2-04-232-03
SP-4	C2-04-232-04
SP-5	C2-04-232-05
SP-6	C2-04-232-06
MATRIX SPIKE	C2-04-232-07
MATRIX SPIKE DUP	C2-04-232-08
DUPLICATE	C2-04-232-09
METHOD BLANK	C2-04-232-10

Reviewed and Approved:

**PRELIMINARY  
RESULTS**  
Tracy Sidwell  
Project Manager

Company: IT CORPORATION  
 Date: 05/14/92  
 Client Work ID: HOLLOWAN AFB

Work Order: C2-04-232

TEST NAME: TCLP BNA ANALYSIS

SAMPLE ID: SP-1  
 LAB SAMPLE ID: C204232-01A  
 SAMPLE DATE: 04/29/92  
 EXTRACTION DATE: 05/04/92  
 ANALYSIS DATE: 05/12/92

Results in UG/L :

Compound		Detection Limit
O-CRESOL	ND	40
M+P-CRESOL	ND	40
1,4-DICHLOROBENZENE	ND	40
2,4-DINITROTOLUENE	ND	40
HEXACHLOROBENZENE	ND	40
HEXACHLORO-1,3-BUTADIENE	ND	40
HEXACHLOROETHANE	ND	40
NITROBENZENE	ND	40
PENTACHLOROPHENOL	ND	200
PYRIDINE	ND	400
2,4,5-TRICHLOROPHENOL	ND	200
2,4,6-TRICHLOROPHENOL	ND	40

Surrogates	% Recovery
Nitrobenzene-D5	92
2-Fluorobiphenyl	124*
Terphenyl-D14	118
Phenol-D6	89
2-Fluorophenol	71
2,4,6-Tribromophenol	93

Comments: 'ND' or '<' indicates that the compound is not detected at the specified limit.  
 'NA' indicates not applicable  
 '\*' Surrogate recovery is outside QC limit.  
 'D' Surrogate is diluted out.

Company: IT CORPORATION  
Date: 05/14/92  
Client Work ID: HOLLOWAN AFB

Work Order: C2-04-232

TEST NAME: RCRA ICAP METALS

SAMPLE ID: SP-1  
LAB SAMPLE ID: C204232-01A  
SAMPLE DATE: 04/29/92

	Results	Detection Limit	Analysis Method	Unit	Analysis Date
ARSENIC	ND	10	6010	MG/L	05/05/92
BARIUM	ND	2	6010	MG/L	05/05/92
CADMIUM	ND	0.05	6010	MG/L	05/05/92
CHROMIUM	ND	0.1	6010	MG/L	05/05/92
LEAD	ND	2	6010	MG/L	05/05/92
MERCURY	ND	0.0007	7471	MG/L	05/05/92
SELENIUM	ND	10	6010	MG/L	05/05/92
SILVER	ND	0.1	6010	MG/L	05/05/92
METALS TCLP	05/01/92		1311	DATE	05/05/92

*SW 84*

*x100*  
*x100*

*?*

Comments: 'ND' or '<' indicates that the element is not detected at the specified limit.  
'NC' indicates the parameter was not calculated.

Company: IT CORPORATION  
Date: 05/14/92  
Client Work ID: HOLLOWAN AFB

Work Order: C2-04-232

TEST NAME: TCLP VOLATILES BY ZHE

SAMPLE ID: SP-1  
LAB SAMPLE ID: C204232-01A  
SAMPLE DATE: 04/29/92  
ANALYSIS DATE: 05/01/92

Results in	UG/L:	Detection Limit
Vinyl chloride	ND	50
1,1-Dichloroethylene	ND	25
Chloroform	ND	25
1,2-Dichloroethane	ND	25
2-Butanone	ND	50
Carbon tetrachloride	ND	25
Trichloroethylene	ND	25
Benzene	ND	25
Tetrachloroethylene	ND	25
Chlorobenzene	ND	25

Surrogates	% Recovery	Limit
Toluene-D8	101	88 - 110
Bromofluorobenzene	102	86 - 115
1,2-Dichloroethane-D4	94	76 - 114

Comments: 'ND' or '<' indicates that the compound is not detected at the specified limit.  
'NA' indicates not applicable

Company: IT CORPORATION  
 Date: 05/14/92  
 Client Work ID: HOLLOWAN AFB

Work Order: C2-04-232

## TEST NAME: TCLP BNA ANALYSIS

SAMPLE ID: SP-2  
 LAB SAMPLE ID: C204232-02A  
 SAMPLE DATE: 04/29/92  
 EXTRACTION DATE: 05/04/92  
 ANALYSIS DATE: 05/12/92

Results in UG/L :

Compound		Detection Limit
O-CRESOL	ND	40
M+P-CRESOL	ND	40
1,4-DICHLOROBENZENE	ND	40
2,4-DINITROTOLUENE	ND	40
HEXACHLOROBENZENE	ND	40
HEXACHLORO-1,3-BUTADIENE	ND	40
HEXACHLOROETHANE	ND	40
NITROBENZENE	ND	40
PENTACHLOROPHENOL	ND	200
PYRIDINE	ND	400
2,4,5-TRICHLOROPHENOL	ND	200
2,4,6-TRICHLOROPHENOL	ND	40

Surrogates	% Recovery
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Nitrobenzene-D5	87
2-Fluorobiphenyl	115
Terphenyl-D14	122*
Phenol-D6	37
2-Fluorophenol	18
2,4,6-Tribromophenol	24

Comments: 'ND' or '<' indicates that the compound is not detected at the specified limit.

'NA' indicates not applicable

'\*' Surrogate recovery is outside QC limit.

'D' Surrogate is diluted out.

Company: IT CORPORATION  
Date: 05/14/92  
Client Work ID: HOLLOMAN AFB

Work Order: C2-04-232

TEST NAME: RCRA ICAP METALS

SAMPLE ID: SP-2  
LAB SAMPLE ID: C204232-02A  
SAMPLE DATE: 04/29/92

	Results	Detection Limit	Analysis Method	Unit	Analysis Date
ARSENIC	ND	1	6010	MG/L	05/05/92
BARIUM	ND	0.2	6010	MG/L	05/05/92
CADMIUM	ND	0.005	6010	MG/L	05/05/92
CHROMIUM	ND	0.01	6010	MG/L	05/05/92
LEAD	ND	0.2	6010	MG/L	05/05/92
MERCURY	ND	0.0007	7471	MG/L	05/05/92
SELENIUM	ND	1	6010	MG/L	05/05/92
SILVER	ND	0.01	6010	MG/L	05/05/92
METALS TCLP	05/01/92		1311	DATE	05/05/92

Comments: 'ND' or '<' indicates that the element is not detected at the specified limit.  
'NC' indicates the parameter was not calculated.

Company: IT CORPORATION  
Date: 05/14/92  
Client Work ID: BOLLOMAN AFB

Work Order: C2-04-232

8240 => TCLP

TEST NAME: TCLP VOLATILES BY ZHE

SAMPLE ID: SP-2  
LAB SAMPLE ID: C204232-02A  
SAMPLE DATE: 04/29/92  
ANALYSIS DATE: 05/01/92

	Results in	UG/L:	Detection Limit
Vinyl chloride		ND	50
1,1-Dichloroethylene		ND	25
Chloroform		ND	25
1,2-Dichloroethane		ND	25
2-Butanone		ND	50
Carbon tetrachloride		ND	25
Trichloroethylene		ND	25
Benzene		ND	25
Tetrachloroethylene		ND	25
Chlorobenzene		ND	25

Surrogates	% Recovery		Limit
Toluene-D8	99	88	- 110
Bromofluorobenzene	104	86	- 115
1,2-Dichloroethane-D4	96	76	- 114

Comments: 'ND' or '<' indicates that the compound is not detected at the specified limit.  
'NA' indicates not applicable



Company: IT CORPORATION  
 Date: 05/14/92  
 Client Work ID: HOLLOMAN AFB

Work Order: C2-04-232

## TEST NAME: TCLP BNA ANALYSIS

SAMPLE ID: SP-3  
 LAB SAMPLE ID: C204232-03A  
 SAMPLE DATE: 04/29/92  
 EXTRACTION DATE: 05/04/92  
 ANALYSIS DATE: 05/12/92

Results in UG/L :

Compound		Detection Limit
O-CRESOL	ND	40
M+P-CRESOL	ND	40
1,4-DICHLOROBENZENE	ND	40
2,4-DINITROTOLUENE	ND	40
HEXACHLOROBENZENE	ND	40
HEXACHLORO-1,3-BUTADIENE	ND	40
HEXACHLOROETHANE	ND	40
NITROBENZENE	ND	40
PENTACHLOROPHENOL	ND	200
PYRIDINE	ND	400
2,4,5-TRICHLOROPHENOL	ND	200
2,4,6-TRICHLOROPHENOL	ND	40

Surrogates	% Recovery
Nitrobenzene-D5	74
2-Fluorobiphenyl	114
Terphenyl-D14	120
Phenol-D6	22
2-Fluorophenol	11
2,4,6-Tribromophenol	12

Comments: 'ND' or '<' indicates that the compound is not detected at the specified limit.

'NA' indicates not applicable

'\*' Surrogate recovery is outside QC limit.

'D' Surrogate is diluted out.

Company: IT CORPORATION  
Date: 05/14/92  
Client Work ID: BOLLOMAN AFB

Work Order: C2-04-232

TEST NAME: RCRA ICAP METALS

SAMPLE ID: SP-3  
LAB SAMPLE ID: C204232-03A  
SAMPLE DATE: 04/29/92

	Results	Detection Limit	Analysis Method	Unit	Analysis Date
ARSENIC	ND	1	6010	MG/L	05/05/92
BARIUM	ND	0.2	6010	MG/L	05/05/92
CADMIUM	0.007	0.005	6010	MG/L	05/05/92
CHROMIUM	ND	0.01	6010	MG/L	05/05/92
LEAD	ND	0.2	6010	MG/L	05/05/92
MERCURY	ND	0.0007	7471	MG/L	05/05/92
SELENIUM	ND	1	6010	MG/L	05/05/92
SILVER	ND	0.01	6010	MG/L	05/05/92
METALS TCLP	05/01/92		1311	DATE	05/05/92

Comments: 'ND' or '<' indicates that the element is not detected at the specified limit.  
'NC' indicates the parameter was not calculated.

Company: IT CORPORATION  
Date: 05/14/92  
Client Work ID: HOLLOWAN AFB

Work Order: C2-04-232

TEST NAME: TCLP VOLATILES BY ZHE

SAMPLE ID: SP-3  
LAB SAMPLE ID: C204232-03A  
SAMPLE DATE: 04/29/92  
ANALYSIS DATE: 05/01/92

Results in	UG/L:	Detection Limit
Vinyl chloride	ND	50
1,1-Dichloroethylene	ND	25
Chloroform	ND	25
1,2-Dichloroethane	ND	25
2-Butanone	ND	50
Carbon tetrachloride	ND	25
Trichloroethylene	ND	25
Benzene	ND	25
Tetrachloroethylene	ND	25
Chlorobenzene	ND	25

Surrogates	% Recovery	Limit
Toluene-D8	97	88 - 110
Bromofluorobenzene	101	86 - 115
1,2-Dichloroethane-D4	94	76 - 114

Comments: 'ND' or '<' indicates that the compound is not detected at the specified limit.  
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