



DEPARTMENT OF THE ARMY

OMAHA DISTRICT, CORPS OF ENGINEERS

FORT CROOK AREA

P.O. BOX 13287

OFFUTT AFB, NEBRASKA 68113-0287

REPLY TO
ATTENTION OF

January 7, 1992

Fort Crook Area

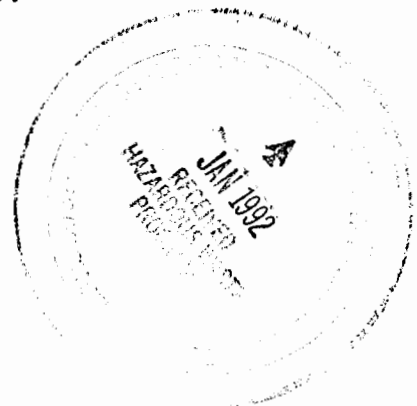
State of New Mexico
Environmental Department
525 Camino De Los Marques
Santa Fe, NM 87502
(ATTN: Joe Kennedy)

Gentlemen:

Holloman AFB has utilized Rapid Response Contract DACW45-90-D-9002 for the removal of a suspected underground storage tank (UST) at Site 47 POL Washrack. Rapid Response is a new program established to assist Government agencies partaking corrective action to sites that pose an immediate health risk to the environment. This program is managed by the Corps of Engineers, Omaha District.

This project began with the excavation of two (2) preliminary pits in an attempt to locate the UST. The locations chosen for initial pit excavation were based upon recommendations from base personnel. A soil sample was taken on September 26, 1991 from the sidewall of the pit for preliminary analysis and to verify disposal options. This sample (519065/01) was analyzed for TCLP organics and inorganics. These results were received approximately one week later. All constituents were reported Non-Detect (ND). During this period of analysis, excavation continued utilizing field screening techniques (PID). The suspected UST was never found, however, an open ended pipe originating from the washrack area was uncovered and removed along with a significant amount of surrounding soils.

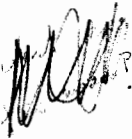
Another sample (519005/14) was taken from the existing sidewall on October 11, 1991 to verify previous analyses. This sample was analyzed using quick turn around time. The analytical results were reported as ND, with the exception of TCLP Benzene at 0.7ppm (regulatory level = 0.5ppm). A decision was made to continue excavating activities until field readings showed <.5ppm on PID screening. This limit was achieved on three sides. The exception was the sidewall along the fence. This area continues to be considered contaminated to some degree.



At this point, it is our recommendation that the excavation be sampled for verification of cleanliness (total benzene via Method 8240) and backfilled. The existing washrack fence will define the limits of excavation should future remediation in this area be necessary. Attachment 1 depicts the excavated area at present, together with proposed verification sampling points. These sampling points were chosen based on field observations and will be visually refined on-site to reflect worst case samples.

All soil removed during the excavation effort was placed in piles on visqueen sheeting for temporary storage. The soils were then sampled to define disposal options. A limited number of samples were acquired and submitted for TCLP full organic and inorganic analyses. Samples were taken from each quadrant of the stockpile (i.e. NE, NW, SE, SW).

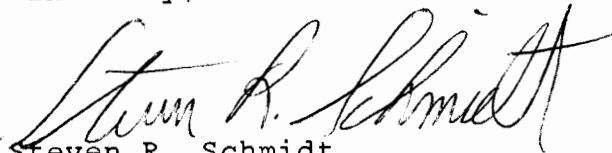
Attachment 2 shows the data obtained from that analysis. These results show no significant contamination exists in the soil. The only detectable constituent is from the SE quadrant with a slight level of chloroform (42ug/l). This concentration is well below the regulatory level of 6mg/l. The data is qualified on the data sheet for it is not 5x the quantitation limit of the instrument and method.

 Due to the extensive quantity of soil (approximately 9000 cubic yards), further sampling and analyses is proposed to verify the soil is non-hazardous. Attachment 3 depicts the proposed staged soil sampling locations. Grab samples will be taken from the following locations with a hollow stem soil corer at a depth corresponding to the middle or bottom half of the pile (3-5 feet). Nine field and one co-located field duplicate sample will be taken for TCLP analysis.

I hope that you find this sampling effort acceptable. In either case, a prompt reply will be greatly appreciated.

Any questions you may have regarding this subject should be directed to Mr. Larry Gann of my staff at (402)291-4260.

Sincerely,



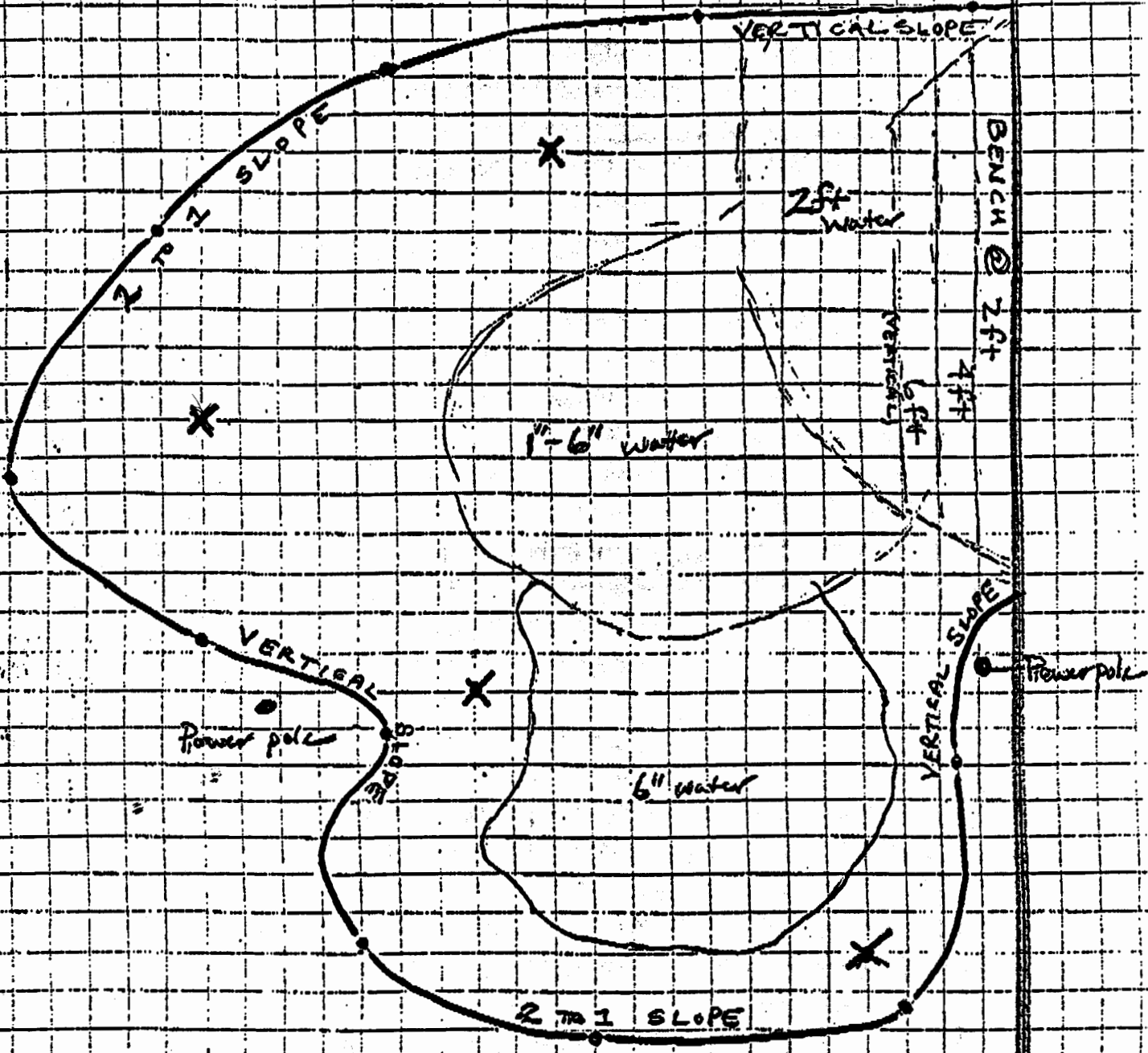
Steven R. Schmidt
Contracting Officer's
Representative

HOLMAN AFB

1 Sq. ≈ 5'
(NTS)

X 4 floor samples X

11 wall samples (taken between 3.5-7.5 ft depths, based on visual observations)



FENCE LINE

BENCH @ 2 FT

Power pole

Power pole

VERTICAL SLOPE

VERTICAL SLOPE

2 FT WATER

1-6" WATER

6" WATER

VERTICAL SLOPE

VERTICAL SLOPE

2 TO 1 SLOPE

CERTIFICATE OF ANALYSIS

IT CORPORATION
336 WEST ANAHEIM
WILMINGTON, CA 90744
DAVE HUB

Date: 11/08/91

Work Order: C1-10-232

Project/P.O.#: 519005
MOLLOMAN

This is the Certificate of Analysis for the following samples:

Client Work ID: MOLLOMAN AFB

Date Received: 10/25/91

519005

Number of Samples: 12

Sample Type: SOIL

Samples were labeled as follows:

<u>SAMPLE IDENTIFICATION</u>	<u>LABORATORY #</u>
519005-16	C1-10-232-01
519005-17	C1-10-232-02
519005-18	C1-10-232-03
519005-19	C1-10-232-04
MATRIX SPIKE I	C1-10-232-05
DUPLICATE I	C1-10-232-07
METHOD BLANK I	C1-10-232-08
LCS	C1-10-232-09
BLANK SPIKE	C1-10-232-10
MATRIX SPIKE II	C1-10-232-11
DUPLICATE II	C1-10-232-12
METHOD BLANK II	C1-10-232-13

Reviewed and Approved:

Tracy Sidwell

Tracy Sidwell
Project Manager

American Council of Independent Laboratories
International Association of Environmental Testing Laboratories
American Association for Laboratory Accreditation

Company: IT CORPORATION

Date: 11/08/91

Client Work ID: HOLLOWAY AFB

S19008

Work Order: CI-10-232

TEST NAME: TOLF EPA ANALYSIS

SAMPLE ID: S19008-16

LAB SAMPLE ID: C110232-01A

SAMPLE DATE: 10/24/91

EXTRACTION DATE: 10/28/91

ANALYSIS DATE: 11/04/91

Results in	ug/L		Detection Limit
Compound			
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
HEPTACHLOROPHENOL	ND		200
PERIDINE	ND		400
2,4,6-TRICHLOROPHENOL	ND		200
2,4,6-TRIBROMOPHENOL	ND		40

Surrogates	% Recovery
Nitrobenzene-D5	98
2-Fluorobiphenyl	82
Terphenyl-D14	97
Phenol-D6	79
2-Fluorophenol	88
2,4,6-Tribromophenol	87

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: 11/08/91

Client Work ID: BOLLINGER AFB

S19008

Work Order: C1-10-232

TEST NAME: ROXA DUMP METALS

SAMPLE ID: S19008-16

LAB SAMPLE ID: C110232-01A

SAMPLE DATE: 10/26/91

	Results	Detection Limit	Analysis Method	Unit	Analysis Date
ARSENIC	ND	1	6010	MG/L	11/06/91
BARIUM	ND	0.2	6010	MG/L	11/06/91
CADMIUM	ND	0.005	6010	MG/L	11/06/91
CHROMIUM	ND	0.01	6010	MG/L	11/06/91
LEAD	ND	0.2	6010	MG/L	11/06/91
MERCURY	ND	0.0007	7471	MG/L	11/05/91
SELENIUM	ND	1	6010	MG/L	11/06/91
SILVER	ND	0.01	6010	MG/L	11/06/91
HEAVY METALS TCLP	11/03/91		1311	DATE	11/06/91

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

Company: IN CORPORATION
 Date: 11/08/91
 Client Work ID: HOLLOWAY AFB

IT ANALYTICAL SERVICES
 CERRITOS, CA

519008

Work Order: CI-10-232

TEST NAME: VCLP VOLATILES BY MSB

SAMPLE ID: 519008-16
 LAB SAMPLE ID: C110232-01A
 SAMPLE DATE: 10/24/91
 ANALYSIS DATE: 10/29/91

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	96	88 - 110
Bromofluorobenzene	98	86 - 118
1,2-Dichloroethane-D4	101	76 - 114

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

Company: ICF CORPORATION
Date: 11/08/91
Client Work ID: KOLONGAN AFB

519008

Work Order: CI-10-232

TEST NAME: WOLF HPA ANALYSIS

SAMPLE ID: 519008-17
LAB SAMPLE ID: CI10232-02A
SAMPLE DATE: 10/24/91
EXTRACTION DATE: 10/28/91
ANALYSIS DATE: 11/04/91

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
HEXACHLOROCYCLOHEXANE	ND	40
HEXACHLORO-1,3-BUTADIENE	ND	40
HEXACHLOROETHANE	ND	40
NITROBENZENE	ND	40
PENTACHLOROPHENOL	ND	200
PERILICIN	ND	400
2,4,6-TRICHLOROPHENOL	ND	200
3,4,6-TRICHLOROPHENOL	ND	40

Surrogates

% Recovery

Nitrobenzene-D5	89
2-Fluorobiphenyl	83
Terphenyl-D14	100
Phenol-D6	79
2-Fluorophenol	88
2,4,6-Tribromophenol	89

Comments: 'ND' or '<' indicates that the compound is not detected at the specified limit.
 'NA' indicates not applicable
 'W' surrogate recovery is outside 95 limit.
 'D' surrogate is diluted out.

Company: IFC CORPORATION
Date: 11/06/91
Client Work ID: BULLOCH LMS

CERRITOS, CA

819003

Work Order: C1-10-232

TEST NAME: RCRA ICAP METALS

SAMPLE ID: 819003-17
LAB SAMPLE ID: C110232-02A
SAMPLE DATE: 10/24/91

	Results	Detection Limit	Analysis Method	Unit	Analysis Date
ARSENIC	ND	1	6010	MG/L	11/06/91
BARIUM	ND	0.2	6010	MG/L	11/06/91
CADMIUM	ND	0.005	6010	MG/L	11/06/91
CHROMIUM	ND	0.01	6010	MG/L	11/06/91
LEAD	ND	0.2	6010	MG/L	11/06/91
MERCURY	ND	0.0007	7471	MG/L	11/06/91
SELENIUM	ND	1	6010	MG/L	11/06/91
SILVER	ND	0.01	6010	MG/L	11/06/91
METALS TCLP	11/03/91		1311	DATE	11/06/91

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

Company: IT CORPORATION
Date: 11/06/91
Client Work ID: HOLLAND AFB

IT ANALYTICAL SERVICES
CERRITOS, CA

819005

Work Order: CI-10-232

TEST NAME: TCEM VOLATILES BY SW

SAMPLE ID: 819005-17
LAB SAMPLE ID: C110232-02A
SAMPLE DATE: 10/24/91
ANALYSIS DATE: 10/29/91

	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	100	88	- 110
Bromofluorobenzene	101	86	- 112
1,2-Dichloroethane-D4	98	76	- 114

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

Company: IT CORPORATION
 Date: 11/08/91
 Client Work ID: HOLLOWAN AFB

S19006

Work Order: C1-10-232

IT ANALYTICAL SERVICES
 CERRITOS, CA

TEST NAME: TCLP EPA ANALYSIS

SAMPLE ID: S19006-18
 LAB SAMPLE ID: C110232-03A
 SAMPLE DATE: 10/24/91
 EXTRACTON DATE: 10/28/91
 ANALYSIS DATE: 11/04/91

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-DIBENZENE	ND	40
HEXACHLOROCYCLOHEXANE	ND	40
NIROBENZENE	ND	40
HEPTACHLOROPHENOL	ND	200
PYRIDINE	ND	400
2,4,6-TRICHLOROPHENOL	ND	200
2,4,6-TRIBROMOPHENOL	ND	40

Surrogates	% Recovery
Nitrobenzene-D5	80
2-Fluorobiphenyl	74
Terphenyl-D14	94
Phenol-D8	75
2-Fluorophenol	80
2,4,6-Tribromophenol	78

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: ITC CORPORATION
Date: 11/06/91
Client Mark ID: HOLLOWAY AFB

IT ANALYTICAL SERVICES
CERRITOS, CA

519005

Work Order: CI-10-232

TEST NAME: MIRA ICAP METALS

SAMPLE ID: 519005-18
LAB SAMPLE ID: CI10232-03A
SAMPLE DATE: 10/24/91

	Results	Detection Limit	Analysis Method	Unit	Analysis Date
ARSENIC	ND	1	6010	MG/L	11/06/91
BARIUM	ND	0.2	6010	MG/L	11/06/91
CADMIUM	ND	0.005	6010	MG/L	11/06/91
CHROMIUM	ND	0.01	6010	MG/L	11/06/91
LEAD	ND	0.2	6010	MG/L	11/06/91
MERCURY	ND	0.0007	7471	MG/L	11/06/91
SELENIUM	ND	1	6010	MG/L	11/06/91
SILVER	ND	0.01	6010	MG/L	11/06/91
METALS TCLP	11/03/91		1311	DATE	11/06/91

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

Company: IT CORPORATION

CERRITOS, CA

Date: 11/09/91

Client Work ID: MOLLAMAN AFB

819008

Work Order: CI-10-232

TEST NAME: TCLP VOLATILES BY IIR

SAMPLE ID: 819008-18

LAB SAMPLE ID: CI10232-03A

SAMPLE DATE: 10/24/91

ANALYSIS DATE: 10/29/91

	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	106	88	- 110
Bromofluorobenzene	86	86	- 115
1,2-Dichloroethane-D4	102	76	- 114

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

Company: IT CORPORATION
 Date: 11/08/91
 Client Work ID: HOLLISMAN AFB

IT ANALYTICAL SERVICES
 CERRITOS, CA

819008

Work Order: CI-10-232

TEST NAME: TCLP HHA ANALYSIS

SAMPLE ID: 819008-19
 LAB SAMPLE ID: CI10232-04A
 SAMPLE DATE: 10/24/91
 INSUBACTION DATE: 10/28/91
 ANALYSIS DATE: 11/04/91

Results in UG/L :

Compound		Detection Limit
O-CRESOL	ND	40
M-P-CRESOL	ND	40
1,4-DICHLOROBENZENE	ND	40
2,4-DINITROCLOROBENZENE	ND	40
METHACHLOROBENZENE	ND	40
HEXACHLORO-1,3-BUTADIENE	ND	40
HEXACHLOROCYCLOHEXANE	ND	40
NITROBENZENE	ND	40
PENTACHLOROPHENOL	ND	200
PYRIDINE	ND	400
2,4,6-TRICHLOROPHENOL	ND	200
2,4,6-TRICHLOROPHENOL	ND	40

Surrogates	% Recovery
Nitrobenzene-D5	97
2-Fluorobiphenyl	84
Terphenyl-D14	97
Phenol-D6	82
2-Fluorophenol	82
2,4,6-Tribromophenol	84

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: TR CORPORATION
Date: 11/06/91
Client Work ID: KOLLODUM AFB

CERRITOS, CA

519005

Work Order: C1-10-232

TEST NAME: SOA ICP METALS

SAMPLE ID: 519005-19
LAB SAMPLE ID: C110232-06A
SAMPLE DATE: 10/24/91

	Results	Detection Limit	Analysis Method	Unit	Analysis Date
ARSENIC	ND	10	6010	MG/L	11/06/91
BARIUM	ND	2	6010	MG/L	11/06/91
CADMIUM	ND	0.05	6010	MG/L	11/06/91
CHROMIUM	ND	0.1	6010	MG/L	11/06/91
LEAD	ND	2	6010	MG/L	11/06/91
MERCURY	ND	0.0007	7471	MG/L	11/06/91
SELENIUM	ND	10	6010	MG/L	11/06/91
SILVER	ND	0.1	6010	MG/L	11/06/91
METALS TCLP	11/05/91		1311	DATE	11/06/91

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

Company: IV CORPORATION
 Date: 11/08/91
 Client Work ID: KOLLATHAN AFB

819005

Work Order: C1-10-232

IT ANALYTICAL SERVICES
 CERRITOS, CA

TEST NAME: TOLU VOLATILES BY 232

SAMPLE ID: 819005-19
 LAB SAMPLE ID: C110232-00A
 SAMPLE DATE: 10/24/91
 ANALYSIS DATE: 10/29/91

	Results in	UG/L:	Detection Limit
Vinyl chloride		ND	50
1,1-Dichloroethylene		ND	25
Chloroform		428	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	90	88 - 110
Bromofluorobenzene	94	86 - 115
1,2-Dichloroethane-D4	98	76 - 114

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

Company: IZ CORPORATION
Date: 11/08/91
Client Work ID: BOLLERMAN AFB

519008

Work Order: C1-10-232

TEST NAME: TOLP HVA ANALYSIS

SAMPLE ID: MESSLE SYSTEM 1
LAB SAMPLE ID: C110212-05A
SAMPLE DATE: not spec
EXTRACTION DATE: 10/28/91
ANALYSIS DATE: 11/04/91

Results in SPEC :

Compound		Detection Limit
O-CRESOL	80	-
M-P-CRESOL	80	-
1,4-DICHLOROBENZENE	78	-
2,4-DICHLOROBENZENE	44	-
TRICHLOROBENZENE	92	-
TRICHLORO-1,3-BENZADIENE	52	-
TRICHLOROTRAZENE	64	-
NITROBENZENE	90	-
PENTACHLOROPHENOL	69	-
PYRIDINE	92	-
2,4,5-TRICHLOROPHENOL	47	-
2,4,6-TRICHLOROPHENOL	72	-

Surrogate	% Recovery
Nitrobenzene-D5	94
2-Fluorobiphenyl	81
Terpene-D14	107
Phenol-D6	79
3-Fluorophenol	86
2,4,6-Trichlorophenol	84

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: IZ CORPORATION
Date: 11/06/91
Client Work ID: HOLLOWAY AFB

519005

Work Order: CI-10-232

TEST NAME: RCRA ICAP METALS

SAMPLE ID: MATRIX SPIKE I
LAB SAMPLE ID: C110232-05A
SAMPLE DATE: not spec

	Results	Detection Limit	Analysis Method	Unit	Analysis Date
ARSENIC	91	—	6010	µSEC	11/06/91
BARIUM	85	—	6010	µSEC	11/06/91
CADMIUM	88	—	6010	µSEC	11/06/91
CHROMIUM	84	—	6010	µSEC	11/06/91
LEAD	86	—	6010	µSEC	11/06/91
MERCURY	.104	—	7471	µSEC	11/05/91
SELENIUM	88	—	6010	µSEC	11/06/91
SILVER	88	—	6010	µSEC	11/06/91

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

TEST NAME: ROMA ICAP METALS

SAMPLE ID: DUPLICATION 1
LAB SAMPLE ID: C110232-07A
SAMPLE DATE: not spec

	Results	Detection Limit	Analysis Method	Unit	Analysis Date
ARSENIC	NC	—	6010	RFD	11/06/91
BARIUM	NC	—	6010	RFD	11/06/91
CADMIUM	NC	—	6010	RFD	11/06/91
CHROMIUM	NC	—	6010	RFD	11/06/91
LEAD	NC	—	6010	RFD	11/06/91
MERCURY	NC	—	7471	RFD	11/06/91
SELENIUM	NC	—	6010	RFD	11/06/91
SILVER	NC	—	6010	RFD	11/06/91

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

TEST NAME: TCEP AND ANALYSIS

SAMPLE ID: METHOD BLANK I
LAB SAMPLE ID: C110132-00A
SAMPLE DATE: not spec
EXTRACTION DATE: 10/28/91
ANALYSIS DATE: 11/04/91

Results in **UG/L** :

Compound		Detection Limit
O-CRESOL	ND	40
M-P-CRESOL	ND	40
1,4-DICHLOROBENZENE	ND	40
2,4-DINITROTOLENE	ND	40
HEXACHLOROBENZENE	ND	40
HEXACHLORO-1,2-DIBADIENE	ND	40
HEXACHLOROETHANE	ND	40
NITROBENZENE	ND	40
PENTACHLOROPHENOL	ND	200
PERIDINE	ND	400
2,4,5-TRICHLOROPHENOL	ND	200
2,4,6-TRICHLOROPHENOL	ND	40

Surrogates	% Recovery
Nitrobenzene-D5	100
2-Fluorobiphenyl	65
Terphenyl-D14	91
Phenol-D6	74
2-Fluorophenol	86
2,4,6-Tribromophenol	70

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.



INTERNATIONAL
TECHNOLOGY
CORPORATION

C110232

R/A Control No. 219
C/C Control No. 18

REQUEST FOR ANALYSIS

PROJECT NAME Holloman AFB DATE SAMPLES SHIPPED 10/25/51
 PROJECT NUMBER 519005 LAB DESTINATION PROD CHEMISTS
 PROFIT CENTER NUMBER 2220 LABORATORY CONTACT T. DORRILL
 PROJECT MANAGER D. ERB SEND LAB REPORT TO D. ERB
 BILL TO IT WASHINGTON SERVICES IT - WASHINGTON

PURCHASE ORDER NO. _____ DATE REPORT REQUIRED _____
 PROJECT CONTACT D. ERB
 PROJECT CONTACT PHONE NO. 203 830 178

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instru
519005-16	SOIL	16 OZ.	ICE	TCUP	
519005-17	SOIL	16 OZ	ICE	TCUP	
519005-18	SOIL	16 OZ	ICE	TCUP	
519005-19	SOIL	16 OZ	ICE	TCUP	

TURNAROUND TIME REQUIRED: (Flush must be approved by the Laboratory Project Manager) QC LEVEL: (Levels II and III subject to surcharge, project-specific requirements submitted to lab before beginning work.)
 Normal Rush _____ (Subject to rush surcharge.)
 POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
 Non-hazard _____ Flammable Highly Toxic Other (O.M.N.)
 Non-hazard _____ Stain Inhibitor _____
 SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
 Return to Client _____ Disposed by Lab Archive _____ (Indicate number of months.)
 FOR LAB USE ONLY
 Received by [Signature] Date/Time 10/25/51 0800
 WHITE - Original, to accompany samples

PROJECT NAME/NUMBER: Holloway AGS

LAB DESTINATION: ETAS - CERLITAS

FIELD TEAM MEMBERS: R. BATES, D. WINSER

CARRIER/WAYBILL NO.:

Sample Label	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
15-17	NW Stockpile - Soil	10-24-91 1200	SOIL	GLASS JAR	1°C ANALYT 6/11/88	
15-17	NW SW Stockpile - Soil	10-24-91 1100	SOIL	GLASS JAR		
15-18	NE Stockpile - Soil	10-24-91 1200	SOIL	GLASS JAR		
15-19	SE Stockpile - Soil	10-24-91 1200	SOIL	GLASS JAR		

Instructions: TCUP.

Is Sample Hazardous: SP-4 (Flammable) may contain Benzene (Flammable + Carcinogen)

INITIALS: (Name, Company, Date and Time)

Received By: Richard Bates 10/24/91 1200

3. Relinquished By:

Received By: [Signature]

Received by:

Relinquished By:

4. Relinquished By:

Received By:

Received By:

TEST NAME TCLP ICAP PREP

TEST CODE T_FSP1

The TCLP extracts were digested according to EPA Method 3010 for ICAP analysis.

TEST NAME ARSENIC**TEST CODE AS_ICP**

Arsenic was analyzed by inductively coupled argon plasma (ICP) spectroscopy according to USEPA Method 8010.

TEST NAME TCLP HMA ANALYSIS**TEST CODE HMA_TCLP**

The samples were extracted according to the TCLP protocol as outlined by Vol 55, No. 126 6/19/90. The TCLP extract is then extracted for semivolatile organic 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 HS_SA**

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 ICP METALS**TEST CODE RCRA**

The following RCRA metals were analyzed by ICP according to USEPA method 8010: 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 Metals TCLP Extraction**TEST CODE TCLP_M**

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

TEST NAME TCLP VOLATILES BY HMA**TEST CODE TCLP_V**

Method 8240-Test Methods for Evaluating Solid Wastes, 1st Edition, November 1986. Purge and trap GC/MS analysis.

Additional Information

Matrix spike I is associated with samples S19005-16,-17,-18 and matrix spike II is associated with sample S19005-19.

TEST NAME: ROMA IONF METALS

SAMPLE ID: METHOD BLANK II

LAB SAMPLE ID: C110232-12A

SAMPLE DATE: not spec

	Results	Detection Limit	Analysis Method	Unit	Analysis Date
ARSENIC	ND	1	6010	MG/L	11/06/91
BARIUM	ND	0.2	6010	MG/L	11/06/91
CADMIUM	ND	0.005	6010	MG/L	11/06/91
CHROMIUM	ND	0.01	6010	MG/L	11/06/91
LEAD	ND	0.2	6010	MG/L	11/06/91
MERCURY	ND	0.0007	7471	MG/L	11/06/91
SELENIUM	ND	1	6010	MG/L	11/06/91
SILVER	ND	0.01	6010	MG/L	11/06/91

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

TEST NAME: ROMA ICAP MEDALS

SAMPLE ID: DUPLICATE II
LAB SAMPLE ID: Q110212-12A
SAMPLE DATE: not spec

	Results	Detection Limit	Analysis Method	Unit	Analysis Date
ARSENIC	NC	—	6010	RFD	11/06/91
BARIUM	NC	—	6010	RFD	11/06/91
CADMIUM	NC	—	6010	RFD	11/06/91
CHROMIUM	NC	—	6010	RFD	11/06/91
LEAD	NC	—	6010	RFD	11/06/91
MERCURY	NC	—	7471	RFD	11/08/91
SELENIUM	NC	—	6010	RFD	11/06/91
SILVER	NC	—	6010	RFD	11/06/91

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

TEST NAME: SOIL TOXIC METALS

SAMPLE ID: METRIE SPIKE II

LAB SAMPLE ID: C110232-11A

SAMPLE DATE: not spec

	Results	Detection Limit	Analysis Method	Unit	Analysis Date
ARSENIC	108	--	6010	MG/KG	11/06/91
BARIUM	91	--	6010	MG/KG	11/06/91
CADMIUM	93	--	6010	MG/KG	11/06/91
CHROMIUM	86	--	6010	MG/KG	11/06/91
LEAD	95	--	6010	MG/KG	11/06/91
MERCURY	115	--	7471	MG/KG	11/08/91
SELENIUM	104	--	6010	MG/KG	11/06/91
SILVER	98	--	6010	MG/KG	11/06/91

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

TEST NAME: WELP VOLATILES BY SIM

SAMPLE ID: BLANK SPIN
LAB SAMPLE ID: Q110212-10A
SAMPLE DATE: not spec
ANALYSIS DATE: 10/29/91

Results in	APPC:	Detection Limit
Vinyl chloride	99	-
1,1-Dichloroethylene	95	-
Chloroform	101	-
1,2-Dichloroethane	95	-
2-Butanone	89	-
Carbon tetrachloride	118	-
Trichloroethylene	109	-
Benzene	101	-
Tetrachloroethylene	121	-
Chlorobenzene	102	-

Surrogates	% Recovery	Limit
Toluene-D8	99	88 - 110
Bromofluorobenzene	111	85 - 115
1,2-Dichloroethane-D4	97	76 - 114

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

TEST NAME: WILD BIRD ANALYSIS

SAMPLE ID: LCB
 LAB SAMPLE ID: C110232-092
 SAMPLE DATE: Not Spec
 EXTRACTION DATE: 10/28/91
 ANALYSIS DATE: 11/04/91

Results in WREC :

Compound		Detection Limit
O-CRESOL	71	-
M-P-CRESOL	41	-
1,4-DICHLOROBENZENE	72	-
2,4-DINITROTOLUENE	52	-
1,2,4-TRICHLOROBENZENE	99	-
1,2,4,5-TETRACHLORO-1,3-BENZODIENE	38	-
1,2,4,5-TETRACHLOROBENZENE	49	-
NITROBENZENE	89	-
2,4,6-TRICHLOROPHENOL	21	-
2,4-DICHLOROPHENOL	60	-
2,4,5-TRICHLOROPHENOL	72	-
2,4,6-TRICHLOROPHENOL	54	-

Surrogates % Recovery

Nitrobenzene-D5	96
2-Fluorobiphenyl	67
Tarphenyl-D14	92
Phenol-D6	74
2-Fluorophenol	81
2,4,6-Tribromophenol	70

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.

TEST NAME: VOLATILES BY KIR

SAMPLE ID: METHOD BLANK I

LAB SAMPLE ID: G110232-003

SAMPLE DATE: not spec

ANALYSIS DATE: 10/29/91

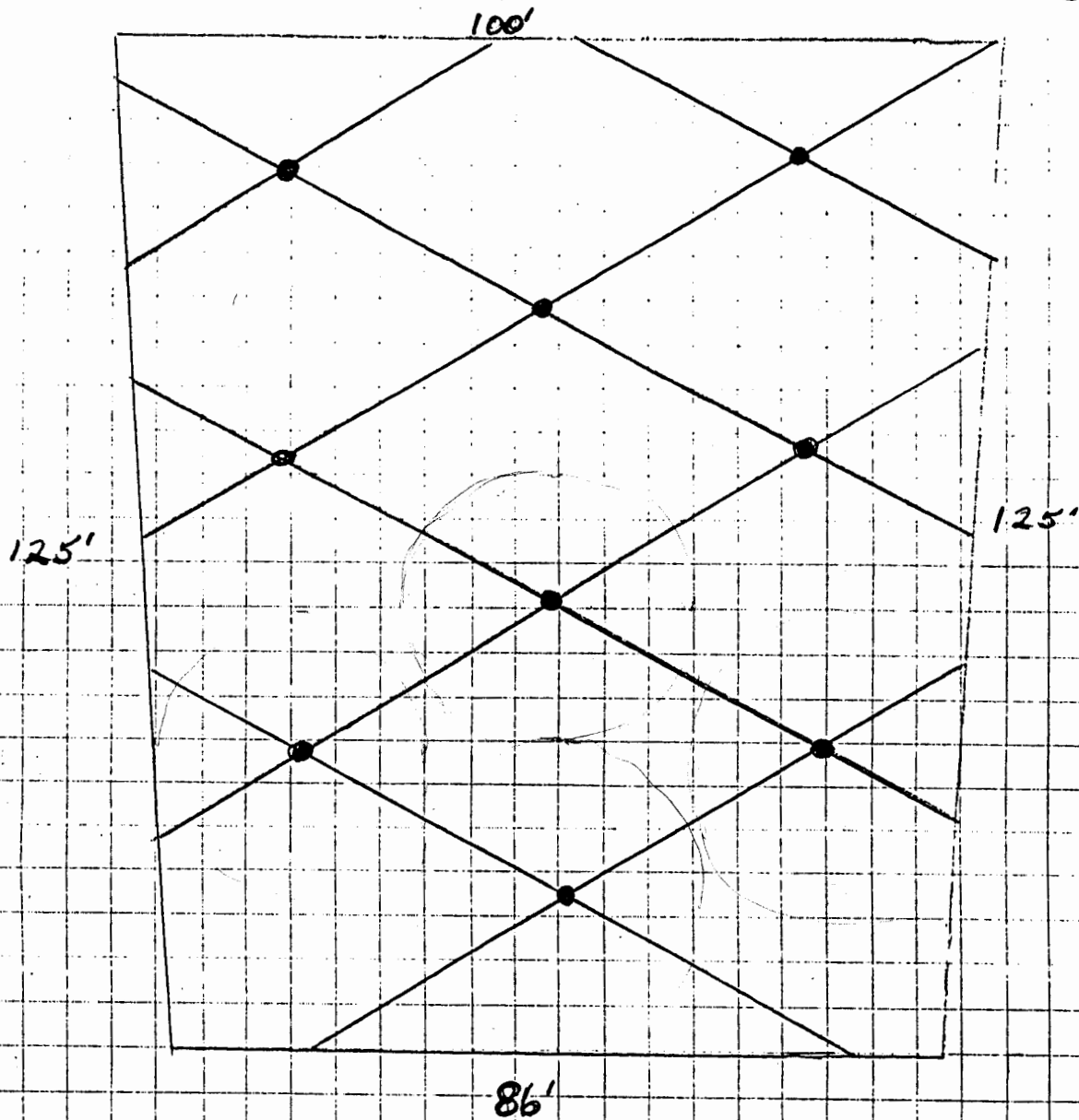
Results in	ug/L:	Detection Limit
Vinyl chloride	ND	50
1,1-Dichloroethane	ND	25
Chloroform	ND	25
1,2-Dichloroethane	ND	25
2-Butanone	ND	50
Carbon tetrachloride	ND	25
Trichloroethylene	ND	25
Benzene	ND	25
Tetrachloroethylene	ND	25
Chlorobenzene	ND	25

Surrogates	% Recovery	Limit
Toluene-D8	97	88 - 110
Bromofluorobenzene	104	86 - 115
1,2-Dichloroethane-D4	104	76 - 114

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

Holloman AFB

Stockpile
Sampling



1 sq = 5'

9 grab TCLP analysis
1 (duplicate) " " "

10 samples total

* Samples should be taken
at a depth of at
least 3-5'

ATTACHMENT #3