N00296.003044
MOFFETT FIELD
SSIC NO. 5090.3.A.

5090
Ser 1843.1/7254
June 5, 1997

Mr. Michael Rochette
Regional Water Quality Control Board
San Francisco Bay Region
2101 Webster Street, Suite 500
Oakland, CA 94612

Dear Mr. Rochette:

Subj: OU1 REMEDIAL ACTION AT MOFFETT FEDERAL AIRFIELD

The purpose of this letter is to transmit the results of the analysis from the groundwater sample taken at Site 2, and to provide clarifications regarding the dewatering of Site 2.

Attached, you'll find the summary reports of the analytical results from the groundwater sample collected on April 29, 1997 from a pothole excavation at Site 2. The only organic analyte detected in concentrations above the detection limit was naphthalene, reported at 15 micrograms per liter (µg/l). Petroleum hydrocarbons resembling weathered gasoline, diesel fuel, and motor oil were detected in concentrations ranging from 480 to 19,000 µg/l. The concentrations of metals, especially arsenic, copper, and lead are above the Water Quality Control Board's Water Quality Objectives for direct discharge to surface waters.

A letter, on behalf of the Navy, dated April 29, 1997 from PRC to you presented a plan to recycle ground water generated by dewatering activities at Site 2. Eric Munro and Eric Dahlberg from International Technology Corporation provided additional clarification of this plan to you on May 19, 1997. On May 21, Mr. Munro received verbal, preliminary acceptance of the plan as submitted. This letter officially presents the results of the analytical groundwater sample collected from a pothole excavated at Site 2, and provides the following clarifications to the mitigation measures presented in the letter from PRC.

Clarifications to the ground water recycling plan include the following Best Management Practices outlined below:

> The application of Site 2 water at Site 1 will be closely regulated to ensure that no sheet-flow or pooling of the water from Site 2 occurs. The crew operating at Site 1 will be instructed to prevent uncontrolled water flow, and to manage a water release without awaiting direction from a supervisor. Water spray from the truck will be monitored at all times. If dust suppression water is accumulating, the water truck driver will decrease the flow-rate from the truck, or increase the speed of the truck. The truck driver will be instructed to make sure that the water pump has been secured prior to stopping the truck to prevent continuous application of water to single area. If a pool is observed at Site 1, an equipment operator will be alerted to bring a piece of construction equipment to the area. The construction equipment can be used to mix accumulated water into the surrounding soil, to cut a drainage trench away from the edge of the site, or to create a berm to divert sheet-flow.

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The temporary soil berm described in PRC's letter will be constructed a minimum of 10 feet inside the footprint of the area to be capped at Site 1. The location of this berm is shown in the attached figure from the Work Plan. Dust suppression water from Site 2 will not be applied to any area outside this berm.

Recycling water from Site 2 for dust suppression and moisture conditioning will be restricted to the area within the berm. Dust suppression or other activities requiring the application of water to soil will be performed using non-contaminated water from a known source, such as the Moffett Field fire hydrants. A separate water truck will be used to transport and apply this water.

Water from Site 2 will be transported in a way that prevents spillage of Site 2 water onto the road or other surfaces between Site 2 and Site 1. The road will be kept clean using a road sweeper and a water truck. These vehicles will utilize non-contaminated water from a known source for cleaning the road.

By copy of this letter and by incorporation of these "Best Management Practices" into IT's Final Work Plan for Site 2, IT is expected to and will implement these practices. If there are any questions concerning this issue, please feel free to contact me at (415) 244-2563 or Mr. Hubert Chan of my staff at (415) 244-2562.

Sincerely,

ORIGINAL SIGNED BY:
STEPHEN G. CHAO
BRAC Environmental Coordinator

Encl:
Analytical Sample Summary Reports from Curtis & Tompkins, Ltd.

Copy to:
U.S. Environmental Protection Agency (Attn: Mr. Michael Gill)
Department of Toxic Substances Control (Attn: Mr. Joseph Chou)
Integrated Waste Management Board (Attn: Glen Young)
National Aeronautics & Space Administration (Attn: Ms.Sandy Olliges)
IT Corporation (Attn: Mr. Eric Munro)
PRC, EMI (Attn: Mr. Tim Mower)
ECI (Attn: Mr. Eric Dahlberg)
ROICC, Moffett Field (Attn: Mr. Jerry Taleghani)

Blind copy to:
1843, 1843.1, 1843.2, 1843.3
Chron, green
File: MFA
Admin Record (2 copies)

Volatile Organics by GC/MS

Client: IT Corporation
Project#: 767403
Location: Moffett D.O.59

Analysis Method: EPA 8260
Prep Method: EPA 5030

Field ID: MFAF-001
Lab ID: 129127-001
Matrix: Water
Batch#: 33869
Units: ug/L
Diln Fac: 1

Sampled: 04/29/97
Received: 05/01/97
Extracted: 05/08/97
Analyzed: 05/08/97

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	2.8 J	5.0
o-Xylene	ND	5.0

Surrogate	%Recovery	Recovery Limits
1,2-Dichloroethane-d4	96	68-126
Toluene-d8	98	87-125
Bromofluorobenzene	98	79-122

J: Estimated Value

Semivolatile Organics by GC/MS

Client: IT Corporation
Project#: 767403
Location: Moffett D.O.59

Analysis Method: EPA 8270
Prep Method: EPA 3520

Field ID: MFAF-001
Lab ID: 129127-001
Matrix: Water
Batch#: 33805
Units: ug/L
Diln Fac: 1

Sampled: 04/29/97
Received: 05/01/97
Extracted: 05/05/97
Analyzed: 05/14/97

Analyte	Result	Reporting Limit
Phenol	ND	9.4
2-Chlorophenol	ND	9.4
Benzyl alcohol	ND	9.4
2-Methylphenol	ND	9.4
4-Methylphenol	ND	9.4
2-Nitrophenol	ND	47
2,4-Dimethylphenol	ND	9.4
Benzoic acid	ND	47
2,4-Dichlorophenol	ND	9.4
4-Chloro-3-methylphenol	ND	9.4
2,4,6-Trichlorophenol	ND	9.4
2,4,5-Trichlorophenol	ND	47
2,4-Dinitrophenol	ND	47
4-Nitrophenol	ND	47
4,6-Dinitro-2-methylphenol	ND	47
Pentachlorophenol	ND	47
N-Nitrosodimethylamine	ND	9.4
Aniline	ND	9.4
bis(2-Chloroethyl)ether	ND	9.4
1,3-Dichlorobenzene	ND	9.4
1,4-Dichlorobenzene	ND	9.4
1,2-Dichlorobenzene	ND	9.4
bis(2-Chloroisopropyl) ether	ND	9.4
N-Nitroso-di-n-propylamine	ND	9.4
Hexachloroethane	ND	9.4
Nitrobenzene	ND	9.4
Isophorone	ND	9.4
bis(2-Chloroethoxy)methane	ND	9.4
1,2,4-Trichlorobenzene	ND	9.4
Naphthalene	15	9.4
4-Chloroaniline	ND	9.4
Hexachlorobutadiene	ND	9.4
2-Methylnaphthalene	8.8 J	9.4
Hexachlorocyclopentadiene	ND	9.4
2-Chloronaphthalene	ND	9.4
2-Nitroaniline	ND	47
Dimethylphthalate	ND	9.4
Acenaphthylene	ND	9.4

Curtis & Tompkins, Ltd

Semivolatile Organics by GC/MS

Field ID:	MFAF-001	Sampled:	04/29/97
Lab ID:	129127-001	Received:	05/01/97
Matrix:	Water	Extracted:	05/05/97
Batch#:	33805	Analyzed:	05/14/97
Units:	ug/L		
Diln Fac:	1		

Analyte	Result	Reporting Limit
2,6-Dinitrotoluene	ND	9.4
3-Nitroaniline	ND	47
Acenaphthene	ND	9.4
Dibenzofuran	ND	9.4
2,4-Dinitrotoluene	ND	9.4
Diethylphthalate	ND	9.4
4-Chlorophenyl-phenylether	ND	9.4
Fluorene	ND	9.4
4-Nitroaniline	ND	47
N-Nitrosodiphenylamine	ND	9.4
Azobenzene	ND	9.4
4-Bromophenyl-phenylether	ND	9.4
Hexachlorobenzene	ND	9.4
Phenanthrene	ND	9.4
Anthracene	ND	9.4
Di-n-butylphthalate	ND	9.4
Fluoranthene	ND	9.4
Pyrene	ND	9.4
Butylbenzylphthalate	ND	9.4
3,3'-Dichlorobenzidine	ND	47
Benzo(a)anthracene	ND	9.4
Chrysene	ND	9.4
bis(2-Ethylhexyl)phthalate	ND	9.4
Di-n-octylphthalate	ND	9.4
Benzo(b)fluoranthene	ND	9.4
Benzo(k)fluoranthene	ND	9.4
Benzo(a)pyrene	ND	9.4
Indeno(1,2,3-cd)pyrene	ND	9.4
Dibenz(a,h)anthracene	ND	9.4
Benzo(g,h,i)perylene	ND	9.4

Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	66	21-110
Phenol-d5	71	10-110
2,4,6-Tribromophenol	61	10-123
Nitrobenzene-d5	95	35-114
2-Fluorobiphenyl	61	43-116
Terphenyl-d14	29*	33-141

J: Estimated Value
* Values outside of QC limits

TEH-Tot Ext Hydrocarbons

Client: IT Corporation
Project#: 767403
Location: Moffett D.O.59

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: EPA 3520

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
129127-001	MFAF-001	33801	04/29/97	05/05/97	05/10/97	

Matrix: Water

Analyte	Units	129127-001	
Diln Fac:		1	
Diesel C12-C22	ug/L	7100	YLH
Motor Oil C22-C50	ug/L	19000	YLH
Surrogate			
Hexacosane	%REC	88	

Y: Sample exhibits fuel pattern which does not resemble standard
H: Heavier hydrocarbons than indicated standard
L: Lighter hydrocarbons than indicated standard

TVH-Total Volatile Hydrocarbons

Client: IT Corporation
Project#: 767403
Location: Moffett D.O.59

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
129127-001	MFAF-001	33812	04/29/97	05/06/97	05/06/97	

Matrix: Water

Analyte	Units	129127-001	
Diln Fac:		1	
Gasoline	ug/L	480	YH
Surrogate			
Trifluorotoluene	%REC	80	
Bromobenzene	%REC	95	

Y: Sample exhibits fuel pattern which does not resemble standard
H: Heavier hydrocarbons than indicated standard

Curtis & Tompkins, Ltd.

SAMPLE ID: MFAF-001
LAB ID: 129127-001
CLIENT: IT Corporation
PROJECT ID: 767403
LOCATION: Moffett D.O.59
MATRIX: Water

DATE SAMPLED: 04/29/97
DATE RECEIVED: 05/01/97
DATE REPORTED: 05/15/97

California TITLE 26 Metals

Compound	Result (ug/L)	Reporting Limit (ug/L)	IDF	QC Batch	Method	Analysis Date
Antimony	ND	60	1	33789	EPA 6010A	05/07/97
Arsenic	830	5.0	1	33789	EPA 6010A	05/07/97
Barium	520	10	1	33789	EPA 6010A	05/07/97
Beryllium	ND	2.0	1	33789	EPA 6010A	05/07/97
Cadmium	18	5.0	1	33789	EPA 6010A	05/07/97
Chromium (total)	56	10	1	33789	EPA 6010A	05/07/97
Cobalt	ND	20	1	33789	EPA 6010A	05/07/97
Copper	700	10	1	33789	EPA 6010A	05/07/97
Lead	370	3.0	1	33789	EPA 6010A	05/07/97
Mercury	0.48	0.20	1	33937	EPA 7470	05/13/97
Molybdenum	ND	20	1	33789	EPA 6010A	05/07/97
Nickel	39	20	1	33789	EPA 6010A	05/07/97
Selenium	ND	5.0	1	33789	EPA 6010A	05/07/97
Silver	ND	5.0	1	33789	EPA 6010A	05/07/97
Thallium	ND	5.0	1	33789	EPA 6010A	05/07/97
Vanadium	22	10	1	33789	EPA 6010A	05/07/97
Zinc	1100	20	1	33789	EPA 6010A	05/07/97

ND = Not detected at or above reporting limit

Curtis & Tompkins, Ltd.

Client: IT Corporation

Laboratory Login Number: 129127

Project Name: Moffett D.O.59

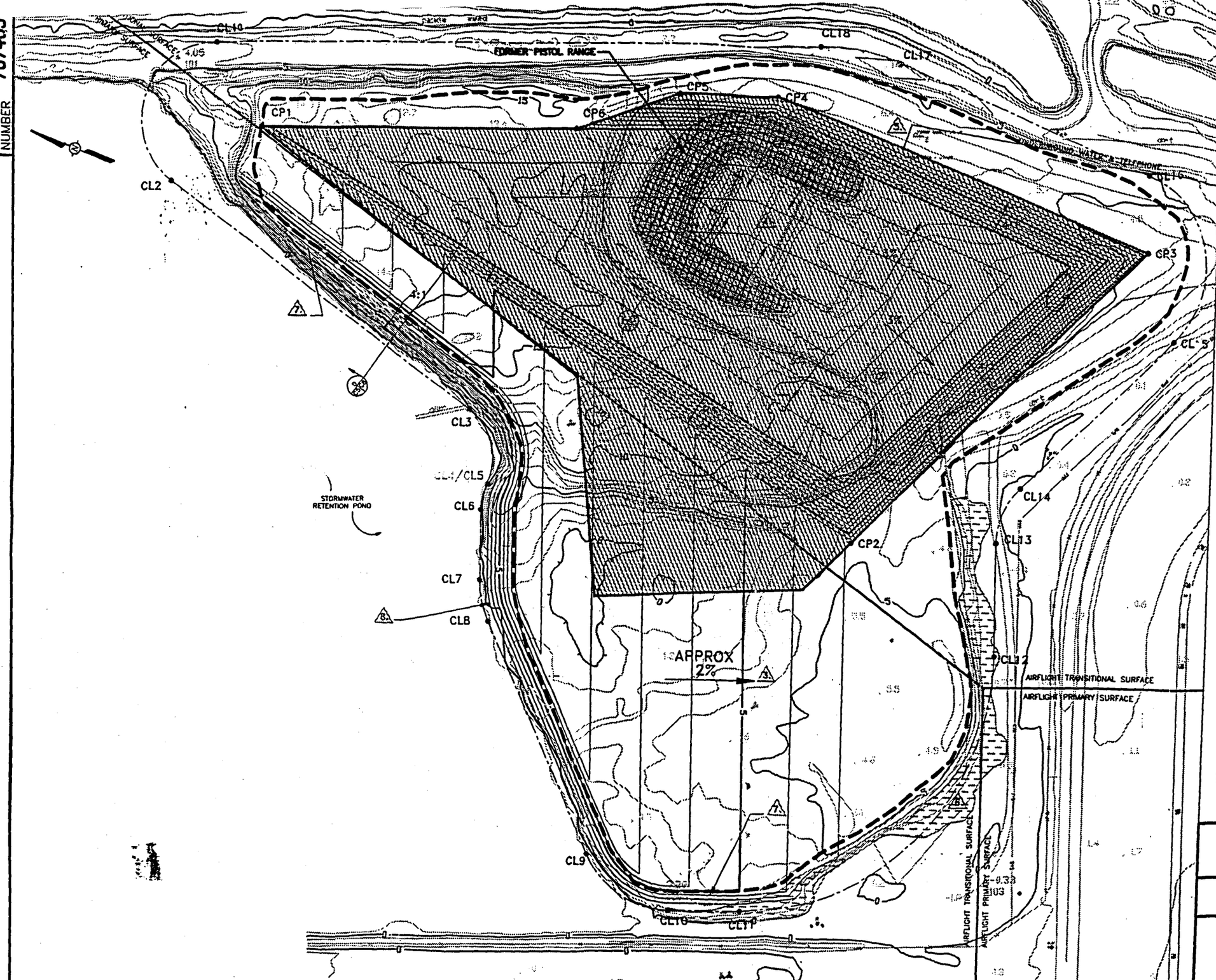
Project Number: 767403

Report Date: 15 May 97

ANALYSIS: pH

Lab ID	Sample ID	Matrix	Sampled	Received	Analyzed	Result	Units	Method	Analyst	QC Batch
129127-001	MFAF-001	Water	29-APR-97	01-MAY-97	01-MAY-97	7.7	SU	EPA 9040	DRH	33777

DRAWING NUMBER 767403



NOTE:

TO MEET MINIMUM DESIGN REQUIREMENTS, CURRENT LANDFILL TOPOGRAPHY NEEDS TO BE RESHAPED. THIS REQUIRES MOVING SOME WASTE TO OTHER LOCATIONS WITHIN THE LANDFILL BEFORE PLACING INTERMEDIATE COVER. PROPOSED CONTOUR LINES REPRESENT THE TOPOGRAPHY AFTER INTERMEDIATE COVER HAS BEEN PLACED.

LOCATION OF DUST SUPPRESSION WATER BERM IS APPROXIMATE.

CONTROL LINE COORDINATE TABLE

POINT	NORTHING	EASTING	RADIUS
CL1	343297.89	1540613.88	75'
CL2	343290.84	1540471.76	
CL3	342932.54	1540379.77	60'
CL4	342880.82	1540300.73	
CL5	342880.82	1540300.73	60'
CL6	342804.90	1540283.97	
CL7	342800.24	1540219.52	100'
CL8	342837.37	1540184.43	
CL9	342661.15	1540008.30	90'
CL10	342568.40	1539888.06	
CL11	342499.72	1539814.28	250'
CL12	342358.46	1540345.73	
CL13	342387.30	1540442.40	75'
CL14	342398.87	1540560.81	
CL15	342309.33	1540692.20	100'
CL16	342396.84	1540836.45	
CL17	342683.82	1540843.60	200'
CL18	342743.46	1539830.07	

LEGEND

CL — CONTROL LINE

PROPOSED CONSOLIDATION AREA FOR RELOCATED SITE 1 WASTE, SITE 2 WASTE, AND BIOREMEDIATION PAD SOILS

PROPOSED CAP CONTOUR LINE

GAS LINE

PROPERTY FENCE

DUST SUPPRESSION WATER BERM

HORIZ : VERT (SLOPING DOWNWARD IN DIRECTION OF ARROW)

BENCHMARK
BRASS DISK STAMPED N-111 TRACK 45, N. 335641.04, E. 1,540,212.51 HORIZONTAL AND ELEVATION 17.61 MEAN SEA LEVEL (MSL)

SCALE
0 40 80 FEET

REFERENCE:
PRC CORPORATION, DWG. "SITE 1 GRADING PLAN/CONSOLIDATION SCHEME AND KEY TO LANDFILL CROSS SECTIONS

FIGURE 2-4

SITE 1 LANDFILL SUBGRADE PLAN

DELIVERY ORDER 0059
MOFFETT FEDERAL AIRFIELD
MOFFETT FIELD, CALIFORNIA

INTERNATIONAL TECHNOLOGY CORPORATION

REV	DATE	BY	CHECKED	APPROVED	DESCRIPTION

DESIGNED BY	–	CHECKED BY		SHEET
DRAWN BY	BJ	APPROVED BY		
DATE	5-16-97	DRAWING NO.	767403-E2	

MF-SGS1L(MF54) XREF: MF-2(MF54)