AR_N00217_003969
HUNTERS POINT
SSIC NO. 5090.3.A

DEPARTMENT OF THE NAVY
SOUTHWEST DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
1220 PACIFIC HIGHWAY
SAN DIEGO, CA 92132-5190

5090
Ser 06CH.RM/508
July 6, 2000

Mr. Steven C. Medbery, Chief
PUC-BERM
Bayview Plaza
3801 Third Street, Suite 600
San Francisco, CA 94124

Subj: INDUSTRIAL WASTEWATER DISCHARGE PERMIT 98-0301

Dear Mr. Medbery:

Enclosure 1, the analytical results from the May 2000 sampling event for the groundwater extraction system located in Site IR–1/21, Industrial Landfill, Hunters Point Shipyard, are provided for your review. These results are provided per the requirements of the industrial wastewater discharge permit 98-0301. The analytical results show that the groundwater discharge for the period of May 18, 2000 to June 13, 2000 is in compliance with the City and County of San Francisco's Industrial Wastewater Permit No. 98-0301.

If you have any questions, please contact Ms. Julie Crosby, at (619) 532-0932, or the undersigned at (619) 532-0963.

Sincerely,

for Richard G. Mach, Jr. PE
BRAC Environmental Coordinator
Hunters Point Shipyard
By direction of the Commander

Enclosure (1): Laboratory analysis results for samples taken in May 2000

5090
Ser 06CH.RM/508
July 5, 2000

Copy to:

Ms. Sheryl Lauth
U.S. Environmental Protection Agency
Region IX
Remedial Project Manager
Hazardous Waste Management Division, (SFD 8-2)
75 Hawthorne Street
San Francisco, CA 94105-3901

Mr. Chein Kao
California Environmental Protection Agency
Department of Toxic Substances Control
700 Heinz Ave, Suite 200
Oakland, CA 94710

Mr. Brad Job
California Environmental Protection Agency
California Regional Quality Control Board
San Francisco Bay Region
1515 Clay Street, #1400
Oakland, CA 94612

Mr. Jason Brodersen
Tetra Tech EM Inc.
135 Main St., Suite 1800
San Francisco, CA 94105

Mr. John Baur (w/o encl)
IT Corporation
4005 Port Chicago Highway
Concord, CA 94520-1120

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:
The IT Group
Attention: Cathy Polityka
4005 Port Chicago Highway
Concord CA 94520-1120
Tel: (925)288-9898 Fax: (925)288-0888

Service ID #: 801-002820
Collected by: Cathy/Brian
Collected on: 05/03/00

Received: 05/04/00
Extracted: 05/05-08/00
Tested: 05/04-15/00
Reported: 05/15/00

Sample Description: Ground Water
Project Description: 771003 Hunters Point DO 83

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result 83-ES000503-59 00-02820-1
CHEMICAL OXYGEN DEMAND (COD)	410.4	mg-O_2/L	20	190
CYANIDE	335.2	mg/L	0.05	<0.05
CHROMIUM (VI)	7196	mg/L	0.01	<0.01
IGNITABILITY (FLASHPOINT)	1010	°C	0.5 [a]	>100
OIL AND GREASE	413.2	mg/L	5	1.0J
ORGANO LEAD	LUFT	mg/L	0.1	<0.1
PH	9040	pH unit	0.1	6.52
PHENOLICS, BY COLORIMETRY	9065	mg/L	0.1	0.078J
SOLIDS, TOTAL SUSPENDED (TSS)	160.2	mg/L	10	35
SULFIDE	376.2	mg/L	0.1 [b]	<0.1
TRPH	418.1	mg/L	5	1.0J
Dilution Factor				125
CHLORIDE	300.0	mg/L	0.2	650
FLUORIDE	300.0	mg/L	0.1	<13
TTLC 17 METALS				
Dilution Factor				1
ANTIMONY	6010	μg/L	10	<10
ARSENIC	6010	μg/L	5	<5
BARIUM	6010	μg/L	10	670
BERYLLIUM	6010	μg/L	2	<2
CADMIUM	6010	μg/L	2	<2
CHROMIUM	6010	μg/L	5	15
COBALT	6010	μg/L	5	1.8J
COPPER	6010	μg/L	10	66
LEAD	6010	μg/L	5	6.8
MERCURY	7470	μg/L	0.5	0.19J
MOLYBDENUM	6010	μg/L	5	3.3J
NICKEL	6010	μg/L	5	24
SELENIUM	6010	μg/L	10	4.2J
SILVER	6010	μg/L	10	<10
THALLIUM	6010	μg/L	10	<10
VANADIUM	6010	μg/L	10	8.2J
ZINC	6010	μg/L	10	36

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 83-ES000503-59 00-02820-1
SEMI-VOLATILE ORGANICS, ABN FRACTIONS				
Dilution Factor				1
ACENAPHTHENE	8270	µg/L	10	47
ACENAPHTHYLENE	8270	µg/L	10	<10
ANTHRACENE	8270	µg/L	10	1.9J
BENZO(A)ANTHRACENE	8270	µg/L	10	<10
BENZO(A)PYRENE	8270	µg/L	10	<10
BENZO(B)FLUORANTHENE	8270	µg/L	10	<10
BENZO(G,H,I)PERYLENE	8270	µg/L	10	<10
BENZO(K)FLUORANTHENE	8270	µg/L	10	<10
BIS(2-CHLOROETHOXY)METHANE	8270	µg/L	10	<10
BIS(2-CHLOROETHYL)ETHER	8270	µg/L	10	<10
2,2'-OXYBIS(1-CHLOROPROPANE)	8270	µg/L	10	<10
BIS(2-ETHYLHEXYL)PHTHALATE	8270	µg/L	10	<10
4-BROMOPHENYLPHENYLETHER	8270	µg/L	10	<10
BUTYL BENZYLPHTHALATE	8270	µg/L	10	<10
4-CHLORO-3-METHYLPHENOL	8270	µg/L	20	<20
4-CHLOROANILINE	8270	µg/L	20	<20
2-CHLORONAPHTHALENE	8270	µg/L	10	<10
2-CHLOROPHENOL	8270	µg/L	10	<10
4-CHLOROPHENYLPHENYLETHER	8270	µg/L	10	<10
CHRYSENE	8270	µg/L	10	<10
DI-N-BUTYLPHTHALATE	8270	µg/L	10	<10
DI-N-OCTYLPHTHALATE	8270	µg/L	10	<10
DIBENZ(A,H)ANTHRACENE	8270	µg/L	10	<10
DIBENZOFURAN	8270	µg/L	10	23
1,2-DICHLOROBENZENE	8270	µg/L	10	<10
1,3-DICHLOROBENZENE	8270	µg/L	10	<10
1,4-DICHLOROBENZENE	8270	µg/L	10	5.3J
3,3'-DICHLOROBENZIDINE	8270	µg/L	10	<10
2,4-DICHLOROPHENOL	8270	µg/L	10	<10
DIETHYLPHTHALATE	8270	µg/L	10	<10
DIMETHYLPHTHALATE	8270	µg/L	10	<10
2,4-DIMETHYLPHENOL	8270	µg/L	10	<10
4,6-DINITRO-2-METHYLPHENOL	8270	µg/L	50	<50
2,4-DINITROPHENOL	8270	µg/L	50	<50
2,4-DINITROTOLUENE	8270	µg/L	10	<10
2,6-DINITROTOLUENE	8270	µg/L	10	<10
FLUORANTHENE	8270	µg/L	10	3.1J
FLUORENE	8270	µg/L	10	27
HEXACHLOROBENZENE	8270	µg/L	10	<10
HEXACHLOROBUTADIENE	8270	µg/L	10	<10
HEXACHLOROCYCLOPENTADIENE	8270	µg/L	10	<10

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 83-ES000503-59 00-02820-1
HEXACHLOROETHANE	8270	µg/L	10	<10
INDENO(1,2,3-CD)PYRENE	8270	µg/L	10	<10
ISOPHORONE	8270	µg/L	10	<10
2-METHYLNAPHTHALENE	8270	µg/L	10	10
3/4-METHYLPHENOL (M/P-CRESOL)	8270	µg/L	10	<10
2-METHYLPHENOL	8270	µg/L	10	<10
NAPHTHALENE	8270	µg/L	10	34
2-NITROANILINE	8270	µg/L	50	<50
3-NITROANILINE	8270	µg/L	50	<50
4-NITROANILINE	8270	µg/L	50	<50
NITROBENZENE	8270	µg/L	10	<10
2-NITROPHENOL	8270	µg/L	10	<10
4-NITROPHENOL	8270	µg/L	50	<50
N-NITROSO-DI-N-PROPYLAMINE	8270	µg/L	10	<10
N-NITROSODIPHENYLAMINE (1)	8270	µg/L	10	<10
PENTACHLOROPHENOL	8270	µg/L	50	<50
PHENANTHRENE	8270	µg/L	10	20
PHENOL	8270	µg/L	10	5.3J
PYRENE	8270	µg/L	10	<10
1,2,4-TRICHLOROBENZENE	8270	µg/L	10	<10
2,4,5-TRICHLOROPHENOL	8270	µg/L	10	<10
2,4,6-TRICHLOROPHENOL	8270	µg/L	10	<10
ORGANOCHLORINE PESTICIDES				
Dilution Factor				1
ALDRIN	8081	µg/L	0.05	<0.05
BETA-BHC	8081	µg/L	0.05	<0.05
ALPHA-BHC	8081	µg/L	0.05	<0.05
DELTA-BHC	8081	µg/L	0.05	<0.05
GAMMA-BHC (LINDANE)	8081	µg/L	0.05	<0.05
CHLORDANE	8081	µg/L	2	<2
4,4'-DDD	8081	µg/L	0.1	<0.1
4,4'-DDE	8081	µg/L	0.1	<0.1
4,4'-DDT	8081	µg/L	0.1	<0.1
DIELDRIN	8081	µg/L	0.1	<0.1
ENDOSULFAN I	8081	µg/L	0.05	<0.05
ENDOSULFAN II	8081	µg/L	0.1	<0.1
ENDOSULFAN SULFATE	8081	µg/L	0.5	<0.5
ENDRIN	8081	µg/L	0.1	<0.1
ENDRIN ALDEHYDE	8081	µg/L	0.1	<0.1
ENDRIN KETONE	8081	µg/L	0.1	<0.1
HEPTACHLOR	8081	µg/L	0.05	<0.05
HEPTACHLOR EPOXIDE	8081	µg/L	0.05	<0.05
METHOXYCHLOR	8081	µg/L	2	<2
TOXAPHENE	8081	µg/L	5	<5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 83-ES000503-59 00-02820-1
PCBS				
Dilution Factor				1
AROCLOR-1016 (PCB-1016)	8082	µg/L	2	<2
AROCLOR-1221 (PCB-1221)	8082	µg/L	5	<5
AROCLOR-1232 (PCB-1232)	8082	µg/L	2	<2
AROCLOR-1242 (PCB-1242)	8082	µg/L	2	<2
AROCLOR-1248 (PCB-1248)	8082	µg/L	2	<2
AROCLOR-1254 (PCB-1254)	8082	µg/L	1	<1
AROCLOR-1260 (PCB-1260)	8082	µg/L	1	<1
CHLORINATED HERBICIDES				
Dilution Factor				1
2,4-D	8150B	µg/L	5	<5
2,4-DB	8150B	µg/L	5	<5
DALAPON	8150B	µg/L	5	<5
DICAMBA	8150B	µg/L	5	<5
DICHLORPROP	8150B	µg/L	5	<5
DINOSEB	8150B	µg/L	5	<5
MCPA	8150B	µg/L	250	<250
MCPP	8150B	µg/L	250	<250
2,4,5-T	8150B	µg/L	5	<5
2,4,5-TP (SILVEX)	8150B	µg/L	5	<5

Component Analyzed	Method	Unit	PQL	Analysis Result 83-ES000503-59 00-02820-1	Trip Blank 00-02820-2
VOLATILE ORGANICS					
Dilution Factor				5	1
ACETONE	8260	µg/L	100	<500	<100
BENZENE	8260	µg/L	1	<5	<1
BROMOBENZENE	8260	µg/L	1	<5	<1
BROMOCHLOROMETHANE	8260	µg/L	1	<5	<1
BROMODICHLOROMETHANE	8260	µg/L	1	<5	<1
BROMOFORM	8260	µg/L	1	<5	<1
BROMOMETHANE	8260	µg/L	1	<5	<1
2-BUTANONE (MEK)	8260	µg/L	100	<500	<100
N-BUTYLBENZENE	8260	µg/L	1	<5	<1
SEC-BUTYLBENZENE	8260	µg/L	1	<5	<1
TERT-BUTYLBENZENE	8260	µg/L	1	<5	<1
CARBON DISULFIDE	8260	µg/L	5	<25	<5
CARBON TETRACHLORIDE	8260	µg/L	1	<5	<1
CHLOROBENZENE	8260	µg/L	1	120	<1
DIBROMOCHLOROMETHANE	8260	µg/L	1	<5	<1
CHLOROETHANE	8260	µg/L	1	3.9J	<1
CHLOROFORM	8260	µg/L	1	<5	<1
CHLOROMETHANE	8260	µg/L	1	<5	<1
2-CHLOROTOLUENE	8260	µg/L	1	<5	<1
4-CHLOROTOLUENE	8260	µg/L	1	<5	<1
1,2-DIBROMO-3-CHLOROPROPANE (DB	8260	µg/L	1	<5	<1

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result 83-ES000503-59 00-02820-1	Trip Blank 00-02820-2
1,2-DIBROMOETHANE (EDB)	8260	µg/L	1	<5	<1
DIBROMOMETHANE	8260	µg/L	1	<5	<1
1,2-DICHLOROBENZENE	8260	µg/L	1	1.7J	<1
1,3-DICHLOROBENZENE	8260	µg/L	1	<5	<1
1,4-DICHLOROBENZENE	8260	µg/L	1	8.6	<1
DICHLORODIFLUOROMETHANE	8260	µg/L	1	<5	<1
1,1-DICHLOROETHANE	8260	µg/L	1	<5	<1
1,2-DICHLOROETHANE	8260	µg/L	1	<5	<1
1,1-DICHLOROETHENE	8260	µg/L	1	<5	<1
CIS-1,2-DICHLOROETHENE	8260	µg/L	1	<5	<1
TRANS-1,2-DICHLOROETHENE	8260	µg/L	1	<5	<1
1,2-DICHLOROPROPANE	8260	µg/L	1	<5	<1
1,3-DICHLOROPROPANE	8260	µg/L	1	<5	<1
2,2-DICHLOROPROPANE	8260	µg/L	1	<5	<1
1,1-DICHLOROPROPENE	8260	µg/L	1	<5	<1
CIS-1,3-DICHLOROPROPENE	8260	µg/L	1	<5	<1
TRANS-1,3-DICHLOROPROPENE	8260	µg/L	1	<5	<1
ETHYLBENZENE	8260	µg/L	1	<5	<1
HEXACHLOROBUTADIENE	8260	µg/L	1	<5	<1
ISOPROPYLBENZENE (CUMENE)	8260	µg/L	1	2.2J	<1
P-ISOPROPYLTOLUENE	8260	µg/L	1	<5	<1
METHYLENE CHLORIDE	8260	µg/L	1	1.8J	1.8
4-METHYL-2-PENTANONE (MIBK)	8260	µg/L	50	<250	<50
METHYL-T-BUTYL ETHER (MTBE)	8260	µg/L	10	<50	<10
NAPHTHALENE	8260	µg/L	1	71	<1
N-PROPYLBENZENE	8260	µg/L	1	2.2J	<1
STYRENE	8260	µg/L	1	<5	<1
1,1,1,2-TETRACHLOROETHANE	8260	µg/L	1	<5	<1
1,1,2,2-TETRACHLOROETHANE	8260	µg/L	1	<5	<1
TETRACHLOROETHENE	8260	µg/L	1	<5	<1
TOLUENE	8260	µg/L	1	<5	<1
1,2,3-TRICHLOROBENZENE	8260	µg/L	1	<5	<1
1,2,4-TRICHLOROBENZENE	8260	µg/L	1	<5	<1
1,1,1-TRICHLOROETHANE	8260	µg/L	1	<5	<1
1,1,2-TRICHLOROETHANE	8260	µg/L	1	<5	<1
TRICHLOROETHENE	8260	µg/L	1	<5	<1
TRICHLOROFLUOROMETHANE	8260	µg/L	1	<5	<1
1,2,3-TRICHLOROPROPANE	8260	µg/L	1	<5	<1
1,2,4-TRIMETHYLBENZENE	8260	µg/L	1	<5	<1
1,3,5-TRIMETHYLBENZENE	8260	µg/L	1	<5	<1
VINYL CHLORIDE	8260	µg/L	1	<5	<1
XYLENE (TOTAL)	8260	µg/L	1	4.2J	<1

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit
N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.
J: Reported between PQL and MDL.
Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0
(a) Corresponds to the minimum reading of the thermometer used.
(b) MDL reported.

Respectfully submitted,

Dominic Lau
Laboratory Director

CADHS ELAP No.: 1431

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APCL QA/QC Report

Submitted to:
The IT Group
Attention: Cathy Polityka
4005 Port Chicago Highway
Concord, CA 94520-1120
Tel: (925)288-9898 Fax: (925)288-0888

Service ID #: 801-002820
Collected by: Cathy/Brian
Collected on: 05/03/00
Sample description:
Ground Water
Project: Hunters Point DO 83 /771003

Received: 05/04/00
Tested: 05/04-15/00
Reported: 5/17/ 00

Analysis of Water

801-002820QC

Component Name	Analysis Batch #	CCV (mg/L)	CCV %Rec	M-Blank	Conc. Unit	SP Level	LCS %Rec	MS %Rec	MSD %Rec	MS/MSD %RPD	Control Limit %Rec	Control Limit %Diff
WET Analysis in Water												
Chemical Oxygen Demand (COD)	00W3372	500	95	N.D.	mg/L	1000	93	88	89	1	75-125	10
Cyanide, Total	00W3313	0.800	93	N.D.	mg/L	0.500	90	88	87	1	75-125	20
Fluoride (Free)	00W3195	1.00	108	N.D.	mg/L	50.0	107	112	108	4	75-125	20
Chloride Cl^-, by IC	00W3195	2.00	105	N.D.	mg/L	100	103	106	95	11	75-125	20
Oil and Grease	00W3297	100	106	N.D.	mg/L	20.0	91	91*	92*	1	80-120	20
Phenolics,	00W3316	0.500	99	N.D.	mg/L	0.500	110	87	92	5	75-125	20
Sulfide, Total	00W3234	0.400	105	N.D.	mg/L	0.400	98	76	79	2	76-122	23
Chromium (VI)	00W3171	0.250	98	N.D.	mg/L	0.250	89	76	81	6	75-112	18
TRPH	00W3282	100	103	N.D.	mg/L	20.0	96	96*	97*	1	80-120	20

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APCL QA/QC Report

Component Name	Analysis Batch #	ICV (mg/L)	ICV %Rec	M-Blank	Conc. Unit	SP Level	LCS %Rec	MS %Rec	MSD %Rec	MS/MSD %RPD	Control Limit %Rec	Control Limit %Diff
METAL Analysis in Water												
Antimony	00M1542	4.00	100	N.D.	mg/L	0.500	97	89	85	4	75-125	20
Arsenic	00M1542	1.00	100	N.D.	mg/L	0.500	97	85	82	4	75-125	20
Barium	00M1542	10.0	98	N.D.	mg/L	4.00	100	79	77	3	75-125	20
Beryllium	00M1542	1.00	99	N.D.	mg/L	0.200	96	74@	72@	3	75-125	20
Cadmium	00M1542	2.00	99	N.D.	mg/L	0.250	99	88	85	3	75-125	20
Chromium	00M1542	1.00	99	N.D.	mg/L	1.00	97	80	78	3	75-125	20
Cobalt	00M1542	4.00	99	N.D.	mg/L	1.00	101	80	78	3	75-125	20
Copper	00M1542	4.00	99	N.D.	mg/L	1.00	96	94	92	3	75-125	20
Lead	00M1542	1.00	99	N.D.	mg/L	3.00	100	78	76	3	75-125	20
Molybdenum	00M1542	4.00	99	N.D.	mg/L	2.00	99	81	79	3	75-125	20
Nickel	00M1542	4.00	99	N.D.	mg/L	1.00	100	80	78	3	75-125	20
Selenium	00M1542	1.00	101	N.D.	mg/L	0.500	98	85	82	4	75-125	20
Silver	00M1542	2.00	100	N.D.	mg/L	1.00	97	98	95	3	75-125	20
Thallium	00M1542	1.00	100	N.D.	mg/L	0.500	100	77@	73@	5	75-125	20
Vanadium	00M1542	4.00	99	N.D.	mg/L	2.00	98	83	81	3	75-125	20
Zinc	00M1542	4.00	99	N.D.	mg/L	0.500	100	84	81	4	75-125	20
Mercury	00M1550	0.0075	96	N.D.	mg/L	0.0050	106	102	105	3	75-125	20
Lead, organic	00M1568	2.50	96	N.D.	mg/L	2.00	89	86	90	4	75-125	20

Component Name	Analysis Batch #	CCV (µg/L)	CCV %Rec	M-Blank	Conc. Unit	SP Level	LCS %Rec	MS %Rec	MSD %Rec	MS/MSD %RPD	Control Limit %Rec	Control Limit %Diff
Volatile organics												
Vinyl chloride	00G2475	20.0	87	N.D.	µg/L	-	-	-	-		-	-
1,1 Dichloroethylene	00G2475	20.0	93	N.D.	µg/L	20.0	89	106	104	2	70-127	29
Chloroform	00G2475	20.0	91	N.D.	µg/L	-	-	-	-	-	-	-
Benzene	00G2475	20.0	92	N.D.	µg/L	20.0	102	103	105	2	73-126	27
1,2-Dichloropropane	00G2475	20.0	95	N.D.	µg/L	-		-	-	-	-	-
Trichloroethene	00G2475	20.0	99	N.D.	µg/L	20.0	109	111	113	1	71-128	28
Toluene	00G2475	20.0	98	N.D.	µg/L	20.0	106	107	110	3	72-127	27
Chlorobenzene	00G2475	20.0	104	N.D.	µg/L	20.0	118	117	119	2	72-126	27
Ethylbenzene	00G2475	20.0	105	N.D.	µg/L	-	-	-	-	-	-	-

To: Evon Haik
925-827-2012
From: Kevin Xie
page: 1

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL QA/QC Report

Component Name	Analysis Batch #	CCV (mg/L)	CCV %Rec	M-Blank	Conc. Unit	SP Level	LCS %Rec	MS %Rec	MSD %Rec	MS/MSD %RPD	Control Limit %Rec	Control Limit %Diff
Semi-VOC, 64 Compounds												
Phenol	00G2435	60.0	91	N.D.	µg/L	100	55	55*	55*	1	32-102	35
1,4-Dichlorobenzene	00G2435	60.0	108	N.D.	µg/L	50.0	48	48*	48*	1	40-106	33
2-Nitrophenol	00G2435	60.0	101	N.D.	µg/L	-	-	-	-	-	-	-
2,4-Dichlorophenol	00G2435	60.0	102	N.D.	µg/L	-	-	-	-	-	-	-
Hexachlorobutadiene	00G2435	60.0	113	N.D.	µg/L	-	-	-	-	-	-	-
4-Chloro-3-methylphenol	00G2435	60.0	103	N.D.	µg/L	100	54	54*	53*	1	41-105	32
2,4,6-Trichlorophenol	00G2435	60.0	106	N.D.	µg/L	-	-	-	-	-	-	-
Acenaphthene	00G2435	60.0	99	N.D.	µg/L	50.0	65	65*	67*	3	40-112	36
N-Nitrosodiphenylamine	00G2435	300	109	N.D.	µg/L	-	-	-	-	-	-	-
Pentachlorophenol (PCP)	00G2435	300	116	N.D.	µg/L	100	53	53*	49*	7	27-138	56
Fluoranthene	00G2435	60.0	107	N.D.	µg/L	-	-	-	-	-	-	-
Di-n-octyl phthalate (DOP)	00G2435	60.0	100	N.D.	µg/L	-	-	-	-	-	-	-
Benzo(a)pyrene	00G2435	60.0	106	N.D.	µg/L	-	-	-	-	-	-	-
2-Chlorophenol	00G2435			N.D.	µg/L	100	61	61*	60*	1	44-102	29
N-Nitroso-di-n-propylamine	00G2435			N.D.	µg/L	50.0	72	72*	71*	1	45-113	34
1,2,4-Trichlorobenzene	00G2435			N.D.	µg/L	50.0	53	53*	53*	1	40-108	35
2,4-Dinitrotoluene	00G2435			N.D.	µg/L	50.0	61	61*	63*	3	40-117	39
4-Nitrophenol	00G2435			N.D.	µg/L	100	58	58*	58*	1	18-144	63
Pyrene	00G2435			N.D.	µg/L	50.0	54	54*	53*	2	40-119	40

Applied P & Ch Laboratory
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APCL QA/QC Report

Component Name	Analysis Batch #	CCV (µg/L)	CCV %Rec	M-Blank	Conc. Unit	SP Level	LCS %Rec	MS %Rec	MSD %Rec	MS/MSD %RPD	Control Limit %Rec	Control Limit %Diff
Organochlorine pesticides												
α-BHC	00G2433	50.0	92	N.D.	µg/L	-	-	-	-	-	-	-
γ-BHC (Lindane)	00G2433	50.0	91	N.D.	µg/L	0.500	94	94*	94*	0	64-119	23
β-BHC	00G2433	50.0	88	N.D.	µg/L	-	-	-	-	-	-	-
Heptachlor	00G2433	50.0	93	N.D.	µg/L	0.500	100	100*	98*	2	64-119	23
δ-BHC	00G2433	50.0	91	N.D.	µg/L	-	-	-	-	-	-	-
Aldrin	00G2433	50.0	91	N.D.	µg/L	0.500	92	92*	89*	4	65-118	22
Heptachlor epoxide	00G2433	50.0	91	N.D.	µg/L	-	-	-	-	-	-	-
Endosulfan I	00G2433	50.0	89	N.D.	µg/L	-	-	-	-	-	-	-
4,4'-DDE	00G2433	50.0	90	N.D.	µg/L	-	-	-	-	-	-	-
Dieldrin	00G2433	50.0	91	N.D.	µg/L	0.500	100	100*	97*	3	65-108	21
Endrin	00G2433	50.0	93	N.D.	µg/L	0.500	98	98*	96*	2	67-105	19
4,4'-DDD	00G2433	50.0	89	N.D.	µg/L	-	-	-	-	-	-	-
Endosulfan II	00G2433	50.0	89	N.D.	µg/L	-	-	-	-	-	-	-
4,4'-DDT	00G2433	50.0	109	N.D.	µg/L	0.500	122	122*	121*	2	50-129	40
Endrin aldehyde	00G2433	50.0	86	N.D.	µg/L	-	-	-	-	-	-	-
Endosulfan sulfate	00G2433	50.0	87	N.D.	µg/L	-	-	-	-	-	-	-
Methoxychlor	00G2433	50.0	105	N.D.	µg/L	-	-	-	-	-	-	-

Component Name	Analysis Batch #	CCV (µg/L)	CCV %Rec	M-Blank	Conc. Unit	SP Level	LCS %Rec	MS %Rec	MSD %Rec	MS/MSD %RPD	Control Limit %Rec	Control Limit %Diff
Organochlorine pesticides												
Aroclor-1016 (PCB-1016)	00G2434	1000	100	N.D.	µg/L	10.0	97	97*	89*	8	57-123	33
Aroclor-1260 (PCB-1260)	00G2434	1000	99	N.D.	µg/L	10.0	92	92*	89*	3	53-129	38

Applied P & Ch Laboratory
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APCL QA/QC Report

Component Name	Analysis Batch #	CCV (µg/L)	CCV %Rec	M-Blank	Conc. Unit	SP Level	LCS %Rec	MS %Rec	MSD %Rec	MS/MSD %RPD	Control Limit %Rec	Control Limit %Diff
Chlorinated herbicides												
Dalapon (dichloroacetic acid)	00G2453	250	97	N.D.	µg/L	-	-	-	-	-	-	-
3,5-Dichlorobenzoic	00G2453	250	111	N.D.	µg/L	-	-	-	-	-	-	-
4-Nitrophenol	00G2453	250	112	N.D.	µg/L	-	-	-	-	-	-	-
Dicamba	00G2453	250	100	N.D.	µg/L	-	-	-	-	-	-	-
MCPP	00G2453	25000	103	N.D.	mg/L	-	-	-	-	-	-	-
Dichloroprop	00G2453	250	100	N.D.	µg/L	-	-	-	-	-	-	-
MCPA	00G2453	25000	110	N.D.	mg/L	-	-	-	-	-	-	-
2,4-D	00G2453	250	107	N.D.	µg/L	2.50	115	115*	113*	2	50-129	40
Pentachlorophenol (PCP)	00G2453	250	103	N.D.	µg/L	-	-	-	-	-	-	-
2,4,5-TP (Silvex)	00G2453	250	103	N.D.	µg/L	2.50	81	81*	80*	1	52-128	38
2,4,5-T	00G2453	250	98	N.D.	µg/L	2.50	91	91*	95*	4	50-129	40
Dinoseb (DNBP)	00G2453	250	97	N.D.	µg/L	-	-	-	-	-	-	-
Chloramben	00G2453	250	96	N.D.	µg/L	-	-	-	-	-	-	-
2,4-DB	00G2453	250	91	N.D.	µg/L	-	-	-	-	-	-	-
Bentazon (Basagran)	00G2453	250	102	N.D.	µg/L	-	-	-	-	-	-	-
DCPA (Dacthal)	00G2453	250	97	N.D.	µg/L	-	-	-	-	-	-	-
Picloram	00G2453	250	88	N.D.	µg/L	-	-	-	-	-	-	-
Acifluorfen	00G2453	250	103	N.D.	µg/L	-	-	-	-	-	-	-

*: LCS/LCSD is used.

Notation:
ICV – Initial Calibration Verification
CCV – Continuation Calibration Verification
LCS – Lab Control Spike
MS – Matrix Spike
MSD – Matrix Spike Duplicate
ICS – Interference Check Standard
MD – Matrix Duplicate
N.D. – Not detected or less than PQL
CCB – Continuation Calibration Blank
M-blank – Method Blank
SP Level – Spike Level
%Rec – Recovery Percent
%RPD – Relative Percent Differences
%Diff – Control Limit for %RPD
ICP-SD – ICP Serial Dilution
N.A. – Not Applicable

Respectfully submitted,

Kevin Xie, Ph. D.,
QA Director
Applied P & Ch Laboratory

FORM-2A

Applied P & Ch Laboratory

Surrogate Recovery Summary for Method : Volatile Organics

Client Name: The IT Group
Case No:
Project ID: Hunters Point DO 83

Contract No:
SAS No:
Project No: 771003
Batch No: 00G2475

Lab Code: APCL
SDG Number: 2820
Sample Matrix: Water

#	Client Sample No	Lab Sample ID	S1 % #	S2 % #	S3 % #	S4 % #	TOT OUT
1		00G2475-LCS-01	103	104	102	111	0
2	2747B1371-TW-001MS	00-2883-1MS	105	105	105	112	0
3	2747B1371-TW-001MSD	00-2883-1MSD	103	108	117	114	0
4		00G2475-MB-01	75	87	82	90	1
5	83-ES000503-59	00-2820-1	92	111	112	115	0
6	TRIP BLANK	00-2820-2	96	108	104	111	0
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							

	QC Control Limit
S1 = 4-Bromo-fluorobenzene (BFB)	75-124
S2 = Dibromofluoromethane	77-124
S3 = 1,2-Dichloroethane-d4	75-125
S4 = Toluene-d8	76-123

Column to be used to flag recovery values:

* – Values outside of contract required QC Limits D – Surrogate diluted out I – Matrix Interference

FORM-2A

Applied P & Ch Laboratory

Surrogate Recovery Summary for Method : Semi-VOC

Client Name:	The IT Group	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	2820
Project ID:	Hunters Point DO 83	Project No:	771003	Sample Matrix:	Water
		Batch No:	00G2435		

#	Client Sample No	Lab Sample ID	S1 %	#	S2 %	#	S3 %	#	S4 %	#	S5 %	#	S6 %	#	TOT OUT
1		00G2435-MB-01	97		83		87		76		67		97		0
2	83-ES000503-59	00-2820-1	77		47		66		32		45		76		0
3		00G2435-LCS-01	70		69		62		68		56		79		0
4		00G2435-LSD-01	71		69		63		67		56		81		0
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															
21															
22															
23															
24															
25															

	QC Control Limit
S1 = 2-Fluorobiphenyl	40-129
S2 = 2-Fluorophenol	20-119
S3 = Nitrobenzene-d5	40-128
S4 = Phenol-d5	10-110
S5 = Terphenyl-d14	40-134
S6 = 2,4,6-Tribromophenol	20-129

Column to be used to flag recovery values:

* – Values outside of contract required QC Limits D – Surrogate diluted out I – Matrix Interference

FORM-2A

Applied P & Ch Laboratory

Surrogate Recovery Summary for Method : Organochlorine Pesticides

Client Name:	The IT Group	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	2820
Project ID:	Hunters Point DO 83	Project No:	771003	Sample Matrix:	Water
		Batch No:	00G2433		

#	Client Sample No	Lab Sample ID	S1 %	#	S2 %	#	TOT OUT
1		00G2433-MB-02	78		102		0
2		00G2433-LCS-02	86		81		0
3		00G2433-LSD-02	84		78		0
4	83-ES000503-59	00-2820-1	57		64		0
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							

	QC Control Limit
S1 = Decachlorobiphenyl (DCB)	38-136
S2 = 2,4,5,6-Tetrachloro-m-xylene	37-127

Column to be used to flag recovery values:

* – Values outside of contract required QC Limits D – Surrogate diluted out I – Matrix Interference

FORM-2A

Applied P & Ch Laboratory

Surrogate Recovery Summary for Method : PCB

Client Name:	The IT Group	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	2820
Project ID:	Hunters Point DO 83	Project No:	771003	Sample Matrix:	Water
		Batch No:	00G2434		

#	Client Sample No	Lab Sample ID	S1 % #	S2 % #	TOT OUT
1		00G2434-MB-01	78	102	0
2	83-ES000503-59	00-2820-1	35	65	0
3		00G2434-LCS-02	82	78	0
4		00G2434-LSD-02	80	75	0
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

	QC Control Limit
S1 = Decachlorobiphenyl (DCB)	38-136
S2 = 2,4,5,6-Tetrachloro-m-xylene	37-127

Column to be used to flag recovery values:

* – Values outside of contract required QC Limits D – Surrogate diluted out I – Matrix Interference

FORM-2A

Applied P & Ch Laboratory

Surrogate Recovery Summary for Method : Chlorinated Herbicides

Client Name:	The IT Group	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	2820
Project ID:	Hunters Point DO 83	Project No:	771003	Sample Matrix:	Water
		Batch No:	00G2453		

#	Client Sample No	Lab Sample ID	S1 % #	TOT OUT
1		00G2453-MB-01	77	0
2		00G2453-LCS-01	74	0
3		00G2453-LSD-01	77	0
4	83-ES000503-59	00-2820-1	89	0
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				

	QC Control Limit
S1 = 2,4-Di-Cl-phenylacetic acid, (DCAA	40-139

Column to be used to flag recovery values:

* - Values outside of contract required QC Limits D – Surrogate diluted out I – Matrix Interference

APCL Applied Physics and Chemistry Laboratory

13760 Magnolia Avenue. Chino, CA 91710 TEL: (909)590-1828 FAX: (909)590-1498

May 23, 2000

Ms. Cathy Polityka
The IT Group-Concord
4005 Port Chicago Highway
Concord, California 94520-1120

Dear Ms. Polityka,

Enclosed are the Finalized results for the Hunter's Point Asbestos analysis that we sub-contracted.

If there are any questions feel free to call me at (909) 590-1828 Ext:113

Thank you,

Mark A. Heckman
Project Manager

DATE: May 15, 2000

CLIENT: Applied P & CH Laboratory
13760 E. Magnolia Ave.
Chino, CA 91710

ATTENTION: MARK HECKMAN

REFERENCE: Project Title: HOOTER'S POINT/2834

REPORT NO: 65388

DATE/TIME SAMPLED/BY: 5-03-00/1315/MARK HECKMAN

DATE RECEIVED: 5-05-00 at 1155am

SUBJECT: ANALYSIS OF DRINKING WATER SAMPLE BY TRANSMISSION ELECTRON MICROSCOPY

ACCREDITED: National Institute of Standards and Technology through NVLAP (101218)
California Department of Health Services (ELAP 1119)

The sample was identified as:

83-ES000503-59

The date and time of collection and filtration are as follows:

Sample #	Date/Time of Collection	Date/Time of Filtration
83-ES000503-59	5-03-00/1315	5-05-00/100pm

The sample was analyzed for fibers >10 µm in length to conform with the drinking water document, EPA 600 R 94 134. This regulation calls for an MCL (maximum contaminant level) of 7 MFL and an analytical sensitivity level of ≤0.2 MFL.

No asbestos structures were detected for >10µm fibers in length; the analytical sensitivity reached was 4.4 MFL due to the turbidity of the sample.

The results of the analysis and the detection limit are summarized on the following pages.

Respectfully submitted,
EMS LABORATORIES, INC.

B. M. Kolk
Laboratory Director

Note: The results of the analysis are based upon the samples submitted to the laboratory. No representation is made regarding the sampling area other than that implied by the analytical results for the immediate vicinity of the samples analyzed as calculated from the data presented with those samples.

This report, from a NIST accredited laboratory through NVLAP, must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. This report shall not be reproduced, except in full, without the written approval of EMS Laboratories, Inc. Any deviation or exclusion from the test method is noted in this cover letter. Unless otherwise noted in this cover letter, the samples were received properly packaged, clearly identified and intact.

ANALYSIS OF WATER BY TEM (EPA-600 R 94 134)

EMS NO: 65388
CLIENT: Applied P & Ch Lab.
DATE: 5/11/00

Laboratory I.D.	Client	FILTER MEDIA DATA			No. of G.O.	Analyzed Area, mm^2	Sample Volume (ml)
		Type	Diameter mm	Effective Area mm^2			
65388-59	83-ES 000503-59*	PC	47	1017	10	0.092	2.5

* FOR FIBERS > 10um ONLY

INDIVIDUAL ANALYTICAL RESULTS

Laboratory I.D.	Client I.D.	No. of Asbestos			Detection Limit (MFL)	CONCENTRATION (MFL)		
		Str	Str >5um	Str >10um		Str	Str >5um	Str >10um
65388-59	83-ES 000503-59*	-	-	N.D.	4.4	-	-	N.D.

* FOR FIBERS > 10um ONLY

The analysis was carried out to the approved TEM method. This laboratory is in compliance with the quality specified by the method.

Authorized Signature

Analysis of Water by Transmission Electron Microscopy
(EPA-600 R 94 134)

EMS No.	65388	**Client**	**Applied P & Ch Lab.**
Sample No.	83-ES 000503-59	**Date Analyzed**	5/11/00

Fibers > 10 µm in length (chrysotile)	BDL*	MFL
Mass (chrysotile)	0	ug/L
More/Less than 5 Fibers in Sample (chrysotile)	LESS	
Poisson 95% Confidence Interval	0 to 16	MFL
Detection Limit	4.4	MFL

* BDL : Below Detection Limit; MFL: Million Fibers per Liter

Particle Size Distribution (Chrysotile)

Particle Length - Microns

O -0.49	0.50 - 0.99	1.00 - 1.49	1.50 - 1.99	2.00 - 2.49	2.5 - 4.99	5.00 - 9.99	10 & UP
0	0	0	0	0	0	0	0

Particle Width - Microns

O - .04	.05 - .09	.1 - .14	.15 - .19	.2 - .24	.25 - .49	.50 - .99	1 & UP
0	0	0	0	0	0	0	0

Aspect Ratio L/W

0 - 9.9	10 - 19.9	20 - 29.9	30 - 39.9	40 - 49.9	50 - 99	100 - 199	200 & UP
0	0	0	0	0	0	0	0

Analysis of Water by Transmission Electron Microscopy
(EPA-600/4-83-043)

EMS No.	65388	**Date Analyzed**	5/10/00
Client	Applied P & Ch Lab.		
Sample No.	EMS Blank		

Fibers (chrysotile)	ND	MFL
> 5 Micron length (chrysotile)	ND	MFL
Mass (chrysotile)	0	ug/L
More/Less than 5 Fibers in Sample (chrysotile)	LESS	
Sensitivity Level	0.01	MFL

Particle Size Distribution (Chrysotile)

Particle Length - Microns

O -0.49	0.50 - 0.99	1.00 - 1.49	1.50 - 1.99	2.00 - 2.49	2.5 & UP
0	0	0	0	0	0

Particle Width - Microns

O - .04	.05 - .09	.1 - .14	.15 - .19	.2 - .24	.25 & UP
0	0	0	0	0	0

Aspect Ratio L/W

0 - 9.9	10 - 19.9	20 - 29.9	30 - 39.9	40 - 49.9	50 & UP
0	0	0	0	0	0

APCL Applied Physics and Chemistry Laboratory

13760 Magnolia Avenue. Chino, CA 91710 TEL: (909)590-1828 FAX: (909)590-1498

June 1, 2000

Ms. Cathy Polityka
The IT Group-Concord
4005 Port Chicago Highway
Concord, California 94520-1120

Dear Ms. Polityka,

Enclosed are the Finalized results for the Hunter's Point Dioxin and Furans analysis that we sub-contracted.

If there are any questions feel free to call me at (909) 590-1828 Ext:113

Thank you,

Mark A. Heckman
Project Manager

Applied P & CH Laboratory

TLI Project: 50989 — Method 8290 PCDD/PCDF Analysis (b)

Client Sample: 83-ES000503-59 — Analysis File: S002283

Client Project:	IT Hunters Point				
Sample Matrix:	WATER	Date Received:	05/09/2000	Spike File:	SPMIT22S
TLI ID:	261-9-1A	Date Extracted:	05/15/2000	ICal:	SF55150
		Date Analyzed:	05/22/2000	ConCal:	S002270
Sample Size:	1.070 L	Dilution Factor:	n/a	% Moisture:	n/a
Dry Weight:	n/a	Blank File:	W114708	% Lipid:	n/a
GC Column:	DB-5	Analyst:	AKK	% Solids:	n/a

Analytes	Conc. (ppq)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	1.6				___
1,2,3,7,8-PeCDD	ND	3.8				___
1,2,3,4,7,8-HxCDD	ND	2.6				___
1,2,3,6,7,8-HxCDD	ND	2.4				___
1,2,3,7,8,9-HxCDD	ND	2.6				___
1,2,3,4,6,7,8-HpCDD	84.1			0.88	37:02	___
1,2,3,4,6,7,8,9-OCDD	1190			0.89	40:35	___
2,3,7,8-TCDF	9.5			0.87	25:37	___
1,2,3,7,8-PeCDF	ND	1.7				___
2,3,4,7,8-PeCDF	ND	2.0				___
1,2,3,4,7,8-HxCDF	11.3			1.07	33:03	J__
1,2,3,6,7,8-HxCDF	ND	2.3				___
1,2,3,4,6,7,8-HxCDF	ND	2.7				___
1,2,3,7,8,9-HxCDF	ND	3.0				___
1,2,3,4,6,7,8-HpCDF	38.1			0.99	36:01	J__
1,2,3,4,7,8,9-HpCDF	ND	3.9				___
1,2,3,4,6,7,8,9-OCDF	179			0.78	40:46	___

Totals	Conc. (ppq)	Number	DL	EMPC	Flags
Total TCDD	ND		1.6		___
Total PeCDD	EMPC			21.5	___
Total HxCDD	EMPC			70.8	___
Total HpCDD	179	2			___
Total TCDF	9.5	1			___
Total PeCDF	ND		1.8		___
Total HxCDF	27.9	2			___
Total HpCDF	138	2			___

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TLI Project: 50989 — Method 8290 PCDD/PCDF Analysis (b)

Client Sample: 83-ES000503-59 — Analysis File: S002283

Internal Standards	Conc. (ppq)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	1570	84.2	40%-130%	0.75	25:37	___
$^{13}C_{12}$-2,3,7,8-TCDD	1400	74.7	40%-130%	0.77	26:20	___
$^{13}C_{12}$-1,2,3,7,8-PeCDF	1310	70.3	40%-130%	1.53	29:35	___
$^{13}C_{12}$-1,2,3,7,8-PeCDD	1230	65.9	40%-130%	1.57	30:37	___
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	1260	67.3	40%-130%	0.49	33:08	___
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	1810	97.0	40%-130%	1.24	33:49	___
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	1520	81.3	25%-130%	0.40	36:00	___
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	1830	97.8	25%-130%	1.06	37:01	___
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	3060	81.8	25%-130%	0.88	40:35	___

Surrogate Standards (Type B)	Conc. (ppq)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,4,7,8-PeCDF	1170	62.7	40%-130%	1.54	30:17	___
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	995	53.2	40%-130%	0.49	33:02	___
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	1570	84.2	40%-130%	1.25	33:44	___
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	1450	77.4	25%-130%	0.41	37:31	___

Other Standard	Conc. (ppq)	% Recovery	QC Limits		RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	100	53.6	40%-130%		26:21	___

Alternate Standards (Type B)	Conc. (ppq)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	1410	75.2	40%-130%	0.49	34:23	___
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	1680	89.9	40%-130%	0.49	33:37	___

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.83	26:09	___
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.25	34:08	___

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TLI Project: 50989
Client Sample: 83-ES000503-59

Toxicity Equivalents Report
Analysis File: S002283

Client Project:	IT Hunters Point				
Sample Matrix:	WATER	Date Received:	05/09/00	Spike File:	SPMIT22S
TLI ID:	261-9-1A	Date Extracted:	05/15/00	ICal:	SF55150
		Date Analyzed:	05/22/00	ConCal:	S002270
Sample Size:	1.070 L	Dilution Factor:	1	% Moisture:	n/a
Dry Weight:	n/a	Blank File:	W114708	% Lipid:	n/a
GC Column:	DB-5	Analyst:	AKK	% Solids:	n/a

Analytes	Conc. (ppq)		TEF		Equivalent
2,3,7,8-TCDD	{1.6}	x	1.	=	1.6
1,2,3,7,8-PeCDD	{3.8}	x	0.5	=	1.9
1,2,3,4,7,8-HxCDD	{2.6}	x	0.1	=	0.26
1,2,3,6,7,8-HxCDD	{2.4}	x	0.1	=	0.24
1,2,3,7,8,9-HxCDD	{2.6}	x	0.1	=	0.26
1,2,3,4,6,7,8-HpCDD	84.1	x	0.01	=	0.841
1,2,3,4,6,7,8,9-OCDD	1190	x	0.001	=	1.190
TOTAL PCDD					6.3
2,3,7,8-TCDF	9.5	x	0.1	=	0.95
1,2,3,7,8-PeCDF	{1.7}	x	0.05	=	0.085
2,3,4,7,8-PeCDF	{2.0}	x	0.5	=	1.0
1,2,3,4,7,8-HxCDF	11.3	x	0.1	=	1.13
1,2,3,6,7,8-HxCDF	{2.3}	x	0.1	=	0.23
2,3,4,6,7,8-HxCDF	{2.7}	x	0.1	=	0.27
1,2,3,7,8,9-HxCDF	{3.0}	x	0.1	=	0.30
1,2,3,4,6,7,8-HpCDF	38.1	x	0.01	=	0.381
1,2,3,4,7,8,9-HpCDF	{3.9}	x	0.01	=	0.039
1,2,3,4,6,7,8,9-OCDF	179	x	0.001	=	0.179
TOTAL PCDF					4.6

Total EPA TEFs, 1989a: 10.9 ppq

{...} indicates that the value is that of a Detection Limit.

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TLI Project: **50989** — Method 8290 PCDD/PCDF Analysis (b)

Client Sample: **TLI Blank** — Analysis File: **W114708**

Client Project:	**IT Hunters Point**				
Sample Matrix:	**WATER**	Date Received:	/ /	Spike File:	**SPMIT22S**
TLI ID:	**TLI Blank**	Date Extracted:	**05/15/2000**	ICal:	**WF55160**
		Date Analyzed:	**05/20/2000**	ConCal:	**W001146**
Sample Size:	**1.000 L**	Dilution Factor:	**n/a**	% Moisture:	**n/a**
Dry Weight:	**n/a**	Blank File:	**W114708**	% Lipid:	**n/a**
GC Column:	**DB-5**	Analyst:	**JMM**	% Solids:	**n/a**

Analytes	Conc. (ppq)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	2.4				__
1,2,3,7,8-PeCDD	ND	6.0				__
1,2,3,4,7,8-HxCDD	ND	4.2				__
1,2,3,6,7,8-HxCDD	ND	4.1				__
1,2,3,7,8,9-HxCDD	ND	4.0				__
1,2,3,4,6,7,8-HpCDD	ND	5.3				__
1,2,3,4,6,7,8,9-OCDD	42.2			0.89	41:58	J__
2,3,7,8-TCDF	ND	1.9				__
1,2,3,7,8-PeCDF	ND	2.7				__
2,3,4,7,8-PeCDF	ND	3.2				__
1,2,3,4,7,8-HxCDF	ND	3.3				__
1,2,3,6,7,8-HxCDF	ND	3.1				__
2,3,4,6,7,8-HxCDF	ND	3.6				__
1,2,3,7,8,9-HxCDF	ND	3.8				__
1,2,3,4,6,7,8-HpCDF	ND	4.1				__
1,2,3,4,7,8,9-HpCDF	ND	4.8				__
1,2,3,4,6,7,8,9-OCDF	EMPC		9.1			J__

Totals	Conc. (ppq)	Number	DL	EMPC	Flags
Total TCDD	ND		2.4		__
Total PeCDD	ND		6.0		__
Total HxCDD	ND		4.1		__
Total HpCDD	ND		5.3		__
Total TCDF	ND		1.9		__
Total PeCDF	ND		2.9		__
Total HxCDF	ND		3.4		__
Total HpCDF	ND		4.4		__

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TLI Project: **50989** Method 8290 PCDD/PCDF Analysis (b)
Client Sample: **TLI Blank** Analysis File: **W114708**

Internal Standards	Conc. (ppq)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	1250	62.6	40%-130%	0.74	26:47	—
$^{13}C_{12}$-2,3,7,8-TCDD	1230	61.4	40%-130%	0.81	27:28	—
$^{13}C_{12}$-1,2,3,7,8-PeCDF	1020	51.0	40%-130%	1.53	30:37	—
$^{13}C_{12}$-1,2,3,7,8-PeCDD	846	42.3	40%-130%	1.53	31:37	—
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	1060	52.9	40%-130%	0.49	34:07	—
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	1340	67.1	40%-130%	1.20	34:49	—
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	1230	61.3	25%-130%	0.44	37:06	—
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	1500	75.2	25%-130%	1.03	38:11	—
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	2790	69.6	25%-130%	0.87	41:57	—

Surrogate Standards (Type B)	Conc. (ppq)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,4,7,8-PeCDF	1020	50.8	40%-130%	1.51	31:18	—
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	925	46.2	40%-130%	0.51	34:02	—
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	1410	70.3	40%-130%	1.19	34:44	—
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	1300	65.1	25%-130%	0.43	38:42	—

Other Standard	Conc. (ppq)	% Recovery	QC Limits	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	109	54.3	40%-130%	27:29	—

Alternate Standards (Type B)	Conc. (ppq)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	1200	60.1	40%-130%	0.49	35:25	—
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	1350	67.3	40%-130%	0.50	34:37	—

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.83	27:18	—
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.20	35:08	—

Data Reviewer: PR 05/24/2000

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TLI Project: **50989**
Client Sample: **TLI Blank**

Toxicity Equivalents Report
Analysis File: **W114708**

Client Project:	IT Hunters Point				
Sample Matrix:	WATER	Date Received:	05/09/00	Spike File:	SPMIT22S
TLI ID:	TLI Blank	Date Extracted:	05/15/00	ICal:	WF55160
		Date Analyzed:	05/20/00	ConCal:	W001146
Sample Size:	1.000 L	Dilution Factor:	1	% Moisture:	n/a
Dry Weight:	n/a	Blank File:	W114708	% Lipid:	n/a
GC Column:	DB-5	Analyst:	JMM	% Solids:	n/a

Analytes	Conc. (ppq)		TEF		Equivalent
2,3,7,8-TCDD	{2.4}	x	1.	=	2.4
1,2,3,7,8-PeCDD	{6.0}	x	0.5	=	3.0
1,2,3,4,7,8-HxCDD	{4.2}	x	0.1	=	0.42
1,2,3,6,7,8-HxCDD	{4.1}	x	0.1	=	0.41
1,2,3,7,8,9-HxCDD	{4.0}	x	0.1	=	0.40
1,2,3,4,6,7,8-HpCDD	{5.3}	x	0.01	=	0.053
1,2,3,4,6,7,8,9-OCDD	42.2	x	0.001	=	0.0422
TOTAL PCDD					6.7
2,3,7,8-TCDF	{1.9}	x	0.1	=	0.19
1,2,3,7,8-PeCDF	{2.7}	x	0.05	=	0.14
2,3,4,7,8-PeCDF	{3.2}	x	0.5	=	1.6
1,2,3,4,7,8-HxCDF	{3.3}	x	0.1	=	0.33
1,2,3,6,7,8-HxCDF	{3.1}	x	0.1	=	0.31
2,3,4,6,7,8-HxCDF	{3.6}	x	0.1	=	0.36
1,2,3,7,8,9-HxCDF	{3.8}	x	0.1	=	0.38
1,2,3,4,6,7,8-HpCDF	{4.1}	x	0.01	=	0.041
1,2,3,4,7,8,9-HpCDF	{4.8}	x	0.01	=	0.048
1,2,3,4,6,7,8,9-OCDF	[9.1]	x	0.001	=	0.0091
TOTAL PCDF					3.4

Total EPA TEFs, 1989a: 10.1 ppq

[...] indicates that the value is that of an EMPC.
{...} indicates that the value is that of a Detection Limit.

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INTERNATIONAL
TECHNOLOGY
CORPORATION

Memorandum

To: Kathy Polityka

Date: June 16, 2000

IT Project No. 771003

From: Evonne Haik EAH 6/16/00

Subject: DATA EVALUATION SUMMARY REPORT FOR HUNTERS POINT D.O.83, LABORATORY REPORT 801-002820

A cursory data review of the attached data packages was performed according to the guidance of the Functional Guidelines for Evaluating Organic Analyses (U.S. EPA 1994), and Functional Guidelines for Evaluating Inorganic Analyses (U.S. EPA 1994).

The data were reviewed for sample preservation and holding time, laboratory method blank, matrix spike (MS), matrix spike duplicate (MSD) recoveries and relative percent difference (RPD), surrogate recoveries, laboratory control sample (LCS), and laboratory duplicate sample (LCSD) recoveries and RPD.

Sample 83-ES000503-59 was analyzed for chromium VI by EPA Method 7196; pH by EPA Method 9040; asbestos by EPA Method 600/R-94; chemical oxygen demand by EPA Method 410.4; cyanide by EPA Method 335.2; ignitability by EPA Method 1010; oil and grease by EPA method 413.2; phenolics by EPA Method 9065; total suspended solids by EPA Method 160.2; sulfide by EPA Method 376.2; anions by EPA Method 300.0; metals by EPA Method 6010/7470; organic lead by LUFT Method; total petroleum hydrocarbons by EPA Method 418.1; volatile organics by EPA Method 8260; semivolatile organics by EPA Method 8270; pesticides/PCBs by EPA Method 8081/8082; chlorinated herbicides by EPA Method 8150, and dioxins/furans by EPA Method 8290.

The data quality of laboratory analysis was acceptable and all laboratory requirements were met with the following exceptions:

- The method blank had a low concentration of OCDD and OCDF for dioxins/furans analysis. The results in sample 83-ES000503-59 for these compounds were detected at a level greater than five times the blank concentration. The low level of these compounds in the laboratory method blank should have no impact on the results, which were reported in the sample.
- The LCS/LCSD recoveries were above the laboratory acceptance criteria of 130% for 1,2,37,8-PeCDD, 2,3,4,7,8-PeCDF, 2,3,4,6,7,8-HxCDF, and 1,2,3,7,8,9-HxCDF. The results in the project sample for these compounds were not detected. Therefore, this QC deviation should have no impact on the associated project sample results.
- The MS/MSD recoveries for beryllium and the MSD recovery for thallium were slightly below the acceptance criteria. The laboratory took no corrective action for this QC deviation and the results would be considered as estimated values qualified with J/UJ.
- There was insufficient sample available for MS/MSD analysis for oil and grease, total hydrocarbons, semivolatile organics, pesticide/PCBs, herbicides, and dioxins/furans and analyses. Accuracy and precision were evaluated based on the LCS/LCSD analysis. All recoveries and RPDs were within the acceptable limits for these analyses.

Overall, the data were considered usable as reported by the laboratory.

If you have any questions or need further assistance, please contact me at extension 2219.

EH:jc

cc: Project Files

APCL Applied Physics and Chemistry Laboratory

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May 19, 2000

CONFORMS
REVIEWER: EAH
DATE: 6/16/00

Ms. Cathy Polityka
The IT Group-Concord
4005 Port Chicago Highway
Concord, California 94520-1120

Dear Ms. Polityka,

Enclosed are the Finalized results and QA/QC Report for the Hunter's Point DO 83 (DSG# 2820) project that we received on May 4, 2000. Also, normally with this project there is no EDD required as there is with DO 109, but in this case one was generated and I decided to include it as well.

One other item is the Sub-contracted work (SDG# 2834) on the Dioxins and the Asbestos for this same Hunter's Point DO 83, I have yet to receive those results but when I do I will forward them to you immediately.

Thank you,

Mark A. Heckman
Project Manager