aqua resources inc.

2030 Addison Street, Suite 500 • Berkeley, California 94704 • 415 540-6954

December 13, 1988

Regional Water Quality Control Board
San Francisco Region
1111 Jackson Street, Rm 6000
Oakland, CA

87157.5

Attn: Mr. Curtis Scott
Land Disposal Division

Subject: Request for Exemption from Existing Disposal Regulations/Fuel Oil Contaminated Soil/Mill Springs Park Apartment Site, Livermore, CA

Dear Mr. Scott:

This confirms our telephone conversation on Tuesday December 6, 1988, and presents a formal request for an exemption from the existing disposal regulations. As we discussed, Aqua Resources is providing consulting in Environmental Engineering during Remedial Work being performed at the Mill Springs Park Apartment Site. The Site is located on Railroad Avenue between South L and P streets in Livermore. Site Development is being performed by Barnett-Range Corporation. We had talked previously with Mr. Ken Thisen also with the RWQCB Land Disposal Division about this matter; however, we understand that Mr. Thisen has been transferred to the Planning Division.

The disposal exemption request is for fuel oil contaminated soil that was encountered at the site. At the request of various regulatory agencies and following our judgement, numerous chemical analyses have been performed including Total Petroleum Hydrocarbon (TPH), Total Oil and Grease (TDG), Polychlorinated Biphenols (PCB), Heavy Metal (TTLC & STLC), EPA 8270, and EPA 8240, Fuel oil characterization tests, and Bio Assay Analyses (LC_{50}). The results of all analyses are attached for your review. Particular attention and weight should be given to the recent Bio Assay test results. The LC_{50} concentration exceeds the 500 mg/l toxicity threshold contamination. Likewise, heavy metal concentrations did not exceed current action limits.

PCB's and Volatile Toxic Organic Pollutants (VTOP) were not detected. Results of the fuel oil characterization indicated the contaminant as an aged No. 6 fuel oil. This compound is not hazardous, and it is not included in the current list of chemicals know to the State of California to cause cancer or reproductive toxicity.

Soil or other debris materials which were contaminated with lead, or with "free oil product," have been removed to a Class I disposal site. After the site work is completed there will be no potential paths to soil ingestion, inhalation, or dermal exposure to the remaining fuel-contaminated soils. On the other hand, additional off-site removal of this soil would continue to present such potential path ways and in the long-run would not contribute to a reduction of any potential environmental risks.

Currently, there is about 3000 cubic yards of this soil contaminated with aged fuel oil onsite. Based on the above assessment we propose to reuse the material onsite as a subbase material within asphalt concrete paved areas. This would virtually eliminate the potential for downward migrigation due to rainfall surface infiltration. As we agreed with the lead regulatory agency, Alameda County Health Department, Hazardous Materials Division, a monitoring well will be installed as part of the groundwater investigation.

We request that you review the attached information and give us a ruling regarding the disposal exemption by not later than December 16, 1988. If you have any questions, please contact the undersigned. We would be happy to discuss this project with you at your earliest convenience.

Respectfully submitted,
AQUA RESOURCES INC.

Mark Milani

Mark Milani, P.E.
Project Manager

Attachment: Summary of Chemical Analysis Result
Appendix - Certified Chemical Test Results

Copies: Barnett Range Corporation
Attn: Mr. Larry Malcolm

Regional Water Quality Control Board
Attn: Mr. Richard McMurtney

Alameda County Health Agency
Environmental Health Department,
Hazardous Material Division
Attn: Mr. Lowell Miller

SUMMARY OF CHEMICAL ANALYSES

Description/Test Method	Number Performed	Range
1. Total Petroleum Hydrocarbons EPA 8015	119	none detected at MDL for Gasoline, diesel and Kerosene Components. Maximum of 1900 ppm for C_{12}-C_{24} (other) boiling range
2. Total Oil and Grease SMWW 503A	111	none detected above MDL to a maximum of 130,000 ppm typical values between 4000 ppm and 9000 ppm.
3. Heavy Metals TTLC (EPA 6010)	31	low of 48 ppm to a maximum of 2000 ppm for lead
STLC (CAC WET Method)	21	low of 1 ppm up to a maximum of 50 ppm for lead
4. PCB/EPA 8080	13	none detected above method detection limit
5. Volatile Organics EPA 8240	6	none detected above method detection limits
6. Base/Neutral and Acid Extractibles EPA 8270	5	none detected above method detection limits
7. Total Organic Halogens EPA 9020	1	none detected above method detection limits
8. BTX	5	none detected above method detection limits
9. Bio Assay (CAC 666.99)	2	LC_{50} greater than 750 mg/l

10. Fuel Oil Characterization (pH, Flash point, pour point)	1	determined to be aged No. 6 Fuel Oil
11. Asphalt Extraction		Percentage of oil (bitumen) ranges from 4% up to 9.7%. Low end is typical for hard asphalt; high bitumen contact typical for soft (cutback) asphalt.

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ENVIRONMENTAL LABORATORY

Dwey Burbank
Aqua Resources, Inc.
2030 Addison Street
Berkeley, CA 94704-1104

L A B O R A T O R Y   R E S U L T S

Supply/Order No.:
Client's Survey No.:
Contract/PO No.: NO CONTRACT NUMBER
Release No.:

Laboratory Job No.: 882196
Date Received: 05/06/88
Date Reported: 05/09/88
Client Code: AQUR2

OIL AND GREASE(EPA 413.1)

LAB NUMBER	CLIENT CODE	OIL & GREASE PPM	DETECTION LIMIT PPM
12850	C-18	<30	30

ANALYST:MIKE GRAY

APPROVED BY J.T.
JERRY TUMA, PH.D., CIH
LABORATORY DIRECTOR

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L A B O R A T O R Y R E S U L T S

Supply/Order No.:
Client's Survey No.:
Contract/PO No.: NO CONTRACT NUMBER
Release No.:

Laboratory Job No.: 882155
Date Received: 05/04/88
Date Reported: 05/05/88
Client Code: AQUR2

OIL AND GREASE(EPA 413.1) MATRIX:SOIL

LAB NUMBER	CLIENT CODE	OIL & GREASE PPM	DETECTION LIMIT PPM
12633	A-24	<30	30
12634	A-29	<30	30

ANALYST:MIKE GRAY

APPROVED BY
JERRY TUMA PH.D., CIH
LABORATORY DIRECTOR

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Berkeley, CA 94704-1104

L A B O R A T O R Y R E S U L T S

Supply/Order No.:
Client's Survey No.:
Contract/PO No.: NO CONTRACT NUMBER
Release No.:

Laboratory Job No.: 882057
Date Received: 04/29/88
Date Reported: 05/11/88
Client Code: AQUR2

ARSENIC IN WASTE BY AA-GF 7060)
LEAD(AA ASSAY EPA 7420),3050 ACID DIGEST

MATRIX:SOIL ,ACID DIGEST

LABNO	SMPLNO	COMPOUND	FOUND MG/KG	CA TTLC MG/KG	DET.LIM. MG/KG
12113	B26-5'	AS	20.3	500.00	6.0
		PB	7.0	1000.00	1.4
12119	A25A	AS	29.6	500.00	6.0
		PB	10.3	1000.00	1.4
12120	A24A	AS	29.7	500.00	6.0
		PB	10.6	1000.00	1.4
12130	B26	AS	19.1	500.00	6.0
		PB	6.8	1000.00	1.4

ANALYST:NANCY S.TESCHE

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JERRY TUMA, PH.D., CIH
LABORATORY DIRECTOR

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Laboratory Job No.: 882057

ASSAY:TPH/DIESEL (EPA 3550/8015)
MATRIX:SOIL

LABNO SMPLNO-ID	RESULTS	DET.LIM
12116 A21/2.5		
DIESEL	<6.0 mg/kg	6.0 mg/kg
12134 A19/2+4		
DIESEL	33.7 mg/kg	6.0 mg/kg
12143 B21		
DIESEL	<6.0 mg/kg	6.0 mg/kg

ANALYST:JEAN M.BONITE

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Laboratory Job No.: 882057

TPH/OIL & GREASE (EPA 413.1)

LAB NUMBER	CLIENT CODE	OIL & GREASE PPM	DETECTION LIMIT PPM
12106	B23-3.5	<30	30
12107	B23-6.5	<30	30
12108	B23-10	<30	30
12109	B23-15	<30	30
12110	B20-5	<30	30
12111	B20-10	<30	30
12112	B20-15	<30	30
12113	B26-5	<30	30
12114	B26-10	<30	30
12115	B26-15	<30	30
12116	A21-2.5	<30	30
12117	A21-5	<30	30
12118	A21A	1020	30

ANALYST:MARK VALENTINI

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Laboratory Job No.: 882057

TPH/OIL & GREASE (EPA 413.1)

LAB NUMBER	CLIENT CODE	OIL & GREASE PPM	DETECTION LIMIT PPM
12119	A25A	<30	30
12120	A24A	<30	30
12121	A24B	12900	30
12122	E29	<30	30
12123	E26	<30	30
12124	A16	34	30
12125	B'14A-1.5	1360	30
12126	Z19	<30	30
12127	Z21-1.5	4000	30
12128	B'21-2.5	<30	30
12129	B11-1.5	<30	30
12130	B26	<30	30
12131	B24	<30	30

ANALYST:MARK VALENTINI

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Laboratory Job No.: 882057

TPH/OIL & GREASE (EPA 413.1)

LAB NUMBER	CLIENT CODE	OIL & GREASE DETECTION PPM	LIMIT PPM
12132	B20	<30	30
12133	A18	<30	30
12134	A19-2	3920	30
12135	A19-4	<30	30
12136	C20	76	30
12137	C22	320	30
12138	C25	130	30
12139	C27	95	30
12140	C29.5	98	30
12141	E22	<30	30
12142	E14	<30	30

ANALYST:MARK VALENTINI

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Laboratory Job No.: 882057

ASSAY:PCBS IN SOIL/WASTE (GC/ECD EPA 8080)
MATRIX:SOIL

LABNO	SMPLNO-ID	RESULTS (PPM)	DET.LIM (PPM)
12134	A-19		
	PCBs	<0.028	0.028
12144	A-24		
	PCBs	<0.026	0.026

NOTE: THE RESULTS WERE QUANTITATED FOR PCB'S AS AROCLORS 1242, 1254 AND 1260.
ANALYST:DAVE BUSCH

ANATEC LABORATORIES INC.

435 Tesconi Circle
Santa Rosa, CA 95401
707-526-7200
Fax 707-526-9623

Dewey Burbank
Aqua Resources, Inc.
2030 Addison Street, Ste 500
Berkeley, CA 94704

April 19, 1988
ANATEC Log No: **2744A** (1-10)
Series No: 424/017
Client Project #87157.3

Subject: ASAP Priority Analysis and Transmittal of Results for 10 Soil Samples Plus 1 Composited Soil Sample Identified as "Livermore Superblock" Received March 31, 1988.

TABLE 1. SUMMARIZED ANALYTICAL RESULTS FOR 10 SOIL SAMPLES - OIL & GREASE

ANATEC Lab No.	Descriptor			Oil & Grease (mg/Kg)[a]
-7527	TP-1	4'	3/31/88	<30
-7528	TP-5	4'	3/31/88	40
-7529	TP-6	4'	3/31/88	100
-7530	TP-9	4'	3/31/88	70
-7531	TP-9A	4'	3/31/88	2,100
-7532	TP-1	1.75'	3/31/88	<30
-7533	TP-5	1.5	3/31/88	170
-7534	TP-6	1.5'	3/31/88	3,000
-7535	TP-9	1.5'	3/31/88	130,000
-7536	TP-9A	8"	3/31/88	110,000

[a]mg/Kg--Data are expressed as milligrams analyte per kilogram sample, as-received basis.

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Further analytical data are presented in Tables 2-4. Please feel welcome to contact us should you have questions regarding procedures or results.

Submitted by:

Kim Hansard
Project Chemist

Approved by:

William G. Rotz
Project Manager

/hs
Enc: Sample Custody Documents (2)

TABLE 2. ANALYTICAL RESULTS FOR ONE COMPOSITED SOIL SAMPLE - METALS

Parameter	Regulatory Criteria[a] TTLC (mg/Kg)	Regulatory Criteria[a] STLC (mg/L)	COMP TP-(1-9) 8"-1.75' 3/31/88 (-7537) Total[b] (mg/Kg)	COMP TP-(1-9) 8"-1.75' 3/31/88 (-7537) WET-Soluble[c] (mg/L)
Antimony, & compounds	500	15	46	NR[d]
Arsenic, & compounds	500	5.0	96	NR
Barium, & compounds[e]	10,000	100	390	NR
Beryllium, & compounds	75	0.75	<5	NR
Cadmium, & compounds	100	1.0	8	NR
Chromium (VI), & compounds	500	5	NA[f]	NR
Chromium, & compounds	2,500	560	34	NR
Cobalt, & compounds	8,000	80	13	NR
Copper, & compounds	2,500	25	76	NR
Lead, & compounds	1,000	5.0	430	9.7
Mercury, & compounds	20	0.2	0.09	NR
Molybdenum, & compounds	3,500	350	<20	NR
Nickel, & compounds	2,000	20	79	NR
Selenium, & compounds	100	1.0	<0.5	NR
Silver, & compounds	500	5	<5	NR
Thallium, & compounds	700	7.0	<50.	NR
Vanadium, & compounds	2,400	24	39	NR
Zinc, & compounds	5,000	250	620	NR

[a]TTLC--Total Threshold Limit Concentration, from Section 66699, Article 11, California Administrative Code; STLC--Soluble Threshold Limit Concentration, from CAC (ibid).
[b]Wet weight basis.
[c]WET--Waste Extraction Test.
[d]NR--Analysis not requested.
[e]Excludes barite.
[f]NA--Not analyzed, total Cr below regulatory criterion for Cr(VI).

TABLE 3. SUMMARIZED RESULTS FOR ANALYSIS BY EPA METHOD 8240

Analyte	MDL[b] (ug/Kg)	Descriptor, Lab No. & Results (ug/Kg)[a]: COMP TP-(1-9) 8"-1.75' 3/31/88 (-7537)
Benzene	25	ND[c]
Bromodichloromethane	10	ND
Bromoform	25	ND
Bromomethane	15	ND
Carbon tetrachloride	15	ND
Chlorobenzene	25	ND
Chloroethane	15	ND
2-Chloroethylvinyl ether	35	ND
Chloroform	10	ND
Chloromethane	15	ND
Dibromochloromethane	15	ND
1,2-Dichlorobenzene	25	ND
1,3-Dichlorobenzene	25	ND
1,4-Dichlorobenzene	25	ND
1,1-Dichloroethane	20	ND
1,2-Dichloroethane	15	ND
1,1-Dichloroethene	15	ND
trans-1,2-Dichloroethene	10	ND
1,2-Dichloropropane	25	ND
cis-1,3-Dichloropropene	20	ND
trans-1,3-Dichloropropene	25	ND
Ethyl benzene	30	ND
Methylene chloride	15	ND
1,1,2,2-Tetrachloroethane	30	ND
Tetrachloroethene	20	ND
Toluene	25	80
1,1,1-Trichloroethane	20	ND
1,1,2-Trichloroethane	25	ND
Trichloroethene	10	ND
Trichlorofluoromethane	15	ND
Vinyl chloride	15	ND

[a]Data expressed in units of micrograms analyte per kilogram sample, as-received basis.
[b]MDL--Method detection limit.
[c]ND--Not detected at the listed method detection limit.

TABLE 4. SUMMARIZED RESULTS FOR ANALYSIS BY EPA METHOD 8270

Analyte	MDL[b] (ug/Kg)	Descriptor, Lab No & Results (ug/Kg)[a] COMP TP-(1-9) 8"-1.75' 3/31/88 (-7537)[c]
Acenaphthene	33	ND[d]
Acenaphthylene	33	ND
Aldrin	33	ND
Anthracene	33	ND
Benzidine	33	ND
Benzo(a)anthracene	33	ND
Benzo(b)fluoranthene	33	ND
Benzo(k)fluoranthene	33	ND
Benzo(a)pyrene	33	ND
Benzo(ghi)perylene	33	ND
Benzyl butyl phthalate	33	ND
delta-BHC	33	ND
gamma-BHC	33	ND
Bis(2-chloroethyl)ether	33	ND
Bis(2-chloroethoxy)methane	33	ND
Bis(2-chloroisopropyl)ether	33	ND
Bis(2-ethylhexyl)phthalate	3,300	ND
4-Bromophenyl phenyl ether	33	ND
2-Chloronaphthalene	33	ND
4-Chlorophenyl phenyl ether	33	ND
Chrysene	33	ND
4,4'-DDD	33	ND
4,4'-DDE	33	ND
4,4'-DDT	33	ND
Dibenzo(a,h)anthracene	33	ND
Di-n-butyl phthalate	1,650	ND
1,2-Dichlorobenzene	33	ND
1,3-Dichlorobenzene	33	ND
1,4-Dichlorobenzene	33	ND
3,3'-Dichlorobenzidine	33	ND
Dieldrin	33	ND
Diethyl phthalate	33	ND
Dimethyl phthalate	825	ND
2,4-Dinitrotoluene	33	ND
2,6-Dinitrotoluene	33	ND
Di-n-octylphthalate	33	ND
Endrin aldehyde	33	ND
Fluoranthene	33	ND
Fluorene	33	ND
Heptachlor	33	ND
Heptachlor epoxide	33	ND
Hexachlorobenzene	33	ND
Hexachlorobutadiene	33	ND
Hexachlorocyclopentadiene	33	ND
Hexachloroethane	33	ND
Indeno(1,2,3-cd)pyrene	33	ND
Isophorone	33	ND
Naphthalene	33	ND
Nitrobenzene	33	ND
N-Nitrosodi-n-propylamine	1,320	ND
Phenanthrene	33	ND
Pyrene	33	ND
1,2,4-Trichlorobenzene	33	ND
4-Chloro-3-methylphenol	33	ND
2-Chlorophenol	33	ND
2,4-Dichlorophenol	33	ND
2,4-Dimethylphenol	33	ND
2,4-Dinitrophenol	825	ND
2-Methyl-4,6-dinitrophenol	1,650	ND
2-Nitrophenol	33	ND
4-Nitrophenol	825	ND
Pentachlorophenol	33	ND
Phenol	33	ND
2,4,6-Trichlorophenol	33	ND

[a] ug/Kg--Data are expressed in units of micrograms analyte per kilogram sample, as-received basis.
[b] MDL--Method detection limit.
[c] The detection limits for this sample were 1,000x the listed MDLs.
[d] ND--Not detected at the listed method detection limit.

ANATEC LABORATORIES INC.

435 Tesconi Circle
Santa Rosa, CA 95401
707-526-7200
Fax 707-526-9623

Dewey Burbank
Aqua Resources, Inc.
2030 Addison Street, Ste 500
Berkeley, CA 94704

May 4, 1988
ANATEC Log No: 2744 (1-10)
Series No: 424/017
Client Ref: Proj 87157.3

Subject: Additional Results for Ten Soil Samples Identified as "Livermore Superblock" Received March 31, 1988.

			Results (mg/Kg)[a]	
Lab No.	Descriptor		Arsenic	Lead
7527	TP-1 4'	3/31/88	39	9.3
7528	TP-5 4'	3/31/88	16	4.8
7529	TP-6 4'	3/31/88	18	6.8
7530	TP-9 4'	3/31/88	12	5.7
7531	TP-9A 4'	3/31/88	19	5.4
7532	TP-1 1'-9"	3/31/88	140	49
7533	TP-5 1'-6"	3/31/88	92	99
7534	TP-6 1'-6"	3/31/88	13	49
7535	TP-9 1'-6"	3/31/88	8.8	120
7536	TP-9A 8"	3/31/88	33	2,000

[a]mg/Kg--Data are expressed as milligrams analyte per kilogram sample, as-received basis.

Please feel welcome to contact us should you have questions regarding procedures or results.

Submitted by:

Kim Hansard
Project Chemist

Approved by:

William G. Rotz
Project Manager

/ml

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CONSTRUCTION MATERIALS TESTING, INC.
5514 DOYLE STREET.OAKLAND,CA 94608.TELEPHONE (415) 654-6706

REPORT No 1

ORDER NO. 734-80187
DATE May 5, 1988

CLIENT: Aqua Resources Inc.,
2030 Addison Street
Berkeley, CA 94704

DESCRIPTION: **Asphalt Extraction**

Construction Materials Testing received two (2) asphalt samples for oil extraction testing from Aqua Resources.

Sample # 1 was a mixture comprised mostly of sand with a small amount of aggregate and a near 10% oil content.

This sample was soft and yielding to the touch. Sample # 2 was a mixture comprised of a blended aggregate, approximately 4% oil content and was hard and unyielding typical of asphaltic concrete. Test results are as follows:

Sample #	Percentage of Oil (Bitumn)
1 (Soft)	9.71%
2 (Hard)	3.95%

CONSTRUCTION MATERIALS TESTING

David Carroll
Laboratory Supervisor

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cc: 1- Client

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707-526-7200
Fax 707-526-9623

John Bajsarowicz
Aqua Resources
2030 Addision Way
Berkeley, CA 94704

December 27, 1987
ANATEC Log No: 1871 (1-5)
Series No: 424/007
Client Ref: Job 87157.2

Subject: ASAP Priority Analysis of Five Samples Received December 18, 1987.

Dear Mr. Bajsarowicz:

Analysis of the samples referenced above has been completed. This report is written to confirm results transmitted verbally on December 22, 1987.

Delivery to the laboratory was conducted under documented chain-of-custody. On receipt at the laboratory, sample custody was transferred to ANATEC sample control personnel who subsequently documented receipt and condition of the samples and placed them in secured storage at 4°C until analysis commenced.

In preparation for benzene, toluene, xylene ("volatile aromatics") and volatile hydrocarbons measurements, aliquots of samples were taken from core centers with stainless steel implements, immediately weighed, and sealed in septum-capped vials. Additionally, vials were prepared in essentially the same fashion to represent method blanks, commercial gasoline standards, gasoline-fortified sample spikes and sample replicates. Each vial was heated at 90°C during which light hydrocarbons (such as gasoline) were expected to equilibrate in distribution between sample and headspace. Headspace gases were subsequently analyzed by gas chromatography to measure total light hydrocarbons. Response of the chromatographic system to samples was compared with response to standards prepared with commercial gasoline, and from reagent grade volatile aromatics for purposes of qualitative and quantitative interpretation.

Samples were prepared for extractable hydrocarbons measurements by thorough mixing and subsequent extraction with methylene chloride; extraction, aided by sonication, was performed three successive times for each sample. Extracts were then combined, dried over sodium sulfate and concentrated in Kuderna-Danish apparatus.

Extracts were then analyzed by capillary column gas chromatography with flame ionization detection. Preparation and analysis of samples was accompanied by similar treatment of a method blank and a diesel-fortified sample. Response of the chromatographic system to calibration standards prepared with commercial diesel was compared with system response to samples for purposes of qualitative and quantitative interpretation.

Details of the analytical methodologies are consistent with requirements specified in Methods "I" and "II" ("Total Fuel Hydrocarbons, Low-to-Medium Boiling Point Hydrocarbons" and "Total Fuel Hydrocarbons, Medium-to-High Boiling Point Hydrocarbons," respectively) in "Guidelines for Addressing Fuel Leaks," Regional Water Quality Control Board, San Francisco Bay Region, revised 1986; the preparation procedures used are described in detail in "Headspace Method," Method 5020 for gasoline, and "Sonication Extraction," Method 3550 for diesel, in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," U.S. EPA, SW-846, 2nd edition, revised 1984.

To measure "total" (acid-recoverable) lead, portions of the samples were digested with appropriate mineral acids and heat and subsequently diluted with reagent water. The digests were analyzed using inductively coupled argon plasma atomic emission spectroscopy following Method 6010 available in "Test Methods for Evaluating Solid Waste," U.S. EPA SW-846, Volume 1A: Laboratory Manual Physical/Chemical Methods, Third Edition, November 1986.

Results of analyses are summarized in Table 1. Please feel welcome to contact us should you have questions regarding procedures or results.

Submitted by:

Kim L. Hansard
Project Chemist

Approved by:

Greg Anderson, Director
Analytical Laboratories

/ml

TABLE 1. SUMMARIZED ANALYTICAL RESULTS

Parameter	Descriptor, Lab No. & Results (mg/Kg)[a]				
	L-1 6' 12/18 (2951)	L-2 4' 12/18 (2952)	L-3 4' 12/18 (2953)	L-4 4' 12/18 (2954)	L-6 10' 12/18 (2955)
Volatile petroleum hydrocarbons, as gasoline	<10	<10	<10	<10	<10
Extractable petroleum hydrocarbons, as diesel	<10	<10	<10	71	<10
Benzene	<0.005	<0.005	<0.005	<0.005	<0.005
Toluene	<0.005	<0.005	<0.005	0.006	<0.005
Xylenes	<0.015	<0.015	<0.015	<0.015	<0.015
Lead	49	57	46	49	65

[a]mg/Kg--Data are expressed as milligrams analyte per kilogram sample, as-received basis.

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710. Phone (415) 486-0900

LABORATORY NUMBER: 15336
CLIENT: AQUA RESOURCES
PROJECT #: 87157.5
PROJECT LOCATION: LIVERMORE SUPERBLOCK

DATE RECEIVED: 08/10/88
DATE ANALYZED: 08/10/88
DATE REPORTED: 08/11/88

TOTAL LEAD ANALYSIS IN SOIL AND WASTE, EPA 7420

C&T ID	SAMPLE ID	LEAD (mg/Kg)
15336-1	A-1	90
15336-2	A-2	33
15336-3	A-3	530
15336-4	A-4	6.0
15336-5	A-5	3.5

QA/QC SUMMARY

%RPD	27
%RECOVERY	99

LABORATORY DIRECTOR

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (415) 486-0900

LAB NUMBER: 15419
CLIENT: AQUA RESOUCES
JOB ID: 87157.5, LIVERMORE SUPERBLOCK

DATE RECEIVED: 08/11/88
DATE ANALYZED: 08/16/88
DATE REPORTED: 08/18/88

Results of Analysis for Petroleum Hydrocarbons in Soils & Wastes

Method References: TPH: Total Petroleum Hydrocarbons, EPA 3550/8015

LAB ID	CLIENT ID	GASOLINE (mg/kg)	KEROSINE (mg/kg)	DIESEL (mg/kg)	OTHER (mg/kg)
15419-1	B-1 3'	ND(10)	ND(10)	ND(10)	35,000**
15419-2	B-2 3'	ND(10)	ND(10)	ND(10)	1,000**
15419-3	B-3 1'	ND(10)	ND(10)	ND(10)	*
15419-4	B-4 8'	ND(10)	ND(10)	ND(10)	46,000**
15419-5	B-5 3'	ND(10)	ND(10)	ND(10)	560**

*CONTAINS UNIDENTIFIABLE OIL NOT QUANTIFIABLE BY GC.
**QUANTITATION BASED ON LARGEST PEAKS WITHIN C12-C20 BOILING RANGE.

ND = Not Detected; Limit of detection in parentheses.

QA/QC SUMMARY

Duplicate: Relative % Difference	9
Spike: % Recovery	85

LABORATORY DIRECTOR

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (415) 486-0900

LAB NUMBER: 15368
CLIENT: AQUA RESOURCES
JOB ID: 87157.5, LIVERMORE SUPERBLOCK

DATE RECEIVED: 08/12/88
DATE ANALYZED: 08/16/88
DATE REPORTED: 08/18/88

Results of Analysis for Petroleum Hydrocarbons in Soils & Wastes

Method References: TPH: Total Petroleum Hydrocarbons, EPA 3550/8015

LAB ID	CLIENT ID	GASOLINE (mg/kg)	KEROSINE (mg/kg)	DIESEL (mg/kg)	OTHER (mg/kg)
15368-1	B-6	ND(10)	ND(10)	ND(10)	380**
15368-2	B-7	ND(10)	ND(10)	ND(10)	40**
15368-3	B-8	ND(10)	ND(10)	ND(10)	TRACE**
15368-4	B-9	ND(10)	ND(10)	ND(10)	*
15368-5	B-10	ND(10)	ND(10)	ND(10)	*
15368-6	B-11	ND(10)	ND(10)	ND(10)	*
15368-7	B-12	ND(10)	ND(10)	ND(10)	*
15368-8	B-13	ND(10)	ND(10)	ND(10)	*

*CONTAINS UNIDENTIFIABLE OIL NOT QUANITIFIABLE BY GC.
**QUANTITATION BASED ON LARGEST PEAKS WITHIN C12-C20 BOILING RANGE.

ND = Not Detected; Limit of detection in parentheses.

QA/QC SUMMARY

Duplicate: Relative % Difference	19
Spike: % Recovery	93

LABORATORY DIRECTOR

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (415) 486-0900

LABORATORY NUMBER: 15369
CLIENT: AQUA RESOURCES
JOB ID: 87157.5, LIVERMORE SUPERBLOCK

DATE RECEIVED: 08/12/88
DATE ANALYZED: 08/17/88
DATE REPORTED: 08/18/88

EXTRACTABLE LEAD IN SOILS

Method Reference:
Extractable Lead: Waste Extraction Test, CAC Title 22, Section 66700
Analysis by EPA 7420

LAB ID	SAMPLE ID	EXTRACTABLE LEAD (mg/L)
15369-1	A-3	9.9

ND= NONE DETECTED; LIMIT OF DETECTION IS INDICATED IN PARENTHESES.

QA/QC SUMMARY:

	EXTRACTABLE LEAD
RPD %	2
SPIKE RECOVERY %	107

LABORATORY DIRECTOR

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (415) 486-0900

LAB NUMBER: 15389A
CLIENT: AQUA RESOURCES
JOB #: 87157.5, LIVERMORE SUPERBLOCK

DATE RECEIVED: 08/15/88
DATE ANALYZED: 08/17/88
DATE REPORTED: 08/19/88

Results of Analysis for Petroleum Hydrocarbons in Soils & Wastes

Method References: TPH: Total Petroleum Hydrocarbons, EPA 3550/8015

LAB ID	CLIENT ID	GASOLINE (mg/kg)	KEROSINE (mg/kg)	DIESEL (mg/kg)	OTHER (mg/kg)
15389-1	C-1S	ND(10)	ND(10)	ND(10)	*
15389-2	C-2S	ND(10)	ND(10)	ND(10)	ND(10)
15389-3	C-3S	ND(10)	ND(10)	ND(10)	ND(10)
15389-4	C-4S	ND(10)	ND(10)	ND(10)	ND(10)
15389-5	C-5B	ND(10)	ND(10)	ND(10)	*
15389-6	C-6B	ND(10)	ND(10)	ND(10)	ND(10)
15389-7	D-1S	ND(10)	ND(10)	ND(10)	ND(10)
15389-8	D-2S	ND(10)	ND(10)	ND(10)	ND(10)
15389-9	D-3S	ND(10)	ND(10)	ND(10)	ND(10)
15389-10	D-4S	ND(10)	ND(10)	ND(10)	ND(10)
15389-11	D-5S	ND(10)	ND(10)	ND(10)	*
15389-12	D-6B	ND(10)	ND(10)	ND(10)	ND(10)
15389-13	D-7B	ND(10)	ND(10)	ND(10)	ND(10)
15389-14	D-8S	ND(10)	ND(10)	ND(10)	ND(10)
	COMPOSITE ID				
15389-15,16, 17,18, 19	B2-1,3,4 D-1,2	ND(10)	ND(10)	ND(10)	730**

*CONTAINS UNIDENTIFIABLE OIL NOT QUANTIFIABLE BY GC.
**QUANTITATION BASED ON LARGEST PEAKS WITHIN C12-C20 BOILING RANGE.

ND = Not Detected; Limit of detection in parentheses.

QA/QC SUMMARY

Duplicate: Relative % Difference	21
Spike: % Recovery	119

Jon Wong for CBG
LABORATORY DIRECTOR

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (415) 486-0900

LAB NUMBER: 15375
CLIENT: AQUA RESOURCES
JOB #: 87157.5, LIVERMORE SUPERBLOCK

DATE RECEIVED: 08/12/88
DATE ANALYZED: 08/17/88
DATE REPORTED: 08/19/88

Results of Analysis for Petroleum Hydrocarbons in Soils & Wastes

Method References: TPH: Total Petroleum Hydrocarbons, EPA 3550/8015

LAB ID	CLIENT ID	GASOLINE (mg/kg)	KEROSINE (mg/kg)	DIESEL (mg/kg)	OTHER (mg/kg)
15375-7	B-17S	ND(10)	ND(10)	ND(10)	2,900**
15375-8	B-18B	ND(10)	ND(10)	ND(10)	5,600**
15375-9	B-19B	ND(10)	ND(10)	ND(10)	13,700**
15375-10	B-20S	ND(10)	ND(10)	ND(10)	ND(10)
15375-11	B-21B	ND(10)	ND(10)	ND(10)	1,250**
15375-12	B-22S	ND(10)	ND(10)	ND(10)	*
15375-13	B-23S	ND(10)	ND(10)	ND(10)	*
15375-14	B-24S	ND(10)	ND(10)	ND(10)	*
15375-15	B-25B	ND(10)	ND(10)	ND(10)	*
15375-16	B-26S	ND(10)	ND(10)	ND(10)	*
15375-17	B-27B	ND(10)	ND(10)	ND(10)	*
15375-18	B-28B	ND(10)	ND(10)	ND(10)	ND(10)
15375-4,5,6	COMPOSITE ID B-14,B-15, B-16	ND(10)	ND(10)	ND(10)	1,700**
15375-19,20	C-1, C-2	ND(10)	ND(10)	ND(10)	ND(10)

*CONTAINS UNIDENTIFIABLE OIL NOT QUANTIFIABLE BY GC.
**QUANTITATION BASED ON LARGEST PEAKS WITHIN C12-C20 BOILING RANGE.

ND = Not Detected; Limit of detection in parentheses.

QA/QC SUMMARY

Duplicate: Relative % Difference	1
Spike: % Recovery	94

LABORATORY DIRECTOR

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 15375
CLIENT: AQUA RESOURCES
JOB ID: 87157.5, LIVERMORE SUPERBLOCK

DATE RECEIVED: 08/12/88
DATE ANALYZED: 08/15/88
DATE REPORTED: 08/19/88

TOTAL LEAD ANALYSIS IN SOIL AND WASTE, EPA 7420

LAB ID	SAMPLE ID	LEAD (mg/Kg)
15375-1	A2-1	2.5
15375-2	A2-2	44
15375-3	A6	650

QA/QC SUMMARY

%RPD	17
%RECOVERY	94

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (415) 486-0900

LAB NUMBER: 15396
CLIENT: AQUA RESOURCES
JOB ID: 87157.5, LIVERMORE SUPERBLOCK

DATE RECEIVED: 08/16/88
DATE ANALYZED: 08/16/88
DATE REPORTED: 08/20/88

Results of Analysis for Petroleum Hydrocarbons in Soils & Wastes

Method References: TPH: Total Petroleum Hydrocarbons, EPA 3550/8015

LAB ID	CLIENT ID	GASOLINE (mg/kg)	KEROSINE (mg/kg)	DIESEL (mg/kg)	OTHER (mg/kg)
15369-1	B3-1	ND(10)	ND(10)	ND(10)	26**
15369-2	B3-2	ND(10)	ND(10)	ND(10)	*
15369-3	B3-3	ND(10)	ND(10)	ND(10)	*
15369-4	B3-4	ND(10)	ND(10)	ND(10)	ND(10)
15369-5	B3-5	ND(10)	ND(10)	ND(10)	ND(10)
15369-6	B3-6	ND(10)	ND(10)	ND(10)	130,000**

*Contains unidentifiable oil not quantifiable by GC.
**Quantitation based on largest peaks within the C12-C20 boiling range.

ND = Not Detected; Limit of detection in parentheses.

QA/QC SUMMARY

Duplicate: Relative % Difference	8
Spike: % Recovery	102

LABORATORY DIRECTOR

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (415) 486-0900

LABORATORY NUMBER: 15446
CLIENT: AQUA RESOURCES
JOB ID: 87157.5, LIVERMORE SUPERBLOCK

DATE RECEIVED: 08/23/88
DATE ANALYZED: 08/29/88
DATE REPORTED: 08/30/88

Results of Analysis for Petroleum Hydrocarbons/Oil & Grease

Method References: O&G: Oil and Grease, SMWW 503 A
TPH: Total Petroleum Hydrocarbons, EPA 3550/8015

LAB ID	SAMPLE ID	GASOLINE (mg/Kg)	KEROSINE (mg/Kg)	DIESEL (mg/Kg)	OTHER* (mg/Kg)
15446-1	B-14	ND(10)	ND(10)	ND(10)	ND(10)
15446-2	B-15	ND(10)	ND(10)	ND(10)	320
15446-3	B-16	ND(10)	ND(10)	ND(10)	ND(10)
15446-4	B2-1	ND(10)	ND(10)	ND(10)	1,900
15446-5	B2-3	ND(10)	ND(10)	ND(10)	1,200
15446-6	B2-4	ND(10)	ND(10)	ND(10)	ND(10)
15446-7	D-1	ND(10)	ND(10)	ND(10)	ND(10)
15446-8	D-2	ND(10)	ND(10)	ND(10)	ND(10)

* Quantitation based on largest peaks within C11-C21 boiling range.

ND = Not Detected; Limit of detection indicated in parentheses.

QA/QC SUMMARY

	TPH
Duplicate: Relative % Difference	4
Spike: % Recovery	106

LABORATORY DIRECTOR

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (415) 486-0900

LAB NUMBER: 15446-6
CLIENT: AQUA RESOURCES
JOB ID: 87157.5, LIVERMORE SUPERBLOCK
CLIENT ID: B3-6

DATE RECEIVED: 08-23-88
DATE ANALYZED: 08-27-88
DATE REPORTED: 09-02-88

POLYCHLORINATED BIPHENYLS (PCB'S)
METHOD: EPA 608/8080
EXTRACTION METHOD: EPA 3580-WASTE DILUTION

LAB ID	CLIENT ID	AROCLOR	CONCENTRATION (mg/Kg)	MDL (mg/Kg)
15446-6	B3-6	PCB 1016	ND	1.0
		PCB 1221	ND	1.0
		PCB 1232	ND	1.0
		PCB 1242	ND	1.0
		PCB 1248	ND	1.0
		PCB 1254	ND	1.0
		PCB 1260	ND	1.0

ND = NONE DETECTED; LIMIT OF DETECTION IS INDICATED IN LAST COLUMN.

QA/QC SUMMARY

%RPD	2
%RECOVERY	103

BROWN AND CALDWELL LABORATORIES — **TOXICITY BIOASSAY**

1255 POWELL STREET EMERYVILLE, CA 94608 • (415) 428-2300

Log No.: E&E-11-584-1

Date Sampled: 11/17/88
Date Received: 11/22/88
Date Reported: 12/06/88

Report To: Aqua Resources Inc.
2030 Addison Street, Sutie 500
Berkeley, California 94704

Attn: Dewey Burbank

Hedy J. Fiecklin for
Laboratory Director

cc:

CALIFORNIA HAZARDOUS WASTE ASSESSMENT BIOASSAY: SCREEN

Sample Description CVS -1
Test Organism Pimephales promelas, fathead minnow Source Thomas Fish Company
Dilution Water Fresh Source Emeryville Dechlorinating Tap Water Temperature Range 15.0 °C

Aeration: Air X Oxygen ___ None ___

Bioassay Conditions	Time, Hrs	Control		Dilution 250mg/L		250mg/L		750mg/L		750mg/L							
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Organisms Surviving	Start	10	100	10	100	10	100	10	100	10	100						
	24	10	100	10	100	10	100	10	100	10	100						
	48	10	100	10	100	10	100	10	100	10	100						
	72	10	100	10	100	10	100	10	100	10	100						
	96	10	100	10	100	10	100	10	100	10	100						
Dissolved Oxygen mg/L	Start	9.0		9.0		9.0		9.0		9.0							
	24	8.8		8.9		8.8		8.7		8.9							
	48	8.5		8.7		8.8		8.9		8.5							
	72	8.3		8.6		8.2		8.9		9.0							
	96	8.4		8.7		9.0		9.2		9.0							
pH	Start	7.8		7.7		7.7		7.8		7.7							
	24	7.7		7.8		7.8		7.8		7.8							
	48	7.9		7.9		7.9		8.0		8.0							
	72	8.5		8.3		8.2		8.0		8.1							
	96	8.1		8.1		8.1		8.1		8.1							

RESULTS: 96 hr TL_m* Not Established Toxicity Units ___ Percent survival in undiluted sample Not Applicable

Length of fish, cm: Max. 3.3 Min. 2.3 Mean 2.8

Weight of fish, g.: Max. 0.46 Min. 0.17 Mean 0.31

*In cases where 96 hour mortality does not equal or exceed 50% in at least one dilution of the sample, no TL_m value is established.

Analyst M.L. Parris
vb

BROWN AND CALDWELL LABORATORIES — **TOXICITY BIOASSAY**

1255 POWELL STREET EMERYVILLE, CA 94608 • (415) 428-2300

Log No.: EE8-11-584-2

Date Sampled: 11/17/88
Date Received: 11/22/88
Date Reported: 12/06/88

Aqua Resources

Report To:

Attn: Dewey Burbank

Hedy J. Ficklin for
Laboratory Director

cc:

CALIFORNIA HAZARDOUS WASTE ASSESSMENT BIOASSAY: SCREEN

Sample Description STPL.C-8
Test Organism Pimephales promelas, fathead minnow Source Thomas Fish Company
Dilution Water Fresh Source Emeryville Dechlorinated Tap Water Temperature Range 15.0 °C

Aeration: Air X Oxygen ___ None ___

Bioassay Conditions	Time, Hrs	Control		250mg/L		250mg/L		750mg/L		750mg/L							
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Organisms Surviving	Start	10	100	10	100	10	100	10	100	10	100						
	24	10	100	10	100	10	100	10	100	10	100						
	48	10	100	10	100	10	100	10	100	10	100						
	72	10	100	10	100	10	100	10	100	10	100						
	96	10	100	10	100	10	100	10	100	10	100						
Dissolved Oxygen mg/L	Start	9.0		9.0		9.0		9.0		9.0							
	24	8.8		8.7		9.0		9.6		9.3							
	48	8.5		8.4		8.5		9.0		9.0							
	72	8.3		8.9		8.8		9.0		9.0							
	96	8.4		9.0		9.0		9.0		9.0							
pH	Start	7.8		7.8		7.8		7.8		7.8							
	24	7.7		7.8		7.8		7.8		7.8							
	48	7.9		8.0		8.0		7.9		8.0							
	72	8.5		8.1		8.0		8.0		8.0							
	96	8.1		8.0		8.0		8.0		8.0							

RESULTS 06 hr TL_m* >750mg/L Toxicity Units Not Established Percent survival in undiluted sample Not Applicable

Length of fish, cm: Max. 3.3 Min. 2.3 Mean 2.8

Weight of fish, g.: Max. 0.46 Min. 0.17 Mean 0.31

*In cases where 96 hour mortality does not equal or exceed 50% in at least one dilution of the sample, no TL_m value is established.

Analyst M.L. Parris
vb

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (415) 486-0900

LABORATORY NUMBER: 15841
CLIENT: AQUA RESOURCES
JOB ID: LIVERMORE SUPERBLOCK

DATE ANALYZED: 10/07/88
DATE REPORTED: 10/11/88

Results of Analysis for Petroleum Hydrocarbons/Oil & Grease

Method References: O&G: Oil and Grease, SMWW 503A
TPH: Total Petroleum Hydrocarbons, EPA 3550/8015

LAB ID	CLIENT ID	GASOLINE (mg/Kg)	KEROSINE (mg/Kg)	DIESEL (mg/Kg)	OTHER (mg/Kg)	O&G (mg/Kg)
15841-1	B3-1	ND(10)	ND(10)	ND(10)	26**	3,000
15841-2	B3-2	ND(10)	ND(10)	ND(10)	*	3,700

*CONTAINS UNIDENTIFIABLE OIL NOT QUANTIFIABLE BY GC.
**QUANTITATION BASED ON LARGEST PEAKS WITHIN THE C12-C20 BOILING RANG

NOTE: TPH ANALYSES WERE PERFORMED AND REPORTED IN AUGUST, 1988.

ND = Not Detected; Limit of detection indicated in parentheses.

LABORATORY DIRECTOR

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (415) 486-0900

LABORATORY NUMBER: 15950
CLIENT: AQUA RESOURCES, INC.
PROJECT NAME: LIVERMORE SUPERBLOCK

DATE RECEIVED: 10-14-88
DATE ANALYZED: 10-15,17-88
DATE REPORTED: 10-20-88

Results of Analysis for Petroleum Hydrocarbons/Oil & Grease

Method References: O&G: Oil and Grease, SMWW 503 A
TPH: Total Petroleum Hydrocarbons, EPA 3510/8015

LAB ID	CLIENT ID	GASOLINE (mg/L)	KEROSINE (mg/L)	DIESEL (mg/L)	OTHER (mg/L)	O&G (mg/L)
15950-1	1-1,2	ND(10)	ND(10)	ND(10)	0.08 *	165

* Fingerprint pattern does not match Hydrocarbon Standard. Quantitation based on largest peaks within C12-C22 boiling range.

ND = Not Detected; Limit of detection indicated in parentheses.

QA/QC SUMMARY

	TPH
Duplicate: Relative % Difference	16
Spike: % Recovery	105

AQUA RESOURCES, INC.
RECEIVED
OCT 20 1988

JOB NO.

LABORATORY DIRECTOR

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (415) 486-0900

LABORATORY NUMBER: 15950
CLIENT: AQUA RESOURCES
PROJECT NAME: LIVERMORE SUPERBLOCK

DATE RECEIVED: 10-14-88
DATE ANALYZED: 10-17,19-88
DATE REPORTED: 10-21-88

C&T ID	SAMPLE ID	OIL & GREASE SMWW 503A
15950-2	2-1	>50%

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (415) 486-0900

LABORATORY NUMBER: 15995
CLIENT: AQUA RESOURCES
JOB ID: LIVERMORE SUPERBLOCK
SAMPLE ID: 2-1

DATE RECEIVED: 10/20/88
DATE ANALYZED: 10/20/88
DATE REPORTED: 10/27/88

Metals in Soils & Wastes
Digestion Method: EPA 3050

METAL	RESULT mg/kg	DETECTION LIMIT mg/kg	METHOD
Arsenic	ND	1.0	EPA 6010
Cadmium	ND	0.3	EPA 6010
Chromium (total)	1.7	0.3	EPA 6010
Lead	36	1.0	EPA 6010
Nickel	52	0.3	EPA 6010
Vanadium	32	1.0	EPA 6010

ND = None Detected

AQUA RESOURCES, INC.
RECEIVED
OCT 31 1988
JOB NO. _____
FILE

QA/QC SUMMARY

	%RPD	%SPIKE
Arsenic	<1	102
Cadmium	<1	98
Chromium (total)	6	92
Lead	3	89
Nickel	4	99
Vanadium	4	94

LABORATORY DIRECTOR

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 15995
CLIENT: AQUA RESOURCES
JOB ID: 15995-2
SAMPLE ID: A-1

DATE RECEIVED: 10/20/88
DATE ANALYZED: 10/21-25
DATE REPORTED: 10/27/88

TOTAL ORGANIC HALOGENS (TOX) EPA 9020	ND(25)
pH, SU SMWW 423	7.6
FLASH POINT, Degrees F ASTM D93	NO FLASH*

*SAMPLE FOAMS AND BOILS OVER AT 160 DEGREES F.

ND = NONE DETECTED. LIMIT OF DETECTION IS INDICATED IN PARENTHESES.

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 15995
CLIENT: AQUA RESOURCES
JOB ID: LIVERMORE SUPERBLOCK

DATE RECEIVED: 10/20/88
DATE ANALYZED: 10/26/88
DATE REPORTED: 10/27/88

Polychlorinated Biphenyls (PCBs) by EPA Method 8080

LAB ID	CLIENT ID	PCBs (mg/kg)
15995-1	2-1	ND(5)

ND = Not Detected; Limit of Detection indicated in parentheses.

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (415) 486-0900

LABORATORY NUMBER: 16124
CLIENT: AQUA RESOURCES
JOB #: 87157.5
LOCATION: MILLS SPRING PARK APT

DATE RECEIVED: 11/04/88
DATE ANALYZED: 11/04/88
DATE REPORTED: 11/07/88

Total Petroleum Hydrocarbons in Soils & Wastes
EPA 8015 (Modified)
Extraction Method: EPA 3550

LAB ID	CLIENT ID	GASOLINE (mg/Kg)	KEROSINE (mg/Kg)	DIESEL (mg/Kg)	OTHER (mg/Kg)
16124-1	STPL B A-2	ND(10)	ND(10)	ND(10)	280*
16124-2	STPL B B-2	ND(10)	ND(10)	ND(10)	220*
16124-3	STPL B C-3	ND(10)	ND(10)	ND(10)	270*
16124-4	STPL B B-5	ND(10)	ND(10)	ND(10)	260*

ND = Not Detected; Limit of detection in parentheses.

* Fingerprint pattern does not match hydrocarbon standards; Quantitation based on largest peaks within C12-C24 boiling range.

NOTE: ALL SAMPLES CONTAIN OIL & GREASE NOT QUANTIFIABLE BY GC.

QA/QC SUMMARY:

Duplicate, Relative % Difference	4
Average Spike Recovery %	85

LABORATORY DIRECTOR

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (415) 486-0900

LABORATORY NUMBER: 16144
CLIENT: AQUA RESOURCES
JOB #: 87157.5

DATE RECEIVED: 11/07/88
DATE ANALYZED: 11/08/88
DATE REPORTED: 11/09/88

Total Petroleum Hydrocarbons in Soils & Wastes
EPA 8015 (Modified)
Extraction Method: EPA 3550

LAB ID	CLIENT ID	GASOLINE (mg/Kg)	KEROSINE (mg/Kg)	DIESEL (mg/Kg)	OTHER (mg/Kg)
16144-1	STPL B A-1	ND(10)	ND(10)	ND(10)	110*,12**
16144-2	STPL B A-3	ND(10)	ND(10)	ND(10)	260*
16144-3	STPL B A-4	ND(10)	ND(10)	ND(10)	240*
16144-4	STPL B A-5	ND(10)	ND(10)	ND(10)	210*
16144-5	STPL B A-6	ND(10)	ND(10)	ND(10)	190*
16144-6	STPL B B-1	ND(10)	ND(10)	ND(10)	180*
16144-7	STPL B B-3	ND(10)	ND(10)	ND(10)	140*
16144-8	STPL B B-4	ND(10)	ND(10)	ND(10)	120*
16144-9	STPL B C-1	ND(10)	ND(10)	ND(10)	140*
16144-10	STPL B C-2	ND(10)	ND(10)	ND(10)	130*
16144-11	STPL B C-4	ND(10)	ND(10)	ND(10)	63*

ND = NONE DETECTED. LIMIT OF DETECTION IS INDICATED IN PARENTHESES,

*QUANTITATION BASED ON LARGEST PEAKS WITHIN C12-C22 BOILING RANGE.
**QUANTITATION BASED ON A 100 PPM C24-C30 STANDARD.

NOTE: ALL SAMPLES CONTAIN OIL & GREASE NOT QUANTIFIABLE BY GC.

Steven P. Brimmer
LABORATORY DIRECTOR

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (415) 486-0900

LABORATORY NUMBER: 15804
CLIENT: AQUA RESOURCES
JOB ID: LIVERMORE SUPERBLOCK

DATE ANALYZED: 10/07/88
DATE REPORTED: 10/12/88

C&T ID	SAMPLE ID	OIL & GREASE, mg/Kg SMWW 503A
15804-1	B9	5,300
15804-2	B10	17,900
15804-3	B11	2,000
15804-4	B12	5,500
15804-5	B13	5,600

LABORATORY DIRECTOR

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (415) 486-0900

LABORATORY NUMBER: 15804
CLIENT: AQUA RESOURCES
JOB ID: LIVERMORE SUPERBLOCK

DATE EXTRACTED: 10/10/88
DATE ANALYZED: 10/12/88
DATE REPORTED: 10/12/88

EXTRACTABLE LEAD IN SOILS

Method References:
Extractable Lead: Waste Extraction Test, CAC Title 22, Section 66700
Lead Analysis: EPA 7420

LAB ID	SAMPLE ID	EXTRACTABLE LEAD (mg/L)
15804-6	B3-2	1.1
15804-7	A6	50
15804-8	LEAD #1	21

QA/QC SUMMARY:

	EXTRACTABLE LEAD
RPD %	<1
SPIKE RECOVERY %	101

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (415) 486-0900

LABORATORY NUMBER: 15804
CLIENT: AQUA RESOURCES
JOB ID: LIVERMORE SUPERBLOCK

DATE ANALYZED: 10/07/88
DATE REPORTED: 10/12/88

Results of Analysis for Petroleum Hydrocarbons/Oil & Grease

Method References: O&G: Oil and Grease, SMWW 503A
TPH: Total Petroleum Hydrocarbons, EPA 3550/8015

LAB ID	CLIENT ID	GASOLINE (mg/Kg)	KEROSINE (mg/Kg)	DIESEL (mg/Kg)	O&G (mg/Kg)
15804-1	B9	ND(10)	ND(10)	ND(10)	5,300
15804-2	B10	ND(10)	ND(10)	ND(10)	17,900
15804-3	B11	ND(10)	ND(10)	ND(10)	2,000
15804-4	B12	ND(10)	ND(10)	ND(10)	5,500
15804-5	B13	ND(10)	ND(10)	ND(10)	5,600

NOTE: TPH ANALYSES WERE PERFORMED AND REPORTED AUGUST, 1988.

ND = Not Detected; Limit of detection indicated in parentheses.

QA/QC SUMMARY

	TPH
Duplicate: Relative % Difference	19
Spike: % Recovery	93

Steven P Brimmer
LABORATORY DIRECTOR

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (415) 486-0900

LABORATORY NUMBER: 15804
CLIENT: AQUA RESOURCES
JOB ID: LIVERMORE SUPERBLOCK

DATE EXTRACTED: 10/10/88
DATE ANALYZED: 10/12/88
DATE REPORTED: 10/12/88

EXTRACTABLE LEAD IN SOILS

Method References:
Extractable Lead: Waste Extraction Test, CAC Title 22, Section 66700
Lead Analysis: EPA 7420

LAB ID	SAMPLE ID	EXTRACTABLE LEAD (mg/L)
15804-7	A6	50
15804-8	LEAD #1	21

QA/QC SUMMARY:

	EXTRACTABLE LEAD
RPD %	<1
SPIKE RECOVERY %	101

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (415) 486-0900

LABORATORY NUMBER: 16104
CLIENT: AQUA RESOURCES
JOB #: 87157.5

DATE RECEIVED: 11/01/88
DATE ANALYZED: 11/02/88
DATE REPORTED: 11/03/88

Total Petroleum Hydrocarbons in Soils & Wastes
EPA 8015 (Modified)
Extraction Method: EPA 3550

LAB ID	CLIENT ID	GASOLINE (mg/Kg)	KEROSINE (mg/Kg)	DIESEL (mg/Kg)	OTHER (mg/Kg)
16104-1	B5-7	ND(10)	ND(10)	ND(10)	ND(10)
16104-4	B5-10	ND(10)	ND(10)	ND(10)	ND(10)
16104-5	B5-11	ND(10)	ND(10)	ND(10)	ND(10)
16104-6	B5-12	ND(10)	ND(10)	ND(10)	TRACE*
16104-7	B5-13	ND(10)	ND(10)	ND(10)	ND(10)
16104-10	B5-14	ND(10)	ND(10)	ND(10)	ND(10)
16104-11	B5-15	ND(10)	ND(10)	ND(10)	ND(10)
16104-12-16	STOCKPILE #1-#5	ND(10)	ND(10)	ND(10)	27*

ND = NONE DETECTED. LIMIT OF DETECTION IS INDICATED IN PARENTHESES.

*QUANTITATION BASED ON LARGEST PEAKS WITHIN C12-C24 BOILING RANGE.

NOTE: SAMPLES B5-12, B5-13, AND STOCKPILE #1-#5 COMPOSITE CONTAIN OIL & GREASE NOT QUANTIFIABLE BY GC.

LABORATORY DIRECTOR

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (415) 486-0900

LABORATORY NUMBER: 16104
CLIENT: AQUA RESOURCES
JOB ID: 87157.5

DATE RECEIVED: 11/01/88
DATE ANALYZED: 11/02/88
DATE REPORTED: 11/03/88

C&T ID	SAMPLE ID	LEAD, mg/Kg EPA 6010
16104-8	A5-1	7.8
16104-9	A5-2	7.8

QA/QC:

RPD, %	12
RECOVERY, %	92

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LABORATORY NUMBER: 16096
CLIENT: AQUA RESOURCES
JOB #: 87157.5

DATE RECEIVED: 11/01/88
DATE ANALYZED: 11/02/88
DATE REPORTED: 11/02/88

Total Petroleum Hydrocarbons in Soils & Wastes
EPA 8015 (Modified)
Extraction Method: EPA 3550

LAB ID	CLIENT ID	GASOLINE (mg/Kg)	KEROSINE (mg/Kg)	DIESEL (mg/Kg)	OTHER (mg/Kg)
16096-1	B5-1	ND(10)	ND(10)	ND(10)	TRACE*
16096-2	B5-2	ND(10)	ND(10)	ND(10)	ND(10)
16096-3	B5-3	ND(10)	ND(10)	ND(10)	ND(10)
16096-4	B5-4	ND(10)	ND(10)	ND(10)	ND(10)
16096-5**	B5-5	ND(10)	ND(10)	ND(10)	29*
16096-6**	B5-6	ND(10)	ND(10)	ND(10)	ND(10)

ND = Not Detected; Limit of detection in parentheses.

*QUANTITATION BASED ON LARGEST PEAKS WITHIN C12-C24 BOILING RANGE.

**SAMPLES B5-5 & B5-6 CONTAIN UNIDENTIFIABLE OIL NOT QUANTIFIABLE BY GC.

QA/QC:

RPD, %	10
RECOVERY, %	114

AQUA RESOURCES, INC.
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Jon Wong for CB6
LABORATORY DIRECTOR

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 16096
CLIENT: AQUA RESOURCES
JOB ID: 87157.5

DATE RECEIVED: 11/01/88
DATE ANALYZED: 11/02/88
DATE REPORTED: 11/02/88

C&T ID	SAMPLE ID	OIL & GREASE, mg/Kg SMWW 503A
16096-1	B5-1	33
16096-2	B5-2	53
16096-3	B5-3	ND(50)

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 16096-1
CLIENT: AQUA RESOURCES
JOB #: 87157.5
SAMPLE ID: B5-1

DATE RECEIVED: 11/01/88
DATE EXTRACTED: 11/01/88
DATE ANALYZED: 11/02/88
DATE REPORTED: 11/02/88

EPA METHOD 8240: VOLATILE ORGANICS IN SOILS & WASTES

COMPOUND	Result ug/kg	Detection Limit ug/kg
chloromethane	ND	50
bromomethane	ND	50
vinyl chloride	ND	50
chloroethane	ND	50
methylene chloride	ND	25
trichlorofluoromethane	ND	25
1,1-dichloroethene	ND	25
1,1-dichloroethane	ND	25
trans-1,2-dichloroethene	ND	25
chloroform	ND	25
1,2-dichloroethane	ND	25
1,1,1-trichloroethane	ND	25
carbon tetrachloride	ND	25
bromochloromethane	ND	25
1,2-dichloropropane	ND	25
cis-1,3-dichloropropene	ND	25
trichloroethylene	ND	25
dibromochloromethane	ND	25
1,1,2-trichloroethane	ND	25
benzene	ND	25
trans-1,3-dichloropropene	ND	25
2-chloroethylvinyl ether	ND	50
bromoform	ND	25
1,1,2,2-tetrachloroethane	ND	25
tetrachloroethene	ND	25
toluene	ND	25
chlorobenzene	ND	25
ethyl benzene	ND	25
Non-Priority Hazardous Pollutant Substances List Compounds		
acetone	ND	50
carbon disulfide	ND	25
2-butanone	ND	50
vinyl acetate	ND	50
2-hexanone	ND	50
4-methyl-2-pentanone	ND	50
styrene	ND	25
total xylenes	ND	25

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 16096-2
CLIENT: AQUA RESOURCES
JOB #: 87157.5
SAMPLE ID: B5-2

DATE RECEIVED: 11/01/88
DATE EXTRACTED: 11/01/88
DATE ANALYZED: 11/02/88
DATE REPORTED: 11/02/88

EPA METHOD 8240: VOLATILE ORGANICS IN SOILS & WASTES

COMPOUND	Result ug/kg	Detection Limit ug/kg
chloromethane	ND	50
bromomethane	ND	50
vinyl chloride	ND	50
chloroethane	ND	50
methylene chloride	ND	25
trichlorofluoromethane	ND	25
1,1-dichloroethene	ND	25
1,1-dichloroethane	ND	25
trans-1,2-dichloroethene	ND	25
chloroform	ND	25
1,2-dichloroethane	ND	25
1,1,1-trichloroethane	ND	25
carbon tetrachloride	ND	25
bromochloromethane	ND	25
1,2-dichloropropane	ND	25
cis-1,3-dichloropropene	ND	25
trichloroethylene	ND	25
dibromochloromethane	ND	25
1,1,2-trichloroethane	ND	25
benzene	ND	25
trans-1,3-dichloropropene	ND	25
2-chloroethylvinyl ether	ND	50
bromoform	ND	25
1,1,2,2-tetrachloroethane	ND	25
tetrachloroethene	ND	25
toluene	ND	25
chlorobenzene	ND	25
ethyl benzene	ND	25

Non-Priority Hazardous Pollutant Substances List Compounds

acetone	ND	50
carbon disulfide	ND	25
2-butanone	ND	50
vinyl acetate	ND	50
2-hexanone	ND	50
4-methyl-2-pentanone	ND	50
styrene	ND	25
total xylenes	ND	25

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 16096-3
CLIENT: AQUA RESOURCES
JOB #: 87157.5
SAMPLE ID: B5-3

DATE RECEIVED: 11/01/88
DATE EXTRACTED: 11/01/88
DATE ANALYZED: 11/02/88
DATE REPORTED: 11/02/88

EPA METHOD 8240: VOLATILE ORGANICS IN SOILS & WASTES

COMPOUND	Result ug/kg	Detection Limit ug/kg
chloromethane	ND	50
bromomethane	ND	50
vinyl chloride	ND	50
chloroethane	ND	50
methylene chloride	ND	25
trichlorofluoromethane	ND	25
1,1-dichloroethene	ND	25
1,1-dichloroethane	ND	25
trans-1,2-dichloroethene	ND	25
chloroform	ND	25
1,2-dichloroethane	ND	25
1,1,1-trichloroethane	ND	25
carbon tetrachloride	ND	25
bromochloromethane	ND	25
1,2-dichloropropane	ND	25
cis-1,3-dichloropropene	ND	25
trichloroethylene	ND	25
dibromochloromethane	ND	25
1,1,2-trichloroethane	ND	25
benzene	ND	25
trans-1,3-dichloropropene	ND	25
2-chloroethylvinyl ether	ND	50
bromoform	ND	25
1,1,2,2-tetrachloroethane	ND	25
tetrachloroethene	ND	25
toluene	ND	25
chlorobenzene	ND	25
ethyl benzene	ND	25
Non-Priority Hazardous Pollutant Substances List Compounds		
acetone	ND	50
carbon disulfide	ND	25
2-butanone	ND	50
vinyl acetate	ND	50
2-hexanone	ND	50
4-methyl-2-pentanone	ND	50
styrene	ND	25
total xylenes	ND	25

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (415) 486-0900

LABORATORY NUMBER: 16187
CLIENT: AQUA RESOURCES
JOB #:87157.5

DATE RECEIVED: 11/11/88
DATE ANALYZED: 11/14/88
DATE REPORTED: 11/14/88

Results of Analysis for Petroleum Hydrocarbons/Oil & Grease

Method References: O&G: Oil and Grease, SMWW 503A
TPH: Total Petroleum Hydrocarbons, EPA 3550/8015

LAB ID	CLIENT ID	GASOLINE (mg/Kg)	KEROSINE (mg/Kg)	DIESEL (mg/Kg)	OTHER (mg/Kg)	O&G (mg/Kg)
16187-1	CVS #1	ND(10)	ND(10)	ND(10)	160*	16,800
16187-2	CVS #2	ND(10)	ND(10)	ND(10)	180*	1,800
16187-3	CVS #3	ND(10)	ND(10)	ND(10)	ND(10)	N/R **
16187-4	CVS #4	ND(10)	ND(10)	ND(10)	ND(10)	N/R
16187-5	CVS #5	ND(10)	ND(10)	ND(10)	840*	N/R **

*QUANTITATION BASED ON LARGEST PEAKS WITHIN THE C12-C24 BOILING RANGE.

**CONTAINS OIL & GREASE NOT QUANTIFIABLE BY GC.

N/R = Not Requested.

ND = Not Detected; Limit of detection indicated in parentheses.

QA/QC SUMMARY

	TPH
Duplicate: Relative % Difference	23
Spike: % Recovery	109

LABORATORY DIRECTOR

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 16187-1
CLIENT: AQUA RESOURCES
JOB #: 87157.5
SAMPLE ID: CVS #1

DATE RECEIVED: 11/11/88
DATE EXTRACTED: 11/11/88
DATE ANALYZED: 11/11/88
DATE REPORTED: 11/14/88

EPA METHOD 8240: VOLATILE ORGANICS IN SOILS & WASTES

COMPOUND	Result ug/kg	Detection Limit ug/kg
chloromethane	ND	50
bromomethane	ND	50
vinyl chloride	ND	50
chloroethane	ND	50
methylene chloride	ND	25
trichlorofluoromethane	ND	25
1,1-dichloroethene	ND	25
1,1-dichloroethane	ND	25
trans-1,2-dichloroethene	ND	25
chloroform	ND	25
1,2-dichloroethane	ND	25
1,1,1-trichloroethane	ND	25
carbon tetrachloride	ND	25
bromochloromethane	ND	25
1,2-dichloropropane	ND	25
cis-1,3-dichloropropene	ND	25
trichloroethylene	ND	25
dibromochloromethane	ND	25
1,1,2-trichloroethane	ND	25
benzene	ND	25
trans-1,3-dichloropropene	ND	25
2-chloroethylvinyl ether	ND	50
bromoform	ND	25
1,1,2,2-tetrachloroethane	ND	25
tetrachloroethene	ND	25
toluene	ND	25
chlorobenzene	ND	25
ethyl benzene	ND	25
Non-Priority Hazardous Pollutant Substances List Compounds		
acetone	ND	50
carbon disulfide	ND	25
2-butanone	ND	50
vinyl acetate	ND	50
2-hexanone	ND	50
4-methyl-2-pentanone	ND	50
styrene	ND	25
total xylenes	ND	25
QA/QC SUMMARY: SURROGATE RECOVERIES		
1,2-Dichloroethane-d4	95%	
Toluene-d8	109%	
Bromofluorobenzene	102%	

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 16187-2
CLIENT: AQUA RESOURCES
JOB #: 87157.5
SAMPLE ID: CVS #2

DATE RECEIVED: 11/11/88
DATE EXTRACTED: 11/11/88
DATE ANALYZED: 11/11/88
DATE REPORTED: 11/14/88

EPA METHOD 8240: VOLATILE ORGANICS IN SOILS & WASTES

COMPOUND	Result ug/kg	Detection Limit ug/kg
chloromethane	ND	50
bromomethane	ND	50
vinyl chloride	ND	50
chloroethane	ND	50
methylene chloride	ND	25
trichlorofluoromethane	ND	25
1,1-dichloroethene	ND	25
1,1-dichloroethane	ND	25
trans-1,2-dichloroethene	ND	25
chloroform	ND	25
1,2-dichloroethane	ND	25
1,1,1-trichloroethane	ND	25
carbon tetrachloride	ND	25
bromochloromethane	ND	25
1,2-dichloropropane	ND	25
cis-1,3-dichloropropene	ND	25
trichloroethylene	ND	25
dibromochloromethane	ND	25
1,1,2-trichloroethane	ND	25
benzene	ND	25
trans-1,3-dichloropropene	ND	25
2-chloroethylvinyl ether	ND	50
bromoform	ND	25
1,1,2,2-tetrachloroethane	ND	25
tetrachloroethene	ND	25
toluene	ND	25
chlorobenzene	ND	25
ethyl benzene	ND	25

Non-Priority Hazardous Pollutant Substances List Compounds

acetone	ND	50
carbon disulfide	ND	25
2-butanone	ND	50
vinyl acetate	ND	50
2-hexanone	ND	50
4-methyl-2-pentanone	ND	50
styrene	ND	25
total xylenes	ND	25

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	102%
Toluene-d8	101%
Bromofluorobenzene	97%

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (415) 486-0900

LAB NUMBER: 16208
CLIENT: AQUA RESOURCES
PROJECT #: 87157.5

DATE RECEIVED: 11-14-88
DATE ANALYZED: 11-15-88
DATE REPORTED: 11-15-88

Method Reference: O&G: Oil and Grease, SMWW 503 A

LAB ID	CLIENT ID	O&G (mg/Kg)
16208-1	STOCKPILE B (C-4)	6,200

AQUA RESOURCES, INC.
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JOB #:
FILE:

Steven Brunner
LABORATORY DIRECTOR

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (415) 486-0900

LABORATORY NUMBER: 16221
CLIENT: AQUA RESOURCES
JOB ID: 87157.5

DATE RECEIVED: 11/15/88
DATE ANALYZED: 11/16/88
DATE REPORTED: 11/16/88

C&T ID	SAMPLE ID	OIL & GREASE, mg/Kg SMWW 503A
16221-1	CVS 6	8,400
16221-2	CVS 7	4,100
16221-3	CVS 8	7,500
16221-4	CVS 9	8,000
16221-5	CVS 10	7,800
16221-6	CVS 11	17,000
16221-7	CVS 12	1,900
16221-8	CVS 13	700
16221-9	CVS 14	12,700
16221-10	CVS 15	13,400
16221-11	CVS 16	ND(50)
16221-12	CVS 17	350

ND = NONE DETECTED. LIMIT OF DETECTION IS INDICATED IN PARENTHESES.

LABORATORY DIRECTOR

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (415) 486-0900

LABORATORY NUMBER: 16232
CLIENT: AQUA RESOURCES
JOB #: 87157.5

DATE RECEIVED: 11/16/88
DATE ANALYZED: 11/17/88
DATE REPORTED: 11/18/88

Results of Analysis for Petroleum Hydrocarbons/Oil & Grease

Method References: O&G: Oil and Grease, SMWW 503A
TPH: Total Petroleum Hydrocarbons, EPA 3550/8015

LAB ID	CLIENT ID	GASOLINE (mg/Kg)	KEROSINE (mg/Kg)	DIESEL (mg/Kg)	OTHER (mg/Kg)	O&G (mg/Kg)
16232-1	CVS #18	ND(10)	ND(10)	ND(10)	970*	4,200
16232-2	CVS #19	ND(10)	ND(10)	ND(10)	ND(10)	60
16232-3	CVS #20	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)

* Fingerprint pattern does not match Hydrocarbon Standards. Quantitation based on largest peaks within C12-C24 boiling range.

ND = Not Detected; Limit of detection indicated in parentheses.

QA/QC SUMMARY

	TPH
Duplicate: Relative % Difference	14
Spike: % Recovery	104

LABORATORY DIRECTOR

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (415) 486-0900

LABORATORY NUMBER: 16175
CLIENT: AQUA RESOURCES, INC.
JOB #:87157-005/SUPERBLOCK

DATE RECEIVED: 11-10-88
DATE ANALYZED: 11-11-88
DATE REPORTED: 11-11-88

Results of Analysis for Petroleum Hydrocarbons/Oil & Grease

Method References: O&G: Oil and Grease, SMWW 503A
TPH: Total Petroleum Hydrocarbons, EPA 3550/8015

LAB ID	CLIENT ID	GASOLINE (mg/Kg)	KEROSINE (mg/Kg)	DIESEL (mg/Kg)	OTHER (mg/Kg)	O&G (mg/Kg)
16175-1	CORE #1	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)
16175-2	CORE #5	ND(10)	ND(10)	650	ND(10)	12,000

ND = Not Detected; Limit of detection indicated in parentheses.

QA/QC SUMMARY

	TPH
Duplicate: Relative % Difference	3
Spike: % Recovery	103

LABORATORY DIRECTOR

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (415) 486-0900

LAB NUMBER: 16125-COMPOSITE
CLIENT: AQUA RESOURCES
JOB #: 87157.5
CLIENT ID: STOCKPILE (#1-#5)

DATE RECEIVED: 11-04-88
DATE ANALYZED: 11-07-88
DATE REPORTED: 11-07-88

Method Reference: O&G: Oil and Grease, SMWW 503 A

LAB ID	CLIENT ID	O&G (mg/Kg)
16125-12-16	STOCKPILE #1-#5	4,700

ND = Not Detected; Limit of detection indicated in parentheses.

LABORATORY DIRECTOR

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (415) 486-0900

LABORATORY NUMBER: 16243
CLIENT: AQUA RESOURCES
JOB #: 87157.5

DATE RECEIVED: 11/17/88
DATE ANALYZED: 11/18/88
DATE REPORTED: 11/21/88

Results of Analysis for Petroleum Hydrocarbons/Oil & Grease

Method References: O&G: Oil and Grease, SMWW 503A
TPH: Total Petroleum Hydrocarbons, EPA 3550/8015

LAB ID	CLIENT ID	GASOLINE (mg/Kg)	KEROSINE (mg/Kg)	DIESEL (mg/Kg)	OTHER (mg/Kg)	O&G (mg/Kg)
16243/1-5	COMPOSITE 1: STOCKPILE C 1-5	ND(10)	ND(10)	ND(10)	64	7,600
16243/6-10	COMPOSITE 2: STOCKPLILE C 6-10	ND(10)	ND(10)	ND(10)	95	9,000
16243/11-15	COMPOSITE 3: STOCKPILE C 11-15	ND(10)	ND(10)	ND(10)	39	8,300
16243/16-20	COMPOSITE 4: STOCKPILE C 16-20	ND(10)	ND(10)	ND(10)	33	8,700
16243-21	CVS 21	ND(10)	ND(10)	ND(10)	ND(10)	250
16243-22	CVS 22	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)
16243-23	CVS 23	ND(10)	ND(10)	ND(10)	ND(10)	1,000
16243-24	CVS 24	ND(10)	ND(10)	ND(10)	ND(10)	ND(50)

* Fingerprint pattern does not match Hydrocarbon Standard. Quantitation based on largest peaks within C12-C24 boiling range.

ND = Not Detected; Limit of detection indicated in parentheses.

QA/QC SUMMARY

	TPH
Duplicate: Relative % Difference	15
Spike: % Recovery	92

LABORATORY DIRECTOR

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 16243/1-5
CLIENT: AQUA RESOURCES
JOB #: 87157.5
COMPOSITE ID: STOCKPILE C 1-5

DATE RECEIVED: 11/17/88
DATE ANALYZED: 11/22/88
DATE REPORTED: 11/23/88

Title 22 Metals in Soils & Wastes
Extraction by CAC Section 66700 Waste Extraction Test

METAL	RESULT mg/L	DETECTION LIMIT mg/L	METHOD
Antimony	ND	0.1	EPA 6010
Arsenic	ND	0.5	EPA 6010
Barium	4.2	0.01	EPA 6010
Beryllium	ND	0.01	EPA 6010
Cadmium	ND	0.01	EPA 6010
Chromium (total)	0.17	0.01	EPA 6010
Cobalt	0.49	0.01	EPA 6010
Copper	0.55	0.01	EPA 6010
Lead	1.1	0.05	EPA 6010
Mercury	ND	0.01	EPA 7470
Molybdenum	ND	0.01	EPA 6010
Nickel	0.99	0.01	EPA 6010
Selenium	ND	0.1	EPA 6010
Silver	ND	0.02	EPA 6010
Thallium	ND	0.05	EPA 6010
Vanadium	0.28	0.02	EPA 6010
Zinc	1.8	0.01	EPA 6010

ND = None Detected

QA/QC SUMMARY

	%RPD	%RECOVERY		%RPD	%RECOVERY
Antimony	<1	101	Mercury	21	94
Arsenic	<1	101	Molybdenum	2	102
Barium	<1	102	Nickel	<1	102
Beryllium	<1	105	Selenium	3	94
Cadmium	1	98	Silver	<1	100
Chromium	<1	104	Thallium	1	102
Cobalt	<1	104	Vanadium	1	99
Copper	<1	99	Zinc	<1	101
Lead	1	100			

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 16243/6-10
CLIENT: AQUA RESOURCES
JOB #: 87157.5
COMPOSITE ID: STOCKPILE C 6-10

DATE RECEIVED: 11/17/88
DATE ANALYZED: 11/22/88
DATE REPORTED: 11/23/88

Title 22 Metals in Soils & Wastes
Extraction by CAC Section 66700 Waste Extraction Test

METAL	RESULT mg/L	DETECTION LIMIT mg/L	METHOD
Antimony	ND	0.1	EPA 6010
Arsenic	ND	0.5	EPA 6010
Barium	4.3	0.01	EPA 6010
Beryllium	ND	0.01	EPA 6010
Cadmium	0.02	0.01	EPA 6010
Chromium (total)	0.17	0.01	EPA 6010
Cobalt	0.51	0.01	EPA 6010
Copper	0.54	0.01	EPA 6010
Lead	1.0	0.05	EPA 6010
Mercury	ND	0.01	EPA 7470
Molybdenum	ND	0.01	EPA 6010
Nickel	1.0	0.01	EPA 6010
Selenium	ND	0.1	EPA 6010
Silver	ND	0.02	EPA 6010
Thallium	ND	0.05	EPA 6010
Vanadium	0.28	0.02	EPA 6010
Zinc	2.1	0.01	EPA 6010

ND = None Detected

QA/QC SUMMARY

	%RPD	%RECOVERY		%RPD	%RECOVERY
Antimony	<1	101	Mercury	21	94
Arsenic	<1	101	Molybdenum	2	102
Barium	<1	102	Nickel	<1	102
Beryllium	<1	105	Selenium	3	94
Cadmium	1	98	Silver	<1	100
Chromium	<1	104	Thallium	1	102
Cobalt	<1	104	Vanadium	1	99
Copper	<1	99	Zinc	<1	101
Lead	1	100			

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 16243/11-15
CLIENT: AQUA RESOURCES
JOB #: 87157.5
COMPOSITE ID: STOCKPILE C 11-15

DATE RECEIVED: 11/17/88
DATE ANALYZED: 11/22/88
DATE REPORTED: 11/23/88

Title 22 Metals in Soils & Wastes
Extraction by CAC Section 66700 Waste Extraction Test

METAL	RESULT mg/L	DETECTION LIMIT mg/L	METHOD
Antimony	ND	0.1	EPA 6010
Arsenic	ND	0.5	EPA 6010
Barium	4.1	0.01	EPA 6010
Beryllium	ND	0.01	EPA 6010
Cadmium	ND	0.01	EPA 6010
Chromium (total)	0.36	0.01	EPA 6010
Cobalt	0.49	0.01	EPA 6010
Copper	0.66	0.01	EPA 6010
Lead	0.99	0.05	EPA 6010
Mercury	ND	0.01	EPA 7470
Molybdenum	ND	0.01	EPA 6010
Nickel	1.2	0.01	EPA 6010
Selenium	ND	0.1	EPA 6010
Silver	ND	0.02	EPA 6010
Thallium	ND	0.05	EPA 6010
Vanadium	0.29	0.02	EPA 6010
Zinc	2.5	0.01	EPA 6010

ND = None Detected

QA/QC SUMMARY

	%RPD	%RECOVERY		%RPD	%RECOVERY
Antimony	<1	101	Mercury	21	94
Arsenic	<1	101	Molybdenum	2	102
Barium	<1	102	Nickel	<1	102
Beryllium	<1	105	Selenium	3	94
Cadmium	1	98	Silver	<1	100
Chromium	<1	104	Thallium	1	102
Cobalt	<1	104	Vanadium	1	99
Copper	<1	99	Zinc	<1	101
Lead	1	100			

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 16243/16-20
CLIENT: AQUA RESOURCES
JOB #: 87157.5
COMPOSITE ID: STOCKPILE C 16-20

DATE RECEIVED: 11/17/88
DATE ANALYZED: 11/22/88
DATE REPORTED: 11/23/88

Title 22 Metals in Soils & Wastes
Extraction by CAC Section 66700 Waste Extraction Test

METAL	RESULT mg/L	DETECTION LIMIT mg/L	METHOD
Antimony	0.16	0.1	EPA 6010
Arsenic	ND	0.5	EPA 6010
Barium	3.8	0.01	EPA 6010
Beryllium	ND	0.01	EPA 6010
Cadmium	ND	0.01	EPA 6010
Chromium (total)	0.19	0.01	EPA 6010
Cobalt	0.50	0.01	EPA 6010
Copper	0.58	0.01	EPA 6010
Lead	1.7	0.05	EPA 6010
Mercury	ND	0.01	EPA 7470
Molybdenum	ND	0.01	EPA 6010
Nickel	1.0	0.01	EPA 6010
Selenium	ND	0.1	EPA 6010
Silver	ND	0.02	EPA 6010
Thallium	ND	0.05	EPA 6010
Vanadium	0.28	0.02	EPA 6010
Zinc	2.3	0.01	EPA 6010

ND = None Detected

QA/QC SUMMARY

	%RPD	%RECOVERY		%RPD	%RECOVERY
Antimony	<1	101	Mercury	21	94
Arsenic	<1	101	Molybdenum	2	102
Barium	<1	102	Nickel	<1	102
Beryllium	<1	105	Selenium	3	94
Cadmium	1	98	Silver	<1	100
Chromium	<1	104	Thallium	1	102
Cobalt	<1	104	Vanadium	1	99
Copper	<1	99	Zinc	<1	101
Lead	1	100			

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 16243/1-5
CLIENT: AQUA RESOURCES
JOB #: 87157.5
COMPOSITE ID: STOCKPILE C, 1-5

DATE RECEIVED: 11/17/88
DATE EXTRACTED: 11/18/88
DATE ANALYZED: 11/19/88
DATE REPORTED: 11/21/88

EPA 8270: Base/Neutral and Acid Extractables in Soils & Wastes
Extraction Method: EPA 3580 - Waste Dilution

ACID COMPOUNDS	RESULT mg/kg	LOD mg/kg
Phenol	ND	25
2-Chlorophenol	ND	25
2-Nitrophenol	ND	125
2,4-Dimethylphenol	ND	25
2,4-Dichlorophenol	ND	25
4-Chloro-3-methylphenol	ND	50
2,4,6-Trichlorophenol	ND	25
2,4-Dinitrophenol	ND	125
4-Nitrophenol	ND	125
2-Methyl-4,6-dinitrophenol	ND	125
Pentachlorophenol	ND	125
BASE/NEUTRAL COMPOUNDS		
Bis(2-chloroethyl)ether	ND	25
1,3-Dichlorobenzene	ND	25
1,4-Dichlorobenzene	ND	25
1,2-Dichlorobenzene	ND	25
Bis(2-chloroisopropyl)ether	ND	25
N-nitrosodi-n-propylamine	ND	25
Hexachloroethane	ND	25
Nitrobenzene	ND	25
Isophorone	ND	25
Bis(2-chloroethoxy)methane	ND	25
1,2,4-Trichlorobenzene	ND	25
Naphthalene	ND	25
Hexachlorobutadiene	ND	25
Hexachlorocyclopentadiene	ND	25
2-Chloronaphthalene	ND	25
Dimethyl phthalate	ND	25
Acenaphthylene	ND	25
2,6-Dinitrotoluene	ND	25
Acenaphthene	ND	25
2,4-Dinitrotoluene	ND	25
Fluorene	ND	25
Diethyl phthalate	ND	25
4-Chlorophenylphenyl ether	ND	25
N-Nitrosodiphenylamine	ND	25
1,2-Diphenylhydrazine	ND	25

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 16243/1-5
COMPOSITE ID: STOCKPILE C, 1-5

EPA 8270

BASE/NEUTRAL COMPOUNDS	RESULT mg/kg	LOD mg/kg
4-Bromophenylphenyl ether	ND	25
Hexachlorobenzene	ND	25
Phenanthrene	ND	25
Anthracene	ND	25
Dibutylphthalate	ND	25
Fluoranthene	ND	25
Benzidine	ND	125
Pyrene	ND	25
Butylbenzylphthalate	ND	25
Benzo (a) anthracene	ND	25
3,3'-Dichlorobenzidine	ND	125
Chrysene	ND	25
Bis (2-ethylhexyl)phthalate	ND	25
Di-n-octyl phthalate	ND	25
Benzo (b) fluoranthene	ND	25
Benzo (k) fluoranthene	ND	25
Benzo (a) pyrene	ND	25
Indeno (1,2,3-cd) pyrene	ND	125
Dibenzo (a,h) anthracene	ND	125
Benzo (ghi) perylene	ND	125
HSL COMPOUNDS		
Benzoic Acid	ND	250
2-Methylphenol	ND	25
4-Methylphenol	ND	25
2,4,5-Trichlorophenol	ND	25
Aniline	ND	25
Benzyl Alcohol	ND	125
4-Chloroaniline	ND	50
2-Methylnaphthalene	ND	25
2-Nitroanline	ND	125
3-Nitroaniline	ND	125
Dibenzofuran	ND	25
4-Nitroaniline	ND	125

ND = None Detected, Limit of Detection (LOD) appears in right column

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 16243/6-10
CLIENT: AQUA RESOURCES
JOB #: 87157.5
COMPOSITE ID: STOCKPILE C, 6-10

DATE RECEIVED: 11/17/88
DATE EXTRACTED: 11/18/88
DATE ANALYZED: 11/19/88
DATE REPORTED: 11/21/88

EPA 8270: Base/Neutral and Acid Extractables in Soils & Wastes
Extraction Method: EPA 3580 Waste Dilution

ACID COMPOUNDS	RESULT mg/kg	LOD mg/kg
Phenol	ND	25
2-Chlorophenol	ND	25
2-Nitrophenol	ND	125
2,4-Dimethylphenol	ND	25
2,4-Dichlorophenol	ND	25
4-Chloro-3-methylphenol	ND	50
2,4,6-Trichlorophenol	ND	25
2,4-Dinitrophenol	ND	125
4-Nitrophenol	ND	125
2-Methyl-4,6-dinitrophenol	ND	125
Pentachlorophenol	ND	125
BASE/NEUTRAL COMPOUNDS		
Bis(2-chloroethyl)ether	ND	25
1,3-Dichlorobenzene	ND	25
1,4-Dichlorobenzene	ND	25
1,2-Dichlorobenzene	ND	25
Bis(2-chloroisopropyl)ether	ND	25
N-nitrosodi-n-propylamine	ND	25
Hexachloroethane	ND	25
Nitrobenzene	ND	25
Isophorone	ND	25
Bis(2-chloroethoxy)methane	ND	25
1,2,4-Trichlorobenzene	ND	25
Naphthalene	ND	25
Hexachlorobutadiene	ND	25
Hexachlorocyclopentadiene	ND	25
2-Chloronaphthalene	ND	25
Dimethyl phthalate	ND	25
Acenaphthylene	ND	25
2,6-Dinitrotoluene	ND	25
Acenaphthene	ND	25
2,4-Dinitrotoluene	ND	25
Fluorene	ND	25
Diethyl phthalate	ND	25
4-Chlorophenylphenyl ether	ND	25
N-Nitrosodiphenylamine	ND	25
1,2-Diphenylhydrazine	ND	25

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 16243/6-10
COMPOSITE ID: STOCKPILE C, 6-10

BASE/NEUTRAL COMPOUNDS	RESULT mg/kg	LOD mg/kg
4-Bromophenylphenyl ether	ND	25
Hexachlorobenzene	ND	25
Phenanthrene	ND	25
Anthracene	ND	25
Dibutylphthalate	ND	25
Fluoranthene	ND	25
Benzidine	ND	125
Pyrene	ND	25
Butylbenzylphthalate	ND	25
Benzo (a) anthracene	ND	25
3,3'-Dichlorobenzidine	ND	125
Chrysene	ND	25
Bis (2-ethylhexyl)phthalate	ND	25
Di-n-octyl phthalate	ND	25
Benzo (b) fluoranthene	ND	25
Benzo (k) fluoranthene	ND	25
Benzo (a) pyrene	ND	25
Indeno (1,2,3-cd) pyrene	ND	125
Dibenzo (a,h) anthracene	ND	125
Benzo (ghi) perylene	ND	125
HSL COMPOUNDS		
Benzoic Acid	ND	250
2-Methylphenol	ND	25
4-Methylphenol	ND	25
2,4,5-Trichlorophenol	ND	25
Aniline	ND	25
Benzyl Alcohol	ND	125
4-Chloroaniline	ND	50
2-Methylnaphthalene	ND	25
2-Nitroanline	ND	125
3-Nitroaniline	ND	125
Dibenzofuran	ND	25
4-Nitroaniline	ND	125

ND = None Detected, Limit of Detection (LOD) appears in right column

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 16243/11-15
CLIENT: AQUA RESOURCES
JOB #: 87157.5
COMPOSITE ID: STOCKPILE C, 11-15

DATE RECEIVED: 11/17/88
DATE EXTRACTED: 11/18/88
DATE ANALYZED: 11/19/88
DATE REPORTED: 11/21/88

EPA 8270: Base/Neutral and Acid Extractables in Soils & Wastes
Extraction Method: EPA 3580 - Waste Dilution

ACID COMPOUNDS	RESULT mg/kg	LOD mg/kg
Phenol	ND	25
2-Chlorophenol	ND	25
2-Nitrophenol	ND	125
2,4-Dimethylphenol	ND	25
2,4-Dichlorophenol	ND	25
4-Chloro-3-methylphenol	ND	50
2,4,6-Trichlorophenol	ND	25
2,4-Dinitrophenol	ND	125
4-Nitrophenol	ND	125
2-Methyl-4,6-dinitrophenol	ND	125
Pentachlorophenol	ND	125
BASE/NEUTRAL COMPOUNDS		
Bis(2-chloroethyl)ether	ND	25
1,3-Dichlorobenzene	ND	25
1,4-Dichlorobenzene	ND	25
1,2-Dichlorobenzene	ND	25
Bis(2-chloroisopropyl)ether	ND	25
N-nitrosodi-n-propylamine	ND	25
Hexachloroethane	ND	25
Nitrobenzene	ND	25
Isophorone	ND	25
Bis(2-chloroethoxy)methane	ND	25
1,2,4-Trichlorobenzene	ND	25
Naphthalene	ND	25
Hexachlorobutadiene	ND	25
Hexachlorocyclopentadiene	ND	25
2-Chloronaphthalene	ND	25
Dimethyl phthalate	ND	25
Acenaphthylene	ND	25
2,6-Dinitrotoluene	ND	25
Acenaphthene	ND	25
2,4-Dinitrotoluene	ND	25
Fluorene	ND	25
Diethyl phthalate	ND	25
4-Chlorophenylphenyl ether	ND	25
N-Nitrosodiphenylamine	ND	25
1,2-Diphenylhydrazine	ND	25

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 16243/11-15
COMPOSITE ID: STOCKPILE C, 11-15

BASE/NEUTRAL COMPOUNDS	RESULT mg/kg	LOD mg/kg
4-Bromophenylphenyl ether	ND	25
Hexachlorobenzene	ND	25
Phenanthrene	ND	25
Anthracene	ND	25
Dibutylphthalate	ND	25
Fluoranthene	ND	25
Benzidine	ND	125
Pyrene	ND	25
Butylbenzylphthalate	ND	25
Benzo (a) anthracene	ND	25
3,3'-Dichlorobenzidine	ND	125
Chrysene	ND	25
Bis (2-ethylhexyl)phthalate	ND	25
Di-n-octyl phthalate	ND	25
Benzo (b) fluoranthene	ND	25
Benzo (k) fluoranthene	ND	25
Benzo (a) pyrene	ND	25
Indeno (1,2,3-cd) pyrene	ND	125
Dibenzo (a,h) anthracene	ND	125
Benzo (ghi) perylene	ND	125
HSL COMPOUNDS		
Benzoic Acid	ND	250
2-Methylphenol	ND	25
4-Methylphenol	ND	25
2,4,5-Trichlorophenol	ND	25
Aniline	ND	25
Benzyl Alcohol	ND	125
4-Chloroaniline	ND	50
2-Methylnaphthalene	ND	25
2-Nitroanline	ND	125
3-Nitroaniline	ND	125
Dibenzofuran	ND	25
4-Nitroaniline	ND	125

ND = None Detected, Limit of Detection (LOD) appears in right column

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 16243/16-20
CLIENT: AQUA RESOURCES
JOB #: 87157.5
COMPOSITE ID: STOCKPILE C, 16-20

DATE RECEIVED: 11/17/88
DATE EXTRACTED: 11/18/88
DATE ANALYZED: 11/19/88
DATE REPORTED: 11/21/88

EPA 8270: Base/Neutral and Acid Extractables in Soils & Wastes
Extraction Method: EPA 3580 - Waste Dilution

ACID COMPOUNDS	RESULT mg/kg	LOD mg/kg
Phenol	ND	25
2-Chlorophenol	ND	25
2-Nitrophenol	ND	125
2,4-Dimethylphenol	ND	25
2,4-Dichlorophenol	ND	25
4-Chloro-3-methylphenol	ND	50
2,4,6-Trichlorophenol	ND	25
2,4-Dinitrophenol	ND	125
4-Nitrophenol	ND	125
2-Methyl-4,6-dinitrophenol	ND	125
Pentachlorophenol	ND	125
BASE/NEUTRAL COMPOUNDS		
Bis(2-chloroethyl)ether	ND	25
1,3-Dichlorobenzene	ND	25
1,4-Dichlorobenzene	ND	25
1,2-Dichlorobenzene	ND	25
Bis(2-chloroisopropyl)ether	ND	25
N-nitrosodi-n-propylamine	ND	25
Hexachloroethane	ND	25
Nitrobenzene	ND	25
Isophorone	ND	25
Bis(2-chloroethoxy)methane	ND	25
1,2,4-Trichlorobenzene	ND	25
Naphthalene	ND	25
Hexachlorobutadiene	ND	25
Hexachlorocyclopentadiene	ND	25
2-Chloronaphthalene	ND	25
Dimethyl phthalate	ND	25
Acenaphthylene	ND	25
2,6-Dinitrotoluene	ND	25
Acenaphthene	ND	25
2,4-Dinitrotoluene	ND	25
Fluorene	ND	25
Diethyl phthalate	ND	25
4-Chlorophenylphenyl ether	ND	25
N-Nitrosodiphenylamine	ND	25
1,2-Diphenylhydrazine	ND	25

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 16243/16-20
COMPOSITE ID: STOCKPILE C, 16-20

BASE/NEUTRAL COMPOUNDS	RESULT mg/kg	LOD mg/kg
4-Bromophenylphenyl ether	ND	25
Hexachlorobenzene	ND	25
Phenanthrene	ND	25
Anthracene	ND	25
Dibutylphthalate	ND	25
Fluoranthene	ND	25
Benzidine	ND	125
Pyrene	ND	25
Butylbenzylphthalate	ND	25
Benzo (a) anthracene	ND	25
3,3'-Dichlorobenzidine	ND	125
Chrysene	ND	25
Bis (2-ethylhexyl)phthalate	ND	25
Di-n-octyl phthalate	ND	25
Benzo (b) fluoranthene	ND	25
Benzo (k) fluoranthene	ND	25
Benzo (a) pyrene	ND	25
Indeno (1,2,3-cd) pyrene	ND	125
Dibenzo (a,h) anthracene	ND	125
Benzo (ghi) perylene	ND	125
HSL COMPOUNDS		
Benzoic Acid	ND	250
2-Methylphenol	ND	25
4-Methylphenol	ND	25
2,4,5-Trichlorophenol	ND	25
Aniline	ND	25
Benzyl Alcohol	ND	125
4-Chloroaniline	ND	50
2-Methylnaphthalene	ND	25
2-Nitroanline	ND	125
3-Nitroaniline	ND	125
Dibenzofuran	ND	25
4-Nitroaniline	ND	125

ND = None Detected, Limit of Detection (LOD) appears in right column