ANANIA GEOLOGIC ENGINEERING™

April 30, 1990

Mrs. Barbara B. Hagen
East Bay Municipal Utility District
Source Control Division, #59
Post Office Box 24055
Oakland, California 94623

RE: Wastewater Monthly Report/Sample Data for the Groundwater Treatment System at the Carnation Dairy Facility in Oakland

AGE Project Numbers: 004-88-059, 004-89-093, 004-89-096

Account No. 033-00572

Dear Mrs. Hagen:

Enclosed are the laboratory analyses for the groundwater treatment system for the period of March 19, 1990 through April 19, 1990. The analyses were performed by Curtis and Tompkins, Ltd., Analytical Laboratories. The sample number 5773 refers to the influent wastewater stream, sample number 5771 refers to the effluent stream from carbon column 1, and sample number 5772 refers to the effluent stream from carbon column 2. The samples were analyzed for aromatic volatile organics (EPA 8020) as per the permit requirements. The samples were also analyzed for volatile organics (EPA 8240), semivolatile organics (EPA 8270), and PCB's (EPA 8080).

The total amount discharged to the sewer is 456,579 gallons. The monthly discharge total is 232,157 gallons.

If you have any questions concerning this information, please feel free to contact Jim Wallace or myself at (916) 631-0154.

Sincerely,

ANANIA GEOLOGIC ENGINEERING

Todd M. Galati
Project Manager

Jim Wallace
Senior Project Manager

cc: Mr. Merle Wood, Carnation
Mr. Jim Person, Carnation
Ms. Katherine Chesick, Alameda County Health Department

11330 Sunrise Park Drive, Suite C Rancho Cordova, CA 95742 Phone: 916-631-0154 Fax: 916-631-0528
P.O. Box 161148 Sacramento, CA 95816

COC # 3161 Invoice # 100124

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

DATE RECEIVED: 03/19/90
DATE REPORTED: 04/02/90

Data Entry/File
Entr'd _____
Date _____
Distribution
RM GB
IG
KJA
MLS
JBW

LAB NUMBER: 19930

CLIENT: ANANIA GEOLOGIC ENGINEERING

REPORT ON: 3 WATER SAMPLES

PROJECT #: 004-88-059

RESULTS: SEE ATTACHED

QA/QC Approval

Final Approval

COC # 3161

RECEIVED APR 11 1990

Curtis & Tompkins, Ltd

LABORATORY NUMBER: 19930-1
CLIENT: ANANIA GEOLOGIC ENGINEERING
PROJECT: 004-88-059
SAMPLE ID: 5771

DATE RECEIVED: 03/19/90
DATE ANALYZED: 03/27/90
DATE REPORTED: 04/09/90

EPA 8020: Volatile Aromatic Hydrocarbons in Aqueous Solutions
Extraction Method: EPA 5030 - Purge & Trap

COMPOUND	Result ug/L	LOD ug/L
Benzene	ND	1.0
Toluene	ND	1.0
Ethyl Benzene	ND	1.0
Total Xylenes	ND	1.0
Chlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0
1,3-Dichlorobenzene	ND	1.0
1,2-Dichlorobenzene	ND	1.0

ND = None Detected. Limit of detection (LOD) in last column.

QA/QC Summary:

Duplicate: Relative % Difference	1
Average Spike Recovery %	93

Data Entry/File
Entry _____
Date _____
Distribution:
KJA RM
MLS
JBW
GB
TG

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 19930-2
CLIENT: ANANIA GEOLOGIC ENGINEERING
PROJECT: 004-88-059
SAMPLE ID: 5772

DATE RECEIVED: 03/19/90
DATE ANALYZED: 03/27/90
DATE REPORTED: 04/09/90

EPA 8020: Volatile Aromatic Hydrocarbons in Aqueous Solutions
Extraction Method: EPA 5030 - Purge & Trap

COMPOUND	Result ug/L	LOD ug/L
Benzene	ND	1.0
Toluene	ND	1.0
Ethyl Benzene	ND	1.0
Total Xylenes	ND	1.0
Chlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0
1,3-Dichlorobenzene	ND	1.0
1,2-Dichlorobenzene	ND	1.0

ND = None Detected. Limit of detection (LOD) in last column.

QA/QC Summary:

Duplicate: Relative % Difference	1
Average Spike Recovery %	93

Curtis & Tompkins Ltd

LABORATORY NUMBER: 19930-3
CLIENT: ANANIA GEOLOGIC ENGINEERING
PROJECT: 004-88-059
SAMPLE ID: 5773

DATE RECEIVED: 03/19/90
DATE ANALYZED: 03/27/90
DATE REPORTED: 04/09/90

EPA 8020: Volatile Aromatic Hydrocarbons in Aqueous Solutions
Extraction Method: EPA 5030 - Purge & Trap

COMPOUND	Result ug/L	LOD ug/L
Benzene	3,900	100
Toluene	2,600	100
Ethyl Benzene	ND	100
Total Xylenes	ND	100
Chlorobenzene	ND	100
1,4-Dichlorobenzene	ND	100
1,3-Dichlorobenzene	ND	100
1,2-Dichlorobenzene	3,300	100

ND = None Detected. Limit of detection (LOD) in last column.

QA/QC Summary:

Duplicate: Relative % Difference	1
Average Spike Recovery %	93

LABORATORY NUMBER: 19930-1
CLIENT: ANANIA GEOLOGIC ENGINEERING
JOB #: 004-88-059
SAMPLE ID: 5771

DATE RECEIVED: 03/19/90
DATE EXTRACTED: 03/23/90
DATE ANALYZED: 03/28/90
DATE REPORTED: 04/02/90

EPA 8080: Organochlorine Pesticides and PCBs in Water
Extraction Method: EPA 3520

COMPOUND	RESULT ug/L	QUANTITATION LIMIT ug/L
alpha-BHC	ND	0.20
beta-BHC	ND	0.20
gamma-BHC	ND	0.20
delta-BHC	ND	0.20
Heptachlor	ND	0.20
Aldrin	ND	0.20
Heptachlor Epoxide	ND	0.20
Endosulfan I	ND	0.20
Dieldrin	ND	0.20
4,4'-DDE	ND	0.20
Endrin	ND	0.20
Endosulfan II	ND	0.20
Endosulfan Sulfate	ND	0.20
4,4'-DDD	ND	0.20
Endrin Aldehyde	ND	0.20
4,4'-DDT	ND	0.20
Chlordane	ND	1.0
Methoxychlor	ND	1.0
Toxaphene	ND	5.0
Aroclor 1016	ND	1.0
Aroclor 1221	ND	1.0
Aroclor 1232	ND	1.0
Aroclor 1242	ND	1.0
Aroclor 1248	ND	1.0
Aroclor 1254	ND	1.0
Aroclor 1260	ND	1.0

ND = Not detected at or above quantitation limit.

QA/QC SUMMARY:

Duplicate: Relative % Difference	25
Average Spike Recovery %	95

LABORATORY NUMBER: 19930-2
CLIENT: ANANIA GEOLOGIC ENGINEERING
JOB #: 004-88-059
SAMPLE ID: 5772

DATE RECEIVED: 03/19/90
DATE EXTRACTED: 03/23/90
DATE ANALYZED: 03/28/90
DATE REPORTED: 04/02/90

EPA 8080: Organochlorine Pesticides and PCBs in Water
Extraction Method: EPA 3520

COMPOUND	RESULT ug/L	QUANTITATION LIMIT ug/L
alpha-BHC	ND	0.20
beta-BHC	ND	0.20
gamma-BHC	ND	0.20
delta-BHC	ND	0.20
Heptachlor	ND	0.20
Aldrin	ND	0.20
Heptachlor Epoxide	ND	0.20
Endosulfan I	ND	0.20
Dieldrin	ND	0.20
4,4'-DDE	ND	0.20
Endrin	ND	0.20
Endosulfan II	ND	0.20
Endosulfan Sulfate	ND	0.20
4,4'-DDD	ND	0.20
Endrin Aldehyde	ND	0.20
4,4'-DDT	ND	0.20
Chlordane	ND	1.0
Methoxychlor	ND	1.0
Toxaphene	ND	5.0
Aroclor 1016	ND	1.0
Aroclor 1221	ND	1.0
Aroclor 1232	ND	1.0
Aroclor 1242	ND	1.0
Aroclor 1248	ND	1.0
Aroclor 1254	ND	1.0
Aroclor 1260	ND	1.0

ND = Not detected at or above quantitation limit.

QA/QC SUMMARY:

Duplicate: Relative % Difference	25
Average Spike Recovery %	95

LABORATORY NUMBER: 19930-3
CLIENT: ANANIA GEOLOGIC ENGINEERING
JOB #: 004-88-059
SAMPLE ID: 5773

DATE RECEIVED: 03/19/90
DATE EXTRACTED: 03/23/90
DATE ANALYZED: 03/28/90
DATE REPORTED: 04/02/90

EPA 8080: Organochlorine Pesticides and PCBs in Water
Extraction Method: EPA 3520

COMPOUND	RESULT ug/L	QUANTITATION LIMIT ug/L
alpha-BHC	ND	0.20
beta-BHC	ND	0.20
gamma-BHC	ND	0.20
delta-BHC	ND	0.20
Heptachlor	ND	0.20
Aldrin	ND	0.20
Heptachlor Epoxide	ND	0.20
Endosulfan I	ND	0.20
Dieldrin	ND	0.20
4,4'-DDE	ND	0.20
Endrin	ND	0.20
Endosulfan II	ND	0.20
Endosulfan Sulfate	ND	0.20
4,4'-DDD	ND	0.20
Endrin Aldehyde	ND	0.20
4,4'-DDT	ND	0.20
Chlordane	ND	1.0
Methoxychlor	ND	1.0
Toxaphene	ND	5.0
Aroclor 1016	ND	1.0
Aroclor 1221	ND	1.0
Aroclor 1232	ND	1.0
Aroclor 1242	ND	1.0
Aroclor 1248	ND	1.0
Aroclor 1254	ND	1.0
Aroclor 1260	ND	1.0

ND = Not detected at or above quantitation limit.

QA/QC SUMMARY:

Duplicate: Relative % Difference	25
Average Spike Recovery %	95

Curtis & Tompkins Ltd.

LABORATORY NUMBER: 19930-1
CLIENT: ANANIA GEOLOGIC ENGINEERING
JOB #: 004-88-059
SAMPLE ID: 5771

DATE RECEIVED: 03/19/90
DATE ANALYZED: 03/22/90
DATE REPORTED: 04/02/90

EPA METHOD 8240: VOLATILE ORGANICS IN WATER
Extraction Method: EPA 5030 - Purge & Trap

COMPOUND	Result ug/L	Detection Limit ug/L
chloromethane	ND	10
bromomethane	ND	10
vinyl chloride	ND	10
chloroethane	ND	10
methylene chloride	ND	5.0
trichlorofluoromethane	ND	5.0
1,1-dichloroethene	ND	5.0
1,1-dichloroethane	ND	5.0
trans-1,2-dichloroethene	ND	5.0
chloroform	ND	5.0
1,2-dichloroethane	ND	5.0
1,1,1-trichloroethane	ND	5.0
carbon tetrachloride	ND	5.0
bromodichloromethane	ND	5.0
1,2-dichloropropane	ND	5.0
cis-1,3-dichloropropene	ND	5.0
trichloroethylene	ND	5.0
dibromochloromethane	ND	5.0
1,1,2-trichloroethane	ND	5.0
benzene	ND	5.0
trans-1,3-dichloropropene	ND	5.0
2-chloroethylvinyl ether	ND	10
bromoform	ND	5.0
1,1,2,2-tetrachloroethane	ND	5.0
tetrachloroethylene	ND	5.0
toluene	ND	5.0
chlorobenzene	ND	5.0
ethyl benzene	ND	5.0
Non-Priority Hazardous Pollutant Substances List Compounds		
acetone	ND	10
carbon disulfide	ND	5.0
2-butanone	ND	10
vinyl acetate	ND	10
2-hexanone	ND	10
4-methyl-2-pentanone	ND	10
styrene	ND	5.0
total xylenes	ND	5.0

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	117%
Toluene-d8	110%
Bromofluorobenzene	121%

LABORATORY NUMBER: 19930-2
CLIENT: ANANIA GEOLOGIC ENGINEERING
JOB #: 004-88-059
SAMPLE ID: 5772

DATE RECEIVED: 03/19/90
DATE ANALYZED: 03/22/90
DATE REPORTED: 04/02/90

EPA METHOD 8240: VOLATILE ORGANICS IN WATER
Extraction Method: EPA 5030 - Purge & Trap

COMPOUND	Result ug/L	Detection Limit ug/L
chloromethane	ND	10
bromomethane	ND	10
vinyl chloride	ND	10
chloroethane	ND	10
methylene chloride	ND	5.0
trichlorofluoromethane	ND	5.0
1,1-dichloroethene	ND	5.0
1,1-dichloroethane	ND	5.0
trans-1,2-dichloroethene	ND	5.0
chloroform	ND	5.0
1,2-dichloroethane	ND	5.0
1,1,1-trichloroethane	ND	5.0
carbon tetrachloride	ND	5.0
bromodichloromethane	ND	5.0
1,2-dichloropropane	ND	5.0
cis-1,3-dichloropropene	ND	5.0
trichloroethylene	ND	5.0
dibromochloromethane	ND	5.0
1,1,2-trichloroethane	ND	5.0
benzene	ND	5.0
trans-1,3-dichloropropene	ND	5.0
2-chloroethylvinyl ether	ND	10
bromoform	ND	5.0
1,1,2,2-tetrachloroethane	ND	5.0
tetrachloroethylene	ND	5.0
toluene	ND	5.0
chlorobenzene	ND	5.0
ethyl benzene	ND	5.0

Non-Priority Hazardous Pollutant Substances List Compounds

acetone	ND	10
carbon disulfide	ND	5.0
2-butanone	ND	10
vinyl acetate	ND	10
2-hexanone	ND	10
4-methyl-2-pentanone	ND	10
styrene	ND	5.0
total xylenes	ND	5.0

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	114%
Toluene-d8	105%
Bromofluorobenzene	105%

LABORATORY NUMBER: 19930-3
CLIENT: ANANIA GEOLOGIC ENGINEERING
JOB #: 004-88-059
SAMPLE ID: 5773

DATE RECEIVED: 03/19/90
DATE ANALYZED: 03/22/90
DATE REPORTED: 04/02/90

EPA METHOD 8240: VOLATILE ORGANICS IN WATER
Extraction Method: EPA 5030 - Purge & Trap

COMPOUND	Result ug/L	Detection Limit ug/L
chloromethane	ND	100
bromomethane	ND	100
vinyl chloride	ND	100
chloroethane	ND	100
methylene chloride	ND	50
trichlorofluoromethane	ND	50
1,1-dichloroethene	ND	50
1,1-dichloroethane	110	50
trans-1,2-dichloroethene	ND	50
chloroform	ND	50
1,2-dichloroethane	ND	50
1,1,1-trichloroethane	ND	50
carbon tetrachloride	ND	50
bromodichloromethane	ND	50
1,2-dichloropropane	ND	50
cis-1,3-dichloropropene	ND	50
trichloroethylene	ND	50
dibromochloromethane	ND	50
1,1,2-trichloroethane	ND	50
benzene	6,200	50
trans-1,3-dichloropropene	ND	50
2-chloroethylvinyl ether	ND	100
bromoform	ND	50
1,1,2,2-tetrachloroethane	ND	50
tetrachloroethylene	ND	50
toluene	6,300	50
chlorobenzene	ND	50
ethyl benzene	610	50

Non-Priority Hazardous Pollutant Substances List Compounds

acetone	5,200	100
carbon disulfide	ND	50
2-butanone	ND	100
vinyl acetate	ND	100
2-hexanone	ND	100
4-methyl-2-pentanone	ND	100
styrene	ND	50
total xylenes	4,500	50

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	102%
Toluene-d8	100%
Bromofluorobenzene	96%

LABORATORY NUMBER: 19930-1
CLIENT: ANANIA GEOLOGIC ENGINEERING
JOB #: 004-88-059
CLIENT ID: 5771

DATE RECEIVED: 03/19/90
DATE EXTRACTED: 03/26/90
DATE ANALYZED: 03/28/90
DATE REPORTED: 04/02/90

EPA 8270: Base/Neutral and Acid Extractables in Water
Extraction Method: EPA 3520

ACID COMPOUNDS	RESULT ug/L	LOD ug/L
Phenol	ND	5.0
2-Chlorophenol	ND	5.0
2-Nitrophenol	ND	25
2,4-Dimethylphenol	ND	5.0
2,4-Dichlorophenol	ND	5.0
4-Chloro-3-methylphenol	ND	5.0
2,4,6-Trichlorophenol	ND	5.0
2,4-Dinitrophenol	ND	25
4-Nitrophenol	ND	25
4,6-Dinitro-2-methylphenol	ND	25
Pentachlorophenol	ND	25
BASE/NEUTRAL COMPOUNDS		
N-Nitrosodimethylamine	ND	25
Bis(2-chloroethyl)ether	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
Bis(2-chloroisopropyl)ether	ND	5.0
N-Nitroso-di-n-propylamine	ND	5.0
Hexachloroethane	ND	5.0
Nitrobenzene	ND	5.0
Isophorone	ND	5.0
Bis(2-chloroethoxy)methane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Naphthalene	ND	5.0
Hexachlorobutadiene	ND	5.0
Hexachlorocyclopentadiene	ND	5.0
2-Chloronaphthalene	ND	5.0
Dimethylphthalate	ND	5.0
Acenaphthylene	ND	5.0
2,6-Dinitrotoluene	ND	5.0
Acenaphthene	ND	5.0
2,4-Dinitrotoluene	ND	5.0
Diethylphthalate	ND	5.0
4-Chlorophenyl-phenylether	ND	5.0
Fluorene	ND	5.0
N-Nitrosodiphenylamine	ND	5.0

LABORATORY NUMBER: 19930-1
CLIENT ID: 5771

BASE/NEUTRAL COMPOUNDS	RESULT ug/L	LOD ug/L
Azobenzene	ND	5.0
4-Bromophenyl-phenylether	ND	5.0
Hexachlorobenzene	ND	5.0
Phenanthrene	ND	5.0
Anthracene	ND	5.0
Di-n-butylphthalate	ND	5.0
Fluoranthene	ND	5.0
Benzidine	ND	5.0
Pyrene	ND	5.0
Butylbenzylphthalate	ND	5.0
3,3'-Dichlorobenzidine	ND	25
Benzo (a) anthracene	ND	5.0
Chrysene	ND	5.0
Bis (2-ethylhexyl)phthalate	ND	5.0
Di-n-octylphthalate	ND	5.0
Benzo (b) fluoranthene	ND	5.0
Benzo (k) fluoranthene	ND	5.0
Benzo (a) pyrene	ND	5.0
Indeno (1,2,3-cd) pyrene	ND	5.0
Dibenzo (a,h) anthracene	ND	5.0
Benzo (g,h,i) perylene	ND	5.0
HSL COMPOUNDS		
Aniline	ND	5.0
Benzoic Acid	ND	25
2-Methylphenol	ND	5.0
4-Methylphenol	ND	5.0
2,4,5-Trichlorophenol	ND	25
Benzyl Alcohol	ND	5.0
4-Chloroaniline	ND	5.0
2-Methylnaphthalene	ND	5.0
2-Nitroaniline	ND	25
3-Nitroaniline	ND	25
Dibenzofuran	ND	5.0
4-Nitroaniline	ND	25

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

QA/QC SUMMARY: SURROGATE RECOVERIES

Compound	%Recovery	Compound	%Recovery
2-Fluorophenol	96	Nitrobenzene-d5	105
Phenol-d5	97	2-Fluorobiphenyl	96
2,4,6-tribromophenol	114	Terphenyl	99

Curtis & Tompkins Ltd.

LABORATORY NUMBER: 19930-2
CLIENT: ANANIA GEOLOGIC ENGINEERING
JOB #: 004-88-059
CLIENT ID: 5772

DATE RECEIVED: 03/19/90
DATE EXTRACTED: 03/26/90
DATE ANALYZED: 03/28/90
DATE REPORTED: 04/02/90

EPA 8270: Base/Neutral and Acid Extractables in Water
Extraction Method: EPA 3520

ACID COMPOUNDS	RESULT ug/L	LOD ug/L
Phenol	ND	5.0
2-Chlorophenol	ND	5.0
2-Nitrophenol	ND	25
2,4-Dimethylphenol	ND	5.0
2,4-Dichlorophenol	ND	5.0
4-Chloro-3-methylphenol	ND	5.0
2,4,6-Trichlorophenol	ND	5.0
2,4-Dinitrophenol	ND	25
4-Nitrophenol	ND	25
4,6-Dinitro-2-methylphenol	ND	25
Pentachlorophenol	ND	25
BASE/NEUTRAL COMPOUNDS		
N-Nitrosodimethylamine	ND	25
Bis(2-chloroethyl)ether	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
Bis(2-chloroisopropyl)ether	ND	5.0
N-Nitroso-di-n-propylamine	ND	5.0
Hexachloroethane	ND	5.0
Nitrobenzene	ND	5.0
Isophorone	ND	5.0
Bis(2-chloroethoxy)methane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Naphthalene	ND	5.0
Hexachlorobutadiene	ND	5.0
Hexachlorocyclopentadiene	ND	5.0
2-Chloronaphthalene	ND	5.0
Dimethylphthalate	ND	5.0
Acenaphthylene	ND	5.0
2,6-Dinitrotoluene	ND	5.0
Acenaphthene	ND	5.0
2,4-Dinitrotoluene	ND	5.0
Diethylphthalate	ND	5.0
4-Chlorophenyl-phenylether	ND	5.0
Fluorene	ND	5.0
N-Nitrosodiphenylamine	ND	5.0

LABORATORY NUMBER: 19930-2
CLIENT ID: 5772

BASE/NEUTRAL COMPOUNDS	RESULT ug/L	LOD ug/L
Azobenzene	ND	5.0
4-Bromophenyl-phenylether	ND	5.0
Hexachlorobenzene	ND	5.0
Phenanthrene	ND	5.0
Anthracene	ND	5.0
Di-n-butylphthalate	ND	5.0
Fluoranthene	ND	5.0
Benzidine	ND	5.0
Pyrene	ND	5.0
Butylbenzylphthalate	ND	5.0
3,3'-Dichlorobenzidine	ND	25
Benzo (a) anthracene	ND	5.0
Chrysene	ND	5.0
Bis (2-ethylhexyl)phthalate	ND	5.0
Di-n-octylphthalate	ND	5.0
Benzo (b) fluoranthene	ND	5.0
Benzo (k) fluoranthene	ND	5.0
Benzo (a) pyrene	ND	5.0
Indeno (1,2,3-cd) pyrene	ND	5.0
Dibenzo (a,h) anthracene	ND	5.0
Benzo (g,h,i) perylene	ND	5.0
HSL COMPOUNDS		
Aniline	ND	5.0
Benzoic Acid	ND	25
2-Methylphenol	ND	5.0
4-Methylphenol	ND	5.0
2,4,5-Trichlorophenol	ND	25
Benzyl Alcohol	ND	5.0
4-Chloroaniline	ND	5.0
2-Methylnaphthalene	ND	5.0
2-Nitroaniline	ND	25
3-Nitroaniline	ND	25
Dibenzofuran	ND	5.0
4-Nitroaniline	ND	25

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

QA/QC SUMMARY: SURROGATE RECOVERIES

Compound	%Recovery	Compound	%Recovery
2-Fluorophenol	69	Nitrobenzene-d5	83
Phenol-d5	65	2-Fluorobiphenyl	86
2,4,6-tribromophenol	90	Terphenyl	89

Curtis & Tompkins Ltd.

LABORATORY NUMBER: 19930-3
CLIENT: ANANIA GEOLOGIC ENGINEERING
JOB #: 004-88-059
CLIENT ID: 5773

DATE RECEIVED: 03/19/90
DATE EXTRACTED: 03/26/90
DATE ANALYZED: 03/29/90
DATE REPORTED: 04/02/90

EPA 8270: Base/Neutral and Acid Extractables in Water
Extraction Method: EPA 3520

ACID COMPOUNDS	RESULT ug/L	LOD ug/L
Phenol	200	50
2-Chlorophenol	ND	50
2-Nitrophenol	ND	250
2,4-Dimethylphenol	50	50
2,4-Dichlorophenol	ND	50
4-Chloro-3-methylphenol	ND	50
2,4,6-Trichlorophenol	ND	50
2,4-Dinitrophenol	ND	250
4-Nitrophenol	ND	250
4,6-Dinitro-2-methylphenol	ND	250
Pentachlorophenol	ND	250
BASE/NEUTRAL COMPOUNDS		
N-Nitrosodimethylamine	ND	250
Bis(2-chloroethyl)ether	ND	50
1,3-Dichlorobenzene	ND	50
1,4-Dichlorobenzene	ND	50
1,2-Dichlorobenzene	ND	50
Bis(2-chloroisopropyl)ether	ND	50
N-Nitroso-di-n-propylamine	ND	50
Hexachloroethane	ND	50
Nitrobenzene	ND	50
Isophorone	ND	50
Bis(2-chloroethoxy)methane	ND	50
1,2,4-Trichlorobenzene	ND	50
Naphthalene	130	50
Hexachlorobutadiene	ND	50
Hexachlorocyclopentadiene	ND	50
2-Chloronaphthalene	ND	50
Dimethylphthalate	ND	50
Acenaphthylene	ND	50
2,6-Dinitrotoluene	ND	50
Acenaphthene	ND	50
2,4-Dinitrotoluene	ND	50
Diethylphthalate	ND	50
4-Chlorophenyl-phenylether	ND	50
Fluorene	ND	50
N-Nitrosodiphenylamine	ND	50

LABORATORY NUMBER: 19930-3
CLIENT ID: 5773

EPA 8270

BASE/NEUTRAL COMPOUNDS	RESULT ug/L	LOD ug/L
Azobenzene	ND	50
4-Bromophenyl-phenylether	ND	50
Hexachlorobenzene	ND	50
Phenanthrene	DETECTED(37)	50
Anthracene	ND	50
Di-n-butylphthalate	ND	50
Fluoranthene	ND	50
Benzidine	ND	250
Pyrene	ND	50
Butylbenzylphthalate	ND	50
3,3'-Dichlorobenzidine	ND	250
Benzo (a) anthracene	ND	50
Chrysene	ND	50
Bis (2-ethylhexyl)phthalate	ND	50
Di-n-octylphthalate	ND	50
Benzo (b) fluoranthene	ND	50
Benzo (k) fluoranthene	ND	50
Benzo (a) pyrene	ND	50
Indeno (1,2,3-cd) pyrene	ND	50
Dibenzo (a,h) anthracene	ND	50
Benzo (g,h,i) perylene	ND	50

HSL COMPOUNDS		
Aniline	DETECTED(43)	50
Benzoic Acid	ND	250
2-Methylphenol	ND	50
4-Methylphenol	DETECTED(44)	50
2,4,5-Trichlorophenol	ND	250
Benzyl Alcohol	ND	50
4-Chloroaniline	ND	50
2-Methylnaphthalene	160	50
2-Nitroaniline	ND	250
3-Nitroaniline	ND	250
Dibenzofuran	ND	50
4-Nitroaniline	ND	250

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

QA/QC SUMMARY: SURROGATE RECOVERIES

Compound	%Recovery	Compound	%Recovery
2-Fluorophenol	63	Nitrobenzene-d5	116
Phenol-d5	50	2-Fluorobiphenyl	96
2,4,6-tribromophenol	68	Terphenyl	56

ANANIA GEOLOGIC ENGINEERING

AGE № 3161

AGE PROJECT NO.	LAB REPORT NO.	P.O. NO.	SAMPLERS: (SIGNATURE)	INITIALS
004-88-059			Tony Buenvenida	TCB

LAB LOG NO.	DATE	TIME	SAMPLE I.D.	No. of Containers	GRAB	COMPOSITE	SAMPLE TYPE: SOIL	SAMPLE TYPE: WATER	SAMPLE TYPE: OTHER	ANALYSES: 8080 PCB Pesticides	ANALYSES: 8240	ANALYSES: 8270	ANALYSES: 8020*	ANALYSES:	REMARKS
	3/19/90	1508	5771	9				X		X	X	X	X		Regular TAT
	3/19/90	1518	5772	9				X		X	X	X	X		Regular TAT
	3/19/90	1522	5773	9				X		X	X	X	X		Regular TAT
			*C+T cancelled EPA 8020 as being redundant (see EPA 8240)												
															1518 1522 XXXX XXXX

RELINQUISHED BY: (SIGNATURE)	DATE/TIME	RELINQUISHED BY: (SIGNATURE)	DATE/TIME
COMPANY Tony Buenvenida	3/19/90 16 H	COMPANY Nancy Patten	3/19/90 415P
RELINQUISHED BY: (SIGNATURE)	DATE/TIME	RELINQUISHED BY: (SIGNATURE)	DATE/TIME
COMPANY		COMPANY	
RELINQUISHED BY: (SIGNATURE)	DATE/TIME	RELINQUISHED BY: (SIGNATURE)	DATE/TIME
COMPANY		COMPANY	
RELINQUISHED BY: (SIGNATURE)	DATE/TIME	RELINQUISHED BY: (SIGNATURE)	DATE/TIME
COMPANY		COMPANY	

SEND COPY OF RESULTS TO: Todd Gallagher 3161 Water Water
Tel: (916) 631-0154

ATTN:

REMARKS: Regular TAT

ORIGINAL RESULTS AND INVOICE TO:

Anania Geologic Engineering
P.O. Box 161148
Sacramento, CA 95816

ATTN:

FAX: (916) 631-0528
TEL: (916) 631-0154

F-116
1/90

CHAIN OF CUSTODY

WHITE - AGE YELLOW - LAB COPY PINK - FILE