

**PALOS VERDES LANDFILL
REMEDIAL INVESTIGATION REPORT**

APPENDIX B.2.2.1

**OUTSIDE LABORATORY DATA SHEETS
BATCH QA/QC FOR THE
ADDITIONAL SOIL COVER SAMPLES**



MONTGOMERY LABORATORIES

555 East Walnut Street
Pasadena, California 91101
818 568 6400; FAX 818 568 6324;
1 800 566 LABS (1 800 566 5227)

CHANGES (12-7-93)

MA

REVISED
Laboratory Report

for

LA CO Sanitation Districts/Palos Verdes
1965 S Workman Mill Road

Whittier, CA 90601

Attention: Lorie Losorelli

SOIL COVER SAMPLES

63897- (SC 38) OLS -

63873- 63884 (SC 35- SC 48) - MODIFIED HC
↓ ↓
(Horse Stall & SCBG)

MONTGOMERY LABORATORIES

Submitted on

DEC 08 1993

HDS*
Lillian J

Report#: 9787

QUALITY CONTROL LIMITS, FOR ANALYSIS OF SOIL SAMPLES, USED BY MONTGOMERY
 LABORATORIES AS OF 12/15/93, BASED ON HISTORICAL DATA AT MONTGOMERY LAE.

<u>ANALYTE</u>	<u>LAB. CONTROL SAMPLES</u>		<u>MATRIX SPIKE & DUPLICATE</u>	
	<u>% ACCURACY</u>	<u>RPD</u>	<u>% ACCURACY</u>	<u>RPD</u>
(Method 8270)				
pentachlorophenol	21 - 146	21	17 - 109	15
phenol	11 - 89	13	26 - 90	11
2-chlorophenol	16 - 82	11	25 - 102	13
4-chloro-3methylphenol	23 - 98	13	26 - 103	13
4-nitrophenol	13 - 87	12	11 - 114	17
1,2,4-trichlorobenzene	13 - 101	15	38 - 107	12
acenaphthene	22 - 97	13	31 - 137	18
2,4-dinitrotolulene	27 - 132	18	28 - 89	10
pyrene	9 - 143	22	35 - 142	18
n-nitrosodi-n-propylamine	15 - 112	16	41 - 126	14
1,4-dichlorobenzene	23 - 74	8	28 - 104	13
High BP Hydrocarbons	61 - 123	15	42 - 122	13
Thallium	78 - 115	6	70 - 130	10
Potassium *	86 - 96	2	70 - 135	16

* Limits are based on water sample analysis, as there is not enough data to determine limits for potassium by flame on a soil matrix.



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Laboratory Report

LA CO Sanitation Districts/Palos Verdes
1965 S Workman Mill Road

Whittier, CA 90601
ATTN: Lorie Losorelli

Sample # 931007075 Sample ID 63897 Project _____
Sample Type Soil Sampled 06-oct-1993 Received 06-oct-1993 Reported 08-dec-1993

Parameter	Units	Result	Conc.	%Rec	Dilution	Det.Limit	Prepared	By	Analyzed	By
Dioxin, Screen	(ML/SW 8270) mg/kg	ND				1.32	08-oct-1993	mip	18-oct-1993	dfl
Thallium, Total, GF	(ML/EPA 279.2) mg/kg	ND			5	5	15-oct-1993	eym	01-nov-1993	gto



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1965 S Workman Mill Road

Whittier , CA 90601
ATTN: Lorie Losorelli

Sample # 931007075 Sample ID 63897 Project _____
Sample Type Soil Sampled 06-oct-1993 Received 06-oct-1993 Reported 08-dec-1993

**Single Determination Analytes
Quality Control**

Control	Parameter	Units	Actual	Found	%Recv
LCS1	Thallium, Total, GF	mg/kg	0.040	0.038	95
LCS2	Thallium, Total, GF	mg/kg	0.040	0.031	78
MBLK	Thallium, Total, GF	mg/kg	ND	ND	
MS	Thallium, Total, GF	mg/kg	0.040	0.052	130
MSD	Thallium, Total, GF	mg/kg	0.040	0.062	155

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 1965 S Workman Mill Road

Sample # 931007075 Sample ID 63897 Project _____
 Sample Type Soil Sampled 06-oct-1993 Received 06-oct-1993 Reported 08-dec-1993

Whittier, CA 90601
 ATTN: Lorie Losorelli

BNA Extractable (ML/SW 8270)

Parameter	Units	Result	Conc.	%Rec	Dilution	Det.Limit	Prepared	By	Analyzed	By
1,2,4-Trichlorobenzene	mg/kg	ND			2	0.66	08-oct-1993	mup	18-oct-1993	dfl
1,2-Dichlorobenzene	mg/kg	ND			2	0.66	08-oct-1993	mup	18-oct-1993	dfl
1,2-Diphenylhydrazine	mg/kg	ND			2	0.66	08-oct-1993	mup	18-oct-1993	dfl
1,3-Dichlorobenzene	mg/kg	ND			2	0.66	08-oct-1993	mup	18-oct-1993	dfl
1,4-Dichlorobenzene (p-DCB)	mg/kg	ND			2	0.66	08-oct-1993	mup	18-oct-1993	dfl
2,4,5-Trichlorophenol	mg/kg	ND			2	0.66	08-oct-1993	mup	18-oct-1993	dfl
2,4,6-Trichlorophenol	mg/kg	ND			2	0.66	08-oct-1993	mup	18-oct-1993	dfl
2,4-Dichlorophenol	mg/kg	ND			2	0.66	08-oct-1993	mup	18-oct-1993	dfl
2,4-Dimethylphenol	mg/kg	ND			2	0.66	08-oct-1993	mup	18-oct-1993	dfl
2,4-Dinitrophenol	mg/kg	ND			2	3.2	08-oct-1993	mup	18-oct-1993	dfl
2,4-Dinitrotoluene	mg/kg	ND			2	0.66	08-oct-1993	mup	18-oct-1993	dfl
2,6-Dinitrotoluene	mg/kg	ND			2	0.66	08-oct-1993	mup	18-oct-1993	dfl
2-Chloronaphthalene	mg/kg	ND			2	0.66	08-oct-1993	mup	18-oct-1993	dfl
2-Chlorophenol	mg/kg	ND			2	0.66	08-oct-1993	mup	18-oct-1993	dfl
2-Methylnaphthalene	mg/kg	ND			2	0.33	08-oct-1993	mup	18-oct-1993	dfl
2-Methylphenol	mg/kg	ND			2	0.66	08-oct-1993	mup	18-oct-1993	dfl
2-Nitroaniline	mg/kg	ND			2	1.6	08-oct-1993	mup	18-oct-1993	dfl
2-Nitrophenol	mg/kg	ND			2	0.66	08-oct-1993	mup	18-oct-1993	dfl
3,3'-Dichlorobenzidine	mg/kg	ND			2	1.32	08-oct-1993	mup	18-oct-1993	dfl
3-Nitroaniline	mg/kg	ND			2	1.6	08-oct-1993	mup	18-oct-1993	dfl
4,6-Dinitro-o-cresol	mg/kg	ND			2	3.2	08-oct-1993	mup	18-oct-1993	dfl
4-Bromophenylphenylether	mg/kg	ND			2	0.66	08-oct-1993	mup	18-oct-1993	dfl
4-Chloroaniline	mg/kg	ND			2	0.66	08-oct-1993	mup	18-oct-1993	dfl
4-Chlorophenylphenylether	mg/kg	ND			2	0.66	08-oct-1993	mup	18-oct-1993	dfl
4-Methylphenol	mg/kg	ND			2	0.66	08-oct-1993	mup	18-oct-1993	dfl
4-Nitroaniline	mg/kg	ND			2	1.6	08-oct-1993	mup	18-oct-1993	dfl
4-Nitrophenol	mg/kg	ND			2	3.2	08-oct-1993	mup	18-oct-1993	dfl
Acenaphthene	mg/kg	ND			2	0.66	08-oct-1993	mup	18-oct-1993	dfl
Acenaphthylene	mg/kg	ND			2	0.66	08-oct-1993	mup	18-oct-1993	dfl

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1965 S Workman Mill Road

Sample # 931007075 Sample ID 63897 Project _____
Sample Type Soil Sampled 06-oct-1993 Received 06-oct-1993 Reported 08-dec-1993

Whittier, CA 90601
ATTN: Lorie Losorelli

BNA Extractable (ML/SW 8270)

Parameter	Units	Result	Conc.	%Rec	Dilution	Det.Limit	Prepared	By	Analyzed	By
Aniline	mg/kg	ND			2	0.66	08-oct-1993	mup	18-oct-1993	dfi
Anthracene	mg/kg	ND			2	0.66	08-oct-1993	mup	18-oct-1993	dfi
Benzo(a)anthracene	mg/kg	ND			2	0.66	08-oct-1993	mup	18-oct-1993	dfi
Benzo(a)pyrene	mg/kg	ND			2	0.66	08-oct-1993	mup	18-oct-1993	dfi
Benzo(b)fluoranthene	mg/kg	ND			2	0.66	08-oct-1993	mup	18-oct-1993	dfi
Benzo(g,h,i)perylene	mg/kg	ND			2	0.66	08-oct-1993	mup	18-oct-1993	dfi
Benzo(k)fluoranthene	mg/kg	ND			2	0.66	08-oct-1993	mup	18-oct-1993	dfi
bis(2-Chloroethyl)ether	mg/kg	ND			2	0.66	08-oct-1993	mup	18-oct-1993	dfi
bis(2-Chloroethoxy)methane	mg/kg	ND			2	0.66	08-oct-1993	mup	18-oct-1993	dfi
bis(2-Chloroisopropyl)ether	mg/kg	ND			2	0.66	08-oct-1993	mup	18-oct-1993	dfi
bis(2-Ethylhexyl)phthalate	mg/kg	ND			2	0.66	08-oct-1993	mup	18-oct-1993	dfi
Butylbenzylphthalate	mg/kg	ND			2	0.66	08-oct-1993	mup	18-oct-1993	dfi
Benzidine	mg/kg	ND			2	1.32	08-oct-1993	mup	18-oct-1993	dfi
Benzoic Acid	mg/kg	ND			2	3.2	08-oct-1993	mup	18-oct-1993	dfi
Benzyl Alcohol	mg/kg	ND			2	1.32	08-oct-1993	mup	18-oct-1993	dfi
Chrysene	mg/kg	ND			2	0.66	08-oct-1993	mup	18-oct-1993	dfi
Dibenzo(a,h)anthracene	mg/kg	ND			2	0.66	08-oct-1993	mup	18-oct-1993	dfi
Dibenzofuran	mg/kg	ND			2	0.33	08-oct-1993	mup	18-oct-1993	dfi
Diethylphthalate	mg/kg	ND			2	0.66	08-oct-1993	mup	18-oct-1993	dfi
Dimethylphthalate	mg/kg	ND			2	0.66	08-oct-1993	mup	18-oct-1993	dfi
Di-n-butylphthalate	mg/kg	ND			2	0.66	08-oct-1993	mup	18-oct-1993	dfi
Di-n-octylphthalate	mg/kg	ND			2	0.66	08-oct-1993	mup	18-oct-1993	dfi
Fluoranthene	mg/kg	ND			2	0.66	08-oct-1993	mup	18-oct-1993	dfi
Fluorene	mg/kg	ND			2	0.66	08-oct-1993	mup	18-oct-1993	dfi
Hexachlorobenzene	mg/kg	ND			2	0.66	08-oct-1993	mup	18-oct-1993	dfi
Hexachlorobutadiene	mg/kg	ND			2	0.66	08-oct-1993	mup	18-oct-1993	dfi
Hexachlorocyclopentadiene	mg/kg	ND			2	0.66	08-oct-1993	mup	18-oct-1993	dfi
Hexachloroethane	mg/kg	ND			2	0.66	08-oct-1993	mup	18-oct-1993	dfi
Indeno(1,2,3-c,d)pyrene	mg/kg	ND			2	0.66	08-oct-1993	mup	18-oct-1993	dfi



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Sample # 931007075 Sample ID 63897 Project _____
Sample Type Soil Sampled 06-oct-1993 Received 06-oct-1993 Reported 08-dec-1993

Whittier, CA 90601
ATTN: Lorie Losorelli

BNA Extractable (ML/SW 8270)

Parameter	Units	Result	Conc.	%Rec	Dilution	Det.Limit	Prepared	By	Analyzed	By
Isophorone	mg/kg	ND			2	0.66	08-oct-1993	mup	18-oct-1993	dfi
Naphthalene	mg/kg	ND			2	0.66	08-oct-1993	mup	18-oct-1993	dfi
Nitrobenzene	mg/kg	ND			2	0.66	08-oct-1993	mup	18-oct-1993	dfi
N-Nitrosodimethylamine	mg/kg	ND			2	0.66	08-oct-1993	mup	18-oct-1993	dfi
N-Nitrosodi-N-propylamine	mg/kg	ND			2	0.66	08-oct-1993	mup	18-oct-1993	dfi
N-Nitrosodiphenylamine	mg/kg	ND			2	0.66	08-oct-1993	mup	18-oct-1993	dfi
p-Chloro-m-cresol	mg/kg	ND			2	1.32	08-oct-1993	mup	18-oct-1993	dfi
Pentachlorophenol	mg/kg	ND			2	3.2	08-oct-1993	mup	18-oct-1993	dfi
Phenanthrene	mg/kg	ND			2	0.66	08-oct-1993	mup	18-oct-1993	dfi
Phenol	mg/kg	ND			2	0.66	08-oct-1993	mup	18-oct-1993	dfi
Pyrene	mg/kg	ND			2	0.66	08-oct-1993	mup	18-oct-1993	dfi



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Sample # 931007075 Sample ID 63897 Project _____
Sample Type Soil Sampled 06-oct-1993 Received 06-oct-1993 Reported 08-dec-1993

**BNA Extractable (ML/SW 8270)
Surrogate Summary**

Parameter	Percent Recovery	Acceptable Range
2,4,6-Tribromophenol	102	39 - 122
Phenol-d5	71	24 - 113
2-Fluorophenol	69	25 - 121
Terphenyl-d14	87	18 - 137
2-Fluorobiphenyl	76	35 - 115
Nitrobenzene-d5	68	23 - 120

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Sample # 931007075 Sample ID 63897 Project _____
Sample Type Soil Sampled 06-oct-1993 Received 06-oct-1993 Reported 08-dec-1993

BNA Extractable (ML/SW 8270)
Quality Control

Control	Parameter	Units	Actual	Found	%Recv
LCS1	1,2,4-Trichlorobenzene	mg/kg	100	99.1	99
LCS1	1,4-Dichlorobenzene (p-DCB)	mg/kg	100	71.0	71
LCS1	2,4-Dinitrotoluene	mg/kg	100	104	104
LCS1	2-Chlorophenol	mg/kg	200	136	68
LCS1	4-Nitrophenol	mg/kg	200	179	90
LCS1	Acenaphthene	mg/kg	100	93.2	93
LCS1	N-Nitrosodi-N-propylamine	mg/kg	100	62.7	63
LCS1	p-Chloro-m-cresol	mg/kg	200	191	96
LCS1	Pentachlorophenol	mg/kg	200	253	126
LCS1	Phenol	mg/kg	200	122	61
LCS1	Pyrene	mg/kg	100	96.0	96
LCS2	1,2,4-Trichlorobenzene	mg/kg	100	NA	
LCS2	1,4-Dichlorobenzene (p-DCB)	mg/kg	100	NA	
LCS2	2,4-Dinitrotoluene	mg/kg	100	NA	
LCS2	2-Chlorophenol	mg/kg	200	NA	
LCS2	4-Nitrophenol	mg/kg	200	NA	
LCS2	Acenaphthene	mg/kg	100	NA	
LCS2	N-Nitrosodi-N-propylamine	mg/kg	100	NA	
LCS2	p-Chloro-m-cresol	mg/kg	200	NA	
LCS2	Pentachlorophenol	mg/kg	200	NA	
LCS2	Phenol	mg/kg	200	NA	
LCS2	Pyrene	mg/kg	100	NA	
MBLK	1,2,4-Trichlorobenzene	mg/kg	ND	ND	
MBLK	1,2-Dichlorobenzene	mg/kg	ND	ND	
MBLK	1,2-Diphenylhydrazine	mg/kg	ND	ND	
MBLK	1,3-Dichlorobenzene	mg/kg	ND	ND	
MBLK	1,4-Dichlorobenzene (p-DCB)	mg/kg	ND	ND	
MBLK	2,4,5-Trichlorophenol	mg/kg	ND	ND	
MBLK	2,4,6-Trichlorophenol	mg/kg	ND	ND	
MBLK	2,4-Dichlorophenol	mg/kg	ND	ND	
MBLK	2,4-Dimethylphenol	mg/kg	ND	ND	

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**BNA Extractable (ML/SW 8270)
Quality Control**

Control	Parameter	Units	Actual	Found	%Recv
MBLK	2,4-Dinitrophenol	mg/kg	ND	ND	-
MBLK	2,4-Dinitrotoluene	mg/kg	ND	ND	-
MBLK	2,6-Dinitrotoluene	mg/kg	ND	ND	-
MBLK	2-Chloronaphthalene	mg/kg	ND	ND	-
MBLK	2-Chlorophenol	mg/kg	ND	ND	-
MBLK	2-Methylnaphthalene	mg/kg	ND	ND	-
MBLK	2-Methylphenol	mg/kg	ND	ND	-
MBLK	2-Nitroaniline	mg/kg	ND	ND	-
MBLK	2-Nitrophenol	mg/kg	ND	ND	-
MBLK	3,3'-Dichlorobenzidine	mg/kg	ND	ND	-
MBLK	3-Nitroaniline	mg/kg	ND	ND	-
MBLK	4,6-Dinitro-o-cresol	mg/kg	ND	ND	-
MBLK	4-Bromophenylphenylether	mg/kg	ND	ND	-
MBLK	4-Chloroaniline	mg/kg	ND	ND	-
MBLK	4-Chlorophenylphenylether	mg/kg	ND	ND	-
MBLK	4-Methylphenol	mg/kg	ND	ND	-
MBLK	4-Nitroaniline	mg/kg	ND	ND	-
MBLK	4-Nitrophenol	mg/kg	ND	ND	-
MBLK	Acenaphthene	mg/kg	ND	ND	-
MBLK	Acenaphthylene	mg/kg	ND	ND	-
MBLK	Aniline	mg/kg	ND	ND	-
MBLK	Anthracene	mg/kg	ND	ND	-
MBLK	Benzo(a)anthracene	mg/kg	ND	ND	-
MBLK	Benzo(a)pyrene	mg/kg	ND	ND	-
MBLK	Benzo(b)fluoranthene	mg/kg	ND	ND	-
MBLK	Benzo(g,h,i)perylene	mg/kg	ND	ND	-
MBLK	Benzo(k)fluoranthene	mg/kg	ND	ND	-
MBLK	bis(2-Chloroethyl)ether	mg/kg	ND	ND	-
MBLK	bis(2-Chloroethoxy)methane	mg/kg	ND	ND	-
MBLK	bis(2-Chloroisopropyl)ether	mg/kg	ND	ND	-
MBLK	bis(2-Ethylhexyl)phthalate	mg/kg	ND	ND	-

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 ATTN: Lorie Losorelli

Sample # 931007075 Sample ID 63897 Project _____
 Sample Type Soil Sampled 06-oct-1993 Received 06-oct-1993 Reported 08-dec-1993

BNA Extractable (ML/SW 8270)
Quality Control

Control	Parameter	Units	Actual	Found	%Recv
MBLK	Butylbenzylphthalate	mg/kg	ND	ND	--
MBLK	Benzidine	mg/kg	ND	ND	
MBLK	Benzoic Acid	mg/kg	ND	ND	
MBLK	Benzyl Alcohol	mg/kg	ND	ND	
MBLK	Chrysene	mg/kg	ND	ND	
MBLK	Dibenzo(a,h)anthracene	mg/kg	ND	ND	
MBLK	Dibenzofuran	mg/kg	ND	ND	
MBLK	Diethylphthalate	mg/kg	ND	ND	
MBLK	Dimethylphthalate	mg/kg	ND	ND	
MBLK	Di-n-butylphthalate	mg/kg	ND	ND	
MBLK	Di-n-octylphthalate	mg/kg	ND	ND	
MBLK	Fluoranthene	mg/kg	ND	ND	
MBLK	Fluorene	mg/kg	ND	ND	
MBLK	Hexachlorobenzene	mg/kg	ND	ND	
MBLK	Hexachlorobutadiene	mg/kg	ND	ND	
MBLK	Hexachlorocyclopentadiene	mg/kg	ND	ND	
MBLK	Hexachloroethane	mg/kg	ND	ND	
MBLK	Indeno(1,2,3-c,d)pyrene	mg/kg	ND	ND	
MBLK	Isophorone	mg/kg	ND	ND	
MBLK	Naphthalene	mg/kg	ND	ND	
MBLK	Nitrobenzene	mg/kg	ND	ND	
MBLK	N-Nitrosodimethylamine	mg/kg	ND	ND	
MBLK	N-Nitrosodi-n-propylamine	mg/kg	ND	ND	
MBLK	N-Nitrosodiphenylamine	mg/kg	ND	ND	
MBLK	p-Chloro-m-cresol	mg/kg	ND	ND	
MBLK	Pentachlorophenol	mg/kg	ND	ND	
MBLK	Phenanthrene	mg/kg	ND	ND	
MBLK	Phenol	mg/kg	ND	ND	
MBLK	Pyrene	mg/kg	ND	ND	
MS	1,2,4-Trichlorobenzene	mg/kg	100	82.0	82
MS	1,4-Dichlorobenzene (p-DCB)	mg/kg	100	85.7	86

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**BNA Extractable (ML/SW 8270)
Quality Control**

Control	Parameter	Units	Actual	Found	%Recv
MS	2,4-Dinitrotoluene	mg/kg	100	57.7	58
MS	2-Chlorophenol	mg/kg	200	157	78
MS	4-Nitrophenol	mg/kg	200	ND	-
MS	Acenaphthene	mg/kg	100	101	101
MS	Di-n-butylphthalate	mg/kg	200	177	88
MS	N-Nitrosodi-N-propylamine	mg/kg	100	82.3	82
MS	p-Chloro-m-cresol	mg/kg	200	151	76
MS	Pentachlorophenol	mg/kg	200	76.3	38
MS	Phenol	mg/kg	200	119	60
MS	Pyrene	mg/kg	100	105	105
MSD	1,2,4-Trichlorobenzene	mg/kg	100	91.9	92
MSD	1,4-Dichlorobenzene (p-DCB)	mg/kg	100	93.2	93
MSD	2,4-Dinitrotoluene	mg/kg	100	65.6	66
MSD	2-Chlorophenol	mg/kg	200	171	86
MSD	4-Nitrophenol	mg/kg	200	ND	-
MSD	Acenaphthene	mg/kg	100	116	116
MSD	Di-n-butylphthalate	mg/kg	200	195	98
MSD	N-Nitrosodi-N-propylamine	mg/kg	100	92.8	93
MSD	p-Chloro-m-cresol	mg/kg	200	168	84
MSD	Pentachlorophenol	mg/kg	200	114	57
MSD	Phenol	mg/kg	200	132	66
MSD	Pyrene	mg/kg	100	111	111

Report #: 9787



MONTGOMERY LABORATORIES

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 1 800 566 LABS (1 800 566 5227)

Sample # 931007076 Sample ID 63873 Project _____
 Sample Type Soil Sampled 06-oct-1993 Received 06-oct-1993 Reported 08-dec-1993

Laboratory Report

LA CO Sanitation Districts/Palos Verdes
 1965 S Workman Mill Road

Whittier , CA 90601
 ATTN: Lorie Losorelli

Parameter		Units	Result	Conc.	%Rec	Dilution	Det.Limit	Prepared	By	Analyzed	By
High BP Hydrocarbons	(LUFT)	mg/kg	ND				10	11-oct-1993	ahg	06-nov-1993	mer

Report #: 9787



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Laboratory Report

LA CO Sanitation Districts/Palos Verdes
1965 S Workman Mill Road

Whittier, CA 90601
ATTN: Lorie Losorelli

Sample # 931007076 Sample ID 63873 Project _____
Sample Type Soil Sampled 06-oct-1993 Received 06-oct-1993 Reported 08-dec-1993

Single Determination Analytes Quality Control

Control	Parameter	Units	Actual	Found	%Recv
LCS1	High BP Hydrocarbons	mg/kg	100	90.1	90
LCS2	High BP Hydrocarbons	mg/kg	100	NA	
MBLK	High BP Hydrocarbons	mg/kg	ND	ND	
MS	High BP Hydrocarbons	mg/kg	100	116	116
MSD	High BP Hydrocarbons	mg/kg	100	110	110

Report #: 9787



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Sample # 931007077 Sample ID 63874 Project _____
Sample Type Soil Sampled 06-oct-1993 Received 06-oct-1993 Reported 08-dec-1993

Laboratory Report

LA CO Sanitation Districts/Palos Verdes
1965 S Workman Mill Road

Whittier, CA 90601
ATTN: Lorie Losorelli

Parameter		Units	Result	Conc.	%Rec	Dilution	Det.Limit	Prepared	By	Analyzed	By
High BP Hydrocarbons	(LUFT)	mg/kg	ND				10	11-oct-1993	ahq	06-nov-1993	mer



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Laboratory Report

LA CO Sanitation Districts/Palos Verdes
1965 S Workman Mill Road

Whittier, CA 90601
ATTN: Lorie Losorelli

Sample # 931007077 Sample ID 63874 Project _____
Sample Type Soil Sampled 06-oct-1993 Received 06-oct-1993 Reported 08-dec-1993

Single Determination Analytes Quality Control

Control	Parameter	Units	Actual	Found	%Recv
LCS1	High BP Hydrocarbons	mg/kg	100	90.1	90
LCS2	High BP Hydrocarbons	mg/kg	100	NA	
MBLK	High BP Hydrocarbons	mg/kg	ND	ND	
MS	High BP Hydrocarbons	mg/kg	100	116	116
MSD	High BP Hydrocarbons	mg/kg	100	110	110

Control	Parameter	Units	Actual	Found	%Recv

Report #: 9787



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Sample # 931007078 Sample ID 63875 Project _____
Sample Type Soil Sampled 06-oct-1993 Received 06-oct-1993 Reported 08-dec-1993

Laboratory Report

LA CD Sanitation Districts/Palos Verdes
1965 S Workman Mill Road

Whittier , CA 90601
ATTN: Lorie Losorelli

Parameter	Units	Result	Conc.	%Rec	Dilution	Det.Limit	Prepared	By	Analyzed	By
High BP Hydrocarbons	(LUFT) mg/kg	ND				10	11-oct-1993	shg	06-nov-1993	mer



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Laboratory Report

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 1965 S Workman Mill Road

Whittier, CA 90601
 ATTN: Lorie Losorelli

Sample # 931007078 Sample ID 63875 Project _____
 Sample Type Soil Sampled 06-oct-1993 Received 06-oct-1993 Reported 08-dec-1993

**Single Determination Analytes
 Quality Control**

Control	Parameter	Units	Actual	Found	%Recv
LCS1	High BP Hydrocarbons	mg/kg	100	90.1	90
LCS2	High BP Hydrocarbons	mg/kg	100	NA	
MBLK	High BP Hydrocarbons	mg/kg	ND	ND	
MS	High BP Hydrocarbons	mg/kg	100	116	116
MSD	High BP Hydrocarbons	mg/kg	100	110	110

Report #: 9787

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Laboratory Report

LA CO Sanitation Districts/Palos Verdes
 1965 S Workman Mill Road

Sample # 931007079 Sample ID 63876 Project _____
 Sample Type Soil Sampled 06-oct-1993 Received 06-oct-1993 Reported 08-dec-1993

Whittier, CA 90601
 ATTN: Lorie Losorelli

Parameter	Units	Result	Conc.	%Rec	Dilution	Det.Limit	Prepared	By	Analyzed	By
High BP Hydrocarbons	(LUFT) mg/kg	ND				10	11-oct-1993	ahq	06-nov-1993	mer

Report #: 9787



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Laboratory Report

LA CO Sanitation Districts/Palos Verdes
 1965 S Workman Mill Road

Whittier, CA 90601
 ATTN: Lorie Losorelli

Sample # 931007079 Sample ID 63876 Project _____
 Sample Type Soil Sampled 06-oct-1993 Received 06-oct-1993 Reported 08-dec-1993

**Single Determination Analytes
 Quality Control**

Control	Parameter	Units	Actual	Found	%Recv
LCS1	High BP Hydrocarbons	mg/kg	100	90.1	90
LCS2	High BP Hydrocarbons	mg/kg	100	NA	
MBLK	High BP Hydrocarbons	mg/kg	ND	ND	
MS	High BP Hydrocarbons	mg/kg	100	116	116
MSD	High BP Hydrocarbons	mg/kg	100	110	110

Report #: 9787



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Laboratory Report

LA CO Sanitation Districts/Palos Verdes
1965 S Workman Mill Road

Sample # 931007080 Sample ID 63877 Project _____
Sample Type Soil Sampled 06-oct-1993 Received 06-oct-1993 Reported 08-dec-1993

Whittier , CA 90601
ATTN: Lorie Losorelli

Parameter	Units	Result	Conc.	%Rec	Dilution	Det.Limit	Prepared	By	Analyzed	By
High BP Hydrocarbons (LUFT)	mg/kg	ND*				10	11-oct-1993	ahq	08-nov-1993	mer



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Laboratory Report

LA CO Sanitation Districts/Palos Verdes
1965 S Workman Mill Road

Whittier, CA 90601
ATTN: Lorie Losorelli

Sample # 931007080 Sample ID 63877 Project _____
Sample Type Soil Sampled 06-oct-1993 Received 06-oct-1993 Reported 08-dec-1993

Single Determination Analytes Quality Control

Control	Parameter	Units	Actual	Found	%Recv
LCS1	High BP Hydrocarbons	mg/kg	100	117	117
LCS2	High BP Hydrocarbons	mg/kg	100	NA	
MBLK	High BP Hydrocarbons	mg/kg	ND	ND	
MS	High BP Hydrocarbons	mg/kg	100	116	116
MSD	High BP Hydrocarbons	mg/kg	100	110	110

Report #: 9787



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Sample # 931007081 Sample ID 63878 Project _____
Sample Type Soil Sampled 06-oct-1993 Received 06-oct-1993 Reported 08-dec-1993

Laboratory Report

LA CO Sanitation Districts/Palos Verdes
1965 S Workman Mill Road

Whittier, CA 90601
ATTN: Lorie Losorelli

Parameter	Units	Result	Conc.	%Rec	Dilution	Det.Limit	Prepared By	Analyzed By
High BP Hydrocarbons (LUFT)	mg/kg	ND				10	16-oct-1993 hth	01-nov-1993 mer



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Laboratory Report

LA CO Sanitation Districts/Palos Verdes
1965 S Workman Mill Road

Whittier , CA 90601
ATTN: Lorie Losorelli

Sample # 931007085 Sample ID 63882 Project _____
Sample Type Soil Sampled 06-oct-1993 Received 06-oct-1993 Reported 08-dec-1993

**Single Determination Analytes
Quality Control**

Control	Parameter	Units	Actual	Found	%Recv
LCS1	High BP Hydrocarbons	mg/kg	100	74.0	-74
LCS2	High BP Hydrocarbons	mg/kg	100	NA	
MBLK	High BP Hydrocarbons	mg/kg	ND	ND	
MS	High BP Hydrocarbons	mg/kg	100	116	116
MSD	High BP Hydrocarbons	mg/kg	100	110	110

Report #: 9787



MONTGOMERY LABORATORIES

**555 East Walnut Street
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Laboratory Report

Sample # 931007086 Sample ID 63883 Project _____
Sample Type Soil Sampled 06-oct-1993 Received 06-oct-1993 Reported 08-dec-1993

LA CO Sanitation Districts/Palos Verdes
1965 S Workman Mill Road

Whittier, CA 90601
ATTN: Lorie Losorelli

Parameter	Units	Result	Conc.	%Rec	Dilution	Det.Limit	Prepared	By	Analyzed	By
High BP Hydrocarbons	(LUFT) mg/kg	ND				10	16-oct-1993	hth	01-nov-1993	mer

Report #: 9787



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Laboratory Report

LA CO Sanitation Districts/Palos Verdes
1965 S Workman Mill Road

Whittier, CA 90601
ATTN: Lorie Losorelli

Sample # 931007086 Sample ID 63883 Project _____
Sample Type Soil Sampled 06-oct-1993 Received 06-oct-1993 Reported 08-dec-1993

**Single Determination Analytes
Quality Control**

Control	Parameter	Units	Actual	Found	%Recv
LCS1	High BP Hydrocarbons	ng/kg	100	74.0	74
LCS2	High BP Hydrocarbons	ng/kg	100	NA	
MBLK	High BP Hydrocarbons	ng/kg	ND	ND	
MS	High BP Hydrocarbons	ng/kg	100	116	116
MSD	High BP Hydrocarbons	ng/kg	100	110	110

Report #: 9787



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Sample # 931007087 Sample ID 63884 Project _____
Sample Type Soil Sampled 06-oct-1993 Received 06-oct-1993 Reported 08-dec-1993

Laboratory Report

LA CO Sanitation Districts/Palos Verdes
1965 S Workman Mill Road

Whittier, CA 90601
ATTN: Lorie Losorelli

Parameter	Units	Result	Conc.	%Rec	Dilution	Det.Limit	Prepared	By	Analyzed	By
High BP Hydrocarbons	(LUFT) mg/kg	ND				10	16-oct-1993	hth	08-nov-1993	mer



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Laboratory Report

LA CO Sanitation Districts/Palos Verdes
1965 S Workman Mill Road

Whittier, CA 90601
ATTN: Lorie Losorelli

Sample # 931007087 Sample ID 63884 Project _____
Sample Type Soil Sampled 06-oct-1993 Received 06-oct-1993 Reported 08-dec-1993

Single Determination Analytes Quality Control

Control	Parameter	Units	Actual	Found	%Recv
LCS1	High BP Hydrocarbons	mg/kg	100	117	117
LCS2	High BP Hydrocarbons	mg/kg	100	NA	
MBLK	High BP Hydrocarbons	mg/kg	ND	ND	
MS	High BP Hydrocarbons	mg/kg	100	116	116
MSD	High BP Hydrocarbons	mg/kg	100	110	110

Report #: 9787



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Sample # 931007088 Sample ID 63916 Project _____
Sample Type Water Sampled 06-oct-1993 Received 06-oct-1993 Reported 08-dec-1993

Laboratory Report

LA CO Sanitation Districts/Palos Verdes
1965 S Workman Mill Road

Whittier, CA 90601
ATTN: Lorie Losorelli

Parameter	Units	Result	Conc.	%Rec	Dilution	Det.Limit	Prepared	By	Analyzed	By
Total Organic Halogen	(ML/SW 9020) ug/l	890			8	80			19-oct-1993	frh

Report #: 9787



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Laboratory Report

LA CO Sanitation Districts/Palos Verdes
1965 S Workman Mill Road

Whittier, CA 90601
ATTN: Lorie Losorelli

Sample # 931007088 Sample ID 63916 Project _____
Sample Type Water Sampled 06-oct-1993 Received 06-oct-1993 Reported 08-dec-1993

Single Determination Analytes
Quality Control

Control	Parameter	Units	Actual	Found	%Recv
LCS1	Total Organic Halogen	ug/l	100	94	94
LCS2	Total Organic Halogen	ug/l	100	88	88
MBLK	Total Organic Halogen	ug/l	ND	ND	
MS	Total Organic Halogen	ug/l	60	52	87
MSD	Total Organic Halogen	ug/l	60	53	88

Report #: 9787



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Sample # 931007089 Sample ID 63917 Project _____
Sample Type Water Sampled 06-oct-1993 Received 06-oct-1993 Reported 08-dec-1993

Laboratory Report

LA CO Sanitation Districts/Palos Verdes
1965 S Workman Mill Road

Whittier, CA 90601
ATTN: Lorie Losorelli

Parameter	Units	Result	Conc.	%Rec	Dilution	Det.Limit	Prepared	By	Analyzed	By
Total Organic Halogen	(ML/SW 9020) ug/l	190			4	40			20-oct-1993	Fph



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Laboratory Report

LA CO Sanitation Districts/Palos Verdes
1965 S Workman Mill Road

Whittier, CA 90601
ATTN: Lorie Losorelli

Sample # 931007089 Sample ID 63917 Project _____
Sample Type Water Sampled 06-oct-1993 Received 06-oct-1993 Reported 08-dec-1993

**Single Determination Analytes
Quality Control**

Control	Parameter	Units	Actual	Found	%Recv
LCS1	Total Organic Halogen	ug/l	100	93	93
LCS2	Total Organic Halogen	ug/l	100	91	91
MBLK	Total Organic Halogen	ug/l	ND	ND	-
MS	Total Organic Halogen	ug/l	60	52	87
HSD	Total Organic Halogen	ug/l	60	53	88

Report #: 9787



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Laboratory Report

LA CO Sanitation Districts/Palos Verdes
1965 S Workman Mill Road

Whittier, CA 90601
ATTN: Lorie Losorelli

Sample # 931007090 Sample ID 63918 Project _____
Sample Type Water Sampled 06-oct-1993 Received 06-oct-1993 Reported 08-dec-1993

Parameter	Units	Result	Conc.	%Rec	Dilution	Det.Limit	Prepared	By	Analyzed	By
Total Organic Halogen	(ML/SW 9020) ug/l	310			4	40			20-oct-1993	frh



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Laboratory Report

LA CO Sanitation Districts/Palos Verdes
1965 S Workman Mill Road

Whittier, CA 90601
ATTN: Lorie Losorelli

Sample # 931007090 Sample ID 63918 Project _____
Sample Type Water Sampled 06-oct-1993 Received 06-oct-1993 Reported 08-dec-1993

**Single Determination Analytes
Quality Control**

Control	Parameter	Units	Actual	Found	%Recv
LCS1	Total Organic Halogen	ug/l	100	93	93
LCS2	Total Organic Halogen	ug/l	100	91	91
MBLk	Total Organic Halogen	ug/l	ND	ND	-
MS	Total Organic Halogen	ug/l	60	52	87
MSD	Total Organic Halogen	ug/l	60	53	88

Report #: 9787

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Sample # 931007091 Sample ID 63919 Project _____
Sample Type Water Sampled 06-oct-1993 Received 06-oct-1993 Reported 08-dec-1993

Laboratory Report

LA CO Sanitation Districts/Palos Verdes
1965 S Workman Mill Road

Whittier , CA 90601
ATTN: Lorie Losorelli

Parameter	Units	Result	Conc.	%Rec	Dilution	Det.Limit	Prepared	By	Analyzed	By
Total Organic Halogen	(ML/SW 9020) ug/l	320			6	40			20-oct-1993	frh



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Laboratory Report

LA CO Sanitation Districts/Palos Verdes
1965 S Workman Mill Road

Whittier , CA 90601
ATTN: Lorie Losorelli

Sample # 931007091 Sample ID 63919 Project _____
Sample Type Water Sampled 06-oct-1993 Received 06-oct-1993 Reported 08-dec-1993

**Single Determination Analytes
Quality Control**

Control	Parameter	Units	Actual	Found	%Recv
LCS1	Total Organic Halogen	ug/l	100	93	93
LCS2	Total Organic Halogen	ug/l	100	91	91
MBLK	Total Organic Halogen	ug/l	ND	ND	-
MS	Total Organic Halogen	ug/l	60	52	87
HSD	Total Organic Halogen	ug/l	60	53	88

Report #: 9787



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Sample # 931007092 Sample ID 63897 Project _____
Sample Type Water Sampled 06-oct-1993 Received 06-oct-1993 Reported 08-dec-1993

Laboratory Report

LA CO Sanitation Districts/Palos Verdes
1965 S Workman Mill Road

Whittier, CA 90601
ATTN: Lorie Losorelli

Parameter	Units	Result	Conc.	%Rec	Dilution	Det.Limit	Prepared	By	Analyzed	By
Potassium, Flame AA	(ML/EPA 258.1) mg/kg	4970				100			21-oct-1993	jps



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Laboratory Report

LA CO Sanitation Districts/Palos Verdes
1965 S Workman Mill Road

Whittier, CA 90601
ATTN: Lorie Losorelli

Sample # 931007092 Sample ID 63897 Project _____
Sample Type Water Sampled 06-oct-1993 Received 06-oct-1993 Reported 08-dec-1993

**Single Determination Analytes
Quality Control**

Control	Parameter	Units	Actual	Found	%Recv
LCS1	Potassium, Flame AA	mg/kg	20	19.2	96
LCS2	Potassium, Flame AA	mg/kg	20	18.8	94
MBLK	Potassium, Flame AA	mg/kg	ND	ND	-
MS	Potassium, Flame AA	mg/kg	20	17.3	86
HSD	Potassium, Flame AA	mg/kg	20	17.8	89

Report #: 9787

Group Validation Comments

Only 15 grams are used for extraction for BNA and dioxin yielding higher detection limits.

HIGHBPHC: Samples 931007080 and 931007084 contaminated with very high boiling point hydrocarbons, see comments for results estimated using motor oil response factor. TPHIR analysis may yield more accurate quantitation.

Sample# 931007075
Source: 63897

Data Entry Comments

This sample was diluted due to insufficient amount of sample (@BNA)
diluted to reduce matrix effects (TL-GF)

Sample# 931007080
Source: 63877

Data Entry Comments

Sample chromatogram showed pattern atypical of diesel fuel (HIGHBPHC)
or motor oil. Estimate result of 680 mg/Kg for compounds (HIGHBPHC)
eluting after motor oil boiling point range; estimate (HIGHBPHC)
based on response factor for motor oil. (HIGHBPHC)

Sample# 931007084
Source: 63881

Data Entry Comments

Sample chromatogram showed pattern atypical of diesel fuel (HIGHBPHC)
or motor oil. Result of 11 mg/Kg for compounds eluting (HIGHBPHC)
within diesel fuel boiling point range; possibly due to high (HIGHBPHC)
humic acid. Estimate result of 180 mg/Kg for compounds (HIGHBPHC)
eluting after motor oil boiling point range; estimate (HIGHBPHC)
based on motor oil response factor. (HIGHBPHC)



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REVISED
Laboratory Report

for

LA CO Sanitation Districts/Palos Verdes
1965 S Workman Mill Road

Whittier, CA 90601

Attention: Lorie Losorelli

Soil Cover Samples

64298 - (SC47) - OLS

64299 - (SC50) - OLS

64270-64282 (SC47-SC59) - H.C
(Bridle Trail & PAH area)

MONTGOMERY LABORATORIES
Submitted on

DEC 09 1993

J. Kelly

HDS*

Report#: 9905

QUALITY CONTROL LIMITS, FOR ANALYSIS OF SOIL SAMPLES, USED BY MONTGOMERY

LABORATORIES AS OF 12/15/93, BASED ON HISTORICAL DATA AT MONTGOMERY LAE

<u>ANALYTE</u>	<u>LAB. CONTROL SAMPLES</u>		<u>MATRIX SPIKE & DUPLICATE</u>	
	<u>% ACCURACY</u>	<u>RPD</u>	<u>% ACCURACY</u>	<u>RPD</u>
(Method 8270)				
pentachlorophenol	21 - 146	21	17 - 109	15
phenol	11 - 89	13	26 - 90	11
2-chlorophenol	16 - 82	11	25 - 102	13
4-chloro-3methylphenol	23 - 98	13	26 - 103	13
4-nitrophenol	13 - 87	12	11 - 114	17
1,2,4-trichlorobenzene	13 - 101	15	38 - 107	12
acenaphthene	22 - 97	13	31 - 137	18
2,4-dinitrotolulene	27 - 132	18	28 - 89	10
pyrene	9 - 143	22	35 - 142	18
n-nitrosodi-n-propylamine	15 - 112	16	41 - 126	14
1,4-dichlorobenzene	23 - 74	8	28 - 104	13
High BP Hydrocarbons	61 - 123	15	42 - 122	13
Thallium	78 - 115	6	70 - 130	10
Potassium *	86 - 96	2	70 - 135	16

* Limits are based on water sample analysis, as there is not enough data to determine limits for potassium by flame on a soil matrix.



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Laboratory Report

LA CO Sanitation Districts/Palos Verdes
1965 S Workman Mill Road

Whittier , CA 90601
ATTN: Lorie Losorelli

Sample # 931014043 Sample ID 64298 Project _____
Sample Type Soil Sampled 12-oct-1993 Received 14-oct-1993 Reported 09-dec-1993

Parameter	Units	Result	Conc.	%Rec	Dilution	Det.Limit	Prepared	By	Analyzed	By
Dioxin, Screen	(ML/SW 8270) mg/kg	ND				0.66	26-oct-1993	fith	03-nov-1993	dfi
Thallium, Total, GF	(ML/EPA 279.2) mg/kg	ND			5	5	15-oct-1993	eyw	01-nov-1993	gto



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Laboratory Report

LA CO Sanitation Districts/Palos Verdes
1965 S Workman Mill Road

Sample # 931014043 Sample ID 64298 Project _____
Sample Type Soil Sampled 12-oct-1993 Received 14-oct-1993 Reported 09-dec-1993

Whittier, CA 90601
ATTN: Lorie Losorelli

BNA Extractable (ML/SW 8270)

Parameter	Units	Result	Conc.	%Rec	Dilution	Det.Limit	Prepared	By	Analyzed	By
1,2,4-Trichlorobenzene	mg/kg	ND				0.33	26-oct-1993	hth	01-nov-1993	dfi
1,2-Dichlorobenzene	mg/kg	ND				0.33	26-oct-1993	hth	01-nov-1993	dfi
1,2-Diphenylhydrazine	mg/kg	ND				0.33	26-oct-1993	hth	01-nov-1993	dfi
1,3-Dichlorobenzene	mg/kg	ND				0.33	26-oct-1993	hth	01-nov-1993	dfi
1,4-Dichlorobenzene (p-DCB)	mg/kg	ND				0.33	26-oct-1993	hth	01-nov-1993	dfi
2,4,5-Trichlorophenol	mg/kg	ND				0.33	26-oct-1993	hth	01-nov-1993	dfi
2,4,6-Trichlorophenol	mg/kg	ND				0.33	26-oct-1993	hth	01-nov-1993	dfi
2,4-Dichlorophenol	mg/kg	ND				0.33	26-oct-1993	hth	01-nov-1993	dfi
2,4-Dimethylphenol	mg/kg	ND				0.33	26-oct-1993	hth	01-nov-1993	dfi
2,4-Dinitrophenol	mg/kg	ND				1.6	26-oct-1993	hth	01-nov-1993	dfi
2,4-Dinitrotoluene	mg/kg	ND				0.33	26-oct-1993	hth	01-nov-1993	dfi
2,6-Dinitrotoluene	mg/kg	ND				0.33	26-oct-1993	hth	01-nov-1993	dfi
2-Chloronaphthalene	mg/kg	ND				0.33	26-oct-1993	hth	01-nov-1993	dfi
2-Chlorophenol	mg/kg	ND				0.33	26-oct-1993	hth	01-nov-1993	dfi
2-Methylnaphthalene	mg/kg	ND				0.165	26-oct-1993	hth	01-nov-1993	dfi
2-Methylphenol	mg/kg	ND				0.33	26-oct-1993	hth	01-nov-1993	dfi
2-Nitroaniline	mg/kg	ND				0.8	26-oct-1993	hth	01-nov-1993	dfi
2-Nitrophenol	mg/kg	ND				0.33	26-oct-1993	hth	01-nov-1993	dfi
3,3'-Dichlorobenzidine	mg/kg	ND				0.66	26-oct-1993	hth	01-nov-1993	dfi
3-Nitroaniline	mg/kg	ND				0.8	26-oct-1993	hth	01-nov-1993	dfi
4,6-Dinitro-o-cresol	mg/kg	ND				1.6	26-oct-1993	hth	01-nov-1993	dfi
4-Bromophenylphenylether	mg/kg	ND				0.33	26-oct-1993	hth	01-nov-1993	dfi
4-Chloroaniline	mg/kg	ND				0.33	26-oct-1993	hth	01-nov-1993	dfi
4-Chlorophenylphenylether	mg/kg	ND				0.33	26-oct-1993	hth	01-nov-1993	dfi
4-Methylphenol	mg/kg	ND				0.33	26-oct-1993	hth	01-nov-1993	dfi
4-Nitroaniline	mg/kg	ND				0.8	26-oct-1993	hth	01-nov-1993	dfi
4-Nitrophenol	mg/kg	ND				1.6	26-oct-1993	hth	01-nov-1993	dfi
Acenaphthene	mg/kg	ND				0.33	26-oct-1993	hth	01-nov-1993	dfi
Acenaphthylene	mg/kg	ND				0.33	26-oct-1993	hth	01-nov-1993	dfi



MONTGOMERY LABORATORIES

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Laboratory Report

LA CO Sanitation Districts/Palos Verdes
1965 S Workman Mill Road

Sample # 931014043 Sample ID 64298 Project _____
Sample Type Soil Sampled 12-oct-1993 Received 14-oct-1993 Reported 09-dec-1993

Whittier, CA 90601
ATTN: Lorie Losorelli

BNA Extractable (ML/SW 8270)

Parameter	Units	Result	Conc.	%Rec	Dilution	Det.Limit	Prepared	By	Analyzed	By
Aniline	mg/kg	ND				0.33	26-oct-1993	hth	01-nov-1993	dfi
Anthracene	mg/kg	ND				0.33	26-oct-1993	hth	01-nov-1993	dfi
Benzo(a)anthracene	mg/kg	ND				0.33	26-oct-1993	hth	01-nov-1993	dfi
Benzo(a)pyrene	mg/kg	ND				0.33	26-oct-1993	hth	01-nov-1993	dfi
Benzo(b)fluoranthene	mg/kg	ND				0.33	26-oct-1993	hth	01-nov-1993	dfi
Benzo(g,h,i)perylene	mg/kg	ND				0.33	26-oct-1993	hth	01-nov-1993	dfi
Benzo(k)fluoranthene	mg/kg	ND				0.33	26-oct-1993	hth	01-nov-1993	dfi
bis(2-Chloroethyl)ether	mg/kg	ND				0.33	26-oct-1993	hth	01-nov-1993	dfi
bis(2-Chloroethoxy)methane	mg/kg	ND				0.33	26-oct-1993	hth	01-nov-1993	dfi
bis(2-Chloroisopropyl)ether	mg/kg	ND				0.33	26-oct-1993	hth	01-nov-1993	dfi
bis(2-Ethylhexyl)phthalate	mg/kg	ND				0.33	26-oct-1993	hth	01-nov-1993	dfi
Butylbenzylphthalate	mg/kg	ND				0.33	26-oct-1993	hth	01-nov-1993	dfi
Benzidine	mg/kg	ND				0.66	26-oct-1993	hth	01-nov-1993	dfi
Benzoic Acid	mg/kg	ND				1.6	26-oct-1993	hth	01-nov-1993	dfi
Benzyl Alcohol	mg/kg	ND				0.66	26-oct-1993	hth	01-nov-1993	dfi
Chrysene	mg/kg	ND				0.33	26-oct-1993	hth	01-nov-1993	dfi
Dibenzo(a,h)anthracene	mg/kg	ND				0.33	26-oct-1993	hth	01-nov-1993	dfi
Dibenzofuran	mg/kg	ND				0.165	26-oct-1993	hth	01-nov-1993	dfi
Diethylphthalate	mg/kg	ND				0.33	26-oct-1993	hth	01-nov-1993	dfi
Dimethylphthalate	mg/kg	ND				0.33	26-oct-1993	hth	01-nov-1993	dfi
Di-n-butylphthalate	mg/kg	ND				0.33	26-oct-1993	hth	01-nov-1993	dfi
Di-n-octylphthalate	mg/kg	ND				0.33	26-oct-1993	hth	01-nov-1993	dfi
Fluoranthene	mg/kg	ND				0.33	26-oct-1993	hth	01-nov-1993	dfi
Fluorene	mg/kg	ND				0.33	26-oct-1993	hth	01-nov-1993	dfi
Hexachlorobenzene	mg/kg	ND				0.33	26-oct-1993	hth	01-nov-1993	dfi
Hexachlorobutadiene	mg/kg	ND				0.33	26-oct-1993	hth	01-nov-1993	dfi
Hexachlorocyclopentadiene	mg/kg	ND				0.33	26-oct-1993	hth	01-nov-1993	dfi
Hexachloroethane	mg/kg	ND				0.33	26-oct-1993	hth	01-nov-1993	dfi
Indeno(1,2,3-c,d)pyrene	mg/kg	ND				0.33	26-oct-1993	hth	01-nov-1993	dfi



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Laboratory Report

LA CO Sanitation Districts/Palos Verdes
1965 S Workman Mill Road

Sample # 931014043 Sample ID 64298 Project _____
Sample Type Soil Sampled 12-oct-1993 Received 14-oct-1993 Reported 09-dec-1993

Whittier, CA 90601
ATTN: Lorie Losorelli

BNA Extractable (ML/SW 8270)

Parameter	Units	Result	Conc.	%Rec	Dilution	Det.Limit	Prepared	By	Analyzed	By
Isophorone	mg/kg	ND				0.33	26-oct-1993	hth	01-nov-1993	dfi
Naphthalene	mg/kg	ND				0.33	26-oct-1993	hth	01-nov-1993	dfi
Nitrobenzene	mg/kg	ND				0.33	26-oct-1993	hth	01-nov-1993	dfi
N-Nitrosodimethylamine	mg/kg	ND				0.33	26-oct-1993	hth	01-nov-1993	dfi
N-Nitrosodi-N-propylamine	mg/kg	ND				0.33	26-oct-1993	hth	01-nov-1993	dfi
N-Nitrosodiphenylamine	mg/kg	ND				0.33	26-oct-1993	hth	01-nov-1993	dfi
p-Chloro-m-cresol	mg/kg	ND				0.66	26-oct-1993	hth	01-nov-1993	dfi
Pentachlorophenol	mg/kg	ND				1.6	26-oct-1993	hth	01-nov-1993	dfi
Phenanthrene	mg/kg	ND				0.33	26-oct-1993	hth	01-nov-1993	dfi
Phenol	mg/kg	ND				0.33	26-oct-1993	hth	01-nov-1993	dfi
Pyrene	mg/kg	ND				0.33	26-oct-1993	hth	01-nov-1993	dfi



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Sample # 931014043 Sample ID 64298 Project _____
Sample Type Soil Sampled 12-oct-1993 Received 14-oct-1993 Reported 09-dec-1993

**BNA Extractable (ML/SW 8270)
Quality Control**

Control	Parameter	Units	Actual	Found	%Recv
LCS1	1,2,4-Trichlorobenzene	mg/kg	100	71.5	72
LCS1	1,4-Dichlorobenzene (p-DCB)	mg/kg	100	65.2	65
LCS1	2,4-Dinitrotoluene	mg/kg	100	90.3	90
LCS1	2-Chlorophenol	mg/kg	200	124	62
LCS1	4-Nitrophenol	mg/kg	200	164	82
LCS1	Acenaphthene	mg/kg	100	80.5	80
LCS1	N-Nitrosodi-N-propylamine	mg/kg	100	66.3	66
LCS1	p-Chloro-m-cresol	mg/kg	200	146	73
LCS1	Pentachlorophenol	mg/kg	200	225	112
LCS1	Phenol	mg/kg	200	106	53
LCS1	Pyrene	mg/kg	100	94.8	95
LCS2	1,2,4-Trichlorobenzene	mg/kg	100	88.5	88
LCS2	1,4-Dichlorobenzene (p-DCB)	mg/kg	100	71.6	72
LCS2	2,4-Dinitrotoluene	mg/kg	100	95.7	96
LCS2	2-Chlorophenol	mg/kg	200	142	71
LCS2	4-Nitrophenol	mg/kg	200	179	90
LCS2	Acenaphthene	mg/kg	100	94.7	95
LCS2	N-Nitrosodi-N-propylamine	mg/kg	100	82.6	83
LCS2	p-Chloro-m-cresol	mg/kg	200	186	93
LCS2	Pentachlorophenol	mg/kg	200	245	122
LCS2	Phenol	mg/kg	200	125	62
LCS2	Pyrene	mg/kg	100	96.7	97
MBLK	1,2,4-Trichlorobenzene	mg/kg	ND	ND	
MBLK	1,2-Dichlorobenzene	mg/kg	ND	ND	
MBLK	1,2-Diphenylhydrazine	mg/kg	ND	ND	
MBLK	1,3-Dichlorobenzene	mg/kg	ND	ND	
MBLK	1,4-Dichlorobenzene (p-DCB)	mg/kg	ND	ND	
MBLK	2,4,5-Trichlorophenol	mg/kg	ND	ND	
MBLK	2,4,6-Trichlorophenol	mg/kg	ND	ND	
MBLK	2,4-Dichlorophenol	mg/kg	ND	ND	
MBLK	2,4-Dimethylphenol	mg/kg	ND	ND	

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Laboratory Report

LA CO Sanitation Districts/Palos Verdes
1965 S Workman Mill Road

Whittier, CA 90601
ATTN: Lorie Losorelli

Sample # 931014043 Sample ID 64298 Project _____
Sample Type Soil Sampled 12-oct-1993 Received 14-oct-1993 Reported 09-dec-1993

**BNA Extractable (ML/SW 8270)
Quality Control**

Control	Parameter	Units	Actual	Found	%Recv
MBLK	2,4-Dinitrophenol	mg/kg	ND	ND	
MBLK	2,4-Dinitrotoluene	mg/kg	ND	ND	
MBLK	2,6-Dinitrotoluene	mg/kg	ND	ND	
MBLK	2-Chloronaphthalene	mg/kg	ND	ND	
MBLK	2-Chlorophenol	mg/kg	ND	ND	
MBLK	2-Methylnaphthalene	mg/kg	ND	ND	
MBLK	2-Methylphenol	mg/kg	ND	ND	
MBLK	2-Nitroaniline	mg/kg	ND	ND	
MBLK	2-Nitrophenol	mg/kg	ND	ND	
MBLK	3,3'-Dichlorobenzidine	mg/kg	ND	ND	
MBLK	3-Nitroaniline	mg/kg	ND	ND	
MBLK	4,6-Dinitro-o-cresol	mg/kg	ND	ND	
MBLK	4-Bromophenylphenylether	mg/kg	ND	ND	
MBLK	4-Chloroaniline	mg/kg	ND	ND	
MBLK	4-Chlorophenylphenylether	mg/kg	ND	ND	
MBLK	4-Methylphenol	mg/kg	ND	ND	
MBLK	4-Nitroaniline	mg/kg	ND	ND	
MBLK	4-Nitrophenol	mg/kg	ND	ND	
MBLK	Acenaphthene	mg/kg	ND	ND	
MBLK	Acenaphthylene	mg/kg	ND	ND	
MBLK	Aniline	mg/kg	ND	ND	
MBLK	Anthracene	mg/kg	ND	ND	
MBLK	Benzo(a)anthracene	mg/kg	ND	ND	
MBLK	Benzo(a)pyrene	mg/kg	ND	ND	
MBLK	Benzo(b)fluoranthene	mg/kg	ND	ND	
MBLK	Benzo(g,h,i)perylene	mg/kg	ND	ND	
MBLK	Benzo(k)fluoranthene	mg/kg	ND	ND	
MBLK	bis(2-Chloroethyl)ether	mg/kg	ND	ND	
MBLK	bis(2-Chloroethoxy)methane	mg/kg	ND	ND	
MBLK	bis(2-Chloroisopropyl)ether	mg/kg	ND	ND	
MBLK	bis(2-Ethylhexyl)phthalate	mg/kg	ND	ND	

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LA CO Sanitation Districts/Palos Verdes
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Sample # 931014043 Sample ID 64298 Project _____
Sample Type Soil Sampled 12-oct-1993 Received 14-oct-1993 Reported 09-dec-1993

**BNA Extractable (ML/SW 8270)
Quality Control**

Control	Parameter	Units	Actual	Found	%Recv
MBLK	Butylbenzylphthalate	mg/kg	ND	ND	
MBLK	Benzidine	mg/kg	ND	ND	
MBLK	Benzoic Acid	mg/kg	ND	ND	
MBLK	Benzyl Alcohol	mg/kg	ND	ND	
MBLK	Chrysene	mg/kg	ND	ND	
MBLK	Dibenzo(a,h)anthracene	mg/kg	ND	ND	
MBLK	Dibenzofuran	mg/kg	ND	ND	
MBLK	Diethylphthalate	mg/kg	ND	ND	
MBLK	Dimethylphthalate	mg/kg	ND	ND	
MBLK	Di-n-butylphthalate	mg/kg	ND	ND	
MBLK	Di-n-octylphthalate	mg/kg	ND	ND	
MBLK	Fluoranthene	mg/kg	ND	ND	
MBLK	Fluorene	mg/kg	ND	ND	
MBLK	Hexachlorobenzene	mg/kg	ND	ND	
MBLK	Hexachlorobutadiene	mg/kg	ND	ND	
MBLK	Hexachlorocyclopentadiene	mg/kg	ND	ND	
MBLK	Hexachloroethane	mg/kg	ND	ND	
MBLK	Indeno(1,2,3-c,d)pyrene	mg/kg	ND	ND	
MBLK	Isophorone	mg/kg	ND	ND	
MBLK	Naphthalene	mg/kg	ND	ND	
MBLK	Nitrobenzene	mg/kg	ND	ND	
MBLK	N-Nitrosodimethylamine	mg/kg	ND	ND	
MBLK	N-Nitrosodi-N-propylamine	mg/kg	ND	ND	
MBLK	N-Nitrosodiphenylamine	mg/kg	ND	ND	
MBLK	p-Chloro-m-cresol	mg/kg	ND	ND	
MBLK	Pentachlorophenol	mg/kg	ND	ND	
MBLK	Phenanthrene	mg/kg	ND	ND	
MBLK	Phenol	mg/kg	ND	ND	
MBLK	Pyrene	mg/kg	ND	ND	
MS	1,2,4-Trichlorobenzene	mg/kg	100	NA	
MS	1,4-Dichlorobenzene (p-DCB)	mg/kg	100	NA	

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Laboratory Report

LA CO Sanitation Districts/Palos Verdes
1965 S Workman Mill Road

Whittier , CA 90601
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Sample # 931014043 Sample ID 64298 Project _____
Sample Type Soil Sampled 12-oct-1993 Received 14-oct-1993 Reported 09-dec-1993

BNA Extractable (ML/SW 8270)
Quality Control

Control	Parameter	Units	Actual	Found	%Recv
MS	2,4-Dinitrotoluene	mg/kg	100	NA	
MS	2-Chlorophenol	mg/kg	200	NA	
MS	4-Nitrophenol	mg/kg	200	NA	
MS	Acenaphthene	mg/kg	100	NA	
MS	Di-n-butylphthalate	mg/kg	100	NA	
MS	N-Nitrosodi-N-propylamine	mg/kg	100	NA	
MS	p-Chloro-m-cresol	mg/kg	200	NA	
MS	Pentachlorophenol	mg/kg	200	NA	
MS	Phenol	mg/kg	200	NA	
MS	Pyrene	mg/kg	100	NA	
MSD	1,2,4-Trichlorobenzene	mg/kg	100	NA	
MSD	1,4-Dichlorobenzene (p-DCB)	mg/kg	100	NA	
MSD	2,4-Dinitrotoluene	mg/kg	100	NA	
MSD	2-Chlorophenol	mg/kg	200	NA	
MSD	4-Nitrophenol	mg/kg	200	NA	
MSD	Acenaphthene	mg/kg	100	NA	
MSD	Di-n-butylphthalate	mg/kg	100	NA	
MSD	N-Nitrosodi-N-propylamine	mg/kg	100	NA	
MSD	p-Chloro-m-cresol	mg/kg	200	NA	
MSD	Pentachlorophenol	mg/kg	200	NA	
MSD	Phenol	mg/kg	200	NA	
MSD	Pyrene	mg/kg	100	NA	

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Laboratory Report

LA CO Sanitation Districts/Palos Verdes
1965 S Workman Mill Road

Whittier, CA 90601
ATTN: Lorie Losorelli

Sample # 931014044 Sample ID 64299 Project _____
Sample Type Soil Sampled 12-oct-1993 Received 14-oct-1993 Reported 09-dec-1993

**Single Determination Analytes
Quality Control**

Control	Parameter	Units	Actual	Found	%Recv
LCS1	Thallium, Total, GF	mg/kg	0.040	0.038	95
LCS2	Thallium, Total, GF	mg/kg	0.040	0.031	78
MBLK	Thallium, Total, GF	mg/kg	ND	ND	-
MS	Thallium, Total, GF	mg/kg	0.040	0.052	130
MSP	Thallium, Total, GF	mg/kg	0.040	0.062	155

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Laboratory Report

LA CO Sanitation Districts/Palos Verdes
1965 S Workman Mill Road

Sample # 931014044 Sample ID 64299 Project _____
Sample Type Soil Sampled 12-oct-1993 Received 14-oct-1993 Reported 09-dec-1993

Whittier, CA 90601
ATTN: Lorie Losorelli

BNA Extractable (ML/SW 8270)

Parameter	Units	Result	Conc.	%Rec	Dilution	Det.Limit	Prepared	By	Analyzed	By
1,2,4-Trichlorobenzene	mg/kg	ND				0.33	26-oct-1993	hth	03-nov-1993	dfi
1,2-Dichlorobenzene	mg/kg	ND				0.33	26-oct-1993	hth	03-nov-1993	dfi
1,2-Diphenylhydrazine	mg/kg	ND				0.33	26-oct-1993	hth	03-nov-1993	dfi
1,3-Dichlorobenzene	mg/kg	ND				0.33	26-oct-1993	hth	03-nov-1993	dfi
1,4-Dichlorobenzene (p-DCB)	mg/kg	ND				0.33	26-oct-1993	hth	03-nov-1993	dfi
2,4,5-Trichlorophenol	mg/kg	ND				0.33	26-oct-1993	hth	03-nov-1993	dfi
2,4,6-Trichlorophenol	mg/kg	ND				0.33	26-oct-1993	hth	03-nov-1993	dfi
2,4-Dichlorophenol	mg/kg	ND				0.33	26-oct-1993	hth	03-nov-1993	dfi
2,4-Dimethylphenol	mg/kg	ND				0.33	26-oct-1993	hth	03-nov-1993	dfi
2,4-Dinitrophenol	mg/kg	ND				1.6	26-oct-1993	hth	03-nov-1993	dfi
2,4-Dinitrotoluene	mg/kg	ND				0.33	26-oct-1993	hth	03-nov-1993	dfi
2,6-Dinitrotoluene	mg/kg	ND				0.33	26-oct-1993	hth	03-nov-1993	dfi
2-Chloronaphthalene	mg/kg	ND				0.33	26-oct-1993	hth	03-nov-1993	dfi
2-Chlorophenol	mg/kg	ND				0.33	26-oct-1993	hth	03-nov-1993	dfi
2-Methylnaphthalene	mg/kg	ND				0.165	26-oct-1993	hth	03-nov-1993	dfi
2-Methylphenol	mg/kg	ND				0.33	26-oct-1993	hth	03-nov-1993	dfi
2-Nitroaniline	mg/kg	ND				0.8	26-oct-1993	hth	03-nov-1993	dfi
2-Nitrophenol	mg/kg	ND				0.33	26-oct-1993	hth	03-nov-1993	dfi
3,3'-Dichlorobenzidine	mg/kg	ND				0.66	26-oct-1993	hth	03-nov-1993	dfi
3-Nitroaniline	mg/kg	ND				0.8	26-oct-1993	hth	03-nov-1993	dfi
4,6-Dinitro-o-cresol	mg/kg	ND				1.6	26-oct-1993	hth	03-nov-1993	dfi
4-Bromophenylphenylether	mg/kg	ND				0.33	26-oct-1993	hth	03-nov-1993	dfi
4-Chloroaniline	mg/kg	ND				0.33	26-oct-1993	hth	03-nov-1993	dfi
4-Chlorophenylphenylether	mg/kg	ND				0.33	26-oct-1993	hth	03-nov-1993	dfi
4-Methylphenol	mg/kg	ND				0.33	26-oct-1993	hth	03-nov-1993	dfi
4-Nitroaniline	mg/kg	ND				0.8	26-oct-1993	hth	03-nov-1993	dfi
4-Nitrophenol	mg/kg	ND				1.6	26-oct-1993	hth	03-nov-1993	dfi
Acenaphthene	mg/kg	ND				0.33	26-oct-1993	hth	03-nov-1993	dfi
Acenaphthylene	mg/kg	ND				0.33	26-oct-1993	hth	03-nov-1993	dfi

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Sample # 931014044 Sample ID 64299 Project _____
 Sample Type Soil Sampled 12-oct-1993 Received 14-oct-1993 Reported 09-dec-1993

Laboratory Report

LA CO Sanitation Districts/Palos Verdes
 1965 S Workman Mill Road

Whittier, CA 90601
 ATTN: Lorie Losorelli

BNA Extractable (ML/SW 8270)

Parameter	Units	Result	Conc.	%Rec	Dilution	Det.Limit	Prepared	By	Analyzed	By
Aniline	mg/kg	ND				0.33	26-oct-1993	hth	03-nov-1993	dfi
Anthracene	mg/kg	ND				0.33	26-oct-1993	hth	03-nov-1993	dfi
Benzo(a)anthracene	mg/kg	ND				0.33	26-oct-1993	hth	03-nov-1993	dfi
Benzo(a)pyrene	mg/kg	ND				0.33	26-oct-1993	hth	03-nov-1993	dfi
Benzo(b)fluoranthene	mg/kg	ND				0.33	26-oct-1993	hth	03-nov-1993	dfi
Benzo(g,h,i)perylene	mg/kg	ND				0.33	26-oct-1993	hth	03-nov-1993	dfi
Benzo(k)fluoranthene	mg/kg	ND				0.33	26-oct-1993	hth	03-nov-1993	dfi
bis(2-Chloroethyl)ether	mg/kg	ND				0.33	26-oct-1993	hth	03-nov-1993	dfi
bis(2-Chloroethoxy)methane	mg/kg	ND				0.33	26-oct-1993	hth	03-nov-1993	dfi
bis(2-Chloroisopropyl)ether	mg/kg	ND				0.33	26-oct-1993	hth	03-nov-1993	dfi
bis(2-Ethylhexyl)phthalate	mg/kg	ND				0.33	26-oct-1993	hth	03-nov-1993	dfi
Butylbenzylphthalate	mg/kg	ND				0.33	26-oct-1993	hth	03-nov-1993	dfi
Benzidine	mg/kg	ND				0.66	26-oct-1993	hth	03-nov-1993	dfi
Benzoic Acid	mg/kg	ND				1.6	26-oct-1993	hth	03-nov-1993	dfi
Benzyl Alcohol	mg/kg	ND				0.66	26-oct-1993	hth	03-nov-1993	dfi
Chrysene	mg/kg	ND				0.33	26-oct-1993	hth	03-nov-1993	dfi
Dibenzo(a,h)anthracene	mg/kg	ND				0.33	26-oct-1993	hth	03-nov-1993	dfi
Dibenzofuran	mg/kg	ND				0.165	26-oct-1993	hth	03-nov-1993	dfi
Diethylphthalate	mg/kg	ND				0.33	26-oct-1993	hth	03-nov-1993	dfi
Dimethylphthalate	mg/kg	ND				0.33	26-oct-1993	hth	03-nov-1993	dfi
Di-n-butylphthalate	mg/kg	ND				0.33	26-oct-1993	hth	03-nov-1993	dfi
Di-n-octylphthalate	mg/kg	ND				0.33	26-oct-1993	hth	03-nov-1993	dfi
Fluoranthene	mg/kg	ND				0.33	26-oct-1993	hth	03-nov-1993	dfi
Fluorene	mg/kg	ND				0.33	26-oct-1993	hth	03-nov-1993	dfi
Hexachlorobenzene	mg/kg	ND				0.33	26-oct-1993	hth	03-nov-1993	dfi
Hexachlorobutadiene	mg/kg	ND				0.33	26-oct-1993	hth	03-nov-1993	dfi
Hexachlorocyclopentadiene	mg/kg	ND				0.33	26-oct-1993	hth	03-nov-1993	dfi
Hexachloroethane	mg/kg	ND				0.33	26-oct-1993	hth	03-nov-1993	dfi
Indeno(1,2,3-c,d)pyrene	mg/kg	ND				0.33	26-oct-1993	hth	03-nov-1993	dfi



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Laboratory Report

LA CO Sanitation Districts/Palos Verdes
1965 S Workman Mill Road

Sample # 931014044 Sample ID 64299 Project _____
Sample Type Soil Sampled 12-oct-1993 Received 14-oct-1993 Reported 09-dec-1993

Whittier, CA 90601
ATTN: Lorie Losorelli

BNA Extractable (ML/SW 8270)

Parameter	Units	Result	Conc.	%Rec	Dilution	Det.Limit	Prepared	By	Analyzed	By
Isophorone	mg/kg	ND				0.33	26-oct-1993	hth	03-nov-1993	dfl
Naphthalene	mg/kg	ND				0.33	26-oct-1993	hth	03-nov-1993	dfl
Nitrobenzene	mg/kg	ND				0.33	26-oct-1993	hth	03-nov-1993	dfl
N-Nitrosodimethylamine	mg/kg	ND				0.33	26-oct-1993	hth	03-nov-1993	dfl
N-Nitrosodi-N-propylamine	mg/kg	ND				0.33	26-oct-1993	hth	03-nov-1993	dfl
N-Nitrosodiphenylamine	mg/kg	ND				0.33	26-oct-1993	hth	03-nov-1993	dfl
p-Chloro-m-cresol	mg/kg	ND				0.66	26-oct-1993	hth	03-nov-1993	dfl
Pentachlorophenol	mg/kg	ND				1.6	26-oct-1993	hth	03-nov-1993	dfl
Phenanthrene	mg/kg	ND				0.33	26-oct-1993	hth	03-nov-1993	dfl
Phenol	mg/kg	ND				0.33	26-oct-1993	hth	03-nov-1993	dfl
Pyrene	mg/kg	ND				0.33	26-oct-1993	hth	03-nov-1993	dfl



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1965 S Workman Mill Road

Whittier, CA 90601
ATTN: Lorie Losorelli

Sample # 931014044 Sample ID 64299 Project _____
Sample Type Soil Sampled 12-oct-1993 Received 14-oct-1993 Reported 09-dec-1993

**BNA Extractable (ML/SW 8270)
Surrogate Summary**

Parameter	Percent Recovery	Acceptable Range
2,4,6-Tribromophenol	116	19 - 122
Phenol-d5	75	24 - 113
2-Fluorophenol	71	25 - 121
Terphenyl-d14	50	18 - 137
2-Fluorobiphenyl	78	35 - 145
Nitrobenzene-d5	73	23 - 120

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1965 S Workman Mill Road

Whittier, CA 90601
ATTN: Lorie Losorelli

Sample # 931014044 Sample ID 64299 Project _____
Sample Type Soil Sampled 12-oct-1993 Received 14-oct-1993 Reported 09-dec-1993

**BNA Extractable (ML/SW 8270)
Quality Control**

Control	Parameter	Units	Actual	Found	%Recv
LCS1	1,2,4-Trichlorobenzene	mg/kg	100	71.5	72
LCS1	1,4-Dichlorobenzene (p-DCB)	mg/kg	100	65.2	65
LCS1	2,4-Dinitrotoluene	mg/kg	100	90.3	90
LCS1	2-Chlorophenol	mg/kg	200	124	62
LCS1	4-Nitrophenol	mg/kg	200	164	82
LCS1	Acenaphthene	mg/kg	100	80.5	80
LCS1	N-Nitrosodi-N-propylamine	mg/kg	100	66.3	66
LCS1	p-Chloro-m-cresol	mg/kg	200	146	73
LCS1	Pentachlorophenol	mg/kg	200	225	112
LCS1	Phenol	mg/kg	200	106	53
LCS1	Pyrene	mg/kg	100	94.8	95
LCS2	1,2,4-Trichlorobenzene	mg/kg	100	88.5	88
LCS2	1,4-Dichlorobenzene (p-DCB)	mg/kg	100	71.6	72
LCS2	2,4-Dinitrotoluene	mg/kg	100	95.7	96
LCS2	2-Chlorophenol	mg/kg	200	142	71
LCS2	4-Nitrophenol	mg/kg	200	179	90
LCS2	Acenaphthene	mg/kg	100	94.7	95
LCS2	N-Nitrosodi-N-propylamine	mg/kg	100	82.6	83
LCS2	p-Chloro-m-cresol	mg/kg	200	186	93
LCS2	Pentachlorophenol	mg/kg	200	245	122
LCS2	Phenol	mg/kg	200	125	62
LCS2	Pyrene	mg/kg	100	96.7	97
MBLK	1,2,4-Trichlorobenzene	mg/kg	ND	ND	
MBLK	1,2-Dichlorobenzene	mg/kg	ND	ND	
MBLK	1,2-Diphenylhydrazine	mg/kg	ND	ND	
MBLK	1,3-Dichlorobenzene	mg/kg	ND	ND	
MBLK	1,4-Dichlorobenzene (p-DCB)	mg/kg	ND	ND	
MBLK	2,4,5-Trichlorophenol	mg/kg	ND	ND	
MBLK	2,4,6-Trichlorophenol	mg/kg	ND	ND	
MBLK	2,4-Dichlorophenol	mg/kg	ND	ND	
MBLK	2,4-Dimethylphenol	mg/kg	ND	ND	

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LA CO Sanitation Districts/Palos Verdes
1965 S Workman Mill Road

Whittier, CA 90601
ATTN: Lorie Losorelli

Sample # 931014044 Sample ID 64299 Project _____
Sample Type Soil Sampled 12-oct-1993 Received 14-oct-1993 Reported 09-dec-1993

**BNA Extractable (ML/SW 8270)
Quality Control**

Control	Parameter	Units	Actual	Found	%Recv
MBLK	2,4-Dinitrophenol	mg/kg	ND	ND	
MBLK	2,4-Dinitrotoluene	mg/kg	ND	ND	
MBLK	2,6-Dinitrotoluene	mg/kg	ND	ND	
MBLK	2-Chloronaphthalene	mg/kg	ND	ND	
MBLK	2-Chlorophenol	mg/kg	ND	ND	
MBLK	2-Methylnaphthalene	mg/kg	ND	ND	
MBLK	2-Methylphenol	mg/kg	ND	ND	
MBLK	2-Nitroaniline	mg/kg	ND	ND	
MBLK	2-Nitrophenol	mg/kg	ND	ND	
MBLK	3,3'-Dichlorobenzidine	mg/kg	ND	ND	
MBLK	3-Nitroaniline	mg/kg	ND	ND	
MBLK	4,6-Dinitro-o-cresol	mg/kg	ND	ND	
MBLK	4-Bromophenylphenylether	mg/kg	ND	ND	
MBLK	4-Chloroaniline	mg/kg	ND	ND	
MBLK	4-Chlorophenylphenylether	mg/kg	ND	ND	
MBLK	4-Methylphenol	mg/kg	ND	ND	
MBLK	4-Nitroaniline	mg/kg	ND	ND	
MBLK	4-Nitrophenol	mg/kg	ND	ND	
MBLK	Acenaphthene	mg/kg	ND	ND	
MBLK	Acenaphthylene	mg/kg	ND	ND	
MBLK	Aniline	mg/kg	ND	ND	
MBLK	Anthracene	mg/kg	ND	ND	
MBLK	Benzo(a)anthracene	mg/kg	ND	ND	
MBLK	Benzo(a)pyrene	mg/kg	ND	ND	
MBLK	Benzo(b)fluoranthene	mg/kg	ND	ND	
MBLK	Benzo(g,h,i)perylene	mg/kg	ND	ND	
MBLK	Benzo(k)fluoranthene	mg/kg	ND	ND	
MBLK	bis(2-Chloroethyl)ether	mg/kg	ND	ND	
MBLK	bis(2-Chloroethoxy)methane	mg/kg	ND	ND	
MBLK	bis(2-Chloroisopropyl)ether	mg/kg	ND	ND	
MBLK	bis(2-Ethylhexyl)phthalate	mg/kg	ND	ND	

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LA CO Sanitation Districts/Palos Verdes
1965 S Workman Mill Road

Whittier, CA 90601
ATTN: Lorie Losorelli

Sample # 931014044 Sample ID 64299 Project _____
Sample Type Soil Sampled 12-oct-1993 Received 14-oct-1993 Reported 09-dec-1993

**BNA Extractable (ML/SW 8270)
Quality Control**

Control	Parameter	Units	Actual	Found	%Recv
MBLK	Butylbenzylphthalate	mg/kg	ND	ND	
MBLK	Benzidine	mg/kg	ND	ND	
MBLK	Benzoic Acid	mg/kg	ND	ND	
MBLK	Benzyl Alcohol	mg/kg	ND	ND	
MBLK	Chrysene	mg/kg	ND	ND	
MBLK	Dibenzo(a,h)anthracene	mg/kg	ND	ND	
MBLK	Dibenzofuran	mg/kg	ND	ND	
MBLK	Diethylphthalate	mg/kg	ND	ND	
MBLK	Dimethylphthalate	mg/kg	ND	ND	
MBLK	Di-n-butylphthalate	mg/kg	ND	ND	
MBLK	Di-n-octylphthalate	mg/kg	ND	ND	
MBLK	Fluoranthene	mg/kg	ND	ND	
MBLK	Fluorene	mg/kg	ND	ND	
MBLK	Hexachlorobenzene	mg/kg	ND	ND	
MBLK	Hexachlorobutadiene	mg/kg	ND	ND	
MBLK	Hexachlorocyclopentadiene	mg/kg	ND	ND	
MBLK	Hexachloroethane	mg/kg	ND	ND	
MBLK	Indeno(1,2,3-c,d)pyrene	mg/kg	ND	ND	
MBLK	Isophorone	mg/kg	ND	ND	
MBLK	Naphthalene	mg/kg	ND	ND	
MBLK	Nitrobenzene	mg/kg	ND	ND	
MBLK	N-Nitrosodimethylamine	mg/kg	ND	ND	
MBLK	N-Nitrosodi-n-propylamine	mg/kg	ND	ND	
MBLK	N-Nitrosodiphenylamine	mg/kg	ND	ND	
MBLK	p-Chloro-m-cresol	mg/kg	ND	ND	
MBLK	Pentachlorophenol	mg/kg	ND	ND	
MBLK	Phenanthrene	mg/kg	ND	ND	
MBLK	Phenol	mg/kg	ND	ND	
MBLK	Pyrene	mg/kg	ND	ND	
MS	1,2,4-Trichlorobenzene	mg/kg	100	NA	
MS	1,4-Dichlorobenzene (p-DCB)	mg/kg	100	NA	

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Sample # 931014044 Sample ID 64299 Project _____
Sample Type Soil Sampled 12-oct-1993 Received 14-oct-1993 Reported 09-dec-1993

BNA Extractable (ML/SW 8270)
Quality Control

Control	Parameter	Units	Actual	Found	%Recv
MS	2,4-Dinitrotoluene	mg/kg	100	NA	
MS	2-Chlorophenol	mg/kg	200	NA	
MS	4-Nitrophenol	mg/kg	200	NA	
MS	Acenaphthene	mg/kg	100	NA	
MS	Di-n-butylphthalate	mg/kg	100	NA	
MS	N-Nitrosodi-N-propylamine	mg/kg	100	NA	
MS	p-Chloro-m-cresol	mg/kg	200	NA	
MS	Pentachlorophenol	mg/kg	200	NA	
MS	Phenol	mg/kg	200	NA	
MS	Pyrene	mg/kg	100	NA	
MSD	1,2,4-Trichlorobenzene	mg/kg	100	NA	
MSD	1,4-Dichlorobenzene (p-DCB)	mg/kg	100	NA	
MSD	2,4-Dinitrotoluene	mg/kg	100	NA	
MSD	2-Chlorophenol	mg/kg	200	NA	
MSD	4-Nitrophenol	mg/kg	200	NA	
MSD	Acenaphthene	mg/kg	100	NA	
MSD	Di-n-butylphthalate	mg/kg	100	NA	
MSD	N-Nitrosodi-N-propylamine	mg/kg	100	NA	
MSD	p-Chloro-m-cresol	mg/kg	200	NA	
MSD	Pentachlorophenol	mg/kg	200	NA	
MSD	Phenol	mg/kg	200	NA	
MSD	Pyrene	mg/kg	100	NA	

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Sample # 931014045 Sample ID 64298 Project _____
Sample Type Water Sampled 12-oct-1993 Received 14-oct-1993 Reported 09-dec-1993

Laboratory Report

LA CO Sanitation Districts/Palos Verdes
1965 S Workman Mill Road

Whittier, CA 90601
ATTN: Lorie Losorelli

Parameter	Units	Result	Conc.	%Rec	Dilution	Det.Limit	Prepared	By	Analyzed	By
Potassium, Flame AA	(ML/EPA 258.1) mg/kg	3900				1			16-nov-1993	jps



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Laboratory Report

LA CO Sanitation Districts/Palos Verdes
1965 S Workman Mill Road

Sample # 931014051 Sample ID 64274 Project _____
Sample Type Soil Sampled 12-oct-1993 Received 14-oct-1993 Reported 09-dec-1993

Whittier, CA 90601
ATTN: Lorie Losorelli

Parameter	Units	Result	Conc.	%Rec	Dilution	Det.Limit	Prepared	By	Analyzed	By
High BP Hydrocarbons	(LUFT) mg/kg	ND*				10	19-oct-1993	ahq	11-nov-1993	mer



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ATTN: Lorie Losorelli

Sample # 931014054 Sample ID 64277 Project _____
Sample Type Soil Sampled 12-oct-1993 Received 14-oct-1993 Reported 09-dec-1993

**Single Determination Analytes
Quality Control**

Control	Parameter	Units	Actual	Found	%Recv
LCS1	High BP Hydrocarbons	mg/kg	100	101	101
LCS2	High BP Hydrocarbons	mg/kg	100	NA	
MBLK	High BP Hydrocarbons	mg/kg	ND	ND	
MS	High BP Hydrocarbons	mg/kg	100	91.5	92
MSD	High BP Hydrocarbons	mg/kg	100	89.9	90

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Sample # 931014055 Sample ID 64278 Project _____
Sample Type Soil Sampled 12-oct-1993 Received 14-oct-1993 Reported 09-dec-1993

Laboratory Report

LA CO. Sanitation Districts/Palos Verdes
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ATTN: Lorie Losorelli

Parameter	Units	Result	Conc.	%Rec	Dilution	Det.Limit	Prepared	By	Analyzed	By
High BP Hydrocarbons	(LIFT) mg/kg	ND*			10	100	19-oct-1993	ahq	24-nov-1993	mer



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 ATTN: Lorie Losorelli

Sample # 931014055 Sample ID 64278 Project _____
 Sample Type Soil Sampled 12-oct-1993 Received 14-oct-1993 Reported 09-dec-1993

**Single Determination Analytes
 Quality Control**

Control	Parameter	Units	Actual	Found	%Recv
LCS1	High BP Hydrocarbons	mg/kg	100	101	101
LCS2	High BP Hydrocarbons	mg/kg	100	NA	
MBLK	High BP Hydrocarbons	mg/kg	ND	ND	
MS	High BP Hydrocarbons	mg/kg	100	91.5	92
MSD	High BP Hydrocarbons	mg/kg	100	89.9	90

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LA CO Sanitation Districts/Palos Verdes
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Sample # 931014056 Sample ID 64279 Project _____
Sample Type Soil Sampled 12-oct-1993 Received 14-oct-1993 Reported 09-dec-1993

Whittier, CA 90601
ATTN: Lorie Losorelli

Parameter	Units	Result	Conc.	%Rec	Dilution	Det.Limit	Prepared By	Analyzed By
High BP Hydrocarbons	(LUFT) mg/kg	ND*			10	100	19-oct-1993 ahq	24-nov-1993 mer



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Whittier, CA 90601
ATTN: Lorie Losorelli

Sample # 931014056 Sample ID 64279 Project _____
Sample Type Soil Sampled 12-oct-1993 Received 14-oct-1993 Reported 09-dec-1993

Single Determination Analytes Quality Control

Control	Parameter	Units	Actual	Found	%Recv
LCS1	High BP Hydrocarbons	mg/kg	100	101	101
LCS2	High BP Hydrocarbons	mg/kg	100	NA	
MBLK	High BP Hydrocarbons	mg/kg	ND	ND	
MS	High BP Hydrocarbons	mg/kg	100	91.5	92
HSD	High BP Hydrocarbons	mg/kg	100	89.9	90

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LA CO Sanitation Districts/Palos Verdes
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Sample # 931014057 Sample ID 64280 Project _____
Sample Type Soil Sampled 12-oct-1993 Received 14-oct-1993 Reported 09-dec-1993

Whittier , CA 90601
ATTN: Lorie Losorelli

Parameter	Units	Result	Conc.	%Rec	Dilution	Det.Limit	Prepared	By	Analyzed	By
High BP Hydrocarbons	(EUFT) mg/kg	ND*			10	100	19-oct-1993	ahq	24-nov-1993	mer



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Laboratory Report

LA CO Sanitation Districts/Palos Verdes
1965 S Workman Mill Road

Sample # 931014058 Sample ID 64281 Project _____
Sample Type Soil Sampled 12-oct-1993 Received 14-oct-1993 Reported 09-dec-1993

Whittier, CA 90601
ATTN: Lorie Losorelli

Parameter	Units	Result	Conc.	%Rec	Dilution	Det.Limit	Prepared	By	Analyzed	By
High BP Hydrocarbons (C10-F1)	mg/kg	ND*			10	100	19-oct-1993	ahg	24-nov-1993	mer



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Laboratory Report

LA CO Sanitation Districts/Palos Verdes
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Whittier, CA 90601
ATTN: Lorie Losorelli

Sample # 931014058 Sample ID 64281 Project _____
Sample Type Soil Sampled 12-oct-1993 Received 14-oct-1993 Reported 09-dec-1993

Single Determination Analytes Quality Control

Control	Parameter	Units	Actual	Found	%Recv
LCS1	High BP Hydrocarbons	mg/kg	100	101	101
LCS2	High BP Hydrocarbons	mg/kg	100	NA	
MBLK	High BP Hydrocarbons	mg/kg	ND	ND	
MS	High BP Hydrocarbons	mg/kg	100	91.5	92
HSD	High BP Hydrocarbons	mg/kg	100	89.9	90

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Whittier, CA 90601
ATTN: Lorie Losorelli

Sample # 931014059 Sample ID 64282 Project _____
Sample Type Soil Sampled 12-oct-1993 Received 14-oct-1993 Reported 09-dec-1993

Parameter		Units	Result	Conc.	%Rec	Dilution	Det.Limit	Prepared	By	Analyzed	By
High BP Hydrocarbons	(LUFT)	mg/kg	ND*			10	100	19-oct-1993	ahq	23-nov-1993	mer



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Whittier, CA 90601
ATTN: Lorie Losorelli

Sample # 931014059 Sample ID 64282 Project _____
Sample Type Soil Sampled 12-oct-1993 Received 14-oct-1993 Reported 09-dec-1993

Single Determination Analytes Quality Control

Control	Parameter	Units	Actual	Found	% Recovery
LCS1	High BP Hydrocarbons	mg/kg	100	101	101
LCS2	High BP Hydrocarbons	mg/kg	100	NA	
MBLK	High BP Hydrocarbons	mg/kg	ND	ND	
MS	High BP Hydrocarbons	mg/kg	100	91.5	92
MSD	High BP Hydrocarbons	mg/kg	100	89.9	90

Report #: 9905



MONTGOMERY LABORATORIES

555 East Walnut Street
Pasadena, California 91101
818 568 6400; FAX 818 568 6324;
1 800 566 LABS (1 800 566 5227)

Sample # 931014060 Sample ID 64274 MS Project _____
Sample Type Soil Sampled 12-oct-1993 Received 14-oct-1993 Reported 09-dec-1993

Laboratory Report

LA CO Sanitation Districts/Palos Verdes
1965 S Workman Mill Road

Whittier, CA 90601
ATTN: Lorie Losorelli

Parameter	Units	Result	Conc.	%Rec	Dilution	Det.Limit	Prepared	By	Analyzed	By
High BP. Hydrocarbons	(LUFT) mg/kg	91.5		92		10	19-oct-1993	ahq	11-nov-1993	mer



MONTGOMERY LABORATORIES

**555 East Walnut Street
Pasadena, California 91101
818 568 6400; FAX 818 568 6324;
1 800 566 LABS (1 800 566 5227)**

Laboratory Report

LA CO Sanitation Districts/Palos Verdes
1965 S Workman Mill Road

Whittier , CA 90601
ATTN: Lorie Losorelli

Sample # 931014060 Sample ID 64274 MS Project _____
Sample Type Soil Sampled 12-oct-1993 Received 14-oct-1993 Reported 09-dec-1993

Single Determination Analytes Quality Control

Control	Parameter	Units	Actual	Found	%Recv
LCS1	High BP Hydrocarbons	mg/kg	100	101	101
LCS2	High BP Hydrocarbons	mg/kg	100	NA	
MBLK	High BP Hydrocarbons	mg/kg	ND	ND	
MS	High BP Hydrocarbons	mg/kg	100	91.5	92
HSD	High BP Hydrocarbons	mg/kg	100	89.9	90

Report #: 9905



MONTGOMERY LABORATORIES

555 East Walnut Street
Pasadena, California 91101
818 568 6400; FAX 818 568 6324;
1 800 566 LABS (1 800 566 5227)

Laboratory Report

LA CO Sanitation Districts/Palos Verdes
1965 S Workman Mill Road

Whittier, CA 90601
ATTN: Lorie Losorelli

Sample # 931014061 Sample ID 64274 MSD Project _____
Sample Type Soil Sampled 12-oct-1993 Received 14-oct-1993 Reported 09-dec-1993

Parameter	Units	Result	Conc.	%Rec	Dilution	Det.Limit	Prepared	By	Analyzed	By
High BP Hydrocarbons	(LUFT) mg/kg	89.9		90		10	19-oct-1993	ahq	11-nov-1993	mer



MONTGOMERY LABORATORIES

555 East Walnut Street
Pasadena, California 91101
818 568 6400; FAX 818 568 6324;
1 800 566 LABS (1 800 566 5227)

Laboratory Report

LA CO Sanitation Districts/Palos Verdes
1965 S Workman Mill Road

Whittier , CA 90601
ATTN: Lorie Losorelli

Sample # 931014061 Sample ID 64274 MSD Project _____
Sample Type Soil Sampled 12-oct-1993 Received 14-oct-1993 Reported 09-dec-1993

**Single Determination Analytes
Quality Control**

Control	Parameter	Units	Actual	Found	%Recv
LCS1	High BP Hydrocarbons	mg/kg	100	101	101
LCS2	High BP Hydrocarbons	mg/kg	100	NA	
MBLK	High BP Hydrocarbons	mg/kg	ND	ND	
MS	High BP Hydrocarbons	mg/kg	100	91.5	92
MSD	High BP Hydrocarbons	mg/kg	100	89.9	90

Report #: 9905

Group Validation Comments

Some samples contaminated with very high boiling point hydrocarbons; see comments for results estimated using motor oil response factor. TPHIR may yield more accurate quantiation.

Sample# 931014043
Source: 64298

Data Entry Comments

diluted to reduce matrix effects

(TL-GF)

Sample# 931014044
Source: 64299

Data Entry Comments

diluted to reduce matrix effects

(TL-GF)

Sample# 931014049
Source: 64272

Data Entry Comments

Sample chromatogram showed pattern atypical of diesel fuel or motor oil. Estimate result of 780 mg/Kg for compounds eluting after motor oil boiling point range; estimate based on response factor for motor oil.

(HIGHBPHC)
(HIGHBPHC)
(HIGHBPHC)
(HIGHBPHC)

Sample# 931014050
Source: 64273

Data Entry Comments

See comment for sample 931014049; estimate result of 840 mg/Kg.

(HIGHBPHC)
(HIGHBPHC)

Sample# 931014051
Source: 64274

Data Entry Comments

See comment for sample 931014049; estimate result of 840 mg/Kg.

(HIGHBPHC)
(HIGHBPHC)

Report 9905 Comment Page

Sample# 931014052
Source: 64275

Data Entry Comments

See comment for sample 931014049; estimate result of 840 mg/Kg. (HIGHBPHC)
(HIGHBPHC)

Sample# 931014053
Source: 64276

Data Entry Comments

See comment for sample 931014049; estimate result of 1300 mg/Kg. (HIGHBPHC)
(HIGHBPHC)

Sample# 931014054
Source: 64277

Data Entry Comments

See comment for sample 931014049; estimate result of 930 mg/Kg. (HIGHBPHC)
(HIGHBPHC)

Sample# 931014055
Source: 64278

Data Entry Comments

See comment for sample 931014049; estimate result of 1000 mg/Kg. (HIGHBPHC)
(HIGHBPHC)

Sample# 931014056
Source: 64279

Data Entry Comments

See comment for sample 931014049; estimate result of 940 mg/Kg. (HIGHBPHC)
(HIGHBPHC)

Sample# 931014057
Source: 64280

Data Entry Comments

See comment for sample 931014049; estimate result of 1100 mg/Kg. (HIGHBPHC)
(HIGHBPHC)

Report 9905 Comment Page

Sample# 931014058
Source: 64281

Data Entry Comments

See comment for sample 931014049; estimate result of
1000 mg/Kg.

(HIGHBPHC)
(HIGHBPHC)

Sample# 931014059
Source: 64282

Data Entry Comments

See comment for sample 931014049; estimate result of
1700 mg/Kg.

(HIGHBPHC)
(HIGHBPHC)



NATIONAL
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TESTING, INC.

Burbank Division
700 South Flower Street
Burbank, CA 91502
Tel: (213) 849-6591
Fax: (818) 567-6477

DOHS Certificate Number: 1192

11/08/1993

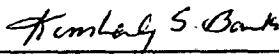
Lorrie Losorelli
L.A. County Sanitation Dis
SJC Water Quality Lab
1965 Workman Mill Rd.
Whittier, CA 90607

Client Ref: PVL[✓]F/Soil Cover

Sample analysis for the project referred to above has been completed and results are located on attached pages.

Please note that results for chloride, sulfate and nitrate were submitted by NET-Santa Rosa . Copies of results and QC data are included in this package.

Should you have questions regarding procedures or results, please feel welcome to contact our Client Services Representatives or the Division Manager.



Kimberly S. Banks
Project Manager

KB:st

Attachments:

Analytical Reports
Chain of Custody Document
QA/QC Reports

Client No: 16750
NET Job No: 93.01250





Client Name: L.A. County Sanitation Dis
Client Ref.: PVLV Soil Cover

NET Job No.: 93.01250
Sample ID : SJ64298
Lab No. : 57664

Date Sampled: 10/12/1993
Date Reported: 11/18/1993

Sample Matrix: SOIL

Analytes/Method	Results	Flags	Units	Reporting Date		Prep Batch	Run Batch	Analyst
				Limit	Analyzed			
Soil pH measured in water	8.3		pH units		10/27/1993		39	skl
Conductivity	244		umhos/cm1.0		10/27/1993		61	skl
Chloride (Water Soluble)	51		mg/Kg	10	11/01/1993			vid
Sulfate (Water Soluble)	110		mg/Kg	10	11/01/1993			vid
Nitrate, as N (Water Soluble)	26		mg/Kg	0.3	11/02/1993			mee
Antimony (Hydride)	0.49		mg/Kg	0.15	10/27/1993	92	1	msb
Arsenic (Hydride)	2.75		mg/Kg	0.15	10/27/1993	92	72	skl
Mercury (CVAA)	ND		mg/Kg	0.05	10/25/1993	92	67	msb
Selenium (Hydride)	ND		mg/Kg	0.5	11/02/1993	92	68	skl

ND: Not detected at the Reporting Limit (R.L.), the R.L. represents the Practical Quantitation Limit (PQL).
If a dilution factor greater than one (1) is reported the R.L. must be multiplied by reported dilution factor
to determine actual limits. A "D" flag indicates that only specific analytes have been reported from higher dilution.
page: 1



Client Name: L.A. County Sanitation Dis
Client Ref.: PVLF Soil Cover

NET Job No.: 93.01250
Sample ID : SJ64299
Lab No. : 57665

Date Sampled: 10/12/1993
Date Reported: 11/18/1993

Sample Matrix: SOIL

Analytes/Method	Results	Flags	Units	Reporting Date		Prep Batch	Run Batch	Analyst
				Limit	Analyzed			
Soil pH measured in water	9.1		pH units		10/27/1993		39	skl
Conductivity	524		umhos/cm1.0		10/27/1993		61	skl
Chloride (Water Soluble)	37		mg/Kg	10	11/01/1993			vid
Sulfate (Water Soluble)	81		mg/Kg	10	11/01/1993			vid
Nitrate, as N (Water Soluble)	30		mg/Kg	0.3	11/02/1993			mee
Antimony (Hydride)	1.20		mg/Kg	0.15	10/27/1993	92	1	msb
Arsenic (Hydride)	5.00		mg/Kg	0.15	10/27/1993	92	72	skl
Mercury (CVAA)	ND		mg/Kg	0.05	10/25/1993	92	67	msb
Selenium (Hydride)	ND		mg/Kg	0.5	11/02/1993	92	68	skl

ND: Not detected at the Reporting Limit (R.L.), the R.L. represents the Practical Quantitation Limit (PQL).
If a dilution factor greater than one (1) is reported the R.L. must be multiplied by reported dilution factor
to determine actual limits. A "D" flag indicates that only specific analytes have been reported from higher dilution.



Client Name: L.A. County Sanitation Dis
Client Ref.: PVLF Soil Cover

Date Sampled: 10/12/1993
Date Reported: 11/18/1993

NET Job No.: 93.01250
Sample ID : 64298 ICP Metals
Lab No. : 57666

Sample Matrix: SOIL

Analytes/Method	Results	Flags	Units	Reporting Date		Prep Batch	Run Batch	Analyst
				Limit	Analyzed			
Barium (ICP)	130		mg/Kg	0.5	11/03/1993	215	181	skl
Beryllium (ICP)	ND		mg/Kg	1.0	11/03/1993	215	212	skl
Cadmium (ICP)	ND		mg/Kg	0.5	11/03/1993	215	212	skl
Calcium (ICP)	103	B	mg/Kg	0.5	11/03/1993	215	212	skl
Chromium (ICP)	22.9		mg/Kg	0.5	11/03/1993	215	129	skl
Cobalt (ICP)	10.1		mg/Kg	2.5	11/03/1993	215	212	skl
Iron (ICP)	20,600	B	mg/Kg	0.5	11/03/1993	215	212	skl
Lead (ICP)	13.2		mg/Kg	2.0	11/03/1993	215	140	skl
Magnesium (ICP)	5,450	B	mg/Kg	1.5	11/03/1993	215	212	skl
Manganese (ICP)	302	B	mg/Kg	0.5	11/03/1993	215	212	skl
Molybdenum (ICP)	ND		mg/Kg	2.5	11/03/1993	215	212	skl
Nickel (ICP)	15.4		mg/Kg	1.5	11/03/1993	215	212	skl
Silver (ICP)	ND		mg/Kg	1.0	11/03/1993	215	212	skl
Sodium (ICP)	371	B	mg/Kg	1.0	11/03/1993	215	212	skl
Vanadium (ICP)	39.2		mg/Kg	2.5	11/03/1993	215	212	skl
Zinc (ICP)	79.7	B	mg/Kg	1.0	11/03/1993	215	212	skl

B: Analyte detected in method blank associated with this sample

ND: Not detected at the Reporting Limit (R.L.), the R.L. represents the Practical Quantitation Limit (PQL).
If a dilution factor greater than one (1) is reported the R.L. must be multiplied by reported dilution factor
to determine actual limits. A "D" flag indicates that only specific analytes have been reported from higher dilution.



Client Name: L.A. County Sanitation Dis
Client Ref.: PVLf Soil Cover

NET Job No.: 93.01250
Sample ID : 64299 ICP Metals
Lab No. : 57667

Date Sampled: 10/12/1993
Date Reported: 11/18/1993
Sample Matrix: SOIL

Analytes/Method	Results	Flags	Units	Reporting Date		Prep Batch	Run Batch	Analyst
				Limit	Analyzed			
Barium (ICP)	1,760		mg/Kg	0.5	11/03/1993	215	181	skl
Beryllium (ICP)	ND		mg/Kg	1.0	11/03/1993	215	212	skl
Cadmium (ICP)	2.70		mg/Kg	0.5	11/03/1993	215	212	skl
Calcium (ICP)	44,600	B	mg/Kg	0.5	11/03/1993	215	212	skl
Chromium (ICP)	44.7		mg/Kg	0.5	11/03/1993	215	129	skl
Cobalt (ICP)	8.35		mg/Kg	2.5	11/03/1993	215	212	skl
Iron (ICP)	21,000	B	mg/Kg	0.5	11/03/1993	215	212	skl
Lead (ICP)	12.7		mg/Kg	2.0	11/03/1993	215	140	skl
Magnesium (ICP)	12,850	B	mg/Kg	1.5	11/03/1993	215	212	skl
Manganese (ICP)	335	B	mg/Kg	0.5	11/03/1993	215	212	skl
Molybdenum (ICP)	ND		mg/Kg	2.5	11/03/1993	215	212	skl
Nickel (ICP)	40.9		mg/Kg	1.5	11/03/1993	215	212	skl
Silver (ICP)	ND		mg/Kg	1.0	11/03/1993	215	212	skl
Sodium (ICP)	540	B	mg/Kg	1.0	11/03/1993	215	212	skl
Vanadium (ICP)	ND		mg/Kg	2.5	11/03/1993	215	212	skl
Zinc (ICP)	89.4	B	mg/Kg	1.0	11/03/1993	215	212	skl

B: Analyte detected in method blank associated with this sample

ND: Not detected at the Reporting Limit (R.L.), the R.L. represents the Practical Quantitation Limit (PQL).
If a dilution factor greater than one (1) is reported the R.L. must be multiplied by reported dilution factor
to determine actual limits. A "D" flag indicates that only specific analytes have been reported from higher dilution.



QUALITY CONTROL REPORT

L.A. County Sanitation Dis
SJC Water Quality Lab
1965 Workman Mill Rd.
Whittier, CA 90607
Lorrie Losorelli

11/23/1993

NET Job Number: 93.01250

Enclosed is the Quality Control data for the following samples submitted to NET, Inc. - Burbank for analysis:

Sample Number	Sample Description	Date Taken	Date Received
57664	SJ64298	10/12/1993	10/15/1993
57665	SJ64299	10/12/1993	10/15/1993
57666	64298 ICP Metals	10/12/1993	10/15/1993
57667	64299 ICP Metals	10/12/1993	10/15/1993

This Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.



QUALITY CONTROL REPORT CONTINUING CALIBRATION VERIFICATION

NET Job Number: 93.01250

11/23/1993

Analyte	Run Batch Number	Run Batch Flags	CCV True Concentration	Concentration Found	Percent Recovery
Soil pH measured in water	39		4.0	4.01	100.3
Conductivity	61		1000	1,000	100.0
Antimony (Hydride)	1		1.0	0.94	94.0
Arsenic (Hydride)	72		1.0	1.04	104.0
Barium (ICP)	181		5.0	5.33	106.6
Beryllium (ICP)	212		5.0	5.04	100.8
Cadmium (ICP)	212		5.0	5.2	104.0
Calcium (ICP)	212		50.0	55	110.0
Chromium (ICP)	129		5.0	5.3	106.0
Cobalt (ICP)	212		5.0	5.2	103.0
Iron (ICP)	212		10.0	10.7	107.0
Lead (ICP)	140		5.0	4.99	99.8
Magnesium (ICP)	212		50.0	55.0	110.0
Manganese (ICP)	212		5.0	5.2	104.0
Mercury (CVAA)	67		0.0025	0.0023	92.0
Molybdenum (ICP)	212		5.0	5.07	101.4
Nickel (ICP)	212		5.0	5.23	104.6
Selenium (Hydride)	68		0.025	0.024	96.0
Silver (ICP)	212		5.0	5.65	113.0
Sodium (ICP)	212		50.0	55.0	110.0
Vanadium (ICP)	212		5.0	4.92	98.4
Zinc (ICP)	212		5.0	5.32	106.4

CCV - Continuing Calibration Verification



QUALITY CONTROL REPORT BLANKS

11/23/1993

NET Job Number: 93.01250

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis	Flags	Units
Conductivity		61	ND		umhos/cm
Antimony (Hydride)	92	1	ND		mg/Kg
Arsenic (Hydride)	92	72	ND		mg/Kg
Barium (ICP)	215	181	ND		mg/Kg
Beryllium (ICP)	215	212	ND		mg/Kg
Cadmium (ICP)	215	212	ND		mg/Kg
Calcium (ICP)	215	212	25.0	B	mg/Kg
Chromium (ICP)	215	129	ND		mg/Kg
Cobalt (ICP)	215	212	ND		mg/Kg
Iron (ICP)	215	212	115	B	mg/Kg
Lead (ICP)	215	140	ND		mg/Kg
Magnesium (ICP)	215	212	18.0	B	mg/Kg
Manganese (ICP)	215	212	18.0		mg/Kg
Mercury (CVAA)	92	67	ND		mg/Kg
Molybdenum (ICP)	215	212	ND		mg/Kg
Nickel (ICP)	215	212	ND		mg/Kg
Selenium (Hydride)	92	68	ND		mg/Kg
Silver (ICP)	215	212	ND		mg/Kg
Sodium (ICP)	215	212	41.6	B	mg/Kg
Vanadium (ICP)	215	212	ND		mg/Kg
Zinc (ICP)	215	212	5.40		mg/Kg

B: Analyte detected in associated method blank.

Advisory Control Limits for Blanks:

Metals/Wet Chemistry/ Conventional/GC - all compounds should be less than the Reporting Limit.

GC/MS - Semi-Volatiles - all compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the reporting limit.

Volatiles - Toluene, methylene chloride, acetone and chloroform should be less than 5 times the Reporting Limit. All other volatile compounds should be less than the Reporting Limit.



QUALITY CONTROL REPORT LABORATORY CONTROL STANDARD

NET Job Number: 93.01250

11/23/1993

Analyte	Prep Batch Number	Run Batch Number	LCS True Concentration	LCS Concentration Found	LCS % Recovery	Flags/ RPD %	Units
Antimony (Hydride)	92	1	1	1.00	100.0		mg/Kg
Arsenic (Hydride)	92	71	1.0	0.88	88.0	s	mg/Kg
Barium (ICP)	215	181	250	250	100.0		mg/Kg
Beryllium (ICP)	215	212	20	18.1	90.5		mg/Kg
Cadmium (ICP)	215	212	20	18.4	92.0		mg/Kg
Calcium (ICP)	215	212	50.0	55.0	110.0		mg/Kg
Chromium (ICP)	215	129	50	47.0	94.0		mg/Kg
Cobalt (ICP)	215	212	20	17.8	89.0		mg/Kg
Iron (ICP)	215	212	500	540	108.0	2.4	mg/Kg
Iron (ICP)	215	212	500	553	110.6		mg/Kg
Lead (ICP)	215	140	50	45.1	90.2		mg/Kg
Magnesium (ICP)	215	212	50.0	55.0	110.0		mg/Kg
Manganese (ICP)	215	212	20	20.3	101.5		mg/Kg
Mercury (CVAA)	92	67	0.50	0.48	96.0	s/2.1	mg/Kg
Mercury (CVAA)	92	67	0.50	0.49	98.0	s	mg/Kg
Molybdenum (ICP)	215	212	200	186	93.0		mg/Kg
Nickel (ICP)	215	212	50	47.0	94.0		mg/Kg
Selenium (Hydride)	92	68	1.0	1.00	100.0	4.9	mg/Kg
Selenium (Hydride)		68	1.0	1.05	105.0		mg/Kg
Silver (ICP)	215	212	20	21.1	105.5		mg/Kg
Sodium (ICP)	215	212	50.0	55.0	110.0		mg/Kg
Vanadium (ICP)	215	212	500	483	96.6		mg/Kg
Zinc (ICP)	215	212	50	47.8	95.6		mg/Kg

s: LCS/LCS duplicate analyzed- insufficient sample volume for MS/MSD.
LCS - Laboratory Control Standard

Advisory Control Limits - Inorganics - LCS recovery should be 80 - 120%.



QUALITY CONTROL REPORT MATRIX SPIKE/MATRIX SPIKE DUPLICATE

NET Job Number: 93.01250

11/23/1993

Analyte	Prep Batch Number	Run Batch Number	Matrix Spike Result	Sample Result	Spike/ MSD Amount	Units	Percent Recovery	MSD Result	Percent Recovery	MS/MSD RPD	Flags
Antimony (Hydride)	92	1	0.019	ND	0.02	mg/Kg	95.0	0.019	95.0	0	
Arsenic (Hydride)	92	72	3.05	3.12	1.0	mg/Kg	-7.0	3.00	-12.0	-52.5	q
Barium (ICP)	215	181	428	218	250	mg/Kg	84.0	429.0	84.0	0	
Beryllium (ICP)	215	212	18.9	ND	20	mg/Kg	94.0	18.6	93.0	1.0	
Cadmium (ICP)	215	212	18.8	ND	20	mg/Kg	94.0	18.8	94.0	0	
Chromium (ICP)	215	129	67.8	19.5	50	mg/Kg	97.0	69.0	99.0	2.0	
Cobalt (ICP)	215	212	31.6	12.6	20	mg/Kg	95.0	33.6	105.0	10.0	
Lead (ICP)	215	140	49.5	4.65	50	mg/Kg	89.7	48.6	87.9	2.0	
Molybdenum (ICP)	215	212	177	ND	200	mg/Kg	89.0	172.0	86.0	3.0	
Nickel (ICP)	215	212	62.8	17.4	50	mg/Kg	91.0	62.3	90.0	1.0	
Selenium (Hydride)	92	68	1.21	ND	1.0	mg/Kg	121.0	1.10	110.0	9.5	
Silver (ICP)	215	212	20.5	ND	20	mg/Kg	103.0	20.7	104.0	1.0	
Vanadium (ICP)	215	212	504	41.0	500	mg/Kg	93.0	511.0	94.0	1.0	
Zinc (ICP)	215	212	116	63.2	50	mg/Kg	106.0	114.0	102.0	4.0	

q = Outside recommended control limits due to high initial analyte concentration.

MS = Matrix Spike

MSD = Matrix Spike Duplicate

RPD = Relative Percent Difference



QUALITY CONTROL REPORT DUPLICATES

NET Job Number: 93.01250

11/23/1993

Analyte	Prep Batch Number	Run Batch Number	Original Analysis	Duplicate Analysis	Units	Flags	RPD
Soil pH measured in water		39	7.9	7.9	pH units		0.0
Conductivity		61	4,110	4,110	umhos/cm		0.0
Calcium (ICP)	215	212	410	357	mg/Kg		13.8
Magnesium (ICP)	215	212	192	200	mg/Kg		4.1
Manganese (ICP)	215	212	621	646	mg/Kg		3.9
Sodium (ICP)	215	212	4840	4140	mg/Kg		15.6

NOTE: Spikes and Duplicates may not be samples from this job.

RPD - Relative Percent Difference

Advisory Control Limits for Duplicates - RPD should be less than 20.



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700 S. Flower St.
Burbank, CA 91502

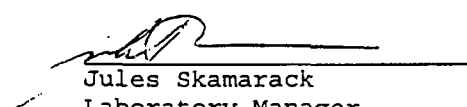
Date: 11/07/1993
NET Client Acct. No.: 6502
NET Pacific Job No: 93.04642
Received: 10/20/1993

Client Reference Information

LACSD

Sample analysis in support of the project referenced above has been completed and results are presented on following pages. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Approved by:


Jules Skamarack
Laboratory Manager

Enclosure(s)



Client Acct: 6502
Client Name: NET - Burbank
NET Job No: 93.04642

Date: 11/07/1993
ELAP Certificate: 1386
Page: 2

Ref: LACSD

SAMPLE DESCRIPTION: SJ64298
Date Taken: 10/12/1993
Time Taken: 09:15
NET Sample No: 176676

Parameter	Results	Flags	Reporting			Date	
			Limit	Units	Method	Extracted	Analyzed
Chloride (Water Soluble)	51		10	mg/kg	300.0		11/01/1993
Sulfate (Water Soluble)	110		10	mg/kg	300.0		11/01/1993
Nitrate, as N (Water Soluble)	26		0.3	mg/kg	353.1		11/02/1993



Client Acct: 6502
Client Name: NET - Burbank
NET Job No: 93.04642

Date: 11/07/1993
ELAP Certificate: 1386
Page: 3

Ref: LACSD

SAMPLE DESCRIPTION: SJ64299
Date Taken: 10/12/1993
Time Taken: 10:55
NET Sample No: 176677

<u>Parameter</u>	<u>Results</u>	<u>Flags</u>	<u>Reporting</u>		<u>Method</u>	<u>Date</u>	<u>Date</u>
			<u>Limit</u>	<u>Units</u>		<u>Extracted</u>	<u>Analyzed</u>
Chloride (Water Soluble)	37		10	mg/kg	300.0		11/01/1993
Sulfate (Water Soluble)	81		10	mg/kg	300.0		11/01/1993
Nitrate, as N (Water Soluble)	30		0.3	mg/kg	353.1		11/02/1993



Client Acct: 6502
Client Name: NET - Burbank
NET Job No: 93.04642

Date: 11/07/1993
ELAP Certificate: 1386
Page: 4

Ref: LACSD

SAMPLE DESCRIPTION: SJ63897
Date Taken: 10/04/1993
Time Taken: 09:00
NET Sample No: 176678

Parameter	Results	Flags	Reporting		Method	Date	Date
			Limit	Units		Extracted	Analyzed
Chloride (Water Soluble)	270		10	mg/kg	300.0		11/01/1993
Sulfate (Water Soluble)	120		10	mg/kg	300.0		11/01/1993
Nitrate, as N (Water Soluble)	44		0.3	mg/kg	353.1		11/02/1993



Client Acct: 6502
Client Name: NET - Burbank
NET Job No: 93.04642

Date: 11/07/1993
ELAP Certificate: 1386
Page: 5

Ref: LACSD

CONTINUING CALIBRATION VERIFICATION STANDARD REPORT

Parameter	CCV	CCV	Units	Date	Analyst
	Standard	Standard			
	% Recovery	Amount Found	Amount Expected	Analyzed	Initials
Chloride (Water Soluble)	99.0	10.18	10.28	11/01/1993	vid
Sulfate (Water Soluble)	101.5	4.06	4.00	11/01/1993	vid
Nitrate, as N (Water Soluble)	97.7	1.29	1.32	11/02/1993	mee



Client Acct: 6502
Client Name: NET - Burbank
NET Job No: 93.04642

Date: 11/07/1993
ELAP Certificate: 1386
Page: 6

Ref: LACSD

METHOD BLANK REPORT

<u>Parameter</u>	Method	<u>Reporting</u>	<u>Units</u>	<u>Date</u>	<u>Analyst</u>
	Blank				
Chloride (Water Soluble)	ND	10	mg/kg	11/01/1993	vid
Sulfate (Water Soluble)	ND	10	mg/kg	11/01/1993	vid
Nitrate, as N (Water Soluble)	ND	0.3	mg/kg	11/02/1993	mee



Client Acct: 6502
Client Name: NET - Burbank
NET Job No: 93.04642

Date: 11/07/1993
ELAP Certificate: 1386
Page: 7

Ref: LACSD

MATRIX SPIKE / MATRIX SPIKE DUPLICATE

Parameter	Matrix Spike		RPD	Spike Amount	Sample Conc.	Matrix Spike		Units	Date Analyzed	Analyst Initials
	Spike % Rec.	Dup % Rec.				Spike Conc.	Dup. Conc.			
Chloride (Water Soluble)	101.0	98.0	2.9	10.0	270			mg/kg	11/01/1993	vid
Sulfate (Water Soluble)	102.0	97.0	4.9	10.0	120			mg/kg	11/01/1993	vid
Nitrate, as N (Water Soluble)	101.0	103.0	2.0	5.00	44			mg/kg	11/02/1993	mee



Client Acct: 6502
Client Name: NET - Burbank
NET Job No: 93.04642

Date: 11/07/1993
ELAP Certificate: 1386
Page: 8

Ref: LACSD

LABORATORY CONTROL SAMPLE REPORT

<u>Parameter</u>	<u>LCS</u> <u>% Recovery</u>	<u>RPD</u>	<u>LCS</u> <u>Amount</u> <u>Found</u>	<u>LCS</u> <u>Amount</u> <u>Expected</u>	<u>Units</u>	<u>Date</u> <u>Analyzed</u>	<u>Analyst</u> <u>Initials</u>
Chloride (Water Soluble)	98.8		4.94	5.00	mg/kg	11/01/1993	vid
Sulfate (Water Soluble)	102.2		5.11	5.00	mg/kg	11/01/1993	vid
Nitrate, as N (Water Soluble)	107.6		5.38	5.00	mg/kg	11/02/1993	mee



KEY TO ABBREVIATIONS and METHOD REFERENCES

- < : Less than; When appearing in results column indicates analyte not detected at the value following. This datum supercedes the listed Reporting Limit.
- * : Reporting Limits are a function of the dilution factor for any given sample. Actual reporting limits and results have been multiplied by the listed dilution factor. Do not multiply the reporting limits or reported values by the dilution factor.
- dw : Result expressed as dry weight.
- mean : Average; sum of measurements divided by number of measurements.
- mg/Kg (ppm) : Concentration in units of milligrams of analyte per kilogram of sample, wet-weight basis (parts per million).
- mg/L : Concentration in units of milligrams of analyte per liter of sample.
- mL/L/hr : Milliliters per liter per hour.
- MPN/100 mL : Most probable number of bacteria per one hundred milliliters of sample.
- N/A : Not applicable.
- NA : Not analyzed.
- ND : Not detected; the analyte concentration is less than the applicable listed reporting limit.
- NTU : Nephelometric turbidity units.
- RPD : Relative percent difference, $100 \text{ [Value 1 - Value 2] / mean value}$.
- SNA : Standard not available.
- ug/Kg (ppb) : Concentration in units of micrograms of analyte per kilogram of sample, wet-weight basis (parts per billion).
- ug/L : Concentration in units of micrograms of analyte per liter of sample.
- umhos/cm : Micromhos per centimeter.

Method References

Methods 100 through 493: see "Methods for Chemical Analysis of Water & Wastes", U.S. EPA, 600/4-79-020, Rev. 1983.

Methods 601 through 625: see "Guidelines Establishing Test Procedures for the Analysis of Pollutants" U.S. EPA, 40 CFR, Part 136, Rev. 1988.

Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", U.S. EPA SW-846, 3rd edition, 1986., Rev. 1, December 1987.

SM: see "Standard Methods for the Examination of Water & Wastewater, 17th Edition, APHA, 1989.

1201250

**COUNTY SANITATION DISTRICTS OF LOS ANGELES COUNTY
LABORATORIES SECTION
SAMPLE CHAIN OF CUSTODY FORM**

PROJECT NAME	<i>PVLF - SOIL COVER SAMPLING PROGRAM</i>
SAMPLING LOCATION (Place and Address)	<i>PALOS VERDES LANDFILL 25706 HAWTHORNE BLVD. ROLLING HILLS ESTATES, CA 90274</i>
SIGNATURE OF SAMPLER(S)	<i>Christy J. Herber, Donna Hughes, Patrick J. Mullin</i>

Sample Field Number	Sampling Sublocation	Date	Time	Sample Matrix	Comp or Grab	Remarks
<i>SC 47</i>	<i>-</i>	<i>10/12/93</i>	<i>9:15 AM</i>	<i>SOIL</i>	<i>GRAB</i>	<i>OUTSIDE LAB SPLIT</i>
<i>SC 50</i>	<i>-</i>	<i>10/12/93</i>	<i>10:55 AM</i>	<i>SOIL</i>	<i>GRAB</i>	<i>OUTSIDE LAB SPLIT</i>
						<i>Custody seals present + intact</i>
						<i>initialed by "NE"</i>
						<i>ds B 10/12/93</i>

RELINQUISHED BY : (Signature)	DATE	TIME	RECEIVED BY: (Signature)
<i>Christy J. Herber</i>	<i>10/13/93</i>	<i>1:05 pm</i>	<i>[Signature]</i>
<i>[Signature]</i>	<i>10/15/93</i>	<i>2:15 pm</i>	<i>[Signature]</i>
<i>Carrie A.</i>	<i>10/15/93</i>	<i>5:00 PM</i>	<i>[Signature]</i>
RELINQUISHED BY : (Signature)	DATE	TIME	RECEIVED BY: (Signature)
RELINQUISHED BY : (Signature)	DATE	TIME	RECEIVED BY: (Signature)
RELINQUISHED BY : (Signature)	DATE	TIME	RECEIVED BY: (Signature)

**COUNTY SANITATION DISTRICTS OF LOS ANGELES COUNTY
LABORATORIES SECTION
SAMPLE CHAIN OF CUSTODY FORM**

PROJECT NAME PVLFF - SOIL COVER SAMPLING PROGRAM

SAMPLING LOCATION
(Place and Address) PALOS VERDES LANDFILL
25706 HAWTHORNE BLVD.
BELLING HILLS ESTATES, CA 90274

SIGNATURE OF SAMPLER(S) *Christoph J. Herbert; Patrick J. Mullen; Donna M. Hughes*

Sample Field Number	Sampling Sublocation	Date	Time	Sample Matrix	Comp or Grab	Remarks
SC 33	-	10/14/93	7:00am	SOIL	GRAB	OUTSIDE LAB SPLIT

RELINQUISHED BY : (Signature)	DATE	TIME	RECEIVED BY: (Signature)
<i>Christoph J. Herbert</i>	10/15/93	1:10 p.m.	<i>[Signature]</i>
RELINQUISHED BY : (Signature)	DATE	TIME	RECEIVED BY: (Signature)
-	10/16/93	2:50 PM	<i>[Signature]</i>
RELINQUISHED BY : (Signature)	DATE	TIME	RECEIVED BY: (Signature)
<i>[Signature]</i>	10/16/93	3:20 PM	<i>Dylan Brown</i>
RELINQUISHED BY : (Signature)	DATE	TIME	RECEIVED BY: (Signature)
<i>[Signature]</i>	10/19/93	4:45 PM	<i>[Signature]</i>
RELINQUISHED BY : (Signature)	DATE	TIME	RECEIVED BY: (Signature)
-	-	-	<i>Alorse 10-20-93 09:30</i>
RELINQUISHED BY : (Signature)	DATE	TIME	RECEIVED BY: (Signature)
-	-	-	-

**COUNTY SANITATION DISTRICTS OF LOS ANGELES COUNTY
LABORATORIES SECTION
SAMPLE CHAIN OF CUSTODY FORM**

PROJECT NAME PVLF - SOIL COVER SAMPLING PROGRAM

SAMPLING LOCATION
(Place and Address) PALMS VERDES LANDFILL
25706 HAWTHORNE BLVD.
CULVERVILLE, CALIFORNIA 90274

SIGNATURE OF SAMPLER(S)
[Signature] [Signature] [Signature]

Sample Field Number	Sampling Sublocation	Date	Time	Sample Matrix	Comp or Grab	Remarks
SC 47	-	10/17/93	7:15 AM	SOIL	GRAB	OUTSIDE LAB
SC 50	-	10/17/93	7:55 AM	SOIL	GRAB	OUTSIDE LAB

RELINQUISHED BY : (Signature)	DATE	TIME	RECEIVED BY: (Signature)
[Signature]	10/17/93	7:15 AM	[Signature]
[Signature]	10/17/93	7:55 AM	[Signature]
[Signature]	10/18/93	5:00 PM	[Signature]
X [Signature]	10/19/93	4:45 PM	[Signature]
[Signature]			[Signature]
[Signature]			[Signature]

10-20-93 09:30

COOLER RECEIPT FORM

Project: LACSD

Cooler received on 10/20/93 and opened on 10/20/93 by Anny Lopez
A Lopez
(signature)

1. Were custody seals on outside of cooler and intact? YES NO
- a. If YES, how many and where: _____
- b. Were signature and date correct? YES NO
2. Were custody papers taped to lid inside cooler? YES NO
3. Were custody papers properly filled out (ink, signed, etc)? YES NO
4. Did you sign custody papers in the appropriate place? YES NO
5. Did you attach shipper's packing slip to this form? YES NO *copy*
6. What kind of packing material was used? bubble wrap
7. Was sufficient ice used (if appropriate)? YES NO
8. Were all bottles sealed in separate plastic bags? YES NO
9. Did all bottles arrive in good condition (unbroken)? YES NO
10. Were all bottle labels complete (No., date, signed, pres, etc)? YES NO
11. Did all bottle labels and tags agree with custody papers? . YES NO
12. Were correct bottles used for the tests indicated? YES NO
13. If present, were VOA vials checked for absence of air bubbles and noted if found? YES NO *N/A*
14. Was sufficient amount of sample sent in each bottle? YES NO
15. Were correct preservatives used? YES NO
16. Corrective action taken, if necessary:
 - a. Name of person contacted: _____
 - b. Date: _____
17. Temperature 0-4°C



NATIONAL ENVIRONMENTAL TESTING, INC.

700 S. Flower St.
Burbank, CA 91502
213-849-6595 • Fax 818-567-6477

Chain of Custody / Request for Analysis

Client: NET Burbank			Project: LACSD			Additional Reports to:			Send Invoice to:			LAB USE ONLY Job #: 6257 Report Format: Storage Location:					
Address (line 1):			PO #:			Attn:			Attn:								
Address (line 2):			Phone #:			Attn:			Phone #:								
Contact: Kim Banks			Fax #:			Fax #:			Phone #:								
Sample Identification	Matrix			Container #/Type	1) HNO ₃ 2) H ₂ SO ₄ 3) Na OH 4) Other (Specify)	Grab	Composite	Sampling Information		Analyses Requested				Method of shipment: NET Courier <input type="checkbox"/> Fed. Ex. <input type="checkbox"/> UPS <input type="checkbox"/> Other <input type="checkbox"/> Hand Deliver <input type="checkbox"/> Airbill #: Remarks:			
	Soil	Water	Other					Date	Time	Chloride 9056-IC*	Nitrate 9056-IC*	Sulfate 9056-IC*					
SJ64298	X		X	14oz	None	X		10/12/93	9:15	X	X	X					
SJ64299	X		X	14oz	None	X		10/12/93	10:55	X	X	X					* Use 1:1
SJ63897	X		X	14oz	None	X		10/4/93	9:00	X	X	X					Water extract
Comments: strict COC required - Note sample condition / COC seals below					Special QA/QC: Level III (Include Raw Data)					Special Detection Limits:					Subcontracting allowed: Yes <input type="checkbox"/> no <input type="checkbox"/> with approval <input type="checkbox"/> Turnaround time Fax <input type="checkbox"/> Verbal <input type="checkbox"/> Final <input type="checkbox"/> Priority Rush 1 Business Day <input type="checkbox"/> Date/Time _____ Rush 2 Business Days <input type="checkbox"/> Date/Time _____ 5 Business Days <input type="checkbox"/> Date/Time _____ 10 Business Days <input checked="" type="checkbox"/> Date/Time 11/1		
Condition of sample: Bottles intact? yes / no			COC seals present and intact? yes / no			Temperatures upon receipt: _____			Volatiles free of headspace? yes / no								
Sampled by: (print name)			Date:		Time:		Received by:			Date:		Time:					
Relinquished by:			Date:		Time:		Received by:			Date:		Time:					
Relinquished by: CAVIN A			Date: 10/19/93		Time: 4:45 PM		Received by laboratory: [Signature]			Date: 10-20-93		Time: 09:30					

Distribution: White-Laboratory; Canary-Invoicing; Pink-Client



QUESTIONS? CALL 800-238-5355 TOLL-FREE

AIRBILL
PACKAGE
TRACKING NUMBER

6881924626

3022M

6881924626

Date
10/19/93

RECIPIENT'S COPY

From (Your Name) Please Print ORLANDO GONZALEZ		Your Phone Number (Very Important) 213-849-6595		To (Recipient's Name) Please Print SAMPLE RECV 9		Recipient's Phone Number (Very Important) (707) 526-7200	
Company NET PACIFIC INC		Department/Floor No.		Company NET PACIFIC INC		Department/Floor No.	
Street Address 700 S FLOWER ST				Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.) 435 TESCONI CIRCLE			
City BURBANK		State CA		City SANTA ROSA		State CA	
ZIP Required 91502		ZIP Required 95401					
YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.)						IF HOLD FOR PICK-UP, Print FEDEX Address Here Street Address City State ZIP Required	
PAYMENT: 1 <input checked="" type="checkbox"/> Bill Sender 2 <input type="checkbox"/> Bill Recipient's FedEx Acct. No. 3 <input type="checkbox"/> Bill 3rd Party FedEx Acct. No. 4 <input type="checkbox"/> Bill Credit Card 5 <input type="checkbox"/> Cash 6 <input type="checkbox"/> Check							

4 SERVICES (Check only one box)		5 DELIVERY AND SPECIAL HANDLING (Check services required)		6 PACKAGES		WEIGHT in Pounds Only		YOUR DECLARED VALUE (See right)		Emp. No.		Date		Federal Express Use	
Priority Overnight (Delivery by next business morning) <input checked="" type="checkbox"/> OTHER PACKAGING 16 <input type="checkbox"/> FEDEX LETTER* 12 <input type="checkbox"/> FEDEX PAK* 13 <input type="checkbox"/> FEDEX BOX 14 <input type="checkbox"/> FEDEX TUBE Economy Two-Day (Delivery by second business day) 30 <input type="checkbox"/> ECONOMY* *Economy Letter rate not available. Minimum charge. One pound economy rate. Freight Service (for packages over 150 lbs.) 70 <input type="checkbox"/> OVERNIGHT FREIGHT** 80 <input type="checkbox"/> TWO-DAY FREIGHT** (Confirmed reservation required) *Delivery commitment may be later in some areas. **Declared Value Limit \$500. Call for delivery schedule.		Standard Overnight (Delivery by next business day, no Saturday delivery) 51 <input type="checkbox"/> OTHER PACKAGING 56 <input type="checkbox"/> FEDEX LETTER* 52 <input type="checkbox"/> FEDEX PAK* 53 <input type="checkbox"/> FEDEX BOX 54 <input type="checkbox"/> FEDEX TUBE Government Overnight (Restricted for authorized users only) 46 <input type="checkbox"/> GOVT LETTER 41 <input type="checkbox"/> GOVT PACKAGE 1 <input type="checkbox"/> HOLD FOR PICK-UP (Fill in Box H) 2 <input checked="" type="checkbox"/> DELIVER WEEKDAY 3 <input type="checkbox"/> DELIVER SATURDAY (Extra charge) (Not available to all locations) 4 <input type="checkbox"/> DANGEROUS GOODS (Extra charge) 5 <input type="checkbox"/> 6 <input type="checkbox"/> DRY ICE (Dangerous Goods Shipper's Declaration not required) Dry to 8 LBS. X kg. 904 lb. 7 <input type="checkbox"/> OTHER SPECIAL SERVICE 8 <input type="checkbox"/> 9 <input type="checkbox"/> SATURDAY PICK-UP (Extra charge) BY SHIPMENT 12 <input type="checkbox"/> HOLIDAY DELIVERY (If offered) (Extra charge)		Total Total Total 1 9 DIM SHIPMENT (Chargeable Weight) <input type="checkbox"/> lbs. L x W x H Received At <input type="checkbox"/> Regular Stop <input checked="" type="checkbox"/> Drop Box <input type="checkbox"/> B.S.C. <input type="checkbox"/> On-Call Stop <input type="checkbox"/> Station		Emp. No. Date <input type="checkbox"/> Cash Received <input type="checkbox"/> Return Shipment <input type="checkbox"/> Third Party <input type="checkbox"/> Chg. To Del. <input type="checkbox"/> Chg. To Hold Street Address City State Zip Received By: X Date/Time Received FedEx Employee Number Release Signature: O.A.I.		Base Charges Declared Value Charge Other 1 Other 2 Total Charges REVISION DATE 11/92 PART #137204 FXEM 1/93 FORMAT #155 155 © 1992-93 FEDEX PRINTED IN U.S.A.							

ENTERED 11-18-93 AS



PR

November 8, 1993
ENSECO CAL LAB PROJECT NUMBER: 071948
PO/CONTRACT: 135729

Lorrie Losorelli
San Jose Creek Laboratory
1965 South Workman Mill Rd.
Whittier, CA 90601

Dear Ms. Losorelli :

This report contains the analytical results for the one aqueous sample which was received under chain of custody by Enseco Cal Lab on 7 October 1993. This sample is associated with your PVLf - Soil Cover Sampling Program.

The case narrative is an integral part of this report.

If you have any questions, please call me at (916) 372-1393.

Sincerely,

Karla Buechler

Karla Buechler
Project Manager

ak

TABLE OF CONTENTS

ENSECO CAL LAB PROJECT NUMBER 071948

Case Narrative

Enseco Cal Lab's Quality Assurance Program

Sample Description Information

Chain of Custody Documentation

Polynuclear Aromatic Hydrocarbons, HPLC - Method 8310

Includes Sample: 1

Sample Data Sheets

Method Blank Report

Laboratory Control Sample Report (DCS/SCS)

Matrix Specific QC Report

CASE NARRATIVE

ENSECO CAL LAB PROJECT NUMBER 071948

There were no anomalies associated with this report.

ENSECO CAL LAB'S QUALITY ASSURANCE PROGRAM

Enseco Cal Lab has implemented an extensive Quality Assurance (QA) program to ensure the production of scientifically sound, legally defensible data of known documental quality. A key element of this program is Enseco's Laboratory Control Sample (LCS) system. Controlling lab operations with LCS (as opposed to matrix spike/matrix spike duplicate samples), allows the lab to differentiate between bias as a result of procedural errors versus bias due to matrix effects. The analyst can then identify and implement the appropriate corrective actions at the bench level, without waiting for extensive senior level review or costly and time-consuming sample re-analyses. The LCS program also provides our client with information to assess batch, and overall laboratory performance.

Laboratory Control Samples - (LCS)

Laboratory Control Samples (LCS) are well-characterized, laboratory generated samples used to monitor the laboratory's day-to-day performance of routine analytical methods. The results of the LCS are compared to well-defined laboratory acceptance criteria to determine whether the laboratory system is "in control". Three types of LCS are routinely analyzed: Duplicate Control Samples (DCS), Single Control Samples (SCS), and method blanks. Each of these LCS are described below.

Duplicate Control Samples. A DCS is a well-characterized matrix (blank water, sand, sodium sulfate or celite) which is spiked with certain target parameters and analyzed at approximately 10% of the sample load in order to establish method-specific control limits.

Single Control Samples. An SCS consists of a control matrix that is spiked with surrogate compounds appropriate to the method being used. In cases where no surrogate is available, (e.g. metals or conventional analyses) a single control sample identical to the DCS serves as the control sample. An SCS is prepared for each sample lot. Accuracy is calculated identically to the DCS.

Method Blank Results. A method blank is a laboratory-generated sample which assesses the degree to which laboratory operations and procedures cause false-positive analytical results for your samples.

SAMPLE DESCRIPTION INFORMATION
for
San Jose Creek Laboratory

Lab ID	Client ID	Matrix	Sampled Date	Time	Received Date
071948-0001-SA	63900	SOIL	04 OCT 93		07 OCT 93
071948-0001-MS	Matrix Spike	SOIL	04 OCT 93		07 OCT 93
071948-0001-SD	Matrix Spike	SOIL	04 OCT 93		07 OCT 93

COUNTY SANITATION DISTRICTS OF LOS ANGELES COUNTY
LABORATORIES SECTION
SAMPLE CHAIN OF CUSTODY FORM

PROJECT NAME	PVLF - SOIL COVER SAMPLING PROGRAM
SAMPLING LOCATION (Place and Address)	PALOS VERDES LANDFILL 25706 HAWTHORNE BLVD. ROLLING HILLS ESTATES, CA 90274
SIGNATURE OF SAMPLER(S)	Christy J. Heber; Patrick J. Mallin; Emma M. Hughes

Sample Field Number	Sampling Sublocation	Date	Time	Sample Matrix	Comp or Grab	Remarks
SC 38	-	10/4/93	9:00am.	SOIL	GRAB	OUTSIDE LAB SPLIT

RELINQUISHED BY : (Signature) <i>Christy J. Heber</i>	DATE 10/5/93	TIME 1:10 p.m.	RECEIVED BY: (Signature) <i>[Signature]</i>
RELINQUISHED BY : (Signature) <i>[Signature]</i>	DATE 10/7/93	TIME 8:50 am	RECEIVED BY: (Signature) <i>M. Mitchell</i>
RELINQUISHED BY : (Signature)	DATE	TIME	RECEIVED BY: (Signature)
RELINQUISHED BY : (Signature)	DATE	TIME	RECEIVED BY: (Signature)
RELINQUISHED BY : (Signature)	DATE	TIME	RECEIVED BY: (Signature)
RELINQUISHED BY : (Signature)	DATE	TIME	RECEIVED BY: (Signature)

Polynuclear Aromatic Hydrocarbons - Method 8310

Polynuclear Aromatic Hydrocarbons, HPLC
Method 8310

Client Name: San Jose Creek Laboratory

Client ID: 63900

Lab ID: 071948-0001-SA

Matrix: SOIL

Authorized: 07 OCT 93

Sampled: 04 OCT 93

Prepared: 18 OCT 93

Received: 07 OCT 93

Analyzed: 28 OCT 93

Parameter	Result	Wet wt. Units	Reporting Limit
Naphthalene	ND	ug/kg	400
Acenaphthylene	ND	ug/kg	400
Acenaphthene	ND	ug/kg	400
Fluorene	ND	ug/kg	40
Phenanthrene	ND	ug/kg	120
Anthracene	ND	ug/kg	140
Fluoranthene	ND	ug/kg	40
Pyrene	ND	ug/kg	60
Benzo(a)anthracene	ND	ug/kg	16
Chrysene	ND	ug/kg	40
Benzo(b)fluoranthene	ND	ug/kg	4.0
Benzo(k)fluoranthene	ND	ug/kg	4.0
Benzo(a)pyrene	ND	ug/kg	10
Dibenz(a,h)anthracene	ND	ug/kg	40
Benzo(g,h,i)perylene	ND	ug/kg	16
Indeno(1,2,3-cd)pyrene	ND	ug/kg	40
Surrogate	Recovery		
1-Methylnaphthalene	67.8	%	

ND = Not detected

NA = Not applicable

Reported By: Claire Hanamoto

Approved By: Karla Buechler

The cover letter is an integral part of this report.

Rev 230787

QC LOT ASSIGNMENT REPORT
HPLC Analysis Area

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
071948-0001-SA	SOIL	PAH-HPLC-S	18 OCT 93-70A	18 OCT 93-70A
071948-0001-MS	SOIL	PAH-HPLC-S	18 OCT 93-70A	18 OCT 93-70A
071948-0001-SD	SOIL	PAH-HPLC-S	18 OCT 93-70A	18 OCT 93-70A

METHOD BLANK REPORT
HPLC Analysis Area

Analyte	Result	Units	Reporting Limit
Test: 8310-HPLC-S			
Matrix: SOIL			
QC Lot: 18 OCT 93-70A QC Run: 18 OCT 93-70A			
Naphthalene	ND	ug/kg	400
Acenaphthylene	ND	ug/kg	400
Acenaphthene	ND	ug/kg	400
Fluorene	ND	ug/kg	40
Phenanthrene	ND	ug/kg	120
Anthracene	ND	ug/kg	140
Fluoranthene	ND	ug/kg	40
Pyrene	ND	ug/kg	60
Benzo(a)anthracene	ND	ug/kg	16
Chrysene	ND	ug/kg	40
Benzo(b)fluoranthene	ND	ug/kg	4.0
Benzo(k)fluoranthene	ND	ug/kg	4.0
Benzo(a)pyrene	ND	ug/kg	10
Dibenz(a,h)anthracene	ND	ug/kg	40
Benzo(g,h,i)perylene	ND	ug/kg	16
Indeno(1,2,3-cd)pyrene	ND	ug/kg	40

Test: 8310-HPLC-S
 Matrix: SOIL
 QC Lot: 18 OCT 93-70A QC Run: 18 OCT 93-70A

Naphthalene	ND	ug/kg	400
Acenaphthylene	ND	ug/kg	400
Acenaphthene	ND	ug/kg	400
Fluorene	ND	ug/kg	40
Phenanthrene	ND	ug/kg	120
Anthracene	ND	ug/kg	140
Fluoranthene	ND	ug/kg	40
Pyrene	ND	ug/kg	60
Benzo(a)anthracene	ND	ug/kg	16
Chrysene	ND	ug/kg	40
Benzo(b)fluoranthene	ND	ug/kg	4.0
Benzo(k)fluoranthene	ND	ug/kg	4.0
Benzo(a)pyrene	ND	ug/kg	10
Dibenz(a,h)anthracene	ND	ug/kg	40
Benzo(g,h,i)perylene	ND	ug/kg	16
Indeno(1,2,3-cd)pyrene	ND	ug/kg	40

DUPLICATE CONTROL SAMPLE REPORT
HPLC Analysis Area

Analyte	Spiked	Concentration		AVG	Accuracy		Precision	
		DCS1	Measured DCS2		Average(%) DCS	Limits	(RPD) DCS	Limit
Category: PAH-HPLC-S								
Matrix: SOIL								
QC Lot: 18 OCT 93-70A								
Concentration Units: ug/Kg								
Naphthalene	1000	776	838	807	81	41-107	7.7	34.0
Fluorene	200	158	169	164	82	48-117	6.7	36.0
Pyrene	200	165	176	170	85	52-111	6.5	35.0
Benzo(a)pyrene	100	82.5	87.3	84.9	85	50-112	5.6	45.0
Indeno(1,2,3-cd)pyrene	100	81.0	86.4	83.7	84	49-118	6.5	32.0

Calculations are performed before rounding to avoid round-off errors in calculated results.

SINGLE CONTROL SAMPLE REPORT
HPLC Analysis Area

Analyte	Concentration		Accuracy(%)	
	Spiked	Measured	SCS	Limits
Category: PAH-HPLC-S				
Matrix: SOIL				
QC Lot: 18 OCT 93-70A				
QC Run: 18 OCT 93-70A				
Concentration Units: ug/kg				
Naphthalene	1000	ND	NC	47-103
Fluorene	200	ND	NC	17-133
Pyrene	200	ND	NC	56-109
Benzo(a)pyrene	100	ND	NC	62-110
Indeno(1,2,3-cd)pyrene	100	ND	NC	59-113
1-Methylnaphthalene	10000	7500	75	60-140

ND = Not detected.
NC = Not calculated, calculation not applicable.
NA = Not applicable.

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPECIFIC QC
ASSIGNMENT REPORT
HPLC Analysis Area

QC SAMPLE TYPE	TEST	LABORATORY SAMPLE NUMBER	QC LOT
MATRIX SPIKE DUPLICATE	8310-HPLC-S	071948-0001-SD	18 OCT 93-70A
MATRIX SPIKE	8310-HPLC-S	071948-0001-MS	18 OCT 93-70A

MATRIX SPIKE / MATRIX SPIKE DUPLICATE REPORT
HPLC Analysis Area

Analyte	Sample	Concentration		Spiked		%Recovery		% RPD
		Matrix Spike	Matrix Spike Dup	MS	MSD	MS	MSD	
Naphthalene	ND	570	550	1000	1000	57	55	5
Fluorene	ND	120	110	200	200	58	55	5
Pyrene	ND	120	120	200	200	60	58	4
Benzo(a)pyrene	ND	57	54	100	100	57	54	6
Indeno(1,2,3-cd)pyrene	ND	57	56	100	100	57	56	2

ND = Not detected.

NC = Not calculated, calculation not applicable.

All calculations are performed before rounding to avoid round-off errors in calculated results.

ENTERED 11-18-93 AF

SM



November 8, 1993
ENSECO CAL LAB PROJECT NUMBER: 072085
PO/CONTRACT: 135729

Lorrie Losorelli
San Jose Creek Laboratory
1965 South Workman Mill Rd.
Whittier, CA 90601

Dear Ms. Losorelli :

This report contains the analytical results for the two aqueous samples which were received under chain of custody by Enseco Cal Lab on 15 October 1993. These samples are associated with your PVLf - Soil Cover Sampling Program.

The case narrative is an integral part of this report.

Please note the MS/MSD are with your project 071948.

If you have any questions, please call me at (916) 372-1393

Sincerely,

Karla L. Buechler

Karla Buechler
Project Manager

ak

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ENSECO CAL LAB PROJECT NUMBER 072085

Case Narrative

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Includes Samples: 1,2

Sample Data Sheets

Method Blank Report

Laboratory Control Sample Report (DCS/SCS)

Matrix Specific QC Report

CASE NARRATIVE

ENSECO CAL LAB PROJECT NUMBER 072085

There were no anomalies associated with this report.

ENSECO CAL LAB'S QUALITY ASSURANCE PROGRAM

Enseco Cal Lab has implemented an extensive Quality Assurance (QA) program to ensure the production of scientifically sound, legally defensible data of known documental quality. A key element of this program is Enseco's Laboratory Control Sample (LCS) system. Controlling lab operations with LCS (as opposed to matrix spike/matrix spike duplicate samples), allows the lab to differentiate between bias as a result of procedural errors versus bias due to matrix effects. The analyst can then identify and implement the appropriate corrective actions at the bench level, without waiting for extensive senior level review or costly and time-consuming sample re-analyses. The LCS program also provides our client with information to assess batch, and overall laboratory performance.

Laboratory Control Samples - (LCS)

Laboratory Control Samples (LCS) are well-characterized, laboratory generated samples used to monitor the laboratory's day-to-day performance of routine analytical methods. The results of the LCS are compared to well-defined laboratory acceptance criteria to determine whether the laboratory system is "in control". Three types of LCS are routinely analyzed: Duplicate Control Samples (DCS), Single Control Samples (SCS), and method blanks. Each of these LCS are described below.

Duplicate Control Samples. A DCS is a well-characterized matrix (blank water, sand, sodium sulfate or celite) which is spiked with certain target parameters and analyzed at approximately 10% of the sample load in order to establish method-specific control limits.

Single Control Samples. An SCS consists of a control matrix that is spiked with surrogate compounds appropriate to the method being used. In cases where no surrogate is available, (e.g. metals or conventional analyses) a single control sample identical to the DCS serves as the control sample. An SCS is prepared for each sample lot. Accuracy is calculated identically to the DCS.

Method Blank Results. A method blank is a laboratory-generated sample which assesses the degree to which laboratory operations and procedures cause false-positive analytical results for your samples.

SAMPLE DESCRIPTION INFORMATION
for
San Jose Creek Laboratory

Lab ID	Client ID	Matrix	Sampled		Received Date
			Date	Time	
072085-0001-SA	64300/SC47	SOIL	12 OCT 93	09:15	15 OCT 93
072085-0001-MS	64300/SC47	SOIL	12 OCT 93	09:15	15 OCT 93
072085-0001-SD	64300/SC47	SOIL	12 OCT 93	09:15	15 OCT 93
072085-0002-SA	64301/SC50	SOIL	12 OCT 93	10:55	15 OCT 93

**COUNTY SANITATION DISTRICTS OF LOS ANGELES COUNTY
LABORATORIES SECTION
SAMPLE CHAIN OF CUSTODY FORM**

PROJECT NAME	PVLF - SOIL COVER SAMPLING PROGRAM
SAMPLING LOCATION (Place and Address)	PALOS VERDES LANDFILL 25705 HAWTHORNE BLVD. ROLLING HILLS CALIFORNIA CA 90274
SIGNATURE OF SAMPLER(S)	<i>Christy J. Hobel, Donna Hughes</i> <i>Fabrizio J. Muller</i>

Sample Field Number	Sampling Sublocation	Date	Time	Sample Matrix	Comp or Grab	Remarks
SC 47	-	12/12/93	9:15 AM	SOIL	G.R.A.B	OUTSIDE LAB
SC 50	-	12/12/93	10:55 AM	SOIL	G.R.A.B	OUTSIDE LAB

Condition @ receipt: good
LIC 101593

RELINQUISHED BY: (Signature) <i>Christy J. Hobel</i>	DATE 12/12/93	TIME 1:25 pm	RECEIVED BY: (Signature) _____
RELINQUISHED BY: (Signature) <i>[Signature]</i>	DATE	TIME	RECEIVED BY: (Signature)
RELINQUISHED BY: (Signature)	DATE 101593	TIME 0900	RECEIVED BY: (Signature) <i>RS Calder</i>
RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)
RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)
RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)

Polynuclear Aromatic Hydrocarbons - Method 8310

Polynuclear Aromatic Hydrocarbons, HPLC

Method 8310

Client Name: San Jose Creek Laboratory

Client ID: 64300/SC47

Lab ID: 072085-0001-SA

Matrix: SOIL

Authorized: 15 OCT 93

Sampled: 12 OCT 93

Prepared: 18 OCT 93

Received: 15 OCT 93

Analyzed: 28 OCT 93

Parameter	Result	Wet wt. Units	Reporting Limit
Naphthalene	ND	ug/kg	400
Acenaphthylene	ND	ug/kg	400
Acenaphthene	ND	ug/kg	400
Fluorene	ND	ug/kg	40
Phenanthrene	ND	ug/kg	120
Anthracene	ND	ug/kg	140
Fluoranthene	ND	ug/kg	40
Pyrene	ND	ug/kg	60
Benzo(a)anthracene	ND	ug/kg	16
Chrysene	ND	ug/kg	40
Benzo(b)fluoranthene	ND	ug/kg	4.0
Benzo(k)fluoranthene	ND	ug/kg	4.0
Benzo(a)pyrene	ND	ug/kg	10
Dibenz(a,h)anthracene	ND	ug/kg	40
Benzo(g,h,i)perylene	ND	ug/kg	16
Indeno(1,2,3-cd)pyrene	ND	ug/kg	40
Surrogate	Recovery		
1-Methylnaphthalene	66.0	%	

ND = Not detected
 NA = Not applicable

Reported By: Sharon Campbell

Approved By: Karla Buechler

The cover letter is an integral part of this report.

Rev 230787

Polynuclear Aromatic Hydrocarbons, HPLC

Method 8310

Client Name: San Jose Creek Laboratory

Client ID: 64301/SC50

Lab ID: 072085-0002-SA

Matrix: SOIL

Authorized: 15 OCT 93

Sampled: 12 OCT 93

Prepared: 18 OCT 93

Received: 15 OCT 93

Analyzed: 29 OCT 93

Parameter	Result	Wet wt. Units	Reporting Limit	
Naphthalene	ND	ug/kg	400	
Acenaphthylene	560	ug/kg	400	
Acenaphthene	ND	ug/kg	400	
Fluorene	ND	ug/kg	40	
Phenanthrene	ND	ug/kg	120	
Anthracene	ND	ug/kg	140	
Fluoranthene	ND	ug/kg	40	
Pyrene	ND	ug/kg	60	
Benzo(a)anthracene	ND	ug/kg	16	
Chrysene	ND	ug/kg	40	
Benzo(b)fluoranthene	ND	ug/kg	4.0	
Benzo(k)fluoranthene	ND	ug/kg	40	G
Benzo(a)pyrene	ND	ug/kg	100	G
Dibenz(a,h)anthracene	ND	ug/kg	400	G
Benzo(g,h,i)perylene	ND	ug/kg	160	G
Indeno(1,2,3-cd)pyrene	ND	ug/kg	400	G
Surrogate	Recovery			
1-Methylnaphthalene	66.0	%		

Note G : Reporting Limit raised due to matrix interference.

ND = Not detected
 NA = Not applicable

Reported By: Sharon Campbell

Approved By: Karla Buechler

The cover letter is an integral part of this report.

Rev 230787

QC LOT ASSIGNMENT REPORT
HPLC Analysis Area

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
072085-0001-SA	SOIL	PAH-HPLC-S	18 OCT 93-70A	18 OCT 93-70A
072085-0002-SA	SOIL	PAH-HPLC-S	18 OCT 93-70A	18 OCT 93-70A

METHOD BLANK REPORT
 HPLC Analysis Area

Analyte	Result	Units	Reporting Limit
Test: 8310-HPLC-S			
Matrix: SOIL			
QC Lot: 18 OCT 93-70A QC Run: 18 OCT 93-70A			
Naphthalene	ND	ug/kg	400
Acenaphthylene	ND	ug/kg	400
Acenaphthene	ND	ug/kg	400
Fluorene	ND	ug/kg	40
Phenanthrene	ND	ug/kg	120
Anthracene	ND	ug/kg	140
Fluoranthene	ND	ug/kg	40
Pyrene	ND	ug/kg	60
Benzo(a)anthracene	ND	ug/kg	16
Chrysene	ND	ug/kg	40
Benzo(b)fluoranthene	ND	ug/kg	4.0
Benzo(k)fluoranthene	ND	ug/kg	4.0
Benzo(a)pyrene	ND	ug/kg	10
Dibenz(a,h)anthracene	ND	ug/kg	40
Benzo(g,h,i)perylene	ND	ug/kg	16
Indeno(1,2,3-cd)pyrene	ND	ug/kg	40

DUPLICATE CONTROL SAMPLE REPORT
 HPLC Analysis Area

Analyte	Concentration Spiked	Concentration Measured		AVG	Accuracy Average(%)		Precision (RPD)	
		DCS1	DCS2		DCS	Limits	DCS	Limit
Category: PAH-HPLC-S								
Matrix: SOIL								
QC Lot: 18 OCT 93-70A								
Concentration Units: ug/Kg								
Naphthalene	1000	776	838	807	81	41-107	7.7	34.0
Fluorene	200	158	169	164	82	48-117	6.7	36.0
Pyrene	200	165	176	170	85	52-111	6.5	35.0
Benzo(a)pyrene	100	82.5	87.3	84.9	85	50-112	5.6	45.0
Indeno(1,2,3-cd)pyrene	100	81.0	86.4	83.7	84	49-118	6.5	32.0

Calculations are performed before rounding to avoid round-off errors in calculated results.

SINGLE CONTROL SAMPLE REPORT
 HPLC Analysis Area

Analyte	Concentration		Accuracy(%)	
	Spiked	Measured	SCS	Limits
Category:	PAH-HPLC-S			
Matrix:	SOIL			
QC Lot:	18 OCT 93-70A QC Run: 18 OCT 93-70A			
Concentration Units:	ug/kg			
Naphthalene	1000	ND	NC	47-103
Fluorene	200	ND	NC	17-133
Pyrene	200	ND	NC	56-109
Benzo(a)pyrene	100	ND	NC	62-110
Indeno(1,2,3-cd)pyrene	100	ND	NC	59-113
1-Methylnaphthalene	10000	7500	75	60-140

ND = Not detected.

NC = Not calculated, calculation not applicable.

NA = Not applicable.

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPECIFIC QC
ASSIGNMENT REPORT
HPLC Analysis Area

QC SAMPLE TYPE	TEST	LABORATORY SAMPLE NUMBER	QC LOT
MATRIX SPIKE DUPLICATE	8310-HPLC-S	071948-0001-SD	18 OCT 93-70A
MATRIX SPIKE	8310-HPLC-S	071948-0001-MS	18 OCT 93-70A

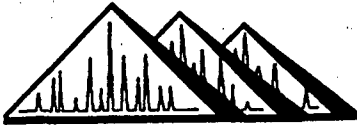
MATRIX SPIKE / MATRIX SPIKE DUPLICATE REPORT
 HPLC Analysis Area

Analyte	Sample	Concentration			Spiked		%Recovery		% RPD
		Matrix Spike	Matrix Spike Dup		MS	MSD	MS	MSD	
Naphthalene	ND	570	550	1000	1000	57	55	5	
Fluorene	ND	120	110	200	200	58	55	5	
Pyrene	ND	120	120	200	200	60	58	4	
Benzo(a)pyrene	ND	57	54	100	100	57	54	6	
Indeno(1,2,3-cd)pyrene	ND	57	56	100	100	57	56	2	

ND = Not detected.

NC = Not calculated, calculation not applicable.

All calculations are performed before rounding to avoid round-off errors in calculated results.



Pyramid Laboratories

LABORATORY REPORT



Pyramid Laboratories

Analytical Services • Consulting

3505 Cadillac Avenue, Building B-2, Costa Mesa, CA 92626

Tel. (714) 435-9800 • FAX (714) 435-9585

LABORATORY REPORT

Date: October 14, 1993

Client: San Jose Creek Water Quality Laboratory
1965 S. Workman Mill Rd.
Whittier, CA 90601
Attn: Lorrie Losorelli

Analysis: Polynuclear Aromatic Hydrocarbons
Method: EPA 8310
Matrix: Soil

Client Project No.: PVLF
Client Sample No.: 63885
Date Received: 10-06-93
Date Extracted: 10-08-93
Date Analyzed: 10-12-93

Lab Job No.: 5084
Lab Sample No.: 5084-01

Batch No.: 931008
Dilution Factor: 1

<u>Component</u>	<u>Results</u> <u>(ug/Kg)</u>	<u>MDL</u> <u>(ug/Kg)</u>
Napthalene	ND	7.0
Acenaphthylene	ND	34
Acenaphthene	ND	7.0
Fluorene	ND	4.0
Phenanthrene	ND	6.0
Anthracene	ND	6.0
Fluoranthene	5.6	4.0
Pyrene	3.7	1.0
Benzo(a)anthracene	1.2	1.0
Chrysene	2.7	2.0
Benzo(b)fluoranthene	ND	3.0
Benzo(k)fluoranthene	ND	2.0
Benzo(a)Pyrene	ND	2.0
Dibenzo(a,h)anthracene	ND	4.0
Benzo(ghi)perylene	ND	3.0
Indeno(1,2,3-cd)pyrene	ND	3.0

Method Detection Limit is based on a starting volume of 30 grams and a final volume of 1 ml.

MDL = Method Detection Limit

ND = Not Detected


Medhat Gorgy
Lab Director



Pyramid Laboratories

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3505 Cadillac Avenue, Building B-2, Costa Mesa, CA 92626

Tel. (714) 435-9800 • FAX (714) 435-9585

LABORATORY REPORT

Date: October 14, 1993
Client: San Jose Creek Water Quality Laboratory
1965 S. Workman Mill Rd.
Whittier, CA 90601
Attn: Lorrie Losorelli

Analysis: Polynuclear Aromatic Hydrocarbons
Method: EPA 8310
Matrix: Soil

Client Project No.: PVLf Date Received: 10-06-93
Client Sample No.: 63886 Date Extracted: 10-08-93
Lab Job No.: 5084 Date Analyzed: 10-12-93
Lab Sample No.: 5084-02

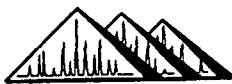
Batch No.: 931008 Dilution Factor: 1

<u>Component</u>	<u>Results</u> <u>(ug/Kg)</u>	<u>MDL</u> <u>(ug/Kg)</u>
Napthalene	ND	7.0
Acenaphthylene	ND	34
Acenaphthene	ND	7.0
Fluorene	ND	4.0
Phenanthrene	ND	6.0
Anthracene	ND	6.0
Fluoranthene	ND	4.0
Pyrene	1.3	1.0
Benzo(a)anthracene	ND	1.0
Chrysene	ND	2.0
Benzo(b)fluoranthene	ND	3.0
Benzo(k)fluoranthene	ND	2.0
Benzo(a)Pyrene	ND	2.0
Dibenzo(a,h)anthracene	ND	4.0
Benzo(ghi)perylene	ND	3.0
Indeno(1,2,3-cd)pyrene	ND	3.0

Method Detection Limit is based on a starting volume of 30 grams
and a final volume of 1 mL

MDL = Method Detection Limit
ND = Not Detected


Medhat Gorgy
Lab Director



Pyramid Laboratories

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Tel. (714) 435-9800 • FAX (714) 435-9585

LABORATORY REPORT

Date: October 14, 1993

Client: San Jose Creek Water Quality Laboratory
1965 S. Workman Mill Rd.
Whittier, CA 90601
Attn: Lorrie Losorelli

Analysis: Polynuclear Aromatic Hydrocarbons
Method: EPA 8310
Matrix: Soil

Client Project No.: PVLFF
Client Sample No.: 63887
Date Received: 10-06-93
Date Extracted: 10-08-93
Date Analyzed: 10-12-93

Lab Job No.: 5084
Lab Sample No.: 5084-03

Batch No.: 931008
Dilution Factor: 1

<u>Component</u>	<u>Results (ug/Kg)</u>	<u>MDL (ug/Kg)</u>
Napthalene	ND	7.0
Acenaphthylene	ND	34
Acenaphthene	ND	7.0
Fluorene	ND	4.0
Phenanthrene	ND	6.0
Anthracene	ND	6.0
Fluoranthene	ND	4.0
Pyrene	1.3	1.0
Benzo(a)anthracene	1.8	1.0
Chrysene	ND	2.0
Benzo(b)fluoranthene	ND	3.0
Benzo(k)fluoranthene	ND	2.0
Benzo(a)Pyrene	ND	2.0
Dibenzo(a,h)anthracene	ND	4.0
Benzo(ghi)perylene	ND	3.0
Indeno(1,2,3-cd)pyrene	ND	3.0

Method Detection Limit is based on a starting volume of 30 grams and a final volume of 1 mL

MDL = Method Detection Limit

ND = Not Detected


Medhat Gorgy
Lab Director



Pyramid Laboratories

Analytical Services • Consulting

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Tel. (714) 435-9800 • FAX (714) 435-9585

LABORATORY REPORT

Date: October 14, 1993

Client: San Jose Creek Water Quality Laboratory
 1965 S. Workman Mill Rd.
 Whittier, CA 90601
 Attn: Lorrie Losorelli

Analysis: Polynuclear Aromatic Hydrocarbons
 Method: EPA 8310
 Matrix: Soil

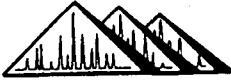
Client Project No.:	PVLF	Date Received:	10-06-93
Client Sample No.:	63888	Date Extracted:	10-08-93
		Date Analyzed:	10-12-93
Lab Job No.:	5084		
Lab Sample No.:	5084-04		
Batch No.:	931008	Dilution Factor:	1

<u>Component</u>	<u>Results</u> <u>(ug/Kg)</u>	<u>MDL</u> <u>(ug/Kg)</u>
Napthalene	ND	7.0
Acenaphthylene	ND	34
Acenaphthene	ND	7.0
Fluorene	ND	4.0
Phenanthrene	ND	6.0
Anthracene	ND	6.0
Fluoranthene	ND	4.0
Pyrene	ND	1.0
Benzo(a)anthracene	ND	1.0
Chrysene	ND	2.0
Benzo(b)fluoranthene	ND	3.0
Benzo(k)fluoranthene	ND	2.0
Benzo(a)Pyrene	ND	2.0
Dibenzo(a,h)anthracene	ND	4.0
Benzo(ghi)perylene	ND	3.0
Indeno(1,2,3-cd)pyrene	ND	3.0

Method Detection Limit is based on a starting volume of 30 grams and a final volume of 1 mL

MDL = Method Detection Limit
 ND = Not Detected


 Medhat Gorgy
 Lab Director



Pyramid Laboratories

Analytical Services • Consulting

3505 Cadillac Avenue, Building B-2, Costa Mesa, CA 92626

Tel. (714) 435-9800 • FAX (714) 435-9585

LABORATORY REPORT

Date: October 14, 1993

Client: San Jose Creek Water Quality Laboratory
1965 S. Workman Mill Rd.
Whittier, CA 90601
Attn: Lorrie Losorelli

Analysis: Polynuclear Aromatic Hydrocarbons
Method: EPA 8310
Matrix: Soil

Client Project No.: PVLFF
Client Sample No.: 63889

Lab Job No.: 5084
Lab Sample No.: 5084-05

Batch No.: 931008

Date Received: 10-06-93
Date Extracted: 10-08-93
Date Analyzed: 10-12-93


Dilution Factor: 10

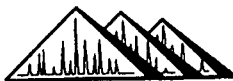
<u>Component</u>	<u>Results</u> <u>(ug/Kg)</u>	<u>MDL</u> <u>(ug/Kg)</u>
Napthalene	ND	7.0
Acenaphthylene	ND	34
Acenaphthene	ND	7.0
Fluorene	ND	4.0
Phenanthrene	ND	6.0
Anthracene	ND	6.0
Fluoranthene	51	4.0
Pyrene	ND	1.0
Benzo(a)anthracene	ND	1.0
Chrysene	ND	2.0
Benzo(b)fluoranthene	22	3.0
Benzo(k)fluoranthene	ND	2.0
Benzo(a)Pyrene	36	2.0
Dibenzo(a,h)anthracene	ND	4.0
Benzo(ghi)perylene	ND	3.0
Indeno(1,2,3-cd)pyrene	ND	3.0

Method Detection Limit is based on a starting volume of 30 grams and a final volume of 1 mL

MDL = Method Detection Limit

ND = Not Detected


Medhat Gorgy
Lab Director



Pyramid Laboratories

Analytical Services • Consulting

3505 Cadillac Avenue, Building B-2, Costa Mesa, CA 92626

Tel. (714) 435-9800 • FAX (714) 435-9585

LABORATORY REPORT

Date: October 14, 1993

Client: San Jose Creek Water Quality Laboratory
1965 S. Workman Mill Rd.
Whittier, CA 90601
Attn: Lorrie Losorelli

Analysis: Polynuclear Aromatic Hydrocarbons
Method: EPA 8310
Matrix: Soil

Client Project No.: PVLFF
Client Sample No.: 63890
Date Received: 10-06-93
Date Extracted: 10-08-93
Date Analyzed: 10-12-93

Lab Job No.: 5084
Lab Sample No.: 5084-06

Batch No.: 931008
Dilution Factor: 1

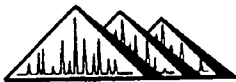
<u>Component</u>	<u>Results</u> <u>(ug/Kg)</u>	<u>MDL</u> <u>(ug/Kg)</u>
Napthalene	ND	7.0
Acenaphthylene	ND	34
Acenaphthene	ND	7.0
Fluorene	ND	4.0
Phenanthrene	ND	6.0
Anthracene	ND	6.0
Fluoranthene	4.1	4.0
Pyrene	2.4	1.0
Benzo(a)anthracene	ND	1.0
Chrysene	ND	2.0
Benzo(b)fluoranthene	ND	3.0
Benzo(k)fluoranthene	ND	2.0
Benzo(a)Pyrene	ND	2.0
Dibenzo(a,h)anthracene	ND	4.0
Benzo(ghi)perylene	ND	3.0
Indeno(1,2,3-cd)pyrene	ND	3.0

Method Detection Limit is based on a starting volume of 30 grams
and a final volume of 1 mL

MDL = Method Detection Limit

ND = Not Detected


Medhat Gorgy
Lab Director



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LABORATORY REPORT

Date: October 14, 1993

Client: San Jose Creek Water Quality Laboratory
1965 S. Workman Mill Rd.
Whittier, CA 90601
Attn: Lorrie Losorelli

Analysis: Polynuclear Aromatic Hydrocarbons
Method: EPA 8310
Matrix: Soil

Client Project No.: PVLF
Client Sample No.: 63891

Lab Job No.: 5084
Lab Sample No.: 5084-07

Batch No.: 931008

Date Received: 10-06-93
Date Extracted: 10-08-93
Date Analyzed: 10-12-93

Dilution Factor: 1

<u>Component</u>	<u>Results (ug/Kg)</u>	<u>MDL (ug/Kg)</u>
Napthalene	ND	7.0
Acenaphthylene	ND	34
Acenaphthene	ND	7.0
Fluorene	ND	4.0
Phenanthrene	ND	6.0
Anthracene	ND	6.0
Fluoranthene	ND	4.0
Pyrene	3.7	1.0
Benzo(a)anthracene	1.9	1.0
Chrysene	ND	2.0
Benzo(b)fluoranthene	ND	3.0
Benzo(k)fluoranthene	ND	2.0
Benzo(a)Pyrene	2.4	2.0
Dibenzo(a,h)anthracene	7.9	4.0
Benzo(ghi)perylene	ND	3.0
Indeno(1,2,3-cd)pyrene	ND	3.0

Method Detection Limit is based on a starting volume of 30 grams and a final volume of 1 mL

MDL = Method Detection Limit

ND = Not Detected


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Tel. (714) 435-9800 • FAX (714) 435-9585

LABORATORY REPORT

Date: October 14, 1993

Client: San Jose Creek Water Quality Laboratory
1965 S. Workman Mill Rd.
Whittier, CA 90601
Attn: Lorrie Losorelli

Analysis: Polynuclear Aromatic Hydrocarbons
Method: EPA 8310
Matrix: Soil

Client Project No.: PVLF
Client Sample No.: 63892
Date Received: 10-06-93
Date Extracted: 10-08-93
Date Analyzed: 10-12-93

Lab Job No.: 5084
Lab Sample No.: 5084-08

Batch No.: 931008
Dilution Factor: 1

<u>Component</u>	<u>Results (ug/Kg)</u>	<u>MDL (ug/Kg)</u>
Napthalene	ND	7.0
Acenaphthylene	ND	34
Acenaphthene	ND	7.0
Fluorene	ND	4.0
Phenanthrene	ND	6.0
Anthracene	ND	6.0
Fluoranthene	4.6	4.0
Pyrene	3.6	1.0
Benzo(a)anthracene	1.8	1.0
Chrysene	2.7	2.0
Benzo(b)fluoranthene	ND	3.0
Benzo(k)fluoranthene	ND	2.0
Benzo(a)Pyrene	2.7	2.0
Dibenzo(a,h)anthracene	ND	4.0
Benzo(ghi)perylene	ND	3.0
Indeno(1,2,3-cd)pyrene	3.6	3.0

Method Detection Limit is based on a starting volume of 30 grams and a final volume of 1 mL

MDL = Method Detection Limit
ND = Not Detected


Medhat Gorgy
Lab Director



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Tel. (714) 435-9800 • FAX (714) 435-9585

LABORATORY REPORT

Date: October 14, 1993

Client: San Jose Creek Water Quality Laboratory
1965 S. Workman Mill Rd.
Whittier, CA 90601
Attn: Lorrie Losorelli

Analysis: Polynuclear Aromatic Hydrocarbons
Method: EPA 8310
Matrix: Soil

Client Project No.: PVLF
Client Sample No.: 63894
Date Received: 10-06-93
Date Extracted: 10-08-93
Date Analyzed: 10-12-93

Lab Job No.: 5084
Lab Sample No.: 5084-10

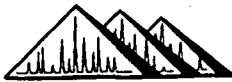
Batch No.: 931008
Dilution Factor: 1

<u>Component</u>	<u>Results</u> <u>(ug/Kg)</u>	<u>MDL</u> <u>(ug/Kg)</u>
Napthalene	ND	7.0
Acenaphthylene	ND	34
Acenaphthene	ND	7.0
Fluorene	ND	4.0
Phenanthrene	ND	6.0
Anthracene	ND	6.0
Fluoranthene	ND	4.0
Pyrene	1.6	1.0
Benzo(a)anthracene	ND	1.0
Chrysene	ND	2.0
Benzo(b)fluoranthene	ND	3.0
Benzo(k)fluoranthene	ND	2.0
Benzo(a)Pyrene	ND	2.0
Dibenzo(a,h)anthracene	ND	4.0
Benzo(ghi)perylene	ND	3.0
Indeno(1,2,3-cd)pyrene	ND	3.0

Method Detection Limit is based on a starting volume of 30 grams and a final volume of 1 mL

MDL = Method Detection Limit
ND = Not Detected


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LABORATORY REPORT

Date: October 14, 1993

Client: San Jose Creek Water Quality Laboratory
 1965 S. Workman Mill Rd.
 Whittier, CA 90601
 Attn: Lorrie Losorelli

Analysis: Polynuclear Aromatic Hydrocarbons
 Method: EPA 8310
 Matrix: Soil

Client Project No.:	PVLF	Date Received:	10-06-93
Client Sample No.:	63895	Date Extracted:	10-08-93
		Date Analyzed:	10-12-93
Lab Job No.:	5084		
Lab Sample No.:	5084-11		

Batch No.:	931008	Dilution Factor:	1
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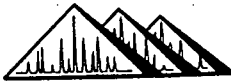
<u>Component</u>	<u>Results</u> <u>(ug/Kg)</u>	<u>MDL</u> <u>(ug/Kg)</u>
Napthalene	ND	7.0
Acenaphthylene	ND	34
Acenaphthene	ND	7.0
Fluorene	ND	4.0
Phenanthrene	ND	6.0
Anthracene	ND	6.0
Fluoranthene	ND	4.0
Pyrene	2.7	1.0
Benzo(a)anthracene	ND	1.0
Chrysene	2.0	2.0
Benzo(b)fluoranthene	ND	3.0
Benzo(k)fluoranthene	ND	2.0
Benzo(a)Pyrene	ND	2.0
Dibenzo(a,h)anthracene	ND	4.0
Benzo(ghi)perylene	ND	3.0
Indeno(1,2,3-cd)pyrene	ND	3.0

Method Detection Limit is based on a starting volume of 30 grams and a final volume of 1 mL

MDL = Method Detection Limit

ND = Not Detected


 Medhat Gorgy
 Lab Director



QUALITY CONTROL REPORT

Date: October 14, 1993
Client: San Jose Creek Water Quality Laboratory
Analysis: Polynuclear Aromatic Hydrocarbons
Method: EPA 8310
Matrix: Soil
Client Project No.: PVLFF
Client Sample No.: 63896
Date Received: 10-06-93
Date Extracted: 10-08-93
Date Analyzed: 10-12-93
Batch No.: 931008
Lab Job No.: 5084
Lab Sample No.: 5084-12 MS/MSD

<u>Component</u>	<u>Results*</u>		<u>QC Limits</u>	<u>RPD</u>	<u>RPD Limits</u>
	<u>MS</u> <u>% Recovery</u>	<u>MSD</u> <u>% Recovery</u>			
Napthalene	45	42	36- 99	7	0-38
Acenaphthylene	38	43	40-117	12	0-37
Acenaphthene	26	55	33-113	72	0-93
Fluorene	42	57	23-145	30	0-43
Phenanthrene	33	37	61- 91	11	0-46
Anthracene	29	33	07-160	13	0-31
Fluoranthene	31	35	21-148	12	0-33
Pyrene	33	39	21-148	17	0-26
Benzo(a)anthracene	28	31	44-132	10	0-16
Chrysene	30	33	63-103	9	0-20
Benzo(b)fluoranthene	26	29	38-138	8	0-16
Benzo(k)fluoranthene	24	26	25-134	8	0-14
Benzo(a)Pyrene	32	35	54-108	9	0-18
Dibenzo(a,h)anthracene	20	21	19-157	5	0-18
Benzo(ghi)perylene	21	22	30-120	5	0-41
Indeno(1,2,3-cd)pyrene	25	25	07-137	0	0-25

* Poor recovery due to sample matrix

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPL = Relative Percent Difference


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QUALITY CONTROL REPORT

Date: October 14, 1993
Client: San Jose Creek Water Quality Laboratory
Analysis: Polynuclear Aromatic Hydrocarbons
Method: EPA 8310
Matrix: Aqueous
Batch No.: 931008 Date Extracted: 10-08-93
Date Analyzed: 10-12-93
Lab Job No.: 5084
Lab Sample No.: LCS/LCSD

<u>Component</u>	<u>LCS</u> <u>% Recovery</u>	<u>LCSD</u> <u>% Recovery</u>	<u>QC Limits</u>	<u>RPD</u>	<u>RPD</u> <u>Limits</u>
Napthalene	58	64	43-103	10	0-44
Acenaphthylene	72	75	24-128	4	0-42
Acenaphthene	51	64	50-123	23	0-37
Fluorene	78	74	42-146	5	0-50
Phenanthrene	75	71	66-100	5	0-36
Anthracene	78	72	30-155	8	0-37
Fluoranthene	81	76	44-144	6	0-50
Pyrene	76	73	25-170	4	0-40
Benzo(a)anthracene	83	79	50-137	5	0-28
Chrysene	81	77	32-131	5	0-26
Benzo(b)fluoranthene	85	80	55-135	6	0-27
Benzo(k)fluoranthene	87	82	36-141	6	0-28
Benzo(a)Pyrene	91	85	45-124	7	0-28
Dibenzo(a,h)anthracene	84	77	36-159	9	0-27
Benzo(ghi)perylene	86	80	44-109	7	0-40
Indeno(1,2,3-cd)pyrene	76	70	57-132	8	0-78

LCS = Laboratory Control Sample
LCSD = Laboratory Control Sample Duplicate
RPD = Relative Percent Difference


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QUALITY CONTROL REPORT

Date: October 14, 1993
 Client: San Jose Creek Water Quality Laboratory
 Analysis: Polynuclear Aromatic Hydrocarbons
 Method: EPA 8310
 Matrix: Soil
 Date Extracted: 10-08-93
 Date Analyzed: 10-12-93
 Lab Job No.: 5084
 Batch No.: 931008

<u>Sample Name</u>	<u>Surrogate Recovery (%)</u>	
	<u>Nitrobenzene d-5</u>	<u>p-terphenyl</u>
63885	29	56
63886	16	47
63887	21	96
63888	75	66
63889	*	*
63890	25	58
63891	47	75
63892	51	99
63893	35	34
63894	19	98
63895	15	117
63896	39	31
63899	54	61
MS	52	28
MSD	63	32
LCS	68	77
LCSD	73	74
MB	64	73

QC LIMITS: 13-127 38-144

* Poor recovery due to sample matrix

MS = Matrix Spike
 LCS = Laboratory Control Sample
 MB = Method Blank

MSD = Matrix Spike Duplicate
 LCSD = Laboratory Control Sample Duplicate


 Medhat Gorgy
 Lab Director

**COUNTY SANITATION DISTRICTS OF LOS ANGELES COUNTY
LABORATORIES SECTION
SAMPLE CHAIN OF CUSTODY FORM**

OCT 06 1993

005084

PROJECT NAME	<i>PVLF - SOIL COVER SAMPLING PROGRAM</i>
SAMPLING LOCATION (Place and Address)	<i>PALOS VERDES LANDFILL 25706 HAWTHORNE BLVD. ROLLING HILLS ESTATES, CA 90274</i>
SIGNATURE OF SAMPLER(S)	<i>Christopher J. Harbeck; Patrick J. Mullins; Geneva M. Miller</i>

OL#	Sample Field Number	Sampling Sublocation	Date	Time	Sample Matrix	Comp or Grab	Remarks
-01	SC 35	—	10/4/93	10:25 am	SOIL	GRAB	
02	SC 36	—	10/4/93	10:10 am	SOIL	GRAB	
-03	SC 37	—	10/4/93	9:30 am	SOIL	GRAB	
-04	SC 38	—	10/4/93	9:00 am	SOIL	GRAB	
-05	SC 39	—	10/4/93	8:40 am	SOIL	GRAB	
-06	SC 40	—	10/4/93	8:00 am	SOIL	GRAB	
-07	SC 41	—	10/5/93	8:05 am	SOIL	GRAB	
08	SC 42	—	10/5/93	8:15 am	SOIL	GRAB	
-09	SC 43	—	10/5/93	8:45 am	SOIL	GRAB	
-10	SC 44	—	10/5/93	9:00 am	SOIL	GRAB	
-11	SC 45	—	10/5/93	10:15 am	SOIL	GRAB	
-12	SC 46	—	10/5/93	9:15 am	SOIL	GRAB	EXTRA VOLUME FOR MATRIX SPIN/MATRIX SPIN UP ANALYSIS
-13	RINSE BULK	—	10/5/93	10:45 am	LIQUID	GRAB	RINSE BULK FOR SAMPLES SC35-SC46 (2 1-LITER BOTTLES)

RELINQUISHED BY : (Signature) <i>Christopher J. Harbeck</i>	DATE 10/5/93	TIME 1:10 pm	RECEIVED BY: (Signature) <i>John V. Greenwood</i>
RELINQUISHED BY : (Signature) <i>John V. Greenwood</i>	DATE 10/6/93	TIME 12:57 pm	RECEIVED BY: (Signature) <i>John V. Greenwood</i>
RELINQUISHED BY : (Signature) <i>John V. Greenwood</i>	DATE 10/6/93	TIME 2:10 pm	RECEIVED BY: (Signature) <i>John V. Greenwood</i>
RELINQUISHED BY : (Signature)	DATE	TIME	RECEIVED BY: (Signature)
RELINQUISHED BY : (Signature)	DATE	TIME	RECEIVED BY: (Signature)



Pyramid Laboratories

(714) 893-1012

5702 Boisa Ave.
Huntington Beach, Ca. 92649

Chain of Custody Record

5084

Lab Job no.:
Date 007 06 1993
Page of

Client SI Beach Water Quality Lab. Project Manager Laine Losorelli
 Address 1965 S. Whittier Mill Rd. Telephone No. _____
Whittier
 Project Name / Number _____ Fax No. 310) 699-3368
 Contract / Purchase Order / Quote 180799 Samplers: (Signature) _____

Analysis Required

No. of Containers

Remarks

PAH & BIC

Laboratory Sample Number	Field Sample Number	Location	Date	Time	Sample Type	Type/Size of Container	Preservation							
							Temp.	Chemical						
284-01	63885		7/4		Soil	bottles			1	✓				
02	63886		7/4		Soil				1	✓				
03	63887		7/4						1	✓				
04	63888		7/4						1	✓				
05	63889		7/4						1	✓				
06	63890		7/4						1	✓				
07	63891		7/5						1	✓				
08	63892		7/5						1	✓				
09	63893		7/5						1	✓				
10	63894		7/5						1	✓				
11	63895		7/5						1	✓				
12	63896		7/5						1	✓				

Relinquished by: 15 63899 7/5 Date
 Signature _____
 Printed _____
 Company Iran / Pyramid
 Reason picked up samples PM
 Time 2:10

Received by: Ken Manuza
 Signature _____
 Printed Ken Manuza
 Company Pyramid Labs.
 Reason _____

Relinquished by: 1 ✓
 Signature _____
 Printed _____
 Company _____
 Reason _____

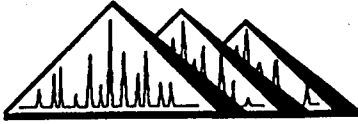
Date _____
 Received by: _____
 Signature _____
 Printed _____
 Company _____
 Reason _____

Method of Shipment: _____
 Shipment No. _____
 Special Instructions: _____

Comments: _____

After analysis, samples are to be:

- Disposed of (additional fee)
- Stored (90 days max)
- Stored over 90 days (additional fee)
- Returned to customer



LABORATORY REPORT



Pyramid Laboratories

Analytical Services • Consulting

3505 Cadillac Avenue, Building B-2, Costa Mesa, CA 92626

Tel. (714) 435-9800 • FAX (714) 435-9585

LABORATORY REPORT

Date: November 1, 1993 Lab I.D. No.: 10202

Client: San Jose Creek Water Quality Laboratory
1965 S. Workman Mill Rd.
Whittier, CA 90601

Attn: Lorrie Losorelli

Analysis: Polynuclear Aromatic Hydrocarbons
Method: EPA 8310
Matrix: Soil

Client Sample No.: 64283

Date Received: 10-15-93
Date Extracted: 10-19-93
Date Analyzed: 10-21-93

Lab Job No.: 5098 Batch No.: 931019
Lab Sample No.: 5098-01 Dilution Factor: 1

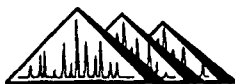
<u>Component</u>	<u>Results</u> <u>(ug/Kg)</u>	<u>MDL</u> <u>(ug/Kg)</u>
Napthalene	ND	7.0
Acenaphthylene	ND	34
Acenaphthene	ND	7.0
Fluorene	ND	4.0
Phenanthrene	ND	6.0
Anthracene	ND	6.0
Fluoranthene	ND	4.0
Pyrene	1.5	1.0
Benzo(a)anthracene	1.4	1.0
Chrysene	ND	2.0
Benzo(b)fluoranthene	ND	3.0
Benzo(k)fluoranthene	ND	2.0
Benzo(a)Pyrene	ND	2.0
Dibenzo(a,h)anthracene	ND	4.0
Benzo(ghi)perylene	ND	3.0
Indeno(1,2,3-cd)pyrene	ND	3.0

Method Detection Limit is based on a starting volume of 30 grams
and a final volume of 1.0 mL

MDL = Method Detection Limit

ND = Not Detected


Medhat Gorgy
Lab Director



Pyramid Laboratories

Analytical Services • Consulting

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LABORATORY REPORT

Date: November 1, 1993 Lab I.D. No.: 10202

Client: San Jose Creek Water Quality Laboratory
1965 S. Workman Mill Rd.
Whittier, CA 90601

Attn: Lorrie Losorelli

Analysis: Polynuclear Aromatic Hydrocarbons
Method: EPA 8310
Matrix: Soil

Client Sample No.: 64284

Date Received: 10-15-93
Date Extracted: 10-19-93
Date Analyzed: 10-25-93

Lab Job No.: 5098 Batch No.: 931019
Lab Sample No.: 5098-02 Dilution Factor: 100

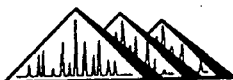
<u>Component</u>	<u>Results</u> <u>(ug/Kg)</u>	<u>MDL</u> <u>(ug/Kg)</u>
Napthalene	ND	7.0
Acenaphthylene	ND	34
Acenaphthene	ND	7.0
Fluorene	ND	4.0
Phenanthrene	ND	6.0
Anthracene	ND	6.0
Fluoranthene	ND	4.0
Pyrene	ND	1.0
Benzo(a)anthracene	ND	1.0
Chrysene	ND	2.0
Benzo(b)fluoranthene	ND	3.0
Benzo(k)fluoranthene	ND	2.0
Benzo(a)Pyrene	ND	2.0
Dibenzo(a,h)anthracene	ND	4.0
Benzo(ghi)perylene	ND	3.0
Indeno(1,2,3-cd)pyrene	ND	3.0

Method Detection Limit is based on a starting volume of 30 grams and a final volume of 1.0 mL

MDL = Method Detection Limit

ND = Not Detected


Medhat Gorgy
Lab Director



Pyramid Laboratories

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Tel. (714) 435-9800 • FAX (714) 435-9585

LABORATORY REPORT

Date: November 1, 1993 Lab I.D. No.: 10202

Client: San Jose Creek Water Quality Laboratory
1965 S. Workman Mill Rd.
Whittier, CA 90601

Attn: Lorrie Losorelli

Analysis: Polynuclear Aromatic Hydrocarbons
Method: EPA 8310
Matrix: Soil

Client Sample No.: 64285

Date Received: 10-15-93
Date Extracted: 10-19-93
Date Analyzed: 10-21-93

Lab Job No.: 5098 Batch No.: 931019
Lab Sample No.: 5098-03 Dilution Factor: 2

<u>Component</u>	<u>Results</u> (ug/Kg)	<u>MDL</u> (ug/Kg)
Napthalene	ND	7.0
Acenaphthylene	ND	34
Acenaphthene	ND	7.0
Fluorene	ND	4.0
Phenanthrene	7.7	6.0
Anthracene	ND	6.0
Fluoranthene	ND	4.0
Pyrene	3.7	1.0
Benzo(a)anthracene	ND	1.0
Chrysene	ND	2.0
Benzo(b)fluoranthene	7.3	3.0
Benzo(k)fluoranthene	ND	2.0
Benzo(a)Pyrene	ND	2.0
Dibenzo(a,h)anthracene	ND	4.0
Benzo(ghi)perylene	ND	3.0
Indeno(1,2,3-cd)pyrene	ND	3.0

Method Detection Limit is based on a starting volume of 30 grams and a final volume of 1.0 mL

MDL = Method Detection Limit
ND = Not Detected


Medhat Gorgy
Lab Director



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Analytical Services • Consulting

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Tel. (714) 435-9800 • FAX (714) 435-9585

LABORATORY REPORT

Date: November 1, 1993 Lab I.D. No.: 10202

Client: San Jose Creek Water Quality Laboratory
1965 S. Workman Mill Rd.
Whittier, CA 90601

Attn: Lorrie Losorelli

Analysis: Polynuclear Aromatic Hydrocarbons
Method: EPA 8310
Matrix: Soil

Client Sample No.: 64286

Date Received: 10-15-93
Date Extracted: 10-19-93
Date Analyzed: 10-25-93

Lab Job No.: 5098 Batch No.: 931019
Lab Sample No.: 5098-04 Dilution Factor: 200

<u>Component</u>	<u>Results</u> <u>(ug/Kg)</u>	<u>MDL</u> <u>(ug/Kg)</u>
Napthalene	ND	7.0
Acenaphthylene	ND	34
Acenaphthene	ND	7.0
Fluorene	ND	4.0
Phenanthrene	ND	6.0
Anthracene	ND	6.0
Fluoranthene	ND	4.0
Pyrene	ND	1.0
Benzo(a)anthracene	ND	1.0
Chrysene	ND	2.0
Benzo(b)fluoranthene	ND	3.0
Benzo(k)fluoranthene	ND	2.0
Benzo(a)Pyrene	ND	2.0
Dibenzo(a,h)anthracene	ND	4.0
Benzo(ghi)perylene	ND	3.0
Indeno(1,2,3-cd)pyrene	ND	3.0

Method Detection Limit is based on a starting volume of 30 grams
and a final volume of 1.0 mL

MDL = Method Detection Limit
ND = Not Detected


Medhat Gorgy
Lab Director



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3505 Cadillac Avenue, Building B-2, Costa Mesa, CA 92626

Tel. (714) 435-9800 • FAX (714) 435-9585

LABORATORY REPORT

Date: November 1, 1993 Lab I.D. No.: 10202

Client: San Jose Creek Water Quality Laboratory
1965 S. Workman Mill Rd.
Whittier, CA 90601

Attn: Lorrie Losorelli

Analysis: Polynuclear Aromatic Hydrocarbons
Method: EPA 8310
Matrix: Soil

Client Sample No.: 64287

Date Received: 10-15-93
Date Extracted: 10-19-93
Date Analyzed: 10-21-93

Lab Job No.: 5098 Batch No.: 931019
Lab Sample No.: 5098-05 Dilution Factor: 1

<u>Component</u>	<u>Results</u> (ug/Kg)	<u>MDL</u> (ug/Kg)
Napthalene	ND	7.0
Acenaphthylene	ND	34
Acenaphthene	ND	7.0
Fluorene	ND	4.0
Phenanthrene	ND	6.0
Anthracene	ND	6.0
Fluoranthene	ND	4.0
Pyrene	1.8	1.0
Benzo(a)anthracene	ND	1.0
Chrysene	ND	2.0
Benzo(b)fluoranthene	ND	3.0
Benzo(k)fluoranthene	ND	2.0
Benzo(a)Pyrene	ND	2.0
Dibenzo(a,h)anthracene	ND	4.0
Benzo(ghi)perylene	ND	3.0
Indeno(1,2,3-cd)pyrene	ND	3.0

Method Detection Limit is based on a starting volume of 30 grams and a final volume of 1.0 mL

MDL = Method Detection Limit
ND = Not Detected


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LABORATORY REPORT

Date: November 1, 1993 Lab I.D. No.: 10202

Client: San Jose Creek Water Quality Laboratory
1965 S. Workman Mill Rd.
Whittier, CA 90601

Attn: Lorrie Losorelli

Analysis: Polynuclear Aromatic Hydrocarbons
Method: EPA 8310
Matrix: Soil

Client Sample No.: 64288

Date Received: 10-15-93
Date Extracted: 10-19-93
Date Analyzed: 10-21-93

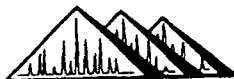
Lab Job No.: 5098 Batch No.: 931019
Lab Sample No.: 5098-06 Dilution Factor: 2

<u>Component</u>	<u>Results (ug/Kg)</u>	<u>MDL (ug/Kg)</u>
Napthalene	ND	7.0
Acenaphthylene	ND	34
Acenaphthene	ND	7.0
Fluorene	ND	4.0
Phenanthrene	10.0	6.0
Anthracene	ND	6.0
Fluoranthene	5.0	4.0
Pyrene	4.1	1.0
Benzo(a)anthracene	3.0	1.0
Chrysene	2.6	2.0
Benzo(b)fluoranthene	ND	3.0
Benzo(k)fluoranthene	ND	2.0
Benzo(a)Pyrene	3.8	2.0
Dibenzo(a,h)anthracene	ND	4.0
Benzo(ghi)perylene	6.1	3.0
Indeno(1,2,3-cd)pyrene	ND	3.0

Method Detection Limit is based on a starting volume of 30 grams
and a final volume of 1.0 mL

MDL = Method Detection Limit
ND = Not Detected


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LABORATORY REPORT

Date: November 1, 1993 Lab I.D. No.: 10202

Client: San Jose Creek Water Quality Laboratory
1965 S. Workman Mill Rd.
Whittier, CA 90601

Attn: Lorrie Losorelli

Analysis: Polynuclear Aromatic Hydrocarbons
Method: EPA 8310
Matrix: Soil

Client Sample No.: 64289

Date Received: 10-15-93

Date Extracted: 10-19-93

Date Analyzed: 10-23-93

Lab Job No.: 5098
Lab Sample No.: 5098-07

Batch No.: 931019
Dilution Factor: 2,000

<u>Component</u>	<u>Results</u> <u>(ug/Kg)</u>	<u>MDL</u> <u>(ug/Kg)</u>
Napthalene	21,000	7.0
Acenaphthylene	ND	34
Acenaphthene	ND	7.0
Fluorene	ND	4.0
Phenanthrene	20,000	6.0
Anthracene	ND	6.0
Fluoranthene	17,000	4.0
Pyrene	13,000	1.0
Benzo(a)anthracene	5,600	1.0
Chrysene	5,300	2.0
Benzo(b)fluoranthene	ND	3.0
Benzo(k)fluoranthene	ND	2.0
Benzo(a)Pyrene	4,500	2.0
Dibenzo(a,h)anthracene	ND	4.0
Benzo(ghi)perylene	ND	3.0
Indeno(1,2,3-cd)pyrene	ND	3.0

Method Detection Limit is based on a starting volume of 30 grams
and a final volume of 1.0 mL

MDL = Method Detection Limit

ND = Not Detected


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LABORATORY REPORT

Date: November 1, 1993 Lab I.D. No.: 10202

Client: San Jose Creek Water Quality Laboratory
1965 S. Workman Mill Rd.
Whittier, CA 90601

Attn: Lorrie Losorelli

Analysis: Polynuclear Aromatic Hydrocarbons
Method: EPA 8310
Matrix: Soil

Client Sample No.: 64290

Date Received: 10-15-93
Date Extracted: 10-19-93
Date Analyzed: 10-29-93

Lab Job No.: 5098 Batch No.: 931019
Lab Sample No.: 5098-08 Dilution Factor: 200

<u>Component</u>	<u>Results</u> <u>(ug/Kg)</u>	<u>MDL</u> <u>(ug/Kg)</u>
Napthalene	1,800	7.0
Acenaphthylene	ND	34
Acenaphthene	2,300	7.0
Fluorene	ND	4.0
Phenanthrene	1,300	6.0
Anthracene	ND	6.0
Fluoranthene	1,600	4.0
Pyrene	1,400	1.0
Benzo(a)anthracene	650	1.0
Chrysene	680	2.0
Benzo(b)fluoranthene	600	3.0
Benzo(k)fluoranthene	ND	2.0
Benzo(a)Pyrene	650	2.0
Dibenzo(a,h)anthracene	ND	4.0
Benzo(ghi)perylene	ND	3.0
Indeno(1,2,3-cd)pyrene	ND	3.0

Method Detection Limit is based on a starting volume of 30 grams
and a final volume of 1.0 mL

MDL = Method Detection Limit
ND = Not Detected


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LABORATORY REPORT

Date: November 1, 1993 Lab I.D. No.: 10202

Client: San Jose Creek Water Quality Laboratory
1965 S. Workman Mill Rd.
Whittier, CA 90601

Attn: Lorrie Losorelli

Analysis: Polynuclear Aromatic Hydrocarbons
Method: EPA 8310
Matrix: Soil

Client Sample No.: 64291

Date Received: 10-15-93
Date Extracted: 10-19-93
Date Analyzed: 10-23-93

Lab Job No.: 5098 Batch No.: 931019
Lab Sample No.: 5098-09 Dilution Factor: 1,000

<u>Component</u>	<u>Results</u> <u>(ug/Kg)</u>	<u>MDL</u> <u>(ug/Kg)</u>
Napthalene	23,000	7.0
Acenaphthylene	ND	34
Acenaphthene	ND	7.0
Fluorene	4,900	4.0
Phenanthrene	16,000	6.0
Anthracene	ND	6.0
Fluoranthene	13,000	4.0
Pyrene	12,000	1.0
Benzo(a)anthracene	3,600	1.0
Chrysene	3,600	2.0
Benzo(b)fluoranthene	3,400	3.0
Benzo(k)fluoranthene	ND	2.0
Benzo(a)Pyrene	3,700	2.0
Dibenzo(a,h)anthracene	ND	4.0
Benzo(ghi)perylene	ND	3.0
Indeno(1,2,3-cd)pyrene	ND	3.0

Method Detection Limit is based on a starting volume of 30 grams
and a final volume of 1.0 mL

MDL = Method Detection Limit
ND = Not Detected


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LABORATORY REPORT

Date: November 1, 1993 Lab I.D. No.: 10202

Client: San Jose Creek Water Quality Laboratory
1965 S. Workman Mill Rd.
Whittier, CA 90601

Attn: Lorrie Losorelli

Analysis: Polynuclear Aromatic Hydrocarbons
Method: EPA 8310
Matrix: Soil

Client Sample No.: 64292

Date Received: 10-15-93
Date Extracted: 10-19-93
Date Analyzed: 10-23-93

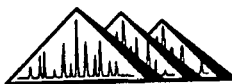
Lab Job No.: 5098 Batch No.: 931019
Lab Sample No.: 5098-10 Dilution Factor: 100

<u>Component</u>	<u>Results (ug/Kg)</u>	<u>MDL (ug/Kg)</u>
Napthalene	1,200	7.0
Acenaphthylene	ND	34
Acenaphthene	ND	7.0
Fluorene	ND	4.0
Phenanthrene	850	6.0
Anthracene	ND	6.0
Fluoranthene	1,000	4.0
Pyrene	440	1.0
Benzo(a)anthracene	350	1.0
Chrysene	340	2.0
Benzo(b)fluoranthene	400	3.0
Benzo(k)fluoranthene	ND	2.0
Benzo(a)Pyrene	430	2.0
Dibenzo(a,h)anthracene	ND	4.0
Benzo(ghi)perylene	ND	3.0
Indeno(1,2,3-cd)pyrene	ND	3.0

Method Detection Limit is based on a starting volume of 30 grams
and a final volume of 1.0 mL

MDL = Method Detection Limit
ND = Not Detected


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LABORATORY REPORT

Date: November 1, 1993 Lab I.D. No.: 10202

Client: San Jose Creek Water Quality Laboratory
1965 S. Workman Mill Rd.
Whittier, CA 90601

Attn: Lorrie Losorelli

Analysis: Polynuclear Aromatic Hydrocarbons
Method: EPA 8310
Matrix: Soil

Client Sample No.: 64293

Date Received: 10-15-93
Date Extracted: 10-19-93
Date Analyzed: 10-29-93

Lab Job No.: 5098 Batch No.: 931019
Lab Sample No.: 5098-11 Dilution Factor: 200

<u>Component</u>	<u>Results</u> <u>(ug/Kg)</u>	<u>MDL</u> <u>(ug/Kg)</u>
Napthalene	1,900	7.0
Acenaphthylene	ND	34
Acenaphthene	ND	7.0
Fluorene	ND	4.0
Phenanthrene	1,300	6.0
Anthracene	ND	6.0
Fluoranthene	1,800	4.0
Pyrene	1,400	1.0
Benzo(a)anthracene	690	1.0
Chrysene	700	2.0
Benzo(b)fluoranthene	620	3.0
Benzo(k)fluoranthene	ND	2.0
Benzo(a)Pyrene	620	2.0
Dibenzo(a,h)anthracene	ND	4.0
Benzo(ghi)perylene	ND	3.0
Indeno(1,2,3-cd)pyrene	610	3.0

Method Detection Limit is based on a starting volume of 30 grams
and a final volume of 1.0 mL

MDL = Method Detection Limit
ND = Not Detected


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LABORATORY REPORT

Date: November 1, 1993 Lab I.D. No.: 10202

Client: San Jose Creek Water Quality Laboratory
1965 S. Workman Mill Rd.
Whittier, CA 90601

Attn: Lorrie Losorelli

Analysis: Polynuclear Aromatic Hydrocarbons
Method: EPA 8310
Matrix: Soil

Client Sample No.: 64294

Date Received: 10-15-93
Date Extracted: 10-19-93
Date Analyzed: 10-23-93

Lab Job No.: 5098 Batch No.: 931019
Lab Sample No.: 5098-12 Dilution Factor: 1,000

<u>Component</u>	<u>Results</u> (ug/Kg)	<u>MDL</u> (ug/Kg)
Napthalene	20,000	7.0
Acenaphthylene	ND	34
Acenaphthene	27,000	7.0
Fluorene	5,200	4.0
Phenanthrene	16,000	6.0
Anthracene	ND	6.0
Fluoranthene	16,000	4.0
Pyrene	6,700	1.0
Benzo(a)anthracene	3,500	1.0
Chrysene	3,200	2.0
Benzo(b)fluoranthene	4,300	3.0
Benzo(k)fluoranthene	ND	2.0
Benzo(a)Pyrene	3,700	2.0
Dibenzo(a,h)anthracene	ND	4.0
Benzo(ghi)perylene	ND	3.0
Indeno(1,2,3-cd)pyrene	3,200	3.0

Method Detection Limit is based on a starting volume of 30 grams
and a final volume of 1.0 mL

MDL = Method Detection Limit
ND = Not Detected


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LABORATORY REPORT

Date: November 1, 1993 Lab I.D. No.: 10202

Client: San Jose Creek Water Quality Laboratory
1965 S. Workman Mill Rd.
Whittier, CA 90601

Attn: Lorrie Losorelli

Analysis: Polynuclear Aromatic Hydrocarbons
Method: EPA 8310
Matrix: Soil

Client Sample No.: 64295

Date Received: 10-15-93
Date Extracted: 10-19-93
Date Analyzed: 10-29-93

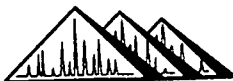
Lab Job No.: 5098 Batch No.: 931019
Lab Sample No.: 5098-13 Dilution Factor: 200

<u>Component</u>	<u>Results</u> <u>(ug/Kg)</u>	<u>MDL</u> <u>(ug/Kg)</u>
Napthalene	2,500	7.0
Acenaphthylene	ND	34
Acenaphthene	ND	7.0
Fluorene	ND	4.0
Phenanthrene	3,200	6.0
Anthracene	ND	6.0
Fluoranthene	2,700	4.0
Pyrene	2,200	1.0
Benzo(a)anthracene	890	1.0
Chrysene	820	2.0
Benzo(b)fluoranthene	ND	3.0
Benzo(k)fluoranthene	ND	2.0
Benzo(a)Pyrene	680	2.0
Dibenzo(a,h)anthracene	ND	4.0
Benzo(ghi)perylene	ND	3.0
Indeno(1,2,3-cd)pyrene	620	3.0

Method Detection Limit is based on a starting volume of 30 grams
and a final volume of 1.0 mL

MDL = Method Detection Limit
ND = Not Detected


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LABORATORY REPORT

Date: November 1, 1993 Lab I.D. No.: 10202

Client: San Jose Creek Water Quality Laboratory
1965 S. Workman Mill Rd.
Whittier, CA 90601

Attn: Lorrie Losorelli

Analysis: Polynuclear Aromatic Hydrocarbons
Method: EPA 8310
Matrix: Aqueous

Client Sample No: 64297

Date Received: 10-15-93
Date Extracted: 10-19-93
Date Analyzed: 10-21-93

Lab Job No.: 5098 Batch No.: 931019
Lab Sample No.: 5098-14 Dilution Factor: 2

<u>Component</u>	<u>Results (ug/L)</u>	<u>MDL (ug/L)</u>
Napthalene	ND	0.50
Acenaphthylene	ND	0.50
Acenaphthene	ND	0.50
Fluorene	ND	0.08
Phenanthrene	ND	0.05
Anthracene	ND	0.05
Fluoranthene	ND	0.13
Pyrene	ND	0.05
Benzo(a)anthracene	ND	0.05
Chrysene	ND	0.05
Benzo(b)fluoranthene	ND	0.10
Benzo(k)fluoranthene	ND	0.05
Benzo(a)Pyrene	ND	0.05
Dibenzo(a,h)anthracene	ND	0.08
Benzo(ghi)perylene	ND	0.10
Indeno(1,2,3-cd)pyrene	ND	0.05

Method Detection Limit based on a starting volume of 1.0 L and a final volume of 1.0 mL.

MDL = Method Detection Limit

ND = Not Detected


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QUALITY CONTROL REPORT

Date: November 1, 1993 Lab I.D. No.: 10202
Client: San Jose Creek Water Quality Laboratory
Analysis: Polynuclear Aromatic Hydrocarbons
Method: EPA 8310
Matrix: Soil
Client Sample No.: 64287
Date Received: 10-15-93
Date Extracted: 10-19-93
Date Analyzed: 10-21-93
Lab Job No.: 5098
Lab Sample No.: 5098-05 MS/MSD Batch No.: 931019

<u>Component</u>	<u>Results*</u>		<u>QC Limits</u>	<u>RPD</u>	<u>RPD Limits</u>
	<u>MS</u> <u>% Recovery</u>	<u>MSD</u> <u>% Recovery</u>			
Napthalene	117	*	36- 99	*	0-38
Acenaphthylene	65	74	40-117	13	0-37
Acenaphthene	*	*	33-113	*	0-93
Fluorene	*	*	23-145	*	0-43
Phenanthrene	48	41	61- 91	13	0-46
Anthracene	33	41	07-160	22	0-31
Fluoranthene	64	52	21-148	21	0-33
Pyrene	92	48	21-148	63*	0-26
Benzo(a)anthracene	64	50	44-132	24*	0-16
Chrysene	60	56	63-103	7	0-20
Benzo(b)fluoranthene	49	49	38-138	0	0-16
Benzo(k)fluoranthene	38	46	25-134	19*	0-14
Benzo(a)Pyrene	52	52	54-108	0	0-18
Dibenzo(a,h)anthracene	29	54	19-157	60*	0-18
Benzo(ghi)perylene	24	37	30-120	43*	0-41
Indeno(1,2,3-cd)pyrene	66	87	07-137	27*	0-25

* Poor recovery due to sample matrix and high dilution

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference


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QUALITY CONTROL REPORT

Date: November 1, 1993 Lab I.D. No.: 10202
Client: San Jose Creek Water Quality Laboratory
Analysis: Polynuclear Aromatic Hydrocarbons
Method: EPA 8310
Matrix: Aqueous
Date Extracted: 10-19-93
Date Analyzed: 10-21-93
Lab Job No.: 5098
Lab Sample No.: LCS/LCSD Batch No.: 931019

<u>Component</u>	<u>LCS</u> <u>% Recovery</u>	<u>LCSD</u> <u>% Recovery</u>	<u>QC Limits</u>	<u>RPD</u>	<u>RPD</u> <u>Limits</u>
Napthalene	67	68	43-103	2	0-44
Acenaphthylene	82	82	24-128	0	0-42
Acenaphthene	66	70	50-123	6	0-37
Fluorene	69	72	42-146	4	0-50
Phenanthrene	71	71	66-100	0	0-36
Anthracene	72	72	30-155	0	0-37
Fluoranthene	80	78	44-144	3	0-50
Pyrene	77	76	25-170	1	0-40
Benzo(a)anthracene	82	78	50-137	5	0-28
Chrysene	80	76	32-131	5	0-26
Benzo(b)fluoranthene	83	79	55-135	5	0-27
Benzo(k)fluoranthene	85	81	36-141	5	0-28
Benzo(a)Pyrene	79	74	45-124	6	0-28
Dibenzo(a,h)anthracene	68	68	36-159	0	0-27
Benzo(ghi)perylene	80	78	44-109	2	0-40
Indeno(1,2,3-cd)pyrene	97	93	57-132	4	0-78

LCS = Laboratory Control Sample.
LCSD = Laboratory Control Sample Duplicate
RPD = Relative Percent Difference


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QUALITY CONTROL REPORT

Date: November 1, 1993 Lab I.D. No.: 10202

Client: San Jose Creek Water Quality Laboratory

Analysis: Polynuclear Aromatic Hydrocarbons
Method: EPA 8310
Matrix: Soil

Date Extracted: 10-19-93
Date Analyzed: 10-21/10-29-93

Lab Job No.: 5098 Batch No.: 931019

<u>Sample Name</u>	<u>Surrogate Recovery (%)</u>	
	<u>Nitrobenzene d-5</u>	<u>p-terphenyl</u>
64283	43	74
64284	*	*
64285	*	71
64286	*	*
64287	41	54
64288	83	44
64289	*	*
64290	*	*
64291	*	*
64292	25	41
64293	*	*
64294	*	*
64295	*	*
64297	83	76
MS	51	62
MSD	76	62
LCS	69	75
LCSD	70	72
MB	72	75

QC LIMITS: 13-127 38-144

* Poor recovery due to sample matrix and high dilution

MS = Matrix Spike MSD = Matrix Spike Duplicate
LCS = Laboratory Control Sample LCSD = Laboratory Control Sample Duplicate
MB = Method Blank


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**COUNTY SANITATION DISTRICTS OF LOS ANGELES COUNTY
LABORATORIES SECTION
SAMPLE CHAIN OF CUSTODY FORM**

PROJECT NAME	<i>PVLF SOIL COVER SAMPLING PROGRAM</i>
SAMPLING LOCATION (Place and Address)	<i>PALOS VERDES LANDFILL 25706 HAWTHORNE BLVD. ROLLING HILLS ESTATES, CA 90274</i>
SIGNATURE OF SAMPLER(S)	<i>Christy J. Haber, Donna Hughes, Fabrice J. Mellie</i>

Sample Field Number	Sampling Sublocation	Date	Time	Sample Matrix	Comp or Grab	Remarks
✓ SC47	—	10/12/93	9:15AM	SOIL	GRAB	
✓ SC48	—	10/12/93	9:45AM	SOIL	GRAB	
✓ SC49	—	10/12/93	10:25AM	SOIL	GRAB	
✓ SC50	—	10/12/93	10:55AM	SOIL	GRAB	
✓ SC51	—	10/12/93	7:55AM	SOIL	GRAB	EXTRA VOLUME FOR MS/MSD ANAL
✓ SC52	—	10/12/93	8:35AM	SOIL	GRAB	
✓ SC53	—	10/13/93	8:00AM	SOIL	GRAB	
✓ SC54	—	10/13/93	8:50AM	SOIL	GRAB	
✓ SC55	—	10/13/93	9:10AM	SOIL	GRAB	
✓ SC56	—	10/13/93	9:40AM	SOIL	GRAB	
✓ SC57	—	10/13/93	10:05AM	SOIL	GRAB	
✓ SC58	—	10/13/93	10:40AM	SOIL	GRAB	
✓ RINSEAT BLNK	—	10/13/93	11:15AM	LIQUID	GRAB	RINSEAT BLNK FOR SAMPLES SC47-SC58 (2 1-LITER BOTTLES)
✓ SC59	—	10/13/93	11:00AM	SOIL	GRAB	PVLF ASPHALT

RELINQUISHED BY : (Signature) <i>Christy J. Haber</i>	DATE 10/13/93	TIME 1:05pm	RECEIVED BY: (Signature) <i>John V. Green</i>
RELINQUISHED BY : (Signature) <i>Christy J. Haber</i>	DATE 10/15/93	TIME 10:55am	RECEIVED BY: (Signature) <i>John V. Green</i>
RELINQUISHED BY : (Signature) <i>John V. Green</i>	DATE 10/15/93	TIME 12:30	RECEIVED BY: (Signature) <i>Jennifer Maurer</i>
RELINQUISHED BY : (Signature)	DATE	TIME	RECEIVED BY: (Signature)
RELINQUISHED BY : (Signature)	DATE	TIME	RECEIVED BY: (Signature)
RELINQUISHED BY : (Signature)	DATE	TIME	RECEIVED BY: (Signature)



Pyramid Laboratories

(714) 893-1812

Chain of Custody Record

① of 2

Lab job no: 05098
Date OCT 15 1993
Page _____ of _____

5702-Boiss-Ave.
Huntington-Beach, Ca. 92649

Client SJC Water Quality Lab.
Address 1965 S. Wickman Mill Rd.
Project Name / Number Whittier PYLE Soil
Contract / Purchase Order / Quote cover sampling program
180799

Project Manager Lorrie Losorelli
Telephone No. 310) 699-0405
Fax No. 310) 699-3368
Samplers: (Signature) _____

No. of Containers	Analysis Required		Remarks
	Temp.	Chemical	
<u>PRE/EPA 8310</u>			

Laboratory Sample Number	Field Sample Number	Location	Date	Time	Sample Type	Type/Size of Container	Preservation		No. of Containers	Analysis Required	Remarks
							Temp.	Chemical			
5098-01	64283		11/12	9:15	Solid	containers			1	✓	
-02	64284		11/12	9:45	Solid				1	✓	
-03	64285		11/12	10:25	Solid				1	✓	
-04	64286		11/12	10:55	Solid				1	✓	
-05	64287		11/12	7:55	Solid				1	✓	
-06	64288		11/12	8:35	Solid				1	✓	
-07	64289		11/13	8:00	Solid				1	✓	
-08	64290		11/13	8:50	Solid				1	✓	
-09	64291		11/13	9:10	Solid				1	✓	
-10	64292		11/13	9:40	Solid				1	✓	
-11	64293		11/13	10:05	Solid				1	✓	
-12	64294		11/13	10:40	Solid				1	✓	

Relinquished by: Signature <u>John Greenwood</u> Printed <u>John Greenwood</u> Company <u>picked up</u> Reason <u>Pyramid Labs</u>	Date <u>11/15</u> Time <u>12:30 pm</u>	Received by: Signature <u>Jan Mauer</u> Printed <u>Jennifer Mauer</u> Company <u>Pyramid Labs.</u> Reason _____	Relinquished by: Signature _____ Printed _____ Company _____ Reason _____	Date _____ Time _____	Received by: Signature _____ Printed _____ Company _____ Reason _____
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Method of Shipment: _____ Shipment No. _____ Special Instructions: _____	Comments: _____ _____ _____	After analysis, samples are to be: <input type="checkbox"/> Disposed of (additional fee) <input type="checkbox"/> Stored (90 days max) <input type="checkbox"/> Stored over 90 days (additional fee) <input type="checkbox"/> Returned to customer
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Pyramid Laboratories

Chain of Custody Record

2 of 2

Lab Job no.: 5098

Date OCT 15 1993

Page of

(714) 893-1012

5702 Boies Ave.
Huntington Beach, Ca. 92649

Client SJC Water Quality Lab. Project Manager Lorrie Losorelli
 Address 1965 S. Workman Mill Rd. Whittier Telephone No. (310) 699-0405
 Project Name / Number PVLF Soil Cover Sampling Fax No. (310) 699-3368
 Contract / Purchase Order / Quote 180799 Program Program Samplers: (Signature) _____

No. of Containers: PAH/EPA.634

Analysis Required

Remarks

Laboratory Sample Number	Field Sample Number	Location	Date	Time	Sample Type	Type/Size of Container	Preservation		No. of Containers	Analysis Required	Remarks
							Temp.	Chemical			
5098-13	64295		9/13	1100	soil	containers			1		
-14	64297		9/13	1115	ag				1		

Relinquished by: Signature <u>Joan Greenwood</u> Printed <u>Joan Greenwood</u> Company <u>Picked up</u> Reason <u>(Pyramid Labs.)</u>	Date <u>10/15</u> Time <u>2:30</u>	Received by: Signature <u>Jennifer Maurer</u> Printed <u>Jennifer Maurer</u> Company <u>Pyramid Labs.</u> Reason _____	Relinquished by: Signature _____ Printed _____ Company _____ Reason _____	Date _____ Time _____	Received by: Signature _____ Printed _____ Company _____ Reason _____
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Method of Shipment: _____
 Shipment No. _____
 Special Instructions: _____

Comments: _____

After analysis, samples are to be:
 Disposed of (additional fee)
 Stored (90 days max)
 Stored over 90 days (additional fee)
 Returned to customer