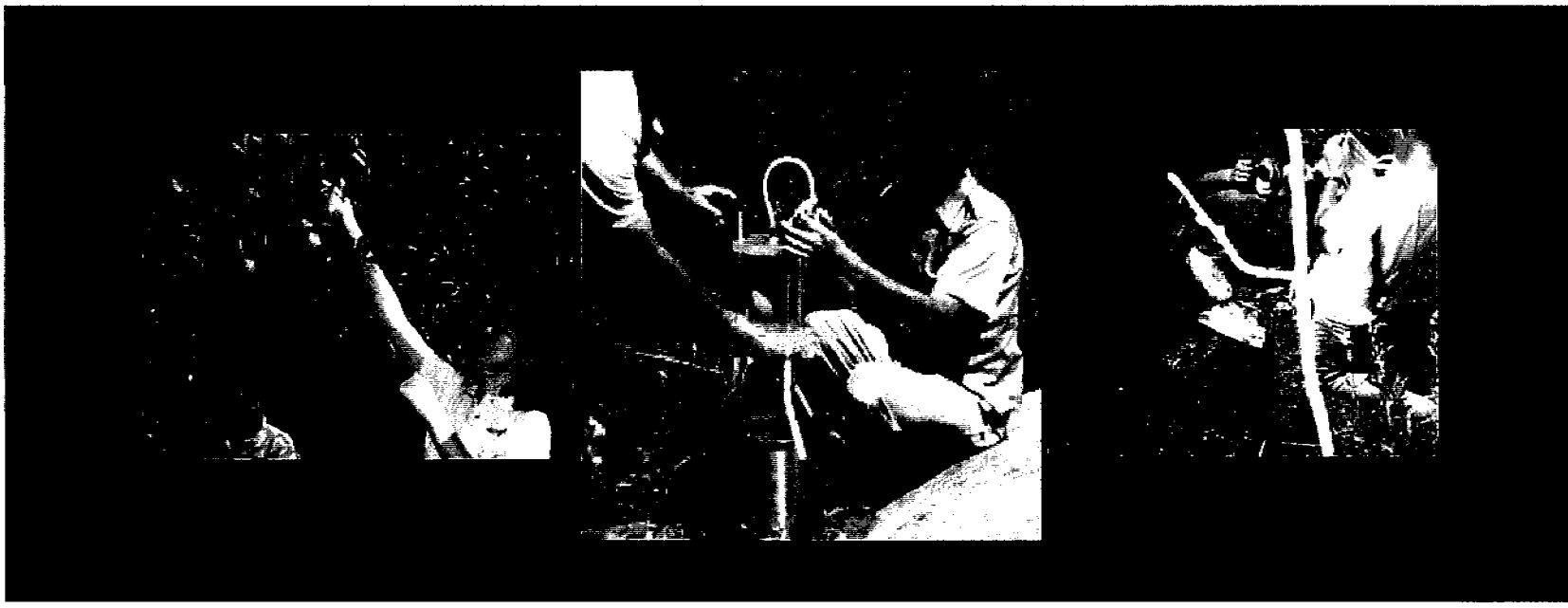
Multi-Media Sampling Report for the Brandeis-Bardin Institute and the Santa Monica Mountains Conservancy

Santa Monica Mountains Conservancy Analytical Data



March 10, 1993

Prepared by:

McLaren/Hart

ENVIRONMENTAL ENGINEERING CORPORATION

SHEA #86201

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Volatile Organic Compounds

VOLATILE ORGANICS

Analytical Method: EPA 8240 - Low Level Modified {a}
Preparation Method: EPA 5030

Lab Project-Sample ID: 5761-11

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: SM01004SE
Sample Number: 88573

Matrix: Soil

Date Sampled: 3/23/92
Date Analyzed: 3/25/92

Date Received: 3/24/92
Dilution Factor: 1

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
Chloromethane		10
Vinyl Chloride		10
Bromomethane		10
Chloroethane		10
Trichlorofluoromethane		10
Acetone		25
1,1-Dichloroethene		5
Methylene Chloride		5
Carbon Disulfide		5
trans-1,2,Dichloroethene		5
1,1-Dichloroethane		5
cis-1,2-Dichloroethene {b}		5
Chloroform		5
1,2-Dichloroethane		5
2-Butanone		25
1,1,1-Trichloroethane		5
Carbon Tetrachloride		5
Benzene		5
Trichloroethene		5
1,2-Dichloropropane		5
Bromodichloromethane		5
2-Chloroethylvinlyether		10
trans-1,3-Dichloropropene		5
cis-1,3-Dichloropropene		5
1,1,2-Trichloroethane		5
Dibromochloromethane		5
Bromoform		5
4-Methyl-2-Pentanone		25
Toluene	9	5
2-Hexanone		25
Tetrachloroethene		5
Chlorobenzene		5
Ethylbenzene		5
m & p-Xylene		5
o-Xylene		5
Styrene		5

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VOLATILE ORGANICS

Analytical Method: EPA 8240 - Low Level Modified {a}
Preparation Method: EPA 5030

Lab Project-Sample ID: 5761- 11

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
1,1,2,2-Tetrachloroethane.....		5
1,3-Dichlorobenzene {b}.....		5
1,4-Dichlorobenzene {b}.....		5
1,2-Dichlorobenzene {b}.....		5

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	99	70 - 121
Toluene-D8	121	81 - 117
4-Bromofluorobenzene	76	74 - 121

COMMENTS:

{a} Includes all compounds as listed in Table 2 of SW-846, 3rd Edition for Method 8240.
{b} Additional compounds.
{c} Concentrations lower than the Reporting Limits are estimated values. No entry in "Analyte Concentration" means the compound is not detected at all.
{d} Sample was analyzed on 03/25/92 and exhibited low internal standard recoveries. The sample was reanalyzed on 03/26/92 and again exhibited low internal standard recoveries, indicating the presence of a matrix effect.
{e} Sample surrogate compound Toluene-D8 was beyond quality control limits. The presence of a matrix interferent is suspected in the sample.

Approved By: Nancy McDonald for CM Date: 4/04/92
Cheryl Matterson, Associate Chemist

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VOLATILE ORGANICS

Analytical Method: EPA 8240 - Low Level Modified {a}
Preparation Method: EPA 5030

Lab Project-Sample ID: 5761-14

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: SM01007SE
Sample Number: 88579

Matrix: Soil

Date Sampled: 3/23/92
Date Analyzed: 3/25/92

Date Received: 3/24/92
Dilution Factor: 1

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
Chloromethane		10
Vinyl Chloride		10
Bromomethane		10
Chloroethane		10
Trichlorofluoromethane		10
Acetone		25
1,1-Dichloroethene		5
Methylene Chloride		5
Carbon Disulfide		5
trans-1,2,Dichloroethene		5
1,1-Dichloroethane		5
cis-1,2-Dichloroethene {b}		5
Chloroform		5
1,2-Dichloroethane		5
2-Butanone		25
1,1,1-Trichloroethane		5
Carbon Tetrachloride		5
Benzene		5
Trichloroethene		5
1,2-Dichloropropane		5
Bromodichloromethane		5
2-Chloroethylvinlyether		10
trans-1,3-Dichloropropene		5
cis-1,3-Dichloropropene		5
1,1,2-Trichloroethane		5
Dibromochloromethane		5
Bromoform		5
4-Methyl-2-Pentanone		25
Toluene	7	5
2-Hexanone		25
Tetrachloroethene		5
Chlorobenzene		5
Ethylbenzene		5
m & p-Xylene		5
o-Xylene		5
Styrene		5

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VOLATILE ORGANICS

Analytical Method: EPA 8240 - Low Level Modified {a}
Preparation Method: EPA 5030

Lab Project-Sample ID: 5761- 14

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
1,1,2,2-Tetrachloroethane.....		5
1,3-Dichlorobenzene {b}.....		5
1,4-Dichlorobenzene {b}.....		5
1,2-Dichlorobenzene {b}.....		5

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	102	70 - 121
Toluene-D8	101	81 - 117
4-Bromofluorobenzene	89	74 - 121

COMMENTS:

{a} Includes all compounds as listed in Table 2 of SW-846, 3rd Edition for Method 8240.
{b} Additional compounds.
{c} Concentrations lower than the Reporting Limits are estimated values. No entry in "Analyte Concentration" means the compound is not detected at all.

Approved By: Nancy McDonald for CM Date: 4/04/92
Cheryl Matterson, Associate Chemist

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VOLATILE ORGANICS

Analytical Method: EPA 8240 - Low Level Modified {a}
Preparation Method: EPA 5030

Lab Project-Sample ID: 5761-2

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: SM01008SE
Sample Number: 88555

Matrix: Soil

Date Sampled: 3/23/92
Date Analyzed: 3/25/92

Date Received: 3/24/92
Dilution Factor: 1

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
Chloromethane		10
Vinyl Chloride		10
Bromomethane		10
Chloroethane		10
Trichlorofluoromethane		10
Acetone		25
1,1-Dichloroethene		5
Methylene Chloride		5
Carbon Disulfide		5
trans-1,2,Dichloroethene		5
1,1-Dichloroethane		5
cis-1,2-Dichloroethene {b}		5
Chloroform		5
1,2-Dichloroethane		5
2-Butanone		25
1,1,1-Trichloroethane		5
Carbon Tetrachloride		5
Benzene		5
Trichloroethene		5
1,2-Dichloropropane		5
Bromodichloromethane		5
2-Chloroethylvinlyether		10
trans-1,3-Dichloropropene		5
cis-1,3-Dichloropropene		5
1,1,2-Trichloroethane		5
Dibromochloromethane		5
Bromoform		5
4-Methyl-2-Pentanone		25
Toluene		5
2-Hexanone		25
Tetrachloroethene		5
Chlorobenzene		5
Ethylbenzene		5
m & p-Xylene		5
o-Xylene		5
Styrene		5

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VOLATILE ORGANICS

Analytical Method: EPA 8240 - Low Level Modified {a}
Preparation Method: EPA 5030

Lab Project-Sample ID: 5761- 2

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
1,1,2,2-Tetrachloroethane.....		5
1,3-Dichlorobenzene {b}.....		5
1,4-Dichlorobenzene {b}.....		5
1,2-Dichlorobenzene {b}.....		5

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	98	70 - 121
Toluene-D8	103	81 - 117
4-Bromofluorobenzene	88	74 - 121

COMMENTS:

{a} Includes all compounds as listed in Table 2 of SW-846, 3rd Edition for Method 8240.
{b} Additional compounds.
{c} Concentrations lower than the Reporting Limits are estimated values. No entry in "Analyte Concentration" means the compound is not detected at all.

Approved By: Nancy McDonald for CM Date: 4/04/92
Cheryl Matterson, Associate Chemist

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VOLATILE ORGANICS

Analytical Method: EPA 8240 - Low Level Modified {a}
Preparation Method: EPA 5030

Lab Project-Sample ID: 5761-8

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: SM01020SE
Sample Number: 88567

Matrix: Soil

Date Sampled: 3/23/92
Date Analyzed: 3/25/92

Date Received: 3/24/92
Dilution Factor: 1

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
Chloromethane		10
Vinyl Chloride		10
Bromomethane		10
Chloroethane		10
Trichlorofluoromethane		10
Acetone		25
1,1-Dichloroethene		5
Methylene Chloride		5
Carbon Disulfide		5
trans-1,2,Dichloroethene		5
1,1-Dichloroethane		5
cis-1,2-Dichloroethene {b}		5
Chloroform		5
1,2-Dichloroethane		5
2-Butanone		25
1,1,1-Trichloroethane		5
Carbon Tetrachloride		5
Benzene		5
Trichloroethene		5
1,2-Dichloropropane		5
Bromodichloromethane		5
2-Chloroethylvinlyether		10
trans-1,3-Dichloropropene		5
cis-1,3-Dichloropropene		5
1,1,2-Trichloroethane		5
Dibromochloromethane		5
Bromoform		5
4-Methyl-2-Pentanone		25
Toluene		5
2-Hexanone		25
Tetrachloroethene		5
Chlorobenzene		5
Ethylbenzene		5
m & p-Xylene		5
o-Xylene		5
Styrene		5

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VOLATILE ORGANICS

Analytical Method: EPA 8240 - Low Level Modified {a}
Preparation Method: EPA 5030

Lab Project-Sample ID: 5761- 8

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
1,1,2,2-Tetrachloroethane.....		5
1,3-Dichlorobenzene {b}.....		5
1,4-Dichlorobenzene {b}.....		5
1,2-Dichlorobenzene {b}.....		5

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	99	70 - 121
Toluene-D8	91	81 - 117
4-Bromofluorobenzene	91	74 - 121

COMMENTS:

{a} Includes all compounds as listed in Table 2 of SW-846, 3rd Edition for Method 8240.
{b} Additional compounds.
{c} Concentrations lower than the Reporting Limits are estimated values. No entry in "Analyte Concentration" means the compound is not detected at all.

Approved By: Nancy McDonald for CM Date: 4/04/92
Cheryl Matterson, Associate Chemist

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VOLATILE ORGANICS

Analytical Method: EPA 8240 - Low Level Modified {a}
Preparation Method: EPA 5030

Lab Project-Sample ID: 5761-5

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: SM01021SE
Sample Number: 88561

Matrix: Soil

Date Sampled: 3/23/92
Date Analyzed: 3/25/92

Date Received: 3/24/92
Dilution Factor: 1

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
Chloromethane		10
Vinyl Chloride		10
Bromomethane		10
Chloroethane		10
Trichlorofluoromethane		10
Acetone		25
1,1-Dichloroethene		5
Methylene Chloride		5
Carbon Disulfide		5
trans-1,2,Dichloroethene		5
1,1-Dichloroethane		5
cis-1,2-Dichloroethene {b}		5
Chloroform		5
1,2-Dichloroethane		5
2-Butanone		25
1,1,1-Trichloroethane		5
Carbon Tetrachloride		5
Benzene		5
Trichloroethene		5
1,2-Dichloropropane		5
Bromodichloromethane		5
2-Chloroethylvinlyether		10
trans-1,3-Dichloropropene		5
cis-1,3-Dichloropropene		5
1,1,2-Trichloroethane		5
Dibromochloromethane		5
Bromoform		5
4-Methyl-2-Pentanone		25
Toluene		5
2-Hexanone		25
Tetrachloroethene		5
Chlorobenzene		5
Ethylbenzene		5
m & p-Xylene		5
o-Xylene		5
Styrene		5

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VOLATILE ORGANICS

Analytical Method: EPA 8240 - Low Level Modified {a}
Preparation Method: EPA 5030

Lab Project-Sample ID: 5761- 5

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
1,1,2,2-Tetrachloroethane.....		5
1,3-Dichlorobenzene {b}.....		5
1,4-Dichlorobenzene {b}.....		5
1,2-Dichlorobenzene {b}.....		5

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	94	70 - 121
Toluene-D8	109	81 - 117
4-Bromofluorobenzene	86	74 - 121

COMMENTS:

{a} Includes all compounds as listed in Table 2 of SW-846, 3rd Edition for Method 8240.
{b} Additional compounds.
{c} Concentrations lower than the Reporting Limits are estimated values. No entry in "Analyte Concentration" means the compound is not detected at all.

Approved By: Nancy McDonald for CM Date: 4/04/92
Cheryl Matterson, Associate Chemist

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SEMI-VOLATILE ORGANIC COMPOUNDS

SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}
Preparation Method: EPA 3550

Lab Project-Sample ID: 5761-10

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: SM01004SD
Sample Number: 88572

Matrix: Soil

Date Sampled: 3/23/92
Date Extracted: 3/24/92

Date Received: 3/24/92
Date Analyzed: 4/01/92

Batch Number: 920324-2001

Dilution Factor: 1

	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
Phenol		330
Bis(2-chloroethyl)ether		330
2-Chlorophenol		330
1,3-Dichlorobenzene		330
1,4-Dichlorobenzene		330
Benzyl alcohol		330
2-Methylphenol		330
1,2-Dichlorobenzene		330
Bis(2-Chloroisopropyl)ether		330
4-Methylphenol		330
N-Nitroso-di-n-propylamine		330
Hexachloroethane		330
Nitrobenzene		330
Isophorone		330
2,4-Dimethylphenol		330
1,2,4-Trichlorobenzene		330
2-Nitrophenol		330
Benzoic acid		1600
Bis(2-Chloroethoxy)methane		330
2,4-Dichlorophenol		330
Naphthalene		330
4-Chloroaniline		330
Hexachlorobutadiene		330
4-Chloro-3-methylphenol		330
2-Methylnaphthalene		330
Hexachlorocyclopentadiene		330
2,4,6-Trichlorophenol		330
2,4,5-Trichlorophenol		330
2-Chloronaphthalene		330
3-Nitroaniline		1600
Dimethylphthalate		330
2,6-Dinitrotoluene		330
Acenaphthylene		330
2-Nitroaniline		1600

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SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}
Preparation Method: EPA 3550

Lab Project-Sample ID: 5761-10

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
Acenaphthene		330
2,4-Dinitrophenol		1600
4-Nitrophenol		1600
2,4-Dinitrotoluene		330
Dibenzofuran		330
Diethylphthalate		330
alpha-BHC {b}		330
4-Chlorophenyl phenyl ether		330
Fluorene		330
4-Nitroaniline		1600
4,6-Dinitro-2-methylphenol		1600
N-Nitrosodiphenylamine		330
4-Bromophenyl phenyl ether		330
beta-BHC {b}		330
Lindane {b}		330
Hexachlorobenzene		330
Pentachlorophenol		1600
Phenanthrene		330
Anthracene		330
Delta-BHC {b}		330
Heptachlor {b}		330
Aldrin {b}		330
Endrin {b}		330
Butyl benzyl phthalate		330
Fluoranthene		330
Heptachlor Epoxide		330
Pyrene		330
Dieldrin {b}		330
4,4'-DDE {b}		330
Endosulfan sulfate		330
4,4'-DDT {b}		330
4,4'-DDD {b}		330
Di-n-butylphthalate		330
3,3'-Dichlorobenzidine		660
Benzo(a)anthracene		330
Bis(2-Ethylhexyl)phthalate		330
Chrysene		330
Di-n-octylphthalate		330
Benzo(b)fluoranthene		330
Benzo(k)fluoranthene		330
Benzo(a)pyrene		330
Indeno(1,2,3-c,d)pyrene		330
Dibenzo(a,h)anthracene		330
Benzo(g,h,i)perylene		330

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SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}
Preparation Method: EPA 3550

Lab Project-Sample ID: 5761-10

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	91	25 - 121
Phenol-d5.....	96	24 - 113
Nitrobenzene-d5.....	81	23 - 120
2-Fluorobiphenyl.....	84	30 - 115
2,4,6-Tribromophenol.....	102	19 - 122
Terphenyl-d14.....	96	18 - 137

COMMENTS:

{a} Includes all analytes as listed in Table 2 of Method 8270, SW-846, 3rd Edition.
{b} Additional compounds.
{c} Concentrations lower than the Reporting Limits are estimated values. No entry in "Analyte Concentration" means the analyte is not detected at all.

Approved By: Nancy McDonald for CM
Cheryl Matterson, Associate Chemist

Date: 4/07/92

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SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}
Preparation Method: EPA 3550

Lab Project-Sample ID: 5761-13

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: SM01007SD
Sample Number: 88578

Matrix: Soil

Date Sampled: 3/23/92
Date Extracted: 3/24/92

Date Received: 3/24/92
Date Analyzed: 4/01/92

Batch Number: 920324-2001

Dilution Factor: 1

	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
Phenol		330
Bis(2-chloroethyl)ether		330
2-Chlorophenol		330
1,3-Dichlorobenzene		330
1,4-Dichlorobenzene		330
Benzyl alcohol		330
2-Methylphenol		330
1,2-Dichlorobenzene		330
Bis(2-Chloroisopropyl)ether		330
4-Methylphenol		330
N-Nitroso-di-n-propylamine		330
Hexachloroethane		330
Nitrobenzene		330
Isophorone		330
2,4-Dimethylphenol		330
1,2,4-Trichlorobenzene		330
2-Nitrophenol		330
Benzoic acid		1600
Bis(2-Chloroethoxy)methane		330
2,4-Dichlorophenol		330
Naphthalene		330
4-Chloroaniline		330
Hexachlorobutadiene		330
4-Chloro-3-methylphenol		330
2-Methylnaphthalene		330
Hexachlorocyclopentadiene		330
2,4,6-Trichlorophenol		330
2,4,5-Trichlorophenol		330
2-Chloronaphthalene		330
3-Nitroaniline		1600
Dimethylphthalate		330
2,6-Dinitrotoluene		330
Acenaphthylene		330
2-Nitroaniline		1600

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SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}
Preparation Method: EPA 3550

Lab Project-Sample ID: 5761-13

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
Acenaphthene		330
2,4-Dinitrophenol		1600
4-Nitrophenol		1600
2,4-Dinitrotoluene		330
Dibenzofuran		330
Diethylphthalate		330
alpha-BHC {b}		330
4-Chlorophenyl phenyl ether		330
Fluorene		330
4-Nitroaniline		1600
4,6-Dinitro-2-methylphenol		1600
N-Nitrosodiphenylamine		330
4-Bromophenyl phenyl ether		330
beta-BHC {b}		330
Lindane {b}		330
Hexachlorobenzene		330
Pentachlorophenol		1600
Phenanthrene		330
Anthracene		330
Delta-BHC {b}		330
Heptachlor {b}		330
Aldrin {b}		330
Endrin {b}		330
Butyl benzyl phthalate		330
Fluoranthene		330
Heptachlor Epoxide		330
Pyrene		330
Dieldrin {b}		330
4,4'-DDE {b}		330
Endosulfan sulfate		330
4,4'-DDT {b}		330
4,4'-DDD {b}		330
Di-n-butylphthalate		330
3,3'-Dichlorobenzidine		660
Benzo(a)anthracene		330
Bis(2-Ethylhexyl)phthalate		330
Chrysene		330
Di-n-octylphthalate		330
Benzo(b)fluoranthene		330
Benzo(k)fluoranthene		330
Benzo(a)pyrene		330
Indeno(1,2,3-c,d)pyrene		330
Dibenzo(a,h)anthracene		330
Benzo(g,h,i)perylene		330

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SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}
Preparation Method: EPA 3550

Lab Project-Sample ID: 5761-13

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	43	25 - 121
Phenol-d5.....	45	24 - 113
Nitrobenzene-d5.....	41	23 - 120
2-Fluorobiphenyl.....	47	30 - 115
2,4,6-Tribromophenol.....	46	19 - 122
Terphenyl-d14.....	49	18 - 137

COMMENTS:

{a} Includes all analytes as listed in Table 2 of Method 8270, SW-846, 3rd Edition.
{b} Additional compounds.
{c} Concentrations lower than the Reporting Limits are estimated values. No entry in "Analyte Concentration" means the analyte is not detected at all.

Approved By: Nancy McDonald for CM
Cheryl Matterson, Associate Chemist

Date: 4/07/92

The cover letter and attachments are integral parts of this report.

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SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}
Preparation Method: EPA 3550

Lab Project-Sample ID: 5761-1

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: SM01008SD
Sample Number: 88554

Matrix: Soil

Date Sampled: 3/23/92
Date Extracted: 3/24/92

Date Received: 3/24/92
Date Analyzed: 3/30/92

Batch Number: 920324-2001

Dilution Factor: 1

	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
Phenol		330
Bis(2-chloroethyl)ether		330
2-Chlorophenol		330
1,3-Dichlorobenzene		330
1,4-Dichlorobenzene		330
Benzyl alcohol		330
2-Methylphenol		330
1,2-Dichlorobenzene		330
Bis(2-Chloroisopropyl)ether		330
4-Methylphenol		330
N-Nitroso-di-n-propylamine		330
Hexachloroethane		330
Nitrobenzene		330
Isophorone		330
2,4-Dimethylphenol		330
1,2,4-Trichlorobenzene		330
2-Nitrophenol		330
Benzoic acid		1600
Bis(2-Chloroethoxy)methane		330
2,4-Dichlorophenol		330
Naphthalene		330
4-Chloroaniline		330
Hexachlorobutadiene		330
4-Chloro-3-methylphenol		330
2-Methylnaphthalene		330
Hexachlorocyclopentadiene		330
2,4,6-Trichlorophenol		330
2,4,5-Trichlorophenol		330
2-Chloronaphthalene		330
3-Nitroaniline		1600
Dimethylphthalate		330
2,6-Dinitrotoluene		330
Acenaphthylene		330
2-Nitroaniline		1600

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SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}
Preparation Method: EPA 3550

Lab Project-Sample ID: 5761-1

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
Acenaphthene		330
2,4-Dinitrophenol		1600
4-Nitrophenol		1600
2,4-Dinitrotoluene		330
Dibenzofuran		330
Diethylphthalate		330
alpha-BHC {b}		330
4-Chlorophenyl phenyl ether		330
Fluorene		330
4-Nitroaniline		1600
4,6-Dinitro-2-methylphenol		1600
N-Nitrosodiphenylamine		330
4-Bromophenyl phenyl ether		330
beta-BHC {b}		330
Lindane {b}		330
Hexachlorobenzene		330
Pentachlorophenol		1600
Phenanthrene		330
Anthracene		330
Delta-BHC {b}		330
Heptachlor {b}		330
Aldrin {b}		330
Endrin {b}		330
Butyl benzyl phthalate		330
Fluoranthene		330
Heptachlor Epoxide		330
Pyrene		330
Dieldrin {b}		330
4,4'-DDE {b}		330
Endosulfan sulfate		330
4,4'-DDT {b}		330
4,4'-DDD {b}		330
Di-n-butylphthalate		330
3,3'-Dichlorobenzidine		660
Benzo(a)anthracene		330
Bis(2-Ethylhexyl)phthalate		330
Chrysene		330
Di-n-octylphthalate		330
Benzo(b)fluoranthene		330
Benzo(k)fluoranthene		330
Benzo(a)pyrene		330
Indeno(1,2,3-c,d)pyrene		330
Dibenzo(a,h)anthracene		330
Benzo(g,h,i)perylene		330

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SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}
Preparation Method: EPA 3550

Lab Project-Sample ID: 5761-1

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	85	25 - 121
Phenol-d5.....	88	24 - 113
Nitrobenzene-d5.....	77	23 - 120
2-Fluorobiphenyl.....	90	30 - 115
2,4,6-Tribromophenol.....	102	19 - 122
Terphenyl-d14.....	103	18 - 137

COMMENTS:

{a} Includes all analytes as listed in Table 2 of Method 8270, SW-846, 3rd Edition.
{b} Additional compounds.
{c} Concentrations lower than the Reporting Limits are estimated values. No entry in "Analyte Concentration" means the analyte is not detected at all.

Approved By: Nancy M Donald for CM
Cheryl Matterson, Associate Chemist

Date: 4/07/92

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SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}
Preparation Method: EPA 3550

Lab Project-Sample ID: 5761-7

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: SM01020SD
Sample Number: 88566

Matrix: Soil

Date Sampled: 3/23/92
Date Extracted: 3/24/92

Date Received: 3/24/92
Date Analyzed: 4/01/92

Batch Number: 920324-2001

Dilution Factor: 1

	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
Phenol		330
Bis(2-chloroethyl)ether		330
2-Chlorophenol		330
1,3-Dichlorobenzene		330
1,4-Dichlorobenzene		330
Benzyl alcohol		330
2-Methylphenol		330
1,2-Dichlorobenzene		330
Bis(2-Chloroisopropyl)ether		330
4-Methylphenol		330
N-Nitroso-di-n-propylamine		330
Hexachloroethane		330
Nitrobenzene		330
Isophorone		330
2,4-Dimethylphenol		330
1,2,4-Trichlorobenzene		330
2-Nitrophenol		330
Benzoic acid		1600
Bis(2-Chloroethoxy)methane		330
2,4-Dichlorophenol		330
Naphthalene		330
4-Chloroaniline		330
Hexachlorobutadiene		330
4-Chloro-3-methylphenol		330
2-Methylnaphthalene		330
Hexachlorocyclopentadiene		330
2,4,6-Trichlorophenol		330
2,4,5-Trichlorophenol		330
2-Chloronaphthalene		330
3-Nitroaniline		1600
Dimethylphthalate		330
2,6-Dinitrotoluene		330
Acenaphthylene		330
2-Nitroaniline		1600

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SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}
Preparation Method: EPA 3550

Lab Project-Sample ID: 5761-7

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
Acenaphthene		330
2,4-Dinitrophenol		1600
4-Nitrophenol		1600
2,4-Dinitrotoluene		330
Dibenzofuran		330
Diethylphthalate		330
alpha-BHC {b}		330
4-Chlorophenyl phenyl ether		330
Fluorene		330
4-Nitroaniline		1600
4,6-Dinitro-2-methylphenol		1600
N-Nitrosodiphenylamine		330
4-Bromophenyl phenyl ether		330
beta-BHC {b}		330
Lindane {b}		330
Hexachlorobenzene		330
Pentachlorophenol		1600
Phenanthrene		330
Anthracene		330
Delta-BHC {b}		330
Heptachlor {b}		330
Aldrin {b}		330
Endrin {b}		330
Butyl benzyl phthalate		330
Fluoranthene		330
Heptachlor Epoxide		330
Pyrene		330
Dieldrin {b}		330
4,4'-DDE {b}		330
Endosulfan sulfate		330
4,4'-DDT {b}		330
4,4'-DDD {b}		330
Di-n-butylphthalate		330
3,3'-Dichlorobenzidine		660
Benzo(a)anthracene		330
Bis(2-Ethylhexyl)phthalate		330
Chrysene		330
Di-n-octylphthalate		330
Benzo(b)fluoranthene		330
Benzo(k)fluoranthene		330
Benzo(a)pyrene		330
Indeno(1,2,3-c,d)pyrene		330
Dibenzo(a,h)anthracene		330
Benzo(g,h,i)perylene		330

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SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}
Preparation Method: EPA 3550

Lab Project-Sample ID: 5761-7

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	84	25 - 121
Phenol-d5.....	87	24 - 113
Nitrobenzene-d5.....	76	23 - 120
2-Fluorobiphenyl.....	80	30 - 115
2,4,6-Tribromophenol.....	99	19 - 122
Terphenyl-d14.....	94	18 - 137

COMMENTS:

{a} Includes all analytes as listed in Table 2 of Method 8270, SW-846, 3rd Edition.
{b} Additional compounds.
{c} Concentrations lower than the Reporting Limits are estimated values. No entry in "Analyte Concentration" means the analyte is not detected at all.

Approved By: Nancy McDonald for CM
Cheryl Matterson, Associate Chemist

Date: 4/07/92

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SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}
Preparation Method: EPA 3550

Lab Project-Sample ID: 5761-4

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: SM01021SD
Sample Number: 88560

Matrix: Soil

Date Sampled: 3/23/92
Date Extracted: 3/24/92

Date Received: 3/24/92
Date Analyzed: 4/01/92

Batch Number: 920324-2001

Dilution Factor: 1

	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
Phenol		330
Bis(2-chloroethyl)ether		330
2-Chlorophenol		330
1,3-Dichlorobenzene		330
1,4-Dichlorobenzene		330
Benzyl alcohol		330
2-Methylphenol		330
1,2-Dichlorobenzene		330
Bis(2-Chloroisopropyl)ether		330
4-Methylphenol		330
N-Nitroso-di-n-propylamine		330
Hexachloroethane		330
Nitrobenzene		330
Isophorone		330
2,4-Dimethylphenol		330
1,2,4-Trichlorobenzene		330
2-Nitrophenol		330
Benzoic acid		1600
Bis(2-Chloroethoxy)methane		330
2,4-Dichlorophenol		330
Naphthalene		330
4-Chloroaniline		330
Hexachlorobutadiene		330
4-Chloro-3-methylphenol		330
2-Methylnaphthalene		330
Hexachlorocyclopentadiene		330
2,4,6-Trichlorophenol		330
2,4,5-Trichlorophenol		330
2-Chloronaphthalene		330
3-Nitroaniline		1600
Dimethylphthalate		330
2,6-Dinitrotoluene		330
Acenaphthylene		330
2-Nitroaniline		1600

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SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}
Preparation Method: EPA 3550

Lab Project-Sample ID: 5761-4

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
Acenaphthene		330
2,4-Dinitrophenol		1600
4-Nitrophenol		1600
2,4-Dinitrotoluene		330
Dibenzofuran		330
Diethylphthalate		330
alpha-BHC {b}		330
4-Chlorophenyl phenyl ether		330
Fluorene		330
4-Nitroaniline		1600
4,6-Dinitro-2-methylphenol		1600
N-Nitrosodiphenylamine		330
4-Bromophenyl phenyl ether		330
beta-BHC {b}		330
Lindane {b}		330
Hexachlorobenzene		330
Pentachlorophenol		1600
Phenanthrene		330
Anthracene		330
Delta-BHC {b}		330
Heptachlor {b}		330
Aldrin {b}		330
Endrin {b}		330
Butyl benzyl phthalate		330
Fluoranthene		330
Heptachlor Epoxide		330
Pyrene		330
Dieldrin {b}		330
4,4'-DDE {b}		330
Endosulfan sulfate		330
4,4'-DDT {b}		330
4,4'-DDD {b}		330
Di-n-butylphthalate		330
3,3'-Dichlorobenzidine		660
Benzo(a)anthracene		330
Bis(2-Ethylhexyl)phthalate		330
Chrysene		330
Di-n-octylphthalate		330
Benzo(b)fluoranthene		330
Benzo(k)fluoranthene		330
Benzo(a)pyrene		330
Indeno(1,2,3-c,d)pyrene		330
Dibenzo(a,h)anthracene		330
Benzo(g,h,i)perylene		330

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SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}
Preparation Method: EPA 3550

Lab Project-Sample ID: 5761-4

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	86	25 - 121
Phenol-d5.....	87	24 - 113
Nitrobenzene-d5.....	74	23 - 120
2-Fluorobiphenyl.....	81	30 - 115
2,4,6-Tribromophenol.....	99	19 - 122
Terphenyl-d14.....	91	18 - 137

COMMENTS:

{a} Includes all analytes as listed in Table 2 of Method 8270, SW-846, 3rd Edition.
{b} Additional compounds.
{c} Concentrations lower than the Reporting Limits are estimated values. No entry in "Analyte Concentration" means the analyte is not detected at all.

Approved By: Nancy McDonald for CM
Cheryl Matterson, Associate Chemist

Date: 4/07/92

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METALS

PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5761-12

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: SM01004SF
Sample Number: 88574

Matrix: Soil

Date Sampled: 3/23/92
Date Digested: 3/25/92 {b}

Date Received: 3/24/92
Batch Number: 920325-1102 {b}

METAL (SYMBOL)/EPA METHOD	ANALYTE CONCENTRATION {c} mg/Kg (ppm)	DILUTION FACTOR	REPORTING LIMIT mg/Kg (ppm)	DATE ANALYZED
Antimony (Sb)/6010.....		1	2.5	3/26/92
Arsenic (As)/7060.....	6.4	4	2.0	3/27/92
Beryllium (Be)/6010.....	.92	1	.25	3/26/92
Cadmium (Cd)/6010.....		1	.50	3/26/92
Chromium (Cr)/6010.....	20.	1	1.0	3/26/92
Copper (Cu)/6010.....	21.	1	1.0	3/26/92
Lead (Pb)/6010.....	16.	1	2.5	3/26/92
Mercury (Hg)/7471.....		1	.25	3/26/92
Nickel (Ni)/6010.....	15.	1	1.0	3/26/92
Selenium (Se)/7740.....		1	.25	4/03/92
Silver (Ag)/6010.....		1	1.0	3/26/92
Thallium (Tl)/7841.....		1	.50	3/27/92
Zinc (Zn)/6010.....	62.	1	1.0	3/26/92

COMMENTS:

{a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
{b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/25/92, Batch # 920325-1101; and Hg was digested on 3/25/92, Batch # 920325-1103 .
{c} No entry in the "Concentration" means the metal is not detected at all.
{d} The sample for Arsenic was diluted 4 fold to bring target analyte within linear working range.

Approved by: Nancy McDonald for CM Date: 4/07/92
Cheryl Matterson, Association Chemist

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PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5761-15

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: SM01007SF
Sample Number: 88580

Matrix: Soil

Date Sampled: 3/23/92
Date Digested: 3/25/92 {b}

Date Received: 3/24/92
Batch Number: 920325-1102 {b}

METAL (SYMBOL)/EPA METHOD	ANALYTE CONCENTRATION {c} mg/Kg (ppm)	DILUTION FACTOR	REPORTING LIMIT mg/Kg (ppm)	DATE ANALYZED
Antimony (Sb)/6010.....		1	2.5	3/26/92
Arsenic (As)/7060.....	5.2	1	.50	3/27/92
Beryllium (Be)/6010.....	1.0	1	.25	3/26/92
Cadmium (Cd)/6010.....		1	.50	3/26/92
Chromium (Cr)/6010.....	21.	1	1.0	3/26/92
Copper (Cu)/6010.....	23.	1	1.0	3/26/92
Lead (Pb)/6010.....	19.	1	2.5	3/26/92
Mercury (Hg)/7471.....		1	.25	3/26/92
Nickel (Ni)/6010.....	16.	1	1.0	3/26/92
Selenium (Se)/7740.....		1	.25	4/03/92
Silver (Ag)/6010.....		1	1.0	3/26/92
Thallium (Tl)/7841.....		1	.50	3/27/92
Zinc (Zn)/6010.....	64.	1	1.0	3/26/92

COMMENTS:

{a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
{b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/25/92, Batch # 920325-1101; and Hg was digested on 3/25/92, Batch # 920325-1103 .
{c} No entry in the "Concentration" means the metal is not detected at all.

Approved by: Nancy McDonald for CM Date: 4/07/92
Cheryl Matterson, Association Chemist

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PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5761-3

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: SM01008SF
Sample Number: 88556

Matrix: Soil

Date Sampled: 3/23/92
Date Digested: 3/25/92 {b}

Date Received: 3/24/92
Batch Number: 920325-1102 {b}

METAL (SYMBOL)/EPA METHOD	ANALYTE CONCENTRATION {c} mg/Kg (ppm)	DILUTION FACTOR	REPORTING LIMIT mg/Kg (ppm)	DATE ANALYZED
Antimony (Sb)/6010.....		1	2.5	3/26/92
Arsenic (As)/7060.....	6.2	4	2.0	3/27/92
Beryllium (Be)/6010.....	1.2	1	.25	3/26/92
Cadmium (Cd)/6010.....		1	.50	3/26/92
Chromium (Cr)/6010.....	24.	1	1.0	3/26/92
Copper (Cu)/6010.....	24.	1	1.0	3/26/92
Lead (Pb)/6010.....	26.	1	2.5	3/26/92
Mercury (Hg)/7471.....		1	.25	3/26/92
Nickel (Ni)/6010.....	20.	1	1.0	3/26/92
Selenium (Se)/7740.....		1	.25	4/03/92
Silver (Ag)/6010.....		1	1.0	3/26/92
Thallium (Tl)/7841.....		1	.50	3/31/92
Zinc (Zn)/6010.....	76.	1	1.0	3/26/92

COMMENTS:

{a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
{b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/25/92, Batch # 920325-1101; and Hg was digested on 3/25/92, Batch # 920325-1103 .
{c} No entry in the "Concentration" means the metal is not detected at all.
{d} The sample for Arsenic was diluted 4 fold to bring target analyte within linear working range.

Approved by: Nancy McDonald for CM Date: 4/07/92
Cheryl Matterson, Association Chemist

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PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5761-9

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: SM01020SF
Sample Number: 88568

Matrix: Soil

Date Sampled: 3/23/92
Date Digested: 3/25/92 {b}

Date Received: 3/24/92
Batch Number: 920325-1102 {b}

METAL (SYMBOL)/EPA METHOD	ANALYTE CONCENTRATION {c} mg/Kg (ppm)	DILUTION FACTOR	REPORTING LIMIT mg/Kg (ppm)	DATE ANALYZED
Antimony (Sb)/6010.....		1	2.5	3/26/92
Arsenic (As)/7060.....	8.2	4	2.0	3/27/92
Beryllium (Be)/6010.....	1.2	1	.25	3/26/92
Cadmium (Cd)/6010.....		1	.50	3/26/92
Chromium (Cr)/6010.....	24.	1	1.0	3/26/92
Copper (Cu)/6010.....	34.	1	1.0	3/26/92
Lead (Pb)/6010.....	17.	1	2.5	3/26/92
Mercury (Hg)/7471.....		1	.25	3/26/92
Nickel (Ni)/6010.....	18.	1	1.0	3/26/92
Selenium (Se)/7740.....		1	.25	4/03/92
Silver (Ag)/6010.....		1	1.0	3/26/92
Thallium (Tl)/7841.....		1	.50	3/27/92
Zinc (Zn)/6010.....	70.	1	1.0	3/26/92

COMMENTS:

{a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
{b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/25/92, Batch # 920325-1101; and Hg was digested on 3/25/92, Batch # 920325-1103 .
{c} No entry in the "Concentration" means the metal is not detected at all.
{d} The sample for Arsenic was diluted 4 fold to bring target analyte within linear working range.

Approved by: Nancy McDonald for CM
Cheryl Matterson, Association Chemist

Date: 4/07/92

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PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5761-6

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: SM01021SF
Sample Number: 88562

Matrix: Soil

Date Sampled: 3/23/92
Date Digested: 3/25/92 {b}

Date Received: 3/24/92
Batch Number: 920325-1102 {b}

METAL (SYMBOL)/EPA METHOD	ANALYTE CONCENTRATION {c} mg/Kg (ppm)	DILUTION FACTOR	REPORTING LIMIT mg/Kg (ppm)	DATE ANALYZED
Antimony (Sb)/6010.....		1	2.5	3/26/92
Arsenic (As)/7060.....	5.4	4	2.0	3/27/92
Beryllium (Be)/6010.....	.57	1	.25	3/26/92
Cadmium (Cd)/6010.....		1	.50	3/26/92
Chromium (Cr)/6010.....	12.	1	1.0	3/26/92
Copper (Cu)/6010.....	12.	1	1.0	3/26/92
Lead (Pb)/6010.....	11.	1	2.5	3/26/92
Mercury (Hg)/7471.....		1	.25	3/26/92
Nickel (Ni)/6010.....	8.3	1	1.0	3/26/92
Selenium (Se)/7740.....		1	.25	4/03/92
Silver (Ag)/6010.....		1	1.0	3/26/92
Thallium (Tl)/7841.....		1	.50	3/27/92
Zinc (Zn)/6010.....	34.	1	1.0	3/26/92

COMMENTS:

{a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
{b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/25/92, Batch # 920325-1101; and Hg was digested on 3/25/92, Batch # 920325-1103 .
{c} No entry in the "Concentration" means the metal is not detected at all.
{d} The sample for Arsenic was diluted 4 fold to bring target analyte within linear working range.

Approved by: Nancy McDonald for CM
Cheryl Matterson, Association Chemist

Date: 4/07/92

The cover letter and attachments are integral parts of this report.

McLaren Hart™

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RADIONUCLIDES

Report No. 8054-5

Table: Results of the analyses for iodine-129 and strontium-90 in fourteen (14) soil samples.

Sample ID Number	Sample Description	Collection Date	Lab Code	Conc. pci/gwet I-129	Date Analyzed	Conc. pci/gdry Sr-90	Date Analyzed
89601	BG06096SA	03/12/92	SPS-1991	<0.3	06/19	0.02±0.01	06/12
89607	BG06089SA	03/12/92	1992	<0.3	06/19	0.03±0.01	06/12
89613	BG06033SA	03/12/92	1993	<0.4	06/19	0.03±0.01	06/12
89620	BG00002SA	03/12/92	1994	<0.3	06/20	0.04±0.01	06/13
89622	M2SA	03/12/92	1995	<0.3	06/20	0.01±0.01	06/13
89628	BG03001SA	03/12/92	1996	<0.3	06/20	<0.01	06/13
89634	BG03019SA	03/12/92	1997	<0.3	06/20	0.02±0.01	06/13
89640	BG03059SA	03/12/92	1998	<0.3	06/20	0.01±0.01	06/13
88551	SM01008SA	03/23/92	2000	<0.3	06/20	0.04±0.01	06/13
88557	SM01021SA	03/23/92	2001	<0.3	06/22	0.02±0.01	06/13
88563	SM01020SA	03/23/92	2002	<0.3	06/22	0.01±0.01	06/13
88569	SM01004SA	03/23/92	2003	<0.3	06/22	0.02±0.01	07/11
88575	SM01007SA	03/23/92	2004	<0.3	06/22	0.02±0.01	07/11
90257	BB01040SA	03/18/92	2034	<0.3	06/22	0.02±0.01	07/11

The error given is the probable counting error at 95% confidence level. Less than (<) values are based on 3 sigma counting error for background sample.

APPROVED BY L.G. Huebner

L.G. Huebner
General Manager

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 06/26/92

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
3-0706	04-0029403-012	03/30/92	05/02/92

ERIC SMITH
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
71347	88552	SM01008SB		03/23	1115			PU-238	L.T. 6. E-02		05/16			6
								PU-239	L.T. 4. E-02		05/16			6
71348	88553	SM01008SC		03/23	1115			BE-7	L.T. 5. E-01		05/16			4
								K-40	2.59+-0.26E 01		05/16			4
								MN-54	L.T. 3. E-02		05/16			4
								CO-58	L.T. 4. E-02		05/16			4
								FE-59	L.T. 1. E-01		05/16			4
								CO-60	L.T. 3. E-02		05/16			4
								ZN-65	L.T. 8. E-02		05/16			4
								ZR-95	L.T. 6. E-02		05/16			4
								RU-103	L.T. 7. E-02		05/16			4
								RU-106	L.T. 3. E-01		05/16			4
								I-131	L.T. 3. E 00		05/16			4
								CS-134	L.T. 4. E-02		05/16			4
								CS-137	7.28+-2.39E-02		05/16			4
								BA-140	L.T. 5. E-01		05/16			4
								CE-141	L.T. 1. E-01		05/16			4
								CE-144	L.T. 2. E-01		05/16			4
								RA-226	2.52+-0.49E 00		05/16			4
								TH-228	1.52+-0.15E 00		05/16			4
								H-3	L.T. 2. E-02		06/24			5
71349	88558	SM01021SB		03/23	1200			PU-238	L.T. 4. E-02		05/13			6
								PU-239	L.T. 3. E-02		05/13			6
71350	88559	SM01021SC		03/23	1200			BE-7	L.T. 4. E-01		05/16			4
								K-40	2.36+-0.24E 01		05/16			4
								MN-54	L.T. 3. E-02		05/16			4
								CO-58	L.T. 3. E-02		05/16			4
								FE-59	L.T. 1. E-01		05/16			4
								CO-60	L.T. 2. E-02		05/16			4
								ZN-65	L.T. 7. E-02		05/16			4

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 06/26/92

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
3-0706	04-0029403-012	03/30/92	05/02/92

ERIC SMITH
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
71350 88559	SM01021SC		03/23	1200			ZR-95	L.T. 5. E-02		05/16			4
							RU-103	L.T. 5. E-02		05/16			4
							RU-106	L.T. 2. E-01		05/16			4
							I-131	L.T. 2. E 00		05/16			4
							CS-134	L.T. 3. E-02		05/16			4
							CS-137	1.18+-0.23E-01		05/16			4
							BA-140	L.T. 4. E-01		05/16			4
							CE-141	L.T. 1. E-01		05/16			4
							CE-144	L.T. 2. E-01		05/16			4
							RA-226	1.69+-0.35E 00		05/16			4
							TH-228	1.02+-0.10E 00		05/16			4
							H-3	L.T. 2. E-02		06/24			5
71351 88564	SM01020SB		03/23	1230			PU-238	L.T. 2. E-02		05/13			6
							PU-239	L.T. 8. E-03		05/13			6
71352 88565	SM01020SC		03/23	1230			BE-7	L.T. 6. E-01		05/18			4
							K-40	2.61+-0.26E 01		05/18			4
							MN-54	L.T. 4. E-02		05/18			4
							CO-58	L.T. 6. E-02		05/18			4
							FE-59	L.T. 2. E-01		05/18			4
							CO-60	L.T. 4. E-02		05/18			4
							ZN-65	L.T. 1. E-01		05/18			4
							ZR-95	L.T. 7. E-02		05/18			4
							RU-103	L.T. 9. E-02		05/18			4
							RU-106	L.T. 4. E-01		05/18			4
							I-131	L.T. 4. E 00		05/18			4
							CS-134	L.T. 5. E-02		05/18			4
							CS-137	L.T. 4. E-02		05/18			4
							BA-140	L.T. 8. E-01		05/18			4
							CE-141	L.T. 2. E-01		05/18			4
							CE-144	L.T. 2. E-01		05/18			4
							RA-226	2.70+-0.55E 00		05/18			4

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 06/26/92

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
3-0706	04-0029403-012	03/30/92	05/02/92

ERIC SMITH
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16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
71352	88565	SM01020SC		03/23	1230			TH-228	1.61+-0.16E 00		05/18			4
								H-3	L.T. 2. E-02		06/24			5
71353	88570	SM01004SB		03/23	1300			PU-238	8.2 +-3.6 E-02		05/18			6
								PU-239	L.T. 1. E-02		05/18			6
71354	88571	SM01004SC		03/23	1300			BE-7	L.T. 6. E-01		05/18			4
								K-40	2.32+-0.23E 01		05/18			4
								MN-54	L.T. 4. E-02		05/18			4
								CO-58	L.T. 5. E-02		05/18			4
								FE-59	L.T. 2. E-01		05/18			4
								CO-60	L.T. 3. E-02		05/18			4
								ZN-65	L.T. 9. E-02		05/18			4
								ZR-95	L.T. 6. E-02		05/18			4
								RU-103	L.T. 8. E-02		05/18			4
								RU-106	L.T. 3. E-01		05/18			4
								I-131	L.T. 4. E 00		05/18			4
								CS-134	L.T. 5. E-02		05/18			4
								CS-137	3.79+-2.16E-02		05/18			4
								BA-140	L.T. 7. E-01		05/18			4
								CE-141	L.T. 2. E-01		05/18			4
								CE-144	L.T. 2. E-01		05/18			4
								RA-226	1.61+-0.52E 00		05/18			4
								TH-228	1.31+-0.13E 00		05/18			4
								H-3	L.T. 1. E-02		06/24			5
71355	88576	SM01007SB		03/23	1330			PU-238	L.T. 5. E-02		05/13			6
								PU-239	L.T. 2. E-02		05/13			6

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 06/26/92

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
3-0706	04-0029403-012	03/30/92	05/02/92

ERIC SMITH
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
71356 88577	SM01007SC		03/23	1330			BE-7	L.T. 5. E-01		05/18			4
							K-40	2.22+-0.22E 01		05/18			4
							MN-54	L.T. 4. E-02		05/18			4
							CO-58	L.T. 5. E-02		05/18			4
							FE-59	L.T. 2. E-01		05/18			4
							CO-60	L.T. 3. E-02		05/18			4
							ZN-65	L.T. 9. E-02		05/18			4
							ZR-95	L.T. 7. E-02		05/18			4
							RU-103	L.T. 8. E-02		05/18			4
							RU-106	L.T. 3. E-01		05/18			4
							I-131	L.T. 4. E 00		05/18			4
							CS-134	L.T. 4. E-02		05/18			4
							CS-137	L.T. 4. E-02		05/18			4
							BA-140	L.T. 8. E-01		05/18			4
							CE-141	L.T. 2. E-01		05/18			4
							CE-144	L.T. 3. E-01		05/18			4
							RA-226	1.81+-0.54E 00		05/18			4
							TH-228	1.65+-0.16E 00		05/18			4
							H-3	L.T. 1. E-02		06/24			5

VOLATILE ORGANIC COMPOUNDS

VOLATILE ORGANICS

Analytical Method: EPA 8240 - Low Level Modified {a}
Preparation Method: EPA 5030

Lab Project-Sample ID: 5715-8

Project Name: Rocketdyne SSFL
Project Number: 03.0029403.012

Sample Description: SM-02-004-SE
Sample Number: 88361

Matrix: Soil

Date Sampled: 3/11/92
Date Analyzed: 3/16/92

Date Received: 3/12/92
Dilution Factor: 1

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
Chloromethane		10
Vinyl Chloride		10
Bromomethane		10
Chloroethane		10
Trichlorofluoromethane		10
Acetone		25
1,1-Dichloroethene		5
Methylene Chloride		5
Carbon Disulfide		5
trans-1,2,Dichloroethene		5
1,1-Dichloroethane		5
cis-1,2-Dichloroethene {b}		5
Chloroform		5
1,2-Dichloroethane		5
2-Butanone		25
1,1,1-Trichloroethane		5
Carbon Tetrachloride		5
Benzene		5
Trichloroethene		5
1,2-Dichloropropane		5
Bromodichloromethane		5
2-Chloroethylvinlyether		10
trans-1,3-Dichloropropene		5
cis-1,3-Dichloropropene		5
1,1,2-Trichloroethane		5
Dibromochloromethane		5
Bromoform		5
4-Methyl-2-Pentanone		25
Toluene		5
2-Hexanone		25
Tetrachloroethene		5
Chlorobenzene		5
Ethylbenzene		5
m & p-Xylene		5
o-Xylene		5
Styrene		5

McLaren Hart

VOLATILE ORGANICS

Analytical Method: EPA 8240 - Low Level Modified {a}
Preparation Method: EPA 5030

Lab Project-Sample ID: 5715- 8

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
1,1,2,2-Tetrachloroethane.....		5
1,3-Dichlorobenzene {b}.....		5
1,4-Dichlorobenzene {b}.....		5
1,2-Dichlorobenzene {b}.....		5

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	100	70 - 121
Toluene-D8	102	81 - 117
4-Bromofluorobenzene	99	74 - 121

COMMENTS:

{a} Includes all compounds as listed in Table 2 of SW-846, 3rd Edition for Method 8240.
{b} Additional compounds.
{c} Concentrations lower than the Reporting Limits are estimated values. No entry in "Analyte Concentration" means the compound is not detected at all.

Approved By: Nancy McDonald for CM Date: 3/27/92
Cheryl Matterson, Associate Chemist

The cover letter and the attachments are integral parts of this report.

McLaren Hart

VOLATILE ORGANICS

Analytical Method: EPA 8240 - Low Level Modified {a}
Preparation Method: EPA 5030

Lab Project-Sample ID: 5715-17

Project Name: Rocketdyne SSFL
Project Number: 03.0029403.012

Sample Description: SM-02-019-SE
Sample Number: 88379

Matrix: Soil

Date Sampled: 3/11/92
Date Analyzed: 3/16/92

Date Received: 3/12/92
Dilution Factor: 1

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
Chloromethane		10
Vinyl Chloride		10
Bromomethane		10
Chloroethane		10
Trichlorofluoromethane		10
Acetone		25
1,1-Dichloroethene		5
Methylene Chloride		5
Carbon Disulfide		5
trans-1,2,Dichloroethene		5
1,1-Dichloroethane		5
cis-1,2-Dichloroethene {b}		5
Chloroform		5
1,2-Dichloroethane		5
2-Butanone		25
1,1,1-Trichloroethane		5
Carbon Tetrachloride		5
Benzene		5
Trichloroethene		5
1,2-Dichloropropane		5
Bromodichloromethane		5
2-Chloroethylvinlyether		10
trans-1,3-Dichloropropene		5
cis-1,3-Dichloropropene		5
1,1,2-Trichloroethane		5
Dibromochloromethane		5
Bromoform		5
4-Methyl-2-Pentanone		25
Toluene		5
2-Hexanone		25
Tetrachloroethene		5
Chlorobenzene		5
Ethylbenzene		5
m & p-Xylene		5
o-Xylene		5
Styrene		5

McLaren Hart

VOLATILE ORGANICS

Analytical Method: EPA 8240 - Low Level Modified {a}
Preparation Method: EPA 5030

Lab Project-Sample ID: 5715- 17

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
1,1,2,2-Tetrachloroethane.....		5
1,3-Dichlorobenzene {b}.....		5
1,4-Dichlorobenzene {b}.....		5
1,2-Dichlorobenzene {b}.....		5

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	100	70 - 121
Toluene-D8	100	81 - 117
4-Bromofluorobenzene	100	74 - 121

COMMENTS:

{a} Includes all compounds as listed in Table 2 of SW-846, 3rd Edition for Method 8240.
{b} Additional compounds.
{c} Concentrations lower than the Reporting Limits are estimated values. No entry in "Analyte Concentration" means the compound is not detected at all.

Approved By: Nancy McDonald for CM Date: 3/27/92
Cheryl Matterson, Associate Chemist

The cover letter and the attachments are integral parts of this report.

McLaren Hart

VOLATILE ORGANICS

Analytical Method: EPA 8240 - Low Level Modified {a}
Preparation Method: EPA 5030

Lab Project-Sample ID: 5715-14

Project Name: Rocketdyne SSFL
Project Number: 03.0029403.012

Sample Description: SM-02-021-SE
Sample Number: 88373

Matrix: Soil

Date Sampled: 3/11/92
Date Analyzed: 3/16/92

Date Received: 3/12/92
Dilution Factor: 1

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
Chloromethane		10
Vinyl Chloride		10
Bromomethane		10
Chloroethane		10
Trichlorofluoromethane		10
Acetone		25
1,1-Dichloroethene		5
Methylene Chloride		5
Carbon Disulfide		5
trans-1,2,Dichloroethene		5
1,1-Dichloroethane		5
cis-1,2-Dichloroethene {b}		5
Chloroform		5
1,2-Dichloroethane		5
2-Butanone		25
1,1,1-Trichloroethane		5
Carbon Tetrachloride		5
Benzene		5
Trichloroethene		5
1,2-Dichloropropane		5
Bromodichloromethane		5
2-Chloroethylvinlyether		10
trans-1,3-Dichloropropene		5
cis-1,3-Dichloropropene		5
1,1,2-Trichloroethane		5
Dibromochloromethane		5
Bromoform		5
4-Methyl-2-Pentanone		25
Toluene		5
2-Hexanone		25
Tetrachloroethene		5
Chlorobenzene		5
Ethylbenzene		5
m & p-Xylene		5
o-Xylene		5
Styrene		5

McLaren Hart

VOLATILE ORGANICS

Analytical Method: EPA 8240 - Low Level Modified {a}
Preparation Method: EPA 5030

Lab Project-Sample ID: 5715- 14

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
1,1,2,2-Tetrachloroethane.....		5
1,3-Dichlorobenzene {b}.....		5
1,4-Dichlorobenzene {b}.....		5
1,2-Dichlorobenzene {b}.....		5

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	101	70 - 121
Toluene-D8	100	81 - 117
4-Bromofluorobenzene	102	74 - 121

COMMENTS:

{a} Includes all compounds as listed in Table 2 of SW-846, 3rd Edition for Method 8240.
{b} Additional compounds.
{c} Concentrations lower than the Reporting Limits are estimated values. No entry in "Analyte Concentration" means the compound is not detected at all.

Approved By: Nancy McDonald for CM Date: 3/27/92
Cheryl Matterson, Associate Chemist

The cover letter and the attachments are integral parts of this report.

McLaren Hart

VOLATILE ORGANICS

Analytical Method: EPA 8240 - Low Level Modified {a}
Preparation Method: EPA 5030

Lab Project-Sample ID: 5715-11

Project Name: Rocketdyne SSFL
Project Number: 03.0029403.012

Sample Description: SM-02-032-SE
Sample Number: 88367

Matrix: Soil

Date Sampled: 3/11/92
Date Analyzed: 3/16/92

Date Received: 3/12/92
Dilution Factor: 1

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
Chloromethane		10
Vinyl Chloride		10
Bromomethane		10
Chloroethane		10
Trichlorofluoromethane		10
Acetone		25
1,1-Dichloroethene		5
Methylene Chloride		5
Carbon Disulfide		5
trans-1,2,Dichloroethene		5
1,1-Dichloroethane		5
cis-1,2-Dichloroethene {b}		5
Chloroform		5
1,2-Dichloroethane		5
2-Butanone		25
1,1,1-Trichloroethane		5
Carbon Tetrachloride		5
Benzene		5
Trichloroethene		5
1,2-Dichloropropane		5
Bromodichloromethane		5
2-Chloroethylvinlyether		10
trans-1,3-Dichloropropene		5
cis-1,3-Dichloropropene		5
1,1,2-Trichloroethane		5
Dibromochloromethane		5
Bromoform		5
4-Methyl-2-Pentanone		25
Toluene		5
2-Hexanone		25
Tetrachloroethene		5
Chlorobenzene		5
Ethylbenzene		5
m & p-Xylene		5
o-Xylene		5
Styrene		5

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VOLATILE ORGANICS

Analytical Method: EPA 8240 - Low Level Modified {a}
Preparation Method: EPA 5030

Lab Project-Sample ID: 5715- 11

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
1,1,2,2-Tetrachloroethane.....		5
1,3-Dichlorobenzene {b}.....		5
1,4-Dichlorobenzene {b}.....		5
1,2-Dichlorobenzene {b}.....		5

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	102	70 - 121
Toluene-D8	101	81 - 117
4-Bromofluorobenzene	99	74 - 121

COMMENTS:

{a} Includes all compounds as listed in Table 2 of SW-846, 3rd Edition for Method 8240.
{b} Additional compounds.
{c} Concentrations lower than the Reporting Limits are estimated values. No entry in "Analyte Concentration" means the compound is not detected at all.

Approved By: Nancy McDonald for CM Date: 3/27/92
Cheryl Matterson, Associate Chemist

The cover letter and the attachments are integral parts of this report.

McLaren Hart

VOLATILE ORGANICS

Analytical Method: EPA 8240 - Low Level Modified {a}
Preparation Method: EPA 5030

Lab Project-Sample ID: 5715- 5

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
1,1,2,2-Tetrachloroethane.....		5
1,3-Dichlorobenzene {b}.....		5
1,4-Dichlorobenzene {b}.....		5
1,2-Dichlorobenzene {b}.....		5

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	103	70 - 121
Toluene-D8	101	81 - 117
4-Bromofluorobenzene	101	74 - 121

COMMENTS:

{a} Includes all compounds as listed in Table 2 of SW-846, 3rd Edition for Method 8240.
{b} Additional compounds.
{c} Concentrations lower than the Reporting Limits are estimated values. No entry in "Analyte Concentration" means the compound is not detected at all.

Approved By: Nancy McDonald for CM Date: 3/27/92
Cheryl Matterson, Associate Chemist

The cover letter and the attachments are integral parts of this report.

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SEMI-VOLATILE ORGANIC COMPOUNDS

SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}
Preparation Method: EPA 3550

Lab Project-Sample ID: 5715-7

Project Name: Rocketdyne SSFL
Project Number: 03.0029403.012

Sample Description: SM-02-004-SD
Sample Number: 88360

Matrix: Soil

Date Sampled: 3/11/92
Date Extracted: 3/16/92

Date Received: 3/12/92
Date Analyzed: 3/22/92

Batch Number: 920316-0301

Dilution Factor: 1

	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
Phenol		330
Bis(2-chloroethyl)ether		330
2-Chlorophenol		330
1,3-Dichlorobenzene		330
1,4-Dichlorobenzene		330
Benzyl alcohol		330
2-Methylphenol		330
1,2-Dichlorobenzene		330
Bis(2-Chloroisopropyl)ether		330
4-Methylphenol		330
N-Nitroso-di-n-propylamine		330
Hexachloroethane		330
Nitrobenzene		330
Isophorone		330
2,4-Dimethylphenol		330
1,2,4-Trichlorobenzene		330
2-Nitrophenol		330
Benzoic acid		1600
Bis(2-Chloroethoxy)methane		330
2,4-Dichlorophenol		330
Naphthalene		330
4-Chloroaniline		330
Hexachlorobutadiene		330
4-Chloro-3-methylphenol		330
2-Methylnaphthalene		330
Hexachlorocyclopentadiene		330
2,4,6-Trichlorophenol		330
2,4,5-Trichlorophenol		330
2-Chloronaphthalene		330
3-Nitroaniline		1600
Dimethylphthalate		330
2,6-Dinitrotoluene		330
Acenaphthylene		330
2-Nitroaniline		1600

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SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}
Preparation Method: EPA 3550

Lab Project-Sample ID: 5715-7

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
Acenaphthene		330
2,4-Dinitrophenol		1600
4-Nitrophenol		1600
2,4-Dinitrotoluene		330
Dibenzofuran		330
Diethylphthalate		330
alpha-BHC {b}		330
4-Chlorophenyl phenyl ether		330
Fluorene		330
4-Nitroaniline		1600
4,6-Dinitro-2-methylphenol		1600
N-Nitrosodiphenylamine		330
4-Bromophenyl phenyl ether		330
beta-BHC {b}		330
Lindane {b}		330
Hexachlorobenzene		330
Pentachlorophenol		1600
Phenanthrene		330
Anthracene		330
Delta-BHC {b}		330
Heptachlor {b}		330
Aldrin {b}		330
Endrin {b}		330
Butyl benzyl phthalate		330
Fluoranthene		330
Heptachlor Epoxide		330
Pyrene		330
Dieldrin {b}		330
4,4'-DDE {b}		330
Endosulfan sulfate		330
4,4'-DDT {b}		330
4,4'-DDD {b}		330
Di-n-butylphthalate		330
3,3'-Dichlorobenzidine		660
Benzo(a)anthracene		330
Bis(2-Ethylhexyl)phthalate		330
Chrysene		330
Di-n-octylphthalate		330
Benzo(b)fluoranthene		330
Benzo(k)fluoranthene		330
Benzo(a)pyrene		330
Indeno(1,2,3-c,d)pyrene		330
Dibenzo(a,h)anthracene		330
Benzo(g,h,i)perylene		330

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SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}
Preparation Method: EPA 3550

Lab Project-Sample ID: 5715-7

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	103	25 - 121
Phenol-d5.....	102	24 - 113
Nitrobenzene-d5.....	99	23 - 120
2-Fluorobiphenyl.....	91	30 - 115
2,4,6-Tribromophenol.....	115	19 - 122
Terphenyl-d14.....	107	18 - 137

COMMENTS:

{a} Includes all analytes as listed in Table 2 of Method 8270, SW-846, 3rd Edition.
{b} Additional compounds.
{c} Concentrations lower than the Reporting Limits are estimated values. No entry in "Analyte Concentration" means the analyte is not detected at all.

Approved By: Nancy McDonald for CM
Cheryl Matterson, Associate Chemist

Date: 3/27/92

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SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}
Preparation Method: EPA 3550

Lab Project-Sample ID: 5715-16

Project Name: Rocketdyne SSFL
Project Number: 03.0029403.012

Sample Description: SM-02-019-SD
Sample Number: 88378

Matrix: Soil

Date Sampled: 3/11/92
Date Extracted: 3/16/92

Date Received: 3/12/92
Date Analyzed: 3/23/92

Batch Number: 920316-0301

Dilution Factor: 1

	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
Phenol		330
Bis(2-chloroethyl)ether		330
2-Chlorophenol		330
1,3-Dichlorobenzene		330
1,4-Dichlorobenzene		330
Benzyl alcohol		330
2-Methylphenol		330
1,2-Dichlorobenzene		330
Bis(2-Chloroisopropyl)ether		330
4-Methylphenol		330
N-Nitroso-di-n-propylamine		330
Hexachloroethane		330
Nitrobenzene		330
Isophorone		330
2,4-Dimethylphenol		330
1,2,4-Trichlorobenzene		330
2-Nitrophenol		330
Benzoic acid		1600
Bis(2-Chloroethoxy)methane		330
2,4-Dichlorophenol		330
Naphthalene		330
4-Chloroaniline		330
Hexachlorobutadiene		330
4-Chloro-3-methylphenol		330
2-Methylnaphthalene		330
Hexachlorocyclopentadiene		330
2,4,6-Trichlorophenol		330
2,4,5-Trichlorophenol		330
2-Chloronaphthalene		330
3-Nitroaniline		1600
Dimethylphthalate		330
2,6-Dinitrotoluene		330
Acenaphthylene		330
2-Nitroaniline		1600

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SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}
Preparation Method: EPA 3550

Lab Project-Sample ID: 5715-16

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
Acenaphthene		330
2,4-Dinitrophenol		1600
4-Nitrophenol		1600
2,4-Dinitrotoluene		330
Dibenzofuran		330
Diethylphthalate		330
alpha-BHC {b}		330
4-Chlorophenyl phenyl ether		330
Fluorene		330
4-Nitroaniline		1600
4,6-Dinitro-2-methylphenol		1600
N-Nitrosodiphenylamine		330
4-Bromophenyl phenyl ether		330
beta-BHC {b}		330
Lindane {b}		330
Hexachlorobenzene		330
Pentachlorophenol		1600
Phenanthrene		330
Anthracene		330
Delta-BHC {b}		330
Heptachlor {b}		330
Aldrin {b}		330
Endrin {b}		330
Butyl benzyl phthalate		330
Fluoranthene		330
Heptachlor Epoxide		330
Pyrene		330
Dieldrin {b}		330
4,4'-DDE {b}		330
Endosulfan sulfate		330
4,4'-DDT {b}		330
4,4'-DDD {b}		330
Di-n-butylphthalate		330
3,3'-Dichlorobenzidine		660
Benzo(a)anthracene		330
Bis(2-Ethylhexyl)phthalate		330
Chrysene		330
Di-n-octylphthalate		330
Benzo(b)fluoranthene		330
Benzo(k)fluoranthene		330
Benzo(a)pyrene		330
Indeno(1,2,3-c,d)pyrene		330
Dibenzo(a,h)anthracene		330
Benzo(g,h,i)perylene		330

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SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}
Preparation Method: EPA 3550

Lab Project-Sample ID: 5715-16

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	89	25 - 121
Phenol-d5.....	89	24 - 113
Nitrobenzene-d5.....	87	23 - 120
2-Fluorobiphenyl.....	86	30 - 115
2,4,6-Tribromophenol.....	117	19 - 122
Terphenyl-d14.....	99	18 - 137

COMMENTS:

{a} Includes all analytes as listed in Table 2 of Method 8270, SW-846, 3rd Edition.
{b} Additional compounds.
{c} Concentrations lower than the Reporting Limits are estimated values. No entry in "Analyte Concentration" means the analyte is not detected at all.

Approved By: Nancy McDonald for CM
Cheryl Matterson, Associate Chemist

Date: 3/27/92

The cover letter and attachments are integral parts of this report.

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SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}
Preparation Method: EPA 3550

Lab Project-Sample ID: 5715-13

Project Name: Rocketdyne SSFL
Project Number: 03.0029403.012

Sample Description: SM-02-021-SD
Sample Number: 88372

Matrix: Soil

Date Sampled: 3/11/92
Date Extracted: 3/16/92

Date Received: 3/12/92
Date Analyzed: 3/23/92

Batch Number: 920316-0301

Dilution Factor: 1

	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
Phenol		330
Bis(2-chloroethyl)ether		330
2-Chlorophenol		330
1,3-Dichlorobenzene		330
1,4-Dichlorobenzene		330
Benzyl alcohol		330
2-Methylphenol		330
1,2-Dichlorobenzene		330
Bis(2-Chloroisopropyl)ether		330
4-Methylphenol		330
N-Nitroso-di-n-propylamine		330
Hexachloroethane		330
Nitrobenzene		330
Isophorone		330
2,4-Dimethylphenol		330
1,2,4-Trichlorobenzene		330
2-Nitrophenol		330
Benzoic acid		1600
Bis(2-Chloroethoxy)methane		330
2,4-Dichlorophenol		330
Naphthalene		330
4-Chloroaniline		330
Hexachlorobutadiene		330
4-Chloro-3-methylphenol		330
2-Methylnaphthalene		330
Hexachlorocyclopentadiene		330
2,4,6-Trichlorophenol		330
2,4,5-Trichlorophenol		330
2-Chloronaphthalene		330
3-Nitroaniline		1600
Dimethylphthalate		330
2,6-Dinitrotoluene		330
Acenaphthylene		330
2-Nitroaniline		1600

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SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}
Preparation Method: EPA 3550

Lab Project-Sample ID: 5715-13

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
Acenaphthene		330
2,4-Dinitrophenol		1600
4-Nitrophenol		1600
2,4-Dinitrotoluene		330
Dibenzofuran		330
Diethylphthalate		330
alpha-BHC {b}		330
4-Chlorophenyl phenyl ether		330
Fluorene		330
4-Nitroaniline		1600
4,6-Dinitro-2-methylphenol		1600
N-Nitrosodiphenylamine		330
4-Bromophenyl phenyl ether		330
beta-BHC {b}		330
Lindane {b}		330
Hexachlorobenzene		330
Pentachlorophenol		1600
Phenanthrene		330
Anthracene		330
Delta-BHC {b}		330
Heptachlor {b}		330
Aldrin {b}		330
Endrin {b}		330
Butyl benzyl phthalate		330
Fluoranthene		330
Heptachlor Epoxide		330
Pyrene		330
Dieldrin {b}		330
4,4'-DDE {b}		330
Endosulfan sulfate		330
4,4'-DDT {b}		330
4,4'-DDD {b}		330
Di-n-butylphthalate		330
3,3'-Dichlorobenzidine		660
Benzo(a)anthracene		330
Bis(2-Ethylhexyl)phthalate		330
Chrysene		330
Di-n-octylphthalate		330
Benzo(b)fluoranthene		330
Benzo(k)fluoranthene		330
Benzo(a)pyrene		330
Indeno(1,2,3-c,d)pyrene		330
Dibenzo(a,h)anthracene		330
Benzo(g,h,i)perylene		330

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SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}
Preparation Method: EPA 3550

Lab Project-Sample ID: 5715-13

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	93	25 - 121
Phenol-d5.....	94	24 - 113
Nitrobenzene-d5.....	95	23 - 120
2-Fluorobiphenyl.....	96	30 - 115
2,4,6-Tribromophenol.....	119	19 - 122
Terphenyl-d14.....	109	18 - 137

COMMENTS:

{a} Includes all analytes as listed in Table 2 of Method 8270, SW-846, 3rd Edition.
{b} Additional compounds.
{c} Concentrations lower than the Reporting Limits are estimated values. No entry in "Analyte Concentration" means the analyte is not detected at all.

Approved By: Nancy McDonald for CM
Cheryl Matterson, Associate Chemist

Date: 3/27/92

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SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}
Preparation Method: EPA 3550

Lab Project-Sample ID: 5715-10

Project Name: Rocketdyne SSFL
Project Number: 03.0029403.012

Sample Description: SM-02-032-SD
Sample Number: 88366

Matrix: Soil

Date Sampled: 3/11/92
Date Extracted: 3/16/92

Date Received: 3/12/92
Date Analyzed: 3/23/92

Batch Number: 920316-0301

Dilution Factor: 1

	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
Phenol		330
Bis(2-chloroethyl)ether		330
2-Chlorophenol		330
1,3-Dichlorobenzene		330
1,4-Dichlorobenzene		330
Benzyl alcohol		330
2-Methylphenol		330
1,2-Dichlorobenzene		330
Bis(2-Chloroisopropyl)ether		330
4-Methylphenol		330
N-Nitroso-di-n-propylamine		330
Hexachloroethane		330
Nitrobenzene		330
Isophorone		330
2,4-Dimethylphenol		330
1,2,4-Trichlorobenzene		330
2-Nitrophenol		330
Benzoic acid		1600
Bis(2-Chloroethoxy)methane		330
2,4-Dichlorophenol		330
Naphthalene		330
4-Chloroaniline		330
Hexachlorobutadiene		330
4-Chloro-3-methylphenol		330
2-Methylnaphthalene		330
Hexachlorocyclopentadiene		330
2,4,6-Trichlorophenol		330
2,4,5-Trichlorophenol		330
2-Chloronaphthalene		330
3-Nitroaniline		1600
Dimethylphthalate		330
2,6-Dinitrotoluene		330
Acenaphthylene		330
2-Nitroaniline		1600

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SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}
Preparation Method: EPA 3550

Lab Project-Sample ID: 5715-10

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	113	25 - 121
Phenol-d5.....	103	24 - 113
Nitrobenzene-d5.....	105	23 - 120
2-Fluorobiphenyl.....	102	30 - 115
2,4,6-Tribromophenol.....	120	19 - 122
Terphenyl-d14.....	115	18 - 137

COMMENTS:

{a} Includes all analytes as listed in Table 2 of Method 8270, SW-846, 3rd Edition.
{b} Additional compounds.
{c} Concentrations lower than the Reporting Limits are estimated values. No entry in "Analyte Concentration" means the analyte is not detected at all.

Approved By: Nancy McDonald for CM
Cheryl Matterson, Associate Chemist

Date: 3/27/92

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SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}
Preparation Method: EPA 3550

Lab Project-Sample ID: 5715-4

Project Name: Rocketdyne SSFL
Project Number: 03.0029403.012

Sample Description: SM-02-044-SD
Sample Number: 88354

Matrix: Soil

Date Sampled: 3/11/92
Date Extracted: 3/16/92

Date Received: 3/12/92
Date Analyzed: 3/22/92

Batch Number: 920316-0301

Dilution Factor: 1

	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
Phenol		330
Bis(2-chloroethyl)ether		330
2-Chlorophenol		330
1,3-Dichlorobenzene		330
1,4-Dichlorobenzene		330
Benzyl alcohol		330
2-Methylphenol		330
1,2-Dichlorobenzene		330
Bis(2-Chloroisopropyl)ether		330
4-Methylphenol		330
N-Nitroso-di-n-propylamine		330
Hexachloroethane		330
Nitrobenzene		330
Isophorone		330
2,4-Dimethylphenol		330
1,2,4-Trichlorobenzene		330
2-Nitrophenol		330
Benzoic acid		1600
Bis(2-Chloroethoxy)methane		330
2,4-Dichlorophenol		330
Naphthalene		330
4-Chloroaniline		330
Hexachlorobutadiene		330
4-Chloro-3-methylphenol		330
2-Methylnaphthalene		330
Hexachlorocyclopentadiene		330
2,4,6-Trichlorophenol		330
2,4,5-Trichlorophenol		330
2-Chloronaphthalene		330
3-Nitroaniline		1600
Dimethylphthalate		330
2,6-Dinitrotoluene		330
Acenaphthylene		330
2-Nitroaniline		1600

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SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}
Preparation Method: EPA 3550

Lab Project-Sample ID: 5715-4

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
Acenaphthene		330
2,4-Dinitrophenol		1600
4-Nitrophenol		1600
2,4-Dinitrotoluene		330
Dibenzofuran		330
Diethylphthalate		330
alpha-BHC {b}		330
4-Chlorophenyl phenyl ether		330
Fluorene		330
4-Nitroaniline		1600
4,6-Dinitro-2-methylphenol		1600
N-Nitrosodiphenylamine		330
4-Bromophenyl phenyl ether		330
beta-BHC {b}		330
Lindane {b}		330
Hexachlorobenzene		330
Pentachlorophenol		1600
Phenanthrene		330
Anthracene		330
Delta-BHC {b}		330
Heptachlor {b}		330
Aldrin {b}		330
Endrin {b}		330
Butyl benzyl phthalate		330
Fluoranthene		330
Heptachlor Epoxide		330
Pyrene		330
Dieldrin {b}		330
4,4'-DDE {b}		330
Endosulfan sulfate		330
4,4'-DDT {b}		330
4,4'-DDD {b}		330
Di-n-butylphthalate		330
3,3'-Dichlorobenzidine		660
Benzo(a)anthracene		330
Bis(2-Ethylhexyl)phthalate		330
Chrysene		330
Di-n-octylphthalate		330
Benzo(b)fluoranthene		330
Benzo(k)fluoranthene		330
Benzo(a)pyrene		330
Indeno(1,2,3-c,d)pyrene		330
Dibenzo(a,h)anthracene		330
Benzo(g,h,i)perylene		330

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SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}
Preparation Method: EPA 3550

Lab Project-Sample ID: 5715-4

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	101	25 - 121
Phenol-d5.....	101	24 - 113
Nitrobenzene-d5.....	102	23 - 120
2-Fluorobiphenyl.....	93	30 - 115
2,4,6-Tribromophenol.....	115	19 - 122
Terphenyl-d14.....	102	18 - 137

COMMENTS:

{a} Includes all analytes as listed in Table 2 of Method 8270, SW-846, 3rd Edition.
{b} Additional compounds.
{c} Concentrations lower than the Reporting Limits are estimated values. No entry in "Analyte Concentration" means the analyte is not detected at all.

Approved By: Nancy McDonald for CM
Cheryl Matterson, Associate Chemist

Date: 3/27/92

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METALS

PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5715-9

Project Name: Rocketdyne SSFL
Project Number: 03.0029403.012

Sample Description: SM-02-004-SF
Sample Number: 88362

Matrix: Soil

Date Sampled: 3/11/92
Date Digested: 3/17/92 {b}

Date Received: 3/12/92
Batch Number: 920317-1103 {b}

METAL (SYMBOL)/EPA METHOD	ANALYTE CONCENTRATION {c} mg/Kg (ppm)	DILUTION FACTOR	REPORTING LIMIT mg/Kg (ppm)	DATE ANALYZED
Antimony (Sb)/6010.....		1	2.5	3/18/92
Arsenic (As)/7060.....	2.	1	.50	3/21/92
Beryllium (Be)/6010.....	.58	1	.25	3/18/92
Cadmium (Cd)/6010.....		1	.50	3/18/92
Chromium (Cr)/6010.....	14.	1	1.0	3/18/92
Copper (Cu)/6010.....	9.7	1	1.0	3/18/92
Lead (Pb)/6010.....	13.	1	2.5	3/18/92
Mercury (Hg)/7471.....		1	.25	3/18/92
Nickel (Ni)/6010.....	10.	1	1.0	3/18/92
Selenium (Se)/7740.....		1	.25	3/21/92
Silver (Ag)/6010.....		1	1.0	3/18/92
Thallium (Tl)/7841.....		1	.50	3/21/92
Zinc (Zn)/6010.....	44.	1	1.0	3/18/92

COMMENTS:

{a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
{b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/17/92, Batch # 920317-1102; and Hg was digested on 3/17/92, Batch # 920317-1101 .
{c} No entry in the "Concentration" means the metal is not detected at all.

Approved by: Nancy McDonald for CM Date: 3/31/92
Cheryl Matterson, Association Chemist

The cover letter and attachments are integral parts of this report.

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PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5715-18

Project Name: Rocketdyne SSFL
Project Number: 03.0029403.012

Sample Description: SM-02-019-SF
Sample Number: 88380

Matrix: Soil

Date Sampled: 3/11/92
Date Digested: 3/17/92 {b}

Date Received: 3/12/92
Batch Number: 920317-1103 {b}

METAL (SYMBOL)/EPA METHOD	ANALYTE CONCENTRATION {c} mg/Kg (ppm)	DILUTION FACTOR	REPORTING LIMIT mg/Kg (ppm)	DATE ANALYZED
Antimony (Sb)/6010.....		1	2.5	3/18/92
Arsenic (As)/7060.....	1.9	1	.50	3/21/92
Beryllium (Be)/6010.....	.63	1	.25	3/18/92
Cadmium (Cd)/6010.....	.52	1	.50	3/18/92
Chromium (Cr)/6010.....	14.	1	1.0	3/18/92
Copper (Cu)/6010.....	11.	1	1.0	3/18/92
Lead (Pb)/6010.....	13.	1	2.5	3/18/92
Mercury (Hg)/7471.....		1	.25	3/18/92
Nickel (Ni)/6010.....	11.	1	1.0	3/18/92
Selenium (Se)/7740.....		1	.25	3/21/92
Silver (Ag)/6010.....		1	1.0	3/18/92
Thallium (Tl)/7841.....		1	.50	3/21/92
Zinc (Zn)/6010.....	47.	1	1.0	3/18/92

COMMENTS:

{a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
{b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/17/92, Batch # 920317-1102; and Hg was digested on 3/17/92, Batch # 920317-1101 .
{c} No entry in the "Concentration" means the metal is not detected at all.

Approved by: Nancy McDonald for CM Date: 3/31/92
Cheryl Matterson, Association Chemist

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PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5715-15

Project Name: Rocketdyne SSFL
Project Number: 03.0029403.012

Sample Description: SM-02-021-SF
Sample Number: 88374

Matrix: Soil

Date Sampled: 3/11/92
Date Digested: 3/17/92 {b}

Date Received: 3/12/92
Batch Number: 920317-1103 {b}

METAL (SYMBOL)/EPA METHOD	ANALYTE CONCENTRATION {c} mg/Kg (ppm)	DILUTION FACTOR	REPORTING LIMIT mg/Kg (ppm)	DATE ANALYZED
Antimony (Sb)/6010.....		1	2.5	3/18/92
Arsenic (As)/7060.....	2.	1	.50	3/21/92
Beryllium (Be)/6010.....	.71	1	.25	3/18/92
Cadmium (Cd)/6010.....		1	.50	3/18/92
Chromium (Cr)/6010.....	16.	1	1.0	3/18/92
Copper (Cu)/6010.....	13.	1	1.0	3/18/92
Lead (Pb)/6010.....	11.	1	2.5	3/18/92
Mercury (Hg)/7471.....		1	.25	3/18/92
Nickel (Ni)/6010.....	12.	1	1.0	3/18/92
Selenium (Se)/7740.....		1	.25	3/21/92
Silver (Ag)/6010.....		1	1.0	3/18/92
Thallium (Tl)/7841.....		1	.50	3/21/92
Zinc (Zn)/6010.....	49.	1	1.0	3/18/92

COMMENTS:

{a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
{b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/17/92, Batch # 920317-1102; and Hg was digested on 3/17/92, Batch # 920317-1101 .
{c} No entry in the "Concentration" means the metal is not detected at all.

Approved by: Nancy McDonald for CM
Cheryl Matterson, Association Chemist

Date: 3/31/92

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PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5715-6

Project Name: Rocketdyne SSFL
Project Number: 03.0029403.012

Sample Description: SM-02-044-SF
Sample Number: 88356

Matrix: Soil

Date Sampled: 3/11/92
Date Digested: 3/17/92 {b}

Date Received: 3/12/92
Batch Number: 920317-1103 {b}

METAL (SYMBOL)/EPA METHOD	ANALYTE CONCENTRATION {c} mg/Kg (ppm)	DILUTION FACTOR	REPORTING LIMIT mg/Kg (ppm)	DATE ANALYZED
Antimony (Sb)/6010.....		1	2.5	3/18/92
Arsenic (As)/7060.....	2.1	1	.50	3/21/92
Beryllium (Be)/6010.....	.52	1	.25	3/18/92
Cadmium (Cd)/6010.....		1	.50	3/18/92
Chromium (Cr)/6010.....	13.	1	1.0	3/18/92
Copper (Cu)/6010.....	8.3	1	1.0	3/18/92
Lead (Pb)/6010.....	7.6	1	2.5	3/18/92
Mercury (Hg)/7471.....		1	.25	3/18/92
Nickel (Ni)/6010.....	9.2	1	1.0	3/18/92
Selenium (Se)/7740.....		1	.25	3/21/92
Silver (Ag)/6010.....		1	1.0	3/18/92
Thallium (Tl)/7841.....		1	.50	3/21/92
Zinc (Zn)/6010.....	38.	1	1.0	3/18/92

COMMENTS:

{a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
{b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/17/92, Batch # 920317-1102; and Hg was digested on 3/17/92, Batch # 920317-1101 .
{c} No entry in the "Concentration" means the metal is not detected at all.

Approved by: Nancy McDonald for CM Date: 3/31/92
Cheryl Matterson, Association Chemist

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TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 04/14/92

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3-0636	04-0029403-012	03/13/92	04/15/92

ERIC SMITH
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
69563	88352 SM02-044-SB		03/11	0800			PU-238	L.T. 2. E-02		04/06			6
							PU-239	L.T. 7. E-03		04/06			6
69564	88353 SM02-044-SC		03/11	0800			BE-7	L.T. 3. E-01		03/26			4
							K-40	2.34+-0.23E 01		03/26			4
							MN-54	L.T. 4. E-02		03/26			4
							CO-58	L.T. 3. E-02		03/26			4
							FE-59	L.T. 1. E-01		03/26			4
							CO-60	L.T. 4. E-02		03/26			4
							ZN-65	L.T. 9. E-02		03/26			4
							ZR-95	L.T. 5. E-02		03/26			4
							RU-103	L.T. 4. E-02		03/26			4
							RU-106	L.T. 3. E-01		03/26			4
							I-131	L.T. 1. E-01		03/26			4
							CS-134	L.T. 5. E-02		03/26			4
							CS-137	L.T. 4. E-02		03/26			4
							BA-140	L.T. 9. E-02		03/26			4
							CE-141	L.T. 7. E-02		03/26			4
							CE-144	L.T. 2. E-01		03/26			4
							RA-226	1.76+-0.58E 00		03/26			4
							TH-228	1.25+-0.13E 00		03/26			5
							H-3	L.T. 2. E-02		03/29			6
69565	88358 SM02-004-SB		03/11	0800			PU-238	L.T. 4. E-02		04/06			6
							PU-239	L.T. 7. E-03		04/06			6
69566	88359 SM02-004-SC		03/11	0800			BE-7	L.T. 4. E-01		03/26			4
							K-40	2.25+-0.22E 01		03/26			4
							MN-54	L.T. 5. E-02		03/26			4
							CO-58	L.T. 4. E-02		03/26			4
							FE-59	L.T. 1. E-01		03/26			4
							CO-60	L.T. 5. E-02		03/26			4
							ZN-65	L.T. 1. E-01		03/26			4

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 04/14/92

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
3-0636	04-0029403-012	03/13/92	04/15/92

ERIC SMITH
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S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
69566	88359 SM02-004-SC		03/11	0800			ZR-95	L.T. 6. E-02		03/26			4
							RU-103	L.T. 6. E-02		03/26			4
							RU-106	L.T. 4. E-01		03/26			4
							I-131	L.T. 2. E-01		03/26			4
							CS-134	L.T. 6. E-02		03/26			4
							CS-137	L.T. 6. E-02		03/26			4
							BA-140	L.T. 1. E-01		03/26			4
							CE-141	L.T. 1. E-01		03/26			4
							CE-144	L.T. 4. E-01		03/26			4
							RA-226	1.82+-0.83E 00		03/26			4
							TH-228	1.21+-0.12E 00		03/26			4
							H-3	L.T. 2. E-02		03/29			5
69567	88364 SM02-032-SB		03/11	1000			PU-238	L.T. 2. E-02		04/06			6
							PU-239	L.T. 5. E-03		04/06			6
69568	88365 SM02-032-SC		03/11	1000			BE-7	L.T. 3. E-01		03/26			4
							K-40	2.34+-0.23E 01		03/26			4
							MN-54	L.T. 3. E-02		03/26			4
							CO-58	L.T. 3. E-02		03/26			4
							FE-59	L.T. 9. E-02		03/26			4
							CO-60	L.T. 3. E-02		03/26			4
							ZN-65	L.T. 8. E-02		03/26			4
							ZR-95	L.T. 4. E-02		03/26			4
							RU-103	L.T. 4. E-02		03/26			4
							RU-106	L.T. 3. E-01		03/26			4
							I-131	L.T. 1. E-01		03/26			4
							CS-134	L.T. 4. E-02		03/26			4
							CS-137	L.T. 4. E-02		03/26			4
							BA-140	L.T. 7. E-02		03/26			4
							CE-141	L.T. 6. E-02		03/26			4
							CE-144	L.T. 2. E-01		03/26			4
							RA-226	1.83+-0.48E 00		03/26			4

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 04/14/92

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S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
69568	88365 SM02-032-SC		03/11	1000			TH-228	1.34+-0.13E 00		03/26			4
							H-3	L.T. 2. E-02		03/29			5
69569	88370 SM02-021-SB		03/11	1100			PU-238	L.T. 1. E-02		04/06			6
							PU-239	L.T. 8. E-03		04/06			6
69570	88371 SM02-021-SC		03/11	1100			BE-7	L.T. 3. E-01		03/26			4
							K-40	2.38+-0.24E 01		03/26			4
							MN-54	L.T. 4. E-02		03/26			4
							CO-58	L.T. 3. E-02		03/26			4
							FE-59	L.T. 9. E-02		03/26			4
							CO-60	L.T. 4. E-02		03/26			4
							ZN-65	L.T. 8. E-02		03/26			4
							ZR-95	L.T. 4. E-02		03/26			4
							RU-103	L.T. 4. E-02		03/26			4
							RU-106	L.T. 3. E-01		03/26			4
							I-131	L.T. 1. E-01		03/26			4
							CS-134	L.T. 4. E-02		03/26			4
							CS-137	5.22+-2.61E-02		03/26			4
							BA-140	L.T. 9. E-02		03/26			4
							CE-141	L.T. 7. E-02		03/26			4
							CE-144	L.T. 2. E-01		03/26			4
							RA-226	1.59+-0.50E 00		03/26			4
							TH-228	1.17+-0.12E 00		03/26			4
							H-3	L.T. 2. E-02		03/29			5
69571	88376 SM02-019-SB		03/11	1200			PU-238	L.T. 1. E-02		04/06			6
							PU-239	L.T. 9. E-03		04/06			6

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 04/14/92

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
3-0636	04-0029403-012	03/13/92	04/15/92

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S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCT/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
69572	88377 SM02-019-SC		03/11	1200			BE-7	L.T. 3. E-01		03/26			4
							K-40	2.46+-0.25E 01		03/26			4
							MN-54	L.T. 3. E-02		03/26			4
							CO-58	L.T. 4. E-02		03/26			4
							FE-59	L.T. 9. E-02		03/26			4
							CO-60	L.T. 4. E-02		03/26			4
							ZN-65	L.T. 9. E-02		03/26			4
							ZR-95	L.T. 5. E-02		03/26			4
							RU-103	L.T. 4. E-02		03/26			4
							RU-106	L.T. 3. E-01		03/26			4
							I-131	L.T. 1. E-01		03/26			4
							CS-134	L.T. 4. E-02		03/26			4
							CS-137	1.20+-0.34E-01		03/26			4
							BA-140	L.T. 8. E-02		03/26			4
							CE-141	L.T. 7. E-02		03/26			4
							CE-144	L.T. 2. E-01		03/26			4
							RA-226	1.58+-0.54E 00		03/26			4
							TH-228	1.15+-0.12E 00		03/26			4
							H-3	L.T. 2. E-02		03/30			5
69573	88381 SM07-001-SB		03/11	1000			PU-238	L.T. 1. E-02		04/06			6
							PU-239	L.T. 4. E-03		04/06			6
69574	88302 SM-03-012 SB		03/11	1300			PU-238	L.T. 2. E-02		04/08			6
							PU-239	L.T. 4. E-03		04/08			6
69575	88303 SM-03-012 SC		03/11	1300			BE-7	L.T. 3. E-01		03/26			4
							K-40	2.19+-0.22E 01		03/26			4
							MN-54	L.T. 3. E-02		03/26			4
							CO-58	L.T. 3. E-02		03/26			4
							FE-59	L.T. 9. E-02		03/26			4
							CO-60	L.T. 3. E-02		03/26			4
							ZN-65	L.T. 8. E-02		03/26			4

VOLATILE ORGANIC COMPOUNDS

VOLATILE ORGANICS

Analytical Method: EPA 8240 - Low Level Modified {a}
Preparation Method: EPA 5030

Lab Project-Sample ID: 5727-13

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: SM03001S~~D~~C
Sample Number: 88322

Matrix: Soil

Date Sampled: 3/11/92
Date Analyzed: 3/19/92

Date Received: 3/14/92
Dilution Factor: 1

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
Chloromethane		10
Vinyl Chloride		10
Bromomethane		10
Chloroethane		10
Trichlorofluoromethane		10
Acetone		25
1,1-Dichloroethene		5
Methylene Chloride		5
Carbon Disulfide		5
trans-1,2,Dichloroethene		5
1,1-Dichloroethane		5
cis-1,2-Dichloroethene {b}		5
Chloroform		5
1,2-Dichloroethane		5
2-Butanone		25
1,1,1-Trichloroethane		5
Carbon Tetrachloride		5
Benzene		5
Trichloroethene		5
1,2-Dichloropropane		5
Bromodichloromethane		5
2-Chloroethylvinlyether		10
trans-1,3-Dichloropropene		5
cis-1,3-Dichloropropene		5
1,1,2-Trichloroethane		5
Dibromochloromethane		5
Bromoform		5
4-Methyl-2-Pentanone		25
Toluene		5
2-Hexanone		25
Tetrachloroethene		5
Chlorobenzene		5
Ethylbenzene		5
m & p-Xylene		5
o-Xylene		5
Styrene		5

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VOLATILE ORGANICS

Analytical Method: EPA 8240 - Low Level Modified {a}
Preparation Method: EPA 5030

Lab Project-Sample ID: 5727- 13

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
1,1,2,2-Tetrachloroethane.....		5
1,3-Dichlorobenzene {b}.....		5
1,4-Dichlorobenzene {b}.....		5
1,2-Dichlorobenzene {b}.....		5

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	102	70 - 121
Toluene-D8	117	81 - 117
4-Bromofluorobenzene	86	74 - 121

COMMENTS:

{a} Includes all compounds as listed in Table 2 of SW-846, 3rd Edition for Method 8240.
{b} Additional compounds.
{c} Concentrations lower than the Reporting Limits are estimated values. No entry in "Analyte Concentration" means the compound is not detected at all.
{d} Sample was analyzed on 03/18/92 and exhibited low internal standard recoveries. The sample was reanalyzed on 03/19/92 and again exhibited low internal standard recoveries, indicating the presence of a matrix effect.

Approved By: Nancy McDonald for CM Date: 3/31/92
Cheryl Matterson, Associate Chemist

The cover letter and the attachments are integral parts of this report.

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VOLATILE ORGANICS

Analytical Method: EPA 8240 - Low Level Modified {a}
Preparation Method: EPA 5030

Lab Project-Sample ID: 5727-11

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: SM03009SE
Sample Number: 88317

Matrix: Soil

Date Sampled: 3/11/92
Date Analyzed: 3/18/92

Date Received: 3/14/92
Dilution Factor: 1

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
Chloromethane		10
Vinyl Chloride		10
Bromomethane		10
Chloroethane		10
Trichlorofluoromethane		10
Acetone		25
1,1-Dichloroethene		5
Methylene Chloride		5
Carbon Disulfide		5
trans-1,2,Dichloroethene		5
1,1-Dichloroethane		5
cis-1,2-Dichloroethene {b}		5
Chloroform		5
1,2-Dichloroethane		5
2-Butanone		25
1,1,1-Trichloroethane		5
Carbon Tetrachloride		5
Benzene		5
Trichloroethene		5
1,2-Dichloropropane		5
Bromodichloromethane		5
2-Chloroethylvinlyether		10
trans-1,3-Dichloropropene		5
cis-1,3-Dichloropropene		5
1,1,2-Trichloroethane		5
Dibromochloromethane		5
Bromoform		5
4-Methyl-2-Pentanone		25
Toluene		5
2-Hexanone		25
Tetrachloroethene		5
Chlorobenzene		5
Ethylbenzene		5
m & p-Xylene		5
o-Xylene		5
Styrene		5

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VOLATILE ORGANICS

Analytical Method: EPA 8240 - Low Level Modified {a}
Preparation Method: EPA 5030

Lab Project-Sample ID: 5727- 11

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
1,1,2,2-Tetrachloroethane.....		5
1,3-Dichlorobenzene {b}.....		5
1,4-Dichlorobenzene {b}.....		5
1,2-Dichlorobenzene {b}.....		5

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	103	70 - 121
Toluene-D8	128	81 - 117
4-Bromofluorobenzene	75	74 - 121

COMMENTS:

{a} Includes all compounds as listed in Table 2 of SW-846, 3rd Edition for Method 8240.
{b} Additional compounds.
{c} Concentrations lower than the Reporting Limits are estimated values. No entry in "Analyte Concentration" means the compound is not detected at all.
{d} Sample was analyzed on 03/18/92 and exhibited low internal standard recoveries. The sample was reanalyzed on 03/19/92 and again exhibited low internal standard recoveries, indicating the presence of a matrix effect.
{e} Sample surrogate compound Toluene-d8 was beyond quality control limits. The presence of a matrix interferent is suspected in the sample.

Approved By: Nancy McDonald for CM Date: 3/31/92
Cheryl Matterson, Associate Chemist

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VOLATILE ORGANICS

Analytical Method: EPA 8240 - Low Level Modified {a}
Preparation Method: EPA 5030

Lab Project-Sample ID: 5715-20

Project Name: Rocketdyne SSFL
Project Number: 03.0029403.012

Sample Description: SM-03-012-SE
Sample Number: 88305

Matrix: Soil

Date Sampled: 3/11/92
Date Analyzed: 3/16/92

Date Received: 3/12/92
Dilution Factor: 1

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
Chloromethane		10
Vinyl Chloride		10
Bromomethane		10
Chloroethane		10
Trichlorofluoromethane		10
Acetone		25
1,1-Dichloroethene		5
Methylene Chloride		5
Carbon Disulfide		5
trans-1,2,Dichloroethene		5
1,1-Dichloroethane		5
cis-1,2-Dichloroethene {b}		5
Chloroform		5
1,2-Dichloroethane		5
2-Butanone		25
1,1,1-Trichloroethane		5
Carbon Tetrachloride		5
Benzene		5
Trichloroethene		5
1,2-Dichloropropane		5
Bromodichloromethane		5
2-Chloroethylvinlyether		10
trans-1,3-Dichloropropene		5
cis-1,3-Dichloropropene		5
1,1,2-Trichloroethane		5
Dibromochloromethane		5
Bromoform		5
4-Methyl-2-Pentanone		25
Toluene		5
2-Hexanone		25
Tetrachloroethene		5
Chlorobenzene		5
Ethylbenzene		5
m & p-Xylene		5
o-Xylene		5
Styrene		5

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VOLATILE ORGANICS

Analytical Method: EPA 8240 - Low Level Modified {a}
Preparation Method: EPA 5030

Lab Project-Sample ID: 5727-16

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: SM03014S~~D~~
Sample Number: 88328

Matrix: Soil

Date Sampled: 3/11/92
Date Analyzed: 3/20/92

Date Received: 3/14/92
Dilution Factor: 1

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
Chloromethane		10
Vinyl Chloride		10
Bromomethane		10
Chloroethane		10
Trichlorofluoromethane		10
Acetone		25
1,1-Dichloroethene		5
Methylene Chloride		5
Carbon Disulfide		5
trans-1,2,Dichloroethene		5
1,1-Dichloroethane		5
cis-1,2-Dichloroethene {b}		5
Chloroform		5
1,2-Dichloroethane		5
2-Butanone		25
1,1,1-Trichloroethane		5
Carbon Tetrachloride		5
Benzene		5
Trichloroethene		5
1,2-Dichloropropane		5
Bromodichloromethane		5
2-Chloroethylvinlyether		10
trans-1,3-Dichloropropene		5
cis-1,3-Dichloropropene		5
1,1,2-Trichloroethane		5
Dibromochloromethane		5
Bromoform		5
4-Methyl-2-Pentanone		25
Toluene		5
2-Hexanone		25
Tetrachloroethene		5
Chlorobenzene		5
Ethylbenzene		5
m & p-Xylene		5
o-Xylene		5
Styrene		5

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VOLATILE ORGANICS

Analytical Method: EPA 8240 - Low Level Modified {a}
Preparation Method: EPA 5030

Lab Project-Sample ID: 5727- 16

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
1,1,2,2-Tetrachloroethane.....		5
1,3-Dichlorobenzene {b}.....		5
1,4-Dichlorobenzene {b}.....		5
1,2-Dichlorobenzene {b}.....		5

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	102	70 - 121
Toluene-D8	113	81 - 117
4-Bromofluorobenzene	85	74 - 121

COMMENTS:

{a} Includes all compounds as listed in Table 2 of SW-846, 3rd Edition for Method 8240.
{b} Additional compounds.
{c} Concentrations lower than the Reporting Limits are estimated values. No entry in "Analyte Concentration" means the compound is not detected at all.
{d} Sample was analyzed on 03/18/92 and exhibited low internal standard recoveries. The sample was reanalyzed on 03/20/92 and again exhibited low internal standard recoveries, indicating the presence of a matrix effect.

Approved By: Nancy McDonald for CM Date: 3/31/92
Cheryl Matterson, Associate Chemist

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VOLATILE ORGANICS

Analytical Method: EPA 8240 - Low Level Modified {a}
Preparation Method: EPA 5030

Lab Project-Sample ID: 5727- 9

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
1,1,2,2-Tetrachloroethane.....		5
1,3-Dichlorobenzene {b}.....		5
1,4-Dichlorobenzene {b}.....		5
1,2-Dichlorobenzene {b}.....		5

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	99	70 - 121
Toluene-D8	134	81 - 117
4-Bromofluorobenzene	75	74 - 121

COMMENTS:

{a} Includes all compounds as listed in Table 2 of SW-846, 3rd Edition for Method 8240.
{b} Additional compounds.
{c} Concentrations lower than the Reporting Limits are estimated values. No entry in "Analyte Concentration" means the compound is not detected at all.
{d} Sample was analyzed on 03/18/92 and exhibited low internal standard recoveries. The sample was reanalyzed on 03/19/92 and again exhibited low internal standard recoveries, indicating the presence of a matrix effect.
{e} Sample surrogate compound Toluene-d8 was beyond quality control limits. The presence of a matrix interferent is suspected in the sample.

Approved By: Nancy McDonald for CM Date: 3/31/92
Cheryl Matterson, Associate Chemist

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SEMI-VOLATILE ORGANIC COMPOUNDS

SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}
Preparation Method: EPA 3550

Lab Project-Sample ID: 5727-14

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: SM03001SEO
Sample Number: 88323

Matrix: Soil

Date Sampled: 3/11/92
Date Extracted: 3/17/92

Date Received: 3/14/92
Date Analyzed: 3/20/92

Batch Number: 920317-1901

Dilution Factor: 1

	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
Phenol		330
Bis(2-chloroethyl)ether		330
2-Chlorophenol		330
1,3-Dichlorobenzene		330
1,4-Dichlorobenzene		330
Benzyl alcohol		330
2-Methylphenol		330
1,2-Dichlorobenzene		330
Bis(2-Chloroisopropyl)ether		330
4-Methylphenol		330
N-Nitroso-di-n-propylamine		330
Hexachloroethane		330
Nitrobenzene		330
Isophorone		330
2,4-Dimethylphenol		330
1,2,4-Trichlorobenzene		330
2-Nitrophenol		330
Benzoic acid		1600
Bis(2-Chloroethoxy)methane		330
2,4-Dichlorophenol		330
Naphthalene		330
4-Chloroaniline		330
Hexachlorobutadiene		330
4-Chloro-3-methylphenol		330
2-Methylnaphthalene		330
Hexachlorocyclopentadiene		330
2,4,6-Trichlorophenol		330
2,4,5-Trichlorophenol		330
2-Chloronaphthalene		330
3-Nitroaniline		1600
Dimethylphthalate		330
2,6-Dinitrotoluene		330
Acenaphthylene		330
2-Nitroaniline		1600

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SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}
Preparation Method: EPA 3550

Lab Project-Sample ID: 5727-14

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
Acenaphthene		330
2,4-Dinitrophenol		1600
4-Nitrophenol		1600
2,4-Dinitrotoluene		330
Dibenzofuran		330
Diethylphthalate		330
alpha-BHC {b}		330
4-Chlorophenyl phenyl ether		330
Fluorene		330
4-Nitroaniline		1600
4,6-Dinitro-2-methylphenol		1600
N-Nitrosodiphenylamine		330
4-Bromophenyl phenyl ether		330
beta-BHC {b}		330
Lindane {b}		330
Hexachlorobenzene		330
Pentachlorophenol		1600
Phenanthrene		330
Anthracene		330
Delta-BHC {b}		330
Heptachlor {b}		330
Aldrin {b}		330
Endrin {b}		330
Butyl benzyl phthalate		330
Fluoranthene		330
Heptachlor Epoxide		330
Pyrene		330
Dieldrin {b}		330
4,4'-DDE {b}		330
Endosulfan sulfate		330
4,4'-DDT {b}		330
4,4'-DDD {b}		330
Di-n-butylphthalate		330
3,3'-Dichlorobenzidine		660
Benzo(a)anthracene		330
Bis(2-Ethylhexyl)phthalate		330
Chrysene		330
Di-n-octylphthalate		330
Benzo(b)fluoranthene		330
Benzo(k)fluoranthene		330
Benzo(a)pyrene		330
Indeno(1,2,3-c,d)pyrene		330
Dibenzo(a,h)anthracene		330
Benzo(g,h,i)perylene		330

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SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}
Preparation Method: EPA 3550

Lab Project-Sample ID: 5727-14

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	95	25 - 121
Phenol-d5.....	100	24 - 113
Nitrobenzene-d5.....	97	23 - 120
2-Fluorobiphenyl.....	100	30 - 115
2,4,6-Tribromophenol.....	109	19 - 122
Terphenyl-d14.....	99	18 - 137

COMMENTS:

{a} Includes all analytes as listed in Table 2 of Method 8270, SW-846, 3rd Edition.
{b} Additional compounds.
{c} Concentrations lower than the Reporting Limits are estimated values. No entry in "Analyte Concentration" means the analyte is not detected at all.

Approved By: Nancy McDonald for CM Date: 4/01/92
Cheryl Matterson, Associate Chemist

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SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}
Preparation Method: EPA 3550

Lab Project-Sample ID: 5727-10

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: SM03009SD
Sample Number: 88316

Matrix: Soil

Date Sampled: 3/11/92
Date Extracted: 3/17/92

Date Received: 3/14/92
Date Analyzed: 3/20/92

Batch Number: 920317-1901

Dilution Factor: 1

	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
Phenol		330
Bis(2-chloroethyl)ether		330
2-Chlorophenol		330
1,3-Dichlorobenzene		330
1,4-Dichlorobenzene		330
Benzyl alcohol		330
2-Methylphenol		330
1,2-Dichlorobenzene		330
Bis(2-Chloroisopropyl)ether		330
4-Methylphenol		330
N-Nitroso-di-n-propylamine		330
Hexachloroethane		330
Nitrobenzene		330
Isophorone		330
2,4-Dimethylphenol		330
1,2,4-Trichlorobenzene		330
2-Nitrophenol		330
Benzoic acid		1600
Bis(2-Chloroethoxy)methane		330
2,4-Dichlorophenol		330
Naphthalene		330
4-Chloroaniline		330
Hexachlorobutadiene		330
4-Chloro-3-methylphenol		330
2-Methylnaphthalene		330
Hexachlorocyclopentadiene		330
2,4,6-Trichlorophenol		330
2,4,5-Trichlorophenol		330
2-Chloronaphthalene		330
3-Nitroaniline		1600
Dimethylphthalate		330
2,6-Dinitrotoluene		330
Acenaphthylene		330
2-Nitroaniline		1600

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SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}
Preparation Method: EPA 3550

Lab Project-Sample ID: 5727-10

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
Acenaphthene		330
2,4-Dinitrophenol		1600
4-Nitrophenol		1600
2,4-Dinitrotoluene		330
Dibenzofuran		330
Diethylphthalate		330
alpha-BHC {b}		330
4-Chlorophenyl phenyl ether		330
Fluorene		330
4-Nitroaniline		1600
4,6-Dinitro-2-methylphenol		1600
N-Nitrosodiphenylamine		330
4-Bromophenyl phenyl ether		330
beta-BHC {b}		330
Lindane {b}		330
Hexachlorobenzene		330
Pentachlorophenol		1600
Phenanthrene		330
Anthracene		330
Delta-BHC {b}		330
Heptachlor {b}		330
Aldrin {b}		330
Endrin {b}		330
Butyl benzyl phthalate		330
Fluoranthene		330
Heptachlor Epoxide		330
Pyrene		330
Dieldrin {b}		330
4,4'-DDE {b}		330
Endosulfan sulfate		330
4,4'-DDT {b}		330
4,4'-DDD {b}		330
Di-n-butylphthalate		330
3,3'-Dichlorobenzidine		660
Benzo(a)anthracene		330
Bis(2-Ethylhexyl)phthalate		330
Chrysene		330
Di-n-octylphthalate		330
Benzo(b)fluoranthene		330
Benzo(k)fluoranthene		330
Benzo(a)pyrene		330
Indeno(1,2,3-c,d)pyrene		330
Dibenzo(a,h)anthracene		330
Benzo(g,h,i)perylene		330

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SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}
Preparation Method: EPA 3550

Lab Project-Sample ID: 5715-19

Project Name: Rocketdyne SSFL
Project Number: 03.0029403.012

Sample Description: SM-03-012-SD
Sample Number: 88304

Matrix: Soil

Date Sampled: 3/11/92
Date Extracted: 3/16/92

Date Received: 3/12/92
Date Analyzed: 3/23/92

Batch Number: 920316-0301

Dilution Factor: 1

	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
Phenol		330
Bis(2-chloroethyl)ether		330
2-Chlorophenol		330
1,3-Dichlorobenzene		330
1,4-Dichlorobenzene		330
Benzyl alcohol		330
2-Methylphenol		330
1,2-Dichlorobenzene		330
Bis(2-Chloroisopropyl)ether		330
4-Methylphenol		330
N-Nitroso-di-n-propylamine		330
Hexachloroethane		330
Nitrobenzene		330
Isophorone		330
2,4-Dimethylphenol		330
1,2,4-Trichlorobenzene		330
2-Nitrophenol		330
Benzoic acid		1600
Bis(2-Chloroethoxy)methane		330
2,4-Dichlorophenol		330
Naphthalene		330
4-Chloroaniline		330
Hexachlorobutadiene		330
4-Chloro-3-methylphenol		330
2-Methylnaphthalene		330
Hexachlorocyclopentadiene		330
2,4,6-Trichlorophenol		330
2,4,5-Trichlorophenol		330
2-Chloronaphthalene		330
3-Nitroaniline		1600
Dimethylphthalate		330
2,6-Dinitrotoluene		330
Acenaphthylene		330
2-Nitroaniline		1600

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SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}
Preparation Method: EPA 3550

Lab Project-Sample ID: 5715-19

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
Acenaphthene		330
2,4-Dinitrophenol		1600
4-Nitrophenol		1600
2,4-Dinitrotoluene		330
Dibenzofuran		330
Diethylphthalate		330
alpha-BHC {b}		330
4-Chlorophenyl phenyl ether		330
Fluorene		330
4-Nitroaniline		1600
4,6-Dinitro-2-methylphenol		1600
N-Nitrosodiphenylamine		330
4-Bromophenyl phenyl ether		330
beta-BHC {b}		330
Lindane {b}		330
Hexachlorobenzene		330
Pentachlorophenol		1600
Phenanthrene		330
Anthracene		330
Delta-BHC {b}		330
Heptachlor {b}		330
Aldrin {b}		330
Endrin {b}		330
Butyl benzyl phthalate		330
Fluoranthene		330
Heptachlor Epoxide		330
Pyrene		330
Dieldrin {b}		330
4,4'-DDE {b}		330
Endosulfan sulfate		330
4,4'-DDT {b}		330
4,4'-DDD {b}		330
Di-n-butylphthalate		330
3,3'-Dichlorobenzidine		660
Benzo(a)anthracene		330
Bis(2-Ethylhexyl)phthalate		330
Chrysene		330
Di-n-octylphthalate		330
Benzo(b)fluoranthene		330
Benzo(k)fluoranthene		330
Benzo(a)pyrene		330
Indeno(1,2,3-c,d)pyrene		330
Dibenzo(a,h)anthracene		330
Benzo(g,h,i)perylene		330

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SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}
Preparation Method: EPA 3550

Lab Project-Sample ID: 5715-19

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	93	25 - 121
Phenol-d5.....	92	24 - 113
Nitrobenzene-d5.....	97	23 - 120
2-Fluorobiphenyl.....	95	30 - 115
2,4,6-Tribromophenol.....	111	19 - 122
Terphenyl-d14.....	114	18 - 137

COMMENTS:

{a} Includes all analytes as listed in Table 2 of Method 8270, SW-846, 3rd Edition.
{b} Additional compounds.
{c} Concentrations lower than the Reporting Limits are estimated values. No entry in "Analyte Concentration" means the analyte is not detected at all.

Approved By: Nancy McDonald for CM
Cheryl Matterson, Associate Chemist

Date: 3/27/92

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SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}
Preparation Method: EPA 3550

Lab Project-Sample ID: 5727-17

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
Acenaphthene		330
2,4-Dinitrophenol		1600
4-Nitrophenol		1600
2,4-Dinitrotoluene		330
Dibenzofuran		330
Diethylphthalate		330
alpha-BHC {b}		330
4-Chlorophenyl phenyl ether		330
Fluorene		330
4-Nitroaniline		1600
4,6-Dinitro-2-methylphenol		1600
N-Nitrosodiphenylamine		330
4-Bromophenyl phenyl ether		330
beta-BHC {b}		330
Lindane {b}		330
Hexachlorobenzene		330
Pentachlorophenol		1600
Phenanthrene		330
Anthracene		330
Delta-BHC {b}		330
Heptachlor {b}		330
Aldrin {b}		330
Endrin {b}		330
Butyl benzyl phthalate		330
Fluoranthene		330
Heptachlor Epoxide		330
Pyrene		330
Dieldrin {b}		330
4,4'-DDE {b}		330
Endosulfan sulfate		330
4,4'-DDT {b}		330
4,4'-DDD {b}		330
Di-n-butylphthalate		330
3,3'-Dichlorobenzidine		660
Benzo(a)anthracene		330
Bis(2-Ethylhexyl)phthalate		330
Chrysene		330
Di-n-octylphthalate		330
Benzo(b)fluoranthene		330
Benzo(k)fluoranthene		330
Benzo(a)pyrene		330
Indeno(1,2,3-c,d)pyrene		330
Dibenzo(a,h)anthracene		330
Benzo(g,h,i)perylene		330

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SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}
Preparation Method: EPA 3550

Lab Project-Sample ID: 5727-8

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: SM03015SD
Sample Number: 88310

Matrix: Soil

Date Sampled: 3/11/92
Date Extracted: 3/17/92

Date Received: 3/14/92
Date Analyzed: 3/20/92

Batch Number: 920317-1901

Dilution Factor: 1

	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
Phenol		330
Bis(2-chloroethyl)ether		330
2-Chlorophenol		330
1,3-Dichlorobenzene		330
1,4-Dichlorobenzene		330
Benzyl alcohol		330
2-Methylphenol		330
1,2-Dichlorobenzene		330
Bis(2-Chloroisopropyl)ether		330
4-Methylphenol		330
N-Nitroso-di-n-propylamine		330
Hexachloroethane		330
Nitrobenzene		330
Isophorone		330
2,4-Dimethylphenol		330
1,2,4-Trichlorobenzene		330
2-Nitrophenol		1600
Benzoic acid		330
Bis(2-Chloroethoxy)methane		330
2,4-Dichlorophenol		330
Naphthalene		330
4-Chloroaniline		330
Hexachlorobutadiene		330
4-Chloro-3-methylphenol		330
2-Methylnaphthalene		330
Hexachlorocyclopentadiene		330
2,4,6-Trichlorophenol		330
2,4,5-Trichlorophenol		330
2-Chloronaphthalene		1600
3-Nitroaniline		330
Dimethylphthalate		330
2,6-Dinitrotoluene		330
Acenaphthylene		1600
2-Nitroaniline		

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METALS

PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5727-15

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: SM03001SF
Sample Number: 88324

Matrix: Soil

Date Sampled: 3/11/92
Date Digested: 3/18/92 {b}

Date Received: 3/14/92
Batch Number: 920318-1101 {b}

METAL (SYMBOL)/EPA METHOD	ANALYTE CONCENTRATION {c} mg/Kg (ppm)	DILUTION FACTOR	REPORTING LIMIT mg/Kg (ppm)	DATE ANALYZED
Antimony (Sb)/6010.....		1	2.5	3/18/92
Arsenic (As)/7060.....	4.8	1	.50	3/22/92
Beryllium (Be)/6010.....	.31	1	.25	3/18/92
Cadmium (Cd)/6010.....		1	.50	3/18/92
Chromium (Cr)/6010.....	9.4	1	1.0	3/18/92
Copper (Cu)/6010.....	7.4	1	1.0	3/18/92
Lead (Pb)/6010.....	170.	1	2.5	3/18/92
Mercury (Hg)/7471.....		1	.25	3/21/92
Nickel (Ni)/6010.....	5.7	1	1.0	3/18/92
Selenium (Se)/7740.....		1	.25	3/22/92
Silver (Ag)/6010.....		1	1.0	3/18/92
Thallium (Tl)/7841.....		1	.50	3/22/92
Zinc (Zn)/6010.....	34.	1	1.0	3/18/92

COMMENTS:

{a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
{b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/18/92, Batch # 920318-1102; and Hg was digested on 3/18/92, Batch # 920318-1103 .
{c} No entry in the "Concentration" means the metal is not detected at all.

Approved by: Nancy McDonald for CM
Cheryl Matterson, Association Chemist

Date: 3/31/92

The cover letter and attachments are integral parts of this report.

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PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5727-12

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: SM03009SF
Sample Number: 88318

Matrix: Soil

Date Sampled: 3/11/92
Date Digested: 3/18/92 {b}

Date Received: 3/14/92
Batch Number: 920318-1101 {b}

METAL (SYMBOL)/EPA METHOD	ANALYTE CONCENTRATION {c} mg/Kg (ppm)	DILUTION FACTOR	REPORTING LIMIT mg/Kg (ppm)	DATE ANALYZED
Antimony (Sb)/6010.....		1	2.5	3/18/92
Arsenic (As)/7060.....	7.1	4	2.0	3/22/92
Beryllium (Be)/6010.....	.37	1	.25	3/18/92
Cadmium (Cd)/6010.....		1	.50	3/18/92
Chromium (Cr)/6010.....	11.	1	1.0	3/18/92
Copper (Cu)/6010.....	8.3	1	1.0	3/18/92
Lead (Pb)/6010.....	59.	1	2.5	3/18/92
Mercury (Hg)/7471.....		1	.25	3/21/92
Nickel (Ni)/6010.....	7.2	1	1.0	3/18/92
Selenium (Se)/7740.....		1	.25	3/22/92
Silver (Ag)/6010.....		1	1.0	3/18/92
Thallium (Tl)/7841.....		1	.50	3/22/92
Zinc (Zn)/6010.....	37.	1	1.0	3/18/92

COMMENTS:

{a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
{b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/18/92, Batch # 920318-1102; and Hg was digested on 3/18/92, Batch # 920318-1103 .
{c} No entry in the "Concentration" means the metal is not detected at all.
{d} The sample for Arsenic was diluted 4 fold to bring target analyte within linear working range.

Approved by: Nancy McDonald for CM Date: 3/31/92
Cheryl Matterson, Association Chemist

The cover letter and attachments are integral parts of this report.

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PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5715-21

Project Name: Rocketdyne SSFL
Project Number: 03.0029403.012

Sample Description: SM-03-012-SF
Sample Number: 88306

Matrix: Soil

Date Sampled: 3/11/92
Date Digested: 3/17/92 {b}

Date Received: 3/12/92
Batch Number: 920317-1103 {b}

METAL (SYMBOL)/EPA METHOD	ANALYTE CONCENTRATION {c} mg/Kg (ppm)	DILUTION FACTOR	REPORTING LIMIT mg/Kg (ppm)	DATE ANALYZED
Antimony (Sb)/6010.....		1	2.5	3/18/92
Arsenic (As)/7060.....	3.	1	.50	3/21/92
Beryllium (Be)/6010.....	.61	1	.25	3/18/92
Cadmium (Cd)/6010.....		1	.50	3/18/92
Chromium (Cr)/6010.....	12.	1	1.0	3/18/92
Copper (Cu)/6010.....	12.	1	1.0	3/18/92
Lead (Pb)/6010.....	82.	1	2.5	3/18/92
Mercury (Hg)/7471.....		1	.25	3/18/92
Nickel (Ni)/6010.....	8.1	1	1.0	3/18/92
Selenium (Se)/7740.....		1	.25	3/21/92
Silver (Ag)/6010.....		1	1.0	3/18/92
Thallium (Tl)/7841.....		1	.50	3/21/92
Zinc (Zn)/6010.....	41.	1	1.0	3/18/92

COMMENTS:

{a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
{b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/17/92, Batch # 920317-1102; and Hg was digested on 3/17/92, Batch # 920317-1101 .
{c} No entry in the "Concentration" means the metal is not detected at all.

Approved by: Nancy McDonald for CM Date: 3/31/92
Cheryl Matterson, Association Chemist

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PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5784-2

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: [redacted]
Sample Number: 88312

Matrix: Soil

Date Sampled: 3/11/92
Date Digested: 4/03/92 {b}

Date Received: 3/30/92
Batch Number: 920403-1101 {b}

METAL (SYMBOL)/EPA METHOD	ANALYTE CONCENTRATION {c} mg/Kg (ppm)	DILUTION FACTOR	REPORTING LIMIT mg/Kg (ppm)	DATE ANALYZED
Antimony (Sb)/6010.....		1	2.5	4/05/92
Arsenic (As)/7060.....	7.0	4	2.0	4/08/92
Beryllium (Be)/6010.....	.38	1	.25	4/05/92
Cadmium (Cd)/6010.....		1	.50	4/05/92
Chromium (Cr)/6010.....	11.	1	1.0	4/05/92
Copper (Cu)/6010.....	8.9	1	1.0	4/05/92
Lead (Pb)/6010.....	280.	1	2.5	4/05/92
Mercury (Hg)/7471.....		1	.25	4/03/92
Nickel (Ni)/6010.....	7.6	1	1.0	4/05/92
Selenium (Se)/7740.....		1	.25	4/08/92
Silver (Ag)/6010.....		1	1.0	4/05/92
Thallium (Tl)/7841.....		1	.50	4/08/92
Zinc (Zn)/6010.....	43.	1	1.0	4/05/92

COMMENTS:

{a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
{b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 4/03/92, Batch # 920403-1102; and Hg was digested on 4/03/92, Batch # 920403-1103 .
{c} No entry in the "Concentration" means the metal is not detected at all.
{d} The sample for Arsenic was diluted 4 fold to bring target analyte within linear working range.

Approved by: Nancy McDonald for CM Date: 4/13/92
Cheryl Matterson, Association Chemist

The cover letter and attachments are integral parts of this report.

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Table: Results of the analyses for iodine-129 and strontium-90 in twenty-three (23) soil samples.

Sample ID Number	Sample Description	Collection Date	Lab Code	Conc. pci/gwet I-129	Date Analyzed	Conc. pci/gdry Sr-90	Date Analyzed
88451	BG02074SA	03/10/92	SPS-1821	<0.3	04/29	<0.01	04/25
88457	BG02007SA	03/10/92	1822	<0.1	04/29	0.02±0.01	04/25
88464	BG02076SA	03/10/92	1823	<0.1	04/30	0.03±0.01	04/25
88476	BG01100SA	03/10/92	1824	<0.1	04/30	0.05±0.01	04/25
88482	BG01008SA	03/10/92	1825	<0.2	04/30	0.01±0.01	04/25
88501	SM04041SA	03/11/92	1826	<0.3	05/01	0.14±0.02	04/24
88507	SM04003SA	03/11/92	1827	<0.1	05/01	0.04±0.01	04/24
88513	SM04028SA	03/11/92	1828	<0.2	05/01	0.03±0.01	04/24
88519	SM04026SA	03/11/92	1829	<0.3	04/14	0.03±0.01	04/24
88525	SM04024SA	03/11/92	1830	<0.2	04/13	0.10±0.01	04/24
88531	SM00001SA	03/11/92	1831	<0.1	04/13	0.15±0.02	04/24
88488	BG01005SA	03/11/92	1832	<0.2	04/13	0.03±0.01	04/25
88351	SM02044SA	03/11/92	1833	<0.1	05/29	0.02±0.01	04/25
88357	SM02004SA	03/11/92	1834	<0.1	04/14	0.03±0.01	04/25
88363	SM02032SA	03/11/92	1835	<0.2	04/23	0.02±0.01	04/25
88369	SM02021SA	03/11/92	1836	<0.2	05/04	0.03±0.01	04/25
88375	SM02019SA	03/11/92	1837	<0.2	04/24	0.05±0.01	04/30
88301	SM03012SA	03/11/92	1838	<0.1	05/29	0.02±0.01	04/30
88307	SM03015SA	03/11/92	1839	<0.1	04/27	0.05±0.01	04/30
88313	SM03009SA	03/11/92	1840	<0.2	04/28	0.03±0.01	04/30
88319	SM03001SA	03/11/92	1841	<0.2	05/04	0.07±0.01	05/02
88325	SM03014SA	03/11/92	1842	<0.1	05/05	0.02±0.01	05/02
88470	M1SA	03/10/92	1856	<0.1	05/05	0.08±0.02	05/13

The error given is the probable counting error at 95% confidence level. Less than (<) values are based on 3 sigma counting error for background sample.

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 04/14/92

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
3-0636	04-0029403-012	03/13/92	04/15/92

ERIC SMITH
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
69572	88377 SM02-019-SC		03/11	1200			BE-7	L.T. 3. E-01		03/26			4
							K-40	2.46+-0.25E 01		03/26			4
							MN-54	L.T. 3. E-02		03/26			4
							CO-58	L.T. 4. E-02		03/26			4
							FE-59	L.T. 9. E-02		03/26			4
							CO-60	L.T. 4. E-02		03/26			4
							ZN-65	L.T. 9. E-02		03/26			4
							ZR-95	L.T. 5. E-02		03/26			4
							RU-103	L.T. 4. E-02		03/26			4
							RU-106	L.T. 3. E-01		03/26			4
							I-131	L.T. 1. E-01		03/26			4
							CS-134	L.T. 4. E-02		03/26			4
							CS-137	1.20+-0.34E-01		03/26			4
							BA-140	L.T. 8. E-02		03/26			4
							CE-141	L.T. 7. E-02		03/26			4
							CE-144	L.T. 2. E-01		03/26			4
							RA-226	1.58+-0.54E 00		03/26			4
							TH-228	1.15+-0.12E 00		03/26			4
							H-3	L.T. 2. E-02		03/30			5
69573	88381 SM02-001-SB		03/11	1000			PU-238	L.T. 1. E-02		04/06			6
							PU-239	L.T. 4. E-03		04/06			6
69574	88302 SM-03-012 SB		03/11	1300			PU-238	L.T. 2. E-02		04/08			6
							PU-239	L.T. 4. E-03		04/08			6
69575	88303 SM-03-012 SC		03/11	1300			BE-7	L.T. 3. E-01		03/26			4
							K-40	2.19+-0.22E 01		03/26			4
							MN-54	L.T. 3. E-02		03/26			4
							CO-58	L.T. 3. E-02		03/26			4
							FE-59	L.T. 9. E-02		03/26			4
							CO-60	L.T. 3. E-02		03/26			4
							ZN-65	L.T. 8. E-02		03/26			4

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 04/14/92

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE	PAGE 5
3-0636	04-0029403-012	03/13/92	04/15/92	

ERIC SMITH
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
69575	88303 SM-03-012 SC		03/11	1300			ZR-95	L.T. 4. E-02		03/26			4
							RU-103	L.T. 4. E-02		03/26			4
							RU-106	L.T. 3. E-01		03/26			4
							I-131	L.T. 1. E-01		03/26			4
							CS-134	L.T. 4. E-02		03/26			4
							CS-137	1.25+-0.30E-01		03/26			4
							BA-140	L.T. 7. E-02		03/26			4
							CE-141	L.T. 6. E-02		03/26			4
							CE-144	L.T. 2. E-01		03/26			4
							RA-226	1.89+-0.50E 00		03/26			4
							TH-228	9.21+-0.92E-01		03/26			4
							H-3	L.T. 2. E-02		03/30			5
69576	88308 SM-03-015 SB		03/11	1400			PU-238	L.T. 4. E-02		04/08			6
							PU-239	L.T. 1. E-02		04/08			6
69577	88309 SM-03-015 SC		03/11	1400			BE-7	L.T. 3. E-01		03/27			4
							K-40	7.27+-0.23E 01		03/27			4
							MN-54	L.T. 4. E-02		03/27			4
							CO-58	L.T. 3. E-02		03/27			4
							FE-59	L.T. 9. E-02		03/27			4
							CO-60	L.T. 4. E-02		03/27			4
							ZN-65	L.T. 8. E-02		03/27			4
							ZR-95	L.T. 4. E-02		03/27			4
							RU-103	L.T. 4. E-02		03/27			4
							RU-106	L.T. 3. E-01		03/27			4
							I-131	L.T. 1. E-01		03/27			4
							CS-134	L.T. 4. E-02		03/27			4
							CS-137	2.72+-0.39E-01		03/27			4
							BA-140	L.T. 9. E-02		03/27			4
							CE-141	L.T. 7. E-02		03/27			4
							CE-144	L.T. 2. E-01		03/27			4
							RA-226	1.33+-0.53E 00		03/27			4

VOLATILE ORGANIC COMPOUNDS

VOLATILE ORGANICS

Analytical Method: EPA 8240 - Low Level Modified {a}
Preparation Method: EPA 5030

Lab Project-Sample ID: 5715- 28

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
1,1,2,2-Tetrachloroethane.....		5
1,3-Dichlorobenzene {b}.....		5
1,4-Dichlorobenzene {b}.....		5
1,2-Dichlorobenzene {b}.....		5

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	102	70 - 121
Toluene-D8	99	81 - 117
4-Bromofluorobenzene	101	74 - 121

COMMENTS:

{a} Includes all compounds as listed in Table 2 of SW-846, 3rd Edition for Method 8240.
{b} Additional compounds.
{c} Concentrations lower than the Reporting Limits are estimated values. No entry in "Analyte Concentration" means the compound is not detected at all.

Approved By: Nancy McDonald for CM Date: 3/27/92
Cheryl Matterson, Associate Chemist

The cover letter and the attachments are integral parts of this report.

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VOLATILE ORGANICS

Analytical Method: EPA 8240 - Low Level Modified {a}
Preparation Method: EPA 5030

Lab Project-Sample ID: 5715- 37

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
1,1,2,2-Tetrachloroethane.....		5
1,3-Dichlorobenzene {b}.....		5
1,4-Dichlorobenzene {b}.....		5
1,2-Dichlorobenzene {b}.....		5

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	102	70 - 121
Toluene-D8	125	81 - 117
4-Bromofluorobenzene	81	74 - 121

COMMENTS:

{a} Includes all compounds as listed in Table 2 of SW-846, 3rd Edition for Method 8240.
{b} Additional compounds.
{c} Concentrations lower than the Reporting Limits are estimated values. No entry in "Analyte Concentration" means the compound is not detected at all.
{d} Sample was analyzed on 03/17/92 and exhibited low internal standard recoveries. The sample was reanalyzed on 03/18/92 and again exhibited low internal standard recoveries, indicating the presence of a matrix effect.
{e} Surrogate compound Toluene-D8 was beyond quality control limits. The presence of a matrix interferent is suspected in the sample.

Approved By: Nancy McDonald for CM Date: 3/30/92
Cheryl Matterson, Associate Chemist

The cover letter and the attachments are integral parts of this report.

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VOLATILE ORGANICS

Analytical Method: EPA 8240 - Low Level Modified {a}
Preparation Method: EPA 5030

Lab Project-Sample ID: 5715- 34

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
1,1,2,2-Tetrachloroethane.....		5
1,3-Dichlorobenzene {b}.....		5
1,4-Dichlorobenzene {b}.....		5
1,2-Dichlorobenzene {b}.....		5

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	106	70 - 121
Toluene-D8	112	81 - 117
4-Bromofluorobenzene	85	74 - 121

COMMENTS:

{a} Includes all compounds as listed in Table 2 of SW-846, 3rd Edition for Method 8240.
{b} Additional compounds.
{c} Concentrations lower than the Reporting Limits are estimated values. No entry in "Analyte Concentration" means the compound is not detected at all.

Approved By: Nancy McDonald for CM Date: 3/27/92
Cheryl Matterson, Associate Chemist

The cover letter and the attachments are integral parts of this report.

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VOLATILE ORGANICS

Analytical Method: EPA 8240 - Low Level Modified {a}
Preparation Method: EPA 5030

Lab Project-Sample ID: 5715-31

Project Name: Rocketdyne SSFL
Project Number: 03.0029403.012

Sample Description: SM-04-028 SE
Sample Number: 88517

Matrix: Soil

Date Sampled: 3/11/92
Date Analyzed: 3/16/92

Date Received: 3/12/92
Dilution Factor: 1

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
Chloromethane		10
Vinyl Chloride		10
Bromomethane		10
Chloroethane		10
Trichlorofluoromethane		10
Acetone		25
1,1-Dichloroethene		5
Methylene Chloride		5
Carbon Disulfide		5
trans-1,2,Dichloroethene		5
1,1-Dichloroethane		5
cis-1,2-Dichloroethene {b}		5
Chloroform		5
1,2-Dichloroethane		5
2-Butanone		25
1,1,1-Trichloroethane		5
Carbon Tetrachloride		5
Benzene		5
Trichloroethene		5
1,2-Dichloropropane		5
Bromodichloromethane		5
2-Chloroethylvinlyether		10
trans-1,3-Dichloropropene		5
cis-1,3-Dichloropropene		5
1,1,2-Trichloroethane		5
Dibromochloromethane		5
Bromoform		5
4-Methyl-2-Pentanone		25
Toluene		5
2-Hexanone		25
Tetrachloroethene		5
Chlorobenzene		5
Ethylbenzene		5
m & p-Xylene		5
o-Xylene		5
Styrene		5

McLaren Hart

VOLATILE ORGANICS

Analytical Method: EPA 8240 - Low Level Modified {a}
Preparation Method: EPA 5030

Lab Project-Sample ID: 5715-25

Project Name: Rocketdyne SSFL
Project Number: 03.0029403.012

Sample Description: SM-04-041-SE
Sample Number: 88505

Matrix: Soil

Date Sampled: 3/11/92
Date Analyzed: 3/17/92

Date Received: 3/12/92
Dilution Factor: 1

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
Chloromethane		10
Vinyl Chloride		10
Bromomethane		10
Chloroethane		10
Trichlorofluoromethane		10
Acetone		25
1,1-Dichloroethene		5
Methylene Chloride		5
Carbon Disulfide		5
trans-1,2,Dichloroethene		5
1,1-Dichloroethane		5
cis-1,2-Dichloroethene {b}		5
Chloroform		5
1,2-Dichloroethane		5
2-Butanone		25
1,1,1-Trichloroethane		5
Carbon Tetrachloride		5
Benzene		5
Trichloroethene		5
1,2-Dichloropropane		5
Bromodichloromethane		5
2-Chloroethylvinlyether		10
trans-1,3-Dichloropropene		5
cis-1,3-Dichloropropene		5
1,1,2-Trichloroethane		5
Dibromochloromethane		5
Bromoform		5
4-Methyl-2-Pentanone		25
Toluene		5
2-Hexanone		25
Tetrachloroethene		5
Chlorobenzene		5
Ethylbenzene		5
m & p-Xylene		5
o-Xylene		5
Styrene		5

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VOLATILE ORGANICS

Analytical Method: EPA 8240 - Low Level Modified {a}
Preparation Method: EPA 5030

Lab Project-Sample ID: 5715- 25

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
1,1,2,2-Tetrachloroethane.....		5
1,3-Dichlorobenzene {b}.....		5
1,4-Dichlorobenzene {b}.....		5
1,2-Dichlorobenzene {b}.....		5

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	101	70 - 121
Toluene-D8	108	81 - 117
4-Bromofluorobenzene	83	74 - 121

COMMENTS:

{a} Includes all compounds as listed in Table 2 of SW-846, 3rd Edition for Method 8240.
{b} Additional compounds.
{c} Concentrations lower than the Reporting Limits are estimated values. No entry in "Analyte Concentration" means the compound is not detected at all.

Approved By: Nancy McDonald for CM Date: 3/27/92
Cheryl Matterson, Associate Chemist

The cover letter and the attachments are integral parts of this report.

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SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}
Preparation Method: EPA 3550

Lab Project-Sample ID: 5715-27

Project Name: Rocketdyne SSFL
Project Number: 03.0029403.012

Sample Description: SM-04-003 SD
Sample Number: 88510

Matrix: Soil

Date Sampled: 3/11/92
Date Extracted: 3/16/92

Date Received: 3/12/92
Date Analyzed: 3/23/92

Batch Number: 920316-0301

Dilution Factor: 1

	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
Phenol		330
Bis(2-chloroethyl)ether		330
2-Chlorophenol		330
1,3-Dichlorobenzene		330
1,4-Dichlorobenzene		330
Benzyl alcohol		330
2-Methylphenol		330
1,2-Dichlorobenzene		330
Bis(2-Chloroisopropyl)ether		330
4-Methylphenol		330
N-Nitroso-di-n-propylamine		330
Hexachloroethane		330
Nitrobenzene		330
Isophorone		330
2,4-Dimethylphenol		330
1,2,4-Trichlorobenzene		330
2-Nitrophenol		330
Benzoic acid		1600
Bis(2-Chloroethoxy)methane		330
2,4-Dichlorophenol		330
Naphthalene		330
4-Chloroaniline		330
Hexachlorobutadiene		330
4-Chloro-3-methylphenol		330
2-Methylnaphthalene		330
Hexachlorocyclopentadiene		330
2,4,6-Trichlorophenol		330
2,4,5-Trichlorophenol		330
2-Chloronaphthalene		330
3-Nitroaniline		1600
Dimethylphthalate		330
2,6-Dinitrotoluene		330
Acenaphthylene		330
2-Nitroaniline		1600

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SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}
Preparation Method: EPA 3550

Lab Project-Sample ID: 5715-27

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	99	25 - 121
Phenol-d5.....	92	24 - 113
Nitrobenzene-d5.....	97	23 - 120
2-Fluorobiphenyl.....	88	30 - 115
2,4,6-Tribromophenol.....	108	19 - 122
Terphenyl-d14.....	112	18 - 137

COMMENTS:

{a} Includes all analytes as listed in Table 2 of Method 8270, SW-846, 3rd Edition.
{b} Additional compounds.
{c} Concentrations lower than the Reporting Limits are estimated values. No entry in "Analyte Concentration" means the analyte is not detected at all.

Approved By: Nancy M Donald for CM
Cheryl Matterson, Associate Chemist

Date: 3/27/92

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SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}
Preparation Method: EPA 3550

Lab Project-Sample ID: 5751-1

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
Acenaphthene		330
2,4-Dinitrophenol		1600
4-Nitrophenol		1600
2,4-Dinitrotoluene		330
Dibenzofuran		330
Diethylphthalate		330
alpha-BHC {b}		330
4-Chlorophenyl phenyl ether		330
Fluorene		330
4-Nitroaniline		1600
4,6-Dinitro-2-methylphenol		1600
N-Nitrosodiphenylamine		330
4-Bromophenyl phenyl ether		330
beta-BHC {b}		330
Lindane {b}		330
Hexachlorobenzene		330
Pentachlorophenol		1600
Phenanthrene		330
Anthracene		330
Delta-BHC {b}		330
Heptachlor {b}		330
Aldrin {b}		330
Endrin {b}		330
Butyl benzyl phthalate		330
Fluoranthene		330
Heptachlor Epoxide		330
Pyrene		330
Dieldrin {b}		330
4,4'-DDE {b}		330
Endosulfan sulfate		330
4,4'-DDT {b}		330
4,4'-DDD {b}		330
Di-n-butylphthalate		330
3,3'-Dichlorobenzidine		660
Benzo(a)anthracene		330
Bis(2-Ethylhexyl)phthalate		330
Chrysene		330
Di-n-octylphthalate		330
Benzo(b)fluoranthene		330
Benzo(k)fluoranthene		330
Benzo(a)pyrene		330
Indeno(1,2,3-c,d)pyrene		330
Dibenzo(a,h)anthracene		330
Benzo(g,h,i)perylene		330

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SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}
Preparation Method: EPA 3550

Lab Project-Sample ID: 5751-1

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	93	25 - 121
Phenol-d5.....	96	24 - 113
Nitrobenzene-d5.....	85	23 - 120
2-Fluorobiphenyl.....	90	30 - 115
2,4,6-Tribromophenol.....	104	19 - 122
Terphenyl-d14.....	110	18 - 137

COMMENTS:

{a} Includes all analytes as listed in Table 2 of Method 8270, SW-846, 3rd Edition.
{b} Additional compounds.
{c} Concentrations lower than the Reporting Limits are estimated values. No entry in "Analyte Concentration" means the analyte is not detected at all.

Approved By: Nancy McDonald for CM Date: 4/01/92
Cheryl Matterson, Associate Chemist

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SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}
Preparation Method: EPA 3550

Lab Project-Sample ID: 5715-33

Project Name: Rocketdyne SSFL
Project Number: 03.0029403.012

Sample Description: SM-04-026-SD
Sample Number: 88522

Matrix: Soil

Date Sampled: 3/11/92
Date Extracted: 3/16/92

Date Received: 3/12/92
Date Analyzed: 3/23/92

Batch Number: 920316-0301

Dilution Factor: 1

	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
Phenol		330
Bis(2-chloroethyl)ether		330
2-Chlorophenol		330
1,3-Dichlorobenzene		330
1,4-Dichlorobenzene		330
Benzyl alcohol		330
2-Methylphenol		330
1,2-Dichlorobenzene		330
Bis(2-Chloroisopropyl)ether		330
4-Methylphenol		330
N-Nitroso-di-n-propylamine		330
Hexachloroethane		330
Nitrobenzene		330
Isophorone		330
2,4-Dimethylphenol		330
1,2,4-Trichlorobenzene		330
2-Nitrophenol		1600
Benzoic acid		330
Bis(2-Chloroethoxy)methane		330
2,4-Dichlorophenol		330
Naphthalene		330
4-Chloroaniline		330
Hexachlorobutadiene		330
4-Chloro-3-methylphenol		330
2-Methylnaphthalene		330
Hexachlorocyclopentadiene		330
2,4,6-Trichlorophenol		330
2,4,5-Trichlorophenol		330
2-Chloronaphthalene		1600
3-Nitroaniline		330
Dimethylphthalate		330
2,6-Dinitrotoluene		330
Acenaphthylene		1600
2-Nitroaniline		

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SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}
Preparation Method: EPA 3550

Lab Project-Sample ID: 5715-30

Project Name: Rocketdyne SSFL
Project Number: 03.0029403.012

Sample Description: SM-04-028 SD
Sample Number: 88516

Matrix: Soil

Date Sampled: 3/11/92
Date Extracted: 3/16/92

Date Received: 3/12/92
Date Analyzed: 3/23/92

Batch Number: 920316-0301

Dilution Factor: 1

	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
Phenol		330
Bis(2-chloroethyl)ether		330
2-Chlorophenol		330
1,3-Dichlorobenzene		330
1,4-Dichlorobenzene		330
Benzyl alcohol		330
2-Methylphenol		330
1,2-Dichlorobenzene		330
Bis(2-Chloroisopropyl)ether		330
4-Methylphenol		330
N-Nitroso-di-n-propylamine		330
Hexachloroethane		330
Nitrobenzene		330
Isophorone		330
2,4-Dimethylphenol		330
1,2,4-Trichlorobenzene		330
2-Nitrophenol		330
Benzoic acid		1600
Bis(2-Chloroethoxy)methane		330
2,4-Dichlorophenol		330
Naphthalene		330
4-Chloroaniline		330
Hexachlorobutadiene		330
4-Chloro-3-methylphenol		330
2-Methylnaphthalene		330
Hexachlorocyclopentadiene		330
2,4,6-Trichlorophenol		330
2,4,5-Trichlorophenol		330
2-Chloronaphthalene		330
3-Nitroaniline		1600
Dimethylphthalate		330
2,6-Dinitrotoluene		330
Acenaphthylene		330
2-Nitroaniline		1600

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SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}
Preparation Method: EPA 3550

Lab Project-Sample ID: 5715-24

Project Name: Rocketdyne SSFL
Project Number: 03.0029403.012

Sample Description: SM-04-041-SD
Sample Number: 88504

Matrix: Soil

Date Sampled: 3/11/92
Date Extracted: 3/16/92

Date Received: 3/12/92
Date Analyzed: 3/23/92

Batch Number: 920316-0301

Dilution Factor: 1

	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
Phenol		330
Bis(2-chloroethyl)ether		330
2-Chlorophenol		330
1,3-Dichlorobenzene		330
1,4-Dichlorobenzene		330
Benzyl alcohol		330
2-Methylphenol		330
1,2-Dichlorobenzene		330
Bis(2-Chloroisopropyl)ether		330
4-Methylphenol		330
N-Nitroso-di-n-propylamine		330
Hexachloroethane		330
Nitrobenzene		330
Isophorone		330
2,4-Dimethylphenol		330
1,2,4-Trichlorobenzene		330
2-Nitrophenol		330
Benzoic acid		1600
Bis(2-Chloroethoxy)methane		330
2,4-Dichlorophenol		330
Naphthalene		330
4-Chloroaniline		330
Hexachlorobutadiene		330
4-Chloro-3-methylphenol		330
2-Methylnaphthalene		330
Hexachlorocyclopentadiene		330
2,4,6-Trichlorophenol		330
2,4,5-Trichlorophenol		330
2-Chloronaphthalene		330
3-Nitroaniline		1600
Dimethylphthalate		330
2,6-Dinitrotoluene		330
Acenaphthylene		330
2-Nitroaniline		1600

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SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}
Preparation Method: EPA 3550

Lab Project-Sample ID: 5715-24

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
Acenaphthene		330
2,4-Dinitrophenol		1600
4-Nitrophenol		1600
2,4-Dinitrotoluene		330
Dibenzofuran		330
Diethylphthalate		330
alpha-BHC {b}		330
4-Chlorophenyl phenyl ether		330
Fluorene		330
4-Nitroaniline		1600
4,6-Dinitro-2-methylphenol		1600
N-Nitrosodiphenylamine		330
4-Bromophenyl phenyl ether		330
beta-BHC {b}		330
Lindane {b}		330
Hexachlorobenzene		330
Pentachlorophenol		1600
Phenanthrene		330
Anthracene		330
Delta-BHC {b}		330
Heptachlor {b}		330
Aldrin {b}		330
Endrin {b}		330
Butyl benzyl phthalate		330
Fluoranthene		330
Heptachlor Epoxide		330
Pyrene		330
Dieldrin {b}		330
4,4'-DDE {b}		330
Endosulfan sulfate		330
4,4'-DDT {b}		330
4,4'-DDD {b}		330
Di-n-butylphthalate		330
3,3'-Dichlorobenzidine		660
Benzo(a)anthracene		330
Bis(2-Ethylhexyl)phthalate		330
Chrysene		330
Di-n-octylphthalate		330
Benzo(b)fluoranthene		330
Benzo(k)fluoranthene		330
Benzo(a)pyrene		330
Indeno(1,2,3-c,d)pyrene		330
Dibenzo(a,h)anthracene		330
Benzo(g,h,i)perylene		330

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SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}
Preparation Method: EPA 3550

Lab Project-Sample ID: 5715-24

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	90	25 - 121
Phenol-d5.....	93	24 - 113
Nitrobenzene-d5.....	92	23 - 120
2-Fluorobiphenyl.....	88	30 - 115
2,4,6-Tribromophenol.....	111	19 - 122
Terphenyl-d14.....	109	18 - 137

COMMENTS:

{a} Includes all analytes as listed in Table 2 of Method 8270, SW-846, 3rd Edition.
{b} Additional compounds.
{c} Concentrations lower than the Reporting Limits are estimated values. No entry in "Analyte Concentration" means the analyte is not detected at all.

Approved By: Nancy McDonald for CM Date: 3/27/92
Cheryl Matterson, Associate Chemist

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METALS

PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5715-35

Project Name: Rocketdyne SSFL
Project Number: 03.0029403.012

Sample Description: SM-04-026-SF
Sample Number: 88524

Matrix: Soil

Date Sampled: 3/11/92
Date Digested: 3/17/92 {b}

Date Received: 3/12/92
Batch Number: 920317-1103 {b}

METAL (SYMBOL)/EPA METHOD	ANALYTE CONCENTRATION {c} mg/Kg (ppm)	DILUTION FACTOR	REPORTING LIMIT mg/Kg (ppm)	DATE ANALYZED
Antimony (Sb)/6010.....		1	2.5	3/18/92
Arsenic (As)/7060.....	2.1	1	.50	3/21/92
Beryllium (Be)/6010.....	.77	1	.25	3/18/92
Cadmium (Cd)/6010.....		1	.50	3/18/92
Chromium (Cr)/6010.....	16.	1	1.0	3/18/92
Copper (Cu)/6010.....	17.	1	1.0	3/18/92
Lead (Pb)/6010.....	13.	1	2.5	3/18/92
Mercury (Hg)/7471.....		1	.25	3/18/92
Nickel (Ni)/6010.....	12.	1	1.0	3/18/92
Selenium (Se)/7740.....		1	.25	3/21/92
Silver (Ag)/6010.....		1	1.0	3/18/92
Thallium (Tl)/7841.....		1	.50	3/21/92
Zinc (Zn)/6010.....	53.	1	1.0	3/18/92

COMMENTS:

{a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
{b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/17/92, Batch # 920317-1102; and Hg was digested on 3/17/92, Batch # 920317-1101 .
{c} No entry in the "Concentration" means the metal is not detected at all.

Approved by: Nancy McDonald for CM Date: 3/31/92
Cheryl Matterson, Association Chemist

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PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5715-32

Project Name: Rocketdyne SSFL
Project Number: 03.0029403.012

Sample Description: SM-04-028 SF
Sample Number: 88518

Matrix: Soil

Date Sampled: 3/11/92
Date Digested: 3/17/92 {b}

Date Received: 3/12/92
Batch Number: 920317-1103 {b}

METAL (SYMBOL)/EPA METHOD	ANALYTE CONCENTRATION {c} mg/Kg (ppm)	DILUTION FACTOR	REPORTING LIMIT mg/Kg (ppm)	DATE ANALYZED
Antimony (Sb)/6010.....		1	2.5	3/18/92
Arsenic (As)/7060.....	1.9	1	.50	3/21/92
Beryllium (Be)/6010.....	.67	1	.25	3/18/92
Cadmium (Cd)/6010.....	.52	1	.50	3/18/92
Chromium (Cr)/6010.....	14.	1	1.0	3/18/92
Copper (Cu)/6010.....	16.	1	1.0	3/18/92
Lead (Pb)/6010.....	13.	1	2.5	3/18/92
Mercury (Hg)/7471.....		1	.25	3/18/92
Nickel (Ni)/6010.....	10.	1	1.0	3/18/92
Selenium (Se)/7740.....		1	.25	3/21/92
Silver (Ag)/6010.....		1	1.0	3/18/92
Thallium (Tl)/7841.....		1	.50	3/21/92
Zinc (Zn)/6010.....	55.	1	1.0	3/18/92

COMMENTS:

{a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
{b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/17/92, Batch # 920317-1102; and Hg was digested on 3/17/92, Batch # 920317-1101 .
{c} No entry in the "Concentration" means the metal is not detected at all.

Approved by: Nancy McDonald for CM Date: 3/31/92
Cheryl Matterson, Association Chemist

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PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5715-26

Project Name: Rocketdyne SSFL
Project Number: 03.0029403.012

Sample Description: SM-04-041-SF
Sample Number: 88506

Matrix: Soil

Date Sampled: 3/11/92
Date Digested: 3/17/92 {b}

Date Received: 3/12/92
Batch Number: 920317-1103 {b}

METAL (SYMBOL)/EPA METHOD	ANALYTE CONCENTRATION {c} mg/Kg (ppm)	DILUTION FACTOR	REPORTING LIMIT mg/Kg (ppm)	DATE ANALYZED
Antimony (Sb)/6010.....		1	2.5	3/18/92
Arsenic (As)/7060.....	2.9	1	.50	3/21/92
Beryllium (Be)/6010.....	.66	1	.25	3/18/92
Cadmium (Cd)/6010.....		1	.50	3/18/92
Chromium (Cr)/6010.....	14.	1	1.0	3/18/92
Copper (Cu)/6010.....	13.	1	1.0	3/18/92
Lead (Pb)/6010.....	21.	1	2.5	3/18/92
Mercury (Hg)/7471.....		1	.25	3/18/92
Nickel (Ni)/6010.....	11.	1	1.0	3/18/92
Selenium (Se)/7740.....		1	.25	3/21/92
Silver (Ag)/6010.....		1	1.0	3/18/92
Thallium (Tl)/7841.....		1	.50	3/21/92
Zinc (Zn)/6010.....	48.	1	1.0	3/18/92

COMMENTS:

{a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
{b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/17/92, Batch # 920317-1102; and Hg was digested on 3/17/92, Batch # 920317-1101 .
{c} No entry in the "Concentration" means the metal is not detected at all.

Approved by: Nancy McDonald for CM Date: 3/31/92
Cheryl Matterson, Association Chemist

The cover letter and attachments are integral parts of this report.

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RADIONUCLIDES

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 05/08/92

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
3-0602	04-0029403-012	03/16/92	04/18/92

ERIC SMITH
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
69740	88503 SM04003SC		03/11	0800			BE-7	L.T. 5. E-01		03/30			4
							K-40	2.41+-0.24E 01		03/30			4
							MN-54	L.T. 5. E-02		03/30			4
							CO-58	L.T. 5. E-02		03/30			4
							FE-59	L.T. 1. E-01		03/30			4
							CO-60	L.T. 5. E-02		03/30			4
							ZN-65	L.T. 1. E-01		03/30			4
							ZR-95	L.T. 6. E-02		03/30			4
							RU-103	L.T. 6. E-02		03/30			4
							RU-106	L.T. 4. E-01		03/30			4
							I-131	L.T. 2. E-01		03/30			4
							CS-134	L.T. 6. E-02		03/30			4
							CS-137	2.87+-0.52E-01		03/30			4
							BA-140	L.T. 1. E-01		03/30			4
							CE-141	L.T. 1. E-01		03/30			4
							CE-144	L.T. 3. E-01		03/30			4
							RA-226	1.96+-0.79E 00		03/30			4
							TH-228	1.50+-0.15E 00		03/30			4
							H-3	3.3 +-1.4 E-02		05/02			5
69741	88508 SM04003SB		03/11	0900			PU-238	L.T. 2. E-02		04/11			6
							PU-239	L.T. 1. E-02		04/11			6
69742	88509 SM04003SC		03/11	0900			BE-7	L.T. 5. E-01		04/01			4
							K-40	2.43+-0.24E 01		04/01			4
							MN-54	L.T. 5. E-02		04/01			4
							CO-58	L.T. 6. E-02		04/01			4
							FE-59	L.T. 1. E-01		04/01			4
							CO-60	L.T. 4. E-02		04/01			4
							ZN-65	L.T. 1. E-01		04/01			4
							ZR-95	L.T. 7. E-02		04/01			4
							RU-103	L.T. 7. E-02		04/01			4
							RU-106	L.T. 4. E-01		04/01			4

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

ADDITIONAL DATA 10/14/92
RUN DATE 05/09/92

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
3-0602	04-0029403-012	03/16/92	04/18/92

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S O I L

TELEDYNE SAMPLE NUMBER		CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	TIME	STOP DATE	TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
69748	88527	SM04024SC		03/11	1200			ZR-95	L.T. 7. E-02		04/02			4
								RU-103	L.T. 6. E-02		04/02			4
								RU-106	L.T. 4. E-01		04/02			4
								I-131	L.T. 3. E-01		04/02			4
								CS-134	L.T. 6. E-02		04/02			4
								CS-137	4.15+-0.56E-01		04/02			4
								BA-140	L.T. 1. E-01		04/02			4
								CE-141	L.T. 1. E-01		04/02			4
								CE-144	L.T. 3. E-01		04/02			4
								RA-226	1.83+-0.78E 00		04/02			4
								TH-228	1.34+-0.13E 00		05/02			5
								H-3	5.5 +-1.3 E-02					6
69749	88477	BG01100SB		03/10	1600			PU-238	L.T. 2. E-02		04/11			6
								PU-239	L.T. 1. E-02		04/11			4
69750	88478	BG01100SC		03/10	1600			BE-7	L.T. 4. E-01		04/01			4
								K-40	2.02+-0.20E 01		04/01			4
								MN-54	L.T. 4. E-02		04/01			4
								CO-58	L.T. 4. E-02		04/01			4
								FE-59	L.T. 9. E-02		04/01			4
								CO-60	L.T. 4. E-02		04/01			4
								ZN-65	L.T. 9. E-02		04/01			4
								ZR-95	L.T. 5. E-02		04/01			4
								RU-103	L.T. 5. E-02		04/01			4
								RU-106	L.T. 3. E-01		04/01			4
								I-131	L.T. 2. E-01		04/01			4
								CS-134	L.T. 4. E-02		04/01			4
								CS-137	1.81+-0.35E-01		04/01			4
								BA-140	L.T. 1. E-01		04/01			4
								CE-141	L.T. 8. E-02		04/01			4
								CE-144	L.T. 3. E-01		04/01			4
								RA-226	2.25+-0.59E 00		04/01			4

A second analysis of TI#69748 gave result of Cs-137 = 3.91 ± 0.43E-01. J Martin 10-14-92

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 05/01/92

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE	PAGE 1
3-0634	04-0029403-012	03/13/92	04/15/92	

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16755 VON KARMAN AVE
IRVINE CA 92714

FOOD/GARDEN CROPS-FRUIT

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/GM WET)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
69547	90224 SM-04-003-0A		03/11	1500			SR-90	L.T. 5. E-03		04/07		2.33 *	3
							I-129	L.T. 2. E-02		04/03			3
							BE-7	L.T. 5. E-02		03/20			4
							K-40	1.71+-0.17E 00		03/20			4
							MN-54	L.T. 6. E-03		03/20			4
							CO-58	L.T. 6. E-03		03/20			4
							FE-59	L.T. 1. E-02		03/20			4
							CO-60	L.T. 6. E-03		03/20			4
							ZN-65	L.T. 1. E-02		03/20			4
							ZR-95	L.T. 6. E-03		03/20			4
							RU-103	L.T. 6. E-03		03/20			4
							RU-106	L.T. 5. E-02		03/20			4
							I-131	L.T. 1. E-02		03/20			4
							CS-134	L.T. 6. E-03		03/20			4
							CS-137	L.T. 6. E-03		03/20			4
							BA-140	L.T. 8. E-03		03/20			4
							CE-141	L.T. 9. E-03		03/20			4
							CE-144	L.T. 4. E-02		03/20			4
							RA-226	L.T. 1. E-01		03/20			4
							TH-228	L.T. 9. E-03		03/20			4
							H-3	L.T. 1. E-01		04/07			5
							PU-238	L.T. 4. E-04		04/06			6
							PU-239	L.T. 1. E-04		04/06			6
69548	90225 SM-04-003-0A		03/11	1500			SR-90	L.T. 3. E-03		04/07		2.06 *	3
							I-129	L.T. 3. E-02		04/03			3
							BE-7	L.T. 6. E-02		03/20			4
							K-40	1.62+-0.16E 00		03/20			4
							MN-54	L.T. 6. E-03		03/20			4
							CO-58	L.T. 7. E-03		03/20			4
							FE-59	L.T. 2. E-02		03/20			4
							CO-60	L.T. 7. E-03		03/20			4
							ZN-65	L.T. 2. E-02		03/20			4

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TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 05/01/92

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
3-0634	04-0029403-012	03/13/92	04/15/92

ERIC SMITH
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

FOOD/GARDEN CROPS-FRUIT

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/GM WET)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
69551	90232 SM-04-026-0A		03/11	1515			SR-90	L.T. 5. E-03		04/08		1.73 *	3
							I-129	L.T. 2. E-02		04/03			3
							BE-7	L.T. 7. E-02		03/20			4
							K-40	2.01+-0.20E 00		03/20			4
							MN-54	L.T. 7. E-03		03/20			4
							CO-58	L.T. 8. E-03		03/20			4
							FE-59	L.T. 2. E-02		03/20			4
							CO-60	L.T. 8. E-03		03/20			4
							ZN-65	L.T. 2. E-02		03/20			4
							ZR-95	L.T. 8. E-03		03/20			4
							RU-103	L.T. 8. E-03		03/20			4
							RU-106	L.T. 7. E-02		03/20			4
							I-131	L.T. 2. E-02		03/20			4
							CS-134	L.T. 8. E-03		03/20			4
							CS-137	L.T. 8. E-03		03/20			4
							BA-140	L.T. 1. E-02		03/20			4
							CE-141	L.T. 1. E-02		03/20			4
							CE-144	L.T. 5. E-02		03/20			4
							RA-226	L.T. 1. E-01		03/20			4
							TH-228	L.T. 1. E-02		03/20			4
							H-3	L.T. 9. E-02		04/07			5
							PU-238	L.T. 2. E-04		04/07			6
							PU-239	L.T. 1. E-04		04/07			6
69552	90233 SM-04-026-0A		03/11	1515			SR-90	L.T. 8. E-03		04/08		4.51 *	3
							I-129	L.T. 3. E-02		04/03			3
							BE-7	L.T. 7. E-02		03/20			4
							K-40	2.36+-0.24E 00		03/20			4
							MN-54	L.T. 7. E-03		03/20			4
							CO-58	L.T. 7. E-03		03/20			4
							FE-59	L.T. 2. E-02		03/20			4
							CO-60	L.T. 7. E-03		03/20			4
							ZN-65	L.T. 2. E-02		03/20			4

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 05/01/92

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE	PAGE 5
3-0634	04-0029403-012	03/13/92	04/15/92	

ERIC SMITH
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

FOOD/GARDEN CROPS-FRUIT

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/GM WET)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
69552	90233 SM-04-026-0A		03/11	1515			ZR-95	L.T. 8. E-03		03/20			4
							RU-103	L.T. 8. E-03		03/20			4
							RU-106	L.T. 7. E-02		03/20			4
							I-131	L.T. 2. E-02		03/20			4
							CS-134	L.T. 8. E-03		03/20			4
							CS-137	L.T. 8. E-03		03/20			4
							BA-140	L.T. 1. E-02		03/20			4
							CE-141	L.T. 1. E-02		03/20			4
							CE-144	L.T. 5. E-02		03/20			4
							RA-226	L.T. 1. E-01		03/20			4
							TH-228	L.T. 1. E-02		03/20			4
							H-3	L.T. 9. E-02		04/07			5
							PU-238	L.T. 9. E-04		04/06			6
							PU-239	L.T. 6. E-04		04/06			6
69553	90240	MS	03/11	1515			SR-90	5.3 +-0.4 E-01		04/08			3
							I-129	3.8 +-0.3 E-01		03/27			3
							BE-7	L.T. 3. E-01		04/08			4
							K-40	L.T. 6. E-02		04/08			4
							MN-54	L.T. 5. E-03		04/08			4
							CO-58	L.T. 2. E-02		04/08			4
							FE-59	L.T. 9. E-02		04/08			4
							CO-60	2.12+-0.43E-02		04/08			4
							ZN-65	L.T. 1. E-02		04/08			4
							ZR-95	L.T. 2. E-02		04/08			4
							RU-103	L.T. 8. E-02		04/08			4
							RU-106	L.T. 5. E-02		04/08			4
							CS-134	L.T. 6. E-03		04/08			4
							CS-137	1.27+-0.38E-02		04/08			4
							BA-140	L.T. 4. E 01		04/08			4
							CE-141	L.T. 2. E-01		04/08			4
							CE-144	L.T. 5. E-02		04/08			4
							RA-226	L.T. 9. E-02		04/08			4

VOLATILE ORGANIC COMPOUNDS

VOLATILE ORGANICS

Analytical Method: EPA 8240 - Modified (a)
Preparation Method: EPA 5030

Lab Project-Sample ID: 5727-4

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: SM05001GH
Sample Number: 197602

Matrix: Water

Date Sampled: 3/11/92
Date Analyzed: 3/17/92

Date Received: 3/14/92
Dilution Factor: 1

COMPOUND	ANALYTE CONCENTRATION (c) ug/L (ppb)	REPORTING LIMIT ug/L (ppb)
Chloromethane		10
Vinyl Chloride		10
Bromomethane		10
Chloroethane		10
Trichlorofluoromethane		10
Acetone		25
1,1-Dichloroethene		5
Methylene Chloride		10
Carbon Disulfide		5
trans-1,2,Dichloroethene		5
1,1-Dichloroethane		5
cis-1,2-Dichloroethene (b)		5
Chloroform		5
1,2-Dichloroethane		5
2-Butanone		25
1,1,1-Trichloroethane		5
Carbon Tetrachloride		5
Benzene		5
Trichloroethene		5
1,2-Dichloropropane		5
Bromodichloromethane		5
2-Chloroethylvinlyether		10
trans-1,3-Dichloropropene		5
cis-1,3-Dichloropropene		5
1,1,2-Trichloroethane		5
Dibromochloromethane		5
Bromoform		5
4-Methyl-2-Pentanone		25
Toluene		5
2-Hexanone		25
Tetrachloroethene		5
Chlorobenzene		5
Ethylbenzene		5
m & p-Xylene		5
o-Xylene		5
Styrene		5

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VOLATILE ORGANICS

Analytical Method: EPA 8240 - Modified
Preparation Method: EPA 5030

Lab Project-Sample ID: 5879-8

COMPOUND	ANALYTE CONCENTRATION {c} ug/L (ppb)	REPORTING LIMIT ug/L (ppb)
1,1,2,2-Tetrachloroethane.....		5
1,3-Dichlorobenzene {b}.....		5
1,4-Dichlorobenzene {b}.....		5
1,2-Dichlorobenzene {b}.....		5

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	100	76 - 114
Toluene-D8	102	88 - 110
4-Bromofluorobenzene	104	86 - 115

COMMENTS:

{a} Includes all compounds as listed in Table 2 of SW-846, 3rd Edition for Method 8240.
{b} Additional compounds.
{c} Concentrations lower than the Reporting Limits are estimated values. No entry in "Analyte Concentration" means the compound is not detected at all.

Approved By: Nancy McDonald for CM Date: 5/11/92
Cheryl Matterson, Associate Chemist

The cover letter and the attachments are integral parts of this report.

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SEMI-VOLATILE ORGANIC COMPOUNDS

SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}
Preparation Method: EPA 3510

Lab Project-Sample ID: 5727-5

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: SMD5 00) 6G
Sample Number: 197607

Matrix: Water

Date Sampled: 3/11/92
Date Extracted: 3/16/92

Date Received: 3/14/92
Date Analyzed: 3/23/92

Batch Number: 920316-2001

Dilution Factor: 1

	ANALYTE CONCENTRATION {c} ug/L (ppb)	REPORTING LIMIT ug/L (ppb)
Phenol		10
Bis(2-chloroethyl)ether		10
2-Chlorophenol		10
1,3-Dichlorobenzene		10
1,4-Dichlorobenzene		10
Benzyl alcohol		10
2-Methylphenol		10
1,2-Dichlorobenzene		10
Bis(2-Chloroisopropyl)ether		10
4-Methylphenol		10
N-Nitroso-di-n-propylamine		10
Hexachloroethane		10
Nitrobenzene		10
Isophorone		10
2,4-Dimethylphenol		10
1,2,4-Trichlorobenzene		10
2-Nitrophenol		10
Benzoic acid		50
Bis(2-Chloroethoxy)methane		10
2,4-Dichlorophenol		10
Naphthalene		10
4-Chloroaniline		10
Hexachlorobutadiene		10
4-Chloro-3-methylphenol		10
2-Methylnaphthalene		10
Hexachlorocyclopentadiene		10
2,4,6-Trichlorophenol		10
2,4,5-Trichlorophenol		10
2-Chloronaphthalene		10
3-Nitroaniline		50
Dimethylphthalate		10

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SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}
Preparation Method: EPA 3510

Lab Project-Sample ID: 5727-5

	ANALYTE CONCENTRATION {c} ug/L (ppb)	REPORTING LIMIT ug/L (ppb)
Benzo(k)fluoranthene.....		10
Benzo(a)pyrene.....		10
Indeno(1,2,3-c,d)pyrene.....		10
Dibenzo(a,h)anthracene.....		10
Benzo(g,h,i)perylene.....		10

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	52	21 - 100
Phenol-d5.....	32	10 - 94
Nitrobenzene-d5.....	100	35 - 114
2-Fluorobiphenyl.....	93	43 - 116
2,4,6-Tribromophenol.....	104	10 - 123
Terphenyl-d14.....	112	33 - 141

COMMENTS:

{a} Includes all analytes as listed in Table 2 of Method 8270, SW-846, 3rd Edition.
{b} Additional compounds.
{c} Concentrations lower than the Reporting Limits are estimated values. No entry in "Analyte Concentration" means the analyte is not detected at all.

Approved By: Nancy McDonald for CM
Cheryl Matterson, Associate Chemist

Date: 3/30/92

The cover letter and attachments are integral parts of this report.

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POLYNUCLEAR AROMATICS
Analytical Method: EPA 610
Preparation Method: EPA 3510

Lab Project-Sample ID: 5752-5
Project Name: Rocketdyne SSFL
Project Number: 03.0029403.012

Sample Description: SM-05-002-GG
Sample Number: 196677
Date Sampled: 3/18/92
Date Extracted: 3/20/92
Batch Number: 920320-2003

Matrix: Water
Date Received: 3/19/92
Date Analyzed: 3/25/92
Dilution Factor: 1

	ANALYTE CONCENTRATION {a} ug/L (ppb)	REPORTING LIMIT ug/L (ppb)
Naphthalene		10
Acenaphthylene		10
Acenaphthene		10
Fluorene		10
Phenanthrene		10
Anthracene		10
Fluoranthene		10
Pyrene		10
Benzo(a)anthracene		20
Chrysene		20
Benzo(b)fluoranthene		20
Benzo(k)fluoranthene		20
Benzo(a)pyrene		20
Indeno(1,2,3-c,d)pyrene		50
Dibenz(a,h)anthracene		50
Benzo(g,h,i)perylene		50

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorobiphenyl	106	43 - 116

COMMENTS:

{a} Concentrations lower than the Reporting Limits are estimated values. No entry in "Analyte Concentration" means the analyte is not detected.

Approved by: Nancy McDonald for CM
Cheryl Matterson, Association Chemist
Date: 4/01/92

The cover letter and attachments are integral parts of this report.

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Table: Results of the analyses for iodine-129 in seven (7) and strontium-90 in nine (9) water samples.

Sample ID Number	Sample Description	Collection Date	Lab Code	Concentration pCi/L			
				I-129	Date Analyzed	Sr-90	Date Analyzed
196881	BB13039RA	03/17/92	SPW-1973	ND		<0.3	04/30
196882	BB13039RA	03/17/92	1974	ND		<0.3	04/30
196884	BB13010RC	03/17/92	1975	<1.3	04/03	ND	
171861	SM08001WC	03/18/92	1976	<1.1	04/03	ND	
196863	SM05002GC	03/18/92	1977	<1.1	04/03	ND	
171161	SM07002GC	03/18/92	1978	<1.1	04/03	ND	
171860	SM08001WA	03/18/92	1979	ND		<0.4	04/30
196682	SM05002GA	03/18/92	1980	ND		<0.4	04/30
171160	SM07002GA	03/18/92	1981	ND		<0.3	04/22
196886	BB11057RA	03/18/92	1982	ND		<0.3	04/30
196887	BB11057RA	03/18/92	1983	ND		<0.3	04/22
196889	BB11006RC	03/18/92	1984	<1.1	04/03	ND	
208747	BB07038RC	03/19/92	1985	<1.2	04/03	ND	
208748	BB07038RC	03/19/92	1986	<1.2	04/03	ND	
208744	BB07058RA	03/19/92	1987	ND		<0.3	04/30
208745	BB07058RA	03/19/92	1988	ND		<0.3	04/30

Less than (<) values are based on 3 sigma counting error for background sample.

ND - no data, analysis not required.

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 06/09/92

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
3-1681	04-0029403-012	05/20/92	06/22/92

ERIC SMITH
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

WATER - GROUND

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
69559	197610 SM05001GF		03/11	1750			I-129	L.T. 6. E 00		06/02			3
69758	170666 SM07001GF		03/11	1100			I-129	L.T. 7. E 00		06/02			3

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 05/13/92

DELIVERED MAY 13 1992

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE	PAGE 1
3-0685	04-0029403-012	03/19/92	04/21/92	

ERIC SMITH
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

WATER - GROUND

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
70339	196678	SM05002GD	03/18	1345			BE-7	L.T. 4. E 01		03/31			4
							K-40	L.T. 1. E 02		03/31			4
							MN-54	L.T. 4. E 00		03/31			4
							CO-58	L.T. 4. E 00		03/31			4
							FE-59	L.T. 9. E 00		03/31			4
							CO-60	L.T. 4. E 00		03/31			4
							ZN-65	L.T. 8. E 00		03/31			4
							ZR-95	L.T. 4. E 00		03/31			4
							RU-103	L.T. 5. E 00		03/31			4
							RU-106	L.T. 3. E 01		03/31			4
							I-131	L.T. 1. E 01		03/31			4
							CS-134	L.T. 4. E 00		03/31			4
							CS-137	L.T. 4. E 00		03/31			4
							BA-140	L.T. 8. E 00		03/31			4
							CE-141	L.T. 6. E 00		03/31			4
							CE-144	L.T. 2. E 01		03/31			4
							RA-226	L.T. 7. E 01		03/31			4
							TH-228	L.T. 7. E 00		03/31			4
70340	196679	SM05002GE	03/18	1345			GR-A	2.9 +-2.7 E 00		04/01			3
							GR-B	8.3 +-3.4 E 00		04/01			3
70341	196680	SM05002GF	03/18	1345			H-3	L.T. 2. E 02		05/12			5
70342	196681	SM05002GB	03/18	1345			PU-238	L.T. 1. E-01		04/21			6
							PU-239	L.T. 9. E-02		04/21			6

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 05/15/92

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE	PAGE 1
3-0635	04-0029403-012	03/13/92	04/15/92	

ERIC SMITH
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

WATER - GROUND

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
69558	197608 ~~BG-01-002GD~~ SM05001GD		03/11	1730			BE-7	L.T. 4. E 01		03/20			4
							K-40	L.T. 9. E 01		03/20			4
							MN-54	L.T. 4. E 00		03/20			4
							CO-58	L.T. 4. E 00		03/20			4
							FE-59	L.T. 8. E 00		03/20			4
							CO-60	L.T. 4. E 00		03/20			4
							ZN-65	L.T. 8. E 00		03/20			4
							ZR-95	L.T. 4. E 00		03/20			4
							RU-103	L.T. 5. E 00		03/20			4
							RU-106	L.T. 4. E 01		03/20			4
							I-131	L.T. 9. E 00		03/20			4
							CS-134	L.T. 4. E 00		03/20			4
							CS-137	L.T. 5. E 00		03/20			4
							BA-140	L.T. 6. E 00		03/20			4
							CE-141	L.T. 7. E 00		03/20			4
							CE-144	L.T. 3. E 01		03/20			4
							RA-226	L.T. 8. E 01		03/20			4
							TH-228	L.T. 9. E 00		03/20			4
69559	197610 ~~BG-01-002GF~~ SM05001GF		03/11	1750			H-3	L.T. 1. E 02		05/02			5
69561	197609 ~~BG-01-002GE~~ SM05001GE		03/11	1755			GR-A	L.T. 7. E 00		03/31			3
							GR-B	7.9 +-3.2 E 00		03/31			3

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 09/01/92

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
3-3360	04-0029403-012	08/24/92	08/28/91

ERIC SMITH
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

WATER - GROUND

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
69560	197611 ~~BG~~-01-002GB		03/11	1750			PU-238	L.T. 2.0 E-01		08/29			6
	SM05002						PU-239	L.T. 9.0 E-02		08/29			6

VOLATILE ORGANIC COMPOUNDS

VOLATILE ORGANICS

Analytical Method: EPA 8240 - Modified
Preparation Method: EPA 5030

Lab Project-Sample ID: 5715- 1

COMPOUND	ANALYTE CONCENTRATION {c} ug/L (ppb)	REPORTING LIMIT ug/L (ppb)
1,1,2,2-Tetrachloroethane.....		5
1,3-Dichlorobenzene {b}.....		5
1,4-Dichlorobenzene {b}.....		5
1,2-Dichlorobenzene {b}.....		5

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	108	76 - 114
Toluene-D8	99	88 - 110
4-Bromofluorobenzene	106	86 - 115

COMMENTS:

{a} Includes all compounds as listed in Table 2 of SW-846, 3rd Edition for Method 8240.
{b} Additional compounds.
{c} Concentrations lower than the Reporting Limits are estimated values. No entry in "Analyte Concentration" means the compound is not detected at all.

Approved By: Nancy McDonald for CM Date: 3/28/92
Cheryl Matterson, Associate Chemist

The cover letter and the attachments are integral parts of this report.

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VOLATILE ORGANICS

Analytical Method: EPA 8240 - Modified {a}
Preparation Method: EPA 5030

Lab Project-Sample ID: 5752-6

Project Name: Rocketdyne SSFL
Project Number: 03.0029403.012

Sample Description: SM-07-002-GH
Sample Number: 171151

Matrix: Water

Date Sampled: 3/18/92
Date Analyzed: 3/20/92

Date Received: 3/19/92
Dilution Factor: 1

COMPOUND	ANALYTE CONCENTRATION {c} ug/L (ppb)	REPORTING LIMIT ug/L (ppb)
Chloromethane		10
Vinyl Chloride		10
Bromomethane		10
Chloroethane		10
Trichlorofluoromethane		10
Acetone		25
1,1-Dichloroethene		5
Methylene Chloride		5
Carbon Disulfide		5
trans-1,2,Dichloroethene		5
1,1-Dichloroethane		5
cis-1,2-Dichloroethene {b}		5
Chloroform		5
1,2-Dichloroethane		5
2-Butanone		25
1,1,1-Trichloroethane		5
Carbon Tetrachloride		5
Benzene		5
Trichloroethene	9	5
1,2-Dichloropropane		5
Bromodichloromethane		5
2-Chloroethylvinlyether		10
trans-1,3-Dichloropropene		5
cis-1,3-Dichloropropene		5
1,1,2-Trichloroethane		5
Dibromochloromethane		5
Bromoform		5
4-Methyl-2-Pentanone		25
Toluene		5
2-Hexanone		25
Tetrachloroethene		5
Chlorobenzene		5
Ethylbenzene		5
m & p-Xylene		5
o-Xylene		5
Styrene		5

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POLYNUCLEAR AROMATICS
Analytical Method: EPA 610
Preparation Method: EPA 3510

Lab Project-Sample ID: 5715-2
Project Name: Rocketdyne SSFL
Project Number: 03.0029403.012

Sample Description: SM07001GG
Sample Number: 170655
Date Sampled: 3/11/92
Date Extracted: 3/17/92
Batch Number: 920317-0302

Matrix: Water
Date Received: 3/12/92
Date Analyzed: 3/19/92
Dilution Factor: 1

	ANALYTE CONCENTRATION {a} ug/L (ppb)	REPORTING LIMIT ug/L (ppb)
Naphthalene		10
Acenaphthylene		10
Acenaphthene		10
Fluorene		10
Phenanthrene		10
Anthracene		10
Fluoranthene		10
Pyrene		10
Benzo(a)anthracene		20
Chrysene		20
Benzo(b)fluoranthene		20
Benzo(k)fluoranthene		20
Benzo(a)pyrene		20
Indeno(1,2,3-c,d)pyrene		50
Dibenz(a,h)anthracene		50
Benzo(g,h,i)perylene		50

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorobiphenyl	95	43 - 116

COMMENTS:

{a} Concentrations lower than the Reporting Limits are estimated values. No entry in "Analyte Concentration" means the analyte is not detected.

Approved by: Nancy McDonald for CM Date: 3/27/92
Cheryl Matterson, Association Chemist

The cover letter and attachments are integral parts of this report.

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RADIONUCLIDES

Table: Results of the analyses for iodine-129 in seven (7) and strontium-90 in seven (7) water samples.

Sample ID Number	Sample Description	Collection Date	Lab Code	Concentration pCi/L I-129	Date Analyzed	Sr-90	Date Analyzed
196855	BG02074RC ~~RINSATE~~	03/10/92	SPW-1844	<0.8	03/30	ND	
196854	BG02074RC ~~RINSATE~~	03/10/92	1845	<0.7	03/30	ND	
196851	BG02074RC ~~RINSATE~~	03/10/92	1846	ND		<0.3	04/03
196853	BG02074RC ~~RINSATE~~	03/10/92	1847	ND		<0.3	04/03
196808	SM03014RA	03/11/92	1848	<0.7	05/28	<0.4	04/22
196809	SM03014RA	03/11/92	1849	<0.7	04/16	<0.4	04/22
170661	SM07001GC	03/11/92	1850	<0.9	03/30	ND	
170664	SM07001GA	03/11/92	1851	ND		<0.4	04/03
197161	BG01002WA	03/12/92	1852	ND		<0.4	04/03
197162	BG01002WC	03/11/92	1853	<0.7	03/30	ND	
197612	SM05001GA	03/11/92	1854	ND		<0.4	04/03
197613	SM05001GC	03/11/92	1855	<0.7	03/30	ND	

Less than (<) values are based on 3 sigma counting error for background sample.

ND - no data, analysis not required.

WATER

VOLATILE ORGANICS

Analytical Method: EPA 8240 - Modified {a}
Preparation Method: EPA 5030

Lab Project-Sample ID: 5752-1

Project Name: Rocketdyne SSFL
Project Number: 03.0029403.012

Sample Description: SM-08-001-WH
Sample Number: 171851

Matrix: Water

Date Sampled: 3/18/92
Date Analyzed: 3/20/92

Date Received: 3/19/92
Dilution Factor: 1

COMPOUND	ANALYTE CONCENTRATION {c} ug/L (ppb)	REPORTING LIMIT ug/L (ppb)
Chloromethane		10
Vinyl Chloride		10
Bromomethane		10
Chloroethane		10
Trichlorofluoromethane		25
Acetone		5
1,1-Dichloroethene		5
Methylene Chloride		5
Carbon Disulfide		5
trans-1,2,Dichloroethene		5
1,1-Dichloroethane		5
cis-1,2-Dichloroethene {b}		5
Chloroform		5
1,2-Dichloroethane		25
2-Butanone		5
1,1,1-Trichloroethane		5
Carbon Tetrachloride		5
Benzene		5
Trichloroethene		5
1,2-Dichloropropane		5
Bromodichloromethane		10
2-Chloroethylvinlyether		5
trans-1,3-Dichloropropene		5
cis-1,3-Dichloropropene		5
1,1,2-Trichloroethane		5
Dibromochloromethane		5
Bromoform		25
4-Methyl-2-Pentanone		5
Toluene		25
2-Hexanone		5
Tetrachloroethene		5
Chlorobenzene		5
Ethylbenzene		5
m & p-Xylene		5
o-Xylene		5
Styrene		

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VOLATILE ORGANICS

Analytical Method: EPA 8240 - Modified
Preparation Method: EPA 5030

Lab Project-Sample ID: 5752-1

COMPOUND	ANALYTE CONCENTRATION {c} ug/L (ppb)	REPORTING LIMIT ug/L (ppb)
1,1,2,2-Tetrachloroethane.....		5
1,3-Dichlorobenzene {b}.....		5
1,4-Dichlorobenzene {b}.....		5
1,2-Dichlorobenzene {b}.....		5

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	106	76 - 114
Toluene-D8	101	88 - 110
4-Bromofluorobenzene	97	86 - 115

COMMENTS:

{a} Includes all compounds as listed in Table 2 of SW-846, 3rd Edition for Method 8240.
{b} Additional compounds.
{c} Concentrations lower than the Reporting Limits are estimated values. No entry in "Analyte Concentration" means the compound is not detected at all.

Approved By: Nancy McDonald for CM Date: 4/01/92
Cheryl Matterson, Associate Chemist

The cover letter and the attachments are integral parts of this report.

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POLYNUCLEAR AROMATICS
Analytical Method: EPA 610
Preparation Method: EPA 3510

ab Project-Sample ID: 5752-2
Project Name: Rocketdyne SSFL
Project Number: 03.0029403.012

Sample Description: SM-08-001-WF
Sample Number: 171855
Date Sampled: 3/18/92
Date Extracted: 3/20/92
Batch Number: 920320-2003

Matrix: Water
Date Received: 3/19/92
Date Analyzed: 3/25/92
Dilution Factor: 1

	ANALYTE CONCENTRATION {a} ug/L (ppb)	REPORTING LIMIT ug/L (ppb)
Naphthalene		10
Acenaphthylene		10
Acenaphthene		10
Fluorene		10
Phenanthrene		10
Anthracene		10
Fluoranthene		10
Pyrene		10
Benzo(a)anthracene		20
Chrysene		20
Benzo(b)fluoranthene		20
enzo(k)fluoranthene		20
enzo(a)pyrene		20
Indeno(1,2,3-c,d)pyrene		50
Dibenz(a,h)anthracene		50
Benzo(g,h,i)perylene		50

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorobiphenyl	106	43 - 116

COMMENTS:

{a} Concentrations lower than the Reporting Limits are estimated values. No entry in "Analyte Concentration" means the analyte is not detected.

Approved by: Nancy McDonald for CM
Cheryl Matterson, Association Chemist
Date: 4/01/92

ıe cover letter and attachments are integral parts of this report.

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Table: Results of the analyses for iodine-129 in seven (7) and strontium-90 in nine (9) water samples.

Sample ID Number	Sample Description	Collection Date	Lab Code	Concentration pCi/L			
				I-129	Date Analyzed	Sr-90	Date Analyzed
196881	BB13039RA	03/17/92	SPW-1973	ND		<0.3	04/30
196882	BB13039RA	03/17/92	1974	ND		<0.3	04/30
196884	BB13010RC	03/17/92	1975	<1.3	04/03	ND	
171861	SM08001WC	03/18/92	1976	<1.1	04/03	ND	
196863	SM05002GC	03/18/92	1977	<1.1	04/03	ND	
171161	SM07002GC	03/18/92	1978	<1.1	04/03	ND	
171860	SM08001WA	03/18/92	1979	ND		<0.4	04/30
196682	SM05002GA	03/18/92	1980	ND		<0.4	04/30
171160	SM07002GA	03/18/92	1981	ND		<0.3	04/22
196886	BB11057RA	03/18/92	1982	ND		<0.3	04/30
196887	BB11057RA	03/18/92	1983	ND		<0.3	04/22
196889	BB11006RC	03/18/92	1984	<1.1	04/03	ND	
208747	BB07038RC	03/19/92	1985	<1.2	04/03	ND	
208748	BB07038RC	03/19/92	1986	<1.2	04/03	ND	
208744	BB07058RA	03/19/92	1987	ND		<0.3	04/30
208745	BB07058RA	03/19/92	1988	ND		<0.3	04/30

Less than (<) values are based on 3 sigma counting error for background sample.

ND - no data, analysis not required.

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 05/13/92

PAGE 2

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
3-0605	04-0029403-012	03/19/92	04/21/92

ERIC SMITH
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

WATER - SURFACE

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
70343 171856	SM08001WD		03/18	1055			BE-7	L.T. 5. E 01		03/31			4
							K-40	L.T. 1. E 02		03/31			4
							MN-54	L.T. 4. E 00		03/31			4
							CO-58	L.T. 5. E 00		03/31			4
							FE-59	L.T. 1. E 01		03/31			4
							CO-60	L.T. 5. E 00		03/31			4
							ZN-65	L.T. 1. E 01		03/31			4
							ZR-95	L.T. 5. E 00		03/31			4
							RU-103	L.T. 6. E 00		03/31			4
							RU-106	L.T. 4. E 01		03/31			4
							I-131	L.T. 2. E 01		03/31			4
							CS-134	L.T. 5. E 00		03/31			4
							CS-137	L.T. 5. E 00		03/31			4
							BA-140	L.T. 8. E 00		03/31			4
							CE-141	L.T. 9. E 00		03/31			4
							CE-144	L.T. 3. E 01		03/31			4
							RA-226	L.T. 8. E 01		03/31			4
							TH-228	L.T. 8. E 00		03/31			4
70344 171857	SM08001WI		03/18	1111			GR-A	3.4 +-2.4 E 00		04/01			3
							GR-B	L.T. 6. E 00		04/01			3
70345 171858	SM08001WE		03/18	1125			H-3	3.0 +-1.8 E 02		05/12			5
70346 171859	SM08001WB		03/18	1125			PU-238	L.T. 2. E-01		04/21			6
							PU-239	L.T. 1. E-01		04/21			6

LAST PAGE OF REPORT

APPROVED BY J. GUENTHER 05/13/92

SEND 1 COPIES TO MC4805 ERIC SMITH

2 - GAS LAB. 3 - RADIO CHEMISTRY LAB. 4 - GE(LI) GAMMA SPEC LAB. 5 - TRITIUM GAS/L.S. LAB. 6 - ALPHA SPEC LAB.

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 06/09/92

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE	PAGE 3
3-1681	04-0029403-012	05/20/92	06/22/92	

ERIC SMITH
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

WATER - SURFACE

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
69556	197158 BG01002WE		03/12	1530			I-129	L.T. 7. E 00		06/02			3
70345	171858 SM08001WE		11/25				I-129	L.T. 6. E 00		06/02			3
70447	170680 BB04001WE		03/16	1405			I-129	L.T. 7. E 00		06/03			3
74347	197118 BB18003WE		04/21	1320			I-129	L.T. 7. E 00		06/03			3
74348	197119 BB00001WE		04/23	0830			I-129	L.T. 6. E 00		06/03			3
74403	197872 BB19003WE		04/23	0830			I-129	L.T. 7. E 00		06/03			3
74407	197308 BB16001WE		04/23	0950			I-129	L.T. 6. E 00		06/03			3

LAST PAGE OF REPORT

APPROVED BY J. GUENTHER 06/09/92

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2 - GAS LAB. 3 - RADIO CHEMISTRY LAB. 4 - GE(LI) GAMMA SPEC LAB. 5 - TRITIUM GAS/L.S. LAB. 6 - ALPHA SPEC LAB.