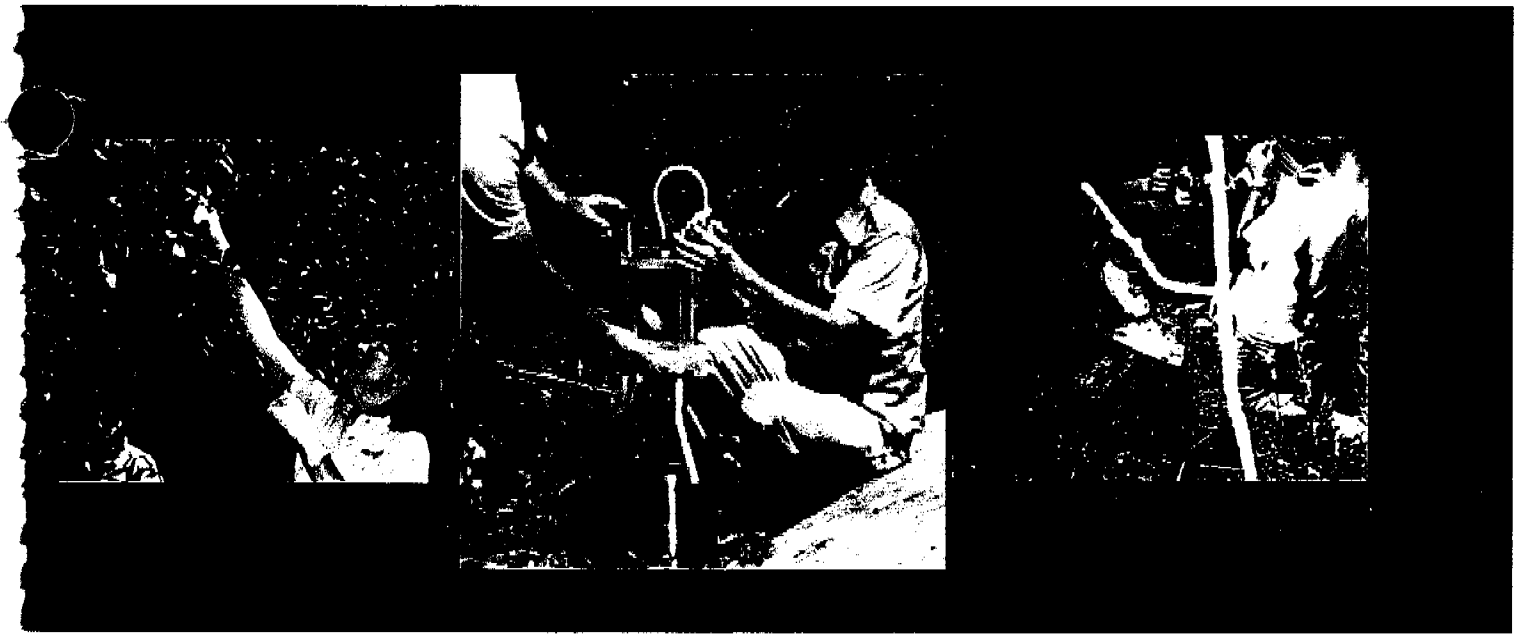
SHEA #86198

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

Brandeis-Bardin Ravine Analytical Data



March 10, 1993

Prepared by:

McLaren/Hart
ENVIRONMENTAL ENGINEERING CORPORATION

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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: 5868-52

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: BB15001SE
Sample Number: 89555

Matrix: Soil

Date Sampled: 4/22/92
Date Analyzed: 5/01/92

Date Received: 4/23/92
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: 5868- 52

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	106	81 - 117
4-Bromofluorobenzene	93	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: 5/06/92
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: 5868-55

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: PB15002SE
Sample Number: 89561

Matrix: Soil

Date Sampled: 4/22/92
Date Analyzed: 4/30/92

Date Received: 4/23/92
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: 5868- 55

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	95	70 - 121
Toluene-D8	107	81 - 117
4-Bromofluorobenzene	95	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 M Donald for CM Date: 5/06/92
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: 5868-58

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: BB15003SE
Sample Number: 89567

Matrix: Soil

Date Sampled: 4/22/92
Date Analyzed: 4/30/92

Date Received: 4/23/92
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: 5868- 58

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	104	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: 5/06/92
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: 5868-61

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: BEI5004SE
Sample Number: 89573

Matrix: Soil

Date Sampled: 4/22/92
Date Analyzed: 4/30/92

Date Received: 4/23/92
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: 5868- 61

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	112	81 - 117
4-Bromofluorobenzene	90	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: 5/06/92
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: 5868-64

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: [redacted]
Sample Number: 89579

Matrix: Soil

Date Sampled: 4/22/92
Date Analyzed: 4/30/92

Date Received: 4/23/92
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: 5868- 64

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	110	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: 5/06/92
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: 5868-51

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: BB15001SD
Sample Number: 89554

Matrix: Soil

Date Sampled: 4/22/92
Date Extracted: 4/27/92

Date Received: 4/23/92
Date Analyzed: 4/28/92

Batch Number: 920427-1901

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: 5868-51

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
Acenaphthene		330
2,4-Dinitrophenol		1600
4-Nitrophénol		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: 5868-51

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	71	25 - 121
Phenol-d5.....	70	24 - 113
Nitrobenzene-d5.....	61	23 - 120
2-Fluorobiphenyl.....	66	30 - 115
2,4,6-Tribromophenol.....	77	19 - 122
Terphenyl-d14.....	105	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 McDonald for CM
Cheryl Matterson, Associate Chemist

Date: 5/06/92

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: 5868-54

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: BB15002SD
Sample Number: 89560

Matrix: Soil

Date Sampled: 4/22/92
Date Extracted: 4/27/92

Date Received: 4/23/92
Date Analyzed: 4/28/92

Batch Number: 920427-1901

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: 5868-54

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: 5868-54

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	65	25 - 121
Phenol-d5.....	69	24 - 113
Nitrobenzene-d5.....	59	23 - 120
2-Fluorobiphenyl.....	64	30 - 115
2,4,6-Tribromophenol.....	70	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: 5/06/92

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: 5868-57

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: BR15003SD
Sample Number: 89566

Matrix: Soil

Date Sampled: 4/22/92
Date Extracted: 4/27/92

Date Received: 4/23/92
Date Analyzed: 4/29/92

Batch Number: 920427-1901

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: 5868-57

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: 5868-57

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	81	25 - 121
Phenol-d5.....	81	24 - 113
Nitrobenzene-d5.....	72	23 - 120
2-Fluorobiphenyl.....	79	30 - 115
2,4,6-Tribromophenol.....	84	19 - 122
Terphenyl-d14.....	116	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: 5/06/92

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: 5868-60

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: BB15004SD
Sample Number: 89572

Matrix: Soil

Date Sampled: 4/22/92
Date Extracted: 4/27/92

Date Received: 4/23/92
Date Analyzed: 4/29/92

Batch Number: 920427-1901

Dilution Factor: 2

	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
Phenol		670
Bis(2-chloroethyl)ether		670
2-Chlorophenol		670
1,3-Dichlorobenzene		670
1,4-Dichlorobenzene		670
Benzyl alcohol		670
2-Methylphenol		670
1,2-Dichlorobenzene		670
Bis(2-Chloroisopropyl)ether		670
4-Methylphenol		670
N-Nitroso-di-n-propylamine		670
Hexachloroethane		670
Nitrobenzene		670
Isophorone		670
2,4-Dimethylphenol		670
1,2,4-Trichlorobenzene		670
2-Nitrophenol		670
Benzoic acid		3300
Bis(2-Chloroethoxy)methane		670
2,4-Dichlorophenol		670
Naphthalene		670
4-Chloroaniline		670
Hexachlorobutadiene		670
4-Chloro-3-methylphenol		670
2-Methylnaphthalene		670
Hexachlorocyclopentadiene		670
2,4,6-Trichlorophenol		670
2,4,5-Trichlorophenol		670
2-Chloronaphthalene		670
3-Nitroaniline		3300
Dimethylphthalate		670
2,6-Dinitrotoluene		670
Acenaphthylene		670
2-Nitroaniline		3300

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SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5868-60

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
Acenaphthene		670
2,4-Dinitrophenol		3300
4-Nitrophenol		3300
2,4-Dinitrotoluene		670
Dibenzofuran		670
Diethylphthalate		670
alpha-BHC {b}		670
4-Chlorophenyl phenyl ether		670
Fluorene		670
4-Nitroaniline		3300
4,6-Dinitro-2-methylphenol		3300
N-Nitrosodiphenylamine		670
4-Bromophenyl phenyl ether		670
beta-BHC {b}		670
Lindane {b}		670
Hexachlorobenzene		670
Pentachlorophenol		3300
Phenanthrene		670
Anthracene		670
Delta-BHC {b}		670
Heptachlor {b}		670
Aldrin {b}		670
Endrin {b}		670
Butyl benzyl phthalate		670
Fluoranthene		670
Heptachlor Epoxide		670
Pyrene		670
Dieldrin {b}		670
4,4'-DDE {b}		670
Endosulfan sulfate		670
4,4'-DDT {b}		670
4,4'-DDD {b}		670
Di-n-butylphthalate		670
3,3'-Dichlorobenzidine		1300
Benzo(a)anthracene		670
Bis(2-Ethylhexyl)phthalate		670
Chrysene		670
Di-n-octylphthalate		670
Benzo(b)fluoranthene		670
Benzo(k)fluoranthene		670
Benzo(a)pyrene		670
Indeno(1,2,3-c,d)pyrene		670
Dibenzo(a,h)anthracene		670
Benzo(g,h,i)perylene		670

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SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5868-60

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	76	25 - 121
Phenol-d5.....	75	24 - 113
Nitrobenzene-d5.....	62	23 - 120
2-Fluorobiphenyl.....	69	30 - 115
2,4,6-Tribromophenol.....	79	19 - 122
Terphenyl-d14.....	82	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.
{d} The sample was diluted 2 fold due to the presence of non-target analyte interferences.

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

Date: 5/06/92

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

McLaren Hart™

SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5868-63

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: BB15005SD
Sample Number: 89578

Matrix: Soil

Date Sampled: 4/22/92
Date Extracted: 4/27/92

Date Received: 4/23/92
Date Analyzed: 4/29/92

Batch Number: 920427-1901

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: 5868-63

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: 5868-63

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	85	25 - 121
Phenol-d5.....	81	24 - 113
Nitrobenzene-d5.....	73	23 - 120
2-Fluorobiphenyl.....	79	30 - 115
2,4,6-Tribromophenol.....	82	19 - 122
Terphenyl-d14.....	111	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: 5/06/92

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

McLaren Hart™

METALS

PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5868-53

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: **BB15001SF**
Sample Number: 89556

Matrix: Soil

Date Sampled: 4/22/92
Date Digested: 4/27/92 {b}

Date Received: 4/23/92
Batch Number: 920427-1101 {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	5/01/92
Arsenic (As)/7060.....	2.0	1	.50	5/01/92
Beryllium (Be)/6010.....		1	.25	5/04/92
Cadmium (Cd)/6010.....		1	.50	5/01/92
Chromium (Cr)/6010.....	7.6	1	1.0	5/01/92
Copper (Cu)/6010.....	5.2	1	1.0	5/01/92
Lead (Pb)/6010.....	7.6	1	2.5	5/01/92
Mercury (Hg)/7471.....		1	.25	4/27/92
Nickel (Ni)/6010.....	4.2	1	1.0	5/01/92
Selenium (Se)/7740.....		1	.25	4/30/92
Silver (Ag)/6010.....		1	1.0	5/01/92
Thallium (Tl)/7841.....		1	.50	5/01/92
Zinc (Zn)/6010.....	45.	1	1.0	5/01/92

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 4/27/92, Batch # 920427-1102; and Hg was digested on 4/27/92, Batch # 920427-1103 .
{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: 5/07/92

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: 5868-56

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: **BB15002SF**
Sample Number: 89562

Matrix: Soil

Date Sampled: 4/22/92
Date Digested: 4/27/92 {b}

Date Received: 4/23/92
Batch Number: 920427-1101 {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	5/01/92
Arsenic (As)/7060.....	2.4	1	.50	5/01/92
Beryllium (Be)/6010.....		1	.25	5/04/92
Cadmium (Cd)/6010.....		1	.50	5/01/92
Chromium (Cr)/6010.....	8.8	1	1.0	5/01/92
Copper (Cu)/6010.....	5.3	1	1.0	5/01/92
Lead (Pb)/6010.....	8.6	1	2.5	5/01/92
Mercury (Hg)/7471.....		1	.25	4/27/92
Nickel (Ni)/6010.....	5.0	1	1.0	5/01/92
Selenium (Se)/7740.....		1	.25	4/30/92
Silver (Ag)/6010.....		1	1.0	5/01/92
Thallium (Tl)/7841.....		1	.50	5/01/92
Zinc (Zn)/6010.....	49.	1	1.0	5/01/92

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 4/27/92, Batch # 920427-1102; and Hg was digested on 4/27/92, Batch # 920427-1103 .
{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: 5/07/92

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: 5868-59

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: BB15003SF
Sample Number: 89568

Matrix: Soil

Date Sampled: 4/22/92
Date Digested: 4/27/92 {b}

Date Received: 4/23/92
Batch Number: 920427-1101 {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	5/01/92
Arsenic (As)/7060.....	1.9	1	.50	5/01/92
Beryllium (Be)/6010.....		1	.25	5/04/92
Cadmium (Cd)/6010.....		1	.50	5/01/92
Chromium (Cr)/6010.....	7.4	1	1.0	5/01/92
Copper (Cu)/6010.....	5.3	1	1.0	5/01/92
Lead (Pb)/6010.....	9.8	1	2.5	5/01/92
Mercury (Hg)/7471.....		1	.25	4/27/92
Nickel (Ni)/6010.....	4.5	1	1.0	5/01/92
Selenium (Se)/7740.....		1	.25	4/30/92
Silver (Ag)/6010.....		1	1.0	5/01/92
Thallium (Tl)/7841.....		1	.50	5/01/92
Zinc (Zn)/6010.....	51.	1	1.0	5/01/92

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 4/27/92, Batch # 920427-1102; and Hg was digested on 4/27/92, Batch # 920427-1103 .
{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: 5/07/92

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: 5868-62

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: **BB15004SF**
Sample Number: 89574

Matrix: Soil

Date Sampled: 4/22/92
Date Digested: 4/27/92 {b}

Date Received: 4/23/92
Batch Number: 920427-1101 {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	5/01/92
Arsenic (As)/7060.....	2.7	1	.50	5/01/92
Beryllium (Be)/6010.....	.30	1	.25	5/04/92
Cadmium (Cd)/6010.....		1	.50	5/01/92
Chromium (Cr)/6010.....	12.	1	1.0	5/01/92
Copper (Cu)/6010.....	6.2	1	1.0	5/01/92
Lead (Pb)/6010.....	21.	1	2.5	5/01/92
Mercury (Hg)/7471.....		1	.25	4/27/92
Nickel (Ni)/6010.....	5.5	1	1.0	5/01/92
Selenium (Se)/7740.....		1	.25	4/30/92
Silver (Ag)/6010.....	1.2	1	1.0	5/01/92
Thallium (Tl)/7841.....		1	.50	5/01/92
Zinc (Zn)/6010.....	54.	1	1.0	5/01/92

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 4/27/92, Batch # 920427-1102; and Hg was digested on 4/27/92, Batch # 920427-1103 .
{c} No entry in the "Concentration" means the metal is not detected at all.

Approved by: Nancy McDonald for Cheryl Matterson, Association Chemist Date: 5/07/92

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: 5868-65

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: BB15005SF
Sample Number: 89580

Matrix: Soil

Date Sampled: 4/22/92
Date Digested: 4/27/92 {b}

Date Received: 4/23/92
Batch Number: 920427-1101 {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	5/01/92
Arsenic (As)/7060.....	2.8	1	.50	5/01/92
Beryllium (Be)/6010.....	.28	1	.25	5/04/92
Cadmium (Cd)/6010.....		1	.50	5/01/92
Chromium (Cr)/6010.....	9.8	1	1.0	5/01/92
Copper (Cu)/6010.....	5.9	1	1.0	5/01/92
Lead (Pb)/6010.....	12.	1	2.5	5/01/92
Mercury (Hg)/7471.....		1	.25	4/27/92
Nickel (Ni)/6010.....	6.0	1	1.0	5/01/92
Selenium (Se)/7740.....		1	.25	4/30/92
Silver (Ag)/6010.....		1	1.0	5/01/92
Thallium (Tl)/7841.....		1	.50	5/01/92
Zinc (Zn)/6010.....	51.	1	1.0	5/01/92

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 4/27/92, Batch # 920427-1102; and Hg was digested on 4/27/92, Batch # 920427-1103 .
{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: 5/07/92

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

McLaren Hart™

RADIONUCLIDES

Table1. Results of the analyses for iodine-129 and strontium-90 in thirty (30) soil samples.

Sample ID Number	Sample Description	Collection Date	Lab Code	Conc. pCi/g wet I-129	Date Analyzed	Conc. pCi/g dry Sr-90	Date Analyzed
89575	BB15005SA	04/22/92	SPS-2158	<0.2	06/30	<0.01	07/11
89581	BB00007SA	04/22/92	SPS-2159	<0.3	06/30	0.02±0.02	07/11
89851	BB16001BSA	04/22/92	SPS-2160	<0.3	06/30	0.03±0.01	07/11
89857	BB16002SA	04/22/92	SPS-2161	<0.3	07/11	0.09±0.01	07/15
89863	BB16002SA	04/22/92	SPS-2162	<0.3	07/20	0.02±0.01	07/16
89869	BB16004SA	04/22/92	SPS-2163	<0.3	07/11	0.15±0.02	07/15
89875	BB16005SA	04/22/92	SPS-2164	<0.3	07/07	0.04±0.01	08/11
89881	BB00006SA	04/22/92	SPS-2165	<0.2	07/07	0.12±0.02	07/15
89892	BB16001ASA	04/22/92	SPS-2166	<0.3	07/07	0.08±0.01	07/16
89301	BB17001SA	04/21/92	SPS-2167	<0.3	07/08	0.01±0.01	07/16
89307	BB17002SA	04/21/92	SPS-2168	<0.3	07/08	0.02±0.01	07/11
89313	BB17003SA	04/21/92	SPS-2169	<0.2	07/08	0.01±0.01	07/16
89319	BB17004SA	04/21/92	SPS-2170	<0.2	07/08	0.03±0.01	08/11
Dup	BB17004SA	04/21/92	SPS-2170D	<0.2	07/08	0.02±0.01	08/11
89551	BB15001SA	04/21/92	SPS-2171	<0.3	07/09	0.01±0.01	08/11
89557	BB15002SA	04/21/92	SPS-2172	<0.3	07/09	<0.01	07/16
89563	BB15003SA	04/21/92	SPS-2173	<0.3	07/10	0.01±0.01	07/15
89569	BB15004SA	04/21/92	SPS-2174	<0.2	07/10	<0.01	07/11
90151	BB18001ASA	04/21/92	SPS-2175	<0.3	07/10	0.02±0.01	07/16
90157	BB18002ASA	04/21/92	SPS-2176	<0.3	07/13	0.02±0.01	08/11
90163	BB18002SA	04/21/92	SPS-2177	<0.3	07/13	<0.01	07/11
90170	BB18003SA	04/21/92	SPS-2178	<0.2	07/13	0.01±0.01	07/15
89219	BB18001SA	04/21/92	SPS-2179	<0.3	07/14	0.02±0.01	08/11
89225	BB18003ASA	04/21/92	SPS-2180	<0.2	07/14	<0.01	07/16
89213	BB18003BSA	04/21/92	SPS-2181	<0.3	07/14	<0.01	07/16
89207	BB18002BSA	04/21/92	SPS-2182	<0.3	07/18	0.02±0.01	08/11
89201	BB18001BSA	04/21/92	SPS-2183	<0.3	07/17	0.01±0.01	08/11
90401	BB19001SA	04/23/92	SPS-2184	<0.3	07/17	0.08±0.02	08/11
90407	BB19002SA	04/23/92	SPS-2185	<0.3	07/18	0.09±0.02	08/11
90413	BB19003SA	04/23/92	SPS-2186	<0.3	07/18	0.02±0.01	08/11
90419	BB19004SA	04/23/92	SPS-2187	<0.3	07/18	0.03±0.01	08/11

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.

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 06/25/92

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE	PAGE 1
3-1296	04-0029403-012	04/27/92	05/30/92	

ERIC SMITH
MCLAREN/KART
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.
74357	89552 BB15001SB		04/22	1230			PU-238	2.2 +-0.7 E-01		06/08			6
							PU-239	L.T. 1. E-02		06/08			6
74358	89553 BB15001SC		04/22	1230			BE-7	L.T. 4. E-01		05/27			4
							K-40	2.08+-0.21E 01		05/27			4
							MN-54	L.T. 3. E-02		05/27			4
							CO-58	L.T. 4. E-02		05/27			4
							FE-59	L.T. 1. E-01		05/27			4
							CO-60	L.T. 3. E-02		05/27			4
							ZN-65	L.T. 9. E-02		05/27			4
							ZR-95	L.T. 5. E-02		05/27			4
							RU-103	L.T. 5. E-02		05/27			4
							RU-106	L.T. 3. E-01		05/27			4
							I-131	L.T. 6. E-01		05/27			4
							CS-134	L.T. 4. E-02		05/27			4
							CS-137	4.47+-2.58E-02		05/27			4
							BA-140	L.T. 2. E-01		05/27			4
							CE-141	L.T. 1. E-01		05/27			4
							CE-144	L.T. 2. E-01		05/27			4
							RA-226	1.02+-0.49E 00		05/27			4
							TH-228	7.39+-0.74E-01		05/27			4
74359	89558 BB15002SB		04/22	1155			PU-238	6.7 +-2.5 E-02		06/08			6
							PU-239	L.T. 5. E-03		06/08			6
74360	89559 BB15002SC		04/22	1155			BE-7	L.T. 4. E-01		05/27			4
							K-40	2.16+-0.22E 01		05/27			4
							MN-54	L.T. 3. E-02		05/27			4
							CO-58	L.T. 4. E-02		05/27			4
							FE-59	L.T. 1. E-01		05/27			4
							CO-60	L.T. 3. E-02		05/27			4
							ZN-65	L.T. 9. E-02		05/27			4

The H-3 result for TI#'s 74358 and 74364 has been withdrawn. The H-3 results of several samples analyzed by the same analytical method were not confirmed by an alternate method.

JMartin 12-3-92

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 06/25/92

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
3-1296	04-0029403-012	04/27/92	05/30/92

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.
74360	89559 BB15002SC		04/22	1155			ZR-95	L.T. 4. E-02		05/27			4
							RU-103	L.T. 4. E-02		05/27			4
							RU-106	L.T. 2. E-01		05/27			4
							I-131	L.T. 5. E-01		05/27			4
							CS-134	L.T. 3. E-02		05/27			4
							CS-137	4.42+-2.15E-02		05/27			4
							BA-140	L.T. 2. E-01		05/27			4
							CE-141	L.T. 7. E-02		05/27			4
							CE-144	L.T. 2. E-01		05/27			4
							RA-226	8.43+-4.23E-01		05/27			4
							TH-228	7.27+-0.73E-01		05/27			4
							H-3	L.T. 2. E-02		06/22			5
74361	89564 BB15003SB		04/22	1135			PU-238	L.T. 5. E-02		06/10			6
							PU-239	L.T. 1. E-02		06/10			6
74362	89565 BB15003SC		04/22	1135			BE-7	L.T. 3. E-01		05/27			4
							K-40	2.16+-0.22E 01		05/27			4
							MN-54	L.T. 3. E-02		05/27			4
							CO-58	L.T. 3. E-02		05/27			4
							FE-59	L.T. 9. E-02		05/27			4
							CO-60	L.T. 3. E-02		05/27			4
							ZN-65	L.T. 7. E-02		05/27			4
							ZR-95	L.T. 4. E-02		05/27			4
							RU-103	L.T. 4. E-02		05/27			4
							RU-106	L.T. 2. E-01		05/27			4
							I-131	L.T. 5. E-01		05/27			4
							CS-134	L.T. 3. E-02		05/27			4
							CS-137	3.89+-2.03E-02		05/27			4
							BA-140	L.T. 2. E-01		05/27			4
							CE-141	L.T. 8. E-02		05/27			4
							CE-144	L.T. 2. E-01		05/27			4
							RA-226	1.79+-0.41E 00		05/27			4

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

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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.
74362	89565	8815003SC		04/22	1135			TH-228	1.31+-0.13E 00		05/27			4
								H-3	L.T. 9. E-03		06/22			5
74363	89570	8815004SB		04/22	1115			PU-238	L.T. 5. E-02		06/10			6
								PU-239	L.T. 1. E-02		06/10			6
74364	89571	8815004SC		04/22	1115			BE-7	L.T. 4. E-01		05/27			4
								K-40	2.17+-0.22E 01		05/27			4
								MN-54	L.T. 3. E-02		05/27			4
								CO-58	L.T. 4. E-02		05/27			4
								FE-59	L.T. 1. E-01		05/27			4
								CO-60	L.T. 3. E-02		05/27			4
								ZN-65	L.T. 8. E-02		05/27			4
								ZR-95	L.T. 4. E-02		05/27			4
								RU-103	L.T. 5. E-02		05/27			4
								RU-106	L.T. 3. E-01		05/27			4
								I-131	L.T. 5. E-01		05/27			4
								CS-134	L.T. 3. E-02		05/27			4
								CS-137	4.29+-2.48E-02		05/27			4
								BA-140	L.T. 2. E-01		05/27			4
								CE-141	L.T. 8. E-02		05/27			4
								CE-144	L.T. 2. E-01		05/27			4
								RA-226	1.40+-0.41E 00		05/27			4
								TH-228	6.75+-0.68E-01		05/27			4
74365	89576	88150055B		04/22	1100			PU-238	5.5 +-4.2 E-02		06/10			6
								PU-239	L.T. 1. E-02		06/10			6

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

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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.
74366	89577 BB15005SC		04/22	1100			BE-7	L.T. 4. E-01		05/28			4
							K-40	2.16+-0.22E 01		05/28			4
							MN-54	L.T. 3. E-02		05/28			4
							CO-58	L.T. 4. E-02		05/28			4
							FE-59	L.T. 1. E-01		05/28			4
							CO-60	L.T. 3. E-02		05/28			4
							ZN-65	L.T. 9. E-02		05/28			4
							ZR-95	L.T. 5. E-02		05/28			4
							RU-103	L.T. 5. E-02		05/28			4
							RU-106	L.T. 3. E-01		05/28			4
							I-131	L.T. 6. E-01		05/28			4
							CS-134	L.T. 4. E-02		05/28			4
							CS-137	5.20+-2.45E-02		05/28			4
							BA-140	L.T. 2. E-01		05/28			4
							CE-141	L.T. 1. E-01		05/28			4
							CE-144	L.T. 2. E-01		05/28			4
							RA-226	1.47+-0.53E 00		05/28			4
							TH-228	8.04+-0.80E-01		05/28			4
							H-3	NOT ANALYZED					5
74367	89852 BB16001BSB		04/22	0915			PU-238	L.T. 3. E-02		06/10			6
							PU-239	L.T. 1. E-02		06/10			6
74368	89853 BB16001BSC		04/22	0915			BE-7	L.T. 5. E-01		05/28			4
							K-40	2.01+-0.20E 01		05/28			4
							MN-54	L.T. 4. E-02		05/28			4
							CO-58	L.T. 5. E-02		05/28			4
							FE-59	L.T. 1. E-01		05/28			4
							CO-60	L.T. 4. E-02		05/28			4
							ZN-65	L.T. 1. E-01		05/28			4
							ZR-95	L.T. 6. E-02		05/28			4
							RU-103	L.T. 6. E-02		05/28			4
							RU-106	L.T. 3. E-01		05/28			4

A small quantity of water was extracted from TI#74366. The distillation procedure was not effective in providing an adequate quantity of sufficiently clean water, thus the H-3 analysis could not be completed.

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

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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.
74376	89877 8816005SC		04/22	0900			BE-7	L.T. 4. E-01		06/01			4
							K-40	2.34+-0.23E 01		06/01			4
							MN-54	L.T. 3. E-02		06/01			4
							CO-58	L.T. 4. E-02		06/01			4
							FE-59	L.T. 1. E-01		06/01			4
							CO-60	L.T. 3. E-02		06/01			4
							ZN-65	L.T. 8. E-02		06/01			4
							ZR-95	L.T. 5. E-02		06/01			4
							RU-103	L.T. 5. E-02		06/01			4
							RU-106	L.T. 3. E-01		06/01			4
							I-131	L.T. 9. E-01		06/01			4
							CS-134	L.T. 4. E-02		06/01			4
							CS-137	L.T. 4. E-02		06/01			4
							BA-140	L.T. 3. E-01		06/01			4
							CE-141	L.T. 1. E-01		06/01			4
							CE-144	L.T. 2. E-01		06/01			4
							RA-226	1.66+-0.49E 00		06/01			4
							TH-228	8.77+-0.88E-01		06/01			4
							H-3	2.6 +-0.3 E-01		06/21			5

LAST PAGE OF REPORT

APPROVED BY J. GUENTHER 06/25/92

SEND 1 COPIES TO MC480S 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.

TI#	H-3 (pCi/l)
74360	L.T. 2. E 02
74362	L.T. 2. E 02
74368	L.T. 2. E 02
74370	1.1 +-0.1 E 03
74?	1.3 +-0.3 E 03
74.	1.3 +-0.2 E 03
74376	1.5 +-0.2 E 03

The H-3 result for TI#'s 74358 and 74364 has been withdrawn. The H-3 results of several samples analyzed by the same analytical method were not confirmed by an alternate method.

12-3-92

Volatile Organic Compounds

VOLATILE ORGANICS

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

Lab Project-Sample ID: 5868-88

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: BB16001ASE
Sample Number: 89896

Matrix: Soil

Date Sampled: 4/22/92
Date Analyzed: 4/30/92

Date Received: 4/23/92
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	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: 5868- 88

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	91	70 - 121
Toluene-D8	111	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} Acetone, a common laboratory contaminant, was detected in the sample. The associated method blank indicated no such contamination.

Approved By: Nancy McDonald for CM Date: 5/06/92
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: 5868-72

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: BB16001BSE
Sample Number: 89855

Matrix: Soil

Date Sampled: 4/22/92
Date Analyzed: 4/30/92

Date Received: 4/23/92
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: 5868- 72

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	93	70 - 121
Toluene-D8	105	81 - 117
4-Bromofluorobenzene	95	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: 5/06/92
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: 5868-75

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: **BB16002SE**
Sample Number: 89861

Matrix: Soil

Date Sampled: 4/22/92
Date Analyzed: 4/30/92

Date Received: 4/23/92
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: 5868- 75

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	95	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.

Approved By: Nancy McDonald for CM
Cheryl Matterson, Associate Chemist
Date: 5/06/92

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: 5868-78

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: **BB16003SE**
Sample Number: 89867

Matrix: Soil

Date Sampled: 4/22/92
Date Analyzed: 4/30/92

Date Received: 4/23/92
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: 5868- 78

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	96	70 - 121
Toluene-D8	107	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: 5/06/92
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: 5868-81

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: BB16004SE
Sample Number: 89873

Matrix: Soil

Date Sampled: 4/22/92
Date Analyzed: 4/30/92

Date Received: 4/23/92
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: 5868- 81

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	89	70 - 121
Toluene-D8	117	81 - 117
4-Bromofluorobenzene	77	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: 5/06/92
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: 5868-84

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: **BB16005SE**
Sample Number: 89879

Matrix: Soil

Date Sampled: 4/22/92
Date Analyzed: 4/30/92

Date Received: 4/23/92
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: 5868- 84

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	95	70 - 121
Toluene-D8	103	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: 5/06/92
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: 5868-87

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: **BB16001ASD**
Sample Number: 89895

Matrix: Soil

Date Sampled: 4/22/92
Date Extracted: 4/27/92

Date Received: 4/23/92
Date Analyzed: 4/29/92

Batch Number: 920427-1901

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: 5868-87

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}	200	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: 5868-87

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	72	25 - 121
Phenol-d5.....	69	24 - 113
Nitrobenzene-d5.....	62	23 - 120
2-Fluorobiphenyl.....	58	30 - 115
2,4,6-Tribromophenol.....	74	19 - 122
Terphenyl-d14.....	88	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: 5/06/92

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: 5868-71

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: BB16001BSD
Sample Number: 89854

Matrix: Soil

Date Sampled: 4/22/92
Date Extracted: 4/27/92

Date Received: 4/23/92
Date Analyzed: 4/29/92

Batch Number: 920427-1901

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: 5868-71

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: 5868-71

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	57	25 - 121
Phenol-d5.....	59	24 - 113
Nitrobenzene-d5.....	49	23 - 120
2-Fluorobiphenyl.....	51	30 - 115
2,4,6-Tribromophenol.....	69	19 - 122
Terphenyl-d14.....	87	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: 5/06/92

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: 5868-74

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: BB16002SD
Sample Number: 89860

Matrix: Soil

Date Sampled: 4/22/92
Date Extracted: 4/27/92

Date Received: 4/23/92
Date Analyzed: 4/29/92

Batch Number: 920427-1901

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: 5868-74

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: 5868-74

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	66	25 - 121
Phenol-d5.....	65	24 - 113
Nitrobenzene-d5.....	57	23 - 120
2-Fluorobiphenyl.....	53	30 - 115
2,4,6-Tribromophenol.....	70	19 - 122
Terphenyl-d14.....	85	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 McDonald for CM
Cheryl Matterson, Associate Chemist

Date: 5/06/92

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: 5868-77

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: **BB16003SD**
Sample Number: 89866

Matrix: Soil

Date Sampled: 4/22/92
Date Extracted: 4/27/92

Date Received: 4/23/92
Date Analyzed: 4/29/92

Batch Number: 920427-1901

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: 5868-77

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: 5868-77

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	59	25 - 121
Phenol-d5.....	65	24 - 113
Nitrobenzene-d5.....	48	23 - 120
2-Fluorobiphenyl.....	57	30 - 115
2,4,6-Tribromophenol.....	70	19 - 122
Terphenyl-d14.....	82	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: 5/06/92

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: 5868-80

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: **BB16004SD**
Sample Number: 89872

Matrix: Soil

Date Sampled: 4/22/92
Date Extracted: 4/27/92

Date Received: 4/23/92
Date Analyzed: 4/29/92

Batch Number: 920427-1901

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: 5868-80

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: 5868-80

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	76	25 - 121
Phenol-d5.....	72	24 - 113
Nitrobenzene-d5.....	64	23 - 120
2-Fluorobiphenyl.....	62	30 - 115
2,4,6-Tribromophenol.....	72	19 - 122
Terphenyl-d14.....	87	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: 5/06/92

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

McLaren Hart™

SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5868-83

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: BB16005SD
Sample Number: 89878

Matrix: Soil

Date Sampled: 4/22/92
Date Extracted: 4/27/92

Date Received: 4/23/92
Date Analyzed: 4/29/92

Batch Number: 920427-1901

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: 5868-83

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: 5868-83

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	74	25 - 121
Phenol-d5.....	69	24 - 113
Nitrobenzene-d5.....	58	23 - 120
2-Fluorobiphenyl.....	56	30 - 115
2,4,6-Tribromophenol.....	69	19 - 122
Terphenyl-d14.....	84	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: 5/06/92

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

McLaren Hart™

METALS

PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5868-89

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: **BB16001ASF**
Sample Number: 89897

Matrix: Soil

Date Sampled: 4/22/92
Date Digested: 4/27/92 {b}

Date Received: 4/23/92
Batch Number: 920427-1104 {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	5/01/92
Arsenic (As)/7060.....	2.7	1	.50	5/01/92
Beryllium (Be)/6010.....	.42	1	.25	5/04/92
Cadmium (Cd)/6010.....		1	.50	5/01/92
Chromium (Cr)/6010.....	14.	1	1.0	5/01/92
Copper (Cu)/6010.....	7.5	1	1.0	5/01/92
Lead (Pb)/6010.....	8.0	1	2.5	5/01/92
Mercury (Hg)/7471.....		1	.25	4/27/92
Nickel (Ni)/6010.....	8.1	1	1.0	5/01/92
Selenium (Se)/7740.....		1	.25	4/30/92
Silver (Ag)/6010.....		1	1.0	5/01/92
Thallium (Tl)/7841.....		1	.50	5/01/92
Zinc (Zn)/6010.....	44.	1	1.0	5/01/92

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 4/27/92, Batch # 920427-1105; and Hg was digested on 4/27/92, Batch # 920427-1106 .
{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: 5/07/92

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: 5868-73

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: BB16001BSF
Sample Number: 89856

Matrix: Soil

Date Sampled: 4/22/92
Date Digested: 4/27/92 {b}

Date Received: 4/23/92
Batch Number: 920427-1101 {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	5/01/92
Arsenic (As)/7060.....	2.4	1	.50	5/01/92
Beryllium (Be)/6010.....		1	.25	5/04/92
Cadmium (Cd)/6010.....		1	.50	5/01/92
Chromium (Cr)/6010.....	5.8	1	1.0	5/01/92
Copper (Cu)/6010.....	3.0	1	1.0	5/01/92
Lead (Pb)/6010.....	3.3	1	2.5	5/01/92
Mercury (Hg)/7471.....		1	.25	4/27/92
Nickel (Ni)/6010.....	2.8	1	1.0	5/01/92
Selenium (Se)/7740.....		1	.25	4/30/92
Silver (Ag)/6010.....		1	1.0	5/01/92
Thallium (Tl)/7841.....		1	.50	5/01/92
Zinc (Zn)/6010.....	19.	1	1.0	5/01/92

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 4/27/92, Batch # 920427-1102; and Hg was digested on 4/27/92, Batch # 920427-1103 .
{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: 5/07/92

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: 5868-76

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: BB16002SF
Sample Number: 89862

Matrix: Soil

Date Sampled: 4/22/92
Date Digested: 4/27/92 {b}

Date Received: 4/23/92
Batch Number: 920427-1101 {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	5/01/92
Arsenic (As)/7060.....	2.6	1	.50	5/01/92
Beryllium (Be)/6010.....	.32	1	.25	5/04/92
Cadmium (Cd)/6010.....		1	.50	5/01/92
Chromium (Cr)/6010.....	10.	1	1.0	5/01/92
Copper (Cu)/6010.....	6.3	1	1.0	5/01/92
Lead (Pb)/6010.....	5.0	1	2.5	5/01/92
Mercury (Hg)/7471.....		1	.25	4/27/92
Nickel (Ni)/6010.....	6.5	1	1.0	5/01/92
Selenium (Se)/7740.....		1	.25	4/30/92
Silver (Ag)/6010.....		1	1.0	5/01/92
Thallium (Tl)/7841.....		1	.50	5/01/92
Zinc (Zn)/6010.....	36.	1	1.0	5/01/92

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 4/27/92, Batch # 920427-1102; and Hg was digested on 4/27/92, Batch # 920427-1103 .
{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: 5/07/92

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: 5868-79

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: BB16003SF
Sample Number: 89868

Matrix: Soil

Date Sampled: 4/22/92
Date Digested: 4/27/92 {b}

Date Received: 4/23/92
Batch Number: 920427-1104 {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	5/01/92
Arsenic (As)/7060.....	1.1	1	.50	5/01/92
Beryllium (Be)/6010.....		1	.25	5/04/92
Cadmium (Cd)/6010.....		1	.50	5/01/92
Chromium (Cr)/6010.....	4.9	1	1.0	5/01/92
Copper (Cu)/6010.....	2.7	1	1.0	5/01/92
Lead (Pb)/6010.....	2.4	1	2.5	5/01/92
Mercury (Hg)/7471.....		1	.25	4/27/92
Nickel (Ni)/6010.....	2.9	1	1.0	5/01/92
Selenium (Se)/7740.....		1	.25	4/30/92
Silver (Ag)/6010.....		1	1.0	5/01/92
Thallium (Tl)/7841.....		1	.50	5/01/92
Zinc (Zn)/6010.....	18.	1	1.0	5/01/92

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 4/27/92, Batch # 920427-1105; and Hg was digested on 4/27/92, Batch # 920427-1106 .
{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: 5/07/92

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: 5868-82

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: BB16004SF
Sample Number: 89874

Matrix: Soil

Date Sampled: 4/22/92
Date Digested: 4/27/92 {b}

Date Received: 4/23/92
Batch Number: 920427-1104 {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	5/01/92
Arsenic (As)/7060.....	2.5	1	.50	5/01/92
Beryllium (Be)/6010.....	.39	1	.25	5/04/92
Cadmium (Cd)/6010.....		1	.50	5/01/92
Chromium (Cr)/6010.....	9.9	1	1.0	5/01/92
Copper (Cu)/6010.....	6.5	1	1.0	5/01/92
Lead (Pb)/6010.....	14.	1	2.5	5/01/92
Mercury (Hg)/7471.....		1	.25	4/27/92
Nickel (Ni)/6010.....	5.7	1	1.0	5/01/92
Selenium (Se)/7740.....		1	.25	4/30/92
Silver (Ag)/6010.....		1	1.0	5/01/92
Thallium (Tl)/7841.....		1	.50	5/01/92
Zinc (Zn)/6010.....	120.	1	1.0	5/01/92

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 4/27/92, Batch # 920427-1105; and Hg was digested on 4/27/92, Batch # 920427-1106 .
{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: 5/07/92

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

McLaren Hart™

PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5868-85

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: **BB16005SF**
Sample Number: 89880

Matrix: Soil

Date Sampled: 4/22/92
Date Digested: 4/27/92 {b}

Date Received: 4/23/92
Batch Number: 920427-1104 {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	5/01/92
Arsenic (As)/7060.....	1.6	1	.50	5/01/92
Beryllium (Be)/6010.....		1	.25	5/04/92
Cadmium (Cd)/6010.....		1	.50	5/01/92
Chromium (Cr)/6010.....	5.0	1	1.0	5/01/92
Copper (Cu)/6010.....	2.5	1	1.0	5/01/92
Lead (Pb)/6010.....	2.6	1	2.5	5/01/92
Mercury (Hg)/7471.....		1	.25	4/27/92
Nickel (Ni)/6010.....	2.8	1	1.0	5/01/92
Selenium (Se)/7740.....		1	.25	4/30/92
Silver (Ag)/6010.....		1	1.0	5/01/92
Thallium (Tl)/7841.....		1	.50	5/01/92
Zinc (Zn)/6010.....	18.	1	1.0	5/01/92

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 4/27/92, Batch # 920427-1105; and Hg was digested on 4/27/92, Batch # 920427-1106 .
{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: 5/07/92

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

McLaren Hart™

RADIONUCLIDES

Table1. Results of the analyses for iodine-129 and strontium-90 in thirty (30) soil samples.

Sample ID Number	Sample Description	Collection Date	Lab Code	Conc. pCi/g wet I-129	Date Analyzed	Conc. pCi/g dry Sr-90	Date Analyzed
89575	BB15005SA	04/22/92	SPS-2158	<0.2	06/30	<0.01	07/11
89581	BB00007SA	04/22/92	SPS-2159	<0.3	06/30	0.02±0.02	07/11
89851	BB16001BSA	04/22/92	SPS-2160	<0.3	06/30	0.03±0.01	07/11
89857	BB16002SA	04/22/92	SPS-2161	<0.3	07/11	0.09±0.01	07/15
89863	BB16002SA	04/22/92	SPS-2162	<0.3	07/20	0.02±0.01	07/16
89869	BB16004SA	04/22/92	SPS-2163	<0.3	07/11	0.15±0.02	07/15
89875	BB16005SA	04/22/92	SPS-2164	<0.3	07/07	0.04±0.01	08/11
89881	BB00006SA	04/22/92	SPS-2165	<0.2	07/07	0.12±0.02	07/15
89892	BB16001ASA	04/22/92	SPS-2166	<0.3	07/07	0.08±0.01	07/16
89301	BB17001SA	04/21/92	SPS-2167	<0.3	07/08	0.01±0.01	07/16
89307	BB17002SA	04/21/92	SPS-2168	<0.3	07/08	0.02±0.01	07/11
89313	BB17003SA	04/21/92	SPS-2169	<0.2	07/08	0.01±0.01	07/16
89319	BB17004SA	04/21/92	SPS-2170	<0.2	07/08	0.03±0.01	08/11
Dup	BB17004SA	04/21/92	SPS-2170D	<0.2	07/08	0.02±0.01	08/11
89551	BB15001SA	04/21/92	SPS-2171	<0.3	07/09	0.01±0.01	08/11
89557	BB15002SA	04/21/92	SPS-2172	<0.3	07/09	<0.01	07/16
89563	BB15003SA	04/21/92	SPS-2173	<0.3	07/10	0.01±0.01	07/15
89569	BB15004SA	04/21/92	SPS-2174	<0.2	07/10	<0.01	07/11
90151	BB18001ASA	04/21/92	SPS-2175	<0.3	07/10	0.02±0.01	07/16
90157	BB18002ASA	04/21/92	SPS-2176	<0.3	07/13	0.02±0.01	08/11
90163	BB18002SA	04/21/92	SPS-2177	<0.3	07/13	<0.01	07/11
90170	BB18003SA	04/21/92	SPS-2178	<0.2	07/13	0.01±0.01	07/15
89219	BB18001SA	04/21/92	SPS-2179	<0.3	07/14	0.02±0.01	08/11
89225	BB18003ASA	04/21/92	SPS-2180	<0.2	07/14	<0.01	07/16
89213	BB18003BSA	04/21/92	SPS-2181	<0.3	07/14	<0.01	07/16
89207	BB18002BSA	04/21/92	SPS-2182	<0.3	07/18	0.02±0.01	08/11
89201	BB18001BSA	04/21/92	SPS-2183	<0.3	07/17	0.01±0.01	08/11
90401	BB19001SA	04/23/92	SPS-2184	<0.3	07/17	0.08±0.02	08/11
90407	BB19002SA	04/23/92	SPS-2185	<0.3	07/18	0.09±0.02	08/11
90413	BB19003SA	04/23/92	SPS-2186	<0.3	07/18	0.02±0.01	08/11
90419	BB19004SA	04/23/92	SPS-2187	<0.3	07/18	0.03±0.01	08/11

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.

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 07/07/92

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE	PAGE 1
3 1297	04-0029403-012	04/27/92	05/30/92	

TREE 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.
74379	89893	0B1600IASB		04/22	1000			PU-238	L.T. 4. E-02		06/09			6
								PU-239	L.T. 8. E-03		06/09			6
74380	89894	0B1600IASC		04/22	1000			BE-7	L.T. 5. E-01		06/01			4
								K-40	2.10+-0.21E 01		06/01			4
								MN-54	L.T. 4. E-02		06/01			4
								CO-58	L.T. 5. E-02		06/01			4
								FE-59	L.T. 1. E-01		06/01			4
								CO-60	L.T. 4. E-02		06/01			4
								ZN-65	L.T. 1. E-01		06/01			4
								ZR-95	L.T. 6. E-02		06/01			4
								RU-103	L.T. 7. E-02		06/01			4
								RU-106	L.T. 3. E-01		06/01			4
								I-131	L.T. 1. E-00		06/01			4
								CS-134	L.T. 5. E-02		06/01			4
								CS-137	7.01+-2.78E-02		06/01			4
								BA-140	L.T. 3. E-01		06/01			4
								CE-141	L.T. 1. E-01		06/01			4
								CE-144	L.T. 2. E-01		06/01			4
								RA-226	2.33+-0.50E 00		06/01			4
								TH-228	1.31+-0.13E 00		06/01			4
								U-3	2.0 +-0.3 E-01		06/22			5
74384	90402	0B1900ISB		04/22	0830			PU-238	L.T. 5. E-02		06/08			6
								PU-239	L.T. 3. E-02		06/08			6

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 06/25/92

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
3-1296	04-0029403-012	04/27/92	05/30/92

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.
74366	89577	BB15005SC		04/22	1100			BE-7	L.T. 4. E-01		05/28			4
								K-40	2.16+-0.22E 01		05/28			4
								MN-54	L.T. 3. E-02		05/28			4
								CO-58	L.T. 4. E-02		05/28			4
								FE-59	L.T. 1. E-01		05/28			4
								CO-60	L.T. 3. E-02		05/28			4
								ZN-65	L.T. 9. E-02		05/28			4
								ZR-95	L.T. 5. E-02		05/28			4
								RU-103	L.T. 5. E-02		05/28			4
								RU-106	L.T. 3. E-01		05/28			4
								I-131	L.T. 6. E-01		05/28			4
								CS-134	L.T. 4. E-02		05/28			4
								CS-137	5.20+-2.45E-02		05/28			4
								BA-140	L.T. 2. E-01		05/28			4
								CE-141	L.T. 1. E-01		05/28			4
								CE-144	L.T. 2. E-01		05/28			4
								RA-226	1.47+-0.53E 00		05/28			4
								TH-228	8.04+-0.80E-01		05/28			4
								H-3	NOT ANALYZED					5
74367	89852	BB16001BSB		04/22	0915			PU-238	L.T. 3. E-02		06/10			6
								PU-239	L.T. 1. E-02		06/10			6
74368	89853	BB16001BSC		04/22	0915			BE-7	L.T. 5. E-01		05/28			4
								K-40	2.01+-0.20E 01		05/28			4
								MN-54	L.T. 4. E-02		05/28			4
								CO-58	L.T. 5. E-02		05/28			4
								FE-59	L.T. 1. E-01		05/28			4
								CO-60	L.T. 4. E-02		05/28			4
								ZN-65	L.T. 1. E-01		05/28			4
								ZR-95	L.T. 6. E-02		05/28			4
								RU-103	L.T. 6. E-02		05/28			4
								RU-106	L.T. 3. E-01		05/28			4

A small quantity of water was extracted from TI#74366. The distillation procedure was not effective in providing an adequate quantity of sufficiently clean water, thus the H-3 analysis could not be completed.

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 06/25/92

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
3-1296	04-0029403-012	04/27/92	05/30/92

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.
74368	89853 BB16001BSC		04/22	0915			I-131	L.T. 8. E-01		05/28			4
							CS-134	L.T. 4. E-02		05/28			4
							CS-137	L.T. 4. E-02		05/28			4
							BA-140	L.T. 2. E-01		05/28			4
							CE-141	L.T. 1. E-01		05/28			4
							CE-144	L.T. 3. E-01		05/28			4
							RA-226	L.T. 8. E-01		05/28			4
							TH-228	6.32+-0.63E-01		05/28			4
							H-3	L.T. 3. E-02		06/22			5
74369	89858 BB16002SB		04/22	0835			PU-238	6.6 +-6.1 E-02		06/10			6
							PU-239	L.T. 2. E-02		06/10			6
74370	89859 BB16002SC		04/22	0835			H-3	6.0 +-0.8 E-01		06/21			5
74371	89864 BB16003SB		04/22	0840			PU-238	L.T. 2. E-02		06/08			6
							PU-239	L.T. 9. E-03		06/08			6
74372	89865 BB16003SC		04/22	0840			BE-7	L.T. 4. E-01		06/08			4
							K-40	2.40+-0.24E 01		06/08			4
							MN-54	L.T. 3. E-02		06/08			4
							CO-58	L.T. 4. E-02		06/08			4
							FE-59	L.T. 1. E-01		06/08			4
							CO-60	L.T. 3. E-02		06/08			4
							ZN-65	L.T. 8. E-02		06/08			4
							ZR-95	L.T. 5. E-02		06/08			4
							RU-103	L.T. 6. E-02		06/08			4
							RU-106	L.T. 3. E-01		06/08			4
							I-131	L.T. 1. E 00		06/08			4
							CS-134	L.T. 3. E-02		06/08			4
							CS-137	L.T. 3. E-02		06/08			4
							BA-140	L.T. 3. E-01		06/08			4
							CE-141	L.T. 1. E-01		06/08			4

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 06/25/92

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE	PAGE 6
3-1296	04-0029403-012	04/27/92	05/30/92	

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.
74372	89865	BB16003SC		04/22	0840			CE-144	L.T. 2. E-01		06/08			4
								RA-226	1.49+-0.38E 00		06/08			4
								TH-228	7.81+-0.78E-01		06/08			4
								H-3	2.4 +-0.3 E-01		06/21			5
74373	89870	BB16004SB		04/22	0850			PU-238	L.T. 7. E-02		06/10			6
								PU-239	L.T. 3. E-02		06/10			6
74374	89871	BB16004SC		04/22	0850			BE-7	L.T. 5. E-01		06/01			4
								K-40	2.16+-0.22E 01		06/01			4
								MN-54	L.T. 4. E-02		06/01			4
								CO-58	L.T. 5. E-02		06/01			4
								FE-59	L.T. 1. E-01		06/01			4
								CO-60	L.T. 4. E-02		06/01			4
								ZN-65	L.T. 9. E-02		06/01			4
								ZR-95	L.T. 7. E-02		06/01			4
								RU-103	L.T. 7. E-02		06/01			4
								RU-106	L.T. 4. E-01		06/01			4
								I-131	L.T. 1. E 00		06/01			4
								CS-134	L.T. 5. E-02		06/01			4
								CS-137	3.36+-0.40E-01		06/01			4
								BA-140	L.T. 4. E-01		06/01			4
								CE-141	L.T. 1. E-01		06/01			4
								CE-144	L.T. 3. E-01		06/01			4
								RA-226	2.38+-0.60E 00		06/01			4
								TH-228	1.70+-0.17E 00		06/01			4
								H-3	4.2 +-0.5 E-01		06/21			5
74375	89876	BB16005SB		04/22	0900			PU-238	L.T. 2. E-02		06/10			6
								PU-239	L.T. 5. E-03		06/10			6

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 06/25/92

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE	PAGE 7
3-1296	04-0029403-012	04/27/92	05/30/92	

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.
74376	89877 BB16005SC		04/22	0900			BE-7	L.T. 4. E-01		06/01			4
							K-40	2.34+-0.23E 01		06/01			4
							MN-54	L.T. 3. E-02		06/01			4
							CO-58	L.T. 4. E-02		06/01			4
							FE-59	L.T. 1. E-01		06/01			4
							CO-60	L.T. 3. E-02		06/01			4
							ZN-65	L.T. 8. E-02		06/01			4
							ZR-95	L.T. 5. E-02		06/01			4
							RU-103	L.T. 5. E-02		06/01			4
							RU-106	L.T. 3. E-01		06/01			4
							I-131	L.T. 9. E-01		06/01			4
							CS-134	L.T. 4. E-02		06/01			4
							CS-137	L.T. 4. E-02		06/01			4
							BA-140	L.T. 3. E-01		06/01			4
							CE-141	L.T. 1. E-01		06/01			4
							CE-144	L.T. 2. E-01		06/01			4
							RA-226	1.66+-0.49E 00		06/01			4
							TH-228	8.77+-0.88E-01		06/01			4
							H-3	2.6 +-0.3 E-01		06/21			5

LAST PAGE OF REPORT

APPROVED BY J. GUENTHER 06/25/92

SEND 1 COPIES TO MC480S 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.

TI#	H-3 (pCi/l)
74358	L.T. 2. E 02
74360	L.T. 2. E 02
74362	L.T. 2. E 02
74364	L.T. 2. E 02
74368	L.T. 2. E 02
74370	1.1 +-0.1 E 03
74372	1.3 +-0.3 E 03
74374	1.3 +-0.2 E 03
74376	1.5 +-0.2 E 03

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 09/16/92

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE	PAGE 1
3-3578	04-0029403-012	09/11/92	10/14/92	

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.
74370	89859 BB16002SC		04/22	0835			BE-7	L.T. 4. E-01		05/28			4
							K-40	2.05+-0.21E 01		05/28			4
							MN-54	L.T. 3. E-02		05/28			4
							CO-58	L.T. 4. E-02		05/28			4
							FE-59	L.T. 1. E-01		05/28			4
							CO-60	L.T. 4. E-02		05/28			4
							ZN-65	L.T. 8. E-02		05/28			4
							ZR-95	L.T. 5. E-02		05/28			4
							RU-103	L.T. 5. E-02		05/28			4
							RU-106	L.T. 3. E-01		05/28			4
							I-131	L.T. 7. E-01		05/28			4
							CS-134	L.T. 4. E-02		05/28			4
							CS-137	L.T. 4. E-02		05/28			4
							BA-140	L.T. 3. E-01		05/28			4
							CE-141	L.T. 9. E-02		05/28			4
							CE-144	L.T. 2. E-01		05/28			4
							RA-226	2.33+-0.44E 00		05/28			4
							TH-228	1.66+-0.17E 00		05/28			4

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N

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 10/07/92

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3-3796	04-0029403-012	09/17/92	10/20/92	1

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.
89782	BB13024SA	88901	03/17	1430			H-3	3.6 +-2.1 E-02		09/29			S
89783	BB15003SA	89563	04/22	1135			H-3	NOT ANALYZED					S
89784	BB06007SA	89157	03/17	0840			H-3	3.9 +-1.4 E-02		09/29			S
89785	BG04025SA	88201	03/13	1030			H-3	2.8 +-1.3 E-02		09/29			S
89786	BG05026SA	88225	03/13	1605			H-3	2.7 +-1.0 E-02		09/29			S
89787	BG02007SA	88457	/				H-3	2.1 +-1.1 E-02		09/29			S
89788	BB02045SA	89807	03/19	1000			H-3	NOT ANALYZED		09/29			S
89789	BB15004SA	89569	04/22	1115			H-3	NOT ANALYZED		09/29			S
89790	BB12020SA	90069	03/18	1055			H-3	L.T. 7. E-03		09/29			S
89791	BB03005SA	90125	03/17	1200			H-3	L.T. 3. E-02		09/24			S
89792	BB16001SA	89892	04/22	1000			H-3	2.0 +-0.2 E-01		09/30			S
89793	BG04029SA	88213	03/13	1145			H-3	4.8 +-1.5 E-02		09/30			S
89794	BB14094SA	88419	03/16	1540			H-3	NOT ANALYZED		09/30			S
89795	BB11006SA	89275	03/18	1640			H-3	2.1 +-1.1 E-02		09/30			S
89796	BG02074SA	88451	03/10				H-3	NOT ANALYZED					S

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

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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.
89797	SM03015SA	88307	03/11				H-3	L.T. 8. E-02		09/30			5
89798	BB03025SA	90101	03/17	1040			H-3	5.1 +-2.5 E-02		09/30			5
89799	BB16001BSA	89851	04/22	0915			H-3	3.6 +-2.0 E-02		09/30			5
89800	BB04097SA	88262	03/16	1115			H-3	NOT ANALYZED					5
89801	BB13039SA	88913	03/17	1540			H-3	2.5 +-1.2 E-02		10/02			5
89802	BB15001SA	89551	04/22	1230			H-3	NOT ANALYZED	*				5
89803	BB04023SA	88256	03/16	1100			H-3	2.2 +-0.8 E-02		10/02			5
89804	BB02071SA	89801	03/19	1000			H-3	NOT ANALYZED	*				5

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	TI#	H-3 (pCi/l)	Water (ml)
13024	89782	120±70	11.2
15003	89784	380±140	8.5
04025	89785	160±70	17.5
05024	89786	200±70	12.6
02001	89787	170±90	17.1
12020	89790	L.T. 200	8.6
03005	89791	L.T. 200	13.2
16001	89792	955±100	13.4
04027	89793	240±70	20.5
11006	89795	160±80	16.1
03015	89797	L.T. 200	9.8
03025	89798	240±120	18.4
16001B	89799	220±120	25.3
13039	89801	170±80	15.2
04023	89803	230±90	11.6

The samples listed as not analyzed were samples for which insufficient water was extracted from the soil.

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 09/16/92

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE	PAGE 1
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ERIC SMITH
MCLAREN/HART
16795 VON KARMAN AVE
IRVINE CA 92714

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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.
87180	BB03017SA 90119	1922	03/17				H-3	L.T. 3. E-02		09/14			5
87181	BB03079SA 90113	1921	03/17				H-3	L.T. 4. E-02		09/14			5
87182	BB05089SA 90007	1925	03/18				H-3	L.T. 2. E-02		09/14			5
87183	BB06066SA 89169	1917	03/17				H-3	L.T. 3. E-02		09/14			5
87184	BB13010SA 88925	1913	03/17				H-3	L.T. 2. E-02		09/14			5
87185	BB16002SA 89857	2161	04/22				H-3	1.5 +-0.3 E-01		09/14			5
87186	BB16003SA 89863	2162	04/22				H-3	3.1 +-0.3 E-01		09/14			5
87187	BB16004SA 89869	2163	04/22				H-3	5.9 +-0.6 E-01		09/14			5
87188	BB16005SA 89875	2164	04/22				H-3	3.7 +-0.4 E-01		09/14			5
87189	BB03092SA 90107	1920	03/17				H-3	L.T. 3. E-02		09/14			5

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TELEDYNE ISOTOPES

REPORT OF ANALYSIS

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WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE	PAGE 1
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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.
87180	BB03017SA 90119	1922	03/17				H-3	L.T. 3. E-02		09/14			5
87181	BB03079SA 90113	1921	03/17				H-3	L.T. 4. E-02		09/14			5
87182	BB05089SA 90007	1925	03/18				H-3	L.T. 2. E-02		09/14			5
87183	BB06066SA 89169	1917	03/17				H-3	L.T. 3. E-02		09/14			5
87184	BB13010SA 88925	1913	03/17				H-3	L.T. 2. E-02		09/14			5
87185	BB16002SA 89857	2161	04/22				H-3	1.5 +-0.3 E-01		09/14			5
87186	BB16003SA 89863	2162	04/22				H-3	3.1 +-0.3 E-01		09/14			5
87187	BB16004SA 89869	2163	04/22				H-3	5.9 +-0.6 E-01		09/14			5
87188	BB16005SA 89875	2164	04/22				H-3	3.7 +-0.4 E-01		09/14			5
87189	BB03092SA 90107	1920	03/17				H-3	L.T. 3. E-02		09/14			5

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REPORT OF ANALYSIS

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IRVINE CA 92714

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87180	BB03017SA 90119	1922	03/17				H-3	L.T. 3. E-02		09/14			5
87181	BB03079SA 90113	1921	03/17				H-3	L.T. 4. E-02		09/14			5
87182	BB05089SA 90007	1925	03/18				H-3	L.T. 2. E-02		09/14			5
87183	BB06066SA 89169	1917	03/17				H-3	L.T. 3. E-02		09/14			5
87184	BB13010SA 88925	1913	03/17				H-3	L.T. 2. E-02		09/14			5
87185	BB16002SA 89857	2161	04/22				H-3	1.5 +-0.3 E-01		09/14			5
87186	BB16003SA 89863	2162	04/22				H-3	3.1 +-0.3 E-01		09/14			5
87187	BB16004SA 89869	2163	04/22				H-3	5.9 +-0.6 E-01		09/14			5
87188	BB16005SA 89875	2164	04/22				H-3	3.7 +-0.4 E-01		09/14			5
87189	BB03092SA 90107	1920	03/17				H-3	L.T. 3. E-02		09/14			5

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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.
87180	BB03017SA 90119	1922	03/17				H-3	L.T. 3. E-02		09/14			5
87181	BB03079SA 90113	1921	03/17				H-3	L.T. 4. E-02		09/14			5
87182	BB05089SA 90007	1925	03/18				H-3	L.T. 2. E-02		09/14			5
87183	BB06066SA 89169	1917	03/17				H-3	L.T. 3. E-02		09/14			5
87184	BB13010SA 88925	1913	03/17				H-3	L.T. 2. E-02		09/14			5
87185	BB16002SA 89857	2161	04/22				H-3	1.5 +-0.3 E-01		09/14			5
87186	BB16003SA 89863	2162	04/22				H-3	3.1 +-0.3 E-01		09/14			5
87187	BB16004SA 89869	2163	04/22				H-3	5.9 +-0.6 E-01		09/14			5
87188	BB16005SA 89875	2164	04/22				H-3	3.7 +-0.4 E-01		09/14			5
87189	BB03092SA 90107	1920	03/17				H-3	L.T. 3. E-02		09/14			5

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WATER

VOLATILE ORGANICS

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

Lab Project-Sample ID: 5868-90

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: BB16001BWH
Sample Number: 197301

Matrix: Water

Date Sampled: 4/22/92
Date Analyzed: 4/27/92

Date Received: 4/23/92
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		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: 5868-90

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	100	88 - 110
4-Bromofluorobenzene	99	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: 5/06/92
Cheryl Matterson, Associate Chemist

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

McLaren Hart™

VOLATILE ORGANICS

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

Lab Project-Sample ID: 5879-1

Project Name: Rocketdyne
Project Number: 040029403012

Sample Description: BB16RD30-WH
Sample Number: 197861

Matrix: Water

Date Sampled: 4/23/92
Date Analyzed: 4/30/92

Date Received: 4/25/92
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	3	5
Methylene Chloride		5
Carbon Disulfide		5
trans-1,2,Dichloroethene		5
1,1-Dichloroethane		5
cis-1,2-Dichloroethene {b}	13	5
Chloroform		5
1,2-Dichloroethane		5
2-Butanone		25
1,1,1-Trichloroethane		5
Carbon Tetrachloride		5
Benzene		5
Trichloroethene	38	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 - Modified
Preparation Method: EPA 5030

Lab Project-Sample ID: 5879-1

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	101	76 - 114
Toluene-D8	101	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: 5/11/92
Cheryl Matterson, Associate Chemist

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

McLaren Hart™

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

Lab Project-Sample ID: 5879-2
Project Name: Rocketdyne
Project Number: 040029403012

Sample Description: BB16001BWG
Sample Number: 197305
Date Sampled: 4/23/92
Date Extracted: 4/29/92
Batch Number: 920429-1902

Matrix: Water
Date Received: 4/25/92
Date Analyzed: 5/01/92
Dilution Factor: 1

ANALYTE	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	91	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 M Sanchez for CM Date: 5/12/92
Cheryl Matterson, Association Chemist

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

McLaren Hart™

PRIORITY POLLUTANT METALS

Preparation Method: EPA 3010 {a}

ab Project-Sample ID: 5879-3

Project Name: Rocketdyne
Project Number: 040029403012

Sample Description: BB16001BWF
Sample Number: 197312 Matrix: Water

Date Sampled: 4/23/92 Date Received: 4/25/92
Date Digested: 4/29/92 {b} Batch Number: 920429-1301 {b}

METAL (SYMBOL)/EPA METHOD	ANALYTE CONCENTRATION {c} ug/L (ppb)	DILUTION FACTOR	REPORTING LIMIT ug/L (ppb)	DATE ANALYZED
Antimony (Sb)/6010.....		1	50	5/01/92
Arsenic (As)/7060.....		1	10	5/01/92
Beryllium (Be)/6010.....		1	5	5/01/92
Cadmium (Cd)/6010.....		1	10	5/01/92
Chromium (Cr)/6010.....		1	10	5/01/92
Copper (Cu)/6010.....		1	20	5/01/92
Lead (Pb)/7421.....		1	3	5/01/92
Mercury (Hg)/7470.....		1	.5	4/30/92
Nickel (Ni)/6010.....		1	20	5/01/92
Selenium (Se)/7740.....		1	5	4/30/92
ilver (Ag)/6010.....		1	10	5/01/92
nallium (Tl)/7841.....		1	10	5/01/92
Zinc (Zn)/6010.....		1	20	5/01/92

COMMENTS:

{a} Applies to all metals except As, Pb, Se, Tl and Hg. EPA Method 3020 used for As, Pb, Se and Tl digestion. EPA Method 7470 used for Hg digestion.
{b} Applies to all metals except As, Pb, Se, Tl and Hg. As, Pb, Se and Tl were digested on 4/29/92, Batch # 920429-1302 ; and Hg was digested on 4/29/92, Batch # 920429-1303 .
{c} No entry in the "Concentration" means the metal is not detected at all.

Approved by: Nancy McDonald for CM Date: 5/11/92
Cheryl Matterson, Association Chemist

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

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Table: Results of the analyses for iodine-129 in three (3) and strontium-90 in fifteen (15) water samples.

Sample ID Number	Sample Description	Collection Date	Lab Code	Concentration pCi/L			
				I-129	Date Analyzed	Sr-90	Date Analyzed
197855	BB16RD30WA	04/23/92	SPW-2139	ND		<0.3	06/06
197874	BB19003WA	04/23/92	2140	ND		<0.4	06/06
197310	BB16001BWA	04/23/92	2141	ND		1.8±0.5	06/06
197317	BB16001AWA	04/23/92	2142	ND		1.1±0.3	06/06
197890	DCWA	04/23/92	2143	ND		<0.4	06/06
197891	Dup. SPW-2143	04/23/92	2144	ND		<0.3	06/06
197311	BB16001BWC	04/23/92	2145	<1.8	06/09	ND	
197893	DCWC	04/23/92	2146	<2.0	06/09	ND	
197894	Dup. SPW-2146	04/23/92	2147	<2.6	06/09	ND	
197122	BB18003WC	04/21/92	2148	<1.6	06/10	ND	
197123	BB00001WC	04/21/92	2149	<1.7	06/11	ND	
197109	BB18003WA	04/21/92	2150	ND		<0.3	06/06
197110	BB00001WA	04/21/92	2151	ND		1.0±0.4	06/06
197130	BB18000RA	04/21/92	2152	ND		<0.3	06/06
171835	7B1WA	04/21/92	2153	ND		<0.4	06/06
171836	Dup. SPW-2153	04/21/92	2154	ND		<0.3	06/06
197135	BB18000RC	04/21/92	2155	<1.7	06/11	ND	
171838	7B1WC	04/21/92	2156	<1.7	06/11	ND	
171839	Dup. SPW-2156	04/21/92	2157	<1.6	06/11	ND	

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

ND - no data, analysis not required.

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 10/02/92

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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.
74407	197308 BB16001WE B		04/23	0950			H-3	1.3 +-0.7 E 02		09/19			5
74411	197315 BB16001AWE		04/23	1350			H-3	1.5 +-0.1 E 03		09/19			5

LAST PAGE OF REPORT

APPROVED BY J. GUENTHER 10/02/92

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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.

These are reanalyses as requested by the customer.

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 07/07/92

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3-1298	04-0029403-012	04/27/92	05/30/92	

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.
74401	197870 BB19003WD		04/23	0830			BE-7	L.T. 4. E 01		05/24			4
							K-40	L.T. 5. E 01		05/24			4
							MN-54	L.T. 3. E 00		05/24			4
							CO-58	L.T. 4. E 00		05/24			4
							FE-59	L.T. 1. E 01		05/24			4
							CO-60	L.T. 3. E 00		05/24			4
							ZN-65	L.T. 7. E 00		05/24			4
							ZR-95	L.T. 4. E 00		05/24			4
							RU-103	L.T. 6. E 00		05/24			4
							RU-106	L.T. 3. E 01		05/24			4
							I-131	L.T. 5. E 01		05/24			4
							CS-134	L.T. 3. E 00		05/24			4
							CS-137	L.T. 3. E 00		05/24			4
							BA-140	L.T. 2. E 01		05/24			4
							CE-141	L.T. 9. E 00		05/24			4
							CE-144	L.T. 2. E 01		05/24			4
							RA-226	L.T. 6. E 01		05/24			4
							TH-228	L.T. 6. E 00		05/24			4
74402	197871 BB19003WE		04/23	0830			GR-A	L.T. 4. E 00		05/08			3
							GR-B	4.9 +-2.5 E 00		05/08			3
74403	197872 BB19003WF		04/23	0830			H-3	L.T. 1. E 02		06/27			5
74404	197873 BB19003WB		04/23	0830			PU-238	L.T. 4. E-01		05/23			6
							PU-239	L.T. 3. E-01		05/23			6
74405	197306 BB16001WD		04/23	0950			BE-7	L.T. 3. E 01		05/24			4
							K-40	L.T. 5. E 01		05/24			4
							MN-54	L.T. 3. E 00		05/24			4
							CO-58	L.T. 3. E 00		05/24			4
							FE-59	L.T. 8. E 00		05/24			4
							CO-60	L.T. 3. E 00		05/24			4

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

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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.
74405	197306 BB16001WD		04/23	0950			ZN-65	L.T. 5. E 00		05/24			4
							ZR-95	L.T. 3. E 00		05/24			4
							RU-103	L.T. 5. E 00		05/24			4
							RU-106	L.T. 2. E 01		05/24			4
							I-131	L.T. 4. E 01		05/24			4
							CS-134	L.T. 3. E 00		05/24			4
							CS-137	L.T. 2. E 00		05/24			4
							BA-140	L.T. 2. E 01		05/24			4
							CE-141	L.T. 9. E 00		05/24			4
							CE-144	L.T. 2. E 01		05/24			4
							RA-226	L.T. 6. E 01		05/24			4
							TH-228	L.T. 6. E 00		05/24			4
74406	197307 BB16001BWI		04/23	0950			GR-A	L.T. 5. E 00		05/08			3
							GR-B	2.5 +-0.4 E 01		05/09			3
74407	197308 BB16001WE		04/23	0950			H-3	L.T. 1. E 02		06/27			5
74408	197309 BB16001BWB		04/23	1140			PU-238	L.T. 2. E-01		05/23			6
							PU-239	L.T. 6. E-02		05/23			6
74409	197313 BB16001AWD		04/23	1330			BE-7	L.T. 4. E 01		05/24			4
							K-40	L.T. 9. E 01		05/24			4
							MN-54	L.T. 3. E 00		05/24			4
							CO-58	L.T. 4. E 00		05/24			4
							FE-59	L.T. 1. E 01		05/24			4
							CO-60	L.T. 4. E 00		05/24			4
							ZN-65	L.T. 7. E 00		05/24			4
							ZR-95	L.T. 5. E 00		05/24			4
							RU-103	L.T. 6. E 00		05/24			4
							RU-106	L.T. 3. E 01		05/24			4
							I-131	L.T. 5. E 01		05/24			4
							CS-134	L.T. 4. E 00		05/24			4

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

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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.
74409	197313 BB16001AWD		04/23	1330			CS-137	L.T. 3. E 00		05/24			4
							BA-140	L.T. 2. E 01		05/24			4
							CE-141	L.T. 9. E 00		05/24			4
							CE-144	L.T. 2. E 01		05/24			4
							RA-226	L.T. 6. E 01		05/24			4
							TH-228	L.T. 6. E 00		05/24			4
74410	197314 BB16001AWI		04/23	1330			GR-A	L.T. 5. E 00		05/08			3
							GR-B	2.0 +-0.4 E 01		05/08			3
74411	197315 BB16001AWE		04/23	1350			H-3	1.5 +-0.1 E 03		06/28			5
74412	197316 BB16001AWB		04/23	1350			PU-238	L.T. 8. E-01		05/23			6
							PU-239	L.T. 6. E-01		05/23			6
74413	197892 DCWB		04/23	1400			PU-238	L.T. 8. E-01		05/23			6
							PU-239	L.T. 2. E-01		05/23			6
74414	197895 DCWD		04/23	1400			BE-7	L.T. 4. E 01		05/26			4
							K-40	L.T. 6. E 01		05/26			4
							MN-54	L.T. 3. E 00		05/26			4
							CO-58	L.T. 4. E 00		05/26			4
							FE-59	L.T. 1. E 01		05/26			4
							CO-60	L.T. 4. E 00		05/26			4
							ZN-65	L.T. 7. E 00		05/26			4
							ZR-95	L.T. 4. E 00		05/26			4
							RU-103	L.T. 6. E 00		05/26			4
							RU-106	L.T. 3. E 01		05/26			4
							I-131	L.T. 6. E 01		05/26			4
							CS-134	L.T. 3. E 00		05/26			4
							CS-137	L.T. 4. E 00		05/26			4
							BA-140	L.T. 2. E 01		05/26			4
							CE-141	L.T. 1. E 01		05/26			4

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 07/07/92

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ERIC SMITH
MCLAREN/HART
16255 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.
74392	171837	FBIWB	04/23	1115			PU-238	L.T. 3. E-01		05/26			6
							PU-239	L.T. 1. E-01		05/26			6
74393	171840-1	FBIWD	04/23	1115			BE-7	L.T. 4. E 01		05/26			4
							K-40	L.T. 5. E 01		05/26			4
							MN-54	L.T. 3. E 00		05/26			4
							CO-58	L.T. 4. E 00		05/26			4
							FE-59	L.T. 1. E 01		05/26			4
							CO-60	L.T. 4. E 00		05/26			4
							ZN-65	L.T. 8. E 00		05/26			4
							ZR-95	L.T. 4. E 00		05/26			4
							RU-103	L.T. 6. E 00		05/26			4
							RU-106	L.T. 3. E 01		05/26			4
							I-131	L.T. 6. E 01		05/26			4
							CS-134	L.T. 4. E 00		05/26			4
							CS-137	L.T. 5. E 00		05/26			4
							BA-140	L.T. 2. E 01		05/26			4
							CE-141	L.T. 1. E 01		05/26			4
							CE-144	L.T. 3. E 01		05/26			4
							RA-226	L.T. 7. E 01		05/26			4
							TH-228	L.T. 7. E 00		05/26			4
74394	17842	FBIWE	04/23	1115			H-3	L.T. 1. E 02		06/25			5
74395	197851	BB16R030WD	04/23	1400			BE-7	L.T. 5. E 01		05/24			4
							K-40	L.T. 5. E 01		05/24			4
							MN-54	L.T. 4. E 00		05/24			4
							CO-58	L.T. 4. E 00		05/24			4
							FE-59	L.T. 1. E 01		05/24			4
							CO-60	L.T. 4. E 00		05/24			4
							ZN-65	L.T. 8. E 00		05/24			4
							ZR-95	L.T. 5. E 00		05/24			4
							RU-103	L.T. 7. E 00		05/24			4

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 07/07/92

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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.
74395	197851	8816R030W0	04/23	1400			RU-106	L.T. 4. E 01		05/24			4
							I-131	L.T. 6. E 01		05/24			4
							CS-134	L.T. 4. E 00		05/24			4
							CS-137	L.T. 4. E 00		05/24			4
							BA-140	L.T. 2. E 01		05/24			4
							CE-141	L.T. 1. E 01		05/24			4
							CE-144	L.T. 4. E 01		05/24			4
							RA-226	L.T. 9. E 01		05/24			4
							TH-228	L.T. 9. E 00		05/24			4
74396	197852	8816R030W1	04/23	1400			GR-A	L.T. 4. E 00		06/18			3
							GR-B	9.4 +-3.2 E 00		04/23			3
74397	197853	8816R030W1	04/23	1400			H-3	L.T. 1. E 02		06/25			5
74398	197854	8816R030W8	04/23	1400			PU-238	L.T. 3. E-01		05/26			6
							PU-239	L.T. 3. E-01		05/26			6

LAST PAGE OF REPORT

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2 - GAS LAB. 3 - RADIO CHEMISTRY LAB. 4 - GEILI GAMMA SPEC LAB. 5 - TRITIUM GAS/L.S. LAB. 6 - ALPHA SPEC LAB.

Volatile Organic Compounds

VOLATILE ORGANICS

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

Lab Project-Sample ID: 5868-40

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: BB17001SE
Sample Number: 89305

Matrix: Soil

Date Sampled: 4/21/92
Date Analyzed: 5/01/92

Date Received: 4/23/92
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: 5868- 40

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	91	70 - 121
Toluene-D8	115	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 M. McDonald for CM Date: 5/06/92
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: 5868-43

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: BB17002SE
Sample Number: 89311

Matrix: Soil

Date Sampled: 4/21/92
Date Analyzed: 5/01/92

Date Received: 4/23/92
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: 5868- 43

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	116	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
Cheryl Matterson, Associate Chemist

Date: 5/06/92

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: 5868-46

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: BB17003SE
Sample Number: 89317

Matrix: Soil

Date Sampled: 4/21/92
Date Analyzed: 5/01/92

Date Received: 4/23/92
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: 5868- 46

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	87	70 - 121
Toluene-D8	117	81 - 117
4-Bromofluorobenzene	84	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: 5/06/92
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: 5868-49

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: BB17004SE
Sample Number: 89323

Matrix: Soil

Date Sampled: 4/21/92
Date Analyzed: 5/01/92

Date Received: 4/23/92
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	2	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: 5868- 49

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	92	70 - 121
Toluene-D8	116	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 M McDonald for CM Date: 5/06/92
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: 5868-39

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: BB17001SD
Sample Number: 89304

Matrix: Soil

Date Sampled: 4/21/92
Date Extracted: 4/27/92

Date Received: 4/23/92
Date Analyzed: 4/28/92

Batch Number: 920427-1901

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: 5868-39

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: 5868-39

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	65	25 - 121
Phenol-d5.....	68	24 - 113
Nitrobenzene-d5.....	60	23 - 120
2-Fluorobiphenyl.....	62	30 - 115
2,4,6-Tribromophenol.....	78	19 - 122
Terphenyl-d14.....	92	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: 5/06/92

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

McLaren Hart™

SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5868-42

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: BB17002SD
Sample Number: 89310

Matrix: Soil

Date Sampled: 4/21/92
Date Extracted: 4/27/92

Date Received: 4/23/92
Date Analyzed: 4/28/92

Batch Number: 920427-1901

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: 5868-42

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: 5868-42

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	74	25 - 121
Phenol-d5.....	70	24 - 113
Nitrobenzene-d5.....	60	23 - 120
2-Fluorobiphenyl.....	61	30 - 115
2,4,6-Tribromophenol.....	76	19 - 122
Terphenyl-d14.....	84	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: 5/06/92

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

McLaren Hart™

SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5868-45

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: BB17003SD
Sample Number: 89316

Matrix: Soil

Date Sampled: 4/21/92
Date Extracted: 4/27/92

Date Received: 4/23/92
Date Analyzed: 4/28/92

Batch Number: 920427-1901

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: 5868-45

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: 5868-45

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	69	25 - 121
Phenol-d5.....	66	24 - 113
Nitrobenzene-d5.....	58	23 - 120
2-Fluorobiphenyl.....	61	30 - 115
2,4,6-Tribromophenol.....	81	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 Date: 5/06/92
Cheryl Matterson, Associate Chemist

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

McLaren™ Hart

SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5868-48

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: BB17004SD
Sample Number: 89322

Matrix: Soil

Date Sampled: 4/21/92
Date Extracted: 4/27/92

Date Received: 4/23/92
Date Analyzed: 4/28/92

Batch Number: 920427-1901

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: 5868-48

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: 5868-48

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	65	25 - 121
Phenol-d5.....	65	24 - 113
Nitrobenzene-d5.....	63	23 - 120
2-Fluorobiphenyl.....	63	30 - 115
2,4,6-Tribromophenol.....	79	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: 5/06/92

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

McLaren Hart™

METALS

PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5868-41

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: BB17001SF
Sample Number: 89306

Matrix: Soil

Date Sampled: 4/21/92
Date Digested: 4/27/92 {b}

Date Received: 4/23/92
Batch Number: 920427-1101 {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	5/01/92
Arsenic (As)/7060.....	2.4	1	.50	5/01/92
Beryllium (Be)/6010.....	.39	1	.25	5/04/92
Cadmium (Cd)/6010.....		1	.50	5/01/92
Chromium (Cr)/6010.....	12.	1	1.0	5/01/92
Copper (Cu)/6010.....	6.7	1	1.0	5/01/92
Lead (Pb)/6010.....	9.7	1	2.5	5/01/92
Mercury (Hg)/7471.....		1	.25	4/27/92
Nickel (Ni)/6010.....	6.6	1	1.0	5/01/92
Selenium (Se)/7740.....		1	.25	4/30/92
Silver (Ag)/6010.....		1	1.0	5/01/92
Thallium (Tl)/7841.....		1	.50	5/01/92
Zinc (Zn)/6010.....	42.	1	1.0	5/01/92

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 4/27/92, Batch # 920427-1102; and Hg was digested on 4/27/92, Batch # 920427-1103 .
{c} No entry in the "Concentration" means the metal is not detected at all.

Approved by: Nancy McDonald for CM Date: 5/07/92
Cheryl Matterson, Association Chemist

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

McLaren Hart™

PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5868-44

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: BB17002SF
Sample Number: 89312

Matrix: Soil

Date Sampled: 4/21/92
Date Digested: 4/27/92 {b}

Date Received: 4/23/92
Batch Number: 920427-1101 {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	5/01/92
Arsenic (As)/7060.....	3.0	1	.50	5/01/92
Beryllium (Be)/6010.....	.32	1	.25	5/04/92
Cadmium (Cd)/6010.....		1	.50	5/01/92
Chromium (Cr)/6010.....	16.	1	1.0	5/01/92
Copper (Cu)/6010.....	8.6	1	1.0	5/01/92
Lead (Pb)/6010.....	11.	1	2.5	5/01/92
Mercury (Hg)/7471.....		1	.25	4/27/92
Nickel (Ni)/6010.....	8.4	1	1.0	5/01/92
Selenium (Se)/7740.....		1	.25	4/30/92
Silver (Ag)/6010.....		1	1.0	5/01/92
Thallium (Tl)/7841.....		1	.50	5/01/92
Zinc (Zn)/6010.....	46.	1	1.0	5/01/92

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 4/27/92, Batch # 920427-1102; and Hg was digested on 4/27/92, Batch # 920427-1103 .
{c} No entry in the "Concentration" means the metal is not detected at all.

Approved by: Nancy McDonald for CM Date: 5/07/92
Cheryl Matterson, Association Chemist

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

McLaren Hart™

PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5868-47

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: BB17003SF
Sample Number: 89318

Matrix: Soil

Date Sampled: 4/21/92
Date Digested: 4/27/92 {b}

Date Received: 4/23/92
Batch Number: 920427-1101 {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	5/01/92
Arsenic (As)/7060.....	2.6	1	.50	5/01/92
Beryllium (Be)/6010.....	.44	1	.25	5/04/92
Cadmium (Cd)/6010.....		1	.50	5/01/92
Chromium (Cr)/6010.....	12.	1	1.0	5/01/92
Copper (Cu)/6010.....	8.3	1	1.0	5/01/92
Lead (Pb)/6010.....	14.	1	2.5	5/01/92
Mercury (Hg)/7471.....		1	.25	4/27/92
Nickel (Ni)/6010.....	8.6	1	1.0	5/01/92
Selenium (Se)/7740.....		1	.25	4/30/92
Silver (Ag)/6010.....		1	1.0	5/01/92
Thallium (Tl)/7841.....		1	.50	5/01/92
Zinc (Zn)/6010.....	40.	1	1.0	5/01/92

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 4/27/92, Batch # 920427-1102; and Hg was digested on 4/27/92, Batch # 920427-1103 .
{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: 5/07/92

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

McLaren Hart™

PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5868-50

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: BB17004SF
Sample Number: 89324

Matrix: Soil

Date Sampled: 4/21/92
Date Digested: 4/27/92 {b}

Date Received: 4/23/92
Batch Number: 920427-1101 {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	5/01/92
Arsenic (As)/7060.....	1.9	1	.50	5/01/92
Beryllium (Be)/6010.....	.46	1	.25	5/04/92
Cadmium (Cd)/6010.....		1	.50	5/01/92
Chromium (Cr)/6010.....	14.	1	1.0	5/01/92
Copper (Cu)/6010.....	8.3	1	1.0	5/01/92
Lead (Pb)/6010.....	14.	1	2.5	5/01/92
Mercury (Hg)/7471.....		1	.25	4/27/92
Nickel (Ni)/6010.....	8.3	1	1.0	5/01/92
Selenium (Se)/7740.....		1	.25	4/30/92
Silver (Ag)/6010.....		1	1.0	5/01/92
Thallium (Tl)/7841.....		1	.50	5/01/92
Zinc (Zn)/6010.....	43.	1	1.0	5/01/92

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 4/27/92, Batch # 920427-1102; and Hg was digested on 4/27/92, Batch # 920427-1103 .
{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: 5/07/92

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

McLaren Hart™

RADIONUCLIDES

Table1. Results of the analyses for iodine-129 and strontium-90 in thirty (30) soil samples.

Sample ID Number	Sample Description	Collection Date	Lab Code	Conc. pCi/g wet I-129	Date Analyzed	Conc. pCi/g dry Sr-90	Date Analyzed
89575	BB15005SA	04/22/92	SPS-2158	<0.2	06/30	<0.01	07/11
89581	BB00007SA	04/22/92	SPS-2159	<0.3	06/30	0.02±0.02	07/11
89851	BB16001BSA	04/22/92	SPS-2160	<0.3	06/30	0.03±0.01	07/11
89857	BB16002SA	04/22/92	SPS-2161	<0.3	07/11	0.09±0.01	07/15
89863	BB16002SA	04/22/92	SPS-2162	<0.3	07/20	0.02±0.01	07/16
89869	BB16004SA	04/22/92	SPS-2163	<0.3	07/11	0.15±0.02	07/15
89875	BB16005SA	04/22/92	SPS-2164	<0.3	07/07	0.04±0.01	08/11
89881	BB00006SA	04/22/92	SPS-2165	<0.2	07/07	0.12±0.02	07/15
89892	BB16001ASA	04/22/92	SPS-2166	<0.3	07/07	0.08±0.01	07/16
89301	BB17001SA	04/21/92	SPS-2167	<0.3	07/08	0.01±0.01	07/16
89307	BB17002SA	04/21/92	SPS-2168	<0.3	07/08	0.02±0.01	07/11
89313	BB17003SA	04/21/92	SPS-2169	<0.2	07/08	0.01±0.01	07/16
89319	BB17004SA	04/21/92	SPS-2170	<0.2	07/08	0.03±0.01	08/11
Dup	BB17004SA	04/21/92	SPS-2170D	<0.2	07/08	0.02±0.01	08/11
89551	BB15001SA	04/21/92	SPS-2171	<0.3	07/09	0.01±0.01	08/11
89557	BB15002SA	04/21/92	SPS-2172	<0.3	07/09	<0.01	07/16
89563	BB15003SA	04/21/92	SPS-2173	<0.3	07/10	0.01±0.01	07/15
89569	BB15004SA	04/21/92	SPS-2174	<0.2	07/10	<0.01	07/11
90151	BB18001ASA	04/21/92	SPS-2175	<0.3	07/10	0.02±0.01	07/16
90157	BB18002ASA	04/21/92	SPS-2176	<0.3	07/13	0.02±0.01	08/11
90163	BB18002SA	04/21/92	SPS-2177	<0.3	07/13	<0.01	07/11
90170	BB18003SA	04/21/92	SPS-2178	<0.2	07/13	0.01±0.01	07/15
89219	BB18001SA	04/21/92	SPS-2179	<0.3	07/14	0.02±0.01	08/11
89225	BB18003ASA	04/21/92	SPS-2180	<0.2	07/14	<0.01	07/16
89213	BB18003BSA	04/21/92	SPS-2181	<0.3	07/14	<0.01	07/16
89207	BB18002BSA	04/21/92	SPS-2182	<0.3	07/18	0.02±0.01	08/11
89201	BB18001BSA	04/21/92	SPS-2183	<0.3	07/17	0.01±0.01	08/11
90401	BB19001SA	04/23/92	SPS-2184	<0.3	07/17	0.08±0.02	08/11
90407	BB19002SA	04/23/92	SPS-2185	<0.3	07/18	0.09±0.02	08/11
90413	BB19003SA	04/23/92	SPS-2186	<0.3	07/18	0.02±0.01	08/11
90419	BB19004SA	04/23/92	SPS-2187	<0.3	07/18	0.03±0.01	08/11

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.

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

ADDITIONAL DATA 10/06/92
RUN DATE 06/17/92

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE	PAGE 4
3-1294	04-0029403-012	04/27/92	05/30/92	

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.
74323	89227	BB18002ASC		04/21	1110			SAMPLE	NOT RECEIVED	*				3
74324	89302	BB17001SB		04/21	1545			PU-238	1.9 +-0.6 E-01		06/06			6
								PU-239	L.T. 2. E-02		06/06			6
74325	89303	BB17001SC		04/21	1545			BE-7	L.T. 4. E-01		05/22			4
								K-40	2.23+-0.22E 01		05/22			4
								MN-54	L.T. 4. E-02		05/22			4
								CO-58	L.T. 5. E-02		05/22			4
								FE-59	L.T. 1. E-01		05/22			4
								CO-60	L.T. 4. E-02		05/22			4
								ZN-65	L.T. 1. E-01		05/22			4
								ZR-95	L.T. 6. E-02		05/22			4
								RU-103	L.T. 5. E-02		05/22			4
								RU-106	L.T. 3. E-01		05/22			4
								I-131	L.T. 5. E-01		05/22			4
								CS-134	L.T. 5. E-02		05/22			4
								CS-137	7.71+-3.21E-02		05/22			4
								BA-140	L.T. 2. E-01		05/22			4
								CE-141	L.T. 9. E-02		05/22			4
								CE-144	L.T. 2. E-01		05/22			4
								RA-226	2.35+-0.54E 00		05/22			4
								TH-228	1.22+-0.12E 00		05/22			4
								H-3	2.7 +-1.7 E-02		06/09			5
74326	89308	BB17002SB		04/21	1520			PU-238	5.5 +-2.4 E-02		06/06			6
								PU-239	L.T. 5. E-03		06/06			6
74327	89309	BB17002SC		04/21	1520			BE-7	L.T. 5. E-01		05/22			4
								K-40	2.06+-0.21E 01		05/22			4
								MN-54	L.T. 4. E-02		05/22			4
								CO-58	L.T. 5. E-02		05/22			4
								FE-59	L.T. 1. E-01		05/22			4

The second analysis of TI#74324 for Pu-238 gave the result of L.T. 9. E-03 pCi/g. Statistical variations in the sample count rate and the background rate probably caused the small, positive first results which had relatively large counting errors.

10/6/92

TELEDYNE I PES

REPORT OF ANALYSIS

RUN DATE 06/17/92

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE	PAGE 5
3-1294	04-0029403-012	04/27/92	05/30/92	

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.
74327	89309 BB17002SC		04/21	1520			CO-60	L.T. 4. E-02		05/22			4
							ZN-65	L.T. 1. E-01		05/22			4
							ZR-95	L.T. 6. E-02		05/22			4
							RU-103	L.T. 5. E-02		05/22			4
							RU-106	L.T. 3. E-01		05/22			4
							I-131	L.T. 5. E-01		05/22			4
							CS-134	L.T. 5. E-02		05/22			4
							CS-137	1.58+-0.39E-01		05/22			4
							BA-140	L.T. 2. E-01		05/22			4
							CE-141	L.T. 1. E-01		05/22			4
							CE-144	L.T. 2. E-01		05/22			4
							RA-226	1.67+-0.59E 00		05/22			4
							TH-228	1.06+-0.11E 00		05/22			4
							H-3	L.T. 2. E-02		06/09			5
74328	89314 BB17003SB		04/21	1510			PU-238	5.5 +-3.1 E-02		06/06			6
							PU-239	L.T. 7. E-03		06/06			6
74329	89315 BB17003SC		04/21	1510			BE-7	L.T. 4. E-01		05/26			4
							K-40	2.02+-0.20E 01		05/26			4
							MN-54	L.T. 4. E-02		05/26			4
							CO-58	L.T. 5. E-02		05/26			4
							FE-59	L.T. 1. E-01		05/26			4
							CO-60	L.T. 4. E-02		05/26			4
							ZN-65	L.T. 8. E-02		05/26			4
							ZR-95	L.T. 6. E-02		05/26			4
							RU-103	L.T. 6. E-02		05/26			4
							RU-106	L.T. 3. E-01		05/26			4
							I-131	L.T. 7. E-01		05/26			4
							CS-134	L.T. 5. E-02		05/26			4
							CS-137	1.25+-0.26E-01		05/26			4
							BA-140	L.T. 3. E-01		05/26			4
							CE-141	L.T. 1. E-01		05/26			4

TELEDYNE I PFS

REPORT OF ANALYSIS

ADDITIONAL DATA .24/92
ADDITIONAL DATA 07/01/92
RUN DATE 06/17/92

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE	PAGE
3-1294	04-0029403-012	04/27/92	05/30/92	6

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.
74329	89315 BB17003SC		04/21	1510			CE-144	L.T. 2. E-01		05/26			4
							RA-226	2.52+-0.59E 00		05/26			4
							TH-228	1.57+-0.16E 00		05/26			4
							H-3	3.2 +-0.1 E 00		06/09			5
74330	89320 BB17004SB		04/21	1500			PU-238	L.T. 4. E-02		06/06			6
							PU-239	L.T. 7. E-03		06/06			6
74331	89321 BB17004SC		04/21	1500			BE-7	L.T. 4. E-01		05/22			4
							K-40	2.17+-0.22E 01		05/22			4
							MN-54	L.T. 4. E-02		05/22			4
							CO-58	L.T. 5. E-02		05/22			4
							FE-59	L.T. 1. E-01		05/22			4
							CO-60	L.T. 4. E-02		05/22			4
							ZN-65	L.T. 9. E-02		05/22			4
							ZR-95	L.T. 6. E-02		05/22			4
							RU-103	L.T. 6. E-02		05/22			4
							RU-106	L.T. 3. E-01		05/22			4
							I-131	L.T. 5. E-01		05/22			4
							CS-134	L.T. 5. E-02		05/22			4
							CS-137	2.27+-0.33E-01		05/22			4
							BA-140	L.T. 2. E-01		05/22			4
							CE-141	L.T. 9. E-02		05/22			4
							CE-144	L.T. 2. E-01		05/22			4
							RA-226	3.06+-0.59E 00		05/22			4
							TH-228	1.41+-0.14E 00		05/22			4
							H-3	3.4 +-0.1 E 00		06/10			5
74332	89331 BB00006SB		04/21	1500			PU-238	3.3 +-0.8 E-01		06/06			6
							PU-239	L.T. 1. E-02		06/06			6

LAST PAGE OF REPORT

J Guenther
APPROVED BY J. GUENTHER 06/17/92

SEND 1 COPIES TO MC480S 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.

The second H-3 analysis of TI#74329 gave result of 3.4 +-0.1 E 00 pCi/g (1.1 +-0.1 E 04 pCi/l). C. Starr 7/1/92

TI#74331 was analyzed for H-3 a second time on 07/16 with result of 3.2 ± 0.1 E 00 pCi/g (9.3 ± 0.2 E 03 pCi/l).
Both second analyses were by the gas counting method.

J. Martin 7-24-92

Volatile Organic Compounds

VOLATILE ORGANICS

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

Lab Project-Sample ID: 5868-33

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: **BB18001SE**
Sample Number: 89223

Matrix: Soil

Date Sampled: 4/21/92
Date Analyzed: 5/04/92

Date Received: 4/23/92
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: 5868- 33

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	84	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: 5/06/92
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: 5868-3

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: BB18001ASE
Sample Number: 90155

Matrix: Soil

Date Sampled: 4/21/92
Date Analyzed: 5/01/92

Date Received: 4/23/92
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: 5868- 3

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	89	70 - 121
Toluene-D8	114	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: 5/06/92
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: 5868-24

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: BB18001BSE
Sample Number: 89205

Matrix: Soil

Date Sampled: 4/21/92
Date Analyzed: 5/01/92

Date Received: 4/23/92
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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Analytical Method: EPA 8240 - Low Level Modified {a}
Preparation Method: EPA 5030

Lab Project-Sample ID: 5868- 24

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	96	70 - 121
Toluene-D8	106	81 - 117
4-Bromofluorobenzene	95	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: 5/06/92
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: 5868-9

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: BB18002SE
Sample Number: 90168

Matrix: Soil

Date Sampled: 4/21/92
Date Analyzed: 5/01/92

Date Received: 4/23/92
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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Analytical Method: EPA 8240 - Low Level Modified {a}
Preparation Method: EPA 5030

Lab Project-Sample ID: 5868- 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	94	70 - 121
Toluene-D8	115	81 - 117
4-Bromofluorobenzene	94	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 M McDonald for CM Date: 5/06/92
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: 5868-6

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: BB18002ASE
Sample Number: 90161

Matrix: Soil

Date Sampled: 4/21/92
Date Analyzed: 5/01/92

Date Received: 4/23/92
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: 5868- 6

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	91	70 - 121
Toluene-D8	112	81 - 117
4-Bromofluorobenzene	90	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: 5/06/92
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: 5868-27

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: BB18002BSE
Sample Number: 89211

Matrix: Soil

Date Sampled: 4/21/92
Date Analyzed: 5/04/92

Date Received: 4/23/92
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: 5868- 27

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	97	70 - 121
Toluene-D8	99	81 - 117
4-Bromofluorobenzene	94	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: 5/06/92
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: 5868-12

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: BBI8003SE
Sample Number: 90174

Matrix: Soil

Date Sampled: 4/21/92
Date Analyzed: 5/01/92

Date Received: 4/23/92
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: 5868- 12

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	106	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 M Donald for CM Date: 5/06/92
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: 5868-36

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: ~~[illegible]~~ BB18003ASE
Sample Number: 89229

Matrix: Soil

Date Sampled: 4/21/92
Date Analyzed: 5/04/92

Date Received: 4/23/92
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: 5868- 36

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	92	70 - 121
Toluene-D8	116	81 - 117
4-Bromofluorobenzene	82	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 05/01/92 and exhibited low internal standard recoveries. The sample was reanalyzed on 05/04/92 and again exhibited low internal standard recoveries, indicating the presence of a matrix effect.

Approved By: Nancy McDonald for CM Date: 5/06/92
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: 5868-30

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: BB18003BSE
Sample Number: 89217

Matrix: Soil

Date Sampled: 4/21/92
Date Analyzed: 5/01/92

Date Received: 4/23/92
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	1	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: 5868- 30

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	89	70 - 121
Toluene-D8	110	81 - 117
4-Bromofluorobenzene	87	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 M McDonald for CM Date: 5/06/92
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: 5868-32

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: BB18001SD
Sample Number: 89222

Matrix: Soil

Date Sampled: 4/21/92
Date Extracted: 4/27/92

Date Received: 4/23/92
Date Analyzed: 4/28/92

Batch Number: 920427-1901

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: 5868-32

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: 5868-32

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	69	25 - 121
Phenol-d5.....	69	24 - 113
Nitrobenzene-d5.....	61	23 - 120
2-Fluorobiphenyl.....	65	30 - 115
2,4,6-Tribromophenol.....	86	19 - 122
Terphenyl-d14.....	93	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: 5/06/92

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: 5868-2

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: BB18001ASD
Sample Number: 90154

Matrix: Soil

Date Sampled: 4/21/92
Date Extracted: 4/27/92

Date Received: 4/23/92
Date Analyzed: 4/27/92

Batch Number: 920427-1901

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: 5868-2

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: 5868-2

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	57	25 - 121
Phenol-d5.....	63	24 - 113
Nitrobenzene-d5.....	60	23 - 120
2-Fluorobiphenyl.....	62	30 - 115
2,4,6-Tribromophenol.....	77	19 - 122
Terphenyl-d14.....	83	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: 5/06/92

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: 5868-23

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: BB18001BSD
Sample Number: 89204

Matrix: Soil

Date Sampled: 4/21/92
Date Extracted: 4/27/92

Date Received: 4/23/92
Date Analyzed: 4/28/92

Batch Number: 920427-1901

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: 5868-23

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: 5868-23

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	69	25 - 121
Phenol-d5.....	68	24 - 113
Nitrobenzene-d5.....	61	23 - 120
2-Fluorobiphenyl.....	62	30 - 115
2,4,6-Tribromophenol.....	82	19 - 122
Terphenyl-d14.....	81	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 McDonald for CM
Cheryl Matterson, Associate Chemist

Date: 5/06/92

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: 5868-8

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: BB18002SD
Sample Number: 90167

Matrix: Soil

Date Sampled: 4/21/92
Date Extracted: 4/27/92

Date Received: 4/23/92
Date Analyzed: 4/28/92

Batch Number: 920427-1901

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: 5868-8

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: 5868-8

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	63	25 - 121
Phenol-d5.....	67	24 - 113
Nitrobenzene-d5.....	64	23 - 120
2-Fluorobiphenyl.....	67	30 - 115
2,4,6-Tribromophenol.....	84	19 - 122
Terphenyl-d14.....	93	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: 5/06/92

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

McLaren Hart™

SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5868-5

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: BB18002ASD
Sample Number: 90160

Matrix: Soil

Date Sampled: 4/21/92
Date Extracted: 4/27/92

Date Received: 4/23/92
Date Analyzed: 4/28/92

Batch Number: 920427-1901

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: 5868-5

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: 5868-5

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	63	25 - 121
Phenol-d5.....	72	24 - 113
Nitrobenzene-d5.....	64	23 - 120
2-Fluorobiphenyl.....	65	30 - 115
2,4,6-Tribromophenol.....	84	19 - 122
Terphenyl-d14.....	88	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: 5/06/92

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

McLaren Hart™

SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5868-26

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: BB18002BSD
Sample Number: 89210

Matrix: Soil

Date Sampled: 4/21/92
Date Extracted: 4/27/92

Date Received: 4/23/92
Date Analyzed: 4/28/92

Batch Number: 920427-1901

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: 5868-26

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: 5868-26

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	60	25 - 121
Phenol-d5.....	64	24 - 113
Nitrobenzene-d5.....	59	23 - 120
2-Fluorobiphenyl.....	66	30 - 115
2,4,6-Tribromophenol.....	84	19 - 122
Terphenyl-d14.....	84	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: 5/06/92

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: 5868-11

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: BB18003SD
Sample Number: 90173

Matrix: Soil

Date Sampled: 4/21/92
Date Extracted: 4/27/92

Date Received: 4/23/92
Date Analyzed: 4/29/92

Batch Number: 920427-1901

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: 5868-11

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: 5868-11

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	72	25 - 121
Phenol-d5.....	67	24 - 113
Nitrobenzene-d5.....	57	23 - 120
2-Fluorobiphenyl.....	59	30 - 115
2,4,6-Tribromophenol.....	72	19 - 122
Terphenyl-d14.....	74	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: 5/06/92

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: 5868-35

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: ~~BB18002ASD~~
Sample Number: 89228

Matrix: Soil

Date Sampled: 4/21/92
Date Extracted: 4/27/92

Date Received: 4/23/92
Date Analyzed: 4/28/92

Batch Number: 920427-1901

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: 5868-35

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: 5868-35

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	41	25 - 121
Phenol-d5.....	53	24 - 113
Nitrobenzene-d5.....	59	23 - 120
2-Fluorobiphenyl.....	62	30 - 115
2,4,6-Tribromophenol.....	74	19 - 122
Terphenyl-d14.....	83	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: 5/06/92

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: 5868-29

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: BB18003BSD
Sample Number: 89216

Matrix: Soil

Date Sampled: 4/21/92
Date Extracted: 4/27/92

Date Received: 4/23/92
Date Analyzed: 4/28/92

Batch Number: 920427-1901

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	88	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: 5868-29

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: 5868-29

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	58	25 - 121
Phenol-d5.....	58	24 - 113
Nitrobenzene-d5.....	50	23 - 120
2-Fluorobiphenyl.....	55	30 - 115
2,4,6-Tribromophenol.....	72	19 - 122
Terphenyl-d14.....	72	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: 5/06/92

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

McLaren Hart™

METALS

PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5868-34

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: **BB18001SF**
Sample Number: 89224 Matrix: Soil

Date Sampled: 4/21/92 Date Received: 4/23/92
Date Digested: 4/27/92 {b} Batch Number: 920427-1101 {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	5/01/92
Arsenic (As)/7060.....	8.8	4	2.0	5/01/92
Beryllium (Be)/6010.....	.31	1	.25	5/04/92
Cadmium (Cd)/6010.....		1	.50	5/01/92
Chromium (Cr)/6010.....	9.3	1	1.0	5/01/92
Copper (Cu)/6010.....	6.1	1	1.0	5/01/92
Lead (Pb)/6010.....	26.	1	2.5	5/01/92
Mercury (Hg)/7471.....	.35	1	.25	4/27/92
Nickel (Ni)/6010.....	6.2	1	1.0	5/01/92
Selenium (Se)/7740.....		1	.25	4/30/92
Silver (Ag)/6010.....		1	1.0	5/01/92
Thallium (Tl)/7841.....		1	.50	5/01/92
Zinc (Zn)/6010.....	32.	1	1.0	5/01/92

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 4/27/92, Batch # 920427-1102; and Hg was digested on 4/27/92, Batch # 920427-1103 .
{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: 5/07/92
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: 5868-4

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: **BB18001ASF**
Sample Number: 90156

Matrix: Soil

Date Sampled: 4/21/92
Date Digested: 4/27/92 {b}

Date Received: 4/23/92
Batch Number: 920427-1101 {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	5/01/92
Arsenic (As)/7060.....	1.9	1	.50	5/01/92
Beryllium (Be)/6010.....		1	.25	5/04/92
Cadmium (Cd)/6010.....		1	.50	5/01/92
Chromium (Cr)/6010.....	6.5	1	1.0	5/01/92
Copper (Cu)/6010.....	3.9	1	1.0	5/01/92
Lead (Pb)/6010.....	9.8	1	2.5	5/01/92
Mercury (Hg)/7471.....		1	.25	4/27/92
Nickel (Ni)/6010.....	4.1	1	1.0	5/01/92
Selenium (Se)/7740.....		1	.25	4/30/92
Silver (Ag)/6010.....		1	1.0	5/01/92
Thallium (Tl)/7841.....		1	.50	5/01/92
Zinc (Zn)/6010.....	25.	1	1.0	5/01/92

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 4/27/92, Batch # 920427-1102; and Hg was digested on 4/27/92, Batch # 920427-1103.
{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: 5/07/92

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: 5868-25

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: BB18001BSF
Sample Number: 89206 Matrix: Soil

Date Sampled: 4/21/92 Date Received: 4/23/92
Date Digested: 4/27/92 {b} Batch Number: 920427-1101 {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	5/01/92
Arsenic (As)/7060.....	5.1	1	.50	5/01/92
Beryllium (Be)/6010.....	.39	1	.25	5/04/92
Cadmium (Cd)/6010.....		1	.50	5/01/92
Chromium (Cr)/6010.....	6.5	1	1.0	5/01/92
Copper (Cu)/6010.....	4.1	1	1.0	5/01/92
Lead (Pb)/6010.....	5.3	1	2.5	5/01/92
Mercury (Hg)/7471.....		1	.25	4/27/92
Nickel (Ni)/6010.....	4.2	1	1.0	5/01/92
Selenium (Se)/7740.....		1	.25	4/30/92
Silver (Ag)/6010.....		1	1.0	5/01/92
Thallium (Tl)/7841.....		1	.50	5/01/92
Zinc (Zn)/6010.....	36.	1	1.0	5/01/92

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 4/27/92, Batch # 920427-1102; and Hg was digested on 4/27/92, Batch # 920427-1103 .
{c} No entry in the "Concentration" means the metal is not detected at all.

Approved by: Nancy McDonald for CM Date: 5/07/92
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: 5868-10

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: BB18002SF
Sample Number: 90169

Matrix: Soil

Date Sampled: 4/21/92
Date Digested: 4/27/92 {b}

Date Received: 4/23/92
Batch Number: 920427-1101 {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	5/01/92
Arsenic (As)/7060.....	4.2	1	.50	5/01/92
Beryllium (Be)/6010.....		1	.25	5/04/92
Cadmium (Cd)/6010.....		1	.50	5/01/92
Chromium (Cr)/6010.....	5.9	1	1.0	5/01/92
Copper (Cu)/6010.....	3.8	1	1.0	5/01/92
Lead (Pb)/6010.....	4.1	1	2.5	5/01/92
Mercury (Hg)/7471.....		1	.25	4/27/92
Nickel (Ni)/6010.....	2.9	1	1.0	5/01/92
Selenium (Se)/7740.....		1	.25	4/30/92
Silver (Ag)/6010.....		1	1.0	5/01/92
Thallium (Tl)/7841.....		1	.50	5/01/92
Zinc (Zn)/6010.....	22.	1	1.0	5/01/92

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 4/27/92, Batch # 920427-1102; and Hg was digested on 4/27/92, Batch # 920427-1103 .
{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: 5/07/92

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: 5868-7

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: **BB18002ASF**
Sample Number: 90162

Matrix: Soil

Date Sampled: 4/21/92
Date Digested: 4/27/92 {b}

Date Received: 4/23/92
Batch Number: 920427-1101 {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	5/01/92
Arsenic (As)/7060.....	2.5	1	.50	5/01/92
Beryllium (Be)/6010.....	.39	1	.25	5/04/92
Cadmium (Cd)/6010.....		1	.50	5/01/92
Chromium (Cr)/6010.....	11.	1	1.0	5/01/92
Copper (Cu)/6010.....	6.9	1	1.0	5/01/92
Lead (Pb)/6010.....	10.	1	2.5	5/01/92
Mercury (Hg)/7471.....		1	.25	4/27/92
Nickel (Ni)/6010.....	7.3	1	1.0	5/01/92
Selenium (Se)/7740.....		1	.25	4/30/92
Silver (Ag)/6010.....		1	1.0	5/01/92
Thallium (Tl)/7841.....		1	.50	5/01/92
Zinc (Zn)/6010.....	41.	1	1.0	5/01/92

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 4/27/92, Batch # 920427-1102; and Hg was digested on 4/27/92, Batch # 920427-1103.
{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: 5/07/92

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

McLaren Hart™

PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5868-28

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: **BB18002BSF**
Sample Number: 89212 Matrix: Soil

Date Sampled: 4/21/92 Date Received: 4/23/92
Date Digested: 4/27/92 {b} Batch Number: 920427-1101 {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	5/01/92
Arsenic (As)/7060.....	24.	4	2.0	5/01/92
Beryllium (Be)/6010.....	.33	1	.25	5/04/92
Cadmium (Cd)/6010.....		1	.50	5/01/92
Chromium (Cr)/6010.....	10.	1	1.0	5/01/92
Copper (Cu)/6010.....	5.7	1	1.0	5/01/92
Lead (Pb)/6010.....	6.0	1	2.5	5/01/92
Mercury (Hg)/7471.....		1	.25	4/27/92
Nickel (Ni)/6010.....	5.6	1	1.0	5/01/92
Selenium (Se)/7740.....		1	.25	4/30/92
Silver (Ag)/6010.....		1	1.0	5/01/92
Thallium (Tl)/7841.....		1	.50	5/01/92
Zinc (Zn)/6010.....	36.	1	1.0	5/01/92

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 4/27/92, Batch # 920427-1102; and Hg was digested on 4/27/92, Batch # 920427-1103 .
{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 M Donald for CM Date: 5/07/92
Cheryl Matterson, Association Chemist

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

McLaren Hart™

PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5868-13

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: BB18003SF
Sample Number: 90175 Matrix: Soil

Date Sampled: 4/21/92 Date Received: 4/23/92
Date Digested: 4/27/92 {b} Batch Number: 920427-1101 {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	5/01/92
Arsenic (As)/7060.....	4.4	1	.50	5/01/92
Beryllium (Be)/6010.....		1	.25	5/04/92
Cadmium (Cd)/6010.....		1	.50	5/01/92
Chromium (Cr)/6010.....	4.8	1	1.0	5/01/92
Copper (Cu)/6010.....	2.9	1	1.0	5/01/92
Lead (Pb)/6010.....	4.0	1	2.5	5/01/92
Mercury (Hg)/7471.....		1	.25	4/27/92
Nickel (Ni)/6010.....	2.7	1	1.0	5/01/92
Selenium (Se)/7740.....		1	.25	4/30/92
Silver (Ag)/6010.....		1	1.0	5/01/92
Thallium (Tl)/7841.....		1	.50	5/01/92
Zinc (Zn)/6010.....	19.	1	1.0	5/01/92

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 4/27/92, Batch # 920427-1102; and Hg was digested on 4/27/92, Batch # 920427-1103 .
{c} No entry in the "Concentration" means the metal is not detected at all.

Approved by: Cheryl Matterson Date: 5/07/92
Cheryl Matterson, Association Chemist

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

McLaren Hart™

PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5868-37

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: ~~BB18002ASF~~
Sample Number: 89230

Matrix: Soil

Date Sampled: 4/21/92
Date Digested: 4/27/92 {b}

Date Received: 4/23/92
Batch Number: 920427-1101 {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	5/01/92
Arsenic (As)/7060.....	2.2	1	.50	5/01/92
Beryllium (Be)/6010.....	.30	1	.25	5/04/92
Cadmium (Cd)/6010.....		1	.50	5/01/92
Chromium (Cr)/6010.....	8.1	1	1.0	5/01/92
Copper (Cu)/6010.....	4.6	1	1.0	5/01/92
Lead (Pb)/6010.....	7.8	1	2.5	5/01/92
Mercury (Hg)/7471.....		1	.25	4/27/92
Nickel (Ni)/6010.....	4.3	1	1.0	5/01/92
Selenium (Se)/7740.....		1	.25	4/30/92
Silver (Ag)/6010.....		1	1.0	5/01/92
Thallium (Tl)/7841.....		1	.50	5/01/92
Zinc (Zn)/6010.....	34.	1	1.0	5/01/92

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 4/27/92, Batch # 920427-1102; and Hg was digested on 4/27/92, Batch # 920427-1103 .
{c} No entry in the "Concentration" means the metal is not detected at all.

Approved by: Nancy M. McDonald for CM Date: 5/07/92
Cheryl Matterson, Association Chemist

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

McLaren Hart™

PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5868-31

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: BB18003BSF
Sample Number: 89218

Matrix: Soil

Date Sampled: 4/21/92
Date Digested: 4/27/92 {b}

Date Received: 4/23/92
Batch Number: 920427-1101 {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	5/01/92
Arsenic (As)/7060.....	2.5	1	.50	5/01/92
Beryllium (Be)/6010.....		1	.25	5/04/92
Cadmium (Cd)/6010.....		1	.50	5/01/92
Chromium (Cr)/6010.....	4.9	1	1.0	5/01/92
Copper (Cu)/6010.....	3.4	1	1.0	5/01/92
Lead (Pb)/6010.....	5.0	1	2.5	5/01/92
Mercury (Hg)/7471.....		1	.25	4/27/92
Nickel (Ni)/6010.....	2.9	1	1.0	5/01/92
Selenium (Se)/7740.....		1	.25	4/30/92
Silver (Ag)/6010.....		1	1.0	5/01/92
Thallium (Tl)/7841.....		1	.50	5/01/92
Zinc (Zn)/6010.....	19.	1	1.0	5/01/92

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 4/27/92, Batch # 920427-1102; and Hg was digested on 4/27/92, Batch # 920427-1103 .
{c} No entry in the "Concentration" means the metal is not detected at all.

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

Date: 5/07/92

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

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RADIONUCLIDES

Table1. Results of the analyses for iodine-129 and strontium-90 in thirty (30) soil samples.

Sample ID Number	Sample Description	Collection Date	Lab Code	Conc. pCi/g wet I-129	Date Analyzed	Conc. pCi/g dry Sr-90	Date Analyzed
89575	BB15005SA	04/22/92	SPS-2158	<0.2	06/30	<0.01	07/11
89581	BB00007SA	04/22/92	SPS-2159	<0.3	06/30	0.02±0.02	07/11
89851	BB16001BSA	04/22/92	SPS-2160	<0.3	06/30	0.03±0.01	07/11
89857	BB16002SA	04/22/92	SPS-2161	<0.3	07/11	0.09±0.01	07/15
89863	BB16002SA	04/22/92	SPS-2162	<0.3	07/20	0.02±0.01	07/16
89869	BB16004SA	04/22/92	SPS-2163	<0.3	07/11	0.15±0.02	07/15
89875	BB16005SA	04/22/92	SPS-2164	<0.3	07/07	0.04±0.01	08/11
89881	BB00006SA	04/22/92	SPS-2165	<0.2	07/07	0.12±0.02	07/15
89892	BB16001ASA	04/22/92	SPS-2166	<0.3	07/07	0.08±0.01	07/16
89301	BB17001SA	04/21/92	SPS-2167	<0.3	07/08	0.01±0.01	07/16
89307	BB17002SA	04/21/92	SPS-2168	<0.3	07/08	0.02±0.01	07/11
89313	BB17003SA	04/21/92	SPS-2169	<0.2	07/08	0.01±0.01	07/16
89319	BB17004SA	04/21/92	SPS-2170	<0.2	07/08	0.03±0.01	08/11
Dup	BB17004SA	04/21/92	SPS-2170D	<0.2	07/08	0.02±0.01	08/11
89551	BB15001SA	04/21/92	SPS-2171	<0.3	07/09	0.01±0.01	08/11
89557	BB15002SA	04/21/92	SPS-2172	<0.3	07/09	<0.01	07/16
89563	BB15003SA	04/21/92	SPS-2173	<0.3	07/10	0.01±0.01	07/15
89569	BB15004SA	04/21/92	SPS-2174	<0.2	07/10	<0.01	07/11
90151	BB18001ASA	04/21/92	SPS-2175	<0.3	07/10	0.02±0.01	07/16
90157	BB18002ASA	04/21/92	SPS-2176	<0.3	07/13	0.02±0.01	08/11
90163	BB18002SA	04/21/92	SPS-2177	<0.3	07/13	<0.01	07/11
90170	BB18003SA	04/21/92	SPS-2178	<0.2	07/13	0.01±0.01	07/15
89219	BB18001SA	04/21/92	SPS-2179	<0.3	07/14	0.02±0.01	08/11
89225	BB18003ASA	04/21/92	SPS-2180	<0.2	07/14	<0.01	07/16
89213	BB18003BSA	04/21/92	SPS-2181	<0.3	07/14	<0.01	07/16
89207	BB18002BSA	04/21/92	SPS-2182	<0.3	07/18	0.02±0.01	08/11
89201	BB18001BSA	04/21/92	SPS-2183	<0.3	07/17	0.01±0.01	08/11
90401	BB19001SA	04/23/92	SPS-2184	<0.3	07/17	0.08±0.02	08/11
90407	BB19002SA	04/23/92	SPS-2185	<0.3	07/18	0.09±0.02	08/11
90413	BB19003SA	04/23/92	SPS-2186	<0.3	07/18	0.02±0.01	08/11
90419	BB19004SA	04/23/92	SPS-2187	<0.3	07/18	0.03±0.01	08/11

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.

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 06/24/92

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE	PAGE 1
3-1295	04-0029403-012	04/27/92	05/30/92	

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.
74335	90152	BB18007ASB		04/21	1145			PU-238	4.3 +-4.0 E-02		06/08			6
								PU-239	L.T. 2. E-02		06/08			6
74336	90153	BB18007ASC		04/21	1145			BE-7	L.T. 5. E-01		05/27			4
								K-40	2.10+-0.21E 01		05/27			4
								MN-54	L.T. 4. E-02		05/27			4
								CO-58	L.T. 4. E-02		05/27			4
								FE-59	L.T. 1. E-01		05/27			4
								CO-60	L.T. 4. E-02		05/27			4
								ZN-65	L.T. 1. E-01		05/27			4
								ZR-95	L.T. 6. E-02		05/27			4
								RU-103	L.T. 6. E-02		05/27			4
								RU-106	L.T. 3. E-01		05/27			4
								I-131	L.T. 8. E-01		05/27			4
								CS-134	L.T. 5. E-02		05/27			4
								CS-137	1.06+-0.33E-01		05/27			4
								BA-140	L.T. 3. E-01		05/27			4
								CE-141	L.T. 1. E-01		05/27			4
								CE-144	L.T. 3. E-01		05/27			4
								RA-226	1.89+-0.60E 00		05/27			4
								TH-228	1.23+-0.12E 00		05/27			4
								H-3	2.9 +-1.8 E-02		06/20			5
74337	90158	BB18002ASB		04/21	1200			PU-238	L.T. 3. E-02		05/28			6
								PU-239	L.T. 1. E-02		05/28			6
74338	90159	BB18002ASC		04/21	1200			BE-7	L.T. 5. E-01		05/22			4
								K-40	2.04+-0.20E 01		05/22			4
								MN-54	L.T. 4. E-02		05/22			4
								CO-58	L.T. 5. E-02		05/22			4
								FE-59	L.T. 1. E-01		05/22			4
								CO-60	L.T. 5. E-02		05/22			4
								ZN-65	L.T. 1. E-01		05/22			4

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 06/24/92

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE	PAGE 2
3-1295	04-0029403-012	04/27/92	05/30/92	

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.
74338	90159 BB18002ASC		04/21	1200			ZR-95	L.T. 6. E-02		05/22			4
							RU-103	L.T. 6. E-02		05/22			4
							RU-106	L.T. 4. E-01		05/22			4
							I-131	L.T. 5. E-01		05/22			4
							CS-134	L.T. 5. E-02		05/22			4
							CS-137	6.26+-2.65E-02		05/22			4
							BA-140	L.T. 2. E-01		05/22			4
							CE-141	L.T. 1. E-01		05/22			4
							CE-144	L.T. 3. E-01		05/22			4
							RA-226	2.17+-0.61E 00		05/22			4
							TH-228	1.28+-0.13E 00		05/22			4
							H-3	L.T. 3. E-02		06/20			5
74339	90164 BB18002SB		04/21	1230			PU-238	L.T. 2. E-02		05/28			6
							PU-239	L.T. 1. E-02		05/28			6
74340	90165 BB18002SC		04/21	1230			BE-7	L.T. 4. E-01		05/26			4
							K-40	2.05+-0.21E 01		05/26			4
							MN-54	L.T. 3. E-02		05/26			4
							CO-58	L.T. 4. E-02		05/26			4
							FE-59	L.T. 1. E-01		05/26			4
							CO-60	L.T. 3. E-02		05/26			4
							ZN-65	L.T. 9. E-02		05/26			4
							ZR-95	L.T. 5. E-02		05/26			4
							RU-103	L.T. 5. E-02		05/26			4
							RU-106	L.T. 3. E-01		05/26			4
							I-131	L.T. 6. E-01		05/26			4
							CS-134	L.T. 4. E-02		05/26			4
							CS-137	5.66+-2.29E-02		05/26			4
							BA-140	L.T. 2. E-01		05/26			4
							CE-141	L.T. 8. E-02		05/26			4
							CE-144	L.T. 2. E-01		05/26			4
							RA-226	1.08+-0.45E 00		05/26			4

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 06/24/92

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
3-1295	04-0029403-012	04/27/92	05/30/92

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.
74340	90165	BB18002SC		04/21	1230			TH-228	7.00+-0.70E-01		05/26			4
								H-3	L.T. 2. E-02		06/20			5
74341	90171	BB18003SB		04/21	1245			PU-238	L.T. 1. E-01		06/08			6
								PU-239	L.T. 3. E-02		06/08			6
74342	90172	BB18003SC		04/21	1245			BE-7	L.T. 3. E-01		05/26			4
								K-40	1.95+-0.19E 01		05/26			4
								MN-54	L.T. 3. E-02		05/26			4
								CO-58	L.T. 3. E-02		05/26			4
								FE-59	L.T. 1. E-01		05/26			4
								CO-60	L.T. 3. E-02		05/26			4
								ZN-65	L.T. 8. E-02		05/26			4
								ZR-95	L.T. 5. E-02		05/26			4
								RU-103	L.T. 5. E-02		05/26			4
								RU-106	L.T. 3. E-01		05/26			4
								I-131	L.T. 5. E-01		05/26			4
								CS-134	L.T. 4. E-02		05/26			4
								CS-137	L.T. 3. E-02		05/26			4
								BA-140	L.T. 2. E-01		05/26			4
								CE-141	L.T. 9. E-02		05/26			4
								CE-144	L.T. 2. E-01		05/26			4
								RA-226	1.02+-0.46E 00		05/26			4
								TH-228	7.30+-0.73E-01		05/26			4
								H-3	L.T. 2. E-02		06/20			5

TI#	H-3 (pCi/l)
74336	1.2 +-0.8 E 02
74338	L.T. 1. E 02
74340	L.T. 1. E 02
74342	L.T. 1. E 02

TELEDYNE I ?ES

REPORT OF ANALYSIS

RUN DATE 06/17/92

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE	PAGE 1
3-1294	04-0029403-012	04/27/92	05/30/92	

FRIC 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.
74314	89202 BB18001BSB		04/21	0905			PU-238	L.T. 2. E-02		05/23			6
							PU-239	L.T. 1. E-02		05/23			6
74315	89203 BB18001BSC		04/21	0910			BE-7	L.T. 3. E-01		05/22			4
							K-40	2.25+-0.22E 01		05/22			4
							MN-54	L.T. 3. E-02		05/22			4
							CO-58	L.T. 4. E-02		05/22			4
							FE-59	L.T. 1. E-01		05/22			4
							CO-60	L.T. 3. E-02		05/22			4
							ZN-65	L.T. 8. E-02		05/22			4
							ZR-95	L.T. 4. E-02		05/22			4
							RU-103	L.T. 5. E-02		05/22			4
							RU-106	L.T. 3. E-01		05/22			4
							I-131	L.T. 4. E-01		05/22			4
							CS-134	L.T. 4. E-02		05/22			4
							CS-137	L.T. 3. E-02		05/22			4
							BA-140	L.T. 1. E-01		05/22			4
							CE-141	L.T. 7. E-02		05/22			4
							CE-144	L.T. 2. E-01		05/22			4
							RA-226	1.92+-0.44E 00		05/22			4
							TH-228	1.09+-0.11E 00		05/22			4
							H-3	5.0 +-1.5 E-02		06/13			5
74316	89208 BB18002BSB		04/21	0935			PU-238	L.T. 2. E-02		05/23			6
							PU-239	L.T. 7. E-03		05/23			6
74317	89209 BB18002BSC		04/21	0940			BE-7	L.T. 5. E-01		05/26			4
							K-40	1.93+-0.19E 01		05/26			4
							MN-54	L.T. 4. E-02		05/26			4
							CO-58	L.T. 5. E-02		05/26			4
							FE-59	L.T. 1. E-01		05/26			4
							CO-60	L.T. 4. E-02		05/26			4
							ZN-65	L.T. 1. E-01		05/26			4

TELEDYNE IS PES

REPORT OF ANALYSIS

RUN DATE 06/17/92

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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.
74317	89209 8818002BSC		04/21	0940			ZR-95	L.T. 6. E-02		05/26			4
							RU-103	L.T. 7. E-02		05/26			4
							RU-106	L.T. 4. E-01		05/26			4
							I-131	L.T. 8. E-01		05/26			4
							CS-134	L.T. 5. E-02		05/26			4
							CS-137	L.T. 5. E-02		05/26			4
							BA-140	L.T. 3. E-01		05/26			4
							CE-141	L.T. 2. E-01		05/26			4
							CE-144	L.T. 4. E-01		05/26			4
							RA-226	1.72+-0.76E 00		05/26			4
							TH-228	1.35+-0.14E 00		05/26			4
							H-3	8.3 +-1.6 E-02		06/13			5
74318	89214 8818003BSB		04/21	1000			PU-238	L.T. 2. E-02		05/23			6
							PU-239	L.T. 9. E-03		05/23			6
74319	89215 8818003BSC		04/21	1000			BE-7	L.T. 4. E-01		05/26			4
							K-40	2.11+-0.21E 01		05/26			4
							MN-54	L.T. 3. E-02		05/26			4
							CO-58	L.T. 4. E-02		05/26			4
							FE-59	L.T. 1. E-01		05/26			4
							CO-60	L.T. 3. E-02		05/26			4
							ZN-65	L.T. 8. E-02		05/26			4
							ZR-95	L.T. 4. E-02		05/26			4
							RU-103	L.T. 5. E-02		05/26			4
							RU-106	L.T. 3. E-01		05/26			4
							I-131	L.T. 6. E-01		05/26			4
							CS-134	L.T. 4. E-02		05/26			4
							CS-137	6.03+-2.84E-02		05/26			4
							BA-140	L.T. 2. E-01		05/26			4
							CE-141	L.T. 8. E-02		05/26			4
							CE-144	L.T. 2. E-01		05/26			4
							RA-226	1.13+-0.41E 00		05/26			4

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 06/17/92

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
3-1294	04-0029403-012	04/27/92	05/30/92

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.
74319	89215	BB18003BSC		04/21	1000			TH-228	6.95+-0.70E-01		05/26			4
								H-3	4.5 +-1.7 E-02		06/13			5
74320	89220	BB18001SB		04/21	1025			PU-238	1.7 +-1.3 E-02		05/23			6
								PU-239	L.T. 4. E-03		05/23			6
74321	89221	BB18001SC		04/21	1030			BE-7	L.T. 4. E-01		05/26			4
								K-40	2.01+-0.20E 01		05/26			4
								MN-54	L.T. 4. E-02		05/26			4
								CO-58	L.T. 4. E-02		05/26			4
								FE-59	L.T. 1. E-01		05/26			4
								CO-60	L.T. 3. E-02		05/26			4
								ZN-65	L.T. 8. E-02		05/26			4
								ZR-95	L.T. 5. E-02		05/26			4
								RU-103	L.T. 5. E-02		05/26			4
								RU-106	L.T. 3. E-01		05/26			4
								I-131	L.T. 6. E-01		05/26			4
								CS-134	L.T. 4. E-02		05/26			4
								CS-137	8.53+-3.09E-02		05/26			4
								BA-140	L.T. 2. E-01		05/26			4
								CE-141	L.T. 1. E-01		05/26			4
								CE-144	L.T. 2. E-01		05/26			4
								RA-226	1.50+-0.50E 00		05/26			4
								TH-228	1.02+-0.10E 00		05/26			4
								H-3	L.T. 2. E-02		06/13			5
74322	89226	BB18003ASB		04/21	1105			PU-238	L.T. 2. E-02		05/23			6
								PU-239	L.T. 7. E-03		05/23			6

TELEDYNE ISC .ES

REPORT OF ANALYSIS

RUN DATE 06/17/92

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE	PAGE 4
3-1294	04-0029403-012	04/27/92	05/30/92	

ERIC SMITH
MCLAREN/HAPT
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.
74323	89227	BB18002ASC		04/21	1110			SAMPLE	NOT R ECEIVED	*				3
74324	89302	BB17001SB		04/21	1545			PU-238	1.9 +-0.6 E-01		06/06			6
								PU-239	L.T. 2. E-02		06/06			6
74325	89303	BB17001SC		04/21	1545			BE-7	L.T. 4. E-01		05/22			4
								K-40	2.23+-0.22E 01		05/22			4
								MN-54	L.T. 4. E-02		05/22			4
								CO-58	L.T. 5. E-02		05/22			4
								FE-59	L.T. 1. E-01		05/22			4
								CO-60	L.T. 4. E-02		05/22			4
								ZN-65	L.T. 1. E-01		05/22			4
								ZR-95	L.T. 6. E-02		05/22			4
								RU-103	L.T. 5. E-02		05/22			4
								RU-106	L.T. 3. E-01		05/22			4
								I-131	L.T. 5. E-01		05/22			4
								CS-134	L.T. 5. E-02		05/22			4
								CS-137	7.71+-3.21E-02		05/22			4
								BA-140	L.T. 2. E-01		05/22			4
								CE-141	L.T. 9. E-02		05/22			4
								CE-144	L.T. 2. E-01		05/22			4
								RA-226	2.35+-0.54E 00		05/22			4
								TH-228	1.22+-0.12E 00		05/22			4
								H-3	2.7 +-1.7 E-02		06/09			5
74326	89308	BB17002SB		04/21	1520			PU-238	5.5 +-2.4 E-02		06/06			6
								PU-239	L.T. 5. E-03		06/06			6
74327	89309	BB17002SC		04/21	1520			BE-7	L.T. 5. E-01		05/22			4
								K-40	2.06+-0.21E 01		05/22			4
								MN-54	L.T. 4. E-02		05/22			4
								CO-58	L.T. 5. E-02		05/22			4
								FE-59	L.T. 1. E-01		05/22			4

WATER

VOLATILE ORGANICS

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

Lab Project-Sample ID: 5868-14

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: **BB18003WH**
Sample Number: 197101

Matrix: Water

Date Sampled: 4/21/92
Date Analyzed: 4/27/92

Date Received: 4/23/92
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		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	1	5

McLaren Hart™

VOLATILE ORGANICS

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

Lab Project-Sample ID: 5868-14

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	99	76 - 114
Toluene-D8	100	88 - 110
4-Bromofluorobenzene	99	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: 5/06/92
Cheryl Matterson, Associate Chemist

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

McLaren Hart™

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

Lab Project-Sample ID: 5868-16
Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: **BB18003WF**
Sample Number: 197116
Date Sampled: 4/21/92
Date Extracted: 4/28/92
Batch Number: 920428-2601

Matrix: Water
Date Received: 4/23/92
Date Analyzed: 5/01/92
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
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	87	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: 5/06/92
Cheryl Matterson, Association Chemist

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

McLaren Hart™

PRIORITY POLLUTANT METALS

Preparation Method: EPA 3010 {a}

Lab Project-Sample ID: 5868-18

Project Name: Rocketdyne SSFL
Project Number: 04.0029403.012

Sample Description: BB18003WG
Sample Number: 197124 Matrix: Water

Date Sampled: 4/21/92 Date Received: 4/23/92
Date Digested: 4/29/92 {b} Batch Number: 920429-1301 {b}

METAL (SYMBOL)/EPA METHOD	ANALYTE CONCENTRATION {c} ug/L (ppb)	DILUTION FACTOR	REPORTING LIMIT ug/L (ppb)	DATE ANALYZED
Antimony (Sb)/6010.....		1	50	5/01/92
Arsenic (As)/7060.....		1	10	5/01/92
Beryllium (Be)/6010.....		1	5	5/01/92
Cadmium (Cd)/6010.....		1	10	5/01/92
Chromium (Cr)/6010.....		1	10	5/01/92
Copper (Cu)/6010.....		1	20	5/01/92
Lead (Pb)/7421.....		1	3	5/01/92
Mercury (Hg)/7470.....		1	.5	4/30/92
Nickel (Ni)/6010.....		1	20	5/01/92
Selenium (Se)/7740.....		1	5	4/30/92
Silver (Ag)/6010.....		1	10	5/01/92
Thallium (Tl)/7841.....		1	10	5/01/92
Zinc (Zn)/6010.....		1	20	5/01/92

COMMENTS:

{a} Applies to all metals except As, Pb, Se, Tl and Hg. EPA Method 3020 used for As, Pb, Se and Tl digestion. EPA Method 7470 used for Hg digestion.
{b} Applies to all metals except As, Pb, Se, Tl and Hg. As, Pb, Se and Tl were digested on 4/29/92, Batch # 920429-1302 ; and Hg was digested on 4/29/92, Batch # 920429-1303 .
{c} No entry in the "Concentration" means the metal is not detected at all.

Approved by: Nancy McGerald for CM Date: 5/07/92
Cheryl Matterson, Association Chemist

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

McLaren Hart™

Table: Results of the analyses for iodine-129 in three (3) and strontium-90 in fifteen (15) water samples.

Sample ID Number	Sample Description	Collection Date	Lab Code	Concentration pCi/L			
				I-129	Date Analyzed	Sr-90	Date Analyzed
197855	BB16RD30WA	04/23/92	SPW-2139	ND		<0.3	06/06
197874	BB19003WA	04/23/92	2140	ND		<0.4	06/06
197310	BB16001BWA	04/23/92	2141	ND		1.8±0.5	06/06
197317	BB16001AWA	04/23/92	2142	ND		1.1±0.3	06/06
197890	DCWA	04/23/92	2143	ND		<0.4	06/06
197891	Dup. SPW-2143	04/23/92	2144	ND		<0.3	06/06
197311	BB16001BWC	04/23/92	2145	<1.8	06/09	ND	
197893	DCWC	04/23/92	2146	<2.0	06/09	ND	
197894	Dup. SPW-2146	04/23/92	2147	<2.6	06/09	ND	
197122	BB18003WC	04/21/92	2148	<1.6	06/10	ND	
197123	BB00001WC	04/21/92	2149	<1.7	06/11	ND	
197109	BB18003WA	04/21/92	2150	ND		<0.3	06/06
197110	BB00001WA	04/21/92	2151	ND		1.0±0.4	06/06
197130	BB18000RA	04/21/92	2152	ND		<0.3	06/06
171835	7B1WA	04/21/92	2153	ND		<0.4	06/06
171836	Dup. SPW-2153	04/21/92	2154	ND		<0.3	06/06
197135	BB18000RC	04/21/92	2155	<1.7	06/11	ND	
171838	7B1WC	04/21/92	2156	<1.7	06/11	ND	
171839	Dup. SPW-2156	04/21/92	2157	<1.6	06/11	ND	

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

ND - no data, analysis not required.

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 06/09/92

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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

SEND 1 COPIES TO MC480S 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 06/24/92

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
3-1295	04-0029403-012	04/27/92	05/30/92

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.
74343	197111 BB18003WD		04/21	1300			BE-7	L.T. 4. E 01		05/24			4
							K-40	L.T. 5. E 01		05/24			4
							MN-54	L.T. 3. E 00		05/24			4
							CO-58	L.T. 4. E 00		05/24			4
							FE-59	L.T. 9. E 00		05/24			4
							CO-60	L.T. 4. E 00		05/24			4
							ZN-65	L.T. 8. E 00		05/24			4
							ZR-95	L.T. 4. E 00		05/24			4
							RU-103	L.T. 6. E 00		05/24			4
							RU-106	L.T. 3. E 01		05/24			4
							I-131	L.T. 6. E 01		05/24			4
							CS-134	L.T. 4. E 00		05/24			4
							CS-137	L.T. 4. E 00		05/24			4
							BA-140	L.T. 2. E 01		05/24			4
							CE-141	L.T. 1. E 01		05/24			4
							CE-144	L.T. 3. E 01		05/24			4
							RA-226	L.T. 8. E 01		05/24			4
							TH-228	L.T. 7. E 00		05/24			4
74344	197114 BB18003WI		04/21	1300			GR-A	L.T. 2. E 00		05/08			3
							GR-B	L.T. 3. E 00		05/08			3
74345	197113 BB00001WD		04/21	1300			BE-7	L.T. 4. E 01		05/24			4
							K-40	L.T. 7. E 01		05/24			4
							MN-54	L.T. 3. E 00		05/24			4
							CO-58	L.T. 5. E 00		05/24			4
							FE-59	L.T. 1. E 01		05/24			4
							CO-60	L.T. 4. E 00		05/24			4
							ZN-65	L.T. 8. E 00		05/24			4
							ZR-95	L.T. 5. E 00		05/24			4
							RU-103	L.T. 6. E 00		05/24			4
							RU-106	L.T. 3. E 01		05/24			4
							I-131	L.T. 7. E 01		05/24			4

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 06/24/92

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

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
3-1295	04-0029403-012	04/27/92	05/30/92

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.
74345	197113 BB00001WD		04/21	1300			CS-134	L.T. 4. E 00		05/24			4
							CS-137	L.T. 4. E 00		05/24			4
							BA-140	L.T. 2. E 01		05/24			4
							CE-141	L.T. 1. E 01		05/24			4
							CE-144	L.T. 3. E 01		05/24			4
							RA-226	L.T. 1. E 02		05/24			4
							TH-228	L.T. 8. E 00		05/24			4
74346	197115 BB00001WI		04/21	1310			GR-A	L.T. 2. E 00		05/08			3
							GR-B	4.1 +-2.0 E 00		05/08			3
74347	197118 BB18003WE		04/21	1320			H-3	L.T. 1. E 02		06/20			5
74348	197119 BB1800001WE		04/21	1320			H-3	L.T. 1. E 02		06/20			5
74349	197120 BB18003WB		04/21	1320			PU-238	L.T. 2. E-01		05/19			6
74350	197121 BB00001WB		04/21	1320			PU-239	L.T. 8. E-02		05/19			6
							PU-238	L.T. 2. E-01		06/08			6
							PU-239	L.T. 9. E-02		06/08			6

LAST PAGE OF REPORT

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APPROVED BY J GUENTHER 06/24/92

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

VOLATILE ORGANIC COMPOUNDS

VOLATILE ORGANICS

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

Lab Project-Sample ID: 5879-23

Project Name: Rocketdyne
Project Number: 040029403012

Sample Description: BB19001SE
Sample Number: 90405

Matrix: Soil

Date Sampled: 4/23/92
Date Analyzed: 5/06/92

Date Received: 4/25/92
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: 5879- 23

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	92	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.

Approved By: Nancy McDonald for CM Date: 5/12/92
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: 5879-14

Project Name: Rocketdyne
Project Number: 040029403012

Sample Description: BB19002SE
Sample Number: 90411

Matrix: Soil

Date Sampled: 4/23/92
Date Analyzed: 5/04/92

Date Received: 4/25/92
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: 5879- 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	96	70 - 121
Toluene-D8	105	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: 5/12/92
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: 5879-17

Project Name: Rocketdyne
Project Number: 040029403012

Sample Description: BB19003SE
Sample Number: 90417

Matrix: Soil

Date Sampled: 4/23/92
Date Analyzed: 5/04/92

Date Received: 4/25/92
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: 5879- 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	103	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: 5/12/92
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: 5879-20

Project Name: Rocketdyne
Project Number: 040029403012

Sample Description: BB19004SE
Sample Number: 90423

Matrix: Soil

Date Sampled: 4/23/92
Date Analyzed: 5/04/92

Date Received: 4/25/92
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: 5879- 20

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	117	81 - 117
4-Bromofluorobenzene	84	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: 5/12/92
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: 5879-22

Project Name: Rocketdyne
Project Number: 040029403012

Sample Description: BB19001SD
Sample Number: 90404

Matrix: Soil

Date Sampled: 4/23/92
Date Extracted: 4/29/92

Date Received: 4/25/92
Date Analyzed: 5/01/92

Batch Number: 920429-2601

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: 5879-22

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: 5879-22

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	54	25 - 121
Phenol-d5.....	60	24 - 113
Nitrobenzene-d5.....	47	23 - 120
2-Fluorobiphenyl.....	54	30 - 115
2,4,6-Tribromophenol.....	82	19 - 122
Terphenyl-d14.....	66	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: 5/11/92

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: 5879-13

Project Name: Rocketdyne
Project Number: 040029403012

Sample Description: BB19002SD
Sample Number: 90410

Matrix: Soil

Date Sampled: 4/23/92
Date Extracted: 4/29/92

Date Received: 4/25/92
Date Analyzed: 5/01/92

Batch Number: 920429-2601

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: 5879-13

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: 5879-13

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	64	25 - 121
Phenol-d5.....	72	24 - 113
Nitrobenzene-d5.....	58	23 - 120
2-Fluorobiphenyl.....	64	30 - 115
2,4,6-Tribromophenol.....	100	19 - 122
Terphenyl-d14.....	≈68	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: 5/11/92

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: 5879-16

Project Name: Rocketdyne
Project Number: 040029403012

Sample Description: BB19003SD
Sample Number: 90416

Matrix: Soil

Date Sampled: 4/23/92
Date Extracted: 4/29/92

Date Received: 4/25/92
Date Analyzed: 5/04/92

Batch Number: 920429-2601

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

McLaren Hart™

SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5879-16

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

McLaren Hart™

SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5879-16

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	81	25 - 121
Phenol-d5.....	85	24 - 113
Nitrobenzene-d5.....	59	23 - 120
2-Fluorobiphenyl.....	60	30 - 115
2,4,6-Tribromophenol.....	96	19 - 122
Terphenyl-d14.....	74	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: 5/11/92

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

McLaren Hart™

SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5879-19

Project Name: Rocketdyne
Project Number: 040029403012

Sample Description: BB19004SD
Sample Number: 90422

Matrix: Soil

Date Sampled: 4/23/92
Date Extracted: 4/29/92

Date Received: 4/25/92
Date Analyzed: 5/06/92

Batch Number: 920429-2601

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

McLaren Hart™

SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5879-19

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: 5879-19

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	64	25 - 121
Phenol-d5.....	64	24 - 113
Nitrobenzene-d5.....	48	23 - 120
2-Fluorobiphenyl.....	50	30 - 115
2,4,6-Tribromophenol.....	60	19 - 122
Terphenyl-d14.....	64	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: 5/11/92

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

McLaren Hart™

METALS

PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5879-24

Project Name: Rocketdyne
Project Number: 040029403012

Sample Description: BB19001SF
Sample Number: 90406

Matrix: Soil

Date Sampled: 4/23/92
Date Digested: 4/27/92 {b}

Date Received: 4/25/92
Batch Number: 920427-1104 {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	5/01/92
Arsenic (As)/7060.....	2.6	1	.50	5/01/92
Beryllium (Be)/6010.....	.41	1	.25	5/04/92
Cadmium (Cd)/6010.....		1	.50	5/01/92
Chromium (Cr)/6010.....	11.	1	1.0	5/01/92
Copper (Cu)/6010.....	8.1	1	1.0	5/01/92
Lead (Pb)/6010.....	17.	1	2.5	5/01/92
Mercury (Hg)/7471.....		1	.25	4/27/92
Nickel (Ni)/6010.....	6.2	1	1.0	5/01/92
Selenium (Se)/7740.....		1	.25	4/30/92
Silver (Ag)/6010.....		1	1.0	5/01/92
Thallium (Tl)/7841.....		1	.50	4/30/92
Zinc (Zn)/6010.....	110.	1	1.0	5/01/92

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 4/27/92, Batch # 920427-1105; and Hg was digested on 4/27/92, Batch # 920427-1106 .
{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: 5/12/92

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: 5879-15

Project Name: Rocketdyne
Project Number: 040029403012

Sample Description: BB19002SF
Sample Number: 90412

Matrix: Soil

Date Sampled: 4/23/92
Date Digested: 4/27/92 {b}

Date Received: 4/25/92
Batch Number: 920427-1104 {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	5/01/92
Arsenic (As)/7060.....	2.7	1	.50	5/01/92
Beryllium (Be)/6010.....	.44	1	.25	5/04/92
Cadmium (Cd)/6010.....		1	.50	5/01/92
Chromium (Cr)/6010.....	13.	1	1.0	5/01/92
Copper (Cu)/6010.....	8.8	1	1.0	5/01/92
Lead (Pb)/6010.....	16.	1	2.5	5/01/92
Mercury (Hg)/7471.....		1	.25	4/27/92
Nickel (Ni)/6010.....	6.9	1	1.0	5/01/92
Selenium (Se)/7740.....		1	.25	4/30/92
Silver (Ag)/6010.....		1	1.0	5/01/92
Thallium (Tl)/7841.....		1	.50	4/30/92
Zinc (Zn)/6010.....	52.	1	1.0	5/01/92

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 4/27/92, Batch # 920427-1105; and Hg was digested on 4/27/92, Batch # 920427-1106 .
{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: 5/12/92

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

McLaren Hart™

PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5879-18

Project Name: Rocketdyne
Project Number: 040029403012

Sample Description: BB19003SF
Sample Number: 90418

Matrix: Soil

Date Sampled: 4/23/92
Date Digested: 4/27/92 {b}

Date Received: 4/25/92
Batch Number: 920427-1104 {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	5/01/92
Arsenic (As)/7060.....	1.8	1	.50	5/01/92
Beryllium (Be)/6010.....	.27	1	.25	5/04/92
Cadmium (Cd)/6010.....		1	.50	5/01/92
Chromium (Cr)/6010.....	7.4	1	1.0	5/01/92
Copper (Cu)/6010.....	4.5	1	1.0	5/01/92
Lead (Pb)/6010.....	4.5	1	2.5	5/01/92
Mercury (Hg)/7471.....		1	.25	4/27/92
Nickel (Ni)/6010.....	3.9	1	1.0	5/01/92
Selenium (Se)/7740.....		1	.25	4/30/92
Silver (Ag)/6010.....		1	1.0	5/01/92
Thallium (Tl)/7841.....		1	.50	4/30/92
Zinc (Zn)/6010.....	58.	1	1.0	5/01/92

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 4/27/92, Batch # 920427-1105; and Hg was digested on 4/27/92, Batch # 920427-1106 .
{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: 5/12/92

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

McLaren Hart™

PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5879-21

Project Name: Rocketdyne
Project Number: 040029403012

Sample Description: BB19004SF
Sample Number: 90424 Matrix: Soil

Date Sampled: 4/23/92 Date Received: 4/25/92
Date Digested: 4/27/92 {b} Batch Number: 920427-1104 {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	5/01/92
Arsenic (As)/7060.....	1.9	1	.50	5/01/92
Beryllium (Be)/6010.....	.32	1	.25	5/04/92
Cadmium (Cd)/6010.....		1	.50	5/01/92
Chromium (Cr)/6010.....	5.5	1	1.0	5/01/92
Copper (Cu)/6010.....	3.4	1	1.0	5/01/92
Lead (Pb)/6010.....	5.9	1	2.5	5/01/92
Mercury (Hg)/7471.....		1	.25	4/27/92
Nickel (Ni)/6010.....	2.6	1	1.0	5/01/92
Selenium (Se)/7740.....		1	.25	4/30/92
Silver (Ag)/6010.....		1	1.0	5/01/92
hallium (Tl)/7841.....		1	.50	4/30/92
inc (Zn)/6010.....	44.	1	1.0	5/01/92

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 4/27/92, Batch # 920427-1105; and Hg was digested on 4/27/92, Batch # 920427-1106 .
{c} No entry in the "Concentration" means the metal is not detected at all.

Approved by: Nancy McDonald for CM Date: 5/12/92
Cheryl Matterson, Association Chemist

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

McLaren Hart™

RADIONUCLIDES

Table1. Results of the analyses for iodine-129 and strontium-90 in thirty (30) soil samples.

Sample ID Number	Sample Description	Collection Date	Lab Code	Conc. pCi/g wet I-129	Date Analyzed	Conc. pCi/g dry Sr-90	Date Analyzed
89575	BB15005SA	04/22/92	SPS-2158	<0.2	06/30	<0.01	07/11
89581	BB00007SA	04/22/92	SPS-2159	<0.3	06/30	0.02±0.02	07/11
89851	BB16001BSA	04/22/92	SPS-2160	<0.3	06/30	0.03±0.01	07/11
89857	BB16002SA	04/22/92	SPS-2161	<0.3	07/11	0.09±0.01	07/15
89863	BB16002SA	04/22/92	SPS-2162	<0.3	07/20	0.02±0.01	07/16
89869	BB16004SA	04/22/92	SPS-2163	<0.3	07/11	0.15±0.02	07/15
89875	BB16005SA	04/22/92	SPS-2164	<0.3	07/07	0.04±0.01	08/11
89881	BB00006SA	04/22/92	SPS-2165	<0.2	07/07	0.12±0.02	07/15
89892	BB16001ASA	04/22/92	SPS-2166	<0.3	07/07	0.08±0.01	07/16
89301	BB17001SA	04/21/92	SPS-2167	<0.3	07/08	0.01±0.01	07/16
89307	BB17002SA	04/21/92	SPS-2168	<0.3	07/08	0.02±0.01	07/11
89313	BB17003SA	04/21/92	SPS-2169	<0.2	07/08	0.01±0.01	07/16
89319	BB17004SA	04/21/92	SPS-2170	<0.2	07/08	0.03±0.01	08/11
Dup	BB17004SA	04/21/92	SPS-2170D	<0.2	07/08	0.02±0.01	08/11
89551	BB15001SA	04/21/92	SPS-2171	<0.3	07/09	0.01±0.01	08/11
89557	BB15002SA	04/21/92	SPS-2172	<0.3	07/09	<0.01	07/16
89563	BB15003SA	04/21/92	SPS-2173	<0.3	07/10	0.01±0.01	07/15
89569	BB15004SA	04/21/92	SPS-2174	<0.2	07/10	<0.01	07/11
90151	BB18001ASA	04/21/92	SPS-2175	<0.3	07/10	0.02±0.01	07/16
90157	BB18002ASA	04/21/92	SPS-2176	<0.3	07/13	0.02±0.01	08/11
90163	BB18002SA	04/21/92	SPS-2177	<0.3	07/13	<0.01	07/11
90170	BB18003SA	04/21/92	SPS-2178	<0.2	07/13	0.01±0.01	07/15
89219	BB18001SA	04/21/92	SPS-2179	<0.3	07/14	0.02±0.01	08/11
89225	BB18003ASA	04/21/92	SPS-2180	<0.2	07/14	<0.01	07/16
89213	BB18003BSA	04/21/92	SPS-2181	<0.3	07/14	<0.01	07/16
89207	BB18002BSA	04/21/92	SPS-2182	<0.3	07/18	0.02±0.01	08/11
89201	BB18001BSA	04/21/92	SPS-2183	<0.3	07/17	0.01±0.01	08/11
90401	BB19001SA	04/23/92	SPS-2184	<0.3	07/17	0.08±0.02	08/11
90407	BB19002SA	04/23/92	SPS-2185	<0.3	07/18	0.09±0.02	08/11
90413	BB19003SA	04/23/92	SPS-2186	<0.3	07/18	0.02±0.01	08/11
90419	BB19004SA	04/23/92	SPS-2187	<0.3	07/18	0.03±0.01	08/11

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.

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 07/07/92

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE	PAGE 1
3-1297	04-0029403-012	04/27/92	05/30/92	

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	TIME	STOP DATE	TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	TIME	VOLUME - UNITS ASH-WGHT-% ◇	LAB.
74379	89893	0B16001ASB		04/22	1000			PU-238	L.T. 4. E-02		06/09			6
								PU-239	L.T. 8. E-03		06/09			6
74380	89894	0B16001ASC		04/22	1000			BE-7	L.T. 5. E-01		06/01			4
								K-40	2.10+-0.21E 01		06/01			4
								MN-54	L.T. 4. E-02		06/01			4
								CO-58	L.T. 5. E-02		06/01			4
								FE-59	L.T. 1. E-01		06/01			4
								CO-60	L.T. 4. E-02		06/01			4
								ZN-65	L.T. 1. E-01		06/01			4
								ZR-95	L.T. 6. E-02		06/01			4
								RU-103	L.T. 7. E-02		06/01			4
								RU-106	L.T. 3. E-01		06/01			4
								I-131	L.T. 1. E 00		06/01			4
								CS-134	L.T. 5. E-02		06/01			4
								CS-137	7.01+-2.78E-02		06/01			4
								BA-140	L.T. 3. E-01		06/01			4
								CE-141	L.T. 1. E-01		06/01			4
								CE-144	L.T. 2. E-01		06/01			4
								RA-226	2.33+-0.50E 00		06/01			4
								TH-228	1.31+-0.13E 00		06/01			4
								U-3	2.0 +-0.3 E-01		06/22			5
74384	90402	0B19001SB		04/22	0830			PU-238	L.T. 5. E-02		06/08			6
								PU-239	L.T. 3. E-02		06/08			6

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 07/07/92

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE	PAGE 2
3-1297	04-0029403-032	04/27/92	05/30/92	

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)	MDCL-UNIT-% U/M *	MID-COUNT TIME DATE	TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
74385	90403	BB19001SC	04/22	0830			BE-7	L.T. 7. E-01		06/17			4
							K-40	1.98+-0.20E 01		06/17			4
							MN-54	L.T. 4. E-02		06/17			4
							CO-58	L.T. 6. E-02		06/17			4
							FE-59	L.T. 2. E-01		06/17			4
							CO-60	L.T. 5. E-02		06/17			4
							ZN-65	L.T. 1. E-01		06/17			4
							ZR-95	L.T. 9. E-02		06/17			4
							RU-103	L.T. 1. E-01		06/17			4
							RU-106	L.T. 4. E-01		06/17			4
							I-131	L.T. 5. E 00		06/17			4
							CS-134	L.T. 5. E-02		06/17			4
							CS-137	2.95+-0.51E-01		06/17			4
							BA-140	L.T. 7. E-01		06/17			4
							CE-141	L.T. 2. E-01		06/17			4
							CE-144	L.T. 3. E-01		06/17			4
							RA-226	2.23+-0.66E 00		06/17			4
							TH-228	1.15+-0.12E 00		06/17			4
							H-3	NOT ANALYZED		06/24			5
74386	90408	BB19002SB	04/22	0840			PU-238	L.T. 6. E-02		06/08			6
							PU-239	L.T. 1. E-02		06/08			6
74387	90409	BB19002SC	04/22	0840			BE-7	L.T. 1. E 00		06/22			4
							K-40	2.32+-0.23E 01		06/22			4
							MN-54	L.T. 7. E-02		06/22			4
							CO-58	L.T. 1. E-01		06/22			4
							FE-59	L.T. 3. E-01		06/22			4
							CO-60	L.T. 7. E-02		06/22			4
							ZN-65	L.T. 2. E-01		06/22			4
							ZR-95	L.T. 1. E-01		06/22			4
							RU-103	L.T. 2. E-01		06/22			4
							RU-106	L.T. 6. E-01		06/22			4

1) #74385 may have inadvertently been dried in its entirety for the gamma analysis.

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 07/07/92

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE	PAGE 3
3-1297	04-0029403-012	04/27/92	05/30/92	

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.
74387 90409	BB190025C		04/22	0840			I-131	L.T. 1. E 01		06/22			4
							CS-134	L.T. 8. E-02		06/22			4
							CS-137	2.35+-0.59E-01		06/22			4
							BA-140	L.T. 2. E 00		06/22			4
							CE-141	L.T. 3. E-01		06/22			4
							CE-144	L.T. 5. E-01		06/22			4
							RA-226	2.24+-1.05E 00		06/22			4
							TH-228	1.61+-0.16E 00		06/22			4
							H-3	L.T. 3. E-02		06/22			5
74388 90414	BB190035D		04/22	0855			PU-238	L.T. 7. E-02		06/09			6
							PU-239	L.T. 1. E-02		06/09			6
74389 90415	BB190035E		04/23	0855			BE-7	L.T. 4. E-01		06/02			4
							K-40	2.16+-0.22E 01		06/02			4
							MN-54	L.T. 4. E-02		06/02			4
							CO-58	L.T. 4. E-02		06/02			4
							FE-59	L.T. 1. E-01		06/02			4
							CO-60	L.T. 3. E-02		06/02			4
							ZN-65	L.T. 9. E-02		06/02			4
							ZR-95	L.T. 6. E-02		06/02			4
							RU-103	L.T. 6. E-02		06/02			4
							RU-106	L.T. 3. E-01		06/02			4
							I-131	L.T. 1. E 00		06/02			4
							CS-134	L.T. 4. E-02		06/02			4
							CS-137	L.T. 4. E-02		06/02			4
							BA-140	L.T. 3. E-01		06/02			4
							CE-141	L.T. 1. E-01		06/02			4
							CE-144	L.T. 2. E-01		06/02			4
							RA-226	9.20+-5.12E-01		06/02			4
							TH-228	7.87+-0.79E-01		06/02			4
							H-3	2.8 +-1.4 E-02		06/23			5

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 07/07/92

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE	PAGE 4
3-1297	04-0029403-012	04/27/92	05/30/92	

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.
74390	90420	8019006SB		04/23	0930		PU-238	L.T. 4. E-02		06/10			6
							PU-239	L.T. 1. E-02		06/10			6
74391	90421	8019006SC		04/23	0930		BE-7	L.T. 4. E-01		06/02			4
							K-40	2.24+-0.22E 01		06/02			4
							MN-54	L.T. 3. E-02		06/02			4
							CO-58	L.T. 3. E-02		06/02			4
							FE-59	L.T. 9. E-02		06/02			4
							CO-60	L.T. 3. E-02		06/02			4
							ZN-65	L.T. 7. E-02		06/02			4
							ZR-95	L.T. 5. E-02		06/02			4
							RU-103	L.T. 5. E-02		06/02			4
							RU-106	L.T. 3. E-01		06/02			4
							I-131	L.T. 8. E-01		06/02			4
							CS-134	L.T. 3. E-02		06/02			4
							CS-137	1.79+-0.30E-01		06/02			4
							BA-140	L.T. 2. E-01		06/02			4
							CE-141	L.T. 9. E-02		06/02			4
							CE-144	L.T. 2. E-01		06/02			4
							RA-226	1.79+-0.48E 00		06/02			4
							TH-228	1.12+-0.11E 00		06/02			4
							H-3	L.T. 3. E-02		06/23			5

TI#	H-3 (pCi/l)
74380	9.9 + 3.5 E 02
74387	L.T. 1. E 02
74389	2.0 + 1.0 E 02
74391	L.T. 1. E 02

WATER

PRIORITY POLLUTANT METALS

Preparation Method: EPA 3010 {a}

ab Project-Sample ID: 5879-11

Project Name: Rocketdyne
Project Number: 040029403012

Sample Description: BB19003WF
Sample Number: 197876

Matrix: Water

Date Sampled: 4/23/92
Date Digested: 4/29/92 {b}

Date Received: 4/25/92
Batch Number: 920429-1301 {b}

METAL (SYMBOL)/EPA METHOD	ANALYTE CONCENTRATION {c} ug/L (ppb)	DILUTION FACTOR	REPORTING LIMIT ug/L (ppb)	DATE ANALYZED
Antimony (Sb)/6010.....		1	50	5/01/92
Arsenic (As)/7060.....		1	10	5/01/92
Beryllium (Be)/6010.....		1	5	5/01/92
Cadmium (Cd)/6010.....		1	10	5/01/92
Chromium (Cr)/6010.....		1	10	5/01/92
Copper (Cu)/6010.....		1	20	5/01/92
Lead (Pb)/7421.....		1	3	5/01/92
Mercury (Hg)/7470.....		1	.5	4/30/92
Nickel (Ni)/6010.....		1	20	5/01/92
Selenium (Se)/7740.....		1	5	4/30/92
ilver (Ag)/6010.....		1	10	5/01/92
nallium (Tl)/7841.....		1	10	5/01/92
Zinc (Zn)/6010.....		1	20	5/01/92

COMMENTS:

{a} Applies to all metals except As, Pb, Se, Tl and Hg. EPA Method 3020 used for As, Pb, Se and Tl digestion. EPA Method 7470 used for Hg digestion.
{b} Applies to all metals except As, Pb, Se, Tl and Hg. As, Pb, Se and Tl were digested on 4/29/92, Batch # 920429-1302 ; and Hg was digested on 4/29/92, Batch # 920429-1303 .
{c} No entry in the "Concentration" means the metal is not detected at all.

Approved by: Nancy McDonald for CM Date: 5/11/92
Cheryl Matterson, Association Chemist

.e 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: 5879-10
Project Name: Rocketdyne
Project Number: 040029403012

Sample Description: BB19003WG
Sample Number: 197869
Date Sampled: 4/23/92
Date Extracted: 4/29/92
Batch Number: 920429-1902

Matrix: Water
Date Received: 4/25/92
Date Analyzed: 5/01/92
Dilution Factor: 1

ANALYTE	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	87	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: 5/12/92
Cheryl Matterson, Association Chemist

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

McLaren Hart™

VOLATILE ORGANICS

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

Lab Project-Sample ID: 5879-9

Project Name: Rocketdyne
Project Number: 040029403012

Sample Description: BB19003WH
Sample Number: 197865

Matrix: Water

Date Sampled: 4/23/92
Date Analyzed: 4/30/92

Date Received: 4/25/92
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		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: 5879-9

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	102	76 - 114
Toluene-D8	105	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 M. 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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Table: Results of the analyses for iodine-129 in three (3) and strontium-90 in two (2) water samples.

Sample ID Number	Sample Description	Collection Date	Lab Code	Concentration pCi/L			
				I-129	Date Analyzed	Sr-90	Date Analyzed
171817	BB16003RA	04/22/92	SPW-2227	ND		<0.4	06/20
171818	BB16003RA	04/22/92	2228	ND		<0.4	06/20
171820	BB16005RC	04/22/92	2229	<1.2	06/11	ND	
171821	BB16005RC	04/22/92	2230	<2.0	06/08	ND	
197875	BB19003WC	04/22/92	2231	<1.8	06/08	ND	

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

ND - no data, analysis not required.

Table: Results of the analyses for iodine-129 in three (3) and strontium-90 in fifteen (15) water samples.

Sample ID Number	Sample Description	Collection Date	Lab Code	Concentration pCi/L			
				I-129	Date Analyzed	Sr-90	Date Analyzed
197855	BB16RD30WA	04/23/92	SPW-2139	ND		<0.3	06/06
197874	BB19003WA	04/23/92	2140	ND		<0.4	06/06
197310	BB16001BWA	04/23/92	2141	ND		1.8±0.5	06/06
197317	BB16001AWA	04/23/92	2142	ND		1.1±0.3	06/06
197890	DCWA	04/23/92	2143	ND		<0.4	06/06
197891	Dup. SPW-2143	04/23/92	2144	ND		<0.3	06/06
197311	BB16001BWC	04/23/92	2145	<1.8	06/09	ND	
197893	DCWC	04/23/92	2146	<2.0	06/09	ND	
197894	Dup. SPW-2146	04/23/92	2147	<2.6	06/09	ND	
197122	BB18003WC	04/21/92	2148	<1.6	06/10	ND	
197123	BB00001WC	04/21/92	2149	<1.7	06/11	ND	
197109	BB18003WA	04/21/92	2150	ND		<0.3	06/06
197110	BB00001WA	04/21/92	2151	ND		1.0±0.4	06/06
197130	BB18000RA	04/21/92	2152	ND		<0.3	06/06
171835	7B1WA	04/21/92	2153	ND		<0.4	06/06
171836	Dup. SPW-2153	04/21/92	2154	ND		<0.3	06/06
197135	BB18000RC	04/21/92	2155	<1.7	06/11	ND	
171838	7B1WC	04/21/92	2156	<1.7	06/11	ND	
171839	Dup. SPW-2156	04/21/92	2157	<1.6	06/11	ND	

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

ND - no data, analysis not required.

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 07/07/92

PAGE 1

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
3-1298	04-0029403-012	04/27/92	05/30/92

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.
74401	197870	BB19003WD		04/23	0830		BE-7	L.T. 4. E 01		05/24			4
							K-40	L.T. 5. E 01		05/24			4
							MN-54	L.T. 3. E 00		05/24			4
							CO-58	L.T. 4. E 00		05/24			4
							FE-59	L.T. 1. E 01		05/24			4
							CO-60	L.T. 3. E 00		05/24			4
							ZN-65	L.T. 7. E 00		05/24			4
							ZR-95	L.T. 4. E 00		05/24			4
							RU-103	L.T. 6. E 00		05/24			4
							RU-106	L.T. 3. E 01		05/24			4
							I-131	L.T. 5. E 01		05/24			4
							CS-134	L.T. 3. E 00		05/24			4
							CS-137	L.T. 3. E 00		05/24			4
							BA-140	L.T. 2. E 01		05/24			4
							CE-141	L.T. 9. E 00		05/24			4
							CE-144	L.T. 2. E 01		05/24			4
							RA-226	L.T. 6. E 01		05/24			4
							TH-228	L.T. 6. E 00		05/24			4
74402	197871	BB19003WI		04/23	0830		GR-A	L.T. 4. E 00		05/08			3
							GR-B	4.9 +-2.5 E 00		05/08			3
74403	197872	BB19003WE		04/23	0830		H-3	L.T. 1. E 02		06/27			5
74404	197873	BB19003WB		04/23	0830		PU-238	L.T. 4. E-01		05/23			6
							PU-239	L.T. 3. E-01		05/23			6
74405	197306	BB16001WD		04/23	0950		BE-7	L.T. 3. E 01		05/24			4
							K-40	L.T. 5. E 01		05/24			4
							MN-54	L.T. 3. E 00		05/24			4
							CO-58	L.T. 3. E 00		05/24			4
							FE-59	L.T. 8. E 00		05/24			4
							CO-60	L.T. 3. E 00		05/24			4

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

SEND 1 COPIES TO MC480S 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.