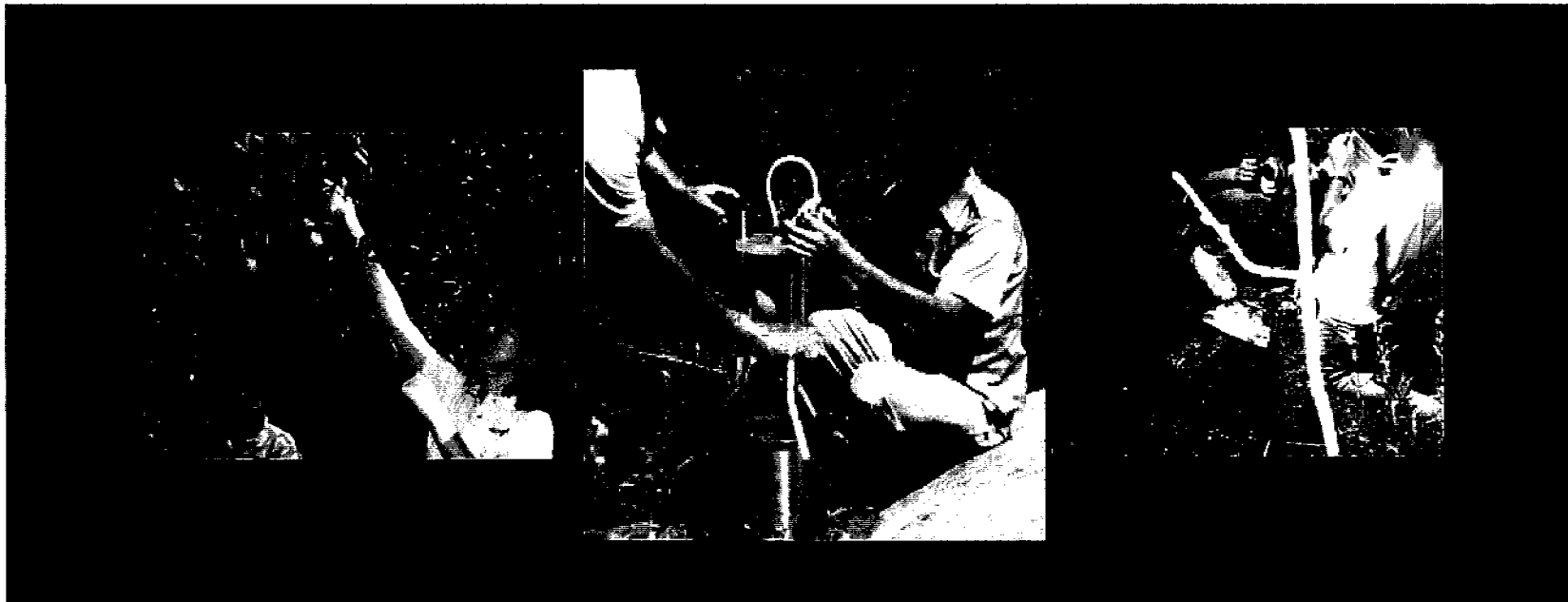


**Multi-Media Sampling Report
for the Brandeis-Bardin Institute
and the
Santa Monica Mountains Conservancy**

**Santa Monica Mountains Conservancy
Analytical Data**



March 10, 1993

Prepared by:

McLaren/Hart

ENVIRONMENTAL ENGINEERING CORPORATION

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BRANDEIS-BARDIN HUMAN ACTIVITY AREA
ANALYTICAL DATA

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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: 5756-54

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Project Name: Rocketdyne
Project Number: 03.029403.012

Sample Description: BB01001SE
Sample Number: 90267

Matrix: Soil

Date Sampled: 3/18/92
Date Analyzed: 3/25/92

Date Received: 3/19/92
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-Chloroethylvinylether.....		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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756- 54

Page 2 of 2

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

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	103	70 - 121
Toluene-D8	108	81 - 117
4-Bromofluorobenzene	92	74 - 121

COMMENTS:

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

Approved By: Nancy McDonald for CM Date: 4/07/92
 Cheryl Matterson, Associate Chemist

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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-57

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.029403.012

Sample Description: BB01027SE
 Sample Number: 90273

Matrix: Soil

Date Sampled: 3/18/92
 Date Analyzed: 3/25/92

Date Received: 3/19/92
 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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756- 57

Page 2 of 2

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
1,1,2,2-Tetrachloroethane.....		5
1,3-Dichlorobenzene {b}.....		5
1,4-Dichlorobenzene {b}.....		5
1,2-Dichlorobenzene {b}.....		5
SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	102	70 - 121
Toluene-D8	105	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: 4/07/92
 Cheryl Matterson, Associate Chemist

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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-60

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.029403.012

Sample Description: BB01038SE
 Sample Number: 90279

Matrix: Soil

Date Sampled: 3/18/92
 Date Analyzed: 3/25/92

Date Received: 3/19/92
 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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756- 60

Page 2 of 2

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

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	102	70 - 121
Toluene-D8	109	81 - 117
4-Bromofluorobenzene	97	74 - 121

COMMENTS:

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

Approved By: Nancy McDonald for CM Date: 4/07/92
 Cheryl Matterson, Associate Chemist

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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-51

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Project Name: Rocketdyne
 Project Number: 03.029403.012

Sample Description: BB01041SE
 Sample Number: 90261

Matrix: Soil

Date Sampled: 3/18/92
 Date Analyzed: 3/25/92

Date Received: 3/19/92
 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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756- 51

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COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
1,1,2,2-Tetrachloroethane.....		5
1,3-Dichlorobenzene {b}.....		5
1,4-Dichlorobenzene {b}.....		5
1,2-Dichlorobenzene {b}.....		5
SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	103	70 - 121
Toluene-D8	110	81 - 117
4-Bromofluorobenzene	91	74 - 121

COMMENTS:

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

Approved By: Nancy McDonald for CM Date: 4/07/92
 Cheryl Matterson, Associate Chemist

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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-48

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.029403.012

Sample Description: BB01056SE
 Sample Number: 90290

Matrix: Soil

Date Sampled: 3/18/92
 Date Analyzed: 3/25/92

Date Received: 3/19/92
 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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756- 48

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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	104	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 McDonald for CM Date: 4/07/92
 Cheryl Matterson, Associate Chemist

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



SEMI-VOLATILE ORGANIC COMPOUNDS

SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-53

Page 1 of 3

Project Name: Rocketdyne
 Project Number: 03.029403.012

Sample Description: BB01001SD
 Sample Number: 90266

Matrix: Soil

Date Sampled: 3/18/92
 Date Extracted: 3/23/92

Date Received: 3/19/92
 Date Analyzed: 3/30/92

Batch Number: 920323-2001

Dilution Factor: 1

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-53

Page 2 of 3

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-53

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	81	25 - 121
Phenol-d5.....	74	24 - 113
Nitrobenzene-d5.....	78	23 - 120
2-Fluorobiphenyl.....	88	30 - 115
2,4,6-Tribromophenol.....	101	19 - 122
Terphenyl-d14.....	103	18 - 137

COMMENTS:

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

Approved By: Nancy McDonald for CM Date: 4/07/92
Cheryl Matterson, Associate Chemist

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-56

Page 1 of 3

Project Name: Rocketdyne
 Project Number: 03.029403.012

Sample Description: BB01027SD
 Sample Number: 90272

Matrix: Soil

Date Sampled: 3/18/92
 Date Extracted: 3/23/92

Date Received: 3/19/92
 Date Analyzed: 3/31/92

Batch Number: 920323-2001

Dilution Factor: 1

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



SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}

Preparation Method: EPA 3550

Lab Project-Sample ID: 5756-56

Page 2 of 3

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-56

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SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	76	25 - 121
Phenol-d5.....	81	24 - 113
Nitrobenzene-d5.....	83	23 - 120
2-Fluorobiphenyl.....	80	30 - 115
2,4,6-Tribromophenol.....	99	19 - 122
Terphenyl-d14.....	102	18 - 137

COMMENTS:

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

Approved By: Nancy McDonald for CM Date: 4/07/92
Cheryl Matterson, Associate Chemist

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-59

Page 1 of 3

Project Name: Rocketdyne
 Project Number: 03.029403.012

Sample Description: BB01038SD
 Sample Number: 90278

Matrix: Soil

Date Sampled: 3/18/92
 Date Extracted: 3/23/92

Date Received: 3/19/92
 Date Analyzed: 3/30/92

Batch Number: 920323-2001

Dilution Factor: 1

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-59

Page 2 of 3

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
Diieldrin {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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-59

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	79	25 - 121
Phenol-d5.....	74	24 - 113
Nitrobenzene-d5.....	80	23 - 120
2-Fluorobiphenyl.....	91	30 - 115
2,4,6-Tribromophenol.....	104	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 McDonald for CM Date: 4/07/92
Cheryl Matterson, Associate Chemist

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-50

Page 1 of 3

Project Name: Rocketdyne
 Project Number: 03.029403.012

Sample Description: BB01041SD
 Sample Number: 90260

Matrix: Soil

Date Sampled: 3/18/92
 Date Extracted: 3/23/92

Date Received: 3/19/92
 Date Analyzed: 3/30/92

Batch Number: 920323-2001

Dilution Factor: 1

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-50

Page 2 of 3

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-50

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SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	71	25 - 121
Phenol-d5.....	68	24 - 113
Nitrobenzene-d5.....	71	23 - 120
2-Fluorobiphenyl.....	86	30 - 115
2,4,6-Tribromophenol.....	112	19 - 122
Terphenyl-d14.....	102	18 - 137

COMMENTS:

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

Approved By: Nancy McDonald for cm Date: 4/07/92
Cheryl Matterson, Associate Chemist

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-47

Page 1 of 3

Project Name: Rocketdyne
 Project Number: 03.029403.012

Sample Description: BB01056SD
 Sample Number: 90254

Matrix: Soil

Date Sampled: 3/18/92
 Date Extracted: 3/23/92

Date Received: 3/19/92
 Date Analyzed: 3/30/92

Batch Number: 920323-2001

Dilution Factor: 1

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-47

Page 2 of 3

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-47

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	73	25 - 121
Phenol-d5.....	68	24 - 113
Nitrobenzene-d5.....	71	23 - 120
2-Fluorobiphenyl.....	83	30 - 115
2,4,6-Tribromophenol.....	99	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 Loren Date: 4/07/92
Cheryl Matterson, Associate Chemist

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



METALS

PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5756-55

Project Name: Rocketdyne
Project Number: 03.029403.012

Sample Description: BB01001SF
Sample Number: 90268

Matrix: Soil

Date Sampled: 3/18/92
Date Digested: 3/20/92 {b}

Date Received: 3/19/92
Batch Number: 920320-1104 {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	3/21/92
Arsenic (As)/7060.....	7.1	5	2.5	3/24/92
Beryllium (Be)/6010.....	.78	1	.25	3/21/92
Cadmium (Cd)/6010.....		1	.50	3/21/92
Chromium (Cr)/6010.....	19.	1	1.0	3/21/92
Copper (Cu)/6010.....	18.	1	1.0	3/21/92
Lead (Pb)/6010.....	16.	1	2.5	3/21/92
Mercury (Hg)/7471.....		1	.25	3/21/92
Nickel (Ni)/6010.....	17.	1	1.0	3/21/92
Selenium (Se)/7740.....	.75	1	.25	3/24/92
Silver (Ag)/6010.....		1	1.0	3/21/92
Thallium (Tl)/7841.....		1	.50	3/27/92
Zinc (Zn)/6010.....	64.	1	1.0	3/21/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/20/92, Batch # 920320-1103; and Hg was digested on 3/20/92, Batch # 920320-1105 .
- {c} No entry in the "Concentration" means the metal is not detected at all.
- {d} The sample for Arsenic was diluted 5 fold to bring target analyte within linear working range.

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

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



PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5756-58

Project Name: Rocketdyne
Project Number: 03.029403.012

Sample Description: BB01027SF
Sample Number: 90274

Matrix: Soil

Date Sampled: 3/18/92
Date Digested: 3/20/92 {b}

Date Received: 3/19/92
Batch Number: 920320-1104 {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	3/21/92
Arsenic (As)/7060.....	2.2	5	2.5	3/24/92
Beryllium (Be)/6010.....	.39	1	.25	3/21/92
Cadmium (Cd)/6010.....		1	.50	3/21/92
Chromium (Cr)/6010.....	10.	1	1.0	3/21/92
Copper (Cu)/6010.....	9.6	1	1.0	3/21/92
Lead (Pb)/6010.....	26.	1	2.5	3/21/92
Mercury (Hg)/7471.....		1	.25	3/21/92
Nickel (Ni)/6010.....	5.9	1	1.0	3/21/92
Selenium (Se)/7740.....	1.6	1	.25	3/24/92
Silver (Ag)/6010.....		1	1.0	3/21/92
Thallium (Tl)/7841.....		1	.50	3/27/92
Zinc (Zn)/6010.....	52.	1	1.0	3/21/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/20/92, Batch # 920320-1103; and Hg was digested on 3/20/92, Batch # 920320-1105 .
- {c} No entry in the "Concentration" means the metal is not detected at all.
- {d} A high background reading was observed for Arsenic. A matrix interferent is present creating a false positive observation. A 5 fold dilution yielded an estimated result of 2.2.

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

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



PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5756-61

Project Name: Rocketdyne
Project Number: 03.029403.012

Sample Description: BB01038SF
Sample Number: 90280

Matrix: Soil

Date Sampled: 3/18/92
Date Digested: 3/20/92 {b}

Date Received: 3/19/92
Batch Number: 920320-1104 {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	3/21/92
Arsenic (As)/7060.....	3.6	5	2.5	3/24/92
Beryllium (Be)/6010.....	.56	1	.25	3/21/92
Cadmium (Cd)/6010.....		1	.50	3/21/92
Chromium (Cr)/6010.....	11.	1	1.0	3/21/92
Copper (Cu)/6010.....	14.	1	1.0	3/21/92
Lead (Pb)/6010.....	12.	1	2.5	3/21/92
Mercury (Hg)/7471.....		1	.25	3/21/92
Nickel (Ni)/6010.....	7.9	1	1.0	3/21/92
Selenium (Se)/7740.....	1.9	1	.25	3/24/92
Silver (Ag)/6010.....		1	1.0	3/21/92
Thallium (Tl)/7841.....		1	.50	3/27/92
Zinc (Zn)/6010.....	42.	1	1.0	3/21/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/20/92, Batch # 920320-1103; and Hg was digested on 3/20/92, Batch # 920320-1105 .
- {c} No entry in the "Concentration" means the metal is not detected at all.
- {d} The sample for Arsenic was diluted 5 fold to bring target analyte within linear working range.

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

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



PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5756-52

Project Name: Rocketdyne
Project Number: 03.029403.012

Sample Description: BB01041SF
Sample Number: 90262

Matrix: Soil

Date Sampled: 3/18/92
Date Digested: 3/20/92 {b}

Date Received: 3/19/92
Batch Number: 920320-1104 {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	3/21/92
Arsenic (As)/7060.....	4.0	5	2.5	3/24/92
Beryllium (Be)/6010.....	.56	1	.25	3/21/92
Cadmium (Cd)/6010.....		1	.50	3/21/92
Chromium (Cr)/6010.....	12.	1	1.0	3/21/92
Copper (Cu)/6010.....	19.	1	1.0	3/21/92
Lead (Pb)/6010.....	14.	1	2.5	3/21/92
Mercury (Hg)/7471.....		1	.25	3/21/92
Nickel (Ni)/6010.....	9.5	1	1.0	3/21/92
Selenium (Se)/7740.....	4.9	1	.25	3/24/92
Silver (Ag)/6010.....		1	1.0	3/21/92
Thallium (Tl)/7841.....		1	.50	3/27/92
Zinc (Zn)/6010.....	52.	1	1.0	3/21/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/20/92, Batch # 920320-1103; and Hg was digested on 3/20/92, Batch # 920320-1105 .
- {c} No entry in the "Concentration" means the metal is not detected at all.
- {d} The sample for Arsenic was diluted 5 fold to bring target analyte within linear working range.

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

Date: 4/07/92

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



PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5756-49

Project Name: Rocketdyne
Project Number: 03.029403.012

Sample Description: BB01056SF
Sample Number: 90256

Matrix: Soil

Date Sampled: 3/18/92
Date Digested: 3/20/92 {b}

Date Received: 3/19/92
Batch Number: 920320-1104 {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	3/21/92
Arsenic (As)/7060.....	13.	5	2.5	3/24/92
Beryllium (Be)/6010.....	.89	1	.25	3/21/92
Cadmium (Cd)/6010.....		1	.50	3/21/92
Chromium (Cr)/6010.....	24.	1	1.0	3/21/92
Copper (Cu)/6010.....	28.	1	1.0	3/21/92
Lead (Pb)/6010.....	18.	1	2.5	3/21/92
Mercury (Hg)/7471.....		1	.25	3/21/92
Nickel (Ni)/6010.....	18.	1	1.0	3/21/92
Selenium (Se)/7740.....		1	.25	3/24/92
Silver (Ag)/6010.....		1	1.0	3/21/92
Thallium (Tl)/7841.....		1	.50	3/27/92
Zinc (Zn)/6010.....	74.	1	1.0	3/21/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/20/92, Batch # 920320-1103; and Hg was digested on 3/20/92, Batch # 920320-1105 .
- {c} No entry in the "Concentration" means the metal is not detected at all.
- {d} The sample for Arsenic was diluted 5 fold to bring target analyte within linear working range.

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

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



RADIONUCLIDES

Table: Results of the analyses for iodine-129 and strontium-90 in thirty-five (35) soil samples.

Sample ID Number	Sample Description	Collection Date	Lab Code	Conc. pci/gwet		Conc. pci/gdry	
				I-129	Date Analyzed	Sr-90	Date Analyzed
90140	M4SA	03/17/92	SPS-1908	<0.2	05/20	0.06±0.01	06/03
88901	BB13024SA	03/17/92	1909	<0.2	05/20	0.01±0.01	05/14
88907	BB13037SA	03/17/92	1910	<0.2	05/21	0.01±0.01	05/14
88913	BB13039SA	03/17/92	1911	<0.2	05/21	0.01±0.01	05/15
88919	BB13011SA	03/17/92	1912	<0.2	05/22	0.01±0.01	06/03
88925	BB13010SA	03/17/92	1913	<0.2	05/22	<0.01	06/09
89151	BB06017SA	03/17/92	1914	<0.2	05/22	0.01±0.01	05/14
89157	BB06007SA	03/17/92	1915	<0.3	06/09	<0.01	05/14
89163	BB06092SA	03/17/92	1916	<0.2	05/26	<0.01	05/14
89169	BB06066SA	03/17/92	1917	<0.2	05/27	<0.01	05/14
89175	BB06013SA	03/17/92	1918	<0.2	05/28	0.01±0.01	05/14
90101	BB03025SA	03/17/92	1919	<0.2	06/01	0.09±0.01	06/09
90107	BB03092SA	03/17/92	1920	<0.2	06/01	0.04±0.01	05/14
90113	BB03079SA	03/17/92	1921	<0.2	06/01	0.03±0.01	06/09
90119	BB03017SA	03/17/92	1922	<0.3	06/09	0.05±0.01	06/09
90125	BB03005SA	03/17/92	1923	<0.2	06/02	0.06±0.01	05/15
90001	BB05003SA	03/18/92	1924	<0.2	06/02	0.02±0.01	06/09
90007	BB05089SA	03/18/92	1925	<0.2	06/02	0.02±0.01	05/22
90013	BB05006SA	03/18/92	1926	<0.2	06/03	0.02±0.01	05/22
90019	BB05057SA	03/18/92	1927	<0.2	06/04	0.03±0.01	05/22
90025	BB05077SA	03/18/92	1928	<0.2	06/04	0.06±0.01	05/22
90051	BB12006SA	03/18/92	1929	<0.2	06/05	0.03±0.01	05/22
90057	BB12019SA	03/18/92	1930	<0.2	06/05	0.04±0.01	05/22
90063	BB12023SA	03/18/92	1931	<0.3	06/05	0.02±0.01	05/22
90069	BB12020SA	03/18/92	1932	<0.2	06/08	0.03±0.01	05/22
90075	BB12003SA	03/18/92	1933	<0.2	06/08	0.01±0.01	05/22
90251	BB01056SA	03/18/92	1934	<0.3	06/08	0.04±0.01	06/03
90263	BB01001SA	03/18/92	1935	<0.3	06/10	<0.01	06/03
90269	BB01027SA	03/18/92	1936	<0.3	06/10	<0.01	06/09
90275	BB01038SA	03/18/92	1937	<0.2	06/10	0.02±0.01	06/03
90282	BB00004SA	03/18/92	1938	<0.3	06/10	0.01±0.01	06/03
89251	BB11018SA	03/18/92	1939	<0.3	06/10	0.02±0.01	06/03
89257	BB11061SA	03/18/92	1940	<0.3	06/11	<0.01	06/03
89263	BB11057SA	03/18/92	1941	<0.2	06/11	0.02±0.01	06/09
89269	BB11032SA	03/18/92	1942	<0.3	04/14	0.02±0.01	06/09

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.

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

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

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

APPROVED BY

L.G. Huebner
L.G. Huebner
General Manager

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 06/16/92

PAGE 3

WORK ORDER NUMBER 3-0628 CUSTOMER P.O. NUMBER 04-0029403-012 DATE RECEIVED 03/24/92 DELIVERY DATE 04/26/92

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		NUCLIDE	ACTIVITY (PCT/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	VOLUME - UNITS	
			START DATE	STOP DATE					ASH-WGHT-%	LAP.
70803	90264 8801001S8		03/18	1315	PU-238 PU-239	L.T. 1. E-01 L.T. 7. E-02		04/21 04/21		6 6
70884	90265 8801001SC		03/18	1315	BE-7 K-40 MN-54 CO-58 FE-59 CO-60 ZN-65 ZR-95 RU-103 RU-106 I-131 CS-134 CS-137 BA-140 CE-141 CE-144 RA-226 TH-228 H-3	L.T. 6. E-01 1.85+-0.18E 01 L.T. 4. E-02 L.T. 5. E-02 L.T. 2. E-01 L.T. 4. E-02 L.T. 1. E-01 L.T. 8. E-02 L.T. 3. E-01 L.T. 4. E 00 L.T. 5. E-02 6.04+-2.69E-02 L.T. 9. E-01 L.T. 2. E-01 L.T. 3. E-01 1.60+-0.55E 00 1.29+-0.13E 00 L.T. 2. E-02		05/13 05/13 05/13 05/13 05/13 05/13 05/13 05/13 05/13 05/13 05/13 05/13 05/13 05/13 05/13 05/13 05/13 06/07		4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 5
70885	90270 8801027S8		03/18	1330	PU-238 PU-239	L.T. 3. E-02 L.T. 8. E-03		04/21 04/21		6 6
70886	90271 8801027SC		03/18	1330	BE-7 K-40 MN-54 CO-58 FE-59 CO-60 ZN-65	L.T. 5. E-01 2.2A+-0.23E 01 L.T. 3. E-02 L.T. 4. E-02 L.T. 1. E-01 L.T. 3. E-02 L.T. 8. E-02		05/13 05/13 05/13 05/13 05/13 05/13 05/13		4 4 4 4 4 4 4

TELEDYNE ISOTOPIES

REPORT OF ANALYSIS

RUN DATE 06/16/92

PAGE 4

DELIVERY DATE 04/26/92

DATE RECEIVED 03/24/92

CUSTOMER P.O. NUMBER 04-0029403-012

WORK ORDER NUMBER 3-0628

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

SOIL

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	STOP DATE	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M	MID-COUNT TIME DATE	VOLUME - UNITS ASH-WGHT-%	LAB.
70886	90271 88010275C		03/18 1330		ZR-95	L.T. 5. E-02		05/13		4
					RU-103	L.T. 7. E-02		05/13		4
					RU-106	L.T. 3. E-01		05/13		4
					I-131	L.T. 3. E 00		05/13		4
					CS-134	L.T. 4. E-02		05/13		4
					CS-137	L.T. 3. E-02		05/13		4
					BA-140	L.T. 7. E-01		05/13		4
					CE-141	L.T. 1. E-01		05/13		4
					CE-144	L.T. 2. E-01		05/13		4
					RA-226	1.45+-0.40E 00		05/13		4
					TH-228	1.30+-0.13E 00		05/13		4
					H-3	L.T. 8. E-03		06/10		5
70887	90276 88010385B		03/18 1445		PU-238	L.T. 2. E-02		04/21		6
					PU-239	L.T. 7. E-03		04/21		6
70888	90277 88010385C		03/18 1445		BE-7	L.T. 6. E-01		05/13		4
					K-40	1.99+-0.20E 01		05/13		4
					MN-54	L.T. 4. E-02		05/13		4
					CO-58	L.T. 5. E-02		05/13		4
					FE-59	L.T. 2. E-01		05/13		4
					CO-60	L.T. 4. E-02		05/13		4
					ZN-65	L.T. 1. E-01		05/13		4
					ZR-95	L.T. 7. E-02		05/13		4
					RU-103	L.T. 4. E-02		05/13		4
					RU-106	L.T. 3. E-01		05/13		4
					I-131	L.T. 4. E 00		05/13		4
					CS-134	L.T. 4. E-02		05/13		4
					CS-137	8.51+-3.30E-02		05/13		4
					BA-140	L.T. 6. E-01		05/13		4
					CE-141	L.T. 2. E-01		05/13		4
					CE-144	L.T. 3. E-01		05/13		4
					RA-226	1.63+-0.52E 00		05/13		4

TELEDYNE ISOTOPIES

REPORT OF ANALYSIS

RUN DATE 06/16/92

PAGE 5

WORK ORDER NUMBER 3-0628
CUSTOMER P.O. NUMMR 04-0029403-012
DATE RECEIVED 03/24/92
DELIVERY DATE 04/26/92

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	STOP TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M	MID-COUNT TIME DATE	VOLUME - UNIT* ASH-WGHT-%	LAB.
70888	90277 88010385C		03/18	1445	TH-228 H-3	1.02+-0.10E 00 L.T. 8. E-03		05/13 06/07		4 5
70889	90281 88000045C		03/18	1300	BE-7 K-40 MN-54 CO-58 FE-59 CO-60 ZN-65 ZR-95 RU-103 RU-106 I-131 CS-134 CS-137 BA-140 CE-141 CE-144 RA-226 TH-228 H-3	L.T. 6. E-01 1.77+-0.18E 01 L.T. 4. E-02 L.T. 5. E-02 L.T. 2. E-01 L.T. 4. E-02 L.T. 1. E-01 L.T. 7. E-02 L.T. 8. E-02 L.T. 3. E-01 L.T. 4. E 00 L.T. 4. E-02 L.T. 4. E-02 L.T. 8. E-01 L.T. 2. E-01 L.T. 3. E-01 1.38+-0.60E 00 1.16+-0.12E 00 L.T. 1. E-02		05/13 05/13 05/13 05/13 05/13 05/13 05/13 05/13 05/13 05/13 05/13 05/13 05/13 05/13 05/13 05/13 05/13 06/10		4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 5
70890	89252 88110185B		03/18	1530	PU-238 PU-239	L.T. 7. E-02 L.T. 5. E-02		04/21 04/21		6 6
70891	89253 88110185C		03/18	1530	BE-7 K-40 MN-54 CO-58 FE-59 CO-60 ZN-65	L.T. 4. E-01 2.35+-0.23E 01 L.T. 3. E-02 L.T. 4. E-02 L.T. 1. E-01 L.T. 7. E-02		05/13 05/13 05/13 05/13 05/13 05/13		4 4 4 4 4 4 4

TELEDYNE ISOTOPIES

REPORT OF ANALYSIS

WORK ORDER NUMBER

3-0620

CUSTOMER P.O. NUMBER

04-0029403-012

DATE RECEIVED

03/24/92

PAGE 1

RUN DATE 06/16/92

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

SOIL

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE		NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M	MID-COUNT TIME	VOLUME - UNITS	
			START DATE	STOP DATE					ASH-WGHT-%	LAB.
70878	90077 8812003SC		03/18	1130	BE-7	L.T. 6. E-01		05/13		4
					K-40	2.15+-0.21E 01		05/13		4
					MN-54	L.T. 4. E-02		05/13		4
					CO-58	L.T. 6. E-02		05/13		4
					FE-59	L.T. 2. E-01		05/13		4
					CO-60	L.T. 4. E-02		05/13		4
					ZN-65	L.T. 1. E-01		05/13		4
					ZR-95	L.T. 7. E-02		05/13		4
					RU-103	L.T. 8. E-02		05/13		4
					RU-106	L.T. 3. E-01		05/13		4
					I-131	L.T. 4. E 00		05/13		4
					CS-134	L.T. 4. E-02		05/13		4
					CS-137	L.T. 4. E-02		05/13		4
					RA-140	L.T. 7. E-01		05/13		4
					CE-141	L.T. 1. E-01		05/13		4
					CE-144	L.T. 2. E-01		05/13		4
					RA-226	1.76+-0.53E 00		05/13		4
					TH-228	1.12+-0.11E 00		05/13		4
					H-3	L.T. 1. E-02		06/05		5
70879	90252 8801056SB		03/18	1300	PU-238	L.T. 1. E-01		04/21		6
					PU-239	L.T. 4. E-02		04/21		6
70880	90253 8801056SC		03/18	1300	BE-7	L.T. 5. E-01		05/13		4
					K-40	1.91+-0.19E 01		05/13		4
					MN-54	L.T. 3. E-02		05/13		4
					CO-58	L.T. 5. E-02		05/13		4
					FE-59	L.T. 1. E-01		05/13		4
					CO-60	L.T. 3. E-02		05/13		4
					ZN-65	L.T. 1. E-01		05/13		4
					ZR-95	L.T. 6. E-02		05/13		4
					RU-103	L.T. 7. E-02		05/13		4
					RU-106	L.T. 3. E-01		05/13		4

TELEDYNE ISOTOPIES

REPORT OF ANALYSIS

RUN DATE 06/16/92
PAGE 2

WORK ORDER NUMBER 3-0628
CUSTOMER P.O. NUMBER 04-0029403-012
DATE RECEIVED 03/24/92
DELIVERY DATE 04/26/92

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

SOIL

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	STOP DATE	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT DATE	TIME	VOLUME - UNITS ASH-WGHT-%	LAR.
70880	90253 8801056SC		03/18	1300	I-131	L.T. 3. E 00		05/13		4	
					CS-134	L.T. 4. E-02		05/13		4	
					CS-137	L.T. 4. E-02		05/13		4	
					BA-140	L.T. 5. E-01		05/13		4	
					CE-141	L.T. 1. E-01		05/13		4	
					CE-144	L.T. 2. E-01		05/13		4	
					RA-226	2.06+-0.44E 00		05/13		4	
					TH-228	1.25+-0.12E 00		05/13		4	
					H-3	2.2 +-0.8 E-02		06/07		5	
70881	90258 8801041SB		03/18	1305	PU-238	L.T. 6. E-02		04/20		6	
					PU-239	L.T. 2. E-02		04/20		6	
70882	90259 8801041SP		03/18	1305	BE-7	L.T. 5. E-01		05/13		4	
					K-40	2.19+-0.22E 01		05/13		4	
					MN-54	L.T. 4. E-02		05/13		4	
					CO-58	L.T. 5. E-02		05/13		4	
					FE-59	L.T. 2. E-01		05/13		4	
					CO-60	L.T. 4. E-02		05/13		4	
					ZN-65	L.T. 9. E-02		05/13		4	
					ZR-95	L.T. 6. E-02		05/13		4	
					RU-103	L.T. 8. E-02		05/13		4	
					RU-106	L.T. 3. E-01		05/13		4	
					I-131	L.T. 4. E 00		05/13		4	
					CS-134	L.T. 4. E-02		05/13		4	
					CS-137	1.03+-0.24E-01		05/13		4	
					BA-140	L.T. 7. E-01		05/13		4	
					CE-141	L.T. 1. E-01		05/13		4	
					CE-144	L.T. 2. E-01		05/13		4	
					RA-226	2.61+-0.49E 00		05/13		4	
					TH-228	1.00+-0.10E 00		05/13		4	
					H-3	L.T. 2. E-02		06/07		5	

VOLATILE ORGANIC COMPOUNDS

VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-24

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB02045SE
 Sample Number: 89811

Matrix: Soil

Date Sampled: 3/19/92
 Date Analyzed: 3/24/92

Date Received: 3/20/92
 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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758- 24

Page 2 of 2

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

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	102	70 - 121
Toluene-D8	101	81 - 117
4-Bromofluorobenzene	91	74 - 121

COMMENTS:

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

Approved By: Nancy McDonald for CM Date: 4/09/92
 Cheryl Matterson, Associate Chemist

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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-27

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB02060SE
 Sample Number: 89817

Matrix: Soil

Date Sampled: 3/19/92
 Date Analyzed: 3/24/92

Date Received: 3/20/92
 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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758- 27

Page 2 of 2

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

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	102	70 - 121
Toluene-D8	96	81 - 117
4-Bromofluorobenzene	97	74 - 121

COMMENTS:

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

Approved By: Nancy McDonald for CM Date: 4/09/92
 Cheryl Matterson, Associate Chemist

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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-21

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB02071SE
 Sample Number: 89805

Matrix: Soil

Date Sampled: 3/19/92
 Date Analyzed: 3/24/92

Date Received: 3/20/92
 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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758- 21

Page 2 of 2

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

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	99	70 - 121
Toluene-D8	106	81 - 117
4-Bromofluorobenzene	83	74 - 121

COMMENTS:

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

Approved By: Nancy McDonald for CM Date: 4/09/92
 Cheryl Matterson, Associate Chemist

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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-30

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB02075SE
 Sample Number: 89823

Matrix: Soil

Date Sampled: 3/19/92
 Date Analyzed: 3/24/92

Date Received: 3/20/92
 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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758- 30

Page 2 of 2

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

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	99	70 - 121
Toluene-D8	101	81 - 117
4-Bromofluorobenzene	89	74 - 121

COMMENTS:

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

Approved By: Nancy McDonald for CM Date: 4/09/92
 Cheryl Matterson, Associate Chemist

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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-33

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB02078SE
 Sample Number: 89829

Matrix: Soil

Date Sampled: 3/19/92
 Date Analyzed: 3/24/92

Date Received: 3/20/92
 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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758- 33

Page 2 of 2

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

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	102	70 - 121
Toluene-D8	94	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 McDonald Cor em Date: 4/09/92
 Cheryl Matterson, Associate Chemist

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



SEMI-VOLATILE ORGANIC COMPOUNDS

SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-23

Page 1 of 3

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB02045SD
 Sample Number: 89810

Matrix: Soil

Date Sampled: 3/19/92
 Date Extracted: 3/23/92

Date Received: 3/20/92
 Date Analyzed: 3/31/92

Batch Number: 920323-2601

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-23

Page 2 of 3

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-23

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	88	25 - 121
Phenol-d5.....	90	24 - 113
Nitrobenzene-d5.....	81	23 - 120
2-Fluorobiphenyl.....	89	30 - 115
2,4,6-Tribromophenol.....	112	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 Date: 4/08/92
Cheryl Matterson, Associate Chemist

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-26

Page 1 of 3

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB02060SD
 Sample Number: 89816

Matrix: Soil

Date Sampled: 3/19/92
 Date Extracted: 3/23/92

Date Received: 3/20/92
 Date Analyzed: 3/31/92

Batch Number: 920323-2601

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.....	670	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.....	140	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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-26

Page 2 of 3

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-26

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	66	25 - 121
Phenol-d5.....	75	24 - 113
Nitrobenzene-d5.....	62	23 - 120
2-Fluorobiphenyl.....	78	30 - 115
2,4,6-Tribromophenol.....	106	19 - 122
Terphenyl-d14.....	98	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 result for Benzoic acid is reported as an estimated concentration below the established reporting limit.

Approved By: Nancy McDonald for CM Date: 4/08/92
Cheryl Matterson, Associate Chemist

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-20

Page 1 of 3

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB02071SD
 Sample Number: 89804

Matrix: Soil

Date Sampled: 3/19/92
 Date Extracted: 3/23/92

Date Received: 3/20/92
 Date Analyzed: 3/31/92

Batch Number: 920323-2601

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-20

Page 2 of 3

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-20

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	86	25 - 121
Phenol-d5.....	86	24 - 113
Nitrobenzene-d5.....	74	23 - 120
2-Fluorobiphenyl.....	80	30 - 115
2,4,6-Tribromophenol.....	103	19 - 122
Terphenyl-d14.....	80	18 - 137

COMMENTS:

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

Approved By: Nancy McDonald for CM Date: 4/08/92
Cheryl Matterson, Associate Chemist

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-29

Page 1 of 3

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB02075SD
 Sample Number: 89822

Matrix: Soil

Date Sampled: 3/19/92
 Date Extracted: 3/23/92

Date Received: 3/20/92
 Date Analyzed: 3/31/92

Batch Number: 920323-2601

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-29

Page 2 of 3

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.....	35	330
Heptachlor Epoxide.....		330
Pyrene.....	44	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.....	64	330
Benzo(k)fluoranthene.....	90	330
Benzo(a)pyrene.....	92	330
Indeno(1,2,3-c,d)pyrene.....	55	330
Dibenzo(a,h)anthracene.....		330
Benzo(g,h,i)perylene.....	52	330



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-29

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	98	25 - 121
Phenol-d5.....	98	24 - 113
Nitrobenzene-d5.....	82	23 - 120
2-Fluorobiphenyl.....	94	30 - 115
2,4,6-Tribromophenol.....	119	19 - 122
Terphenyl-d14.....	104	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 results for Fluoranthene, Pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Indeno(1,2,3-c,d)pyrene, and Benzo(g,h,i)perylene are reported as estimated concentrations below the established reporting limits.

Approved By: Nancy McDonald Loren Date: 4/08/92
 Cheryl Matterson, Associate Chemist

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-32

Page 1 of 3

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB02078SD
 Sample Number: 89828

Matrix: Soil

Date Sampled: 3/19/92
 Date Extracted: 3/23/92

Date Received: 3/20/92
 Date Analyzed: 3/31/92

Batch Number: 920323-2601

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-32

Page 2 of 3

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-32

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	60	25 - 121
Phenol-d5.....	70	24 - 113
Nitrobenzene-d5.....	64	23 - 120
2-Fluorobiphenyl.....	72	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 Date: 4/08/92
Cheryl Matterson, Associate Chemist

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



METALS

PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5758-25

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB02045SF
Sample Number: 89812

Matrix: Soil

Date Sampled: 3/19/92
Date Digested: 3/23/92 {b}

Date Received: 3/20/92
Batch Number: 920323-1101 {b}

METAL (SYMBOL)/EPA METHOD	ANALYTE CONCENTRATION {c} mg/Kg (ppm)	DILUTION FACTOR	REPORTING LIMIT mg/Kg (ppm)	DATE ANALYZED
Antimony (Sb)/6010.....		1	2.5	3/26/92
Arsenic (As)/7060.....	4.8	1	.50	3/25/92
Beryllium (Be)/6010.....	.27	1	.25	3/26/92
Cadmium (Cd)/6010.....		1	.50	3/26/92
Chromium (Cr)/6010.....	6.7	1	1.0	3/26/92
Copper (Cu)/6010.....	7.2	1	1.0	3/26/92
Lead (Pb)/6010.....	5.1	1	2.5	3/26/92
Mercury (Hg)/7471.....		1	.25	3/26/92
Nickel (Ni)/6010.....	4.2	1	1.0	3/26/92
Selenium (Se)/7740.....	1.8	1	.25	3/25/92
Silver (Ag)/6010.....		1	1.0	3/26/92
Thallium (Tl)/7841.....		1	.50	3/30/92
Zinc (Zn)/6010.....	27.	1	1.0	3/26/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/23/92, Batch # 920323-1102; and Hg was digested on 3/23/92, Batch # 920323-1103 .
- {c} No entry in the "Concentration" means the metal is not detected at all.

Approved by: Nancy McDonald for CM Date: 4/09/92
Cheryl Matterson, Association Chemist

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



PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5758-28

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB02060SF
Sample Number: 89818

Matrix: Soil

Date Sampled: 3/19/92
Date Digested: 3/23/92 {b}

Date Received: 3/20/92
Batch Number: 920323-1101 {b}

METAL (SYMBOL)/EPA METHOD	ANALYTE CONCENTRATION {c} mg/Kg (ppm)	DILUTION FACTOR	REPORTING LIMIT mg/Kg (ppm)	DATE ANALYZED
Antimony (Sb)/6010.....		1	2.5	3/26/92
Arsenic (As)/7060.....	4.8	1	.50	3/25/92
Beryllium (Be)/6010.....	.42	1	.25	3/26/92
Cadmium (Cd)/6010.....		1	.50	3/26/92
Chromium (Cr)/6010.....	8.2	1	1.0	3/26/92
Copper (Cu)/6010.....	9.1	1	1.0	3/26/92
Lead (Pb)/6010.....	8.1	1	2.5	3/26/92
Mercury (Hg)/7471.....		1	.25	3/26/92
Nickel (Ni)/6010.....	4.9	1	1.0	3/26/92
Selenium (Se)/7740.....	2.0	1	.25	3/25/92
Silver (Ag)/6010.....		1	1.0	3/26/92
Thallium (Tl)/7841.....		1	.50	3/30/92
Zinc (Zn)/6010.....	34.	1	1.0	3/26/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/23/92, Batch # 920323-1102; and Hg was digested on 3/23/92, Batch # 920323-1103 .
- {c} No entry in the "Concentration" means the metal is not detected at all.

Approved by: Nancy McDonald for cm Date: 4/09/92
Cheryl Matterson, Association Chemist

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



PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5758-22

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB02071SF
Sample Number: 89806

Matrix: Soil

Date Sampled: 3/19/92
Date Digested: 3/23/92 {b}

Date Received: 3/20/92
Batch Number: 920323-1101 {b}

METAL (SYMBOL)/EPA METHOD	ANALYTE CONCENTRATION {c} mg/Kg (ppm)	DILUTION FACTOR	REPORTING LIMIT mg/Kg (ppm)	DATE ANALYZED
Antimony (Sb)/6010.....		1	2.5	3/26/92
Arsenic (As)/7060.....	3.7	1	.50	3/25/92
Beryllium (Be)/6010.....	.28	1	.25	3/26/92
Cadmium (Cd)/6010.....		1	.50	3/26/92
Chromium (Cr)/6010.....	6.7	1	1.0	3/26/92
Copper (Cu)/6010.....	11.	1	1.0	3/26/92
Lead (Pb)/6010.....	6.4	1	2.5	3/26/92
Mercury (Hg)/7471.....		1	.25	3/26/92
Nickel (Ni)/6010.....	5.0	1	1.0	3/26/92
Selenium (Se)/7740.....	1.1	1	.25	3/25/92
Silver (Ag)/6010.....		1	1.0	3/26/92
Thallium (Tl)/7841.....		1	.50	3/30/92
Zinc (Zn)/6010.....	30.	1	1.0	3/26/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/23/92, Batch # 920323-1102; and Hg was digested on 3/23/92, Batch # 920323-1103 .
- {c} No entry in the "Concentration" means the metal is not detected at all.

Approved by: Nancy McDonald for CM Date: 4/09/92
Cheryl Matterson, Association Chemist

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



PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5758-31

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB02075SF
Sample Number: 89824

Matrix: Soil

Date Sampled: 3/19/92
Date Digested: 3/23/92 {b}

Date Received: 3/20/92
Batch Number: 920323-1101 {b}

METAL (SYMBOL)/EPA METHOD	ANALYTE CONCENTRATION {c} mg/Kg (ppm)	DILUTION FACTOR	REPORTING LIMIT mg/Kg (ppm)	DATE ANALYZED
Antimony (Sb)/6010.....		1	2.5	3/26/92
Arsenic (As)/7060.....	6.6	4	2.0	3/25/92
Beryllium (Be)/6010.....	.44	1	.25	3/26/92
Cadmium (Cd)/6010.....		1	.50	3/26/92
Chromium (Cr)/6010.....	10.	1	1.0	3/26/92
Copper (Cu)/6010.....	8.5	1	1.0	3/26/92
Lead (Pb)/6010.....	11.	1	2.5	3/26/92
Mercury (Hg)/7471.....		1	.25	3/26/92
Nickel (Ni)/6010.....	6.6	1	1.0	3/26/92
Selenium (Se)/7740.....	2.6	4	1.0	3/25/92
Silver (Ag)/6010.....		1	1.0	3/26/92
Thallium (Tl)/7841.....		1	.50	3/30/92
Zinc (Zn)/6010.....	39.	1	1.0	3/26/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/23/92, Batch # 920323-1102; and Hg was digested on 3/23/92, Batch # 920323-1103 .
- {c} No entry in the "Concentration" means the metal is not detected at all.
- {d} The samples for Arsenic and Selenium were diluted 4 fold to bring target analytes within linear working range.

Approved by: Nancy McDonald for CM Date: 4/09/92
Cheryl Matterson, Association Chemist

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



PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5758-34

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB02078SF
Sample Number: 89830

Matrix: Soil

Date Sampled: 3/19/92
Date Digested: 3/23/92 {b}

Date Received: 3/20/92
Batch Number: 920323-1101 {b}

METAL (SYMBOL)/EPA METHOD	ANALYTE CONCENTRATION {c} mg/Kg (ppm)	DILUTION FACTOR	REPORTING LIMIT mg/Kg (ppm)	DATE ANALYZED
Antimony (Sb)/6010.....		1	2.5	3/26/92
Arsenic (As)/7060.....		1	.50	3/25/92
Beryllium (Be)/6010.....	.44	1	.25	3/26/92
Cadmium (Cd)/6010.....		1	.50	3/26/92
Chromium (Cr)/6010.....	10.	1	1.0	3/26/92
Copper (Cu)/6010.....	13.	1	1.0	3/26/92
Lead (Pb)/6010.....	11.	1	2.5	3/26/92
Mercury (Hg)/7471.....		1	.25	3/26/92
Nickel (Ni)/6010.....	6.8	1	1.0	3/26/92
Selenium (Se)/7740.....		1	.25	3/25/92
Silver (Ag)/6010.....		1	1.0	3/26/92
Thallium (Tl)/7841.....		1	.50	3/30/92
Zinc (Zn)/6010.....	48.	1	1.0	3/26/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/23/92, Batch # 920323-1102; and Hg was digested on 3/23/92, Batch # 920323-1103 .
- {c} No entry in the "Concentration" means the metal is not detected at all.

Approved by: Nancy McDonald for CM Date: 4/09/92
Cheryl Matterson, Association Chemist

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



RADIONUCLIDES

Table 1. 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		Conc. pCi/g dry	
				I-129	Date Analyzed	Sr-90	Date Analyzed
89275	BB11006SA	03/18/92	SPS-1943	<0.3	06/11	0.02±0.01	06/09
88963	BB07058SA	03/19/92	1944	<0.2	06/12	0.01±0.01	06/10
88969	BB07012SA	03/19/92	1945	<0.3	06/11	0.01±0.01	06/10
88975	BB07038SA	03/19/92	1946	<0.2	06/12	0.02±0.01	06/10
88981	M 7 SA	03/19/92	1947	<0.3	06/12	0.04±0.01	06/10
89651	BB10067SA ¹	03/19/92	1948	<0.3	06/12	0.06±0.01	06/10
89657	BB10078SA ¹	03/19/92	1949	<0.3	06/15	0.05±0.01	06/10
89663	BB10081SA	03/19/92	1950	<0.3	06/16	0.02±0.01	06/10
89669	BB10023SA	03/19/92	1951	<0.3	06/15	0.02±0.01	06/10
89675	BB10029SA	03/19/92	1952	<0.3	06/15	0.02±0.01	07/15
89825	BB02078SA	03/19/92	1953	<0.3	06/16	0.02±0.01	06/10
88801	BB02070SA	03/19/92	1954	<0.2	06/16	0.01±0.01	06/12
88807	BB02032SA	03/19/92	1955	<0.3	06/16	0.02±0.01	06/12
88813	BB02031SA	03/19/92	1956	<0.3	06/16	0.02±0.01	06/20
88819	BB02051SA	03/19/92	1957	<0.3	06/17	0.02±0.01	06/20
88825	BB09100SA	03/19/92	1958	<0.3	06/17	0.02±0.01	06/12
88833	BB00005SA	03/19/92	1959	<0.3	06/17	0.02±0.01	06/12
88834	M 6 SA	03/19/92	1960	<0.3	06/17	0.05±0.01	06/12
88951	BB07035SA	03/19/92	1961	<0.3	06/17	0.02±0.01	06/11
88957	BB07036SA	03/19/92	1962	<0.4	06/17	0.02±0.01	06/11
89351	BB08034SA	03/19/92	1963	<0.3	06/17	<0.01	07/15
89357	BB08035SA	03/19/92	1964	<0.3	06/17	<0.01	06/11
89363	BB08003SA	03/19/92	1965	<0.3	06/18	0.02±0.01	06/11
89369	BB08027SA ²	03/19/92	1966	<0.3	06/17	0.01±0.01	07/15
89375	BB08038SA	03/19/92	1967	<0.3	06/18	0.02±0.01	06/11
89382	M 5 SA	03/19/92	1968	<0.2	06/18	0.20±0.08	06/11
89801	BB02071SA	03/19/92	1969	<0.3	06/18	0.01±0.01	06/11
89807	BB02045SA	03/19/92	1970	<0.2	06/19	<0.01	06/11
89813	BB02060SA	03/19/92	1971	<0.2	06/19	0.01±0.01	06/11
89819	BB02075SA	03/19/92	1972	<0.3	06/19	0.01±0.01	06/11

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

REVISED 07/27/92
 RUN DATE 06/19/92

WORK ORDER NUMBER 3-0632 CUSTOMER P.O. NUMBER 04-0029403-012 DATE RECEIVED 03/24/92 DELIVERY DATE 04/26/92 PAGE 5

ERIC SMITH
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S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	MSC	COLLECTION-DATE		ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT		VOLUME - UNITS	LAB.
				START DATE	STOP DATE			DATE	TIME		
70916	89384		MSC MS	03/19	0820	L.T. 7. E 01		06/12		4	
						L.T. 6. E-02		06/12		4	
						1.13+-0.11E 00		06/12		4	
						L.T. 4. F 00		06/12		4	
						L.T. 4. E-01		06/12		4	
						L.T. 3. E-01		06/12		4	
						1.62+-0.67E 00		06/12		4	
						1.35+-0.14E 00		06/12		4	
						6.5 +-0.3 E-01		06/15		5	
70917	89802		BB020715D	03/19	1000	L.T. 1. E-02		04/26		6	
						L.T. 3. E-03		04/26		6	
70918	89803		BB020715C	03/19	1000	L.T. 5. E-01		04/27		4	
						2.37+-0.24E 01		04/27		4	
						L.T. 4. E-02		04/27		4	
						L.T. 5. E-02		04/27		4	
						L.T. 2. E-01		04/27		4	
						L.T. 4. E-02		04/27		4	
						L.T. 1. E-01		04/27		4	
						L.T. 6. E-02		04/27		4	
						L.T. 7. E-02		04/27		4	
						L.T. 3. E-01		04/27		4	
						L.T. 1. E 00		04/27		4	
						L.T. 4. E-02		04/27		4	
						5.82+-3.16E-02		04/27		4	
						L.T. 2. E-01		04/27		4	
						L.T. 1. E-01		04/27		4	
						L.T. 3. E-01		04/27		4	
						1.26+-0.54E 00		04/27		4	
						1.08+-0.11E 00		04/27		4	

TI #70916 was prepared with 0.881 pCi/g of Cs-137. An unspiked aliquot had 0.338 pCi/g of Cs-137.
 TI #70916 was also prepared with 0.68 pCi/g of H-3.

The H-3 for TI#70916 has been revised, based on an incorrect calculation of the original result. The H-3 activity of sample prior to preparing the spike was 5.9 ± 1.6 E-02 pCi/g.

W. Martin 7-27-92

The H-3 result for TI# 70918 and 70920 has been withdrawn. The H-3 results of several samples analyzed by the same analytical method were not

TELEDYNE ISOTOPIES

REPORT OF ANALYSIS

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DATE RECEIVED 03/24/92

CUSTOMER P.O. NUMBER 04-0029403-012

WORK ORDER NUMBER 3-0632

DELIVERY DATE 04/26/92

ERIC SMITH
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 IRVINE CA 92714

SOIL

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE		NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M %	MID-COUNT TIME DATE	VOLUME - UNITS ASH-WGHT-%	LAB.
			START DATE	STOP DATE						
70919	89808 88020455B		03/19	1000	PU-238	L.T. 1. E-02		04/26	6	
					PU-239	L.T. 4. E-03		04/26	6	
70920	89809 88020455C		03/19	1000	BE-7	L.T. 5. E-01		04/27	4	
					K-40	2.46±0.25E 01		04/27	4	
					MN-54	L.T. 4. E-02		04/27	4	
					CO-58	L.T. 5. E-02		04/27	4	
					FE-59	L.T. 1. E-01		04/27	4	
					CO-60	L.T. 4. E-02		04/27	4	
					ZN-65	L.T. 1. E-01		04/27	4	
					ZR-95	L.T. 6. E-02		04/27	4	
					RU-103	L.T. 7. E-02		04/27	4	
					RU-106	L.T. 4. E-01		04/27	4	
					I-131	L.T. 1. E 00		04/27	4	
					CS-134	L.T. 5. E-02		04/27	4	
					CS-137	L.T. 5. E-02		04/27	4	
					BA-140	L.T. 3. E-01		04/27	4	
					CE-141	L.T. 1. E-01		04/27	4	
					CE-144	L.T. 3. E-01		04/27	4	
					RA-226	1.07±0.57E 00		04/27	4	
					TH-228	1.01±0.10E 00		04/27	4	
70921	89814 88020605B		03/19	1015	PU-238	L.T. 2. E-02		04/26	6	
					PU-239	L.T. 6. E-03		04/26	6	
70922	89815 88020605C		03/19	1015	BE-7	L.T. 9. E-01		06/18	4	
					K-40	2.34±0.23E 01		06/18	4	
					MN-54	L.T. 5. E-02		06/18	4	
					CO-58	L.T. 8. E-02		06/18	4	
					FE-59	L.T. 3. E-01		06/18	4	
					CO-60	L.T. 4. E-02		06/18	4	
					ZN-65	L.T. 1. E-01		06/18	4	

TELEDYNE ISOTOPIES

REPORT OF ANALYSIS

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WORK ORDER NUMBER 3-0632 CUSTOMER P.O. NUMBER 04-0029403-012 DATE RECEIVED 03/24/92 DELIVERY DATE 04/26/92

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S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE		NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M #	MID-COUNT TIME	VOLUME - UNITS	
			START DATE	STOP DATE					DATE	TIME
70922	89815 8802060SC		03/19	1015	ZR-95	L.T. 1. E-01		06/18		4
					RU-103	L.T. 2. E-01		06/18		4
					RU-106	L.T. 4. E-01		06/18		4
					I-131	L.T. 8. E 01		06/18		4
					CS-134	L.T. 5. E-02		06/18		4
					CS-137	L.T. 5. E-02		06/18		4
					BA-140	L.T. 5. E 00		06/18		4
					CE-141	L.T. 4. E-01		06/18		4
					CE-144	L.T. 3. E-01		06/18		4
					RA-226	1.22+-0.57E 00		06/18		4
					TH-228	1.23+-0.12E 00		06/18		4
					H-3	L.T. 1. E-02		06/14		5
70923	89820 8802075S0		03/19	1015	PU-238	L.T. 3. E-02		05/01		6
					PU-239	L.T. 7. E-03		05/01		6
70924	89821 8802075SC		03/19	1015	8E-7	L.T. 8. E-01		06/18		4
					K-40	2.51+-0.25E 01		06/18		4
					MN-54	L.T. 4. E-02		06/18		4
					CO-58	L.T. 6. E-02		06/18		4
					FE-59	L.T. 3. E-01		06/18		4
					CO-60	L.T. 3. E-02		06/18		4
					ZN-65	L.T. 1. E-01		06/18		4
					ZR-95	L.T. 9. E-02		06/18		4
					RU-103	L.T. 1. E-01		06/18		4
					RU-106	L.T. 3. E-01		06/18		4
					I-131	L.T. 7. E 01		06/18		4
					CS-134	L.T. 4. E-02		06/18		4
					CS-137	4.82+-2.47E-02		06/18		4
					BA-140	L.T. 5. E 00		06/18		4
					CE-141	L.T. 3. E-01		06/18		4
					CF-144	L.T. 2. E-01		06/18		4
					RA-226	1.55+-0.42E 00		06/18		4

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

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WORK ORDER NUMBER 3-0632
 CUSTOMER P.O. NUMBER 04-0029403-012
 DATE RECEIVED 03/24/92
 DELIVERY DATE 04/26/92

ERIC SMITH
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SOIL

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/CM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	VOLUME - UNITS ASH-WGHT-% *	LAB.
70924	89821 BB02075SC		03/19 1015		TH-228 H-3	9.20+-0.92E-01 L.T. 1. E-02		06/18 06/14		4 5
70925	89352 BB08034SB DUP		03/19 0815		PU-238 PU-239	L.T. 2. E-01 L.T. 1. E-01		04/26 04/26		6 6

11H

TELEDYNE ISOTOPIES

REPORT OF ANALYSIS

RUN DATE 06/19/92

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WORK ORDER NUMBER

ERIC SMITH
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IRVINE CA 92714

3-0633

CUSTOMER P.O. NUMBER

04-0029403-012

DATE RECEIVED

03/24/92

DELIVERY DATE

04/26/92

SOIL

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	STOP DATE	NUCLIDE	ACTIVITY (PCI/CM DRY)	NUCL-UNIT-% U/M	MID-COUNT TIME DATE	VOLUME - UNITS ASH-WGHT-%	LAR.
70927	89826 8802078SB		03/19 1015		PU-238	L.T. 5. E-02		04/26		6
					PU-239	L.T. 2. E-02		04/26		6
70928	89827 8802078SC		03/19 1015		BE-7	L.T. 8. E-01		05/18		4
					K-40	2.13+-0.21E 01		05/18		4
					MN-54	L.T. 6. E-02		05/18		4
					CO-58	L.T. 8. E-02		05/18		4
					FE-59	L.T. 2. E-01		05/18		4
					CO-60	L.T. 5. E-02		05/18		4
					ZN-65	L.T. 1. E-01		05/18		4
					ZR-95	L.T. 1. E-01		05/18		4
					RU-103	L.T. 1. E-01		05/18		4
					RU-106	L.T. 5. E-01		05/18		4
					I-131	L.T. 8. E 00		05/18		4
					CS-137	L.T. 6. F-02		05/18		4
					BA-140	1.01+-0.37E-01		05/18		4
					CE-141	L.T. 2. E 00		05/18		4
					CE-144	L.T. 3. E-01		05/18		4
					RA-226	L.T. 4. E-01		05/18		4
					TH-228	2.21+-0.80E 00		05/18		4
					H-3	1.52+-0.15E 00		05/18		4
						L.T. 3. E-02		06/14		5
70929	89832 88000055C		03/19 1015		BE-7	L.T. 6. E-01		05/16		4
					K-40	2.35+-0.24E 01		05/16		4
					MN-54	L.T. 4. E-02		05/16		4
					CO-58	L.T. 6. E-02		05/16		4
					FE-59	L.T. 2. E-01		05/16		4
					CO-60	L.T. 4. E-02		05/16		4
					ZN-65	L.T. 1. E-01		05/16		4
					ZR-95	L.T. 7. E-02		05/16		4
					RU-103	L.T. 9. E-02		05/16		4
					RU-106	L.T. 4. E-01		05/16		4

CAMPSITE AREA 1
BB-03

VOLATILE ORGANIC COMPOUNDS

VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-74

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB03005SE
 Sample Number: 90129

Matrix: Soil

Date Sampled: 3/17/92
 Date Analyzed: 3/24/92

Date Received: 3/18/92
 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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745- 74

Page 2 of 2

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

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	104	70 - 121
Toluene-D8	110	81 - 117
4-Bromofluorobenzene	91	74 - 121

COMMENTS:

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

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

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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-71

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB03017SE
 Sample Number: 90123

Matrix: Soil

Date Sampled: 3/17/92
 Date Analyzed: 3/23/92

Date Received: 3/18/92
 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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745- 71

Page 2 of 2

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

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	99	70 - 121
Toluene-D8	111	81 - 117
4-Bromofluorobenzene	100	74 - 121

COMMENTS:

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

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

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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-59

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB03025SE
 Sample Number: 90105

Matrix: Soil

Date Sampled: 3/17/92
 Date Analyzed: 3/23/92

Date Received: 3/18/92
 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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745- 59

Page 2 of 2

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

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	99	70 - 121
Toluene-D8	113	81 - 117
4-Bromofluorobenzene	91	74 - 121

COMMENTS:

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

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

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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-68

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB03079SE
 Sample Number: 90117

Matrix: Soil

Date Sampled: 3/17/92
 Date Analyzed: 3/24/92

Date Received: 3/18/92
 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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745- 68

Page 2 of 2

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

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	104	70 - 121
Toluene-D8	106	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: 4/01/92
 Cheryl Matterson, Associate Chemist

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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-62

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB03092SE
 Sample Number: 90111

Matrix: Soil

Date Sampled: 3/17/92
 Date Analyzed: 3/23/92

Date Received: 3/18/92
 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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745- 62

Page 2 of 2

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

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	100	70 - 121
Toluene-D8	116	81 - 117
4-Bromofluorobenzene	88	74 - 121

COMMENTS:

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

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

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



SEMI-VOLATILE ORGANIC COMPOUNDS

SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-73

Page 1 of 3

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB03005SD
 Sample Number: 90128

Matrix: Soil

Date Sampled: 3/17/92
 Date Extracted: 3/20/92

Date Received: 3/18/92
 Date Analyzed: 3/27/92

Batch Number: 920320-0301

Dilution Factor: 1

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



SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}

Preparation Method: EPA 3550

Lab Project-Sample ID: 5745-73

Page 2 of 3

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-73

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	54	25 - 121
Phenol-d5.....	62	24 - 113
Nitrobenzene-d5.....	57	23 - 120
2-Fluorobiphenyl.....	64	30 - 115
2,4,6-Tribromophenol.....	92	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 Date: 4/01/92
Cheryl Matterson, Associate Chemist

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-70

Page 1 of 3

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB03017SD
Sample Number: 90122

Matrix: Soil

Date Sampled: 3/17/92
Date Extracted: 3/20/92

Date Received: 3/18/92
Date Analyzed: 3/27/92

Batch Number: 920320-0301

Dilution Factor: 1

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-70

Page 2 of 3

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



SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified (a)
Preparation Method: EPA 3550

Lab Project-Sample ID: 5745-70

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	107	25 - 121
Phenol-d5.....	105	24 - 113
Nitrobenzene-d5.....	93	23 - 120
2-Fluorobiphenyl.....	98	30 - 115
2,4,6-Tribromophenol.....	101	19 - 122
Terphenyl-di4.....	110	18 - 137

COMMENTS:

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

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

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-58

Page 1 of 3

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB03025SD*
 Sample Number: 90104

Matrix: Soil

Date Sampled: 3/17/92
 Date Extracted: 3/20/92

Date Received: 3/18/92
 Date Analyzed: 3/26/92

Batch Number: 920320-0301

Dilution Factor: 1

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



SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}

Preparation Method: EPA 3550

Lab Project-Sample ID: 5745-58

Page 2 of 3

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-58

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	105	25 - 121
Phenol-d5.....	100	24 - 113
Nitrobenzene-d5.....	96	23 - 120
2-Fluorobiphenyl.....	100	30 - 115
2,4,6-Tribromophenol.....	101	19 - 122
Terphenyl-d14.....	102	18 - 137

COMMENTS:

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

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

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-67

Page 1 of 3

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB03079SD
 Sample Number: 90116

Matrix: Soil

Date Sampled: 3/17/92
 Date Extracted: 3/20/92

Date Received: 3/18/92
 Date Analyzed: 3/26/92

Batch Number: 920320-0301

Dilution Factor: 1

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-67

Page 2 of 3

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



SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}

Preparation Method: EPA 3550

Lab Project-Sample ID: 5745-67

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	109	25 - 121
Phenol-d5.....	106	24 - 113
Nitrobenzene-d5.....	95	23 - 120
2-Fluorobiphenyl.....	96	30 - 115
2,4,6-Tribromophenol.....	105	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 Loren Date: 4/01/92
Cheryl Matterson, Associate Chemist

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-61

Page 1 of 3

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB03092SD
 Sample Number: 90110

Matrix: Soil

Date Sampled: 3/17/92
 Date Extracted: 3/20/92

Date Received: 3/18/92
 Date Analyzed: 3/26/92

Batch Number: 920320-0301

Dilution Factor: 1

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



SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}

Preparation Method: EPA 3550

Lab Project-Sample ID: 5745-61

Page 2 of 3

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



SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}

Preparation Method: EPA 3550

Lab Project-Sample ID: 5745-61

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	110	25 - 121
Phenol-d5.....	110	24 - 113
Nitrobenzene-d5.....	100	23 - 120
2-Fluorobiphenyl.....	105	30 - 115
2,4,6-Tribromophenol.....	110	19 - 122
Terphenyl-d14.....	113	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 Corum Date: 4/01/92
Cheryl Matterson, Associate Chemist

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



METALS

PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5745-75

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB03005SF
Sample Number: 90130

Matrix: Soil

Date Sampled: 3/17/92
Date Digested: 3/19/92 {b}

Date Received: 3/18/92
Batch Number: 920319-1107 {b}

METAL (SYMBOL)/EPA METHOD	ANALYTE CONCENTRATION {c} mg/Kg (ppm)	DILUTION FACTOR	REPORTING LIMIT mg/Kg (ppm)	DATE ANALYZED
Antimony (Sb)/6010.....		1	2.5	3/20/92
Arsenic (As)/7060.....	1.9	5	2.5	3/24/92
Beryllium (Be)/6010.....	.60	1	.25	3/20/92
Cadmium (Cd)/6010.....		1	.50	3/20/92
Chromium (Cr)/6010.....	13.	1	1.0	3/20/92
Copper (Cu)/6010.....	11.	1	1.0	3/20/92
Lead (Pb)/6010.....	14.	1	2.5	3/20/92
Mercury (Hg)/7471.....		1	.25	3/21/92
Nickel (Ni)/6010.....	11.	1	1.0	3/20/92
Selenium (Se)/7740.....		1	.25	3/23/92
Silver (Ag)/6010.....		1	1.0	3/20/92
Thallium (Tl)/7841.....		1	.50	3/23/92
Zinc (Zn)/6010.....	46.	1	1.0	3/20/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/19/92, Batch # 920319-1105; and Hg was digested on 3/19/92, Batch # 920319-1103 .
- {c} No entry in the "Concentration" means the metal is not detected at all.
- {d} A high background reading was obtained for Arsenic. A matrix interferent is present creating a false positive. A 5 fold dilution yielded a result equal to or above the established reporting limit.

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

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



PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5745-72

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB03017SF
Sample Number: 90124

Matrix: Soil

Date Sampled: 3/17/92
Date Digested: 3/19/92 {b}

Date Received: 3/18/92
Batch Number: 920319-1107 {b}

METAL (SYMBOL)/EPA METHOD	ANALYTE CONCENTRATION {c} mg/Kg (ppm)	DILUTION FACTOR	REPORTING LIMIT mg/Kg (ppm)	DATE ANALYZED
Antimony (Sb)/6010.....		1	2.5	3/20/92
Arsenic (As)/7060.....	1.5	1	.50	3/24/92
Beryllium (Be)/6010.....	.50	1	.25	3/20/92
Cadmium (Cd)/6010.....		1	.50	3/20/92
Chromium (Cr)/6010.....	10.	1	1.0	3/20/92
Copper (Cu)/6010.....	10.	1	1.0	3/20/92
Lead (Pb)/6010.....	8.8	1	2.5	3/20/92
Mercury (Hg)/7471.....		1	.25	3/21/92
Nickel (Ni)/6010.....	8.5	1	1.0	3/20/92
Selenium (Se)/7740.....		1	.25	3/23/92
Silver (Ag)/6010.....		1	1.0	3/20/92
Thallium (Tl)/7841.....		1	.50	3/23/92
Zinc (Zn)/6010.....	37.	1	1.0	3/20/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/19/92, Batch # 920319-1105; and Hg was digested on 3/19/92, Batch # 920319-1103 .
- {c} No entry in the "Concentration" means the metal is not detected at all.

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

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



PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5745-60

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB03025SF
Sample Number: 90106

Matrix: Soil

Date Sampled: 3/17/92
Date Digested: 3/19/92 {b}

Date Received: 3/18/92
Batch Number: 920319-1106 {b}

METAL (SYMBOL)/EPA METHOD	ANALYTE CONCENTRATION {c} mg/Kg (ppm)	DILUTION FACTOR	REPORTING LIMIT mg/Kg (ppm)	DATE ANALYZED
Antimony (Sb)/6010.....		1	2.5	3/20/92
Arsenic (As)/7060.....	1.0	1	.50	3/24/92
Beryllium (Be)/6010.....	.52	1	.25	3/20/92
Cadmium (Cd)/6010.....		1	.50	3/20/92
Chromium (Cr)/6010.....	12.	1	1.0	3/20/92
Copper (Cu)/6010.....	10.	1	1.0	3/20/92
Lead (Pb)/6010.....	12.	1	2.5	3/20/92
Mercury (Hg)/7471.....		1	.25	3/21/92
Nickel (Ni)/6010.....	10.	1	1.0	3/20/92
Selenium (Se)/7740.....		1	.25	3/23/92
Silver (Ag)/6010.....		1	1.0	3/20/92
Thallium (Tl)/7841.....		1	.50	3/23/92
Zinc (Zn)/6010.....	44.	1	1.0	3/20/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/19/92, Batch # 920319-1104; and Hg was digested on 3/19/92, Batch # 920319-1102 .
- {c} No entry in the "Concentration" means the metal is not detected at all.

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

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



PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5745-69

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB03079SF
Sample Number: 90118

Matrix: Soil

Date Sampled: 3/17/92
Date Digested: 3/19/92 {b}

Date Received: 3/18/92
Batch Number: 920319-1107 {b}

METAL (SYMBOL)/EPA METHOD	ANALYTE CONCENTRATION {c} mg/Kg (ppm)	DILUTION FACTOR	REPORTING LIMIT mg/Kg (ppm)	DATE ANALYZED
Antimony (Sb)/6010.....		1	2.5	3/20/92
Arsenic (As)/7060.....	2.6	1	.50	3/24/92
Beryllium (Be)/6010.....	.65	1	.25	3/20/92
Cadmium (Cd)/6010.....		1	.50	3/20/92
Chromium (Cr)/6010.....	13.	1	1.0	3/20/92
Copper (Cu)/6010.....	10.	1	1.0	3/20/92
Lead (Pb)/6010.....	9.8	1	2.5	3/20/92
Mercury (Hg)/7471.....		1	.25	3/21/92
Nickel (Ni)/6010.....	9.1	1	1.0	3/20/92
Selenium (Se)/7740.....		1	.25	3/23/92
Silver (Ag)/6010.....		1	1.0	3/20/92
Thallium (Tl)/7841.....		1	.50	3/23/92
Zinc (Zn)/6010.....	47.	1	1.0	3/20/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/19/92, Batch # 920319-1105; and Hg was digested on 3/19/92, Batch # 920319-1103.
- {c} No entry in the "Concentration" means the metal is not detected at all.

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

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



PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5745-63

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB03092SF
Sample Number: 90112

Matrix: Soil

Date Sampled: 3/17/92
Date Digested: 3/19/92 {b}

Date Received: 3/18/92
Batch Number: 920319-1107 {b}

METAL (SYMBOL)/EPA METHOD	ANALYTE CONCENTRATION {c} mg/Kg (ppm)	DILUTION FACTOR	REPORTING LIMIT mg/Kg (ppm)	DATE ANALYZED
Antimony (Sb)/6010.....		1	2.5	3/20/92
Arsenic (As)/7060.....	2.9	1	.50	3/24/92
Beryllium (Be)/6010.....	.67	1	.25	3/20/92
Cadmium (Cd)/6010.....		1	.50	3/20/92
Chromium (Cr)/6010.....	17.	1	1.0	3/20/92
Copper (Cu)/6010.....	9.6	1	1.0	3/20/92
Lead (Pb)/6010.....	12.	1	2.5	3/20/92
Mercury (Hg)/7471.....		1	.25	3/21/92
Nickel (Ni)/6010.....	14.	1	1.0	3/20/92
Selenium (Se)/7740.....		1	.25	3/23/92
Silver (Ag)/6010.....		1	1.0	3/20/92
Thallium (Tl)/7841.....		1	.50	3/23/92
Zinc (Zn)/6010.....	46.	1	1.0	3/20/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/19/92, Batch # 920319-1105; and Hg was digested on 3/19/92, Batch # 920319-1103 .
- {c} No entry in the "Concentration" means the metal is not detected at all.

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

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



RADIONUCLIDES

Table: Results of the analyses for iodine-129 and strontium-90 in thirty-five (35) soil samples.

Sample ID Number	Sample Description	Collection Date	Lab Code	Conc. pci/gwet		Conc. pci/gdry	
				I-129	Date Analyzed	Sr-90	Date Analyzed
90140	M4SA	03/17/92	SPS-1908	<0.2	05/20	0.06±0.01	06/03
88901	BB13024SA	03/17/92	1909	<0.2	05/20	0.01±0.01	05/14
88907	BB13037SA	03/17/92	1910	<0.2	05/21	0.01±0.01	05/14
88913	BB13039SA	03/17/92	1911	<0.2	05/21	0.01±0.01	05/15
88919	BB13011SA	03/17/92	1912	<0.2	05/22	0.01±0.01	06/03
88925	BB13010SA	03/17/92	1913	<0.2	05/22	<0.01	06/09
89151	BB06017SA	03/17/92	1914	<0.2	05/22	0.01±0.01	05/14
89157	BB06007SA	03/17/92	1915	<0.3	06/09	<0.01	05/14
89163	BB06092SA	03/17/92	1916	<0.2	05/26	<0.01	05/14
89169	BB06066SA	03/17/92	1917	<0.2	05/27	<0.01	05/14
89175	BB06013SA	03/17/92	1918	<0.2	05/28	0.01±0.01	05/14
90101	BB03025SA	03/17/92	1919	<0.2	06/01	0.09±0.01	06/09
90107	BB03092SA	03/17/92	1920	<0.2	06/01	0.04±0.01	05/14
90113	BB03079SA	03/17/92	1921	<0.2	06/01	0.03±0.01	06/09
90119	BB03017SA	03/17/92	1922	<0.3	06/09	0.05±0.01	06/09
90125	BB03005SA	03/17/92	1923	<0.2	06/02	0.06±0.01	05/15
90001	BB05003SA	03/18/92	1924	<0.2	06/02	0.02±0.01	06/09
90007	BB05089SA	03/18/92	1925	<0.2	06/02	0.02±0.01	05/22
90013	BB05006SA	03/18/92	1926	<0.2	06/03	0.02±0.01	05/22
90019	BB05057SA	03/18/92	1927	<0.2	06/04	0.03±0.01	05/22
90025	BB05077SA	03/18/92	1928	<0.2	06/04	0.06±0.01	05/22
90051	BB12006SA	03/18/92	1929	<0.2	06/05	0.03±0.01	05/22
90057	BB12019SA	03/18/92	1930	<0.2	06/05	0.04±0.01	05/22
90063	BB12023SA	03/18/92	1931	<0.3	06/05	0.02±0.01	05/22
90069	BB12020SA	03/18/92	1932	<0.2	06/08	0.03±0.01	05/22
90075	BB12003SA	03/18/92	1933	<0.2	06/08	0.01±0.01	05/22
90251	BB01056SA	03/18/92	1934	<0.3	06/08	0.04±0.01	06/03
90263	BB01001SA	03/18/92	1935	<0.3	06/10	<0.01	06/03
90269	BB01027SA	03/18/92	1936	<0.3	06/10	<0.01	06/09
90275	BB01038SA	03/18/92	1937	<0.2	06/10	0.02±0.01	06/03
90282	BB00004SA	03/18/92	1938	<0.3	06/10	0.01±0.01	06/03
89251	BB11018SA	03/18/92	1939	<0.3	06/10	0.02±0.01	06/03
89257	BB11061SA	03/18/92	1940	<0.3	06/11	<0.01	06/03
89263	BB11057SA	03/18/92	1941	<0.2	06/11	0.02±0.01	06/09
89269	BB11032SA	03/18/92	1942	<0.3	04/14	0.02±0.01	06/09

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.

JUN 09

TELEDYNE ISOTOPIES
REPORT OF ANALYSIS

RUN DATE 06/08/92
PAGE 1

WORK ORDER NUMBER 3-0623
CUSTOMER P.O. NUMBER 04-0029403-012
DATE RECEIVED 03/25/92
DELIVERY DATE 04/27/92

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	STOP DATE	TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-X U/M *	MID-COUNT TIME DATE	VOLUME - UNITS ASH-WGHT-X *	LAR.
70809	90102 88030255B		03/17	1040		PU-238 PU-239	L.T. 2. E-01 L.T. 5. E-02		05/13 05/13		6 6
70810	90103 88030255C		03/17	1040		BE-7 K-40 MN-54 CO-58 FE-59 CO-60 ZN-65 RU-103 RU-106 I-131 CS-134 CS-137 BA-140 CE-141 CE-144 RA-226 TH-228 H-3	L.T. 6. E-01 2.10+-0.21E 01 L.T. 5. E-02 L.T. 5. E-02 L.T. 2. E-01 L.T. 5. E-02 L.T. 1. E-01 L.T. 7. E-02 L.T. 7. E-02 L.T. 4. E-01 L.T. 1. E 00 L.T. 5. E-02 2.04+-0.45E-01 L.T. 3. E-01 L.T. 1. E-01 L.T. 3. E-01 1.73+-0.59E 00 1.43+-0.14E 00 2.8 +-1.0 E-02		04/25 04/25 04/25 04/25 04/25 04/25 04/25 04/25 04/25 04/25 04/25 04/25 04/25 04/25 04/25 04/25 04/25 05/29		4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 5
70811	90108 88030925B		03/17	1100		PU-238 PU-239	L.T. 1. E-01 L.T. 4. E-02		05/13 05/13		6 6
70812	90109 88030925C		03/17	1100		BE-7 K-40 MN-54 CO-58 FE-59 CO-60 ZN-65	L.T. 6. E-01 2.17+-0.22E 01 L.T. 5. E-02 L.T. 5. E-02 L.T. 2. E-01 L.T. 5. E-02 L.T. 1. E-01		04/25 04/25 04/25 04/25 04/25 04/25 04/25		4 4 4 4 4 4 4

TELEDYNE ISOTOPIES
REPORT OF ANALYSIS

REVISED 09/30/92
RUN DATE 06/08/92

PAGE 2

WORK ORDER NUMBER 3-0623
CUSTOMER P.O. NUMBER 04-0029403-012
DATE RECEIVED 03/25/92
DELIVERY DATE 04/27/92

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

SOIL

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	STOP DATE	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	VOLUME - UNITS ASH-WGHT-%	LAB.
70812	90109 BB030925C		03/17	1100	ZR-95	L.T. 8. E-02		04/25		4
					RU-103	L.T. 8. E-02		04/25		4
					RU-106	L.T. 4. E-01		04/25		4
					I-131	L.T. 1. E 00		04/25		4
					CS-134	L.T. 6. E-02		04/25		4
					CS-137	3.75+-0.56E-01		04/25		4
					BA-140	L.T. 4. E-01		04/25		4
					CE-141	L.T. 2. E-01		04/25		4
					CE-144	L.T. 3. E-01		04/25		4
					RA-226	2.00+-0.74E 00		04/25		4
					TH-228	1.32+-0.13E 00		04/25		4
					H-3	L.T. 3. E-02		09/14		5
70813	90114 BB030795B		03/17	1120	PU-238	L.T. 1. E-02		05/09		6
					PU-239	L.T. 1. E-02		05/09		6
70814	90115 BB030795C		03/17	1120	BE-7	L.T. 4. E-01		04/25		4
					K-40	2.50+-0.25E 01		04/25		4
					MN-54	L.T. 4. E-02		04/25		4
					CO-58	L.T. 5. E-02		04/25		4
					FE-59	L.T. 1. E-01		04/25		4
					CO-60	L.T. 4. E-02		04/25		4
					ZN-65	L.T. 1. E-01		04/25		4
					ZR-95	L.T. 6. E-02		04/25		4
					RU-103	L.T. 6. E-02		04/25		4
					RU-106	L.T. 3. E-01		04/25		4
					I-131	L.T. 9. E-01		04/25		4
					CS-134	L.T. 4. E-02		04/25		4
					CS-137	L.T. 4. E-02		04/25		4
					BA-140	L.T. 2. E-01		04/25		4
					CE-141	L.T. 1. E-01		04/25		4
					CE-144	L.T. 2. E-01		04/25		4
					RA-226	2.17+-0.52E 00		04/25		4

The H-3 results for TI#70812, 70814 and 70816 have been revised based upon reanalysis of the samples using an analytical method considered to be more reliable for soil samples. In units of pCi/l the results are L.T. 3. E 02, L.T. 2. E 02, and L.T. 3. E 02, respectively.

J. Martin
4-30-92

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

REVISED 09/30/92
RUN DATE 06/08/92

WORK ORDER NUMBER 3-0623
CUSTOMER P.O. NUMBER 04-0029403-012
DATE RECEIVED 03/25/92
DELIVERY DATE 04/27/92

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		ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M #	MID-COUNT		VOLUME - UNITS	LAB.
			START DATE	STOP DATE			DATE	TIME		
70814	90115 88030795C		03/17	1120	1.32+-0.13E 00 L.T. 4. E-02		04/25	09/14	4	5
70815	90120 88030175B		03/17	1130	L.T. 7. E-03 L.T. 7. E-03		05/09	05/09	6	6
70816	90121 88030175C		03/17	1130	L.T. 6. E-01 2.26+-0.23E 01 L.T. 5. E-02		04/25	04/25	4	4
					L.T. 5. E-02 L.T. 2. E-01		04/25	04/25	4	4
					L.T. 5. E-02 L.T. 1. E-01		04/25	04/25	4	4
					L.T. 7. E-02 L.T. 8. E-02		04/25	04/25	4	4
					L.T. 4. E-01 L.T. 1. E 00		04/25	04/25	4	4
					L.T. 5. E-02 8.50+-3.03E-02		04/25	04/25	4	4
					L.T. 4. E-01 L.T. 1. E-01		04/25	04/25	4	4
					L.T. 3. E-01 L.T. 3. E-01		04/25	04/25	4	4
					L.T. 3. E-01 L.T. 3. E-02		04/25	04/25	4	5
70817	90126 88030055B		03/17	1200	L.T. 8. E-02 L.T. 2. E-02		05/05	05/05	6	6

TELEDYNE ISOTOPES
REPORT OF ANALYSIS

REVISED 11/02/92
RUN DATE 06/08/92

PAGE 4

WORK ORDER NUMBER 3-0623
CUSTOMER P.O. NUMBER 04-0029403-012
DATE RECEIVED 03/25/92
DELIVERY DATE 04/27/92

ERIC SMITH
MCLAREN/HART
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IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE		NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME	VOLUME - UNITS	
			START DATE	STOP DATE					ASH-WGHT-%	LAR.
70818	90127 8803005SC		03/17	1200	BE-7	L.T. 5. E-01		04/25		4
					K-40	2.13*-0.21E 01		04/25		4
					MN-54	L.T. 4. E-02		04/25		4
					CO-58	L.T. 5. E-02		04/25		4
					FE-59	L.T. 2. E-01		04/25		4
					CO-60	L.T. 4. E-02		04/25		4
					ZN-65	L.T. 1. E-01		04/25		4
					ZR-95	L.T. 7. E-02		04/25		4
					RU-103	L.T. 7. E-02		04/25		4
					RU-106	L.T. 4. E-01		04/25		4
					I-131	L.T. 1. E 00		04/25		4
					CS-134	L.T. 5. E-02		04/25		4
					CS-137	2.02*-0.41E-01		04/25		4
					BA-140	L.T. 3. E-01		04/25		4
					CE-141	L.T. 1. E-01		04/25		4
					CE-144	L.T. 3. E-01		04/25		4
					RA-226	1.64*-0.55E 00		04/25		4
					TH-228	1.26*-0.13E 00		04/25		4
					H-3	L.T. 3. E-02		09/24		5
70819	90131 8800003SC		03/17	1130	BE-7	L.T. 5. E-01		04/25		4
					K-40	2.15*-0.22E 01		04/25		4
					MN-54	L.T. 4. E-02		04/25		4
					CO-58	L.T. 4. E-02		04/25		4
					FE-59	L.T. 1. E-01		04/25		4
					CO-60	L.T. 3. E-02		04/25		4
					ZN-65	L.T. 9. E-02		04/25		4
					ZR-95	L.T. 6. E-02		04/25		4
					RU-103	L.T. 6. E-02		04/25		4
					RU-106	L.T. 3. E-01		04/25		4
					I-131	L.T. 9. E-01		04/25		4
					CS-134	L.T. 4. E-02		04/25		4
					CS-137	5.73*-2.79E-02		04/25		4

The H-3 result for TI#70818 has been revised based upon reanalysis of the sample using an analytical method considered to be more reliable for soil samples. In units of pCi/l the result was L.T. 2. E 02. *pmc* 11-1-92

TELETYPE ISOTOPES

REPORT OF ANALYSIS

WORK ORDER NUMBER 3-3706

CUSTOMER P.O. NUMBER 04-0029403-012

DATE RECEIVED 09/17/92

DELIVERY DATE 10/20/92

PUN DATE 10/07/92

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

S O I L

TELETYPE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	STOP DATE	TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M	MID-COUNT TIME DATE	VOLUME - UNITS ASH-WEIGHT-%	LAR.
89797	SM030155A	88307	03/11			H-3	L.T. R. E-02		09/30		5
89798	88030255A	90101	03/17	1040		H-3	5.1 +-2.5 E-02		09/30		5
89799	88160018SA	89851	04/22	0915		H-3	3.6 +-2.0 E-02		09/30		5
89800	88040975A	88262	03/16	1115		H-3	NOT ANALYZED				5
89801	88130395A	88913	03/17	1540		H-3	2.5 +-1.2 E-02		10/02		5
89802	88150015A	89551	04/22	1230		H-3	NOT ANALYZED				5
89803	88040235A	88256	03/16	1100		H-3	2.7 +-0.8 E-02		10/02		5
89804	88020715A	89801	03/19	1000		H-3	NOT ANALYZED				5

Jim Martin

APPROVED BY U. GUNTHER 10/07/92

LAST PAGE OF REPORT

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

TI#	H-3 (PCI/l)	Water (ml)
1013024	120370	11.2
15053	3803140	8.5
129	160370	17.5
129	200370	12.6
129	170390	17.1
129	L.T. 200	8.6
129	L.T. 200	13.2
129	9553100	13.4
129	240370	20.5
129	160380	16.1
129	L.T. 200	9.8
129	240120	18.4
129	2203120	25.3
129	170380	15.2
129	230390	11.6

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

WATER

VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-86

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB03001WH
 Sample Number: 197179

Matrix: Water

Date Sampled: 3/17/92
 Date Analyzed: 3/20/92

Date Received: 3/18/92
 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



Lab Project-Sample ID: 5745-86

Page 2 of 2

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	99	88 - 110
4-Bromofluorobenzene	96	86 - 115

COMMENTS:

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

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

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



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

Lab Project-Sample ID: 5745-87
 Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: **BBU300/3F**
 Sample Number: 197183
 Date Sampled: 3/17/92
 Date Extracted: 3/30/92
 Batch Number: 920330-2001

Matrix: Water
 Date Received: 3/18/92
 Date Analyzed: 3/30/92
 Dilution Factor: 1

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

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorobiphenyl	108	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 Corom Date: 4/01/92
 Cheryl Matterson, Association Chemist

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



PRIORITY POLLUTANT METALS

Preparation Method: EPA 3010 {a}

Lab Project-Sample ID: 5752-8

Project Name: Rocketdyne SSFL
Project Number: 03.0029403.012

Sample Description: NS *B803001W6*
Sample Number: 197190 *

Matrix: Water

Date Sampled: 3/17/92
Date Digested: 3/21/92 {b}

Date Received: 3/19/92
Batch Number: 920321-0502 {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	3/24/92
Arsenic (As)/7060.....		1	10	3/24/92
Beryllium (Be)/6010.....		1	5	3/24/92
Cadmium (Cd)/6010.....		1	10	3/24/92
Chromium (Cr)/6010.....		1	10	3/24/92
Copper (Cu)/6010.....		1	20	3/24/92
Lead (Pb)/7421.....		1	3	3/26/92
Mercury (Hg)/7470.....		1	.5	3/23/92
Nickel (Ni)/6010.....		1	20	3/24/92
Selenium (Se)/7740.....		1	5	3/25/92
Silver (Ag)/6010.....		1	10	3/24/92
Thallium (Tl)/7841.....		1	10	3/25/92
Zinc (Zn)/6010.....	21	1	20	3/24/92

COMMENTS:

- {a} Applies to all metals except As, Pb, Se, Tl and Hg. EPA Method 3020 used for As, 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 3/21/92, Batch # 920321-0503 ; and Hg was digested on 3/21/92, Batch # 920321-0504 .
- {c} No entry in the "Concentration" means the metal is not detected at all.

Approved by: Nancy McDonald for CM Date: 4/02/92
Cheryl Matterson, Association Chemist

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



Table: Results of the analyses for iodine-129 in four (4) and strontium-90 in four (4) water samples.

Sample ID Number	Sample Description	Collection Date	Lab Code	Concentration pCi/L			
				I-129	Date Analyzed	Sr-90	Date Analyzed
208732	BB04097RA	03/16/92	SPW-1890	ND		<0.3	04/03
208733	BB04097RA	03/16/92	1891	ND		<0.3	04/03
208735	BB04026RC	03/16/92	1892	<0.9	03/30	ND	
208736	BB04026RC	03/16/92	1893	<0.7	04/16	ND	
197188	BB03001WA	03/17/92	1894	ND		<0.5	04/03
197189	BB03001WC	03/16/92	1895	<0.7	04/28	ND	
170682	BB04001WA	03/16/92	1899	ND		<0.4	04/22
170683	BB04001WC	03/16/92	1900	<0.8	04/03	ND	

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

ND - no data, analysis not required.

TELFDYNE ISOTOPE

REPORT OF ANALYSIS

WORK ORDER NUMBER 3-0600

CUSTOMER P.O. NUMBER 04-0029403-012

DATE RECEIVED 03/18/92

DELIVERY DATE 04/20/92

PAGE 1

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

WATER - SURFACE

TELFDYNE SAMPL#	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	STOP DATE	TIME	NUCLIDF	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M	MID-COUNT TIME	VOLUME - UNITS ASH-WGHT-%	LAB.
70158	197184		03/17	1205		RE-7	L.T. 4. E 01		04/07		4
						K-40	L.T. 6. E 01		04/07		4
						MN-54	L.T. 3. E 00		04/07		4
						CO-58	L.T. 4. E 00		04/07		4
						FE-59	L.T. 9. E 00		04/07		4
						CO-60	L.T. 4. E 00		04/07		4
						ZN-65	L.T. 8. E 00		04/07		4
						ZR-95	L.T. 4. E 00		04/07		4
						RU-103	L.T. 5. E 00		04/07		4
						RU-106	L.T. 3. E 01		04/07		4
						I-131	L.T. 2. E 01		04/07		4
						CS-134	L.T. 3. E 00		04/07		4
						CS-137	L.T. 4. E 00		04/07		4
						BA-140	L.T. 1. E 01		04/07		4
						CE-141	L.T. 9. E 00		04/07		4
						CE-144	L.T. 2. E 01		04/07		4
						RA-226	L.T. 7. E 01		04/07		4
						TH-228	L.T. 7. E 00		04/07		4
70159	197185	RB03001M	03/17	1350		GR-A	L.T. 3. E 00		04/01		3
						GR-B	7.8 +-3.3 E 00		04/01		3
70160	197187	RB03001MB	03/17	1445		PU-238	L.T. 2. E-01		04/19		6
						PU-239	L.T. 7. E-02		04/19		6

APPROVED BY J. GÜENTHER 04/28/92

LAST PAGE OF REPORT

SEND 1 COPIES TO MC4805 ERIC SMITH

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

TELEDYNE ISOTOPIES

REPORT OF ANALYSIS
WORK ORDER NUMBER 3-0942
CUSTOMER P.O. NUMBER 04-0029403-012
DATE RECEIVED 04/08/92
DELIVERY DATE 05/11/92
PAGE 1

RUN DATE 06/24/92

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

W A T E R

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	STOP DATE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M #	MID-COUNT TIME DATE	VOLUME - UNITS ASH-WGHT-% L.A.R.
73053	197186 BB-03-001-WE		03/17 1205		H-3	L.T. I. E 02	06/20	5

LAST PAGE OF REPORT

SEND 1 COPIES TO MC480S ERIC SMITH

APPROVED BY *J. Guenther* 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.

TELEDYNE ISOTOPES

RUN DATE 06/09/92

PAGE 2

REPORT OF ANALYSIS

DATE RECEIVED 05/20/92 DELIVERY DATE 06/22/92

CUSTOMER P.O. NUMBER 04-0029403-012

WORK ORDER NUMBER 3-1681

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

W A T E R

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	STOP DATE	TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	VOLUME - UNITS ASH-WGHT-% *	LAB.
73053 197186	8003001ME		03/11 1205			I-129	L.T. 6. E 00		06/03		3

VOLATILE ORGANIC COMPOUNDS

VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-11

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB04021SE
 Sample Number: 88255

Matrix: Soil

Date Sampled: 3/16/92
 Date Analyzed: 3/20/92

Date Received: 3/18/92
 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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745- 11

Page 2 of 2

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

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	101	70 - 121
Toluene-D8	95	81 - 117
4-Bromofluorobenzene	96	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 Loren Date: 4/01/92
 Cheryl Matterson, Associate Chemist

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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-13 Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB04023SE
 Sample Number: 88260

Matrix: Soil

Date Sampled: 3/16/92
 Date Analyzed: 3/20/92

Date Received: 3/18/92
 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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745- 13

Page 2 of 2

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

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	107	70 - 121
Toluene-D8	105	81 - 117
4-Bromofluorobenzene	92	74 - 121

COMMENTS:

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

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

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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-22

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB04026SE
 Sample Number: 88278

Matrix: Soil

Date Sampled: 3/16/92
 Date Analyzed: 3/21/92

Date Received: 3/18/92
 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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745- 22

Page 2 of 2

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

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	104	70 - 121
Toluene-D8	104	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: 4/01/92
 Cheryl Matterson, Associate Chemist

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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-19

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB04082SE
 Sample Number: 88272

Matrix: Soil

Date Sampled: 3/16/92
 Date Analyzed: 3/21/92

Date Received: 3/18/92
 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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745- 19

Page 2 of 2

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

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	100	70 - 121
Toluene-D8	101	81 - 117
4-Bromofluorobenzene	88	74 - 121

COMMENTS:

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

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

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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-16

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB04097SE
 Sample Number: 88266

Matrix: Soil

Date Sampled: 3/16/92
 Date Analyzed: 3/21/92

Date Received: 3/18/92
 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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745- 16

Page 2 of 2

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
1,1,2,2-Tetrachloroethane.....		5
1,3-Dichlorobenzene {b}.....		5
1,4-Dichlorobenzene {b}.....		5
1,2-Dichlorobenzene {b}.....		5
SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	101	70 - 121
Toluene-D8	104	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 m Cheryl Matterson, Associate Chemist Date: 4/01/92

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



SEMI-VOLATILE ORGANIC COMPOUNDS

SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified (a)
 Preparation Method: EPA 3550

Lab Project-Sample ID: 5745-10

Page 1 of 3

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB04021SD
 Sample Number: 88254

Matrix: Soil

Date Sampled: 3/16/92
 Date Extracted: 3/20/92

Date Received: 3/18/92
 Date Analyzed: 3/25/92

Batch Number: 920320-0301

Dilution Factor: 1

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-10

Page 2 of 3

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



SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}

Preparation Method: EPA 3550

Lab Project-Sample ID: 5745-10

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	88	25 - 121
Phenol-d5.....	83	24 - 113
Nitrobenzene-d5.....	78	23 - 120
2-Fluorobiphenyl.....	91	30 - 115
2,4,6-Tribromophenol.....	138	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.
- {d} Surrogate recovery for 2,4,6-Tribromophenol is beyond quality control limits. Sample meets all QC acceptance criteria specified in SW846 and EPA SOW 2/88.

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

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-12

Page 1 of 3

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB04023SD
 Sample Number: 88259

Matrix: Soil

Date Sampled: 3/16/92
 Date Extracted: 3/20/92

Date Received: 3/18/92
 Date Analyzed: 3/26/92

Batch Number: 920320-0301

Dilution Factor: 1

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-12

Page 2 of 3

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-12

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	93	25 - 121
Phenol-d5.....	92	24 - 113
Nitrobenzene-d5.....	88	23 - 120
2-Fluorobiphenyl.....	105	30 - 115
2,4,6-Tribromophenol.....	151	19 - 122
Terphenyl-d14.....	98	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} Surrogate recovery for 2,4,6-Tribromophenol is beyond quality control limits. Sample meets all QC acceptance criteria specified in SW846 and EPA SOW 2/88.

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

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



SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}

Preparation Method: EPA 3550

Lab Project-Sample ID: 5745-21

Page 1 of 3

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB04026SD
Sample Number: 88277

Matrix: Soil

Date Sampled: 3/16/92
Date Extracted: 3/20/92

Date Received: 3/18/92
Date Analyzed: 3/26/92

Batch Number: 920320-0301

Dilution Factor: 1

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-21

Page 2 of 3

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-21

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	68	25 - 121
Phenol-d5.....	65	24 - 113
Nitrobenzene-d5.....	56	23 - 120
2-Fluorobiphenyl.....	64	30 - 115
2,4,6-Tribromophenol.....	81	19 - 122
Terphenyl-d14.....	67	18 - 137

COMMENTS:

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

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

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-18

Page 1 of 3

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB04082SD
 Sample Number: 88271

Matrix: Soil

Date Sampled: 3/16/92
 Date Extracted: 3/20/92

Date Received: 3/18/92
 Date Analyzed: 3/26/92

Batch Number: 920320-0301

Dilution Factor: 1

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-18

Page 2 of 3

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-18

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	96	25 - 121
Phenol-d5.....	104	24 - 113
Nitrobenzene-d5.....	95	23 - 120
2-Fluorobiphenyl.....	97	30 - 115
2,4,6-Tribromophenol.....	117	19 - 122
Terphenyl-d14.....	115	18 - 137

COMMENTS:

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

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

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-15

Page 1 of 3

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB04097SD
 Sample Number: 88265

Matrix: Soil

Date Sampled: 3/16/92
 Date Extracted: 3/20/92

Date Received: 3/18/92
 Date Analyzed: 3/27/92

Batch Number: 920320-0301

Dilution Factor: 1

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-15

Page 2 of 3

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-15

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	59	25 - 121
Phenol-d5.....	56	24 - 113
Nitrobenzene-d5.....	88	23 - 120
2-Fluorobiphenyl.....	89	30 - 115
2,4,6-Tribromophenol.....	127	19 - 122
Terphenyl-d14.....	99	18 - 137

COMMENTS:

- {a} Includes all analytes as listed in Table 2 of Method 8270, SW-846, 3rd Edition.
- {b} Additional compounds.
- {c} Concentrations lower than the Reporting Limits are estimated values. No entry in "Analyte Concentration" means the analyte is not detected at all.
- {d} Surrogate recovery for 2,4,6-Tribromophenol is beyond quality control limits. Sample meets all QC acceptance criteria specified in SW846 and EPA SOW 2/88.

Regenerated 03/29/93.

Approved By: Nancy McDonald for CM Date: 3/29/93
Cheryl Matterson, Associate Chemist

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



METALS

PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5745-81

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB04021SF
Sample Number: 88280

Matrix: Soil

Date Sampled: 3/16/92
Date Digested: 3/19/92 {b}

Date Received: 3/18/92
Batch Number: 920319-1106 {b}

METAL (SYMBOL)/EPA METHOD	ANALYTE CONCENTRATION {c} mg/Kg (ppm)	DILUTION FACTOR	REPORTING LIMIT mg/Kg (ppm)	DATE ANALYZED
Antimony (Sb)/6010.....		1	2.5	3/20/92
Arsenic (As)/7060.....	2.4	1	.50	3/24/92
Beryllium (Be)/6010.....	.59	1	.25	3/20/92
Cadmium (Cd)/6010.....		1	.50	3/20/92
Chromium (Cr)/6010.....	9.0	1	1.0	3/20/92
Copper (Cu)/6010.....	9.1	1	1.0	3/20/92
Lead (Pb)/6010.....	6.6	1	2.5	3/20/92
Mercury (Hg)/7471.....		1	.25	3/21/92
Nickel (Ni)/6010.....	5.1	1	1.0	3/20/92
Selenium (Se)/7740.....		1	.25	3/23/92
Silver (Ag)/6010.....		1	1.0	3/20/92
Thallium (Tl)/7841.....		1	.50	3/23/92
Zinc (Zn)/6010.....	45.	1	1.0	3/20/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/19/92, Batch # 920319-1104; and Hg was digested on 3/19/92, Batch # 920319-1102 .
- {c} No entry in the "Concentration" means the metal is not detected at all.

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

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



PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5745-14

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB04023SF
Sample Number: 88261

Matrix: Soil

Date Sampled: 3/16/92
Date Digested: 3/19/92 {b}

Date Received: 3/18/92
Batch Number: 920319-1106 {b}

METAL (SYMBOL)/EPA METHOD	ANALYTE CONCENTRATION {c} mg/Kg (ppm)	DILUTION FACTOR	REPORTING LIMIT mg/Kg (ppm)	DATE ANALYZED
Antimony (Sb)/6010.....		1	2.5	3/20/92
Arsenic (As)/7060.....	2.3	1	.50	3/24/92
Beryllium (Be)/6010.....	.36	1	.25	3/20/92
Cadmium (Cd)/6010.....		1	.50	3/20/92
Chromium (Cr)/6010.....	9.7	1	1.0	3/20/92
Copper (Cu)/6010.....	10.	1	1.0	3/20/92
Lead (Pb)/6010.....	7.4	1	2.5	3/20/92
Mercury (Hg)/7471.....		1	.25	3/21/92
Nickel (Ni)/6010.....	6.0	1	1.0	3/20/92
Selenium (Se)/7740.....		1	.25	3/23/92
Silver (Ag)/6010.....		1	1.0	3/20/92
Thallium (Tl)/7841.....		1	.50	3/23/92
Zinc (Zn)/6010.....	41.	1	1.0	3/20/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/19/92, Batch # 920319-1104; and Hg was digested on 3/19/92, Batch # 920319-1102 .
- {c} No entry in the "Concentration" means the metal is not detected at all.

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

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



PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5745-23

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB04026SF
Sample Number: 88279

Matrix: Soil

Date Sampled: 3/16/92
Date Digested: 3/19/92 {b}

Date Received: 3/18/92
Batch Number: 920319-1106 {b}

METAL (SYMBOL)/EPA METHOD	ANALYTE CONCENTRATION {c} mg/Kg (ppm)	DILUTION FACTOR	REPORTING LIMIT mg/Kg (ppm)	DATE ANALYZED
Antimony (Sb)/6010.....		1	2.5	3/20/92
Arsenic (As)/7060.....	3.0	1	.50	3/24/92
Beryllium (Be)/6010.....	.46	1	.25	3/20/92
Cadmium (Cd)/6010.....		1	.50	3/20/92
Chromium (Cr)/6010.....	9.7	1	1.0	3/20/92
Copper (Cu)/6010.....	8.2	1	1.0	3/20/92
Lead (Pb)/6010.....	7.6	1	2.5	3/20/92
Mercury (Hg)/7471.....		1	.25	3/21/92
Nickel (Ni)/6010.....	5.4	1	1.0	3/20/92
Selenium (Se)/7740.....		1	.25	3/23/92
Silver (Ag)/6010.....		1	1.0	3/20/92
Thallium (Tl)/7841.....		1	.50	3/23/92
Zinc (Zn)/6010.....	45.	1	1.0	3/20/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/19/92, Batch # 920319-1104; and Hg was digested on 3/19/92, Batch # 920319-1102 .
- {c} No entry in the "Concentration" means the metal is not detected at all.

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

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



PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5745-20

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB04082SF
Sample Number: 88273

Matrix: Soil

Date Sampled: 3/16/92
Date Digested: 3/19/92 {b}

Date Received: 3/18/92
Batch Number: 920319-1106 {b}

METAL (SYMBOL)/EPA METHOD	ANALYTE CONCENTRATION {c} mg/Kg (ppm)	DILUTION FACTOR	REPORTING LIMIT mg/Kg (ppm)	DATE ANALYZED
Antimony (Sb)/6010.....		1	2.5	3/20/92
Arsenic (As)/7060.....	1.9	1	.50	3/24/92
Beryllium (Be)/6010.....	.39	1	.25	3/20/92
Cadmium (Cd)/6010.....		1	.50	3/20/92
Chromium (Cr)/6010.....	8.6	1	1.0	3/20/92
Copper (Cu)/6010.....	7.0	1	1.0	3/20/92
Lead (Pb)/6010.....	5.0	1	2.5	3/20/92
Mercury (Hg)/7471.....		1	.25	3/21/92
Nickel (Ni)/6010.....	4.8	1	1.0	3/20/92
Selenium (Se)/7740.....		1	.25	3/23/92
Silver (Ag)/6010.....		1	1.0	3/20/92
Thallium (Tl)/7841.....		1	.50	3/23/92
Zinc (Zn)/6010.....	39.	1	1.0	3/20/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/19/92, Batch # 920319-1104; and Hg was digested on 3/19/92, Batch # 920319-1102 .
- {c} No entry in the "Concentration" means the metal is not detected at all.

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

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



PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5745-17

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB04097SF
Sample Number: 88267

Matrix: Soil

Date Sampled: 3/16/92
Date Digested: 3/19/92 {b}

Date Received: 3/18/92
Batch Number: 920319-1106 {b}

METAL (SYMBOL)/EPA METHOD	ANALYTE CONCENTRATION {c} mg/Kg (ppm)	DILUTION FACTOR	REPORTING LIMIT mg/Kg (ppm)	DATE ANALYZED
Antimony (Sb)/6010.....		1	2.5	3/20/92
Arsenic (As)/7060.....	2.3	1	.50	3/24/92
Beryllium (Be)/6010.....	.38	1	.25	3/20/92
Cadmium (Cd)/6010.....		1	.50	3/20/92
Chromium (Cr)/6010.....	7.8	1	1.0	3/20/92
Copper (Cu)/6010.....	5.9	1	1.0	3/20/92
Lead (Pb)/6010.....	8.8	1	2.5	3/20/92
Mercury (Hg)/7471.....		1	.25	3/21/92
Nickel (Ni)/6010.....	4.4	1	1.0	3/20/92
Selenium (Se)/7740.....		1	.25	3/23/92
Silver (Ag)/6010.....		1	1.0	3/20/92
Thallium (Tl)/7841.....		1	.50	3/23/92
Zinc (Zn)/6010.....	40.	1	1.0	3/20/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/19/92, Batch # 920319-1104; and Hg was digested on 3/19/92, Batch # 920319-1102 .
- {c} No entry in the "Concentration" means the metal is not detected at all.

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

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



RADIONUCLIDES

Table: Results of the analyses for iodine-129 and strontium-90 in nineteen (19) soil samples.

Sample ID Number	Sample Description	Collection Date	Lab Code	Conc. pci/gwet		Conc. pci/gdry	
				I-129	Date Analyzed	Sr-90	Date Analyzed
88201	BG04025SA	03/13/92	SPS-1872	<0.3	05/05	0.02±0.01	05/02
88207	BG04090SA	03/13/92	1873	<0.3	05/05	0.05±0.01	05/02
88213	BG04029SA	03/13/92	1874	<0.2	05/07	0.02±0.01	05/02
88219	BG05074SA	03/13/92	1875	<0.3	05/07	0.05±0.01	05/13
88225	BG05026SA	03/13/92	1876	<0.2	05/07	0.08±0.02	05/13
88231	BG05016SA	03/13/92	1877	<0.2	05/08	0.05±0.01	05/13
88244	M37A	03/13/92	1878	<0.2	05/11	0.05±0.02	05/15
88251	BB04021SA	03/16/92	1879	<0.2	05/11	0.03±0.01	06/03
88256	BB04023SA	03/16/92	1880	<0.3	05/12	0.02±0.01	06/03
88262	BB04097SA	03/16/92	1881	<0.3	05/12	0.01±0.01	06/09
88265	BB04082SA	03/16/92	1882	<0.3	05/13	0.01±0.01	05/13
88274	BB04026SA	03/16/92	1883	<0.2	05/13	0.03±0.01	05/13
88401	BB14037SA	03/16/92	1884	<0.2	05/14	0.02±0.01	05/15
88407	BB14041SA	03/16/92	1885	<0.2	05/14	0.06±0.01	05/13
88413	BB14079SA	03/16/92	1886	<0.3	05/14	0.03±0.01	05/13
88419	BB14094SA	03/16/92	1887	<0.2	05/14	0.02±0.01	05/13
88425	BB14004SA	03/16/92	1888	<0.3	05/15	0.05±0.01	05/13
88293	BB00003SA	03/16/92	1889	<0.3	05/15	0.04±0.01	05/13
88433	BB00003SA	03/16/92	1898	<0.2	05/19	0.06±0.01	06/03

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 05/15/02

PAGE 4

WORK ORDER NUMBER 3-0599

CUSTOMER P.O. NUMBER 04-0029403-012

DATE RECEIVED 03/18/92

DELIVERY DATE 04/20/92

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

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	MISC	COLLECTION-DATE START DATE	STOP DATE	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M	MID-COUNT TIME DATE	VOLUME - UNITS ASH-WGHT-%	LAB.
70169	88246 MS		M3SC	03/13 1605		ZR-95	L.T. 5. E-02		04/01		4
						RU-103	L.T. 4. E-02		04/01		4
						RU-106	L.T. 3. E-01		04/01		4
						I-131	L.T. 2. E-01		04/01		4
						CS-134	L.T. 4. E-02		04/01		4
						CS-137	1.18+-0.34E-01		04/01		4
						BA-140	L.T. 6. E-02		04/01		4
						CE-141	L.T. 7. E-02		04/01		4
						CE-144	L.T. 2. E-01		04/01		4
						RA-226	2.14+-0.50E 00		04/01		4
						TH-228	7.71+-0.77E-01		04/01		4
						H-3	4.2 +-1.6 E-02		05/10		5
70170	88252		880402158	03/16 1030		PU-238	L.T. 2. E-02		04/09		6
						PU-239	L.T. 7. E-03		04/09		6
70171	88253		880402158	03/16 1030		BE-7	L.T. 4. E-01		04/02		4
						K-40	2.23+-0.22E 01		04/02		4
						MN-54	L.T. 4. E-02		04/02		4
						CO-58	L.T. 4. E-02		04/02		4
						FE-59	L.T. 1. E-01		04/02		4
						CO-60	L.T. 4. E-02		04/02		4
						ZN-65	L.T. 1. E-01		04/02		4
						ZR-95	L.T. 5. E-02		04/02		4
						RU-103	L.T. 5. E-02		04/02		4
						RU-106	L.T. 3. E-01		04/02		4
						I-131	L.T. 2. E-01		04/02		4
						CS-134	L.T. 5. E-02		04/02		4
						CS-137	L.T. 5. E-02		04/02		4
						BA-140	L.T. 1. E-01		04/02		4
						CE-141	L.T. 6. E-02		04/02		4
						CE-144	L.T. 3. E-01		04/02		4
						RA-226	1.94+-0.66E 00		04/02		4

TELEDYNE ISOTOPES

ADDITIONAL DATA 07/01/92
RUN DATE 05/15/83

REPORT OF ANALYSIS

WORK ORDER NUMBER 3-0599
CUSTOMER P.O. NUMBER 04-0029403-012
DATE RECEIVED 03/18/92
DELIVERY DATE 04/20/92
PAGE 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		NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME		VOLUME - UNITS ASH-WGHT-%	LAR.
			START DATE	STOP DATE				DATE	TIME		
70175	88264	B8040975C	03/16	1115	BE-7	L.T. 3. E-01		04/06			4
					K-40	2.02+-0.20E 01		04/06			4
					MN-54	L.T. 3. E-02		04/06			4
					CO-58	L.T. 3. E-02		04/06			4
					FE-59	L.T. 9. E-02		04/06			4
					CO-60	L.T. 3. E-02		04/06			4
					ZN-65	L.T. 8. E-02		04/06			4
					ZR-95	L.T. 4. E-02		04/06			4
					RU-103	L.T. 4. E-02		04/06			4
					RU-106	L.T. 2. E-01		04/06			4
					I-131	L.T. 2. E-01		04/06			4
					CS-134	L.T. 3. E-02		04/06			4
					CS-137	L.T. 3. E-02		04/06			4
					BA-140	L.T. 8. E-02		04/06			4
					CE-141	L.T. 6. E-02		04/06			4
					CE-144	L.T. 2. E-01		04/06			4
					RA-226	1.82+-0.43E 00		04/06			4
					TH-228	1.07+-0.11E 00		04/06			4
					H-3	NOT ANALYZED		04/06			5
70176	88269	B8040825A	03/16	1130	PU-238	L.T. 2. E-02		04/09			6
					PU-239	L.T. 7. E-03		04/09			6
70177	88270	B8040825C	03/16	1130	BE-7	L.T. 3. E-01		04/06			4
					K-40	2.30+-0.23E 01		04/06			4
					MN-54	L.T. 3. E-02		04/06			4
					CO-58	L.T. 3. E-02		04/06			4
					FE-59	L.T. 8. E-02		04/06			4
					CO-60	L.T. 3. E-02		04/06			4
					ZN-65	L.T. 7. E-02		04/06			4
					ZR-95	L.T. 4. E-02		04/06			4
					RU-103	L.T. 4. E-02		04/06			4
					RU-106	L.T. 2. E-01		04/06			4

We were not able to extract water from T1#70175.

An aliquot of B8040975A from our midwest laboratory was analyzed as a replacement for T1#70175. The H-3 result was L.T. 3. E-02 pci/g (L.T. 2. E-02 pci/l). (L.S.)

TELETYPE ISOTOPES

REPORT OF ANALYSIS

PUN DATE 10/07/92

WORK ORDER NUMBER 3-3706

CUSTOMER P.O. NUMBER 04-0029403-012

DATE RECEIVED 09/17/92

DELIVERY DATE 10/20/92

PAGE 3

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

SOIL

TELETYPE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	STOP DATE	TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M	MID-COUNT TIME DATE	VOLUME - UNITS ASH-WGHT-%	LAR.
89797	SM030155A	88307	03/11			H-3	L.T. R. E-02		09/30		5
89798	88030255A	90101	03/17	1040		H-3	5.1 +-2.5 E-02		09/30		5
89799	881600185A	89851	04/22	0915		H-3	3.6 +-2.0 E-02		09/30		5
89800	88060975A	88262	03/16	1115		H-3	NOT ANALYZED				5
89801	88130395A	88913	03/17	1540		H-3	2.5 +-1.2 E-02		10/02		5
89802	88150015A	89551	04/22	1230		H-3	NOT ANALYZED				5
89803	88060235A	88256	03/16	1100		H-3	2.2 +-0.8 E-02		10/02		5
89804	88020715A	89801	03/19	1000		H-3	NOT ANALYZED				5

J. Guenther

APPROVED BY J. GUENTHER 10/07/92

LAST PAGE OF REPORT

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

Water (ml)

H-3 (PCI/L)	Water (ml)
13024 89782	120±70
15025 89784	380±140
04025 89785	160±70
05024 89786	200±70
0200 89787	170±90
12020 89790	L.T. 200
0400 89791	L.T. 200
0400 89792	955±100
0402 89793	240±70
1100 89795	160±80
0402 89797	L.T. 200
0302 89798	240±120
0302 89799	220±120
1002 89801	170±80
0402 89803	230±90

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

WATER

VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-78

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB-04-001WH
 Sample Number: 170673

Matrix: Water

Date Sampled: 3/16/92
 Date Analyzed: 3/20/92

Date Received: 3/18/92
 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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-78

Page 2 of 2

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	103	76 - 114
Toluene-D8	96	88 - 110
4-Bromofluorobenzene	96	86 - 115

COMMENTS:

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

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

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-79

Page 1 of 3

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB-04-001WF
 Sample Number: 170677

Matrix: Water

Date Sampled: 3/16/92
 Date Extracted: 3/20/92

Date Received: 3/18/92
 Date Analyzed: 3/24/92

Batch Number: 920320-2002

Dilution Factor: 1

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-79

Page 2 of 3

COMPOUND	ANALYTE CONCENTRATION {c} ug/L (ppb)	REPORTING LIMIT ug/L (ppb)
Acenaphthene.....		10
2,4-Dinitrophenol.....		50
4-Nitrophenol.....		50
2,4-Dinitrotoluene.....		10
Dibenzofuran.....		10
Diethylphthalate.....		10
alpha-BHC {b}.....		10
4-Chlorophenyl phenyl ether.....		10
Fluorene.....		10
4-Nitroaniline.....		50
4,6-Dinitro-2-methylphenol.....		50
N-Nitrosodiphenylamine.....		10
4-Bromophenyl phenyl ether.....		10
beta-BHC {b}.....		10
Lindane {b}.....		10
Hexachlorobenzene.....		10
Pentachlorophenol.....		50
Phenanthrene.....		10
Anthracene.....		10
Delta-BHC {b}.....		10
Heptachlor {b}.....		10
Aldrin {b}.....		10
Endrin {b}.....		10
Butyl benzyl phthalate.....		10
Fluoranthene.....		10
Heptachlor Epoxide.....		10
Pyrene.....		10
Dieldrin {b}.....		10
4,4'-DDE {b}.....		10
Endosulfan sulfate.....		10
4,4'-DDT {b}.....		10
4,4'-DDD {b}.....		10
Di-n-butylphthalate.....		10
3,3'-Dichlorobenzidine.....		20
Benzo(a)anthracene.....		10
Bis(2-Ethylhexyl)phthalate.....		10
Chrysene.....		10
Di-n-octylphthalate.....		10
Benzo(b)fluoranthene.....		10
Benzo(k)fluoranthene.....		10
Benzo(a)pyrene.....		10
Indeno(1,2,3-c,d)pyrene.....		10
Dibenzo(a,h)anthracene.....		10
Benzo(g,h,i)perylene.....		10



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-79

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	49	21 - 100
Phenol-d5.....	32	10 - 94
Nitrobenzene-d5.....	94	35 - 114
2-Fluorobiphenyl.....	94	43 - 116
2,4,6-Tribromophenol.....	116	10 - 123
Terphenyl-d14.....	94	33 - 141

COMMENTS:

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

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

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



PRIORITY POLLUTANT METALS

Preparation Method: EPA 3010 {a}

Lab Project-Sample ID: 5745-80

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB-04-001WG
Sample Number: 170684

Matrix: Water

Date Sampled: 3/16/92
Date Digested: 3/21/92 {b}

Date Received: 3/18/92
Batch Number: 920321-0502 {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	3/24/92
Arsenic (As)/7060.....		1	10	3/24/92
Beryllium (Be)/6010.....		1	5	3/24/92
Cadmium (Cd)/6010.....		1	10	3/24/92
Chromium (Cr)/6010.....		1	10	3/24/92
Copper (Cu)/6010.....		1	20	3/24/92
Lead (Pb)/7421.....		1	3	3/26/92
Mercury (Hg)/7470.....		1	.5	3/23/92
Nickel (Ni)/6010.....		1	20	3/24/92
Selenium (Se)/7740.....		1	5	3/25/92
Silver (Ag)/6010.....		1	10	3/24/92
Thallium (Tl)/7841.....		1	10	3/25/92
Zinc (Zn)/6010.....		1	20	3/24/92

COMMENTS:

- {a} Applies to all metals except As, Pb, Se, Tl and Hg. EPA Method 3020 used for As, 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 3/21/92, Batch # 920321-0503; and Hg was digested on 3/21/92, Batch # 920321-0504.
- {c} No entry in the "Concentration" means the metal is not detected at all.

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

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



Table: Results of the analyses for iodine-129 in four (4) and strontium-90 in four (4) water samples.

Sample ID Number	Sample Description	Collection Date	Lab Code	Concentration pCi/L			
				I-129	Date Analyzed	Sr-90	Date Analyzed
208732	BB04097RA	03/16/92	SPW-1890	ND		<0.3	04/03
208733	BB04097RA	03/16/92	1891	ND		<0.3	04/03
208735	BB04026RC	03/16/92	1892	<0.9	03/30	ND	
208736	BB04026RC	03/16/92	1893	<0.7	04/16	ND	
197188	BB03001WA	03/17/92	1894	ND		<0.5	04/03
197189	BB03001WC	03/16/92	1895	<0.7	04/28	ND	
170682	BB04001WA	03/16/92	1899	ND		<0.4	04/22
170683	BB04001WC	03/16/92	1900	<0.8	04/03	ND	

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

ND - no data, analysis not required.

TELEDYNE ISOTOPIES

REPORT OF ANALYSIS

WORK ORDER NUMBER 3-0741

CUSTOMER P.O. NUMBER 04-0029403-012

DATE RECEIVED 03/24/92

DELIVERY DATE 04/26/92

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

RUN DATE 05/28/92

PAGE 1

WATER - SURFACE

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE		NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-X U/M *	MID-COUNT TIME	DATE	VOLUME - UNITS ASH-WGHT-X *	LAB.
			START DATE	STOP DATE							
70447	0804001WE		03/16	1405	H-3	L.T. 1. E 02		05/24	05/01	5	
70448	0804001WB		03/16	1405	PU-239	L.T. 2. E-01		05/01	05/01	6	
70449	0804001WD		03/16	1200	PU-238	L.T. 2. E-01		05/01	05/01	6	
					BE-7	L.T. 5. E 01		05/04	05/04	4	
					K-40	L.T. 6. E 01		05/04	05/04	4	
					MN-54	L.T. 3. E 00		05/04	05/04	4	
					CO-58	L.T. 5. E 00		05/04	05/04	4	
					FE-59	L.T. 1. E 01		05/04	05/04	4	
					CO-60	L.T. 3. E 00		05/04	05/04	4	
					ZN-65	L.T. 8. E 00		05/04	05/04	4	
					ZR-95	L.T. 6. E 00		05/04	05/04	4	
					RU-103	L.T. 8. E 00		05/04	05/04	4	
					RU-106	L.T. 3. E 01		05/04	05/04	4	
					I-131	L.T. 3. E 02		05/04	05/04	4	
					CS-134	L.T. 4. E 00		05/04	05/04	4	
					CS-137	L.T. 4. E 00		05/04	05/04	4	
					BA-140	L.T. 4. E 01		05/04	05/04	4	
					CE-141	L.T. 2. E 01		05/04	05/04	4	
					CE-144	L.T. 3. E 01		05/04	05/04	4	
					RA-226	L.T. 8. E 01		05/04	05/04	4	
					TH-228	L.T. 7. E 00		05/04	05/04	4	
70450	0804001WI		03/16	1205	GR-A	L.T. 3. E 00		04/13	04/13	3	
					GR-B	L.T. 4. E 00		04/13	04/13	3	
70451	0814044RE		03/16	1450	H-3	L.T. 1. E 02		05/24	05/24	5	

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TELEDYNE ISOTOPIES
REPORT OF ANALYSIS

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

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	STOP DATE	TIME	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M	MID-COUNT TIME DATE	VOLUME - UNITS ASH-WGHT-%	LAB.
69556	197158	8601002WE	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	8804001WE	03/16	1405		I-129	L.T. 7. E 00		06/03		3
74347	197118	8818003WE	04/21	1320		I-129	L.T. 7. E 00		06/03		3
74348	197119	8800001WE	04/23	0830		I-129	L.T. 6. E 00		06/03		3
74403	197872	8819003WE	04/23	0830		I-129	L.T. 7. E 00		06/03		3
74407	197308	8816001WE	04/23	0950		I-129	L.T. 6. E 00		06/03		3

J. Guenther

APPROVED BY J. GUENTHER 06/09/92

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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: 5756-16

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.029403.012

Sample Description: BB05003SE
 Sample Number: 90005

Matrix: Soil

Date Sampled: 3/18/92
 Date Analyzed: 3/24/92

Date Received: 3/19/92
 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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756- 16

Page 2 of 2

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
1,1,2,2-Tetrachloroethane.....		5
1,3-Dichlorobenzene {b}.....		5
1,4-Dichlorobenzene {b}.....		5
1,2-Dichlorobenzene {b}.....		5
SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	105	70 - 121
Toluene-D8	111	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 Loren Date: 4/07/92
 Cheryl Matterson, Associate Chemist

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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-22

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.029403.012

Sample Description: BB05006SE
 Sample Number: 90017

Matrix: Soil

Date Sampled: 3/18/92
 Date Analyzed: 3/24/92

Date Received: 3/19/92
 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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756- 22

Page 2 of 2

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
1,1,2,2-Tetrachloroethane.....		5
1,3-Dichlorobenzene {b}.....		5
1,4-Dichlorobenzene {b}.....		5
1,2-Dichlorobenzene {b}.....		5
SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	106	70 - 121
Toluene-D8	114	81 - 117
4-Bromofluorobenzene	85	74 - 121

COMMENTS:

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

Approved By: Nancy McDonald for CM Date: 4/07/92
 Cheryl Matterson, Associate Chemist

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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-25

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.029403.012

Sample Description: BB05057SE
 Sample Number: 90023

Matrix: Soil

Date Sampled: 3/18/92
 Date Analyzed: 3/24/92

Date Received: 3/19/92
 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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756- 25

Page 2 of 2

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
1,1,2,2-Tetrachloroethane.....		5
1,3-Dichlorobenzene {b}.....		5
1,4-Dichlorobenzene {b}.....		5
1,2-Dichlorobenzene {b}.....		5
SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	110	70 - 121
Toluene-D8	108	81 - 117
4-Bromofluorobenzene	89	74 - 121

COMMENTS:

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

Approved By: Nancy McDonald for CM Date: 4/07/92
 Cheryl Matterson, Associate Chemist

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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-28

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.029403.012

Sample Description: BB05077SE
 Sample Number: 90029

Matrix: Soil

Date Sampled: 3/18/92
 Date Analyzed: 3/24/92

Date Received: 3/19/92
 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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756- 28

Page 2 of 2

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

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	109	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: 4/07/92
 Cheryl Matterson, Associate Chemist

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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-19

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.029403.012

Sample Description: BB05089SE
 Sample Number: 90011

Matrix: Soil

Date Sampled: 3/18/92
 Date Analyzed: 3/24/92

Date Received: 3/19/92
 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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756- 19

Page 2 of 2

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
1,1,2,2-Tetrachloroethane.....		5
1,3-Dichlorobenzene {b}.....		5
1,4-Dichlorobenzene {b}.....		5
1,2-Dichlorobenzene {b}.....		5
SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	107	70 - 121
Toluene-D8	106	81 - 117
4-Bromofluorobenzene	88	74 - 121

COMMENTS:

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

Approved By: Nancy McDonald for CM Date: 4/07/92
 Cheryl Matterson, Associate Chemist

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



SEMI-VOLATILE ORGANIC COMPOUNDS

SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-15

Page 1 of 3

Project Name: Rocketdyne
 Project Number: 03.029403.012

Sample Description: BB05003SD
 Sample Number: 90004

Matrix: Soil

Date Sampled: 3/18/92
 Date Extracted: 3/23/92

Date Received: 3/19/92
 Date Analyzed: 3/31/92

Batch Number: 920323-2001

Dilution Factor: 1

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-15

Page 2 of 3

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-15

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	87	25 - 121
Phenol-d5.....	95	24 - 113
Nitrobenzene-d5.....	89	23 - 120
2-Fluorobiphenyl.....	94	30 - 115
2,4,6-Tribromophenol.....	103	19 - 122
Terphenyl-d14.....	107	18 - 137

COMMENTS:

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

Approved By: Nancy McDonald for cm Date: 4/07/92
Cheryl Matterson, Associate Chemist

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-21

Page 1 of 3

Project Name: Rocketdyne
 Project Number: 03.029403.012

Sample Description: BB05006SD
 Sample Number: 90016

Matrix: Soil

Date Sampled: 3/18/92
 Date Extracted: 3/23/92

Date Received: 3/19/92
 Date Analyzed: 3/31/92

Batch Number: 920323-2001

Dilution Factor: 1

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-21

Page 2 of 3

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-21

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	82	25 - 121
Phenol-d5.....	83	24 - 113
Nitrobenzene-d5.....	91	23 - 120
2-Fluorobiphenyl.....	91	30 - 115
2,4,6-Tribromophenol.....	91	19 - 122
Terphenyl-d14.....	99	18 - 137

COMMENTS:

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

Approved By: Nancy McDonald for CM Date: 4/07/92
Cheryl Matterson, Associate Chemist

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-24

Page 1 of 3

Project Name: Rocketdyne
 Project Number: 03.029403.012

Sample Description: BB05057SD
 Sample Number: 90022

Matrix: Soil

Date Sampled: 3/18/92
 Date Extracted: 3/23/92

Date Received: 3/19/92
 Date Analyzed: 3/30/92

Batch Number: 920323-2001

Dilution Factor: 1

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-24

Page 2 of 3

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-24

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SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	76	25 - 121
Phenol-d5.....	72	24 - 113
Nitrobenzene-d5.....	82	23 - 120
2-Fluorobiphenyl.....	94	30 - 115
2,4,6-Tribromophenol.....	110	19 - 122
Terphenyl-d14.....	100	18 - 137

COMMENTS:

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

Approved By: Nancy McDonald for CM Date: 4/07/92
Cheryl Matterson, Associate Chemist

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-27

Page 1 of 3

Project Name: Rocketdyne
 Project Number: 03.029403.012

Sample Description: BB05077SD
 Sample Number: 90028

Matrix: Soil

Date Sampled: 3/18/92
 Date Extracted: 3/23/92

Date Received: 3/19/92
 Date Analyzed: 3/30/92

Batch Number: 920323-2001

Dilution Factor: 1

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



SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}

Preparation Method: EPA 3550

Lab Project-Sample ID: 5756-27

Page 2 of 3

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-27

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	84	25 - 121
Phenol-d5.....	79	24 - 113
Nitrobenzene-d5.....	86	23 - 120
2-Fluorobiphenyl.....	97	30 - 115
2,4,6-Tribromophenol.....	109	19 - 122
Terphenyl-d14.....	104	18 - 137

COMMENTS:

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

Approved By: Nancy McDonald for CM Date: 4/07/92
Cheryl Matterson, Associate Chemist

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-18

Page 1 of 3

Project Name: Rocketdyne
Project Number: 03.029403.012

Sample Description: BB05089SD
Sample Number: 90010

Matrix: Soil

Date Sampled: 3/18/92
Date Extracted: 3/23/92

Date Received: 3/19/92
Date Analyzed: 3/30/92

Batch Number: 920323-2001

Dilution Factor: 1

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-18

Page 2 of 3

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-18

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	80	25 - 121
Phenol-d5.....	78	24 - 113
Nitrobenzene-d5.....	86	23 - 120
2-Fluorobiphenyl.....	98	30 - 115
2,4,6-Tribromophenol.....	113	19 - 122
Terphenyl-d14.....	101	18 - 137

COMMENTS:

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

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

Date: 4/07/92

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



METALS

PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5756-17

Project Name: Rocketdyne
Project Number: 03.029403.012

Sample Description: BB05003SF
Sample Number: 90006

Matrix: Soil

Date Sampled: 3/18/92
Date Digested: 3/20/92 {b}

Date Received: 3/19/92
Batch Number: 920320-1104 {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	3/21/92
Arsenic (As)/7060.....	3.5	5	2.5	3/24/92
Beryllium (Be)/6010.....	.52	1	.25	3/21/92
Cadmium (Cd)/6010.....		1	.50	3/21/92
Chromium (Cr)/6010.....	13.	1	1.0	3/21/92
Copper (Cu)/6010.....	16.	1	1.0	3/21/92
Lead (Pb)/6010.....	18.	1	2.5	3/21/92
Mercury (Hg)/7471.....		1	.25	3/21/92
Nickel (Ni)/6010.....	10.	1	1.0	3/21/92
Selenium (Se)/7740.....	2.0	1	.25	3/24/92
Silver (Ag)/6010.....		1	1.0	3/21/92
Thallium (Tl)/7841.....		1	.50	3/27/92
Zinc (Zn)/6010.....	52.	1	1.0	3/21/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/20/92, Batch # 920320-1103; and Hg was digested on 3/20/92, Batch # 920320-1105 .
- {c} No entry in the "Concentration" means the metal is not detected at all.
- {d} The sample for Arsenic was diluted 5 fold to bring target analyte within linear working range.

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

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



PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5756-23

Project Name: Rocketdyne
Project Number: 03.029403.012

Sample Description: BB05006SF
Sample Number: 90018

Matrix: Soil

Date Sampled: 3/18/92
Date Digested: 3/20/92 {b}

Date Received: 3/19/92
Batch Number: 920320-1104 {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	3/21/92
Arsenic (As)/7060.....	4.6	5	2.5	3/24/92
Beryllium (Be)/6010.....	.39	1	.25	3/21/92
Cadmium (Cd)/6010.....		1	.50	3/21/92
Chromium (Cr)/6010.....	11.	1	1.0	3/21/92
Copper (Cu)/6010.....	13.	1	1.0	3/21/92
Lead (Pb)/6010.....	10.	1	2.5	3/21/92
Mercury (Hg)/7471.....		1	.25	3/21/92
Nickel (Ni)/6010.....	8.4	1	1.0	3/21/92
Selenium (Se)/7740.....	7.6	4	1.0	3/24/92
Silver (Ag)/6010.....		1	1.0	3/21/92
Thallium (Tl)/7841.....		1	.50	3/27/92
Zinc (Zn)/6010.....	36.	1	1.0	3/21/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/20/92, Batch # 920320-1103; and Hg was digested on 3/20/92, Batch # 920320-1105 .
- {c} No entry in the "Concentration" means the metal is not detected at all.
- {d} The sample for Arsenic was diluted 5 fold to bring target analyte within linear working range.
- {e} The sample for Selenium was diluted 4 fold to bring target analyte within linear working range.

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

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



PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5756-26

Project Name: Rocketdyne
Project Number: 03.029403.012

Sample Description: BB05057SF
Sample Number: 90024

Matrix: Soil

Date Sampled: 3/18/92
Date Digested: 3/20/92 {b}

Date Received: 3/19/92
Batch Number: 920320-1104 {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	3/21/92
Arsenic (As)/7060.....	1.5	5	2.5	3/24/92
Beryllium (Be)/6010.....	.53	1	.25	3/21/92
Cadmium (Cd)/6010.....		1	.50	3/21/92
Chromium (Cr)/6010.....	12.	1	1.0	3/21/92
Copper (Cu)/6010.....	17.	1	1.0	3/21/92
Lead (Pb)/6010.....	10.	1	2.5	3/21/92
Mercury (Hg)/7471.....		1	.25	3/21/92
Nickel (Ni)/6010.....	10.	1	1.0	3/21/92
Selenium (Se)/7740.....	1.1	1	.25	3/24/92
Silver (Ag)/6010.....		1	1.0	3/21/92
Thallium (Tl)/7841.....		1	.50	3/27/92
Zinc (Zn)/6010.....	46.	1	1.0	3/21/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/20/92, Batch # 920320-1103; and Hg was digested on 3/20/92, Batch # 920320-1105 .
- {c} No entry in the "Concentration" means the metal is not detected at all.
- {d} A high background reading was observed for Arsenic. A matrix interferent is present creating a false positive observation. A 5 fold dilution yielded an estimated result of 1.5.

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

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



PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5756-29

Project Name: Rocketdyne
Project Number: 03.029403.012

Sample Description: BB05077SF
Sample Number: 90030

Matrix: Soil

Date Sampled: 3/18/92
Date Digested: 3/20/92 {b}

Date Received: 3/19/92
Batch Number: 920320-1104 {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	3/21/92
Arsenic (As)/7060.....	2.8	5	2.5	3/24/92
Beryllium (Be)/6010.....	.55	1	.25	3/21/92
Cadmium (Cd)/6010.....		1	.50	3/21/92
Chromium (Cr)/6010.....	12.	1	1.0	3/21/92
Copper (Cu)/6010.....	15.	1	1.0	3/21/92
Lead (Pb)/6010.....	12.	1	2.5	3/21/92
Mercury (Hg)/7471.....		1	.25	3/21/92
Nickel (Ni)/6010.....	10.	1	1.0	3/21/92
Selenium (Se)/7740.....	2.1	1	.25	3/24/92
Silver (Ag)/6010.....		1	1.0	3/21/92
Thallium (Tl)/7841.....		1	.50	3/27/92
Zinc (Zn)/6010.....	44.	1	1.0	3/21/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/20/92, Batch # 920320-1103; and Hg was digested on 3/20/92, Batch # 920320-1105 .
- {c} No entry in the "Concentration" means the metal is not detected at all.
- {d} The sample for Arsenic was diluted 5 fold to bring target analyte within linear working range.

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

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



PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5756-20

Project Name: Rocketdyne
Project Number: 03.029403.012

Sample Description: BB05089SF
Sample Number: 90012

Matrix: Soil

Date Sampled: 3/18/92
Date Digested: 3/20/92 {b}

Date Received: 3/19/92
Batch Number: 920320-1104 {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	3/21/92
Arsenic (As)/7060.....	1.3	5	2.5	3/24/92
Beryllium (Be)/6010.....	.54	1	.25	3/21/92
Cadmium (Cd)/6010.....		1	.50	3/21/92
Chromium (Cr)/6010.....	11.	1	1.0	3/21/92
Copper (Cu)/6010.....	14.	1	1.0	3/21/92
Lead (Pb)/6010.....	12.	1	2.5	3/21/92
Mercury (Hg)/7471.....		1	.25	3/21/92
Nickel (Ni)/6010.....	9.2	1	1.0	3/21/92
Selenium (Se)/7740.....	1.3	1	.25	3/24/92
Silver (Ag)/6010.....		1	1.0	3/21/92
Thallium (Tl)/7841.....		1	.50	3/27/92
Zinc (Zn)/6010.....	36.	1	1.0	3/21/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/20/92, Batch # 920320-1103; and Hg was digested on 3/20/92, Batch # 920320-1105 .
- {c} No entry in the "Concentration" means the metal is not detected at all.
- {d} A high background reading was observed for Arsenic. A matrix interferent is present creating a false positive observation. A 5 fold dilution yielded an estimated result of 1.3.

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

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



RADIONUCLIDES

Table: Results of the analyses for iodine-129 and strontium-90 in thirty-five (35) soil samples.

Sample ID Number	Sample Description	Collection Date	Lab Code	Conc. pci/gwet		Conc. pci/gdry	
				I-129	Date Analyzed	Sr-90	Date Analyzed
90140	M4SA	03/17/92	SPS-1908	<0.2	05/20	0.06±0.01	06/03
88901	BB13024SA	03/17/92	1909	<0.2	05/20	0.01±0.01	05/14
88907	BB13037SA	03/17/92	1910	<0.2	05/21	0.01±0.01	05/14
88913	BB13039SA	03/17/92	1911	<0.2	05/21	0.01±0.01	05/15
88919	BB13011SA	03/17/92	1912	<0.2	05/22	0.01±0.01	06/03
88925	BB13010SA	03/17/92	1913	<0.2	05/22	<0.01	06/09
89151	BB06017SA	03/17/92	1914	<0.2	05/22	0.01±0.01	05/14
89157	BB06007SA	03/17/92	1915	<0.3	06/09	<0.01	05/14
89163	BB06092SA	03/17/92	1916	<0.2	05/26	<0.01	05/14
89169	BB06066SA	03/17/92	1917	<0.2	05/27	<0.01	05/14
89175	BB06013SA	03/17/92	1918	<0.2	05/28	0.01±0.01	05/14
90101	BB03025SA	03/17/92	1919	<0.2	06/01	0.09±0.01	06/09
90107	BB03092SA	03/17/92	1920	<0.2	06/01	0.04±0.01	05/14
90113	BB03079SA	03/17/92	1921	<0.2	06/01	0.03±0.01	06/09
90119	BB03017SA	03/17/92	1922	<0.3	06/09	0.05±0.01	06/09
90125	BB03005SA	03/17/92	1923	<0.2	06/02	0.06±0.01	05/15
90001	BB05003SA	03/18/92	1924	<0.2	06/02	0.02±0.01	06/09
90007	BB05089SA	03/18/92	1925	<0.2	06/02	0.02±0.01	05/22
90013	BB05006SA	03/18/92	1926	<0.2	06/03	0.02±0.01	05/22
90019	BB05057SA	03/18/92	1927	<0.2	06/04	0.03±0.01	05/22
90025	BB05077SA	03/18/92	1928	<0.2	06/04	0.06±0.01	05/22
90051	BB12006SA	03/18/92	1929	<0.2	06/05	0.03±0.01	05/22
90057	BB12019SA	03/18/92	1930	<0.2	06/05	0.04±0.01	05/22
90063	BB12023SA	03/18/92	1931	<0.3	06/05	0.02±0.01	05/22
90069	BB12020SA	03/18/92	1932	<0.2	06/08	0.03±0.01	05/22
90075	BB12003SA	03/18/92	1933	<0.2	06/08	0.01±0.01	05/22
90251	BB01056SA	03/18/92	1934	<0.3	06/08	0.04±0.01	06/03
90263	BB01001SA	03/18/92	1935	<0.3	06/10	<0.01	06/03
90269	BB01027SA	03/18/92	1936	<0.3	06/10	<0.01	06/09
90275	BB01038SA	03/18/92	1937	<0.2	06/10	0.02±0.01	06/03
90282	BB00004SA	03/18/92	1938	<0.3	06/10	0.01±0.01	06/03
89251	BB11018SA	03/18/92	1939	<0.3	06/10	0.02±0.01	06/03
89257	BB11061SA	03/18/92	1940	<0.3	06/11	<0.01	06/03
89263	BB11057SA	03/18/92	1941	<0.2	06/11	0.02±0.01	06/09
89269	BB11032SA	03/18/92	1942	<0.3	04/14	0.02±0.01	06/09

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.

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RUN DATE 06/10/92

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REPORT OF ANALYSIS

WORK ORDER NUMBER 3-0626

CUSTOMER P.O. NUMBER 04-0029403-012

DATE RECEIVED 03/25/92

DELIVERY DATE 04/27/92

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

SOIL

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	STOP DATE	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/N *	MID-COUNT TIME DATE	VOLUME - UNITS ASH-WGHT-%	LAR.
70856	90002 880500358		03/18 0815		PU-238	L.T. 1. E-02		05/12		6
					PU-239	L.T. 5. E-03		05/12		6
70857	90003 88050035C		03/18 0815		BE-7	L.T. 4. E-01		04/25		4
					K-40	2.26+-0.23E 01		04/25		4
					MN-54	L.T. 3. E-02		04/25		4
					CO-58	L.T. 4. E-02		04/25		4
					FE-59	L.T. 1. E-01		04/25		4
					CO-60	L.T. 3. E-02		04/25		4
					ZN-65	L.T. 8. E-02		04/25		4
					ZR-95	L.T. 5. E-02		04/25		4
					RU-103	L.T. 5. E-02		04/25		4
					RU-106	L.T. 3. E-01		04/25		4
					I-131	L.T. 7. E-01		04/25		4
					CS-134	L.T. 4. E-02		04/25		4
					CS-137	2.22+-0.33E-01		04/25		4
					BA-140	L.T. 2. E-01		04/25		4
					CE-141	L.T. 9. E-02		04/25		4
					CE-144	L.T. 2. E-01		04/25		4
					RA-226	2.09+-0.50E 00		04/25		4
					TH-228	1.12+-0.11E 00		04/25		4
					H-3	1.5 +-0.7 E-02		06/04		5
70858	90008 88050895B		03/18 0830		PU-238	L.T. 3. E-02		05/16		6
					PU-239	L.T. 2. E-02		05/16		6
70859	90009 88050895C		03/18 0830		BE-7	L.T. 5. E-01		04/25		4
					K-40	2.38+-0.24E 01		04/25		4
					MN-54	L.T. 4. E-02		04/25		4
					CO-58	L.T. 5. E-02		04/25		4
					FE-59	L.T. 1. E-01		04/25		4
					CO-60	L.T. 4. E-02		04/25		4
					ZN-65	L.T. 1. E-01		04/25		4

TELEDYNE ISOTOPPFS
REPORT OF ANALYSIS

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WORK ORDER NUMBER 3-0626
CUSTOMER P.O. NUMBER 04-0029403-012
DATE RECEIVED 03/25/92
DELIVERY DATE 04/27/92

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

SOIL

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	STOP TIME	NUCLIDE	ACTIVITY (PCT/GM DRY)	NUCL-UNIT-% U/M #	MID-COUNT DATE	VOLUME - UNITS ASH-WGHT-% #	LAB.
70859	90009 BB050895C		03/18	0830	ZR-95	L.T. 7. E-02		04/25		4
					RU-103	L.T. 7. E-02		04/25		4
					RU-106	L.T. 3. E-01		04/25		4
					I-131	L.T. 1. E 00		04/25		4
					CS-134	L.T. 5. E-02		04/25		4
					CS-137	1.35+-0.40E-01		04/25		4
					BA-140	L.T. 4. E-01		04/25		4
					CE-141	L.T. 1. E-01		04/25		4
					CE-144	L.T. 3. E-01		04/25		4
					RA-226	2.27+-0.68E 00		04/25		4
					TH-228	1.44+-0.14E 00		04/25		4
					H-3	L.T. 2. E-02		09/14		5
70860	90014 BB050065B		03/18	0840	PU-238	L.T. 3. E-02		05/16		6
					PU-239	L.T. 8. E-03		05/16		6
70861	90015 BB050065C		03/18	0840	BE-7	L.T. 4. E-01		04/25		4
					K-40	2.32+-0.23E 01		04/25		4
					MN-54	L.T. 3. E-02		04/25		4
					CO-58	L.T. 4. E-02		04/25		4
					FE-59	L.T. 1. E-01		04/25		4
					CO-60	L.T. 3. E-02		04/25		4
					ZN-65	L.T. 8. E-02		04/25		4
					ZR-95	L.T. 6. E-02		04/25		4
					RU-103	L.T. 5. E-02		04/25		4
					RU-106	L.T. 3. E-01		04/25		4
					I-131	L.T. 4. E-01		04/25		4
					CS-134	L.T. 4. E-02		04/25		4
					CS-137	1.09+-0.23E-01		04/25		4
					BA-140	L.T. 2. E-01		04/25		4
					CE-141	L.T. 1. E-01		04/25		4
					CE-144	L.T. 2. E-01		04/25		4
					RA-226	5.26+-0.59E 00		04/25		4

The H-3 result for TI#70859 has been revised based upon reanalysis of the sample using an analytical method considered to be more reliable for soil samples. In units of pCi/l the result was L.T. 2. E.02.

McLaren 9-30-92

TELEDYNE ES

REPORT OF ANALYSIS

WORK ORDER NUMBER
3-0626

CUSTOMER P.O. NUMBER
04-0029403-012

DATE RECEIVED
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DELIVERY DATE
04/27/92

RUN DATE
06/10/92

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

TELEDYNE SAMPLE NUMBER

CUSTOMER'S IDENTIFICATION

STA NUM

COLLECTION-DATE
START DATE

STOP TIME

NUCLIDE

ACTIVITY (PCI/CM DRY)

NUCL-UNITY-X U/M

MFD-COUNT TIME DATE

VOLUME - UNITS
ASH-WGHT-%

LAB.

SOIL

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/CM DRY)	NUCL-UNITY-X U/M	MFD-COUNT TIME DATE	VOLUME - UNITS ASH-WGHT-%	LAB.
70861	90015 88050065C		03/18 0840		TH-228 H-3	9.31+-0.93E-01 1.3 +-0.7 E-02		04/25 06/02		4 5
70862	90020 88050750		03/18 0900		PU-238 PU-239	L.T. 6. F-03 L.T. 6. F-03		05/13 05/13		6 6
70863	90021 88050575C		03/18 0900		Rf-7 K-40 Mn-54 Co-58 Fe-59 Co-60 Zn-65 Zr-95 Ru-103 Ru-106 I-131 Cs-134 Cs-137 Ba-140 Ce-141 Ce-144 Ra-226 Th-228 H-3	L.T. 5. F-01 2.48+-0.25E 01 L.T. 4. E-02 L.T. 5. E-02 L.T. 1. E-01 L.T. 4. E-02 L.T. 1. E-01 L.T. 6. F-02 L.T. 6. E-02 L.T. 3. F-01 L.T. 9. E-01 L.T. 5. E-02 5.23+-3.01E-02 L.T. 3. E-01 L.T. 1. E-01 L.T. 3. E-01 2.06+-0.64E 00 1.24+-0.12E 00 L.T. 1. E-02		04/25 04/25 04/25 04/25 04/25 04/25 04/25 04/25 04/25 04/25 04/25 04/25 04/25 04/25 04/25 04/25 04/25 04/25 04/25 04/25 04/25 06/05		4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 5
70864	90026 88050775B		03/18 0930		PU-238 PU-239	L.T. 8. E-03 L.T. 1. E-02		05/13 05/13		6 6

TELEDYNE 1 PES

RUN DATE 06/10/97

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REPORT OF ANALYSIS

WORK ORDER NUMBER 3-0626
CUSTOMER P.O. NUMBER 04-0029A03-C12
DATE RECEIVED 03/25/97
DELIVERY DATE 04/27/97

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

SOIL

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	STOP DATE	TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-X U/M	DATE	MID-COUNT TIME	VOLUME - UNITS ASH-WGHT-X	LAB.
70865	90027 88050775C		03/18	0930		BE-7	L.T. 5. E-01		04/25			4
						K-40	2.41+-0.24E 01		04/25			4
						MN-54	L.T. 4. E-02		04/25			4
						CO-58	L.T. 5. E-02		04/25			4
						FE-59	L.T. 1. E-01		04/25			4
						CD-60	L.T. 4. E-02		04/25			4
						ZN-65	L.T. 1. E-01		04/25			4
						ZR-95	L.T. 7. E-02		04/25			4
						RU-103	L.T. 7. E-02		04/25			4
						RU-106	L.T. 4. E-01		04/25			4
						I-131	L.T. 1. E 00		04/25			4
						CS-134	L.T. 5. E-02		04/25			4
						CS-137	1.55+-0.36E-01		04/25			4
						BA-140	L.T. 3. E-01		04/25			4
						CE-141	L.T. 1. E-01		04/25			4
						CE-144	L.T. 3. E-01		04/25			4
						RA-226	2.37+-0.64E 00		04/25			4
						TH-228	1.33+-0.13E 00		04/25			4
						H-3	L.T. 2. E-02		06/05			5
70866	90031 88000045B		03/18	0815		PU-238	L.T. 2. E-02		05/13			5
						PU-239	L.T. 2. E-02		05/13			6
70867	90052 88120065B		03/18	1025		PU-238	L.T. 7. E-02		05/14			6
						PU-239	L.T. 2. E-02		05/14			6
70868	90053 88120065C		03/18	1025		BE-7	L.T. 4. E-01		04/25			4
						K-40	2.32+-0.23E 01		04/25			4
						MN-54	L.T. 3. E-02		04/25			4
						CO-58	L.T. 4. E-02		04/25			4
						FE-59	L.T. 1. E-01		04/25			4
						CO-60	L.T. 3. E-02		04/25			4
						ZN-65	L.T. 1. E-01		04/25			4

VOLATILE ORGANIC COMPOUNDS

VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-47

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB06007SE
 Sample Number: 89161

Matrix: Soil

Date Sampled: 3/17/92
 Date Analyzed: 3/21/92

Date Received: 3/18/92
 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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745- 47

Page 2 of 2

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

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	104	70 - 121
Toluene-D8	111	81 - 117
4-Bromofluorobenzene	81	74 - 121

COMMENTS:

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

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

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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-56

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB06013SE
 Sample Number: 89179

Matrix: Soil

Date Sampled: 3/17/92
 Date Analyzed: 3/23/92

Date Received: 3/18/92
 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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745- 56

Page 2 of 2

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

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	98	70 - 121
Toluene-D8	114	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: 4/01/92
 Cheryl Matterson, Associate Chemist

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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-44

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB06017SE
 Sample Number: 89155

Matrix: Soil

Date Sampled: 3/17/92
 Date Analyzed: 3/21/92

Date Received: 3/18/92
 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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745- 44

Page 2 of 2

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

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	101	70 - 121
Toluene-D8	104	81 - 117
4-Bromofluorobenzene	85	74 - 121

COMMENTS:

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

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

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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-53

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB06066SE
 Sample Number: 89173

Matrix: Soil

Date Sampled: 3/17/92
 Date Analyzed: 3/23/92

Date Received: 3/18/92
 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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745- 53

Page 2 of 2

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

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	101	70 - 121
Toluene-D8	107	81 - 117
4-Bromofluorobenzene	101	74 - 121

COMMENTS:

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

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

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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-50

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB06092SE
 Sample Number: 89167

Matrix: Soil

Date Sampled: 3/17/92
 Date Analyzed: 3/21/92

Date Received: 3/18/92
 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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745- 50

Page 2 of 2

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

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	101	70 - 121
Toluene-D8	97	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: 4/01/92
 Cheryl Matterson, Associate Chemist

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



SEMI-VOLATILE ORGANIC COMPOUNDS

SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-46

Page 1 of 3

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB06007SD
 Sample Number: 89160

Matrix: Soil

Date Sampled: 3/17/92
 Date Extracted: 3/20/92

Date Received: 3/18/92
 Date Analyzed: 3/27/92

Batch Number: 920320-0301

Dilution Factor: 1

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



SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}

Preparation Method: EPA 3550

Lab Project-Sample ID: 5745-46

Page 2 of 3

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



SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}

Preparation Method: EPA 3550

Lab Project-Sample ID: 5745-46

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	95	25 - 121
Phenol-d5.....	93	24 - 113
Nitrobenzene-d5.....	84	23 - 120
2-Fluorobiphenyl.....	87	30 - 115
2,4,6-Tribromophenol.....	121	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: 4/01/92

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-55

Page 1 of 3

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB06013SD
Sample Number: 89178

Matrix: Soil

Date Sampled: 3/17/92
Date Extracted: 3/20/92

Date Received: 3/18/92
Date Analyzed: 3/26/92

Batch Number: 920320-0301

Dilution Factor: 1

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-55

Page 2 of 3

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-55

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	110	25 - 121
Phenol-d5.....	106	24 - 113
Nitrobenzene-d5.....	100	23 - 120
2-Fluorobiphenyl.....	108	30 - 115
2,4,6-Tribromophenol.....	104	19 - 122
Terphenyl-d14.....	115	18 - 137

COMMENTS:

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

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

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-43

Page 1 of 3

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB06017SD
 Sample Number: 89154

Matrix: Soil

Date Sampled: 3/17/92
 Date Extracted: 3/20/92

Date Received: 3/18/92
 Date Analyzed: 3/27/92

Batch Number: 920320-0301

Dilution Factor: 1

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



SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}

Preparation Method: EPA 3550

Lab Project-Sample ID: 5745-43

Page 2 of 3

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-43

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	75	25 - 121
Phenol-d5.....	77	24 - 113
Nitrobenzene-d5.....	70	23 - 120
2-Fluorobiphenyl.....	76	30 - 115
2,4,6-Tribromophenol.....	102	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 Date: 4/01/92
Cheryl Matterson, Associate Chemist

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-52

Page 1 of 3

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB06066SD
Sample Number: 89172

Matrix: Soil

Date Sampled: 3/17/92
Date Extracted: 3/20/92

Date Received: 3/18/92
Date Analyzed: 3/26/92

Batch Number: 920320-0301

Dilution Factor: 1

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-52

Page 2 of 3

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-52

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	106	25 - 121
Phenol-d5.....	103	24 - 113
Nitrobenzene-d5.....	99	23 - 120
2-Fluorobiphenyl.....	105	30 - 115
2,4,6-Tribromophenol.....	99	19 - 122
Terphenyl-d14.....	115	18 - 137

COMMENTS:

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

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

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-49

Page 1 of 3

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB06092SD
 Sample Number: 89166

Matrix: Soil

Date Sampled: 3/17/92
 Date Extracted: 3/20/92

Date Received: 3/18/92
 Date Analyzed: 3/27/92

Batch Number: 920320-0301

Dilution Factor: 1

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-49

Page 2 of 3

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-49

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	89	25 - 121
Phenol-d5.....	91	24 - 113
Nitrobenzene-d5.....	85	23 - 120
2-Fluorobiphenyl.....	87	30 - 115
2,4,6-Tribromophenol.....	107	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 Loren Date: 4/01/92
Cheryl Matterson, Associate Chemist

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



METALS

PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5745-48

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB06007SF
Sample Number: 89162

Matrix: Soil

Date Sampled: 3/17/92
Date Digested: 3/19/92 {b}

Date Received: 3/18/92
Batch Number: 920319-1106 {b}

METAL (SYMBOL)/EPA METHOD	ANALYTE CONCENTRATION {c} mg/Kg (ppm)	DILUTION FACTOR	REPORTING LIMIT mg/Kg (ppm)	DATE ANALYZED
Antimony (Sb)/6010.....		1	2.5	3/20/92
Arsenic (As)/7060.....	5.5	5	2.5	3/24/92
Beryllium (Be)/6010.....	.88	1	.25	3/20/92
Cadmium (Cd)/6010.....		1	.50	3/20/92
Chromium (Cr)/6010.....	20.	1	1.0	3/20/92
Copper (Cu)/6010.....	20.	1	1.0	3/20/92
Lead (Pb)/6010.....	17.	1	2.5	3/20/92
Mercury (Hg)/7471.....		1	.25	3/21/92
Nickel (Ni)/6010.....	15.	1	1.0	3/20/92
Selenium (Se)/7740.....		1	.25	3/23/92
Silver (Ag)/6010.....		1	1.0	3/20/92
Thallium (Tl)/7841.....		1	.50	3/23/92
Zinc (Zn)/6010.....	80.	1	1.0	3/20/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/19/92, Batch # 920319-1104; and Hg was digested on 3/19/92, Batch # 920319-1102 .
- {c} No entry in the "Concentration" means the metal is not detected at all.
- {d} The sample for Arsenic was diluted 5 fold to bring target analyte within linear working range.

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

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



PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5745-57

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB06013SF
Sample Number: 89180

Matrix: Soil

Date Sampled: 3/17/92
Date Digested: 3/19/92 {b}

Date Received: 3/18/92
Batch Number: 920319-1106 {b}

METAL (SYMBOL)/EPA METHOD	ANALYTE CONCENTRATION {c} mg/Kg (ppm)	DILUTION FACTOR	REPORTING LIMIT mg/Kg (ppm)	DATE ANALYZED
Antimony (Sb)/6010.....		1	2.5	3/20/92
Arsenic (As)/7060.....	4.6	4	2.0	3/24/92
Beryllium (Be)/6010.....	.77	1	.25	3/20/92
Cadmium (Cd)/6010.....		1	.50	3/20/92
Chromium (Cr)/6010.....	23.	1	1.0	3/20/92
Copper (Cu)/6010.....	22.	1	1.0	3/20/92
Lead (Pb)/6010.....	13.	1	2.5	3/20/92
Mercury (Hg)/7471.....		1	.25	3/21/92
Nickel (Ni)/6010.....	23.	1	1.0	3/20/92
Selenium (Se)/7740.....		1	.25	3/23/92
Silver (Ag)/6010.....		1	1.0	3/20/92
Thallium (Tl)/7841.....		1	.50	3/23/92
Zinc (Zn)/6010.....	72.	1	1.0	3/20/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/19/92, Batch # 920319-1104; and Hg was digested on 3/19/92, Batch # 920319-1102 .
- {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 LorcM Date: 4/01/92
Cheryl Matterson, Association Chemist

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



PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5745-45

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB06017SF
Sample Number: 89156

Matrix: Soil

Date Sampled: 3/17/92
Date Digested: 3/19/92 {b}

Date Received: 3/18/92
Batch Number: 920319-1106 {b}

METAL (SYMBOL)/EPA METHOD	ANALYTE CONCENTRATION {c} mg/Kg (ppm)	DILUTION FACTOR	REPORTING LIMIT mg/Kg (ppm)	DATE ANALYZED
Antimony (Sb)/6010.....		1	2.5	3/20/92
Arsenic (As)/7060.....	3.4	5	2.5	3/24/92
Beryllium (Be)/6010.....	.80	1	.25	3/20/92
Cadmium (Cd)/6010.....		1	.50	3/20/92
Chromium (Cr)/6010.....	19.	1	1.0	3/20/92
Copper (Cu)/6010.....	20.	1	1.0	3/20/92
Lead (Pb)/6010.....	16.	1	2.5	3/20/92
Mercury (Hg)/7471.....		1	.25	3/21/92
Nickel (Ni)/6010.....	16.	1	1.0	3/20/92
Selenium (Se)/7740.....		1	.25	3/23/92
Silver (Ag)/6010.....		1	1.0	3/20/92
Thallium (Tl)/7841.....		1	.50	3/23/92
Zinc (Zn)/6010.....	73.	1	1.0	3/20/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/19/92, Batch # 920319-1104; and Hg was digested on 3/19/92, Batch # 920319-1102 .
- {c} No entry in the "Concentration" means the metal is not detected at all.
- {d} The sample for Arsenic was diluted 5 fold to bring target analyte within linear working range.

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

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



PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5745-54

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB06066SF
Sample Number: 89174

Matrix: Soil

Date Sampled: 3/17/92
Date Digested: 3/19/92 {b}

Date Received: 3/18/92
Batch Number: 920319-1106 {b}

METAL (SYMBOL)/EPA METHOD	ANALYTE CONCENTRATION {c} mg/Kg (ppm)	DILUTION FACTOR	REPORTING LIMIT mg/Kg (ppm)	DATE ANALYZED
Antimony (Sb)/6010.....		1	2.5	3/20/92
Arsenic (As)/7060.....	1.4	1	.50	3/24/92
Beryllium (Be)/6010.....	.83	1	.25	3/20/92
Cadmium (Cd)/6010.....		1	.50	3/20/92
Chromium (Cr)/6010.....	15.	1	1.0	3/20/92
Copper (Cu)/6010.....	18.	1	1.0	3/20/92
Lead (Pb)/6010.....	15.	1	2.5	3/20/92
Mercury (Hg)/7471.....		1	.25	3/21/92
Nickel (Ni)/6010.....	10.	1	1.0	3/20/92
Selenium (Se)/7740.....		1	.25	3/23/92
Silver (Ag)/6010.....		1	1.0	3/20/92
Thallium (Tl)/7841.....		1	.50	3/23/92
Zinc (Zn)/6010.....	53.	1	1.0	3/20/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/19/92, Batch # 920319-1104; and Hg was digested on 3/19/92, Batch # 920319-1102 .
- {c} No entry in the "Concentration" means the metal is not detected at all.

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

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



PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5745-51

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB06092SF
Sample Number: 89168

Matrix: Soil

Date Sampled: 3/17/92
Date Digested: 3/19/92 {b}

Date Received: 3/18/92
Batch Number: 920319-1106 {b}

METAL (SYMBOL)/EPA METHOD	ANALYTE CONCENTRATION {c} mg/Kg (ppm)	DILUTION FACTOR	REPORTING LIMIT mg/Kg (ppm)	DATE ANALYZED
Antimony (Sb)/6010.....		1	2.5	3/20/92
Arsenic (As)/7060.....	3.2	5	2.5	3/24/92
Beryllium (Be)/6010.....	.72	1	.25	3/20/92
Cadmium (Cd)/6010.....		1	.50	3/20/92
Chromium (Cr)/6010.....	14.	1	1.0	3/20/92
Copper (Cu)/6010.....	19.	1	1.0	3/20/92
Lead (Pb)/6010.....	15.	1	2.5	3/20/92
Mercury (Hg)/7471.....		1	.25	3/21/92
Nickel (Ni)/6010.....	9.6	1	1.0	3/20/92
Selenium (Se)/7740.....		1	.25	3/23/92
Silver (Ag)/6010.....		1	1.0	3/20/92
Thallium (Tl)/7841.....		1	.50	3/23/92
Zinc (Zn)/6010.....	54.	1	1.0	3/20/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/19/92, Batch # 920319-1104; and Hg was digested on 3/19/92, Batch # 920319-1102 .
- {c} No entry in the "Concentration" means the metal is not detected at all.
- {d} The sample for Arsenic was diluted 5 fold to bring target analyte within linear working range.

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

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



RADIONUCLIDES

Table: Results of the analyses for iodine-129 and strontium-90 in thirty-five (35) soil samples.

Sample ID Number	Sample Description	Collection Date	Lab Code	Conc. pci/gwet		Conc. pci/gdry	
				I-129	Date Analyzed	Sr-90	Date Analyzed
90140	M4SA	03/17/92	SPS-1908	<0.2	05/20	0.06±0.01	06/03
88901	BB13024SA	03/17/92	1909	<0.2	05/20	0.01±0.01	05/14
88907	BB13037SA	03/17/92	1910	<0.2	05/21	0.01±0.01	05/14
88913	BB13039SA	03/17/92	1911	<0.2	05/21	0.01±0.01	05/15
88919	BB13011SA	03/17/92	1912	<0.2	05/22	0.01±0.01	06/03
88925	BB13010SA	03/17/92	1913	<0.2	05/22	<0.01	06/09
89151	BB06017SA	03/17/92	1914	<0.2	05/22	0.01±0.01	05/14
89157	BB06007SA	03/17/92	1915	<0.3	06/09	<0.01	05/14
89163	BB06092SA	03/17/92	1916	<0.2	05/26	<0.01	05/14
89169	BB06066SA	03/17/92	1917	<0.2	05/27	<0.01	05/14
89175	BB06013SA	03/17/92	1918	<0.2	05/28	0.01±0.01	05/14
90101	BB03025SA	03/17/92	1919	<0.2	06/01	0.09±0.01	06/09
90107	BB03092SA	03/17/92	1920	<0.2	06/01	0.04±0.01	05/14
90113	BB03079SA	03/17/92	1921	<0.2	06/01	0.03±0.01	06/09
90119	BB03017SA	03/17/92	1922	<0.3	06/09	0.05±0.01	06/09
90125	BB03005SA	03/17/92	1923	<0.2	06/02	0.06±0.01	05/15
90001	BB05003SA	03/18/92	1924	<0.2	06/02	0.02±0.01	06/09
90007	BB05089SA	03/18/92	1925	<0.2	06/02	0.02±0.01	05/22
90013	BB05006SA	03/18/92	1926	<0.2	06/03	0.02±0.01	05/22
90019	BB05057SA	03/18/92	1927	<0.2	06/04	0.03±0.01	05/22
90025	BB05077SA	03/18/92	1928	<0.2	06/04	0.06±0.01	05/22
90051	BB12006SA	03/18/92	1929	<0.2	06/05	0.03±0.01	05/22
90057	BB12019SA	03/18/92	1930	<0.2	06/05	0.04±0.01	05/22
90063	BB12023SA	03/18/92	1931	<0.3	06/05	0.02±0.01	05/22
90069	BB12020SA	03/18/92	1932	<0.2	06/08	0.03±0.01	05/22
90075	BB12003SA	03/18/92	1933	<0.2	06/08	0.01±0.01	05/22
90251	BB01056SA	03/18/92	1934	<0.3	06/08	0.04±0.01	06/03
90263	BB01001SA	03/18/92	1935	<0.3	06/10	<0.01	06/03
90269	BB01027SA	03/18/92	1936	<0.3	06/10	<0.01	06/09
90275	BB01038SA	03/18/92	1937	<0.2	06/10	0.02±0.01	06/03
90282	BB00004SA	03/18/92	1938	<0.3	06/10	0.01±0.01	06/03
89251	BB11018SA	03/18/92	1939	<0.3	06/10	0.02±0.01	06/03
89257	BB11061SA	03/18/92	1940	<0.3	06/11	<0.01	06/03
89263	BB11057SA	03/18/92	1941	<0.2	06/11	0.02±0.01	06/09
89269	BB11032SA	03/18/92	1942	<0.3	04/14	0.02±0.01	06/09

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 06/08/92

PAGE 1

WORK ORDER NUMBER 3-0625

DATE RECEIVED 03/25/92

DELIVERY DATE 04/27/92

CUSTOMER P.O. NUMBER 04-0029403-012

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

SOIL

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	STOP DATE	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	VOLUME - UNITS ASH-WGHT-% *	LAB.
70839	89152 88060175B		03/17	0815	PU-238	L.T. 1. E-02		05/09		6
					PU-239	L.T. 4. E-03		05/09		6
70840	89153 88060175C		03/17	0815	BE-7	L.T. 3. E-01		04/13		4
					K-40	2.48+-0.25E 01		04/13		4
					MN-54	L.T. 3. E-02		04/13		4
					CO-58	L.T. 3. E-02		04/13		4
					FE-59	L.T. 9. E-02		04/13		4
					CO-60	L.T. 3. E-02		04/13		4
					ZN-65	L.T. 7. E-02		04/13		4
					ZR-95	L.T. 4. E-02		04/13		4
					RU-103	L.T. 4. E-02		04/13		4
					RU-106	L.T. 3. E-01		04/13		4
					I-131	L.T. 3. E-01		04/13		4
					CS-134	L.T. 4. E-02		04/13		4
					CS-137	L.T. 3. E-02		04/13		4
					BA-140	L.T. 2. E-01		04/13		4
					CE-141	L.T. 7. E-02		04/13		4
					CE-144	L.T. 2. E-01		04/13		4
					RA-226	2.44+-0.46E 00		04/13		4
					TH-228	1.38+-0.14E 00		04/13		4
					H-3	NOT ANALYZED				5
70841	89158 88060075B		03/17	0840	PU-238	L.T. 2. E-02		05/09		6
					PU-239	L.T. 4. E-03		05/09		6
70842	89159 88060075C		03/17	0840	BE-7	L.T. 6. E-01		04/25		4
					K-40	2.26+-0.23E 01		04/25		4
					MN-54	L.T. 4. E-02		04/25		4
					CO-58	L.T. 6. E-02		04/25		4
					FE-59	L.T. 2. E-01		04/25		4
					CO-60	L.T. 5. E-02		04/25		4
					ZN-65	L.T. 1. E-01		04/25		4

TI#70840 (and its duplicate TI#70854) was probably dried in its entirety by the gamma lab before an aliquot was removed for the tritium lab.

TELEDYNE ISOTOPES
REPORT OF ANALYSIS

REVISED 11/04/92
REVISED 07/08/92
RUN DATE 06/08/92

PAGE 2

WORK ORDER NUMBER 3-0625
CUSTOMER P.O. NUMBER 04-0029403-012
DATE RECEIVED 03/25/92
DELIVERY DATE 04/27/92

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

SOIL

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	STOP DATE	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M #	MID-COUNT TIME DATE	VOLUME - UNITS ASH-WGHT-%	LAR.
70842	89159 88060075C		03/17 0840		ZR-95	L.T. 8. E-02		04/25		4
					RU-103	L.T. 9. E-02		04/25		4
					RU-106	L.T. 4. E-01		04/25		4
					I-131	L.T. 1. E 00		04/25		4
					CS-134	L.T. 6. E-02		04/25		4
					CS-137	L.T. 5. E-02		04/25		4
					BA-140	L.T. 4. E-01		04/25		4
					CE-141	L.T. 2. E-01		04/25		4
					CE-144	L.T. 4. E-01		04/25		4
					RA-226	1.58+-0.80E 00		04/25		4
					TH-228	1.34+-0.13E 00		04/25		4
					H-3	3.9 +-1.4 E-02		09/29		5
70843	89164 88060925B		03/17 0850		PU-238	L.T. 6. E-03		05/09		6
					PU-239	L.T. 6. E-03		05/09		6
70844	89165 88060925C		03/17 0850		BE-7	L.T. 4. E-01		04/25		4
					K-40	2.57+-0.26E 01		04/25		4
					MN-54	L.T. 4. E-02		04/25		4
					CO-58	L.T. 4. E-02		04/25		4
					FE-59	L.T. 1. E-01		04/25		4
					CO-60	L.T. 4. E-02		04/25		4
					ZN-65	L.T. 1. E-01		04/25		4
					ZP-95	L.T. 5. E-02		04/25		4
					RU-103	L.T. 6. E-02		04/25		4
					RU-106	L.T. 3. E-01		04/25		4
					I-131	L.T. 9. E-01		04/25		4
					CS-134	L.T. 5. E-02		04/25		4
					CS-137	L.T. 4. E-02		04/25		4
					BA-140	L.T. 3. E-01		04/25		4
					CE-141	L.T. 1. E-01		04/25		4
					CE-144	L.T. 2. E-01		04/25		4
					RA-226	2.38+-0.48E 00		04/25		4

The H-3 result for II#70842 has been revised. The original result was incorrectly calculated. *Production 7-6-92*

The H-3 result for II#70842 has been revised based upon reanalysis of the sample using an analytical method considered to be more reliable for soil samples. In units of pCi/l the result was 3.8 ± 1.4 E 02. *Production 11-4-92*

TELEDYNE ISOTOPES
REPORT OF ANALYSIS

REVISED 09/30/92
REVISED 07/08/92
FUN DATE 06/08/92

PAGE 3

WORK ORDER NUMBER 3-0625
CUSTOMER P.O. NUMBER 04-0029403-012
DATE RECEIVED 03/25/92
DELIVERY DATE 04/27/92

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		NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT		VOLUME - UNITS ASH-WGHT-% *	L.A.R.
			START DATE	STOP DATE				TIME	DATE		
70844	89165 88060925C		03/17	0850	TH-228 H-3	1.69+-0.17E 00 1.3 +-0.7 E-02		04/25 06/02		4 5	
70845	89170 88060665B		03/17	0905	PU-238 PU-239	L.T. 1. E-02 L.T. 9. E-03		05/09 05/09		6 6	
70846	89171 88060665C		03/17	0905	RE-7 K-40 MN-54 CO-58 FE-59 CO-60 ZN-65 ZR-95 RU-103 RU-106 I-131 CS-134 CS-137 BA-140 CE-141 CE-144 RA-226 TH-228 H-3	L.T. 5. E-01 2.39+-0.24E 01 L.T. 4. E-02 L.T. 5. E-02 L.T. 1. E-01 L.T. 4. E-02 L.T. 1. E-01 L.T. 7. E-02 L.T. 7. E-02 L.T. 3. E-01 L.T. 1. E 00 L.T. 5. E-02 L.T. 4. E-02 L.T. 3. E-01 L.T. 1. E-01 L.T. 3. E-01 2.24+-0.55E 00 1.38+-0.14E 00 L.T. 3. E-02		04/25 04/25 04/25 04/25 04/25 04/25 04/25 04/25 04/25 04/25 04/25 04/25 04/25 04/25 04/25 04/25 04/25 04/25 09/14		4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 5	
70847	89176 88060135B		03/17	0925	PU-238 PU-239	L.T. 2. E-02 L.T. 1. E-02		05/06 05/06		6 6	

J.M. Martin
9-30-92

The H-3 results for TL#70846 and 70851 have been revised based upon reanalysis of the samples using an analytical method considered to be more reliable for soil samples. In units of pCi/l the results are L.T. 3. E 02 and L.T. 2. E 02 respectively.

The H-3 result for TL#70846 has been revised. The original result was incorrectly calculated.

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

WORK ORDER NUMBER

CUSTOMER P.O. NUMBER

DATE RECEIVED

DELIVERY DATE

3-0625

04-0029403-012

03/25/92

04/27/92

PAGE 4

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	STOP DATE	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M #	MID-COUNT TIME DATE	VOLUME - UNITS ASH-WGHT-%	LAR.
70848	89177 88060135C		03/17	0925	BE-7	L.T. 6. E-01		04/25		4
					K-40	1.99+-0.20E 01		04/25		4
					MN-54	L.T. 5. E-02		04/25		4
					CO-58	L.T. 6. E-02		04/25		4
					FE-59	L.T. 2. E-01		04/25		4
					CO-60	L.T. 5. E-02		04/25		4
					ZN-65	L.T. 1. E-01		04/25		4
					ZR-95	L.T. 7. E-02		04/25		4
					RU-103	L.T. 8. E-02		04/25		4
					RU-106	L.T. 4. E-01		04/25		4
					I-131	L.T. 1. E 00		04/25		4
					CS-134	L.T. 6. E-02		04/25		4
					CS-137	L.T. 5. E-02		04/25		4
					BA-140	L.T. 4. E-01		04/25		4
					CE-141	L.T. 2. E-01		04/25		4
					CE-144	L.T. 4. E-01		04/25		4
					RA-226	1.58+-0.73E 00		04/25		4
					TH-228	1.16+-0.12E 00		04/25		4
					H-3	L.T. 2. E-02		06/02		5
70849	88921 88130115C		03/17	1550	BE-7	L.T. 5. E-01		04/25		4
					K-40	1.94+-0.19E 01		04/25		4
					MN-54	L.T. 4. E-02		04/25		4
					CO-58	L.T. 5. E-02		04/25		4
					FE-59	L.T. 1. E-01		04/25		4
					CO-60	L.T. 4. E-02		04/25		4
					ZN-65	L.T. 1. E-01		04/25		4
					ZR-95	L.T. 7. E-02		04/25		4
					RU-103	L.T. 7. E-02		04/25		4
					RU-106	L.T. 3. E-01		04/25		4
					I-131	L.T. 1. E 00		04/25		4
					CS-134	L.T. 5. E-02		04/25		4
					CS-137	9.01+-3.92E-02		04/25		4

VOLATILE ORGANIC COMPOUNDS

VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-61

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB07012SE
 Sample Number: 88973

Matrix: Soil

Date Sampled: 3/19/92
 Date Analyzed: 3/26/92

Date Received: 3/20/92
 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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758- 61

Page 2 of 2

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

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	97	70 - 121
Toluene-D8	108	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 Loren Date: 4/09/92
 Cheryl Matterson, Associate Chemist

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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-52

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB07035SE
 Sample Number: 88955

Matrix: Soil

Date Sampled: 3/19/92
 Date Analyzed: 3/25/92

Date Received: 3/20/92
 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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758- 52

Page 2 of 2

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

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	103	70 - 121
Toluene-D8	113	81 - 117
4-Bromofluorobenzene	92	74 - 121

COMMENTS:

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

Approved By: Nancy McDonald for CM Date: 4/09/92
 Cheryl Matterson, Associate Chemist

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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-55

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB07036SE
 Sample Number: 88961

Matrix: Soil

Date Sampled: 3/19/92
 Date Analyzed: 3/25/92

Date Received: 3/20/92
 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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758- 55

Page 2 of 2

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

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	104	70 - 121
Toluene-D8	103	81 - 117
4-Bromofluorobenzene	96	74 - 121

COMMENTS:

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

Approved By: Nancy McDonald for cm Date: 4/09/92
 Cheryl Matterson, Associate Chemist

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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-64

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB07038SE
 Sample Number: 88979

Matrix: Soil

Date Sampled: 3/19/92
 Date Analyzed: 3/26/92

Date Received: 3/20/92
 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.....	1	5
2-Hexanone.....		25
Tetrachloroethene.....		5
Chlorobenzene.....		5
Ethylbenzene.....	1	5
m & p-Xylene.....		5
o-Xylene.....		5
Styrene.....		5



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758- 64

Page 2 of 2

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

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	99	70 - 121
Toluene-D8	104	81 - 117
4-Bromofluorobenzene	88	74 - 121

COMMENTS:

- {a} Includes all compounds as listed in Table 2 of SW-846, 3rd Edition for Method 8240.
- {b} Additional compounds.
- {c} Concentrations lower than the Reporting Limits are estimated values. No entry in "Analyte Concentration" means the compound is not detected at all.
- {d} The results reported for Toluene and Ethylbenzene are estimated concentrations below the established reporting limits.

Approved By: Nancy McDonald for CM Date: 4/09/92
 Cheryl Matterson, Associate Chemist

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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-58

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB07058SE
 Sample Number: 88967

Matrix: Soil

Date Sampled: 3/19/92
 Date Analyzed: 3/25/92

Date Received: 3/20/92
 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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758- 58

Page 2 of 2

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
1,1,2,2-Tetrachloroethane.....		5
1,3-Dichlorobenzene {b}.....		5
1,4-Dichlorobenzene {b}.....		5
1,2-Dichlorobenzene {b}.....		5
SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	100	70 - 121
Toluene-D8	111	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: 4/09/92
 Cheryl Matterson, Associate Chemist

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



SEMI-VOLATILE ORGANIC COMPOUNDS

SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-60

Page 1 of 3

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB07012SD
 Sample Number: 88972

Matrix: Soil

Date Sampled: 3/19/92
 Date Extracted: 3/23/92

Date Received: 3/20/92
 Date Analyzed: 4/01/92

Batch Number: 920323-2602

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



SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}

Preparation Method: EPA 3550

Lab Project-Sample ID: 5758-60

Page 2 of 3

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.....	370	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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-60

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	81	25 - 121
Phenol-d5.....	86	24 - 113
Nitrobenzene-d5.....	78	23 - 120
2-Fluorobiphenyl.....	92	30 - 115
2,4,6-Tribromophenol.....	106	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 Date: 4/08/92
Cheryl Matterson, Associate Chemist

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-51

Page 1 of 3

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB07035SD
 Sample Number: 88954

Matrix: Soil

Date Sampled: 3/19/92
 Date Extracted: 3/23/92

Date Received: 3/20/92
 Date Analyzed: 4/01/92

Batch Number: 920323-2601

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-51

Page 2 of 3

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.....	3100	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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-51

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	56	25 - 121
Phenol-d5.....	70	24 - 113
Nitrobenzene-d5.....	55	23 - 120
2-Fluorobiphenyl.....	77	30 - 115
2,4,6-Tribromophenol.....	111	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 Loren Date: 4/08/92
Cheryl Matterson, Associate Chemist

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-54

Page 1 of 3

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB07036SD
Sample Number: 88960

Matrix: Soil

Date Sampled: 3/19/92
Date Extracted: 3/23/92

Date Received: 3/20/92
Date Analyzed: 4/03/92

Batch Number: 920323-2601

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-54

Page 2 of 3

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.....	5800	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



SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}

Preparation Method: EPA 3550

Lab Project-Sample ID: 5758-54

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	67	25 - 121
Phenol-d5.....	82	24 - 113
Nitrobenzene-d5.....	75	23 - 120
2-Fluorobiphenyl.....	80	30 - 115
2,4,6-Tribromophenol.....	103	19 - 122
Terphenyl-d14.....	90	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 to bring target analytes within linear working range.

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

Date: 4/10/92

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-63

Page 1 of 3

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB07038SD
 Sample Number: 88978

Matrix: Soil

Date Sampled: 3/19/92
 Date Extracted: 3/23/92

Date Received: 3/20/92
 Date Analyzed: 4/03/92

Batch Number: 920323-2602

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-63

Page 2 of 3

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.....	8100	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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-63

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	63	25 - 121
Phenol-d5.....	81	24 - 113
Nitrobenzene-d5.....	78	23 - 120
2-Fluorobiphenyl.....	85	30 - 115
2,4,6-Tribromophenol.....	110	19 - 122
Terphenyl-d14.....	95	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 to bring target analytes within linear working range.

Approved By: Nancy McDonald for CM Date: 4/10/92
Cheryl Matterson, Associate Chemist

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-57

Page 1 of 3

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB07058SD
Sample Number: 88966

Matrix: Soil

Date Sampled: 3/19/92
Date Extracted: 3/23/92

Date Received: 3/20/92
Date Analyzed: 4/03/92

Batch Number: 920323-2602

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-57

Page 2 of 3

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.....	8500	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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-57

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	51	25 - 121
Phenol-d5.....	87	24 - 113
Nitrobenzene-d5.....	72	23 - 120
2-Fluorobiphenyl.....	79	30 - 115
2,4,6-Tribromophenol.....	106	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.
- {d} The sample was diluted 2 fold to bring target analytes within linear working range.

Approved By: Nancy McDonald Loren Date: 4/10/92
 Cheryl Matterson, Associate Chemist

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



METALS

PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5758-62

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB07012SF
Sample Number: 88974

Matrix: Soil

Date Sampled: 3/19/92
Date Digested: 3/23/92 {b}

Date Received: 3/20/92
Batch Number: 920323-1104 {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	3/26/92
Arsenic (As)/7060.....	3.2	1	.50	3/26/92
Beryllium (Be)/6010.....	.52	1	.25	3/26/92
Cadmium (Cd)/6010.....		1	.50	3/26/92
Chromium (Cr)/6010.....	9.4	1	1.0	3/26/92
Copper (Cu)/6010.....	10.	1	1.0	3/26/92
Lead (Pb)/6010.....	11.	1	2.5	3/26/92
Mercury (Hg)/7471.....		1	.25	3/26/92
Nickel (Ni)/6010.....	6.6	1	1.0	3/26/92
Selenium (Se)/7740.....		1	.25	3/26/92
Silver (Ag)/6010.....		1	1.0	3/26/92
Thallium (Tl)/7841.....		1	.50	3/31/92
Zinc (Zn)/6010.....	46.	1	1.0	3/26/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/23/92, Batch # 920323-1105; and Hg was digested on 3/23/92, Batch # 920323-1106 .
- {c} No entry in the "Concentration" means the metal is not detected at all.

Approved by: Nancy McDonald for CM Date: 4/09/92
Cheryl Matterson, Association Chemist

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



PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5758-53

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB07035SF
Sample Number: 88956

Matrix: Soil

Date Sampled: 3/19/92
Date Digested: 3/23/92 {b}

Date Received: 3/20/92
Batch Number: 920323-1101 {b}

METAL (SYMBOL)/EPA METHOD	ANALYTE CONCENTRATION {c} mg/Kg (ppm)	DILUTION FACTOR	REPORTING LIMIT mg/Kg (ppm)	DATE ANALYZED
Antimony (Sb)/6010.....		1	2.5	3/26/92
Arsenic (As)/7060.....	2.0	1	.50	3/26/92
Beryllium (Be)/6010.....	.48	1	.25	3/26/92
Cadmium (Cd)/6010.....		1	.50	3/26/92
Chromium (Cr)/6010.....	13.	1	1.0	3/26/92
Copper (Cu)/6010.....	13.	1	1.0	3/26/92
Lead (Pb)/6010.....	12.	1	2.5	3/26/92
Mercury (Hg)/7471.....		1	.25	3/26/92
Nickel (Ni)/6010.....	8.7	1	1.0	3/26/92
Selenium (Se)/7740.....	6.4	4	1.0	3/25/92
Silver (Ag)/6010.....		1	1.0	3/26/92
Thallium (Tl)/7841.....		1	.50	3/30/92
Zinc (Zn)/6010.....	48.	1	1.0	3/26/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/23/92, Batch # 920323-1102; and Hg was digested on 3/23/92, Batch # 920323-1103 .
- {c} No entry in the "Concentration" means the metal is not detected at all.
- {d} The sample for Selenium was diluted 4 fold to bring target analyte within linear working range.

Approved by: Nancy McDonald Loren Date: 4/09/92
Cheryl Matterson, Association Chemist

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



PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5758-56

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB07036SF
Sample Number: 88962

Matrix: Soil

Date Sampled: 3/19/92
Date Digested: 3/23/92 {b}

Date Received: 3/20/92
Batch Number: 920323-1101 {b}

METAL (SYMBOL)/EPA METHOD	ANALYTE CONCENTRATION {c} mg/Kg (ppm)	DILUTION FACTOR	REPORTING LIMIT mg/Kg (ppm)	DATE ANALYZED
Antimony (Sb)/6010.....		1	2.5	3/26/92
Arsenic (As)/7060.....	2.9	1	.50	3/26/92
Beryllium (Be)/6010.....	.44	1	.25	3/26/92
Cadmium (Cd)/6010.....		1	.50	3/26/92
Chromium (Cr)/6010.....	9.8	1	1.0	3/26/92
Copper (Cu)/6010.....	11.	1	1.0	3/26/92
Lead (Pb)/6010.....	9.7	1	2.5	3/26/92
Mercury (Hg)/7471.....		1	.25	3/26/92
Nickel (Ni)/6010.....	7.1	1	1.0	3/26/92
Selenium (Se)/7740.....	8.1	4	1.0	3/25/92
Silver (Ag)/6010.....		1	1.0	3/26/92
Thallium (Tl)/7841.....		1	.50	3/30/92
Zinc (Zn)/6010.....	42.	1	1.0	3/26/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/23/92, Batch # 920323-1102; and Hg was digested on 3/23/92, Batch # 920323-1103 .
- {c} No entry in the "Concentration" means the metal is not detected at all.
- {d} The sample for Selenium was diluted 4 fold to bring target analyte within linear working range.

Approved by: Nancy McDonald Loren Date: 4/09/92
Cheryl Matterson, Association Chemist

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



PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5758-65

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB07038SF
Sample Number: 88980

Matrix: Soil

Date Sampled: 3/19/92
Date Digested: 3/23/92 {b}

Date Received: 3/20/92
Batch Number: 920323-1104 {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	3/26/92
Arsenic (As)/7060.....	2.5	1	.50	3/26/92
Beryllium (Be)/6010.....	.50	1	.25	3/26/92
Cadmium (Cd)/6010.....		1	.50	3/26/92
Chromium (Cr)/6010.....	10.	1	1.0	3/26/92
Copper (Cu)/6010.....	9.3	1	1.0	3/26/92
Lead (Pb)/6010.....	12.	1	2.5	3/26/92
Mercury (Hg)/7471.....		1	.25	3/26/92
Nickel (Ni)/6010.....	7.4	1	1.0	3/26/92
Selenium (Se)/7740.....	.35	1	.25	3/26/92
Silver (Ag)/6010.....		1	1.0	3/26/92
Thallium (Tl)/7841.....		1	.50	3/31/92
Zinc (Zn)/6010.....	45.	1	1.0	3/26/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/23/92, Batch # 920323-1105; and Hg was digested on 3/23/92, Batch # 920323-1106 .
- {c} No entry in the "Concentration" means the metal is not detected at all.

Approved by: Nancy McDonald Loren Date: 4/09/92
Cheryl Matterson, Association Chemist

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



PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5758-59

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB07058SF
Sample Number: 88968

Matrix: Soil

Date Sampled: 3/19/92
Date Digested: 3/23/92 {b}

Date Received: 3/20/92
Batch Number: 920323-1101 {b}

METAL (SYMBOL)/EPA METHOD	ANALYTE CONCENTRATION {c} mg/Kg (ppm)	DILUTION FACTOR	REPORTING LIMIT mg/Kg (ppm)	DATE ANALYZED
Antimony (Sb)/6010.....		1	2.5	3/26/92
Arsenic (As)/7060.....	2.4	1	.50	3/26/92
Beryllium (Be)/6010.....	.47	1	.25	3/26/92
Cadmium (Cd)/6010.....		1	.50	3/26/92
Chromium (Cr)/6010.....	8.1	1	1.0	3/26/92
Copper (Cu)/6010.....	11.	1	1.0	3/26/92
Lead (Pb)/6010.....	15.	1	2.5	3/26/92
Mercury (Hg)/7471.....		1	.25	3/26/92
Nickel (Ni)/6010.....	6.7	1	1.0	3/26/92
Selenium (Se)/7740.....	7.2	4	1.0	3/25/92
Silver (Ag)/6010.....		1	1.0	3/26/92
Thallium (Tl)/7841.....		1	.50	3/30/92
Zinc (Zn)/6010.....	41.	1	1.0	3/26/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/23/92, Batch # 920323-1102; and Hg was digested on 3/23/92, Batch # 920323-1103 .
- {c} No entry in the "Concentration" means the metal is not detected at all.
- {d} The sample for Selenium was diluted 4 fold to bring target analyte within linear working range.

Approved by: Nancy McDonald for CM Date: 4/09/92
Cheryl Matterson, Association Chemist

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



RADIONUCLIDES

Table 1. 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		Conc. pCi/g dry	
				I-129	Date Analyzed	Sr-90	Date Analyzed
89275	BB11006SA	03/18/92	SPS-1943	<0.3	06/11	0.02±0.01	06/09
88963	BB07058SA	03/19/92	1944	<0.2	06/12	0.01±0.01	06/10
88969	BB07012SA	03/19/92	1945	<0.3	06/11	0.01±0.01	06/10
88975	BB07038SA	03/19/92	1946	<0.2	06/12	0.02±0.01	06/10
88981	M 7 SA	03/19/92	1947	<0.3	06/12	0.04±0.01	06/10
89651	BB10067SA ₁	03/19/92	1948	<0.3	06/12	0.06±0.01	06/10
89657	BB10078SA	03/19/92	1949	<0.3	06/15	0.05±0.01	06/10
89663	BB10081SA	03/19/92	1950	<0.3	06/16	0.02±0.01	06/10
89669	BB10023SA	03/19/92	1951	<0.3	06/15	0.02±0.01	06/10
89675	BB10029SA	03/19/92	1952	<0.3	06/15	0.02±0.01	07/15
89825	BB02078SA	03/19/92	1953	<0.3	06/16	0.02±0.01	06/10
88801	BB03070SA	03/19/92	1954	<0.2	06/16	0.01±0.01	06/12
88807	BB03032SA	03/19/92	1955	<0.3	06/16	0.02±0.01	06/12
88813	BB03031SA	03/19/92	1956	<0.3	06/16	0.02±0.01	06/20
88819	BB03051SA	03/19/92	1957	<0.3	06/17	0.02±0.01	06/20
88825	BB09100SA	03/19/92	1958	<0.3	06/17	0.02±0.01	06/12
88833	BB00005SA	03/19/92	1959	<0.3	06/17	0.02±0.01	06/12
88834	M 6 SA	03/19/92	1960	<0.3	06/17	0.05±0.01	06/12
88951	BB07035SA	03/19/92	1961	<0.3	06/17	0.02±0.01	06/11
88957	BB07036SA	03/19/92	1962	<0.4	06/17	0.02±0.01	06/11
89351	BB08034SA	03/19/92	1963	<0.3	06/17	<0.01	07/15
89357	BB08035SA	03/19/92	1964	<0.3	06/17	<0.01	06/11
89363	BB08003SA	03/19/92	1965	<0.3	06/18	0.02±0.01	06/11
89369	BB08027SA ₂	03/19/92	1966	<0.3	06/17	0.01±0.01	07/15
89375	BB08038SA	03/19/92	1967	<0.3	06/18	0.02±0.01	06/11
89382	M 5 SA	03/19/92	1968	<0.2	06/18	0.20±0.08	06/11
89801	BB02071SA	03/19/92	1969	<0.3	06/18	0.01±0.01	06/11
89807	BB02045SA	03/19/92	1970	<0.2	06/19	<0.01	06/11
89813	BB02060SA	03/19/92	1971	<0.2	06/19	0.01±0.01	06/11
89819	BB02075SA	03/19/92	1972	<0.3	06/19	0.01±0.01	06/11

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

CUSTOMER P.O. NUMBER

DATE RECEIVED

DELIVERY DATE

PAGE 1

WORK ORDER NUMBER

3-0629

04-0029403-012

03/24/92

04/26/92

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	STOP TIME	NUCLIDE	ACTIVITY (PCI/CM DRY)	NUCL-UNIT-% U/M #	MTD-COUNT TIME	DATE	VOLUME - UNITS ASH-WGHT-% *	LAB.
70949	88964 88070585B		03/19	1230	PU-238	L.T. 6. E-02			04/30		6
					PU-239	L.T. 1. E-02			04/30		6
70950	88965 88070585C		03/19	1230	BE-7	L.T. 6. E-01			05/21		4
					K-40	2.41+-0.24E 01			05/21		4
					MN-54	L.T. 4. E-02			05/21		4
					CO-58	L.T. 6. E-02			05/21		4
					FE-59	L.T. 2. E-01			05/21		4
					CO-60	L.T. 4. E-02			05/21		4
					ZN-65	L.T. 1. E-01			05/21		4
					ZR-95	L.T. 7. E-02			05/21		4
					RU-103	L.T. 9. E-02			05/21		4
					RU-106	L.T. 3. E-01			05/21		4
					I-131	L.T. 7. E 00			05/21		4
					CS-134	L.T. 5. E-02			05/21		4
					CS-137	9.87+-3.61E-02			05/21		4
					BA-140	L.T. 8. E-01			05/21		4
					CE-141	L.T. 2. E-01			05/21		4
					CE-144	L.T. 2. E-01			05/21		4
					RA-226	L.T. 7. E-01			05/21		4
					TH-228	1.04+-0.10E 00			05/21		4
					H-3	2.3 +-1.0 E-02			06/18		5
70951	88970 88070125B		03/19	1240	PU-238	L.T. 6. E-02			05/01		6
					PU-239	L.T. 2. E-02			05/01		6
70952	88971 88070125C		03/19	1240	BE-7	L.T. 5. E-01			05/21		4
					K-40	2.38+-0.24E 01			05/21		4
					MN-54	L.T. 4. E-02			05/21		4
					CO-58	L.T. 5. E-02			05/21		4
					FE-59	L.T. 2. E-01			05/21		4
					CO-60	L.T. 3. E-02			05/21		4
					ZN-65	L.T. 1. E-01			05/21		4

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 06/19/92

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WORK ORDER NUMBER 3-0629
 CUSTOMER P.O. NUMBER 04-0029403-012
 DATE RECEIVED 03/24/92
 DELIVERY DATE 04/26/92

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

SOIL

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE		NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M	DATE RECEIVED	DELIVERY DATE	MID-COUNT TIME	DATE	VOLUME - UNITS ASH-WGHT-%	L.A.R.
			START DATE	STOP DATE									
70952	88971 BB070125C		03/19	1240	ZR-95	L.T. 7. E-02				05/21			4
					RU-103	L.T. 8. E-02				05/21			4
					RU-106	L.T. 3. E-01				05/21			4
					I-131	L.T. 6. E 00				05/21			4
					CS-134	L.T. 4. E-02				05/21			4
					CS-137	4.38+-2.07E-02				05/21			4
					BA-140	L.T. 7. E-01				05/21			4
					CE-141	L.T. 2. E-01				05/21			4
					CE-144	L.T. 2. E-01				05/21			4
					RA-226	1.82+-0.40E 00				05/21			4
					TH-228	1.34+-0.13E 00				05/21			4
					H-3	2.3 +-0.8 E-02				06/18			5
70953	88976 BB070385B		03/19	1300	PU-238	L.T. 2. E-01				05/01			6
					PU-239	L.T. 4. E-02				05/01			6
70954	88977 BB070385C		03/19	1300	BE-7	L.T. 6. E-01				05/21			4
					K-40	2.40+-0.24E 01				05/21			4
					MN-54	L.T. 4. E-02				05/21			4
					CO-58	L.T. 6. E-02				05/21			4
					FE-59	L.T. 2. E-01				05/21			4
					CO-60	L.T. 4. E-02				05/21			4
					ZN-65	L.T. 1. E-01				05/21			4
					ZR-95	L.T. 8. E-02				05/21			4
					RU-103	L.T. 1. E-01				05/21			4
					RU-106	L.T. 4. E-01				05/21			4
					I-131	L.T. 8. E 00				05/21			4
					CS-134	L.T. 5. E-02				05/21			4
					CS-137	1.31+-0.28E-01				05/21			4
					BA-140	L.T. 1. E 00				05/21			4
					CE-141	L.T. 2. E-01				05/21			4
					CE-144	L.T. 2. E-01				05/21			4
					RA-226	1.83+-0.53E 00				05/21			4

TELEDYNE ISOTOPIES

REPORT OF ANALYSIS

RUN DATE 06/19/92

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WORK ORDER NUMBER 3-0633

DATE RECEIVED 03/24/92

DELIVERY DATE 04/26/92

CUSTOMER P.O. NUMBER 04-0029403-012

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

SOIL

TELEDYNE SAMPLE NUMBER

CUSTOMER'S IDENTIFICATION

STA NUM

COLLECTION-DATE

START DATE

STOP DATE

TIME

NUCLIDE

ACTIVITY (PCT/GM DRY)

MUCL-UNIT-% U/M

MID-COUNT TIME

DATE

TIME

ASH-WGHT-%

VOLUME - UNITS

LAB.

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE	START DATE	STOP DATE	TIME	NUCLIDE	ACTIVITY (PCT/GM DRY)	MUCL-UNIT-% U/M	MID-COUNT TIME	DATE	TIME	ASH-WGHT-%	VOLUME - UNITS	LAB.
70941	88835	M6SB MS		03/19	1115		PU-238	L.T. 2. E-01		05/09	05/09			6	
							PU-239	2.6 ±1.1 E-01		05/09	05/09			6	
70942	88836	M6SC MS		03/19	1115		BE-7	L.T. 1. E 00		06/22	06/22			4	
							K-40	2.16±0.22E 01		06/22	06/22			4	
							MN-54	L.T. 5. E-02		06/22	06/22			4	
							CO-58	L.T. 8. E-02		06/22	06/22			4	
							FE-59	L.T. 4. E-01		06/22	06/22			4	
							CO-60	L.T. 4. E-02		06/22	06/22			4	
							ZN-65	L.T. 1. E-01		06/22	06/22			4	
							ZR-95	L.T. 1. E-01		06/22	06/22			4	
							RU-103	L.T. 2. E-01		06/22	06/22			4	
							RU-106	L.T. 4. E-01		06/22	06/22			4	
							I-131	L.T. 1. E 02		06/22	06/22			4	
							CS-134	L.T. 5. E-02		06/22	06/22			4	
							CS-137	6.52±0.65E-01		06/22	06/22			4	
							RA-140	L.T. 7. E 00		06/22	06/22			4	
							CE-141	L.T. 4. E-01		06/22	06/22			4	
							CE-144	L.T. 3. E-01		06/22	06/22			4	
							RA-226	1.48±0.58E 00		06/22	06/22			4	
							TH-228	1.29±0.13E 00		06/22	06/22			4	
							M-3	2.0 ±0.2 E-01		06/15	06/15			5	
70943	88952	8807035SB		03/19	1200		PU-238	L.T. 6. E-02		05/06	05/06			6	
							PU-239	L.T. 2. E-02		05/06	05/06			6	
70944	88953	8807035SC		03/19	1200		BE-7	L.T. 4. E-01		05/16	05/16			4	
							K-40	2.36±0.24E 01		05/16	05/16			4	
							MN-54	L.T. 3. E-02		05/16	05/16			4	
							CO-58	L.T. 4. E-02		05/16	05/16			4	
							FE-59	L.T. 1. E-01		05/16	05/16			4	
							CO-60	L.T. 3. E-02		05/16	05/16			4	
							ZN-65	L.T. 7. E-02		05/16	05/16			4	

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

WORK ORDER NUMBER 3-0633

CUSTOMER P.O. NUMBER 04-0029403-012

DATE RECEIVED 03/24/92

DELIVERY DATE 04/26/92

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RUN DATE 06/19/02

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

SOIL

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE		NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M %	MID-COUNT		VOLUME - UNITS ASH-WGHT-% *	LAB.
			START DATE	STOP DATE				DATE	TIME		
70944	88953 88070355C		03/19	1200	ZR-95	L.T. 5. E-02		05/16			4
					RU-103	L.T. 6. E-02		05/16			4
					RU-106	L.T. 2. E-01		05/16			4
					I-131	L.T. 3. E 00		05/16			4
					CS-134	L.T. 3. E-02		05/16			4
					CS-137	9.51+-2.73E-02		05/16			4
					RA-140	L.T. 5. E-01		05/16			4
					CE-141	L.T. 1. E-01		05/16			4
					CE-144	L.T. 2. E-01		05/16			4
					RA-226	1.29+-0.38E 00		05/16			4
					TH-228	1.45+-0.14E 00		05/16			4
					H-3	L.T. 2. E-02		06/15			5
70945	88958 88070365B		03/19	1215	PU-238	L.T. 8. E-02		04/27			6
					PU-239	L.T. 4. E-02		04/27			6
70946	88959 88070365C		03/19	1215	BE-7	L.T. 6. E-01		05/16			4
					K-40	2.26+-0.23E 01		05/16			4
					MN-54	L.T. 4. E-02		05/16			4
					CO-58	L.T. 5. E-02		05/16			4
					FE-59	L.T. 2. E-01		05/16			4
					CO-60	L.T. 3. E-02		05/16			4
					ZN-65	L.T. 9. E-02		05/16			4
					ZR-95	L.T. 7. E-02		05/16			4
					RU-103	L.T. 8. E-02		05/16			4
					RU-106	L.T. 3. E-01		05/16			4
					I-131	L.T. 5. E 00		05/16			4
					CS-134	L.T. 5. E-02		05/16			4
					CS-137	9.50+-2.62E-02		05/16			4
					BA-140	L.T. 1. E 00		05/16			4
					CE-141	L.T. 2. E-01		05/16			4
					CE-144	L.T. 3. E-01		05/16			4
					RA-226	2.09+-0.56E 00		05/16			4

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 06/19/92

PAGE 8

WORK ORDER NUMBER 3-0633
 CUSTOMER P.O. NUMBER 04-0029403-012
 DATE RECEIVED 03/24/92
 DELIVERY DATE 04/26/92

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		NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M #	MID-COUNT TIME DATE	VOLUME - UNITS	
			START DATE	STOP DATE					ASH-WGHT-%	LAB.
70946	88959 88070365C		03/19	1215	TH-228 H-3	1.61+-0.16E 00 L.T. 2. E-02		05/16 06/15		4 5
70947	88831 88000055B DUP		03/19	1050	PU-238 PU-239	L.T. 2. E-01 L.T. 4. E-02		05/09 05/09		6 6

DEVELOP SITE 1
BB-08

VOLATILE ORGANIC COMPOUNDS

VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-8 Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB08003SE
 Sample Number: 89367

Matrix: Soil

Date Sampled: 3/19/92
 Date Analyzed: 3/24/92

Date Received: 3/20/92
 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.....	3	5
2-Hexanone.....		25
Tetrachloroethene.....		5
Chlorobenzene.....		5
Ethylbenzene.....		5
m & p-Xylene.....	1	5
o-Xylene.....		5
Styrene.....		5



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758- 8

Page 2 of 2

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

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	100	70 - 121
Toluene-D8	108	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} The results reported for Toluene and m & p Xylene are estimated concentrations below the established reporting limits.

Approved By: Nancy McDonald for CM Date: 4/09/92
 Cheryl Matterson, Associate Chemist

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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-11

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB08022SE
 Sample Number: 89373

Matrix: Soil

Date Sampled: 3/19/92
 Date Analyzed: 3/24/92

Date Received: 3/20/92
 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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758- 11

Page 2 of 2

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

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	98	70 - 121
Toluene-D8	101	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} The result reported for Toluene is an estimated concentration below the established reporting limit.

Approved By: Nancy McDonald for CM Date: 4/09/92
 Cheryl Matterson, Associate Chemist

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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-2

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB08034SE
 Sample Number: 89355

Matrix: Soil

Date Sampled: 3/19/92
 Date Analyzed: 3/24/92

Date Received: 3/20/92
 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.....	4	5
2-Hexanone.....		25
Tetrachloroethene.....		5
Chlorobenzene.....		5
Ethylbenzene.....		5
m & p-Xylene.....	2	5
o-Xylene.....	1	5
Styrene.....		5



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758- 2

Page 2 of 2

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

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	100	70 - 121
Toluene-D8	105	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.
- {d} The results reported for Toluene, m & p Xylene, and o-Xylene are estimated concentrations below the established reporting limits.

Approved By: Nancy McDonald Loren Date: 4/09/92
 Cheryl Matterson, Associate Chemist

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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-5

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB08035SE
 Sample Number: 89361

Matrix: Soil

Date Sampled: 3/19/92
 Date Analyzed: 3/24/92

Date Received: 3/20/92
 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.....	1	5
2-Hexanone.....		25
Tetrachloroethene.....		5
Chlorobenzene.....		5
Ethylbenzene.....		5
m & p-Xylene.....		5
o-Xylene.....		5
Styrene.....		5



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758- 5

Page 2 of 2

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

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	103	70 - 121
Toluene-D8	101	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} The result reported for Toluene is an estimated concentration below the established reporting limit.

Approved By: Nancy McDonald for CM Date: 4/09/92
 Cheryl Matterson, Associate Chemist

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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-14

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB08038SE
 Sample Number: 89379

Matrix: Soil

Date Sampled: 3/19/92
 Date Analyzed: 3/24/92

Date Received: 3/20/92
 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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758- 14

Page 2 of 2

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

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	99	70 - 121
Toluene-D8	107	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 Loren Date: 4/09/92
 Cheryl Matterson, Associate Chemist

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



SEMI-VOLATILE ORGANIC COMPOUNDS

SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-7

Page 1 of 3

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB08003SD
 Sample Number: 89366

Matrix: Soil

Date Sampled: 3/19/92
 Date Extracted: 3/23/92

Date Received: 3/20/92
 Date Analyzed: 3/31/92

Batch Number: 920323-2601

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-7

Page 2 of 3

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-7

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	85	25 - 121
Phenol-d5.....	82	24 - 113
Nitrobenzene-d5.....	76	23 - 120
2-Fluorobiphenyl.....	80	30 - 115
2,4,6-Tribromophenol.....	98	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 Date: 4/08/92
Cheryl Matterson, Associate Chemist

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-10

Page 1 of 3

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB08022SD
 Sample Number: 89372

Matrix: Soil

Date Sampled: 3/19/92
 Date Extracted: 3/23/92

Date Received: 3/20/92
 Date Analyzed: 3/31/92

Batch Number: 920323-2601

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-10

Page 2 of 3

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-10

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	77	25 - 121
Phenol-d5.....	76	24 - 113
Nitrobenzene-d5.....	71	23 - 120
2-Fluorobiphenyl.....	80	30 - 115
2,4,6-Tribromophenol.....	98	19 - 122
Terphenyl-d14.....	80	18 - 137

COMMENTS:

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

Approved By: Nancy McDonald for CM Date: 4/08/92
Cheryl Matterson, Associate Chemist

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-1

Page 1 of 3

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB08034SD
Sample Number: 89354

Matrix: Soil

Date Sampled: 3/19/92
Date Extracted: 3/23/92

Date Received: 3/20/92
Date Analyzed: 3/31/92

Batch Number: 920323-2601

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



SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}

Preparation Method: EPA 3550

Lab Project-Sample ID: 5758-1

Page 2 of 3

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-1

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	80	25 - 121
Phenol-d5.....	82	24 - 113
Nitrobenzene-d5.....	75	23 - 120
2-Fluorobiphenyl.....	83	30 - 115
2,4,6-Tribromophenol.....	99	19 - 122
Terphenyl-d14.....	91	18 - 137

COMMENTS:

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

Approved By: Nancy McDonald for CM Date: 4/08/92
Cheryl Matterson, Associate Chemist

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-4

Page 1 of 3

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB08035SD
 Sample Number: 89360

Matrix: Soil

Date Sampled: 3/19/92
 Date Extracted: 3/23/92

Date Received: 3/20/92
 Date Analyzed: 3/31/92

Batch Number: 920323-2601

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-4

Page 2 of 3

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: 5758-4

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	89	25 - 121
Phenol-d5.....	88	24 - 113
Nitrobenzene-d5.....	74	23 - 120
2-Fluorobiphenyl.....	80	30 - 115
2,4,6-Tribromophenol.....	101	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 Date: 4/08/92
Cheryl Matterson, Associate Chemist

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-13

Page 1 of 3

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB08038SD
 Sample Number: 89378

Matrix: Soil

Date Sampled: 3/19/92
 Date Extracted: 3/23/92

Date Received: 3/20/92
 Date Analyzed: 3/31/92

Batch Number: 920323-2601

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



SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}

Preparation Method: EPA 3550

Lab Project-Sample ID: 5758-13

Page 2 of 3

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-13

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	89	25 - 121
Phenol-d5.....	84	24 - 113
Nitrobenzene-d5.....	80	23 - 120
2-Fluorobiphenyl.....	89	30 - 115
2,4,6-Tribromophenol.....	111	19 - 122
Terphenyl-d14.....	89	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 em Date: 4/08/92
 Cheryl Matterson, Associate Chemist

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



METALS

PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5758-9

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB08003SF
Sample Number: 89368

Matrix: Soil

Date Sampled: 3/19/92
Date Digested: 3/23/92 {b}

Date Received: 3/20/92
Batch Number: 920323-1101 {b}

METAL (SYMBOL)/EPA METHOD	ANALYTE CONCENTRATION {c} mg/Kg (ppm)	DILUTION FACTOR	REPORTING LIMIT mg/Kg (ppm)	DATE ANALYZED
Antimony (Sb)/6010.....		1	2.5	3/26/92
Arsenic (As)/7060.....		1	.50	3/25/92
Beryllium (Be)/6010.....	.56	1	.25	3/26/92
Cadmium (Cd)/6010.....		1	.50	3/26/92
Chromium (Cr)/6010.....	21.	1	1.0	3/26/92
Copper (Cu)/6010.....	24.	1	1.0	3/26/92
Lead (Pb)/6010.....	16.	1	2.5	3/26/92
Mercury (Hg)/7471.....		1	.25	3/26/92
Nickel (Ni)/6010.....	15.	1	1.0	3/26/92
Selenium (Se)/7740.....	2.0	1	.25	3/25/92
Silver (Ag)/6010.....		1	1.0	3/26/92
Thallium (Tl)/7841.....		1	.50	3/30/92
Zinc (Zn)/6010.....	58.	1	1.0	3/26/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/23/92, Batch # 920323-1102; and Hg was digested on 3/23/92, Batch # 920323-1103 .
- {c} No entry in the "Concentration" means the metal is not detected at all.

Approved by: Nancy McDonald for CM Date: 4/09/92
Cheryl Matterson, Association Chemist

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



PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5758-12

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB08022SF
Sample Number: 89374

Matrix: Soil

Date Sampled: 3/19/92
Date Digested: 3/23/92 {b}

Date Received: 3/20/92
Batch Number: 920323-1101 {b}

METAL (SYMBOL)/EPA METHOD	ANALYTE CONCENTRATION {c} mg/Kg (ppm)	DILUTION FACTOR	REPORTING LIMIT mg/Kg (ppm)	DATE ANALYZED
Antimony (Sb)/6010.....		1	2.5	3/26/92
Arsenic (As)/7060.....		1	.50	3/25/92
Beryllium (Be)/6010.....	.62	1	.25	3/26/92
Cadmium (Cd)/6010.....		1	.50	3/26/92
Chromium (Cr)/6010.....	21.	1	1.0	3/26/92
Copper (Cu)/6010.....	25.	1	1.0	3/26/92
Lead (Pb)/6010.....	16.	1	2.5	3/26/92
Mercury (Hg)/7471.....		1	.25	3/26/92
Nickel (Ni)/6010.....	16.	1	1.0	3/26/92
Selenium (Se)/7740.....	2.1	1	.25	3/25/92
Silver (Ag)/6010.....		1	1.0	3/26/92
Thallium (Tl)/7841.....		1	.50	3/30/92
Zinc (Zn)/6010.....	59.	1	1.0	3/26/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/23/92, Batch # 920323-1102; and Hg was digested on 3/23/92, Batch # 920323-1103 .
- {c} No entry in the "Concentration" means the metal is not detected at all.

Approved by: Nancy McDonald for CM Date: 4/09/92
Cheryl Matterson, Association Chemist

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



PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5758-3

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB08034SF
Sample Number: 89356

Matrix: Soil

Date Sampled: 3/19/92
Date Digested: 3/23/92 {b}

Date Received: 3/20/92
Batch Number: 920323-1101 {b}

METAL (SYMBOL)/EPA METHOD	ANALYTE CONCENTRATION {c} mg/Kg (ppm)	DILUTION FACTOR	REPORTING LIMIT mg/Kg (ppm)	DATE ANALYZED
Antimony (Sb)/6010.....		1	2.5	3/26/92
Arsenic (As)/7060.....	11.	4	2.0	3/25/92
Beryllium (Be)/6010.....	.61	1	.25	3/26/92
Cadmium (Cd)/6010.....		1	.50	3/26/92
Chromium (Cr)/6010.....	22.	1	1.0	3/26/92
Copper (Cu)/6010.....	25.	1	1.0	3/26/92
Lead (Pb)/6010.....	16.	1	2.5	3/26/92
Mercury (Hg)/7471.....		1	.25	3/26/92
Nickel (Ni)/6010.....	16.	1	1.0	3/26/92
Selenium (Se)/7740.....	4.5	4	1.0	3/25/92
Silver (Ag)/6010.....		1	1.0	3/26/92
Thallium (Tl)/7841.....		1	.50	3/30/92
Zinc (Zn)/6010.....	61.	1	1.0	3/26/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/23/92, Batch # 920323-1102; and Hg was digested on 3/23/92, Batch # 920323-1103 .
- {c} No entry in the "Concentration" means the metal is not detected at all.
- {d} The samples for Arsenic and Selenium were diluted 4 fold to bring target analytes within linear working range.

Approved by: Nancy McDonald for cm Date: 4/09/92
Cheryl Matterson, Association Chemist

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



PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5758-6

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB08035SF
Sample Number: 89362

Matrix: Soil

Date Sampled: 3/19/92
Date Digested: 3/23/92 {b}

Date Received: 3/20/92
Batch Number: 920323-1101 {b}

METAL (SYMBOL)/EPA METHOD	ANALYTE CONCENTRATION {c} mg/Kg (ppm)	DILUTION FACTOR	REPORTING LIMIT mg/Kg (ppm)	DATE ANALYZED
Antimony (Sb)/6010.....		1	2.5	3/26/92
Arsenic (As)/7060.....		1	.50	3/25/92
Beryllium (Be)/6010.....	.55	1	.25	3/26/92
Cadmium (Cd)/6010.....		1	.50	3/26/92
Chromium (Cr)/6010.....	20.	1	1.0	3/26/92
Copper (Cu)/6010.....	25.	1	1.0	3/26/92
Lead (Pb)/6010.....	17.	1	2.5	3/26/92
Mercury (Hg)/7471.....		1	.25	3/26/92
Nickel (Ni)/6010.....	16.	1	1.0	3/26/92
Selenium (Se)/7740.....		1	.25	3/25/92
Silver (Ag)/6010.....		1	1.0	3/26/92
Thallium (Tl)/7841.....		1	.50	3/30/92
Zinc (Zn)/6010.....	60.	1	1.0	3/26/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/23/92, Batch # 920323-1102; and Hg was digested on 3/23/92, Batch # 920323-1103 .
- {c} No entry in the "Concentration" means the metal is not detected at all.

Approved by: Nancy McDonald for CM Date: 4/09/92
Cheryl Matterson, Association Chemist

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



PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5758-15

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB08038SF
Sample Number: 89380

Matrix: Soil

Date Sampled: 3/19/92
Date Digested: 3/23/92 {b}

Date Received: 3/20/92
Batch Number: 920323-1101 {b}

METAL (SYMBOL)/EPA METHOD	ANALYTE CONCENTRATION {c} mg/Kg (ppm)	DILUTION FACTOR	REPORTING LIMIT mg/Kg (ppm)	DATE ANALYZED
Antimony (Sb)/6010.....		1	2.5	3/26/92
Arsenic (As)/7060.....	13.	4	2.0	3/25/92
Beryllium (Be)/6010.....	.62	1	.25	3/26/92
Cadmium (Cd)/6010.....		1	.50	3/26/92
Chromium (Cr)/6010.....	20.	1	1.0	3/26/92
Copper (Cu)/6010.....	26.	1	1.0	3/26/92
Lead (Pb)/6010.....	16.	1	2.5	3/26/92
Mercury (Hg)/7471.....		1	.25	3/26/92
Nickel (Ni)/6010.....	16.	1	1.0	3/26/92
Selenium (Se)/7740.....	5.8	4	1.0	3/25/92
Silver (Ag)/6010.....		1	1.0	3/26/92
Thallium (Tl)/7841.....		1	.50	3/30/92
Zinc (Zn)/6010.....	60.	1	1.0	3/26/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/23/92, Batch # 920323-1102; and Hg was digested on 3/23/92, Batch # 920323-1103 .
- {c} No entry in the "Concentration" means the metal is not detected at all.
- {d} The samples for Arsenic and Selenium were diluted 4 fold to bring target analytes within linear working range.

Approved by: Nancy McDonald Loren Date: 4/09/92
Cheryl Matterson, Association Chemist

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



RADIONUCLIDES

Table 1. 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		Conc. pCi/g dry	
				I-129	Date Analyzed	Sr-90	Date Analyzed
89275	BB11006SA	03/18/92	SPS-1943	<0.3	06/11	0.02±0.01	06/09
88963	BB07058SA	03/19/92	1944	<0.2	06/12	0.01±0.01	06/10
88969	BB07012SA	03/19/92	1945	<0.3	06/11	0.01±0.01	06/10
88975	BB07038SA	03/19/92	1946	<0.2	06/12	0.02±0.01	06/10
88981	M 7 SA	03/19/92	1947	<0.3	06/12	0.04±0.01	06/10
89651	BB10067SA ₉	03/19/92	1948	<0.3	06/12	0.06±0.01	06/10
89657	BB10078SA	03/19/92	1949	<0.3	06/15	0.05±0.01	06/10
89663	BB10081SA	03/19/92	1950	<0.3	06/16	0.02±0.01	06/10
89669	BB10023SA	03/19/92	1951	<0.3	06/15	0.02±0.01	06/10
89675	BB10029SA	03/19/92	1952	<0.3	06/15	0.02±0.01	07/15
89825	BB02078SA	03/19/92	1953	<0.3	06/16	0.02±0.01	06/10
88801	BB02070SA	03/19/92	1954	<0.2	06/16	0.01±0.01	06/12
88807	BB02032SA	03/19/92	1955	<0.3	06/16	0.02±0.01	06/12
88813	BB02031SA	03/19/92	1956	<0.3	06/16	0.02±0.01	06/20
88819	BB02051SA	03/19/92	1957	<0.3	06/17	0.02±0.01	06/20
88825	BB09100SA	03/19/92	1958	<0.3	06/17	0.02±0.01	06/12
88833	BB00005SA	03/19/92	1959	<0.3	06/17	0.02±0.01	06/12
88834	M 6 SA	03/19/92	1960	<0.3	06/17	0.05±0.01	06/12
88951	BB07035SA	03/19/92	1961	<0.3	06/17	0.02±0.01	06/11
88957	BB07036SA	03/19/92	1962	<0.4	06/17	0.02±0.01	06/11
89351	BB08034SA	03/19/92	1963	<0.3	06/17	<0.01	07/15
89357	BB08035SA	03/19/92	1964	<0.3	06/17	<0.01	06/11
89363	BB08003SA	03/19/92	1965	<0.3	06/18	0.02±0.01	06/11
89369	BB08027SA ₂	03/19/92	1966	<0.3	06/17	0.01±0.01	07/15
89375	BB08038SA	03/19/92	1967	<0.3	06/18	0.02±0.01	06/11
89382	M 5 SA	03/19/92	1968	<0.2	06/18	0.20±0.08	06/11
89801	BB02071SA	03/19/92	1969	<0.3	06/18	0.01±0.01	06/11
89807	BB02045SA	03/19/92	1970	<0.2	06/19	<0.01	06/11
89813	BB02060SA	03/19/92	1971	<0.2	06/19	0.01±0.01	06/11
89819	BB02075SA	03/19/92	1972	<0.3	06/19	0.01±0.01	06/11

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.

TELEDYME ISOTOPIES

REPORT OF ANALYSIS

RUN DATE 06/19/92
PAGE 1

WORK ORDER NUMBER 3-0632
 CUSTOMER P.O. NUMBER 04-0029403-012
 DATE RECEIVED 03/24/92
 DELIVERY DATE 04/26/92
 ERIC SMITH
 MCLAREN/HART
 16755 VON KARMAN AVE
 IRVINE CA 92714

S O U R C E

TELEDYME SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	STOP DATE	TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	DATE	MID-COUNT TIME	VOLUME - UNITS ASH-NIGHT-% *	LAR.
70905	89352 88080345R		03/19 0815			PU-238 PU-239	L.T. 6. E-02 L.T. 2. E-02		06/10 06/10			6 6
70906	89353 88080345C		03/19 0815			BE-7 K-40 MN-54 CO-58 FE-59 CO-60 ZN-65 ZR-95 RU-103 PU-106 I-131 CS-134 CS-137 BA-140 CE-141 CE-144 RA-226 TH-228 H-3	L.T. 5. E-01 1.97+-0.20E 01 L.T. 4. E-02 L.T. 5. E-02 L.T. 1. E-01 L.T. 4. E-02 L.T. 1. E-01 L.T. 6. E-02 L.T. 6. E-02 L.T. 4. E-01 L.T. 1. E 00 L.T. 5. E-02 L.T. 3. E-01 L.T. 1. E-01 L.T. 2. E-01 2.16+-0.57E 00 L.T. 2. E-02		04/27 04/27 04/27 04/27 04/27 04/27 04/27 04/27 04/27 04/27 04/27 04/27 04/27 04/27 04/27 04/27 04/27 06/13		4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 5	
70907	89358 88080355B		03/19 0820			PU-238 PU-239	L.T. 1. E-01 L.T. 3. E-02		04/26 04/26			6 6
70908	89359 88080355C		03/19 0820			RE-7 K-40 MN-54 CO-58 FE-59 CO-60 ZN-65	L.T. 5. E-01 2.21+-0.29E 01 L.T. 4. E-02 L.T. 5. E-02 L.T. 1. E-01 L.T. 3. E-02 L.T. 1. E-01		04/27 04/27 04/27 04/27 04/27 04/27 04/27		4 4 4 4 4 4 4	

TELEDYNE ISOTOPE

REPORT OF ANALYSIS

WORK ORDER NUMBER

CUSTOMER P.O. NUMBER

DATE RECEIVED

DELIVERY DATE

PAGE 2

ERIC SMITH
 *CLAREN/HART
 16755 VON KARMAN AVE
 IRVINE CA

3-0632

04-0029403-012

03/24/92

04/26/92

92714

S O L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	STOP DATE	NUCLIDE	ACTIVITY (PCT/GM DRY)	NUCL-UNIT-X U/M *	MID-COUNT TIME DATE	VOLUME - UNITS ASH-WGHT-% *	L.A.R.
70908	89359 BB08035C		03/19 0820		ZR-95	L.T. 6. E-02		04/27		4
					RU-103	L.T. 6. E-02		04/27		4
					RU-106	L.T. 3. E-01		04/27		4
					T-131	L.T. 1. E 00		04/27		4
					CS-134	L.T. 4. E-02		04/27		4
					CS-137	1.66+-0.35E-01		04/27		4
					BA-140	L.T. 2. E-01		04/27		4
					CE-141	L.T. 1. E-01		04/27		4
					CE-144	L.T. 2. E-01		04/27		4
					RA-226	1.73+-0.51E 00		04/27		4
					TH-228	1.46+-0.15E 00		04/27		4
					H-3	2.6 +-1.2 E-02		06/14		5
70909	89364 BB080035C		03/19 0840		PU-238	L.T. 1. E-01		04/26		6
					PU-239	L.T. 3. E-02		04/26		6
70910	89365 BB080035C		03/19 0840		RE-7	L.T. 5. E-01		04/27		4
					K-40	2.00+-0.20E 01		04/27		4
					MN-54	L.T. 4. E-02		04/27		4
					CO-58	L.T. 5. E-02		04/27		4
					FE-59	L.T. 1. E-01		04/27		4
					CO-60	L.T. 4. E-02		04/27		4
					ZN-65	L.T. 1. E-01		04/27		4
					ZR-95	L.T. 7. E-02		04/27		4
					RU-103	L.T. 7. E-02		04/27		4
					RU-106	L.T. 3. E-01		04/27		4
					I-131	L.T. 1. E 00		04/27		4
					CS-134	L.T. 5. E-02		04/27		4
					CS-137	1.62+-0.40E-01		04/27		4
					BA-140	L.T. 3. E-01		04/27		4
					CE-141	L.T. 1. E-01		04/27		4
					CE-144	L.T. 2. E-01		04/27		4
					RA-226	1.85+-0.53E 00		04/27		4

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 06/19/92 PAGE 3

WORK ORDER NUMBER 3-0632 CUSTOMER P.O. NUMBER 04-0029A03-012 DATE RECEIVED 03/24/92 DELIVERY DATE 04/26/92

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		ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M %	MID-COUNT TIME	VOLUME - UNITS ASH-WGHT-Z *	LAB.
			START DATE	STOP DATE					
70910	89365 88080035C		03/19	0840	4.00+-0.65E-01 2.7 +-0.9 E-02		04/27 06/14		4 4
70911	89370 88080225B		03/19	0900	L.T. 1. E-01 L.T. 8. E-02		05/09 05/09		6 6
70912	89371 88080225C		03/19	0900	L.T. 5. E-01 1.99+-0.20E 01		04/27 04/27		4 4
					L.T. 4. E-02 L.T. 5. E-02		04/27 04/27		4 4
					L.T. 1. E-01 L.T. 4. E-02		04/27 04/27		4 4
					L.T. 1. E-01 L.T. 7. E-02		04/27 04/27		4 4
					L.T. 7. E-02 L.T. 4. E-01		04/27 04/27		4 4
					L.T. 1. E 00 L.T. 5. E-02		04/27 04/27		4 4
					L.T. 3. E-01 L.T. 1. E-01		04/27 04/27		4 4
					L.T. 3. E-01 L.T. 3. E-01		04/27 04/27		4 4
					1.60+-0.57E 00 1.10+-0.11E 00		04/27 04/27		4 4
					3.0 +-1.2 E-02		06/14		5
70913	89376 88080385B		03/19	0920	L.T. 5. E-02 L.T. 2. E-02		05/09 05/09		6 6

TELEDYNE ISOTOPIES

REPORT OF ANALYSIS

PUN DATE 06/19/92
PAGE 4

WORK ORDER NUMBER 3-0632
 CUSTOMER P.O. NUMBER 04-0029403-012
 DATE RECEIVED 03/24/92
 DELIVERY DATE 04/26/92
 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	STOP DATE	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M	MID-COUNT TIME DATE	VOLUME - UNITS ASH-WGHT-%	LAR.
70914	89377 BB080385C		03/19 0920		BE-7	L.T. 5. E-01		04/27		4
					K-40	2.06+-0.21E 01		04/27		4
					MN-54	L.T. 4. E-02		04/27		4
					CO-58	L.T. 5. E-02		04/27		4
					FE-59	L.T. 1. E-01		04/27		4
					CO-60	L.T. 4. E-02		04/27		4
					ZN-65	L.T. 1. E-01		04/27		4
					ZR-95	L.T. 6. E-02		04/27		4
					RU-103	L.T. 7. E-02		04/27		4
					RU-106	L.T. 3. E-01		04/27		4
					I-131	L.T. 1. E 00		04/27		4
					CS-134	L.T. 4. E-02		04/27		4
					CS-137	9.36+-3.54E-02		04/27		4
					BA-140	L.T. 3. E-01		04/27		4
					CE-141	L.T. 1. E-01		04/27		4
					CE-144	L.T. 2. E-01		04/27		4
					RA-226	1.91+-0.50E 00		04/27		4
					TH-228	3.94+-0.65E-01		04/27		4
					H-3	3.9 +-0.9 E-02		06/14		5
70915	89383	M58 MS	03/19 0820		PU-238	L.T. 5. E-02		05/18		6
					PU-239	3.0 +-0.8 E-01		05/18		6
70916	89384	M58 MS	03/19 0820		BE-7	L.T. 1. E 00		06/12		4
					K-40	2.08+-0.21E 01		06/12		4
					MN-54	L.T. 6. E-02		06/12		4
					CO-58	L.T. 1. E-01		06/12		4
					FE-59	L.T. 4. E-01		06/12		4
					CO-60	L.T. 5. E-02		06/12		4
					ZN-65	L.T. 2. E-01		06/12		4
					ZR-95	L.T. 1. E-01		06/12		4
					RU-103	L.T. 2. E-01		06/12		4
					RU-106	L.T. 5. E-01		06/12		4

TI #70915 was prepared with 0.33 pCi/g of Pu-239.

TELEDYNE ISOTOPIES
REPORT OF ANALYSTS

RUN DATE 06/19/92

PAGE 8

WORK ORDER NUMBER 3-0632
CUSTOMER P.O. NUMBER 04-0029403-012
DATE RECEIVED 03/24/92
DELIVERY DATE 04/26/92

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

SOIL

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	STOP DATE	TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M	MID-COUNT TIME DATE	VOLUME - UNITS ASH-MGHT-%	LAB.
70924	89821 88020755C		03/19 1015			TH-228 H-3	9.20+-0.92E-01 L.T. 1. E-02		06/18 06/14		4 5
70925	89352 88080345B DUP		03/19 0815			PU-238 PU-239	L.T. 2. E-01 L.T. 1. E-01		04/26 04/26		6 6

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 06/06/92

PAGE 1

WORK ORDER NUMBER

3-0631

CUSTOMER P.O. NUMBER

04-0029403-012

DELIVERY DATE

04/26/92

DATE RECEIVED

03/24/92

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

W A T E R

TELEDYNE
SAMPLE
NUMBER

CUSTOMER'S
IDENTIFICATION

STA
NUM

COLLECTION-DATE
START DATE
STOP DATE

ACTIVITY
(PCI/LITER)

NUCL-UNIT-X
U/M

MID-COUNT
TIME
DATE

VOLUME - UNITS
ASH-WGHT-X

LAP

71203 196836-37 880803480

03/19 0815

BE-7
K-40
MN-54
CO-58
FE-59
CO-60
ZN-65
ZR-95
RU-103
RU-106
I-131
CS-134
CS-137
BA-140
CE-141
CE-144
RA-226
TH-228

L.T. 6. E 01
L.T. 1. E 02
L.T. 4. E 00
L.T. 5. E 00
L.T. 2. E 01
L.T. 4. E 00
L.T. 9. E 00
L.T. 6. E 00
L.T. 4. E 01
L.T. 2. E 02
L.T. 4. E 00
L.T. 4. E 00
L.T. 5. E 01
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L.T. 7. E 01
L.T. 7. E 00

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71204 196838 88080358E

03/19 0820

H-3

L.T. 2. E 02

06/02

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71205 197951-52 88100678D

03/19 1415

BE-7
K-40
MN-54
CO-58
FE-59
CO-60
ZN-65
ZR-95
RU-103
RU-106
I-131
CS-134

L.T. 5. E 01
L.T. 5. E 01
L.T. 3. E 00
L.T. 5. E 00
L.T. 1. E 01
L.T. 4. E 00
L.T. 7. E 00
L.T. 5. E 00
L.T. 8. E 00
L.T. 3. E 01
L.T. 2. E 02
L.T. 4. E 00

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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: 5758-42

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB09031SE
 Sample Number: 88817

Matrix: Soil

Date Sampled: 3/19/92
 Date Analyzed: 3/31/92

Date Received: 3/20/92
 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.....	1	5
2-Hexanone.....		25
Tetrachloroethene.....		5
Chlorobenzene.....		5
Ethylbenzene.....		5
m & p-Xylene.....		5
o-Xylene.....		5
Styrene.....		5



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758- 42

Page 2 of 2

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

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	98	70 - 121
Toluene-D8	113	81 - 117
4-Bromofluorobenzene	79	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} The result reported for Toluene is an estimated concentration below the established reporting limit.

Approved By: Nancy McDonald for CM Date: 4/09/92
 Cheryl Matterson, Associate Chemist

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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-45

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB09051SE
 Sample Number: 88823

Matrix: Soil

Date Sampled: 3/19/92
 Date Analyzed: 3/25/92

Date Received: 3/20/92
 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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758- 45

Page 2 of 2

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

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	101	70 - 121
Toluene-D8	112	81 - 117
4-Bromofluorobenzene	83	74 - 121

COMMENTS:

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

Approved By: Nancy McDonald for CM Date: 4/09/92
 Cheryl Matterson, Associate Chemist

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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-36

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB09070SE
 Sample Number: 88805

Matrix: Soil

Date Sampled: 3/19/92
 Date Analyzed: 3/24/92

Date Received: 3/20/92
 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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758- 36

Page 2 of 2

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
1,1,2,2-Tetrachloroethane.....		5
1,3-Dichlorobenzene {b}.....		5
1,4-Dichlorobenzene {b}.....		5
1,2-Dichlorobenzene {b}.....		5
SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	105	70 - 121
Toluene-D8	100	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 McDonald for CM Date: 4/09/92
 Cheryl Matterson, Associate Chemist

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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-39

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB09092SE
 Sample Number: 88811

Matrix: Soil

Date Sampled: 3/19/92
 Date Analyzed: 3/24/92

Date Received: 3/20/92
 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.....	1	5
o-Xylene.....		5
Styrene.....		5



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758- 39

Page 2 of 2

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
1,1,2,2-Tetrachloroethane.....		5
1,3-Dichlorobenzene {b}.....		5
1,4-Dichlorobenzene {b}.....		5
1,2-Dichlorobenzene {b}.....		5
SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	103	70 - 121
Toluene-D8	103	81 - 117
4-Bromofluorobenzene	81	74 - 121

COMMENTS:

- {a} Includes all compounds as listed in Table 2 of SW-846, 3rd Edition for Method 8240.
- {b} Additional compounds.
- {c} Concentrations lower than the Reporting Limits are estimated values. No entry in "Analyte Concentration" means the compound is not detected at all.
- {d} The results reported for Toluene and m & p Xylene are estimated concentrations below the established reporting limits.

Approved By: Nancy McDonald for CM Date: 4/09/92
 Cheryl Matterson, Associate Chemist

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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-48

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB09100SE
 Sample Number: 88829

Matrix: Soil

Date Sampled: 3/19/92
 Date Analyzed: 3/25/92

Date Received: 3/20/92
 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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758- 48

Page 2 of 2

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

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	99	70 - 121
Toluene-D8	111	81 - 117
4-Bromofluorobenzene	89	74 - 121

COMMENTS:

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

Approved By: Nancy McDonald for CM Date: 4/09/92
 Cheryl Matterson, Associate Chemist

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



SEMI-VOLATILE ORGANIC COMPOUNDS

SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-41

Page 1 of 3

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB09031SD
Sample Number: 88816

Matrix: Soil

Date Sampled: 3/19/92
Date Extracted: 3/23/92

Date Received: 3/20/92
Date Analyzed: 4/02/92

Batch Number: 920323-2601

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-41

Page 2 of 3

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-41

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	86	25 - 121
Phenol-d5.....	83	24 - 113
Nitrobenzene-d5.....	67	23 - 120
2-Fluorobiphenyl.....	79	30 - 115
2,4,6-Tribromophenol.....	91	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 McDonald for CM Date: 4/08/92
Cheryl Matterson, Associate Chemist

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-44

Page 1 of 3

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB09051SD
 Sample Number: 88822

Matrix: Soil

Date Sampled: 3/19/92
 Date Extracted: 3/23/92

Date Received: 3/20/92
 Date Analyzed: 4/01/92

Batch Number: 920323-2601

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-44

Page 2 of 3

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-44

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	72	25 - 121
Phenol-d5.....	84	24 - 113
Nitrobenzene-d5.....	71	23 - 120
2-Fluorobiphenyl.....	81	30 - 115
2,4,6-Tribromophenol.....	103	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 Date: 4/08/92
Cheryl Matterson, Associate Chemist

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



SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified (a)
 Preparation Method: EPA 3550

Lab Project-Sample ID: 5758-35

Page 1 of 3

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB09070SD
 Sample Number: 88804

Matrix: Soil

Date Sampled: 3/19/92
 Date Extracted: 3/23/92

Date Received: 3/20/92
 Date Analyzed: 3/31/92

Batch Number: 920323-2601

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-35

Page 2 of 3

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-35

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SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	92	25 - 121
Phenol-d5.....	93	24 - 113
Nitrobenzene-d5.....	81	23 - 120
2-Fluorobiphenyl.....	89	30 - 115
2,4,6-Tribromophenol.....	110	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 Cheryl Matterson Date: 4/08/92
Cheryl Matterson, Associate Chemist

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-38

Page 1 of 3

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB09092SD
 Sample Number: 88810

Matrix: Soil

Date Sampled: 3/19/92
 Date Extracted: 3/23/92

Date Received: 3/20/92
 Date Analyzed: 4/01/92

Batch Number: 920323-2601

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-38

Page 2 of 3

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-38

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	84	25 - 121
Phenol-d5.....	86	24 - 113
Nitrobenzene-d5.....	77	23 - 120
2-Fluorobiphenyl.....	85	30 - 115
2,4,6-Tribromophenol.....	104	19 - 122
Terphenyl-d14.....	89	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 M Date: 4/08/92
 Cheryl Matterson, Associate Chemist

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-47

Page 1 of 3

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB09100SD
 Sample Number: 88828

Matrix: Soil

Date Sampled: 3/19/92
 Date Extracted: 3/23/92

Date Received: 3/20/92
 Date Analyzed: 4/01/92

Batch Number: 920323-2601

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-47

Page 2 of 3

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-47

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	81	25 - 121
Phenol-d5.....	84	24 - 113
Nitrobenzene-d5.....	68	23 - 120
2-Fluorobiphenyl.....	80	30 - 115
2,4,6-Tribromophenol.....	121	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 Date: 4/08/92
Cheryl Matterson, Associate Chemist

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



METALS

PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5758-43

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB09031SF
Sample Number: 88818

Matrix: Soil

Date Sampled: 3/19/92
Date Digested: 3/23/92 {b}

Date Received: 3/20/92
Batch Number: 920323-1101 {b}

METAL (SYMBOL)/EPA METHOD	ANALYTE CONCENTRATION {c} mg/Kg (ppm)	DILUTION FACTOR	REPORTING LIMIT mg/Kg (ppm)	DATE ANALYZED
Antimony (Sb)/6010.....		1	2.5	3/26/92
Arsenic (As)/7060.....		1	.50	3/25/92
Beryllium (Be)/6010.....	.76	1	.25	3/26/92
Cadmium (Cd)/6010.....		1	.50	3/26/92
Chromium (Cr)/6010.....	22.	1	1.0	3/26/92
Copper (Cu)/6010.....	28.	1	1.0	3/26/92
Lead (Pb)/6010.....	18.	1	2.5	3/26/92
Mercury (Hg)/7471.....		1	.25	3/26/92
Nickel (Ni)/6010.....	19.	1	1.0	3/26/92
Selenium (Se)/7740.....	2.4	1	.25	3/25/92
Silver (Ag)/6010.....		1	1.0	3/26/92
Thallium (Tl)/7841.....		1	.50	3/30/92
Zinc (Zn)/6010.....	63.	1	1.0	3/26/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/23/92, Batch # 920323-1102; and Hg was digested on 3/23/92, Batch # 920323-1103 .
- {c} No entry in the "Concentration" means the metal is not detected at all.

Approved by: Nancy McDonald for CM Date: 4/09/92
Cheryl Matterson, Association Chemist

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



PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5758-46

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB09051SF
Sample Number: 88824

Matrix: Soil

Date Sampled: 3/19/92
Date Digested: 3/23/92 {b}

Date Received: 3/20/92
Batch Number: 920323-1101 {b}

METAL (SYMBOL)/EPA METHOD	ANALYTE CONCENTRATION {c} mg/Kg (ppm)	DILUTION FACTOR	REPORTING LIMIT mg/Kg (ppm)	DATE ANALYZED
Antimony (Sb)/6010.....		1	2.5	3/26/92
Arsenic (As)/7060.....	16.	4	2.0	3/25/92
Beryllium (Be)/6010.....	.73	1	.25	3/26/92
Cadmium (Cd)/6010.....		1	.50	3/26/92
Chromium (Cr)/6010.....	21.	1	1.0	3/26/92
Copper (Cu)/6010.....	29.	1	1.0	3/26/92
Lead (Pb)/6010.....	17.	1	2.5	3/26/92
Mercury (Hg)/7471.....		1	.25	3/26/92
Nickel (Ni)/6010.....	18.	1	1.0	3/26/92
Selenium (Se)/7740.....	7.8	4	1.0	3/25/92
Silver (Ag)/6010.....		1	1.0	3/26/92
Thallium (Tl)/7841.....		1	.50	3/30/92
Zinc (Zn)/6010.....	60.	1	1.0	3/26/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/23/92, Batch # 920323-1102; and Hg was digested on 3/23/92, Batch # 920323-1103 .
- {c} No entry in the "Concentration" means the metal is not detected at all.
- {d} The samples for Arsenic and Selenium were diluted 4 fold to bring target analytes within linear working range.

Approved by: Nancy McDonald for CM Date: 4/09/92
Cheryl Matterson, Association Chemist

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



PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5758-37

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB09070SF
Sample Number: 88806

Matrix: Soil

Date Sampled: 3/19/92
Date Digested: 3/23/92 {b}

Date Received: 3/20/92
Batch Number: 920323-1101 {b}

METAL (SYMBOL)/EPA METHOD	ANALYTE CONCENTRATION {c} mg/Kg (ppm)	DILUTION FACTOR	REPORTING LIMIT mg/Kg (ppm)	DATE ANALYZED
Antimony (Sb)/6010.....		1	2.5	3/26/92
Arsenic (As)/7060.....		1	.50	3/25/92
Beryllium (Be)/6010.....	.83	1	.25	3/26/92
Cadmium (Cd)/6010.....		1	.50	3/26/92
Chromium (Cr)/6010.....	27.	1	1.0	3/26/92
Copper (Cu)/6010.....	28.	1	1.0	3/26/92
Lead (Pb)/6010.....	19.	1	2.5	3/26/92
Mercury (Hg)/7471.....		1	.25	3/26/92
Nickel (Ni)/6010.....	20.	1	1.0	3/26/92
Selenium (Se)/7740.....		1	.25	3/25/92
Silver (Ag)/6010.....		1	1.0	3/26/92
Thallium (Tl)/7841.....		1	.50	3/30/92
Zinc (Zn)/6010.....	65.	1	1.0	3/26/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/23/92, Batch # 920323-1102; and Hg was digested on 3/23/92, Batch # 920323-1103 .
- {c} No entry in the "Concentration" means the metal is not detected at all.
- {d} Arsenic and Selenium were detected below the reporting limits. Suspect sample matrix interferences are present which could be responsible for laboratory reporting of false negatives.

Approved by: Nancy McDonald for em Date: 4/09/92
Cheryl Matterson, Association Chemist

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



PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5758-40

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB09092SF
Sample Number: 88812

Matrix: Soil

Date Sampled: 3/19/92
Date Digested: 3/23/92 {b}

Date Received: 3/20/92
Batch Number: 920323-1101 {b}

METAL (SYMBOL)/EPA METHOD	ANALYTE CONCENTRATION {c} mg/Kg (ppm)	DILUTION FACTOR	REPORTING LIMIT mg/Kg (ppm)	DATE ANALYZED
Antimony (Sb)/6010.....		1	2.5	3/26/92
Arsenic (As)/7060.....		1	.50	3/25/92
Beryllium (Be)/6010.....	.74	1	.25	3/26/92
Cadmium (Cd)/6010.....		1	.50	3/26/92
Chromium (Cr)/6010.....	24.	1	1.0	3/26/92
Copper (Cu)/6010.....	27.	1	1.0	3/26/92
Lead (Pb)/6010.....	19.	1	2.5	3/26/92
Mercury (Hg)/7471.....		1	.25	3/26/92
Nickel (Ni)/6010.....	19.	1	1.0	3/26/92
Selenium (Se)/7740.....	2.0	1	.25	3/25/92
Silver (Ag)/6010.....		1	1.0	3/26/92
Thallium (Tl)/7841.....		1	.50	3/30/92
Zinc (Zn)/6010.....	62.	1	1.0	3/26/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/23/92, Batch # 920323-1102; and Hg was digested on 3/23/92, Batch # 920323-1103 .
- {c} No entry in the "Concentration" means the metal is not detected at all.

Approved by: Nancy McDonald for em Date: 4/09/92
Cheryl Matterson, Association Chemist

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



PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5758-49

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB09100SF
Sample Number: 88830

Matrix: Soil

Date Sampled: 3/19/92
Date Digested: 3/23/92 {b}

Date Received: 3/20/92
Batch Number: 920323-1101 {b}

METAL (SYMBOL)/EPA METHOD	ANALYTE CONCENTRATION {c} mg/Kg (ppm)	DILUTION FACTOR	REPORTING LIMIT mg/Kg (ppm)	DATE ANALYZED
Antimony (Sb)/6010.....		1	2.5	3/26/92
Arsenic (As)/7060.....	4.4	1	.50	3/26/92
Beryllium (Be)/6010.....	.71	1	.25	3/26/92
Cadmium (Cd)/6010.....		1	.50	3/26/92
Chromium (Cr)/6010.....	24.	1	1.0	3/26/92
Copper (Cu)/6010.....	27.	1	1.0	3/26/92
Lead (Pb)/6010.....	16.	1	2.5	3/26/92
Mercury (Hg)/7471.....		1	.25	3/26/92
Nickel (Ni)/6010.....	18.	1	1.0	3/26/92
Selenium (Se)/7740.....	1.3	1	.25	3/25/92
Silver (Ag)/6010.....		1	1.0	3/26/92
Thallium (Tl)/7841.....		1	.50	3/30/92
Zinc (Zn)/6010.....	60.	1	1.0	3/26/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/23/92, Batch # 920323-1102; and Hg was digested on 3/23/92, Batch # 920323-1103 .
- {c} No entry in the "Concentration" means the metal is not detected at all.

Approved by: Nancy McDonald for CM Date: 4/09/92
Cheryl Matterson, Association Chemist

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



RADIONUCLIDES

Table 1. 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		Conc. pCi/g dry	
				I-129	Date Analyzed	Sr-90	Date Analyzed
89275	BB11006SA	03/18/92	SPS-1943	<0.3	06/11	0.02±0.01	06/09
88963	BB07058SA	03/19/92	1944	<0.2	06/12	0.01±0.01	06/10
88969	BB07012SA	03/19/92	1945	<0.3	06/11	0.01±0.01	06/10
88975	BB07038SA	03/19/92	1946	<0.2	06/12	0.02±0.01	06/10
88981	M 7 SA	03/19/92	1947	<0.3	06/12	0.04±0.01	06/10
89651	BB10067SA ¹	03/19/92	1948	<0.3	06/12	0.06±0.01	06/10
89657	BB10078SA	03/19/92	1949	<0.3	06/15	0.05±0.01	06/10
89663	BB10081SA	03/19/92	1950	<0.3	06/16	0.02±0.01	06/10
89669	BB10023SA	03/19/92	1951	<0.3	06/15	0.02±0.01	06/10
89675	BB10029SA	03/19/92	1952	<0.3	06/15	0.02±0.01	07/15
89825	BB02078SA	03/19/92	1953	<0.3	06/16	0.02±0.01	06/10
88801	BB03070SA	03/19/92	1954	<0.2	06/16	0.01±0.01	06/12
88807	BB03032SA	03/19/92	1955	<0.3	06/16	0.02±0.01	06/12
88813	BB03031SA	03/19/92	1956	<0.3	06/16	0.02±0.01	06/20
88819	BB03051SA	03/19/92	1957	<0.3	06/17	0.02±0.01	06/20
88825	BB09100SA	03/19/92	1958	<0.3	06/17	0.02±0.01	06/12
88833	BB00005SA	03/19/92	1959	<0.3	06/17	0.02±0.01	06/12
88834	M 6 SA	03/19/92	1960	<0.3	06/17	0.05±0.01	06/12
88951	BB07035SA	03/19/92	1961	<0.3	06/17	0.02±0.01	06/11
88957	BB07036SA	03/19/92	1962	<0.4	06/17	0.02±0.01	06/11
89351	BB08034SA	03/19/92	1963	<0.3	06/17	<0.01	07/15
89357	BB08035SA	03/19/92	1964	<0.3	06/17	<0.01	06/11
89363	BB08003SA	03/19/92	1965	<0.3	06/18	0.02±0.01	06/11
89369	BB08027SA ²	03/19/92	1966	<0.3	06/17	0.01±0.01	07/15
89375	BB08038SA	03/19/92	1967	<0.3	06/18	0.02±0.01	06/11
89382	M 5 SA	03/19/92	1968	<0.2	06/18	0.20±0.08	06/11
89801	BB02071SA	03/19/92	1969	<0.3	06/18	0.01±0.01	06/11
89807	BB02045SA	03/19/92	1970	<0.2	06/19	<0.01	06/11
89813	BB02060SA	03/19/92	1971	<0.2	06/19	0.01±0.01	06/11
89819	BB02075SA	03/19/92	1972	<0.3	06/19	0.01±0.01	06/11

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

WORK ORDER NUMBER 3-0633

CUSTOMER P.O. NUMBER 04-0029403-012

DATE RECEIVED 03/24/92

DELIVERY DATE 04/26/92

PAGE 2

RUN DATE 06/19/92

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	STOP DATE	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M #	MTD-COUNT TIME DATE	VOLUME - UNITS ASH-WGHT-% #	LAB.
70929	89832 BB000055C		03/19 1015		I-131	L.T. 5. E 00		05/16		4
					CS-134	L.T. 5. E-02		05/16		4
					CS-137	L.T. 5. E-02		05/16		4
					BA-140	L.T. 9. E-01		05/16		4
					CE-141	L.T. 2. E-01		05/16		4
					CE-144	L.T. 3. E-01		05/16		4
					RA-226	1.46+-0.63E 00		05/16		4
					TH-228	1.24+-0.12E 00		05/16		4
					H-3	L.T. 1. E-02		06/14		5
70930	88802 BB090705B		03/19 1050		PU-238	L.T. 9. E-02		05/18		6
					PU-239	L.T. 2. E-02		05/18		6
70931	88803 BB090705C		03/19 1050		RE-7	L.T. 5. E-01		05/16		4
					K-40	2.18+-0.22E 01		05/16		4
					MN-54	L.T. 4. E-02		05/16		4
					CO-58	L.T. 4. E-02		05/16		4
					FE-59	L.T. 2. E-01		05/16		4
					CO-60	L.T. 3. E-02		05/16		4
					ZN-65	L.T. 8. E-02		05/16		4
					ZR-95	L.T. 6. E-02		05/16		4
					RU-103	L.T. 7. E-02		05/16		4
					RU-106	L.T. 3. E-01		05/16		4
					I-131	L.T. 4. E 00		05/16		4
					CS-134	L.T. 4. E-02		05/16		4
					CS-137	9.22+-2.03E-02		05/16		4
					BA-140	L.T. 8. E-01		05/16		4
					CE-141	L.T. 1. E-01		05/16		4
					CE-144	L.T. 2. E-01		05/16		4
					RA-226	1.77+-0.38E 00		05/16		4
					TH-228	1.24+-0.12E 00		05/16		4
					H-3	L.T. 3. E-02		06/14		5

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

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WORK ORDER NUMBER

CUSTOMER P.O. NUMBER

DATE RECEIVED

DELIVERY DATE

3-0633

04-0029403-012

03/24/92

04/26/92

ERIC SMITH
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IRVINE CA 92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE		ACTIVITY (PCI/CM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	VOLUME - UNITS		LAB.
			START DATE	STOP DATE				ASH-WGHT-%	*	
70932	88808 88090925B		03/19	1050	L.T. 1. E-01 L.T. 4. E-02		05/09 05/09			6 6
70933	88809 88090925C		03/19	1050	L.T. 5. E-01 2.09+-0.21E 01 L.T. 4. E-02 L.T. 5. E-02 L.T. 2. E-01 L.T. 3. E-02 L.T. 8. E-02 L.T. 6. E-02 L.T. 8. E-02 L.T. 3. E-01 L.T. 4. E 00 L.T. 4. E-02 6.91+-2.60E-02 L.T. 8. E-01 L.T. 1. E-01 L.T. 2. E-01 1.49+-0.48E 00 1.17+-0.12E 00 2.9 +-1.4 E-02		05/16 05/16 05/16 05/16 05/16 05/16 05/16 05/16 05/16 05/16 05/16 05/16 05/16 05/16 05/16 05/16 06/15			4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 5
70934	88814 88090315B		03/19	1100	L.T. 7. E-02 L.T. 2. E-02		05/04 05/04			6 6
70935	88815 88090315C		03/19	1100	L.T. 7. E-01 2.16+-0.22E 01 L.T. 5. E-02 L.T. 6. E-02 L.T. 2. E-01 L.T. 4. E-02 L.T. 1. E-01		05/16 05/16 05/16 05/16 05/16 05/16 05/16			4 4 4 4 4 4 4

TELEDYNE ISOTOPIES

REPORT OF ANALYSIS

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WORK ORDER NUMBER

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CUSTOMER P.O. NUMBER

04-0029403-012

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DATE RECEIVED

03/24/92

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

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE		NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	VOLUME - UNITS ASH-WGHT-% *	LAR.
			START DATE	STOP DATE						
70935	88815 88090315C		03/19	1100	ZR-95	L.T. 8. E-02		05/16		4
					RU-103	L.T. 1. E-01		05/16		4
					RU-106	L.T. 4. E-01		05/16		4
					I-131	L.T. 7. E 00		05/16		4
					CS-134	L.T. 6. E-02		05/16		4
					CS-137	6.15+-3.40E-02		05/16		4
					BA-140	L.T. 1. E 00		05/16		4
					CE-141	L.T. 3. E-01		05/16		4
					CE-144	L.T. 4. E-01		05/16		4
					RA-226	1.66+-0.72E 00		05/16		4
					TH-228	1.21+-0.12E 00		05/16		4
					H-3	2.4 +-1.4 E-02		06/15		5
70936	88820 88090515B		03/19	1115	PU-238	L.T. 5. E-02		05/18		6
					PU-239	L.T. 2. E-02		05/18		6
70937	88821 88090515C		03/19	1115	BE-7	L.T. 9. E-01		05/18		4
					K-40	2.17+-0.22E 01		05/18		4
					MN-54	L.T. 5. E-02		05/18		4
					CO-58	L.T. 7. E-02		05/18		4
					FE-59	L.T. 3. E-01		05/18		4
					CO-60	L.T. 4. E-02		05/18		4
					ZN-65	L.T. 1. E-01		05/18		4
					ZR-95	L.T. 1. E-01		05/18		4
					RU-103	L.T. 1. E-01		05/18		4
					RU-106	L.T. 4. E-01		05/18		4
					I-131	L.T. 8. E 00		05/18		4
					CS-134	L.T. 6. E-02		05/18		4
					CS-137	1.07+-0.45E-01		05/18		4
					BA-140	L.T. 1. E 00		05/18		4
					CE-141	L.T. 3. E-01		05/18		4
					CE-144	L.T. 4. E-01		05/18		4
					RA-226	2.33+-0.92E 00		05/18		4

TELEDYNE ISOTOPIES

PUN DATE 06/19/92

REPORT OF ANALYSIS

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WORK ORDER NUMBER

CUSTOMER P.O. NUMBER

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04/26/92

3-0633

03/24/92

04-0029403-012

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		NUCLIDE	ACTIVITY (PCI/CM DRY)	NUCL-UNIT-% U/M	MID-COUNT TIME DATE	VOLUME - UNITS	
			START DATE	STOP DATE					ASH-WGHT-%	LAB.
70937	88821 88090515C		03/19	1115	TH-228 H-3	1.22+-0.12E 00 L.T. 2. E-02		05/18 06/15		4 5
70938	88826 88091005B		03/19	1130	PU-238 PU-239	L.T. 1. E-01 L.T. 5. E-02		05/04 05/04		6 6
70939	88827 88091005C		03/19	1130	BE-7 K-40 MN-54 CO-58 FE-59 CO-60 ZN-65 ZR-95 RU-103 RU-106 I-131 CS-134 CS-137 BA-140 CE-141 CE-144 RA-226 TH-228 H-3	L.T. 5. E-01 2.22+-0.22E 01 L.T. 3. E-02 L.T. 4. E-02 L.T. 1. E-01 L.T. 3. E-02 L.T. 8. E-02 L.T. 6. E-02 L.T. 7. E-02 L.T. 3. E-01 L.T. 4. E-00 L.T. 4. E-02 L.T. 4. E-02 6.60+-1.98E-02 L.T. 7. E-01 L.T. 2. E-01 L.T. 2. E-01 1.30+-0.46E 00 1.25+-0.12E 00 L.T. 3. E-02		05/16 05/16 05/16 05/16 05/16 05/16 05/16 05/16 05/16 05/16 05/16 05/16 05/16 05/16 05/16 05/16 05/16 05/16 06/15		4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 5
70940	88831 88000055B		03/19	1050	PU-238 PU-239	L.T. 2. E-02 L.T. 2. E-02		04/26 04/26		5 5

VOLATILE ORGANIC COMPOUNDS

VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-90

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB10023SE
 Sample Number: 89673

Matrix: Soil

Date Sampled: 3/19/92
 Date Analyzed: 3/25/92

Date Received: 3/20/92
 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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758- 90

Page 2 of 2

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
1,1,2,2-Tetrachloroethane.....		5
1,3-Dichlorobenzene {b}.....		5
1,4-Dichlorobenzene {b}.....		5
1,2-Dichlorobenzene {b}.....		5
SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	104	70 - 121
Toluene-D8	114	81 - 117
4-Bromofluorobenzene	92	74 - 121

COMMENTS:

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

Approved By: Nancy McDonald for CM Date: 4/09/92
 Cheryl Matterson, Associate Chemist

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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-93

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB10029SE
 Sample Number: 89679

Matrix: Soil

Date Sampled: 3/19/92
 Date Analyzed: 3/25/92

Date Received: 3/20/92
 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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758- 93

Page 2 of 2

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

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	103	70 - 121
Toluene-D8	117	81 - 117
4-Bromofluorobenzene	85	74 - 121

COMMENTS:

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

Approved By: Nancy McDonald for CM Date: 4/09/92
 Cheryl Matterson, Associate Chemist

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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-81

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB10067SE
 Sample Number: 89655

Matrix: Soil

Date Sampled: 3/19/92
 Date Analyzed: 3/25/92

Date Received: 3/20/92
 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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758- 81

Page 2 of 2

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

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	102	70 - 121
Toluene-D8	107	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 McDonald Loren Date: 4/09/92
 Cheryl Matterson, Associate Chemist

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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-84

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB10079SE
 Sample Number: 89661

Matrix: Soil

Date Sampled: 3/19/92
 Date Analyzed: 3/26/92

Date Received: 3/20/92
 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.....	1	5
2-Hexanone.....		25
Tetrachloroethene.....		5
Chlorobenzene.....		5
Ethylbenzene.....		5
m & p-Xylene.....		5
o-Xylene.....		5
Styrene.....		5



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758- 84

Page 2 of 2

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

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	93	70 - 121
Toluene-D8	105	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.
- {d} The result reported for Toluene is an estimated concentration below the established reporting limit.

Approved By: Nancy McDonald for CM Date: 4/09/92
 Cheryl Matterson, Associate Chemist

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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-87

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB10081SE
 Sample Number: 89667

Matrix: Soil

Date Sampled: 3/19/92
 Date Analyzed: 3/26/92

Date Received: 3/20/92
 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.....	1	5
2-Hexanone.....		25
Tetrachloroethene.....		5
Chlorobenzene.....		5
Ethylbenzene.....		5
m & p-Xylene.....	1	5
o-Xylene.....		5
Styrene.....		5



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758- 87

Page 2 of 2

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
1,1,2,2-Tetrachloroethane.....		5
1,3-Dichlorobenzene {b}.....		5
1,4-Dichlorobenzene {b}.....		5
1,2-Dichlorobenzene {b}.....		5
SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	94	70 - 121
Toluene-D8	102	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} The results reported for Toluene and m & p Xylene are estimated concentrations below the established reporting limits.

Approved By: Nancy McDonald for CM Date: 4/09/92
 Cheryl Matterson, Associate Chemist

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



SEMI-VOLATILE ORGANIC COMPOUNDS

SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-89

Page 1 of 3

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB10023SD
 Sample Number: 89672

Matrix: Soil

Date Sampled: 3/19/92
 Date Extracted: 3/23/92

Date Received: 3/20/92
 Date Analyzed: 4/02/92

Batch Number: 920323-2602

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-89

Page 2 of 3

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
Diieldrin {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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-89

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	63	25 - 121
Phenol-d5.....	74	24 - 113
Nitrobenzene-d5.....	57	23 - 120
2-Fluorobiphenyl.....	82	30 - 115
2,4,6-Tribromophenol.....	103	19 - 122
Terphenyl-d14.....	89	18 - 137

COMMENTS:

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

Approved By: Nancy McDonald for CM Date: 4/08/92
Cheryl Matterson, Associate Chemist

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-92

Page 1 of 3

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB10029SD
 Sample Number: 89678

Matrix: Soil

Date Sampled: 3/19/92
 Date Extracted: 3/23/92

Date Received: 3/20/92
 Date Analyzed: 4/02/92

Batch Number: 920323-2602

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



SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}

Preparation Method: EPA 3550

Lab Project-Sample ID: 5758-92

Page 2 of 3

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-92

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	58	25 - 121
Phenol-d5.....	74	24 - 113
Nitrobenzene-d5.....	62	23 - 120
2-Fluorobiphenyl.....	76	30 - 115
2,4,6-Tribromophenol.....	99	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 Date: 4/08/92
Cheryl Matterson, Associate Chemist

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-80

Page 1 of 3

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB10067SD
 Sample Number: 89654

Matrix: Soil

Date Sampled: 3/19/92
 Date Extracted: 3/23/92

Date Received: 3/20/92
 Date Analyzed: 4/03/92

Batch Number: 920323-2602

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-80

Page 2 of 3

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-80

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	64	25 - 121
Phenol-d5.....	71	24 - 113
Nitrobenzene-d5.....	71	23 - 120
2-Fluorobiphenyl.....	76	30 - 115
2,4,6-Tribromophenol.....	92	19 - 122
Terphenyl-d14.....	76	18 - 137

COMMENTS:

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

Approved By: Nancy McDonald for CM Date: 4/08/92
Cheryl Matterson, Associate Chemist

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-83

Page 1 of 3

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB10079SD
Sample Number: 89660

Matrix: Soil

Date Sampled: 3/19/92
Date Extracted: 3/23/92

Date Received: 3/20/92
Date Analyzed: 4/03/92

Batch Number: 920323-2602

Dilution Factor: 1

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-83

Page 2 of 3

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.....		1600
4-Nitroaniline.....		1600
4,6-Dinitro-2-methylphenol.....		330
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.....		660
3,3'-Dichlorobenzidine.....		330
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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-83

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	51	25 - 121
Phenol-d5.....	63	24 - 113
Nitrobenzene-d5.....	59	23 - 120
2-Fluorobiphenyl.....	69	30 - 115
2,4,6-Tribromophenol.....	96	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 em Date: 4/08/92
Cheryl Matterson, Associate Chemist

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-86

Page 1 of 3

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB10081SD
Sample Number: 89666

Matrix: Soil

Date Sampled: 3/19/92
Date Extracted: 3/23/92

Date Received: 3/20/92
Date Analyzed: 4/02/92

Batch Number: 920323-2602

Dilution Factor: 1

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-86

Page 2 of 3

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.....		1600
4-Nitroaniline.....		1600
4,6-Dinitro-2-methylphenol.....		330
N-Nitrosodiphenylamine.....		330
4-Bromophenyl phenyl ether.....		330
beta-BHC {b}.....		330
Lindane {b}.....		330
Hexachlorobenzene.....		1600
Pentachlorophenol.....		330
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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-86

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	60	25 - 121
Phenol-d5.....	80	24 - 113
Nitrobenzene-d5.....	72	23 - 120
2-Fluorobiphenyl.....	85	30 - 115
2,4,6-Tribromophenol.....	98	19 - 122
Terphenyl-d14.....	98	18 - 137

COMMENTS:

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

Approved By: Nancy McDonald for CM Date: 4/08/92
Cheryl Matterson, Associate Chemist

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



METALS

PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5758-91

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB10023SF
Sample Number: 89674

Matrix: Soil

Date Sampled: 3/19/92
Date Digested: 3/23/92 {b}

Date Received: 3/20/92
Batch Number: 920323-1104 {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	3/26/92
Arsenic (As)/7060.....	4.6	1	.50	3/26/92
Beryllium (Be)/6010.....	.65	1	.25	3/26/92
Cadmium (Cd)/6010.....		1	.50	3/26/92
Chromium (Cr)/6010.....	19.	1	1.0	3/26/92
Copper (Cu)/6010.....	17.	1	1.0	3/26/92
Lead (Pb)/6010.....	17.	1	2.5	3/26/92
Mercury (Hg)/7471.....		1	.25	3/26/92
Nickel (Ni)/6010.....	15.	1	1.0	3/26/92
Selenium (Se)/7740.....	1.4	1	.25	3/26/92
Silver (Ag)/6010.....		1	1.0	3/26/92
Thallium (Tl)/7841.....		1	.50	3/31/92
Zinc (Zn)/6010.....	61.	1	1.0	3/26/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/23/92, Batch # 920323-1105; and Hg was digested on 3/23/92, Batch # 920323-1106 .
- {c} No entry in the "Concentration" means the metal is not detected at all.

Approved by: Nancy McDonald Loren Date: 4/09/92
Cheryl Matterson, Association Chemist

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



PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5758-94

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB10029SF
Sample Number: 89680

Matrix: Soil

Date Sampled: 3/19/92
Date Digested: 3/23/92 {b}

Date Received: 3/20/92
Batch Number: 920323-1104 {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	3/26/92
Arsenic (As)/7060.....		1	.50	3/26/92
Beryllium (Be)/6010.....	.87	1	.25	3/26/92
Cadmium (Cd)/6010.....		1	.50	3/26/92
Chromium (Cr)/6010.....	24.	1	1.0	3/26/92
Copper (Cu)/6010.....	24.	1	1.0	3/26/92
Lead (Pb)/6010.....	18.	1	2.5	3/26/92
Mercury (Hg)/7471.....		1	.25	3/26/92
Nickel (Ni)/6010.....	20.	1	1.0	3/26/92
Selenium (Se)/7740.....	1.9	1	.25	3/26/92
Silver (Ag)/6010.....		1	1.0	3/26/92
Thallium (Tl)/7841.....		1	.50	3/31/92
Zinc (Zn)/6010.....	80.	1	1.0	3/26/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/23/92, Batch # 920323-1105; and Hg was digested on 3/23/92, Batch # 920323-1106 .
- {c} No entry in the "Concentration" means the metal is not detected at all.

Approved by: Nancy McDonald for CM Date: 4/09/92
Cheryl Matterson, Association Chemist

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



PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5758-82

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB10067SF
Sample Number: 89656

Matrix: Soil

Date Sampled: 3/19/92
Date Digested: 3/23/92 {b}

Date Received: 3/20/92
Batch Number: 920323-1104 {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	3/26/92
Arsenic (As)/7060.....	3.4	1	.50	3/26/92
Beryllium (Be)/6010.....	.88	1	.25	3/26/92
Cadmium (Cd)/6010.....		1	.50	3/26/92
Chromium (Cr)/6010.....	25.	1	1.0	3/26/92
Copper (Cu)/6010.....	22.	1	1.0	3/26/92
Lead (Pb)/6010.....	17.	1	2.5	3/26/92
Mercury (Hg)/7471.....		1	.25	3/26/92
Nickel (Ni)/6010.....	19.	1	1.0	3/26/92
Selenium (Se)/7740.....	2.0	1	.25	3/26/92
Silver (Ag)/6010.....		1	1.0	3/26/92
Thallium (Tl)/7841.....		1	.50	3/31/92
Zinc (Zn)/6010.....	80.	1	1.0	3/26/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/23/92, Batch # 920323-1105; and Hg was digested on 3/23/92, Batch # 920323-1106 .
- {c} No entry in the "Concentration" means the metal is not detected at all.

Approved by: Nancy McDonald for CM Date: 4/09/92
Cheryl Matterson, Association Chemist

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



PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5758-85

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB10079SF
Sample Number: 89662

Matrix: Soil

Date Sampled: 3/19/92
Date Digested: 3/23/92 {b}

Date Received: 3/20/92
Batch Number: 920323-1104 {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	3/26/92
Arsenic (As)/7060.....	3.1	1	.50	3/26/92
Beryllium (Be)/6010.....	.64	1	.25	3/26/92
Cadmium (Cd)/6010.....		1	.50	3/26/92
Chromium (Cr)/6010.....	17.	1	1.0	3/26/92
Copper (Cu)/6010.....	16.	1	1.0	3/26/92
Lead (Pb)/6010.....	13.	1	2.5	3/26/92
Mercury (Hg)/7471.....		1	.25	3/26/92
Nickel (Ni)/6010.....	13.	1	1.0	3/26/92
Selenium (Se)/7740.....	.35	1	.25	3/26/92
Silver (Ag)/6010.....		1	1.0	3/26/92
Thallium (Tl)/7841.....		1	.50	3/31/92
Zinc (Zn)/6010.....	60.	1	1.0	3/26/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/23/92, Batch # 920323-1105; and Hg was digested on 3/23/92, Batch # 920323-1106 .
- {c} No entry in the "Concentration" means the metal is not detected at all.

Approved by: Nancy McDonald for CM Date: 4/09/92
Cheryl Matterson, Association Chemist

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



PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5758-88

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB10081SF
Sample Number: 89668

Matrix: Soil

Date Sampled: 3/19/92
Date Digested: 3/23/92 {b}

Date Received: 3/20/92
Batch Number: 920323-1104 {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	3/26/92
Arsenic (As)/7060.....	4.7	1	.50	3/26/92
Beryllium (Be)/6010.....	.64	1	.25	3/26/92
Cadmium (Cd)/6010.....		1	.50	3/26/92
Chromium (Cr)/6010.....	18.	1	1.0	3/26/92
Copper (Cu)/6010.....	15.	1	1.0	3/26/92
Lead (Pb)/6010.....	13.	1	2.5	3/26/92
Mercury (Hg)/7471.....		1	.25	3/26/92
Nickel (Ni)/6010.....	13.	1	1.0	3/26/92
Selenium (Se)/7740.....		1	.25	3/26/92
Silver (Ag)/6010.....		1	1.0	3/26/92
Thallium (Tl)/7841.....		1	.50	3/31/92
Zinc (Zn)/6010.....	54.	1	1.0	3/26/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/23/92, Batch # 920323-1105; and Hg was digested on 3/23/92, Batch # 920323-1106 .
- {c} No entry in the "Concentration" means the metal is not detected at all.

Approved by: Nancy McDonald Loren Date: 4/09/92
Cheryl Matterson, Association Chemist

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



RADIONUCLIDES

Table 1. 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		Conc. pCi/g dry	
				I-129	Date Analyzed	Sr-90	Date Analyzed
89275	BB11006SA	03/18/92	SPS-1943	<0.3	06/11	0.02±0.01	06/09
88963	BB07058SA	03/19/92	1944	<0.2	06/12	0.01±0.01	06/10
88969	BB07012SA	03/19/92	1945	<0.3	06/11	0.01±0.01	06/10
88975	BB07038SA	03/19/92	1946	<0.2	06/12	0.02±0.01	06/10
88981	M 7 SA	03/19/92	1947	<0.3	06/12	0.04±0.01	06/10
89651	BB10067SA	03/19/92	1948	<0.3	06/12	0.06±0.01	06/10
89657	BB10078SA	03/19/92	1949	<0.3	06/15	0.05±0.01	06/10
89663	BB10081SA	03/19/92	1950	<0.3	06/16	0.02±0.01	06/10
89669	BB10023SA	03/19/92	1951	<0.3	06/15	0.02±0.01	06/10
89675	BB10029SA	03/19/92	1952	<0.3	06/15	0.02±0.01	07/15
89825	BB02078SA	03/19/92	1953	<0.3	06/16	0.02±0.01	06/10
88801	BB02070SA	03/19/92	1954	<0.2	06/16	0.01±0.01	06/12
88807	BB02032SA	03/19/92	1955	<0.3	06/16	0.02±0.01	06/12
88813	BB02031SA	03/19/92	1956	<0.3	06/16	0.02±0.01	06/20
88819	BB02051SA	03/19/92	1957	<0.3	06/17	0.02±0.01	06/20
88825	BB09100SA	03/19/92	1958	<0.3	06/17	0.02±0.01	06/12
88833	BB00005SA	03/19/92	1959	<0.3	06/17	0.02±0.01	06/12
88834	M 6 SA	03/19/92	1960	<0.3	06/17	0.05±0.01	06/12
88951	BB07035SA	03/19/92	1961	<0.3	06/17	0.02±0.01	06/11
88957	BB07036SA	03/19/92	1962	<0.4	06/17	0.02±0.01	06/11
89351	BB08034SA	03/19/92	1963	<0.3	06/17	<0.01	07/15
89357	BB08035SA	03/19/92	1964	<0.3	06/17	<0.01	06/11
89363	BB08003SA	03/19/92	1965	<0.3	06/18	0.02±0.01	06/11
89369	BB08027SA	03/19/92	1966	<0.3	06/17	0.01±0.01	07/15
89375	BB08038SA	03/19/92	1967	<0.3	06/18	0.02±0.01	06/11
89382	M 5 SA	03/19/92	1968	<0.2	06/18	0.20±0.08	06/11
89801	BB02071SA	03/19/92	1969	<0.3	06/18	0.01±0.01	06/11
89807	BB02045SA	03/19/92	1970	<0.2	06/19	<0.01	06/11
89813	BB02060SA	03/19/92	1971	<0.2	06/19	0.01±0.01	06/11
89819	BB02075SA	03/19/92	1972	<0.3	06/19	0.01±0.01	06/11

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 ISOTOPIES

RUN DATE 06/19/92

REPORT OF ANALYSIS

PAGE 3

WORK ORDER NUMBER 3-0629
 CUSTOMER P.O. NUMBER 04-0029403-012
 DATE RECEIVED 03/24/92
 DELIVERY DATE 04/26/92
 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	STOP DATE	TIME	NUCLIDE	ACTIVITY (PCI/GH DRY)	NUCL-UNIT-% U/M	MID-COUNT TIME DATE	VOLUME - UNITS ASH-WGHT-%	LAB.
70954	88977 8807038SC		03/19		1300	TH-228 H-3	1.26+-0.13E 00 L.T. 2. E-02		05/21 06/18		4 5
70955	88982 M7SB	MS	03/19		1215	PU-238 PU-239	L.T. 1. E-01 3.6 +-1.1 E-01		05/01 05/01		6 6
70956	88983 M7SC	MS	03/19		1215	BE-7 K-40 MN-54 CO-58 FE-59 CO-60 ZN-65 ZR-95 RU-103 RU-106 I-131 CS-134 CS-137 BA-140 CE-141 CE-144 RA-226 TH-228 H-3	L.T. 1. E 00 2.39+-0.24E 01 L.T. 4. E-02 L.T. 7. E-02 L.T. 3. E-01 L.T. 3. E-02 L.T. 1. E-01 L.T. 9. E-02 L.T. 2. E-01 L.T. 3. E-01 L.T. 1. E 02 L.T. 4. E-02 9.99+-1.00E-01 L.T. 5. E 00 L.T. 4. E-01 L.T. 3. E-01 1.79+-0.54E 00 1.26+-0.13E 00 5.1 +-0.2 E-01		06/22 06/22 06/22 06/22 06/22 06/22 06/22 06/22 06/22 06/22 06/22 06/22 06/22 06/22 06/22 06/22 06/22 06/22 06/22 06/22 06/22 06/22		4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4

70957 89652 8810067SB
 03/19 1415
 PU-238 L.T. 3. E-02
 PU-239 L.T. 8. E-03
 11W/0955 was prepared with 3.3 E-01 pCi/g of Pu-239. 11W/0956 was prepared with 7.74E-01 pCi/g of Cs-137. The unspiked Cs-137 activity of the sample was 9.04E-02 pCi/g. 11W/0956 was also prepared with 5.7 E-01 pCi/g of H-3. The unspiked H-3 activity was 2.6 L-02 pCi/g.

TELEDYNE ISOTOPIES

RUN DATE 06/19/92

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PAGE 4

WORK ORDER NUMBER

3-0629

CUSTOMER P.O. NUMBER

04-0029403-012

DATE RECEIVED

03/24/92

DELIVERY DATE

04/26/92

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

S O I L

TELEDYNE SAMPLE NUMBER

70958 89653 BB100675C

CUSTOMER'S IDENTIFICATION

STA NUM

03/19 1415

COLLECTION-DATE
 START DATE

STOP DATE

ACTIVITY (%CI/GM DRY)

L.T. 7. E-01

2.48+-0.25E 01

L.T. 5. E-02

L.T. 6. E-02

L.T. 2. E-01

L.T. 4. E-02

L.T. 1. E-01

L.T. 8. E-02

L.T. 1. E-01

L.T. 4. E-01

L.T. 8. E 00

L.T. 5. E-02

9.80+-2.87E-02

L.T. 1. E 00

L.T. 2. E-01

L.T. 2. E-01

2.12+-0.49E 00

4.59+-0.73E-01

L.T. 2. E-02

L.T. 2. E-02

L.T. 5. E-03

L.T. 7. E-01

2.10+-0.21E 01

L.T. 4. E-02

L.T. 6. F-02

L.T. 2. E-01

L.T. 4. E-02

L.T. 1. E-01

L.T. 8. E-02

L.T. 1. E-01

L.T. 4. E-01

MID-COUNT TIME DATE

05/21

05/21

05/21

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VOLUME - UNITS ASH-MGHT-%

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TELEDYNE ISOTOPPES
REPORT OF ANALYSIS

RUN DATE 06/19/92

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WORK ORDER NUMBER 3-0629
CUSTOMER P.O. NUMBER 04-0029403-012
DATE RECEIVED 03/24/92
DELIVERY DATE 04/26/92

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	STOP DATE	NUCLIDE	ACTIVITY (PCI/CM DRY)	NUCL-UNIT-% U/M %	MID-COUNT TIME DATE	VOLUME - UNITS ASH-WGHT-%	LAB.
70960	89659 88100795C		03/19 1430		I-131	L.T. 8. E 00		05/21		4
					CS-134	L.T. 5. E-02		05/21		4
					CS-137	1.52+-0.41E-01		05/21		4
					RA-140	L.T. 1. E 00		05/21		4
					CE-141	L.T. 2. E-01		05/21		4
					CE-144	L.T. 3. E-01		05/21		4
					RA-226	2.35+-0.71E 00		05/21		4
					TH-228	1.16+-0.12E 00		05/21		4
					H-3	L.T. 1. E-02		06/18		5
70961	89664 88100815B		03/19 1440		PU-238	L.T. 3. E-02		05/01		6
					PU-239	L.T. 1. E-02		05/01		6
70962	89665 88100815C		03/19 1440		BE-7	L.T. 7. E-01		05/21		4
					K-40	1.97+-0.20E 01		05/21		4
					MN-54	L.T. 5. E-02		05/21		4
					CO-58	L.T. 6. E-02		05/21		4
					FF-59	L.T. 2. E-01		05/21		4
					CO-60	L.T. 4. E-02		05/21		4
					ZN-65	L.T. 1. E-01		05/21		4
					ZR-95	L.T. 8. E-02		05/21		4
					RU-103	L.T. 1. E-01		05/21		4
					RU-106	L.T. 4. E-01		05/21		4
					I-131	L.T. 8. E 00		05/21		4
					CS-134	L.T. 5. E-02		05/21		4
					CS-137	9.28+-3.84E-02		05/21		4
					BA-140	L.T. 1. E 00		05/21		4
					CE-141	L.T. 2. E-01		05/21		4
					CE-144	L.T. 3. E-01		05/21		4
					RA-226	1.48+-0.64E 00		05/21		4
					TH-228	1.18+-0.12E 00		05/21		4
					H-3	L.T. 2. E-02		06/18		5

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 06/19/02
PAGE 6

WORK ORDER NUMBER 3-0629
 CUSTOMER P.O. NUMBER 04-0029403-012
 DATE RECEIVED 03/24/92
 DELIVERY DATE 04/26/92
 CUSTOMER'S IDENTIFICATION 92714

ERIC SMITH
 MCLAREN/HART
 16755 VON KARMAN AVE
 IRVINE CA

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	STOP DATE	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M	MID-COUNT TIME DATE	VOLUME - UNITS ASH-WGHT-%	LAB.
70963	89670 88100235B		03/19 1450		PU-238	L.T. 4. E-02		05/01		6
					PU-239	L.T. 2. E-02		05/01		6
70964	89671 88100235C		03/19 1450		BE-7	L.T. 1. E 00		05/21		4
					K-40	2.06+0.21E 01		05/21		4
					MN-54	L.T. 6. E-02		05/21		4
					CO-58	L.T. 9. E-02		05/21		4
					FE-59	L.T. 3. E-01		05/21		4
					CO-60	L.T. 6. E-02		05/21		4
					ZN-65	L.T. 2. E-01		05/21		4
					ZR-95	L.T. 1. E-01		05/21		4
					RU-103	L.T. 1. E-01		05/21		4
					RU-106	L.T. 6. E-01		05/21		4
					I-131	L.T. 1. E 01		05/21		4
					CS-134	L.T. 8. E-02		05/21		4
					CS-137	1.59+0.39E-01		05/21		4
					BA-140	L.T. 1. E 00		05/21		4
					CE-141	L.T. 4. E-01		05/21		4
					CE-144	L.T. 5. E-01		05/21		4
					RA-226	L.T. 1. E 00		05/21		4
					TH-228	1.30+0.13E 00		05/21		4
					H-3	L.T. 3. E-02		06/18		5
70965	89676 88100295B		03/19 1500		PU-238	L.T. 4. E-02		05/01		6
					PU-239	L.T. 1. E-02		05/01		6
70966	89677 88100295C		03/19 1500		BE-7	L.T. 7. E-01		05/21		4
					K-40	2.31+0.23E 01		05/21		4
					MN-54	L.T. 4. E-02		05/21		4
					CO-58	L.T. 6. E-02		05/21		4
					FE-59	L.T. 2. E-01		05/21		4
					CO-60	L.T. 4. E-02		05/21		4
					ZN-65	L.T. 1. E-01		05/21		4

TELEDYNE ISOTOPIES

RUN DATE 06/19/02

REPORT OF ANALYSIS

PAGE 7

WORK ORDER NUMBER 3-0629
 CUSTOMER P.O. NUMBER 04-0029403-012
 DATE RECEIVED 03/24/92
 DELIVERY DATE 04/26/92

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

SOIL

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	STOP DATE	TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M #	MID-COUNT TIME DATE	VOLUME - UNITS ASH-NIGHT-%	LAB.
70966	89677 88100295C		03/19		1500	ZR-95	L.T. 8. E-02		05/21		4
						RU-103	L.T. 1. E-01		05/21		4
						RU-106	L.T. 4. E-01		05/21		4
						I-131	L.T. 7. E-00		05/21		4
						CS-134	L.T. 5. E-02		05/21		4
						CS-137	6.76+-2.82E-02		05/21		4
						BA-140	L.T. 1. E-00		05/21		4
						CE-141	L.T. 2. E-01		05/21		4
						CE-144	L.T. 2. E-01		05/21		4
						RA-226	1.84+-0.59E 00		05/21		4
						TH-228	1.30+-0.13E 00		05/21		4
						H-3	L.T. 2. E-02		06/18		5
70967	89692 88000065C		03/19		1430	RE-7	L.T. 6. E-01		05/21		4
						K-40	2.29+-0.23E 01		05/21		4
						MN-54	L.T. 4. E-02		05/21		4
						CO-58	L.T. 6. E-02		05/21		4
						FE-59	L.T. 2. E-01		05/21		4
						CO-60	L.T. 4. E-02		05/21		4
						ZN-65	L.T. 1. E-01		05/21		4
						ZR-95	L.T. 7. E-02		05/21		4
						RU-103	L.T. 9. E-02		05/21		4
						RU-106	L.T. 4. E-01		05/21		4
						I-131	L.T. 7. E-00		05/21		4
						CS-134	L.T. 5. E-02		05/21		4
						CS-137	1.31+-0.35E-01		05/21		4
						BA-140	L.T. 1. E-00		05/21		4
						CE-141	L.T. 2. E-01		05/21		4
						CE-144	L.T. 3. E-01		05/21		4
						RA-226	1.47+-0.51E 00		05/21		4
						TH-228	1.08+-0.11E 00		05/21		4
						H-3	2.2 +-1.0 E-02		06/18		5

VOLATILE ORGANIC COMPOUNDS

VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-109

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB11006SE
 Sample Number: 89279

Matrix: Soil

Date Sampled: 3/18/92
 Date Analyzed: 3/25/92

Date Received: 3/20/92
 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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-109

Page 2 of 2

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

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	97	70 - 121
Toluene-D8	99	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: 4/09/92
 Cheryl Matterson, Associate Chemist

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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-98

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB11018SE
 Sample Number: 89255

Matrix: Soil

Date Sampled: 3/18/92
 Date Analyzed: 3/25/92

Date Received: 3/20/92
 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.....	1	5
2-Hexanone.....		25
Tetrachloroethene.....		5
Chlorobenzene.....		5
Ethylbenzene.....		5
m & p-Xylene.....		5
o-Xylene.....		5
Styrene.....		5



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758- 98

Page 2 of 2

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
1,1,2,2-Tetrachloroethane.....		5
1,3-Dichlorobenzene {b}.....		5
1,4-Dichlorobenzene {b}.....		5
1,2-Dichlorobenzene {b}.....		5
SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	97	70 - 121
Toluene-D8	99	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.
- {d} The result reported for Toluene is an estimated concentration below the established reporting limit.

Approved By: Nancy McDonald for CM Date: 4/09/92
 Cheryl Matterson, Associate Chemist

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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-106

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB11032SE
 Sample Number: 89273

Matrix: Soil

Date Sampled: 3/18/92
 Date Analyzed: 3/25/92

Date Received: 3/20/92
 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



VOLATILE ORGANICS

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

Preparation Method: EPA 5030

Lab Project-Sample ID: 5758-106

Page 2 of 2

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

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	94	70 - 121
Toluene-D8	104	81 - 117
4-Bromofluorobenzene	89	74 - 121

COMMENTS:

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

Approved By: Nancy McDonald for CM Date: 4/09/92
Cheryl Matterson, Associate Chemist

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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-103

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB11057SE
 Sample Number: 89267

Matrix: Soil

Date Sampled: 3/18/92
 Date Analyzed: 3/25/92

Date Received: 3/20/92
 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.....	1	5
2-Hexanone.....		25
Tetrachloroethene.....		5
Chlorobenzene.....		5
Ethylbenzene.....		5
m & p-Xylene.....		5
o-Xylene.....		5
Styrene.....		5



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-103

Page 2 of 2

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

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	102	70 - 121
Toluene-D8	102	81 - 117
4-Bromofluorobenzene	92	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} The result reported for Toluene is an estimated concentration below the established reporting limit.

Approved By: Nancy McDonald for CM Date: 4/09/92
 Cheryl Matterson, Associate Chemist

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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-112

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB11061SE
 Sample Number: 89289

Matrix: Soil

Date Sampled: 3/18/92
 Date Analyzed: 3/25/92

Date Received: 3/20/92
 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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-112

Page 2 of 2

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
1,1,2,2-Tetrachloroethane.....		5
1,3-Dichlorobenzene {b}.....		5
1,4-Dichlorobenzene {b}.....		5
1,2-Dichlorobenzene {b}.....		5
SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	96	70 - 121
Toluene-D8	102	81 - 117
4-Bromofluorobenzene	91	74 - 121

COMMENTS:

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

Approved By: Nancy McDonald for CM Date: 4/09/92
 Cheryl Matterson, Associate Chemist

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



SEMI-VOLATILE ORGANIC COMPOUNDS

SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5784-1

Page 1 of 3

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: **BB11006SD**
 Sample Number: 89278

Matrix: Soil

Date Sampled: 3/18/92
 Date Extracted: 3/30/92

Date Received: 3/30/92
 Date Analyzed: 4/08/92

Batch Number: 920330-1902

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5784-1

Page 2 of 3

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}.....	190	330
Endosulfan sulfate.....		330
4,4'-DDT {b}.....	46	330
4,4'-DDD {b}.....	46	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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5784-1

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	52	25 - 121
Phenol-d5.....	61	24 - 113
Nitrobenzene-d5.....	53	23 - 120
2-Fluorobiphenyl.....	59	30 - 115
2,4,6-Tribromophenol.....	78	19 - 122
Terphenyl-d14.....	69	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 results reported for 4,4'-DDE, 4,4'-DDT, and 4,4'-DDD are estimated concentrations below the established reporting limits.

Approved By: Nancy McDonald for CM Date: 4/14/92
 Cheryl Matterson, Associate Chemist

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-97

Page 1 of 3

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB11018SD
 Sample Number: 89254

Matrix: Soil

Date Sampled: 3/18/92
 Date Extracted: 3/23/92

Date Received: 3/20/92
 Date Analyzed: 4/03/92

Batch Number: 920323-2602

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-97

Page 2 of 3

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}.....	310	330
Endosulfan sulfate.....		330
4,4'-DDT {b}.....		330
4,4'-DDD {b}.....	79	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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-97

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SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	75	25 - 121
Phenol-d5.....	78	24 - 113
Nitrobenzene-d5.....	70	23 - 120
2-Fluorobiphenyl.....	83	30 - 115
2,4,6-Tribromophenol.....	97	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.
- {d} The results for 4,4'-DDE and 4,4'-DDD are reported as estimated concentrations below the established reporting limits.

Approved By: Nancy McDonald for cm Date: 4/08/92
Cheryl Matterson, Associate Chemist

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-105

Page 1 of 3

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB11032SD
 Sample Number: 89272

Matrix: Soil

Date Sampled: 3/18/92
 Date Extracted: 3/23/92

Date Received: 3/20/92
 Date Analyzed: 4/02/92

Batch Number: 920323-2602

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-105

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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}.....	340	330
Endosulfan sulfate.....		330
4,4'-DDT {b}.....	76	330
4,4'-DDD {b}.....	85	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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-105

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SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	80	25 - 121
Phenol-d5.....	80	24 - 113
Nitrobenzene-d5.....	74	23 - 120
2-Fluorobiphenyl.....	76	30 - 115
2,4,6-Tribromophenol.....	90	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.
- {d} The results for 4,4'-DDT and 4,4'-DDD are reported as estimated concentrations below the established reporting limits.

Approved By: Nancy McDonald for CM Date: 4/08/92
 Cheryl Matterson, Associate Chemist

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-102

Page 1 of 3

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB11057SD
 Sample Number: 89266

Matrix: Soil

Date Sampled: 3/18/92
 Date Extracted: 3/23/92

Date Received: 3/20/92
 Date Analyzed: 4/02/92

Batch Number: 920323-2602

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-102

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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.....	35	330
Heptachlor Epoxide.....		330
Pyrene.....	45	330
Dieldrin {b}.....		330
4,4'-DDE {b}.....	320	330
Endosulfan sulfate.....		330
4,4'-DDT {b}.....		330
4,4'-DDD {b}.....	110	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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-102

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SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	75	25 - 121
Phenol-d5.....	79	24 - 113
Nitrobenzene-d5.....	69	23 - 120
2-Fluorobiphenyl.....	71	30 - 115
2,4,6-Tribromophenol.....	90	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.
 {d} The results for Fluoranthene, Pyrene, 4,4'-DDE, and 4,4'-DDD are reported as estimated concentrations below the established reporting limits.

Approved By: Nancy McDonald for CM Date: 4/08/92
 Cheryl Matterson, Associate Chemist

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-100

Page 1 of 3

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB11061SD
 Sample Number: 89260

Matrix: Soil

Date Sampled: 3/18/92
 Date Extracted: 3/23/92

Date Received: 3/20/92
 Date Analyzed: 4/02/92

Batch Number: 920323-2602

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-100

Page 2 of 3

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5758-100

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SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	86	25 - 121
Phenol-d5.....	86	24 - 113
Nitrobenzene-d5.....	75	23 - 120
2-Fluorobiphenyl.....	88	30 - 115
2,4,6-Tribromophenol.....	105	19 - 122
Terphenyl-d14.....	97	18 - 137

COMMENTS:

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

Approved By: Nancy McDonald for CM Date: 4/08/92
Cheryl Matterson, Associate Chemist

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



METALS

PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5758-110

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB11006SF
Sample Number: 89280

Matrix: Soil

Date Sampled: 3/18/92
Date Digested: 3/23/92 {b}

Date Received: 3/20/92
Batch Number: 920323-1104 {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	3/26/92
Arsenic (As)/7060.....	4.4	1	.50	3/26/92
Beryllium (Be)/6010.....	.57	1	.25	3/26/92
Cadmium (Cd)/6010.....		1	.50	3/26/92
Chromium (Cr)/6010.....	14.	1	1.0	3/26/92
Copper (Cu)/6010.....	16.	1	1.0	3/26/92
Lead (Pb)/6010.....	19.	1	2.5	3/26/92
Mercury (Hg)/7471.....		1	.25	3/26/92
Nickel (Ni)/6010.....	11.	1	1.0	3/26/92
Selenium (Se)/7740.....	1.3	1	.25	3/26/92
Silver (Ag)/6010.....		1	1.0	3/26/92
Thallium (Tl)/7841.....		1	.50	3/31/92
Zinc (Zn)/6010.....	69.	1	1.0	3/26/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/23/92, Batch # 920323-1105; and Hg was digested on 3/23/92, Batch # 920323-1106 .
- {c} No entry in the "Concentration" means the metal is not detected at all.

Approved by: Nancy McDonald for CM Date: 4/09/92
Cheryl Matterson, Association Chemist

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



PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5758-99

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB11018SF
Sample Number: 89256

Matrix: Soil

Date Sampled: 3/18/92
Date Digested: 3/23/92 {b}

Date Received: 3/20/92
Batch Number: 920323-1104 {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	3/26/92
Arsenic (As)/7060.....	4.0	1	.50	3/26/92
Beryllium (Be)/6010.....	.56	1	.25	3/26/92
Cadmium (Cd)/6010.....		1	.50	3/26/92
Chromium (Cr)/6010.....	14.	1	1.0	3/26/92
Copper (Cu)/6010.....	15.	1	1.0	3/26/92
Lead (Pb)/6010.....	19.	1	2.5	3/26/92
Mercury (Hg)/7471.....		1	.25	3/26/92
Nickel (Ni)/6010.....	10.	1	1.0	3/26/92
Selenium (Se)/7740.....	.59	1	.25	3/26/92
Silver (Ag)/6010.....		1	1.0	3/26/92
Thallium (Tl)/7841.....		1	.50	3/31/92
Zinc (Zn)/6010.....	65.	1	1.0	3/26/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/23/92, Batch # 920323-1105; and Hg was digested on 3/23/92, Batch # 920323-1106 .
- {c} No entry in the "Concentration" means the metal is not detected at all.

Approved by: Nancy McDonald for CM Date: 4/09/92
Cheryl Matterson, Association Chemist

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



PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5758-107

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB11032SF
Sample Number: 89274

Matrix: Soil

Date Sampled: 3/18/92
Date Digested: 3/23/92 {b}

Date Received: 3/20/92
Batch Number: 920323-1104 {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	3/26/92
Arsenic (As)/7060.....	4.1	1	.50	3/26/92
Beryllium (Be)/6010.....	.60	1	.25	3/26/92
Cadmium (Cd)/6010.....		1	.50	3/26/92
Chromium (Cr)/6010.....	16.	1	1.0	3/26/92
Copper (Cu)/6010.....	15.	1	1.0	3/26/92
Lead (Pb)/6010.....	22.	1	2.5	3/26/92
Mercury (Hg)/7471.....		1	.25	3/26/92
Nickel (Ni)/6010.....	11.	1	1.0	3/26/92
Selenium (Se)/7740.....	.72	1	.25	3/26/92
Silver (Ag)/6010.....		1	1.0	3/26/92
Thallium (Tl)/7841.....		1	.50	3/31/92
Zinc (Zn)/6010.....	69.	1	1.0	3/26/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/23/92, Batch # 920323-1105; and Hg was digested on 3/23/92, Batch # 920323-1106 .
- {c} No entry in the "Concentration" means the metal is not detected at all.

Approved by: Nancy McDonald for CM Date: 4/09/92
Cheryl Matterson, Association Chemist

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



PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5758-104

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB11057SF
Sample Number: 89268

Matrix: Soil

Date Sampled: 3/18/92
Date Digested: 3/23/92 {b}

Date Received: 3/20/92
Batch Number: 920323-1104 {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	3/26/92
Arsenic (As)/7060.....	3.8	1	.50	3/26/92
Beryllium (Be)/6010.....	.50	1	.25	3/26/92
Cadmium (Cd)/6010.....		1	.50	3/26/92
Chromium (Cr)/6010.....	13.	1	1.0	3/26/92
Copper (Cu)/6010.....	15.	1	1.0	3/26/92
Lead (Pb)/6010.....	22.	1	2.5	3/26/92
Mercury (Hg)/7471.....		1	.25	3/26/92
Nickel (Ni)/6010.....	8.9	1	1.0	3/26/92
Selenium (Se)/7740.....	.79	1	.25	3/26/92
Silver (Ag)/6010.....		1	1.0	3/26/92
Phallium (Tl)/7841.....		1	.50	3/31/92
Zinc (Zn)/6010.....	64.	1	1.0	3/26/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/23/92, Batch # 920323-1105; and Hg was digested on 3/23/92, Batch # 920323-1106 .
- {c} No entry in the "Concentration" means the metal is not detected at all.

Approved by: Nancy McDonald for CM Date: 4/09/92
Cheryl Matterson, Association Chemist

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



PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5758-101

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB11061SF
Sample Number: 89262

Matrix: Soil

Date Sampled: 3/18/92
Date Digested: 3/23/92 {b}

Date Received: 3/20/92
Batch Number: 920323-1104 {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	3/26/92
Arsenic (As)/7060.....	4.5	1	.50	3/26/92
Beryllium (Be)/6010.....	.69	1	.25	3/26/92
Cadmium (Cd)/6010.....		1	.50	3/26/92
Chromium (Cr)/6010.....	15.	1	1.0	3/26/92
Copper (Cu)/6010.....	23.	1	1.0	3/26/92
Lead (Pb)/6010.....	18.	1	2.5	3/26/92
Mercury (Hg)/7471.....		1	.25	3/26/92
Nickel (Ni)/6010.....	11.	1	1.0	3/26/92
Selenium (Se)/7740.....	.68	1	.25	3/26/92
Silver (Ag)/6010.....		1	1.0	3/26/92
Thallium (Tl)/7841.....		1	.50	3/31/92
Zinc (Zn)/6010.....	70.	1	1.0	3/26/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/23/92, Batch # 920323-1105; and Hg was digested on 3/23/92, Batch # 920323-1106 .
- {c} No entry in the "Concentration" means the metal is not detected at all.

Approved by: Nancy McDonald for CM Date: 4/09/92
Cheryl Matterson, Association Chemist

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



RADIONUCLIDES

Table: Results of the analyses for iodine-129 and strontium-90 in thirty-five (35) soil samples.

Sample ID Number	Sample Description	Collection Date	Lab Code	Conc. pci/gwet		Conc. pci/gdry	
				I-129	Date Analyzed	Sr-90	Date Analyzed
90140	M4SA	03/17/92	SPS-1908	<0.2	05/20	0.06±0.01	06/03
88901	BB13024SA	03/17/92	1909	<0.2	05/20	0.01±0.01	05/14
88907	BB13037SA	03/17/92	1910	<0.2	05/21	0.01±0.01	05/14
88913	BB13039SA	03/17/92	1911	<0.2	05/21	0.01±0.01	05/15
88919	BB13011SA	03/17/92	1912	<0.2	05/22	0.01±0.01	06/03
88925	BB13010SA	03/17/92	1913	<0.2	05/22	<0.01	06/09
89151	BB06017SA	03/17/92	1914	<0.2	05/22	0.01±0.01	05/14
89157	BB06007SA	03/17/92	1915	<0.3	06/09	<0.01	05/14
89163	BB06092SA	03/17/92	1916	<0.2	05/26	<0.01	05/14
89169	BB06066SA	03/17/92	1917	<0.2	05/27	<0.01	05/14
89175	BB06013SA	03/17/92	1918	<0.2	05/28	0.01±0.01	05/14
90101	BB03025SA	03/17/92	1919	<0.2	06/01	0.09±0.01	06/09
90107	BB03092SA	03/17/92	1920	<0.2	06/01	0.04±0.01	05/14
90113	BB03079SA	03/17/92	1921	<0.2	06/01	0.03±0.01	06/09
90119	BB03017SA	03/17/92	1922	<0.3	06/09	0.05±0.01	06/09
90125	BB03005SA	03/17/92	1923	<0.2	06/02	0.06±0.01	05/15
90001	BB05003SA	03/18/92	1924	<0.2	06/02	0.02±0.01	06/09
90007	BB05089SA	03/18/92	1925	<0.2	06/02	0.02±0.01	05/22
90013	BB05006SA	03/18/92	1926	<0.2	06/03	0.02±0.01	05/22
90019	BB05057SA	03/18/92	1927	<0.2	06/04	0.03±0.01	05/22
90025	BB05077SA	03/18/92	1928	<0.2	06/04	0.06±0.01	05/22
90051	BB12006SA	03/18/92	1929	<0.2	06/05	0.03±0.01	05/22
90057	BB12019SA	03/18/92	1930	<0.2	06/05	0.04±0.01	05/22
90063	BB12023SA	03/18/92	1931	<0.3	06/05	0.02±0.01	05/22
90069	BB12020SA	03/18/92	1932	<0.2	06/08	0.03±0.01	05/22
90075	BB12003SA	03/18/92	1933	<0.2	06/08	0.01±0.01	05/22
90251	BB01056SA	03/18/92	1934	<0.3	06/08	0.04±0.01	06/03
90263	BB01001SA	03/18/92	1935	<0.3	06/10	<0.01	06/03
90269	BB01027SA	03/18/92	1936	<0.3	06/10	<0.01	06/09
90275	BB01038SA	03/18/92	1937	<0.2	06/10	0.02±0.01	06/03
90282	BB00004SA	03/18/92	1938	<0.3	06/10	0.01±0.01	06/03
89251	BB11018SA	03/18/92	1939	<0.3	06/10	0.02±0.01	06/03
89257	BB11061SA	03/18/92	1940	<0.3	06/11	<0.01	06/03
89263	BB11057SA	03/18/92	1941	<0.2	06/11	0.02±0.01	06/09
89269	BB11032SA	03/18/92	1942	<0.3	04/14	0.02±0.01	06/09

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.

Table 1. 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		Conc. pCi/g dry	
				I-129	Date Analyzed	Sr-90	Date Analyzed
89275	BB11006SA	03/18/92	SPS-1943	<0.3	06/11	0.02±0.01	06/09
88963	BB07058SA	03/19/92	1944	<0.2	06/12	0.01±0.01	06/10
88969	BB07012SA	03/19/92	1945	<0.3	06/11	0.01±0.01	06/10
88975	BB07038SA	03/19/92	1946	<0.2	06/12	0.02±0.01	06/10
88981	M 7 SA	03/19/92	1947	<0.3	06/12	0.04±0.01	06/10
89651	BB10067SA ₁	03/19/92	1948	<0.3	06/12	0.06±0.01	06/10
89657	BB10078SA	03/19/92	1949	<0.3	06/15	0.05±0.01	06/10
89663	BB10081SA	03/19/92	1950	<0.3	06/16	0.02±0.01	06/10
89669	BB10023SA	03/19/92	1951	<0.3	06/15	0.02±0.01	06/10
89675	BB10029SA	03/19/92	1952	<0.3	06/15	0.02±0.01	07/15
89825	BB02078SA	03/19/92	1953	<0.3	06/16	0.02±0.01	06/10
88801	BB02070SA	03/19/92	1954	<0.2	06/16	0.01±0.01	06/12
88807	BB02032SA	03/19/92	1955	<0.3	06/16	0.02±0.01	06/12
88813	BB02031SA	03/19/92	1956	<0.3	06/16	0.02±0.01	06/20
88819	BB02051SA	03/19/92	1957	<0.3	06/17	0.02±0.01	06/20
88825	BB09100SA	03/19/92	1958	<0.3	06/17	0.02±0.01	06/12
88833	BB00005SA	03/19/92	1959	<0.3	06/17	0.02±0.01	06/12
88834	M 6 SA	03/19/92	1960	<0.3	06/17	0.05±0.01	06/12
88951	BB07035SA	03/19/92	1961	<0.3	06/17	0.02±0.01	06/11
88957	BB07036SA	03/19/92	1962	<0.4	06/17	0.02±0.01	06/11
89351	BB08034SA	03/19/92	1963	<0.3	06/17	<0.01	07/15
89357	BB08035SA	03/19/92	1964	<0.3	06/17	<0.01	06/11
89363	BB08003SA	03/19/92	1965	<0.3	06/18	0.02±0.01	06/11
89369	BB08027SA ₂	03/19/92	1966	<0.3	06/17	0.01±0.01	07/15
89375	BB08038SA	03/19/92	1967	<0.3	06/18	0.02±0.01	06/11
89382	M 5 SA	03/19/92	1968	<0.2	06/18	0.20±0.08	06/11
89801	BB02071SA	03/19/92	1969	<0.3	06/18	0.01±0.01	06/11
89807	BB02045SA	03/19/92	1970	<0.2	06/19	<0.01	06/11
89813	BB02060SA	03/19/92	1971	<0.2	06/19	0.01±0.01	06/11
89819	BB02075SA	03/19/92	1972	<0.3	06/19	0.01±0.01	06/11

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 06/16/92

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WORK ORDER NUMBER 3-0628
CUSTOMER P.O. NUMBER 04-0029403-012
DATE RECEIVED 03/24/92
DELIVERY DATE 04/26/92

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	STOP DATE	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M %	MID-COUNT TIME DATE	VOLUME - UNIT-% ASH-WGHT-%	L.A.R.
70888	90277 BB010385C		03/18 1445		TH-228 H-3	1.02+-0.10E 00 L.T. 8. E-03		05/13 06/07		4 5
70889	90281 BB000045C		03/18 1300		BE-7 K-40 MN-54 CO-58 FE-59 CO-60 ZN-65 ZR-95 RU-103 RU-106 I-131 CS-134 CS-137 BA-140 CE-141 CE-144 RA-226 TH-228 H-3	L.T. 6. E-01 1.77+-0.18E 01 L.T. 4. E-02 L.T. 5. E-02 L.T. 2. E-01 L.T. 4. E-02 L.T. 1. E-01 L.T. 7. E-02 L.T. 8. E-02 L.T. 3. E-01 L.T. 4. E 00 L.T. 4. E-02 L.T. 4. E-02 L.T. 8. E-01 L.T. 2. E-01 L.T. 3. E-01 1.38+-0.60E 00 1.16+-0.12E 00 L.T. 1. E-02		05/13 05/13 05/13 05/13 05/13 05/13 05/13 05/13 05/13 05/13 05/13 05/13 05/13 05/13 05/13 05/13 05/13 06/10		4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4
70890	89252 8B110185B		03/18 1530		PU-238 PU-239	L.T. 7. E-02 L.T. 5. E-02		04/21 04/21		6 6
70891	89253 8B110185C		03/18 1530		RE-7 K-40 MN-54 CO-58 FE-59 CO-60 ZN-65	L.T. 4. E-01 2.35+-0.23E 01 L.T. 3. E-02 L.T. 4. E-02 L.T. 1. E-01 L.T. 2. E-02 L.T. 7. E-02		05/13 05/13 05/13 05/13 05/13 05/13 05/13		4 4 4 4 4 4 4

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 06/16/92

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WORK ORDER NUMBER 3-0628

DATE RECEIVED 03/24/92

DELIVERY DATE 04/26/92

CUSTOMER P.O. NUMBER 04-0029403-012

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

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE		NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-X U/M %	MID-COUNT TIME DATE	VOLUME - UNITS ASH-WGHT-%	LAP.
			START DATE	STOP DATE						
70891	89253 88110185C		03/18	1530	ZR-95	L.T. 5. E-02		05/13		4
					RU-103	L.T. 7. E-02		05/13		4
					RU-106	L.T. 3. E-01		05/13		4
					I-131	L.T. 3. E 00		05/13		4
					CS-134	L.T. 3. E-02		05/13		4
					CS-137	L.T. 3. E-02		05/13		4
					9A-140	1.55+-0.28E-01		05/13		4
					CE-141	L.T. 5. E-01		05/13		4
					CE-144	L.T. 1. E-01		05/13		4
					RA-226	L.T. 2. E-01		05/13		4
					TH-228	1.64+-0.45E 00		05/13		4
					H-3	1.10+-0.11E 00		05/13		4
						L.T. 2. E-02		06/10		5
70892	89258 88110615B		03/18	1540	PU-238	L.T. 5. E-02		04/21		6
					PU-239	L.T. 1. E-02		04/21		6
70893	89259 88110615C		03/18	1540	BF-7	L.T. 6. F-01		05/13		4
					K-40	2.00+-0.20E 01		05/13		4
					MN-54	L.T. 4. E-02		05/13		4
					CO-58	L.T. 5. E-02		05/13		4
					FE-59	L.T. 2. E-01		05/13		4
					CO-60	L.T. 4. E-02		05/13		4
					ZN-65	L.T. 1. E-01		05/13		4
					ZR-95	L.T. 7. E-02		05/13		4
					RU-103	L.T. 8. E-02		05/13		4
					RU-106	L.T. 3. E-01		05/13		4
					I-131	L.T. 4. E 00		05/13		4
					CS-134	L.T. 5. E-02		05/13		4
					CS-137	L.T. 5. E-02		05/13		4
					8A-140	L.T. 8. E-01		05/13		4
					CE-141	L.T. 2. E-01		05/13		4
					CE-144	L.T. 3. E-01		05/13		4
					RA-226	1.69+-0.62E 00		05/13		4

TELEDYNE ISOTOPIES

REPORT OF ANALYSIS

WORK ORDER NUMBER

CUSTOMER P.O. NUMBER

DATE RECEIVED

DELIVERY DATE

PAGE

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ERIC SMITH
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA

3-0628

04-0029403-012

03/24/92

04/26/92

92714

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	STOP DATE	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M #	MID-COUNT TIME DATE	VOLUME - UNITS ASH-WGHT-%	LAB.
70897	89271	BB11032SC	03/19	1615	BE-7	L.T. 6. E-01		05/13		4
					K-40	2.13+-0.21E 01		05/13		4
					MN-54	L.T. 4. E-02		05/13		4
					CO-58	L.T. 5. E-02		05/13		4
					FE-59	L.T. 2. E-01		05/13		4
					CO-60	L.T. 4. E-02		05/13		4
					ZN-65	L.T. 9. E-02		05/13		4
					ZR-95	L.T. 6. E-02		05/13		4
					RU-103	L.T. 8. E-02		05/13		4
					RU-106	L.T. 3. E-01		05/13		4
					I-131	L.T. 4. E 00		05/13		4
					CS-134	L.T. 4. E-02		05/13		4
					CS-137	2.04+-0.35E-01		05/13		4
					BA-140	L.T. 7. E-01		05/13		4
					CE-141	L.T. 1. E-01		05/13		4
					CE-144	L.T. 2. E-01		05/13		4
					RA-226	2.07+-0.45E 00		05/13		4
					TH-228	1.04+-0.10E 00		05/13		4
					H-3	L.T. 2. E-02		06/10		5
70898	89276	BB1100650	03/18	1640	PU-238	L.T. 3. E-02		04/21		6
					PU-239	L.T. 1. E-02		04/21		6
70899	89277	BB110065C	03/18	1640	BE-7	L.T. 5. E-01		05/16		4
					K-40	1.94+-0.19E 01		05/16		4
					MN-54	L.T. 3. E-02		05/16		4
					CO-58	L.T. 4. E-02		05/16		4
					FE-59	L.T. 1. E-01		05/16		4
					CO-60	L.T. 3. E-02		05/16		4
					ZN-65	L.T. 8. E-02		05/16		4
					ZR-95	L.T. 6. E-02		05/16		4
					RU-103	L.T. 7. E-02		05/16		4
					RU-106	L.T. 3. E-01		05/16		4

TELEDYNE ISOTOPIES

REPORT OF ANALYSIS

RUN DATE 06/16/92

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WORK ORDER NUMBER

3-0628

CUSTOMER P.O. NUMBER

04-0029403-012

DATE RECEIVED

03/24/92

DELIVERY DATE

04/26/92

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	STOP DATE	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-X U/M	MID-COUNT TIME DATE	VOLUME - UNITS ASH-WGHT-X	LAB.
70899	89277	BB11006SC	03/18	1640	I-131	L.T. 4. E 00		05/16		4
					CS-134	L.T. 4. E-02		05/16		4
					CS-137	1.12+-0.27E-01		05/16		4
					RA-140	L.T. 7. E-01		05/16		4
					CE-141	L.T. 1. E-01		05/16		4
					CE-144	L.T. 2. E-01		05/16		4
					RA-226	1.47+-0.47E 00		05/16		4
					TH-228	1.05+-0.11E 00		05/16		4
					H-3	L.T. 2. E-02		06/10		5
70903	90281	DUP BB000045C	03/18	1300	BE-7	L.T. 5. E-01		05/16		4
					K-40	1.81+-0.18E 01		05/16		4
					MN-54	L.T. 4. E-02		05/16		4
					CO-58	L.T. 5. E-02		05/16		4
					FE-59	L.T. 1. E-01		05/16		4
					CO-60	L.T. 3. E-02		05/16		4
					ZN-65	L.T. 8. E-02		05/16		4
					ZR-95	L.T. 5. E-02		05/16		4
					RU-103	L.T. 8. E-02		05/16		4
					RU-106	L.T. 3. E-01		05/16		4
					I-131	L.T. 4. E 00		05/16		4
					CS-134	L.T. 4. E-02		05/16		4
					CS-137	L.T. 3. E-02		05/16		4
					BA-140	L.T. 9. E-01		05/16		4
					CE-141	L.T. 1. E-01		05/16		4
					CE-144	L.T. 2. E-01		05/16		4
					RA-226	1.92+-0.46E 00		05/16		4
					TH-228	1.39+-0.14E 00		05/16		4
					H-3	L.T. 1. E-02		06/10		5

TELEPHONE ISOTOPES
REPORT OF ANALYSTS

PUN DATE 10/07/97

WORK ORDER NUMBER 3-3796 CUSTOMER P.O. NUMBER 04-0079403-012 DATE RECEIVED 09/17/97 DELIVERY DATE 10/20/92

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

S O I L

TELEPHONE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	STOP DATE	TIME	NUCLIDE	ACTIVITY (%CI/GM DRY)	NUCL-UNIT-% U/M	MTO-COUNT TIME DATE	VOLUME - UNITS ASH-WGHT-%	LAR.
89782	BR13024SA	88901	03/17	1430		H-3	3.6 +-2.1 E-02		09/29		5
89783	BB15003SA	89569	04/22	1135		H-3	NOT ANALYZED				5
89784	BB06007SA	89157	03/17	0840		H-3	3.9 +-1.4 E-02		09/29		5
89785	BG04025SA	88201	03/13	1030		H-3	2.8 +-1.3 F-02		09/29		5
89786	BG05026SA	88225	03/13	1605		H-3	2.7 +-1.0 E-02		09/29		5
89787	BG02007SA	88457	/			H-3	2.1 +-1.1 F-02		09/29		5
89788	BB02045SA	89907	03/19	1000		H-3	NOT ANALYZED		09/29		5
89789	BR15004SA	89569	04/22	1115		H-3	NOT ANALYZED		09/29		5
89790	BR12020SA	90069	03/18	1055		H-3	L.T. 7. E-03		09/29		5
89791	BB03005SA	90125	03/17	1200		H-3	L.T. 3. E-02		09/29		5
89792	BB16001SA	89892	04/22	1000		H-3	2.0 +-0.2 F-01		09/30		5
89793	BG04029SA	88213	03/13	1145		H-3	4.8 +-1.5 E-02		09/30		5
89794	BR14094SA	88419	03/16	1540		H-3	NOT ANALYZED		09/30		5
89795	BR11006SA	89275	03/18	1640		H-3	2.1 +-1.1 E-02		09/30		5
89796	BG02074SA	88451	03/10			H-3	NOT ANALYZED				5

VOLATILE ORGANIC COMPOUNDS

VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-43

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.029403.012

Sample Description: BB12003SE
 Sample Number: 90079

Matrix: Soil

Date Sampled: 3/18/92
 Date Analyzed: 3/24/92

Date Received: 3/19/92
 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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756- 43

Page 2 of 2

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

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	106	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 McDonald for CM Date: 4/07/92
 Cheryl Matterson, Associate Chemist

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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-31

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.029403.012

Sample Description: BB12006SE
 Sample Number: 90055

Matrix: Soil

Date Sampled: 3/18/92
 Date Analyzed: 3/24/92

Date Received: 3/19/92
 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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756- 31

Page 2 of 2

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

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	104	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.

Approved By: Nancy McDonald for CM Date: 4/07/92
 Cheryl Matterson, Associate Chemist

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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-34

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.029403.012

Sample Description: BB12019SE
 Sample Number: 90061

Matrix: Soil

Date Sampled: 3/18/92
 Date Analyzed: 3/24/92

Date Received: 3/19/92
 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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756- 34

Page 2 of 2

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

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	109	70 - 121
Toluene-D8	102	81 - 117
4-Bromofluorobenzene	92	74 - 121

COMMENTS:

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

Approved By: Nancy McDonald for CM Date: 4/07/92
 Cheryl Matterson, Associate Chemist

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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-40

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.029403.012

Sample Description: BB12020SE
 Sample Number: 90073

Matrix: Soil

Date Sampled: 3/18/92
 Date Analyzed: 3/24/92

Date Received: 3/19/92
 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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756- 40

Page 2 of 2

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

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	105	70 - 121
Toluene-D8	105	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: 4/07/92
 Cheryl Matterson, Associate Chemist

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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-37

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.029403.012

Sample Description: BB12023SE
 Sample Number: 90067

Matrix: Soil

Date Sampled: 3/18/92
 Date Analyzed: 3/24/92

Date Received: 3/19/92
 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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756- 37

Page 2 of 2

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

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	104	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: 4/07/92
 Cheryl Matterson, Associate Chemist

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



SEMI-VOLATILE ORGANIC COMPOUNDS

SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-42

Page 1 of 3

Project Name: Rocketdyne
 Project Number: 03.029403.012

Sample Description: BB12003SD
 Sample Number: 90078

Matrix: Soil

Date Sampled: 3/18/92
 Date Extracted: 3/23/92

Date Received: 3/19/92
 Date Analyzed: 3/30/92

Batch Number: 920323-2001

Dilution Factor: 1

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-42

Page 2 of 3

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



SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified (a)
Preparation Method: EPA 3550

Lab Project-Sample ID: 5756-42

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	74	25 - 121
Phenol-d5.....	72	24 - 113
Nitrobenzene-d5.....	79	23 - 120
2-Fluorobiphenyl.....	88	30 - 115
2,4,6-Tribromophenol.....	103	19 - 122
Terphenyl-d14.....	98	18 - 137

COMMENTS:

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

Approved By: Nancy McDonald for CM Date: 4/07/92
Cheryl Matterson, Associate Chemist

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-30

Page 1 of 3

Project Name: Rocketdyne
 Project Number: 03.029403.012

Sample Description: BB12006SD
 Sample Number: 90054

Matrix: Soil

Date Sampled: 3/18/92
 Date Extracted: 3/23/92

Date Received: 3/19/92
 Date Analyzed: 3/30/92

Batch Number: 920323-2001

Dilution Factor: 1

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-30

Page 2 of 3

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-30

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SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	76	25 - 121
Phenol-d5.....	78	24 - 113
Nitrobenzene-d5.....	74	23 - 120
2-Fluorobiphenyl.....	87	30 - 115
2,4,6-Tribromophenol.....	83	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 Date: 4/07/92
Cheryl Matterson, Associate Chemist

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-33

Page 1 of 3

Project Name: Rocketdyne
 Project Number: 03.029403.012

Sample Description: BB12019SD
 Sample Number: 90060

Matrix: Soil

Date Sampled: 3/18/92
 Date Extracted: 3/23/92

Date Received: 3/19/92
 Date Analyzed: 3/31/92

Batch Number: 920323-2001

Dilution Factor: 1

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-33

Page 2 of 3

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-33

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	88	25 - 121
Phenol-d5.....	85	24 - 113
Nitrobenzene-d5.....	92	23 - 120
2-Fluorobiphenyl.....	102	30 - 115
2,4,6-Tribromophenol.....	110	19 - 122
Terphenyl-d14.....	118	18 - 137

COMMENTS:

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

Approved By: Nancy McDonald for CM Date: 4/07/92
Cheryl Matterson, Associate Chemist

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-39

Page 1 of 3

Project Name: Rocketdyne
Project Number: 03.029403.012

Sample Description: BB12020SD
Sample Number: 90072

Matrix: Soil

Date Sampled: 3/18/92
Date Extracted: 3/23/92

Date Received: 3/19/92
Date Analyzed: 3/30/92

Batch Number: 920323-2001

Dilution Factor: 1

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



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SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-39

Page 2 of 3

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-39

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	74	25 - 121
Phenol-d5.....	77	24 - 113
Nitrobenzene-d5.....	81	23 - 120
2-Fluorobiphenyl.....	90	30 - 115
2,4,6-Tribromophenol.....	104	19 - 122
Terphenyl-d14.....	100	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 Loren Date: 4/07/92
Cheryl Matterson, Associate Chemist

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-36

Page 1 of 3

Project Name: Rocketdyne
 Project Number: 03.029403.012

Sample Description: BB12023SD
 Sample Number: 90066

Matrix: Soil

Date Sampled: 3/18/92
 Date Extracted: 3/23/92

Date Received: 3/19/92
 Date Analyzed: 3/31/92

Batch Number: 920323-2001

Dilution Factor: 1

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-36

Page 2 of 3

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-36

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	87	25 - 121
Phenol-d5.....	83	24 - 113
Nitrobenzene-d5.....	93	23 - 120
2-Fluorobiphenyl.....	101	30 - 115
2,4,6-Tribromophenol.....	111	19 - 122
Terphenyl-d14.....	110	18 - 137

COMMENTS:

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

Approved By: Nancy McDonald for CM Date: 4/07/92
 Cheryl Matterson, Associate Chemist

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



METALS

PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5756-44

Project Name: Rocketdyne
Project Number: 03.029403.012

Sample Description: BB12003SF
Sample Number: 90080

Matrix: Soil

Date Sampled: 3/18/92
Date Digested: 3/20/92 {b}

Date Received: 3/19/92
Batch Number: 920320-1104 {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	3/21/92
Arsenic (As)/7060.....	2.8	5	2.5	3/24/92
Beryllium (Be)/6010.....	.46	1	.25	3/21/92
Cadmium (Cd)/6010.....		1	.50	3/21/92
Chromium (Cr)/6010.....	12.	1	1.0	3/21/92
Copper (Cu)/6010.....	16.	1	1.0	3/21/92
Lead (Pb)/6010.....	17.	1	2.5	3/21/92
Mercury (Hg)/7471.....		1	.25	3/21/92
Nickel (Ni)/6010.....	8.5	1	1.0	3/21/92
Selenium (Se)/7740.....	2.0	1	.25	3/24/92
Silver (Ag)/6010.....		1	1.0	3/21/92
Thallium (Tl)/7841.....		1	.50	3/27/92
Zinc (Zn)/6010.....	72.	1	1.0	3/21/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/20/92, Batch # 920320-1103; and Hg was digested on 3/20/92, Batch # 920320-1105 .
- {c} No entry in the "Concentration" means the metal is not detected at all.
- {d} The sample for Arsenic was diluted 5 fold to bring target analyte within linear working range.

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

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



PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5756-32

Project Name: Rocketdyne
Project Number: 03.029403.012

Sample Description: BB12006SF
Sample Number: 90056

Matrix: Soil

Date Sampled: 3/18/92
Date Digested: 3/20/92 {b}

Date Received: 3/19/92
Batch Number: 920320-1104 {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	3/21/92
Arsenic (As)/7060.....	2.4	5	2.5	3/24/92
Beryllium (Be)/6010.....	.44	1	.25	3/21/92
Cadmium (Cd)/6010.....		1	.50	3/21/92
Chromium (Cr)/6010.....	12.	1	1.0	3/21/92
Copper (Cu)/6010.....	16.	1	1.0	3/21/92
Lead (Pb)/6010.....	53.	1	2.5	3/21/92
Mercury (Hg)/7471.....		1	.25	3/21/92
Nickel (Ni)/6010.....	8.6	1	1.0	3/21/92
Selenium (Se)/7740.....	1.7	1	.25	3/24/92
Silver (Ag)/6010.....		1	1.0	3/21/92
Thallium (Tl)/7841.....		1	.50	3/27/92
Zinc (Zn)/6010.....	78.	1	1.0	3/21/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/20/92, Batch # 920320-1103; and Hg was digested on 3/20/92, Batch # 920320-1105 .
- {c} No entry in the "Concentration" means the metal is not detected at all.
- {d} A high background reading was observed for Arsenic. A matrix interferent is present creating a false positive observation. A 5 fold dilution yielded an estimated result of 2.4.

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

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



PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5756-35

Project Name: Rocketdyne
Project Number: 03.029403.012

Sample Description: BB12019SF
Sample Number: 90062

Matrix: Soil

Date Sampled: 3/18/92
Date Digested: 3/20/92 {b}

Date Received: 3/19/92
Batch Number: 920320-1104 {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	3/21/92
Arsenic (As)/7060.....	2.8	5	2.5	3/24/92
Beryllium (Be)/6010.....	.52	1	.25	3/21/92
Cadmium (Cd)/6010.....		1	.50	3/21/92
Chromium (Cr)/6010.....	15.	1	1.0	3/21/92
Copper (Cu)/6010.....	21.	1	1.0	3/21/92
Lead (Pb)/6010.....	20.	1	2.5	3/21/92
Mercury (Hg)/7471.....		1	.25	3/21/92
Nickel (Ni)/6010.....	9.9	1	1.0	3/21/92
Selenium (Se)/7740.....	2.0	1	.25	3/24/92
Silver (Ag)/6010.....		1	1.0	3/21/92
Thallium (Tl)/7841.....		1	.50	3/27/92
Zinc (Zn)/6010.....	74.	1	1.0	3/21/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/20/92, Batch # 920320-1103; and Hg was digested on 3/20/92, Batch # 920320-1105 .
- {c} No entry in the "Concentration" means the metal is not detected at all.
- {d} The sample for Arsenic was diluted 5 fold to bring target analyte within linear working range.

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

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



PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5756-41

Project Name: Rocketdyne
Project Number: 03.029403.012

Sample Description: BB12020SF
Sample Number: 90074

Matrix: Soil

Date Sampled: 3/18/92
Date Digested: 3/20/92 {b}

Date Received: 3/19/92
Batch Number: 920320-1104 {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	3/21/92
Arsenic (As)/7060.....	3.5	5	2.5	3/24/92
Beryllium (Be)/6010.....	.49	1	.25	3/21/92
Cadmium (Cd)/6010.....		1	.50	3/21/92
Chromium (Cr)/6010.....	13.	1	1.0	3/21/92
Copper (Cu)/6010.....	21.	1	1.0	3/21/92
Lead (Pb)/6010.....	18.	1	2.5	3/21/92
Mercury (Hg)/7471.....		1	.25	3/21/92
Nickel (Ni)/6010.....	9.7	1	1.0	3/21/92
Selenium (Se)/7740.....	1.9	1	.25	3/24/92
Silver (Ag)/6010.....		1	1.0	3/21/92
Thallium (Tl)/7841.....		1	.50	3/27/92
Zinc (Zn)/6010.....	70.	1	1.0	3/21/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/20/92, Batch # 920320-1103; and Hg was digested on 3/20/92, Batch # 920320-1105 .
- {c} No entry in the "Concentration" means the metal is not detected at all.
- {d} The sample for Arsenic was diluted 5 fold to bring target analyte within linear working range.

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

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



PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5756-38

Project Name: Rocketdyne
Project Number: 03.029403.012

Sample Description: BB12023SF
Sample Number: 90068

Matrix: Soil

Date Sampled: 3/18/92
Date Digested: 3/20/92 {b}

Date Received: 3/19/92
Batch Number: 920320-1104 {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	3/21/92
Arsenic (As)/7060.....	2.5	5	2.5	3/24/92
Beryllium (Be)/6010.....	.46	1	.25	3/21/92
Cadmium (Cd)/6010.....		1	.50	3/21/92
Chromium (Cr)/6010.....	13.	1	1.0	3/21/92
Copper (Cu)/6010.....	21.	1	1.0	3/21/92
Lead (Pb)/6010.....	25.	1	2.5	3/21/92
Mercury (Hg)/7471.....		1	.25	3/21/92
Nickel (Ni)/6010.....	10.	1	1.0	3/21/92
Selenium (Se)/7740.....	2.2	1	.25	3/24/92
Silver (Ag)/6010.....		1	1.0	3/21/92
Thallium (Tl)/7841.....		1	.50	3/27/92
Zinc (Zn)/6010.....	76.	1	1.0	3/21/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/20/92, Batch # 920320-1103; and Hg was digested on 3/20/92, Batch # 920320-1105 .
- {c} No entry in the "Concentration" means the metal is not detected at all.
- {d} The sample for Arsenic was diluted 5 fold to bring target analyte within linear working range.

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

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



RADIONUCLIDES

Table: Results of the analyses for iodine-129 and strontium-90 in thirty-five (35) soil samples.

Sample ID Number	Sample Description	Collection Date	Lab Code	Conc. pci/gwet		Conc. pci/gdry	
				I-129	Date Analyzed	Sr-90	Date Analyzed
90140	M4SA	03/17/92	SPS-1908	<0.2	05/20	0.06±0.01	06/03
88901	BB13024SA	03/17/92	1909	<0.2	05/20	0.01±0.01	05/14
88907	BB13037SA	03/17/92	1910	<0.2	05/21	0.01±0.01	05/14
88913	BB13039SA	03/17/92	1911	<0.2	05/21	0.01±0.01	05/15
88919	BB13011SA	03/17/92	1912	<0.2	05/22	0.01±0.01	06/03
88925	BB13010SA	03/17/92	1913	<0.2	05/22	<0.01	06/09
89151	BB06017SA	03/17/92	1914	<0.2	05/22	0.01±0.01	05/14
89157	BB06007SA	03/17/92	1915	<0.3	06/09	<0.01	05/14
89163	BB06092SA	03/17/92	1916	<0.2	05/26	<0.01	05/14
89169	BB06066SA	03/17/92	1917	<0.2	05/27	<0.01	05/14
89175	BB06013SA	03/17/92	1918	<0.2	05/28	0.01±0.01	05/14
90101	BB03025SA	03/17/92	1919	<0.2	06/01	0.09±0.01	06/09
90107	BB03092SA	03/17/92	1920	<0.2	06/01	0.04±0.01	05/14
90113	BB03079SA	03/17/92	1921	<0.2	06/01	0.03±0.01	06/09
90119	BB03017SA	03/17/92	1922	<0.3	06/09	0.05±0.01	06/09
90125	BB03005SA	03/17/92	1923	<0.2	06/02	0.06±0.01	05/15
90001	BB05003SA	03/18/92	1924	<0.2	06/02	0.02±0.01	06/09
90007	BB05089SA	03/18/92	1925	<0.2	06/02	0.02±0.01	05/22
90013	BB05006SA	03/18/92	1926	<0.2	06/03	0.02±0.01	05/22
90019	BB05057SA	03/18/92	1927	<0.2	06/04	0.03±0.01	05/22
90025	BB05077SA	03/18/92	1928	<0.2	06/04	0.06±0.01	05/22
90051	BB12006SA	03/18/92	1929	<0.2	06/05	0.03±0.01	05/22
90057	BB12019SA	03/18/92	1930	<0.2	06/05	0.04±0.01	05/22
90063	BB12023SA	03/18/92	1931	<0.3	06/05	0.02±0.01	05/22
90069	BB12020SA	03/18/92	1932	<0.2	06/08	0.03±0.01	05/22
90075	BB12003SA	03/18/92	1933	<0.2	06/08	0.01±0.01	05/22
90251	BB01056SA	03/18/92	1934	<0.3	06/08	0.04±0.01	06/03
90263	BB01001SA	03/18/92	1935	<0.3	06/10	<0.01	06/03
90269	BB01027SA	03/18/92	1936	<0.3	06/10	<0.01	06/09
90275	BB01038SA	03/18/92	1937	<0.2	06/10	0.02±0.01	06/03
90282	BB00004SA	03/18/92	1938	<0.3	06/10	0.01±0.01	06/03
89251	BB11018SA	03/18/92	1939	<0.3	06/10	0.02±0.01	06/03
89257	BB11061SA	03/18/92	1940	<0.3	06/11	<0.01	06/03
89263	BB11057SA	03/18/92	1941	<0.2	06/11	0.02±0.01	06/09
89269	BB11032SA	03/18/92	1942	<0.3	04/14	0.02±0.01	06/09

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 06/16/92

PAGE 1

DELIVERY DATE 04/26/92

DATE RECEIVED 03/24/92

CUSTOMER P.O. NUMBER 04-0029403-012

WORK ORDER NUMBER 3-0628

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

S O T L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	STOP DATE	NUCLIDE	ACTIVITY (PCI/CM DRY)	NUCL-UNIT-% U/M #	MID-COUNT TIME DATE	VOLUME - UNITS ASH-WGHT-%	LAB.
70878	90077 8812003SC		03/18 1130		BE-7	L.T. 6. E-01		05/13		4
					K-40	2.15+-0.21E 01		05/13		4
					MN-54	L.T. 4. E-02		05/13		4
					CO-58	L.T. 6. E-02		05/13		4
					FE-59	L.T. 2. E-01		05/13		4
					CO-60	L.T. 4. E-02		05/13		4
					ZN-65	L.T. 1. E-01		05/13		4
					ZR-95	L.T. 7. E-02		05/13		4
					RU-103	L.T. 8. E-02		05/13		4
					RU-106	L.T. 3. E-01		05/13		4
					I-131	L.T. 4. E 00		05/13		4
					CS-134	L.T. 4. E-02		05/13		4
					CS-137	L.T. 4. E-02		05/13		4
					BA-140	L.T. 7. E-01		05/13		4
					CE-141	L.T. 1. E-01		05/13		4
					CE-144	L.T. 2. E-01		05/13		4
					RA-226	1.76+-0.53E 00		05/13		4
					TH-228	1.12+-0.11E 00		05/13		4
					H-3	L.T. 1. E-02		06/05		5
70879	90252 8801056SB		03/18 1300		PU-238	L.T. 1. E-01		04/21		6
					PU-239	L.T. 4. E-02		04/21		6
70880	90253 8801056SC		03/18 1300		RE-7	L.T. 5. E-01		05/13		4
					K-40	1.91+-0.19E 01		05/13		4
					MN-54	L.T. 3. E-02		05/13		4
					CO-58	L.T. 5. E-02		05/13		4
					FE-59	L.T. 1. E-01		05/13		4
					CO-60	L.T. 3. E-02		05/13		4
					ZN-65	L.T. 1. E-01		05/13		4
					ZR-95	L.T. 6. E-02		05/13		4
					RU-103	L.T. 7. E-02		05/13		4
					RU-106	L.T. 3. E-01		05/13		4

TELEDYNE PES

RUN DATE 06/10/92

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REPORT OF ANALYSIS

WORK ORDER NUMBER 3-0626

CUSTOMER P.O. NUMBER 04-0029403-012

DELIVERY DATE 04/27/92

DATE RECEIVED 03/25/92

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	STOP DATE	NUCLIDE	ACTIVITY (PCI/CM DRY)	U/M	MID-COUNT DATE	TIME	VOLUME - UNITS ASH-WGHT-X	LAB.
70865	90027 8905077SC		03/18	0930	BE-7	L.T. 5. E-01		04/25		4	4
					K-40	2.41+-0.24E 01		04/25		4	4
					MN-54	L.T. 4. E-02		04/25		4	4
					CO-58	L.T. 5. E-02		04/25		4	4
					FE-59	L.T. 1. E-01		04/25		4	4
					CO-60	L.T. 4. E-02		04/25		4	4
					ZN-65	L.T. 1. E-01		04/25		4	4
					ZR-95	L.T. 7. E-02		04/25		4	4
					RU-103	L.T. 7. E-02		04/25		4	4
					RU-106	L.T. 4. E-01		04/25		4	4
					I-131	L.T. 1. E 00		04/25		4	4
					CS-134	L.T. 5. E-02		04/25		4	4
					CS-137	1.55+-0.36E-01		04/25		4	4
					BA-140	L.T. 3. E-01		04/25		4	4
					CE-141	L.T. 1. E-01		04/25		4	4
					CE-144	L.T. 3. E-01		04/25		4	4
					RA-226	2.37+-0.64E 00		04/25		4	4
					TH-228	1.33+-0.13E 00		04/25		4	4
					H-3	L.T. 2. E-02		06/05		5	5
70866	90031 88000045B		03/18	0815	PU-238	L.T. 2. E-02		05/13		6	6
					PU-239	L.T. 2. E-02		05/13		6	6
70867	90052 89120065B		03/18	1025	PU-238	L.T. 7. E-02		05/14		6	6
					PU-239	L.T. 2. E-02		05/14		6	6
70868	90053 89120065C		03/18	1025	BE-7	L.T. 4. E-01		04/25		4	4
					K-40	2.32+-0.23E 01		04/25		4	4
					MN-54	L.T. 3. E-02		04/25		4	4
					CO-58	L.T. 4. E-02		04/25		4	4
					FE-59	L.T. 1. E-01		04/25		4	4
					CO-60	L.T. 3. E-02		04/25		4	4
					ZN-65	L.T. 1. E-01		04/25		4	4

TELEDYNE PES

RUN DATE 06/10/92

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REPORT OF ANALYSIS

WORK ORDER NUMBER 3-0626
CUSTOMER P.O. NUMBER 04-0029403-012
DATE RECEIVED 03/25/92
DELIVERY DATE 04/27/92

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

SOIL

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	STOP DATE	NUCLIDE	ACTIVITY (PCT/CM DRY)	NUCL-UNIT-R U/M	MID-COUNT TIME DATE	VOLUME - UNITS ASH-WGHT-%	LAB.
70868	90053 88120065C		03/18 1025		ZR-95	L.T. 5. E-02		04/25		4
					RU-103	L.T. 5. E-02		04/25		4
					RU-106	L.T. 3. E-01		04/25		4
					I-131	L.T. 7. E-01		04/25		4
					CS-134	L.T. 4. E-02		04/25		4
					CS-137	9.09+-2.70E-02		04/25		4
					BA-140	L.T. 2. E-01		04/25		4
					CE-141	L.T. 9. E-02		04/25		4
					CE-144	L.T. 2. E-01		04/25		4
					RA-226	1.79+-0.49E 00		04/25		4
					TH-228	1.08+-0.11E 00		04/25		4
					H-3	L.T. 8. E-03		06/05		5
70869	90058 88120195B		03/18 1030		PU-238	L.T. 1. E-01		05/13		6
					PU-239	L.T. 9. E-02		05/13		6
70870	90059 88120195C		03/18 1030		BE-7	L.T. 4. E-01		04/25		4
					K-40	2.13+-0.21E 01		04/25		4
					MN-54	L.T. 3. E-02		04/25		4
					CO-58	L.T. 4. E-02		04/25		4
					FE-59	L.T. 1. E-01		04/25		4
					CO-60	L.T. 3. E-02		04/25		4
					ZN-65	L.T. 7. E-02		04/25		4
					ZR-95	L.T. 4. E-02		04/25		4
					RU-103	L.T. 5. E-02		04/25		4
					RU-106	L.T. 3. E-01		04/25		4
					I-131	L.T. 7. E-01		04/25		4
					CS-134	L.T. 4. E-02		04/25		4
					CS-137	1.51+-0.30E-01		04/25		4
					BA-140	L.T. 2. E-01		04/25		4
					CE-141	L.T. 9. E-02		04/25		4
					CE-144	L.T. 2. E-01		04/25		4
					RA-226	1.69+-0.46E 00		04/25		4

TELEPHONE ISOTOPES

REVISED 11/04/92
 RUN DATE 06/10/92

REPORT OF ANALYSIS

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WORK ORDER NUMBER 3-0626
 CUSTOMER P.O. NUMBER 04-0029403-012
 DATE RECEIVED 03/25/92
 DELIVERY DATE 04/27/92

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

S O I L

TELEPHONE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M	MID-COUNT TIME DATE	VOLUME - UNITS ASH-WGHT-%	LAP.
70874	90071 8012020SC		03/18 1055		BE-7	L.T. 4. E-01		04/25		4
					K-40	7.21+-0.22E 01		04/25		4
					MN-54	L.T. 3. F-02		04/25		4
					CO-58	L.T. 4. F-02		04/25		4
					FE-59	L.T. 1. F-01		04/25		4
					CO-60	L.T. 3. F-02		04/25		4
					ZN-65	L.T. 8. F-02		04/25		4
					ZR-95	L.T. 5. E-02		04/25		4
					RU-103	L.T. 5. E-02		04/25		4
					RU-106	L.T. 3. E-01		04/25		4
					T-131	L.T. 7. F-01		04/25		4
					CS-134	L.T. 3. E-02		04/25		4
					CS-137	1.40+-0.30E-01		04/25		4
					BA-140	L.T. 2. F-01		04/25		4
					CE-141	L.T. 8. E-02		04/25		4
					CE-144	L.T. 2. F-01		04/25		4
					PA-226	1.53+-0.45E 00		04/25		4
					TM-228	1.03+-0.10F 00		04/25		4
					H-3	L.T. 7. 1 03		09/29		5
70875	90076 8012003SB		03/18 1130		PU-238	L.T. 8. F-02		05/12		6
					PU-239	L.T. 3. F-02		05/12		6
70876	90071 8012020SC DUP		03/18 1055		BE-7	L.T. 5. F-01		04/30		4
					K-40	2.24+-0.22F 01		04/30		4
					MN-54	L.T. 3. E-02		04/30		4
					CO-58	L.T. 4. E-02		04/30		4
					FE-59	L.T. 1. E-01		04/30		4
					CO-60	L.T. 4. E-02		04/30		4
					ZN-65	L.T. 9. E-02		04/30		4
					ZR-95	L.T. 6. E-02		04/30		4
					RU-103	L.T. 6. E-02		04/30		4
					RU-106	L.T. 3. F-01		04/30		4

The H-3 result for 11#70874 has been revised based upon reanalysis of the sample using an analytical method considered to be more reliable for soil samples. In units of pCi/l the result was L.T. 2. E 02. *Migration 11-4-92*

TELEDYNE ISOTOPIES
REPORT OF ANALYSIS

RUN DATE 06/10/92

PAGE 9

WORK ORDER NUMBER 3-0626

CUSTOMER P.O. NUMBER 04-0029403-012

DATE RECEIVED 03/25/92

DELIVERY DATE 04/27/92

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

SOIL

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	STOP DATE	TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M	MID-COUNT TIME DATE	VOLUME - UNITS ASH-WGHT-%	PAR.
70876	90071 88120205C DUP		03/18 1055			I-131	L.T. 1. E 00		04/30	4	
						CS-134	L.T. 4. E-02		04/30	4	
						CS-137	9.12+-3.00E-02		04/30	4	
						BA-140	L.T. 3. E-01		04/30	4	
						CE-141	L.T. 1. E-01		04/30	4	
						CE-144	L.T. 2. E-01		04/30	4	
						RA-226	1.61+-0.56E 00		04/30	4	
						TH-228	1.04+-0.10E 00		04/30	4	

The H-3 result for T170876 has been withdrawn. The H-3 results of several samples analyzed by the same analytical method were not confirmed by an alternate method.

p Martin 12-3-92

TELEDYNE ISOTOPIES

REPORT OF ANALYSIS

RUN DATE 06/10/92

PAGE 9

WORK ORDER NUMBER 3-0626
 CUSTOMER P.O. NUMBER 04-0029403-012
 DATE RECEIVED 03/25/92
 DELIVERY DATE 04/27/92

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

W A T E R

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	STOP DATE	NUCLIDE	ACTIVITY (PCI/LITER)	NUCL-UNIT-% U/M	MID-COUNT TIME DATE	VOLUME - UNITS ASH-WGHT-%	LAR.
70877	BLANK FOR SOIL	/			BE-7	L.T. 3. E 01		04/08		4
					K-40	L.T. 6. E 01		04/08		4
					MN-54	L.T. 3. E 00		04/08		4
					CO-58	L.T. 3. E 00		04/08		4
					FE-59	L.T. 6. E 00		04/08		4
					CD-60	L.T. 4. E 00		04/08		4
					ZN-65	L.T. 7. E 00		04/08		4
					ZR-95	L.T. 3. E 00		04/08		4
					RU-103	L.T. 3. E 00		04/08		4
					RU-106	L.T. 3. E 01		04/08		4
					I-131	L.T. 4. E 00		04/08		4
					CS-134	L.T. 4. E 00		04/08		4
					CS-137	L.T. 5. E 00		04/08		4
					BA-140	L.T. 4. E 00		04/08		4
					CF-141	L.T. 5. E 00		04/08		4
					CE-144	L.T. 2. E 01		04/08		4
					RA-226	L.T. 7. E 01		04/08		4
					TH-228	L.T. 6. E 00		04/08		4
					H-3	L.T. 1. E 02		06/10		5
					PU-238	L.T. 4. E-01		05/06		6
					PU-239	L.T. 1. E-01		05/06		6

APPROVED BY J. GUENTHER 06/10/92

LAST PAGE OF REPORT

SEND 1 COPIES TO MC6805 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)
70857	2.8 ± 1.3 E 02
70859	1.4 ± 0.1 E 03
70861	2.0 ± 1.1 E 02
70863	L.T. 2. E 02
70865	L.T. 2. E 02
70868	L.T. 1. E 02
70870	L.T. 2. E 02
70872	L.T. 2. E 02
70874	L.T. 2. E 02

The H-3 result for TI#70876 has been withdrawn. The H-3 results of several samples analyzed by the same analytical method were not confirmed by an alternate method.

Substitution
 Substitution 12-7-91

TELEPHONE ISOTOPIES

PRINT DATE 10/07/92

PAGE 1

DELIVERY DATE 10/20/92

DATE RECEIVED 09/17/92

CUSTOMER P.O. NUMBER 04-0029403-012

WORK ORDER NUMBER 3-3796

REPORT OF ANALYSTS

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

S O I L

TELEPHONE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	STOP DATE	TIME	NUCLID	ACTIVITY (CP/GM DRY)	NUCL-UNIT-% U/M	MTD-COUNT TIME DATE	VOLUME - UNITS ASH-WGHT-%
89782	8A13024SA	88901	03/17 1430			H-3	3.6 +-2.1 E-02		09/29	
89783	8B15003SA	89563	04/22 1135			H-3	NOT ANALYZED			
89784	8B06007SA	89157	03/17 0840			H-3	3.9 +-1.4 E-02		09/29	
89785	8G04025SA	88201	03/13 1030			H-3	2.8 +-1.3 F-02		09/29	
89786	8G05026SA	88225	03/13 1605			H-3	2.7 +-1.0 E-02		09/29	
89787	8G02007SA	88457	/			H-3	2.1 +-1.1 F-02		09/29	
89788	8B02045SA	89407	03/19 1000			H-3	NOT ANALYZED		09/29	
89789	8A15004SA	89569	04/22 1115			H-3	NOT ANALYZED		09/29	
89790	8A12020SA	90069	03/18 1055			H-3	L.T. 7. E-03		09/29	
89791	8B03005SA	90125	03/17 1200			H-3	L.T. 3. E-02		09/24	
89792	8B16001SA	89892	04/22 1000			H-3	2.0 +-0.2 E-01		09/30	
89793	8G04029SA	88213	03/13 1145			H-3	4.8 +-1.5 E-02		09/30	
89794	8A14094SA	88419	03/16 1540			H-3	NOT ANALYZED		09/30	
89795	8A11006SA	89275	03/18 1640			H-3	2.1 +-1.1 E-02		09/30	
89796	8G02074SA	88451	03/10			H-3	NOT ANALYZED			

FRUIT

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 06/11/92
PAGE 6

WORK ORDER NUMBER 3-0621
CUSTOMER P.O. NUMBER 04-0029403-012
DATE RECEIVED 03/24/92
DELIVERY DATE 04/26/92

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

FOOD/GARDEN CROPS-FRUIT

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	STOP DATE	NUCLIDE	ACTIVITY (PCI/GM NET)	NUCL-UNIT-X U/M	MID-COUNT TIME DATE	VOLUME - UNITS ASH-WGHT-%	LAB.
70661	90243 MS020A	MS	03/18 2000		RA-226	L.T. 9. E-02		03/28		4
					TH-228	L.T. 9. E-03		03/28		4
					H-3	1.2 +-0.1 E 00		06/07		5
					PU-238	L.T. 1. E-04		04/14		6
					PU-239	L.T. 1. E-04		04/14		6
70662	90201 9812020Y		03/18 1200		SR-90	L.T. 4. E-03		04/14	2.94	3
					I-129	L.T. 2. E-02		04/08		3
					RE-7	L.T. 4. E-02		03/28		4
					K-40	1.70+-0.17E 00		03/28		4
					MN-54	L.T. 4. E-03		03/28		4
					CO-58	L.T. 4. E-03		03/28		4
					FE-59	L.T. 1. E-02		03/28		4
					CO-60	L.T. 4. E-03		03/28		4
					ZR-95	L.T. 9. E-03		03/28		4
					RU-103	L.T. 4. E-03		03/28		4
					RU-106	L.T. 5. E-03		03/28		4
					I-131	L.T. 4. E-02		03/28		4
					CS-134	L.T. 1. E-03		03/28		4
					CS-137	L.T. 4. E-03		03/28		4
					BA-140	L.T. 5. E-03		03/28		4
					CE-141	L.T. 7. E-03		03/28		4
					CE-144	L.T. 8. E-03		03/28		4
					RA-226	L.T. 3. E-02		03/28		4
					TH-228	L.T. 8. E-02		03/28		4
					H-3	L.T. 7. E-03		03/28		4
					PU-238	L.T. 1. E-01		06/07		5
					PU-239	L.T. 3. E-04		04/15		6
						L.T. 9. E-05		04/15		6

TELEDYNE ISOTOPIES

REPORT OF ANALYSIS

RUN DATE 06/11/92
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WORK ORDER NUMBER 3-0621
 CUSTOMER P.O. NUMBER 04-0029403-012
 DATE RECEIVED 03/24/92
 DELIVERY DATE 04/26/92

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

FOOD/GARDEN CROPS-FRUIT

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	STOP DATE	TIME	NUCLIDE	ACTIVITY (PCI/GM WET)	NUCL-UNIT-X U/M	MID-COUNT DATE	TIME	VOLUME - UNITS ASH-WGHT-%	LAR.
70663	90205 001206LA		03/18	1200		SR-90	L.T. 2. E-03		04/14		2.42	3
						I-129	L.T. 3. E-02		04/00			3
						BE-7	L.T. 5. E-02		03/20			4
						K-40	1.25+-0.12E 00		03/20			4
						MN-54	L.T. 5. E-03		03/20			4
						CO-58	L.T. 5. E-03		03/20			4
						FE-59	L.T. 1. E-02		03/20			4
						CO-60	L.T. 6. E-03		03/20			4
						ZN-65	L.T. 1. E-02		03/20			4
						ZR-95	L.T. 6. E-03		03/20			4
						RU-103	L.T. 6. E-03		03/20			4
						RU-106	L.T. 5. E-02		03/20			4
						I-131	L.T. 1. E-02		03/20			4
						CS-134	L.T. 6. E-03		03/20			4
						CS-137	L.T. 6. E-03		03/20			4
						BA-140	L.T. 1. E-02		03/20			4
						CE-141	L.T. 1. E-02		03/20			4
						CE-144	L.T. 5. E-02		03/20			4
						RA-226	L.T. 1. E-01		03/20			4
						TH-228	L.T. 1. E-02		03/20			4
						H-3	L.T. 1. E-01		06/07			5
						PU-238	L.T. 8. E-04		04/14			6
						PU-239	L.T. 2. E-04		04/14			6
70664	90208 0012006LA		03/19	1200		SR-90	L.T. 3. E-03		04/14		2.31	3
						I-129	L.T. 3. E-02		04/00			3
						BE-7	L.T. 3. E-02		03/20			4
						K-40	1.12+-0.11E 00		03/20			4
						MN-54	L.T. 3. E-03		03/20			4
						CO-58	L.T. 3. E-03		03/20			4
						FE-59	L.T. 4. E-03		03/20			4
						CO-60	L.T. 4. E-03		03/20			4
						ZN-65	L.T. 7. E-03		03/20			4

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 06/11/92

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DELIVERY DATE 04/26/92

DATE RECEIVED 03/24/92

WORK ORDER NUMBER 3-0621

ERIC SMITH
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA

92714

3-0621

04-0029403-012

04/26/92

FOOD/GARDEN CROPS-FRUIT

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	STOP DATE	TIME	NUCLIDE	ACTIVITY (PCI/GM NET)	NUCL-UNIT-X U/M	MID-COUNT TIME DATE	VOLUME - UNITS ASH-WGHT-X	LAR.
70664	9020# 9812006LA		03/18		1200	ZR-95	L.T. 3. E-03		03/28		4
						RU-103	L.T. 4. E-03		03/28		4
						RU-106	L.T. 3. E-02		03/28		4
						I-131	L.T. 9. E-03		03/28		4
						CS-134	L.T. 3. E-03		03/28		4
						CS-137	L.T. 3. E-03		03/28		4
						BA-140	L.T. 5. E-03		03/28		4
						CE-141	L.T. 7. E-03		03/28		4
						CE-144	L.T. 3. E-02		03/28		4
						RA-226	L.T. 7. E-02		03/28		4
						TH-228	L.T. 6. E-03		03/28		4
						H-3	L.T. 1. E-01		06/07		5
						PU-238	L.T. 5. E-04		04/14		6
						PU-239	L.T. 2. E-04		04/14		6
70665	90237 8800009LA		03/18		1200	SR-90	3.2 +-2.2 E-03		04/14	2.47	3
						I-129	L.T. 4. E-02		04/05		4
						BE-7	L.T. 4. E-02		03/28		4
						K-40	1.41+-0.14E 00		03/28		4
						MN-54	L.T. 4. E-03		03/28		4
						CO-58	L.T. 4. E-03		03/28		4
						FE-59	L.T. 9. E-03		03/28		4
						CO-60	L.T. 4. E-03		03/28		4
						ZN-65	L.T. 9. E-03		03/28		4
						ZR-95	L.T. 4. E-03		03/28		4
						RU-103	L.T. 5. E-03		03/28		4
						RU-106	L.T. 3. E-02		03/28		4
						I-131	L.T. 9. E-03		03/28		4
						CS-134	L.T. 4. E-03		03/28		4
						CS-137	L.T. 4. E-03		03/28		4
						BA-140	L.T. 6. E-03		03/28		4
						CE-141	L.T. 7. E-03		03/28		4
						CE-144	L.T. 2. E-02		03/28		4

AVOCADO GROVE
BB-13

VOLATILE ORGANIC COMPOUNDS

VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-11

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.029403.012

Sample Description: BB13010SE
 Sample Number: 88929

Matrix: Soil

Date Sampled: 3/17/92
 Date Analyzed: 3/23/92

Date Received: 3/19/92
 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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756- 11

Page 2 of 2

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
1,1,2,2-Tetrachloroethane.....		5
1,3-Dichlorobenzene {b}.....		5
1,4-Dichlorobenzene {b}.....		5
1,2-Dichlorobenzene {b}.....		5
SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	103	70 - 121
Toluene-D8	105	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: 4/07/92
 Cheryl Matterson, Associate Chemist

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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-8 Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.029403.012

Sample Description: BB13011SE
 Sample Number: 88923

Matrix: Soil

Date Sampled: 3/17/92
 Date Analyzed: 3/24/92

Date Received: 3/19/92
 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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756- 8

Page 2 of 2

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

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	106	70 - 121
Toluene-D8	106	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 em Date: 4/07/92
 Cheryl Matterson, Associate Chemist

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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-84

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB13024SE
 Sample Number: 88905

Matrix: Soil

Date Sampled: 3/17/92
 Date Analyzed: 3/23/92

Date Received: 3/18/92
 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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745- 84

Page 2 of 2

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

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	106	70 - 121
Toluene-D8	105	81 - 117
4-Bromofluorobenzene	101	74 - 121

COMMENTS:

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

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

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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-2

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.029403.012

Sample Description: BB13037SE
 Sample Number: 88911

Matrix: Soil

Date Sampled: 3/17/92
 Date Analyzed: 3/24/92

Date Received: 3/19/92
 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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756- 2

Page 2 of 2

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
1,1,2,2-Tetrachloroethane.....		5
1,3-Dichlorobenzene {b}.....		5
1,4-Dichlorobenzene {b}.....		5
1,2-Dichlorobenzene {b}.....		5
SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	108	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: 4/07/92
 Cheryl Matterson, Associate Chemist

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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-5

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.029403.012

Sample Description: BB13039SE
 Sample Number: 88917

Matrix: Soil

Date Sampled: 3/17/92
 Date Analyzed: 3/23/92

Date Received: 3/19/92
 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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756- 5

Page 2 of 2

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
1,1,2,2-Tetrachloroethane.....		5
1,3-Dichlorobenzene {b}.....		5
1,4-Dichlorobenzene {b}.....		5
1,2-Dichlorobenzene {b}.....		5
SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	100	70 - 121
Toluene-D8	94	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: 4/07/92
 Cheryl Matterson, Associate Chemist

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



SEMI-VOLATILE ORGANIC COMPOUNDS

SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}

Preparation Method: EPA 3550

Lab Project-Sample ID: 5756-10

Page 1 of 3

Project Name: Rocketdyne
Project Number: 03.029403.012

Sample Description: BB13010SD
Sample Number: 88928

Matrix: Soil

Date Sampled: 3/17/92
Date Extracted: 3/23/92

Date Received: 3/19/92
Date Analyzed: 3/27/92

Batch Number: 920323-2001

Dilution Factor: 1

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



SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}

Preparation Method: EPA 3550

Lab Project-Sample ID: 5756-10

Page 2 of 3

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



SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}

Preparation Method: EPA 3550

Lab Project-Sample ID: 5756-10

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	88	25 - 121
Phenol-d5.....	87	24 - 113
Nitrobenzene-d5.....	93	23 - 120
2-Fluorobiphenyl.....	94	30 - 115
2,4,6-Tribromophenol.....	82	19 - 122
Terphenyl-d14.....	102	18 - 137

COMMENTS:

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

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

Date: 4/07/92

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-7

Page 1 of 3

Project Name: Rocketdyne
Project Number: 03.029403.012

Sample Description: BB13011SD
Sample Number: 88922

Matrix: Soil

Date Sampled: 3/17/92
Date Extracted: 3/23/92

Date Received: 3/19/92
Date Analyzed: 3/27/92

Batch Number: 920323-2001

Dilution Factor: 1

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-7

Page 2 of 3

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-7

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	78	25 - 121
Phenol-d5.....	82	24 - 113
Nitrobenzene-d5.....	84	23 - 120
2-Fluorobiphenyl.....	86	30 - 115
2,4,6-Tribromophenol.....	83	19 - 122
Terphenyl-d14.....	97	18 - 137

COMMENTS:

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

Approved By: Nancy McDonald for CM Date: 4/07/92
Cheryl Matterson, Associate Chemist

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-83

Page 1 of 3

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB13024SD
 Sample Number: 88904

Matrix: Soil

Date Sampled: 3/17/92
 Date Extracted: 3/20/92

Date Received: 3/18/92
 Date Analyzed: 3/27/92

Batch Number: 920320-0301

Dilution Factor: 1

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-83

Page 2 of 3

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-83

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	77	25 - 121
Phenol-d5.....	82	24 - 113
Nitrobenzene-d5.....	68	23 - 120
2-Fluorobiphenyl.....	73	30 - 115
2,4,6-Tribromophenol.....	114	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 Loren Date: 4/01/92
Cheryl Matterson, Associate Chemist

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-1

Page 1 of 3

Project Name: Rocketdyne
 Project Number: 03.029403.012

Sample Description: BB13037SD
 Sample Number: 88910

Matrix: Soil

Date Sampled: 3/17/92
 Date Extracted: 3/23/92

Date Received: 3/19/92
 Date Analyzed: 3/27/92

Batch Number: 920323-2001

Dilution Factor: 1

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-1

Page 2 of 3

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-1

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	92	25 - 121
Phenol-d5.....	97	24 - 113
Nitrobenzene-d5.....	97	23 - 120
2-Fluorobiphenyl.....	101	30 - 115
2,4,6-Tribromophenol.....	98	19 - 122
Terphenyl-d14.....	107	18 - 137

COMMENTS:

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

Approved By: Nancy McDonald for CM Date: 4/07/92
 Cheryl Matterson, Associate Chemist

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-4

Page 1 of 3

Project Name: Rocketdyne
 Project Number: 03.029403.012

Sample Description: BB13039SD
 Sample Number: 88916

Matrix: Soil

Date Sampled: 3/17/92
 Date Extracted: 3/23/92

Date Received: 3/19/92
 Date Analyzed: 3/27/92

Batch Number: 920323-2001

Dilution Factor: 1

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



SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}

Preparation Method: EPA 3550

Lab Project-Sample ID: 5756-4

Page 2 of 3

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5756-4

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	92	25 - 121
Phenol-d5.....	94	24 - 113
Nitrobenzene-d5.....	102	23 - 120
2-Fluorobiphenyl.....	107	30 - 115
2,4,6-Tribromophenol.....	94	19 - 122
Terphenyl-d14.....	108	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 Loren Date: 4/07/92
Cheryl Matterson, Associate Chemist

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



METALS

PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5756-12

Project Name: Rocketdyne
Project Number: 03.029403.012

Sample Description: BB13010SF
Sample Number: 88930

Matrix: Soil

Date Sampled: 3/17/92
Date Digested: 3/20/92 {b}

Date Received: 3/19/92
Batch Number: 920320-1104 {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	3/21/92
Arsenic (As)/7060.....	11.	5	2.5	3/24/92
Beryllium (Be)/6010.....	.85	1	.25	3/21/92
Cadmium (Cd)/6010.....		1	.50	3/21/92
Chromium (Cr)/6010.....	22.	1	1.0	3/21/92
Copper (Cu)/6010.....	21.	1	1.0	3/21/92
Lead (Pb)/6010.....	17.	1	2.5	3/21/92
Mercury (Hg)/7471.....		1	.25	3/21/92
Nickel (Ni)/6010.....	19.	1	1.0	3/21/92
Selenium (Se)/7740.....	.75	1	.25	3/24/92
Silver (Ag)/6010.....		1	1.0	3/21/92
Thallium (Tl)/7841.....		1	.50	3/27/92
Zinc (Zn)/6010.....	74.	1	1.0	3/21/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/20/92, Batch # 920320-1103; and Hg was digested on 3/20/92, Batch # 920320-1105 .
- {c} No entry in the "Concentration" means the metal is not detected at all.
- {d} The sample for Arsenic was diluted 5 fold to bring target analyte within linear working range.

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

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



PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5756-9

Project Name: Rocketdyne
Project Number: 03.029403.012

Sample Description: BB13011SF
Sample Number: 88924

Matrix: Soil

Date Sampled: 3/17/92
Date Digested: 3/20/92 {b}

Date Received: 3/19/92
Batch Number: 920320-1104 {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	3/21/92
Arsenic (As)/7060.....	5.5	5	2.5	3/24/92
Beryllium (Be)/6010.....	.69	1	.25	3/21/92
Cadmium (Cd)/6010.....		1	.50	3/21/92
Chromium (Cr)/6010.....	20.	1	1.0	3/21/92
Copper (Cu)/6010.....	17.	1	1.0	3/21/92
Lead (Pb)/6010.....	15.	1	2.5	3/21/92
Mercury (Hg)/7471.....		1	.25	3/21/92
Nickel (Ni)/6010.....	16.	1	1.0	3/21/92
Selenium (Se)/7740.....	2.5	1	.25	3/24/92
Silver (Ag)/6010.....		1	1.0	3/21/92
Thallium (Tl)/7841.....		1	.50	3/27/92
Zinc (Zn)/6010.....	63.	1	1.0	3/21/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/20/92, Batch # 920320-1103; and Hg was digested on 3/20/92, Batch # 920320-1105 .
- {c} No entry in the "Concentration" means the metal is not detected at all.
- {d} The sample for Arsenic was diluted 5 fold to bring target analyte within linear working range.

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

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



PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5745-85

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB13024SF
Sample Number: 88906

Matrix: Soil

Date Sampled: 3/17/92
Date Digested: 3/19/92 {b}

Date Received: 3/18/92
Batch Number: 920319-1107 {b}

METAL (SYMBOL)/EPA METHOD	ANALYTE CONCENTRATION {c} mg/Kg (ppm)	DILUTION FACTOR	REPORTING LIMIT mg/Kg (ppm)	DATE ANALYZED
Antimony (Sb)/6010.....		1	2.5	3/20/92
Arsenic (As)/7060.....	2.3	5	2.5	3/24/92
Beryllium (Be)/6010.....	.99	1	.25	3/20/92
Cadmium (Cd)/6010.....		1	.50	3/20/92
Chromium (Cr)/6010.....	25.	1	1.0	3/20/92
Copper (Cu)/6010.....	20.	1	1.0	3/20/92
Lead (Pb)/6010.....	16.	1	2.5	3/20/92
Mercury (Hg)/7471.....		1	.25	3/21/92
Nickel (Ni)/6010.....	18.	1	1.0	3/20/92
Selenium (Se)/7740.....		1	.25	3/23/92
Silver (Ag)/6010.....		1	1.0	3/20/92
Thallium (Tl)/7841.....		1	.50	3/23/92
Zinc (Zn)/6010.....	68.	1	1.0	3/20/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/19/92, Batch # 920319-1105; and Hg was digested on 3/19/92, Batch # 920319-1103 .
- {c} No entry in the "Concentration" means the metal is not detected at all.
- {d} A high background reading was obtained for Arsenic. A matrix interferent is present creating a false positive. A 5 fold dilution yielded a result equal to or above the established reporting limit.

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

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



PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5756-3

Project Name: Rocketdyne
Project Number: 03.029403.012

Sample Description: BB13037SF
Sample Number: 88913

Matrix: Soil

Date Sampled: 3/17/92
Date Digested: 3/20/92 {b}

Date Received: 3/19/92
Batch Number: 920320-1104 {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	3/21/92
Arsenic (As)/7060.....	4.5	5	2.5	3/24/92
Beryllium (Be)/6010.....	.68	1	.25	3/21/92
Cadmium (Cd)/6010.....		1	.50	3/21/92
Chromium (Cr)/6010.....	20.	1	1.0	3/21/92
Copper (Cu)/6010.....	19.	1	1.0	3/21/92
Lead (Pb)/6010.....	16.	1	2.5	3/21/92
Mercury (Hg)/7471.....		1	.25	3/21/92
Nickel (Ni)/6010.....	16.	1	1.0	3/21/92
Selenium (Se)/7740.....	2.9	1	.25	3/24/92
Silver (Ag)/6010.....		1	1.0	3/21/92
Thallium (Tl)/7841.....		1	.50	3/27/92
Zinc (Zn)/6010.....	67.	1	1.0	3/21/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/20/92, Batch # 920320-1103; and Hg was digested on 3/20/92, Batch # 920320-1105 .
- {c} No entry in the "Concentration" means the metal is not detected at all.
- {d} The sample for Arsenic was diluted 5 fold to bring target analyte within linear working range.

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

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



PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5756-6

Project Name: Rocketdyne
Project Number: 03.029403.012

Sample Description: BB13039SF
Sample Number: 88918

Matrix: Soil

Date Sampled: 3/17/92
Date Digested: 3/20/92 {b}

Date Received: 3/19/92
Batch Number: 920320-1104 {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	3/21/92
Arsenic (As)/7060.....	7.6	5	2.5	3/24/92
Beryllium (Be)/6010.....	.70	1	.25	3/21/92
Cadmium (Cd)/6010.....		1	.50	3/21/92
Chromium (Cr)/6010.....	21.	1	1.0	3/21/92
Copper (Cu)/6010.....	19.	1	1.0	3/21/92
Lead (Pb)/6010.....	17.	1	2.5	3/21/92
Mercury (Hg)/7471.....		1	.25	3/21/92
Nickel (Ni)/6010.....	16.	1	1.0	3/21/92
Selenium (Se)/7740.....	3.0	1	.25	3/24/92
Silver (Ag)/6010.....		1	1.0	3/21/92
Thallium (Tl)/7841.....		1	.50	3/27/92
Zinc (Zn)/6010.....	67.	1	1.0	3/21/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/20/92, Batch # 920320-1103; and Hg was digested on 3/20/92, Batch # 920320-1105 .
- {c} No entry in the "Concentration" means the metal is not detected at all.
- {d} The sample for Arsenic was diluted 5 fold to bring target analyte within linear working range.

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

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



RADIONUCLIDES

Table: Results of the analyses for iodine-129 and strontium-90 in thirty-five (35) soil samples.

Sample ID Number	Sample Description	Collection Date	Lab Code	Conc. pci/gwet		Conc. pci/gdry	
				I-129	Date Analyzed	Sr-90	Date Analyzed
90140	M4SA	03/17/92	SPS-1908	<0.2	05/20	0.06±0.01	06/03
88901	BB13024SA	03/17/92	1909	<0.2	05/20	0.01±0.01	05/14
88907	BB13037SA	03/17/92	1910	<0.2	05/21	0.01±0.01	05/14
88913	BB13039SA	03/17/92	1911	<0.2	05/21	0.01±0.01	05/15
88919	BB13011SA	03/17/92	1912	<0.2	05/22	0.01±0.01	06/03
88925	BB13010SA	03/17/92	1913	<0.2	05/22	<0.01	06/09
89151	BB06017SA	03/17/92	1914	<0.2	05/22	0.01±0.01	05/14
89157	BB06007SA	03/17/92	1915	<0.3	06/09	<0.01	05/14
89163	BB06092SA	03/17/92	1916	<0.2	05/26	<0.01	05/14
89169	BB06066SA	03/17/92	1917	<0.2	05/27	<0.01	05/14
89175	BB06013SA	03/17/92	1918	<0.2	05/28	0.01±0.01	05/14
90101	BB03025SA	03/17/92	1919	<0.2	06/01	0.09±0.01	06/09
90107	BB03092SA	03/17/92	1920	<0.2	06/01	0.04±0.01	05/14
90113	BB03079SA	03/17/92	1921	<0.2	06/01	0.03±0.01	06/09
90119	BB03017SA	03/17/92	1922	<0.3	06/09	0.05±0.01	06/09
90125	BB03005SA	03/17/92	1923	<0.2	06/02	0.06±0.01	05/15
90001	BB05003SA	03/18/92	1924	<0.2	06/02	0.02±0.01	06/09
90007	BB05089SA	03/18/92	1925	<0.2	06/02	0.02±0.01	05/22
90013	BB05006SA	03/18/92	1926	<0.2	06/03	0.02±0.01	05/22
90019	BB05057SA	03/18/92	1927	<0.2	06/04	0.03±0.01	05/22
90025	BB05077SA	03/18/92	1928	<0.2	06/04	0.06±0.01	05/22
90051	BB12006SA	03/18/92	1929	<0.2	06/05	0.03±0.01	05/22
90057	BB12019SA	03/18/92	1930	<0.2	06/05	0.04±0.01	05/22
90063	BB12023SA	03/18/92	1931	<0.3	06/05	0.02±0.01	05/22
90069	BB12020SA	03/18/92	1932	<0.2	06/08	0.03±0.01	05/22
90075	BB12003SA	03/18/92	1933	<0.2	06/08	0.01±0.01	05/22
90251	BB01056SA	03/18/92	1934	<0.3	06/08	0.04±0.01	06/03
90263	BB01001SA	03/18/92	1935	<0.3	06/10	<0.01	06/03
90269	BB01027SA	03/18/92	1936	<0.3	06/10	<0.01	06/09
90275	BB01038SA	03/18/92	1937	<0.2	06/10	0.02±0.01	06/03
90282	BB00004SA	03/18/92	1938	<0.3	06/10	0.01±0.01	06/03
89251	BB11018SA	03/18/92	1939	<0.3	06/10	0.02±0.01	06/03
89257	BB11061SA	03/18/92	1940	<0.3	06/11	<0.01	06/03
89263	BB11057SA	03/18/92	1941	<0.2	06/11	0.02±0.01	06/09
89269	BB11032SA	03/18/92	1942	<0.3	04/14	0.02±0.01	06/09

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 06/09/92 PAGE 4

WORK ORDER NUMBER 3-0625 CUSTOMER P.O. NUMBER 04-0029403-012 DATE RECEIVED 03/25/92 DELIVERY DATE 04/27/92

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	STOP TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-X U/M	MID-COUNT TIME DATE	VOLUME - UNITS ASH-WGHT-%	LAB.
70848	89177 BB06013C		03/17	0925	BE-7	L.T. 6. E-01		04/25		4
					K-40	1.99+-0.20E 01		04/25		4
					MN-54	L.T. 5. E-02		04/25		4
					CO-58	L.T. 6. E-02		04/25		4
					FE-59	L.T. 2. E-01		04/25		4
					CO-60	L.T. 5. E-02		04/25		4
					ZN-65	L.T. 1. E-01		04/25		4
					ZR-95	L.T. 7. E-02		04/25		4
					RU-103	L.T. 8. E-02		04/25		4
					RU-106	L.T. 4. E-01		04/25		4
					I-131	L.T. 1. E 00		04/25		4
					CS-134	L.T. 6. E-02		04/25		4
					CS-137	L.T. 5. E-02		04/25		4
					BA-140	L.T. 4. E-01		04/25		4
					CE-141	L.T. 2. E-01		04/25		4
					CE-144	L.T. 4. E-01		04/25		4
					RA-226	1.58+-0.73E 00		04/25		4
					TH-228	1.16+-0.12E 00		04/25		4
					H-3	L.T. 2. E-02		06/02		5
70849	88921 BB130115C		03/17	1550	BE-7	L.T. 5. E-01		04/25		4
					K-40	1.94+-0.19E 01		04/25		4
					MN-54	L.T. 4. E-02		04/25		4
					CO-58	L.T. 5. E-02		04/25		4
					FE-59	L.T. 1. E-01		04/25		4
					CO-60	L.T. 4. E-02		04/25		4
					ZN-65	L.T. 1. E-01		04/25		4
					ZR-95	L.T. 7. E-02		04/25		4
					RU-103	L.T. 7. E-02		04/25		4
					RU-106	L.T. 3. E-01		04/25		4
					I-131	L.T. 1. E 00		04/25		4
					CS-134	L.T. 5. E-02		04/25		4
					CS-137	9.81+-3.92E-02		04/25		4

TELEDYNE ISOTOPIES
 REPORT OF ANALYSIS

WORK ORDER NUMBER 3-0625
 CUSTOMER P.O. NUMBER 04-0029403-012
 DATE RECEIVED 03/25/92
 DELIVERY DATE 04/27/92

ERIC SMITH
 MCLAREN/HART
 16795 VON KARMAN AVE
 IRVINE CA 92714

SOIL

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE		NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M	MID-COUNT		VOLUME - UNITS ASH-WGHT-%	LAR.
			START DATE	STOP DATE				DATE	TIME		
70844	89165 88060925C		03/17	0850	TH-228 H-3	1.69+-0.17E 00 1.3 +-0.7 E-02		04/25 06/02			4 5
70845	89170 88060665B		03/17	0905	PU-238 PU-239	L.T. 1. E-02 L.T. 9. E-03		05/09 05/09			6 6
70846	89171 88060665C		03/17	0905	RE-7 K-40 MN-54 CO-58 FE-59 CO-60 ZN-65 ZR-95 RU-103 RU-106 I-131 CS-134 CS-137 RA-140 CE-141 CE-144 RA-226 TH-228 H-3	L.T. 5. E-01 2.39+-0.24E 01 L.T. 4. E-02 L.T. 5. E-02 L.T. 1. E-01 L.T. 4. E-02 L.T. 1. E-01 L.T. 7. E-02 L.T. 3. E-01 L.T. 1. E-00 L.T. 5. E-02 L.T. 4. E-02 L.T. 3. E-01 L.T. 1. E-01 L.T. 3. E-01 2.24+-0.55E 00 1.38+-0.14E 00 L.T. 3. E-02		04/25 04/25 04/25 04/25 04/25 04/25 04/25 04/25 04/25 04/25 04/25 04/25 04/25 04/25 04/25 04/25 04/25 04/25 09/14			4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 5
70847	89176 88060135B		03/17	0925	PU-238 PU-239	L.T. 2. E-02 L.T. 1. E-02		05/06 05/06			6 6

M. Martin
 9-30-92

The H-3 results for TI#70846 and 70851 have been revised based upon reanalysis of the samples using an analytical method considered to be more reliable for soil samples. In units of pCi/l the results are L.T. 3. E-02 and L.T. 2. E-02 respectively.
 The H-3 result for TI#70846 has been revised. The original result was incorrectly calculated.

TELEDYNE ISOTOPIES

REPORT OF ANALYSIS

WORK ORDER NUMBER 3-0623

CUSTOMER P.O. NUMBER

04-0029403-012

DATE RECEIVED 03/25/92

DELIVERY DATE 04/27/92

PAGE 7

RUN DATE 06/08/92

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	STOP DATE	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	DATE RECEIVED	DELIVERY DATE	MTD-COUNT TIME	VOLUME - UNITS ASH-WGHT-%	LAB.
70825	88909 88130375C		03/17 1510		ZR-95	L.T. 6. E-02		03/25/92	04/27/92	04/25		4
					RU-103	L.T. 8. E-02				04/25		4
					RU-106	L.T. 4. E-01				04/25		4
					I-131	L.T. 1. E 00				04/25		4
					CS-134	L.T. 6. E-02				04/25		4
					CS-137	1.03+-0.41E-01				04/25		4
					BA-140	L.T. 4. E-01				04/25		4
					CE-141	L.T. 1. E-01				04/25		4
					CE-144	L.T. 3. E-01				04/25		4
					RA-226	1.94+-0.67E 00				04/25		4
					TM-228	1.67+-0.17E 00				04/25		4
					H-3	4.7 +-1.5 E-02				05/29		5
70826	88914 88130395B		03/17 1540		PU-238	L.T. 1. E-01				05/05		6
					PU-239	L.T. 4. E-02				05/05		6
70827	88915 88130395C		03/17 1540		BE-7	L.T. 3. E-01				04/13		4
					K-40	1.99+-0.20E 01				04/13		4
					MN-54	L.T. 3. E-02				04/13		4
					CO-58	L.T. 3. E-02				04/13		4
					FE-59	L.T. 7. E-02				04/13		4
					CO-60	L.T. 3. E-02				04/13		4
					ZN-65	L.T. 6. E-02				04/13		4
					ZR-95	L.T. 3. E-02				04/13		4
					RU-103	L.T. 3. E-02				04/13		4
					RU-106	L.T. 2. E-01				04/13		4
					I-131	L.T. 2. E-01				04/13		4
					CS-134	L.T. 3. E-02				04/13		4
					CS-137	7.71+-1.78E-02				04/13		4
					BA-140	L.T. 1. E-01				04/13		4
					CE-141	L.T. 6. E-02				04/13		4
					CE-144	L.T. 2. E-01				04/13		4
					RA-226	1.87+-0.38E 00				04/13		4

TELEPHONE ISOTOPIES

REPORT OF ANALYSIS

RUN DATE 10/07/92

PAGE 1

WORK ORDER NUMBER 3-3796
 CUSTOMER P.O. NUMBER 04-0029403-012
 DATE RECEIVED 09/17/92
 DELIVERY DATE 10/20/92

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

SOIL

TELEPHONE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START TIME	STOP TIME	NUCLIDE	ACTIVITY (PCT/G DRY)	NUCL-UNIT-% U/M	MID-COUNT TIME DATE	VOLUME - UNITS ASH-WGHT-%
89782	8813024SA	88901	03/17 1430		H-3	3.6 +-2.1 F-02		09/29	5
89783	8815003SA	89561	04/22 1135		H-3	NOT ANALYZED			5
89784	8806007SA	89157	03/17 0840		H-3	3.9 +-1.4 E-02		09/29	5
89785	8604025SA	88201	03/13 1030		H-3	2.8 +-1.3 F-02		09/29	5
89786	8605026SA	88225	03/13 1605		H-3	2.7 +-1.0 E-02		09/29	5
89787	8602007SA	88457	/		H-3	2.1 +-1.1 F-02		09/29	5
89788	8802045SA	89407	03/19 1000		H-3	NOT ANALYZED		09/29	5
89789	8815004SA	89569	04/22 1115		H-3	NOT ANALYZED		09/29	5
89790	8812020SA	90069	03/18 1055		H-3	L.T. 7. E-03		09/29	5
89791	8803005SA	90125	03/17 1200		H-3	L.T. 3. E-02		09/24	5
89792	8816001SA	89892	04/22 1000		H-3	2.0 +-0.2 E-01		09/30	5
89793	8604029SA	88213	03/13 1145		H-3	4.8 +-1.5 E-02		09/30	5
89794	8814094SA	88419	03/16 1540		H-3	NOT ANALYZED		09/30	5
89795	8811006SA	89275	03/18 1640		H-3	2.1 +-1.1 E-02		09/30	5
89796	8602074SA	88451	03/10		H-3	NOT ANALYZED			5

TELEDYNE ISOTOPIES

REPORT OF ANALYSIS
 WORK ORDER NUMBER 3-3706
 CUSTOMER P.O. NUMBER 04-0029403-C12
 DATE RECEIVED 09/17/92
 DELIVERY DATE 10/20/92
 PURN DATE 10/07/92
 PAGE 3

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

SOIL

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	STOP DATE	TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M	MID-COUNT TIME DATE	VOLUME - UNITS ASH-WEIGHT-%	LAR.
89797	SM030155A	88307	03/11			H-3	L.T. R. E-02		09/30		5
89798	88030255A	90101	03/17	1040		H-3	5.1 +-2.5 E-02		09/30		5
89799	881600185A	89851	04/22	0915		H-3	3.6 +-2.0 E-02		09/30		5
89800	88040975A	88262	03/16	1115		H-3	NOT ANALYZED				5
89801	88130395A	88913	03/17	1540		H-3	2.5 +-1.2 E-02		10/02		5
89802	88150015A	89551	04/22	1230		H-3	NOT ANALYZED				5
89803	88040235A	88256	03/16	1100		H-3	2.2 +-0.8 E-02		10/02		5
89804	88020715A	89801	03/19	1000		H-3	NOT ANALYZED				5

J. Guenther

APPROVED BY J. GUENTHER 10/07/92

LAST PAGE OF REPORT

SEND 1 COPIES TO MC4805 ERIC SMITH

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

TII#	H-3 (pCi/l)	Water (ml)
6813024	120±70	11.2
15023	380±140	8.5
04025	160±70	17.5
05048	200±70	12.6
02018	170±90	17.1
12020	L.T. 200	8.6
03003	L.T. 200	13.2
10018	955±100	13.4
04021	240±70	20.5
11024	160±80	16.1
02025	L.T. 200	9.8
03018	240±120	18.4
10018	220±120	25.3
13031	170±80	15.2
04022	230±90	11.6

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

FRUIT

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

PUN DATE 06/11/97

PAGE 1

WORK ORDER NUMBER 3-0621
 CUSTOMER P.O. NUMBER 04-0029403-012
 DATE RECEIVED 03/24/92
 DELIVERY DATE 04/26/97

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

FOOD/GARDEN CROPS-FRUIT

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	STOP DATE	TIME	NUCLIDE	ACTIVITY (PCI/GM NET)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	VOLUME - UPTS ASH-WGHT-% *	L.A.R.
70655	90222 8813039AA		03/17	1630		SR-90	L.T. 2. E-03		04/10	3.13 *	2
						I-129	L.T. 3. E-02		04/07		3
						BE-7	L.T. 5. E-02		03/27		4
						K-40	3.90+-0.39E 00		03/27		4
						MN-54	L.T. 5. E-03		03/27		4
						CO-58	L.T. 5. E-03		03/27		4
						FE-59	L.T. 1. E-02		03/27		4
						CO-60	L.T. 5. E-03		03/27		4
						ZN-65	L.T. 1. E-02		03/27		4
						ZR-95	L.T. 5. E-03		03/27		4
						RU-103	L.T. 6. E-03		03/27		4
						RU-106	L.T. 4. E-02		03/27		4
						I-131	L.T. 1. E-02		03/27		4
						CS-134	L.T. 5. E-03		03/27		4
						CS-137	L.T. 5. E-03		03/27		4
						BA-140	L.T. 8. E-03		03/27		4
						CE-141	L.T. 8. E-03		03/27		4
						CE-144	L.T. 3. E-02		03/27		4
						RA-226	L.T. 8. E-02		03/27		4
						TH-228	L.T. 8. E-03		03/27		4
						H-3	L.T. 1. E-01		06/04		5
						PU-238	L.T. 5. E-04		04/24		6
						PU-239	L.T. 2. E-04		04/24		6
70656	90214 8813024AA		03/17	1630		SR-90	L.T. 2. E-03		04/10	2.83 *	2
						I-129	L.T. 3. E-02		04/07		3
						BE-7	L.T. 4. E-02		03/27		4
						K-40	3.45+-0.35E 00		03/27		4
						MN-54	L.T. 4. E-03		03/27		4
						CO-58	L.T. 4. E-03		03/27		4
						FE-59	L.T. 1. E-02		03/27		4
						CO-60	L.T. 4. E-03		03/27		4
						ZN-65	L.T. 1. E-02		03/27		4

TELEDYNE ISOTOPIES

REPORT OF ANALYSIS

WORK ORDER NUMBER 3-0621

CUSTOMER P.O. NUMBER 04-0029403-012

DATE RECEIVED 03/24/92

DELIVERY DATE 04/26/92

PAGE 2

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

FOOD/GARDEN CROPS-FRUIT

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	STOP TIME	NUCLIDE	ACTIVITY (PCI/GM NET)	NUCL-UNIT-% U/M *	MTD-CRUNT DATE	TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
70656	90214 8813024AA		03/17	1630	ZR-95	L.T. 4. E-03		03/27			4
					RU-103	L.T. 5. E-03		03/27			4
					RU-106	L.T. 4. E-02		03/27			4
					I-131	L.T. 1. E-02		03/27			4
					CS-134	L.T. 4. E-03		03/27			4
					CS-137	L.T. 4. E-03		03/27			4
					BA-140	L.T. 6. E-03		03/27			4
					CE-141	L.T. 7. E-03		03/27			4
					RA-226	L.T. 2. E-02		03/27			4
					TH-228	L.T. 8. E-02		03/27			4
					H-3	L.T. 7. E-03		03/27			4
					PU-238	L.T. 1. E-01		06/04			5
					PU-239	L.T. 4. E-04		04/13			6
						L.T. 2. E-04		04/13			6
70657	90216 8813011AA		03/17	1630	SR-90	L.T. 2. E-03		04/10		2.33 *	3
					I-129	L.T. 3. E-02		04/07			3
					BE-7	L.T. 5. E-02		03/28			4
					K-40	4.50+-0.45E 00		03/28			4
					MN-54	L.T. 5. E-03		03/28			4
					CO-58	L.T. 5. E-03		03/28			4
					FE-59	L.T. 1. E-02		03/28			4
					CO-60	L.T. 6. E-03		03/28			4
					ZR-95	L.T. 1. E-02		03/28			4
					ZR-95	L.T. 5. E-03		03/28			4
					RU-103	L.T. 6. E-03		03/28			4
					RU-106	L.T. 4. E-02		03/28			4
					I-131	L.T. 1. E-02		03/28			4
					CS-134	L.T. 5. E-03		03/28			4
					CS-137	L.T. 5. E-03		03/28			4
					BA-140	L.T. 8. E-03		03/28			4
					CE-141	L.T. 8. E-03		03/28			4
					CE-144	L.T. 3. E-02		03/28			4

VOLATILE ORGANIC COMPOUNDS

VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-38

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB14004SE
 Sample Number: 88429

Matrix: Soil

Date Sampled: 3/16/92
 Date Analyzed: 3/21/92

Date Received: 3/18/92
 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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745- 38

Page 2 of 2

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
1,1,2,2-Tetrachloroethane.....		5
1,3-Dichlorobenzene {b}.....		5
1,4-Dichlorobenzene {b}.....		5
1,2-Dichlorobenzene {b}.....		5
SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	103	70 - 121
Toluene-D8	109	81 - 117
4-Bromofluorobenzene	81	74 - 121

COMMENTS:

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

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

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



VOLATILE ORGANICS

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

Preparation Method: EPA 5030

Lab Project-Sample ID: 5745-25

Page 1 of 2

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB14037SE
Sample Number: 88405

Matrix: Soil

Date Sampled: 3/16/92
Date Analyzed: 3/21/92

Date Received: 3/18/92
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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745- 25

Page 2 of 2

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
1,1,2,2-Tetrachloroethane.....		5
1,3-Dichlorobenzene {b}.....		5
1,4-Dichlorobenzene {b}.....		5
1,2-Dichlorobenzene {b}.....		5
SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	100	70 - 121
Toluene-D8	96	81 - 117
4-Bromofluorobenzene	97	74 - 121

COMMENTS:

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

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

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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-28

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB14041SE
 Sample Number: 88411

Matrix: Soil

Date Sampled: 3/16/92
 Date Analyzed: 3/21/92

Date Received: 3/18/92
 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



VOLATILE ORGANICS

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

Preparation Method: EPA 5030

Lab Project-Sample ID: 5745- 28

Page 2 of 2

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

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	103	70 - 121
Toluene-D8	116	81 - 117
4-Bromofluorobenzene	76	74 - 121

COMMENTS:

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

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

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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-31

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB14079SE ;
 Sample Number: 88417

Matrix: Soil

Date Sampled: 3/16/92
 Date Analyzed: 3/21/92

Date Received: 3/18/92
 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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745- 31

Page 2 of 2

COMPOUND	ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
1,1,2,2-Tetrachloroethane.....		5
1,3-Dichlorobenzene {b}.....		5
1,4-Dichlorobenzene {b}.....		5
1,2-Dichlorobenzene {b}.....		5
SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	100	70 - 121
Toluene-D8	102	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 McDonald for CM Date: 4/01/92
 Cheryl Matterson, Associate Chemist

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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-35

Page 1 of 2

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB14094SE
 Sample Number: 88423

Matrix: Soil

Date Sampled: 3/16/92
 Date Analyzed: 3/21/92

Date Received: 3/18/92
 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



VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745- 35

Page 2 of 2

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

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
1,2-Dichloroethane-D4	101	70 - 121
Toluene-D8	99	81 - 117
4-Bromofluorobenzene	89	74 - 121

COMMENTS:

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

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

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



SEMI-VOLATILE ORGANIC COMPOUNDS

SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-37

Page 1 of 3

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB14004SD¹
 Sample Number: 88428

Matrix: Soil

Date Sampled: 3/16/92
 Date Extracted: 3/20/92

Date Received: 3/18/92
 Date Analyzed: 3/26/92

Batch Number: 920320-0301

Dilution Factor: 1

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-37

Page 2 of 3

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-37

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	61	25 - 121
Phenol-d5.....	85	24 - 113
Nitrobenzene-d5.....	89	23 - 120
2-Fluorobiphenyl.....	97	30 - 115
2,4,6-Tribromophenol.....	129	19 - 122
Terphenyl-d14.....	113	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} Surrogate recovery for 2,4,6-Tribromophenol is beyond quality control limits. Sample meets all QC acceptance criteria specified in SW846 and EPA SOW 2/88.

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

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-24

Page 1 of 3

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB14037SD
 Sample Number: 88404

Matrix: Soil

Date Sampled: 3/16/92
 Date Extracted: 3/20/92

Date Received: 3/18/92
 Date Analyzed: 3/26/92

Batch Number: 920320-0301

Dilution Factor: 1

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-24

Page 2 of 3

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-24

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	94	25 - 121
Phenol-d5.....	91	24 - 113
Nitrobenzene-d5.....	84	23 - 120
2-Fluorobiphenyl.....	88	30 - 115
2,4,6-Tribromophenol.....	119	19 - 122
Terphenyl-d14.....	108	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 Loren Date: 4/01/92
Cheryl Matterson, Associate Chemist

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-27

Page 1 of 3

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB14041SD
 Sample Number: 88410

Matrix: Soil

Date Sampled: 3/16/92
 Date Extracted: 3/20/92

Date Received: 3/18/92
 Date Analyzed: 3/26/92

Batch Number: 920320-0301

Dilution Factor: 1

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



SEMI-VOLATILE ORGANICS

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

Lab Project-Sample ID: 5745-27

Page 2 of 3

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



SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}
Preparation Method: EPA 3550

Lab Project-Sample ID: 5745-27

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	54	25 - 121
Phenol-d5.....	72	24 - 113
Nitrobenzene-d5.....	83	23 - 120
2-Fluorobiphenyl.....	93	30 - 115
2,4,6-Tribromophenol.....	122	19 - 122
Terphenyl-d14.....	103	18 - 137

COMMENTS:

- {a} Includes all analytes as listed in Table 2 of Method 8270, SW-846, 3rd Edition.
- {b} Additional compounds.
- {c} Concentrations lower than the Reporting Limits are estimated values. No entry in "Analyte Concentration" means the analyte is not detected at all.

Approved By: Nancy McDonald for CM Date: 4/01/92
Cheryl Matterson, Associate Chemist

The cover letter and attachments are integral parts of this report.



SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}
 Preparation Method: EPA 3550

Lab Project-Sample ID: 5745-30

Page 1 of 3

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB14079SD^f
 Sample Number: 88416

Matrix: Soil

Date Sampled: 3/16/92
 Date Extracted: 3/20/92

Date Received: 3/18/92
 Date Analyzed: 3/27/92

Batch Number: 920320-0301

Dilution Factor: 1

ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
Phenol.....	330
Bis(2-chloroethyl) ether.....	330
2-Chlorophenol.....	330
1,3-Dichlorobenzene.....	330
1,4-Dichlorobenzene.....	330
Benzyl alcohol.....	330
2-Methylphenol.....	330
1,2-Dichlorobenzene.....	330
Bis(2-Chloroisopropyl) ether.....	330
4-Methylphenol.....	330
N-Nitroso-di-n-propylamine.....	330
Hexachloroethane.....	330
Nitrobenzene.....	330
Isophorone.....	330
2,4-Dimethylphenol.....	330
1,2,4-Trichlorobenzene.....	330
2-Nitrophenol.....	330
Benzoic acid.....	1600
Bis(2-Chloroethoxy)methane.....	330
2,4-Dichlorophenol.....	330
Naphthalene.....	330
4-Chloroaniline.....	330
Hexachlorobutadiene.....	330
4-Chloro-3-methylphenol.....	330
2-Methylnaphthalene.....	330
Hexachlorocyclopentadiene.....	330
2,4,6-Trichlorophenol.....	330
2,4,5-Trichlorophenol.....	330
2-Chloronaphthalene.....	330
3-Nitroaniline.....	1600
Dimethylphthalate.....	330
2,6-Dinitrotoluene.....	330
Acenaphthylene.....	330
2-Nitroaniline.....	1600



SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}
Preparation Method: EPA 3550

Lab Project-Sample ID: 5745-30

Page 2 of 3

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



SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}
Preparation Method: EPA 3550

Lab Project-Sample ID: 5745-30

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	111	25 - 121
Phenol-d5.....	103	24 - 113
Nitrobenzene-d5.....	94	23 - 120
2-Fluorobiphenyl.....	104	30 - 115
2,4,6-Tribromophenol.....	149	19 - 122
Terphenyl-d14.....	113	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} Surrogate recovery for 2,4,6-Tribromophenol is beyond quality control limits. Sample meets all QC acceptance criteria specified in SW846 and EPA SOW 2/88.

Approved By: Nancy McDonald for CM Date: 4/01/92
Cheryl Matterson, Associate Chemist

The cover letter and attachments are integral parts of this report.



SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}
 Preparation Method: EPA 3550

Lab Project-Sample ID: 5745-34

Page 1 of 3

Project Name: Rocketdyne
 Project Number: 03.0029403.012

Sample Description: BB14094SD
 Sample Number: 88422

Matrix: Soil

Date Sampled: 3/16/92
 Date Extracted: 3/20/92

Date Received: 3/18/92
 Date Analyzed: 3/26/92

Batch Number: 920320-0301

Dilution Factor: 1

ANALYTE CONCENTRATION {c} ug/Kg (ppb)	REPORTING LIMIT ug/Kg (ppb)
Phenol.....	330
Bis(2-chloroethyl)ether.....	330
2-Chlorophenol.....	330
1,3-Dichlorobenzene.....	330
1,4-Dichlorobenzene.....	330
Benzyl alcohol.....	330
2-Methylphenol.....	330
1,2-Dichlorobenzene.....	330
Bis(2-Chloroisopropyl)ether.....	330
4-Methylphenol.....	330
N-Nitroso-di-n-propylamine.....	330
Hexachloroethane.....	330
Nitrobenzene.....	330
Isophorone.....	330
2,4-Dimethylphenol.....	330
1,2,4-Trichlorobenzene.....	330
2-Nitrophenol.....	330
Benzoic acid.....	1600
Bis(2-Chloroethoxy)methane.....	330
2,4-Dichlorophenol.....	330
Naphthalene.....	330
4-Chloroaniline.....	330
Hexachlorobutadiene.....	330
4-Chloro-3-methylphenol.....	330
2-Methylnaphthalene.....	330
Hexachlorocyclopentadiene.....	330
2,4,6-Trichlorophenol.....	330
2,4,5-Trichlorophenol.....	330
2-Chloronaphthalene.....	330
3-Nitroaniline.....	1600
Dimethylphthalate.....	330
2,6-Dinitrotoluene.....	330
Acenaphthylene.....	330
2-Nitroaniline.....	1600



SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}
 Preparation Method: EPA 3550

Lab Project-Sample ID: 5745-34

Page 2 of 3

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



SEMI-VOLATILE ORGANICS

Analytical Method: EPA 8270 - Modified {a}
Preparation Method: EPA 3550

Lab Project-Sample ID: 5745-34

Page 3 of 3

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
2-Fluorophenol.....	90	25 - 121
Phenol-d5.....	93	24 - 113
Nitrobenzene-d5.....	89	23 - 120
2-Fluorobiphenyl.....	95	30 - 115
2,4,6-Tribromophenol.....	111	19 - 122
Terphenyl-d14.....	108	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 Loren Date: 4/01/92
Cheryl Matterson, Associate Chemist

The cover letter and attachments are integral parts of this report.



METALS

PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5745-39

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB14004SF.
Sample Number: 88430

Matrix: Soil

Date Sampled: 3/16/92
Date Digested: 3/19/92 {b}

Date Received: 3/18/92
Batch Number: 920319-1106 {b}

METAL (SYMBOL)/EPA METHOD	ANALYTE CONCENTRATION {c} mg/Kg (ppm)	DILUTION FACTOR	REPORTING LIMIT mg/Kg (ppm)	DATE ANALYZED
Antimony (Sb)/6010.....		1	2.5	3/20/92
Arsenic (As)/7060.....	1.2	1	.50	3/24/92
Beryllium (Be)/6010.....	.43	1	.25	3/20/92
Cadmium (Cd)/6010.....		1	.50	3/20/92
Chromium (Cr)/6010.....	11.	1	1.0	3/20/92
Copper (Cu)/6010.....	8.9	1	1.0	3/20/92
Lead (Pb)/6010.....	11.	1	2.5	3/20/92
Mercury (Hg)/7471.....		1	.25	3/21/92
Nickel (Ni)/6010.....	6.2	1	1.0	3/20/92
Selenium (Se)/7740.....		1	.25	3/23/92
Silver (Ag)/6010.....		1	1.0	3/20/92
Thallium (Tl)/7841.....		1	.50	3/23/92
Zinc (Zn)/6010.....	41.	1	1.0	3/20/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/19/92, Batch # 920319-1104; and Hg was digested on 3/19/92, Batch # 920319-1102 .
- {c} No entry in the "Concentration" means the metal is not detected at all.

Approved by: Nancy McDonald for CM Date: 4/01/92
Cheryl Matterson, Association Chemist

The cover letter and attachments are integral parts of this report.



PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5745-26

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB14037SF
Sample Number: 88406

Matrix: Soil

Date Sampled: 3/16/92
Date Digested: 3/19/92 {b}

Date Received: 3/18/92
Batch Number: 920319-1106 {b}

METAL (SYMBOL)/EPA METHOD	ANALYTE CONCENTRATION {c} mg/Kg (ppm)	DILUTION FACTOR	REPORTING LIMIT mg/Kg (ppm)	DATE ANALYZED
Antimony (Sb)/6010.....		1	2.5	3/20/92
Arsenic (As)/7060.....	2.2	1	.50	3/24/92
Beryllium (Be)/6010.....	.43	1	.25	3/20/92
Cadmium (Cd)/6010.....		1	.50	3/20/92
Chromium (Cr)/6010.....	15.	1	1.0	3/20/92
Copper (Cu)/6010.....	11.	1	1.0	3/20/92
Lead (Pb)/6010.....	9.0	1	2.5	3/20/92
Mercury (Hg)/7471.....		1	.25	3/21/92
Nickel (Ni)/6010.....	7.9	1	1.0	3/20/92
Selenium (Se)/7740.....		1	.25	3/23/92
Silver (Ag)/6010.....		1	1.0	3/20/92
Thallium (Tl)/7841.....		1	.50	3/23/92
Zinc (Zn)/6010.....	42.	1	1.0	3/20/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/19/92, Batch # 920319-1104; and Hg was digested on 3/19/92, Batch # 920319-1102 .
- {c} No entry in the "Concentration" means the metal is not detected at all.

Approved by: Nancy McDonald Loren Date: 4/01/92
Cheryl Matterson, Association Chemist

The cover letter and attachments are integral parts of this report.



PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5745-29

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB14041SF[†]
Sample Number: 88412

Matrix: Soil

Date Sampled: 3/16/92
Date Digested: 3/19/92 {b}

Date Received: 3/18/92
Batch Number: 920319-1106 {b}

METAL (SYMBOL)/EPA METHOD	ANALYTE CONCENTRATION {c} mg/Kg (ppm)	DILUTION FACTOR	REPORTING LIMIT mg/Kg (ppm)	DATE ANALYZED
Antimony (Sb)/6010.....		1	2.5	3/20/92
Arsenic (As)/7060.....	2.4	1	.50	3/24/92
Beryllium (Be)/6010.....	.40	1	.25	3/20/92
Cadmium (Cd)/6010.....		1	.50	3/20/92
Chromium (Cr)/6010.....	8.7	1	1.0	3/20/92
Copper (Cu)/6010.....	6.0	1	1.0	3/20/92
Lead (Pb)/6010.....	10.	1	2.5	3/20/92
Mercury (Hg)/7471.....		1	.25	3/21/92
Nickel (Ni)/6010.....	5.2	1	1.0	3/20/92
Selenium (Se)/7740.....		1	.25	3/23/92
Silver (Ag)/6010.....		1	1.0	3/20/92
Thallium (Tl)/7841.....		1	.50	3/23/92
Zinc (Zn)/6010.....	37.	1	1.0	3/20/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/19/92, Batch # 920319-1104; and Hg was digested on 3/19/92, Batch # 920319-1102 .
- {c} No entry in the "Concentration" means the metal is not detected at all.

Approved by: Nancy McDonald for CM Date: 4/01/92
Cheryl Matterson, Association Chemist

The cover letter and attachments are integral parts of this report.



PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5745-32

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB14079SF+
Sample Number: 88418

Matrix: Soil

Date Sampled: 3/16/92
Date Digested: 3/19/92 {b}

Date Received: 3/18/92
Batch Number: 920319-1106 {b}

METAL (SYMBOL)/EPA METHOD	ANALYTE CONCENTRATION {c} mg/Kg (ppm)	DILUTION FACTOR	REPORTING LIMIT mg/Kg (ppm)	DATE ANALYZED
Antimony (Sb)/6010.....		1	2.5	3/20/92
Arsenic (As)/7060.....	1.0	1	.50	3/24/92
Beryllium (Be)/6010.....	.51	1	.25	3/20/92
Cadmium (Cd)/6010.....		1	.50	3/20/92
Chromium (Cr)/6010.....	14.	1	1.0	3/20/92
Copper (Cu)/6010.....	9.2	1	1.0	3/20/92
Lead (Pb)/6010.....	7.4	1	2.5	3/20/92
Mercury (Hg)/7471.....		1	.25	3/21/92
Nickel (Ni)/6010.....	8.5	1	1.0	3/20/92
Selenium (Se)/7740.....		1	.25	3/23/92
Silver (Ag)/6010.....		1	1.0	3/20/92
Thallium (Tl)/7841.....		1	.50	3/23/92
Zinc (Zn)/6010.....	40.	1	1.0	3/20/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/19/92, Batch # 920319-1104; and Hg was digested on 3/19/92, Batch # 920319-1102 .
- {c} No entry in the "Concentration" means the metal is not detected at all.

Approved by: Nancy McDonald LorcM Date: 4/01/92
Cheryl Matterson, Association Chemist

The cover letter and attachments are integral parts of this report.



PRIORITY POLLUTANT METALS

Preparation Method: EPA 3050 {a}

Lab Project-Sample ID: 5745-36

Project Name: Rocketdyne
Project Number: 03.0029403.012

Sample Description: BB14094SF
Sample Number: 88424

Matrix: Soil

Date Sampled: 3/16/92
Date Digested: 3/19/92 {b}

Date Received: 3/18/92
Batch Number: 920319-1106 {b}

METAL (SYMBOL)/EPA METHOD	ANALYTE CONCENTRATION {c} mg/Kg (ppm)	DILUTION FACTOR	REPORTING LIMIT mg/Kg (ppm)	DATE ANALYZED
Antimony (Sb)/6010.....		1	2.5	3/20/92
Arsenic (As)/7060.....	2.6	5	2.5	3/24/92
Beryllium (Be)/6010.....	.46	1	.25	3/20/92
Cadmium (Cd)/6010.....		1	.50	3/20/92
Chromium (Cr)/6010.....	12.	1	1.0	3/20/92
Copper (Cu)/6010.....	9.4	1	1.0	3/20/92
Lead (Pb)/6010.....	9.4	1	2.5	3/20/92
Mercury (Hg)/7471.....		1	.25	3/21/92
Nickel (Ni)/6010.....	6.8	1	1.0	3/20/92
Selenium (Se)/7740.....		1	.25	3/23/92
Silver (Ag)/6010.....		1	1.0	3/20/92
Thallium (Tl)/7841.....		1	.50	3/23/92
Zinc (Zn)/6010.....	43.	1	1.0	3/20/92

COMMENTS:

- {a} Applies to all metals except As, Se, Tl and Hg. EPA Method 3050 Nitric used for As, Se and Tl digestion. EPA Method 7471 used for Hg digestion.
- {b} Applies to all metals except As, Se, Tl and Hg. As, Se and Tl were digested on 3/19/92, Batch # 920319-1104; and Hg was digested on 3/19/92, Batch # 920319-1102 .
- {c} No entry in the "Concentration" means the metal is not detected at all.
- {d} The sample for Arsenic was diluted 5 fold to bring target analyte within linear working range.

Approved by: Nancy McDonald for CM Date: 4/01/92
Cheryl Matterson, Association Chemist

The cover letter and attachments are integral parts of this report.



RADIONUCLIDES

Table: Results of the analyses for iodine-129 and strontium-90 in nineteen (19) soil samples.

Sample ID Number	Sample Description	Collection Date	Lab Code	Conc. pci/gwet		Conc. pci/gdry	
				I-129	Date Analyzed	Sr-90	Date Analyzed
88201	BG04025SA	03/13/92	SPS-1872	<0.3	05/05	0.02±0.01	05/02
88207	BG04090SA	03/13/92	1873	<0.3	05/05	0.05±0.01	05/02
88213	BG04029SA	03/13/92	1874	<0.2	05/07	0.02±0.01	05/02
88219	BG05074SA	03/13/92	1875	<0.3	05/07	0.05±0.01	05/13
88225	BG05026SA	03/13/92	1876	<0.2	05/07	0.08±0.02	05/13
88231	BG05016SA	03/13/92	1877	<0.2	05/08	0.05±0.01	05/13
88244	M37A	03/13/92	1878	<0.2	05/11	0.05±0.02	05/15
88251	BB04021SA	03/16/92	1879	<0.2	05/11	0.03±0.01	06/03
88256	BB04023SA	03/16/92	1880	<0.3	05/12	0.02±0.01	06/03
88262	BB04097SA	03/16/92	1881	<0.3	05/12	0.01±0.01	06/09
88265	BB04082SA	03/16/92	1882	<0.3	05/13	0.01±0.01	05/13
88274	BB04026SA	03/16/92	1883	<0.2	05/13	0.03±0.01	05/13
88401	BB14037SA	03/16/92	1884	<0.2	05/14	0.02±0.01	05/15
88407	BB14041SA	03/16/92	1885	<0.2	05/14	0.06±0.01	05/13
88413	BB14079SA	03/16/92	1886	<0.3	05/14	0.03±0.01	05/13
88419	BB14094SA	03/16/92	1887	<0.2	05/14	0.02±0.01	05/13
88425	BB14004SA	03/16/92	1888	<0.3	05/15	0.05±0.01	05/13
88293	BB00003SA	03/16/92	1889	<0.3	05/15	0.04±0.01	05/13
88433	BB00003SA	03/16/92	1898	<0.2	05/19	0.06±0.01	06/03

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

ADDITIONAL DATA 10/06/92
 RUN DATE 07/07/92

REPORT OF ANALYSIS

PAGE 1

WORK ORDER NUMBER 3-1313
 CUSTOMER P.O. NUMBER 04-0029403-012
 DATE RECEIVED 05/04/92
 DELIVERY DATE 06/06/92

ERIC SMITH
 MCCLAREN/HART
 16755 VON KARMAN AVE
 IRVINE CA 92714

SOIL

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	STOP DATE	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	VOLUME - UNITS ASH-WGHT-%	LAB.
75180	90432 880000758		04/23 0930		PU-238	3.0 ± 1.9 E-02		05/26		6
					PU-239	L.T. 5. E-03		05/26		6
75181	89583 88000075C		04/22 1155		BE-7	L.T. 5. E-01		06/08		4
					K-40	2.32 ± 0.23E 01		06/08		4
					MN-54	L.T. 4. 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. 4. E-02		06/08		4
					ZN-65	L.T. 9. 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. 2. E 00		06/08		4
					CS-134	L.T. 4. E-02		06/08		4
					CS-137	L.T. 4. E-02		06/08		4
					BA-140	L.T. 4. E-01		06/08		4
					CE-141	L.T. 1. E-01		06/08		4
					CE-144	L.T. 2. E-01		06/08		4
					RA-226	1.20 ± 0.42E 00		06/08		4
					TH-228	7.78 ± 0.78E-01		06/08		4
					H-3	L.T. 1. E-02		06/22		5
75183	88435 88140795B		03/16 1515		PU-238	1.2 ± 0.3 E-01		06/06		6
					PU-239	L.T. 6. E-03		06/06		6
75184	88436 88140795C		03/16 1515		BE-7	L.T. 5. E-01		06/08		4
					K-40	2.27 ± 0.23E 01		06/08		4
					MN-54	L.T. 4. E-02		06/08		4
					CO-58	L.T. 5. E-02		06/08		4
					FE-59	L.T. 2. E-01		06/08		4
					CO-60	L.T. 4. E-02		06/08		4
					ZN-65	L.T. 1. E-01		06/08		4

The second analysis of T1#75183 for Pu-238 gave the result of L.T. 8. E-02 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.

Appleton 10-6-92

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

PUN DATE 07/07/92 PAGE 2

WORK ORDER NUMBER 3-1313
 CUSTOMER P.O. NUMBER 04-0029403-012
 DATE RECEIVED 05/04/92
 DELIVERY DATE 06/06/92

FFIC SMITH
 MCCLAREN/HART
 16755 VON KARMAN AVE
 IRVINE CA 92714

SOIL

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	STOP DATE	NUCLIDE	ACTIVITY (PCI/CM DRY)	NUCL-UNIT-% U/M #	MID-COUNT TIME DATE	VOLUME - UNITS ASH-WGHT-%	IAR.
75184	88436 8B140795C		03/16 1515		ZR-95	L.T. 6. E-02		06/08		4
					RU-103	L.T. 7. E-02		06/08		4
					RU-106	L.T. 3. E-01		06/08		4
					I-131	L.T. 2. E-00		06/08		4
					CS-134	L.T. 5. E-02		06/08		4
					CS-137	L.T. 4. E-02		06/08		4
					BA-140	L.T. 6. E-01		06/08		4
					CE-141	L.T. 1. E-01		06/08		4
					CF-144	L.T. 3. E-01		06/08		4
					RA-226	2.15*-0.57E 00		06/08		4
					TH-228	1.26*-0.13E 00		06/08		4
					H-3	1.7 +-1.0 E-02		06/24		5
75185	90244 8G000015C		03/13 1445		RE-7	L.T. 5. E-01		06/08		4
					K-40	2.10*-0.21E 01		06/08		4
					MN-54	L.T. 4. E-02		06/08		4
					CO-58	L.T. 5. 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. 9. E-02		06/08		4
					ZR-95	L.T. 6. E-02		06/08		4
					RU-103	L.T. 7. E-02		06/08		4
					RU-106	L.T. 3. E-01		06/08		4
					I-131	L.T. 2. E-00		06/08		4
					CS-134	L.T. 4. E-02		06/08		4
					CS-137	7.28*-2.63E-02		06/08		4
					BA-140	L.T. 4. E-01		06/08		4
					CE-141	L.T. 1. E-01		06/08		4
					CE-144	L.T. 2. E-01		06/08		4
					PA-226	2.72*-0.50F 00		06/08		4
					TH-228	7.58*-0.76F-01		06/08		4
					H-3	1.5 +-0.9 f-02		06/24		5

JUN 0 1992

TELEDYNE ISOTOPFS

REPORT OF ANALYSIS

RUN DATE 06/08/92

PAGE 1

WORK ORDER NUMBER 3-0601
CUSTOMER P.O. NUMBER 04-0029403-012
DATE RECEIVED 03/18/92
DELIVERY DATE 04/20/92

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	STOP TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M #	MID-COUNT TIME DATE	VOLUME - UNITS ASH-WGHT-%	LAR-
70181	88403	8B14037SC	03/16	1440	BE-7	L.T. 3. E-01		04/07		4
					K-40	2.10+-0.21E 01		04/07		4
					MN-54	L.T. 3. E-02		04/07		4
					CO-58	L.T. 4. E-02		04/07		4
					FE-59	L.T. 1. E-01		04/07		4
					CO-60	L.T. 3. E-02		04/07		4
					ZN-65	L.T. 8. E-02		04/07		4
					ZR-95	L.T. 4. E-02		04/07		4
					RU-103	L.T. 5. E-02		04/07		4
					RU-106	L.T. 3. E-01		04/07		4
					I-131	L.T. 2. E-01		04/07		4
					CS-137	L.T. 4. E-02		04/07		4
					CS-137	1.66+-0.35E-01		04/07		4
					BA-140	L.T. 1. E-01		04/07		4
					CE-141	L.T. 8. E-02		04/07		4
					CE-144	L.T. 2. E-01		04/07		4
					RA-226	1.41+-0.52E 00		04/07		4
					TH-228	1.26+-0.13E 00		04/07		4
					H-3	NOT ANALYZED				4
70182	88408	8B14041SB	03/16	1500	PU-238	L.T. 6. E-02		06/04		6
					PU-239	L.T. 8. E-03		06/04		6
70183	88409	8B14041SC	03/16	1500	AE-7	L.T. 5. E-01		04/07		4
					K-40	2.21+-0.22E 01		04/07		4
					MN-54	L.T. 4. E-02		04/07		4
					CO-58	L.T. 5. E-02		04/07		4
					FE-59	L.T. 1. E-01		04/07		4
					CO-60	L.T. 5. E-02		04/07		4
					ZN-65	L.T. 1. E-01		04/07		4
					ZR-95	L.T. 6. E-02		04/07		4
					RU-103	L.T. 6. E-02		04/07		4
					RU-106	L.T. 4. E-01		04/07		4

11#70181 and 70183 were probably dried in their entirety by the gamma lab before an aliquot was removed for the tritium lab.

TELEDYNE ISOTOPIES
REPORT OF ANALYSIS

WORK ORDER NUMBER 3-0601
CUSTOMER P.O. NUMBER 04-0029A03-012
DATE RECEIVED 03/18/92
DELIVERY DATE 04/20/92
RUN DATE 06/08/92
PAGE 2

ERIC SMITH
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA 92714

SOIL

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	STOP DATE	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-X U/M	MID-COUNT TIME DATE	VOLUME - UNITS ASH-WGHT-X %	LAB.
70183	88409	8814041SC	03/16	1500	I-131	L.T. 3. E-01		04/07		4
					CS-134	L.T. 6. E-02		04/07		4
					CS-137	2.69+-0.50E-01		04/07		4
					RA-140	L.T. 1. E-01		04/07		4
					CE-141	L.T. 1. E-01		04/07		4
					CE-144	L.T. 4. E-01		04/07		4
					RA-226	L.T. 1. E 00		04/07		4
					TH-228	1.15+-0.12E 00		04/07		4
					H-3	NOT ANALYZED				5
70185			/		TO BE REPURIED AS	TI 75184				4
70186	88420	88140945B	03/16	1540	PU-238	L.T. 5. E-02		06/04		6
					PU-239	L.T. 1. E-02		06/04		6
70187	88421	88140945C	03/16	1540	BE-7	L.T. 3. E-01		04/07		4
					K-40	2.27+-0.23E 01		04/07		4
					MN-54	L.T. 4. E-02		04/07		4
					CO-58	L.T. 4. E-02		04/07		4
					FE-59	L.T. 9. E-02		04/07		4
					CO-60	L.T. 3. E-02		04/07		4
					ZN-65	L.T. 8. E-02		04/07		4
					ZR-95	L.T. 4. E-02		04/07		4
					KU-103	L.T. 4. E-02		04/07		4
					RU-106	L.T. 3. E-01		04/07		4
					I-131	L.T. 2. E-01		04/07		4
					CS-134	L.T. 4. E-02		04/07		4
					CS-137	L.T. 4. E-02		04/07		4
					RA-140	L.T. 1. E-01		04/07		4
					CE-141	L.T. 6. E-02		04/07		4
					CE-144	L.T. 2. E-01		04/07		4
					RA-226	1.53+-0.44E 00		04/07		4
					TH-228	1.39+-0.14E 00		04/07		4

11# H-3 (PCI/1)

/0189 L.T. 2. E U2

The H-3 result for TI#70187 has been withdrawn. The H-3 results of several samples analyzed by the same analytical method were not confirmed by an alternate method.

TELEDYNE ISOTOPFS

REPORT OF ANALYSIS

WORK ORDER NUMBER 3-0601
 CUSTOMER P.O. NUMBER 04-0029403-012
 DATE RECEIVED 03/18/92
 DELIVERY DATE 04/20/92
 PAGE 3

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		NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-X U/M	MID-COUNT TIME DATE	VOLUME - UNITS ASH-MGHT-X	LAB.
			START DATE	STOP DATE						
70107	00421	00140045C	03/16	1540	PU-238	L.T. 7. E-02		06/04		6
70108	00426	00140048B	03/16	1600	PU-239	L.T. 2. E-02		06/04		6
70109	00427	00140045C	03/16	1600	RE-7	L.T. 4. E-01		04/07		4
					K-40	2.28+-0.23E 01		04/07		4
					MN-54	L.T. 4. E-02		04/07		4
					CO-58	L.T. 4. E-02		04/07		4
					FE-59	L.T. 1. E-01		04/07		4
					CO-60	L.T. 4. E-02		04/07		4
					ZN-65	L.T. 9. E-02		04/07		4
					ZR-95	L.T. 5. E-02		04/07		4
					RU-103	L.T. 5. E-02		04/07		4
					RU-106	L.T. 3. E-01		04/07		4
					I-131	L.T. 2. E-01		04/07		4
					CS-134	L.T. 5. E-02		04/07		4
					CS-137	2.04+-0.38E-01		04/07		4
					BA-140	L.T. 1. E-01		04/07		4
					CE-141	L.T. 8. E-02		04/07		4
					CE-144	L.T. 2. E-01		04/07		4
					RA-226	2.08+-0.57E 00		04/07		4
					TH-228	1.41+-0.14E 00		04/07		4
					H-3	L.T. 2. E-02		05/27		5

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 05/15/92

PAGE 1

DELIVERY DATE

DATE RECEIVED

CUSTOMER P.O. NUMBER

WORK ORDER NUMBER

ERIC SMITH
MCLAREN/HART
16755 VON KARMAN AVE
IRVINE CA

3-0599

04-0029403-012

04/20/92

03/18/92

92714

SOIL

TELEDYNE
SAMPLE
NUMBER

CUSTOMER'S
IDENTIFICATION

STA
NUM

COLLECTION-DATE
START
STOP

DATE TIME DATE TIME

ACTIVITY
(PCI/GM DRY)

NUCL-UNIT-%
U/M *

MID-COUNT
TIME
DATE TIME

VOLUME - UNITS
ASH-WGHT-%

LAB.

70180 88402

BB14097SB

03/16 1440

PU-238
PU-239

L.T. 1. E-02
L.T. 9. E-03

04/09
04/09

6
6