Report

Soil and Groundwater Investigation
Fire Training Center - North Boeing Field
King County Airport
Seattle, Washington

October 26, 1992

Volume II of II

Prepared for

Boeing Corporate Environmental Affairs
Seattle, WA

Prepared by

Landau Associates, Inc.
P.O. Box 1029
Edmonds, WA 98020-9129
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TECH92.001

APPENDIX E

Laboratory Reports

27 August 1992

RECEIVED
AUG 28 1992
LANDAU ASSOCIATES,INC.

ANALYTICAL RESOURCES INCORPORATED

Analytical Chemists & Consultants

333 Ninth Ave. North
Seattle, WA 98109-5187
(206) 621-6490
(206) 621-7523 (FAX)

Mr. Thomas Colligan
Landau Associates
23107 100th Avenue West
Edmonds, WA 98020

RE: Project No. 25068.10 NBF Fire Training Center / ARI Job No. B319,B328 and B344

Dear Mr. Colligan:

Please find enclosed original skydrol results for the above-referenced project. Four water samples and ten soil samples were analyzed according to the facsimile memo received August 4, 1992.

As we agreed, the samples were analyzed using previous semivolatile extracts, with the exception of **B6(8-8.5)**, **B7(1.5-2.0)** and **B11(5.5-6.0)**. These three samples had not been analyzed for semivolatiles, so sample extraction was required.

As opposed to the previous skydrol analyses, quantitated against skydrol LD-4 and tributyl phosphate, these were performed using four individual alkyl phosphate compounds. Skydrol was analyzed as individual alkyl phosphates according to the instructions Nancy Ball provided to John Hicks on August 7, 1992.

A matrix spike/matrix spike duplicate (MS/MSD) set was performed on sample **B6(8-8.5)**. The spiking compound was made from the initial skydrol mixture (LD-4). This spike mixture was used because extraction procedures had been started prior to receipt of the four individual alkyl phosphates.

As always, copies of the reports and the associated raw data will remain on file with ARI. If you have any questions or require additional information, please feel free to contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

Bryan D. Anderson

Bryan D. Anderson
Project Coordinator

enclosures
cc: file B319
B328
B344
Brian Anderson/ Boeing Environmental Affairs

ANALYTICAL RESOURCES INCORPORATED

Analytical Chemists & Consultants

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ORGANICS ANALYSIS DATA SHEET
Skydrols by GC/MS

Sample No.: Method Blank

Lab Sample ID: B319MB
Matrix: Soil/Sediments

QC Report No.: B319 - Boeing/Landau
Project: 25068.10
NBF

Data Release Authorized:
Data Prepared: 08/19/92 - MAC:X jjr

VTSR: NA

Date Extracted: 08/03/92
Date Analyzed (Finn 6): 08/17/92

GPC Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 30.0 g (Equiv. Dry Wt.)
Final Ext. Volume: 2.0 mls

Percent Moisture: NA
Conc/Dil Factor: 1:1

CAS Number		µg/Kg
126-73-8	Tributyl Phosphate (TBP)	67 U
2528-36-1	Dibutyl Phenyl Phosphate (DBPP)	130 U
2752-95-6	Butyl Diphenyl Phosphate (BDPP)	130 U
115-86-6	Triphenyl Phosphate	330 U

Surrogate Recovery	**% Rec.**
2-Fluorobiphenyl	**74.1%**
2,4,6-Tribromophenol	**72.0%**

Data Qualifiers

Value	If the result is a value greater than or equal to the detection limit, report the value.
J	Indicates an estimated value when that value is less than the calculated detection limit.
K	Indicates a value above the linear range of the detector. Dilution required.
S	Indicates no value reported due to saturation of the detector.
D	Indicates the surrogate was diluted out.
U	Indicates compound was analyzed for, but not detected at the given detection limit.
NA	Indicates compound not analyzed.

FORM 1-S

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Analytical Chemists & Consultants

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ORGANICS ANALYSIS DATA SHEET
Skydrols by GC/MS

Sample No.: B3 (7.5 - 8.5)

Lab Sample ID: B319H
Matrix: Soil/Sediments

QC Report No.: B319 - Boeing/Landau
Project: 25068.10
NBF

Data Release Authorized: _____
Data Prepared: 08/19/92 - MAC:X jjr

VTSR: 07/29/92

Date Extracted: 08/03/92
Date Analyzed (Finn 6): 08/17/92

GPC Cleanup: No
Alumina Cleanup: No

Sample Amount: 28.5 g (Dry Wt.)
Final Ext. Volume: 2.0 mls

Percent Moisture: 20.6%
Conc/Dil Factor: 1:1

CAS Number		µg/Kg
126-73-8	Tributyl Phosphate (TBP)	70 U
2528-36-1	Dibutyl Phenyl Phosphate (DBPP)	140 U
2752-95-6	Butyl Diphenyl Phosphate (BDPP)	140 U
115-86-6	Triphenyl Phosphate	350 U

Surrogate Recovery	**% Rec.**
2-Fluorobiphenyl	**67.1%**
2,4,6-Tribromophenol	**74.5%**

Data Qualifiers

Value	If the result is a value greater than or equal to the detection limit, report the value.
J	Indicates an estimated value when that value is less than the calculated detection limit.
K	Indicates a value above the linear range of the detector. Dilution required.
S	Indicates no value reported due to saturation of the detector.
D	Indicates the surrogate was diluted out.
U	Indicates compound was analyzed for, but not detected at the given detection limit.
NA	Indicates compound not analyzed.

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ORGANICS ANALYSIS DATA SHEET
Skydrols by GC/MS

Sample No.: B4 (0.5 - 1.0)

Lab Sample ID: B319I
Matrix: Soil/Sediments

QC Report No.: B319 - Boeing/Landau
Project: 25068.10
NBF

Data Release Authorized: _____
Data Prepared: 08/19/92 - MAC:X jjr

VTSR: 07/29/92

Date Extracted: 08/03/92
Date Analyzed (Finn 6): 08/17/92

GPC Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 30.5 g (Dry Wt.)
Final Ext. Volume: 2.0 mls

Percent Moisture: 14.1%
Conc/Dil Factor: 1:2

CAS Number		µg/Kg
126-73-8	**Tributyl Phosphate (TBP)**	**16000 K**
2528-36-1	**Dibutyl Phenyl Phosphate (DBPP)**	**2400**
2752-95-6	**Butyl Diphenyl Phosphate (BDPP)**	**360**
115-86-6	Triphenyl Phosphate	660 U

Surrogate Recovery	**% Rec.**
2-Fluorobiphenyl	**85.3%**
2,4,6-Tribromophenol	**73.6%**

Data Qualifiers

Value	If the result is a value greater than or equal to the detection limit, report the value.
J	Indicates an estimated value when that value is less than the calculated detection limit.
K	Indicates a value above the linear range of the detector. Dilution required.
S	Indicates no value reported due to saturation of the detector.
D	Indicates the surrogate was diluted out.
U	Indicates compound was analyzed for, but not detected at the given detection limit.
NA	Indicates compound not analyzed.

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ORGANICS ANALYSIS DATA SHEET
Skydrols by GC/MS

Sample No.: B4 (0.5 - 1.0) dilution

Lab Sample ID: B319ldl
Matrix: Soil/Sediments

QC Report No.: B319 - Boeing/Landau
Project: 25068.10
NBF

Data Release Authorized: _____
Data Prepared: 08/19/92 - MAC:X JJr

VTSR: 07/29/92

Date Extracted: 08/03/92
Date Analyzed (Finn 6): 08/18/92

GPC Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 30.5 g (Dry Wt.)
Final Ext. Volume: 2.0 mls

Percent Moisture: 14.1%
Conc/Dil Factor: 1:10

CAS Number		µg/Kg
126-73-8	**Tributyl Phosphate (TBP)**	**26000**
2528-36-1	**Dibutyl Phenyl Phosphate (DBPP)**	**2200**
2752-95-6	**Butyl Diphenyl Phosphate (BDPP)**	**1100 M**
115-86-6	Triphenyl Phosphate	3300 U

Surrogate Recovery	**% Rec.**
2-Fluorobiphenyl	**78.0%**
2,4,6-Tribromophenol	**64.0%**

Data Qualifiers

Value	If the result is a value greater than or equal to the detection limit, report the value.
J	Indicates an estimated value when that value is less than the calculated detection limit.
K	Indicates a value above the linear range of the detector. Dilution required.
S	Indicates no value reported due to saturation of the detector.
D	Indicates the surrogate was diluted out.
U	Indicates compound was analyzed for, but not detected at the given detection limit.
NA	Indicates compound not analyzed.

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ORGANICS ANALYSIS DATA SHEET
Skydrols by GC/MS

Sample No.: B4 (8-9)

Lab Sample ID: B319N
Matrix: Soil/Sediments

QC Report No.: B319 - Boeing/Landau
Project: 25068.10
NBF

Data Release Authorized: _____
Data Prepared: 08/19/92 - MAC:X jjr

VTSR: 07/29/92

Date Extracted: 08/03/92
Date Analyzed (Finn 6): 08/17/92

GPC Cleanup: No
Alumina Cleanup: No

Sample Amount: 29.0 g (Dry Wt.)
Final Ext. Volume: 2.0 mls

Percent Moisture: 17.8%
Conc/Dil Factor: 1:1

CAS Number		µg/Kg
126-73-8	**Tributyl Phosphate (TBP)**	**1200**
2528-36-1	**Dibutyl Phenyl Phosphate (DBPP)**	**930**
2752-95-6	**Butyl Diphenyl Phosphate (BDPP)**	**120**
115-86-6	Triphenyl Phosphate	350 U

Surrogate Recovery	**% Rec.**
2-Fluorobiphenyl	**63.6%**
2,4,6-Tribromophenol	**76.7%**

Data Qualifiers

Value	If the result is a value greater than or equal to the detection limit, report the value.
J	Indicates an estimated value when that value is less than the calculated detection limit.
K	Indicates a value above the linear range of the detector. Dilution required.
S	Indicates no value reported due to saturation of the detector.
D	Indicates the surrogate was diluted out.
U	Indicates compound was analyzed for, but not detected at the given detection limit.
NA	Indicates compound not analyzed.

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ORGANICS ANALYSIS DATA SHEET
Skydrols by GC/MS

Sample No.: B7 (1.5 - 2.0)

Lab Sample ID: B319R
Matrix: Soil/Sediments

QC Report No.: B319 - Boeing/Landau
Project: 25068.10
NBF

Data Release Authorized:
Data Prepared: 08/20/92 - MAC:X jjr

VTSR: 07/29/92

Date Extracted: 08/06/92
Date Analyzed (Finn 6): 08/18/92

GPC Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 27.3 g (Dry Wt.)
Final Ext. Volume: 2.0 mls

Percent Moisture: 10.2%
Conc/Dil Factor: 1:1

CAS Number		µg/Kg
126-73-8	**Tributyl Phosphate (TBP)**	**650**
2528-36-1	**Dibutyl Phenyl Phosphate (DBPP)**	**70 M**
2752-95-6	Butyl Diphenyl Phosphate (BDPP)	150 U
115-86-6	Triphenyl Phosphate	370 U

Surrogate Recovery	**% Rec.**
2-Fluorobiphenyl	**74.8%**
2,4,6-Tribromophenol	**60.7%**

Data Qualifiers

Value	If the result is a value greater than or equal to the detection limit, report the value.
J	Indicates an estimated value when that value is less than the calculated detection limit.
K	Indicates a value above the linear range of the detector. Dilution required.
S	Indicates no value reported due to saturation of the detector.
D	Indicates the surrogate was diluted out.
U	Indicates compound was analyzed for, but not detected at the given detection limit.
NA	Indicates compound not analyzed.

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ORGANICS ANALYSIS DATA SHEET
Skydrols by GC/MS

Sample No.: B7A (3-4')

Lab Sample ID: B319S
Matrix: Soil/Sediments

QC Report No.: B319 - Boeing/Landau
Project: 25068.10
NBF

Data Release Authorized: _____
Data Prepared: 08/19/92 - MAC:X jjr

VTSR: 07/29/92

Date Extracted: 08/03/92
Date Analyzed (Finn 6): 08/17/92

GPC Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 32.3 g (Dry Wt.)
Final Ext. Volume: 2.0 mls

Percent Moisture: 8.8%
Conc/Dil Factor: 1:2

CAS Number		µg/Kg
126-73-8	**Tributyl Phosphate (TBP)**	**3700**
2528-36-1	**Dibutyl Phenyl Phosphate (DBPP)**	**170 J**
2752-95-6	Butyl Diphenyl Phosphate (BDPP)	250 U
115-86-6	Triphenyl Phosphate	620 U

Surrogate Recovery	**% Rec.**
2-Fluorobiphenyl	**70.6%**
2,4,6-Tribromophenol	**67.3%**

Data Qualifiers

Value	If the result is a value greater than or equal to the detection limit, report the value.
J	Indicates an estimated value when that value is less than the calculated detection limit.
K	Indicates a value above the linear range of the detector. Dilution required.
S	Indicates no value reported due to saturation of the detector.
D	Indicates the surrogate was diluted out.
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NA	Indicates compound not analyzed.

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ORGANICS ANALYSIS DATA SHEET
Skydrols by GC/MS

Sample No.: B8 (1.5 - 2.0)

Lab Sample ID: B319X
Matrix: Soil/Sediments

QC Report No.: B319 - Boeing/Landau
Project: 25068.10
NBF

Data Release Authorized: _____
Data Prepared: 08/19/92 - MAC:X jjr

VTSR: 07/29/92

Date Extracted: 08/03/92
Date Analyzed (Finn 6): 08/17/92

GPC Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 31.2 g (Dry Wt.)
Final Ext. Volume: 2.0 mls

Percent Moisture: 12.5%
Conc/Dil Factor: 1:1

CAS Number		µg/Kg
126-73-8	**Tributyl Phosphate (TBP)**	**280**
2528-36-1	Dibutyl Phenyl Phosphate (DBPP)	130 U
2752-95-6	Butyl Diphenyl Phosphate (BDPP)	130 U
115-86-6	Triphenyl Phosphate	320 U

Surrogate Recovery	**% Rec.**
2-Fluorobiphenyl	**58.9%**
2,4,6-Tribromophenol	**73.8%**

Data Qualifiers

Value	If the result is a value greater than or equal to the detection limit, report the value.
J	Indicates an estimated value when that value is less than the calculated detection limit.
K	Indicates a value above the linear range of the detector. Dilution required.
S	Indicates no value reported due to saturation of the detector.
D	Indicates the surrogate was diluted out.
U	Indicates compound was analyzed for, but not detected at the given detection limit.
NA	Indicates compound not analyzed.

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ORGANICS ANALYSIS DATA SHEET
Skydrols by GC/MS

Sample No.: Method Blank

Lab Sample ID: B328MB
Matrix: Soil/Sediments

QC Report No.: B328 - Boeing/Landau
Project: 25068.10
NBF

Data Release Authorized: Mr
Data Prepared: 08/21/92 - MAC:X jjr

VTSR: NA

Date Extracted: 08/09/92
Date Analyzed (Finn 6): 08/17/92

GPC Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 10.0 g (Equiv. Dry Wt.)
Final Ext. Volume: 0.5 mls

Percent Moisture: NA
Conc/Dil Factor: 1:1

CAS Number		µg/Kg
126-73-8	Tributyl Phosphate (TBP)	100 U
2528-36-1	Dibutyl Phenyl Phosphate (DBPP)	200 U
2752-95-6	Butyl Diphenyl Phosphate (BDPP)	200 U
115-86-6	Triphenyl Phosphate	500 U

Surrogate Recovery	**% Rec.**
2-Fluorobiphenyl	**58.0%**
2,4,6-Tribromophenol	**65.0%**

Data Qualifiers

Value	If the result is a value greater than or equal to the detection limit, report the value.
J	Indicates an estimated value when that value is less than the calculated detection limit.
K	Indicates a value above the linear range of the detector. Dilution required.
S	Indicates no value reported due to saturation of the detector.
D	Indicates the surrogate was diluted out.
U	Indicates compound was analyzed for, but not detected at the given detection limit.
NA	Indicates compound not analyzed.

FORM 1-S

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ORGANICS ANALYSIS DATA SHEET
Skydrols by GC/MS

Sample No.: B6 (8.5 - 9.0)

Lab Sample ID: B328B2
Matrix: Soil/Sediments

QC Report No.: B328 - Boeing/Landau
Project: 25068.10
NBF

Data Release Authorized: _____
Data Prepared: 08/21/92 - MAC:X jjr

VTSR: 07/30/92

Date Extracted: 08/09/92
Date Analyzed (Finn 6): 08/17/92

GPC Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 9.17 g (Dry Wt.)
Final Ext. Volume: 0.5 mls

Percent Moisture: 26.2%
Conc/Dil Factor: 1:1

CAS Number		µg/Kg
126-73-8	Tributyl Phosphate (TBP)	55 U
2528-36-1	Dibutyl Phenyl Phosphate (DBPP)	110 U
2752-95-6	Butyl Diphenyl Phosphate (BDPP)	110 U
115-86-6	Triphenyl Phosphate	270 U

Surrogate Recovery	**% Rec.**
2-Fluorobiphenyl	**62.9%**
2,4,6-Tribromophenol	**71.6%**

Data Qualifiers

Value	If the result is a value greater than or equal to the detection limit, report the value.
J	Indicates an estimated value when that value is less than the calculated detection limit.
K	Indicates a value above the linear range of the detector. Dilution required.
S	Indicates no value reported due to saturation of the detector.
D	Indicates the surrogate was diluted out.
U	Indicates compound was analyzed for, but not detected at the given detection limit.
NA	Indicates compound not analyzed.

FORM 1-S

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SOIL SKYDROL MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

ARI Job No: B328

Client: Boeing/Landau
Project: 25068.1

Sample No: B6 (8.5 - 9.0)

COMPOUND	SPIKE ADDED (µg/Kg)	SAMPLE CONC (µg/Kg)	MS CONC (µg/Kg)	MS % REC
Skydrol as TBP	2590	0	2070	79.9
Total Skydrol	3510	0	2950	84.0

COMPOUND	SPIKE ADDED (µg/Kg)	MSD CONC (µg/Kg)	MSD % REC	% RPD
Skydrol as TBP	2640	1940	73.5	8.4
Total Skydrol	3570	2810	78.7	6.6

Comments: TBP = Tributyl Phosphate
Total Skydrol based on three components.

FORM III SV-SKY

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ORGANICS ANALYSIS DATA SHEET
Skydrols by GC/MS

Sample No.: B6 (8.5 - 9.0)
Matrix Spike

Lab Sample ID: B328BMS2
Matrix: Soil/Sediments

QC Report No.: B328 - Boeing/Landau
Project: 25068.10
NBF

Data Release Authorized: _____
Data Prepared: 08/21/92 - MAC:X jjr

VTSR: 07/30/92

Date Extracted: 08/09/92
Date Analyzed (Finn 6): 08/17/92

GPC Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 7.13 g (Dry Wt.)
Final Ext. Volume: 0.5 mls

Percent Moisture: 26.2%
Conc/Dil Factor: 1:1

CAS Number		µg/Kg
126-73-8	Tributyl Phosphate (TBP)	-
2528-36-1	Dibutyl Phenyl Phosphate (DBPP)	-
2752-95-6	Butyl Diphenyl Phosphate (BDPP)	-
115-86-6	Triphenyl Phosphate	350 U

Surrogate Recovery	% Rec.
2-Fluorobiphenyl	62.5%
2,4,6-Tribromophenol	69.9%

Data Qualifiers

Value	If the result is a value greater than or equal to the detection limit, report the value.
J	Indicates an estimated value when that value is less than the calculated detection limit.
K	Indicates a value above the linear range of the detector. Dilution required.
S	Indicates no value reported due to saturation of the detector.
D	Indicates the surrogate was diluted out.
U	Indicates compound was analyzed for, but not detected at the given detection limit.
NA	Indicates compound not analyzed.

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ORGANICS ANALYSIS DATA SHEET
Skydrols by GC/MS

Sample No.: B6 (8.5 - 9.0) Matrix Spike Duplicate

Lab Sample ID: B328BMSD2
Matrix: Soil/Sediments

QC Report No.: B328 - Boeing/Landau
Project: 25068.10
NBF

Data Release Authorized: MW
Data Prepared: 08/21/92 - MAC:X jjr

VTSR: 07/30/92

Date Extracted: 08/09/92
Date Analyzed (Finn 6): 08/17/92

GPC Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 7.00 g (Dry Wt.)
Final Ext. Volume: 0.5 mls

Percent Moisture: 26.2%
Conc/Dil Factor: 1:1

CAS Number		µg/Kg
126-73-8	Tributyl Phosphate (TBP)	-
2528-36-1	Dibutyl Phenyl Phosphate (DBPP)	-
2752-95-6	Butyl Diphenyl Phosphate (BDPP)	-
115-86-6	Triphenyl Phosphate	360 U

Surrogate Recovery	% Rec.
2-Fluorobiphenyl	59.4%
2,4,6-Tribromophenol	64.7%

Data Qualifiers

Value	If the result is a value greater than or equal to the detection limit, report the value.
J	Indicates an estimated value when that value is less than the calculated detection limit.
K	Indicates a value above the linear range of the detector. Dilution required.
S	Indicates no value reported due to saturation of the detector.
D	Indicates the surrogate was diluted out.
U	Indicates compound was analyzed for, but not detected at the given detection limit.
NA	Indicates compound not analyzed.

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ORGANICS ANALYSIS DATA SHEET
Skydrols by GC/MS

Sample No.: Method Blank medium level

Lab Sample ID: B328MBM
Matrix: Soil/Sediments

QC Report No.: B328 - Boeing/Landau
Project: 25068.10
NBF

Data Release Authorized: MW
Data Prepared: 08/20/92 - MAC:X JJr

VTSR: NA

Date Extracted: 08/03/92
Date Analyzed (Finn 6): 08/17/92

GPC Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 1.0 g (Equiv. Dry Wt.)
Final Ext. Volume: 2.0 mls

Percent Moisture: NA
Conc/Dil Factor: 1:1

CAS Number		µg/Kg
126-73-8	Tributyl Phosphate (TBP)	2000 U
2528-36-1	Dibutyl Phenyl Phosphate (DBPP)	4000 U
2752-95-6	Butyl Diphenyl Phosphate (BDPP)	4000 U
115-86-6	Triphenyl Phosphate	10000 U

Surrogate Recovery	**% Rec.**
2-Fluorobiphenyl	**75.6%**
2,4,6-Tribromophenol	**84.3%**

Data Qualifiers

Value	If the result is a value greater than or equal to the detection limit, report the value.
J	Indicates an estimated value when that value is less than the calculated detection limit.
K	Indicates a value above the linear range of the detector. Dilution required.
S	Indicates no value reported due to saturation of the detector.
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NA	Indicates compound not analyzed.

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ORGANICS ANALYSIS DATA SHEET
Skydrols by GC/MS

Sample No.: B11 (4.0 - 4.5)
medium level

Lab Sample ID: B328L
Matrix: Soil/Sediments

QC Report No.: B328 - Boeing/Landau
Project: 25068.10
NBF

Data Release Authorized: _____
Data Prepared: 08/20/92 - MAC:X jjr

VTSR: 07/30/92

Date Extracted: 08/03/92
Date Analyzed (Finn 6): 08/17/92

GPC Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 0.70 g (Equiv. Dry Wt.)
Final Ext. Volume: 2.0 mls

Percent Moisture: 30.4%
Conc/Dil Factor: 1:2

CAS Number		µg/Kg
126-73-8	**Tributyl Phosphate (TBP)**	**96000**
2528-36-1	**Dibutyl Phenyl Phosphate (DBPP)**	**18000**
2752-95-6	Butyl Diphenyl Phosphate (BDPP)	11000 U
115-86-6	Triphenyl Phosphate	29000 U

Surrogate Recovery	**% Rec.**
2-Fluorobiphenyl	**75.1%**
2,4,6-Tribromophenol	**80.9%**

Data Qualifiers

Value	If the result is a value greater than or equal to the detection limit, report the value.
J	Indicates an estimated value when that value is less than the calculated detection limit.
K	Indicates a value above the linear range of the detector. Dilution required.
S	Indicates no value reported due to saturation of the detector.
D	Indicates the surrogate was diluted out.
U	Indicates compound was analyzed for, but not detected at the given detection limit.
NA	Indicates compound not analyzed.

FORM 1-S

ANALYTICAL RESOURCES INCORPORATED

Analytical Chemists & Consultants

333 Ninth Ave. North
Seattle, WA 98109-5187
(206) 621-6490
(206) 621-7523 (FAX)

ORGANICS ANALYSIS DATA SHEET
Skydrols by GC/MS

Sample No.: Method Blank

Lab Sample ID: B319MB
Matrix: Soil/Sediments

QC Report No.: B319 - Boeing/Landau
Project: 25068.10
NBF

Data Release Authorized: _____
Data Prepared: 08/19/92 - MAC:X jjr

VTSR: NA

Date Extracted: 08/03/92
Date Analyzed (Finn 6): 08/17/92

GPC Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 30.0 g (Equiv. Dry Wt.)
Final Ext. Volume: 2.0 mls

Percent Moisture: NA
Conc/Dil Factor: 1:1

CAS Number		µg/Kg
126-73-8	Tributyl Phosphate (TBP)	67 U
2528-36-1	Dibutyl Phenyl Phosphate (DBPP)	130 U
2752-95-6	Butyl Diphenyl Phosphate (BDPP)	130 U
115-86-6	Triphenyl Phosphate	330 U

Surrogate Recovery	**% Rec.**
2-Fluorobiphenyl	**74.1%**
2,4,6-Tribromophenol	**72.0%**

Data Qualifiers

Value	If the result is a value greater than or equal to the detection limit, report the value.
J	Indicates an estimated value when that value is less than the calculated detection limit.
K	Indicates a value above the linear range of the detector. Dilution required.
S	Indicates no value reported due to saturation of the detector.
D	Indicates the surrogate was diluted out.
U	Indicates compound was analyzed for, but not detected at the given detection limit.
NA	Indicates compound not analyzed.

FORM 1-S

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Seattle, WA 98109-5187
(206) 621-6490
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ORGANICS ANALYSIS DATA SHEET
Skydrols by GC/MS

Sample No.: B13 (6.0 - 6.5)

Lab Sample ID: B328Tre
Matrix: Soil/Sediments

Data Release Authorized: MW
Data Prepared: 08/20/92 - MAC:X jjr

Date Extracted: 08/03/92
Date Analyzed (Finn 6): 08/18/92

Sample Amount: 28.4 g (Dry Wt.)
Final Ext. Volume: 2.0 mls

QC Report No.: B328 - Boeing/Landau
Project: 25068.10
NBF

VTSR: 07/30/92

GPC Cleanup: Yes
Alumina Cleanup: No

Percent Moisture: 20.3%
Conc/Dil Factor: 1:5

CAS Number		µg/Kg
126-73-8	**Tributyl Phosphate (TBP)**	**2200 M**
2528-36-1	Dibutyl Phenyl Phosphate (DBPP)	710 U
2752-95-6	Butyl Diphenyl Phosphate (BDPP)	710 U
115-86-6	Triphenyl Phosphate	1800 U

Surrogate Recovery	% Rec.
2-Fluorobiphenyl	**93.4%**
2,4,6-Tribromophenol	**60.1%**

Data Qualifiers

Value	If the result is a value greater than or equal to the detection limit, report the value.
J	Indicates an estimated value when that value is less than the calculated detection limit.
K	Indicates a value above the linear range of the detector. Dilution required.
S	Indicates no value reported due to saturation of the detector.
D	Indicates the surrogate was diluted out.
U	Indicates compound was analyzed for, but not detected at the given detection limit.
NA	Indicates compound not analyzed.

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Seattle, WA 98109-5187
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(206) 621-7523 (FAX)

ORGANICS ANALYSIS DATA SHEET
Skydrols by GC/MS

Sample No.: Method Blank medium level

Lab Sample ID: B328MBM2
Matrix: Soil/Sediments

QC Report No.: B328 - Boeing/Landau
Project: 25068.10
NBF

Data Release Authorized: _____
Data Prepared: 08/20/92 - MAC:X jjr

VTSR: NA

Date Extracted: 08/06/92
Date Analyzed (Finn 6): 08/18/92

GPC Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 1.0 g (Equiv. Dry Wt.)
Final Ext. Volume: 2.0 mls

Percent Moisture: NA
Conc/Dil Factor: 1:1

CAS Number		µg/Kg
126-73-8	Tributyl Phosphate (TBP)	2000 U
2528-36-1	Dibutyl Phenyl Phosphate (DBPP)	4000 U
2752-95-6	Butyl Diphenyl Phosphate (BDPP)	4000 U
115-86-6	Triphenyl Phosphate	10000 U

Surrogate Recovery	% Rec.
2-Fluorobiphenyl	67.9%
2,4,6-Tribromophenol	72.7%

Data Qualifiers

Value	If the result is a value greater than or equal to the detection limit, report the value.
J	Indicates an estimated value when that value is less than the calculated detection limit.
K	Indicates a value above the linear range of the detector. Dilution required.
S	Indicates no value reported due to saturation of the detector.
D	Indicates the surrogate was diluted out.
U	Indicates compound was analyzed for, but not detected at the given detection limit.
NA	Indicates compound not analyzed.

FORM 1-S

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Seattle, WA 98109-5187
(206) 621-6490
(206) 621-7523 (FAX)

ORGANICS ANALYSIS DATA SHEET
Skydrols by GC/MS

Sample No.: B11 (5.5 - 6.0) medium level

Lab Sample ID: B328M
Matrix: Soil/Sediments

QC Report No.: B328 - Boeing/Landau
Project: 25068.10
NBF

Data Release Authorized: _____
Data Prepared: 08/20/92 - MAC:X jjr

VTSR: 07/30/92

Date Extracted: 08/06/92
Date Analyzed (Finn 6): 08/18/92

GPC Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 0.70 g (Dry Wt.)
Final Ext. Volume: 2.0 mls

Percent Moisture: 31.8%
Conc/Dil Factor: 1:1

CAS Number		µg/Kg
126-73-8	**Tributyl Phosphate (TBP)**	**84000**
2528-36-1	**Dibutyl Phenyl Phosphate (DBPP)**	**55000**
2752-95-6	**Butyl Diphenyl Phosphate (BDPP)**	**11000**
115-86-6	Triphenyl Phosphate	14000 U

Surrogate Recovery	**% Rec.**
2-Fluorobiphenyl	**71.1%**
2,4,6-Tribromophenol	**63.9%**

Data Qualifiers

Value	If the result is a value greater than or equal to the detection limit, report the value.
J	Indicates an estimated value when that value is less than the calculated detection limit.
K	Indicates a value above the linear range of the detector. Dilution required.
S	Indicates no value reported due to saturation of the detector.
D	Indicates the surrogate was diluted out.
U	Indicates compound was analyzed for, but not detected at the given detection limit.
NA	Indicates compound not analyzed.

FORM 1-S

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ORGANICS ANALYSIS DATA SHEET
Skydrols by GC/MS

Sample No.: Method Blank

Lab Sample ID: B344MB
Matrix: Waters

QC Report No.: B344 - Boeing/Landau
Project: 25068.10
NBF

Data Release Authorized: _____
Data Prepared: 08/20/92 - MAC:X jjr

VTSR: NA

Date Extracted: 08/03/92
Date Analyzed (Finn 6): 08/18/92

GPC Cleanup: No
Alumina Cleanup: No

Volume Extracted: 1.0 L
Final Ext. Volume: 1.0 ml

Conc/Dil Factor: 1:1

CAS Number		µg/L
126-73-8	Tributyl Phosphate (TBP)	1 U
2528-36-1	Dibutyl Phenyl Phosphate (DBPP)	2 U
2752-95-6	Butyl Diphenyl Phosphate (BDPP)	2 U
115-86-6	Triphenyl Phosphate	5 U

Surrogate Recovery	**% Rec.**
2-Fluorobiphenyl	**85.1%**
2,4,6-Tribromophenol	**73.1%**

Data Qualifiers

Value	If the result is a value greater than or equal to the detection limit, report the value.
J	Indicates an estimated value when that value is less than the calculated detection limit.
K	Indicates a value above the linear range of the detector. Dilution required.
S	Indicates no value reported due to saturation of the detector.
D	Indicates the surrogate was diluted out.
U	Indicates compound was analyzed for, but not detected at the given detection limit.
NA	Indicates compound not analyzed.

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Seattle, WA 98109-5187
(206) 621-6490
(206) 621-7523 (FAX)

ORGANICS ANALYSIS DATA SHEET
Skydrols by GC/MS

Sample No.: MW - 1

Lab Sample ID: B344A
Matrix: Waters

QC Report No.: B344 - Boeing/Landau
Project: 25068.10
NBF

Data Release Authorized: _____
Data Prepared: 08/20/92 - MAC:X jjr

VTSR: 07/31/92

Date Extracted: 08/03/92
Date Analyzed (Finn 6): 08/18/92

GPC Cleanup: No
Alumina Cleanup: No

Volume Extracted: 1.0 L
Final Ext. Volume: 1.0 ml

Conc/Dil Factor: 1:1

CAS Number		µg/L
126-73-8	Tributyl Phosphate (TBP)	1 U
2528-36-1	Dibutyl Phenyl Phosphate (DBPP)	2 U
2752-95-6	Butyl Diphenyl Phosphate (BDPP)	2 U
115-86-6	Triphenyl Phosphate	5 U

Surrogate Recovery	**% Rec.**
2-Fluorobiphenyl	**65.8%**
2,4,6-Tribromophenol	**59.4%**

Data Qualifiers

Value	If the result is a value greater than or equal to the detection limit, report the value.
J	Indicates an estimated value when that value is less than the calculated detection limit.
K	Indicates a value above the linear range of the detector. Dilution required.
S	Indicates no value reported due to saturation of the detector.
D	Indicates the surrogate was diluted out.
U	Indicates compound was analyzed for, but not detected at the given detection limit.
NA	Indicates compound not analyzed.

FORM 1-S

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ORGANICS ANALYSIS DATA SHEET
Skydrols by GC/MS

Sample No.: MW - 2

Lab Sample ID: B344B
Matrix: Waters

QC Report No.: B344 - Boeing/Landau
Project: 25068.10
NBF

Data Release Authorized: _____
Data Prepared: 08/20/92 - MAC:X jjr

VTSR: 07/31/92

Date Extracted: 08/03/92
Date Analyzed (Finn 6): 08/18/92

GPC Cleanup: No
Alumina Cleanup: No

Volume Extracted: 1.0 L
Final Ext. Volume: 1.0 ml

Conc/Dil Factor: 1:1

CAS Number		µg/L
126-73-8	Tributyl Phosphate (TBP)	1 U
2528-36-1	Dibutyl Phenyl Phosphate (DBPP)	2 U
2752-95-6	Butyl Diphenyl Phosphate (BDPP)	2 U
115-86-6	Triphenyl Phosphate	5 U

Surrogate Recovery	**% Rec.**
2-Fluorobiphenyl	**69.1%**
2,4,6-Tribromophenol	**73.7%**

Data Qualifiers

Value	If the result is a value greater than or equal to the detection limit, report the value.
J	Indicates an estimated value when that value is less than the calculated detection limit.
K	Indicates a value above the linear range of the detector. Dilution required.
S	Indicates no value reported due to saturation of the detector.
D	Indicates the surrogate was diluted out.
U	Indicates compound was analyzed for, but not detected at the given detection limit.
NA	Indicates compound not analyzed.

FORM 1-S

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(206) 621-7523 (FAX)

ORGANICS ANALYSIS DATA SHEET
Skydrols by GC/MS

Sample No.: MW - 3

Lab Sample ID: B344C
Matrix: Waters

QC Report No.: B344 - Boeing/Landau
Project: 25068.10
NBF

Data Release Authorized: _____
Data Prepared: 08/20/92 - MAC:X jjr

VTSR: 07/31/92

Date Extracted: 08/03/92
Date Analyzed (Finn 6): 08/18/92

GPC Cleanup: No
Alumina Cleanup: No

Volume Extracted: 1.0 L
Final Ext. Volume: 1.0 ml

Conc/Dil Factor: 1:1

CAS Number		µg/L
126-73-8	Tributyl Phosphate (TBP)	1 U
2528-36-1	Dibutyl Phenyl Phosphate (DBPP)	2 U
2752-95-6	Butyl Diphenyl Phosphate (BDPP)	2 U
115-86-6	Triphenyl Phosphate	5 U

Surrogate Recovery	**% Rec.**
2-Fluorobiphenyl	**72.6%**
2,4,6-Tribromophenol	**78.3%**

Data Qualifiers

Value	If the result is a value greater than or equal to the detection limit, report the value.
J	Indicates an estimated value when that value is less than the calculated detection limit.
K	Indicates a value above the linear range of the detector. Dilution required.
S	Indicates no value reported due to saturation of the detector.
D	Indicates the surrogate was diluted out.
U	Indicates compound was analyzed for, but not detected at the given detection limit.
NA	Indicates compound not analyzed.

FORM 1-S

ANALYTICAL RESOURCES INCORPORATED

Analytical Chemists & Consultants

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Seattle, WA 98109-5187
(206) 621-6490
(206) 621-7523 (FAX)

ORGANICS ANALYSIS DATA SHEET
Skydrols by GC/MS

Sample No.: MW - 4

Lab Sample ID: B344D
Matrix: Waters

QC Report No.: B344 - Boeing/Landau
Project: 25068.10
NBF

Data Release Authorized:
Data Prepared: 08/20/92 - MAC:X jjr

VTSR: 07/31/92

Date Extracted: 08/03/92
Date Analyzed (Finn 6): 08/18/92

GPC Cleanup: No
Alumina Cleanup: No

Volume Extracted: 1.0 L
Final Ext. Volume: 1.0 ml

Conc/Dil Factor: 1:1

CAS Number		µg/L
126-73-8	**Tributyl Phosphate (TBP)**	**26**
2528-36-1	**Dibutyl Phenyl Phosphate (DBPP)**	**4.1**
2752-95-6	Butyl Diphenyl Phosphate (BDPP)	2 U
115-86-6	Triphenyl Phosphate	5 U

Surrogate Recovery	**% Rec.**
2-Fluorobiphenyl	**70.1%**
2,4,6-Tribromophenol	**79.5%**

Data Qualifiers

Value	If the result is a value greater than or equal to the detection limit, report the value.
J	Indicates an estimated value when that value is less than the calculated detection limit.
K	Indicates a value above the linear range of the detector. Dilution required.
S	Indicates no value reported due to saturation of the detector.
D	Indicates the surrogate was diluted out.
U	Indicates compound was analyzed for, but not detected at the given detection limit.
NA	Indicates compound not analyzed.

FORM 1-S

14 August 1992

RECEIVED
AUG 18 1992
LANDAU ASSOCIATES, INC.

ANALYTICAL RESOURCES INCORPORATED

Analytical Chemists & Consultants

333 Ninth Ave. North
Seattle, WA 98109-5187
(206) 621-6490
(206) 621-7523 (FAX)

Mr. Thomas Colligan
Landau Associates
23107 100th Avenue West
Edmonds, WA 98020

RE: Project No. 25068.10 North Boeing Field Fire Training Center / ARI Job No. B328

Dear Mr. Colligan:

Please find enclosed original reports for the above-referenced project. Samples were received on July 30, 1992. Twenty soil samples and one water sample were received intact. As you instructed, COC sample label B11(4.1-4.4) collected at 09:35 has been changed to B6(4.1-4.4) on the report forms. Also as you requested, ten of the soils were placed in cold storage for possible future Skydrol analysis.

The samples were analyzed for total petroleum hydrocarbons (TPH) by WDOE method WA-HCID, PCB-Aroclors by EPA method 8080, total metals according to the EPA 7000 series, volatile organic compounds (VOC) following method 8240 and semivolatile organic compounds (ABN) by method 8270. The sample analyses were performed according to the COC.

When appropriate, TPH patterns were identified against a JP-5 (Jet Fuel) standard. Those samples positively identified as containing JP-5 have been noted on the HCID data report form. Sample analysis was routine and no problems of note were encountered.

As you requested on August 4, 1992, four soils (**B6(8.5-9.0)**, **B11(4-4.5)**, **B11(5.5-6.0)**, and **B13(6-6.5)**) were removed from archive. These four samples are currently being analyzed for Skydrol. Results for the Skydrol samples should be available during the third week of August.

As always, copies of the reports and the associated raw data will remain on file with ARI. If you have any questions or require additional information, please feel free to contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

Bryan D. Anderson

Bryan D. Anderson
Project Coordinator

enclosures
cc: file B328
Brian Anderson/ Boeing Environmental Affairs

Landau Associates, Inc.
Edmonds, WA (206) 778-0907

Chain of Custody Record

Date 7/30/92
Page 1 of 2

Project: Fire Training Center Project No. 25068.10
Client: Boeing - Brian Anderson
Project Location: N. Boeing Field
Sampler's Name: Thomas Colligan / Greg Landau

Lab: ARI
Lab #:
P.O. #:

Testing Parameters

Sample No.	Date	Time	Location	No. of Containers	TPH-418.1	TPH-D	TPH-G	418.1	PCB (8080)	Semi-VOA (8270)	VOA (8240)	Metals (8)			Observations/Comments
B-6 (2.5-3.0)	7/30	902		1	✓										
B6 (8.5-9.0)		10:00		2	✓						✓				(TPH 8.0-8.8)
B9 (1.5-2.5)		1138		2	✓				✓						NOTE:
B9 (6.5-7.0)		1204		2							✓	✓			SOME TPH SAMPLES
B10 (0.5-1.0)		1021		1					✓						HIGHLY CONTAMINATED
B10 (3.5-3.0)		1045		2	✓							✓			(JET FUEL?)
B9 (6.5-7.0)		1208		1	✓										
B10 (8.5-9)		1109		2	✓						✓				FAX RESULTS TO
B10 (9-9.5)		1046		1					✓	✓					BRIAN ANDERSON &
B11 (0.5-1.5)		816		4	✓				✓	✓	✓	✓			TOM COLLIGAN -
B11 (4.1-4.4)		935		2					✓			✓			(ALL BRIAN ANDERSON
B11 (4-4.5)		828		2					✓	✓	✓				FOR BOEING P.O. #
B11 (5.5-6)		836		1	✓										
B11 (7-7.5)		847		3	✓				✓		✓				NOTE: DO NOT PROCEED
															WITH TPH-D or G, or 418.1
FRB-3		1225	WATER SAMPLES	2	✓				✓			←			UNTIL NOTIFIED BY LANDAU

Special Shipment/Handling or Storage Requirements: ICED

Method of Shipment: HAND

Relinquished by	Received by	Relinquished by	Received by
Signature: Thomas Colligan	Signature: Jan Helkens	Signature:	Signature:
Printed Name: Thomas Colligan	Printed Name: JAN HELKENS	Printed Name:	Printed Name:
Company: LANDAU	Company: ARI	Company:	Company:
Date: 7/30/92 Time: 1714	Date: 7/30/92 Time: 17:20	Date: Time:	Date: Time:

5/87

ART # B328

SEA428156

Landau Associates, Inc.
Edmonds, WA (206) 778-0907

Chain of Custody Record

Date 7/30/92
Page 2 of 2

Project Fire Training Center Project No. _____
Client _____
Project Location _____
Sampler's Name Tom Colligan

Lab _____
Lab # _____
P.O. # _____

Sample No.	Date	Time	Location	No. of Containers	TPH-HCID	" -6	TPH-P	418.1	PCB	Semi-VOA	VOA	Metals			Observations/Comments
B12 (0.5-1.5)	7/30	1300		2	✓				2 ✓						
B12 (5.5)		1325		1	✓										
B12 (7-7.5')		1325		2	✓						✓				
B13 (0.5-1.5		1352		2	✓				✓						
B13 (5.5-6.0)		1410		1								✓			
B13 (6-6.5)		1425		3	✓				✓	✓	✓				

~~Note~~
NOTE: SOME SAMPLES MAY BE HIGHLY CONTAMINATED (w DIESEL FUEL? or similar Hydrocarbon)

NOTE: DO NOT PROCEED w supplemental TPH characterization until notified by Landau

Testing Parameters

Special Shipment/Handling or Storage Requirements ICED

Method of Shipment HAND

Relinquished by	Received by	Relinquished by	Received by
Signature [signature]	Signature [signature]	Signature	Signature
Printed Name TOM COLLIGAN	Printed Name TOM FELKINS	Printed Name	Printed Name
Company LANDAU	Company A.R.I.	Company	Company
Date 7/30/92 Time 1714	Date 7/30/92 Time 17:20	Date _____ Time _____	Date _____ Time _____

5/87

SEA428157

EXPLANATION OF INORGANIC DATA REPORT CODES

The columns labeled 'PREP', 'C', and 'M' contain important information about your analyses. The codes a defined below.

PREPARATION CODES

These 3-letter codes describe methods used to prepare samples for analysis:

AEN USEPA, Metals in air filters
AHM ARI, Mercury in air filters
AHN ARI, Metals in air filters
ANN NIOSH 7300, Metals in air filters
CAN AOAC (1984) 25.024, Metals in earthenware
DE6 EPA 600/4-79-020 218.5, Cr(VI) in water
DMM DMN followed by TMM, Dissolved mercury
DMN Filtered through .45u filter, Dissolved metals
EW6 EWN followed by DE6
EWM EWN followed by TMM
EWN USEPA SW-846 1310, EP Toxicity
FHP ARI, Metals in tissue ($HNO_3/HClO_4$)
FPP PSEP, Metals in tissue ($HNO_3/HClO_4$)
FRM Journal, Mercury in tissue
FRN Journal, Metals in tissue (HNO_3/H_2O_2)
KRN ARI, Concentration by coprecipitation
LEM USEPA, TCLP followed by TMM
LEN USEPA, TCLP Extraction
MHM ARI, Mercury in miscellaneous materials
MHN ARI, Metals in miscellaneous materials
OAM ARI, Mercury in oil, grease or tar
OAN ARI, Metals in oil, grease or tar
PHM ARI, Mercury in wipes
PHN ARI, Metals in wipes
RCC USEPA CLP, Water digestion, HCl matrix
RCN USEPA CLP, Water digestion, HNO_3 matrix
REC EPA 600/4-79-020 4.1.4, HCl matrix
REI EPA 600/4-79-020 200.7 and 9.4
REN EPA 600/4-79-020 4.1.4, HNO_3 matrix
RMA EPA 600/4-79-020 206.2
RWC USEPA SW-846 3005
SCC USEPA CLP, Soil digestion, HCl matrix
SCM USEPA CLP, Mercury in soil
SCN USEPA CLP, Soil digestion, HNO_3 matrix
SEM EPA 600/4-79-020 245.5, Mercury in soil
SHF ARI, Metals in soil, HF digestion
SRL Journal, Lithium meta-borate fusion
SPF PSEP, Metals in sediment, HF digestion
SSC Standard Methods 302C, Sb/Sn in soil
SSN Standard Methods 302C, Soil digestion
SSS Standard Methods 302C, Ti in soil
SW6 USEPA SW-846 3060, Cr(VI) in soil
SWC USEPA SW-846 3050, HCl matrix
SWN USEPA SW-846 3050, HNO_3 matrix
SWR USEPA SW-846 Modified 3005, Sb by GFAAS
TEC EPA 600/4-79-020 4.1.3, HCl matrix
TEG EPA 600/4-79-020 272.1, Silver in water
TEI EPA 600/4-79-020 200.7 and 9.3
TEN EPA 600/4-79-020 4.1.3, HNO_3 matrix
THG ARI, Silver in photographic solutions
TMM EPA 600/4-79-020 245.1, Mercury in water
TSC Standard Methods 302C, Sb/Sn in water
TSN Standard Methods 302D
TSS Standard Methods 302E, Ti in water
TWC USEPA SW-846 3010, HCl matrix
TWG USEPA SW-846 7760, Silver in water
TWN USEPA SW-846 3020, HNO_3 matrix
WMN EPA 600/4-79-020, Preserved, undigested water
XSC Standard Methods 302B

CONCENTRATION CODES

These codes are used to qualify reported concentrations:

U No analyte was detected. The reported value is the lower limit of detection.

METHOD CODES

These codes signify the instrumental technique used for analysis:

CVA Cold Vapor Atomic Absorption Spectrophotometry
FLA Flame Atomic Absorption Spectrophotometry
GFA Graphite Furnace Atomic Absorption Spectrophotometry
ICP Inductively Coupled Plasma Atomic Emission Spectrometry

ANALYTICAL RESOURCES, INC.
Inorganic Laboratory Data Report
08/10/92
14:40:57

Client: Boeing/Landau
Contact: Tom Colligan
Project: 25068.10
ID number: B-9(6.5-7.0)
Description:
Sampled: / /
Received: 07/30/92
Matrix: Soil

ARI job number: B328
ARI sample number: D

Released by:

A N A L Y T I C A L R E S U L T S

CAS Number	Analyte	Concentration	C	Prep	M
7440-38-2	Arsenic	6 mg/kg-dry	U	SWC	ICP
7440-41-7	Beryllium	0.3 mg/kg-dry		SWC	ICP
7440-43-9	Cadmium	0.4 mg/kg-dry		SWC	ICP
7440-47-3	Chromium	20.4 mg/kg-dry		SWC	ICP
7440-50-8	Copper	52.0 mg/kg-dry		SWC	ICP
7439-92-1	Lead	19 mg/kg-dry		SWC	ICP
7439-97-6	Mercury	0.1 mg/kg-dry		SCM	CVA
7440-02-0	Nickel	16 mg/kg-dry		SWC	ICP
7440-66-6	Zinc	46.7 mg/kg-dry		SWC	ICP

ANALYTICAL RESOURCES, INC.
Inorganic Laboratory Data Report
08/10/92
14:41:00

Client: Boeing/Landau
Contact: Tom Colligan
Project: 25068.10
ID number: B-9(6.5-7.0)
Description: Laboratory Duplicate
Sampled: / /
Received: 07/30/92
Matrix: Soil

ARI job number: B328
ARI sample number: DDUP

Released by:

A N A L Y T I C A L R E S U L T S

CAS Number	Analyte	Concentration	C	Prep	M
7440-38-2	Arsenic	6 mg/kg-dry	U	SWC	ICP
7440-41-7	Beryllium	0.3 mg/kg-dry		SWC	ICP
7440-43-9	Cadmium	0.3 mg/kg-dry		SWC	ICP
7440-47-3	Chromium	20.9 mg/kg-dry		SWC	ICP
7440-50-8	Copper	46.5 mg/kg-dry		SWC	ICP
7439-92-1	Lead	19 mg/kg-dry		SWC	ICP
7439-97-6	Mercury	0.1 mg/kg-dry		SCM	CVA
7440-02-0	Nickel	16 mg/kg-dry		SWC	ICP
7440-66-6	Zinc	46.0 mg/kg-dry		SWC	ICP

ANALYTICAL RESOURCES, INC.
Matrix Duplicate Quality Control Report

Client: Boeing/Landau

Client's sample ID: B-9(6.5-7.0)

ARI sample ID: B328 DDUP

Units: mg/kg-dry

Analyte	Meth	Original Sample	Matrix Duplicate	RPD	Control Limit	Q
Arsenic	ICP	U 6	U 6	0.0	± 6	L
Beryllium	ICP	0.3	0.3	0.0	± 0.1	L
Cadmium	ICP	0.4	0.3	28.6	± 0.2	L
Chromium	ICP	20.4	20.9	2.4	± 20 %	
Copper	ICP	52.0	46.5	11.2	± 20 %	
Lead	ICP	19	19	0.0	± 20 %	
Mercury	CVA	0.1	0.1	0.0	± 0.1	L
Nickel	ICP	16	16	0.0	± 20 %	
Zinc	ICP	46.7	46.0	1.5	± 20 %	

RPD = Relative percent difference

'Q' codes: '*' = control limit not met
'L' = RPD not valid, alternate limit = ± detection limit

ANALYTICAL RESOURCES, INC.
Inorganic Laboratory Data Report
08/10/92
14:41:02

Client: Boeing/Landau
Contact: Tom Colligan
Project: 25068.10
ID number: B-9(6.5-7.0)
Description: Matrix Spike
Sampled: / /
Received: 07/30/92
Matrix: Soil

ARI job number: B328
ARI sample number: DSPK

Released by: _____

A N A L Y T I C A L R E S U L T S

CAS Number	Analyte	Concentration	C	Prep	M
7440-38-2	Arsenic	306 mg/kg-dry		SWC	ICP
7440-41-7	Beryllium	6.4 mg/kg-dry		SWC	ICP
7440-43-9	Cadmium	12.8 mg/kg-dry		SWC	ICP
7440-47-3	Chromium	50.3 mg/kg-dry		SWC	ICP
7440-50-8	Copper	61.2 mg/kg-dry		SWC	ICP
7439-92-1	Lead	147 mg/kg-dry		SWC	ICP
7439-97-6	Mercury	0.7 mg/kg-dry		SCM	CVA
7440-02-0	Nickel	77 mg/kg-dry		SWC	ICP
7440-66-6	Zinc	105 mg/kg-dry		SWC	ICP

ANALYTICAL RESOURCES, INC.
Matrix Spike Quality Control Report

Client: Boeing/Landau

Client's sample ID: B-9(6.5-7.0)

ARI sample ID: B328 DSPK

Units: mg/kg-dry

Analyte	Meth	Sample	Matrix Spike	Spike Added	%R	Control Limit	Q
Arsenic	ICP	0	306	324	94.4	75-125%	
Beryllium	ICP	0.3	6.4	6.5	93.8	75-125%	
Cadmium	ICP	0.4	12.8	13.0	95.4	75-125%	
Chromium	ICP	20.4	50.3	32.4	92.3	75-125%	
Copper	ICP	52.0	61.2	13.0	70.8	75-125%	H
Lead	ICP	19	147	130	98.5	75-125%	
Mercury	CVA	0.1	0.7	0.55	109.1	75-125%	
Nickel	ICP	16	77	65	93.8	75-125%	
Zinc	ICP	46.7	105	64.8	90.0	75-125%	

%R = Percent recovery

'Q' codes: 'N' = control limit not met
'H' = %R not valid, sample concentration too high

ANALYTICAL RESOURCES, INC.
Inorganic Laboratory Data Report
08/10/92
14:41:04

Client: Boeing/Landau
Contact: Tom Colligan
Project: 25068.10
ID number: B-10(2.5-3.0)
Description:
Sampled: / /
Received: 07/30/92
Matrix: Soil

ARI job number: B328
ARI sample number: G

Released by:

A N A L Y T I C A L R E S U L T S

CAS Number	Analyte	Concentration	C	Prep	M
7440-38-2	Arsenic	5 mg/kg-dry	U	SWC	ICP
7440-41-7	Beryllium	0.1 mg/kg-dry		SWC	ICP
7440-43-9	Cadmium	0.3 mg/kg-dry		SWC	ICP
7440-47-3	Chromium	23.3 mg/kg-dry		SWC	ICP
7440-50-8	Copper	28.1 mg/kg-dry		SWC	ICP
7439-92-1	Lead	21 mg/kg-dry		SWC	ICP
7439-97-6	Mercury	0.1 mg/kg-dry		SCM	CVA
7440-02-0	Nickel	19 mg/kg-dry		SWC	ICP
7440-66-6	Zinc	84.9 mg/kg-dry		SWC	ICP

ANALYTICAL RESOURCES, INC.
Inorganic Laboratory Data Report
08/10/92
14:41:06

Client: Boeing/Landau
Contact: Tom Colligan
Project: 25068.10
ID number: B-11(0.5-1.5)
Description:
Sampled: / /
Received: 07/30/92
Matrix: Soil

ARI job number: B328
ARI sample number: J

Released by:

A N A L Y T I C A L R E S U L T S

CAS Number	Analyte	Concentration	C	Prep	M
7440-38-2	Arsenic	5 mg/kg-dry	U	SWC	ICP
7440-41-7	Beryllium	0.3 mg/kg-dry		SWC	ICP
7440-43-9	Cadmium	0.4 mg/kg-dry		SWC	ICP
7440-47-3	Chromium	20.6 mg/kg-dry		SWC	ICP
7440-50-8	Copper	40.8 mg/kg-dry		SWC	ICP
7439-92-1	Lead	111 mg/kg-dry		SWC	ICP
7439-97-6	Mercury	0.1 mg/kg-dry		SCM	CVA
7440-02-0	Nickel	17 mg/kg-dry		SWC	ICP
7440-66-6	Zinc	54.0 mg/kg-dry		SWC	ICP

ANALYTICAL RESOURCES, INC.
Inorganic Laboratory Data Report
08/14/92
13:18:46

Client: Boeing/Landau
Contact: Tom Colligan
Project: 25068.10
ID number: B-6(4.1-4.4)
Description:
Sampled: / /
Received: 07/30/92
Matrix: Soil

ARI job number: B328
ARI sample number: K

Released by:

A N A L Y T I C A L R E S U L T S

CAS Number	Analyte	Concentration	C	Prep	M
7440-38-2	Arsenic	6 mg/kg-dry	U	SWC	ICP
7440-41-7	Beryllium	0.2 mg/kg-dry		SWC	ICP
7440-43-9	Cadmium	0.6 mg/kg-dry		SWC	ICP
7440-47-3	Chromium	48.2 mg/kg-dry		SWC	ICP
7440-50-8	Copper	40.6 mg/kg-dry		SWC	ICP
7439-92-1	Lead	19 mg/kg-dry		SWC	ICP
7439-97-6	Mercury	0.1 mg/kg-dry		SCM	CVA
7440-02-0	Nickel	52 mg/kg-dry		SWC	ICP
7440-66-6	Zinc	74.2 mg/kg-dry		SWC	ICP

ANALYTICAL RESOURCES, INC.
Inorganic Laboratory Data Report
08/10/92
14:41:11

Client: Boeing/Landau
Contact: Tom Colligan
Project: 25068.10
ID number: B-13(5.5-6.0)
Description:
Sampled: / /
Received: 07/30/92
Matrix: Soil

ARI job number: B328
ARI sample number: S

Released by:

A N A L Y T I C A L R E S U L T S

CAS Number	Analyte	Concentration	C	Prep	M
7440-38-2	Arsenic	10 mg/kg-dry		SWC	ICP
7440-41-7	Beryllium	1.6 mg/kg-dry		SWC	ICP
7440-43-9	Cadmium	0.5 mg/kg-dry		SWC	ICP
7440-47-3	Chromium	16.3 mg/kg-dry		SWC	ICP
7440-50-8	Copper	96.7 mg/kg-dry		SWC	ICP
7439-92-1	Lead	55 mg/kg-dry		SWC	ICP
7439-97-6	Mercury	0.2 mg/kg-dry		SCM	CVA
7440-02-0	Nickel	46 mg/kg-dry		SWC	ICP
7440-66-6	Zinc	101 mg/kg-dry		SWC	ICP

ANALYTICAL RESOURCES, INC.
Inorganic Laboratory Data Report
08/10/92
14:41:09

Client: Boeing/Landau
Contact: Tom Colligan
Project: 25068.10
ID number:
Description: Method Blank
Sampled: / /
Received: / /
Matrix: Soil

ARI job number: B328
ARI sample number: MB

Released by: _____

A N A L Y T I C A L R E S U L T S

CAS Number	Analyte	Concentration	C	Prep	M
7440-38-2	Arsenic	5 mg/kg-dry	U	SWC	ICP
7440-41-7	Beryllium	0.1 mg/kg-dry	U	SWC	ICP
7440-43-9	Cadmium	0.2 mg/kg-dry	U	SWC	ICP
7440-47-3	Chromium	0.5 mg/kg-dry	U	SWC	ICP
7440-50-8	Copper	0.2 mg/kg-dry		SWC	ICP
7439-92-1	Lead	3 mg/kg-dry	U	SWC	ICP
7439-97-6	Mercury	0.1 mg/kg-dry	U	SCM	CVA
7440-02-0	Nickel	1 mg/kg-dry	U	SWC	ICP
7440-66-6	Zinc	1.0 mg/kg-dry		SWC	ICP

ANALYTICAL RESOURCES INCORPORATED

Analytical Chemists & Consultants

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ORGANICS ANALYSIS DATA SHEET
PCB Analysis by GC/ECD

QC Report: B328-Boeing/Landau
25068.1
Date Sampled: 07/30/92
Date Received: 07/31/92

Matrix: Soil

Data Release Authorized _____
Report prepared: 08/12/92 - MAC: A rpr

GPC Cleanup: No
Alumina Cleanup: No
Acid Cleanup: No

Reported in ppb (µg/Kg)

Sample #:	**Method Blank**	**B-9 (1.5-2.5)**	**B 10 (0.5-1.0)**	**B10 (9 - 9.5)**	**B 11 (0.5-1.5)**
ARI Lab ID:	MB 0731	B328 - C	B328 - F	B328 - I	B328 - J
Date Extracted:	07/31/92	07/31/92	07/31/92	07/31/92	07/31/92
Date Analyzed:	08/10/92	08/11/92	08/11/92	08/10/92	08/11/92
Sample Amount:	25.0 g	27.5 g	30.9 g	21.1 g	28.1 g
Final volume:	20 ml.	20 ml.	20 ml.	20 ml.	20 ml.
Dilution:	1:1	1:1	1:1	1:1	1:1
1016/1242	80 U	80 U	80 U	80 U	80 U
1248	80 U	80 U	80 U	80 U	80 U
1254	80 U	80 U	**260**	80 U	80 U
1260	80 U	100 U	**140**	80 U	80 U
TCMX Surrogate %	81.9%	83.2%	86.6%	79.1%	81.3%
DCBP Surrogate %	91.8%	81.2%	83.5%	86.6%	64.0%

Sample #:	**B 6 (4.1-4.4)**	**B 11 (4-4.5)**	**B 11 (7 - 7.5)**	**B 12 (0.5-1.5)**
ARI Lab ID:	B328 - K	B328 - L	B328 - N	B328 - O
Date Extracted:	07/31/92	07/31/92	07/31/92	07/31/92
Date Analyzed:	08/11/92	08/11/92	08/11/92	08/11/92
Sample Amount:	29.9 g	21.9 g	24.3 g	31.3 g
Final volume:	20 ml.	20 ml.	20 ml.	20 ml.
Dilution:	1:1	1:1	1:1	1:1
1016/1242	80 U	500 U	80 U	80 U
1248	80 U	500 U	80 U	80 U
1254	80 U	**930**	80 U	80 U
1260	80 U	380 U	80 U	80 U
TCMX Surrogate %	70.0%	N R	59.3%	76.5%
DCBP Surrogate %	61.0%	55.9%	59.7%	73.1%

Data Qualifiers

Value	If the result is a value greater than or equal to the detection limit, report the value.
J	Indicates an estimated value when that value is less than the calculated detection limit.
U	Indicates compound was analyzed for, but not detected at the given detection limit.
X	Indicates value above the linear range of the detector. Dilution required.
D	Indicates surrogate was diluted out.
S	Indicates no value reported due to saturation of the detector. Dilution required.
NR	Indicates not reported due to matrix interference.

FORM 1-PCB

ANALYTICAL RESOURCES INCORPORATED

Analytical Chemists & Consultants

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ORGANICS ANALYSIS DATA SHEET
PCB Analysis by GC/ECD

QC Report: B328-Boeing/Landau
25068.1

Matrix: Soil

Date Sampled: 07/30/92
Date Received: 07/31/92

Data Release Authorized
Report prepared: 08/12/92 - MAC: A rpr

GPC Cleanup: No
Alumina Cleanup: No
Acid Cleanup: No

Reported in ppb (µg/Kg)

Sample #:	**B 13 (0.5-1.5)**	**B 13 (6-6.5)**
ARI Lab ID:	B328 - R	B328 - T
Date Extracted:	07/31/92	07/31/92
Date Analyzed:	08/11/92	08/11/92
Sample Amount:	26.7 g	26.4 g
Final volume:	20 ml.	20 ml.
Dilution:	1:1	1:1
1016/1242	80 U	80 U
1248	80 U	80 U
1254	80 U	80 U
1260	80 U	80 U
TCMX Surrogate %	77.0%	66.5%
DCBP Surrogate %	71.7%	58.4%

Data Qualifiers

Value	If the result is a value greater than or equal to the detection limit, report the value.
J	Indicates an estimated value when that value is less than the calculated detection limit.
U	Indicates compound was analyzed for, but not detected at the given detection limit.
X	Indicates value above the linear range of the detector. Dilution required.
D	Indicates surrogate was diluted out.
S	Indicates no value reported due to saturation of the detector. Dilution required.
NR	Indicates not reported due to matrix interference.

FORM 1-PCB

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ORGANICS ANALYSIS DATA SHEET
PCB Analysis by GC/ECD

QC Report: B328-Boeing/Landau
25068.1
Date Sampled: 07/30/92
Date Received: 07/31/92

Matrix: Water

Data Release Authorized
Report prepared: 08/17/92 - MAC: A for

GPC Cleanup: No
Fluorosil Cleanup: Yes
Acid Cleanup: No

Reported in ppb (µg/L)

Sample #:	**Method Blank**	**F R B - 3**
ARI Lab ID:	MB0731	B328 - U
Date Extracted:	07/31/92	07/31/92
Date Analyzed:	08/04/92	08/04/92
Sample Amount:	1.0 L	1.0 L
Final volume:	10 ml.	10 ml.
Dilution:	1:1	1:1
1016/1242	1.0 U	1.0 U
1248	1.0 U	1.0 U
1254	1.0 U	1.0 U
1260	1.0 U	1.0 U
TCMX Surrogate %	49.0%	64.8%
DCBP Surrogate %	77.1%	53.0%

Data Qualifiers

Value	If the result is a value greater than or equal to the detection limit, report the value.
J	Indicates an estimated value when that value is less than the calculated detection limit.
U	Indicates compound was analyzed for, but not detected at the given detection limit.
X	Indicates value above the linear range of the detector. Dilution required.
D	Indicates surrogate was diluted out.
S	Indicates no value reported due to saturation of the detector. Dilution required.
NR	Indicates not reported due to matrix interference.

FORM 1-PCB

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ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS

Sample ID: B319MBA
Matrix: Soils/Sediments
Data Release Authorized: _____
Report: 08/12/92 MAC:K kas

Sample No: Method Blank

QC Report No: B328-Boeing/Landau
Project: 25068.10
NBF
VTSR: NA

Date extracted: 08/03/92
Analyzed (FINN 6): 08/06/92
GPC Clean-up: Yes
Final Ext Volume: 2.0 mls

Sample Wt: 30.0 gm (Equivalent Dry Weight)
Percent Moisture: NA
pH: NA
Dilution: 1 to 1

CAS Number		µg/Kg
108-95-2	Phenol	130 U
111-44-4	bis(2-Chloroethyl)Ether	67 U
95-57-8	2-Chlorophenol	67 U
541-73-1	1,3-Dichlorobenzene	67 U
106-46-7	1,4-Dichlorobenzene	67 U
100-51-6	Benzyl Alcohol	330 U
95-50-1	1,2-Dichlorobenzene	67 U
95-48-7	2-Methylphenol	67 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	67 U
106-44-5	4-Methylphenol	67 U
621-64-7	N-Nitroso-Di-n-Propylamine	67 U
67-72-1	Hexachloroethane	130 U
98-95-3	Nitrobenzene	67 U
78-59-1	Isophorone	67 U
88-75-5	2-Nitrophenol	330 U
105-67-9	2,4-Dimethylphenol	130 U
65-85-0	Benzoic Acid	670 U
111-91-1	bis(2-Chloroethoxy)Methane	67 U
120-83-2	2,4-Dichlorophenol	200 U
120-82-1	1,2,4-Trichlorobenzene	67 U
91-20-3	Naphthalene	67 U
106-47-8	4-Chloroaniline	200 U
87-68-3	Hexachlorobutadiene	130 U
59-50-7	4-Chloro-3-Methylphenol	130 U
91-57-6	2-Methylnaphthalene	67 U
77-47-4	Hexachlorocyclopentadiene	330 U
88-06-2	2,4,6-Trichlorophenol	330 U
95-95-4	2,4,5-Trichlorophenol	330 U
91-58-7	2-Chloronaphthalene	67 U
88-74-4	2-Nitroaniline	330 U
131-11-3	Dimethyl Phthalate	67 U
208-96-8	Acenaphthylene	67 U
99-09-2	3-Nitroaniline	330 U

CAS Number		µg/Kg
83-32-9	Acenaphthene	67 U
51-28-5	2,4-Dinitrophenol	670 U
100-02-7	4-Nitrophenol	330 U
132-64-9	Dibenzofuran	67 U
606-20-2	2,6-Dinitrotoluene	330 U
121-14-2	2,4-Dinitrotoluene	330 U
84-66-2	Diethylphthalate	67 U
7005-72-3	4-Chlorophenyl-phenylether	67 U
86-73-7	Fluorene	67 U
100-01-6	4-Nitroaniline	330 U
534-52-1	4,6-Dinitro-2-Methylphenol	670 U
86-30-6	N-Nitrosodiphenylamine(1)	67 U
101-55-3	4-Bromophenyl-phenylether	67 U
118-74-1	Hexachlorobenzene	67 U
87-86-5	Pentachlorophenol	330 U
85-01-8	Phenanthrene	67 U
86-74-8	Carbazole	67 U
120-12-7	Anthracene	67 U
84-74-2	Di-n-Butylphthalate	67 U
206-44-0	Fluoranthene	67 U
129-00-0	Pyrene	67 U
85-68-7	Butylbenzylphthalate	67 U
91-94-1	3,3'-Dichlorobenzidine	330 U
56-55-3	Benzo(a)Anthracene	67 U
117-81-7	bis(2-Ethylhexyl)Phthalate	67 U
218-01-9	Chrysene	67 U
117-84-0	Di-n-Octyl Phthalate	67 U
205-99-2	Benzo(b)Fluoranthene	67 U
207-08-9	Benzo(k)Fluoranthene	67 U
50-32-8	Benzo(a)Pyrene	67 U
193-39-5	Indeno(1,2,3-cd)Pyrene	67 U
53-70-3	Dibenz(a,h)Anthracene	67 U
191-24-2	Benzo(ghi)Perylene	67 U

(1) Cannot be separated from diphenylamine

Base/neutral surrogate recoveries

d5-Nitrobenzene	60.7%
2-Fluorobiphenyl	58.3%
d14-p-Terphenyl	80.4%
d4-1,2-Dichlorobenzene	60.4%

Acid surrogate recoveries

d5-Phenol	61.0%
2-Fluorophenol	61.0%
2,4,6-Tribromophenol	60.6%
d4-2-Chlorophenol	61.5%

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ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS

Sample ID: B328MB
Matrix: Solls/Sediments
Data Release Authorized: _____
Report: 08/12/92 MAC:K kas

Sample No: Method Blank

QC Report No: B328-Boeing/Landau
Project: 25068.10
NBF
VTSR: NA

Date extracted: 08/03/92
Analyzed (FINN 2): 08/06/92
GPC Clean-up: No
Final Ext Volume: 2.0 mls

Sample Wt: 1.00 gm (Equivalent Dry Weight)
Percent Moisture: NA
pH: NA
Dilution: 1 to 1

CAS Number		µg/Kg
108-95-2	Phenol	4000 U
111-44-4	bis(2-Chloroethyl)Ether	2000 U
95-57-8	2-Chlorophenol	2000 U
541-73-1	1,3-Dichlorobenzene	2000 U
106-46-7	1,4-Dichlorobenzene	2000 U
100-51-6	Benzyl Alcohol	10000 U
95-50-1	1,2-Dichlorobenzene	2000 U
95-48-7	2-Methylphenol	2000 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	2000 U
106-44-5	4-Methylphenol	2000 U
621-64-7	N-Nitroso-Di-n-Propylamine	2000 U
67-72-1	Hexachloroethane	4000 U
98-95-3	Nitrobenzene	2000 U
78-59-1	Isophorone	2000 U
88-75-5	2-Nitrophenol	10000 U
105-67-9	2,4-Dimethylphenol	4000 U
65-85-0	Benzoic Acid	20000 U
111-91-1	bis(2-Chloroethoxy)Methane	2000 U
120-83-2	2,4-Dichlorophenol	6000 U
120-82-1	1,2,4-Trichlorobenzene	2000 U
91-20-3	Naphthalene	2000 U
106-47-8	4-Chloroaniline	6000 U
87-68-3	Hexachlorobutadiene	4000 U
59-50-7	4-Chloro-3-Methylphenol	4000 U
91-57-6	2-Methylnaphthalene	2000 U
77-47-4	Hexachlorocyclopentadiene	10000 U
88-06-2	2,4,6-Trichlorophenol	10000 U
95-95-4	2,4,5-Trichlorophenol	10000 U
91-58-7	2-Chloronaphthalene	2000 U
88-74-4	2-Nitroaniline	10000 U
131-11-3	Dimethyl Phthalate	2000 U
208-96-8	Acenaphthylene	2000 U
99-09-2	3-Nitroaniline	10000 U

CAS Number		µg/Kg
83-32-9	Acenaphthene	2000 U
51-28-5	2,4-Dinitrophenol	20000 U
100-02-7	4-Nitrophenol	10000 U
132-64-9	Dibenzofuran	2000 U
606-20-2	2,6-Dinitrotoluene	10000 U
121-14-2	2,4-Dinitrotoluene	10000 U
84-66-2	Diethylphthalate	2000 U
7005-72-3	4-Chlorophenyl-phenylether	2000 U
86-73-7	Fluorene	2000 U
100-01-6	4-Nitroaniline	10000 U
534-52-1	4,6-Dinitro-2-Methylphenol	20000 U
86-30-6	N-Nitrosodiphenylamine(1)	2000 U
101-55-3	4-Bromophenyl-phenylether	2000 U
118-74-1	Hexachlorobenzene	2000 U
87-86-5	Pentachlorophenol	10000 U
85-01-8	Phenanthrene	2000 U
86-74-8	Carbazole	2000 U
120-12-7	Anthracene	2000 U
84-74-2	**Di-n-Butylphthalate**	**1100 J**
206-44-0	Fluoranthene	2000 U
129-00-0	Pyrene	2000 U
85-68-7	Butylbenzylphthalate	2000 U
91-94-1	3,3'-Dichlorobenzidine	10000 U
56-55-3	Benzo(a)Anthracene	2000 U
117-81-7	bis(2-Ethylhexyl)Phthalate	2000 U
218-01-9	Chrysene	2000 U
117-84-0	Di-n-Octyl Phthalate	2000 U
205-99-2	Benzo(b)Fluoranthene	2000 U
207-08-9	Benzo(k)Fluoranthene	2000 U
50-32-8	Benzo(a)Pyrene	2000 U
193-39-5	Indeno(1,2,3-cd)Pyrene	2000 U
53-70-3	Dibenz(a,h)Anthracene	2000 U
191-24-2	Benzo(ghi)Perylene	2000 U

(1) Cannot be separated from diphenylamine

Base/neutral surrogate recoveries

d5-Nitrobenzene	79.6%
2-Fluorobiphenyl	80.3%
d14-p-Terphenyl	78.8%
d4-1,2-Dichlorobenzene	76.6%

Acid surrogate recoveries

d5-Phenol	71.0%
2-Fluorophenol	78.5%
2,4,6-Tribromophenol	80.2%
d4-2-Chlorophenol	76.8%

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ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS

Sample ID: B328I
Matrix: Soils/Sediments
Data Release Authorized: _____
Report: 08/13/92 MAC:K kas

Sample No: B10 (9.0-9.5)

QC Report No: B328-Boeing/Landau
Project: 25068.10
NBF
VTSR: 07/30/92

Date extracted: 08/03/92
Analyzed (FINN 2): 08/06/92
GPC Clean-up: Yes
Final Ext Volume: 2.0 mls

Sample Wt: 24.5 gm (Dry Weight)
Percent Moisture: 30.5%
pH: 6.8
Dilution: 1 to 1

CAS Number		µg/Kg
108-95-2	**Phenol**	**89 J**
111-44-4	bis(2-Chloroethyl)Ether	82 U
95-57-8	2-Chlorophenol	82 U
541-73-1	1,3-Dichlorobenzene	82 U
106-46-7	1,4-Dichlorobenzene	82 U
100-51-6	Benzyl Alcohol	410 U
95-50-1	1,2-Dichlorobenzene	82 U
95-48-7	2-Methylphenol	82 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	82 U
106-44-5	**4-Methylphenol**	**310**
621-64-7	N-Nitroso-Di-n-Propylamine	82 U
67-72-1	Hexachloroethane	160 U
98-95-3	Nitrobenzene	82 U
78-59-1	Isophorone	82 U
88-75-5	2-Nitrophenol	410 U
105-67-9	2,4-Dimethylphenol	160 U
65-85-0	Benzoic Acid	820 U
111-91-1	bis(2-Chloroethoxy)Methane	82 U
120-83-2	2,4-Dichlorophenol	240 U
120-82-1	1,2,4-Trichlorobenzene	82 U
91-20-3	**Naphthalene**	**280**
106-47-8	4-Chloroaniline	240 U
87-68-3	Hexachlorobutadiene	160 U
59-50-7	4-Chloro-3-Methylphenol	160 U
91-57-6	**2-Methylnaphthalene**	**380**
77-47-4	Hexachlorocyclopentadiene	410 U
88-06-2	2,4,6-Trichlorophenol	410 U
95-95-4	2,4,5-Trichlorophenol	410 U
91-58-7	2-Chloronaphthalene	82 U
88-74-4	2-Nitroaniline	410 U
131-11-3	Dimethyl Phthalate	82 U
208-96-8	Acenaphthylene	82 U
99-09-2	3-Nitroaniline	410 U

CAS Number		µg/Kg
83-32-9	Acenaphthene	82 U
51-28-5	2,4-Dinitrophenol	820 U
100-02-7	4-Nitrophenol	410 U
132-64-9	Dibenzofuran	82 U
606-20-2	2,6-Dinitrotoluene	410 U
121-14-2	2,4-Dinitrotoluene	410 U
84-66-2	Diethylphthalate	82 U
7005-72-3	4-Chlorophenyl-phenylether	82 U
86-73-7	Fluorene	82 U
100-01-6	4-Nitroaniline	410 U
534-52-1	4,6-Dinitro-2-Methylphenol	820 U
86-30-6	N-Nitrosodiphenylamine(1)	82 U
101-55-3	4-Bromophenyl-phenylether	82 U
118-74-1	Hexachlorobenzene	82 U
87-86-5	Pentachlorophenol	410 U
85-01-8	**Phenanthrene**	**120**
86-74-8	Carbazole	82 U
120-12-7	Anthracene	82 U
84-74-2	**Di-n-Butylphthalate**	**390 B**
206-44-0	**Fluoranthene**	**110**
129-00-0	**Pyrene**	**130**
85-68-7	**Butylbenzylphthalate**	**110**
91-94-1	3,3'-Dichlorobenzidine	410 U
56-55-3	Benzo(a)Anthracene	82 U
117-81-7	**bis(2-Ethylhexyl)Phthalate**	**1900**
218-01-9	**Chrysene**	**56 J**
117-84-0	**Di-n-Octyl Phthalate**	**140**
205-99-2	**Benzo(b)Fluoranthene**	
207-08-9	**Benzo(k)Fluoranthene**	**130**
50-32-8	**Benzo(a)Pyrene**	**71 J**
193-39-5	**Indeno(1,2,3-cd)Pyrene**	**82 J**
53-70-3	Dibenz(a,h)Anthracene	82 U
191-24-2	**Benzo(ghi)Perylene**	**78 J**

(1) Cannot be separated from diphenylamine

Base/neutral surrogate recoveries

d5-Nitrobenzene	56.4%
2-Fluorobiphenyl	65.7%
d14-p-Terphenyl	52.6%
d4-1,2-Dichlorobenzene	52.6%

Acid surrogate recoveries

d5-Phenol	51.7%
2-Fluorophenol	52.1%
2,4,6-Tribromophenol	61.7%
d4-2-Chlorophenol	54.3%

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ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS

Sample ID: B328J
Matrix: Solls/Sediments
Data Release Authorized:
Report: 08/13/92 MAC:K kas

Sample No: B11 (0.5-1.5)

QC Report No: B328-Boeing/Landau
Project: 25068.10
NBF
VTSR: 07/30/92

Date extracted: 08/03/92
Analyzed (FINN 2): 08/06/92
GPC Clean-up: Yes
Final Ext Volume: 2.0 mls

Sample Wt: 32.8 gm (Dry Weight)
Percent Moisture: 6.4%
pH: 6.6
Dilution: 1 to 1

CAS Number		µg/Kg
108-95-2	Phenol	120 U
111-44-4	bis(2-Chloroethyl)Ether	61 U
95-57-8	2-Chlorophenol	61 U
541-73-1	1,3-Dichlorobenzene	61 U
106-46-7	1,4-Dichlorobenzene	61 U
100-51-6	Benzyl Alcohol	310 U
95-50-1	1,2-Dichlorobenzene	61 U
95-48-7	2-Methylphenol	61 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	61 U
106-44-5	4-Methylphenol	61 U
621-64-7	N-Nitroso-Di-n-Propylamine	61 U
67-72-1	Hexachloroethane	120 U
98-95-3	Nitrobenzene	61 U
78-59-1	Isophorone	61 U
88-75-5	2-Nitrophenol	310 U
105-67-9	2,4-Dimethylphenol	120 U
65-85-0	Benzoic Acid	610 U
111-91-1	bis(2-Chloroethoxy)Methane	61 U
120-83-2	2,4-Dichlorophenol	180 U
120-82-1	1,2,4-Trichlorobenzene	61 U
91-20-3	Naphthalene	61 U
106-47-8	4-Chloroaniline	180 U
87-68-3	Hexachlorobutadiene	120 U
59-50-7	4-Chloro-3-Methylphenol	120 U
91-57-6	2-Methylnaphthalene	61 U
77-47-4	Hexachlorocyclopentadiene	310 U
88-06-2	2,4,6-Trichlorophenol	310 U
95-95-4	2,4,5-Trichlorophenol	310 U
91-58-7	2-Chloronaphthalene	61 U
88-74-4	2-Nitroaniline	310 U
131-11-3	Dimethyl Phthalate	61 U
208-96-8	Acenaphthylene	61 U
99-09-2	3-Nitroaniline	310 U

CAS Number		µg/Kg
83-32-9	Acenaphthene	61 U
51-28-5	2,4-Dinitrophenol	610 U
100-02-7	4-Nitrophenol	310 U
132-64-9	Dibenzofuran	61 U
606-20-2	2,6-Dinitrotoluene	310 U
121-14-2	2,4-Dinitrotoluene	310 U
84-66-2	Diethylphthalate	61 U
7005-72-3	4-Chlorophenyl-phenylether	61 U
86-73-7	Fluorene	61 U
100-01-6	4-Nitroaniline	310 U
534-52-1	4,6-Dinitro-2-Methylphenol	610 U
86-30-6	N-Nitrosodiphenylamine(1)	61 U
101-55-3	4-Bromophenyl-phenylether	61 U
118-74-1	Hexachlorobenzene	61 U
87-86-5	Pentachlorophenol	310 U
85-01-8	**Phenanthrene**	**33 J**
86-74-8	Carbazole	61 U
120-12-7	Anthracene	61 U
84-74-2	Di-n-Butylphthalate	61 U
206-44-0	**Fluoranthene**	**35 J**
129-00-0	**Pyrene**	**33 J**
85-68-7	Butylbenzylphthalate	61 U
91-94-1	3,3'-Dichlorobenzidine	310 U
56-55-3	Benzo(a)Anthracene	61 U
117-81-7	**bis(2-Ethylhexyl)Phthalate**	**50 J**
218-01-9	Chrysene	61 U
117-84-0	Di-n-Octyl Phthalate	61 U
205-99-2	Benzo(b)Fluoranthene	61 U
207-08-9	Benzo(k)Fluoranthene	61 U
50-32-8	Benzo(a)Pyrene	61 U
193-39-5	Indeno(1,2,3-cd)Pyrene	61 U
53-70-3	Dibenz(a,h)Anthracene	61 U
191-24-2	Benzo(ghi)Perylene	61 U

(1) Cannot be separated from diphenylamine

Base/neutral surrogate recoveries

d5-Nitrobenzene	50.3%
2-Fluorobiphenyl	56.6%
d14-p-Terphenyl	49.1%
d4-1,2-Dichlorobenzene	44.0%

Acid surrogate recoveries

d5-Phenol	45.2%
2-Fluorophenol	45.6%
2,4,6-Tribromophenol	48.9%
d4-2-Chlorophenol	48.6%

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ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS

Sample ID: B328L
Matrix: Soils/Sediments
Data Release Authorized:
Report: 08/12/92 MAC:K kas

Sample No: B11 (4.0-4.5)

QC Report No: B328-Boeing/Landau
Project: 25068.10
NBF
VTSR: 07/30/92

Date extracted: 08/03/92
Analyzed (FINN 2): 08/06/92
GPC Clean-up: No
Final Ext Volume: 2.0 mls

Sample Wt: 0.70 gm (Dry Weight)
Percent Moisture: 30.4%
pH: 6.3
Dilution: 1 to 1

CAS Number		µg/Kg
108-95-2	Phenol	5700 U
111-44-4	bis(2-Chloroethyl)Ether	2900 U
95-57-8	2-Chlorophenol	2900 U
541-73-1	1,3-Dichlorobenzene	2900 U
106-46-7	1,4-Dichlorobenzene	2900 U
100-51-6	Benzyl Alcohol	14000 U
95-50-1	1,2-Dichlorobenzene	2900 U
95-48-7	2-Methylphenol	2900 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	2900 U
106-44-5	4-Methylphenol	2900 U
621-64-7	N-Nitroso-Di-n-Propylamine	2900 U
67-72-1	Hexachloroethane	5700 U
98-95-3	Nitrobenzene	2900 U
78-59-1	Isophorone	2900 U
88-75-5	2-Nitrophenol	14000 U
105-67-9	2,4-Dimethylphenol	5700 U
65-85-0	Benzoic Acid	29000 U
111-91-1	bis(2-Chloroethoxy)Methane	2900 U
120-83-2	2,4-Dichlorophenol	8600 U
120-82-1	1,2,4-Trichlorobenzene	2900 U
91-20-3	Naphthalene	2900 U
106-47-8	4-Chloroaniline	8600 U
87-68-3	Hexachlorobutadiene	5700 U
59-50-7	4-Chloro-3-Methylphenol	5700 U
91-57-6	2-Methylnaphthalene	2900 U
77-47-4	Hexachlorocyclopentadiene	14000 U
88-06-2	2,4,6-Trichlorophenol	14000 U
95-95-4	2,4,5-Trichlorophenol	14000 U
91-58-7	2-Chloronaphthalene	2900 U
88-74-4	2-Nitroaniline	14000 U
131-11-3	Dimethyl Phthalate	2900 U
208-96-8	Acenaphthylene	2900 U
99-09-2	3-Nitroaniline	14000 U

CAS Number		µg/Kg
83-32-9	Acenaphthene	2900 U
51-28-5	2,4-Dinitrophenol	29000 U
100-02-7	4-Nitrophenol	14000 U
132-64-9	Dibenzofuran	2900 U
606-20-2	2,6-Dinitrotoluene	14000 U
121-14-2	2,4-Dinitrotoluene	14000 U
84-66-2	Diethylphthalate	2900 U
7005-72-3	4-Chlorophenyl-phenylether	2900 U
86-73-7	Fluorene	2900 U
100-01-6	4-Nitroaniline	14000 U
534-52-1	4,6-Dinitro-2-Methylphenol	29000 U
86-30-6	N-Nitrosodiphenylamine(1)	2900 U
101-55-3	4-Bromophenyl-phenylether	2900 U
118-74-1	Hexachlorobenzene	2900 U
87-86-5	Pentachlorophenol	14000 U
85-01-8	Phenanthrene	2900 U
86-74-8	Carbazole	2900 U
120-12-7	Anthracene	2900 U
84-74-2	Di-n-Butylphthalate	2900 U
206-44-0	Fluoranthene	2900 U
129-00-0	**Pyrene**	**1500 J**
85-68-7	Butylbenzylphthalate	2900 U
91-94-1	3,3'-Dichlorobenzidine	14000 U
56-55-3	Benzo(a)Anthracene	2900 U
117-81-7	**bis(2-Ethylhexyl)Phthalate**	**7200**
218-01-9	Chrysene	2900 U
117-84-0	Di-n-Octyl Phthalate	2900 U
205-99-2	Benzo(b)Fluoranthene	2900 U
207-08-9	Benzo(k)Fluoranthene	2900 U
50-32-8	Benzo(a)Pyrene	2900 U
193-39-5	Indeno(1,2,3-cd)Pyrene	2900 U
53-70-3	Dibenz(a,h)Anthracene	2900 U
191-24-2	Benzo(ghi)Perylene	2900 U

(1) Cannot be separated from diphenylamine

Base/neutral surrogate recoveries

d5-Nitrobenzene	64.2%
2-Fluorobiphenyl	80.9%
d14-p-Terphenyl	64.6%
d4-1,2-Dichlorobenzene	72.7%

Acid surrogate recoveries

d5-Phenol	72.6%
2-Fluorophenol	77.5%
2,4,6-Tribromophenol	79.5%
d4-2-Chlorophenol	45.4%

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ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS

Sample ID: B328T
Matrix: Solls/Sediments
Data Release Authorized: [signature]
Report: 08/28/92 MAC:K kas

Sample No: B13 (6.0-6.5)

QC Report No: B328-Boeing/Landau
Project: 25068.10
NBF
VTSR: 07/30/92

Date extracted: 08/03/92
Analyzed (FINN 2): 08/06/92
GPC Clean-up: Yes
Final Ext Volume: 2.0 mls

Sample Wt: 28.4 gm (Dry Weight)
Percent Moisture: 20.3%
pH: 6.7
Dilution: 1 to 5

CAS Number		µg/Kg
108-95-2	Phenol	710 U
111-44-4	bis(2-Chloroethyl)Ether	350 U
95-57-8	2-Chlorophenol	350 U
541-73-1	1,3-Dichlorobenzene	350 U
106-46-7	1,4-Dichlorobenzene	350 U
100-51-6	Benzyl Alcohol	1800 U
95-50-1	1,2-Dichlorobenzene	350 U
95-48-7	2-Methylphenol	350 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	350 U
106-44-5	4-Methylphenol	350 U
621-64-7	N-Nitroso-Di-n-Propylamine	350 U
67-72-1	Hexachloroethane	710 U
98-95-3	Nitrobenzene	350 U
78-59-1	Isophorone	350 U
88-75-5	2-Nitrophenol	1800 U
105-67-9	2,4-Dimethylphenol	710 U
65-85-0	Benzoic Acid	3500 U
111-91-1	bis(2-Chloroethoxy)Methane	350 U
120-83-2	2,4-Dichlorophenol	1100 U
120-82-1	1,2,4-Trichlorobenzene	350 U
91-20-3	Naphthalene	350 U
106-47-8	4-Chloroaniline	1100 U
87-68-3	Hexachlorobutadiene	710 U
59-50-7	4-Chloro-3-Methylphenol	710 U
91-57-6	2-Methylnaphthalene	350 U
77-47-4	Hexachlorocyclopentadiene	1800 U
88-06-2	2,4,6-Trichlorophenol	1800 U
95-95-4	2,4,5-Trichlorophenol	1800 U
91-58-7	2-Chloronaphthalene	350 U
88-74-4	2-Nitroaniline	1800 U
131-11-3	Dimethyl Phthalate	350 U
208-96-8	Acenaphthylene	350 U
99-09-2	3-Nitroaniline	1800 U

CAS Number		µg/Kg
83-32-9	Acenaphthene	350 U
51-28-5	2,4-Dinitrophenol	3500 U
100-02-7	4-Nitrophenol	1800 U
132-64-9	Dibenzofuran	350 U
606-20-2	2,6-Dinitrotoluene	1800 U
121-14-2	2,4-Dinitrotoluene	1800 U
84-66-2	Diethylphthalate	350 U
7005-72-3	4-Chlorophenyl-phenylether	350 U
86-73-7	**Fluorene**	**240 J**
100-01-6	4-Nitroaniline	1800 U
534-52-1	4,6-Dinitro-2-Methylphenol	3500 U
86-30-6	N-Nitrosodiphenylamine(1)	350 U
101-55-3	4-Bromophenyl-phenylether	350 U
118-74-1	Hexachlorobenzene	350 U
87-86-5	Pentachlorophenol	1800 U
85-01-8	**Phenanthrene**	**290 J**
86-74-8	Carbazole	350 U
120-12-7	Anthracene	350 U
84-74-2	**Di-n-Butylphthalate**	**330 JB**
206-44-0	Fluoranthene	350 U
129-00-0	Pyrene	350 U
85-68-7	Butylbenzylphthalate	350 U
91-94-1	3,3'-Dichlorobenzidine	1800 U
56-55-3	Benzo(a)Anthracene	350 U
117-81-7	**bis(2-Ethylhexyl)Phthalate**	**390 J**
218-01-9	Chrysene	350 U
117-84-0	Di-n-Octyl Phthalate	350 U
205-99-2	Benzo(b)Fluoranthene	350 U
207-08-9	Benzo(k)Fluoranthene	350 U
50-32-8	Benzo(a)Pyrene	350 U
193-39-5	Indeno(1,2,3-cd)Pyrene	350 U
53-70-3	Dibenz(a,h)Anthracene	350 U
191-24-2	Benzo(ghi)Perylene	350 U

(1) Cannot be separated from diphenylamine

Base/neutral surrogate recoveries

d5-Nitrobenzene	66.2%
2-Fluorobiphenyl	75.8%
d14-p-Terphenyl	67.4%
d4-1,2-Dichlorobenzene	63.3%

Acid surrogate recoveries

d5-Phenol	58.2%
2-Fluorophenol	46.8%
2,4,6-Tribromophenol	63.6%
d4-2-Chlorophenol	60.8%

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TOTAL PETROLEUM HYDROCARBONS
WA HCID Method by GC/FID

QC Report No: B328-Boeing/Landau
Project: 25068.10
N B F
VTSR: 07/30/92

Matrix: Soil

Data Release Authorized _____
Data Prepared: 08/12/92 - MAC: A rpr

Date extracted: 07/31/92
Dates Analyzed: 08/01 - 07/92

Lab ID		Client Sample ID	Dilution Factor	Gas Range Petroleum Hydrocarbons †	Diesel Range Petroleum Hydrocarbons *	Surrogate Recovery
B328	MB0731	Method Blank	-	10 U	10 U	95.4%
B328	A	B - 6 (2.5 - 3.0)	-	10 U	10 U	86.5%
B328	B	B - 6 (8.5 - 9.0)	-	10 U	10 U	91.7%
B328	C	B - 9 (1.5 - 2.5)	-	10 U	**23**	101%
B328	C ms	B - 9 (1.5 - 2.5)	-	10 U	-	107%
B328	C msd	B - 9 (1.5 - 2.5)	-	10 U	-	103%
B328	E	B - 9 (6.5 - 7.5)	-	10 U	10 U	109%
B328	G	B - 10 (2.5 - 3.0)	-	10 U	**41**	99.7%
B328	H	B - 10 (8.5 - 9)	-	10 U	10 U	100%
B328	J	B - 11 (0.5 - 1.5)	-	10 U	**14**	91.3%
B328	M	B - 11 (5.5 - 6)	-	10 U	S	109%
B328	M dl	B - 11 (5.5 - 6)	1:100	-	**25000 - J P 5**	D
B328	N	B - 11 (7 - 7.5)	-	S	S	102%
B328	N dl	B - 11 (7 - 7.5)	1 : 50	-	**1000 - J P 5**	D
B328	O	B - 12 (0.5 - 1.5)	-	10 U	10 U	106%
B328	P	B - 12 (5.5)	-	S	S	116%
B328	P dl	B - 12 (5.5)	1 : 50	-	**9500 - J P 5**	D
B328	Q	B - 12 (7 - 7.5)	-	10 U	10 U	92.8%

Surrogate is Me-Arachidate.

Values reported in ppm (mg/Kg).

U Indicates compound was analyzed for but not detected at the given detection limit.
X Indicates a value above the linear range of the detector. Dilution required.
† Value based on total peaks in the range from Toluene to C12.
* Value based on total peaks in the range from C12-C24.
NR Indicates the surrogate was not recovered due to dilution or matrix effect.

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TOTAL PETROLEUM HYDROCARBONS
WA HCID Method by GC/FID

QC Report No: B328-Boeing/Landau
Project: 25068.10
N B F
VTSR: 07/30/92

Matrix: Soil

Data Release Authorized _____
Data Prepared: 08/12/92 - MAC: A rpr

Date extracted: 07/31/92
Dates Analyzed: 08/01 - 07/92

Lab ID		Client Sample ID	Dilution Factor	Gas Range Petroleum Hydrocarbons †	Diesel Range Petroleum Hydrocarbons *	Surrogate Recovery
B328	R	B-13 (0.5 - 1.5)	-	10 U	10 U	102%
B328	T	B - 13 (6 -6.5)	-	S	S	103%
B328	T dl	B - 13 (6 - 6.5)	1:50	-	**8800 - J P 5**	D

Surrogate is Me-Arachidate.

Values reported in ppm (mg/Kg).

U Indicates compound was analyzed for but not detected at the given detection limit.
X Indicates a value above the linear range of the detector. Dilution required.
† Value based on total peaks in the range from Toluene to C12.
* Value based on total peaks in the range from C12-C24.
NR Indicates the surrogate was not recovered due to dilution or matrix effect.

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DIESEL MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

ARI Job No: B328

Client: Boeing/Landau
Project: 25068.1

Sample No: B - 9 (1.5 - 2.5)

COMPOUND	SPIKE ADDED (µg/ml)	SAMPLE CONC (µg/ml)	MS CONC (µg/ml)	MS % REC	QC LIMITS REC
diesel	276	22.7	352	119	50-150

COMPOUND	SPIKE ADDED (µg/ml)	MSD CONC (µg/ml)	MSD % REC	% RPD	Q C LIMITS	
					RPD	REC
diesel	277	334	113	5.17	50	50-150

Comments: Advisory QC Limits

Report Prepared: 08/12/92 - MAC: A rpr

FORM III TPH (8015)-2

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TOTAL PETROLEUM HYDROCARBONS
WA HCID Method by GC/FID

QC Report No: B328-Boeing/Landau
Project: 25068.10
N B F
VTSR: 07/30/92

Matrix: Water

Data Release Authorized _____
Data Prepared: 08/12/92 - MAC: A rpr

Date extracted: 07/31/92
Dates Analyzed: 08/01 - 07/92

Lab ID		Client Sample ID	Dilution Factor	Gas Range Petroleum Hydrocarbons †	Diesel Range Petroleum Hydrocarbons *	Surrogate Recovery
B319	MB0731	Method Blank	-	3.0 U	3.0 U	94.3%
B319	U	F R B - 3	-	3.0 U	3.0 U	84.0%

Surrogate is Me-Arachidate.

Values reported in ppm (mg/L).

U Indicates compound was analyzed for but not detected at the given detection limit.
X Indicates a value above the linear range of the detector. Dilution required.
† Value based on total peaks in the range from Toluene to C12.
* Value based on total peaks in the range from C12-C24.
NR Indicates the surrogate was not recovered due to dilution or matrix effect.

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Lab ID: MB0807
Matrix: Soils/Sediments

Sample: Method Blank

QC Report No: B328-Boeing/Landau
Project: 25068.10

Data Release Authorized: _____
Report: 08/13/92 MAC:A rpr

VTSR: NA

Instrument: Finn 5
Date Analyzed: 08/07/92

Amount Analyzed: 5 gm (Dry Wt. Equiv.)
Percent Moisture: NA

CAS Number		µg/Kg
74-87-3	Chloromethane	2.0 U
74-83-9	Bromomethane	2.0 U
75-01-4	Vinyl Chloride	2.0 U
75-00-3	Chloroethane	2.0 U
75-09-2	Methylene Chloride	2.0 U
67-64-1	**Acetone**	**4.1 J**
75-15-0	Carbon Disulfide	1.0 U
75-35-4	1,1-Dichloroethene	1.0 U
75-34-3	1,1-Dichloroethane	1.0 U
156-60-5	Trans-1,2-Dichloroethene	1.0 U
156-59-2	Cis-1,2-Dichloroethene	1.0 U
67-66-3	Chloroform	1.0 U
107-06-2	1,2-Dichloroethane	1.0 U
78-93-3	2-Butanone	5.0 U
71-55-6	1,1,1-Trichloroethane	1.0 U
56-23-5	Carbon Tetrachloride	1.0 U
108-05-4	Vinyl Acetate	1.0 U
75-27-4	Bromodichloromethane	1.0 U
78-87-5	1,2-Dichloropropane	1.0 U

CAS Number		µg/Kg
10061-01-5	cis-1,3-Dichloropropene	1.0 U
79-01-6	Trichloroethene	1.0 U
124-48-1	Dibromochloromethane	1.0 U
79-00-5	1,1,2-Trichloroethane	1.0 U
71-43-2	Benzene	1.0 U
10061-02-6	trans-1,3-Dichloropropene	1.0 U
110-75-8	2-Chloroethylvinylether	1.0 U
75-25-2	Bromoform	1.0 U
108-10-1	4-Methyl-2-Pentanone	5.0 U
591-78-6	2-Hexanone	5.0 U
127-18-4	Tetrachloroethene	1.0 U
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U
108-88-3	Toluene	1.0 U
108-90-7	Chlorobenzene	1.0 U
100-41-4	Ethylbenzene	1.0 U
100-42-5	Styrene	1.0 U
1330-20-7	Total Xylenes	2.0 U
75-69-4	Trichlorofluoromethane	2.0 U
76-13-1	1,1,2-Trichlorotrifluoroethane	2.0 U

Surrogate Recoveries

d8-Toluene	92.2%
Bromofluorobenzene	96.1%
d4-1,2-Dichloroethane	97.3%

Data Reporting Qualifiers

Value — If the result is a value greater than or equal to the detection limit, report the value.

U — Indicates compound was analyzed for but not detected at the given detection limit.

J — Indicates an estimated value when result is less than specified detection limit.

B — This flag is used when the analyte is found in the blank as well as a sample. Indicates possible/probable blank contamination.

K — This flag is used when quantitated value falls above the limit of the calibration curve and dilution should be run.

M — Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match parameters.

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Lab ID: MB0808
Matrix: Soils/Sediments

Sample: Method Blank

QC Report No: B328-Boeing/Landau
Project: 25068.10

Data Release Authorized: _____
Report: 08/14/92 MAC:A rpr

VTSR: NA

Instrument: Finn 5
Date Analyzed: 08/08/92

Amount Analyzed: 5 gm (Dry Wt. Equiv.)
Percent Moisture: NA

CAS Number		µg/Kg
74-87-3	Chloromethane	2.0 U
74-83-9	Bromomethane	2.0 U
75-01-4	Vinyl Chloride	2.0 U
75-00-3	Chloroethane	2.0 U
75-09-2	**Methylene Chloride**	**1.7 J**
67-64-1	**Acetone**	**4.6 J**
75-15-0	Carbon Disulfide	1.0 U
75-35-4	1,1-Dichloroethene	1.0 U
75-34-3	1,1-Dichloroethane	1.0 U
156-60-5	Trans-1,2-Dichloroethene	1.0 U
156-59-2	Cis-1,2-Dichloroethene	1.0 U
67-66-3	Chloroform	1.0 U
107-06-2	1,2-Dichloroethane	1.0 U
78-93-3	2-Butanone	5.0 U
71-55-6	1,1,1-Trichloroethane	1.0 U
56-23-5	Carbon Tetrachloride	1.0 U
108-05-4	Vinyl Acetate	1.0 U
75-27-4	Bromodichloromethane	1.0 U
78-87-5	1,2-Dichloropropane	1.0 U

CAS Number		µg/Kg
10061-01-5	cis-1,3-Dichloropropene	1.0 U
79-01-6	Trichloroethene	1.0 U
124-48-1	Dibromochloromethane	1.0 U
79-00-5	1,1,2-Trichloroethane	1.0 U
71-43-2	Benzene	1.0 U
10061-02-6	trans-1,3-Dichloropropene	1.0 U
110-75-8	2-Chloroethylvinylether	1.0 U
75-25-2	Bromoform	1.0 U
108-10-1	4-Methyl-2-Pentanone	5.0 U
591-78-6	2-Hexanone	5.0 U
127-18-4	Tetrachloroethene	1.0 U
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U
108-88-3	Toluene	1.0 U
108-90-7	Chlorobenzene	1.0 U
100-41-4	Ethylbenzene	1.0 U
100-42-5	Styrene	1.0 U
1330-20-7	Total Xylenes	2.0 U
75-69-4	Trichlorofluoromethane	2.0 U
76-13-1	1,1,2-Trichlorotrifluoroethane	2.0 U

Surrogate Recoveries

d8-Toluene	102%
Bromofluorobenzene	102%
d4-1,2-Dichloroethane	105%

Data Reporting Qualifiers

Value — If the result is a value greater than or equal to the detection limit, report the value.

U — Indicates compound was analyzed for but not detected at the given detection limit.

J — Indicates an estimated value when result is less than specified detection limit.

B — This flag is used when the analyte is found in the blank as well as a sample. Indicates possible/probable blank contamination.

K — This flag is used when quantitated value falls above the limit of the calibration curve and dilution should be run.

M — Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match parameters.

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Lab ID: MB0812
Matrix: Soils/Sediments

Sample: Method Blank

QC Report No: B328-Boeing/Landau
Project: 25068.10

Data Release Authorized: _____
Report: 08/13/92 MAC:A rpr

VTSR: NA

Instrument: Finn 5
Date Analyzed: 08/12/92

Amount Analyzed: 5 gm (Dry Wt. Equiv.)
Percent Moisture: NA

CAS Number		µg/Kg
74-87-3	Chloromethane	2.0 U
74-83-9	Bromomethane	2.0 U
75-01-4	Vinyl Chloride	2.0 U
75-00-3	Chloroethane	2.0 U
75-09-2	Methylene Chloride	2.0 U
67-64-1	**Acetone**	**6.0**
75-15-0	Carbon Disulfide	1.0 U
75-35-4	1,1-Dichloroethene	1.0 U
75-34-3	1,1-Dichloroethane	1.0 U
156-60-5	Trans-1,2-Dichloroethene	1.0 U
156-59-2	Cis-1,2-Dichloroethene	1.0 U
67-66-3	Chloroform	1.0 U
107-06-2	1,2-Dichloroethane	1.0 U
78-93-3	2-Butanone	5.0 U
71-55-6	1,1,1-Trichloroethane	1.0 U
56-23-5	Carbon Tetrachloride	1.0 U
108-05-4	Vinyl Acetate	1.0 U
75-27-4	Bromodichloromethane	1.0 U
78-87-5	1,2-Dichloropropane	1.0 U

CAS Number		µg/Kg
10061-01-5	cis-1,3-Dichloropropene	1.0 U
79-01-6	Trichloroethene	1.0 U
124-48-1	Dibromochloromethane	1.0 U
79-00-5	1,1,2-Trichloroethane	1.0 U
71-43-2	Benzene	1.0 U
10061-02-6	trans-1,3-Dichloropropene	1.0 U
110-75-8	2-Chloroethylvinylether	1.0 U
75-25-2	Bromoform	1.0 U
108-10-1	4-Methyl-2-Pentanone	5.0 U
591-78-6	2-Hexanone	5.0 U
127-18-4	Tetrachloroethene	1.0 U
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U
108-88-3	Toluene	1.0 U
108-90-7	Chlorobenzene	1.0 U
100-41-4	Ethylbenzene	1.0 U
100-42-5	Styrene	1.0 U
1330-20-7	Total Xylenes	2.0 U
75-69-4	Trichlorofluoromethane	2.0 U
76-13-1	1,1,2-Trichlorotrifluoroethane	2.0 U

Surrogate Recoveries

d8-Toluene	102%
Bromofluorobenzene	101%
d4-1,2-Dichloroethane	99.6%

Data Reporting Qualifiers

Value — If the result is a value greater than or equal to the detection limit, report the value.

U — Indicates compound was analyzed for but not detected at the given detection limit.

J — Indicates an estimated value when result is less than specified detection limit.

B — This flag is used when the analyte is found in the blank as well as a sample. Indicates possible/probable blank contamination.

K — This flag is used when quantitated value falls above the limit of the calibration curve and dilution should be run.

M — Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match parameters.

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Lab ID: B328 - B
Matrix: Soils/Sediments

Sample: B 6 (8.5-9.0)

QC Report No: B328-Boeing/Landau
Project: 25068.10

Data Release Authorized: _____
Report: 08/13/92 MAC:A rpr

VTSR: 07/30/92

Instrument: Finn 5
Date Analyzed: 08/07/92

Amount Analyzed: 4.18 gm (Dry Wt.)
Percent Moisture: 18.9%

CAS Number		µg/Kg
74-87-3	Chloromethane	2.4 U
74-83-9	Bromomethane	2.4 U
75-01-4	Vinyl Chloride	2.4 U
75-00-3	Chloroethane	2.4 U
75-09-2	**Methylene Chloride**	**5.1**
67-64-1	**Acetone**	**11 B**
75-15-0	Carbon Disulfide	1.2 U
75-35-4	1,1-Dichloroethene	1.2 U
75-34-3	1,1-Dichloroethane	1.2 U
156-60-5	Trans-1,2-Dichloroethene	1.2 U
156-59-2	Cis-1,2-Dichloroethene	1.2 U
67-66-3	**Chloroform**	**1.1 J**
107-06-2	1,2-Dichloroethane	1.2 U
78-93-3	2-Butanone	6.0 U
71-55-6	1,1,1-Trichloroethane	1.2 U
56-23-5	Carbon Tetrachloride	1.2 U
108-05-4	Vinyl Acetate	1.2 U
75-27-4	Bromodichloromethane	1.2 U
78-87-5	1,2-Dichloropropane	1.2 U

CAS Number		µg/Kg
10061-01-5	cis-1,3-Dichloropropene	1.2 U
79-01-6	Trichloroethene	1.2 U
124-48-1	Dibromochloromethane	1.2 U
79-00-5	1,1,2-Trichloroethane	1.2 U
71-43-2	Benzene	1.2 U
10061-02-6	trans-1,3-Dichloropropene	1.2 U
110-75-8	2-Chloroethylvinylether	1.2 U
75-25-2	Bromoform	1.2 U
108-10-1	4-Methyl-2-Pentanone	6.0 U
591-78-6	2-Hexanone	6.0 U
127-18-4	Tetrachloroethene	1.2 U
79-34-5	1,1,2,2-Tetrachloroethane	1.2 U
108-88-3	**Toluene**	**0.8 J**
108-90-7	Chlorobenzene	1.2 U
100-41-4	Ethylbenzene	1.2 U
100-42-5	Styrene	1.2 U
1330-20-7	Total Xylenes	2.4 U
75-69-4	Trichlorofluoromethane	2.4 U
76-13-1	1,1,2-Trichlorotrifluoroethane	2.4 U

Surrogate Recoveries

d8-Toluene	96.5%
Bromofluorobenzene	109%
d4-1,2-Dichloroethane	109%

Data Reporting Qualifiers

Value — If the result is a value greater than or equal to the detection limit, report the value.

U — Indicates compound was analyzed for but not detected at the given detection limit.

J — Indicates an estimated value when result is less than specified detection limit.

B — This flag is used when the analyte is found in the blank as well as a sample. Indicates possible/probable blank contamination.

K — This flag is used when quantitated value falls above the limit of the calibration curve and dilution should be run.

M — Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match parameters.

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Lab ID: B328 - D
Matrix: Soils/Sediments

Sample: B 9 (6.5-7.0)

QC Report No: B328-Boeing/Landau
Project: 25068.10

Data Release Authorized: _____
Report: 08/13/92 MAC:A rpr

VTSR: 07/30/92

Instrument: Finn 5
Date Analyzed: 08/07/92

Amount Analyzed: 3.76 gm (Dry Wt.)
Percent Moisture: 26.6%

CAS Number		µg/Kg
74-87-3	Chloromethane	2.7 U
74-83-9	Bromomethane	2.7 U
75-01-4	Vinyl Chloride	2.7 U
75-00-3	Chloroethane	2.7 U
75-09-2	**Methylene Chloride**	**3.5**
67-64-1	**Acetone**	**7.5 B**
75-15-0	Carbon Disulfide	1.3 U
75-35-4	1,1-Dichloroethene	1.3 U
75-34-3	1,1-Dichloroethane	1.3 U
156-60-5	Trans-1,2-Dichloroethene	1.3 U
156-59-2	Cis-1,2-Dichloroethene	1.3 U
67-66-3	Chloroform	1.3 U
107-06-2	1,2-Dichloroethane	1.3 U
78-93-3	2-Butanone	6.6 U
71-55-6	1,1,1-Trichloroethane	1.3 U
56-23-5	Carbon Tetrachloride	1.3 U
108-05-4	Vinyl Acetate	1.3 U
75-27-4	Bromodichloromethane	1.3 U
78-87-5	1,2-Dichloropropane	1.3 U

CAS Number		µg/Kg
10061-01-5	cis-1,3-Dichloropropene	1.3 U
79-01-6	Trichloroethene	1.3 U
124-48-1	Dibromochloromethane	1.3 U
79-00-5	1,1,2-Trichloroethane	1.3 U
71-43-2	Benzene	1.3 U
10061-02-6	trans-1,3-Dichloropropene	1.3 U
110-75-8	2-Chloroethylvinylether	1.3 U
75-25-2	Bromoform	1.3 U
108-10-1	4-Methyl-2-Pentanone	6.7 U
591-78-6	2-Hexanone	6.7 U
127-18-4	Tetrachloroethene	1.3 U
79-34-5	1,1,2,2-Tetrachloroethane	1.3 U
108-88-3	Toluene	1.3 U
108-90-7	Chlorobenzene	1.3 U
100-41-4	Ethylbenzene	1.3 U
100-42-5	Styrene	1.3 U
1330-20-7	Total Xylenes	2.7 U
75-69-4	Trichlorofluoromethane	2.7 U
76-13-1	1,1,2-Trichlorotrifluoroethane	2.7 U

Surrogate Recoveries

d8-Toluene	109%
Bromofluorobenzene	92.8%
d4-1,2-Dichloroethane	102%

Data Reporting Qualifiers

Value — If the result is a value greater than or equal to the detection limit, report the value.

U — Indicates compound was analyzed for but not detected at the given detection limit.

J — Indicates an estimated value when result is less than specified detection limit.

B — This flag is used when the analyte is found in the blank as well as a sample. Indicates possible/probable blank contamination.

K — This flag is used when quantitated value falls above the limit of the calibration curve and dilution should be run.

M — Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match parameters.

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Lab ID: B328 - H
Matrix: Soils/Sediments

Sample: B 10 (8.5-9)

QC Report No: B328-Boeing/Landau
Project: 25068.10

Data Release Authorized: _____
Report: 08/13/92 MAC:A rpr

VTSR: 07/30/92

Instrument: Finn 5
Date Analyzed: 08/07/92

Amount Analyzed: 3.76 gm (Dry Wt.)
Percent Moisture: 25.1%

CAS Number		µg/Kg
74-87-3	Chloromethane	2.7 U
74-83-9	Bromomethane	2.7 U
75-01-4	Vinyl Chloride	2.7 U
75-00-3	Chloroethane	2.7 U
75-09-2	**Methylene Chloride**	**4.4**
67-64-1	**Acetone**	**7.5 B**
75-15-0	Carbon Disulfide	1.3 U
75-35-4	1,1-Dichloroethene	1.3 U
75-34-3	1,1-Dichloroethane	1.3 U
156-60-5	Trans-1,2-Dichloroethene	1.3 U
156-59-2	Cis-1,2-Dichloroethene	1.3 U
67-66-3	Chloroform	1.3 U
107-06-2	1,2-Dichloroethane	1.3 U
78-93-3	2-Butanone	6.6 U
71-55-6	1,1,1-Trichloroethane	1.3 U
56-23-5	Carbon Tetrachloride	1.3 U
108-05-4	Vinyl Acetate	1.3 U
75-27-4	Bromodichloromethane	1.3 U
78-87-5	1,2-Dichloropropane	1.3 U

CAS Number		µg/Kg
10061-01-5	cis-1,3-Dichloropropene	1.3 U
79-01-6	Trichloroethene	1.3 U
124-48-1	Dibromochloromethane	1.3 U
79-00-5	1,1,2-Trichloroethane	1.3 U
71-43-2	Benzene	1.3 U
10061-02-6	trans-1,3-Dichloropropene	1.3 U
110-75-8	2-Chloroethylvinylether	1.3 U
75-25-2	Bromoform	1.3 U
108-10-1	4-Methyl-2-Pentanone	6.7 U
591-78-6	2-Hexanone	6.7 U
127-18-4	Tetrachloroethene	1.3 U
79-34-5	1,1,2,2-Tetrachloroethane	1.3 U
108-88-3	Toluene	1.3 U
108-90-7	Chlorobenzene	1.3 U
100-41-4	Ethylbenzene	1.3 U
100-42-5	Styrene	1.3 U
1330-20-7	Total Xylenes	2.7 U
75-69-4	Trichlorofluoromethane	2.7 U
76-13-1	1,1,2-Trichlorotrifluoroethane	2.7 U

Surrogate Recoveries

d8-Toluene	103%
Bromofluorobenzene	96.4%
d4-1,2-Dichloroethane	105%

Data Reporting Qualifiers

Value — If the result is a value greater than or equal to the detection limit, report the value.

U — Indicates compound was analyzed for but not detected at the given detection limit.

J — Indicates an estimated value when result is less than specified detection limit.

B — This flag is used when the analyte is found in the blank as well as a sample. Indicates possible/probable blank contamination.

K — This flag is used when quantitated value falls above the limit of the calibration curve and dilution should be run.

M — Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match parameters.

ANALYTICAL RESOURCES INCORPORATED

Analytical Chemists & Consultants

333 Ninth Ave. North
Seattle, WA 98109-5187
(206) 621-6490
(206) 621-7523 (FAX)

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Lab ID: B328 - J
Matrix: Soils/Sediments

Sample: B 11 (0.5-1.5)

QC Report No: B328-Boeing/Landau
Project: 25068.10

Data Release Authorized: _____
Report: 08/13/92 MAC:A rpr

VTSR: 07/30/92

Instrument: Finn 5
Date Analyzed: 08/07/92

Amount Analyzed: 4.79 gm (Dry Wt.)
Percent Moisture: 6.2%

CAS Number		µg/Kg
74-87-3	Chloromethane	2.1 U
74-83-9	Bromomethane	2.1 U
75-01-4	Vinyl Chloride	2.1 U
75-00-3	Chloroethane	2.1 U
75-09-2	**Methylene Chloride**	**4.4**
67-64-1	**Acetone**	**7.9 B**
75-15-0	Carbon Disulfide	1.0 U
75-35-4	1,1-Dichloroethene	1.0 U
75-34-3	1,1-Dichloroethane	1.0 U
156-60-5	Trans-1,2-Dichloroethene	1.0 U
156-59-2	Cis-1,2-Dichloroethene	1.0 U
67-66-3	Chloroform	1.0 U
107-06-2	1,2-Dichloroethane	1.0 U
78-93-3	2-Butanone	5.2 U
71-55-6	1,1,1-Trichloroethane	1.0 U
56-23-5	Carbon Tetrachloride	1.0 U
108-05-4	Vinyl Acetate	1.0 U
75-27-4	Bromodichloromethane	1.0 U
78-87-5	1,2-Dichloropropane	1.0 U

CAS Number		µg/Kg
10061-01-5	cis-1,3-Dichloropropene	1.0 U
79-01-6	Trichloroethene	1.0 U
124-48-1	Dibromochloromethane	1.0 U
79-00-5	1,1,2-Trichloroethane	1.0 U
71-43-2	Benzene	1.0 U
10061-02-6	trans-1,3-Dichloropropene	1.0 U
110-75-8	2-Chloroethylvinylether	1.0 U
75-25-2	Bromoform	1.0 U
108-10-1	4-Methyl-2-Pentanone	5.2 U
591-78-6	2-Hexanone	5.2 U
127-18-4	Tetrachloroethene	1.0 U
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U
108-88-3	**Toluene**	**9.0**
108-90-7	Chlorobenzene	1.0 U
100-41-4	Ethylbenzene	1.0 U
100-42-5	Styrene	1.0 U
1330-20-7	**Total Xylenes**	**1.9**
75-69-4	Trichlorofluoromethane	2.1 U
76-13-1	1,1,2-Trichlorotrifluoroethane	2.1 U

Surrogate Recoveries

d8-Toluene	120%
Bromofluorobenzene	83.0%
d4-1,2-Dichloroethane	96.6%

Data Reporting Qualifiers

Value — If the result is a value greater than or equal to the detection limit, report the value.

U — Indicates compound was analyzed for but not detected at the given detection limit.

J — Indicates an estimated value when result is less than specified detection limit.

B — This flag is used when the analyte is found in the blank as well as a sample. Indicates possible/probable blank contamination.

K — This flag is used when quantitated value falls above the limit of the calibration curve and dilution should be run.

M — Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match parameters.

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Lab ID: B328 - L
Matrix: Soils/Sediments

Sample: B 11 (4-4.5)

QC Report No: B328-Boeing/Landau
Project: 25068.10

Data Release Authorized: _____
Report: 08/14/92 MAC:A rpr

VTSR: 07/30/92

Instrument: Finn 5
Date Analyzed: 08/09/92

Amount Analyzed: 0.007 gm (Dry Wt.)
Percent Moisture: 30.4%

CAS Number		µg/Kg
74-87-3	Chloromethane	1400 U
74-83-9	Bromomethane	1400 U
75-01-4	Vinyl Chloride	1400 U
75-00-3	Chloroethane	1400 U
75-09-2	Methylene Chloride	1400 U
67-64-1	Acetone	3600 U
75-15-0	Carbon Disulfide	710 U
75-35-4	1,1-Dichloroethene	710 U
75-34-3	1,1-Dichloroethane	710 U
156-60-5	Trans-1,2-Dichloroethene	710 U
156-59-2	Cis-1,2-Dichloroethene	710 U
67-66-3	Chloroform	710 U
107-06-2	1,2-Dichloroethane	710 U
78-93-3	2-Butanone	3600 U
71-55-6	1,1,1-Trichloroethane	710 U
56-23-5	Carbon Tetrachloride	710 U
108-05-4	Vinyl Acetate	710 U
75-27-4	Bromodichloromethane	710 U
78-87-5	1,2-Dichloropropane	710 U

CAS Number		µg/Kg
10061-01-5	cis-1,3-Dichloropropene	710 U
79-01-6	Trichloroethene	710 U
124-48-1	Dibromochloromethane	710 U
79-00-5	1,1,2-Trichloroethane	710 U
71-43-2	Benzene	710 U
10061-02-6	trans-1,3-Dichloropropene	710 U
110-75-8	2-Chloroethylvinylether	710 U
75-25-2	Bromoform	710 U
108-10-1	4-Methyl-2-Pentanone	3600 U
591-78-6	2-Hexanone	3600 U
127-18-4	Tetrachloroethene	710 U
79-34-5	1,1,2,2-Tetrachloroethane	710 U
108-88-3	Toluene	710 U
108-90-7	Chlorobenzene	710 U
100-41-4	Ethylbenzene	710 U
100-42-5	Styrene	710 U
1330-20-7	Total Xylenes	1400 U
75-69-4	Trichlorofluoromethane	1400 U
76-13-1	1,1,2-Trichlorotrifluoroethane	1400 U

Surrogate Recoveries

d8-Toluene	100%
Bromofluorobenzene	93.8%
d4-1,2-Dichloroethane	121%

Data Reporting Qualifiers

Value — If the result is a value greater than or equal to the detection limit, report the value.

U — Indicates compound was analyzed for but not detected at the given detection limit.

J — Indicates an estimated value when result is less than specified detection limit.

B — This flag is used when the analyte is found in the blank as well as a sample. Indicates possible/probable blank contamination.

K — This flag is used when quantitated value falls above the limit of the calibration curve and dilution should be run.

M — Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match parameters.

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Lab ID: B328 - N
Matrix: Soils/Sediments

Sample: B 11 (7-7.5)

QC Report No: B328-Boeing/Landau
Project: 25068.10

Data Release Authorized: _____
Report: 08/13/92 MAC:A rpr

VTSR: 07/30/92

Instrument: Finn 5
Date Analyzed: 08/07/92

Amount Analyzed: 0.82 gm (Dry Wt.)
Percent Moisture: 23.0%

CAS Number		µg/Kg
74-87-3	Chloromethane	12 U
74-83-9	Bromomethane	12 U
75-01-4	Vinyl Chloride	12 U
75-00-3	Chloroethane	12 U
75-09-2	**Methylene Chloride**	**1300 K**
67-64-1	**Acetone**	**3500 K**
75-15-0	Carbon Disulfide	6.1 U
75-35-4	1,1-Dichloroethene	6.1 U
75-34-3	1,1-Dichloroethane	6.1 U
156-60-5	Trans-1,2-Dichloroethene	6.1 U
156-59-2	Cis-1,2-Dichloroethene	6.1 U
67-66-3	Chloroform	6.1 U
107-06-2	1,2-Dichloroethane	6.1 U
78-93-3	2-Butanone	31 U
71-55-6	1,1,1-Trichloroethane	6.1 U
56-23-5	Carbon Tetrachloride	6.1 U
108-05-4	Vinyl Acetate	6.1 U
75-27-4	Bromodichloromethane	6.1 U
78-87-5	1,2-Dichloropropane	6.1 U

CAS Number		µg/Kg
10061-01-5	cis-1,3-Dichloropropene	6.1 U
79-01-6	**Trichloroethene**	**26**
124-48-1	Dibromochloromethane	6.1 U
79-00-5	1,1,2-Trichloroethane	6.1 U
71-43-2	Benzene	6.1 U
10061-02-6	trans-1,3-Dichloropropene	6.1 U
110-75-8	2-Chloroethylvinylether	6.1 U
75-25-2	Bromoform	6.1 U
108-10-1	4-Methyl-2-Pentanone	31 U
591-78-6	2-Hexanone	31 U
127-18-4	Tetrachloroethene	6.1 U
79-34-5	1,1,2,2-Tetrachloroethane	6.1 U
108-88-3	**Toluene**	**56**
108-90-7	Chlorobenzene	6.1 U
100-41-4	Ethylbenzene	6.1 U
100-42-5	Styrene	6.1 U
1330-20-7	Total Xylenes	12 U
75-69-4	Trichlorofluoromethane	12 U
76-13-1	**1,1,2-Trichlorotrifluoroethane**	**13**

Surrogate Recoveries

d8-Toluene	133%
Bromofluorobenzene	149%
d4-1,2-Dichloroethane	90.2%

Data Reporting Qualifiers

Value — If the result is a value greater than or equal to the detection limit, report the value.

U — Indicates compound was analyzed for but not detected at the given detection limit.

J — Indicates an estimated value when result is less than specified detection limit.

B — This flag is used when the analyte is found in the blank as well as a sample. Indicates possible/probable blank contamination.

K — This flag is used when quantitated value falls above the limit of the calibration curve and dilution should be run.

M — Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match parameters.

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Lab ID: B328 - N 2
Matrix: Soils/Sediments

Sample: B 11 (7-7.5)

QC Report No: B328-Boeing/Landau
Project: 25068.10

Data Release Authorized: _____
Report: 08/13/92 MAC:A rpr

VTSR: 07/30/92

Instrument: Finn 5
Date Analyzed: 08/07/92

Amount Analyzed: 0.03 gm (Dry Wt.)
Percent Moisture: 23.0%

CAS Number		µg/Kg
74-87-3	Chloromethane	330 U
74-83-9	Bromomethane	330 U
75-01-4	Vinyl Chloride	330 U
75-00-3	Chloroethane	330 U
75-09-2	**Methylene Chloride**	**1800**
67-64-1	**Acetone**	**3900 B**
75-15-0	Carbon Disulfide	170 U
75-35-4	1,1-Dichloroethene	170 U
75-34-3	1,1-Dichloroethane	170 U
156-60-5	Trans-1,2-Dichloroethene	170 U
156-59-2	Cis-1,2-Dichloroethene	170 U
67-66-3	Chloroform	170 U
107-06-2	1,2-Dichloroethane	170 U
78-93-3	**2-Butanone**	**990**
71-55-6	1,1,1-Trichloroethane	170 U
56-23-5	Carbon Tetrachloride	170 U
108-05-4	Vinyl Acetate	170 U
75-27-4	Bromodichloromethane	170 U
78-87-5	1,2-Dichloropropane	170 U

CAS Number		µg/Kg
10061-01-5	cis-1,3-Dichloropropene	170 U
79-01-6	Trichloroethene	170 U
124-48-1	Dibromochloromethane	170 U
79-00-5	1,1,2-Trichloroethane	170 U
71-43-2	Benzene	170 U
10061-02-6	trans-1,3-Dichloropropene	170 U
110-75-8	2-Chloroethylvinylether	170 U
75-25-2	Bromoform	170 U
108-10-1	4-Methyl-2-Pentanone	830 U
591-78-6	2-Hexanone	830 U
127-18-4	Tetrachloroethene	170 U
79-34-5	1,1,2,2-Tetrachloroethane	170 U
108-88-3	Toluene	170 U
108-90-7	Chlorobenzene	170 U
100-41-4	Ethylbenzene	170 U
100-42-5	Styrene	170 U
1330-20-7	Total Xylenes	330 U
75-69-4	Trichlorofluoromethane	330 U
76-13-1	1,1,2-Trichlorotrifluoroethane	330 U

Surrogate Recoveries

d8-Toluene	97.0%
Bromofluorobenzene	116%
d4-1,2-Dichloroethane	122%

Data Reporting Qualifiers

Value — If the result is a value greater than or equal to the detection limit, report the value.

U — Indicates compound was analyzed for but not detected at the given detection limit.

J — Indicates an estimated value when result is less than specified detection limit.

B — This flag is used when the analyte is found in the blank as well as a sample. Indicates possible/probable blank contamination.

K — This flag is used when quantitated value falls above the limit of the calibration curve and dilution should be run.

M — Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match parameters.

ANALYTICAL RESOURCES INCORPORATED

Analytical Chemists & Consultants

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Lab ID: B328 - Q
Matrix: Soils/Sediments

Data Release Authorized: _____
Report: 08/13/92 MAC:A rpr

Sample: B 12 (7-7.5')

QC Report No: B328-Boeing/Landau
Project: 25068.10

VTSR: 07/30/92

Instrument: Finn 5
Date Analyzed: 08/07/92

Amount Analyzed: 1.00 gm (Dry Wt.)
Percent Moisture: 19.7%

CAS Number		µg/Kg
74-87-3	Chloromethane	10 U
74-83-9	Bromomethane	10 U
75-01-4	Vinyl Chloride	10 U
75-00-3	Chloroethane	10 U
75-09-2	**Methylene Chloride**	**8.5 J**
67-64-1	**Acetone**	**44 B**
75-15-0	Carbon Disulfide	10 U
75-35-4	1,1-Dichloroethene	10 U
75-34-3	1,1-Dichloroethane	10 U
156-60-5	Trans-1,2-Dichloroethene	10 U
156-59-2	Cis-1,2-Dichloroethene	10 U
67-66-3	Chloroform	10 U
107-06-2	1,2-Dichloroethane	10 U
78-93-3	2-Butanone	30 U
71-55-6	1,1,1-Trichloroethane	10 U
56-23-5	Carbon Tetrachloride	10 U
108-05-4	Vinyl Acetate	10 U
75-27-4	Bromodichloromethane	10 U
78-87-5	1,2-Dichloropropane	10 U

CAS Number		µg/Kg
10061-01-5	cis-1,3-Dichloropropene	10 U
79-01-6	Trichloroethene	10 U
124-48-1	Dibromochloromethane	10 U
79-00-5	1,1,2-Trichloroethane	10 U
71-43-2	Benzene	10 U
10061-02-6	trans-1,3-Dichloropropene	10 U
110-75-8	2-Chloroethylvinylether	10 U
75-25-2	Bromoform	10 U
108-10-1	4-Methyl-2-Pentanone	30 U
591-78-6	2-Hexanone	30 U
127-18-4	Tetrachloroethene	10 U
79-34-5	1,1,2,2-Tetrachloroethane	10 U
108-88-3	Toluene	10 U
108-90-7	Chlorobenzene	10 U
100-41-4	Ethylbenzene	10 U
100-42-5	Styrene	10 U
1330-20-7	Total Xylenes	10 U
75-69-4	Trichlorofluoromethane	10 U
76-13-1	1,1,2-Trichlorotrifluoroethane	10 U

Surrogate Recoveries

d8-Toluene	93.4%
Bromofluorobenzene	101%
d4-1,2-Dichloroethane	94.9%

Data Reporting Qualifiers

Value — If the result is a value greater than or equal to the detection limit, report the value.

U — Indicates compound was analyzed for but not detected at the given detection limit.

J — Indicates an estimated value when result is less than specified detection limit.

B — This flag is used when the analyte is found in the blank as well as a sample. Indicates possible/probable blank contamination.

K — This flag is used when quantitated value falls above the limit of the calibration curve and dilution should be run.

M — Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match parameters.

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Lab ID: B328 - T re
Matrix: Soils/Sediments

Sample: B 13 (6-6.5)

QC Report No: B328-Boeing/Landau
Project: 25068.10

Data Release Authorized: _____
Report: 08/13/92 MAC:A rpr

VTSR: 07/30/92

Instrument: Finn 5
Date Analyzed: 08/12/92

Amount Analyzed: 0.03 gm (Dry Wt.)
Percent Moisture: 20.0%

CAS Number		µg/Kg
74-87-3	Chloromethane	330 U
74-83-9	Bromomethane	330 U
75-01-4	Vinyl Chloride	330 U
75-00-3	Chloroethane	330 U
75-09-2	Methylene Chloride	330 U
67-64-1	Acetone	830 U
75-15-0	Carbon Disulfide	170 U
75-35-4	1,1-Dichloroethene	170 U
75-34-3	1,1-Dichloroethane	170 U
156-60-5	Trans-1,2-Dichloroethene	170 U
156-59-2	Cis-1,2-Dichloroethene	170 U
67-66-3	Chloroform	170 U
107-06-2	1,2-Dichloroethane	170 U
78-93-3	2-Butanone	830 U
71-55-6	1,1,1-Trichloroethane	170 U
56-23-5	Carbon Tetrachloride	170 U
108-05-4	Vinyl Acetate	170 U
75-27-4	Bromodichloromethane	170 U
78-87-5	1,2-Dichloropropane	170 U

CAS Number		µg/Kg
10061-01-5	cis-1,3-Dichloropropene	170 U
79-01-6	Trichloroethene	170 U
124-48-1	Dibromochloromethane	170 U
79-00-5	1,1,2-Trichloroethane	170 U
71-43-2	Benzene	170 U
10061-02-6	trans-1,3-Dichloropropene	170 U
110-75-8	2-Chloroethylvinylether	170 U
75-25-2	Bromoform	170 U
108-10-1	4-Methyl-2-Pentanone	830 U
591-78-6	2-Hexanone	830 U
127-18-4	Tetrachloroethene	170 U
79-34-5	1,1,2,2-Tetrachloroethane	170 U
108-88-3	Toluene	170 U
108-90-7	Chlorobenzene	170 U
100-41-4	Ethylbenzene	170 U
100-42-5	Styrene	170 U
1330-20-7	Total Xylenes	330 U
75-69-4	Trichlorofluoromethane	330 U
76-13-1	1,1,2-Trichlorotrifluoroethane	330 U

Surrogate Recoveries

d8-Toluene	98.7%
Bromofluorobenzene	89.8%
d4-1,2-Dichloroethane	111%

Data Reporting Qualifiers

Value — If the result is a value greater than or equal to the detection limit, report the value.

U — Indicates compound was analyzed for but not detected at the given detection limit.

J — Indicates an estimated value when result is less than specified detection limit.

B — This flag is used when the analyte is found in the blank as well as a sample. Indicates possible/probable blank contamination.

K — This flag is used when quantitated value falls above the limit of the calibration curve and dilution should be run.

M — Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match parameters.

14 August 1992

RECEIVED
AUG 17 1992
LANDAU ASSOCIATES, INC.

ANALYTICAL RESOURCES INCORPORATED

Analytical Chemists & Consultants

333 Ninth Ave. North
Seattle, WA 98109-5187
(206) 621-6490
(206) 621-7523 (FAX)

Mr. Thomas Colligan
Landau Associates
23107 100th Avenue West
Edmonds, WA 98020

RE: Project No. 25068.10 North Boeing Field Fire Training Center / ARI Job No. B319

Dear Mr. Colligan:

Please find enclosed original reports for the above-referenced project. Samples were received on July 29, 1992. Twenty-five soil samples and one water sample were received intact with no noted discrepancies in the chain-of-custody (COC). As was requested, ten of the soils were placed in cold storage for possible future Skydrol analysis.

The samples were analyzed for total petroleum hydrocarbons (TPH) by WDOE method WA-HCID, PCB-Aroclors by EPA method 8080, total metals according to the EPA 7000 series, volatile organic compounds (VOC) following method 8240 and semivolatile organic compounds (ABN) by method 8270. The sample analyses were performed according to the COC.

When appropriate, TPH patterns were identified against a JP-5 (Jet Fuel) standard. Those samples positively identified as containing JP-5 have been noted on the HCID data report form. VOC samples **B7A(10-10.5)** and **B8(8-9)** exhibit low surrogate recoveries. A reanalysis of these two samples display the same effect. This effect may be attributed to the sample matrix. The remaining analyses were routine and no additional problems were noted.

As you requested on August 4, 1992, six soils (**B3(7.5-8.5)**, **B4(0.5-1.0)**, **B4(8-9)** **B7(1.5-2.0)**, **B7A(3-4)** and **B8(1.5-2.0)**) were removed from archive. These six samples are currently being analyzed for Skydrol. Results for the Skydrol samples should be available during the third week of August.

As always, copies of the reports and the associated raw data will remain on file with ARI. If you have any questions or require additional information, please feel free to contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

Bryan D. Anderson

Bryan D. Anderson
Project Coordinator

enclosures
cc: file B319
Brian Anderson/ Boeing Environmental Affairs

LANDAU ASSOCIATES, INC.
Edmonds, WA (206) 778-0907
FAX (206)778-6409

Chain-of-Custody Record

№ 1258

Date 7/29/92
Page 1 of 2

Project Boeing Field Fire Training Center Job No. 25068.10

Client Boeing EA - BRIAN Anderson

Project Location N. Boeing Field

Sampler's Name Thomas Cullihan / GREG LANDAU

CALL BRIAN ANDERSON FOR P.O. #, Job # Results to BRIAN Anderson & Tom CULLIHAN (LANDAU)

Testing Parameters

Sample No.	Date	Time	Location	No. of Containers	TPH-HCID	TPH-D	TPH-G	418.1	PCB 8080	Metals (8) Total	Semivolatiles (8270)	Volatiles (8240)			Observations/Comments
FRB-2	7/29	1700		4	✓				✓			✓			WATER SAMPLES
B1 (0.5-1.0)		859		2	✓				✓						
B1 (4-4.5)		909		1	✓				~~✓~~	~~✓~~	~~✓~~				
B1 (8-9)		935		3					✓	✓	✓	✓			
B2 (0.5-1.0)		1044		3	✓				✓	✓	✓				
B2 (7-7.5)		1110		3	✓				✓			✓			
B3 (0-1.0')		948		2	✓				✓						
B3 (7.5-8.5)		1025		4	✓				✓	✓	✓	✓			
B4 (0.5-1.0)		1600		2	✓				✓		✓				
B4 (2.5-3.0)		1611		1	✓										
B4 (4-4.5)		1615		1	✓										
B4 (6.0)		1623		1	✓										
B4 (7.0)		1630		1	✓										
B4 (8-9)		1640		3	✓				✓		✓	✓			
B5 (1.5-3')		1130		3	✓				✓	✓	✓				
B5 (7-7.5')		1205		4	✓				✓	✓	✓	✓			

Special Shipment/Handling or Storage Requirements ICED

Method of Shipment HAND DELIVER

Relinquished by	Received by	Relinquished by	Received by
Signature: Tom Cullihan	Signature: Jan Felkins	Signature:	Signature:
Printed Name: Thomas Cullihan	Printed Name: JAN Felkins	Printed Name:	Printed Name:
Company: LANDAU	Company: A.R.I.	Company:	Company:
Date 7/29/92 Time 18:20	Date 7/29/92 Time 18:25	Date ____ Time ____	Date ____ Time ____

3/90

WHITE COPY - Project File YELLOW COPY - Laboratory PINK COPY - Client Representative

A.R.I. R319

SEA428195

LANDAU ASSOCIATES, INC.
Edmonds, WA (206) 778-0907
FAX (206)778-6409

Chain-of-Custody Record

№ 1259

Date 7/29/92
Page 2 of 2

Project N. BOEING FIELD Job No. 25

Client

Project Location

Sampler's Name TMC / GL

Testing Parameters

Sample No.	Date	Time	Location	No. of Containers	TPH-HCID	TPH-D	TPH-G	HAL	PCB	Metals	Non-Halogenated Volatiles			Observations/Comments
B7 (1-1.5)	7/29	1418		2	✓						✓			
B7 (1.5-2.0)		1430		1	✓									
B7A (3-4')		1503		3	✓				✓	✓	✓			
B7A (4.5-5.0)		1520		1	✓									
B7A (5.5-6.0)		1515		1	✓									
B7A (6.5)		1522		1	✓									
B7A (10-10.5)		1542		1	✓						✓			
B8 (1.5-2.0)		1315		4	✓				✓	✓	✓	✓		
B8 (6.5-7.0)		1401		1	✓									
B8 (8-9)	↓	1407			✓				✓	✓	✓	✓		

Special Shipment/Handling or Storage Requirements

Method of Shipment

Relinquished by	Received by	Relinquished by	Received by
Signature: Tom Colley	Signature: Jan Felkins	Signature:	Signature:
Printed Name: Thomas Colleran	Printed Name: JAN FELKINS	Printed Name:	Printed Name:
Company: LANDAU ASSOC.	Company: A.R.I.	Company:	Company:
Date 7/29/92 Time 1820	Date 7/29/92 Time 18:25	Date Time	Date Time

3/90

WHITE COPY - Project File YELLOW COPY - Laboratory PINK COPY - Client Representative

SEA428196

ANALYTICAL RESOURCES INCORPORATED

Analytical Chemists & Consultants

333 Ninth Ave. North
Seattle, WA 98109-5187
(206) 621-6490
(206) 621-7523 (FAX)

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS

Sample ID: B319MBA
Matrix: Soils/Sediments
Data Release Authorized: _____
Report: 08/10/92 MAC:X jjr

Sample No: Method Blank

QC Report No: B319 - Boeing/Landau
Project: 25068.10
NBF
VTSR:

Date Extracted: 08/03/92
Analyzed (FINN 6): 08/06/92
GPC Clean-up: Yes
Final Ext Volume: 2.0 mls

Sample Wt: 30.0 gm (Equivalent Dry Weight)
Percent Moisture: NA
pH: NA
Dilution: 1 to 1

CAS Number		µg/Kg
108-95-2	Phenol	130 U
111-44-4	bis(2-Chloroethyl)Ether	67 U
95-57-8	2-Chlorophenol	67 U
541-73-1	1,3-Dichlorobenzene	67 U
106-46-7	1,4-Dichlorobenzene	67 U
100-51-6	Benzyl Alcohol	330 U
95-50-1	1,2-Dichlorobenzene	67 U
95-48-7	2-Methylphenol	67 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	67 U
106-44-5	4-Methylphenol	67 U
621-64-7	N-Nitroso-Di-n-Propylamine	67 U
67-72-1	Hexachloroethane	130 U
98-95-3	Nitrobenzene	67 U
78-59-1	Isophorone	67 U
88-75-5	2-Nitrophenol	330 U
105-67-9	2,4-Dimethylphenol	130 U
65-85-0	Benzoic Acid	670 U
111-91-1	bis(2-Chloroethoxy)Methane	67 U
120-83-2	2,4-Dichlorophenol	200 U
120-82-1	1,2,4-Trichlorobenzene	67 U
91-20-3	Naphthalene	67 U
106-47-8	4-Chloroaniline	200 U
87-68-3	Hexachlorobutadiene	130 U
59-50-7	4-Chloro-3-Methylphenol	130 U
91-57-6	2-Methylnaphthalene	67 U
77-47-4	Hexachlorocyclopentadiene	330 U
88-06-2	2,4,6-Trichlorophenol	330 U
95-95-4	2,4,5-Trichlorophenol	330 U
91-58-7	2-Chloronaphthalene	67 U
88-74-4	2-Nitroaniline	330 U
131-11-3	Dimethyl Phthalate	67 U
208-96-8	Acenaphthylene	67 U
99-09-2	3-Nitroaniline	330 U

CAS Number		µg/Kg
83-32-9	Acenaphthene	67 U
51-28-5	2,4-Dinitrophenol	670 U
100-02-7	4-Nitrophenol	330 U
132-64-9	Dibenzofuran	67 U
606-20-2	2,6-Dinitrotoluene	330 U
121-14-2	2,4-Dinitrotoluene	330 U
84-66-2	Diethylphthalate	67 U
7005-72-3	4-Chlorophenyl-phenylether	67 U
86-73-7	Fluorene	67 U
100-01-6	4-Nitroaniline	330 U
534-52-1	4,6-Dinitro-2-Methylphenol	670 U
86-30-6	N-Nitrosodiphenylamine(1)	67 U
101-55-3	4-Bromophenyl-phenylether	67 U
118-74-1	Hexachlorobenzene	67 U
87-86-5	Pentachlorophenol	330 U
85-01-8	Phenanthrene	67 U
86-74-8	Carbazole	67 U
120-12-7	Anthracene	67 U
84-74-2	Di-n-Butylphthalate	67 U
206-44-0	Fluoranthene	67 U
129-00-0	Pyrene	67 U
85-68-7	Butylbenzylphthalate	67 U
91-94-1	3,3'-Dichlorobenzidine	330 U
56-55-3	Benzo(a)Anthracene	67 U
117-81-7	bis(2-Ethylhexyl)Phthalate	67 U
218-01-9	Chrysene	67 U
117-84-0	Di-n-Octyl Phthalate	67 U
205-99-2	Benzo(b)Fluoranthene	67 U
207-08-9	Benzo(k)Fluoranthene	67 U
50-32-8	Benzo(a)Pyrene	67 U
193-39-5	Indeno(1,2,3-cd)Pyrene	67 U
53-70-3	Dibenz(a,h)Anthracene	67 U
191-24-2	Benzo(ghi)Perylene	67 U

(1) Cannot be separated from diphenylamine

Base/neutral surrogate recoveries

d5-Nitrobenzene	60.7%
2-Fluorobiphenyl	58.3%
d14-p-Terphenyl	80.4%
d4-1,2-Dichlorobenzene	60.4%

Acid surrogate recoveries

d5-Phenol	61.0%
2-Fluorophenol	61.0%
2,4,6-Tribromophenol	60.6%
d4-2-Chlorophenol	61.5%

ANALYTICAL RESOURCES INCORPORATED

Analytical Chemists & Consultants

333 Ninth Ave. North
Seattle, WA 98109-5187
(206) 621-6490
(206) 621-7523 (FAX)

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS

Sample ID: B319D
Matrix: Solls/Sediments
Data Release Authorized: _____
Report: 08/10/92 MAC:X jjr

Sample No: B1(8.0-9.0)

QC Report No: B319 - Boeing/Landau
Project: 25068.10
NBF
VTSR: 07/29/92

Date Extracted: 08/03/92
Analyzed (FINN 6): 08/06/92
GPC Clean-up: No
Final Ext Volume: 2.0 mls

Sample Wt: 28.5 gm (Dry Weight)
Percent Moisture: 19.2%
pH: 9.0
Dilution: 1 to 1

CAS Number		µg/Kg
108-95-2	Phenol	140 U
111-44-4	bis(2-Chloroethyl)Ether	70 U
95-57-8	2-Chlorophenol	70 U
541-73-1	1,3-Dichlorobenzene	70 U
106-46-7	1,4-Dichlorobenzene	70 U
100-51-6	Benzyl Alcohol	350 U
95-50-1	1,2-Dichlorobenzene	70 U
95-48-7	2-Methylphenol	70 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	70 U
106-44-5	4-Methylphenol	70 U
621-64-7	N-Nitroso-Di-n-Propylamine	70 U
67-72-1	Hexachloroethane	140 U
98-95-3	Nitrobenzene	70 U
78-59-1	Isophorone	70 U
88-75-5	2-Nitrophenol	350 U
105-67-9	2,4-Dimethylphenol	140 U
65-85-0	Benzoic Acid	700 U
111-91-1	bis(2-Chloroethoxy)Methane	70 U
120-83-2	2,4-Dichlorophenol	210 U
120-82-1	1,2,4-Trichlorobenzene	70 U
91-20-3	Naphthalene	70 U
106-47-8	4-Chloroaniline	210 U
87-68-3	Hexachlorobutadiene	140 U
59-50-7	4-Chloro-3-Methylphenol	140 U
91-57-6	2-Methylnaphthalene	70 U
77-47-4	Hexachlorocyclopentadiene	350 U
88-06-2	2,4,6-Trichlorophenol	350 U
95-95-4	2,4,5-Trichlorophenol	350 U
91-58-7	2-Chloronaphthalene	70 U
88-74-4	2-Nitroaniline	350 U
131-11-3	Dimethyl Phthalate	70 U
208-96-8	Acenaphthylene	70 U
99-09-2	3-Nitroaniline	350 U

CAS Number		µg/Kg
83-32-9	Acenaphthene	70 U
51-28-5	2,4-Dinitrophenol	700 U
100-02-7	4-Nitrophenol	350 U
132-64-9	Dibenzofuran	70 U
606-20-2	2,6-Dinitrotoluene	350 U
121-14-2	2,4-Dinitrotoluene	350 U
84-66-2	Diethylphthalate	70 U
7005-72-3	4-Chlorophenyl-phenylether	70 U
86-73-7	Fluorene	70 U
100-01-6	4-Nitroaniline	350 U
534-52-1	4,6-Dinitro-2-Methylphenol	700 U
86-30-6	N-Nitrosodiphenylamine(1)	70 U
101-55-3	4-Bromophenyl-phenylether	70 U
118-74-1	Hexachlorobenzene	70 U
87-86-5	Pentachlorophenol	350 U
85-01-8	Phenanthrene	70 U
86-74-8	Carbazole	70 U
120-12-7	Anthracene	70 U
84-74-2	Di-n-Butylphthalate	70 U
206-44-0	Fluoranthene	70 U
129-00-0	Pyrene	70 U
85-68-7	Butylbenzylphthalate	70 U
91-94-1	3,3'-Dichlorobenzidine	350 U
56-55-3	Benzo(a)Anthracene	70 U
117-81-7	bis(2-Ethylhexyl)Phthalate	70 U
218-01-9	Chrysene	70 U
117-84-0	Di-n-Octyl Phthalate	70 U
205-99-2	Benzo(b)Fluoranthene	70 U
207-08-9	Benzo(k)Fluoranthene	70 U
50-32-8	Benzo(a)Pyrene	70 U
193-39-5	Indeno(1,2,3-cd)Pyrene	70 U
53-70-3	Dibenz(a,h)Anthracene	70 U
191-24-2	Benzo(ghi)Perylene	70 U

(1) Cannot be separated from diphenylamine

Base/neutral surrogate recoveries

d5-Nitrobenzene	73.4%
2-Fluorobiphenyl	70.7%
d14-p-Terphenyl	74.5%
d4-1,2-Dichlorobenzene	75.1%

Acid surrogate recoveries

d5-Phenol	74.8%
2-Fluorophenol	75.3%
2,4,6-Tribromophenol	79.9%
d4-2-Chlorophenol	73.7%

ANALYTICAL RESOURCES INCORPORATED

Analytical Chemists & Consultants

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Seattle, WA 98109-5187
(206) 621-6490
(206) 621-7523 (FAX)

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS

Sample ID: B319E
Matrix: Soils/Sediments
Data Release Authorized: _____
Report: 08/10/92 MAC:X jlr

Sample No: B2(0.5-1.0)

QC Report No: B319 - Boeing/Landau
Project: 25068.10
NBF
VTSR: 07/29/92

Date Extracted: 08/03/92
Analyzed (FINN 6): 08/06/92
GPC Clean-up: No
Final Ext Volume: 2.0 mls

Sample Wt: 25.8 gm (Dry Weight)
Percent Moisture: 26.6%
pH: 9.1
Dilution: 1 to 1

CAS Number		µg/Kg
108-95-2	Phenol	160 U
111-44-4	bis(2-Chloroethyl)Ether	78 U
95-57-8	2-Chlorophenol	78 U
541-73-1	1,3-Dichlorobenzene	78 U
106-46-7	1,4-Dichlorobenzene	78 U
100-51-6	Benzyl Alcohol	390 U
95-50-1	1,2-Dichlorobenzene	78 U
95-48-7	2-Methylphenol	78 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	78 U
106-44-5	4-Methylphenol	78 U
621-64-7	N-Nitroso-Di-n-Propylamine	78 U
67-72-1	Hexachloroethane	160 U
98-95-3	Nitrobenzene	78 U
78-59-1	Isophorone	78 U
88-75-5	2-Nitrophenol	390 U
105-67-9	2,4-Dimethylphenol	160 U
65-85-0	Benzoic Acid	780 U
111-91-1	bis(2-Chloroethoxy)Methane	78 U
120-83-2	2,4-Dichlorophenol	230 U
120-82-1	1,2,4-Trichlorobenzene	78 U
91-20-3	Naphthalene	78 U
106-47-8	4-Chloroaniline	230 U
87-68-3	Hexachlorobutadiene	160 U
59-50-7	4-Chloro-3-Methylphenol	160 U
91-57-6	2-Methylnaphthalene	78 U
77-47-4	Hexachlorocyclopentadiene	390 U
88-06-2	2,4,6-Trichlorophenol	390 U
95-95-4	2,4,5-Trichlorophenol	390 U
91-58-7	2-Chloronaphthalene	78 U
88-74-4	2-Nitroaniline	390 U
131-11-3	Dimethyl Phthalate	78 U
208-96-8	Acenaphthylene	78 U
99-09-2	3-Nitroaniline	390 U

CAS Number		µg/Kg
83-32-9	Acenaphthene	78 U
51-28-5	2,4-Dinitrophenol	780 U
100-02-7	4-Nitrophenol	390 U
132-64-9	Dibenzofuran	78 U
606-20-2	2,6-Dinitrotoluene	390 U
121-14-2	2,4-Dinitrotoluene	390 U
84-66-2	Diethylphthalate	78 U
7005-72-3	4-Chlorophenyl-phenylether	78 U
86-73-7	Fluorene	78 U
100-01-6	4-Nitroaniline	390 U
534-52-1	4,6-Dinitro-2-Methylphenol	780 U
86-30-6	N-Nitrosodiphenylamine(1)	78 U
101-55-3	4-Bromophenyl-phenylether	78 U
118-74-1	Hexachlorobenzene	78 U
87-86-5	Pentachlorophenol	390 U
85-01-8	Phenanthrene	78 U
86-74-8	Carbazole	78 U
120-12-7	Anthracene	78 U
84-74-2	Di-n-Butylphthalate	78 U
206-44-0	Fluoranthene	78 U
129-00-0	Pyrene	78 U
85-68-7	Butylbenzylphthalate	78 U
91-94-1	3,3'-Dichlorobenzidine	390 U
56-55-3	Benzo(a)Anthracene	78 U
117-81-7	bis(2-Ethylhexyl)Phthalate	78 U
218-01-9	Chrysene	78 U
117-84-0	Di-n-Octyl Phthalate	78 U
205-99-2	Benzo(b)Fluoranthene	78 U
207-08-9	Benzo(k)Fluoranthene	78 U
50-32-8	Benzo(a)Pyrene	78 U
193-39-5	Indeno(1,2,3-cd)Pyrene	78 U
53-70-3	Dibenz(a,h)Anthracene	78 U
191-24-2	Benzo(ghi)Perylene	78 U

(1) Cannot be separated from diphenylamine

Base/neutral surrogate recoveries

d5-Nitrobenzene	67.8%
2-Fluorobiphenyl	71.0%
d14-p-Terphenyl	85.3%
d4-1,2-Dichlorobenzene	64.2%

Acid surrogate recoveries

d5-Phenol	72.5%
2-Fluorophenol	70.9%
2,4,6-Tribromophenol	76.6%
d4-2-Chlorophenol	69.3%

ANALYTICAL RESOURCES INCORPORATED

Analytical Chemists & Consultants

333 Ninth Ave. North
Seattle, WA 98109-5187
(206) 621-6490
(206) 621-7523 (FAX)

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS

Sample ID: B319HA
Matrix: Soils/Sediments
Data Release Authorized: _____
Report: 08/10/92 MAC:X jjr

Sample No: B3(7.5-8.5)

QC Report No: B319 - Boeing/Landau
Project: 25068.10
NBF
VTSR: 07/29/92

Date Extracted: 08/03/92
Analyzed (FINN 6): 08/06/92
GPC Clean-up: No
Final Ext Volume: 2.0 mls

Sample Wt: 28.5 gm (Dry Weight)
Percent Moisture: 20.6%
pH: 8.3
Dilution: 1 to 1

CAS Number		µg/Kg
108-95-2	Phenol	140 U
111-44-4	bis(2-Chloroethyl)Ether	70 U
95-57-8	2-Chlorophenol	70 U
541-73-1	1,3-Dichlorobenzene	70 U
106-46-7	1,4-Dichlorobenzene	70 U
100-51-6	Benzyl Alcohol	350 U
95-50-1	1,2-Dichlorobenzene	70 U
95-48-7	2-Methylphenol	70 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	70 U
106-44-5	4-Methylphenol	70 U
621-64-7	N-Nitroso-Di-n-Propylamine	70 U
67-72-1	Hexachloroethane	140 U
98-95-3	Nitrobenzene	70 U
78-59-1	Isophorone	70 U
88-75-5	2-Nitrophenol	350 U
105-67-9	2,4-Dimethylphenol	140 U
65-85-0	Benzoic Acid	700 U
111-91-1	bis(2-Chloroethoxy)Methane	70 U
120-83-2	2,4-Dichlorophenol	210 U
120-82-1	1,2,4-Trichlorobenzene	70 U
91-20-3	Naphthalene	70 U
106-47-8	4-Chloroaniline	210 U
87-68-3	Hexachlorobutadiene	140 U
59-50-7	4-Chloro-3-Methylphenol	140 U
91-57-6	2-Methylnaphthalene	70 U
77-47-4	Hexachlorocyclopentadiene	350 U
88-06-2	2,4,6-Trichlorophenol	350 U
95-95-4	2,4,5-Trichlorophenol	350 U
91-58-7	2-Chloronaphthalene	70 U
88-74-4	2-Nitroaniline	350 U
131-11-3	Dimethyl Phthalate	70 U
208-96-8	Acenaphthylene	70 U
99-09-2	3-Nitroaniline	350 U

CAS Number		µg/Kg
83-32-9	Acenaphthene	70 U
51-28-5	2,4-Dinitrophenol	700 U
100-02-7	4-Nitrophenol	350 U
132-64-9	Dibenzofuran	70 U
606-20-2	2,6-Dinitrotoluene	350 U
121-14-2	2,4-Dinitrotoluene	350 U
84-66-2	Diethylphthalate	70 U
7005-72-3	4-Chlorophenyl-phenylether	70 U
86-73-7	Fluorene	70 U
100-01-6	4-Nitroaniline	350 U
534-52-1	4,6-Dinitro-2-Methylphenol	700 U
86-30-6	N-Nitrosodiphenylamine(1)	70 U
101-55-3	4-Bromophenyl-phenylether	70 U
118-74-1	Hexachlorobenzene	70 U
87-86-5	Pentachlorophenol	350 U
85-01-8	Phenanthrene	70 U
86-74-8	Carbazole	70 U
120-12-7	Anthracene	70 U
84-74-2	Di-n-Butylphthalate	70 U
206-44-0	Fluoranthene	70 U
129-00-0	Pyrene	70 U
85-68-7	Butylbenzylphthalate	70 U
91-94-1	3,3'-Dichlorobenzidine	350 U
56-55-3	Benzo(a)Anthracene	70 U
117-81-7	bis(2-Ethylhexyl)Phthalate	70 U
218-01-9	Chrysene	70 U
117-84-0	Di-n-Octyl Phthalate	70 U
205-99-2	Benzo(b)Fluoranthene	70 U
207-08-9	Benzo(k)Fluoranthene	70 U
50-32-8	Benzo(a)Pyrene	70 U
193-39-5	Indeno(1,2,3-cd)Pyrene	70 U
53-70-3	Dibenz(a,h)Anthracene	70 U
191-24-2	Benzo(ghi)Perylene	70 U

(1) Cannot be separated from diphenylamine

Base/neutral surrogate recoveries

d5-Nitrobenzene	62.8%
2-Fluorobiphenyl	64.1%
d14-p-Terphenyl	61.2%
d4-1,2-Dichlorobenzene	65.3%

Acid surrogate recoveries

d5-Phenol	66.2%
2-Fluorophenol	61.2%
2,4,6-Tribromophenol	75.5%
d4-2-Chlorophenol	65.9%

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ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS

Sample ID: B319IA
Matrix: Solls/Sediments
Data Release Authorized: _____
Report: 08/10/92 MAC:X jjr

Sample No: B4(0.5-1.0)

QC Report No: B319 - Boeing/Landau
Project: 25068.10
NBF
VTSR: 07/29/92

Date Extracted: 08/03/92
Analyzed (FINN 6): 08/06/92
GPC Clean-up: Yes
Final Ext Volume: 2.0 mls

Sample Wt: 30.4 gm (Dry Weight)
Percent Moisture: 14.1%
pH: 7.0
Dilution: 1 to 1

CAS Number		µg/Kg
108-95-2	**Phenol**	**280**
111-44-4	bis(2-Chloroethyl)Ether	66 U
95-57-8	2-Chlorophenol	66 U
541-73-1	1,3-Dichlorobenzene	66 U
106-46-7	1,4-Dichlorobenzene	66 U
100-51-6	Benzyl Alcohol	330 U
95-50-1	1,2-Dichlorobenzene	66 U
95-48-7	2-Methylphenol	66 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	66 U
106-44-5	**4-Methylphenol**	**980**
621-64-7	N-Nitroso-Di-n-Propylamine	66 U
67-72-1	Hexachloroethane	130 U
98-95-3	Nitrobenzene	66 U
78-59-1	Isophorone	66 U
88-75-5	2-Nitrophenol	330 U
105-67-9	2,4-Dimethylphenol	130 U
65-85-0	Benzoic Acid	660 U
111-91-1	bis(2-Chloroethoxy)Methane	66 U
120-83-2	2,4-Dichlorophenol	200 U
120-82-1	1,2,4-Trichlorobenzene	66 U
91-20-3	**Naphthalene**	**980**
106-47-8	4-Chloroaniline	200 U
87-68-3	Hexachlorobutadiene	130 U
59-50-7	4-Chloro-3-Methylphenol	130 U
91-57-6	**2-Methylnaphthalene**	**1700**
77-47-4	Hexachlorocyclopentadiene	330 U
88-06-2	2,4,6-Trichlorophenol	330 U
95-95-4	2,4,5-Trichlorophenol	330 U
91-58-7	2-Chloronaphthalene	66 U
88-74-4	2-Nitroaniline	330 U
131-11-3	**Dimethyl Phthalate**	**41 M**
208-96-8	Acenaphthylene	66 U
99-09-2	3-Nitroaniline	330 U

CAS Number		µg/Kg
83-32-9	Acenaphthene	66 U
51-28-5	2,4-Dinitrophenol	660 U
100-02-7	4-Nitrophenol	330 U
132-64-9	**Dibenzofuran**	**64 J**
606-20-2	2,6-Dinitrotoluene	330 U
121-14-2	2,4-Dinitrotoluene	330 U
84-66-2	Diethylphthalate	66 U
7005-72-3	4-Chlorophenyl-phenylether	66 U
86-73-7	**Fluorene**	**50 M**
100-01-6	4-Nitroaniline	330 U
534-52-1	4,6-Dinitro-2-Methylphenol	660 U
86-30-6	N-Nitrosodiphenylamine(1)	66 U
101-55-3	4-Bromophenyl-phenylether	66 U
118-74-1	Hexachlorobenzene	66 U
87-86-5	Pentachlorophenol	330 U
85-01-8	**Phenanthrene**	**230**
86-74-8	Carbazole	66 U
120-12-7	**Anthracene**	**35 J**
84-74-2	**Di-n-Butylphthalate**	**530**
206-44-0	**Fluoranthene**	**210**
129-00-0	**Pyrene**	**220**
85-68-7	**Butylbenzylphthalate**	**310**
91-94-1	3,3'-Dichlorobenzidine	330 U
56-55-3	**Benzo(a)Anthracene**	**80**
117-81-7	**bis(2-Ethylhexyl)Phthalate**	**3900**
218-01-9	**Chrysene**	**140**
117-84-0	**Di-n-Octyl Phthalate**	**600**
205-99-2	Benzo(b)Fluoranthene	66 U
207-08-9	**Benzo(k)Fluoranthene**	**140**
50-32-8	**Benzo(a)Pyrene**	**160**
193-39-5	**Indeno(1,2,3-cd)Pyrene**	**160**
53-70-3	**Dibenz(a,h)Anthracene**	**65 J**
191-24-2	**Benzo(ghi)Perylene**	**220**

(1) Cannot be separated from diphenylamine

Base/neutral surrogate recoveries

d5-Nitrobenzene	78.3%
2-Fluorobiphenyl	71.5%
d14-p-Terphenyl	63.4%
d4-1,2-Dichlorobenzene	59.7%

Acid surrogate recoveries

d5-Phenol	70.9%
2-Fluorophenol	63.7%
2,4,6-Tribromophenol	72.6%
d4-2-Chlorophenol	70.6%

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ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS

Sample ID: B319NA
Matrix: Soils/Sediments
Data Release Authorized: _____
Report: 08/10/92 MAC:X jjr

Sample No: B4(8-9)

QC Report No: B319 - Boeing/Landau
Project: 25068.10
NBF
VTSR: 07/29/92

Date Extracted: 08/03/92
Analyzed (FINN 6): 08/07/92
GPC Clean-up: No
Final Ext Volume: 2.0 mls

Sample Wt: 29.0 gm (Dry Weight)
Percent Moisture: 17.8%
pH: 7.0
Dilution: 1 to 1

CAS Number		µg/Kg
108-95-2	Phenol	140 U
111-44-4	bis(2-Chloroethyl)Ether	69 U
95-57-8	2-Chlorophenol	69 U
541-73-1	1,3-Dichlorobenzene	69 U
106-46-7	1,4-Dichlorobenzene	69 U
100-51-6	Benzyl Alcohol	350 U
95-50-1	1,2-Dichlorobenzene	69 U
95-48-7	2-Methylphenol	69 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	69 U
106-44-5	4-Methylphenol	69 U
621-64-7	N-Nitroso-Di-n-Propylamine	69 U
67-72-1	Hexachloroethane	140 U
98-95-3	Nitrobenzene	69 U
78-59-1	Isophorone	69 U
88-75-5	2-Nitrophenol	350 U
105-67-9	2,4-Dimethylphenol	140 U
65-85-0	Benzoic Acid	690 U
111-91-1	bis(2-Chloroethoxy)Methane	69 U
120-83-2	2,4-Dichlorophenol	210 U
120-82-1	1,2,4-Trichlorobenzene	69 U
91-20-3	**Naphthalene**	**1600**
106-47-8	4-Chloroaniline	210 U
87-68-3	Hexachlorobutadiene	140 U
59-50-7	4-Chloro-3-Methylphenol	140 U
91-57-6	**2-Methylnaphthalene**	**5200**
77-47-4	Hexachlorocyclopentadiene	350 U
88-06-2	2,4,6-Trichlorophenol	350 U
95-95-4	2,4,5-Trichlorophenol	350 U
91-58-7	2-Chloronaphthalene	69 U
88-74-4	2-Nitroaniline	350 U
131-11-3	Dimethyl Phthalate	69 U
208-96-8	Acenaphthylene	69 U
99-09-2	3-Nitroaniline	350 U

CAS Number		µg/Kg
83-32-9	**Acenaphthene**	**66 M**
51-28-5	2,4-Dinitrophenol	690 U
100-02-7	4-Nitrophenol	350 U
132-64-9	**Dibenzofuran**	**67 M**
606-20-2	2,6-Dinitrotoluene	350 U
121-14-2	2,4-Dinitrotoluene	350 U
84-66-2	Diethylphthalate	69 U
7005-72-3	4-Chlorophenyl-phenylether	69 U
86-73-7	**Fluorene**	**200**
100-01-6	4-Nitroaniline	350 U
534-52-1	4,6-Dinitro-2-Methylphenol	690 U
86-30-6	N-Nitrosodiphenylamine(1)	69 U
101-55-3	4-Bromophenyl-phenylether	69 U
118-74-1	Hexachlorobenzene	69 U
87-86-5	Pentachlorophenol	350 U
85-01-8	**Phenanthrene**	**130**
86-74-8	Carbazole	69 U
120-12-7	Anthracene	69 U
84-74-2	Di-n-Butylphthalate	69 U
206-44-0	Fluoranthene	69 U
129-00-0	**Pyrene**	**41 J**
85-68-7	Butylbenzylphthalate	69 U
91-94-1	3,3'-Dichlorobenzidine	350 U
56-55-3	Benzo(a)Anthracene	69 U
117-81-7	**bis(2-Ethylhexyl)Phthalate**	**75**
218-01-9	Chrysene	69 U
117-84-0	Di-n-Octyl Phthalate	69 U
205-99-2	Benzo(b)Fluoranthene	69 U
207-08-9	Benzo(k)Fluoranthene	69 U
50-32-8	Benzo(a)Pyrene	69 U
193-39-5	Indeno(1,2,3-cd)Pyrene	69 U
53-70-3	Dibenz(a,h)Anthracene	69 U
191-24-2	Benzo(ghi)Perylene	69 U

(1) Cannot be separated from diphenylamine

Base/neutral surrogate recoveries

d5-Nitrobenzene	111%
2-Fluorobiphenyl	70.9%
d14-p-Terphenyl	69.1%
d4-1,2-Dichlorobenzene	66.5%

Acid surrogate recoveries

d5-Phenol	69.5%
2-Fluorophenol	63.2%
2,4,6-Tribromophenol	70.8%
d4-2-Chlorophenol	71.3%

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ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS

Sample ID: B3190
Matrix: Solls/Sediments
Data Release Authorized: _____
Report: 08/10/92 MAC:X jjr

Sample No: B5(1.5-3.0)

QC Report No: B319 - Boeing/Landau
Project: 25068.10
NBF
VTSR: 07/29/92

Date Extracted: 08/03/92
Analyzed (FINN 6): 08/06/92
GPC Clean-up: Yes
Final Ext Volume: 2.0 mls

Sample Wt: 25.7 gm (Dry Weight)
Percent Moisture: 26.7%
pH: 7.1
Dilution: 1 to 1

CAS Number		µg/Kg
108-95-2	Phenol	160 U
111-44-4	bis(2-Chloroethyl)Ether	78 U
95-57-8	2-Chlorophenol	78 U
541-73-1	1,3-Dichlorobenzene	78 U
106-46-7	1,4-Dichlorobenzene	78 U
100-51-6	Benzyl Alcohol	390 U
95-50-1	1,2-Dichlorobenzene	78 U
95-48-7	2-Methylphenol	78 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	78 U
106-44-5	4-Methylphenol	78 U
621-64-7	N-Nitroso-Di-n-Propylamine	78 U
67-72-1	Hexachloroethane	160 U
98-95-3	Nitrobenzene	78 U
78-59-1	Isophorone	78 U
88-75-5	2-Nitrophenol	390 U
105-67-9	2,4-Dimethylphenol	160 U
65-85-0	Benzoic Acid	780 U
111-91-1	bis(2-Chloroethoxy)Methane	78 U
120-83-2	2,4-Dichlorophenol	230 U
120-82-1	1,2,4-Trichlorobenzene	78 U
91-20-3	Naphthalene	78 U
106-47-8	4-Chloroaniline	230 U
87-68-3	Hexachlorobutadiene	160 U
59-50-7	4-Chloro-3-Methylphenol	160 U
91-57-6	2-Methylnaphthalene	78 U
77-47-4	Hexachlorocyclopentadiene	390 U
88-06-2	2,4,6-Trichlorophenol	390 U
95-95-4	2,4,5-Trichlorophenol	390 U
91-58-7	2-Chloronaphthalene	78 U
88-74-4	2-Nitroaniline	390 U
131-11-3	Dimethyl Phthalate	78 U
208-96-8	Acenaphthylene	78 U
99-09-2	3-Nitroaniline	390 U

CAS Number		µg/Kg
83-32-9	Acenaphthene	78 U
51-28-5	2,4-Dinitrophenol	780 U
100-02-7	4-Nitrophenol	390 U
132-64-9	Dibenzofuran	78 U
606-20-2	2,6-Dinitrotoluene	390 U
121-14-2	2,4-Dinitrotoluene	390 U
84-66-2	Diethylphthalate	78 U
7005-72-3	4-Chlorophenyl-phenylether	78 U
86-73-7	Fluorene	78 U
100-01-6	4-Nitroaniline	390 U
534-52-1	4,6-Dinitro-2-Methylphenol	780 U
86-30-6	N-Nitrosodiphenylamine(1)	78 U
101-55-3	4-Bromophenyl-phenylether	78 U
118-74-1	Hexachlorobenzene	78 U
87-86-5	Pentachlorophenol	390 U
85-01-8	Phenanthrene	78 U
86-74-8	Carbazole	78 U
120-12-7	Anthracene	78 U
84-74-2	Di-n-Butylphthalate	78 U
206-44-0	Fluoranthene	78 U
129-00-0	Pyrene	78 U
85-68-7	Butylbenzylphthalate	78 U
91-94-1	3,3'-Dichlorobenzidine	390 U
56-55-3	Benzo(a)Anthracene	78 U
117-81-7	**bis(2-Ethylhexyl)Phthalate**	**83**
218-01-9	Chrysene	78 U
117-84-0	Di-n-Octyl Phthalate	78 U
205-99-2	Benzo(b)Fluoranthene	78 U
207-08-9	Benzo(k)Fluoranthene	78 U
50-32-8	Benzo(a)Pyrene	78 U
193-39-5	Indeno(1,2,3-cd)Pyrene	78 U
53-70-3	Dibenz(a,h)Anthracene	78 U
191-24-2	Benzo(ghi)Perylene	78 U

(1) Cannot be separated from diphenylamine

Base/neutral surrogate recoveries

d5-Nitrobenzene	25.0%
2-Fluorobiphenyl	26.3%
d14-p-Terphenyl	35.6%
d4-1,2-Dichlorobenzene	23.6%

Acid surrogate recoveries

d5-Phenol	26.8%
2-Fluorophenol	26.2%
2,4,6-Tribromophenol	29.4%
d4-2-Chlorophenol	26.1%

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ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS

Sample ID: B319P
Matrix: Soils/Sediments
Data Release Authorized: _____
Report: 08/10/92 MAC:X jjr

Sample No: B5(7.0-7.5)

QC Report No: B319 - Boeing/Landau
Project: 25068.10
NBF
VTSR: 07/29/92

Date Extracted: 08/03/92
Analyzed (FINN 6): 08/06/92
GPC Clean-up: Yes
Final Ext Volume: 2.0 mls

Sample Wt: 27.1 gm (Dry Weight)
Percent Moisture: 24.6%
pH: 7.1
Dilution: 1 to 1

CAS Number		µg/Kg
108-95-2	Phenol	150 U
111-44-4	bis(2-Chloroethyl)Ether	74 U
95-57-8	2-Chlorophenol	74 U
541-73-1	1,3-Dichlorobenzene	74 U
106-46-7	1,4-Dichlorobenzene	74 U
100-51-6	Benzyl Alcohol	370 U
95-50-1	1,2-Dichlorobenzene	74 U
95-48-7	2-Methylphenol	74 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	74 U
106-44-5	4-Methylphenol	74 U
621-64-7	N-Nitroso-Di-n-Propylamine	74 U
67-72-1	Hexachloroethane	150 U
98-95-3	Nitrobenzene	74 U
78-59-1	Isophorone	74 U
88-75-5	2-Nitrophenol	370 U
105-67-9	2,4-Dimethylphenol	150 U
65-85-0	Benzoic Acid	740 U
111-91-1	bis(2-Chloroethoxy)Methane	74 U
120-83-2	2,4-Dichlorophenol	220 U
120-82-1	1,2,4-Trichlorobenzene	74 U
91-20-3	Naphthalene	74 U
106-47-8	4-Chloroaniline	220 U
87-68-3	Hexachlorobutadiene	150 U
59-50-7	4-Chloro-3-Methylphenol	150 U
91-57-6	2-Methylnaphthalene	74 U
77-47-4	Hexachlorocyclopentadiene	370 U
88-06-2	2,4,6-Trichlorophenol	370 U
95-95-4	2,4,5-Trichlorophenol	370 U
91-58-7	2-Chloronaphthalene	74 U
88-74-4	2-Nitroaniline	370 U
131-11-3	Dimethyl Phthalate	74 U
208-96-8	Acenaphthylene	74 U
99-09-2	3-Nitroaniline	370 U

CAS Number		µg/Kg
83-32-9	Acenaphthene	74 U
51-28-5	2,4-Dinitrophenol	740 U
100-02-7	4-Nitrophenol	370 U
132-64-9	Dibenzofuran	74 U
606-20-2	2,6-Dinitrotoluene	370 U
121-14-2	2,4-Dinitrotoluene	370 U
84-66-2	Diethylphthalate	74 U
7005-72-3	4-Chlorophenyl-phenylether	74 U
86-73-7	Fluorene	74 U
100-01-6	4-Nitroaniline	370 U
534-52-1	4,6-Dinitro-2-Methylphenol	740 U
86-30-6	N-Nitrosodiphenylamine(1)	74 U
101-55-3	4-Bromophenyl-phenylether	74 U
118-74-1	Hexachlorobenzene	74 U
87-86-5	Pentachlorophenol	370 U
85-01-8	Phenanthrene	74 U
86-74-8	Carbazole	74 U
120-12-7	Anthracene	74 U
84-74-2	Di-n-Butylphthalate	74 U
206-44-0	Fluoranthene	74 U
129-00-0	Pyrene	74 U
85-68-7	Butylbenzylphthalate	74 U
91-94-1	3,3'-Dichlorobenzidine	370 U
56-55-3	Benzo(a)Anthracene	74 U
117-81-7	bis(2-Ethylhexyl)Phthalate	74 U
218-01-9	Chrysene	74 U
117-84-0	Di-n-Octyl Phthalate	74 U
205-99-2	Benzo(b)Fluoranthene	74 U
207-08-9	Benzo(k)Fluoranthene	74 U
50-32-8	Benzo(a)Pyrene	74 U
193-39-5	Indeno(1,2,3-cd)Pyrene	74 U
53-70-3	Dibenz(a,h)Anthracene	74 U
191-24-2	Benzo(ghi)Perylene	74 U

(1) Cannot be separated from diphenylamine

Base/neutral surrogate recoveries

d5-Nitrobenzene	67.6%
2-Fluorobiphenyl	66.6%
d14-p-Terphenyl	66.7%
d4-1,2-Dichlorobenzene	64.4%

Acid surrogate recoveries

d5-Phenol	69.3%
2-Fluorophenol	69.3%
2,4,6-Tribromophenol	81.0%
d4-2-Chlorophenol	71.1%

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ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS

Sample ID: B319SA
Matrix: Soils/Sediments
Data Release Authorized: _____
Report: 08/10/92 MAC:X jjr

Sample No: B7A(3-4')

QC Report No: B319 - Boeing/Landau
Project: 25068.10
NBF
VTSR: 07/29/92

Date Extracted: 08/03/92
Analyzed (FINN 6): 08/07/92
GPC Clean-up: Yes
Final Ext Volume: 2.0 mls

Sample Wt: 32.3 gm (Dry Weight)
Percent Moisture: 8.8%
pH: 6.9
Dilution: 1 to 2

CAS Number		µg/Kg
108-95-2	Phenol	250 U
111-44-4	bis(2-Chloroethyl)Ether	120 U
95-57-8	2-Chlorophenol	120 U
541-73-1	1,3-Dichlorobenzene	120 U
106-46-7	1,4-Dichlorobenzene	120 U
100-51-6	Benzyl Alcohol	620 U
95-50-1	1,2-Dichlorobenzene	120 U
95-48-7	2-Methylphenol	120 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	120 U
106-44-5	4-Methylphenol	120 U
621-64-7	N-Nitroso-Di-n-Propylamine	120 U
67-72-1	Hexachloroethane	250 U
98-95-3	Nitrobenzene	120 U
78-59-1	Isophorone	120 U
88-75-5	2-Nitrophenol	620 U
105-67-9	2,4-Dimethylphenol	250 U
65-85-0	Benzoic Acid	1200 U
111-91-1	bis(2-Chloroethoxy)Methane	120 U
120-83-2	2,4-Dichlorophenol	370 U
120-82-1	1,2,4-Trichlorobenzene	120 U
91-20-3	**Naphthalene**	**510**
106-47-8	4-Chloroaniline	370 U
87-68-3	Hexachlorobutadiene	250 U
59-50-7	4-Chloro-3-Methylphenol	250 U
91-57-6	**2-Methylnaphthalene**	**1700**
77-47-4	Hexachlorocyclopentadiene	620 U
88-06-2	2,4,6-Trichlorophenol	620 U
95-95-4	2,4,5-Trichlorophenol	620 U
91-58-7	2-Chloronaphthalene	120 U
88-74-4	2-Nitroaniline	620 U
131-11-3	Dimethyl Phthalate	120 U
208-96-8	**Acenaphthylene**	**110 M**
99-09-2	3-Nitroaniline	620 U

CAS Number		µg/Kg
83-32-9	**Acenaphthene**	**69 M**
51-28-5	2,4-Dinitrophenol	1200 U
100-02-7	4-Nitrophenol	620 U
132-64-9	**Dibenzofuran**	**110 M**
606-20-2	2,6-Dinitrotoluene	620 U
121-14-2	2,4-Dinitrotoluene	620 U
84-66-2	Diethylphthalate	120 U
7005-72-3	4-Chlorophenyl-phenylether	120 U
86-73-7	**Fluorene**	**160**
100-01-6	4-Nitroaniline	620 U
534-52-1	4,6-Dinitro-2-Methylphenol	1200 U
86-30-6	N-Nitrosodiphenylamine(1)	120 U
101-55-3	4-Bromophenyl-phenylether	120 U
118-74-1	Hexachlorobenzene	120 U
87-86-5	Pentachlorophenol	620 U
85-01-8	**Phenanthrene**	**280**
86-74-8	Carbazole	120 U
120-12-7	Anthracene	120 U
84-74-2	Di-n-Butylphthalate	120 U
206-44-0	**Fluoranthene**	**240**
129-00-0	**Pyrene**	**460**
85-68-7	Butylbenzylphthalate	120 U
91-94-1	3,3'-Dichlorobenzidine	620 U
56-55-3	**Benzo(a)Anthracene**	**83 M**
117-81-7	**bis(2-Ethylhexyl)Phthalate**	**550**
218-01-9	**Chrysene**	**150**
117-84-0	Di-n-Octyl Phthalate	120 U
205-99-2	**Benzo(b)Fluoranthene**	**100 M**
207-08-9	**Benzo(k)Fluoranthene**	**110 M**
50-32-8	**Benzo(a)Pyrene**	**67 M**
193-39-5	Indeno(1,2,3-cd)Pyrene	120 U
53-70-3	Dibenz(a,h)Anthracene	120 U
191-24-2	Benzo(ghi)Perylene	120 U

(1) Cannot be separated from diphenylamine

Base/neutral surrogate recoveries

d5-Nitrobenzene	69.0%
2-Fluorobiphenyl	64.9%
d14-p-Terphenyl	78.2%
d4-1,2-Dichlorobenzene	61.7%

Acid surrogate recoveries

d5-Phenol	72.8%
2-Fluorophenol	71.6%
2,4,6-Tribromophenol	65.9%
d4-2-Chlorophenol	69.9%

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ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS

Sample ID: B319XA
Matrix: Solls/Sediments
Data Release Authorized: _____
Report: 08/10/92 MAC:X jjr

Sample No: B8(1.5-2.0)

QC Report No: B319 - Boeing/Landau
Project: 25068.10
NBF
VTSR: 07/29/92

Date Extracted: 08/03/92
Analyzed (FINN 6): 08/06/92
GPC Clean-up: Yes
Final Ext Volume: 2.0 mls

Sample Wt: 31.2 gm (Dry Weight)
Percent Moisture: 12.5%
pH: 7.2
Dilution: 1 to 1

CAS Number		µg/Kg
108-95-2	Phenol	130 U
111-44-4	bis(2-Chloroethyl)Ether	64 U
95-57-8	2-Chlorophenol	64 U
541-73-1	1,3-Dichlorobenzene	64 U
106-46-7	1,4-Dichlorobenzene	64 U
100-51-6	Benzyl Alcohol	320 U
95-50-1	1,2-Dichlorobenzene	64 U
95-48-7	2-Methylphenol	64 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	64 U
106-44-5	4-Methylphenol	64 U
621-64-7	N-Nitroso-Di-n-Propylamine	64 U
67-72-1	Hexachloroethane	130 U
98-95-3	Nitrobenzene	64 U
78-59-1	Isophorone	64 U
88-75-5	2-Nitrophenol	320 U
105-67-9	2,4-Dimethylphenol	130 U
65-85-0	Benzoic Acid	640 U
111-91-1	bis(2-Chloroethoxy)Methane	64 U
120-83-2	2,4-Dichlorophenol	190 U
120-82-1	1,2,4-Trichlorobenzene	64 U
91-20-3	Naphthalene	64 U
106-47-8	4-Chloroaniline	190 U
87-68-3	Hexachlorobutadiene	130 U
59-50-7	4-Chloro-3-Methylphenol	130 U
91-57-6	2-Methylnaphthalene	64 U
77-47-4	Hexachlorocyclopentadiene	320 U
88-06-2	2,4,6-Trichlorophenol	320 U
95-95-4	2,4,5-Trichlorophenol	320 U
91-58-7	2-Chloronaphthalene	64 U
88-74-4	2-Nitroaniline	320 U
131-11-3	Dimethyl Phthalate	64 U
208-96-8	Acenaphthylene	64 U
99-09-2	3-Nitroaniline	320 U

CAS Number		µg/Kg
83-32-9	Acenaphthene	64 U
51-28-5	2,4-Dinitrophenol	640 U
100-02-7	4-Nitrophenol	320 U
132-64-9	Dibenzofuran	64 U
606-20-2	2,6-Dinitrotoluene	320 U
121-14-2	2,4-Dinitrotoluene	320 U
84-66-2	Diethylphthalate	64 U
7005-72-3	4-Chlorophenyl-phenylether	64 U
86-73-7	Fluorene	64 U
100-01-6	4-Nitroaniline	320 U
534-52-1	4,6-Dinitro-2-Methylphenol	640 U
86-30-6	N-Nitrosodiphenylamine(1)	64 U
101-55-3	4-Bromophenyl-phenylether	64 U
118-74-1	Hexachlorobenzene	64 U
87-86-5	Pentachlorophenol	320 U
85-01-8	Phenanthrene	64 U
86-74-8	Carbazole	64 U
120-12-7	Anthracene	64 U
84-74-2	Di-n-Butylphthalate	64 U
206-44-0	Fluoranthene	64 U
129-00-0	**Pyrene**	**37 J**
85-68-7	Butylbenzylphthalate	64 U
91-94-1	3,3'-Dichlorobenzidine	320 U
56-55-3	Benzo(a)Anthracene	64 U
117-81-7	**bis(2-Ethylhexyl)Phthalate**	**97**
218-01-9	Chrysene	64 U
117-84-0	Di-n-Octyl Phthalate	64 U
205-99-2	Benzo(b)Fluoranthene	64 U
207-08-9	Benzo(k)Fluoranthene	64 U
50-32-8	Benzo(a)Pyrene	64 U
193-39-5	Indeno(1,2,3-cd)Pyrene	64 U
53-70-3	Dibenz(a,h)Anthracene	64 U
191-24-2	Benzo(ghi)Perylene	64 U

(1) Cannot be separated from diphenylamine

Base/neutral surrogate recoveries

d5-Nitrobenzene	53.6%
2-Fluorobiphenyl	64.7%
d14-p-Terphenyl	77.2%
d4-1,2-Dichlorobenzene	52.7%

Acid surrogate recoveries

d5-Phenol	61.2%
2-Fluorophenol	56.1%
2,4,6-Tribromophenol	66.7%
d4-2-Chlorophenol	63.3%

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ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS

Sample ID: B319Z
Matrix: Soils/Sediments
Data Release Authorized: _____
Report: 08/10/92 MAC:X jjr

Sample No: B8(8-9)

QC Report No: B319 - Boeing/Landau
Project: 25068.10
NBF
VTSR: 07/29/92

Date Extracted: 08/03/92
Analyzed (FINN 6): 08/07/92
GPC Clean-up: No
Final Ext Volume: 2.0 mls

Sample Wt: 21.3 gm (Dry Weight)
Percent Moisture: 40.0%
pH: 7.0
Dilution: 1 to 1

CAS Number		µg/Kg
108-95-2	Phenol	190 U
111-44-4	bis(2-Chloroethyl)Ether	94 U
95-57-8	2-Chlorophenol	94 U
541-73-1	1,3-Dichlorobenzene	94 U
106-46-7	1,4-Dichlorobenzene	94 U
100-51-6	Benzyl Alcohol	470 U
95-50-1	1,2-Dichlorobenzene	94 U
95-48-7	2-Methylphenol	94 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	94 U
106-44-5	4-Methylphenol	94 U
621-64-7	N-Nitroso-Di-n-Propylamine	94 U
67-72-1	Hexachloroethane	190 U
98-95-3	Nitrobenzene	94 U
78-59-1	Isophorone	94 U
88-75-5	2-Nitrophenol	470 U
105-67-9	2,4-Dimethylphenol	190 U
65-85-0	Benzoic Acid	940 U
111-91-1	bis(2-Chloroethoxy)Methane	94 U
120-83-2	2,4-Dichlorophenol	280 U
120-82-1	1,2,4-Trichlorobenzene	94 U
91-20-3	Naphthalene	94 U
106-47-8	4-Chloroaniline	280 U
87-68-3	Hexachlorobutadiene	190 U
59-50-7	4-Chloro-3-Methylphenol	190 U
91-57-6	2-Methylnaphthalene	94 U
77-47-4	Hexachlorocyclopentadiene	470 U
88-06-2	2,4,6-Trichlorophenol	470 U
95-95-4	2,4,5-Trichlorophenol	470 U
91-58-7	2-Chloronaphthalene	94 U
88-74-4	2-Nitroaniline	470 U
131-11-3	Dimethyl Phthalate	94 U
208-96-8	Acenaphthylene	94 U
99-09-2	3-Nitroaniline	470 U

CAS Number		µg/Kg
83-32-9	Acenaphthene	94 U
51-28-5	2,4-Dinitrophenol	940 U
100-02-7	4-Nitrophenol	470 U
132-64-9	Dibenzofuran	94 U
606-20-2	2,6-Dinitrotoluene	470 U
121-14-2	2,4-Dinitrotoluene	470 U
84-66-2	Diethylphthalate	94 U
7005-72-3	4-Chlorophenyl-phenylether	94 U
86-73-7	Fluorene	94 U
100-01-6	4-Nitroaniline	470 U
534-52-1	4,6-Dinitro-2-Methylphenol	940 U
86-30-6	N-Nitrosodiphenylamine(1)	94 U
101-55-3	4-Bromophenyl-phenylether	94 U
118-74-1	Hexachlorobenzene	94 U
87-86-5	Pentachlorophenol	470 U
85-01-8	Phenanthrene	94 U
86-74-8	Carbazole	94 U
120-12-7	Anthracene	94 U
84-74-2	Di-n-Butylphthalate	94 U
206-44-0	Fluoranthene	94 U
129-00-0	Pyrene	94 U
85-68-7	Butylbenzylphthalate	94 U
91-94-1	3,3'-Dichlorobenzidine	470 U
56-55-3	Benzo(a)Anthracene	94 U
117-81-7	bis(2-Ethylhexyl)Phthalate	94 U
218-01-9	Chrysene	94 U
117-84-0	Di-n-Octyl Phthalate	94 U
205-99-2	Benzo(b)Fluoranthene	94 U
207-08-9	Benzo(k)Fluoranthene	94 U
50-32-8	Benzo(a)Pyrene	94 U
193-39-5	Indeno(1,2,3-cd)Pyrene	94 U
53-70-3	Dibenz(a,h)Anthracene	94 U
191-24-2	Benzo(ghi)Perylene	94 U

(1) Cannot be separated from diphenylamine

Base/neutral surrogate recoveries

d5-Nitrobenzene	73.6%
2-Fluorobiphenyl	65.0%
d14-p-Terphenyl	71.5%
d4-1,2-Dichlorobenzene	69.4%

Acid surrogate recoveries

d5-Phenol	73.9%
2-Fluorophenol	73.6%
2,4,6-Tribromophenol	85.2%
d4-2-Chlorophenol	70.8%

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ORGANICS ANALYSIS DATA SHEET
PCB Analysis by GC/ECD

QC Report: B319-Boeing/Landau
25068.10

Matrix: Soil

Date Sampled: 07/29/92
Date Received: 07/29/92

Data Release Authorized
Report prepared: 08/13/92 - MAC: A rpr

GPC Cleanup: MB, I, S
Florsil Cleanup: Yes
Acid Cleanup: No

Reported in ppb (µg/Kg)

Sample #:	**Method Blank**	**B1 (0.5-1.0)**	**B 1 (8-9)**	**B 2 (0.5-1.0)**	**B 2 (7-7.5)**	**B 3 (0-1.0')**
ARI Lab ID:	MB 0731	B319 - B	B319 - D	B319 - E	B319 - F	B319 - G
Date Extracted:	07/31/92	07/31/92	07/31/92	07/31/92	07/31/92	07/31/92
Date Analyzed:	08/10/92	08/11/92	08/10/92	08/10/92	08/10/92	08/11/92
Sample Amount:	25.0 g	27.4 g	25.5 g	22.6 g	26.2 g	24.4 g
Final volume:	20 ml.	20 ml.	20 ml.	20 ml.	20 ml.	20 ml.
Dilution:	1:1	1:1	1:1	1:1	1:1	1:1
1016/1242	80 U	80 U	80 U	80 U	80 U	200 U
1248	80 U	80 U	80 U	80 U	80 U	200 U
1254	80 U	80 U	80 U	80 U	80 U	180 U
1260	80 U	80 U	80 U	80 U	80 U	80 U
TCMX Surrogate %	56.6%	82.6%	87.3%	85.8%	84.2%	82.6%
DCBP Surrogate %	81.8%	82.8%	90.7%	90.1%	89.7%	79.6%

Sample #:	**B 3 (7.5-8.5)**	**B 4 (0.5-1.0)**	**B 4 (8-9)**	**B 5 (1.5-3)**	**B 5 (7-7.5)**	**B 7 A (3-4')**
ARI Lab ID:	B319 - H	B319 - I	B319 - N	B319 - O	B319 - P	B319 - S
Date Extracted:	07/31/92	07/31/92	07/31/92	07/31/92	07/31/92	07/31/92
Date Analyzed:	08/10/92	08/11/92	08/10/92	08/10/92	08/11/92	08/11/92
Sample Amount:	26.7 g	15.0 g	15.0 g	15.0 g	15.0 g	15.0 g
Final volume:	20 ml.	20 ml.	20 ml.	20 ml.	20 ml.	20 ml.
Dilution:	1:1	1:1	1:1	1:1	1:1	1:1
1016/1242	80 U	80 U	80 U	80 U	80 U	80 U
1248	80 U	80 U	80 U	80 U	80 U	80 U
1254	80 U	**2700**	80 U	**110**	80 U	80 U
1260	80 U	400 U	80 U	80 U	80 U	100 U
TCMX Surrogate %	83.3%	93.1%	75.5%	77.3%	79.5%	72.2%
DCBP Surrogate %	91.9%	81.8%	83.9%	82.3%	86.4%	66.5%

Data Qualifiers

Value	If the result is a value greater than or equal to the detection limit, report the value.
J	Indicates an estimated value when that value is less than the calculated detection limit.
U	Indicates compound was analyzed for, but not detected at the given detection limit.
X	Indicates value above the linear range of the detector. Dilution required.
D	Indicates surrogate was diluted out.
S	Indicates no value reported due to saturation of the detector. Dilution required.
NR	Indicates not reported due to matrix interference.

FORM 1-PCB

ANALYTICAL RESOURCES INCORPORATED

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ORGANICS ANALYSIS DATA SHEET
PCB Analysis by GC/ECD

QC Report: B319-Boeing/Landau
25068.10
Date Sampled: 07/29/92
Date Received: 07/29/92

Matrix: Soil

Data Release Authorized
Report prepared: 08/13/92 - MAC: A rpr

GPC Cleanup: "X"
Florsil Cleanup: Yes
Acid Cleanup: No

Reported in ppb (µg/Kg)

Sample #:	**B 8 (1.5-2.0)**	**B 8 (8-9)**
ARI Lab ID:	B319 - X	B319 - Z
Date Extracted:	07/31/92	07/31/92
Date Analyzed:	08/11/92	08/10/92
Sample Amount:	28.3 g	18.9 g
Final volume:	20 ml.	20 ml.
Dilution:	1:1	1:1
1016/1242	80 U	80 U
1248	80 U	80 U
1254	80 U	80 U
1260	80 U	80 U
TCMX Surrogate %	76.1%	79.3%
DCBP Surrogate %	78.2%	86.3%

Data Qualifiers

Value	If the result is a value greater than or equal to the detection limit, report the value.
J	Indicates an estimated value when that value is less than the calculated detection limit.
U	Indicates compound was analyzed for, but not detected at the given detection limit.
X	Indicates value above the linear range of the detector. Dilution required.
D	Indicates surrogate was diluted out.
S	Indicates no value reported due to saturation of the detector. Dilution required.
NR	Indicates not reported due to matrix interference.

FORM 1-PCB

ANALYTICAL RESOURCES INCORPORATED

Analytical Chemists & Consultants

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ORGANICS ANALYSIS DATA SHEET
PCB Analysis by GC/ECD

QC Report: B319 - Boeing/Landau
25068.1 - N B F

Matrix: Water

Date Sampled: 07/29/92
Date Received: 07/29/92

Data Release Authorized
Report prepared: 08/12/92 - MAC: A rpr

GPC Cleanup: No
Alumina Cleanup: Yes
Acid Cleanup: No

Reported in ppb (µg/L)

Sample #:	**Method Blank**	**F R B - 2**
ARI Lab ID:	MB 0731	B319 - A
Date Extracted:	07/31/92	07/31/92
Date Analyzed:	08/04/92	08/04/92
Sample Amount:	1.0 L	1.0 L
Final volume:	10 ml.	10 ml.
Dilution:	1:1	1:1
1016/1242	1.0 U	1.0 U
1248	1.0 U	1.0 U
1254	1.0 U	1.0 U
1260	1.0 U	1.0 U
TCMX Surrogate %	70.8%	79.3%
DCBP Surrogate %	85.3%	63.5%

Data Qualifiers

Value	If the result is a value greater than or equal to the detection limit, report the value.
J	Indicates an estimated value when that value is less than the calculated detection limit.
U	Indicates compound was analyzed for, but not detected at the given detection limit.
X	Indicates value above the linear range of the detector. Dilution required.
D	Indicates surrogate was diluted out.
S	Indicates no value reported due to saturation of the detector. Dilution required.
NR	Indicates not reported due to matrix interference.

FORM 1-PCB

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Lab ID: MB0803
Matrix: Soils/Sediments

Data Release Authorized: _____
Report: 08/11/92 MAC:K kas

Sample: Method Blank

QC Report No: B319-Boeing/Landau
Project: 25068.10
NBF
VTSR: NA

Instrument: Finn 5
Date Analyzed: 08/03/92

Amount Analyzed: 5.00 gm (Dry Weight Equiv.)
Percent Moisture: NA

CAS Number		µg/Kg
74-87-3	Chloromethane	2.0 U
74-83-9	Bromomethane	2.0 U
75-01-4	Vinyl Chloride	2.0 U
75-00-3	Chloroethane	2.0 U
75-09-2	Methylene Chloride	2.0 U
67-64-1	**Acetone**	**7.3**
75-15-0	Carbon Disulfide	1.0 U
75-35-4	1,1-Dichloroethene	1.0 U
75-34-3	1,1-Dichloroethane	1.0 U
156-60-5	Trans-1,2-Dichloroethene	1.0 U
156-59-2	Cis-1,2-Dichloroethene	1.0 U
67-66-3	Chloroform	1.0 U
107-06-2	1,2-Dichloroethane	1.0 U
78-93-3	2-Butanone	5.0 U
71-55-6	1,1,1-Trichloroethane	1.0 U
108-05-4	Vinyl Acetate	1.0 U
56-23-5	Carbon Tetrachloride	1.0 U
75-27-4	Bromodichloromethane	1.0 U
78-87-5	1,2-Dichloropropane	1.0 U

CAS Number		µg/Kg
10061-01-5	cis-1,3-Dichloropropene	1.0 U
79-01-6	Trichloroethene	1.0 U
124-48-1	Dibromochloromethane	1.0 U
79-00-5	1,1,2-Trichloroethane	1.0 U
71-43-2	Benzene	1.0 U
10061-02-6	trans-1,3-Dichloropropene	1.0 U
110-75-8	2-Chloroethylvinylether	1.0 U
75-25-2	Bromoform	1.0 U
108-10-1	4-Methyl-2-Pentanone	5.0 U
591-78-6	2-Hexanone	5.0 U
127-18-4	Tetrachloroethene	1.0 U
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U
108-88-3	Toluene	1.0 U
108-90-7	Chlorobenzene	1.0 U
100-41-4	Ethylbenzene	1.0 U
100-42-5	Styrene	1.0 U
1330-20-7	Total Xylenes	2.0 U
75-69-4	Trichlorofluoromethane	2.0 U
76-13-1	1,1,2-Trichlorotrifluoroethane	2.0 U

Surrogate Recoveries

d8-Toluene	100%
Bromofluorobenzene	98.9%
d4-1,2-Dichloroethane	101%

Data Reporting Qualifiers

Value — If the result is a value greater than or equal to the detection limit, report the value.

U — Indicates compound was analyzed for but not detected at the given detection limit.

J — Indicates an estimated value when result is less than specified detection limit.

B — This flag is used when the analyte is found in the blank as well as a sample. Indicates possible/probable blank contamination.

K — This flag is used when quantitated value falls above the limit of the calibration curve and dilution should be run.

M — Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match parameters.

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Lab ID: MB0805
Matrix: Soils/Sediments

Data Release Authorized: _____
Report: 08/11/92 MAC:K kas

Sample: Method Blank 2

QC Report No: B319-Boeing/Landau
Project: 25068.10
NBF
VTSR: NA

Instrument: Finn 5
Date Analyzed: 08/05/92

Amount Analyzed: 5.00 gm (Dry Weight Equiv.)
Percent Moisture: NA

CAS Number		µg/Kg
74-87-3	Chloromethane	2.0 U
74-83-9	Bromomethane	2.0 U
75-01-4	Vinyl Chloride	2.0 U
75-00-3	Chloroethane	2.0 U
75-09-2	Methylene Chloride	2.0 U
67-64-1	**Acetone**	**5.3**
75-15-0	Carbon Disulfide	1.0 U
75-35-4	1,1-Dichloroethene	1.0 U
75-34-3	1,1-Dichloroethane	1.0 U
156-60-5	Trans-1,2-Dichloroethene	1.0 U
156-59-2	Cis-1,2-Dichloroethene	1.0 U
67-66-3	Chloroform	1.0 U
107-06-2	1,2-Dichloroethane	1.0 U
78-93-3	2-Butanone	5.0 U
71-55-6	1,1,1-Trichloroethane	1.0 U
108-05-4	Vinyl Acetate	1.0 U
56-23-5	Carbon Tetrachloride	1.0 U
75-27-4	Bromodichloromethane	1.0 U
78-87-5	1,2-Dichloropropane	1.0 U

CAS Number		µg/Kg
10061-01-5	cis-1,3-Dichloropropene	1.0 U
79-01-6	Trichloroethene	1.0 U
124-48-1	Dibromochloromethane	1.0 U
79-00-5	1,1,2-Trichloroethane	1.0 U
71-43-2	Benzene	1.0 U
10061-02-6	trans-1,3-Dichloropropene	1.0 U
110-75-8	2-Chloroethylvinylether	1.0 U
75-25-2	Bromoform	1.0 U
108-10-1	4-Methyl-2-Pentanone	5.0 U
591-78-6	2-Hexanone	5.0 U
127-18-4	Tetrachloroethene	1.0 U
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U
108-88-3	Toluene	1.0 U
108-90-7	Chlorobenzene	1.0 U
100-41-4	Ethylbenzene	1.0 U
100-42-5	Styrene	1.0 U
1330-20-7	Total Xylenes	2.0 U
75-69-4	Trichlorofluoromethane	2.0 U
76-13-1	1,1,2-Trichlorotrifluoroethane	2.0 U

Surrogate Recoveries

d8-Toluene	97.3%
Bromofluorobenzene	106%
d4-1,2-Dichloroethane	84.2%

Data Reporting Qualifiers

Value — If the result is a value greater than or equal to the detection limit, report the value.

U — Indicates compound was analyzed for but not detected at the given detection limit.

J — Indicates an estimated value when result is less than specified detection limit.

B — This flag is used when the analyte is found in the blank as well as a sample. Indicates possible/probable blank contamination.

K — This flag is used when quantitated value falls above the limit of the calibration curve and dilution should be run.

M — Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match parameters.

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Lab ID: MB0806
Matrix: Waters

Data Release Authorized: _____
Report: 08/11/92 MAC:K kas

Sample: Method Blank 3 (water)

QC Report No: B319-Boeing/Landau
Project: 25068.10
NBF
VTSR: NA

Instrument: Finn 5
Date Analyzed: 08/06/92

Amount Purged: 5.0 ml
Conc/Dilution: 1 to 1

CAS Number		µg/L
74-87-3	Chloromethane	2.0 U
74-83-9	Bromomethane	2.0 U
75-01-4	Vinyl Chloride	2.0 U
75-00-3	Chloroethane	2.0 U
75-09-2	**Methylene Chloride**	**5.0**
67-64-1	**Acetone**	**14**
75-15-0	Carbon Disulfide	1.0 U
75-35-4	1,1-Dichloroethene	1.0 U
75-34-3	1,1-Dichloroethane	1.0 U
156-60-5	Trans-1,2-Dichloroethene	1.0 U
156-59-2	Cis-1,2-Dichloroethene	1.0 U
67-66-3	Chloroform	1.0 U
107-06-2	1,2-Dichloroethane	1.0 U
78-93-3	2-Butanone	5.0 U
71-55-6	1,1,1-Trichloroethane	1.0 U
108-05-4	Vinyl Acetate	1.0 U
56-23-5	Carbon Tetrachloride	1.0 U
75-27-4	Bromodichloromethane	1.0 U
78-87-5	1,2-Dichloropropane	1.0 U

CAS Number		µg/L
10061-01-5	cis-1,3-Dichloropropene	1.0 U
79-01-6	Trichloroethene	1.0 U
124-48-1	Dibromochloromethane	1.0 U
79-00-5	1,1,2-Trichloroethane	1.0 U
71-43-2	Benzene	1.0 U
10061-02-6	trans-1,3-Dichloropropene	1.0 U
110-75-8	2-Chloroethylvinylether	1.0 U
75-25-2	Bromoform	1.0 U
108-10-1	4-Methyl-2-Pentanone	5.0 U
591-78-6	2-Hexanone	5.0 U
127-18-4	Tetrachloroethene	1.0 U
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U
108-88-3	Toluene	1.0 U
108-90-7	Chlorobenzene	1.0 U
100-41-4	Ethylbenzene	1.0 U
100-42-5	Styrene	1.0 U
1330-20-7	Total Xylenes	2.0 U
75-69-4	Trichlorofluoromethane	2.0 U
76-13-1	1,1,2-Trichlorotrifluoroethane	2.0 U

Surrogate Recoveries

d8-Toluene	98.8%
Bromofluorobenzene	99.5%
d4-1,2-Dichloroethane	100%

Data Reporting Qualifiers

Value — If the result is a value greater than or equal to the detection limit, report the value.

U — Indicates compound was analyzed for but not detected at the given detection limit.

J — Indicates an estimated value when result is less than specified detection limit.

B — This flag is used when the analyte is found in the blank as well as a sample. Indicates possible/probable blank contamination.

K — This flag is used when quantitated value falls above the limit of the calibration curve and dilution should be run.

M — Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match parameters.

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Lab ID: MB0806
Matrix: Soils/Sediments

Data Release Authorized: _____
Report: 08/11/92 MAC:K kas

Sample: Method Blank 3

QC Report No: B319-Boeing/Landau
Project: 25068.10
NBF
VTSR: NA

Instrument: Finn 5
Date Analyzed: 08/06/92

Amount Analyzed: 5.00 gm (Dry Weight Equiv.)
Percent Moisture: NA

CAS Number		µg/Kg
74-87-3	Chloromethane	2.0 U
74-83-9	Bromomethane	2.0 U
75-01-4	Vinyl Chloride	2.0 U
75-00-3	Chloroethane	2.0 U
75-09-2	**Methylene Chloride**	**5.0**
67-64-1	**Acetone**	**14**
75-15-0	Carbon Disulfide	1.0 U
75-35-4	1,1-Dichloroethene	1.0 U
75-34-3	1,1-Dichloroethane	1.0 U
156-60-5	Trans-1,2-Dichloroethene	1.0 U
156-59-2	Cis-1,2-Dichloroethene	1.0 U
67-66-3	Chloroform	1.0 U
107-06-2	1,2-Dichloroethane	1.0 U
78-93-3	2-Butanone	5.0 U
71-55-6	1,1,1-Trichloroethane	1.0 U
108-05-4	Vinyl Acetate	1.0 U
56-23-5	Carbon Tetrachloride	1.0 U
75-27-4	Bromodichloromethane	1.0 U
78-87-5	1,2-Dichloropropane	1.0 U

CAS Number		µg/Kg
10061-01-5	cis-1,3-Dichloropropene	1.0 U
79-01-6	Trichloroethene	1.0 U
124-48-1	Dibromochloromethane	1.0 U
79-00-5	1,1,2-Trichloroethane	1.0 U
71-43-2	Benzene	1.0 U
10061-02-6	trans-1,3-Dichloropropene	1.0 U
110-75-8	2-Chloroethylvinylether	1.0 U
75-25-2	Bromoform	1.0 U
108-10-1	4-Methyl-2-Pentanone	5.0 U
591-78-6	2-Hexanone	5.0 U
127-18-4	Tetrachloroethene	1.0 U
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U
108-88-3	Toluene	1.0 U
108-90-7	Chlorobenzene	1.0 U
100-41-4	Ethylbenzene	1.0 U
100-42-5	Styrene	1.0 U
1330-20-7	Total Xylenes	2.0 U
75-69-4	Trichlorofluoromethane	2.0 U
76-13-1	1,1,2-Trichlorotrifluoroethane	2.0 U

Surrogate Recoveries

d8-Toluene	98.8%
Bromofluorobenzene	99.5%
d4-1,2-Dichloroethane	100%

Data Reporting Qualifiers

Value — If the result is a value greater than or equal to the detection limit, report the value.

U — Indicates compound was analyzed for but not detected at the given detection limit.

J — Indicates an estimated value when result is less than specified detection limit.

B — This flag is used when the analyte is found in the blank as well as a sample. Indicates possible/probable blank contamination.

K — This flag is used when quantitated value falls above the limit of the calibration curve and dilution should be run.

M — Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match parameters.

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Lab ID: MB0807
Matrix: Soils/Sediments

Data Release Authorized: _____
Report: 08/11/92 MAC:K kas

Sample: Method Blank 4

QC Report No: B319-Boeing/Landau
Project: 25068.10
NBF
VTSR: NA

Instrument: Finn 5
Date Analyzed: 08/07/92

Amount Analyzed: 0.04 gm (Dry Weight Equiv.)
Percent Moisture: NA

CAS Number		µg/Kg
74-87-3	Chloromethane	250 U
74-83-9	Bromomethane	250 U
75-01-4	Vinyl Chloride	250 U
75-00-3	Chloroethane	250 U
75-09-2	**Methylene Chloride**	**100 J**
67-64-1	**Acetone**	**510 J**
75-15-0	Carbon Disulfide	130 U
75-35-4	1,1-Dichloroethene	130 U
75-34-3	1,1-Dichloroethane	130 U
156-60-5	Trans-1,2-Dichloroethene	130 U
156-59-2	Cis-1,2-Dichloroethene	130 U
67-66-3	**Chloroform**	**72 J**
107-06-2	1,2-Dichloroethane	130 U
78-93-3	2-Butanone	630 U
71-55-6	1,1,1-Trichloroethane	130 U
108-05-4	Vinyl Acetate	130 U
56-23-5	Carbon Tetrachloride	130 U
75-27-4	Bromodichloromethane	130 U
78-87-5	1,2-Dichloropropane	130 U

CAS Number		µg/Kg
10061-01-5	cis-1,3-Dichloropropene	130 U
79-01-6	Trichloroethene	130 U
124-48-1	Dibromochloromethane	130 U
79-00-5	1,1,2-Trichloroethane	130 U
71-43-2	Benzene	130 U
10061-02-6	trans-1,3-Dichloropropene	130 U
110-75-8	2-Chloroethylvinylether	130 U
75-25-2	Bromoform	130 U
108-10-1	4-Methyl-2-Pentanone	630 U
591-78-6	2-Hexanone	630 U
127-18-4	Tetrachloroethene	130 U
79-34-5	1,1,2,2-Tetrachloroethane	130 U
108-88-3	Toluene	130 U
108-90-7	Chlorobenzene	130 U
100-41-4	Ethylbenzene	130 U
100-42-5	Styrene	130 U
1330-20-7	Total Xylenes	250 U
75-69-4	Trichlorofluoromethane	250 U
76-13-1	1,1,2-Trichlorotrifluoroethane	250 U

Surrogate Recoveries

d8-Toluene	92.2%
Bromofluorobenzene	96.1%
d4-1,2-Dichloroethane	97.3%

Data Reporting Qualifiers

Value — If the result is a value greater than or equal to the detection limit, report the value.

U — Indicates compound was analyzed for but not detected at the given detection limit.

J — Indicates an estimated value when result is less than specified detection limit.

B — This flag is used when the analyte is found in the blank as well as a sample. Indicates possible/probable blank contamination.

K — This flag is used when quantitated value falls above the limit of the calibration curve and dilution should be run.

M — Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match parameters.

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Lab ID: B319A
Matrix: Waters

Data Release Authorized: _____
Report: 08/11/92 MAC:K kas

Sample: FRB-2

QC Report No: B319-Boeing/Landau
Project: 25068.10
NBF
VTSR: 07/29/92

Instrument: Finn 5
Date Analyzed: 08/06/92

Amount Purged: 5.0 ml
Conc/Dilution: 1 to 1

CAS Number		µg/L
74-87-3	Chloromethane	2.0 U
74-83-9	Bromomethane	2.0 U
75-01-4	Vinyl Chloride	2.0 U
75-00-3	Chloroethane	2.0 U
75-09-2	**Methylene Chloride**	**2.4 B**
67-64-1	**Acetone**	**8.0 B**
75-15-0	Carbon Disulfide	1.0 U
75-35-4	1,1-Dichloroethene	1.0 U
75-34-3	1,1-Dichloroethane	1.0 U
156-60-5	Trans-1,2-Dichloroethene	1.0 U
156-59-2	Cis-1,2-Dichloroethene	1.0 U
67-66-3	**Chloroform**	**4.0**
107-06-2	1,2-Dichloroethane	1.0 U
78-93-3	2-Butanone	5.0 U
71-55-6	1,1,1-Trichloroethane	1.0 U
108-05-4	Vinyl Acetate	1.0 U
56-23-5	Carbon Tetrachloride	1.0 U
75-27-4	Bromodichloromethane	1.0 U
78-87-5	1,2-Dichloropropane	1.0 U

CAS Number		µg/L
10061-01-5	cis-1,3-Dichloropropene	1.0 U
79-01-6	Trichloroethene	1.0 U
124-48-1	Dibromochloromethane	1.0 U
79-00-5	1,1,2-Trichloroethane	1.0 U
71-43-2	Benzene	1.0 U
10061-02-6	trans-1,3-Dichloropropene	1.0 U
110-75-8	2-Chloroethylvinylether	1.0 U
75-25-2	Bromoform	1.0 U
108-10-1	4-Methyl-2-Pentanone	5.0 U
591-78-6	2-Hexanone	5.0 U
127-18-4	Tetrachloroethene	1.0 U
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U
108-88-3	Toluene	1.0 U
108-90-7	Chlorobenzene	1.0 U
100-41-4	Ethylbenzene	1.0 U
100-42-5	Styrene	1.0 U
1330-20-7	Total Xylenes	2.0 U
75-69-4	Trichlorofluoromethane	2.0 U
76-13-1	1,1,2-Trichlorotrifluoroethane	2.0 U

Surrogate Recoveries

d8-Toluene	98.2%
Bromofluorobenzene	97.8%
d4-1,2-Dichloroethane	103%

Data Reporting Qualifiers

Value — If the result is a value greater than or equal to the detection limit, report the value.

U — Indicates compound was analyzed for but not detected at the given detection limit.

J — Indicates an estimated value when result is less than specified detection limit.

B — This flag is used when the analyte is found in the blank as well as a sample. Indicates possible/probable blank contamination.

K — This flag is used when quantitated value falls above the limit of the calibration curve and dilution should be run.

M — Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match parameters.

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Lab ID: B319D
Matrix: Soils/Sediments

Sample: B1 (8-9)

QC Report No: B319-Boeing/Landau
Project: 25068.10
NBF
VTSR: 07/29/92

Data Release Authorized: _____
Report: 08/11/92 MAC:K kas

Instrument: Finn 5
Date Analyzed: 08/03/92

Amount Analyzed: 4.02 gm (Dry Weight)
Percent Moisture: 21.9%

CAS Number		µg/Kg
74-87-3	Chloromethane	2.5 U
74-83-9	Bromomethane	2.5 U
75-01-4	Vinyl Chloride	2.5 U
75-00-3	Chloroethane	2.5 U
75-09-2	Methylene Chloride	2.5 U
67-64-1	Acetone	6.2 U
75-15-0	Carbon Disulfide	1.2 U
75-35-4	1,1-Dichloroethene	1.2 U
75-34-3	1,1-Dichloroethane	1.2 U
156-60-5	Trans-1,2-Dichloroethene	1.2 U
156-59-2	Cis-1,2-Dichloroethene	1.2 U
67-66-3	Chloroform	1.2 U
107-06-2	1,2-Dichloroethane	1.2 U
78-93-3	2-Butanone	6.2 U
71-55-6	1,1,1-Trichloroethane	1.2 U
108-05-4	Vinyl Acetate	1.2 U
56-23-5	Carbon Tetrachloride	1.2 U
75-27-4	Bromodichloromethane	1.2 U
78-87-5	1,2-Dichloropropane	1.2 U

CAS Number		µg/Kg
10061-01-5	cis-1,3-Dichloropropene	1.2 U
79-01-6	Trichloroethene	1.2 U
124-48-1	Dibromochloromethane	1.2 U
79-00-5	1,1,2-Trichloroethane	1.2 U
71-43-2	Benzene	1.2 U
10061-02-6	trans-1,3-Dichloropropene	1.2 U
110-75-8	2-Chloroethylvinylether	1.2 U
75-25-2	Bromoform	1.2 U
108-10-1	4-Methyl-2-Pentanone	6.2 U
591-78-6	2-Hexanone	6.2 U
127-18-4	Tetrachloroethene	1.2 U
79-34-5	1,1,2,2-Tetrachloroethane	1.2 U
108-88-3	Toluene	1.2 U
108-90-7	Chlorobenzene	1.2 U
100-41-4	Ethylbenzene	1.2 U
100-42-5	Styrene	1.2 U
1330-20-7	Total Xylenes	2.5 U
75-69-4	Trichlorofluoromethane	2.5 U
76-13-1	1,1,2-Trichlorotrifluoroethane	2.5 U

Surrogate Recoveries

d8-Toluene	101%
Bromofluorobenzene	103%
d4-1,2-Dichloroethane	120%

Data Reporting Qualifiers

Value — If the result is a value greater than or equal to the detection limit, report the value.

U — Indicates compound was analyzed for but not detected at the given detection limit.

J — Indicates an estimated value when result is less than specified detection limit.

B — This flag is used when the analyte is found in the blank as well as a sample. Indicates possible/probable blank contamination.

K — This flag is used when quantitated value falls above the limit of the calibration curve and dilution should be run.

M — Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match parameters.

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Lab ID: B319Fre
Matrix: Soils/Sediments

Data Release Authorized: _____
Report: 08/11/92 MAC:K kas

Sample: B2 (7-7.5)

QC Report No: B319-Boeing/Landau
Project: 25068.10
NBF
VTSR: 07/29/92

Instrument: Finn 5
Date Analyzed: 08/05/92

Amount Analyzed: 4.04 gm (Dry Weight)
Percent Moisture: 21.1%

CAS Number		µg/Kg
74-87-3	Chloromethane	2.5 U
74-83-9	Bromomethane	2.5 U
75-01-4	Vinyl Chloride	2.5 U
75-00-3	Chloroethane	2.5 U
75-09-2	**Methylene Chloride**	**9.6**
67-64-1	**Acetone**	**7.3 B**
75-15-0	Carbon Disulfide	1.2 U
75-35-4	1,1-Dichloroethene	1.2 U
75-34-3	1,1-Dichloroethane	1.2 U
156-60-5	Trans-1,2-Dichloroethene	1.2 U
156-59-2	Cis-1,2-Dichloroethene	1.2 U
67-66-3	Chloroform	1.2 U
107-06-2	1,2-Dichloroethane	1.2 U
78-93-3	2-Butanone	6.2 U
71-55-6	1,1,1-Trichloroethane	1.2 U
108-05-4	Vinyl Acetate	1.2 U
56-23-5	Carbon Tetrachloride	1.2 U
75-27-4	Bromodichloromethane	1.2 U
78-87-5	1,2-Dichloropropane	1.2 U

CAS Number		µg/Kg
10061-01-5	cis-1,3-Dichloropropene	1.2 U
79-01-6	Trichloroethene	1.2 U
124-48-1	Dibromochloromethane	1.2 U
79-00-5	1,1,2-Trichloroethane	1.2 U
71-43-2	Benzene	1.2 U
10061-02-6	trans-1,3-Dichloropropene	1.2 U
110-75-8	2-Chloroethylvinylether	1.2 U
75-25-2	Bromoform	1.2 U
108-10-1	4-Methyl-2-Pentanone	6.2 U
591-78-6	2-Hexanone	6.2 U
127-18-4	Tetrachloroethene	1.2 U
79-34-5	1,1,2,2-Tetrachloroethane	1.2 U
108-88-3	Toluene	1.2 U
108-90-7	Chlorobenzene	1.2 U
100-41-4	Ethylbenzene	1.2 U
100-42-5	Styrene	1.2 U
1330-20-7	Total Xylenes	2.5 U
75-69-4	Trichlorofluoromethane	2.5 U
76-13-1	1,1,2-Trichlorotrifluoroethane	2.5 U

Surrogate Recoveries

d8-Toluene	94.4%
Bromofluorobenzene	97.2%
d4-1,2-Dichloroethane	84.9%

Data Reporting Qualifiers

Value — If the result is a value greater than or equal to the detection limit, report the value.

U — Indicates compound was analyzed for but not detected at the given detection limit.

J — Indicates an estimated value when result is less than specified detection limit.

B — This flag is used when the analyte is found in the blank as well as a sample. Indicates possible/probable blank contamination.

K — This flag is used when quantitated value falls above the limit of the calibration curve and dilution should be run.

M — Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match parameters.

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Lab ID: B319H
Matrix: Soils/Sediments

Data Release Authorized: _____
Report: 08/11/92 MAC:K kas

Sample: B3 (7.5-8.5)

QC Report No: B319-Boeing/Landau
Project: 25068.10
NBF
VTSR: 07/29/92

Instrument: Finn 5
Date Analyzed: 08/06/92

Amount Analyzed: 4.13 gm (Dry Weight)
Percent Moisture: 22.7%

CAS Number		µg/Kg
74-87-3	Chloromethane	2.4 U
74-83-9	Bromomethane	2.4 U
75-01-4	Vinyl Chloride	2.4 U
75-00-3	Chloroethane	2.4 U
75-09-2	**Methylene Chloride**	**4.8 B**
67-64-1	**Acetone**	**7.7 B**
75-15-0	Carbon Disulfide	1.2 U
75-35-4	1,1-Dichloroethene	1.2 U
75-34-3	1,1-Dichloroethane	1.2 U
156-60-5	Trans-1,2-Dichloroethene	1.2 U
156-59-2	Cis-1,2-Dichloroethene	1.2 U
67-66-3	Chloroform	1.2 U
107-06-2	1,2-Dichloroethane	1.2 U
78-93-3	2-Butanone	6.1 U
71-55-6	1,1,1-Trichloroethane	1.2 U
108-05-4	Vinyl Acetate	1.2 U
56-23-5	Carbon Tetrachloride	1.2 U
75-27-4	Bromodichloromethane	1.2 U
78-87-5	1,2-Dichloropropane	1.2 U

CAS Number		µg/Kg
10061-01-5	cis-1,3-Dichloropropene	1.2 U
79-01-6	Trichloroethene	1.2 U
124-48-1	Dibromochloromethane	1.2 U
79-00-5	1,1,2-Trichloroethane	1.2 U
71-43-2	Benzene	1.2 U
10061-02-6	trans-1,3-Dichloropropene	1.2 U
110-75-8	2-Chloroethylvinylether	1.2 U
75-25-2	Bromoform	1.2 U
108-10-1	4-Methyl-2-Pentanone	6.1 U
591-78-6	2-Hexanone	6.1 U
127-18-4	Tetrachloroethene	1.2 U
79-34-5	1,1,2,2-Tetrachloroethane	1.2 U
108-88-3	Toluene	1.2 U
108-90-7	Chlorobenzene	1.2 U
100-41-4	Ethylbenzene	1.2 U
100-42-5	Styrene	1.2 U
1330-20-7	Total Xylenes	2.4 U
75-69-4	Trichlorofluoromethane	2.4 U
76-13-1	1,1,2-Trichlorotrifluoroethane	2.4 U

Surrogate Recoveries

d8-Toluene	101%
Bromofluorobenzene	100%
d4-1,2-Dichloroethane	98.7%

Data Reporting Qualifiers

Value — If the result is a value greater than or equal to the detection limit, report the value.

U — Indicates compound was analyzed for but not detected at the given detection limit.

J — Indicates an estimated value when result is less than specified detection limit.

B — This flag is used when the analyte is found in the blank as well as a sample. Indicates possible/probable blank contamination.

K — This flag is used when quantitated value falls above the limit of the calibration curve and dilution should be run.

M — Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match parameters.

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Lab ID: B319N
Matrix: Soils/Sediments

Data Release Authorized: _____
Report: 08/11/92 MAC:K kas

Sample: B4 (8-9))

QC Report No: B319-Boeing/Landau
Project: 25068.10
NBF
VTSR: 07/29/92

Instrument: Finn 5
Date Analyzed: 08/06/92

Amount Analyzed: 0.016 gm (Dry Weight)
Percent Moisture: 19.5%

CAS Number		µg/Kg
74-87-3	Chloromethane	630 U
74-83-9	Bromomethane	630 U
75-01-4	Vinyl Chloride	630 U
75-00-3	Chloroethane	630 U
75-09-2	**Methylene Chloride**	**2300 B**
67-64-1	Acetone	1600 U
75-15-0	Carbon Disulfide	310 U
75-35-4	1,1-Dichloroethene	310 U
75-34-3	1,1-Dichloroethane	310 U
156-60-5	Trans-1,2-Dichloroethene	310 U
156-59-2	Cis-1,2-Dichloroethene	310 U
67-66-3	Chloroform	310 U
107-06-2	1,2-Dichloroethane	310 U
78-93-3	2-Butanone	1600 U
71-55-6	1,1,1-Trichloroethane	310 U
108-05-4	Vinyl Acetate	310 U
56-23-5	Carbon Tetrachloride	310 U
75-27-4	Bromodichloromethane	310 U
78-87-5	1,2-Dichloropropane	310 U

CAS Number		µg/Kg
10061-01-5	cis-1,3-Dichloropropene	310 U
79-01-6	Trichloroethene	310 U
124-48-1	Dibromochloromethane	310 U
79-00-5	1,1,2-Trichloroethane	310 U
71-43-2	Benzene	310 U
10061-02-6	trans-1,3-Dichloropropene	310 U
110-75-8	2-Chloroethylvinylether	310 U
75-25-2	Bromoform	310 U
108-10-1	4-Methyl-2-Pentanone	1600 U
591-78-6	2-Hexanone	1600 U
127-18-4	Tetrachloroethene	310 U
79-34-5	1,1,2,2-Tetrachloroethane	310 U
108-88-3	Toluene	310 U
108-90-7	Chlorobenzene	310 U
100-41-4	Ethylbenzene	310 U
100-42-5	Styrene	310 U
1330-20-7	Total Xylenes	630 U
75-69-4	Trichlorofluoromethane	630 U
76-13-1	1,1,2-Trichlorotrifluoroethane	630 U

Surrogate Recoveries

d8-Toluene	98.6%
Bromofluorobenzene	100%
d4-1,2-Dichloroethane	96.6%

Data Reporting Qualifiers

Value — If the result is a value greater than or equal to the detection limit, report the value.

U — Indicates compound was analyzed for but not detected at the given detection limit.

J — Indicates an estimated value when result is less than specified detection limit.

B — This flag is used when the analyte is found in the blank as well as a sample. Indicates possible/probable blank contamination.

K — This flag is used when quantitated value falls above the limit of the calibration curve and dilution should be run.

M — Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match parameters.

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Lab ID: B319P
Matrix: Soils/Sediments

Data Release Authorized: _____
Report: 08/11/92 MAC:K kas

Sample: B5 (7-7.5)

QC Report No: B319-Boeing/Landau
Project: 25068.10
NBF
VTSR: 07/29/92

Instrument: Finn 5
Date Analyzed: 08/06/92

Amount Analyzed: 4.03 gm (Dry Weight)
Percent Moisture: 23.2%

CAS Number		µg/Kg
74-87-3	Chloromethane	2.5 U
74-83-9	Bromomethane	2.5 U
75-01-4	Vinyl Chloride	2.5 U
75-00-3	Chloroethane	2.5 U
75-09-2	**Methylene Chloride**	**12 B**
67-64-1	**Acetone**	**45 B**
75-15-0	Carbon Disulfide	1.2 U
75-35-4	1,1-Dichloroethene	1.2 U
75-34-3	1,1-Dichloroethane	1.2 U
156-60-5	Trans-1,2-Dichloroethene	1.2 U
156-59-2	Cis-1,2-Dichloroethene	1.2 U
67-66-3	Chloroform	1.2 U
107-06-2	1,2-Dichloroethane	1.2 U
78-93-3	**2-Butanone**	**8.3**
71-55-6	1,1,1-Trichloroethane	1.2 U
108-05-4	Vinyl Acetate	1.2 U
56-23-5	Carbon Tetrachloride	1.2 U
75-27-4	Bromodichloromethane	1.2 U
78-87-5	1,2-Dichloropropane	1.2 U

CAS Number		µg/Kg
10061-01-5	cis-1,3-Dichloropropene	1.2 U
79-01-6	Trichloroethene	1.2 U
124-48-1	Dibromochloromethane	1.2 U
79-00-5	1,1,2-Trichloroethane	1.2 U
71-43-2	Benzene	1.2 U
10061-02-6	trans-1,3-Dichloropropene	1.2 U
110-75-8	2-Chloroethylvinylether	1.2 U
75-25-2	Bromoform	1.2 U
108-10-1	4-Methyl-2-Pentanone	6.2 U
591-78-6	2-Hexanone	6.2 U
127-18-4	Tetrachloroethene	1.2 U
79-34-5	1,1,2,2-Tetrachloroethane	1.2 U
108-88-3	Toluene	1.2 U
108-90-7	Chlorobenzene	1.2 U
100-41-4	Ethylbenzene	1.2 U
100-42-5	Styrene	1.2 U
1330-20-7	Total Xylenes	2.5 U
75-69-4	Trichlorofluoromethane	2.5 U
76-13-1	1,1,2-Trichlorotrifluoroethane	2.5 U

Surrogate Recoveries

d8-Toluene	107%
Bromofluorobenzene	94.3%
d4-1,2-Dichloroethane	99.7%

Data Reporting Qualifiers

Value — If the result is a value greater than or equal to the detection limit, report the value.

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J — Indicates an estimated value when result is less than specified detection limit.

B — This flag is used when the analyte is found in the blank as well as a sample. Indicates possible/probable blank contamination.

K — This flag is used when quantitated value falls above the limit of the calibration curve and dilution should be run.

M — Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match parameters.

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Lab ID: B319Q
Matrix: Soils/Sediments

Data Release Authorized: _____
Report: 08/11/92 MAC:K kas

Sample: B7 (1-1.5)

QC Report No: B319-Boeing/Landau
Project: 25068.10
NBF
VTSR: 07/29/92

Instrument: Finn 5
Date Analyzed: 08/06/92

Amount Analyzed: 3.99 gm (Dry Weight)
Percent Moisture: 10.4%

CAS Number		µg/Kg
74-87-3	Chloromethane	2.5 U
74-83-9	Bromomethane	2.5 U
75-01-4	Vinyl Chloride	2.5 U
75-00-3	Chloroethane	2.5 U
75-09-2	**Methylene Chloride**	**6.8 B**
67-64-1	**Acetone**	**110 B**
75-15-0	Carbon Disulfide	1.3 U
75-35-4	1,1-Dichloroethene	1.3 U
75-34-3	1,1-Dichloroethane	1.3 U
156-60-5	Trans-1,2-Dichloroethene	1.3 U
156-59-2	Cis-1,2-Dichloroethene	1.3 U
67-66-3	Chloroform	1.3 U
107-06-2	1,2-Dichloroethane	1.3 U
78-93-3	**2-Butanone**	**15**
71-55-6	1,1,1-Trichloroethane	1.3 U
108-05-4	Vinyl Acetate	1.3 U
56-23-5	Carbon Tetrachloride	1.3 U
75-27-4	Bromodichloromethane	1.3 U
78-87-5	1,2-Dichloropropane	1.3 U

CAS Number		µg/Kg
10061-01-5	cis-1,3-Dichloropropene	1.3 U
79-01-6	Trichloroethene	1.3 U
124-48-1	Dibromochloromethane	1.3 U
79-00-5	1,1,2-Trichloroethane	1.3 U
71-43-2	Benzene	1.3 U
10061-02-6	trans-1,3-Dichloropropene	1.3 U
110-75-8	2-Chloroethylvinylether	1.3 U
75-25-2	Bromoform	1.3 U
108-10-1	4-Methyl-2-Pentanone	6.3 U
591-78-6	2-Hexanone	6.3 U
127-18-4	Tetrachloroethene	1.3 U
79-34-5	1,1,2,2-Tetrachloroethane	1.3 U
108-88-3	**Toluene**	**1.3**
108-90-7	Chlorobenzene	1.3 U
100-41-4	Ethylbenzene	1.3 U
100-42-5	Styrene	1.3 U
1330-20-7	**Total Xylenes**	**1.8 J**
75-69-4	Trichlorofluoromethane	2.5 U
76-13-1	1,1,2-Trichlorotrifluoroethane	2.5 U

Surrogate Recoveries

d8-Toluene	97.1%
Bromofluorobenzene	105%
d4-1,2-Dichloroethane	97.1%

Data Reporting Qualifiers

Value — If the result is a value greater than or equal to the detection limit, report the value.

U — Indicates compound was analyzed for but not detected at the given detection limit.

J — Indicates an estimated value when result is less than specified detection limit.

B — This flag is used when the analyte is found in the blank as well as a sample. Indicates possible/probable blank contamination.

K — This flag is used when quantitated value falls above the limit of the calibration curve and dilution should be run.

M — Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match parameters.

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Lab ID: B319S
Matrix: Soils/Sediments

Data Release Authorized: _____
Report: 08/12/92 MAC:K kas

Sample: B7A (3-4)

QC Report No: B319-Boeing/Landau
Project: 25068.10
NBF
VTSR: 07/29/92

Instrument: Finn 5
Date Analyzed: 08/07/92

Amount Analyzed: 0.036 gm (Dry Weight)
Percent Moisture: 9.1%

CAS Number		µg/Kg
74-87-3	*Chloromethane*	*280 U*
74-83-9	*Bromomethane*	*280 U*
75-01-4	*Vinyl Chloride*	*280 U*
75-00-3	*Chloroethane*	*280 U*
75-09-2	**Methylene Chloride**	**1000 B**
67-64-1	**Acetone**	**410 JB**
75-15-0	*Carbon Disulfide*	*140 U*
75-35-4	*1,1-Dichloroethene*	*140 U*
75-34-3	**1,1-Dichloroethane**	**390**
156-60-5	*Trans-1,2-Dichloroethene*	*140 U*
156-59-2	*Cis-1,2-Dichloroethene*	*140 U*
67-66-3	**Chloroform**	**440 B**
107-06-2	**1,2-Dichloroethane**	**380**
78-93-3	**2-Butanone**	**970**
71-55-6	**1,1,1-Trichloroethane**	**330**
108-05-4	*Vinyl Acetate*	*140 U*
56-23-5	**Carbon Tetrachloride**	**330**
75-27-4	**Bromodichloromethane**	**350**
78-87-5	**1,2-Dichloropropane**	**350**

CAS Number		µg/Kg
10061-01-5	*cis-1,3-Dichloropropene*	*140 U*
79-01-6	*Trichloroethene*	*140 U*
124-48-1	**Dibromochloromethane**	**310**
79-00-5	**1,1,2-Trichloroethane**	**340**
71-43-2	*Benzene*	*140 U*
10061-02-6	*trans-1,3-Dichloropropene*	*140 U*
110-75-8	*2-Chloroethylvinylether*	*140 U*
75-25-2	**Bromoform**	**290**
108-10-1	*4-Methyl-2-Pentanone*	*690 U*
591-78-6	*2-Hexanone*	*690 U*
127-18-4	*Tetrachloroethene*	*140 U*
79-34-5	*1,1,2,2-Tetrachloroethane*	*840 UJ*
108-88-3	**Toluene**	**71 J**
108-90-7	*Chlorobenzene*	*140 U*
100-41-4	*Ethylbenzene*	*140 U*
100-42-5	*Styrene*	*140 U*
1330-20-7	**Total Xylenes**	**320**
75-69-4	*Trichlorofluoromethane*	*280 U*
76-13-1	*1,1,2-Trichlorotrifluoroethane*	*280 U*

Surrogate Recoveries

d8-Toluene	95.0%
Bromofluorobenzene	105%
d4-1,2-Dichloroethane	102%

Data Reporting Qualifiers

Value — If the result is a value greater than or equal to the detection limit, report the value.

U — Indicates compound was analyzed for but not detected at the given detection limit.

J — Indicates an estimated value when result is less than specified detection limit.

B — This flag is used when the analyte is found in the blank as well as a sample. Indicates possible/probable blank contamination.

K — This flag is used when quantitated value falls above the limit of the calibration curve and dilution should be run.

M — Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match parameters.

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Lab ID: B319W
Matrix: Soils/Sediments

Data Release Authorized: _____
Report: 08/11/92 MAC:K kas

Sample: B7A (10-10.5)

QC Report No: B319-Boeing/Landau
Project: 25068.10
NBF
VTSR: 07/29/92

Instrument: Finn 5
Date Analyzed: 08/06/92

Amount Analyzed: 3.54 gm (Dry Weight)
Percent Moisture: 29.3%

CAS Number		µg/Kg
74-87-3	Chloromethane	2.8 U
74-83-9	Bromomethane	2.8 U
75-01-4	Vinyl Chloride	2.8 U
75-00-3	Chloroethane	2.8 U
75-09-2	**Methylene Chloride**	**61 B**
67-64-1	**Acetone**	**76 B**
75-15-0	Carbon Disulfide	1.4 U
75-35-4	1,1-Dichloroethene	1.4 U
75-34-3	1,1-Dichloroethane	1.4 U
156-60-5	Trans-1,2-Dichloroethene	1.4 U
156-59-2	Cis-1,2-Dichloroethene	1.4 U
67-66-3	Chloroform	1.4 U
107-06-2	1,2-Dichloroethane	1.4 U
78-93-3	2-Butanone	7.1 U
71-55-6	1,1,1-Trichloroethane	1.4 U
108-05-4	Vinyl Acetate	1.4 U
56-23-5	Carbon Tetrachloride	1.4 U
75-27-4	Bromodichloromethane	1.4 U
78-87-5	1,2-Dichloropropane	1.4 U

CAS Number		µg/Kg
10061-01-5	cis-1,3-Dichloropropene	1.4 U
79-01-6	Trichloroethene	1.4 U
124-48-1	Dibromochloromethane	1.4 U
79-00-5	1,1,2-Trichloroethane	1.4 U
71-43-2	Benzene	1.4 U
10061-02-6	trans-1,3-Dichloropropene	1.4 U
110-75-8	2-Chloroethylvinylether	1.4 U
75-25-2	Bromoform	1.4 U
108-10-1	4-Methyl-2-Pentanone	7.1 U
591-78-6	2-Hexanone	7.1 U
127-18-4	Tetrachloroethene	1.4 U
79-34-5	1,1,2,2-Tetrachloroethane	1.4 U
108-88-3	**Toluene**	**28 M**
108-90-7	Chlorobenzene	1.4 U
100-41-4	Ethylbenzene	1.4 U
100-42-5	Styrene	1.4 U
1330-20-7	**Total Xylenes**	**2.8 M**
75-69-4	Trichlorofluoromethane	2.8 U
76-13-1	1,1,2-Trichlorotrifluoroethane	2.8 U

Surrogate Recoveries

d8-Toluene	142%
Bromofluorobenzene	98.2%
d4-1,2-Dichloroethane	42.6%

Data Reporting Qualifiers

Value — If the result is a value greater than or equal to the detection limit, report the value.

U — Indicates compound was analyzed for but not detected at the given detection limit.

J — Indicates an estimated value when result is less than specified detection limit.

B — This flag is used when the analyte is found in the blank as well as a sample. Indicates possible/probable blank contamination.

K — This flag is used when quantitated value falls above the limit of the calibration curve and dilution should be run.

M — Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match parameters.

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Lab ID: B319Wre
Matrix: Soils/Sediments

Data Release Authorized: _____
Report: 08/11/92 MAC:K kas

Sample: B7A (10-10.5)
re-analysis
QC Report No: B319-Boeing/Landau
Project: 25068.10
NBF
VTSR: 07/29/92

Instrument: Finn 5
Date Analyzed: 08/06/92

Amount Analyzed: 0.71 gm (Dry Weight)
Percent Moisture: 29.3%

CAS Number		µg/Kg
74-87-3	Chloromethane	14 U
74-83-9	Bromomethane	14 U
75-01-4	Vinyl Chloride	14 U
75-00-3	Chloroethane	14 U
75-09-2	**Methylene Chloride**	**54 B**
67-64-1	**Acetone**	**110 B**
75-15-0	Carbon Disulfide	7.1 U
75-35-4	1,1-Dichloroethene	7.1 U
75-34-3	1,1-Dichloroethane	7.1 U
156-60-5	Trans-1,2-Dichloroethene	7.1 U
156-59-2	Cis-1,2-Dichloroethene	7.1 U
67-66-3	Chloroform	7.1 U
107-06-2	1,2-Dichloroethane	7.1 U
78-93-3	2-Butanone	35 U
71-55-6	1,1,1-Trichloroethane	7.1 U
108-05-4	Vinyl Acetate	7.1 U
56-23-5	Carbon Tetrachloride	7.1 U
75-27-4	Bromodichloromethane	7.1 U
78-87-5	1,2-Dichloropropane	7.1 U

CAS Number		µg/Kg
10061-01-5	cis-1,3-Dichloropropene	7.1 U
79-01-6	Trichloroethene	7.1 U
124-48-1	Dibromochloromethane	7.1 U
79-00-5	1,1,2-Trichloroethane	7.1 U
71-43-2	Benzene	7.1 U
10061-02-6	trans-1,3-Dichloropropene	7.1 U
110-75-8	2-Chloroethylvinylether	7.1 U
75-25-2	Bromoform	7.1 U
108-10-1	4-Methyl-2-Pentanone	35 U
591-78-6	2-Hexanone	35 U
127-18-4	Tetrachloroethene	7.1 U
79-34-5	1,1,2,2-Tetrachloroethane	7.1 U
108-88-3	**Toluene**	**19 M**
108-90-7	Chlorobenzene	7.1 U
100-41-4	Ethylbenzene	7.1 U
100-42-5	Styrene	7.1 U
1330-20-7	Total Xylenes	14 U
75-69-4	Trichlorofluoromethane	14 U
76-13-1	1,1,2-Trichlorotrifluoroethane	14 U

Surrogate Recoveries

d8-Toluene	170%
Bromofluorobenzene	72.1%
d4-1,2-Dichloroethane	53.5%

Data Reporting Qualifiers

Value — If the result is a value greater than or equal to the detection limit, report the value.

U — Indicates compound was analyzed for but not detected at the given detection limit.

J — Indicates an estimated value when result is less than specified detection limit.

B — This flag is used when the analyte is found in the blank as well as a sample. Indicates possible/probable blank contamination.

K — This flag is used when quantitated value falls above the limit of the calibration curve and dilution should be run.

M — Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match parameters.

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Lab ID: B319Xre
Matrix: Soils/Sediments

Data Release Authorized: _____
Report: 08/11/92 MAC:Kkas

Sample: B8 (1.5-2.0)

QC Report No: B319-Boeing/Landau
Project: 25068.10
NBF
VTSR: 07/29/92

Instrument: Finn 5
Date Analyzed: 08/06/92

Amount Analyzed: 4.51 gm (Dry Weight)
Percent Moisture: 11.6%

CAS Number		µg/Kg
74-87-3	Chloromethane	2.2 U
74-83-9	Bromomethane	2.2 U
75-01-4	Vinyl Chloride	2.2 U
75-00-3	Chloroethane	2.2 U
75-09-2	**Methylene Chloride**	**7.6 B**
67-64-1	**Acetone**	**82 B**
75-15-0	Carbon Disulfide	1.1 U
75-35-4	1,1-Dichloroethene	1.1 U
75-34-3	1,1-Dichloroethane	1.1 U
156-60-5	Trans-1,2-Dichloroethene	1.1 U
156-59-2	Cis-1,2-Dichloroethene	1.1 U
67-66-3	Chloroform	1.1 U
107-06-2	1,2-Dichloroethane	1.1 U
78-93-3	**2-Butanone**	**7.9**
71-55-6	1,1,1-Trichloroethane	1.1 U
108-05-4	Vinyl Acetate	1.1 U
56-23-5	Carbon Tetrachloride	1.1 U
75-27-4	Bromodichloromethane	1.1 U
78-87-5	1,2-Dichloropropane	1.1 U

CAS Number		µg/Kg
10061-01-5	cis-1,3-Dichloropropene	1.1 U
79-01-6	Trichloroethene	1.1 U
124-48-1	Dibromochloromethane	1.1 U
79-00-5	1,1,2-Trichloroethane	1.1 U
71-43-2	Benzene	1.1 U
10061-02-6	trans-1,3-Dichloropropene	1.1 U
110-75-8	2-Chloroethylvinylether	1.1 U
75-25-2	Bromoform	1.1 U
108-10-1	4-Methyl-2-Pentanone	5.5 U
591-78-6	2-Hexanone	5.5 U
127-18-4	Tetrachloroethene	1.1 U
79-34-5	1,1,2,2-Tetrachloroethane	1.1 U
108-88-3	**Toluene**	**1.6**
108-90-7	Chlorobenzene	1.1 U
100-41-4	Ethylbenzene	1.1 U
100-42-5	Styrene	1.1 U
1330-20-7	Total Xylenes	2.2 U
75-69-4	Trichlorofluoromethane	2.2 U
76-13-1	1,1,2-Trichlorotrifluoroethane	2.2 U

Surrogate Recoveries

d8-Toluene	100%
Bromofluorobenzene	98.4%
d4-1,2-Dichloroethane	102%

Data Reporting Qualifiers

Value — If the result is a value greater than or equal to the detection limit, report the value.

U — Indicates compound was analyzed for but not detected at the given detection limit.

J — Indicates an estimated value when result is less than specified detection limit.

B — This flag is used when the analyte is found in the blank as well as a sample. Indicates possible/probable blank contamination.

K — This flag is used when quantitated value falls above the limit of the calibration curve and dilution should be run.

M — Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match parameters.

ANALYTICAL RESOURCES INCORPORATED

Analytical Chemists & Consultants

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Lab ID: B319Z
Matrix: Soils/Sediments

Data Release Authorized: _____
Report: 08/11/92 MAC:K kas

Sample: B8 (8-9)

QC Report No: B319-Boeing/Landau
Project: 25068.10
NBF
VTSR: 07/29/92

Instrument: Finn 5
Date Analyzed: 08/06/92

Amount Analyzed: 3.02 gm (Dry Weight)
Percent Moisture: 39.3%

CAS Number		µg/Kg
74-87-3	Chloromethane	3.3 U
74-83-9	Bromomethane	3.3 U
75-01-4	Vinyl Chloride	3.3 U
75-00-3	Chloroethane	3.3 U
75-09-2	**Methylene Chloride**	**13 B**
67-64-1	**Acetone**	**15 B**
75-15-0	Carbon Disulfide	1.7 U
75-35-4	1,1-Dichloroethene	1.7 U
75-34-3	1,1-Dichloroethane	1.7 U
156-60-5	Trans-1,2-Dichloroethene	1.7 U
156-59-2	Cis-1,2-Dichloroethene	1.7 U
67-66-3	Chloroform	1.7 U
107-06-2	1,2-Dichloroethane	1.7 U
78-93-3	2-Butanone	8.3 U
71-55-6	1,1,1-Trichloroethane	1.7 U
108-05-4	Vinyl Acetate	1.7 U
56-23-5	Carbon Tetrachloride	1.7 U
75-27-4	Bromodichloromethane	1.7 U
78-87-5	1,2-Dichloropropane	1.7 U

CAS Number		µg/Kg
10061-01-5	cis-1,3-Dichloropropene	1.7 U
79-01-6	Trichloroethene	1.7 U
124-48-1	Dibromochloromethane	1.7 U
79-00-5	1,1,2-Trichloroethane	1.7 U
71-43-2	Benzene	1.7 U
10061-02-6	trans-1,3-Dichloropropene	1.7 U
110-75-8	2-Chloroethylvinylether	1.7 U
75-25-2	Bromoform	1.7 U
108-10-1	4-Methyl-2-Pentanone	8.3 U
591-78-6	2-Hexanone	8.3 U
127-18-4	Tetrachloroethene	1.7 U
79-34-5	1,1,2,2-Tetrachloroethane	1.7 U
108-88-3	**Toluene**	**6.9**
108-90-7	Chlorobenzene	1.7 U
100-41-4	Ethylbenzene	1.7 U
100-42-5	Styrene	1.7 U
1330-20-7	Total Xylenes	3.3 U
75-69-4	Trichlorofluoromethane	3.3 U
76-13-1	1,1,2-Trichlorotrifluoroethane	3.3 U

Surrogate Recoveries

d8-Toluene	158%
Bromofluorobenzene	63.5%
d4-1,2-Dichloroethane	97.3%

Data Reporting Qualifiers

Value — If the result is a value greater than or equal to the detection limit, report the value.

U — Indicates compound was analyzed for but not detected at the given detection limit.

J — Indicates an estimated value when result is less than specified detection limit.

B — This flag is used when the analyte is found in the blank as well as a sample. Indicates possible/probable blank contamination.

K — This flag is used when quantitated value falls above the limit of the calibration curve and dilution should be run.

M — Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match parameters.

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Lab ID: B319Zre
Matrix: Soils/Sediments

Data Release Authorized: _____
Report: 08/11/92 MAC:K kas

Sample: B8 (8-9)
re-analysis
QC Report No: B319-Boeing/Landau
Project: 25068.10
NBF
VTSR: 07/29/92

Instrument: Finn 5
Date Analyzed: 08/06/92

Amount Analyzed: 0.61 gm (Dry Weight)
Percent Moisture: 39.3%

CAS Number		µg/Kg
74-87-3	Chloromethane	16 U
74-83-9	Bromomethane	16 U
75-01-4	Vinyl Chloride	16 U
75-00-3	Chloroethane	16 U
75-09-2	**Methylene Chloride**	**35 B**
67-64-1	**Acetone**	**48 B**
75-15-0	Carbon Disulfide	8.2 U
75-35-4	1,1-Dichloroethene	8.2 U
75-34-3	1,1-Dichloroethane	8.2 U
156-60-5	Trans-1,2-Dichloroethene	8.2 U
156-59-2	Cis-1,2-Dichloroethene	8.2 U
67-66-3	Chloroform	8.2 U
107-06-2	1,2-Dichloroethane	8.2 U
78-93-3	2-Butanone	41 U
71-55-6	1,1,1-Trichloroethane	8.2 U
108-05-4	Vinyl Acetate	8.2 U
56-23-5	Carbon Tetrachloride	8.2 U
75-27-4	Bromodichloromethane	8.2 U
78-87-5	1,2-Dichloropropane	8.2 U

CAS Number		µg/Kg
10061-01-5	cis-1,3-Dichloropropene	8.2 U
79-01-6	Trichloroethene	8.2 U
124-48-1	Dibromochloromethane	8.2 U
79-00-5	1,1,2-Trichloroethane	8.2 U
71-43-2	Benzene	8.2 U
10061-02-6	trans-1,3-Dichloropropene	8.2 U
110-75-8	2-Chloroethylvinylether	8.2 U
75-25-2	Bromoform	8.2 U
108-10-1	4-Methyl-2-Pentanone	41 U
591-78-6	2-Hexanone	41 U
127-18-4	Tetrachloroethene	8.2 U
79-34-5	1,1,2,2-Tetrachloroethane	8.2 U
108-88-3	**Toluene**	**13**
108-90-7	Chlorobenzene	8.2 U
100-41-4	Ethylbenzene	8.2 U
100-42-5	Styrene	8.2 U
1330-20-7	Total Xylenes	16 U
75-69-4	Trichlorofluoromethane	16 U
76-13-1	1,1,2-Trichlorotrifluoroethane	16 U

Surrogate Recoveries

d8-Toluene	143%
Bromofluorobenzene	67.6%
d4-1,2-Dichloroethane	98.0%

Data Reporting Qualifiers

Value — If the result is a value greater than or equal to the detection limit, report the value.

U — Indicates compound was analyzed for but not detected at the given detection limit.

J — Indicates an estimated value when result is less than specified detection limit.

B — This flag is used when the analyte is found in the blank as well as a sample. Indicates possible/probable blank contamination.

K — This flag is used when quantitated value falls above the limit of the calibration curve and dilution should be run.

M — Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match parameters.

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TOTAL PETROLEUM HYDROCARBONS
WA HCID Method by GC/FID

QC Report No: B319-Boeing/Landau
Project: 25068.10
NBF
VTSR: 07/29/92

Matrix: Water

Data Release Authorized
Data Prepared: 8/10/92 - MAC:B mjt

Date extracted: 07/31/92
Dates Analyzed: 08/01 - 08/07/92

Lab ID	Client Sample ID	Dilution Factor	Gas Range Petroleum Hydrocarbons †	Diesel Range Petroleum Hydrocarbons *	Surrogate Recovery
B319 MB	*Method Blank*	-	3.0 U	3.0 U	94.3%
B319 A	FRB-2	-	3.0 U	3.0 U	86.7%

Surrogate is Me-Arachidate.

Values reported in ppm (mg/L).

U Indicates compound was analyzed for but not detected at the given detection limit.
X Indicates a value above the linear range of the detector. Dilution required.
† Value based on total peaks in the range from Toluene to C12.
* Value based on total peaks in the range from C12-C24.
NR Indicates the surrogate was not recovered due to dilution or matrix effect.

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TOTAL PETROLEUM HYDROCARBONS
WA HCID Method by GC/FID

QC Report No: B319-Boeing/Landau
Project: 25068.10
NBF
VTSR: 07/29/92

Matrix: Soil

Data Release Authorized _____
Data Prepared: 8/10/92 - MAC:B mjt

Date extracted: 07/31/92
Dates Analyzed: 08/01 - 08/07/92

Lab ID	Client Sample ID	Dilution Factor	Gas Range Petroleum Hydrocarbons †	Diesel Range Petroleum Hydrocarbons *	Surrogate Recovery
B319 MB1	*Method Blank*	-	10 U	10 U	103%
B319 MB2	*Method Blank*	-	10 U	10 U	94.0%
B319 B	B1 (0.5-1.0)	-	10 U	**14**	109%
B319 C	B1 (4-4.5)	-	10 U	10 U	94.9%
B319 E	B2 (0.5-1.0)	-	10 U	**90**	101%
B319 F	B2 (7-7.5)	-	10 U	10 U	90.3%
B319 G	B3 (0-1.0)	-	**15**	**260**	95.9%
B319 H	B3 (7.5-8.5)	-	10 U	10 U	103%
B319 I	B4 (0.5-1.0)	-	10 U	**940-JP5**	112%
B319 J	B4 (2.5-3.0)	-	**S**	**S**	127%
B319 Jdl	B4 (2.5-3.0)	50	500 U	**13000-JP5**	85.0%
B319 K	B4 (4-4.5)	-	**S**	**S**	117%
B319 Kdl	B4 (4-4.5)	10	100 U	**4900-JP5**	132%
B319 L	B4 (6.0)	-	**S**	**S**	96.8%
B319 Ldl	B4 (6.0)	10	100 U	**2400-JP5**	106%

Surrogate is Me-Arachidate.

Values reported in ppm (mg/Kg).

U Indicates compound was analyzed for but not detected at the given detection limit.
X Indicates a value above the linear range of the detector. Dilution required.
† Value based on total peaks in the range from Toluene to C12.
* Value based on total peaks in the range from C12-C24.
NR Indicates the surrogate was not recovered due to dilution or matrix effect.
S Indicates no value reported due to saturation of the detector. Dilution required.

SEA428230

ANALYTICAL RESOURCES INCORPORATED

Analytical Chemists & Consultants

333 Ninth Ave. North
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TOTAL PETROLEUM HYDROCARBONS
WA HCID Method by GC/FID

QC Report No: B319-Boeing/Landau
Project: 25068.10
NBF
VTSR: 07/29/92

Matrix: Soil

Data Release Authorized _____
Data Prepared: 8/10/92 - MAC:B mjt

Date extracted: 07/31/92
Dates Analyzed: 08/01 - 08/07/92

Lab ID	Client Sample ID	Dilution Factor	Gas Range Petroleum Hydrocarbons †	Diesel Range Petroleum Hydrocarbons *	Surrogate Recovery
B319 M	B4 (7.0)	-	10 U	**770-JP5**	96.4%
B319 N	B4 (8-9)	-	10 U	**1500-JP5**	130%
B319 NMS	B4 (8-9)	-	10 U	**1800-JP5**	139%
B319 NMSD	B4 (8-9)	-	10 U	**1800-JP5**	104%
B319 O	B5 (1.5-3)	-	10 U	**13**	103%
B319 P	B5 (7-7.5)	-	10 U	10 U	87.3%
B319 Q	B7 (1-1.5)	-	10 U	**270-JP5**	135%
B319 R	B7 (1.5-2.0)	-	10 U	**1200-JP5**	101%
B319 S	B7A (3-4)	-	10 U	**1800-JP5**	104%
B319 T	B7A (4.5-5.0)	-	10 U	**1100-JP5**	103%
B319 U	B7A (5.5-6.0)	-	10 U	10 U	131%
B319 V	B7A (6.5)	-	10 U	10 U	97.3%
B319 W	B7A (10-10.5)	-	10 U	**33**	99.6%
B319 X	B8 (1.5-2.0)	-	10 U	**12**	112%
B319 Y	B8 (6.5-7.0)	-	10 U	**42**	144%
B319 Z	B8 (8-9)	-	10 U	**15**	93.6%
B319 ZMS	B8 (8-9)	-	10 U	-	97.1%
B319 ZMSD	B8 (8-9)	-	10 U	-	88.4%

Surrogate is Me-Arachidate.

Values reported in ppm (mg/Kg).

U Indicates compound was analyzed for but not detected at the given detection limit.
X Indicates a value above the linear range of the detector. Dilution required.
† Value based on total peaks in the range from Toluene to C12.
* Value based on total peaks in the range from C12-C24.
NR Indicates the surrogate was not recovered due to dilution or matrix effect.
S Indicates no value reported due to saturation of the detector. Dilution required.

ANALYTICAL RESOURCES INCORPORATED

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333 Ninth Ave. North
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SOIL DIESEL MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

ARI Job No: B319

Client: Boeing/Landau
Project: 25068.10
NBF

Sample No: B4 (8-9)

COMPOUND	SPIKE ADDED (mg/Kg)	SAMPLE CONC (mg/Kg)	MS CONC (mg/Kg)	MS % REC	QC Limits REC
Diesel	304	2254.0	2997	244	50-150

COMPOUND	SPIKE ADDED (mg/Kg)	MSD CONC (mg/Kg)	MSD % REC	% RPD	Q C Limits	
					RPD	REC
Diesel	304	2936	224	8.6	50	50-150

Comments: Advisory QC Limits.
Interferences from JP5 in sample affected spike recovery.

FORM III TPH (8015)-2

ANALYTICAL RESOURCES INCORPORATED

Analytical Chemists & Consultants

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(206) 621-6490
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SOIL DIESEL MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

ARI Job No: B319

Sample No: B8 (8-9)

Client: Boeing/Landau
Project: 25068.10
NBF

COMPOUND	SPIKE ADDED (mg/Kg)	SAMPLE CONC (mg/Kg)	MS CONC (mg/Kg)	MS % REC	QC Limits REC
Diesel	416	15.2	496	115	50-150

COMPOUND	SPIKE ADDED (mg/Kg)	MSD CONC (mg/Kg)	MSD % REC	% RPD	Q C Limits	
					RPD	REC
Diesel	417	483	112	2.6	50	50-150

Comments: Advisory QC Limits

FORM III TPH (8015)-2

EXPLANATION OF INORGANIC DATA REPORT CODES

The columns labeled 'PREP', 'C', and 'M' contain important information about your analyses. The codes a defined below.

PREPARATION CODES

These 3-letter codes describe methods used to prepare samples for analysis:

AEN USEPA, Metals in air filters
AHM ARI, Mercury in air filters
AHN ARI, Metals in air filters
ANN NIOSH 7300, Metals in air filters
CAN AOAC (1984) 25.024, Metals in earthenware
DE6 EPA 600/4-79-020 218.5, Cr(VI) in water
DMM DMN followed by TMM, Dissolved mercury
DMN Filtered through .45u filter, Dissolved metals
EW6 EWN followed by DE6
EWM EWN followed by TMM
EWN USEPA SW-846 1310, EP Toxicity
FHP ARI, Metals in tissue ($HNO_3/HClO_4$)
FPP PSEP, Metals in tissue ($HNO_3/HClO_4$)
FRM Journal, Mercury in tissue
FRN Journal, Metals in tissue (HNO_3/H_2O_2)
KRN ARI, Concentration by coprecipitation
LEM USEPA, TCLP followed by TMM
LEN USEPA, TCLP Extraction
MHM ARI, Mercury in miscellaneous materials
MHN ARI, Metals in miscellaneous materials
OAM ARI, Mercury in oil, grease or tar
OAN ARI, Metals in oil, grease or tar
PHM ARI, Mercury in wipes
PHN ARI, Metals in wipes
RCC USEPA CLP, Water digestion, HCl matrix
RCN USEPA CLP, Water digestion, HNO_3 matrix
REC EPA 600/4-79-020 4.1.4, HCl matrix
REI EPA 600/4-79-020 200.7 and 9.4
REN EPA 600/4-79-020 4.1.4, HNO_3 matrix
RMA EPA 600/4-79-020 206.2
RWC USEPA SW-846 3005
SCC USEPA CLP, Soil digestion, HCl matrix
SCM USEPA CLP, Mercury in soil
SCN USEPA CLP, Soil digestion, HNO_3 matrix
SEM EPA 600/4-79-020 245.5, Mercury in soil
SHF ARI, Metals in soil, HF digestion
SRL Journal, Lithium meta-borate fusion
SPF PSEP, Metals in sediment, HF digestion
SSC Standard Methods 302C, Sb/Sn in soil
SSN Standard Methods 302C, Soil digestion
SSS Standard Methods 302C, Ti in soil
SW6 USEPA SW-846 3060, Cr(VI) in soil
SWC USEPA SW-846 3050, HCl matrix
SWN USEPA SW-846 3050, HNO_3 matrix
SWR USEPA SW-846 Modified 3005, Sb by GFAAS
TEC EPA 600/4-79-020 4.1.3, HCl matrix
TEG EPA 600/4-79-020 272.1, Silver in water
TEI EPA 600/4-79-020 200.7 and 9.3
TEN EPA 600/4-79-020 4.1.3, HNO_3 matrix
THG ARI, Silver in photographic solutions
TMM EPA 600/4-79-020 245.1, Mercury in water
TSC Standard Methods 302C, Sb/Sn in water
TSN Standard Methods 302D
TSS Standard Methods 302E, Ti in water
TWC USEPA SW-846 3010, HCl matrix
TWG USEPA SW-846 7760, Silver in water
TWN USEPA SW-846 3020, HNO_3 matrix
WMN EPA 600/4-79-020, Preserved, undigested water
XSC Standard Methods 302B

CONCENTRATION CODES

These codes are used to qualify reported concentrations:

U No analyte was detected. The reported value is the lower limit of detection.

METHOD CODES

These codes signify the instrumental technique used for analysis:

CVA Cold Vapor Atomic Absorption Spectrophotometry
FLA Flame Atomic Absorption Spectrophotometry
GFA Graphite Furnace Atomic Absorption Spectrophotometry
ICP Inductively Coupled Plasma Atomic Emission Spectrometry

ANALYTICAL RESOURCES, INC.
Inorganic Laboratory Data Report
08/07/92
09:27:29

Client: Boeing/Landau
Contact: Tom Colligon
Project: 25068.10 NBF
ID number: B1 (8-9)
Description:
Sampled: / /
Received: 07/29/92
Matrix: Soil

ARI job number: B319
ARI sample number: D

Released by:

A N A L Y T I C A L R E S U L T S

CAS Number	Analyte	Concentration	C	Prep	M
7440-38-2	Arsenic	6 mg/kg-dry	U	SWC	ICP
7440-41-7	Beryllium	0.1 mg/kg-dry	U	SWC	ICP
7440-43-9	Cadmium	0.2 mg/kg-dry	U	SWC	ICP
7440-47-3	Chromium	11.7 mg/kg-dry		SWC	ICP
7440-50-8	Copper	17.4 mg/kg-dry		SWC	ICP
7439-92-1	Lead	4 mg/kg-dry		SWC	ICP
7439-97-6	Mercury	0.1 mg/kg-dry	U	SCM	CVA
7440-02-0	Nickel	5 mg/kg-dry		SWC	ICP
7440-66-6	Zinc	22.6 mg/kg-dry		SWC	ICP

ANALYTICAL RESOURCES, INC.
Inorganic Laboratory Data Report
08/07/92
09:27:31

Client: Boeing/Landau
Contact: Tom Colligon
Project: 25068.10 NBF
ID number: B1 (8-9)
Description: Laboratory Duplicate
Sampled: / /
Received: 07/29/92
Matrix: Soil

ARI job number: B319
ARI sample number: DDUP

Released by:

A N A L Y T I C A L R E S U L T S

CAS Number	Analyte	Concentration	C	Prep	M
7440-38-2	Arsenic	6 mg/kg-dry	U	SWC	ICP
7440-41-7	Beryllium	0.1 mg/kg-dry	U	SWC	ICP
7440-43-9	Cadmium	0.2 mg/kg-dry	U	SWC	ICP
7440-47-3	Chromium	12.1 mg/kg-dry		SWC	ICP
7440-50-8	Copper	15.9 mg/kg-dry		SWC	ICP
7439-92-1	Lead	5 mg/kg-dry		SWC	ICP
7439-97-6	Mercury	0.1 mg/kg-dry	U	SCM	CVA
7440-02-0	Nickel	5 mg/kg-dry		SWC	ICP
7440-66-6	Zinc	22.8 mg/kg-dry		SWC	ICP

ANALYTICAL RESOURCES, INC.
Matrix Duplicate Quality Control Report

Client: Boeing/Landau

Client's sample ID: B1 (8-9)

ARI sample ID: B319 DDUP

Units: mg/kg-dry

Analyte	Meth	Original Sample		Matrix Duplicate		RPD	Control Limit		Q
Arsenic	ICP	U	6	U	6	0.0	±	6	L
Beryllium	ICP	U	0.1	U	0.1	0.0	±	0.1	L
Cadmium	ICP	U	0.2	U	0.2	0.0	±	0.2	L
Chromium	ICP		11.7		12.1	3.4	±	20 %	
Copper	ICP		17.4		15.9	9.0	±	20 %	
Lead	ICP		4		5	22.2	±	3	L
Mercury	CVA	U	0.1	U	0.1	0.0	±	0.1	L
Nickel	ICP		5		5	0.0	±	20 %	
Zinc	ICP		22.6		22.8	0.9	±	20 %	

RPD = Relative percent difference

'Q' codes: '*' = control limit not met
'L' = RPD not valid, alternate limit = ± detection limit

ANALYTICAL RESOURCES, INC.
Inorganic Laboratory Data Report
08/07/92
09:27:33

Client: Boeing/Landau
Contact: Tom Colligon
Project: 25068.10 NBF
ID number: B1 (8-9)
Description: Matrix Spike
Sampled: / /
Received: 07/29/92
Matrix: Soil

ARI job number: B319
ARI sample number: DSPK

Released by:

A N A L Y T I C A L R E S U L T S

CAS Number	Analyte	Concentration	C	Prep	M
7440-38-2	Arsenic	286 mg/kg-dry		SWC	ICP
7440-41-7	Beryllium	5.8 mg/kg-dry		SWC	ICP
7440-43-9	Cadmium	12.1 mg/kg-dry		SWC	ICP
7440-47-3	Chromium	41.2 mg/kg-dry		SWC	ICP
7440-50-8	Copper	26.5 mg/kg-dry		SWC	ICP
7439-92-1	Lead	126 mg/kg-dry		SWC	ICP
7439-97-6	Mercury	0.5 mg/kg-dry		SCM	CVA
7440-02-0	Nickel	64 mg/kg-dry		SWC	ICP
7440-66-6	Zinc	80.5 mg/kg-dry		SWC	ICP

ANALYTICAL RESOURCES, INC.
Matrix Spike Quality Control Report

Client: Boeing/Landau

Client's sample ID: B1 (8-9)

ARI sample ID: B319 DSPK

Units: mg/kg-dry

Analyte	Meth	Sample	Matrix Spike	Spike Added	%R	Control Limit	Q
Arsenic	ICP	0	286	304	94.1	75-125%	
Beryllium	ICP	0	5.8	6.1	95.1	75-125%	
Cadmium	ICP	0	12.1	12.1	100.0	75-125%	
Chromium	ICP	11.7	41.2	30.4	97.0	75-125%	
Copper	ICP	17.4	26.5	12.1	75.2	75-125%	
Lead	ICP	4	126	121	100.8	75-125%	
Mercury	CVA	0.1	0.5	0.5	80.0	75-125%	
Nickel	ICP	5	64	60.7	97.2	75-125%	
Zinc	ICP	22.6	80.5	60.7	95.4	75-125%	

%R = Percent recovery

'Q' codes: 'N' = control limit not met
'H' = %R not valid, sample concentration too high

ANALYTICAL RESOURCES, INC.
Inorganic Laboratory Data Report
08/07/92
09:27:35

Client: Boeing/Landau
Contact: Tom Colligon
Project: 25068.10 NBF
ID number: B2 (0.5-1.0)
Description:
Sampled: / /
Received: 07/29/92
Matrix: Soil

ARI job number: B319
ARI sample number: E

Released by:

A N A L Y T I C A L R E S U L T S

CAS Number	Analyte	Concentration	C	Prep	M
7440-38-2	Arsenic	6 mg/kg-dry	U	SWC	ICP
7440-41-7	Beryllium	0.7 mg/kg-dry		SWC	ICP
7440-43-9	Cadmium	0.3 mg/kg-dry		SWC	ICP
7440-47-3	Chromium	15.0 mg/kg-dry		SWC	ICP
7440-50-8	Copper	43.1 mg/kg-dry		SWC	ICP
7439-92-1	Lead	22 mg/kg-dry		SWC	ICP
7439-97-6	Mercury	0.2 mg/kg-dry		SCM	CVA
7440-02-0	Nickel	29 mg/kg-dry		SWC	ICP
7440-66-6	Zinc	28.3 mg/kg-dry		SWC	ICP

ANALYTICAL RESOURCES, INC.
Inorganic Laboratory Data Report
08/07/92
09:27:37

Client: Boeing/Landau
Contact: Tom Colligon
Project: 25068.10 NBF
ID number: B3 (7.5-8.5)
Description:
Sampled: / /
Received: 07/29/92
Matrix: Soil

ARI job number: B319
ARI sample number: H

Released by:

A N A L Y T I C A L R E S U L T S

CAS Number	Analyte	Concentration	C	Prep	M
7440-38-2	Arsenic	6 mg/kg-dry	U	SWC	ICP
7440-41-7	Beryllium	0.1 mg/kg-dry	U	SWC	ICP
7440-43-9	Cadmium	0.2 mg/kg-dry	U	SWC	ICP
7440-47-3	Chromium	10.2 mg/kg-dry		SWC	ICP
7440-50-8	Copper	15.2 mg/kg-dry		SWC	ICP
7439-92-1	Lead	5 mg/kg-dry		SWC	ICP
7439-97-6	Mercury	0.05 mg/kg-dry	U	SCM	CVA
7440-02-0	Nickel	5 mg/kg-dry		SWC	ICP
7440-66-6	Zinc	22.6 mg/kg-dry		SWC	ICP

ANALYTICAL RESOURCES, INC.
Inorganic Laboratory Data Report
08/07/92
09:27:41

Client: Boeing/Landau
Contact: Tom Colligon
Project: 25068.10 NBF
ID number: B5 (1.5-3)
Description:
Sampled: / /
Received: 07/29/92
Matrix: Soil

ARI job number: B319
ARI sample number: O

Released by:

A N A L Y T I C A L R E S U L T S

CAS Number	Analyte	Concentration	C	Prep	M
7440-38-2	Arsenic	7 mg/kg-dry	U	SWC	ICP
7440-41-7	Beryllium	1.0 mg/kg-dry		SWC	ICP
7440-43-9	Cadmium	0.3 mg/kg-dry	U	SWC	ICP
7440-47-3	Chromium	29.1 mg/kg-dry		SWC	ICP
7440-50-8	Copper	230 mg/kg-dry		SWC	ICP
7439-92-1	Lead	18 mg/kg-dry		SWC	ICP
7439-97-6	Mercury	0.1 mg/kg-dry	U	SCM	CVA
7440-02-0	Nickel	33 mg/kg-dry		SWC	ICP
7440-66-6	Zinc	28.6 mg/kg-dry		SWC	ICP

ANALYTICAL RESOURCES, INC.
Inorganic Laboratory Data Report
08/07/92
09:27:43

Client: Boeing/Landau
Contact: Tom Colligon
Project: 25068.10 NBF
ID number: B5 (7-7.5)
Description:
Sampled: / /
Received: 07/29/92
Matrix: Soil

ARI job number: B319
ARI sample number: P

Released by:

A N A L Y T I C A L R E S U L T S

CAS Number	Analyte	Concentration	C	Prep	M
7440-38-2	Arsenic	6 mg/kg-dry	U	SWC	ICP
7440-41-7	Beryllium	0.1 mg/kg-dry	U	SWC	ICP
7440-43-9	Cadmium	0.3 mg/kg-dry	U	SWC	ICP
7440-47-3	Chromium	12.3 mg/kg-dry		SWC	ICP
7440-50-8	Copper	14.9 mg/kg-dry		SWC	ICP
7439-92-1	Lead	12 mg/kg-dry		SWC	ICP
7439-97-6	Mercury	0.1 mg/kg-dry	U	SCM	CVA
7440-02-0	Nickel	7 mg/kg-dry		SWC	ICP
7440-66-6	Zinc	48.9 mg/kg-dry		SWC	ICP

ANALYTICAL RESOURCES, INC.
Inorganic Laboratory Data Report
08/07/92
09:27:45

Client: Boeing/Landau
Contact: Tom Colligon
Project: 25068.10 NBF
ID number: B8 (1.5-2.0)
Description:
Sampled: / /
Received: 07/29/92
Matrix: Soil

ARI job number: B319
ARI sample number: X

Released by:

A N A L Y T I C A L R E S U L T S

CAS Number	Analyte	Concentration	C	Prep	M
7440-38-2	Arsenic	5 mg/kg-dry	U	SWC	ICP
7440-41-7	Beryllium	0.1 mg/kg-dry		SWC	ICP
7440-43-9	Cadmium	0.2 mg/kg-dry	U	SWC	ICP
7440-47-3	Chromium	16.7 mg/kg-dry		SWC	ICP
7440-50-8	Copper	17.0 mg/kg-dry		SWC	ICP
7439-92-1	Lead	10 mg/kg-dry		SWC	ICP
7439-97-6	Mercury	0.1 mg/kg-dry		SCM	CVA
7440-02-0	Nickel	12 mg/kg-dry		SWC	ICP
7440-66-6	Zinc	33.5 mg/kg-dry		SWC	ICP

ANALYTICAL RESOURCES, INC.
Inorganic Laboratory Data Report
08/07/92
09:27:47

Client: Boeing/Landau
Contact: Tom Colligon
Project: 25068.10 NBF
ID number: B8 (8-9)
Description:
Sampled: / /
Received: 07/29/92
Matrix: Soil

ARI job number: B319
ARI sample number: Z

Released by:

A N A L Y T I C A L R E S U L T S

CAS Number	Analyte	Concentration	C	Prep	M
7440-38-2	Arsenic	8 mg/kg-dry	U	SWC	ICP
7440-41-7	Beryllium	0.7 mg/kg-dry		SWC	ICP
7440-43-9	Cadmium	0.5 mg/kg-dry		SWC	ICP
7440-47-3	Chromium	15.0 mg/kg-dry		SWC	ICP
7440-50-8	Copper	69.8 mg/kg-dry		SWC	ICP
7439-92-1	Lead	28 mg/kg-dry		SWC	ICP
7439-97-6	Mercury	0.1 mg/kg-dry	U	SCM	CVA
7440-02-0	Nickel	39 mg/kg-dry		SWC	ICP
7440-66-6	Zinc	27.8 mg/kg-dry		SWC	ICP

ANALYTICAL RESOURCES, INC.
Inorganic Laboratory Data Report
08/07/92
09:27:39

Client: Boeing/Landau
Contact: Tom Colligon
Project: 25068.10 NBF
ID number:
Description: Method Blank
Sampled: / /
Received: / /
Matrix: Soil

ARI job number: B319
ARI sample number: MB

Released by:

A N A L Y T I C A L R E S U L T S

CAS Number	Analyte	Concentration	C	Prep	M
7440-38-2	Arsenic	5 mg/kg-dry	U	SWC	ICP
7440-41-7	Beryllium	0.1 mg/kg-dry	U	SWC	ICP
7440-43-9	Cadmium	0.2 mg/kg-dry	U	SWC	ICP
7440-47-3	Chromium	0.5 mg/kg-dry	U	SWC	ICP
7440-50-8	Copper	0.2 mg/kg-dry	U	SWC	ICP
7439-92-1	Lead	3 mg/kg-dry	U	SWC	ICP
7439-97-6	Mercury	0.1 mg/kg-dry	U	SCM	CVA
7440-02-0	Nickel	1 mg/kg-dry	U	SWC	ICP
7440-66-6	Zinc	1.0 mg/kg-dry		SWC	ICP

RECEIVED
AUG 19 1992
LANDAU ASSOCIATES,INC.

ANALYTICAL RESOURCES INCORPORATED

Analytical Chemists & Consultants

333 Ninth Ave. North
Seattle, WA 98109-5187
(206) 621-6490
(206) 621-7523 (FAX)

18 August 1992

Mr. Thomas Colligan
Landau Associates
23107 100th Avenue West
Edmonds, WA 98020

RE: Project No. 25068.10 North Boeing Field Fire Training Center / ARI Job No. B344

Dear Mr. Colligan:

Please find enclosed original reports for the above-referenced project. Four water samples were received on July 31, 1992. The samples were received in good condition with no discrepancies in the chain-of-custody (COC). One Trip Blank was received with this sample batch but was not indicated on the COC.

As instructed, the samples were analyzed for total petroleum hydrocarbons (TPH) by WDOE method WA-HCID, PCB-Aroclors by EPA method 8080, total metals according to the EPA 6010/7000 series, volatile organic compounds (VOC) following EPA method 8240 and semivolatile organic compounds (ABN) by EPA method 8270. When appropriate, TPH patterns were identified against a JP-5 (Jet Fuel) standard.

The requested sample analyses were routine and no problems of note were encountered. As requested on August 4, 1992, four additional metals (antimony, selenium, thallium and vanadium) and Skydrol were added to the analyte list. The additional metals have been included with this data package. The Skydrol analysis will be presented in a separate data package, upon completion.

As always, copies of the reports and the associated raw data will remain on file with ARI. If you have any questions or require additional information, please feel free to contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

Bryan D. Anderson

Bryan D. Anderson
Project Coordinator

enclosures
cc: file B344
Brian Anderson/ Boeing Environmental Affairs

Landau Associates, Inc.
Edmonds, WA (206) 778-0907

Chain of Custody Record

Date 7/31/92
Page 1 of 1

Project: Fire Training Center Project No. 25068.10
Client: Boeing GA : Brian Anderson
Project Location: N. Boeing Field
Sampler's Name: Thomas Colligan / Greg Landau

Lab: ARI
Lab #:
P.O. #:

Testing Parameters

Sample No.	Date	Time	Location	No. of Containers	HCID	PCB (8080)	VOA (8240)	SVOA (8270)	Metals (Pb) TOOL KIT						Observations/Comments
MW-1	7/31	10:15		5	✓	✓	✓	✓	✓						
MW-2	↓	9:35		5	✓	✓	✓	✓	✓						
MW-3		8:35		5	✓	✓	✓	✓	✓						- USE JET FUEL
MW-4	↓	10:40		5	✓	✓	✓	✓	✓						STANDARDS ON HCID

Special Shipment/Handling or Storage Requirements: ICED

Method of Shipment: HAND DELIVER

Relinquished by	Received by	Relinquished by	Received by
Signature: Tom Colligan	Signature: Jan Felkeis	Signature:	Signature:
Printed Name: THOMAS COLLIGAN	Printed Name: JAN FELKEIS	Printed Name:	Printed Name:
Company: LANDAU ASSOC.	Company: A.R.I.	Company:	Company:
Date: 7/31/92 Time: 1623	Date: 7/31/92 Time: 16:30	Date: Time:	Date: Time:

5/87

A.R.I. # B344

SEA428248

EXPLANATION OF INORGANIC DATA REPORT CODES

The columns labeled 'PREP', 'C', and 'M' contain important information about your analyses. The codes ai defined below.

PREPARATION CODES

These 3-letter codes describe methods used to prepare samples for analysis:

AEN USEPA, Metals in air filters
AHM ARI, Mercury in air filters
AHN ARI, Metals in air filters
ANN NIOSH 7300, Metals in air filters
CAN AOAC (1984) 25.024, Metals in earthenware
DE6 EPA 600/4-79-020 218.5, Cr(VI) in water
DMM DMN followed by TMM, Dissolved mercury
DMN Filtered through .45u filter, Dissolved metals
EW6 EWN followed by DE6
EWM EWN followed by TMM
EWN USEPA SW-846 1310, EP Toxicity
FHP ARI, Metals in tissue ($HNO_3/HClO_4$)
FPP PSEP, Metals in tissue ($HNO_3/HClO_4$)
FRM Journal, Mercury in tissue
FRN Journal, Metals in tissue (HNO_3/H_2O_2)
KRN ARI, Concentration by coprecipitation
LEM USEPA, TCLP followed by TMM
LEN USEPA, TCLP Extraction
MHM ARI, Mercury in miscellaneous materials
MHN ARI, Metals in miscellaneous materials
OAM ARI, Mercury in oil, grease or tar
OAN ARI, Metals in oil, grease or tar
PHM ARI, Mercury in wipes
PHN ARI, Metals in wipes
RCC USEPA CLP, Water digestion, HCl matrix
RCN USEPA CLP, Water digestion, HNO_3 matrix
REC EPA 600/4-79-020 4.1.4, HCl matrix
REI EPA 600/4-79-020 200.7 and 9.4
REN EPA 600/4-79-020 4.1.4, HNO_3 matrix
RMA EPA 600/4-79-020 206.2
RWC USEPA SW-846 3005
SCC USEPA CLP, Soil digestion, HCl matrix
SCM USEPA CLP, Mercury in soil
SCN USEPA CLP, Soil digestion, HNO_3 matrix
SEM EPA 600/4-79-020 245.5, Mercury in soil
SHF ARI, Metals in soil, HF digestion
SRL Journal, Lithium meta-borate fusion
SPF PSEP, Metals in sediment, HF digestion
SSC Standard Methods 302C, Sb/Sn in soil
SSN Standard Methods 302C, Soil digestion
SSS Standard Methods 302C, Ti in soil
SW6 USEPA SW-846 3060, Cr(VI) in soil
SWC USEPA SW-846 3050, HCl matrix
SWN USEPA SW-846 3050, HNO_3 matrix
SWR USEPA SW-846 Modified 3005, Sb by GFAAS
TEC EPA 600/4-79-020 4.1.3, HCl matrix
TEG EPA 600/4-79-020 272.1, Silver in water
TEI EPA 600/4-79-020 200.7 and 9.3
TEN EPA 600/4-79-020 4.1.3, HNO_3 matrix
THG ARI, Silver in photographic solutions
TMM EPA 600/4-79-020 245.1, Mercury in water
TSC Standard Methods 302C, Sb/Sn in water
TSN Standard Methods 302D
TSS Standard Methods 302E, Ti in water
TWC USEPA SW-846 3010, HCl matrix
TWG USEPA SW-846 7760, Silver in water
TWN USEPA SW-846 3020, HNO_3 matrix
WMN EPA 600/4-79-020, Preserved, undigested water
XSC Standard Methods 302B

CONCENTRATION CODES

These codes are used to qualify reported concentrations:

U No analyte was detected. The reported value is the lower limit of detection.

METHOD CODES

These codes signify the instrumental technique used for analysis:

CVA Cold Vapor Atomic Absorption Spectrophotometry
FLA Flame Atomic Absorption Spectrophotometry
GFA Graphite Furnace Atomic Absorption Spectrophotometry
ICP Inductively Coupled Plasma Atomic Emission Spectrometry

ANALYTICAL RESOURCES, INC.
Inorganic Laboratory Data Report
08/17/92
12:13:25

Client: Boeing/Landau
Contact: Tom Colligan
Project: 25068.10
ID number: MW-1
Description:
Sampled: / /
Received: 07/31/92
Matrix: Water

ARI job number: B344
ARI sample number: A

Released by:

A N A L Y T I C A L R E S U L T S

CAS Number	Analyte	Concentration	C	Prep	M
7440-36-0	Antimony	0.05 mg/L	U	TWN	ICP
7440-38-2	Arsenic	0.001 mg/L	U	RMA	GFA
7440-41-7	Beryllium	0.001 mg/L	U	TWN	ICP
7440-43-9	Cadmium	0.002 mg/L	U	TWN	ICP
7440-47-3	Chromium	0.005 mg/L	U	TWN	ICP
7440-50-8	Copper	0.004 mg/L		TWN	ICP
7439-92-1	Lead	0.001 mg/L	U	TWN	GFA
7439-97-6	Mercury	0.0001 mg/L	U	TMM	CVA
7440-02-0	Nickel	0.01 mg/L	U	TWN	ICP
7782-49-2	Selenium	0.05 mg/L	U	TWN	ICP
7440-28-0	Thallium	0.05 mg/L	U	TWN	ICP
7440-62-2	Vanadium	0.002 mg/L	U	TWN	ICP
7440-66-6	Zinc	0.004 mg/L	U	TWN	ICP

ANALYTICAL RESOURCES, INC.
Inorganic Laboratory Data Report
08/17/92
12:13:28

Client: Boeing/Landau
Contact: Tom Colligan
Project: 25068.10
ID number: MW-1
Description: Matrix Spike
Sampled: / /
Received: 07/31/92
Matrix: Water

ARI job number: B344
ARI sample number: ASPK

Released by: BK

A N A L Y T I C A L R E S U L T S

CAS Number	Analyte	Concentration	C	Prep	M
7440-36-0	Antimony	1.49 mg/L		TWN	ICP
7440-38-2	Arsenic	0.110 mg/L		RMA	GFA
7440-41-7	Beryllium	0.047 mg/L		TWN	ICP
7440-43-9	Cadmium	0.108 mg/L		TWN	ICP
7440-47-3	Chromium	0.257 mg/L		TWN	ICP
7440-50-8	Copper	0.103 mg/L		TWN	ICP
7439-92-1	Lead	0.111 mg/L		TWN	GFA
7439-97-6	Mercury	0.0009 mg/L		TMM	CVA
7440-02-0	Nickel	0.50 mg/L		TWN	ICP
7782-49-2	Selenium	2.63 mg/L		TWN	ICP
7440-28-0	Thallium	2.65 mg/L		TWN	ICP
7440-62-2	Vanadium	0.102 mg/L		TWN	ICP
7440-66-6	Zinc	0.503 mg/L		TWN	ICP

ANALYTICAL RESOURCES, INC.
Matrix Spike Quality Control Report

Client: Boeing/Landau

Client's sample ID: MW-1

ARI sample ID: B344 ASPK

Units: mg/L

Analyte	Meth	Sample	Matrix Spike	Spike Added	%R	Control Limit	Q
Antimony	ICP	0	1.49	2.50	59.6	75-125%	N
Arsenic	GFA	0	0.110	0.100	110.0	75-125%	
Beryllium	ICP	0	0.047	0.050	94.0	75-125%	
Cadmium	ICP	0	0.108	0.100	108.0	75-125%	
Chromium	ICP	0	0.257	0.250	102.8	75-125%	
Copper	ICP	0.004	0.103	0.100	99.0	75-125%	
Lead	GFA	0	0.111	0.100	111.0	75-125%	
Mercury	CVA	0	0.0009	0.0010	90.0	75-125%	
Nickel	ICP	0	0.50	0.500	100.0	75-125%	
Selenium	ICP	0	2.63	2.50	105.2	75-125%	
Thallium	ICP	0	2.65	2.50	106.0	75-125%	
Vanadium	ICP	0	0.102	0.100	102.0	75-125%	
Zinc	ICP	0	0.503	0.500	100.6	75-125%	

%R = Percent recovery

'Q' codes: 'N' = control limit not met
'H' = %R not valid, sample concentration too high

ANALYTICAL RESOURCES, INC.
Inorganic Laboratory Data Report
08/17/92
12:13:30

Client: Boeing/Landau
Contact: Tom Colligan
Project: 25068.10
ID number: MW-2
Description:
Sampled: / /
Received: 07/31/92
Matrix: Water

ARI job number: B344
ARI sample number: B

Released by:

A N A L Y T I C A L R E S U L T S

CAS Number	Analyte	Concentration	C	Prep	M
7440-36-0	Antimony	0.05 mg/L	U	TWN	ICP
7440-38-2	Arsenic	0.001 mg/L		RMA	GFA
7440-41-7	Beryllium	0.001 mg/L	U	TWN	ICP
7440-43-9	Cadmium	0.002 mg/L	U	TWN	ICP
7440-47-3	Chromium	0.005 mg/L	U	TWN	ICP
7440-50-8	Copper	0.007 mg/L		TWN	ICP
7439-92-1	Lead	0.001 mg/L		TWN	GFA
7439-97-6	Mercury	0.0001 mg/L	U	TMM	CVA
7440-02-0	Nickel	0.01 mg/L	U	TWN	ICP
7782-49-2	Selenium	0.05 mg/L	U	TWN	ICP
7440-28-0	Thallium	0.05 mg/L	U	TWN	ICP
7440-62-2	Vanadium	0.003 mg/L		TWN	ICP
7440-66-6	Zinc	0.007 mg/L		TWN	ICP

ANALYTICAL RESOURCES, INC.
Inorganic Laboratory Data Report
08/17/92
12:13:33

Client: Boeing/Landau
Contact: Tom Colligan
Project: 25068.10
ID number: MW-2
Description: Laboratory Duplicate
Sampled: / /
Received: 07/31/92
Matrix: Water

ARI job number: B344
ARI sample number: BDUP

Released by:

A N A L Y T I C A L R E S U L T S

CAS Number	Analyte	Concentration	C	Prep	M
7440-36-0	Antimony	0.05 mg/L	U	TWN	ICP
7440-38-2	Arsenic	0.001 mg/L	U	RMA	GFA
7440-41-7	Beryllium	0.001 mg/L	U	TWN	ICP
7440-43-9	Cadmium	0.002 mg/L	U	TWN	ICP
7440-47-3	Chromium	0.005 mg/L	U	TWN	ICP
7440-50-8	Copper	0.004 mg/L		TWN	ICP
7439-92-1	Lead	0.001 mg/L	U	TWN	GFA
7439-97-6	Mercury	0.0001 mg/L	U	TMM	CVA
7440-02-0	Nickel	0.01 mg/L	U	TWN	ICP
7782-49-2	Selenium	0.05 mg/L	U	TWN	ICP
7440-28-0	Thallium	0.05 mg/L	U	TWN	ICP
7440-62-2	Vanadium	0.003 mg/L		TWN	ICP
7440-66-6	Zinc	0.004 mg/L	U	TWN	ICP

ANALYTICAL RESOURCES, INC.
Matrix Duplicate Quality Control Report

Client: Boeing/Landau

Client's sample ID: MW-2

ARI sample ID: B344 BDUP

Units: mg/L

Analyte	Meth	Original Sample	Matrix Duplicate	RPD	Control Limit	Q
Antimony	ICP	U 0.05	U 0.05	0.0	± 0.05	L
Arsenic	GFA	0.001	U 0.001	0.0	± 0.001	L
Beryllium	ICP	U 0.001	U 0.001	0.0	± 0.001	L
Cadmium	ICP	U 0.002	U 0.002	0.0	± 0.002	L
Chromium	ICP	U 0.005	U 0.005	0.0	± 0.005	L
Copper	ICP	0.007	0.004	54.5	± 0.002	L
Lead	GFA	0.001	U 0.001	0.0	± 0.001	L
Mercury	CVA	U 0.0001	U 0.0001	0.0	±0.0001	L
Nickel	ICP	U 0.01	U 0.01	0.0	± 0.01	L
Selenium	ICP	U 0.05	U 0.05	0.0	± 0.05	L
Thallium	ICP	U 0.05	U 0.05	0.0	± 0.05	L
Vanadium	ICP	0.003	0.003	0.0	± 0.002	L
Zinc	ICP	0.007	U 0.004	54.5	± 0.004	L

RPD = Relative percent difference

'Q' codes: '*' = control limit not met
'L' = RPD not valid, alternate limit = ± detection limit

ANALYTICAL RESOURCES, INC.
Inorganic Laboratory Data Report
08/17/92
12:13:36

Client: Boeing/Landau
Contact: Tom Colligan
Project: 25068.10
ID number: MW-3
Description:
Sampled: / /
Received: 07/31/92
Matrix: Water

ARI job number: B344
ARI sample number: C

Released by:

A N A L Y T I C A L R E S U L T S

CAS Number	Analyte	Concentration	C	Prep	M
7440-36-0	Antimony	0.05 mg/L	U	TWN	ICP
7440-38-2	Arsenic	0.009 mg/L		RMA	GFA
7440-41-7	Beryllium	0.001 mg/L	U	TWN	ICP
7440-43-9	Cadmium	0.002 mg/L	U	TWN	ICP
7440-47-3	Chromium	0.005 mg/L	U	TWN	ICP
7440-50-8	Copper	0.008 mg/L		TWN	ICP
7439-92-1	Lead	0.001 mg/L	U	TWN	GFA
7439-97-6	Mercury	0.0001 mg/L	U	TMM	CVA
7440-02-0	Nickel	0.01 mg/L	U	TWN	ICP
7782-49-2	Selenium	0.05 mg/L	U	TWN	ICP
7440-28-0	Thallium	0.05 mg/L	U	TWN	ICP
7440-62-2	Vanadium	0.029 mg/L		TWN	ICP
7440-66-6	Zinc	0.004 mg/L	U	TWN	ICP

ANALYTICAL RESOURCES, INC.
Inorganic Laboratory Data Report
08/17/92
12:13:38

Client: Boeing/Landau
Contact: Tom Colligan
Project: 25068.10
ID number: MW-4
Description:
Sampled: / /
Received: 07/31/92
Matrix: Water

ARI job number: B344
ARI sample number: D

Released by:

A N A L Y T I C A L R E S U L T S

CAS Number	Analyte	Concentration	C	Prep	M
7440-36-0	Antimony	0.05 mg/L	U	TWN	ICP
7440-38-2	Arsenic	0.011 mg/L		RMA	GFA
7440-41-7	Beryllium	0.001 mg/L	U	TWN	ICP
7440-43-9	Cadmium	0.002 mg/L	U	TWN	ICP
7440-47-3	Chromium	0.005 mg/L	U	TWN	ICP
7440-50-8	Copper	0.006 mg/L		TWN	ICP
7439-92-1	Lead	0.004 mg/L		TWN	GFA
7439-97-6	Mercury	0.0001 mg/L	U	TMM	CVA
7440-02-0	Nickel	0.01 mg/L	U	TWN	ICP
7782-49-2	Selenium	0.05 mg/L	U	TWN	ICP
7440-28-0	Thallium	0.05 mg/L	U	TWN	ICP
7440-62-2	Vanadium	0.011 mg/L		TWN	ICP
7440-66-6	Zinc	0.013 mg/L		TWN	ICP

ANALYTICAL RESOURCES, INC.
Inorganic Laboratory Data Report
08/17/92
12:13:41

Client: Boeing/Landau
Contact: Tom Colligan
Project: 25068.10
ID number:
Description: Method Blank
Sampled: / /
Received: / /
Matrix: Water

ARI job number: B344
ARI sample number: MB

Released by: _____

A N A L Y T I C A L R E S U L T S

CAS Number	Analyte	Concentration	C	Prep	M
7440-36-0	Antimony	0.05 mg/L	U	TWN	ICP
7440-38-2	Arsenic	0.001 mg/L	U	RMA	GFA
7440-41-7	Beryllium	0.001 mg/L	U	TWN	ICP
7440-43-9	Cadmium	0.002 mg/L	U	TWN	ICP
7440-47-3	Chromium	0.005 mg/L	U	TWN	ICP
7440-50-8	Copper	0.004 mg/L		TWN	ICP
7439-92-1	Lead	0.001 mg/L		TWN	GFA
7439-97-6	Mercury	0.0001 mg/L	U	TMM	CVA
7440-02-0	Nickel	0.01 mg/L	U	TWN	ICP
7782-49-2	Selenium	0.05 mg/L	U	TWN	ICP
7440-28-0	Thallium	0.05 mg/L	U	TWN	ICP
7440-62-2	Vanadium	0.002 mg/L	U	TWN	ICP
7440-66-6	Zinc	0.004 mg/L		TWN	ICP

ANALYTICAL RESOURCES INCORPORATED

Analytical Chemists & Consultants

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ORGANICS ANALYSIS DATA SHEET
PCB Analysis

QC Report: B344-Boeing/Landau
Date Received: 07/31/92

Matrix: Water

Data Release Authorized _____
Report prepared: 8/14/92 - MAC:E bda

Acid Cleaned: No
Florisil Cleaned: Yes
GPC Cleaned: No

Reported in ppb (µg/L)

Sample #:	Meth. Blk.	MW-1	MW-2	MW-3	MW-4
ARI Lab ID:	*0803MB*	*B344A*	*B344B*	*B344C*	*B344D*
Date Extracted:	*08/03/92*	*08/03/92*	*08/03/92*	*08/03/92*	*08/03/92*
Date Analyzed:	*08/13/92*	*08/13/92*	*08/13/92*	*08/13/92*	*08/13/92*
Sample Weight:	*1.0 L*	*1.0 L*	*1.0 L*	*1.0 L*	*1.0 L*
Dilution:	*1:10*	*1:10*	*1:10*	*1:10*	*1:10*
1016/1242	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1248	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1254	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1260	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
TCMX %Rec	*72.3%*	*62.3%*	*67.6%*	*66.4%*	*69.9%*
DCBP %Rec	*84.2%*	*72.6%*	*86.6%*	*59.1%*	*63.0%*

Value	If the result is a value greater than or equal to the detection limit, report the value.
J	Indicates an estimated value when that value is less than the calculated detection limit.
X	Indicates a value above the linear range of the detector. Dilution required.
S	Indicates no value reported due to saturation of the detector.
D	Indicates the surrogate was diluted out.
U	Indicates compound was analyzed for, but not detected at the given detection limit.
NA	Indicates compound not analyzed.

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TOTAL PETROLEUM HYDROCARBONS
WA HCID Method by GC/FID

QC Report No: B344-Boeing/Landau

Matrix: Water

Project: 25068.10
NBF
VTSR: 07/31/92

Data Release Authorized _____
Data Prepared: 08/13/92 - MAC:C pat

Date extracted: 08/04/92
Dates analyzed: 08/06-07/92

Lab ID	Client Sample ID	Dilution Factor	Gas Range Petroleum Hydrocarbons †	Diesel Range Petroleum Hydrocarbons *	Surrogate Recovery
B344 MB	*Method Blank*	-	3.0 U	3.0 U	104%
B344 A	MW-1	-	3.0 U	3.0 U	101%
B344 B	MW-2	-	3.0 U	3.0 U	81.6%
B344 C	MW-3	-	3.0 U	3.0 U	98.7%
B344 D	MW-4	-	3.0 U	3.0 U	102%

Surrogate is Me-Arachidate.

Values reported in ppm (mg/L).

U Indicates compound was analyzed for but not detected at the given detection limit.
X Indicates a value above the linear range of the detector. Dilution required.
† Value based on total peaks in the range from Toluene to C12.
* Value based on total peaks in the range from C12-C24.
NR Indicates the surrogate was not recovered due to dilution or matrix effect.

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Lab ID: MB804
Matrix: Waters

Data Release Authorized: _____
Report: 08/07/92 MAC:C DWN

Sample: Method Blank

QC Report No: B344-Boeing/Landau
Project: 25068.10
NBF
VTSR: NA

Instrument: FINN 3
Date Analyzed: 08/04/92

Amount Purged: 5.0 ml
Conc/Dilution: 1 to 1

CAS Number		µg/L
74-87-3	Chloromethane	2.0 U
74-83-9	Bromomethane	2.0 U
75-01-4	Vinyl Chloride	2.0 U
75-00-3	Chloroethane	2.0 U
75-09-2	Methylene Chloride	2.0 U
67-64-1	Acetone	5.0 U
75-15-0	Carbon Disulfide	1.0 U
75-35-4	1,1-Dichloroethene	1.0 U
75-34-3	1,1-Dichloroethane	1.0 U
156-60-5	Trans-1,2-Dichloroethene	1.0 U
156-59-2	Cis-1,2-Dichloroethene	1.0 U
67-66-3	Chloroform	1.0 U
107-06-2	1,2-Dichloroethane	1.0 U
78-93-3	2-Butanone	5.0 U
71-55-6	1,1,1-Trichloroethane	1.0 U
56-23-5	Carbon Tetrachloride	1.0 U
108-05-4	Vinyl Acetate	1.0 U
75-27-4	Bromodichloromethane	1.0 U
78-87-5	1,2-Dichloropropane	1.0 U

CAS Number		µg/L
10061-01-5	cis-1,3-Dichloropropene	1.0 U
79-01-6	Trichloroethene	1.0 U
124-48-1	Dibromochloromethane	1.0 U
79-00-5	1,1,2-Trichloroethane	1.0 U
71-43-2	Benzene	1.0 U
10061-02-6	trans-1,3-Dichloropropene	1.0 U
110-75-8	2-Chloroethylvinylether	1.0 U
75-25-2	Bromoform	1.0 U
108-10-1	4-Methyl-2-Pentanone	5.0 U
591-78-6	2-Hexanone	5.0 U
127-18-4	Tetrachloroethene	1.0 U
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U
108-88-3	Toluene	1.0 U
108-90-7	Chlorobenzene	1.0 U
100-41-4	Ethylbenzene	1.0 U
100-42-5	Styrene	1.0 U
1330-20-7	Total Xylenes	2.0 U
75-69-4	Trichlorofluoromethane	2.0 U
76-13-1	1,1,2-Trichlorotrifluoroethane	2.0 U

Surrogate Recoveries

d8-Toluene	107%
Bromofluorobenzene	104%
d4-1,2-Dichloroethane	86.6%

Data Reporting Qualifiers

Value — If the result is a value greater than or equal to the detection limit, report the value.

U — Indicates compound was analyzed for but not detected at the given detection limit.

J — Indicates an estimated value when result is less than specified detection limit.

B — This flag is used when the analyte is found in the blank as well as a sample. Indicates possible/probable blank contamination.

K — This flag is used when quantitated value falls above the limit of the calibration curve and dilution should be run.

M — Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match parameters.

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Lab ID: B344 A
Matrix: Waters

Data Release Authorized: _____
Report: 08/07/92 MAC:C DWN

Sample: MW-1

QC Report No: B344-Boeing/Landau
Project: 25068.10
NBF
VTSR: 07/31/92

Instrument: FINN 3
Date Analyzed: 08/04/92

Amount Purged: 5.0 ml
Conc/Dilution: 1 to 1

CAS Number		µg/L
74-87-3	Chloromethane	2.0 U
74-83-9	Bromomethane	2.0 U
75-01-4	Vinyl Chloride	2.0 U
75-00-3	Chloroethane	2.0 U
75-09-2	Methylene Chloride	2.0 U
67-64-1	Acetone	5.0 U
75-15-0	Carbon Disulfide	1.0 U
75-35-4	1,1-Dichloroethene	1.0 U
75-34-3	1,1-Dichloroethane	1.0 U
156-60-5	Trans-1,2-Dichloroethene	1.0 U
156-59-2	Cis-1,2-Dichloroethene	1.0 U
67-66-3	Chloroform	1.0 U
107-06-2	1,2-Dichloroethane	1.0 U
78-93-3	2-Butanone	5.0 U
71-55-6	1,1,1-Trichloroethane	1.0 U
56-23-5	Carbon Tetrachloride	1.0 U
108-05-4	Vinyl Acetate	1.0 U
75-27-4	Bromodichloromethane	1.0 U
78-87-5	1,2-Dichloropropane	1.0 U

CAS Number		µg/L
10061-01-5	cis-1,3-Dichloropropene	1.0 U
79-01-6	Trichloroethene	1.0 U
124-48-1	Dibromochloromethane	1.0 U
79-00-5	1,1,2-Trichloroethane	1.0 U
71-43-2	Benzene	1.0 U
10061-02-6	trans-1,3-Dichloropropene	1.0 U
110-75-8	2-Chloroethylvinylether	1.0 U
75-25-2	Bromoform	1.0 U
108-10-1	4-Methyl-2-Pentanone	5.0 U
591-78-6	2-Hexanone	5.0 U
127-18-4	Tetrachloroethene	1.0 U
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U
108-88-3	Toluene	1.0 U
108-90-7	Chlorobenzene	1.0 U
100-41-4	Ethylbenzene	1.0 U
100-42-5	Styrene	1.0 U
1330-20-7	Total Xylenes	2.0 U
75-69-4	Trichlorofluoromethane	2.0 U
76-13-1	1,1,2-Trichlorotrifluoroethane	2.0 U

Surrogate Recoveries

d8-Toluene	107%
Bromofluorobenzene	110%
d4-1,2-Dichloroethane	85.6%

Data Reporting Qualifiers

Value — If the result is a value greater than or equal to the detection limit, report the value.

U — Indicates compound was analyzed for but not detected at the given detection limit.

J — Indicates an estimated value when result is less than specified detection limit.

B — This flag is used when the analyte is found in the blank as well as a sample. Indicates possible/probable blank contamination.

K — This flag is used when quantitated value falls above the limit of the calibration curve and dilution should be run.

M — Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match parameters.

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Lab ID: B344 B
Matrix: Waters

Data Release Authorized: _____
Report: 08/07/92 MAC:C DWN

Sample: MW-2

QC Report No: B344-Boeing/Landau
Project: 25068.10
NBF
VTSR: 07/31/92

Instrument: FINN 3
Date Analyzed: 08/04/92

Amount Purged: 5.0 ml
Conc/Dilution: 1 to 1

CAS Number		µg/L
74-87-3	Chloromethane	2.0 U
74-83-9	Bromomethane	2.0 U
75-01-4	Vinyl Chloride	2.0 U
75-00-3	Chloroethane	2.0 U
75-09-2	Methylene Chloride	2.0 U
67-64-1	Acetone	5.0 U
75-15-0	Carbon Disulfide	1.0 U
75-35-4	1,1-Dichloroethene	1.0 U
75-34-3	1,1-Dichloroethane	1.0 U
156-60-5	Trans-1,2-Dichloroethene	1.0 U
156-59-2	Cis-1,2-Dichloroethene	1.0 U
67-66-3	Chloroform	1.0 U
107-06-2	1,2-Dichloroethane	1.0 U
78-93-3	2-Butanone	5.0 U
71-55-6	1,1,1-Trichloroethane	1.0 U
56-23-5	Carbon Tetrachloride	1.0 U
108-05-4	Vinyl Acetate	1.0 U
75-27-4	Bromodichloromethane	1.0 U
78-87-5	1,2-Dichloropropane	1.0 U

CAS Number		µg/L
10061-01-5	cis-1,3-Dichloropropene	1.0 U
79-01-6	Trichloroethene	1.0 U
124-48-1	Dibromochloromethane	1.0 U
79-00-5	1,1,2-Trichloroethane	1.0 U
71-43-2	Benzene	1.0 U
10061-02-6	trans-1,3-Dichloropropene	1.0 U
110-75-8	2-Chloroethylvinylether	1.0 U
75-25-2	Bromoform	1.0 U
108-10-1	4-Methyl-2-Pentanone	5.0 U
591-78-6	2-Hexanone	5.0 U
127-18-4	Tetrachloroethene	1.0 U
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U
108-88-3	Toluene	1.0 U
108-90-7	Chlorobenzene	1.0 U
100-41-4	Ethylbenzene	1.0 U
100-42-5	Styrene	1.0 U
1330-20-7	Total Xylenes	2.0 U
75-69-4	Trichlorofluoromethane	2.0 U
76-13-1	1,1,2-Trichlorotrifluoroethane	2.0 U

Surrogate Recoveries

d8-Toluene	108%
Bromofluorobenzene	110%
d4-1,2-Dichloroethane	89.5%

Data Reporting Qualifiers

Value — If the result is a value greater than or equal to the detection limit, report the value.

U — Indicates compound was analyzed for but not detected at the given detection limit.

J — Indicates an estimated value when result is less than specified detection limit.

B — This flag is used when the analyte is found in the blank as well as a sample. Indicates possible/probable blank contamination.

K — This flag is used when quantitated value falls above the limit of the calibration curve and dilution should be run.

M — Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match parameters.

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Lab ID: B344 C
Matrix: Waters

Data Release Authorized:
Report: 08/07/92 MAC:C DWN

Sample: MW-3

QC Report No: B344-Boeing/Landau
Project: 25068.10
NBF
VTSR: 07/31/92

Instrument: FINN 3
Date Analyzed: 08/04/92

Amount Purged: 5.0 ml
Conc/Dilution: 1 to 1

CAS Number		µg/L
74-87-3	Chloromethane	2.0 U
74-83-9	Bromomethane	2.0 U
75-01-4	Vinyl Chloride	2.0 U
75-00-3	Chloroethane	2.0 U
75-09-2	Methylene Chloride	2.0 U
67-64-1	Acetone	5.0 U
75-15-0	Carbon Disulfide	1.0 U
75-35-4	1,1-Dichloroethene	1.0 U
75-34-3	1,1-Dichloroethane	1.0 U
156-60-5	Trans-1,2-Dichloroethene	1.0 U
156-59-2	Cis-1,2-Dichloroethene	1.0 U
67-66-3	Chloroform	1.0 U
107-06-2	1,2-Dichloroethane	1.0 U
78-93-3	2-Butanone	5.0 U
71-55-6	1,1,1-Trichloroethane	1.0 U
56-23-5	Carbon Tetrachloride	1.0 U
108-05-4	Vinyl Acetate	1.0 U
75-27-4	Bromodichloromethane	1.0 U
78-87-5	1,2-Dichloropropane	1.0 U

CAS Number		µg/L
10061-01-5	cis-1,3-Dichloropropene	1.0 U
79-01-6	Trichloroethene	1.0 U
124-48-1	Dibromochloromethane	1.0 U
79-00-5	1,1,2-Trichloroethane	1.0 U
71-43-2	Benzene	1.0 U
10061-02-6	trans-1,3-Dichloropropene	1.0 U
110-75-8	2-Chloroethylvinylether	1.0 U
75-25-2	Bromoform	1.0 U
108-10-1	4-Methyl-2-Pentanone	5.0 U
591-78-6	2-Hexanone	5.0 U
127-18-4	Tetrachloroethene	1.0 U
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U
108-88-3	Toluene	1.0 U
108-90-7	Chlorobenzene	1.0 U
100-41-4	Ethylbenzene	1.0 U
100-42-5	Styrene	1.0 U
1330-20-7	Total Xylenes	2.0 U
75-69-4	Trichlorofluoromethane	2.0 U
76-13-1	1,1,2-Trichlorotrifluoroethane	2.0 U

Surrogate Recoveries

d8-Toluene	107%
Bromofluorobenzene	109%
d4-1,2-Dichloroethane	89.0%

Data Reporting Qualifiers

Value — If the result is a value greater than or equal to the detection limit, report the value.

U — Indicates compound was analyzed for but not detected at the given detection limit.

J — Indicates an estimated value when result is less than specified detection limit.

B — This flag is used when the analyte is found in the blank as well as a sample. Indicates possible/probable blank contamination.

K — This flag is used when quantitated value falls above the limit of the calibration curve and dilution should be run.

M — Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match parameters.

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Lab ID: B344 D
Matrix: Waters

Sample: MW-4

QC Report No: B344-Boeing/Landau
Project: 25068.10
NBF
VTSR: 07/31/92

Data Release Authorized: _____
Report: 08/07/92 MAC:C DWN

Instrument: FINN 3
Date Analyzed: 08/04/92

Amount Purged: 5.0 ml
Conc/Dilution: 1 to 1

CAS Number		µg/L
74-87-3	Chloromethane	2.0 U
74-83-9	Bromomethane	2.0 U
75-01-4	Vinyl Chloride	2.0 U
75-00-3	Chloroethane	2.0 U
75-09-2	Methylene Chloride	2.0 U
67-64-1	Acetone	5.0 U
75-15-0	Carbon Disulfide	1.0 U
75-35-4	1,1-Dichloroethene	1.0 U
75-34-3	1,1-Dichloroethane	1.0 U
156-60-5	Trans-1,2-Dichloroethene	1.0 U
156-59-2	Cis-1,2-Dichloroethene	1.0 U
67-66-3	Chloroform	1.0 U
107-06-2	1,2-Dichloroethane	1.0 U
78-93-3	2-Butanone	5.0 U
71-55-6	1,1,1-Trichloroethane	1.0 U
56-23-5	Carbon Tetrachloride	1.0 U
108-05-4	Vinyl Acetate	1.0 U
75-27-4	Bromodichloromethane	1.0 U
78-87-5	1,2-Dichloropropane	1.0 U

CAS Number		µg/L
10061-01-5	cis-1,3-Dichloropropene	1.0 U
79-01-6	Trichloroethene	1.0 U
124-48-1	Dibromochloromethane	1.0 U
79-00-5	1,1,2-Trichloroethane	1.0 U
71-43-2	Benzene	1.0 U
10061-02-6	trans-1,3-Dichloropropene	1.0 U
110-75-8	2-Chloroethylvinylether	1.0 U
75-25-2	Bromoform	1.0 U
108-10-1	4-Methyl-2-Pentanone	5.0 U
591-78-6	2-Hexanone	5.0 U
127-18-4	Tetrachloroethene	1.0 U
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U
108-88-3	Toluene	1.0 U
108-90-7	Chlorobenzene	1.0 U
100-41-4	Ethylbenzene	1.0 U
100-42-5	Styrene	1.0 U
1330-20-7	Total Xylenes	2.0 U
75-69-4	Trichlorofluoromethane	2.0 U
76-13-1	1,1,2-Trichlorotrifluoroethane	2.0 U

Surrogate Recoveries

d8-Toluene	107%
Bromofluorobenzene	109%
d4-1,2-Dichloroethane	88.9%

Data Reporting Qualifiers

Value — If the result is a value greater than or equal to the detection limit, report the value.

U — Indicates compound was analyzed for but not detected at the given detection limit.

J — Indicates an estimated value when result is less than specified detection limit.

B — This flag is used when the analyte is found in the blank as well as a sample. Indicates possible/probable blank contamination.

K — This flag is used when quantitated value falls above the limit of the calibration curve and dilution should be run.

M — Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match parameters.

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Lab ID: B344 E
Matrix: Waters

Sample: Trip Blank

QC Report No: B344-Boeing/Landau
Project: 25068.10
NBF
VTSR: 07/31/92

Data Release Authorized: _____
Report: 08/07/92 MAC:C DWN

Instrument: FINN 3
Date Analyzed: 08/04/92

Amount Purged: 5.0 ml
Conc/Dilution: 1 to 1

CAS Number		µg/L
74-87-3	Chloromethane	2.0 U
74-83-9	Bromomethane	2.0 U
75-01-4	Vinyl Chloride	2.0 U
75-00-3	Chloroethane	2.0 U
75-09-2	Methylene Chloride	2.0 U
67-64-1	Acetone	5.0 U
75-15-0	Carbon Disulfide	1.0 U
75-35-4	1,1-Dichloroethene	1.0 U
75-34-3	1,1-Dichloroethane	1.0 U
156-60-5	Trans-1,2-Dichloroethene	1.0 U
156-59-2	Cis-1,2-Dichloroethene	1.0 U
67-66-3	Chloroform	1.0 U
107-06-2	1,2-Dichloroethane	1.0 U
78-93-3	2-Butanone	5.0 U
71-55-6	1,1,1-Trichloroethane	1.0 U
56-23-5	Carbon Tetrachloride	1.0 U
108-05-4	Vinyl Acetate	1.0 U
75-27-4	Bromodichloromethane	1.0 U
78-87-5	1,2-Dichloropropane	1.0 U

CAS Number		µg/L
10061-01-5	cis-1,3-Dichloropropene	1.0 U
79-01-6	Trichloroethene	1.0 U
124-48-1	Dibromochloromethane	1.0 U
79-00-5	1,1,2-Trichloroethane	1.0 U
71-43-2	Benzene	1.0 U
10061-02-6	trans-1,3-Dichloropropene	1.0 U
110-75-8	2-Chloroethylvinylether	1.0 U
75-25-2	Bromoform	1.0 U
108-10-1	4-Methyl-2-Pentanone	5.0 U
591-78-6	2-Hexanone	5.0 U
127-18-4	Tetrachloroethene	1.0 U
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U
108-88-3	Toluene	1.0 U
108-90-7	Chlorobenzene	1.0 U
100-41-4	Ethylbenzene	1.0 U
100-42-5	Styrene	1.0 U
1330-20-7	Total Xylenes	2.0 U
75-69-4	Trichlorofluoromethane	2.0 U
76-13-1	1,1,2-Trichlorotrifluoroethane	2.0 U

Surrogate Recoveries

d8-Toluene	107%
Bromofluorobenzene	108%
d4-1,2-Dichloroethane	90.7%

Data Reporting Qualifiers

Value — If the result is a value greater than or equal to the detection limit, report the value.

U — Indicates compound was analyzed for but not detected at the given detection limit.

J — Indicates an estimated value when result is less than specified detection limit.

B — This flag is used when the analyte is found in the blank as well as a sample. Indicates possible/probable blank contamination.

K — This flag is used when quantitated value falls above the limit of the calibration curve and dilution should be run.

M — Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match parameters.

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ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS

Sample ID: MB0803
Matrix: Waters
Data Release Authorized: _____
Report: 08/07/92 MAC:A rpr

Sample No: Method Blank

QC Report No: B344-Boeing/Landau
Project: 25068.10
N B F
VTSR: NA

Sample Volume: 1000 mls
Final Extract Volume: 1.0 mls
Dilution: 1 to 1

Date Extracted: 08/03/92
Date Analyzed (FINN 2): 08/04/92

CAS Number		µg/L
108-95-2	Phenol	2.0 U
111-44-4	bis(2-Chloroethyl)Ether	1.0 U
95-57-8	2-Chlorophenol	1.0 U
541-73-1	1,3-Dichlorobenzene	1.0 U
106-46-7	1,4-Dichlorobenzene	1.0 U
100-51-6	Benzyl Alcohol	5.0 U
95-50-1	1,2-Dichlorobenzene	1.0 U
95-48-7	2-Methylphenol	1.0 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	1.0 U
106-44-5	4-Methylphenol	1.0 U
621-64-7	N-Nitroso-Di-n-Propylamine	1.0 U
67-72-1	Hexachloroethane	2.0 U
98-95-3	Nitrobenzene	1.0 U
78-59-1	Isophorone	1.0 U
88-75-5	2-Nitrophenol	5.0 U
105-67-9	2,4-Dimethylphenol	2.0 U
65-85-0	Benzoic Acid	10 U
111-91-1	bis(2-Chloroethoxy)Methane	1.0 U
120-83-2	2,4-Dichlorophenol	3.0 U
120-82-1	1,2,4-Trichlorobenzene	1.0 U
91-20-3	Naphthalene	1.0 U
106-47-8	4-Chloroaniline	3.0 U
87-68-3	Hexachlorobutadiene	2.0 U
59-50-7	4-Chloro-3-Methylphenol	2.0 U
91-57-6	2-Methylnaphthalene	1.0 U
77-47-4	Hexachlorocyclopentadiene	5.0 U
88-06-2	2,4,6-Trichlorophenol	5.0 U
95-95-4	2,4,5-Trichlorophenol	5.0 U
91-58-7	2-Chloronaphthalene	1.0 U
88-74-4	2-Nitroaniline	5.0 U
131-11-3	Dimethyl Phthalate	1.0 U
208-96-8	Acenaphthylene	1.0 U
99-09-2	3-Nitroaniline	5.0 U

CAS Number		µg/L
83-32-9	Acenaphthene	1.0 U
51-28-5	2,4-Dinitrophenol	10 U
100-02-7	4-Nitrophenol	5.0 U
132-64-9	Dibenzofuran	1.0 U
606-20-2	2,6-Dinitrotoluene	5.0 U
121-14-2	2,4-Dinitrotoluene	5.0 U
84-66-2	Diethylphthalate	1.0 U
7005-72-3	4-Chlorophenyl-phenylether	1.0 U
86-73-7	Fluorene	1.0 U
100-01-6	4-Nitroaniline	5.0 U
534-52-1	4,6-Dinitro-2-Methylphenol	10 U
86-30-6	N-Nitrosodiphenylamine(1)	1.0 U
101-55-3	4-Bromophenyl-phenylether	1.0 U
118-74-1	Hexachlorobenzene	1.0 U
87-86-5	Pentachlorophenol	5.0 U
85-01-8	Phenanthrene	1.0 U
86-74-8	Carbazole	1.0 U
120-12-7	Anthracene	1.0 U
84-74-2	Di-n-Butylphthalate	1.0 U
206-44-0	Fluoranthene	1.0 U
129-00-0	Pyrene	1.0 U
85-68-7	Butylbenzylphthalate	1.0 U
91-94-1	3,3'-Dichlorobenzidine	5.0 U
56-55-3	Benzo(a)Anthracene	1.0 U
117-81-7	bis(2-Ethylhexyl)Phthalate	1.0 U
218-01-9	Chrysene	1.0 U
117-84-0	Di-n-Octyl Phthalate	1.0 U
205-99-2	Benzo(b)Fluoranthene	1.0 U
207-08-9	Benzo(k)Fluoranthene	1.0 U
50-32-8	Benzo(a)Pyrene	1.0 U
193-39-5	Indeno(1,2,3-cd)Pyrene	1.0 U
53-70-3	Dibenz(a,h)Anthracene	1.0 U
191-24-2	Benzo(ghi)Perylene	1.0 U

(1) Cannot be separated from diphenylamine

Base/neutral surrogate recoveries

d5-Nitrobenzene	81.4%
2-Fluorobiphenyl	83.5%
d14-p-Terphenyl	96.0%
d4-1,2-Dichlorobenzene	76.0%

Acid surrogate recoveries

d5-Phenol	34.2%
2-Fluorophenol	60.6%
2,4,6-Tribromophenol	76.8%
d4-2-Chlorophenol	79.0%

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ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS

Sample ID: B344 - A
Matrix: Waters
Data Release Authorized:
Report: 08/07/92 MAC:A rpr

Sample No: M W - 1

QC Report No: B344-Boeing/Landau
Project: 25068.10
N B F
VTSR: 07/31/92

Date Extracted: 08/03/92
Date Analyzed (FINN 2): 08/04/92

Sample Volume: 1000 mls
Final Extract Volume: 1.0 mls
Dilution: 1 to 1

CAS Number		µg/L
108-95-2	Phenol	2.0 U
111-44-4	bis(2-Chloroethyl)Ether	1.0 U
95-57-8	2-Chlorophenol	1.0 U
541-73-1	1,3-Dichlorobenzene	1.0 U
106-46-7	1,4-Dichlorobenzene	1.0 U
100-51-6	Benzyl Alcohol	5.0 U
95-50-1	1,2-Dichlorobenzene	1.0 U
95-48-7	2-Methylphenol	1.0 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	1.0 U
106-44-5	4-Methylphenol	1.0 U
621-64-7	N-Nitroso-Di-n-Propylamine	1.0 U
67-72-1	Hexachloroethane	2.0 U
98-95-3	Nitrobenzene	1.0 U
78-59-1	Isophorone	1.0 U
88-75-5	2-Nitrophenol	5.0 U
105-67-9	2,4-Dimethylphenol	2.0 U
65-85-0	Benzoic Acid	10 U
111-91-1	bis(2-Chloroethoxy)Methane	1.0 U
120-83-2	2,4-Dichlorophenol	3.0 U
120-82-1	1,2,4-Trichlorobenzene	1.0 U
91-20-3	Naphthalene	1.0 U
106-47-8	4-Chloroaniline	3.0 U
87-68-3	Hexachlorobutadiene	2.0 U
59-50-7	4-Chloro-3-Methylphenol	2.0 U
91-57-6	2-Methylnaphthalene	1.0 U
77-47-4	Hexachlorocyclopentadiene	5.0 U
88-06-2	2,4,6-Trichlorophenol	5.0 U
95-95-4	2,4,5-Trichlorophenol	5.0 U
91-58-7	2-Chloronaphthalene	1.0 U
88-74-4	2-Nitroaniline	5.0 U
131-11-3	Dimethyl Phthalate	1.0 U
208-96-8	Acenaphthylene	1.0 U
99-09-2	3-Nitroaniline	5.0 U

CAS Number		µg/L
83-32-9	Acenaphthene	1.0 U
51-28-5	2,4-Dinitrophenol	10 U
100-02-7	4-Nitrophenol	5.0 U
132-64-9	Dibenzofuran	1.0 U
606-20-2	2,6-Dinitrotoluene	5.0 U
121-14-2	2,4-Dinitrotoluene	5.0 U
84-66-2	Diethylphthalate	1.0 U
7005-72-3	4-Chlorophenyl-phenylether	1.0 U
86-73-7	Fluorene	1.0 U
100-01-6	4-Nitroaniline	5.0 U
534-52-1	4,6-Dinitro-2-Methylphenol	10 U
86-30-6	N-Nitrosodiphenylamine(1)	1.0 U
101-55-3	4-Bromophenyl-phenylether	1.0 U
118-74-1	Hexachlorobenzene	1.0 U
87-86-5	Pentachlorophenol	5.0 U
85-01-8	Phenanthrene	1.0 U
86-74-8	Carbazole	1.0 U
120-12-7	Anthracene	1.0 U
84-74-2	**Di-n-Butylphthalate**	**0.6 J**
206-44-0	Fluoranthene	1.0 U
129-00-0	Pyrene	1.0 U
85-68-7	Butylbenzylphthalate	1.0 U
91-94-1	3,3'-Dichlorobenzidine	5.0 U
56-55-3	Benzo(a)Anthracene	1.0 U
117-81-7	**bis(2-Ethylhexyl)Phthalate**	**0.5 J**
218-01-9	Chrysene	1.0 U
117-84-0	Di-n-Octyl Phthalate	1.0 U
205-99-2	Benzo(b)Fluoranthene	1.0 U
207-08-9	Benzo(k)Fluoranthene	1.0 U
50-32-8	Benzo(a)Pyrene	1.0 U
193-39-5	Indeno(1,2,3-cd)Pyrene	1.0 U
53-70-3	Dibenz(a,h)Anthracene	1.0 U
191-24-2	Benzo(ghi)Perylene	1.0 U

(1) Cannot be separated from diphenylamine

Base/neutral surrogate recoveries

d5-Nitrobenzene	62.2%
2-Fluorobiphenyl	64.4%
d14-p-Terphenyl	76.3%
d4-1,2-Dichlorobenzene	57.1%

Acid surrogate recoveries

d5-Phenol	21.5%
2-Fluorophenol	37.8%
2,4,6-Tribromophenol	65.2%
d4-2-Chlorophenol	54.9%

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ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS

Sample ID: B344 - B
Matrix: Waters
Data Release Authorized: _____
Report: 08/07/92 MAC:A rpr

Sample No: M W - 2

QC Report No: B344-Boeing/Landau
Project: 25068.10
N B F
VTSR: 07/31/92

Date Extracted: 08/03/92
Date Analyzed (FINN 2): 08/04/92

Sample Volume: 1000 mls
Final Extract Volume: 1.0 mls
Dilution: 1 to 1

CAS Number		µg/L
108-95-2	Phenol	2.0 U
111-44-4	bis(2-Chloroethyl)Ether	1.0 U
95-57-8	2-Chlorophenol	1.0 U
541-73-1	1,3-Dichlorobenzene	1.0 U
106-46-7	1,4-Dichlorobenzene	1.0 U
100-51-6	Benzyl Alcohol	5.0 U
95-50-1	1,2-Dichlorobenzene	1.0 U
95-48-7	2-Methylphenol	1.0 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	1.0 U
106-44-5	4-Methylphenol	1.0 U
621-64-7	N-Nitroso-Di-n-Propylamine	1.0 U
67-72-1	Hexachloroethane	2.0 U
98-95-3	Nitrobenzene	1.0 U
78-59-1	Isophorone	1.0 U
88-75-5	2-Nitrophenol	5.0 U
105-67-9	2,4-Dimethylphenol	2.0 U
65-85-0	Benzoic Acid	10 U
111-91-1	bis(2-Chloroethoxy)Methane	1.0 U
120-83-2	2,4-Dichlorophenol	3.0 U
120-82-1	1,2,4-Trichlorobenzene	1.0 U
91-20-3	Naphthalene	1.0 U
106-47-8	4-Chloroaniline	3.0 U
87-68-3	Hexachlorobutadiene	2.0 U
59-50-7	4-Chloro-3-Methylphenol	2.0 U
91-57-6	2-Methylnaphthalene	1.0 U
77-47-4	Hexachlorocyclopentadiene	5.0 U
88-06-2	2,4,6-Trichlorophenol	5.0 U
95-95-4	2,4,5-Trichlorophenol	5.0 U
91-58-7	2-Chloronaphthalene	1.0 U
88-74-4	2-Nitroaniline	5.0 U
131-11-3	Dimethyl Phthalate	1.0 U
208-96-8	Acenaphthylene	1.0 U
99-09-2	3-Nitroaniline	5.0 U

CAS Number		µg/L
83-32-9	Acenaphthene	1.0 U
51-28-5	2,4-Dinitrophenol	10 U
100-02-7	4-Nitrophenol	5.0 U
132-64-9	Dibenzofuran	1.0 U
606-20-2	2,6-Dinitrotoluene	5.0 U
121-14-2	2,4-Dinitrotoluene	5.0 U
84-66-2	Diethylphthalate	1.0 U
7005-72-3	4-Chlorophenyl-phenylether	1.0 U
86-73-7	Fluorene	1.0 U
100-01-6	4-Nitroaniline	5.0 U
534-52-1	4,6-Dinitro-2-Methylphenol	10 U
86-30-6	N-Nitrosodiphenylamine(1)	1.0 U
101-55-3	4-Bromophenyl-phenylether	1.0 U
118-74-1	Hexachlorobenzene	1.0 U
87-86-5	Pentachlorophenol	5.0 U
85-01-8	Phenanthrene	1.0 U
86-74-8	Carbazole	1.0 U
120-12-7	Anthracene	1.0 U
84-74-2	**Di-n-Butylphthalate**	**0.5 J**
206-44-0	Fluoranthene	1.0 U
129-00-0	Pyrene	1.0 U
85-68-7	Butylbenzylphthalate	1.0 U
91-94-1	3,3'-Dichlorobenzidine	5.0 U
56-55-3	Benzo(a)Anthracene	1.0 U
117-81-7	bis(2-Ethylhexyl)Phthalate	1.0 U
218-01-9	Chrysene	1.0 U
117-84-0	Di-n-Octyl Phthalate	1.0 U
205-99-2	Benzo(b)Fluoranthene	1.0 U
207-08-9	Benzo(k)Fluoranthene	1.0 U
50-32-8	Benzo(a)Pyrene	1.0 U
193-39-5	Indeno(1,2,3-cd)Pyrene	1.0 U
53-70-3	Dibenz(a,h)Anthracene	1.0 U
191-24-2	Benzo(ghi)Perylene	1.0 U

(1) Cannot be separated from diphenylamine

Base/neutral surrogate recoveries

d5-Nitrobenzene	67.3%
2-Fluorobiphenyl	70.2%
d14-p-Terphenyl	91.5%
d4-1,2-Dichlorobenzene	62.0%

Acid surrogate recoveries

d5-Phenol	22.3%
2-Fluorophenol	36.4%
2,4,6-Tribromophenol	75.4%
d4-2-Chlorophenol	56.8%

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ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS

Sample ID: B344 - C
Matrix: Waters
Data Release Authorized: _____
Report: 08/07/92 MAC:A rpr

Sample No: M W - 3

QC Report No: B344-Boeing/Landau
Project: 25068.10
N B F
VTSR: 07/31/92

Sample Volume: 1000 mls
Final Extract Volume: 1.0 mls
Dilution: 1 to 1

Date Extracted: 08/03/92
Date Analyzed (FINN 2): 08/04/92

CAS Number		µg/L
108-95-2	Phenol	2.0 U
111-44-4	bis(2-Chloroethyl)Ether	1.0 U
95-57-8	2-Chlorophenol	1.0 U
541-73-1	1,3-Dichlorobenzene	1.0 U
106-46-7	1,4-Dichlorobenzene	1.0 U
100-51-6	Benzyl Alcohol	5.0 U
95-50-1	1,2-Dichlorobenzene	1.0 U
95-48-7	2-Methylphenol	1.0 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	1.0 U
106-44-5	4-Methylphenol	1.0 U
621-64-7	N-Nitroso-Di-n-Propylamine	1.0 U
67-72-1	Hexachloroethane	2.0 U
98-95-3	Nitrobenzene	1.0 U
78-59-1	Isophorone	1.0 U
88-75-5	2-Nitrophenol	5.0 U
105-67-9	2,4-Dimethylphenol	2.0 U
65-85-0	Benzoic Acid	10 U
111-91-1	bis(2-Chloroethoxy)Methane	1.0 U
120-83-2	2,4-Dichlorophenol	3.0 U
120-82-1	1,2,4-Trichlorobenzene	1.0 U
91-20-3	Naphthalene	1.0 U
106-47-8	4-Chloroaniline	3.0 U
87-68-3	Hexachlorobutadiene	2.0 U
59-50-7	4-Chloro-3-Methylphenol	2.0 U
91-57-6	2-Methylnaphthalene	1.0 U
77-47-4	Hexachlorocyclopentadiene	5.0 U
88-06-2	2,4,6-Trichlorophenol	5.0 U
95-95-4	2,4,5-Trichlorophenol	5.0 U
91-58-7	2-Chloronaphthalene	1.0 U
88-74-4	2-Nitroaniline	5.0 U
131-11-3	Dimethyl Phthalate	1.0 U
208-96-8	Acenaphthylene	1.0 U
99-09-2	3-Nitroaniline	5.0 U

CAS Number		µg/L
83-32-9	Acenaphthene	1.0 U
51-28-5	2,4-Dinitrophenol	10 U
100-02-7	4-Nitrophenol	5.0 U
132-64-9	Dibenzofuran	1.0 U
606-20-2	2,6-Dinitrotoluene	5.0 U
121-14-2	2,4-Dinitrotoluene	5.0 U
84-66-2	Diethylphthalate	1.0 U
7005-72-3	4-Chlorophenyl-phenylether	1.0 U
86-73-7	Fluorene	1.0 U
100-01-6	4-Nitroaniline	5.0 U
534-52-1	4,6-Dinitro-2-Methylphenol	10 U
86-30-6	N-Nitrosodiphenylamine(1)	1.0 U
101-55-3	4-Bromophenyl-phenylether	1.0 U
118-74-1	Hexachlorobenzene	1.0 U
87-86-5	Pentachlorophenol	5.0 U
85-01-8	Phenanthrene	1.0 U
86-74-8	Carbazole	1.0 U
120-12-7	Anthracene	1.0 U
84-74-2	**Di-n-Butylphthalate**	**0.5 J**
206-44-0	Fluoranthene	1.0 U
129-00-0	Pyrene	1.0 U
85-68-7	Butylbenzylphthalate	1.0 U
91-94-1	3,3'-Dichlorobenzidine	5.0 U
56-55-3	Benzo(a)Anthracene	1.0 U
117-81-7	bis(2-Ethylhexyl)Phthalate	1.0 U
218-01-9	Chrysene	1.0 U
117-84-0	Di-n-Octyl Phthalate	1.0 U
205-99-2	Benzo(b)Fluoranthene	1.0 U
207-08-9	Benzo(k)Fluoranthene	1.0 U
50-32-8	Benzo(a)Pyrene	1.0 U
193-39-5	Indeno(1,2,3-cd)Pyrene	1.0 U
53-70-3	Dibenz(a,h)Anthracene	1.0 U
191-24-2	Benzo(ghi)Perylene	1.0 U

(1) Cannot be separated from diphenylamine

Base/neutral surrogate recoveries

d5-Nitrobenzene	73.4%
2-Fluorobiphenyl	80.1%
d14-p-Terphenyl	86.0%
d4-1,2-Dichlorobenzene	65.3%

Acid surrogate recoveries

d5-Phenol	29.4%
2-Fluorophenol	48.3%
2,4,6-Tribromophenol	85.3%
d4-2-Chlorophenol	68.0%

ANALYTICAL RESOURCES INCORPORATED

Analytical Chemists & Consultants

333 Ninth Ave. North
Seattle, WA 98109-5187
(206) 621-6490
(206) 621-7523 (FAX)

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS

Sample ID: B344 - D
Matrix: Waters
Data Release Authorized:
Report: 08/07/92 MAC:A rpr

Sample No: M W - 4

QC Report No: B344-Boeing/Landau
Project: 25068.10
N B F
VTSR: 07/31/92

Date Extracted: 08/03/92
Date Analyzed (FINN 2): 08/04/92

Sample Volume: 1000 mls
Final Extract Volume: 1.0 mls
Dilution: 1 to 1

CAS Number		µg/L
108-95-2	Phenol	2.0 U
111-44-4	bis(2-Chloroethyl)Ether	1.0 U
95-57-8	2-Chlorophenol	1.0 U
541-73-1	1,3-Dichlorobenzene	1.0 U
106-46-7	1,4-Dichlorobenzene	1.0 U
100-51-6	Benzyl Alcohol	5.0 U
95-50-1	1,2-Dichlorobenzene	1.0 U
95-48-7	2-Methylphenol	1.0 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	1.0 U
106-44-5	4-Methylphenol	1.0 U
621-64-7	N-Nitroso-Di-n-Propylamine	1.0 U
67-72-1	Hexachloroethane	2.0 U
98-95-3	Nitrobenzene	1.0 U
78-59-1	Isophorone	1.0 U
88-75-5	2-Nitrophenol	5.0 U
105-67-9	2,4-Dimethylphenol	2.0 U
65-85-0	Benzoic Acid	10 U
111-91-1	bis(2-Chloroethoxy)Methane	1.0 U
120-83-2	2,4-Dichlorophenol	3.0 U
120-82-1	1,2,4-Trichlorobenzene	1.0 U
91-20-3	Naphthalene	1.0 U
106-47-8	4-Chloroaniline	3.0 U
87-68-3	Hexachlorobutadiene	2.0 U
59-50-7	4-Chloro-3-Methylphenol	2.0 U
91-57-6	2-Methylnaphthalene	1.0 U
77-47-4	Hexachlorocyclopentadiene	5.0 U
88-06-2	2,4,6-Trichlorophenol	5.0 U
95-95-4	2,4,5-Trichlorophenol	5.0 U
91-58-7	2-Chloronaphthalene	1.0 U
88-74-4	2-Nitroaniline	5.0 U
131-11-3	Dimethyl Phthalate	1.0 U
208-96-8	Acenaphthylene	1.0 U
99-09-2	3-Nitroaniline	5.0 U

CAS Number		µg/L
83-32-9	Acenaphthene	1.0 U
51-28-5	2,4-Dinitrophenol	10 U
100-02-7	4-Nitrophenol	5.0 U
132-64-9	Dibenzofuran	1.0 U
606-20-2	2,6-Dinitrotoluene	5.0 U
121-14-2	2,4-Dinitrotoluene	5.0 U
84-66-2	Diethylphthalate	1.0 U
7005-72-3	4-Chlorophenyl-phenylether	1.0 U
86-73-7	Fluorene	1.0 U
100-01-6	4-Nitroaniline	5.0 U
534-52-1	4,6-Dinitro-2-Methylphenol	10 U
86-30-6	N-Nitrosodiphenylamine(1)	1.0 U
101-55-3	4-Bromophenyl-phenylether	1.0 U
118-74-1	Hexachlorobenzene	1.0 U
87-86-5	Pentachlorophenol	5.0 U
85-01-8	Phenanthrene	1.0 U
86-74-8	Carbazole	1.0 U
120-12-7	Anthracene	1.0 U
84-74-2	Di-n-Butylphthalate	1.0 U
206-44-0	Fluoranthene	1.0 U
129-00-0	Pyrene	1.0 U
85-68-7	Butylbenzylphthalate	1.0 U
91-94-1	3,3'-Dichlorobenzidine	5.0 U
56-55-3	Benzo(a)Anthracene	1.0 U
117-81-7	bis(2-Ethylhexyl)Phthalate	1.0 U
218-01-9	Chrysene	1.0 U
117-84-0	Di-n-Octyl Phthalate	1.0 U
205-99-2	Benzo(b)Fluoranthene	1.0 U
207-08-9	Benzo(k)Fluoranthene	1.0 U
50-32-8	Benzo(a)Pyrene	1.0 U
193-39-5	Indeno(1,2,3-cd)Pyrene	1.0 U
53-70-3	Dibenz(a,h)Anthracene	1.0 U
191-24-2	Benzo(ghi)Perylene	1.0 U

(1) Cannot be separated from diphenylamine

Base/neutral surrogate recoveries

d5-Nitrobenzene	75.3%
2-Fluorobiphenyl	77.3%
d14-p-Terphenyl	82.8%
d4-1,2-Dichlorobenzene	67.9%

Acid surrogate recoveries

d5-Phenol	29.6%
2-Fluorophenol	51.5%
2,4,6-Tribromophenol	85.8%
d4-2-Chlorophenol	68.6%

12 August 1992

RECEIVED
AUG 13 1992
LANDAU ASSOCIATES, INC.

ANALYTICAL RESOURCES INCORPORATED

Analytical Chemists & Consultants

333 Ninth Ave. North
Seattle, WA 98109-5187
(206) 621-6490
(206) 621-7523 (FAX)

Mr. Tom Colligan
Landau Associates
23107 100th Avenue West
Edmonds, WA 98020

RE: Project No. 25068.10 (NBF - Fire Training Center) / ARI Job No. B299

Dear Mr. Colligan:

Please find enclosed original reports for the above-referenced project. Seven soil samples and one water sample were received intact on July 28, 1992. No discrepancies with the chain-of-custody were noted.

As requested, all submitted samples were analyzed for total petroleum hydrocarbons (TPH) by WDOE method W-HCID, PCB-Aroclors and volatile organic compounds (VOC). Samples **SS-2** and **SS-5** were also analyzed for semivolatile organic compound (ABN) and total metals.

Prior to the VOC analysis of sample **SS-3**, a crack in the jar was observed. No additional irregularities were noticed and the analysis proceeded without incident.

During the TPH-HCID analysis, sample **FRB-1** and the associated Method Blank both exhibited low surrogate recoveries. A reextraction was not initiated, due to the lack of additional sample.

The remaining analyses were completed without noted incident

As always, copies of these reports and the associated raw data will remain on file with ARI. If you have any questions or require additional information, please feel contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

Bryan D. Anderson

Bryan D. Anderson
Project Coordinator

enclosures
cc: file B299
Brian Anderson / Boeing Environmental Affairs

LANDAU ASSOCIATES, INC.
Edmonds, WA (206) 778-0907
FAX (206)778-6409

Chain-of-Custody Record

№ 1685

Date 7/28/92
Page 1 of 1

Project N. Boeing Field - Fire Training Center Job No. 25068.10
Client Boeing - Brian Anderson
Project Location N. Boeing Field
Sampler's Name Tom Colligan / Greg Landau

Testing Parameters

Sample No.	Date	Time	Location	No. of Containers	TPH - HCID	VOA	Metals (6010/7000)	Semi-Volatile (8270)	PCB (8080)	TPH-D	TPH-G	418.1			Observations/Comments
SS-1	7/28	1412		3	✓	✓			✓						Metals: As, Be, Cd, Cr, Cu,
SS-2		1428		3	✓	✓	✓	✓	✓						Pb, Hg, Ni, Zn
SS-3		1438		3	✓	✓			✓						
SS-4		1449		3	✓	✓			✓						CALL LANDAU ASSOC. (Tom
SS-5		1535		3	✓	✓	✓	✓	✓						Colligan) w HCID results
SS-6		1550		3	✓	✓			✓						before proceeding onto
SS-7		1555		3	✓	✓			✓						TPH-D, G or 418.1
FRB-1	7/28	1516		3	✓	✓			✓						(Water Sample)
															BILL TO BOEING EA -
															CALL FOR P.O. #
															FAX Results to LANDAU
															& Boeing

If possible w sample volume

Special Shipment/Handling or Storage Requirements ICED

Method of Shipment HAND

Relinquished by	Received by	Relinquished by	Received by
Signature: Thomas Colligan	Signature: Jan Fekkens	Signature:	Signature:
Printed Name: Thomas Colligan	Printed Name: JAN FEKKENS	Printed Name:	Printed Name:
Company: LANDAU	Company: A.R.I.	Company:	Company:
Date 7/28/92 Time 1850	Date 7/28/92 Time 16:50	Date ____ Time ____	Date ____ Time ____

3/90

WHITE COPY - Project File YELLOW COPY - Laboratory PINK COPY - Client Representative

A.R.I. # B299

SEA428273

LANDAU ASSOCIATES, INC.
Edmonds, WA (206) 778-0907
FAX (206)778-6409

Chain-of-Custody Record

№ 1256

Date 7/28/92

Page 1 of 1

Project N. Boeing Field - Fire Training Center Job No. 25068.10

Client Boeing - Brian Anderson

Project Location N. Boeing Field

Sampler's Name Thomas Colligan / Greg Landau

Testing Parameters: SKYDROL

Sample No.	Date	Time	Location	No. of Containers	SKYDROL	Observations/Comments
SS-1	7/28	1412		1		Archieve All Samples
SS-2		1428		1		for SKYDROL Analysis
SS-3		1438		1		until notified by
SS-4		1447		1		Boeing for Disposal
SS-5		1535		1		or Analysis -
SS-6		1550		1		
SS-7		1555		1		see Bryan Anderson
						AT ARI

Special Shipment/Handling or Storage Requirements ICED

Method of Shipment HAND Deliver

Relinquished by	Received by	Relinquished by	Received by
Signature: Tom Colligan	Signature: Dan Folkins	Signature:	Signature:
Printed Name: TOM COLLIGAN	Printed Name: DAN FOLKINS	Printed Name:	Printed Name:
Company: LANDAU	Company: A.R.I.	Company:	Company:
Date 7/28/92 Time 1650	Date 7/28/92 Time 16:50	Date ____ Time ____	Date ____ Time ____

3/90

WHITE COPY - Project File YELLOW COPY - Laboratory PINK COPY - Client Representative

SEA428274

ANALYTICAL RESOURCES INCORPORATED

Analytical Chemists & Consultants

333 Ninth Ave. North
Seattle, WA 98109-5187
(206) 621-6490
(206) 621-7523 (FAX)

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS

Sample ID: MB0729
Matrix: Soils/Sediments
Data Release Authorized:
Report: 08/07/92 MAC:A rpr

Sample No: Method Blank

QC Report No: B299-Boeing/Landau
Project: Fire Training Center
N B F - 25068.10
VTSR: NA

Date Extracted: 07/29/92
Analyzed (FINN 2): 07/31/92
GPC Clean-up: Yes
Final Ext Volume: 2.0 mls

Sample Wt: 30.0 gm (Equiv. Dry Wt.)
Percent Moisture: NA
pH: NA
Dilution: 1 to 1

CAS Number		µg/Kg
108-95-2	Phenol	130 U
111-44-4	bis(2-Chloroethyl)Ether	67 U
95-57-8	2-Chlorophenol	67 U
541-73-1	1,3-Dichlorobenzene	67 U
106-46-7	1,4-Dichlorobenzene	67 U
100-51-6	Benzyl Alcohol	330 U
95-50-1	1,2-Dichlorobenzene	67 U
95-48-7	2-Methylphenol	67 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	67 U
106-44-5	4-Methylphenol	67 U
621-64-7	N-Nitroso-Di-n-Propylamine	67 U
67-72-1	Hexachloroethane	130 U
98-95-3	Nitrobenzene	67 U
78-59-1	Isophorone	67 U
88-75-5	2-Nitrophenol	330 U
105-67-9	2,4-Dimethylphenol	130 U
65-85-0	Benzoic Acid	670 U
111-91-1	bis(2-Chloroethoxy)Methane	67 U
120-83-2	2,4-Dichlorophenol	200 U
120-82-1	1,2,4-Trichlorobenzene	67 U
91-20-3	Naphthalene	67 U
106-47-8	4-Chloroaniline	200 U
87-68-3	Hexachlorobutadiene	130 U
59-50-7	4-Chloro-3-Methylphenol	130 U
91-57-6	2-Methylnaphthalene	67 U
77-47-4	Hexachlorocyclopentadiene	330 U
88-06-2	2,4,6-Trichlorophenol	330 U
95-95-4	2,4,5-Trichlorophenol	330 U
91-58-7	2-Chloronaphthalene	67 U
88-74-4	2-Nitroaniline	330 U
131-11-3	Dimethyl Phthalate	67 U
208-96-8	Acenaphthylene	67 U
99-09-2	3-Nitroaniline	330 U

CAS Number		µg/Kg
83-32-9	Acenaphthene	67 U
51-28-5	2,4-Dinitrophenol	670 U
100-02-7	4-Nitrophenol	330 U
132-64-9	Dibenzofuran	67 U
606-20-2	2,6-Dinitrotoluene	330 U
121-14-2	2,4-Dinitrotoluene	330 U
84-66-2	Diethylphthalate	67 U
7005-72-3	4-Chlorophenyl-phenylether	67 U
86-73-7	Fluorene	67 U
100-01-6	4-Nitroaniline	330 U
534-52-1	4,6-Dinitro-2-Methylphenol	670 U
86-30-6	N-Nitrosodiphenylamine(1)	67 U
101-55-3	4-Bromophenyl-phenylether	67 U
118-74-1	Hexachlorobenzene	67 U
87-86-5	Pentachlorophenol	330 U
85-01-8	Phenanthrene	67 U
86-74-8	Carbazole	67 U
120-12-7	Anthracene	67 U
84-74-2	Di-n-Butylphthalate	67 U
206-44-0	Fluoranthene	67 U
129-00-0	Pyrene	67 U
85-68-7	Butylbenzylphthalate	67 U
91-94-1	3,3'-Dichlorobenzidine	330 U
56-55-3	Benzo(a)Anthracene	67 U
117-81-7	**bis(2-Ethylhexyl)Phthalate**	**66 JB**
218-01-9	Chrysene	67 U
117-84-0	Di-n-Octyl Phthalate	67 U
205-99-2	Benzo(b)Fluoranthene	67 U
207-08-9	Benzo(k)Fluoranthene	67 U
50-32-8	Benzo(a)Pyrene	67 U
193-39-5	Indeno(1,2,3-cd)Pyrene	67 U
53-70-3	Dibenz(a,h)Anthracene	67 U
191-24-2	Benzo(ghi)Perylene	67 U

(1) Cannot be separated from diphenylamine

Base/neutral surrogate recoveries

d5-Nitrobenzene	54.4%
2-Fluorobiphenyl	55.2%
d14-p-Terphenyl	65.5%
d4-1,2-Dichlorobenzene	54.2%

Acid surrogate recoveries

d5-Phenol	51.6%
2-Fluorophenol	58.9%
2,4,6-Tribromophenol	53.9%
d4-2-Chlorophenol	55.9%

ANALYTICAL RESOURCES INCORPORATED

Analytical Chemists & Consultants

333 Ninth Ave. North
Seattle, WA 98109-5187
(206) 621-6490
(206) 621-7523 (FAX)

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS

Sample ID: B299 - B
Matrix: Soils/Sediments
Data Release Authorized:
Report: 08/07/92 MAC:A rpr

Sample No: S S - 2

QC Report No: B299-Boeing/Landau
Project: Fire Training Center
N B F - 25068.10
VTSR: 07/28/92

Date Extracted: 07/29/92
Analyzed (FINN 2): 07/31/92
GPC Clean-up: Yes
Final Ext Volume: 2.0 mls

Sample Wt: 32.1 gm (Dry Wt.)
Percent Moisture: 2.2%
pH: 8.9
Dilution: 1 to 1

CAS Number		µg/Kg
108-95-2	Phenol	130 U
111-44-4	bis(2-Chloroethyl)Ether	66 U
95-57-8	2-Chlorophenol	66 U
541-73-1	1,3-Dichlorobenzene	66 U
106-46-7	1,4-Dichlorobenzene	66 U
100-51-6	Benzyl Alcohol	330 U
95-50-1	1,2-Dichlorobenzene	66 U
95-48-7	2-Methylphenol	66 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	66 U
106-44-5	4-Methylphenol	66 U
621-64-7	N-Nitroso-Di-n-Propylamine	66 U
67-72-1	Hexachloroethane	130 U
98-95-3	Nitrobenzene	66 U
78-59-1	Isophorone	66 U
88-75-5	2-Nitrophenol	330 U
105-67-9	2,4-Dimethylphenol	130 U
65-85-0	Benzoic Acid	660 U
111-91-1	bis(2-Chloroethoxy)Methane	66 U
120-83-2	2,4-Dichlorophenol	200 U
120-82-1	1,2,4-Trichlorobenzene	66 U
91-20-3	Naphthalene	66 U
106-47-8	4-Chloroaniline	200 U
87-68-3	Hexachlorobutadiene	130 U
59-50-7	4-Chloro-3-Methylphenol	130 U
91-57-6	2-Methylnaphthalene	66 U
77-47-4	Hexachlorocyclopentadiene	330 U
88-06-2	2,4,6-Trichlorophenol	330 U
95-95-4	2,4,5-Trichlorophenol	330 U
91-58-7	2-Chloronaphthalene	66 U
88-74-4	2-Nitroaniline	330 U
131-11-3	Dimethyl Phthalate	66 U
208-96-8	Acenaphthylene	66 U
99-09-2	3-Nitroaniline	330 U

CAS Number		µg/Kg
83-32-9	Acenaphthene	66 U
51-28-5	2,4-Dinitrophenol	660 U
100-02-7	4-Nitrophenol	330 U
132-64-9	Dibenzofuran	66 U
606-20-2	2,6-Dinitrotoluene	330 U
121-14-2	2,4-Dinitrotoluene	330 U
84-66-2	Diethylphthalate	66 U
7005-72-3	4-Chlorophenyl-phenylether	66 U
86-73-7	Fluorene	66 U
100-01-6	4-Nitroaniline	330 U
534-52-1	4,6-Dinitro-2-Methylphenol	660 U
86-30-6	N-Nitrosodiphenylamine(1)	66 U
101-55-3	4-Bromophenyl-phenylether	66 U
118-74-1	Hexachlorobenzene	66 U
87-86-5	Pentachlorophenol	330 U
85-01-8	Phenanthrene	66 U
86-74-8	Carbazole	66 U
120-12-7	Anthracene	66 U
84-74-2	**Di-n-Butylphthalate**	**65 J**
206-44-0	**Fluoranthene**	**83**
129-00-0	**Pyrene**	**71**
85-68-7	Butylbenzylphthalate	66 U
91-94-1	3,3'-Dichlorobenzidine	330 U
56-55-3	**Benzo(a)Anthracene**	**51 J**
117-81-7	**bis(2-Ethylhexyl)Phthalate**	**110 B**
218-01-9	**Chrysene**	**83**
117-84-0	Di-n-Octyl Phthalate	66 U
205-99-2	**Benzo(b)Fluoranthene**	
207-08-9	**Benzo(k)Fluoranthene**	**170**
50-32-8	**Benzo(a)Pyrene**	**70**
193-39-5	Indeno(1,2,3-cd)Pyrene	66 U
53-70-3	Dibenz(a,h)Anthracene	66 U
191-24-2	Benzo(ghi)Perylene	66 U

(1) Cannot be separated from diphenylamine

Base/neutral surrogate recoveries

d5-Nitrobenzene	63.2%
2-Fluorobiphenyl	77.4%
d14-p-Terphenyl	62.8%
d4-1,2-Dichlorobenzene	61.4%

Acid surrogate recoveries

d5-Phenol	59.0%
2-Fluorophenol	68.1%
2,4,6-Tribromophenol	72.2%
d4-2-Chlorophenol	67.2%

ANALYTICAL RESOURCES INCORPORATED

Analytical Chemists & Consultants

333 Ninth Ave. North
Seattle, WA 98109-5187
(206) 621-6490
(206) 621-7523 (FAX)

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS

Sample ID: B299 - E
Matrix: Soils/Sediments
Data Release Authorized:
Report: 08/07/92 MAC:A rpr

Sample No: S S - 5

QC Report No: B299-Boeing/Landau
Project: Fire Training Center
N B F - 25068.10
VTSR: 07/28/92

Date Extracted: 07/29/92
Analyzed (FINN 2): 07/31/92
GPC Clean-up: Yes
Final Ext Volume: 2.0 mls

Sample Wt: 30.2 gm (Dry Wt.)
Percent Moisture: 8.8%
pH: 7.1
Dilution: 1 to 5

CAS Number		µg/Kg
108-95-2	Phenol	660 U
111-44-4	bis(2-Chloroethyl)Ether	330 U
95-57-8	2-Chlorophenol	330 U
541-73-1	1,3-Dichlorobenzene	330 U
106-46-7	1,4-Dichlorobenzene	330 U
100-51-6	Benzyl Alcohol	1700 U
95-50-1	1,2-Dichlorobenzene	330 U
95-48-7	2-Methylphenol	330 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	330 U
106-44-5	4-Methylphenol	330 U
621-64-7	N-Nitroso-Di-n-Propylamine	330 U
67-72-1	Hexachloroethane	660 U
98-95-3	Nitrobenzene	330 U
78-59-1	Isophorone	330 U
88-75-5	2-Nitrophenol	1700 U
105-67-9	2,4-Dimethylphenol	660 U
65-85-0	Benzoic Acid	3300 U
111-91-1	bis(2-Chloroethoxy)Methane	330 U
120-83-2	2,4-Dichlorophenol	990 U
120-82-1	1,2,4-Trichlorobenzene	330 U
91-20-3	**Naphthalene**	**14000**
106-47-8	4-Chloroaniline	990 U
87-68-3	Hexachlorobutadiene	660 U
59-50-7	4-Chloro-3-Methylphenol	660 U
91-57-6	**2-Methylnaphthalene**	**25000**
77-47-4	Hexachlorocyclopentadiene	1700 U
88-06-2	2,4,6-Trichlorophenol	1700 U
95-95-4	2,4,5-Trichlorophenol	1700 U
91-58-7	2-Chloronaphthalene	330 U
88-74-4	2-Nitroaniline	1700 U
131-11-3	Dimethyl Phthalate	330 U
208-96-8	Acenaphthylene	330 U
99-09-2	3-Nitroaniline	1700 U

CAS Number		µg/Kg
83-32-9	Acenaphthene	330 U
51-28-5	2,4-Dinitrophenol	3300 U
100-02-7	4-Nitrophenol	1700 U
132-64-9	Dibenzofuran	330 U
606-20-2	2,6-Dinitrotoluene	1700 U
121-14-2	2,4-Dinitrotoluene	1700 U
84-66-2	Diethylphthalate	330 U
7005-72-3	4-Chlorophenyl-phenylether	330 U
86-73-7	Fluorene	330 U
100-01-6	4-Nitroaniline	1700 U
534-52-1	4,6-Dinitro-2-Methylphenol	3300 U
86-30-6	N-Nitrosodiphenylamine(1)	330 U
101-55-3	4-Bromophenyl-phenylether	330 U
118-74-1	Hexachlorobenzene	330 U
87-86-5	Pentachlorophenol	1700 U
85-01-8	**Phenanthrene**	**280 J**
86-74-8	Carbazole	330 U
120-12-7	Anthracene	330 U
84-74-2	**Di-n-Butylphthalate**	**350**
206-44-0	**Fluoranthene**	**440**
129-00-0	**Pyrene**	**580**
85-68-7	Butylbenzylphthalate	330 U
91-94-1	3,3'-Dichlorobenzidine	1700 U
56-55-3	**Benzo(a)Anthracene**	**240 J**
117-81-7	**bis(2-Ethylhexyl)Phthalate**	**580**
218-01-9	**Chrysene**	**350**
117-84-0	Di-n-Octyl Phthalate	330 U
205-99-2	**Benzo(b)Fluoranthene**	
207-08-9	**Benzo(k)Fluoranthene**	**940**
50-32-8	**Benzo(a)Pyrene**	**520**
193-39-5	**Indeno(1,2,3-cd)Pyrene**	**500**
53-70-3	Dibenz(a,h)Anthracene	330 U
191-24-2	**Benzo(ghi)Perylene**	**430**

(1) Cannot be separated from diphenylamine

Base/neutral surrogate recoveries

d5-Nitrobenzene	61.5%
2-Fluorobiphenyl	73.0%
d14-p-Terphenyl	67.5%
d4-1,2-Dichlorobenzene	71.1%

Acid surrogate recoveries

d5-Phenol	63.3%
2-Fluorophenol	65.3%
2,4,6-Tribromophenol	56.5%
d4-2-Chlorophenol	67.9%

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ORGANICS ANALYSIS DATA SHEET
PCB Analysis

QC Report: B299
Project: NBF 25068.10
Fire Training Center

Matrix: Soil/Sediment Date Received: 07/28/92

Data Release Authorized
Report prepared: 08/12/92 MAC: E bda

Acid Cleaned: No
Florisil Cleaned: Yes
GPC Cleaned: Yes (soil)

Reported in ppb (µg/kg)

Sample #:	**Method Blank**	**SS-1**	**SS-2**	**SS-3**	**SS-4**	**SS-5**	**SS-6**
ARI Lab ID:	*0729MB*	*B299A*	*B299B*	*B299C*	*B299D*	*B299E*	*B299F*
Date Extracted:	*07/29/92*	*07/29/92*	*07/29/92*	*07/29/92*	*07/29/92*	*07/29/92*	*07/29/92*
Date Analyzed:	*07/31/92*	*08/01/92*	*08/01/92*	*08/01/92*	*08/01/92*	*08/01/92*	*08/01/92*
Dry Weight:	*25.0 g*	*29.6 g*	*29.8 g*	*28.6 g*	*23.9 g*	*27.6 g*	*28.5 g*
Dilution:	*1:1*	*1:1*	*1:1*	*1:1*	*1:1*	*1:1*	*1:1*
Final Volume:	*20 ml*	*40 ml*	*40 ml*	*40 ml*	*40 ml*	*40 ml*	*40 ml*
1016/1242	80 U	80 U	80 U	80 U	80 U	80 U	80 U
1248	80 U	80 U	80 U	80 U	80 U	80 U	80 U
1254	80 U	**220**	**700**	**87**	**1300**	**170**	**110**
1260	80 U	**190**	**260**	**87**	**360**	**160**	80 U
DCBP %Rec	*54.1%*	*73.2%*	*72.0%*	*79.6%*	*80.3%*	*70.6%*	*70.4%*
TCMX %Rec	*66.8%*	*69.9%*	*74.7%*	*80.2%*	*81.8%*	*73.7%*	*76.7%*

Data Qualifiers

Value	If the result is a value greater than or equal to the detection limit, report the value.
J	Indicates an estimated value when that value is less than the calculated detection limit.
X	Indicates a value above the linear range of the detector. Dilution required.
S	Indicates no value reported due to saturation of the detector.
D	Indicates the surrogate was diluted out.
U	Indicates compound was analyzed for, but not detected at the given detection limit.
NA	Indicates compound not analyzed.

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ORGANICS ANALYSIS DATA SHEET
PCB Analysis

QC Report: B299
Project: NBF 25068.10
Fire Training Center

Matrix: Soil/Sediment
Date Received: 07/28/92

Data Release Authorized
Report prepared: 08/11/92 MAC/E bda

Acid Cleaned: No
Florisil Cleaned: Yes
GPC Cleaned: Yes (soil)

Reported in ppb (µg/kg)

Sample #:	**SS-7**
ARI Lab ID:	*B299G*
Date Extracted:	*07/29/92*
Date Analyzed:	*08/01/92*
Dry Weight:	*27.6 g*
Dilution:	*1:1*
Final Volume:	*20 ml*

1016/1242	80 U
1248	80 U
1254	**350**
1260	**180**

DCBP %Rec	*50.7%*
TCMX %Rec	*90.5%*

Reported in ppb (µg/L)

Sample #:	**Method Blank (w)**	**FRB-1**
ARI Lab ID:	*0729MB*	*B299H*
Date Extracted:	*07/29/92*	*07/29/92*
Date Analyzed:	*08/10/92*	*08/10/92*
Vol Extracted:	*25.0 g*	*27.6 g*
Dilution:	*1:1*	*1:1*
Final Volume:	*10 ml*	*10 ml*

1016/1242	1.0 U	1.0 U
1248	1.0 U	1.0 U
1254	1.0 U	1.0 U
1260	1.0 U	1.0 U

DCBP %Rec	*67.5%*	*53.5%*
TCMX %Rec	*76.9%*	*77.1%*

Data Qualifiers

Value	If the result is a value greater than or equal to the detection limit, report the value.
J	Indicates an estimated value when that value is less than the calculated detection limit.
X	Indicates a value above the linear range of the detector. Dilution required.
S	Indicates no value reported due to saturation of the detector.
D	Indicates the surrogate was diluted out.
U	Indicates compound was analyzed for, but not detected at the given detection limit.
NA	Indicates compound not analyzed.

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TOTAL PETROLEUM HYDROCARBONS
WA HCID Method by GC/FID

QC Report No: B299-Boeing/Landau
Project: 25068.10
NBF Fire Training Center
VTSR: 07/28/92

Matrix: Soil/Sediment

Data Release Authorized _____
Data Prepared: 8/11/92 - MAC:E bda

Date extracted: 7/29/92; 8/4/92
Dates Analyzed: 7/31/92; 8/7/92

Lab ID	Client Sample ID	Dilution Factor	Gas Range Petroleum Hydrocarbons †	Diesel Range Petroleum Hydrocarbons *	Surrogate Recovery
B299 MB(s)	*Method Blank (s)*	-	10 U	10 U	92.2%
B299 A	SS-1	-	10 U	**330**	89.8%
B299 B	SS-2	-	10 U	**53**	86.2%
B299 C	SS-3	-	10 U	10 U	91.7%
B299 D	SS-4	-	10 U	**350 JP-5**	81.9%
B299 E	SS-5	-	10 U	**1700 JP-5**	95.4%
B299 F	SS-6	-	10 U	**3100 JP-5**	97.9%
B299 G	SS-7	-	10 U	**1800**	101.0%
B299 MB(w)	*Method Blank (w)*	-	3.0 U	3.0 U	7.6%
B299 H	FRB-1	-	3.0 U	3.0 U	7.6%

Surrogate is Me-Arachidate.

Values reported in ppm (mg/L).

U Indicates compound was analyzed for but not detected at the given detection limit.
X Indicates a value above the linear range of the detector. Dilution required.
† Value based on total peaks in the range from Toluene to C12.
* Value based on total peaks in the range from C12-C24.
NR Indicates the surrogate was not recovered due to dilution or matrix effect.

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Lab ID: 0730MB
Matrix: Soils/Sediments

Data Release Authorized:
Report: 08/04/92 MAC:X jjr

Sample: Method Blank

QC Report No: B299 - Boeing/Landau
Project: Fire Training Center
NBF 25068.10
VTSR: NA

Instrument: FINN 1
Date Analyzed: 07/30/92

Amount Analyzed: 5.0 gm (Dry Weight Equivalent)
Percent Moisture: NA

CAS Number		µg/Kg
74-87-3	Chloromethane	2.0 U
74-83-9	Bromomethane	2.0 U
75-01-4	Vinyl Chloride	2.0 U
75-00-3	Chloroethane	2.0 U
75-09-2	Methylene Chloride	2.0 U
67-64-1	Acetone	5.0 U
75-15-0	Carbon Disulfide	1.0 U
75-35-4	1,1-Dichloroethene	1.0 U
75-34-3	1,1-Dichloroethane	1.0 U
156-60-5	Trans-1,2-Dichloroethene	1.0 U
156-59-2	Cis-1,2-Dichloroethene	1.0 U
67-66-3	Chloroform	1.0 U
107-06-2	1,2-Dichloroethane	1.0 U
78-93-3	2-Butanone	5.0 U
71-55-6	1,1,1-Trichloroethane	1.0 U
56-23-5	Carbon Tetrachloride	1.0 U
108-05-4	Vinyl Acetate	1.0 U
75-27-4	Bromodichloromethane	1.0 U
78-87-5	1,2-Dichloropropane	1.0 U

CAS Number		µg/Kg
10061-01-5	cis-1,3-Dichloropropene	1.0 U
79-01-6	Trichloroethene	1.0 U
124-48-1	Dibromochloromethane	1.0 U
79-00-5	1,1,2-Trichloroethane	1.0 U
71-43-2	Benzene	1.0 U
10061-02-6	trans-1,3-Dichloropropene	1.0 U
110-75-8	2-Chloroethylvinylether	1.0 U
75-25-2	Bromoform	1.0 U
108-10-1	4-Methyl-2-Pentanone	5.0 U
591-78-6	2-Hexanone	5.0 U
127-18-4	Tetrachloroethene	1.0 U
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U
108-88-3	Toluene	1.0 U
108-90-7	Chlorobenzene	1.0 U
100-41-4	Ethylbenzene	1.0 U
100-42-5	Styrene	1.0 U
1330-20-7	Total Xylenes	2.0 U
75-69-4	Trichlorofluoromethane	2.0 U
76-13-1	1,1,2-Trichlorotrifluoroethane	2.0 U

Surrogate Recoveries

d8-Toluene	103%
Bromofluorobenzene	108%
d4-1,2-Dichloroethane	96.8%

Data Reporting Qualifiers

Value — If the result is a value greater than or equal to the detection limit, report the value.

U — Indicates compound was analyzed for but not detected at the given detection limit.

J — Indicates an estimated value when result is less than specified detection limit.

B — This flag is used when the analyte is found in the blank as well as a sample. Indicates possible/probable blank contamination.

K — This flag is used when quantitated value falls above the limit of the calibration curve and dilution should be run.

M — Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match parameters.

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Lab ID: 0803MB
Matrix: Soils/Sediments

Data Release Authorized:
Report: 08/04/92 MAC:X jjr

Sample: Method Blank

QC Report No: B299 - Boeing/Landau
Project: Fire Training Center
NBF 25068.10
VTSR: NA

Instrument: FINN 1
Date Analyzed: 08/03/92

Amount Analyzed: 5.0 gm (Dry Weight Equivalent)
Percent Moisture: NA

CAS Number		µg/Kg
74-87-3	Chloromethane	2.0 U
74-83-9	Bromomethane	2.0 U
75-01-4	Vinyl Chloride	2.0 U
75-00-3	Chloroethane	2.0 U
75-09-2	**Methylene Chloride**	**4.3**
67-64-1	Acetone	5.0 U
75-15-0	Carbon Disulfide	1.0 U
75-35-4	1,1-Dichloroethene	1.0 U
75-34-3	1,1-Dichloroethane	1.0 U
156-60-5	Trans-1,2-Dichloroethene	1.0 U
156-59-2	Cis-1,2-Dichloroethene	1.0 U
67-66-3	Chloroform	1.0 U
107-06-2	1,2-Dichloroethane	1.0 U
78-93-3	2-Butanone	5.0 U
71-55-6	1,1,1-Trichloroethane	1.0 U
56-23-5	Carbon Tetrachloride	1.0 U
108-05-4	Vinyl Acetate	1.0 U
75-27-4	Bromodichloromethane	1.0 U
78-87-5	1,2-Dichloropropane	1.0 U

CAS Number		µg/Kg
10061-01-5	cis-1,3-Dichloropropene	1.0 U
79-01-6	Trichloroethene	1.0 U
124-48-1	Dibromochloromethane	1.0 U
79-00-5	1,1,2-Trichloroethane	1.0 U
71-43-2	Benzene	1.0 U
10061-02-6	trans-1,3-Dichloropropene	1.0 U
110-75-8	2-Chloroethylvinylether	1.0 U
75-25-2	Bromoform	1.0 U
108-10-1	4-Methyl-2-Pentanone	5.0 U
591-78-6	2-Hexanone	5.0 U
127-18-4	Tetrachloroethene	1.0 U
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U
108-88-3	Toluene	1.0 U
108-90-7	Chlorobenzene	1.0 U
100-41-4	Ethylbenzene	1.0 U
100-42-5	Styrene	1.0 U
1330-20-7	Total Xylenes	2.0 U
75-69-4	Trichlorofluoromethane	2.0 U
76-13-1	1,1,2-Trichlorotrifluoroethane	2.0 U

Surrogate Recoveries

d8-Toluene	99.7%
Bromofluorobenzene	102%
d4-1,2-Dichloroethane	101%

Data Reporting Qualifiers

Value — If the result is a value greater than or equal to the detection limit, report the value.

U — Indicates compound was analyzed for but not detected at the given detection limit.

J — Indicates an estimated value when result is less than specified detection limit.

B — This flag is used when the analyte is found in the blank as well as a sample. Indicates possible/probable blank contamination.

K — This flag is used when quantitated value falls above the limit of the calibration curve and dilution should be run.

M — Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match parameters.

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Lab ID: B299A
Matrix: Solls/Sedlments

Data Release Authorized:
Report: 08/04/92 MAC:X jjr

Sample: SS - 1

QC Report No: B299 - Boeing/Landau
Project: Fire Training Center
NBF 25068.10
VTSR: 07/28/92

Instrument: FINN 1
Date Analyzed: 07/30/92

Amount Analyzed: 4.90 gm (Dry Weight)
Percent Moisture: 2.9%

CAS Number		µg/Kg
74-87-3	Chloromethane	2.0 U
74-83-9	Bromomethane	2.0 U
75-01-4	Vinyl Chloride	2.0 U
75-00-3	Chloroethane	2.0 U
75-09-2	Methylene Chloride	2.0 U
67-64-1	Acetone	5.1 U
75-15-0	Carbon Disulfide	1.0 U
75-35-4	1,1-Dichloroethene	1.0 U
75-34-3	1,1-Dichloroethane	1.0 U
156-60-5	Trans-1,2-Dichloroethene	1.0 U
156-59-2	Cis-1,2-Dichloroethene	1.0 U
67-66-3	Chloroform	1.0 U
107-06-2	1,2-Dichloroethane	1.0 U
78-93-3	2-Butanone	5.1 U
71-55-6	1,1,1-Trichloroethane	1.0 U
56-23-5	Carbon Tetrachloride	1.0 U
108-05-4	Vinyl Acetate	1.0 U
75-27-4	Bromodichloromethane	1.0 U
78-87-5	1,2-Dichloropropane	1.0 U

CAS Number		µg/Kg
10061-01-5	cis-1,3-Dichloropropene	1.0 U
79-01-6	Trichloroethene	1.0 U
124-48-1	Dibromochloromethane	1.0 U
79-00-5	1,1,2-Trichloroethane	1.0 U
71-43-2	Benzene	1.0 U
10061-02-6	trans-1,3-Dichloropropene	1.0 U
110-75-8	2-Chloroethylvinylether	1.0 U
75-25-2	Bromoform	1.0 U
108-10-1	4-Methyl-2-Pentanone	5.1 U
591-78-6	2-Hexanone	5.1 U
127-18-4	Tetrachloroethene	1.0 U
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U
108-88-3	Toluene	1.0 U
108-90-7	Chlorobenzene	1.0 U
100-41-4	Ethylbenzene	1.0 U
100-42-5	Styrene	1.0 U
1330-20-7	Total Xylenes	2.0 U
75-69-4	Trichlorofluoromethane	2.0 U
76-13-1	1,1,2-Trichlorotrifluoroethane	2.0 U

Surrogate Recoveries

d8-Toluene	106%
Bromofluorobenzene	90.3%
d4-1,2-Dichloroethane	98.9%

Data Reporting Qualifiers

Value — If the result is a value greater than or equal to the detection limit, report the value.

U — Indicates compound was analyzed for but not detected at the given detection limit.

J — Indicates an estimated value when result is less than specified detection limit.

B — This flag is used when the analyte is found in the blank as well as a sample. Indicates possible/probable blank contamination.

K — This flag is used when quantitated value falls above the limit of the calibration curve and dilution should be run.

M — Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match parameters.

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Lab ID: B299B
Matrix: Soils/Sediments

Sample: SS - 2

QC Report No: B299 - Boeing/Landau
Project: Fire Training Center
NBF 25068.10
VTSR: 07/28/92

Data Release Authorized:
Report: 08/04/92 MAC:X JJr

Instrument: FINN 1
Date Analyzed: 07/30/92

Amount Analyzed: 4.96 gm (Dry Weight)
Percent Moisture: 1.6%

CAS Number		µg/Kg
74-87-3	Chloromethane	2.0 U
74-83-9	Bromomethane	2.0 U
75-01-4	Vinyl Chloride	2.0 U
75-00-3	Chloroethane	2.0 U
75-09-2	Methylene Chloride	2.0 U
67-64-1	Acetone	5.0 U
75-15-0	Carbon Disulfide	1.0 U
75-35-4	1,1-Dichloroethene	1.0 U
75-34-3	1,1-Dichloroethane	1.0 U
156-60-5	Trans-1,2-Dichloroethene	1.0 U
156-59-2	Cis-1,2-Dichloroethene	1.0 U
67-66-3	Chloroform	1.0 U
107-06-2	1,2-Dichloroethane	1.0 U
78-93-3	2-Butanone	5.0 U
71-55-6	1,1,1-Trichloroethane	1.0 U
56-23-5	Carbon Tetrachloride	1.0 U
108-05-4	Vinyl Acetate	1.0 U
75-27-4	Bromodichloromethane	1.0 U
78-87-5	1,2-Dichloropropane	1.0 U

CAS Number		µg/Kg
10061-01-5	cis-1,3-Dichloropropene	1.0 U
79-01-6	Trichloroethene	1.0 U
124-48-1	Dibromochloromethane	1.0 U
79-00-5	1,1,2-Trichloroethane	1.0 U
71-43-2	Benzene	1.0 U
10061-02-6	trans-1,3-Dichloropropene	1.0 U
110-75-8	2-Chloroethylvinylether	1.0 U
75-25-2	Bromoform	1.0 U
108-10-1	4-Methyl-2-Pentanone	5.0 U
591-78-6	2-Hexanone	5.0 U
127-18-4	Tetrachloroethene	1.0 U
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U
108-88-3	**Toluene**	**3.5**
108-90-7	Chlorobenzene	1.0 U
100-41-4	Ethylbenzene	1.0 U
100-42-5	Styrene	1.0 U
1330-20-7	Total Xylenes	2.0 U
75-69-4	Trichlorofluoromethane	2.0 U
76-13-1	1,1,2-Trichlorotrifluoroethane	2.0 U

Surrogate Recoveries

d8-Toluene	107%
Bromofluorobenzene	92.5%
d4-1,2-Dichloroethane	98.9%

Data Reporting Qualifiers

Value — If the result is a value greater than or equal to the detection limit, report the value.

U — Indicates compound was analyzed for but not detected at the given detection limit.

J — Indicates an estimated value when result is less than specified detection limit.

B — This flag is used when the analyte is found in the blank as well as a sample. Indicates possible/probable blank contamination.

K — This flag is used when quantitated value falls above the limit of the calibration curve and dilution should be run.

M — Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match parameters.

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Lab ID: B299C
Matrix: Solls/Sediments

Sample: SS - 3

QC Report No: B299 - Boeing/Landau
Project: Fire Training Center
NBF 25068.10
VTSR: 07/28/92

Data Release Authorized:
Report: 08/04/92 MAC:X jjr

Instrument: FINN 1
Date Analyzed: 08/03/92

Amount Analyzed: 5.02 gm (Dry Weight)
Percent Moisture: 3.2%

CAS Number		µg/Kg
74-87-3	Chloromethane	2.0 U
74-83-9	Bromomethane	2.0 U
75-01-4	Vinyl Chloride	2.0 U
75-00-3	Chloroethane	2.0 U
75-09-2	Methylene Chloride	2.0 U
67-64-1	Acetone	5.0 U
75-15-0	Carbon Disulfide	1.0 U
75-35-4	1,1-Dichloroethene	1.0 U
75-34-3	1,1-Dichloroethane	1.0 U
156-60-5	Trans-1,2-Dichloroethene	1.0 U
156-59-2	Cis-1,2-Dichloroethene	1.0 U
67-66-3	Chloroform	1.0 U
107-06-2	1,2-Dichloroethane	1.0 U
78-93-3	2-Butanone	5.0 U
71-55-6	1,1,1-Trichloroethane	1.0 U
56-23-5	Carbon Tetrachloride	1.0 U
108-05-4	Vinyl Acetate	1.0 U
75-27-4	Bromodichloromethane	1.0 U
78-87-5	1,2-Dichloropropane	1.0 U

CAS Number		µg/Kg
10061-01-5	cis-1,3-Dichloropropene	1.0 U
79-01-6	Trichloroethene	1.0 U
124-48-1	Dibromochloromethane	1.0 U
79-00-5	1,1,2-Trichloroethane	1.0 U
71-43-2	Benzene	1.0 U
10061-02-6	trans-1,3-Dichloropropene	1.0 U
110-75-8	2-Chloroethylvinylether	1.0 U
75-25-2	Bromoform	1.0 U
108-10-1	4-Methyl-2-Pentanone	5.0 U
591-78-6	2-Hexanone	5.0 U
127-18-4	Tetrachloroethene	1.0 U
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U
108-88-3	**Toluene**	**2.9**
108-90-7	Chlorobenzene	1.0 U
100-41-4	Ethylbenzene	1.0 U
100-42-5	Styrene	1.0 U
1330-20-7	Total Xylenes	2.0 U
75-69-4	Trichlorofluoromethane	2.0 U
76-13-1	1,1,2-Trichlorotrifluoroethane	2.0 U

Surrogate Recoveries

d8-Toluene	107%
Bromofluorobenzene	93.8%
d4-1,2-Dichloroethane	97.6%

Data Reporting Qualifiers

Value — If the result is a value greater than or equal to the detection limit, report the value.

U — Indicates compound was analyzed for but not detected at the given detection limit.

J — Indicates an estimated value when result is less than specified detection limit.

B — This flag is used when the analyte is found in the blank as well as a sample. Indicates possible/probable blank contamination.

K — This flag is used when quantitated value falls above the limit of the calibration curve and dilution should be run.

M — Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match parameters.

ANALYTICAL RESOURCES INCORPORATED

Analytical Chemists & Consultants

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Lab ID: B299D
Matrix: Soils/Sediments

Data Release Authorized:
Report: 08/04/92 MAC:X jjr

Sample: SS - 4

QC Report No: B299 - Boeing/Landau
Project: Fire Training Center
NBF 25068.10
VTSR: 07/28/92

Instrument: FINN 1
Date Analyzed: 08/03/92

Amount Analyzed: 4.16 gm (Dry Weight)
Percent Moisture: 19.3%

CAS Number		µg/Kg
74-87-3	Chloromethane	2.4 U
74-83-9	Bromomethane	2.4 U
75-01-4	Vinyl Chloride	2.4 U
75-00-3	Chloroethane	2.4 U
75-09-2	Methylene Chloride	2.4 U
67-64-1	Acetone	6.0 U
75-15-0	Carbon Disulfide	1.2 U
75-35-4	1,1-Dichloroethene	1.2 U
75-34-3	1,1-Dichloroethane	1.2 U
156-60-5	Trans-1,2-Dichloroethene	1.2 U
156-59-2	Cis-1,2-Dichloroethene	1.2 U
67-66-3	Chloroform	1.2 U
107-06-2	1,2-Dichloroethane	1.2 U
78-93-3	2-Butanone	6.0 U
71-55-6	1,1,1-Trichloroethane	1.2 U
56-23-5	Carbon Tetrachloride	1.2 U
108-05-4	Vinyl Acetate	1.2 U
75-27-4	Bromodichloromethane	1.2 U
78-87-5	1,2-Dichloropropane	1.2 U

CAS Number		µg/Kg
10061-01-5	cis-1,3-Dichloropropene	1.2 U
79-01-6	Trichloroethene	1.2 U
124-48-1	Dibromochloromethane	1.2 U
79-00-5	1,1,2-Trichloroethane	1.2 U
71-43-2	Benzene	1.2 U
10061-02-6	trans-1,3-Dichloropropene	1.2 U
110-75-8	2-Chloroethylvinylether	1.2 U
75-25-2	Bromoform	1.2 U
108-10-1	4-Methyl-2-Pentanone	6.0 U
591-78-6	2-Hexanone	6.0 U
127-18-4	Tetrachloroethene	1.2 U
79-34-5	1,1,2,2-Tetrachloroethane	1.2 U
108-88-3	**Toluene**	**1.5 M**
108-90-7	Chlorobenzene	1.2 U
100-41-4	Ethylbenzene	1.2 U
100-42-5	Styrene	1.2 U
1330-20-7	Total Xylenes	2.4 U
75-69-4	Trichlorofluoromethane	2.4 U
76-13-1	1,1,2-Trichlorotrifluoroethane	2.4 U

Surrogate Recoveries

d8-Toluene	112%
Bromofluorobenzene	84.1%
d4-1,2-Dichloroethane	93.2%

Data Reporting Qualifiers

Value — If the result is a value greater than or equal to the detection limit, report the value.

U — Indicates compound was analyzed for but not detected at the given detection limit.

J — Indicates an estimated value when result is less than specified detection limit.

B — This flag is used when the analyte is found in the blank as well as a sample. Indicates possible/probable blank contamination.

K — This flag is used when quantitated value falls above the limit of the calibration curve and dilution should be run.

M — Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match parameters.

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Lab ID: B299E
Matrix: Soils/Sediments

Data Release Authorized:
Report: 08/04/92 MAC:X jjr

Sample: SS - 5

QC Report No: B299 - Boeing/Landau
Project: Fire Training Center
NBF 25068.10
VTSR: 07/28/92

Instrument: FINN 1
Date Analyzed: 08/03/92

Amount Analyzed: 0.00073 gm (Dry Weight)
Percent Moisture: 9.2%

CAS Number		µg/Kg
74-87-3	Chloromethane	14000 U
74-83-9	Bromomethane	14000 U
75-01-4	Vinyl Chloride	14000 U
75-00-3	Chloroethane	14000 U
75-09-2	**Methylene Chloride**	**14000 B**
67-64-1	Acetone	34000 U
75-15-0	Carbon Disulfide	6800 U
75-35-4	1,1-Dichloroethene	6800 U
75-34-3	1,1-Dichloroethane	6800 U
156-60-5	Trans-1,2-Dichloroethene	6800 U
156-59-2	Cis-1,2-Dichloroethene	6800 U
67-66-3	Chloroform	6800 U
107-06-2	1,2-Dichloroethane	6800 U
78-93-3	2-Butanone	34000 U
71-55-6	1,1,1-Trichloroethane	6800 U
56-23-5	Carbon Tetrachloride	6800 U
108-05-4	Vinyl Acetate	6800 U
75-27-4	Bromodichloromethane	6800 U
78-87-5	1,2-Dichloropropane	6800 U

CAS Number		µg/Kg
10061-01-5	cis-1,3-Dichloropropene	6800 U
79-01-6	Trichloroethene	6800 U
124-48-1	Dibromochloromethane	6800 U
79-00-5	1,1,2-Trichloroethane	6800 U
71-43-2	Benzene	6800 U
10061-02-6	trans-1,3-Dichloropropene	6800 U
110-75-8	2-Chloroethylvinylether	6800 U
75-25-2	Bromoform	6800 U
108-10-1	4-Methyl-2-Pentanone	34000 U
591-78-6	2-Hexanone	34000 U
127-18-4	Tetrachloroethene	6800 U
79-34-5	1,1,2,2-Tetrachloroethane	6800 U
108-88-3	Toluene	6800 U
108-90-7	Chlorobenzene	6800 U
100-41-4	Ethylbenzene	6800 U
100-42-5	Styrene	6800 U
1330-20-7	**Total Xylenes**	**17000**
75-69-4	Trichlorofluoromethane	14000 U
76-13-1	1,1,2-Trichlorotrifluoroethane	14000 U

Surrogate Recoveries

d8-Toluene	101%
Bromofluorobenzene	99.8%
d4-1,2-Dichloroethane	100%

Data Reporting Qualifiers

Value — If the result is a value greater than or equal to the detection limit, report the value.

U — Indicates compound was analyzed for but not detected at the given detection limit.

J — Indicates an estimated value when result is less than specified detection limit.

B — This flag is used when the analyte is found in the blank as well as a sample. Indicates possible/probable blank contamination.

K — This flag is used when quantitated value falls above the limit of the calibration curve and dilution should be run.

M — Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match parameters.

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Lab ID: B299E2
Matrix: Soils/Sediments

Data Release Authorized:
Report: 08/04/92 MAC:X jjr

Sample: SS - 5
re-analysis
QC Report No: B299 - Boeing/Landau
Project: Fire Training Center
NBF 25068.10
VTSR: 07/28/92

Instrument: FINN 1
Date Analyzed: 08/03/92

Amount Analyzed: 0.0037 gm (Dry Weight)
Percent Moisture: 9.2%

CAS Number		µg/Kg
74-87-3	Chloromethane	2700 U
74-83-9	Bromomethane	2700 U
75-01-4	Vinyl Chloride	2700 U
75-00-3	Chloroethane	2700 U
75-09-2	Methylene Chloride	2700 U
67-64-1	Acetone	6800 U
75-15-0	Carbon Disulfide	1400 U
75-35-4	1,1-Dichloroethene	1400 U
75-34-3	1,1-Dichloroethane	1400 U
156-60-5	Trans-1,2-Dichloroethene	1400 U
156-59-2	Cis-1,2-Dichloroethene	1400 U
67-66-3	Chloroform	1400 U
107-06-2	1,2-Dichloroethane	1400 U
78-93-3	2-Butanone	6800 U
71-55-6	1,1,1-Trichloroethane	1400 U
56-23-5	Carbon Tetrachloride	1400 U
108-05-4	Vinyl Acetate	1400 U
75-27-4	Bromodichloromethane	1400 U
78-87-5	1,2-Dichloropropane	1400 U

CAS Number		µg/Kg
10061-01-5	cis-1,3-Dichloropropene	1400 U
79-01-6	Trichloroethene	1400 U
124-48-1	Dibromochloromethane	1400 U
79-00-5	1,1,2-Trichloroethane	1400 U
71-43-2	Benzene	1400 U
10061-02-6	trans-1,3-Dichloropropene	1400 U
110-75-8	2-Chloroethylvinylether	1400 U
75-25-2	Bromoform	1400 U
108-10-1	4-Methyl-2-Pentanone	6800 U
591-78-6	2-Hexanone	6800 U
127-18-4	Tetrachloroethene	1400 U
79-34-5	1,1,2,2-Tetrachloroethane	1400 U
108-88-3	Toluene	1400 U
108-90-7	Chlorobenzene	1400 U
100-41-4	Ethylbenzene	1400 U
100-42-5	Styrene	1400 U
1330-20-7	**Total Xylenes**	**21000**
75-69-4	Trichlorofluoromethane	2700 U
76-13-1	1,1,2-Trichlorotrifluoroethane	2700 U

Surrogate Recoveries

d8-Toluene	101%
Bromofluorobenzene	100%
d4-1,2-Dichloroethane	98.1%

Data Reporting Qualifiers

Value — If the result is a value greater than or equal to the detection limit, report the value.

U — Indicates compound was analyzed for but not detected at the given detection limit.

J — Indicates an estimated value when result is less than specified detection limit.

B — This flag is used when the analyte is found in the blank as well as a sample. Indicates possible/probable blank contamination.

K — This flag is used when quantitated value falls above the limit of the calibration curve and dilution should be run.

M — Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match parameters.

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Lab ID: B299F
Matrix: Soils/Sediments

Data Release Authorized:
Report: 08/04/92 MAC:X jjr

Sample: SS - 6

QC Report No: B299 - Boeing/Landau
Project: Fire Training Center
NBF 25068.10
VTSR: 07/28/92

Instrument: FINN 1
Date Analyzed: 08/03/92

Amount Analyzed: 0.0038 gm (Dry Weight)
Percent Moisture: 6.7%

CAS Number		µg/Kg
74-87-3	Chloromethane	2700 U
74-83-9	Bromomethane	2700 U
75-01-4	Vinyl Chloride	2700 U
75-00-3	Chloroethane	2700 U
75-09-2	Methylene Chloride	2700 U
67-64-1	Acetone	6600 U
75-15-0	Carbon Disulfide	1300 U
75-35-4	1,1-Dichloroethene	1300 U
75-34-3	1,1-Dichloroethane	1300 U
156-60-5	Trans-1,2-Dichloroethene	1300 U
156-59-2	Cis-1,2-Dichloroethene	1300 U
67-66-3	Chloroform	1300 U
107-06-2	1,2-Dichloroethane	1300 U
78-93-3	2-Butanone	6600 U
71-55-6	1,1,1-Trichloroethane	1300 U
56-23-5	Carbon Tetrachloride	1300 U
108-05-4	Vinyl Acetate	1300 U
75-27-4	Bromodichloromethane	1300 U
78-87-5	1,2-Dichloropropane	1300 U

CAS Number		µg/Kg
10061-01-5	cis-1,3-Dichloropropene	1300 U
79-01-6	Trichloroethene	1300 U
124-48-1	Dibromochloromethane	1300 U
79-00-5	1,1,2-Trichloroethane	1300 U
71-43-2	Benzene	1300 U
10061-02-6	trans-1,3-Dichloropropene	1300 U
110-75-8	2-Chloroethylvinylether	1300 U
75-25-2	Bromoform	1300 U
108-10-1	4-Methyl-2-Pentanone	6600 U
591-78-6	2-Hexanone	6600 U
127-18-4	Tetrachloroethene	1300 U
79-34-5	1,1,2,2-Tetrachloroethane	1300 U
108-88-3	Toluene	1300 U
108-90-7	Chlorobenzene	1300 U
100-41-4	Ethylbenzene	1300 U
100-42-5	Styrene	1300 U
1330-20-7	**Total Xylenes**	**5000**
75-69-4	Trichlorofluoromethane	2700 U.
76-13-1	1,1,2-Trichlorotrifluoroethane	2700 U

Surrogate Recoveries

d8-Toluene	100%
Bromofluorobenzene	98.5%
d4-1,2-Dichloroethane	98.7%

Data Reporting Qualifiers

Value — If the result is a value greater than or equal to the detection limit, report the value.

U — Indicates compound was analyzed for but not detected at the given detection limit.

J — Indicates an estimated value when result is less than specified detection limit.

B — This flag is used when the analyte is found in the blank as well as a sample. Indicates possible/probable blank contamination.

K — This flag is used when quantitated value falls above the limit of the calibration curve and dilution should be run.

M — Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match parameters.

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Lab ID: B299G
Matrix: Soils/Sediments

Data Release Authorized:
Report: 08/04/92 MAC:X jjr

Sample: SS - 7

QC Report No: B299 - Boeing/Landau
Project: Fire Training Center
NBF 25068.10
VTSR: 07/28/92

Instrument: FINN 1
Date Analyzed: 08/03/92

Amount Analyzed: 4.41 gm (Dry Weight)
Percent Moisture: 13.9%

CAS Number		µg/Kg
74-87-3	Chloromethane	2.3 U
74-83-9	Bromomethane	2.3 U
75-01-4	Vinyl Chloride	2.3 U
75-00-3	Chloroethane	2.3 U
75-09-2	**Methylene Chloride**	**6.5 B**
67-64-1	Acetone	5.7 U
75-15-0	Carbon Disulfide	1.1 U
75-35-4	1,1-Dichloroethene	1.1 U
75-34-3	1,1-Dichloroethane	1.1 U
156-60-5	Trans-1,2-Dichloroethene	1.1 U
156-59-2	Cis-1,2-Dichloroethene	1.1 U
67-66-3	Chloroform	1.1 U
107-06-2	1,2-Dichloroethane	1.1 U
78-93-3	2-Butanone	5.7 U
71-55-6	1,1,1-Trichloroethane	1.1 U
56-23-5	Carbon Tetrachloride	1.1 U
108-05-4	Vinyl Acetate	1.1 U
75-27-4	Bromodichloromethane	1.1 U
78-87-5	1,2-Dichloropropane	1.1 U

CAS Number		µg/Kg
10061-01-5	cis-1,3-Dichloropropene	1.1 U
79-01-6	Trichloroethene	1.1 U
124-48-1	Dibromochloromethane	1.1 U
79-00-5	1,1,2-Trichloroethane	1.1 U
71-43-2	Benzene	1.1 U
10061-02-6	trans-1,3-Dichloropropene	1.1 U
110-75-8	2-Chloroethylvinylether	1.1 U
75-25-2	Bromoform	1.1 U
108-10-1	4-Methyl-2-Pentanone	5.7 U
591-78-6	2-Hexanone	5.7 U
127-18-4	Tetrachloroethene	1.1 U
79-34-5	1,1,2,2-Tetrachloroethane	1.1 U
108-88-3	**Toluene**	**1.2 M**
108-90-7	Chlorobenzene	1.1 U
100-41-4	Ethylbenzene	1.1 U
100-42-5	Styrene	1.1 U
1330-20-7	Total Xylenes	2.3 U
75-69-4	Trichlorofluoromethane	2.3 U
76-13-1	1,1,2-Trichlorotrifluoroethane	2.3 U

Surrogate Recoveries

d8-Toluene	111%
Bromofluorobenzene	82.9%
d4-1,2-Dichloroethane	95.8%

Data Reporting Qualifiers

Value — If the result is a value greater than or equal to the detection limit, report the value.

U — Indicates compound was analyzed for but not detected at the given detection limit.

J — Indicates an estimated value when result is less than specified detection limit.

B — This flag is used when the analyte is found in the blank as well as a sample. Indicates possible/probable blank contamination.

K — This flag is used when quantitated value falls above the limit of the calibration curve and dilution should be run.

M — Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match parameters.

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ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Lab ID: B299H
Matrix: Waters

Data Release Authorized:
Report: 08/04/92 MAC:X jjr

Sample: FRB-1

QC Report No: B299 - Boeing/Landau
Project: Fire Training Center
NBF 25068.10
VTSR: 07/28/92

Instrument: FINN 1
Date Analyzed: 08/03/92

Amount Purged: 5.0 ml
Conc/Dilution: 1 to 1

CAS Number		µg/L
74-87-3	Chloromethane	2.0 U
74-83-9	Bromomethane	2.0 U
75-01-4	Vinyl Chloride	2.0 U
75-00-3	Chloroethane	2.0 U
75-09-2	Methylene Chloride	2.0 U
67-64-1	**Acetone**	**9.7**
75-15-0	Carbon Disulfide	1.0 U
75-35-4	1,1-Dichloroethene	1.0 U
75-34-3	1,1-Dichloroethane	1.0 U
156-60-5	Trans-1,2-Dichloroethene	1.0 U
156-59-2	Cis-1,2-Dichloroethene	1.0 U
67-66-3	**Chloroform**	**7.2**
107-06-2	1,2-Dichloroethane	1.0 U
78-93-3	**2-Butanone**	**26**
71-55-6	1,1,1-Trichloroethane	1.0 U
56-23-5	Carbon Tetrachloride	1.0 U
108-05-4	Vinyl Acetate	1.0 U
75-27-4	Bromodichloromethane	1.0 U
78-87-5	1,2-Dichloropropane	1.0 U

CAS Number		µg/L
10061-01-5	cis-1,3-Dichloropropene	1.0 U
79-01-6	Trichloroethene	1.0 U
124-48-1	Dibromochloromethane	1.0 U
79-00-5	1,1,2-Trichloroethane	1.0 U
71-43-2	Benzene	1.0 U
10061-02-6	trans-1,3-Dichloropropene	1.0 U
110-75-8	2-Chloroethylvinylether	1.0 U
75-25-2	Bromoform	1.0 U
108-10-1	4-Methyl-2-Pentanone	5.0 U
591-78-6	2-Hexanone	5.0 U
127-18-4	Tetrachloroethene	1.0 U
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U
108-88-3	Toluene	1.0 U
108-90-7	Chlorobenzene	1.0 U
100-41-4	Ethylbenzene	1.0 U
100-42-5	Styrene	1.0 U
1330-20-7	Total Xylenes	2.0 U
75-69-4	Trichlorofluoromethane	2.0 U
76-13-1	1,1,2-Trichlorotrifluoroethane	2.0 U

Surrogate Recoveries

d8-Toluene	100%
Bromofluorobenzene	102%
d4-1,2-Dichloroethane	98.4%

Data Reporting Qualifiers

Value — If the result is a value greater than or equal to the detection limit, report the value.

U — Indicates compound was analyzed for but not detected at the given detection limit.

J — Indicates an estimated value when result is less than specified detection limit.

B — This flag is used when the analyte is found in the blank as well as a sample. Indicates possible/probable blank contamination.

K — This flag is used when quantitated value falls above the limit of the calibration curve and dilution should be run.

M — Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match parameters.

EXPLANATION OF INORGANIC DATA REPORT CODES

The columns labeled 'PREP', 'C', and 'M' contain important information about your analyses. The codes a defined below.

PREPARATION CODES

These 3-letter codes describe methods used to prepare samples for analysis:

AEN USEPA, Metals in air filters
AHM ARI, Mercury in air filters
AHN ARI, Metals in air filters
ANN NIOSH 7300, Metals in air filters
CAN AOAC (1984) 25.024, Metals in earthenware
DE6 EPA 600/4-79-020 218.5, Cr(VI) in water
DMM DMN followed by TMM, Dissolved mercury
DMN Filtered through .45u filter, Dissolved metals
EW6 EWN followed by DE6
EWM EWN followed by TMM
EWN USEPA SW-846 1310, EP Toxicity
FHP ARI, Metals in tissue ($HNO_3/HClO_4$)
FPP PSEP, Metals in tissue ($HNO_3/HClO_4$)
FRM Journal, Mercury in tissue
FRN Journal, Metals in tissue (HNO_3/H_2O_2)
KRN ARI, Concentration by coprecipitation
LEM USEPA, TCLP followed by TMM
LEN USEPA, TCLP Extraction
MHM ARI, Mercury in miscellaneous materials
MHN ARI, Metals in miscellaneous materials
OAM ARI, Mercury in oil, grease or tar
OAN ARI, Metals in oil, grease or tar
PHM ARI, Mercury in wipes
PHN ARI, Metals in wipes
RCC USEPA CLP, Water digestion, HCl matrix
RCN USEPA CLP, Water digestion, HNO_3 matrix
REC EPA 600/4-79-020 4.1.4, HCl matrix
REI EPA 600/4-79-020 200.7 and 9.4
REN EPA 600/4-79-020 4.1.4, HNO_3 matrix
RMA EPA 600/4-79-020 206.2
RWC USEPA SW-846 3005
SCC USEPA CLP, Soil digestion, HCl matrix
SCM USEPA CLP, Mercury in soil
SCN USEPA CLP, Soil digestion, HNO_3 matrix
SEM EPA 600/4-79-020 245.5, Mercury in soil
SHF ARI, Metals in soil, HF digestion
SRL Journal, Lithium meta-borate fusion
SPF PSEP, Metals in sediment, HF digestion
SSC Standard Methods 302C, Sb/Sn in soil
SSN Standard Methods 302C, Soil digestion
SSS Standard Methods 302C, Ti in soil
SW6 USEPA SW-846 3060, Cr(VI) in soil
SWC USEPA SW-846 3050, HCl matrix
SWN USEPA SW-846 3050, HNO_3 matrix
SWR USEPA SW-846 Modified 3005, Sb by GFAAS
TEC EPA 600/4-79-020 4.1.3, HCl matrix
TEG EPA 600/4-79-020 272.1, Silver in water
TEI EPA 600/4-79-020 200.7 and 9.3
TEN EPA 600/4-79-020 4.1.3, HNO_3 matrix
THG ARI, Silver in photographic solutions
TMM EPA 600/4-79-020 245.1, Mercury in water
TSC Standard Methods 302C, Sb/Sn in water
TSN Standard Methods 302D
TSS Standard Methods 302E, Ti in water
TWC USEPA SW-846 3010, HCl matrix
TWG USEPA SW-846 7760, Silver in water
TWN USEPA SW-846 3020, HNO_3 matrix
WMN EPA 600/4-79-020, Preserved, undigested water
XSC Standard Methods 302B

CONCENTRATION CODES

These codes are used to qualify reported concentrations:

U No analyte was detected. The reported value is the lower limit of detection.

METHOD CODES

These codes signify the instrumental technique used for analysis:

CVA Cold Vapor Atomic Absorption Spectrophotometry
FLA Flame Atomic Absorption Spectrophotometry
GFA Graphite Furnace Atomic Absorption Spectrophotometry
ICP Inductively Coupled Plasma Atomic Emission Spectrometry

ANALYTICAL RESOURCES, INC.
Inorganic Laboratory Data Report
08/07/92
09:26:01

Client: Boeing/Landau
Contact: Tom Colligan
Project: Fire Training Ctr.
ID number: SS-2
Description:
Sampled: / /
Received: 07/28/92
Matrix: Soil

ARI job number: B299
ARI sample number: B

Released by:

A N A L Y T I C A L R E S U L T S

CAS Number	Analyte	Concentration	C	Prep	M
7440-38-2	Arsenic	5 mg/kg-dry	U	SWC	ICP
7440-41-7	Beryllium	0.1 mg/kg-dry		SWC	ICP
7440-43-9	Cadmium	0.6 mg/kg-dry		SWC	ICP
7440-47-3	Chromium	25.4 mg/kg-dry		SWC	ICP
7440-50-8	Copper	47.8 mg/kg-dry		SWC	ICP
7439-92-1	Lead	49 mg/kg-dry		SWC	ICP
7439-97-6	Mercury	0.1 mg/kg-dry		SCM	CVA
7440-02-0	Nickel	21 mg/kg-dry		SWC	ICP
7440-66-6	Zinc	74.3 mg/kg-dry		SWC	ICP

ANALYTICAL RESOURCES, INC.
Inorganic Laboratory Data Report
08/07/92
09:26:03

Client: Boeing/Landau
Contact: Tom Colligan
Project: Fire Training Ctr.
ID number: SS-2
Description: Laboratory Duplicate
Sampled: / /
Received: 07/28/92
Matrix: Soil

ARI job number: B299
ARI sample number: BDUP

Released by:

A N A L Y T I C A L R E S U L T S

CAS Number	Analyte	Concentration	C	Prep	M
7440-38-2	Arsenic	5 mg/kg-dry	U	SWC	ICP
7440-41-7	Beryllium	0.1 mg/kg-dry		SWC	ICP
7440-43-9	Cadmium	0.5 mg/kg-dry		SWC	ICP
7440-47-3	Chromium	23.3 mg/kg-dry		SWC	ICP
7440-50-8	Copper	46.1 mg/kg-dry		SWC	ICP
7439-92-1	Lead	56 mg/kg-dry		SWC	ICP
7439-97-6	Mercury	0.1 mg/kg-dry		SCM	CVA
7440-02-0	Nickel	19 mg/kg-dry		SWC	ICP
7440-66-6	Zinc	71.1 mg/kg-dry		SWC	ICP

ANALYTICAL RESOURCES, INC.
Matrix Duplicate Quality Control Report

Client: Boeing/Landau

Client's sample ID: SS-2

ARI sample ID: B299 BDUP

Units: mg/kg-dry

Analyte	Meth	Original Sample	Matrix Duplicate	RPD	Control Limit	Q
Arsenic	ICP	U 5	U 5	0.0	± 5	L
Beryllium	ICP	0.1	0.1	0.0	± 0.1	L
Cadmium	ICP	0.6	0.5	18.2	± 0.2	L
Chromium	ICP	25.4	23.3	8.6	± 20 %	
Copper	ICP	47.8	46.1	3.6	± 20 %	
Lead	ICP	49	56	13.3	± 20 %	
Mercury	CVA	0.1	0.1	0.0	± 0.1	L
Nickel	ICP	21	19	10.0	± 20 %	
Zinc	ICP	74.3	71.1	4.4	± 20 %	

RPD = Relative percent difference

'Q' codes: '*' = control limit not met
'L' = RPD not valid, alternate limit = ± detection limit

ANALYTICAL RESOURCES, INC.
Inorganic Laboratory Data Report
08/07/92
09:26:05

Client: Boeing/Landau
Contact: Tom Colligan
Project: Fire Training Ctr.
ID number: SS-2
Description: Matrix Spike
Sampled: / /
Received: 07/28/92
Matrix: Soil

ARI job number: B299
ARI sample number: BSPK

Released by:

A N A L Y T I C A L R E S U L T S

CAS Number	Analyte	Concentration	C	Prep	M
7440-38-2	Arsenic	224 mg/kg-dry		SWC	ICP
7440-41-7	Beryllium	4.7 mg/kg-dry		SWC	ICP
7440-43-9	Cadmium	10.0 mg/kg-dry		SWC	ICP
7440-47-3	Chromium	44.6 mg/kg-dry		SWC	ICP
7440-50-8	Copper	56.8 mg/kg-dry		SWC	ICP
7439-92-1	Lead	146 mg/kg-dry		SWC	ICP
7439-97-6	Mercury	0.4 mg/kg-dry		SCM	CVA
7440-02-0	Nickel	66 mg/kg-dry		SWC	ICP
7440-66-6	Zinc	120 mg/kg-dry		SWC	ICP

ANALYTICAL RESOURCES, INC.
Matrix Spike Quality Control Report

Client: Boeing/Landau

Client's sample ID: SS-2

ARI sample ID: B299 BSPK

Units: mg/kg-dry

Analyte	Meth	Sample	Matrix Spike	Spike Added	%R	Control Limit	Q
Arsenic	ICP	0	224	253	88.5	75-125%	
Beryllium	ICP	0.1	4.7	4.9	93.9	75-125%	
Cadmium	ICP	0.6	10.0	9.7	96.9	75-125%	
Chromium	ICP	25.4	44.6	24.3	79.0	75-125%	
Copper	ICP	47.8	56.8	9.7	92.8	75-125%	H
Lead	ICP	49	146	97	100.0	75-125%	
Mercury	CVA	0.1	0.4	0.4	75.0	75-125%	
Nickel	ICP	21	66	49	91.8	75-125%	
Zinc	ICP	74.3	120	48.5	94.2	75-125%	

%R = Percent recovery

'Q' codes: 'N' = control limit not met
'H' = %R not valid, sample concentration too high

ANALYTICAL RESOURCES, INC.
Inorganic Laboratory Data Report
08/07/92
09:26:07

Client: Boeing/Landau
Contact: Tom Colligan
Project: Fire Training Ctr.
ID number: SS-5
Description:
Sampled: / /
Received: 07/28/92
Matrix: Soil

ARI job number: B299
ARI sample number: E

Released by:

A N A L Y T I C A L R E S U L T S

CAS Number	Analyte	Concentration	C	Prep	M
7440-38-2	Arsenic	5 mg/kg-dry	U	SWC	ICP
7440-41-7	Beryllium	0.1 mg/kg-dry		SWC	ICP
7440-43-9	Cadmium	0.9 mg/kg-dry		SWC	ICP
7440-47-3	Chromium	18.3 mg/kg-dry		SWC	ICP
7440-50-8	Copper	35.3 mg/kg-dry		SWC	ICP
7439-92-1	Lead	77 mg/kg-dry		SWC	ICP
7439-97-6	Mercury	0.1 mg/kg-dry		SCM	CVA
7440-02-0	Nickel	19 mg/kg-dry		SWC	ICP
7440-66-6	Zinc	78.9 mg/kg-dry		SWC	ICP

ANALYTICAL RESOURCES, INC.
Inorganic Laboratory Data Report
08/07/92
09:26:09

Client: Boeing/Landau
Contact: Tom Colligan
Project: Fire Training Ctr.
ID number:
Description: Method Blank
Sampled: / /
Received: / /
Matrix: Soil

ARI job number: B299
ARI sample number: MB

Released by:

A N A L Y T I C A L R E S U L T S

CAS Number	Analyte	Concentration	C	Prep	M
7440-38-2	Arsenic	5 mg/kg-dry	U	SWC	ICP
7440-41-7	Beryllium	0.1 mg/kg-dry	U	SWC	ICP
7440-43-9	Cadmium	0.2 mg/kg-dry	U	SWC	ICP
7440-47-3	Chromium	0.5 mg/kg-dry	U	SWC	ICP
7440-50-8	Copper	0.4 mg/kg-dry		SWC	ICP
7439-92-1	Lead	3 mg/kg-dry	U	SWC	ICP
7439-97-6	Mercury	0.1 mg/kg-dry	U	SCM	CVA
7440-02-0	Nickel	1 mg/kg-dry	U	SWC	ICP
7440-66-6	Zinc	0.9 mg/kg-dry		SWC	ICP