

## **APPENDIX E**

### Laboratory Analytical Results



**METALS**  
**-5B-**  
**POST DIGEST SPIKE SAMPLE RECOVERY**

SAMPLE NO.

GW22A

Contract: R2318130

Lab Code:

Case No.:

SAS No.:

SDG NO.: GW18R

Matrix (soil/water): WATER

Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR) C	Sample Result (SR) C	Spike Added (SA)	%R	Q	M
Aluminum		86882.60	86535.01	2000.0	17.4		P
Antimony		553.97	79.40	500.0	94.9		P
Arsenic		81.59	44.31	40.0	93.2		P
Barium		2813.18	877.79	2000.0	96.8		P
Beryllium		48.09	5.00 U	50.0	96.2		P
Cadmium		49.67	5.00 U	50.0	99.3		P
Calcium		133279.58	131586.38	2000.0	84.7		P
Chromium		348.44	164.72	200.0	91.9		P
Cobalt		504.63	50.00 U	500.0	100.9		P
Copper		648.39	410.91	250.0	95.0		P
Iron		116970.22	119664.02	1000.0	-269.4		P
Lead		1689.84	1261.21	500.0	85.7		P
Magnesium		198235.34	201105.41	2000.0	-143.5		P
Manganese		4637.11	4268.00	500.0	73.8		P
Nickel		561.03	115.05	500.0	89.2		P
Potassium		64017.94	42185.31	20000.0	109.2		P
Selenium		990.03	5.00 U	1010.0	98.0		P
Silver		42.93	10.00 U	50.0	85.9		P
Sodium		71299.05	49153.75	20000.0	110.7		P
Thallium		1944.86	10.00 U	2000.0	97.2		P
Vanadium		648.42	168.53	500.0	96.0		P
Zinc		1580.09	1167.18	500.0	82.6		P

Comments:



## METALS

-6-

## DUPLICATES

SAMPLE NO.

GW22D

Contract: R2318130

Lab Code:

Case No.:

SAS No.:

SDG NO.: GW18R

Matrix (soil/water): WATER

Level (low/med): LOW

% Solids for Sample: 0.0

% Solids for Duplicate:

Concentration Units (ug/L or mg/kg dry weight):  $\mu\text{G/L}$ 

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum		86535.0078		85366.0469		1.4		P
Antimony	60.0	79.3970		87.0592		9.2		P
Arsenic	10.0	44.3138		44.1198		0.4		P
Barium		877.7886		869.6794		0.9		P
Beryllium		5.0000	U	5.0000	U			P
Cadmium		5.0000	U	5.0000	U			P
Calcium		657931.8750		652236.2500		0.9		P
Chromium		164.7212		166.9518		1.3		P
Cobalt		50.0000	U	50.0000	U			P
Copper		410.9124		412.9029		0.5		P
Iron		119664.0156		120151.5156		0.4		P
Lead		1261.2146		1265.2943		0.3		P
Magnesium		201105.4063		201274.1094		0.1		P
Manganese		4268.0010		4279.6665		0.3		P
Mercury		2.0704		2.0142		2.8		CV
Nickel	40.0	115.0518		116.8209		1.5		P
Potassium		42185.3086		40702.2578		3.6		P
Selenium		5.0000	U	5.0000	U			P
Silver		10.0000	U	10.0000	U			P
Sodium		49153.7539		48276.8984		1.8		P
Thallium		50.0000	U	50.0000	U			P
Vanadium	50.0	168.5310		168.2477		0.2		P
Zinc		1167.1798		1173.2100		0.5		P





A FULL SERVICE ENVIRONMENTAL LABORATORY

October 28, 2003

Mr. Glenn Netuschil  
Roux Associates Inc.  
1377 Motor Parkway  
Islandia, NY 11749

PROJECT:HONEYWELL OUTER HARBOR 25203Y04  
Submission #:R2318570

Dear Mr. Netuschil

Enclosed are the analytical results of the analyses requested. All data has been reviewed prior to report submission. Should you have any questions please contact me at (585) 288-5380.

Thank you for letting us provide this service.

Sincerely,

COLUMBIA ANALYTICAL SERVICES

A handwritten signature in black ink, appearing to read 'Mark Wilson', is written over the printed name.

Mark Wilson  
Client Service Manager

Enc.





1 Mustard ST.  
Suite 250  
Rochester, NY 14609  
(585) 288-5380

THIS IS AN ANALYTICAL TEST REPORT FOR:

Client : Roux Associates Inc.  
Project Reference: HONEYWELL OUTER HARBOR 25203Y04  
Lab Submission # : R2318570  
Project Manager : Mark Wilson  
Reported : 10/28/03

Report Contains a total of 34 pages

The results reported herein relate only to the samples received by the laboratory. This report may not be reproduced except in full, without the approval of Columbia Analytical Services.

This package has been reviewed by Columbia Analytical Services' QA Department/Laboratory Director to comply with NELAC standards prior to report submittal. *Michael K. Perry*



## **CASE NARRATIVE**

COMPANY: Roux Associates  
PROJECT: Honeywell/Outer Harbor  
SUBMISSION #: R2318570

Water samples were collected on 09/25/03 and received at CAS on 09/26/03 in good condition at cooler temperatures between 0 and 6 °C. See CAS CLP Batching sheets for a cross-reference between Client ID and CAS Job # and analyses requested.

### **INORGANIC ANALYSIS**

Water samples were analyzed the TAL list of Metals using SW-846 protocol. Mercury was analyzed by the cold vapor method 7470A and all other metals were analyzed by ICP method 6010B.

The Blank Spike (Reference Check) recoveries were all within QC limits. The Matrix Spike recoveries from sample GW-18R were all within QC limits of 75 – 125 %. The RPD from the duplicate analyses were all within QC.

No analytical or QC problems were encountered.

### **SEMIVOLATILE ORGANICS**

Water samples were analyzed for Nitrobenzene by SW-846 method 8270C SIM Mode. Due to analyst error the wrong surrogate spike was added during sample extraction. As a result samples required dilutions of 100 in order to obtain surrogate concentrations. Samples were reanalyzed at no dilution to quantify Nitrobenzene only.

All DFTPP tuning criteria were within acceptance limits.

The initial and continuing calibration criteria were met for all analytes.

All internal standard areas were within QC limits.

All surrogate standard recoveries were within QC limits.

No analytical or QC problems were encountered.



[illegible]





Effective 6/12/2003

## ORGANIC QUALIFIERS

- U - Indicates compound was analyzed for but not detected. The sample quantitation limit must be corrected for dilution and for percent moisture.
- J - Indicates an estimated value. The flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
- N - Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds, where the identification is based on a mass spectral library search.
- P - This flag is used for a pesticide/Aroclor target analyte when there is a greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on Form I and flagged with a "P".
- C - This flag applies to pesticide results where the identification has been confirmed by GC/MS.
- B - This flag is used when the analyte is found in the associated blank as well as in the sample.
- E - This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
- D - This flag identifies all compounds identified in an analysis at a secondary dilution factor. If a sample or extract is re-analyzed at a higher dilution factor, as in the "E" flag above, the "DL" suffix is appended to the sample number on the Form I for the diluted sample, and ALL concentration values reported on that Form I are flagged with the "D" flag.
- A - This flag indicates that a TIC is a suspected aldol-condensation product.
- X - As specified in Case Narrative.
- \* - This flag identifies compounds associated with a quality control parameter which exceeds laboratory limits.

### **CAS/Rochester Lab ID # for State Certifications**

Army Corp of Engineers Validated  
Delaware Accredited  
Connecticut ID # PH0556  
Florida ID # E87674  
Massachusetts ID # M-NY032  
Navy Facilities Engineering Service Center Approved  
Nebraska Accredited

NELAP Accredited  
New York ID # 10145  
New Jersey ID # NY004  
New Hampshire ID # 294100 A/B  
Pennsylvania Registration 68-786  
Rhode Island ID # 158  
South Carolina ID #91012  
West Virginia ID # 292





Effective 6/12/2003

## INORGANIC QUALIFIERS

C (Concentration) qualifier –

- B - if the reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL) but was greater than or equal to the Instrument Detection Limit (IDL).
- U - if the analyte was analyzed for, but not detected

Q qualifier - Specified entries and their meanings are as follows:

- D - Spike was diluted out
- E - The reported value is estimated because of the presence of interference.
- J - Estimated Value
- M - Duplicate injection precision not met.
- N - Spiked sample recovery not within control limits.
- S - The reported value was determined by the Method of Standard Additions (MSA).
- W - Post-digestion spike for Furnace AA Analysis is out of control limits (85-115), while sample absorbance is less than 50% of spike absorbance.
- \* - Duplicate analysis not within control limits.
- + - Correlation coefficient for the MSA is less than 0.995.

M (Method) qualifier:

- "P" for ICP
- "A" for Flame AA
- "F" for Furnace AA
- "PM" for ICP when Microwave Digestion is used
- "AM" for Flame AA when Microwave Digestion is used
- "FM" for Furnace M when Microwave Digestion is used
- "CV" for Manual Cold Vapor AA
- "AV" for Automated Cold Vapor AA
- "CA" for Midi-Distillation Spectrophotometric
- "AS" for Semi-Automated Spectrophotometric
- "C" for Manual Spectrophotometric
- "T" for Titrimetric
- " " where no data has been entered
- "NR" if the analyte is not required to be analyzed.

### CAS/Rochester Lab ID # for State Certifications

Army Corp of Engineers Validated  
 Delaware Accredited  
 Connecticut ID # PH0556  
 Florida ID # E87674  
 Massachusetts ID # M-NY032  
 Navy Facilities Engineering Service Center Approved  
 Nebraska Accredited  
 NELAP Accredited

New York ID # 10145  
 New Jersey ID # NY004  
 New Hampshire ID # 294100 A/B  
 Pennsylvania Registration 68-786  
 Rhode Island ID # 158  
 South Carolina ID #91012  
 West Virginia ID # 292



ANALYSIS REQUESTED (Include Method Number and Container Preservative)					
Project Name Honeywell/Oyster Harbor	Project Number 25203Y04	Report CC	PRESERVATIVE	NUMBER OF CONTAINERS	
Project Manager Glenn Detuschil					
Company/Address 209 Shafter Str. Islandia, NY 11749					
Phone # (631) 232-2600	FAX # (631) 232-9898				
Sample Signatures <i>[Signature]</i> John Tubo	Sampler's Printed Name John Tubo				
CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	TIME	MATRIX	
GW-18R	675820	9/25	1200	W	
MS/MSD	8	9/25	1215		
GW-19	21	9/25	1300		
GW-81	22	9/25	1400		
GW-23	23	9/25	1430		
GW-22	24	9/25	1500		
GW-21	25	9/25	1530		
SPECIAL INSTRUCTIONS/COMMENTS Metals 8270: spec mode for Detection limit required!					
See QAPP <input type="checkbox"/>					
SAMPLE RECEIPT: CONDITION/Cooler Temp:					
RECEIVED BY <i>[Signature]</i> John Tubo		RECEIVED BY <i>[Signature]</i> J. Smith		CUSTODY SEALS: Y N	
Printed Name John Tubo		Printed Name J. Smith			
Firm Roxx Assoc		Firm CAS			
Date/Time 9/26/03 1200		Date/Time 9/26/03 1230			
TURNAROUND REQUIREMENTS RUSH (SURCHARGES APPLY) 24 hr 48 hr 5 day STANDARD REQUESTED FAX DATE REQUESTED REPORT DATE					
REPORT REQUIREMENTS I. Results Only II. Results + OC Summaries (LCS, DUP, MSMSD as required) III. Results + OC and Calibration Summaries IV. Data Validation Report with Raw Data V. Specialized Forms / Custom Report Edata Yes No					
INVOICE INFORMATION PO# BILL TO: SUBMISSION # RECEIVED BY Signature Printed Name Firm Date/Time					



# Cooler Receipt And Preservation Check Form

Project/Client Roux Submission Number 18570

Cooler received on 9/26/03 by: BL **COURIER** CAS UPS FEDEX CD&L CLIENT

1. Were custody seals on outside of cooler? YES NO
2. Were custody papers properly filled out (ink, signed, etc.)? YES NO
3. Did all bottles arrive in good condition (unbroken)? YES NO
4. Did any VOA vials have significant air bubbles? YES NO N/A
5. Were Ice or Ice packs present? YES NO
6. Where did the bottles originate? CAS/ROE, CLIENT
7. Temperature of cooler(s) upon receipt: 1°

Is the temperature within 0° - 6° C?: Yes Yes Yes Yes Yes

If No, Explain Below No No No No No

Date/Time Temperatures Taken: 9/26/03 14:35

Thermometer ID: 161 or IR GUN Reading From: Temp Blank or Sample Bottle

If out of Temperature, Client Approval to Run Samples \_\_\_\_\_

Cooler Breakdown: Date: 9/26/03 by: BL

1. Were all bottle labels complete (i.e. analysis, preservation, etc.)? YES NO
2. Did all bottle labels and tags agree with custody papers? YES NO
3. Were correct containers used for the tests indicated? YES NO
4. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated N/A

Explain any discrepancies: \_\_\_\_\_

		YES	NO	Sample I.D.	Reagent	Vol. Added
pH	Reagent					
12	NaOH					
2	HNO <sub>3</sub>					
2	H <sub>2</sub> SO <sub>4</sub>					
Residual Chlorine (+/-)	for TCN & Phenol					
5-9**	P/PCBs (608 only)					

YES = All samples OK

NO = Samples were preserved at lab as listed

PC OK to adjust pH

\*\*If pH adjustment is required, use NaOH and/or H<sub>2</sub>SO<sub>4</sub>

VOC Vial pH Verification (Tested after Analysis) Following Samples Exhibited pH > 2				

Other Comments:



COLUMBIA ANALYTICAL SERVICES**EXTRACTABLE ORGANICS**

METHOD NITROBENZENE BY SIM 8270C

Reported: 11/05/03

Roux Associates Inc.

Project Reference: HONEYWELL OUTER HARBOR 25203Y04

Client Sample ID : GW-18R

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Date Sampled : 09/25/03	Order #: 675520	Sample Matrix: WATER
Date Received: 09/26/03	Submission #: R2318570	Analytical Run 96353

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ANALYTE	PQL	RESULT	UNITS
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DATE EXTRACTED	: 09/29/03
DATE ANALYZED	: 10/14/03
ANALYTICAL DILUTION:	102.00

NITROBENZENE	0.20	20 U	UG/L
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SURROGATE RECOVERIES	QC LIMITS
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TERPHENYL-d14	(15 - 135 %)	71	%
NITROBENZENE-d5	(30 - 116 %)	68	%
2-FLUOROBIPHENYL	(38 - 107 %)	50	%



COLUMBIA ANALYTICAL SERVICES

**EXTRACTABLE ORGANICS**

METHOD NITROBENZENE BY SIM 8270C

Reported: 11/05/03

Roux Associates Inc.

**Project Reference:** HONEYWELL OUTER HARBOR 25203Y04

**Client Sample ID :** GW-18R

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<b>Date Sampled :</b> 09/25/03	<b>Order #:</b> 675520	<b>Sample Matrix:</b> WATER
<b>Date Received:</b> 09/26/03	<b>Submission #:</b> R2318570	<b>Analytical Run</b> 0

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ANALYTE	PQL	RESULT	UNITS
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DATE EXTRACTED	: 09/29/03
DATE ANALYZED	: 10/14/03
ANALYTICAL DILUTION:	1.02

NITROBENZENE	0.20	0.20 U	UG/L
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<u>SURROGATE RECOVERIES</u>	<u>QC LIMITS</u>
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TERPHENYL-d14	(15 - 135 %)	71 X	%
NITROBENZENE-d5	(30 - 116 %)	68 X	%
2-FLUOROBIPHENYL	(38 - 107 %)	50 X	%



COLUMBIA ANALYTICAL SERVICES**EXTRACTABLE ORGANICS**

METHOD NITROBENZENE BY SIM 8270C

Reported: 11/05/03

Roux Associates Inc.

**Project Reference:** HONEYWELL OUTER HARBOR 25203Y04**Client Sample ID :** GW-19

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<b>Date Sampled :</b> 09/25/03	<b>Order #:</b> 675521	<b>Sample Matrix:</b> WATER
<b>Date Received:</b> 09/26/03	<b>Submission #:</b> R2318570	<b>Analytical Run</b> 96353

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ANALYTE	PQL	RESULT	UNITS
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DATE EXTRACTED	: 09/29/03
DATE ANALYZED	: 10/14/03
ANALYTICAL DILUTION:	101.00

NITROBENZENE	0.20	20 U	UG/L
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<u>SURROGATE RECOVERIES</u>	<u>QC LIMITS</u>
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TERPHENYL-d14	(15 - 135 %)	72	%
NITROBENZENE-d5	(30 - 116 %)	60	%
2-FLUOROBIPHENYL	(38 - 107 %)	47	%



COLUMBIA ANALYTICAL SERVICES

**EXTRACTABLE ORGANICS**

METHOD NITROBENZENE BY SIM 8270C

Reported: 11/05/03

Roux Associates Inc.

Project Reference: HONEYWELL OUTER HARBOR 25203Y04

Client Sample ID : GW-19

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Date Sampled : 09/25/03	Order #: 675521	Sample Matrix: WATER
Date Received: 09/26/03	Submission #: R2318570	Analytical Run 0

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ANALYTE	PQL	RESULT	UNITS
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DATE EXTRACTED	: 09/29/03
DATE ANALYZED	: 10/14/03
ANALYTICAL DILUTION:	1.01

NITROBENZENE	0.20	0.20 U	UG/L
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<u>SURROGATE RECOVERIES</u>	<u>QC LIMITS</u>
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TERPHENYL-d14	(15 - 135 %)	72 X	%
NITROBENZENE-d5	(30 - 116 %)	60 X	%
2-FLUOROBIPHENYL	(38 - 107 %)	47 X	%



COLUMBIA ANALYTICAL SERVICES

**EXTRACTABLE ORGANICS**

METHOD NITROBENZENE BY SIM 8270C

Reported: 11/05/03

Roux Associates Inc.

**Project Reference:** HONEYWELL OUTER HARBOR 25203Y04

**Client Sample ID :** GW-81

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<b>Date Sampled :</b> 09/25/03	<b>Order #:</b> 675522	<b>Sample Matrix:</b> WATER
<b>Date Received:</b> 09/26/03	<b>Submission #:</b> R2318570	<b>Analytical Run</b> 96353

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ANALYTE	PQL	RESULT	UNITS
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DATE EXTRACTED	: 09/29/03
DATE ANALYZED	: 10/15/03
ANALYTICAL DILUTION:	103.60

NITROBENZENE	0.20	21 U	UG/L
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SURROGATE RECOVERIES	QC LIMITS
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TERPHENYL-d14	(15 - 135 %)	67	%
NITROBENZENE-d5	(30 - 116 %)	65	%
2-FLUOROBIPHENYL	(38 - 107 %)	53	%



COLUMBIA ANALYTICAL SERVICES**EXTRACTABLE ORGANICS**

METHOD NITROBENZENE BY SIM 8270C

Reported: 11/05/03

Roux Associates Inc.

Project Reference: HONEYWELL OUTER HARBOR 25203Y04

Client Sample ID : GW-81

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Date Sampled : 09/25/03	Order #: 675522	Sample Matrix: WATER
Date Received: 09/26/03	Submission #: R2318570	Analytical Run 0

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ANALYTE	PQL	RESULT	UNITS
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DATE EXTRACTED	: 09/29/03
DATE ANALYZED	: 10/14/03
ANALYTICAL DILUTION:	1.04

NITROBENZENE	0.20	0.21	UG/L
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SURROGATE RECOVERIESQC LIMITS

TERPHENYL-d14	(15 - 135 %)	67 X	%
NITROBENZENE-d5	(30 - 116 %)	65 X	%
2-FLUOROBIPHENYL	(38 - 107 %)	53 X	%



COLUMBIA ANALYTICAL SERVICES

**EXTRACTABLE ORGANICS**

METHOD NITROBENZENE BY SIM 8270C

Reported: 11/05/03

Roux Associates Inc.

**Project Reference:** HONEYWELL OUTER HARBOR 25203Y04

**Client Sample ID :** GW-23

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<b>Date Sampled :</b> 09/25/03	<b>Order #:</b> 675523	<b>Sample Matrix:</b> WATER
<b>Date Received:</b> 09/26/03	<b>Submission #:</b> R2318570	<b>Analytical Run</b> 96353

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ANALYTE	PQL	RESULT	UNITS
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DATE EXTRACTED	: 09/29/03
DATE ANALYZED	: 10/15/03
ANALYTICAL DILUTION:	97.00

NITROBENZENE	0.20	19 U	UG/L
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<u>SURROGATE RECOVERIES</u>	<u>QC LIMITS</u>
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TERPHENYL-d14	(15 - 135 %)	66	%
NITROBENZENE-d5	(30 - 116 %)	62	%
2-FLUOROBIPHENYL	(38 - 107 %)	53	%



COLUMBIA ANALYTICAL SERVICES

**EXTRACTABLE ORGANICS**

METHOD NITROBENZENE BY SIM 8270C

Reported: 11/05/03

Roux Associates Inc.

**Project Reference:** HONEYWELL OUTER HARBOR 25203Y04

**Client Sample ID :** GW-23

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<b>Date Sampled :</b> 09/25/03	<b>Order #:</b> 675523	<b>Sample Matrix:</b> WATER
<b>Date Received:</b> 09/26/03	<b>Submission #:</b> R2318570	<b>Analytical Run</b> 0

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ANALYTE	PQL	RESULT	UNITS
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DATE EXTRACTED	: 09/29/03
DATE ANALYZED	: 10/14/03
ANALYTICAL DILUTION:	0.97

NITROBENZENE	0.20	0.19 U	UG/L
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SURROGATE RECOVERIES	QC LIMITS
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TERPHENYL-d14	(15 - 135 %)	66 X	%
NITROBENZENE-d5	(30 - 116 %)	62 X	%
2-FLUOROBIPHENYL	(38 - 107 %)	53 X	%



COLUMBIA ANALYTICAL SERVICES**EXTRACTABLE ORGANICS**

METHOD NITROBENZENE BY SIM 8270C

Reported: 11/05/03

Roux Associates Inc.

**Project Reference:** HONEYWELL OUTER HARBOR 25203Y04**Client Sample ID :** GW-22

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<b>Date Sampled :</b> 09/25/03	<b>Order #:</b> 675524	<b>Sample Matrix:</b> WATER
<b>Date Received:</b> 09/26/03	<b>Submission #:</b> R2318570	<b>Analytical Run</b> 96353

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ANALYTE	PQL	RESULT	UNITS
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DATE EXTRACTED	: 09/29/03
DATE ANALYZED	: 10/15/03
ANALYTICAL DILUTION:	104.00

NITROBENZENE	0.20	21 U	UG/L
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<u>SURROGATE RECOVERIES</u>	<u>QC LIMITS</u>		
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TERPHENYL-d14	(15 - 135 %)	69	%
NITROBENZENE-d5	(30 - 116 %)	65	%
2-FLUOROBIPHENYL	(38 - 107 %)	55	%



COLUMBIA ANALYTICAL SERVICES

**EXTRACTABLE ORGANICS**

METHOD NITROBENZENE BY SIM 8270C

Reported: 11/05/03

Roux Associates Inc.

**Project Reference:** HONEYWELL OUTER HARBOR 25203Y04

**Client Sample ID :** GW-22

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<b>Date Sampled :</b> 09/25/03	<b>Order #:</b> 675524	<b>Sample Matrix:</b> WATER
<b>Date Received:</b> 09/26/03	<b>Submission #:</b> R2318570	<b>Analytical Run</b> 0

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ANALYTE	PQL	RESULT	UNITS
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DATE EXTRACTED	: 09/29/03
DATE ANALYZED	: 10/14/03
ANALYTICAL DILUTION:	1.04

NITROBENZENE	0.20	0.23	UG/L
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<u>SURROGATE RECOVERIES</u>	<u>QC LIMITS</u>
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TERPHENYL-d14	(15 - 135 %)	69 X	%
NITROBENZENE-d5	(30 - 116 %)	65 X	%
2-FLUOROBIPHENYL	(38 - 107 %)	55 X	%



COLUMBIA ANALYTICAL SERVICES

**EXTRACTABLE ORGANICS**

METHOD NITROBENZENE BY SIM 8270C

Reported: 11/05/03

Roux Associates Inc.

**Project Reference:** HONEYWELL OUTER HARBOR 25203Y04

**Client Sample ID :** GW-21

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<b>Date Sampled :</b> 09/25/03	<b>Order #:</b> 675525	<b>Sample Matrix:</b> WATER
<b>Date Received:</b> 09/26/03	<b>Submission #:</b> R2318570	<b>Analytical Run</b> 96353

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ANALYTE	PQL	RESULT	UNITS
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DATE EXTRACTED	: 09/29/03
DATE ANALYZED	: 10/15/03
ANALYTICAL DILUTION:	105.00

NITROBENZENE	0.20	21 U	UG/L
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<u>SURROGATE RECOVERIES</u>	<u>QC LIMITS</u>
-----------------------------	------------------

TERPHENYL-d14	(15 - 135 %)	71	%
NITROBENZENE-d5	(30 - 116 %)	56	%
2-FLUOROBIPHENYL	(38 - 107 %)	51	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD NITROBENZENE BY SIM 8270C  
Reported: 11/05/03

Roux Associates Inc.

Project Reference: HONEYWELL OUTER HARBOR 25203Y04

Client Sample ID : GW-21

Date Sampled : 09/25/03      Order #: 675525      Sample Matrix: WATER  
Date Received: 09/26/03      Submission #: R2318570      Analytical Run 0

ANALYTE	PQL	RESULT	UNITS
---------	-----	--------	-------

DATE EXTRACTED : 09/29/03  
DATE ANALYZED : 10/14/03  
ANALYTICAL DILUTION: 1.05

NITROBENZENE	0.20	0.21 U	UG/L
--------------	------	--------	------

SURROGATE RECOVERIES

QC LIMITS

TERPHENYL-d14	(15 - 135 %)	71 X	%
NITROBENZENE-d5	(30 - 116 %)	56 X	%
2-FLUOROBIPHENYL	(38 - 107 %)	51 X	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD NITROBENZENE BY SIM 8270C  
Reported: 11/05/03

Project Reference:

Client Sample ID : METHOD BLANK

Date Sampled :	Order #: 678934	Sample Matrix: WATER
Date Received:	Submission #:	Analytical Run 0

ANALYTE	PQL	RESULT	UNITS
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DATE EXTRACTED	:	09/29/03
DATE ANALYZED	:	10/14/03
ANALYTICAL DILUTION:		1.00

NITROBENZENE	0.20	0.20 U	UG/L
--------------	------	--------	------

SURROGATE RECOVERIES	QC LIMITS
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TERPHENYL-d14	(15 - 135 %)	64	%
NITROBENZENE-d5	(30 - 116 %)	46	%
2-FLUOROBIPHENYL	(38 - 107 %)	39	%



QUALITY CONTROL SUMMARY      MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY  
WATER

Spiked order No.:    675520    ROUX

Client ID:            GW-18R

Test:                 NITROBENZENE BY SIM 8270C

Analytical Units:    UG/L

Run Number    :    96353

ANALYTE	SPIKE ADDED	SAMPLE CONCENT.	MATRIX SPIKE		MATRIX SPIKE DUP.			QC LIMITS	
			FOUND	% REC.	FOUND	% REC.	RPD	RPD	REC.
NITROBENZENE	1.00	0	0.84	84	0.92	92	9	30	50 - 150



**IMBIA ANALYTICAL SERVICES**

**QUALITY CONTROL SUMMARY      LABORATORY CONTROL SAMPLE  
WATER**

**Spiked order No.:      678935**

**Client ID:**

**Test:                      NITROBENZENE BY SIM 8270C**

**Analytical Units:      UG/L**

**Run Number    :      96353**

ANALYTE	SPIKE ADDED	SAMPLE CONCENT.	BLANK SPIKE		QC LIMITS
			FOUND	% REC.	REC.
NITROBENZENE	1.00	0	0.87	87	50 - 150



METALS  
COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Contract: R2318570 SDG No.: GW-18R  
Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_  
SOW No.: SW846 CLP-M Client: Roux Associates Inc.

<u>Sample No.</u>	<u>Lab Sample ID.</u>
<u>GW-18R</u>	<u>675520</u>
<u>GW-18RD</u>	<u>675520D</u>
<u>GW-18RS</u>	<u>675520S</u>
<u>GW-19</u>	<u>675521</u>
<u>GW-81</u>	<u>675522</u>
<u>GW-23</u>	<u>675523</u>
<u>GW-22</u>	<u>675524</u>
<u>GW-21</u>	<u>675525</u>

Were ICP interelement corrections applied? Yes/No YES

Were ICP background corrections applied? Yes/No YES

If yes-were raw data generated before application of background corrections? Yes/No NO

Comments: See Attached Case Narrative

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Michael K. Perry Name: Michael K. Perry  
Date: 10/29/03 Title: Laboratory Manager 23



## METALS

-1-

## INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

GW-18R

Contract: R2318570

Lab Code:

Case No.:

SAS No.:

SDG NO.: GW-18R

Matrix (soil/water): WATER

Lab Sample ID: 675520

Level (low/med): LOW

Date Received: 09/26/03

Concentration Units (ug/L or mg/kg dry weight):  $\mu\text{G/L}$ 

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	14300			P
7440-36-0	Antimony	60.0	U		P
7440-38-2	Arsenic	21.6			P
7440-39-3	Barium	242			P
7440-41-7	Beryllium	5.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	384000			P
7440-47-3	Chromium	17.9			P
7440-48-4	Cobalt	50.0	U		P
7440-50-8	Copper	23.1			P
7439-89-6	Iron	26100			P
7439-92-1	Lead	87.0			P
7439-95-4	Magnesium	71700			P
7439-96-5	Manganese	1670			P
7439-97-6	Mercury	0.51			CV
7440-02-0	Nickel	40.0	U		P
7440-09-7	Potassium	25300			P
7782-49-2	Selenium	5.0	U		P
7440-22-4	Silver	10.0	U		P
7440-23-5	Sodium	30700			P
7440-28-0	Thallium	10.0	U		P
7440-62-2	Vanadium	50.0	U		P
7440-66-6	Zinc	149			P

Color Before: BROWN

Clarity Before: CLOUDY

Texture:

Color After: YELLOW

Clarity After: CLEAR

Artifacts:

Comments:



## METALS

-1-

## INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

GW-19

Contract: R2318570

Lab Code:

Case No.:

SAS No.:

SDG NO.: GW-18R

Matrix (soil/water): WATER

Lab Sample ID: 675521

Level (low/med): LOW

Date Received: 09/26/03

Concentration Units (ug/L or mg/kg dry weight):  $\mu\text{G/L}$ 

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1190			P
7440-36-0	Antimony	60.0	U		P
7440-38-2	Arsenic	34.0			P
7440-39-3	Barium	20.0	U		P
7440-41-7	Beryllium	5.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	23600			P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	50.0	U		P
7440-50-8	Copper	59.9			P
7439-89-6	Iron	427			P
7439-92-1	Lead	13.2			P
7439-95-4	Magnesium	500	U		P
7439-96-5	Manganese	11.0			P
7439-97-6	Mercury	0.68			CV
7440-02-0	Nickel	40.0	U		P
7440-09-7	Potassium	825000			P
7782-49-2	Selenium	27.0			P
7440-22-4	Silver	10.0	U		P
7440-23-5	Sodium	60900			P
7440-28-0	Thallium	10.0	U		P
7440-62-2	Vanadium	70.9			P
7440-66-6	Zinc	20.0	U		P

Color Before: BROWN

Clarity Before: CLEAR

Texture:

Color After: YELLOW

Clarity After: CLEAR

Artifacts:

Comments:



## METALS

-1-

## INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

GW-21

Contract: R2318570

Lab Code:

Case No.:

SAS No.:

SDG NO.: GW-18R

Matrix (soil/water): WATER

Lab Sample ID: 675525

Level (low/med): LOW

Date Received: 09/26/03

Concentration Units (ug/L or mg/kg dry weight):  $\mu\text{G/L}$ 

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	100	U		P
7440-36-0	Antimony	60.0	U		P
7440-38-2	Arsenic	10.0	U		P
7440-39-3	Barium	51.2			P
7440-41-7	Beryllium	5.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	48000			P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	50.0	U		P
7440-50-8	Copper	20.0	U		P
7439-89-6	Iron	100	U		P
7439-92-1	Lead	5.0	U		P
7439-95-4	Magnesium	3630			P
7439-96-5	Manganese	10.0	U		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	40.0	U		P
7440-09-7	Potassium	23900			P
7782-49-2	Selenium	5.0	U		P
7440-22-4	Silver	10.0	U		P
7440-23-5	Sodium	15700			P
7440-28-0	Thallium	10.0	U		P
7440-62-2	Vanadium	50.0	U		P
7440-66-6	Zinc	20.0	U		P

Color Before: YELLOW

Clarity Before: CLEAR

Texture:

Color After: YELLOW

Clarity After: CLEAR

Artifacts:

Comments:



## METALS

-1-

## INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

GW-22

Contract: R2318570

Lab Code:

Case No.:

SAS No.:

SDG NO.: GW-18R

Matrix (soil/water): WATER

Lab Sample ID: 675524

Level (low/med): LOW

Date Received: 09/26/03

Concentration Units (ug/L or mg/kg dry weight):  $\mu\text{G/L}$ 

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	467			P
7440-36-0	Antimony	60.0	U		P
7440-38-2	Arsenic	10.0	U		P
7440-39-3	Barium	85.1			P
7440-41-7	Beryllium	5.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	307000			P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	50.0	U		P
7440-50-8	Copper	20.0	U		P
7439-89-6	Iron	5920			P
7439-92-1	Lead	13.9			P
7439-95-4	Magnesium	90400			P
7439-96-5	Manganese	1210			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	40.0	U		P
7440-09-7	Potassium	21300			P
7782-49-2	Selenium	5.0	U		P
7440-22-4	Silver	10.0	U		P
7440-23-5	Sodium	33200			P
7440-28-0	Thallium	10.0	U		P
7440-62-2	Vanadium	50.0	U		P
7440-66-6	Zinc	20.0	U		P

Color Before: YELLOW

Clarity Before: CLEAR

Texture:

Color After: YELLOW

Clarity After: CLEAR

Artifacts:

Comments:



## METALS

-1-

## INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

GW-23

Contract: R2318570

Lab Code:

Case No.:

SAS No.:

SDG NO.: GW-18R

Matrix (soil/water): WATER

Lab Sample ID: 675523

Level (low/med): LOW

Date Received: 09/26/03

Concentration Units (ug/L or mg/kg dry weight):  $\mu\text{G/L}$ 

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	661			P
7440-36-0	Antimony	60.0	U		P
7440-38-2	Arsenic	10.0	U		P
7440-39-3	Barium	370			P
7440-41-7	Beryllium	5.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	187000			P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	50.0	U		P
7440-50-8	Copper	20.0	U		P
7439-89-6	Iron	6270			P
7439-92-1	Lead	17.1			P
7439-95-4	Magnesium	102000			P
7439-96-5	Manganese	451			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	40.0	U		P
7440-09-7	Potassium	20700			P
7782-49-2	Selenium	5.0	U		P
7440-22-4	Silver	10.0	U		P
7440-23-5	Sodium	83900			P
7440-28-0	Thallium	10.0	U		P
7440-62-2	Vanadium	50.0	U		P
7440-66-6	Zinc	20.0	U		P

Color Before: BROWN

Clarity Before: CLEAR

Texture:

Color After: YELLOW

Clarity After: CLEAR

Artifacts:

Comments:



## METALS

-1-

## INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

GW-81

Contract: R2318570

Lab Code:

Case No.:

SAS No.:

SDG NO.: GW-18R

Matrix (soil/water): WATER

Lab Sample ID: 675522

Level (low/med): LOW

Date Received: 09/26/03

Concentration Units (ug/L or mg/kg dry weight):  $\mu\text{G/L}$ 

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	14400			P
7440-36-0	Antimony	60.0	U		P
7440-38-2	Arsenic	22.0			P
7440-39-3	Barium	243			P
7440-41-7	Beryllium	5.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	391000			P
7440-47-3	Chromium	18.6			P
7440-48-4	Cobalt	50.0	U		P
7440-50-8	Copper	24.6			P
7439-89-6	Iron	27000			P
7439-92-1	Lead	81.7			P
7439-95-4	Magnesium	72700			P
7439-96-5	Manganese	1690			P
7439-97-6	Mercury	0.39			CV
7440-02-0	Nickel	40.0	U		P
7440-09-7	Potassium	28100			P
7782-49-2	Selenium	5.0	U		P
7440-22-4	Silver	10.0	U		P
7440-23-5	Sodium	32400			P
7440-28-0	Thallium	10.0	U		P
7440-62-2	Vanadium	50.0	U		P
7440-66-6	Zinc	145			P

Color Before: BROWN

Clarity Before: CLOUDY

Texture:

Color After: YELLOW

Clarity After: CLEAR

Artifacts:

Comments:



## METALS

-3-

## BLANKS

Contract: R2318570

Lab Code:

Case No.:

SAS No.:

SDG NO.: GW-18R

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	Continuing Calibration Blank (ug/L)						Preparation Blank		M
		C	1	C	2	C	3	C		
Aluminum	100.0	U	100.0	U	100.0	U	100.0	U	100.000	P
Antimony	60.0	U	60.0	U	60.0	U	60.0	U	60.000	P
Arsenic	10.0	U	10.0	U	10.0	U	10.0	U	10.000	P
Barium	20.0	U	20.0	U	20.0	U	20.0	U	20.000	P
Beryllium	5.0	U	5.0	U	5.0	U	5.0	U	5.000	P
Cadmium	5.0	U	5.0	U	5.0	U	5.0	U	5.000	P
Calcium	500.0	U	500.0	U	500.0	U	500.0	U	500.000	P
Chromium	10.0	U	10.0	U	10.0	U	10.0	U	10.000	P
Cobalt	50.0	U	50.0	U	50.0	U	50.0	U	50.000	P
Copper	20.0	U	20.0	U	20.0	U	20.0	U	20.000	P
Iron	100.0	U	100.0	U	100.0	U	100.0	U	100.000	P
Lead	5.0	U	5.0	U	5.0	U	5.0	U	5.000	P
Magnesium	500.0	U	500.0	U	500.0	U	500.0	U	500.000	P
Manganese	10.0	U	10.0	U	10.0	U	10.0	U	10.000	P
Mercury	0.20	U	0.20	U	0.20	U	0.20	U	0.200	CV
Nickel	40.0	U	40.0	U	40.0	U	40.0	U	40.000	P
Potassium	2000.0	U	2000.0	U	2000.0	U	2000.0	U	2000.000	P
Selenium	5.0	U	5.0	U	5.0	U	5.0	U	5.000	P
Silver	10.0	U	10.0	U	10.0	U	10.0	U	10.000	P
Sodium	500.0	U	500.0	U	500.0	U	500.0	U	500.000	P
Thallium	10.0	U	10.0	U	10.0	U	10.0	U	10.000	P
Vanadium	50.0	U	50.0	U	50.0	U	50.0	U	50.000	P
Zinc	20.0	U	20.0	U	20.0	U	20.0	U	20.000	P



## METALS

-3-

## BLANKS

Contract: R2318570

Lab Code: Case No.: SAS No.: SDG NO.: GW-18R

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L)						Preparation Blank	C	M
			1	C	2	C	3	C			
Aluminum			100.0	U	100.0	U	100.0	U			P
Antimony			60.0	U	60.0	U					P
Arsenic			10.0	U	10.0	U					P
Barium			20.0	U	20.0	U	20.0	U			P
Beryllium			5.0	U	5.0	U					P
Cadmium			5.0	U	5.0	U					P
Calcium			500.0	U	500.0	U	500.0	U			P
Chromium			10.0	U	10.0	U	10.0	U			P
Cobalt			50.0	U	50.0	U					P
Copper			20.0	U	20.0	U	20.0	U			P
Iron			100.0	U	100.0	U	100.0	U			P
Lead			5.0	U	5.0	U					P
Magnesium			500.0	U	500.0	U	500.0	U			P
Manganese			10.0	U	10.0	U	10.0	U			P
Mercury			0.20	U	0.20	U					CV
Nickel			40.0	U	40.0	U					P
Potassium			2000.0	U	2000.0	U	2000.0	U			P
Selenium			5.0	U	5.0	U					P
Silver			10.0	U	10.0	U					P
Sodium			500.0	U	500.0	U	500.0	U			P
Thallium			10.0	U	10.0	U					P
Vanadium			50.0	U	50.0	U					P
Zinc			20.0	U	20.0	U					P



METALS  
-5A-  
SPIKE SAMPLE RECOVERY

SAMPLE NO.

GW-18RS

Contract: R2318570

Lab Code:

Case No.:

SAS No.:

SDG NO.: GW-18R

Matrix (soil/water): WATER

Level (low/med): LOW

% Solids for Sample: 0.0

Concentration Units (ug/L or mg/kg dry weight):  $\mu\text{G/L}$ 

Analyte	Control Limit %R	Spiked Sample Result (SSR) C	Sample Result (SR) C	Spike Added (SA)	%R	Q	M
Aluminum		16034.2813	14276.7158	2000.00	87.9		P
Antimony	75 - 125	474.8737	60.0000 U	500.00	95.0		P
Arsenic	75 - 125	56.4565	21.5529	40.00	87.3		P
Barium	75 - 125	2256.0857	241.9560	2000.00	100.7		P
Beryllium	75 - 125	45.9875	5.0000 U	50.00	92.0		P
Cadmium	75 - 125	42.0679	5.0000 U	50.00	84.1		P
Calcium		398118.8125	384340.3125	2000.00	688.9		P
Chromium	75 - 125	213.8399	17.9409	200.00	97.9		P
Cobalt	75 - 125	455.2102	50.0000 U	500.00	91.0		P
Copper	75 - 125	271.1734	23.1404	250.00	99.2		P
Iron		27119.6113	26058.4277	1000.00	106.1		P
Lead	75 - 125	524.9639	87.0044	500.00	87.6		P
Magnesium		74892.4141	71686.2734	2000.00	160.3		P
Manganese	75 - 125	2185.2400	1669.1876	500.00	103.2		P
Mercury	75 - 125	1.4356	0.5053	1.00	93.0		CV
Nickel	75 - 125	461.4112	40.0000 U	500.00	92.3		P
Potassium	75 - 125	46250.3242	25253.2852	20000.00	105.0		P
Selenium	75 - 125	913.7637	5.0000 U	1010.00	90.5		P
Silver	75 - 125	43.2194	10.0000 U	50.00	86.4		P
Sodium	75 - 125	52118.1875	30735.0332	20000.00	106.9		P
Thallium	75 - 125	1811.9126	10.0000 U	2000.00	90.6		P
Vanadium	75 - 125	499.9033	50.0000 U	500.00	100.0		P
Zinc	75 - 125	600.6193	149.1327	500.00	90.3		P

Comments:



**METALS**  
**-5B-**  
**POST DIGEST SPIKE SAMPLE RECOVERY**

SAMPLE NO.

GW-18RA

Contract: R2318570

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: GW-18R

Matrix (soil/water): WATER \_\_\_\_\_ Level (low/med): LOW \_\_\_\_\_

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR) C	Sample Result (SR) C	Spike Added (SA)	%R	Q	M
Aluminum		17475.10	14276.72	2000.0	159.9		P
Antimony		496.86	60.00 U	500.0	99.4		P
Arsenic		60.25	21.55	40.0	96.8		P
Barium		2271.48	241.96	2000.0	101.5		P
Beryllium		47.66	5.00 U	50.0	95.3		P
Cadmium		43.19	5.00 U	50.0	86.4		P
Calcium		424182.16	384340.31	2000.0	1992.1		P
Chromium		224.34	17.94	200.0	103.2		P
Cobalt		467.31	50.00 U	500.0	93.5		P
Copper		275.70	23.14	250.0	101.0		P
Iron		29334.55	26058.43	1000.0	327.6		P
Lead		536.00	87.00	500.0	89.8		P
Magnesium		80023.72	71686.27	2000.0	416.9		P
Manganese		2306.05	1669.19	500.0	127.4		P
Nickel		471.67	40.00 U	500.0	94.3		P
Potassium		47848.43	25253.29	20000.0	113.0		P
Selenium		1019.09	5.00 U	1010.0	100.9		P
Silver		44.86	10.00 U	50.0	89.7		P
Sodium		53609.02	30735.03	20000.0	114.4		P
Thallium		1919.41	10.00 U	2000.0	96.0		P
Vanadium		519.27	50.00 U	500.0	103.9		P
Zinc		621.47	149.13	500.0	94.5		P

Comments: \_\_\_\_\_



## METALS

-6-

## DUPLICATES

SAMPLE NO.

GW-18RD

Contract: R2318570

Lab Code: Case No.: SAS No.: SDG NO.: GW-18R

Matrix (soil/water): WATER Level (low/med): LOW

% Solids for Sample: 0.0 % Solids for Duplicate:

Concentration Units (ug/L or mg/kg dry weight):  $\mu\text{G/L}$ 

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum		14276.7158		14179.8203		0.7		P
Antimony		60.0000	U	60.0000	U			P
Arsenic	10.0	21.5529		23.2265		7.5		P
Barium		241.9560		238.0467		1.6		P
Beryllium		5.0000	U	5.0000	U			P
Cadmium		5.0000	U	5.0000	U			P
Calcium		384340.3125		389357.7500		1.3		P
Chromium	10.0	17.9409		17.5976		1.9		P
Cobalt		50.0000	U	50.0000	U			P
Copper	20.0	23.1404		24.7511		6.7		P
Iron		26058.4277		26231.7441		0.7		P
Lead		87.0044		87.5174		0.6		P
Magnesium		71686.2734		72133.6563		0.6		P
Manganese		1669.1876		1685.3447		1.0		P
Mercury	0.2	0.5053		0.4854		4.0		CV
Nickel		40.0000	U	40.0000	U			P
Potassium		25253.2852		25467.0938		0.8		P
Selenium		5.0000	U	5.0000	U			P
Silver		10.0000	U	10.0000	U			P
Sodium		30735.0332		31471.6367		2.4		P
Thallium		10.0000	U	10.0000	U			P
Vanadium		50.0000	U	50.0000	U			P
Zinc		149.1327		147.7104		1.0		P





A FULL SERVICE ENVIRONMENTAL LABORATORY

December 17, 2003

Mr. Glenn Netuschil  
Roux Associates Inc.  
1377 Motor Parkway  
Islandia, NY 11749

PROJECT:HONEYWELL OUTER HARBOR 25203Y04  
Submission #:R2319165

Dear Mr. Netuschil

Enclosed are the analytical results of the analyses requested. All data has been reviewed prior to report submission. Should you have any questions please contact me at (585) 288-5380.

Thank you for letting us provide this service.

Sincerely,

COLUMBIA ANALYTICAL SERVICES

A handwritten signature in black ink, appearing to read 'Mark Wilson', is written over the printed name.

Mark Wilson  
Client Service Manager

Enc.





1 Mustard ST.  
Suite 250  
Rochester, NY 14609  
(585) 288-5380

**THIS IS AN ANALYTICAL TEST REPORT FOR:**

Client : Roux Associates Inc.  
Project Reference: HONEYWELL OUTER HARBOR 25203Y04  
Lab Submission # : R2319165  
Project Manager : Mark Wilson  
Reported : 12/17/03

Report Contains a total of 33 pages

The results reported herein relate only to the samples received by the laboratory. This report may not be reproduced except in full, without the approval of Columbia Analytical Services.

This package has been reviewed by Columbia Analytical Services' QA Department/Laboratory Director to comply with NELAC standards prior to report submittal. *Michael K. Perry*



## **CASE NARRATIVE**

COMPANY: Roux Associates  
PROJECT: Honeywell/Outer Harbor  
SUBMISSION #: R2319165

Water samples were collected on 11/12-14/03 and received at CAS on 11/13-14/03 in good condition at cooler temperatures between 0 and 6 °C. See CAS CLP Batching sheets for a cross-reference between Client ID and CAS Job # and analyses requested.

### **INORGANIC ANALYSIS**

Water samples were analyzed the TAL list of Metals using SW-846 protocol. Mercury was analyzed by the cold vapor method 7470A and all other metals were analyzed by ICP method 6010B.

The Blank Spike (Reference Check) recoveries were all within QC limits. The Matrix Spike recoveries from sample GW-18R were all within QC limits of 75 – 125 %. RPD was outside limits for Aluminum, Lead and Zinc.

No analytical or QC problems were encountered.

### **SEMIVOLATILE ORGANICS**

Water samples were analyzed for Nitrobenzene by SW-846 method 8270C SIM Mode.

All Matrix and Blank spike recoveries were within limits. All RPD were within limits.

All DFTPP tuning criteria were within acceptance limits.

The initial and continuing calibration criteria were met for all analytes.

All internal standard areas were within QC limits.

All surrogate standard recoveries were within QC limits.

No analytical or QC problems were encountered.



SUMMARY PKG: Y X N

DATE	pH	%
------	----	---





Effective 6/12/2003

## ORGANIC QUALIFIERS

- U - Indicates compound was analyzed for but not detected. The sample quantitation limit must be corrected for dilution and for percent moisture.
- J - Indicates an estimated value. The flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
- N - Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds, where the identification is based on a mass spectral library search.
- P - This flag is used for a pesticide/Aroclor target analyte when there is a greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on Form I and flagged with a "P".
- C - This flag applies to pesticide results where the identification has been confirmed by GC/MS.
- B - This flag is used when the analyte is found in the associated blank as well as in the sample.
- E - This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
- D - This flag identifies all compounds identified in an analysis at a secondary dilution factor. If a sample or extract is re-analyzed at a higher dilution factor, as in the "E" flag above, the "DL" suffix is appended to the sample number on the Form I for the diluted sample, and ALL concentration values reported on that Form I are flagged with the "D" flag.
- A - This flag indicates that a TIC is a suspected aldol-condensation product.
- X - As specified in Case Narrative.
- \* - This flag identifies compounds associated with a quality control parameter which exceeds laboratory limits.

### **CAS/Rochester Lab ID # for State Certifications**

Army Corp of Engineers Validated  
Delaware Accredited  
Connecticut ID # PH0556  
Florida ID # E87674  
Massachusetts ID # M-NY032  
Navy Facilities Engineering Service Center Approved  
Nebraska Accredited

NELAP Accredited  
New York ID # 10145  
New Jersey ID # NY004  
New Hampshire ID # 294100 A/B  
Pennsylvania Registration 68-786  
Rhode Island ID # 158  
South Carolina ID #91012  
West Virginia ID # 292





Effective 6/12/2003

## INORGANIC QUALIFIERS

C (Concentration) qualifier –

- B - if the reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL) but was greater than or equal to the Instrument Detection Limit (IDL).
- U - if the analyte was analyzed for, but not detected

Q qualifier - Specified entries and their meanings are as follows:

- D - Spike was diluted out
- E - The reported value is estimated because of the presence of interference.
- J - Estimated Value
- M - Duplicate injection precision not met.
- N - Spiked sample recovery not within control limits.
- S - The reported value was determined by the Method of Standard Additions (MSA).
- W - Post-digestion spike for Furnace AA Analysis is out of control limits (85-115), while sample absorbance is less than 50% of spike absorbance.
- \* - Duplicate analysis not within control limits.
- + - Correlation coefficient for the MSA is less than 0.995.

M (Method) qualifier:

- "P" for ICP
- "A" for Flame AA
- "F" for Furnace AA
- "PM" for ICP when Microwave Digestion is used
- "AM" for Flame AA when Microwave Digestion is used
- "FM" for Furnace M when Microwave Digestion is used
- "CV" for Manual Cold Vapor AA
- "AV" for Automated Cold Vapor AA
- "CA" for Midi-Distillation Spectrophotometric
- "AS" for Semi-Automated Spectrophotometric
- "C" for Manual Spectrophotometric
- "T" for Titrimetric
- " " where no data has been entered
- "NR" if the analyte is not required to be analyzed.

## **CAS/Rochester Lab ID # for State Certifications**

Army Corp of Engineers Validated  
Delaware Accredited  
Connecticut ID # PH0556  
Florida ID # E87674  
Massachusetts ID # M-NY032  
Navy Facilities Engineering Service Center Approved  
Nebraska Accredited  
NELAP Accredited

New York ID # 10145  
New Jersey ID # NY004  
New Hampshire ID # 294100 A/B  
Pennsylvania Registration 68-786  
Rhode Island ID # 158  
South Carolina ID # 91012  
West Virginia ID # 292



## CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

**An Employee - Owned Company**  
[www.castlab.com](http://www.castlab.com)

One Mustard St., Suite 250 • Rochester, NY 14609-0859 • (585) 288-5380 • 800-695-7222 x11 • FAX (585) 288-9475

#SR

CAS Contact

[illegible]

**Distribution:** White - Return to Originator; Yellow - Lab Copy; Pink - Retained by Client

**SCOC-1102-08**



# Cooler Receipt And Preservation Check Form

Project/Client Roux Submission Number R23-19165

Cooler received on 11/13/03 by: RC COURIER: CAS UPS FEDEX CD&L CLIENT

1. Were custody seals on outside of cooler? YES (NO)
2. Were custody papers properly filled out (ink, signed, etc.)? (YES) NO
3. Did all bottles arrive in good condition (unbroken)? (YES) NO
4. Did any VOA vials have significant air bubbles? YES NO (N/A)
5. Were Ice or Ice packs present? (YES) NO
6. Where did the bottles originate? (CAS/ROC) CLIENT
7. Temperature of cooler(s) upon receipt: 3°C

Is the temperature within 0° - 6° C?: (Yes) Yes Yes Yes Yes

If No, Explain Below No No No No No

Date/Time Temperatures Taken: 11/13/03 1415

Thermometer ID: 161 or (IR GUN) Reading From: Temp Blank or (Sample Bottle)

If out of Temperature, Client Approval to Run Samples \_\_\_\_\_

Cooler Breakdown: Date: 11/13/03 by: KMC

1. Were all bottle labels complete (i.e. analysis, preservation, etc.)? (YES) NO
2. Did all bottle labels and tags agree with custody papers? (YES) NO
3. Were correct containers used for the tests indicated? (YES) NO
4. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated (N/A)

Explain any discrepancies: \_\_\_\_\_

		YES	NO	Sample I.D.	Reagent	Vol. Added
pH	Reagent					
12	NaOH					
2	HNO <sub>3</sub>	<u>X</u>				
2	H <sub>2</sub> SO <sub>4</sub>					
Residual Chlorine (+/-)	for TCN & Phenol					
5-9**	P/PCBs (608 only)					

YES = All samples OK

NO = Samples were preserved at lab as listed

PC OK to adjust pH

\*\*If pH adjustment is required, use NaOH and/or H<sub>2</sub>SO<sub>4</sub>

VOC Vial pH Verification (Tested after Analysis) Following Samples Exhibited pH > 2				

Other Comments:







## Cooler Receipt And Preservation Check Form

Project/Client ROUX Submission Number 19165Cooler received on 11-14-03 by: RE COURIER: CAS UPS FEDEX CD&L CLIENT

1. Were custody seals on outside of cooler? YES NO
2. Were custody papers properly filled out (ink, signed, etc.)? YES NO
3. Did all bottles arrive in good condition (unbroken)? YES NO
4. Did any VOA vials have significant air bubbles? YES NO N/A
5. Were Ice or Ice packs present? YES NO
6. Where did the bottles originate? CAS/ROC, CLIENT
7. Temperature of cooler(s) upon receipt: 0°

Is the temperature within 0° - 6° C?: Yes Yes Yes Yes Yes

If No, Explain Below

No No No No No

Date/Time Temperatures Taken: 11-14-03 @ 14:43Thermometer ID: 161 or IR GUN Reading From: Temp Blank or Sample Bottle

If out of Temperature, Client Approval to Run Samples \_\_\_\_\_

Cooler Breakdown: Date: 11/17/03 by: BL

1. Were all bottle labels complete (i.e. analysis, preservation, etc.)? YES NO
2. Did all bottle labels and tags agree with custody papers? YES NO
3. Were correct containers used for the tests indicated? YES NO
4. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated N/A

Explain any discrepancies: \_\_\_\_\_

		YES	NO	Sample I.D.	Reagent	Vol. Added
pH	Reagent					
12	NaOH					
2	HNO <sub>3</sub>	<input checked="" type="checkbox"/>				
2	H <sub>2</sub> SO <sub>4</sub>					
Residual Chlorine (+/-)	for TCN & Phenol					
5-9**	P/PCBs (608 only)					

YES = All samples OK

NO = Samples were preserved at lab as listed

PC OK to adjust pH

\*\*If pH adjustment is required, use NaOH and/or H<sub>2</sub>SO<sub>4</sub>

VOC Vial pH Verification (Tested after Analysis) Following Samples Exhibited pH > 2				

Other Comments:



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270C NITROBENZENE  
Reported: 12/17/03

Roux Associates Inc.

Project Reference: HONEYWELL OUTER HARBOR 25203Y04

Client Sample ID : GW-19

Date Sampled : 11/12/03      Order #: 688317      Sample Matrix: WATER  
Date Received: 11/13/03      Submission #: R2319165      Analytical Run 98092

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 11/18/03			
DATE ANALYZED : 12/02/03			
ANALYTICAL DILUTION: 1.00			

NITROBENZENE	0.20	0.20 U	UG/L
--------------	------	--------	------

<u>SURROGATE RECOVERIES</u>	<u>QC LIMITS</u>		
TERPHENYL-d14	(23 - 139 %)	85	%
NITROBENZENE-d5	(22 - 130 %)	75	%
2-FLUOROBIPHENYL	(27 - 130 %)	64	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270C NITROBENZENE  
Reported: 12/17/03

Roux Associates Inc.

Project Reference: HONEYWELL OUTER HARBOR 25203Y04

Client Sample ID : GW-21

Date Sampled : 11/12/03      Order #: 688318      Sample Matrix: WATER  
Date Received: 11/13/03      Submission #: R2319165      Analytical Run 98092

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 11/18/03			
DATE ANALYZED : 12/02/03			
ANALYTICAL DILUTION: 1.01			
NITROBENZENE	0.20	0.20 U	UG/L
SURROGATE RECOVERIES	QC LIMITS		
TERPHENYL-d14	(23 - 139 %)	97	%
NITROBENZENE-d5	(22 - 130 %)	101	%
2-FLUOROBIPHENYL	(27 - 130 %)	78	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270C NITROBENZENE  
Reported: 12/17/03

Roux Associates Inc.

Project Reference: HONEYWELL OUTER HARBOR 25203Y04

Client Sample ID : GW-18R

Date Sampled : 11/14/03      Order #: 688907      Sample Matrix: WATER  
Date Received: 11/14/03      Submission #: R2319165      Analytical Run 98092

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 11/18/03			
DATE ANALYZED : 12/02/03			
ANALYTICAL DILUTION: 1.00			

NITROBENZENE	0.20	0.20 U	UG/L
--------------	------	--------	------

SURROGATE RECOVERIES

QC LIMITS

TERPHENYL-d14	(23 - 139 %)	94	%
NITROBENZENE-d5	(22 - 130 %)	101	%
2-FLUOROBIPHENYL	(27 - 130 %)	84	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270C NITROBENZENE  
Reported: 12/17/03

Roux Associates Inc.

Project Reference: HONEYWELL OUTER HARBOR 25203Y04

Client Sample ID : GW-22

Date Sampled : 11/14/03      Order #: 688908      Sample Matrix: WATER  
Date Received: 11/14/03      Submission #: R2319165      Analytical Run 98092

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 11/18/03			
DATE ANALYZED : 12/02/03			
ANALYTICAL DILUTION: 1.04			
NITROBENZENE	0.20	0.21 U	UG/L
<u>SURROGATE RECOVERIES</u>	<u>QC LIMITS</u>		
TERPHENYL-d14	(23 - 139 %)	99	%
NITROBENZENE-d5	(22 - 130 %)	107	%
2-FLUOROBIPHENYL	(27 - 130 %)	75	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270C NITROBENZENE  
Reported: 12/17/03

Roux Associates Inc.

Project Reference: HONEYWELL OUTER HARBOR 25203Y04

Client Sample ID : GW-23

Date Sampled : 11/14/03      Order #: 688909      Sample Matrix: WATER  
Date Received: 11/14/03      Submission #: R2319165      Analytical Run 98092

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 11/18/03			
DATE ANALYZED : 12/02/03			
ANALYTICAL DILUTION: 0.97			
NITROBENZENE	0.20	0.19 U	UG/L
<u>SURROGATE RECOVERIES</u>	<u>QC LIMITS</u>		
TERPHENYL-d14	(23 - 139 %)	89	%
NITROBENZENE-d5	(22 - 130 %)	107	%
2-FLUOROBIPHENYL	(27 - 130 %)	73	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270C NITROBENZENE  
Reported: 12/17/03

Roux Associates Inc.

Project Reference: HONEYWELL OUTER HARBOR 25203Y04

Client Sample ID : GW-81

Date Sampled : 11/14/03      Order #: 688910      Sample Matrix: WATER  
Date Received: 11/14/03      Submission #: R2319165      Analytical Run 98092

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 11/18/03			
DATE ANALYZED : 12/02/03			
ANALYTICAL DILUTION: 1.05			
NITROBENZENE	0.20	0.21 U	UG/L
SURROGATE RECOVERIES	QC LIMITS		
TERPHENYL-d14	(23 - 139 %)	97	%
NITROBENZENE-d5	(22 - 130 %)	113	%
2-FLUOROBIPHENYL	(27 - 130 %)	75	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270C NITROBENZENE  
Reported: 12/17/03

Project Reference:

Client Sample ID : METHOD BLANK

Date Sampled :	Order #: 691342	Sample Matrix: WATER
Date Received:	Submission #:	Analytical Run 98092

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 11/18/03			
DATE ANALYZED : 12/01/03			
ANALYTICAL DILUTION: 1.00			
NITROBENZENE	0.20	0.20 U	UG/L

SURROGATE RECOVERIESQC LIMITS

TERPHENYL-d14	(23 - 139 %)	101	%
NITROBENZENE-d5	(22 - 130 %)	93	%
2-FLUOROBIPHENYL	(27 - 130 %)	86	%



COLUMBIA ANALYTICAL SERVICES

QUALITY CONTROL SUMMARY    MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY  
WATER

Spiked Order No. : 688907    Roux Associates Inc.

Client ID: GW-18R

Test: 8270C NITROBENZENE

Analytical Units:    UG/L

Run Number        :    98092

ANALYTE	SPIKE ADDED	CONCENT. SAMPLE	MATRIX SPIKE		MATRIX SPIKE DUP.				QC LIMITS	
			FOUND	% REC.	FOUND	% REC.	RPD	RPD	REC.	
NITROBENZENE	1.00	0	1.20	120	1.20	120	0	30	50 - 150	







**METALS**  
**COVER PAGE - INORGANIC ANALYSES DATA PACKAGE**

Project: R2319165 SDG No.: GW-19  
Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_  
DW No.: SW846 CLP-M Client: Roux Associates Inc.

<u>Sample No.</u>	<u>Lab Sample ID.</u>
GW-19	688317
GW-21	688318
GW-18R	688907
GW-18RD	688907D
GW-18RS	688907S
GW-22	688908
GW-23	688909
GW-81	688910

Were ICP interelement corrections applied? Yes/No YES  
Were ICP background corrections applied? Yes/No YES  
If yes-were raw data generated before application of background corrections? Yes/No NO

Comments: See Attached Case Narrative  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Michael K. Perry Name: Michael K. Perry  
Date: 12/18/03 Title: Laboratory Manager



## METALS

-1-

## INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

GW-18R

Contract: R2319165

Lab Code:

Case No.:

SAS No.:

SDG NO.: GW-19

Matrix (soil/water): WATER

Lab Sample ID: 688907

Level (low/med): LOW

Date Received: 11/14/03

Concentration Units (ug/L or mg/kg dry weight):  $\mu\text{G/L}$ 

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	15100		*	P
7440-36-0	Antimony	60.0	U		P
7440-38-2	Arsenic	34.9			P
7440-39-3	Barium	284			P
7440-41-7	Beryllium	5.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	482000			P
7440-47-3	Chromium	26.4			P
7440-48-4	Cobalt	50.0	U		P
7440-50-8	Copper	23.0			P
7439-89-6	Iron	29200			P
7439-92-1	Lead	101		*	P
7439-95-4	Magnesium	95800			P
7439-96-5	Manganese	2240			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	40.0	U		P
7440-09-7	Potassium	40500			P
7782-49-2	Selenium	5.0	U		P
7440-22-4	Silver	10.0	U		P
7440-23-5	Sodium	45500			P
7440-28-0	Thallium	20.0	U		P
7440-62-2	Vanadium	50.0	U		P
7440-66-6	Zinc	162		*	P

Color Before: YELLOW

Clarity Before: CLEAR

Texture:

Color After: YELLOW

Clarity After: CLEAR

Artifacts:

Comments:



## METALS

-1-

## INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

GW-19

Contract: R2319165

Lab Code:

Case No.:

SAS No.:

SDG NO.: GW-19

Matrix (soil/water): WATER

Lab Sample ID: 688317

Level (low/med): LOW

Date Received: 11/13/03

Concentration Units (ug/L or mg/kg dry weight):  $\mu\text{G/L}$ 

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1460		*	P
7440-36-0	Antimony	60.0	U		P
7440-38-2	Arsenic	54.6			P
7440-39-3	Barium	21.2			P
7440-41-7	Beryllium	5.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	24200			P
7440-47-3	Chromium	62.0			P
7440-48-4	Cobalt	50.0	U		P
7440-50-8	Copper	46.1			P
7439-89-6	Iron	608			P
7439-92-1	Lead	16.6		*	P
7439-95-4	Magnesium	500	U		P
7439-96-5	Manganese	17.9			P
7439-97-6	Mercury	0.95			CV
7440-02-0	Nickel	40.0	U		P
7440-09-7	Potassium	938000			P
7782-49-2	Selenium	28.8			P
7440-22-4	Silver	10.0	U		P
7440-23-5	Sodium	73700			P
7440-28-0	Thallium	20.0	U		P
7440-62-2	Vanadium	67.5			P
7440-66-6	Zinc	20.0	U	*	P

Color Before: YELLOW

Clarity Before: CLEAR

Texture:

Color After: YELLOW

Clarity After: CLEAR

Artifacts:

Comments:



## METALS

-1-

## INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

GW-21

Contract: R2319165

Lab Code:

Case No.:

SAS No.:

SDG NO.: GW-19

Matrix (soil/water): WATER

Lab Sample ID: 688318

Level (low/med): LOW

Date Received: 11/13/03

Concentration Units (ug/L or mg/kg dry weight):  $\mu\text{G/L}$ 

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	100	U	*	P
7440-36-0	Antimony	60.0	U		P
7440-38-2	Arsenic	10.0	U		P
7440-39-3	Barium	53.4			P
7440-41-7	Beryllium	5.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	53500			P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	50.0	U		P
7440-50-8	Copper	20.0	U		P
7439-89-6	Iron	127			P
7439-92-1	Lead	5.0	U	*	P
7439-95-4	Magnesium	2110			P
7439-96-5	Manganese	10.0	U		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	40.0	U		P
7440-09-7	Potassium	21800			P
7782-49-2	Selenium	5.0	U		P
7440-22-4	Silver	10.0	U		P
7440-23-5	Sodium	14300			P
7440-28-0	Thallium	20.0	U		P
7440-62-2	Vanadium	50.0	U		P
7440-66-6	Zinc	20.0	U	*	P

Color Before: YELLOW

Clarity Before: CLEAR

Texture:

Color After: YELLOW

Clarity After: CLEAR

Artifacts:

Comments:



## METALS

-1-

## INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

GW-22

Contract: R2319165

Lab Code:

Case No.:

SAS No.:

SDG NO.: GW-19

Matrix (soil/water): WATER

Lab Sample ID: 688908

Level (low/med): LOW

Date Received: 11/14/03

Concentration Units (ug/L or mg/kg dry weight):  $\mu\text{G/L}$ 

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2040		*	P
7440-36-0	Antimony	60.0	U		P
7440-38-2	Arsenic	10.0	U		P
7440-39-3	Barium	90.9			P
7440-41-7	Beryllium	5.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	379000			P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	50.0	U		P
7440-50-8	Copper	32.2			P
7439-89-6	Iron	16000			P
7439-92-1	Lead	37.2		*	P
7439-95-4	Magnesium	126000			P
7439-96-5	Manganese	1270			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	40.0	U		P
7440-09-7	Potassium	21800			P
7782-49-2	Selenium	5.0	U		P
7440-22-4	Silver	10.0	U		P
7440-23-5	Sodium	66000			P
7440-28-0	Thallium	20.0	U		P
7440-62-2	Vanadium	50.0	U		P
7440-66-6	Zinc	35.7		*	P

Color Before: YELLOW

Clarity Before: CLEAR

Texture:

Color After: YELLOW

Clarity After: CLEAR

Artifacts:

Comments:



METALS

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

GW-23

Contract: R2319165

Lab Code: Case No.: SAS No.: SDG NO.: GW-19

Matrix (soil/water): WATER Lab Sample ID: 688909

Level (low/med): LOW Date Received: 11/14/03

Concentration Units (ug/L or mg/kg dry weight):  $\mu\text{G/L}$

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	178		*	P
7440-36-0	Antimony	78.9			P
7440-38-2	Arsenic	10.4			P
7440-39-3	Barium	345			P
7440-41-7	Beryllium	5.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	272000			P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	50.0	U		P
7440-50-8	Copper	20.0	U		P
7439-89-6	Iron	3470			P
7439-92-1	Lead	10.0		*	P
7439-95-4	Magnesium	97300			P
7439-96-5	Manganese	864			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	40.0	U		P
7440-09-7	Potassium	49300			P
7782-49-2	Selenium	5.0	U		P
7440-22-4	Silver	10.0	U		P
7440-23-5	Sodium	80600			P
7440-28-0	Thallium	20.0	U		P
7440-62-2	Vanadium	50.0	U		P
7440-66-6	Zinc	20.0	U	*	P

Color Before: YELLOW

Clarity Before: CLEAR

Texture:

Color After: YELLOW

Clarity After: CLEAR

Artifacts:

Comments:



**METALS**

-1-

**INORGANIC ANALYSIS DATA SHEET**

SAMPLE NO.

GW-81

Contract: R2319165

Lab Code:

Case No.:

SAS No.:

SDG NO.: GW-19

Matrix (soil/water): WATER

Lab Sample ID: 688910

Level (low/med): LOW

Date Received: 11/14/03

Concentration Units (ug/L or mg/kg dry weight):  $\mu\text{G/L}$

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	13900		*	P
7440-36-0	Antimony	60.0	U		P
7440-38-2	Arsenic	31.8			P
7440-39-3	Barium	270			P
7440-41-7	Beryllium	5.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	478000			P
7440-47-3	Chromium	24.1			P
7440-48-4	Cobalt	50.0	U		P
7440-50-8	Copper	22.1			P
7439-89-6	Iron	27500			P
7439-92-1	Lead	92.9		*	P
7439-95-4	Magnesium	93600			P
7439-96-5	Manganese	2200			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	40.0	U		P
7440-09-7	Potassium	41000			P
7782-49-2	Selenium	5.0	U		P
7440-22-4	Silver	10.0	U		P
7440-23-5	Sodium	47100			P
7440-28-0	Thallium	20.0	U		P
7440-62-2	Vanadium	50.0	U		P
7440-66-6	Zinc	151		*	P

Color Before: YELLOW

Clarity Before: CLEAR

Texture:

Color After: YELLOW

Clarity After: CLEAR

Artifacts:

Comments:



**METALS**

-3-

**BLANKS**

Contract: R2319165

Lab Code: Case No.: SAS No.: SDG NO.: GW-19

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L)						Preparation Blank	C	M
			1	C	2	C	3	C			
Aluminum	100.0	U	100.0	U	100.0	U	100.0	U	100.000	U	P
Antimony	60.0	U	60.0	U	60.0	U	60.0	U	60.000	U	P
Arsenic	10.0	U	10.0	U	10.0	U	10.0	U	10.000	U	P
Barium	20.0	U	20.0	U	20.0	U	20.0	U	20.000	U	P
Beryllium	5.0	U	5.0	U	5.0	U	5.0	U	5.000	U	P
Cadmium	5.0	U	5.0	U	5.0	U	5.0	U	5.000	U	P
Calcium	500.0	U	500.0	U	500.0	U	500.0	U	500.000	U	P
Chromium	10.0	U	10.0	U	10.0	U	10.0	U	10.000	U	P
Cobalt	50.0	U	50.0	U	50.0	U	50.0	U	50.000	U	P
Copper	20.0	U	20.0	U	20.0	U	41.7		20.000	U	P
Iron	100.0	U	100.0	U	100.0	U	100.0	U	100.000	U	P
Lead	5.0	U	5.0	U	5.0	U	5.0	U	5.000	U	P
Magnesium	500.0	U	500.0	U	500.0	U	500.0	U	500.000	U	P
Manganese	10.0	U	10.0	U	10.0	U	10.0	U	10.000	U	P
Mercury	0.20	U	0.20	U	0.20	U	0.20	U	0.200	U	CV
Nickel	40.0	U	40.0	U	40.0	U	40.0	U	40.000	U	P
Potassium	2000.0	U	2000.0	U	2000.0	U	2000.0	U	2000.000	U	P
Selenium	5.0	U	5.0	U	5.0	U	5.0	U	5.000	U	P
Silver	10.0	U	10.0	U	10.0	U	10.0	U	10.000	U	P
Sodium	500.0	U	500.0	U	500.0	U	500.0	U	500.000	U	P
Thallium	20.0	U	20.0	U	20.0	U	20.0	U	20.000	U	P
Vanadium	50.0	U	50.0	U	50.0	U	50.0	U	50.000	U	P
Zinc	20.0	U	20.0	U	20.0	U	20.0	U	20.000	U	P



## METALS

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## BLANKS

Contract: R2319165

Lab Code:

Case No.:

SAS No.:

SDG NO.: GW-19

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L)						Preparation Blank	C	M
			1	C	2	C	3	C			
Aluminum			100.0	U	100.0	U	100.0	U			P
Antimony			60.0	U	60.0	U	60.0	U			P
Arsenic			10.0	U	10.0	U	10.0	U			P
Barium			20.0	U	20.0	U	20.0	U			P
Beryllium			5.0	U	5.0	U	5.0	U			P
Cadmium			5.0	U	5.0	U	5.0	U			P
Calcium			500.0	U	500.0	U	500.0	U			P
Chromium			10.0	U	10.0	U	10.0	U			P
Cobalt			50.0	U	50.0	U	50.0	U			P
Copper			20.0	U	20.0	U	20.0	U			P
Iron			100.0	U	100.0	U	100.0	U			P
Lead			5.0	U	5.0	U	5.0	U			P
Magnesium			500.0	U	500.0	U	500.0	U			P
Manganese			10.0	U	10.0	U	10.0	U			P
Mercury			0.20	U	0.20	U	0.20	U			CV
Nickel			40.0	U	40.0	U	40.0	U			P
Potassium			2000.0	U	2000.0	U	2000.0	U			P
Selenium			5.0	U	5.0	U	5.0	U			P
Silver			10.0	U	10.0	U	10.0	U			P
Sodium			500.0	U	500.0	U	500.0	U			P
Thallium			20.0	U	20.0	U	20.0	U			P
Vanadium			50.0	U	50.0	U	50.0	U			P
Zinc			20.0	U	20.0	U	20.0	U			P



## METALS

-3-

## BLANKS

Contract: R2319165

Lab Code:

Case No.:

SAS No.:

SDG NO.: GW-19

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L)						Preparation Blank	C	M
			1	C	2	C	3	C			
Antimony			60.0	U	60.0	U	60.0	U			P
Arsenic			10.0	U	10.0	U	10.0	U			P
Barium			20.0	U	20.0	U	20.0	U			P
Beryllium			5.0	U	5.0	U	5.0	U			P
Cadmium			5.0	U	5.0	U	5.0	U			P
Calcium			500.0	U	500.0	U	500.0	U			P
Chromium			10.0	U	10.0	U	10.0	U			P
Cobalt			50.0	U	50.0	U	50.0	U			P
Copper			20.0	U	20.0	U	20.0	U			P
Iron			100.0	U	100.0	U	100.0	U			P
Lead			5.0	U	5.0	U	5.0	U			P
Magnesium			500.0	U	500.0	U	500.0	U			P
Manganese			10.0	U	10.0	U	10.0	U			P
Nickel			40.0	U	40.0	U	40.0	U			P
Selenium			5.0	U	5.0	U	5.0	U			P
Silver			10.0	U	10.0	U	10.0	U			P
Thallium			20.0	U	20.0	U	20.0	U			P
Vanadium			50.0	U	50.0	U	50.0	U			P
Zinc			20.0	U	20.0	U	20.0	U			P



## METALS

-3-

## BLANKS

Contract: R2319165

Lab Code:

Case No.:

SAS No.:

SDG NO.: GW-19

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L)						Preparation Blank	C	M
			1	C	2	C	3	C			
Antimony			60.0	U	60.0	U	60.0	U			P
Arsenic			10.0	U	10.0	U	10.0	U			P
Barium			20.0	U	20.0	U	20.0	U			P
Beryllium			5.0	U	5.0	U	5.0	U			P
Cadmium			5.0	U	5.0	U	5.0	U			P
Calcium			500.0	U	500.0	U	500.0	U			P
Chromium			10.0	U	10.0	U	10.0	U			P
Cobalt			50.0	U	50.0	U	50.0	U			P
Copper			20.0	U	20.0	U	20.0	U			P
Iron			100.0	U	100.0	U	100.0	U			P
Lead			5.0	U	5.0	U	5.0	U			P
Magnesium			500.0	U	500.0	U	500.0	U			P
Manganese			10.0	U	10.0	U	10.0	U			P
Nickel			40.0	U	40.0	U	40.0	U			P
Selenium			5.0	U	5.0	U	5.0	U			P
Silver			10.0	U	10.0	U	10.0	U			P
Thallium			20.0	U	20.0	U	20.0	U			P
Vanadium			50.0	U	50.0	U	50.0	U			P
Zinc			20.0	U	20.0	U	20.0	U			P



## METALS

-3-

## BLANKS

Contract: R2319165

Lab Code:

Case No.:

SAS No.:

SDG NO.: GW-19

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L)						Preparation Blank	C	M
			1	C	2	C	3	C			
Potassium	2000.0	U	2000.0	U	2000.0	U	2000.0	U			P



## METALS

-5A-

## SPIKE SAMPLE RECOVERY

SAMPLE NO.

GW-18RS

Contract: R2319165

Lab Code:

Case No.:

SAS No.:

SDG NO.: GW-19

Matrix (soil/water): WATER

Level (low/med): LOW

Solids for Sample: 0.0

Concentration Units (ug/L or mg/kg dry weight):  $\mu\text{G/L}$ 

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum		16038.1318		15145.4473		2000.00	44.6		P
Antimony	75 - 125	489.9323		60.0000	U	500.00	98.0		P
Arsenic	75 - 125	72.8589		34.8919		40.00	94.9		P
Barium	75 - 125	2278.8933		284.3503		2000.00	99.7		P
Beryllium	75 - 125	49.9892		5.0000	U	50.00	100.0		P
Cadmium	75 - 125	47.7751		5.0000	U	50.00	95.6		P
Calcium		488256.5938		481577.1250		2000.00	334.0		P
Chromium	75 - 125	221.3936		26.3676		200.00	97.5		P
Cobalt	75 - 125	487.6418		50.0000	U	500.00	97.5		P
Copper	75 - 125	266.4295		22.9516		250.00	97.4		P
Iron		29922.6152		29223.7930		1000.00	69.9		P
Lead	75 - 125	582.7618		100.9003		500.00	96.4		P
Magnesium		98596.5234		95821.9766		2000.00	138.7		P
Manganese		2747.9004		2244.2358		500.00	100.7		P
Mercury	75 - 125	1.1514		0.2000	U	1.00	115.1		CV
Nickel	75 - 125	499.9052		40.0000	U	500.00	100.0		P
Potassium	75 - 125	61640.1641		40535.5078		20000.00	105.5		P
Selenium	75 - 125	990.2570		5.0000	U	1010.00	98.0		P
Silver	75 - 125	46.9298		10.0000	U	50.00	93.9		P
Sodium	75 - 125	67245.3203		45469.2734		20000.00	108.9		P
Thallium	75 - 125	1881.1450		20.0000	U	2000.00	94.1		P
Vanadium	75 - 125	536.8887		50.0000	U	500.00	107.4		P
Zinc	75 - 125	628.2297		161.6609		500.00	93.3		P

Comments:



## METALS

-5B-

## POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.

GW-18RA

Contract: R2319165

Lab Code:

Case No.:

SAS No.:

SDG NO.: GW-19

Matrix (soil/water): WATER

Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR) C	Sample Result (SR) C	Spike Added(SA)	%R	Q	M
Aluminum		16567.31	15145.45	2000.0	71.1		P
Antimony		483.48	60.00 U	500.0	96.7		P
Arsenic		71.91	34.89	40.0	92.6		P
Barium		2199.13	284.35	2000.0	95.7		P
Beryllium		47.96	5.00 U	50.0	95.9		P
Cadmium		45.76	5.00 U	50.0	91.5		P
Calcium		473010.13	481577.13	2000.0	-428.4		P
Chromium		213.45	26.37	200.0	93.5		P
Cobalt		467.83	50.00 U	500.0	93.6		P
Copper		257.94	22.95	250.0	94.0		P
Iron		29604.88	29223.79	1000.0	38.1		P
Lead		560.21	100.90	500.0	91.9		P
Magnesium		95957.13	95821.98	2000.0	6.8		P
Manganese		2672.38	2244.24	500.0	85.6		P
Nickel		482.52	40.00 U	500.0	96.5		P
Potassium		59829.51	40535.51	20000.0	96.5		P
Selenium		1010.86	5.00 U	1010.0	100.1		P
Silver		32.11	10.00 U	50.0	64.2		P
Sodium		65243.34	45469.27	20000.0	98.9		P
Thallium		1804.99	20.00 U	2000.0	90.2		P
Vanadium		518.03	50.00 U	500.0	103.6		P
Zinc		608.15	161.66	500.0	89.3		P

Comments:



## METALS

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## DUPLICATES

SAMPLE NO.

GW-18RD

Contract: R2319165

Lab Code:

Case No.:

SAS No.:

SDG NO.: GW-19

Matrix (soil/water): WATER

Level (low/med): LOW

Solids for Sample: 0.0

% Solids for Duplicate:

Concentration Units (ug/L or mg/kg dry weight):  $\mu\text{G/L}$ 

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum		15145.4473		10148.2549		39.5	*	P
Antimony		60.0000	U	60.0000	U			P
Arsenic	10.0	34.8919		26.4292		27.6		P
Barium		284.3503		238.7126		17.5		P
Beryllium		5.0000	U	5.0000	U			P
Cadmium		5.0000	U	5.0000	U			P
Calcium		481577.1250		471882.9063		2.0		P
Chromium	10.0	26.3676		19.4107		30.4		P
Cobalt		50.0000	U	50.0000	U			P
Copper		22.9516		20.0000	U	200.0		P
Iron		29223.7930		24926.5137		15.9		P
Lead		100.9003		74.5289		30.1	*	P
Magnesium		95821.9766		93486.0234		2.5		P
Manganese		2244.2358		2133.4651		5.1		P
Mercury	0.2	0.2000	U	0.2386		200.0		CV
Nickel		40.0000	U	40.0000	U			P
Potassium		40535.5078		39593.9453		2.4		P
Selenium		5.0000	U	5.0000	U			P
Silver		10.0000	U	10.0000	U			P
Sodium		45469.2734		45933.9844		1.0		P
Thallium		20.0000	U	20.0000	U			P
Vanadium		50.0000	U	50.0000	U			P
Zinc		161.6609		115.2819		33.5	*	P





A FULL SERVICE ENVIRONMENTAL LABORATORY

January 7, 2004

Mr. Glenn Netuschil  
Roux Associates Inc.  
1377 Motor Parkway  
Islandia, NY 11749

PROJECT:HONEYWELL OUTER HARBOR 25203Y04  
Submission #:R2319589

Dear Mr. Netuschil

Enclosed are the analytical results of the analyses requested. All data has been reviewed prior to report submission. Should you have any questions please contact me at (585) 288-5380.

Thank you for letting us provide this service.

Sincerely,

COLUMBIA ANALYTICAL SERVICES

Mark Wilson  
Client Service Manager

Enc.





1 Mustard ST.  
Suite 250  
Rochester, NY 14609  
(585) 288-5380

**THIS IS AN ANALYTICAL TEST REPORT FOR:**

Client : Roux Associates Inc.  
Project Reference: HONEYWELL OUTER HARBOR 25203Y04  
Lab Submission # : R2319589  
Project Manager : Mark Wilson  
Reported : 01/07/04

Report Contains a total of 32 pages

The results reported herein relate only to the samples received by the laboratory. This report may not be reproduced except in full, without the approval of Columbia Analytical Services.

This package has been reviewed by Columbia Analytical Services' QA Department/Laboratory Director to comply with NELAC standards prior to report submittal. *Michael E. Perry*



## **CASE NARRATIVE**

COMPANY: Roux Associates  
PROJECT: Honeywell/Outer Harbor  
SUBMISSION #: R2319589

Water samples were collected on 12/16/03 and received at CAS on 12/17/03 in good condition at cooler temperatures between 0 and 6 °C. See CAS CLP Batching sheets for a cross-reference between Client ID and CAS Job # and analyses requested.

### **INORGANIC ANALYSIS**

Water samples were analyzed the TAL list of Metals using SW-846 protocol. Mercury was analyzed by the cold vapor method 7470A and all other metals were analyzed by ICP method 6010B.

The Blank Spike (Reference Check) recoveries were all within QC limits. The Matrix Spike recoveries from sample GW-18R were all within QC limits of 75 – 125 %. RPD was outside limits for Aluminum, Lead and Zinc.

No analytical or QC problems were encountered.

### **SEMIVOLATILE ORGANICS**

Water samples were analyzed for Nitrobenzene by SW-846 method 8270C SIM Mode.

All Matrix and Blank spike recoveries were within limits. All RPD were within limits. ICP Serial Dilution was outside limits for Aluminum, Chromium and Zinc.

All DFTPP tuning criteria were within acceptance limits.

The initial and continuing calibration criteria were met for all analytes.

All internal standard areas were within QC limits.

All surrogate standard recoveries were within QC limits.

No analytical or QC problems were encountered.



[illegible]





## ORGANIC QUALIFIERS

- U - Indicates compound was analyzed for but not detected. The sample quantitation limit must be corrected for dilution and for percent moisture.
- J - Indicates an estimated value. The flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
- N - Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds, where the identification is based on a mass spectral library search.
- P - This flag is used for a pesticide/Aroclor target analyte when there is a greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on Form I and flagged with a "P".
- C - This flag applies to pesticide results where the identification has been confirmed by GC/MS.
- B - This flag is used when the analyte is found in the associated blank as well as in the sample.
- E - This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
- D - This flag identifies all compounds identified in an analysis at a secondary dilution factor. If a sample or extract is re-analyzed at a higher dilution factor, as in the "E" flag above, the "DL" suffix is appended to the sample number on the Form I for the diluted sample, and ALL concentration values reported on that Form I are flagged with the "D" flag.
- A - This flag indicates that a TIC is a suspected aldol-condensation product.
- X - As specified in Case Narrative.
- \* - This flag identifies compounds associated with a quality control parameter which exceeds laboratory limits.

### **CAS/Rochester Lab ID # for State Certifications**

Army Corp of Engineers Validated  
Delaware Accredited  
Connecticut ID # PH0556  
Florida ID # E87674  
Massachusetts ID # M-NY032  
Navy Facilities Engineering Service Center Approved  
Nebraska Accredited

NELAP Accredited  
New York ID # 10145  
New Jersey ID # NY004  
New Hampshire ID # 294100 A/B  
Pennsylvania Registration 68-786  
Rhode Island ID # 158  
South Carolina ID #91012  
West Virginia ID # 292





## INORGANIC QUALIFIERS

C (Concentration) qualifier –

- B - if the reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL) but was greater than or equal to the Instrument Detection Limit (IDL).
- U - if the analyte was analyzed for, but not detected

Q qualifier - Specified entries and their meanings are as follows:

- D - Spike was diluted out
- E - The reported value is estimated because of the presence of interference.
- J - Estimated Value
- M - Duplicate injection precision not met.
- N - Spiked sample recovery not within control limits.
- S - The reported value was determined by the Method of Standard Additions (MSA).
- W - Post-digestion spike for Furnace AA Analysis is out of control limits (85-115), while sample absorbance is less than 50% of spike absorbance.
- \* - Duplicate analysis not within control limits.
- + - Correlation coefficient for the MSA is less than 0.995.

M (Method) qualifier:

- "P" for ICP
- "A" for Flame AA
- "F" for Furnace AA
- "PM" for ICP when Microwave Digestion is used
- "AM" for Flame AA when Microwave Digestion is used
- "FM" for Furnace M when Microwave Digestion is used
- "CV" for Manual Cold Vapor AA
- "AV" for Automated Cold Vapor AA
- "CA" for Midi-Distillation Spectrophotometric
- "AS" for Semi-Automated Spectrophotometric
- "C" for Manual Spectrophotometric
- "T" for Titrimetric
- " " where no data has been entered
- "NR" if the analyte is not required to be analyzed.

### **CAS/Rochester Lab ID # for State Certifications**

Army Corp of Engineers Validated  
Delaware Accredited  
Connecticut ID # PH0556  
Florida ID # E87674  
Massachusetts ID # M-NY032  
Navy Facilities Engineering Service Center Approved  
Nebraska Accredited  
NELAP Accredited

New York ID # 10145  
New Jersey ID # NY004  
New Hampshire ID # 294100 A/B  
Pennsylvania Registration 68-786  
Rhode Island ID # 158  
South Carolina ID #91012  
West Virginia ID # 292





# CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

One Mustard St., Suite 250 • Rochester, NY 14609-0859 • (585) 288-5380 • 800-895-7222 x11 • FAX (585) 288-8475 PAGE 01 OF 02

SR #

CAS Contact

Project Name		Project Number	ANALYSIS REQUESTED (Include Method Number and Container Preservative)														
Project Manager		Report CC	PRESERVATIVE		ANALYSIS REQUESTED (Include Method Number and Container Preservative)												
Company/Address		Phone #	FAX		NUMBER OF CONTAINERS		ANALYSIS REQUESTED (Include Method Number and Container Preservative)										
209 Shaft St.		11749	681 237 - 9898		2		ANALYSIS REQUESTED (Include Method Number and Container Preservative)										
Islandia N.Y.		11749	681 237 - 9898		2		ANALYSIS REQUESTED (Include Method Number and Container Preservative)										
Sample's Signature		Sample's Printed Name	SAMPLING DATE		TIME		ANALYSIS REQUESTED (Include Method Number and Container Preservative)										
John Huber		John Huber	12/16/03		16:15		ANALYSIS REQUESTED (Include Method Number and Container Preservative)										
CLIENT SAMPLE ID		FOR OFFICE USE ONLY	LAB ID	SAMPLING DATE		TIME		ANALYSIS REQUESTED (Include Method Number and Container Preservative)									
GW-18R			697041	12/16/03		16:15		ANALYSIS REQUESTED (Include Method Number and Container Preservative)									
GW-22			42	12/16/03		16:45		ANALYSIS REQUESTED (Include Method Number and Container Preservative)									
GW-23			43	12/16/03		17:00		ANALYSIS REQUESTED (Include Method Number and Container Preservative)									
GW-19			44	12/16/03		17:15		ANALYSIS REQUESTED (Include Method Number and Container Preservative)									
GW-21			45	12/16/03		17:30		ANALYSIS REQUESTED (Include Method Number and Container Preservative)									
GW-2			46	12/16/03		16:20		ANALYSIS REQUESTED (Include Method Number and Container Preservative)									
MS/MSD				12/16/03		16:20		ANALYSIS REQUESTED (Include Method Number and Container Preservative)									
SPECIAL INSTRUCTIONS/COMMENTS			TURNAROUND REQUIREMENTS			REPORT REQUIREMENTS			INVOICE INFORMATION								
Metals			RUSH (SURCHARGES APPLY)			I. Results Only			PO#								
			24 hr 48 hr 5 day			II. Results + QC Summaries (LCS, DUP, MS/MSD as required)											
See QAPP <input type="checkbox"/>			STANDARD			III. Results + QC and Calibration Summaries			BILL TO:								
			REQUESTED FAX DATE			IV. Data Validation Report with Raw Data											
SAMPLE RECEIPT: CONDITION/Cooler Temp.			REQUESTED REPORT DATE			V. Specialized Forms / Custom Report			SUBMISSION #								
RELINQUISHED BY			RELINQUISHED BY			RELINQUISHED BY			RECEIVED BY								
Signature			Signature			Signature			Signature								
Printed Name			Printed Name			Printed Name			Printed Name								
Firm			Firm			Firm			Firm								
Date/Time			Date/Time			Date/Time			Date/Time								



# Cooler Receipt And Preservation Check Form

Project/Client ROUX Submission Number R2-19589

Cooler received on 12-17-03 by: RE COURIER: CAS UPS FEDEX CD&L CLIENT

1. Were custody seals on outside of cooler? YES NO
2. Were custody papers properly filled out (ink, signed, etc.)? YES NO
3. Did all bottles arrive in good condition (unbroken)? YES NO
4. Did any VOA vials have significant air bubbles? YES NO N/A
5. Were Ice or Ice packs present? YES NO
6. Where did the bottles originate? CAS/ROC CLIENT
7. Temperature of cooler(s) upon receipt: 3°

Is the temperature within 0° - 6° C?: Yes Yes Yes Yes Yes

If No, Explain Below No No No No No

Date/Time Temperatures Taken: 12-17-03 @ 13:59

Thermometer ID: 161 or IR GUN Reading From: Temp Blank or Sample Bottle

If out of Temperature, Client Approval to Run Samples \_\_\_\_\_

Cooler Breakdown: Date: 12-18-03 by: RE

1. Were all bottle labels complete (i.e. analysis, preservation, etc.)? YES NO
2. Did all bottle labels and tags agree with custody papers? YES NO
3. Were correct containers used for the tests indicated? YES NO
4. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated N/A

Explain any discrepancies: \_\_\_\_\_

		YES	NO	Sample I.D.	Reagent	Vol. Added
pH	Reagent					
12	NaOH					
2	HNO <sub>3</sub>	<input checked="" type="checkbox"/>				
2	H <sub>2</sub> SO <sub>4</sub>					
Residual Chlorine (+/-)	for TCN & Phenol					
5-9**	P/PCBs (608 only)					

YES = All samples OK

NO = Samples were preserved at lab as listed

PC OK to adjust pH

\*\*If pH adjustment is required, use NaOH and/or H<sub>2</sub>SO<sub>4</sub>

VOC Vial pH Verification (Tested after Analysis) Following Samples Exhibited pH > 2		

Other Comments:



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270C NITROBENZENE  
Reported: 01/06/04

Roux Associates Inc.

Project Reference: HONEYWELL OUTER HARBOR 25203Y04

Client Sample ID : GW-18R

---

Date Sampled : 12/16/03	Order #: 697041	Sample Matrix: WATER
Date Received: 12/17/03	Submission #: R2319589	Analytical Run 99190

---

ANALYTE	PQL	RESULT	UNITS
---------	-----	--------	-------

---

DATE EXTRACTED	: 12/22/03
DATE ANALYZED	: 12/29/03
ANALYTICAL DILUTION:	0.97

NITROBENZENE	0.20	0.19 U	UG/L
--------------	------	--------	------

<u>SURROGATE RECOVERIES</u>	<u>QC LIMITS</u>		
TERPHENYL-d14	(23 - 139 %)	48	%
NITROBENZENE-d5	(22 - 130 %)	99	%
2-FLUOROBIPHENYL	(27 - 130 %)	65	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270C NITROBENZENE  
Reported: 01/06/04

Roux Associates Inc.

Project Reference: HONEYWELL OUTER HARBOR 25203Y04

Client Sample ID : GW-22

Date Sampled : 12/16/03      Order #: 697042      Sample Matrix: WATER  
Date Received: 12/17/03      Submission #: R2319589      Analytical Run 99190

ANALYTE	PQL	RESULT	UNITS
---------	-----	--------	-------

DATE EXTRACTED : 12/22/03  
DATE ANALYZED : 12/29/03  
ANALYTICAL DILUTION: 1.00

NITROBENZENE	0.20	0.20 U	UG/L
--------------	------	--------	------

SURROGATE RECOVERIES

QC LIMITS

TERPHENYL-d14	(23 - 139 %)	58	%
NITROBENZENE-d5	(22 - 130 %)	106	%
2-FLUOROBIPHENYL	(27 - 130 %)	68	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270C NITROBENZENE  
Reported: 01/06/04

Roux Associates Inc.

Project Reference: HONEYWELL OUTER HARBOR 25203Y04

Client Sample ID : GW-23

Date Sampled : 12/16/03      Order #: 697043      Sample Matrix: WATER  
Date Received: 12/17/03      Submission #: R2319589      Analytical Run 99190

ANALYTE	PQL	RESULT	UNITS
---------	-----	--------	-------

DATE EXTRACTED : 12/22/03  
DATE ANALYZED : 12/29/03  
ANALYTICAL DILUTION: 0.98

NITROBENZENE	0.20	0.20 U	UG/L
--------------	------	--------	------

SURROGATE RECOVERIESQC LIMITS

TERPHENYL-d14	(23 - 139 %)	56	%
NITROBENZENE-d5	(22 - 130 %)	106	%
2-FLUOROBIPHENYL	(27 - 130 %)	68	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270C NITROBENZENE  
Reported: 01/06/04

Roux Associates Inc.

Project Reference: HONEYWELL OUTER HARBOR 25203Y04

Client Sample ID : GW-19

Date Sampled : 12/16/03      Order #: 697044      Sample Matrix: WATER  
Date Received: 12/17/03      Submission #: R2319589      Analytical Run 99190

ANALYTE	PQL	RESULT	UNITS
---------	-----	--------	-------

DATE EXTRACTED : 12/22/03  
DATE ANALYZED : 12/29/03  
ANALYTICAL DILUTION: 1.14

NITROBENZENE	0.20	0.23 U	UG/L
--------------	------	--------	------

SURROGATE RECOVERIES

QC LIMITS

TERPHENYL-d14	(23 - 139 %)	62	%
NITROBENZENE-d5	(22 - 130 %)	100	%
2-FLUOROBIPHENYL	(27 - 130 %)	76	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270C NITROBENZENE  
Reported: 01/06/04

Roux Associates Inc.

Project Reference: HONEYWELL OUTER HARBOR 25203Y04

Client Sample ID : GW-21

Date Sampled : 12/16/03      Order #: 697045      Sample Matrix: WATER  
Date Received: 12/17/03      Submission #: R2319589      Analytical Run 99190

ANALYTE	PQL	RESULT	UNITS
---------	-----	--------	-------

DATE EXTRACTED : 12/22/03  
DATE ANALYZED : 12/29/03  
ANALYTICAL DILUTION: 0.96

NITROBENZENE	0.20	0.19 U	UG/L
--------------	------	--------	------

SURROGATE RECOVERIES

QC LIMITS

TERPHENYL-d14	(23 - 139 %)	54	%
NITROBENZENE-d5	(22 - 130 %)	94	%
2-FLUOROBIPHENYL	(27 - 130 %)	71	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270C NITROBENZENE  
Reported: 01/06/04

Roux Associates Inc.

Project Reference: HONEYWELL OUTER HARBOR 25203Y04

Client Sample ID : GW-2

Date Sampled : 12/16/03      Order #: 697046      Sample Matrix: WATER  
Date Received: 12/17/03      Submission #: R2319589      Analytical Run 99190

ANALYTE	PQL	RESULT	UNITS
---------	-----	--------	-------

DATE EXTRACTED : 12/22/03  
DATE ANALYZED : 12/29/03  
ANALYTICAL DILUTION: 0.97

NITROBENZENE	0.20	0.19 U	UG/L
--------------	------	--------	------

SURROGATE RECOVERIES

QC LIMITS

TERPHENYL-d14	(23 - 139 %)	58	%
NITROBENZENE-d5	(22 - 130 %)	104	%
2-FLUOROBIPHENYL	(27 - 130 %)	76	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270C NITROBENZENE  
Reported: 01/06/04

Project Reference:  
Client Sample ID : METHOD BLANK

Date Sampled :	Order #: 699072	Sample Matrix: WATER
Date Received:	Submission #:	Analytical Run 99190

ANALYTE	PQL	RESULT	UNITS
---------	-----	--------	-------

DATE EXTRACTED : 12/22/03  
DATE ANALYZED : 12/29/03  
ANALYTICAL DILUTION: 1.00

NITROBENZENE	0.20	0.20 U	UG/L
--------------	------	--------	------

SURROGATE RECOVERIES

QC LIMITS

TERPHENYL-d14	(23 - 139 %)	51	%
NITROBENZENE-d5	(22 - 130 %)	84	%
2-FLUOROBIPHENYL	(27 - 130 %)	63	%



COLUMBIA ANALYTICAL SERVICES

QUALITY CONTROL SUMMARY    MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY  
WATER

Spiked Order No. :    697041    Roux Associates Inc.

Client ID: GW-18R

Test: 8270C NITROBENZENE

Analytical Units:    UG/L

Run Number        :    99190

ANALYTE	SPIKE ADDED	CONCENT. SAMPLE	MATRIX SPIKE		MATRIX SPIKE DUP.				QC LIMITS	
			FOUND	% REC.	FOUND	% REC.	RPD	RPD	REC.	
NITROBENZENE	1.00	0	1.30	130	1.30	130	0	30	50 - 150	



COLUMBIA ANALYTICAL SERVICES

QUALITY CONTROL SUMMARY    LABORATORY CONTROL SAMPLE  
WATER

Spiked Order No. :    699073

Client ID:

Test: 8270C NITROBENZENE

Analytical Units:        UG/L

Run Number            :       99190

ANALYTE	SPIKE ADDED	SAMPLE CONCENT.	BLANK SPIKE		QC LIMITS
			FOUND	% REC.	REC.
NITROBENZENE	1.00	0	0.930	93	49 - 130



Data File Name AE835.D

Data File Path J:\ACQUDATA\5973C\DATA\122903\

Date Acquired 12/29/2003 12:27

Sample Name 699073 1.0

Instrument Name 5973C

#	Name	Amount	Units	Amount spik		% REC.	F or P	Limits
				ppm				
2)	Analine	0.06	ppb	1		6%	NA	NA
3)	SURR4,Nitrobenzene	0.92	ppb	1		92%	P	22-124
4)	Nitrobenzene	0.93	ppb	1		93%	NA	NA
5)	Naphthalene	0.77	ppb	1		77%	P	39-109
6)	2-Methylnaphthalene	0.79	ppb	1		79%	NA	NA
7)	1-Methylnaphthalene	0.80	ppb	1		80%	NA	NA
9)	SURR5,2-Fluorobiphenyl	0.69	ppb	1		69%	P	27-114
10)	Acenaphthylene	0.80	ppb	1		80%	P	45-122
11)	Acenaphthene	0.81	ppb	1		81%	P	49-116
12)	Dibenzofuran	0.84	ppb	1		84%	NA	NA
13)	Fluorene	0.88	ppb	1		88%	P	48-122
14)	Hexachlorobenzene	0.74	ppb	1		74%	NA	NA
16)	Phenanthrene	0.90	ppb	1		90%	P	47-128
17)	Anthracene	0.82	ppb	1		82%	P	54-120
18)	Carbazol	0.93	ppb	1		93%	NA	NA
19)	Fluoranthene	1.04	ppb	1		104%	P	56-121
21)	Pyrene	0.79	ppb	1		79%	P	60-113
22)	SURR6,Terphenyl-d14	0.82	ppb	1		82%	P	23-139
23)	Benzo(a)anthracene	0.87	ppb	1		87%	P	61-116
24)	Chrysene	0.87	ppb	1		87%	P	60-117
25)	Bis(2-Ethylhexyl)Phthalate	1.32	ppb	1				
27)	Benzo(b)Fluoranthene	0.87	ppb	1		87%	P	60-116
28)	Benzo(k)Fluoranthene	0.87	ppb	1		87%	P	54-120
29)	Benzo(a)pyrene	0.77	ppb	1		77%	P	60-118
30)	Indeno(1,2,3-cd)Pyrene	0.76	ppb	1		76%	P	50-125
31)	Dibenz(a,h)anthracene	0.76	ppb	1		76%	P	31-139
32)	Benzo(g,h,i)perylene	0.73	ppb	1		73%	P	50-125



METALS  
COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Contract: R2319589 SDG No.: GW-18R  
Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_  
SOW No.: SW846 CLP-M Client: Roux Associates Inc.

<u>Sample No.</u>	<u>Lab Sample ID.</u>
<u>GW-18R</u>	<u>697041</u>
<u>GW-18RD</u>	<u>697041D</u>
<u>GW-18RS</u>	<u>697041S</u>
<u>GW-22</u>	<u>697042</u>
<u>GW-23</u>	<u>697043</u>
<u>GW-19</u>	<u>697044</u>
<u>GW-21</u>	<u>697045</u>
<u>GW-2</u>	<u>697046</u>

Were ICP interelement corrections applied? Yes/No YES  
Were ICP background corrections applied? Yes/No YES  
If yes-were raw data generated before application of background corrections? Yes/No NO

Comments: See Attached Case Narrative

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Michael K. Perry Name: Michael K. Perry  
Date: 1/12/04 Title: Laboratory Manager 18



## METALS

-1-

## INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

GW-18R

Contract: R2319589

Lab Code:

Case No.:

SAS No.:

SDG NO.: GW-18R

Matrix (soil/water): WATER

Lab Sample ID: 697041

Level (low/med): LOW

Date Received: 12/17/03

Concentration Units (ug/L or mg/kg dry weight):  $\mu\text{G/L}$ 

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11300		E	P
7440-36-0	Antimony	3.2	B		P
7440-38-2	Arsenic	33.1			P
7440-39-3	Barium	235			P
7440-41-7	Beryllium	0.13	U		P
7440-43-9	Cadmium	0.56	B		P
7440-70-2	Calcium	445000			P
7440-47-3	Chromium	20.2		E	P
7440-48-4	Cobalt	7.8	B		P
7440-50-8	Copper	15.6	B		P
7439-89-6	Iron	23300			P
7439-92-1	Lead	91.7			P
7439-95-4	Magnesium	91100			P
7439-96-5	Manganese	2420			P
7439-97-6	Mercury	0.14	B		CV
7440-02-0	Nickel	22.5	B		P
7440-09-7	Potassium	26000			P
7782-49-2	Selenium	3.5	U		P
7440-22-4	Silver	0.53	U		P
7440-23-5	Sodium	37500			P
7440-28-0	Thallium	7.9	U		P
7440-62-2	Vanadium	27.1	B		P
7440-66-6	Zinc	203		E	P

Color Before: BROWN

Clarity Before: CLOUDY

Texture:

Color After: YELLOW

Clarity After: CLOUDY

Artifacts:

Comments:



## METALS

-1-

## INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

GW-19

Contract: R2319589

Lab Code: Case No.: SAS No.: SDG NO.: GW-18R

Matrix (soil/water): WATER Lab Sample ID: 697044

Level (low/med): LOW Date Received: 12/17/03

Concentration Units (ug/L or mg/kg dry weight):  $\mu\text{G/L}$ 

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1960		E	P
7440-36-0	Antimony	3.1	U		P
7440-38-2	Arsenic	3.2	B		P
7440-39-3	Barium	30.0			P
7440-41-7	Beryllium	0.13	U		P
7440-43-9	Cadmium	0.17	B		P
7440-70-2	Calcium	81900			P
7440-47-3	Chromium	59.9		E	P
7440-48-4	Cobalt	0.64	U		P
7440-50-8	Copper	2.3	U		P
7439-89-6	Iron	312			P
7439-92-1	Lead	1.5	B		P
7439-95-4	Magnesium	383	B		P
7439-96-5	Manganese	8.3	B		P
7439-97-6	Mercury	0.06	B		CV
7440-02-0	Nickel	2.0	B		P
7440-09-7	Potassium	328000			P
7782-49-2	Selenium	13.6			P
7440-22-4	Silver	0.53	U		P
7440-23-5	Sodium	21700			P
7440-28-0	Thallium	4.0	U		P
7440-62-2	Vanadium	18.4	B		P
7440-66-6	Zinc	7.0	B	E	P

Color Before: BROWN

Clarity Before: CLEAR

Texture:

Color After: YELLOW

Clarity After: CLEAR

Artifacts:

Comments:



## METALS

-1-

## INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

GW-2

Contract: R2319589

Lab Code:

Case No.:

SAS No.:

SDG NO.: GW-18R

Matrix (soil/water): WATER

Lab Sample ID: 697046

Level (low/med): LOW

Date Received: 12/17/03

Concentration Units (ug/L or mg/kg dry weight):  $\mu\text{G/L}$ 

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1980		E	P
7440-36-0	Antimony	3.1	U		P
7440-38-2	Arsenic	4.0	B		P
7440-39-3	Barium	29.6			P
7440-41-7	Beryllium	0.13	U		P
7440-43-9	Cadmium	0.15	B		P
7440-70-2	Calcium	82200			P
7440-47-3	Chromium	60.3		E	P
7440-48-4	Cobalt	0.64	U		P
7440-50-8	Copper	2.3	U		P
7439-89-6	Iron	348			P
7439-92-1	Lead	2.2	B		P
7439-95-4	Magnesium	316	B		P
7439-96-5	Manganese	8.3	B		P
7439-97-6	Mercury	0.06	B		CV
7440-02-0	Nickel	2.1	B		P
7440-09-7	Potassium	328000			P
7782-49-2	Selenium	15.1			P
7440-22-4	Silver	0.53	U		P
7440-23-5	Sodium	21100			P
7440-28-0	Thallium	4.0	U		P
7440-62-2	Vanadium	18.2	B		P
7440-66-6	Zinc	8.0	B	E	P

Color Before: BROWN

Clarity Before: CLEAR

Texture:

Color After: YELLOW

Clarity After: CLEAR

Artifacts:

Comments:



## METALS

-1-

## INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

GW-21

Contract: R2319589

Lab Code:

Case No.:

SAS No.:

SDG NO.: GW-18R

Matrix (soil/water): WATER

Lab Sample ID: 697045

Level (low/med): LOW

Date Received: 12/17/03

Concentration Units (ug/L or mg/kg dry weight): µG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	43.1	B	E	P
7440-36-0	Antimony	3.1	U		P
7440-38-2	Arsenic	2.5	U		P
7440-39-3	Barium	55.5			P
7440-41-7	Beryllium	0.13	U		P
7440-43-9	Cadmium	0.15	U		P
7440-70-2	Calcium	49900			P
7440-47-3	Chromium	1.1	B	E	P
7440-48-4	Cobalt	0.64	U		P
7440-50-8	Copper	2.3	U		P
7439-89-6	Iron	28.4	B		P
7439-92-1	Lead	1.8	B		P
7439-95-4	Magnesium	5650			P
7439-96-5	Manganese	2.8	B		P
7439-97-6	Mercury	0.04	B		CV
7440-02-0	Nickel	1.1	U		P
7440-09-7	Potassium	21100			P
7782-49-2	Selenium	3.5	U		P
7440-22-4	Silver	0.53	U		P
7440-23-5	Sodium	14000			P
7440-28-0	Thallium	4.0	U		P
7440-62-2	Vanadium	2.7	B		P
7440-66-6	Zinc	3.2	B	E	P

Color Before: BROWN

Clarity Before: CLEAR

Texture:

Color After: YELLOW

Clarity After: CLEAR

Artifacts:

Comments:



METALS  
-1-  
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

GW-22

Contract: R2319589

Lab Code:

Case No.:

SAS No.:

SDG NO.: GW-18R

Matrix (soil/water): WATER

Lab Sample ID: 697042

Level (low/med): LOW

Date Received: 12/17/03

Concentration Units (ug/L or mg/kg dry weight):  $\mu\text{G/L}$ 

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1420		E	P
7440-36-0	Antimony	7.7	B		P
7440-38-2	Arsenic	2.5	U		P
7440-39-3	Barium	94.2			P
7440-41-7	Beryllium	0.13	U		P
7440-43-9	Cadmium	2.1	B		P
7440-70-2	Calcium	370000			P
7440-47-3	Chromium	5.7	B	E	P
7440-48-4	Cobalt	2.3	B		P
7440-50-8	Copper	17.3	B		P
7439-89-6	Iron	17300			P
7439-92-1	Lead	27.9			P
7439-95-4	Magnesium	111000			P
7439-96-5	Manganese	1240			P
7439-97-6	Mercury	0.07	B		CV
7440-02-0	Nickel	17.7	B		P
7440-09-7	Potassium	28100			P
7782-49-2	Selenium	3.5	U		P
7440-22-4	Silver	0.53	U		P
7440-23-5	Sodium	51200			P
7440-28-0	Thallium	4.0	U		P
7440-62-2	Vanadium	4.1	B		P
7440-66-6	Zinc	32.0		E	P

Color Before: BROWN

Clarity Before: CLEAR

Texture:

Color After: YELLOW

Clarity After: CLEAR

Artifacts:

Comments:



METALS  
-1-  
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

GW-23

Contract: R2319589

Lab Code:

Case No.:

SAS No.:

SDG NO.: GW-18R

Matrix (soil/water): WATER

Lab Sample ID: 697043

Level (low/med): LOW

Date Received: 12/17/03

Concentration Units (ug/L or mg/kg dry weight):  $\mu\text{G/L}$ 

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	312		E	P
7440-36-0	Antimony	25.4	B		P
7440-38-2	Arsenic	4.9	B		P
7440-39-3	Barium	220			P
7440-41-7	Beryllium	0.13	U		P
7440-43-9	Cadmium	0.75	B		P
7440-70-2	Calcium	284000			P
7440-47-3	Chromium	3.6	B	E	P
7440-48-4	Cobalt	1.9	B		P
7440-50-8	Copper	2.3	U		P
7439-89-6	Iron	5600			P
7439-92-1	Lead	11.2			P
7439-95-4	Magnesium	75800			P
7439-96-5	Manganese	918			P
7439-97-6	Mercury	0.04	B		CV
7440-02-0	Nickel	10.2	B		P
7440-09-7	Potassium	45600			P
7782-49-2	Selenium	3.5	U		P
7440-22-4	Silver	0.53	U		P
7440-23-5	Sodium	48100			P
7440-28-0	Thallium	4.0	U		P
7440-62-2	Vanadium	1.9	B		P
7440-66-6	Zinc	6.7	B	E	P

Color Before: BROWN

Clarity Before: CLEAR

Texture:

Color After: YELLOW

Clarity After: CLEAR

Artifacts:

Comments:



## METALS

-3-

## BLANKS

Contract: R2319589

Lab Code:

Case No.:

SAS No.:

SDG NO.: GW-18R

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	Continuing Calibration Blank (ug/L)						Preparation Blank			M
		1	C	2	C	3	C				
Aluminum	8.5	U		8.5	U	8.5	U	27.541	B		P
Antimony	4.5	B		4.7	B	6.3	B	3.070	U		P
Arsenic	2.5	U		2.5	U	2.5	U	2.490	U		P
Barium	3.4	B		3.2	U	3.2	U	3.230	U		P
Beryllium	0.1	U		0.2	B	0.1	U	0.129	U		P
Cadmium	0.2	U		0.2	B	0.2	U	0.149	U		P
Calcium	31.8	U		44.8	B	31.8	U	31.800	U		P
Chromium	0.2	U		0.2	U	0.2	U	0.438	B		P
Cobalt	0.6	U		0.9	B	0.8	B	0.637	U		P
Copper	2.3	U		-2.5	B	-5.2	B	-5.616	B		P
Iron	24.3	U		25.6	B	24.3	U	24.300	U		P
Lead	1.3	U		1.3	U	1.3	U	1.260	U		P
Magnesium	41.6	U		41.6	U	41.6	U	41.600	U		P
Manganese	0.8	U		0.8	U	0.8	U	0.806	U		P
Mercury	0.03	U		0.03	U	0.03	U	0.027	U		CV
Nickel	1.2	U		1.2	B	1.2	U	1.150	U		P
Potassium	193.0	U		193.0	U	193.0	U	193.000	U		P
Selenium	3.5	U		3.5	U	3.5	U	3.460	U		P
Silver	0.5	U		0.5	U	0.5	U	0.528	U		P
Sodium	79.4	U		79.4	U	79.4	U	79.400	U		P
Thallium	4.0	U		4.0	U	4.0	U	3.970	U		P
Vanadium	1.0	U		1.0	U	1.0	U	0.989	U		P
Zinc	2.0	U		2.0	U	2.0	U	2.010	U		P



## METALS

-3-

## BLANKS

Contract: R2319589

Lab Code:

Case No.:

SAS No.:

SDG NO.: GW-18R

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	Continuing Calibration Blank (ug/L)						Preparation Blank	C	M
		1	C	2	C	3	C			
Aluminum		8.5	U							P
Antimony		3.5	B	4.3	B					P
Arsenic		2.5	U	2.5	U					P
Barium		3.2	U	4.0	B					P
Beryllium		0.1	U	0.2	B					P
Cadmium		0.2	U	0.2	U					P
Calcium		31.8	U	31.8	U					P
Chromium		0.2	U	0.2	U					P
Cobalt		0.6	B	1.3	B					P
Copper		-5.2	B	2.3	U					P
Iron		24.3	U	24.3	U					P
Lead		1.3	U	1.3	U					P
Magnesium		41.6	U	41.6	U					P
Manganese		0.8	U	0.8	U					P
Mercury		0.03	U	0.03	U	0.03	U			CV
Nickel		1.2	U	1.2	U					P
Potassium		193.0	U							P
Selenium		3.5	U	3.5	U					P
Silver		0.5	U	0.6	B					P
Sodium		79.4	U							P
Thallium		4.0	U	4.0	U					P
Vanadium		1.0	U	1.0	U					P
Zinc		2.0	U	2.0	U					P



## METALS

-3-

## BLANKS

Contract: R2319589

Lab Code:

Case No.:

SAS No.:

SDG NO.: GW-18RPreparation Blank Matrix (soil/water): WATERPreparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank		M
		C	1	C	2	C	3	C		C	
Potassium	193.0	U	193.0	U	193.0	U	193.0	U			P
Thallium	4.0	U	4.0	U	4.0	U	4.0	U			P



## METALS

-3-

## BLANKS

Contract: R2319589

Lab Code:

Case No.:

SAS No.:

SDG NO.: GW-18RPreparation Blank Matrix (soil/water): WATERPreparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L)						Preparation Blank	C	M
			1	C	2	C	3	C			
Thallium			4.0	U	4.0	U	4.0	U			P



## METALS

-3-

## BLANKS

Contract: R2319589

Lab Code:

Case No.:

SAS No.:

SDG NO.: GW-18RPreparation Blank Matrix (soil/water): WATERPreparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	Continuing Calibration Blank (ug/L)						Preparation Blank		M
		C	1	C	2	C	3	C		
Thallium			4.0	U						P



**METALS**  
**-5A-**  
**SPIKE SAMPLE RECOVERY**

SAMPLE NO.

GW-18RS

Contract: R2319589

Lab Code:

Case No.:

SAS No.:

SDG NO.: GW-18R

Matrix (soil/water): WATER

Level (low/med): LOW

% Solids for Sample: 0.0

Concentration Units (ug/L or mg/kg dry weight):  $\mu\text{G/L}$ 

Analyte	Control Limit %R	Spiked Sample Result (SSR) C	Sample Result (SR) C	Spike Added (SA)	%R	Q	M
Aluminum		16460.6719	11321.3242	2000.00	257.0		P
Antimony	75 - 125	508.9500	3.1715 B	500.00	101.2		P
Arsenic	75 - 125	80.6079	33.1145	40.00	118.7		P
Barium	75 - 125	2320.6091	234.6917	2000.00	104.3		P
Beryllium	75 - 125	50.0526	0.1290 U	50.00	100.1		P
Cadmium	75 - 125	49.3057	0.5623 B	50.00	97.5		P
Calcium		438402.3750	445377.7188	2000.00	-348.8		P
Chromium	75 - 125	227.5842	20.1615	200.00	103.7		P
Cobalt	75 - 125	505.2429	7.8446 B	500.00	99.5		P
Copper	75 - 125	264.5368	15.6382 B	250.00	99.6		P
Iron		29992.3828	23266.3359	1000.00	672.6		P
Lead	75 - 125	585.8054	91.7255	500.00	98.8		P
Magnesium		92592.3047	91115.7969	2000.00	73.8		P
Manganese		2911.6731	2418.0176	500.00	98.7		P
Mercury	75 - 125	1.1775	0.1378 B	1.00	104.0		CV
Nickel	75 - 125	520.2729	22.5315 B	500.00	99.5		P
Potassium	75 - 125	45487.8984	25989.9258	20000.00	97.5		P
Selenium	75 - 125	1033.8480	3.4600 U	1010.00	102.4		P
Silver	75 - 125	48.8051	0.5280 U	50.00	97.6		P
Sodium	75 - 125	55504.4023	37504.7109	20000.00	90.0		P
Thallium	75 - 125	1960.3329	7.9400 U	2000.00	98.0		P
Vanadium	75 - 125	545.5784	27.1062 B	500.00	103.7		P
Zinc	75 - 125	703.0920	202.9948	500.00	100.0		P

Comments:



**METALS**  
**-5B-**  
**POST DIGEST SPIKE SAMPLE RECOVERY**

SAMPLE NO.

GW-18RA

Contract: R2319589

Lab Code:

Case No.:

SAS No.:

SDG NO.: GW-18R

Matrix (soil/water): WATER

Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR) C	Sample Result (SR) C	Spike Added(SA)	%R	Q	M
Aluminum		11879.36	11321.32	2000.0	27.9		P
Antimony		488.67	3.17 B	500.0	97.1		P
Arsenic		69.78	33.11	40.0	91.7		P
Barium		2145.03	234.69	2000.0	95.5		P
Beryllium		47.21	0.13 U	50.0	94.4		P
Cadmium		46.16	0.56 B	50.0	91.2		P
Calcium		435483.72	445377.72	2000.0	-494.7		P
Chromium		208.62	20.16	200.0	94.2		P
Cobalt		472.19	7.84 B	500.0	92.9		P
Copper		248.62	15.64 B	250.0	93.2		P
Iron		23688.19	23266.34	1000.0	42.2		P
Lead		551.06	91.73	500.0	91.9		P
Magnesium		91129.65	91115.80	2000.0	0.7		P
Manganese		2843.51	2418.02	500.0	85.1		P
Nickel		483.82	22.53 B	500.0	92.3		P
Potassium		43582.39	25989.93	20000.0	88.0		P
Selenium		1034.70	3.46 U	1010.0	102.4		P
Silver		45.39	0.53 U	50.0	90.8		P
Sodium		54786.81	37504.71	20000.0	86.4		P
Thallium		1936.73	3.97 U	2000.0	96.8		P
Vanadium		505.44	27.11 B	500.0	95.7		P
Zinc		653.94	202.99	500.0	90.2		P

Comments:



## METALS

-6-

## DUPLICATES

SAMPLE NO.

GW-18RD

Contract: R2319589

Lab Code:

Case No.:

SAS No.:

SDG NO.: GW-18R

Matrix (soil/water): WATER

Level (low/med): LOW

% Solids for Sample: 0.0

% Solids for Duplicate:

Concentration Units (ug/L or mg/kg dry weight):  $\mu\text{G/L}$ 

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum		11321.3242		13491.5977		17.5		P
Antimony		3.1715	B	3.0700	U	200.0		P
Arsenic	10.0	33.1145		37.8645		13.4		P
Barium		234.6917		267.8068		13.2		P
Beryllium		0.1290	U	0.1290	U			P
Cadmium		0.5623	B	0.5582	B	0.7		P
Calcium		445377.7188		437921.0938		1.7		P
Chromium	10.0	20.1615		24.8906		21.0		P
Cobalt		7.8446	B	9.1634	B	15.5		P
Copper		15.6382	B	18.6206	B	17.4		P
Iron		23266.3359		27474.4668		16.6		P
Lead		91.7255		93.9829		2.4		P
Magnesium		91115.7969		90589.2422		0.6		P
Manganese		2418.0176		2413.3818		0.2		P
Mercury		0.1378	B	0.1530	B	10.5		CV
Nickel		22.5315	B	25.8959	B	13.9		P
Potassium		25989.9258		25741.0156		1.0		P
Selenium		3.4600	U	3.4600	U			P
Silver		0.5280	U	0.5280	U			P
Sodium		37504.7109		36608.1055		2.4		P
Thallium		7.9400	U	7.9400	U			P
Vanadium		27.1062	B	32.9170	B	19.4		P
Zinc		202.9948		214.7517		5.6		P



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270 NITROBENZENE  
Reported: 11/10/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203Y04

Client Sample ID : PTSB-25 12-14'

Date Sampled : 10/21/03      Order #: 682125      Sample Matrix: SOIL/SEDIMENT  
Date Received: 10/23/03      Submission #: R2318866      Percent Solid: 78.3

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 10/23/03			
DATE ANALYZED : 10/24/03			
ANALYTICAL DILUTION: 200.00			Dry Weight
NITROBENZENE	330	1000000	UG/KG
SURROGATE RECOVERIES	QC LIMITS		
TERPHENYL-d14	(18 - 137 %)	D	%
NITROBENZENE-d5	(23 - 120 %)	D	%
2-FLUOROBIPHENYL	(30 - 115 %)	D	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270 NITROBENZENE  
Reported: 11/10/03

Project Reference:  
Client Sample ID : METHOD BLANK

Date Sampled :	Order #: 682458	Sample Matrix: SOIL/SEDIMENT
Date Received:	Submission #:	Percent Solid: 100

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 10/23/03			
DATE ANALYZED : 10/24/03			
ANALYTICAL DILUTION: 1.00			Dry Weight
NITROBENZENE	330	330 U	UG/KG
SURROGATE RECOVERIES	QC LIMITS		
TERPHENYL-d14	(18 - 137 %)	109	%
NITROBENZENE-d5	(23 - 120 %)	82	%
2-FLUOROBIPHENYL	(30 - 115 %)	75	%



COLUMBIA ANALYTICAL SERVICES

QUALITY CONTROL SUMMARY    MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY  
SOIL/SEDIMENT

Spiked Order No. :    682116    Roux Associates Inc.

Client ID: PTB-29 0-8'

Test: 8270 NITROBENZENE

Analytical Units:    UG/KG

Run Number        :    96866

Percent Solid    :    72.8

ANALYTE	SPIKE ADDED	CONCENT. SAMPLE	MATRIX SPIKE		MATRIX SPIKE DUP.				QC LIMITS	
			FOUND	% REC.	FOUND	% REC.	RPD	RPD	REC.	
NITROBENZENE	4570	1650000	1650000	D	1650000	D	0	30	46 - 102	



COLUMBIA ANALYTICAL SERVICES

QUALITY CONTROL SUMMARY:      LABORATORY CONTROL SAMPLE  
   SOIL/SEDIMENT

Spiked Order No. :    682459

Dup Spiked Order No. :    682460

Client ID:

Test: 8270 NITROBENZENE

Analytical Units:    UG/KG

Run Number        :    96866

ANALYTE	SPIKE	SAMPLE	BLANK SPIKE		BLANK SPIKE DUP.				QC LIMITS	
	ADDED	CONCENT.	FOUND	REC.	FOUND	REC.	RPD	RPD	REC.	
NITROBENZENE	3300	0	3400	102	3300	99	3	30	46 - 102	



COLUMBIA ANALYTICAL SERVICES

Reported: 11/10/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203Y04

Client Sample ID : PTSB-30 14-16'

Date Sampled : 10/20/03

Order #: 682115

Sample Matrix: SOIL/SEDIMENT

Date Received: 10/23/03

Submission #: R2318866

ANALYTE	METHOD	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	TIME ANALYZED	DILUTION
PERCENT SOLIDS	160.0	1.0	72.6	%	10/27/03	09:51	1.0



COLUMBIA ANALYTICAL SERVICES

Reported: 11/10/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203Y04

Client Sample ID : PTSB-29 0-8'

Date Sampled : 10/21/03

Order #: 682116

Sample Matrix: SOIL/SEDIMENT

Date Received: 10/23/03

Submission #: R2318866

ANALYTE	METHOD	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	TIME ANALYZED	DILUTION
PERCENT SOLIDS	160.0	1.0	72.8	%	10/27/03	09:51	1.0



COLUMBIA ANALYTICAL SERVICES

Reported: 11/10/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203Y04

Client Sample ID : PTSB-24 0-8'

Date Sampled : 10/21/03

Order #: 682117

Sample Matrix: SOIL/SEDIMENT

Date Received: 10/23/03

Submission #: R2318866

ANALYTE	METHOD	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	TIME ANALYZED	DILUTION
PERCENT SOLIDS	160.0	1.0	70.7	%	10/27/03	09:51	1.0



COLUMBIA ANALYTICAL SERVICES

Reported: 11/10/03

Roux Associates Inc.  
Project Reference: HONEYWELL/OUTER HARBOR 25203Y04  
Client Sample ID : PTSB-28 12-14'

Date Sampled : 10/21/03	Order #: 682118	Sample Matrix: SOIL/SEDIMENT
Date Received: 10/23/03	Submission #: R2318866	

ANALYTE	METHOD	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	TIME ANALYZED	DILUTION
PERCENT SOLIDS	160.0	1.0	73.2	%	10/27/03	09:51	1.0



COLUMBIA ANALYTICAL SERVICES

Reported: 11/10/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203Y04

Client Sample ID : PTSB-29 14-16'

Date Sampled : 10/21/03

Order #: 682119

Sample Matrix: SOIL/SEDIMENT

Date Received: 10/23/03

Submission #: R2318866

ANALYTE	METHOD	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	TIME ANALYZED	DILUTION
PERCENT SOLIDS	160.0	1.0	77.0	%	10/27/03	09:51	1.0



COLUMBIA ANALYTICAL SERVICES

Reported: 11/10/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203Y04

Client Sample ID : PTSB-27 16-18'

Date Sampled : 10/21/03

Order #: 682120

Sample Matrix: SOIL/SEDIMENT

Date Received: 10/23/03

Submission #: R2318866

ANALYTE	METHOD	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	TIME ANALYZED	DILUTION
PERCENT SOLIDS	160.0	1.0	77.2	%	10/27/03	09:51	1.0



COLUMBIA ANALYTICAL SERVICES

Reported: 11/10/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203Y04

Client Sample ID : PTSB-31 8-10'

Date Sampled : 10/21/03

Order #: 682121

Sample Matrix: SOIL/SEDIMENT

Date Received: 10/23/03

Submission #: R2318866

ANALYTE	METHOD	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	TIME ANALYZED	DILUTION
PERCENT SOLIDS	160.0	1.0	77.1	%	10/27/03	09:51	1.0



COLUMBIA ANALYTICAL SERVICES

Reported: 11/10/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203Y04

Client Sample ID : PTSB-24 12-14'

Date Sampled : 10/21/03

Order #: 682122

Sample Matrix: SOIL/SEDIMENT

Date Received: 10/23/03

Submission #: R2318866

ANALYTE	METHOD	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	TIME ANALYZED	DILUTION
PERCENT SOLIDS	160.0	1.0	77.4	%	10/27/03	09:51	1.0



COLUMBIA ANALYTICAL SERVICES

Reported: 11/10/03

Roux Associates Inc.  
Project Reference: HONEYWELL/OUTER HARBOR 25203Y04  
Client Sample ID : PTSB-31 0-8'

Date Sampled : 10/21/03	Order #: 682123	Sample Matrix: SOIL/SEDIMENT
Date Received: 10/23/03	Submission #: R2318866	

ANALYTE	METHOD	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	TIME ANALYZED	DILUTION
PERCENT SOLIDS	160.0	1.0	70.2	%	10/27/03	09:51	1.0



COLUMBIA ANALYTICAL SERVICES

Reported: 11/10/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203Y04

Client Sample ID : PTSB-26 10-12'

Date Sampled : 10/21/03

Order #: 682124

Sample Matrix: SOIL/SEDIMENT

Date Received: 10/23/03

Submission #: R2318866

ANALYTE	METHOD	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	TIME ANALYZED	DILUTION
PERCENT SOLIDS	160.0	1.0	75.0	%	10/27/03	09:51	1.0



COLUMBIA ANALYTICAL SERVICES

Reported: 11/10/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203Y04

Client Sample ID : PTSB-25 12-14'

Date Sampled : 10/21/03

Order #: 682125

Sample Matrix: SOIL/SEDIMENT

Date Received: 10/23/03

Submission #: R2318866

ANALYTE	METHOD	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	TIME ANALYZED	DILUTION
PERCENT SOLIDS	160.0	1.0	78.3	%	10/27/03	09:51	1.0





A FULL SERVICE ENVIRONMENTAL LABORATORY

August 28, 2003

Mr. Glenn Netuschil  
Roux Associates Inc.  
1377 Motor Parkway  
Islandia, NY 11788

PROJECT:HONEYWELL/OUTER HARBOR 25203Y04  
Submission #:R2317833

Dear Mr. Netuschil

Enclosed are the analytical results of the analyses requested. All data has been reviewed prior to report submission. Should you have any questions please contact me at (585) 288-5380.

Thank you for letting us provide this service.

Sincerely,

COLUMBIA ANALYTICAL SERVICES

A handwritten signature in black ink, appearing to read 'Mark Wilson', is written over the typed name.

Mark Wilson  
Client Service Manager

Enc.





1 Mustard ST.  
Suite 250  
Rochester, NY 14609  
(585) 288-5380

**THIS IS AN ANALYTICAL TEST REPORT FOR:**

Client : Roux Associates Inc.  
Project Reference: HONEYWELL/OUTER HARBOR 25203Y04  
Lab Submission # : R2317833  
Project Manager : Mark Wilson  
Reported : 08/28/03

Report Contains a total of 32 pages

The results reported herein relate only to the samples received by the laboratory. This report may not be reproduced except in full, without the approval of Columbia Analytical Services.

This package has been reviewed by Columbia Analytical Services' QA Department/Laboratory Director to comply with NELAC standards prior to report submittal. *Michael E. Perry*



## **CASE NARRATIVE**

COMPANY: Roux Associates  
PROJECT: Honeywell/Outer Harbor  
SUBMISSION #: R2317833

Water samples were collected on 07/29/03 and received at CAS on 07/29/03 in good condition at a cooler temperature of 3 °C. See CAS CLP Batching sheets for a cross-reference between Client ID and CAS Job # and analyses requested.

### **INORGANIC ANALYSIS**

Seven water samples were analyzed the TAL list of Metals using SW-846 protocol. Mercury was analyzed by the cold vapor method 7470A and all other metals were analyzed by ICP method 6010B.

The Blank Spike (Reference Check) recoveries were all within QC limits. The Matrix Spike recoveries from sample GW-18R were all within QC limits of 75 – 125 %. The RPD from the duplicate analyses were all within QC.

No analytical or QC problems were encountered.

### **SEMIVOLATILE ORGANICS**

Seven water samples were analyzed for Nitrobenzene by SW-846 method 8270C.

All DFTPP tuning criteria were within acceptance limits.

The initial and continuing calibration criteria were met for all analytes.

All internal standard areas were within QC limits.

All surrogate standard recoveries were within QC limits.

The Blank Spike (Reference Check) were all within QC limits. The Matrix Spike/Matrix Spike Duplicate recoveries and RPD from sample GW-18R were all within QC limits.

No analytical or QC problems were encountered.



CAS JOB #	CLIENT/EPA ID	MATRIX	REQUESTED PARAMETERS	DATE	pH	%	REMARKS
				SAMPLED	RECEIVED	(SOLIDS)	SAMPLE CONDITION

SDG #: GW18  
0 BATCH COMPLETE: yes  
DATE REVISED:  
DISKETTE REQUESTED: Y X N  
DATE DUE: 08/22/03  
SUBMISSION B2247923





Effective 6/12/2003

## ORGANIC QUALIFIERS

- U - Indicates compound was analyzed for but not detected. The sample quantitation limit must be corrected for dilution and for percent moisture.
- J - Indicates an estimated value. The flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
- N - Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds, where the identification is based on a mass spectral library search.
- P - This flag is used for a pesticide/Aroclor target analyte when there is a greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on Form I and flagged with a "P".
- C - This flag applies to pesticide results where the identification has been confirmed by GC/MS.
- B - This flag is used when the analyte is found in the associated blank as well as in the sample.
- E - This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
- D - This flag identifies all compounds identified in an analysis at a secondary dilution factor. If a sample or extract is re-analyzed at a higher dilution factor, as in the "E" flag above, the "DL" suffix is appended to the sample number on the Form I for the diluted sample, and ALL concentration values reported on that Form I are flagged with the "D" flag.
- A - This flag indicates that a TIC is a suspected aldol-condensation product.
- X - As specified in Case Narrative.
- \* - This flag identifies compounds associated with a quality control parameter which exceeds laboratory limits.

### **CAS/Rochester Lab ID # for State Certifications**

Army Corp of Engineers Validated  
 Delaware Accredited  
 Connecticut ID # PH0556  
 Florida ID # E87674  
 Massachusetts ID # M-NY032  
 Navy Facilities Engineering Service Center Approved  
 Nebraska Accredited

NELAP Accredited  
 New York ID # 10145  
 New Jersey ID # NY004  
 New Hampshire ID # 294100 A/B  
 Pennsylvania Registration 68-786  
 Rhode Island ID # 158  
 South Carolina ID #91012  
 West Virginia ID # 292





Effective 6/12/2003

## INORGANIC QUALIFIERS

C (Concentration) qualifier –

- B - if the reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL) but was greater than or equal to the Instrument Detection Limit (IDL).
- U - if the analyte was analyzed for, but not detected

Q qualifier - Specified entries and their meanings are as follows:

- D - Spike was diluted out
- E - The reported value is estimated because of the presence of interference.
- J - Estimated Value
- M - Duplicate injection precision not met.
- N - Spiked sample recovery not within control limits.
- S - The reported value was determined by the Method of Standard Additions (MSA).
- W - Post-digestion spike for Furnace AA Analysis is out of control limits (85-115), while sample absorbance is less than 50% of spike absorbance.
- \* - Duplicate analysis not within control limits.
- + - Correlation coefficient for the MSA is less than 0.995.

M (Method) qualifier:

- "P" for ICP
- "A" for Flame AA
- "F" for Furnace AA
- "PM" for ICP when Microwave Digestion is used
- "AM" for Flame AA when Microwave Digestion is used
- "FM" for Furnace M when Microwave Digestion is used
- "CV" for Manual Cold Vapor AA
- "AV" for Automated Cold Vapor AA
- "CA" for Midi-Distillation Spectrophotometric
- "AS" for Semi-Automated Spectrophotometric
- "C" for Manual Spectrophotometric
- "T" for Titrimetric
- " " where no data has been entered
- "NR" if the analyte is not required to be analyzed.

## CAS/Rochester Lab ID # for State Certifications

Army Corp of Engineers Validated  
Delaware Accredited  
Connecticut ID # PH0556  
Florida ID # E87674  
Massachusetts ID # M-NY032  
Navy Facilities Engineering Service Center Approved  
Nebraska Accredited  
NELAP Accredited

New York ID # 10145  
New Jersey ID # NY004  
New Hampshire ID # 294100 A/B  
Pennsylvania Registration 68-786  
Rhode Island ID # 158  
South Carolina ID # 91012  
West Virginia ID # 292





R2317833

## CHAIN OF CUSTODY

Nº 07914Y

ROUX ASSOCIATES, INC. 209 SHAFTER STREET  
ISLANDIA, NEW YORK 11749-5074  
Environmental Consulting & Management (631) 232-2600 FAX: (631) 232-9898

PROJECT NAME		PROJECT NUMBER	ANALYSES		PAGE	OF
PROJECT LOCATION						
PROJECT MANAGER	SAMPLER(S)	SAMPLE DESIGNATION / LOCATION	DATE COLLECTED	TIME COLLECTED	TOTAL BOTTLES	
Glenn Deteschil	JH	GW-18TR	7-29-03	11:30	2	600273 (QC)
		GW-22		11:45	2	74
		GW-23		12:25	2	75
		GW-19		12:40	2	76
		GW-21		12:50	2	77
		MS/MSD - MW-18R		11:35	4	73 (QC)
		DUP		12:45	2	78
		Fieldbank		13:15	2	79
RELINQUISHED BY: (SIGNATURE)		FOR	DATE	TIME	SEAL INTACT Y OR N	RECEIVED BY: (SIGNATURE)
[Signature]			7-29-03	14:00	X OR N	J. Huber
RELINQUISHED BY: (SIGNATURE)		FOR	DATE	TIME	SEAL INTACT Y OR N	RECEIVED BY: (SIGNATURE)
[Signature]		CAS	7/29/03	16:05		B. [Signature]
RELINQUISHED BY: (SIGNATURE)		FOR	DATE	TIME	SEAL INTACT Y OR N	RECEIVED BY: (SIGNATURE)
[Signature]						

COMMENTS

MS/M80 is on GW-18R as per  
John Huber JMS 7/30/03

DELIVERY METHOD

pick up

ANALYTICAL LABORATORY

CAS



# Cooler Receipt And Preservation Check Form

Project/Client Roux Submission Number R2317833

Cooler received on 7/29/03 by: BL COURIER: CAS UPS FEDEX CD&L CLIENT

1. Were custody seals on outside of cooler? YES NO
2. Were custody papers properly filled out (ink, signed, etc.)? YES NO
3. Did all bottles arrive in good condition (unbroken)? YES NO
4. Did any VOA vials have significant air bubbles? YES NO N/A
5. Were Ice or Ice packs present? YES NO
6. Where did the bottles originate? CAS/ROC, CLIENT
7. Temperature of cooler(s) upon receipt: 3°

Is the temperature within 0° - 6° C?: Yes Yes Yes Yes Yes

If No, Explain Below No No No No No

Date/Time Temperatures Taken: 7/29/03 1645

Thermometer ID: 161 or IR GUN Reading From: Temp Blank or Sample Bottle

## If out of Temperature, Client Approval to Run Samples

Cooler Breakdown: Date: 7/31/03 by: BL

1. Were all bottle labels complete (i.e. analysis, preservation, etc.)? YES NO
2. Did all bottle labels and tags agree with custody papers? YES NO
3. Were correct containers used for the tests indicated? YES NO
4. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated N/A

Explain any discrepancies: \_\_\_\_\_

		YES	NO	Sample I.D.	Reagent	Vol. Added
pH	Reagent					
12	NaOH					
2	HNO <sub>3</sub>	<input checked="" type="checkbox"/>				
2	H <sub>2</sub> SO <sub>4</sub>					
Residual Chlorine (+/-)	for TCN & Phenol					
5-9**	P/PCBs (608 only)					

YES = All samples OK NO = Samples were preserved at lab as listed PC OK to adjust pH

\*\*If pH adjustment is required, use NaOH and/or H<sub>2</sub>SO<sub>4</sub>

VOC Vial pH Verification (Tested after Analysis) Following Samples Exhibited pH > 2				

Other Comments:



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270 NITROBENZENE  
Reported: 08/20/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203Y04

Client Sample ID : GW-18R

Date Sampled : 07/29/03	Order #: 660273	Sample Matrix: WATER
Date Received: 07/29/03	Submission #: R2317833	Analytical Run 93852

ANALYTE	PQL	RESULT	UNITS
---------	-----	--------	-------

DATE EXTRACTED	: 08/01/03
DATE ANALYZED	: 08/05/03
ANALYTICAL DILUTION:	1.01

NITROBENZENE	5.0	5.1 U	UG/L
--------------	-----	-------	------

SURROGATE RECOVERIES	QC LIMITS
----------------------	-----------

TERPHENYL-d14	(33 - 141 %)	90	%
NITROBENZENE-d5	(35 - 114 %)	61	%
2-FLUOROBIPHENYL	(43 - 116 %)	67	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270 NITROBENZENE  
Reported: 08/20/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203Y04

Client Sample ID : GW-22

Date Sampled : 07/29/03      Order #: 660274      Sample Matrix: WATER  
Date Received: 07/29/03      Submission #: R2317833      Analytical Run 93852

ANALYTE	PQL	RESULT	UNITS
---------	-----	--------	-------

DATE EXTRACTED : 08/01/03  
DATE ANALYZED : 08/07/03  
ANALYTICAL DILUTION: 0.99

NITROBENZENE	5.0	5.0 U	UG/L
--------------	-----	-------	------

SURROGATE RECOVERIES

QC LIMITS

TERPHENYL-d14	(33 - 141 %)	87	%
NITROBENZENE-d5	(35 - 114 %)	64	%
2-FLUOROBIPHENYL	(43 - 116 %)	66	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270 NITROBENZENE  
Reported: 08/20/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203Y04

Client Sample ID : GW-23

Date Sampled : 07/29/03      Order #: 660275      Sample Matrix: WATER  
Date Received: 07/29/03      Submission #: R2317833      Analytical Run 93852

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED	: 08/01/03		
DATE ANALYZED	: 08/05/03		
ANALYTICAL DILUTION:	0.98		

NITROBENZENE	5.0	4.9 U	UG/L
--------------	-----	-------	------

<u>SURROGATE RECOVERIES</u>	<u>QC LIMITS</u>		
TERPHENYL-d14	(33 - 141 %)	90	%
NITROBENZENE-d5	(35 - 114 %)	74	%
2-FLUOROBIPHENYL	(43 - 116 %)	72	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270 NITROBENZENE  
Reported: 08/20/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203Y04

Client Sample ID : GW-19

Date Sampled : 07/29/03      Order #: 660276      Sample Matrix: WATER  
Date Received: 07/29/03      Submission #: R2317833      Analytical Run 93852

ANALYTE	PQL	RESULT	UNITS
---------	-----	--------	-------

DATE EXTRACTED : 08/01/03  
DATE ANALYZED : 08/05/03  
ANALYTICAL DILUTION: 1.01

NITROBENZENE	5.0	5.1 U	UG/L
--------------	-----	-------	------

SURROGATE RECOVERIES

QC LIMITS

TERPHENYL-d14	(33 - 141 %)	88	%
NITROBENZENE-d5	(35 - 114 %)	70	%
2-FLUOROBIPHENYL	(43 - 116 %)	66	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270 NITROBENZENE  
Reported: 08/20/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203Y04

Client Sample ID : GW-21

Date Sampled : 07/29/03      Order #: 660277      Sample Matrix: WATER  
Date Received: 07/29/03      Submission #: R2317833      Analytical Run 93852

ANALYTE	PQL	RESULT	UNITS
---------	-----	--------	-------

DATE EXTRACTED : 08/01/03  
DATE ANALYZED : 08/07/03  
ANALYTICAL DILUTION: 0.97

NITROBENZENE	5.0	4.9 U	UG/L
--------------	-----	-------	------

<u>SURROGATE RECOVERIES</u>	<u>QC LIMITS</u>		
TERPHENYL-d14	(33 - 141 %)	86	%
NITROBENZENE-d5	(35 - 114 %)	71	%
2-FLUOROBIPHENYL	(43 - 116 %)	64	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270 NITROBENZENE  
Reported: 08/20/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203Y04

Client Sample ID : DUP

---

Date Sampled : 07/29/03	Order #: 660278	Sample Matrix: WATER
Date Received: 07/29/03	Submission #: R2317833	Analytical Run 93852

---

ANALYTE	PQL	RESULT	UNITS
---------	-----	--------	-------

---

DATE EXTRACTED	: 08/01/03
DATE ANALYZED	: 08/07/03
ANALYTICAL DILUTION:	1.12

NITROBENZENE	5.0	5.6 U	UG/L
--------------	-----	-------	------

<u>SURROGATE RECOVERIES</u>	<u>QC LIMITS</u>
-----------------------------	------------------

TERPHENYL-d14	(33 - 141 %)	93	%
NITROBENZENE-d5	(35 - 114 %)	69	%
2-FLUOROBIPHENYL	(43 - 116 %)	67	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270 NITROBENZENE  
Reported: 08/20/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203Y04

Client Sample ID : FIELD BLANK

Date Sampled : 07/29/03      Order #: 660279      Sample Matrix: WATER  
Date Received: 07/29/03      Submission #: R2317833      Analytical Run 93852

ANALYTE	PQL	RESULT	UNITS
---------	-----	--------	-------

DATE EXTRACTED : 08/01/03  
DATE ANALYZED : 08/07/03  
ANALYTICAL DILUTION: 0.99

NITROBENZENE	5.0	5.0 U	UG/L
--------------	-----	-------	------

<u>SURROGATE RECOVERIES</u>	<u>QC LIMITS</u>		
TERPHENYL-d14	(33 - 141 %)	95	%
NITROBENZENE-d5	(35 - 114 %)	73	%
2-FLUOROBIPHENYL	(43 - 116 %)	70	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270 NITROBENZENE  
Reported: 08/20/03

Project Reference:  
Client Sample ID : METHOD BLANK

Date Sampled :	Order #: 661565	Sample Matrix: WATER
Date Received:	Submission #:	Analytical Run 93852

ANALYTE	PQL	RESULT	UNITS
---------	-----	--------	-------

DATE EXTRACTED	: 08/01/03
DATE ANALYZED	: 08/05/03
ANALYTICAL DILUTION:	1.00

NITROBENZENE	5.0	5.0 U	UG/L
--------------	-----	-------	------

<u>SURROGATE RECOVERIES</u>	<u>QC LIMITS</u>
-----------------------------	------------------

TERPHENYL-d14	(33 - 141 %)	100	%
NITROBENZENE-d5	(35 - 114 %)	73	%
2-FLUOROBIPHENYL	(43 - 116 %)	68	%



COLUMBIA ANALYTICAL SERVICES

QUALITY CONTROL SUMMARY    MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY  
WATER

Spiked Order No. :    660273    Roux Associates Inc.

Client ID: GW-18R

Test: 8270 NITROBENZENE

Analytical Units:    UG/L

Run Number        :    93852

ANALYTE	SPIKE ADDED	CONCENT. SAMPLE	MATRIX SPIKE		MATRIX SPIKE DUP.				QC LIMITS	
			FOUND	% REC.	FOUND	% REC.	RPD	RPD	REC.	
NITROBENZENE	100	0	89.0	89	96.0	96	8	30	50 - 150	





Dup Spiked Order No. : 661567

Client ID:

Analytical Units: UG/L

Run Number : 93852

			BLANK SPIKE		BLANK SPIKE DUP.			QC LIMITS	
ANALYTE	SPIKE ADDED	SAMPLE CONCENT.	FOUND	% REC.	FOUND	% REC.	RPD	RPD	REC.
NITROBENZENE	100	0	82.0	82	80.0	80	2	30	50 - 150



METALS  
COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Contract: R2317833 SDG No.: GW-18R  
Lab Code: Case No.: SAS No.:  
SOW No.: SW846 CLP-M Client: Roux Associates Inc.

<u>Sample No.</u>	<u>Lab Sample ID.</u>
<u>GW-18R</u>	<u>660273</u>
<u>GW-18RD</u>	<u>660273D</u>
<u>GW-18RS</u>	<u>660273S</u>
<u>GW-22</u>	<u>660274</u>
<u>GW-23</u>	<u>660275</u>
<u>GW-19</u>	<u>660276</u>
<u>GW-21</u>	<u>660277</u>
<u>DUP</u>	<u>660278</u>
<u>FIELD BLANK</u>	<u>660279</u>

Were ICP interelement corrections applied? Yes/No YES  
Were ICP background corrections applied? Yes/No YES  
If yes-were raw data generated before application of background corrections? Yes/No NO

Comments: See Attached Case Narrative

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Michael K Perry Name: Michael K Perry  
Date: 8/29/03 Title: Laboratory Manager 18



## METALS

-1-

## INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

DUP

Contract: R2317833

Lab Code:

Case No.:

SAS No.:

SDG NO.: GW-18R

Matrix (soil/water): WATER

Lab Sample ID: 660278

Level (low/med): LOW

Date Received: 07/29/03

Concentration Units (ug/L or mg/kg dry weight): µG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	19300			P
7440-36-0	Antimony	60.0	U		P
7440-38-2	Arsenic	13.1			P
7440-39-3	Barium	280			P
7440-41-7	Beryllium	5.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	314000			P
7440-47-3	Chromium	39.3			P
7440-48-4	Cobalt	50.0	U		P
7440-50-8	Copper	119			P
7439-89-6	Iron	31100			P
7439-92-1	Lead	337			P
7439-95-4	Magnesium	111000			P
7439-96-5	Manganese	1710			P
7439-97-6	Mercury	0.51			CV
7440-02-0	Nickel	40.0	U		P
7440-09-7	Potassium	22700			P
7782-49-2	Selenium	5.0	U		P
7440-22-4	Silver	10.0	U		P
7440-23-5	Sodium	37400			P
7440-28-0	Thallium	20.0	U		P
7440-62-2	Vanadium	50.0	U		P
7440-66-6	Zinc	377			P

Color Before: BROWN

Clarity Before: CLOUDY

Texture:

Color After: YELLOW

Clarity After: CLOUDY

Artifacts:

Comments:



## METALS

-1-

## INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

FIELD BLANK

Contract: R2317833

Lab Code:

Case No.:

SAS No.:

SDG NO.: GW-18R

Matrix (soil/water): WATER

Lab Sample ID: 660279

Level (low/med): LOW

Date Received: 07/29/03

Concentration Units (ug/L or mg/kg dry weight): µG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	100	U		P
7440-36-0	Antimony	60.0	U		P
7440-38-2	Arsenic	10.0	U		P
7440-39-3	Barium	20.0	U		P
7440-41-7	Beryllium	5.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	500	U		P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	50.0	U		P
7440-50-8	Copper	20.0	U		P
7439-89-6	Iron	100	U		P
7439-92-1	Lead	5.0	U		P
7439-95-4	Magnesium	500	U		P
7439-96-5	Manganese	10.0	U		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	40.0	U		P
7440-09-7	Potassium	2000	U		P
7782-49-2	Selenium	5.0	U		P
7440-22-4	Silver	10.0	U		P
7440-23-5	Sodium	500	U		P
7440-28-0	Thallium	10.0	U		P
7440-62-2	Vanadium	50.0	U		P
7440-66-6	Zinc	28.2			P

Color Before: COLORLESS

Clarity Before: CLEAR

Texture:

Color After: YELLOW

Clarity After: CLEAR

Artifacts:

Comments:



## METALS

-1-

## INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

GW-18R

Contract: R2317833

Lab Code:

Case No.:

SAS No.:

SDG NO.: GW-18R

Matrix (soil/water): WATER

Lab Sample ID: 660273

Level (low/med): LOW

Date Received: 07/29/03

Concentration Units (ug/L or mg/kg dry weight): µg/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	15100			P
7440-36-0	Antimony	60.0	U		P
7440-38-2	Arsenic	34.1			P
7440-39-3	Barium	247			P
7440-41-7	Beryllium	5.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	433000			P
7440-47-3	Chromium	25.9			P
7440-48-4	Cobalt	50.0	U		P
7440-50-8	Copper	46.3			P
7439-89-6	Iron	28600			P
7439-92-1	Lead	150			P
7439-95-4	Magnesium	80000			P
7439-96-5	Manganese	1800			P
7439-97-6	Mercury	0.21			CV
7440-02-0	Nickel	40.0	U		P
7440-09-7	Potassium	19300			P
7782-49-2	Selenium	5.0	U		P
7440-22-4	Silver	10.0	U		P
7440-23-5	Sodium	26300			P
7440-28-0	Thallium	20.0	U		P
7440-62-2	Vanadium	50.0	U		P
7440-66-6	Zinc	272			P

Color Before: BROWN

Clarity Before: CLOUDY

Texture:

Color After: YELLOW

Clarity After: CLOUDY

Artifacts:

Comments:



## METALS

-1-

## INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

GW-19

Contract: R2317833

Lab Code:

Case No.:

SAS No.:

SDG NO.: GW-18R

Matrix (soil/water): WATER

Lab Sample ID: 660276

Level (low/med): LOW

Date Received: 07/29/03

Concentration Units (ug/L or mg/kg dry weight): µg/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	860			P
7440-36-0	Antimony	60.0	U		P
7440-38-2	Arsenic	68.8			P
7440-39-3	Barium	24.5			P
7440-41-7	Beryllium	5.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	25900			P
7440-47-3	Chromium	16.4			P
7440-48-4	Cobalt	50.0	U		P
7440-50-8	Copper	135			P
7439-89-6	Iron	407			P
7439-92-1	Lead	26.1			P
7439-95-4	Magnesium	500	U		P
7439-96-5	Manganese	12.4			P
7439-97-6	Mercury	1.3			CV
7440-02-0	Nickel	40.0	U		P
7440-09-7	Potassium	1110000			P
7782-49-2	Selenium	32.6			P
7440-22-4	Silver	10.0	U		P
7440-23-5	Sodium	84100			P
7440-28-0	Thallium	10.0	U		P
7440-62-2	Vanadium	103			P
7440-66-6	Zinc	77.1			P

Color Before: BROWN

Clarity Before: CLOUDY

Texture:

Color After: YELLOW

Clarity After: CLOUDY

Artifacts:

Comments:



## METALS

-1-

## INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

GW-21

Contract: R2317833

Lab Code:

Case No.:

SAS No.:

SDG NO.: GW-18R

Matrix (soil/water): WATER

Lab Sample ID: 660277

Level (low/med): LOW

Date Received: 07/29/03

Concentration Units (ug/L or mg/kg dry weight): µg/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	100	U		P
7440-36-0	Antimony	60.0	U		P
7440-38-2	Arsenic	10.0	U		P
7440-39-3	Barium	55.4			P
7440-41-7	Beryllium	5.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	47200			P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	50.0	U		P
7440-50-8	Copper	20.0	U		P
7439-89-6	Iron	149			P
7439-92-1	Lead	5.0	U		P
7439-95-4	Magnesium	4190			P
7439-96-5	Manganese	10.0	U		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	40.0	U		P
7440-09-7	Potassium	27400			P
7782-49-2	Selenium	5.0	U		P
7440-22-4	Silver	10.0	U		P
7440-23-5	Sodium	15200			P
7440-28-0	Thallium	10.0	U		P
7440-62-2	Vanadium	50.0	U		P
7440-66-6	Zinc	83.1			P

Color Before: BROWN

Clarity Before: CLOUDY

Texture:

Color After: YELLOW

Clarity After: CLEAR

Artifacts:

Comments:



## METALS

-1-

## INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

GW-22

Contract: R2317833

Lab Code:

Case No.:

SAS No.:

SDG No.: GW-18R

Matrix (soil/water): WATER

Lab Sample ID: 660274

Level (low/med): LOW

Date Received: 07/29/03

Concentration Units (ug/L or mg/kg dry weight): µg/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	18000			P
7440-36-0	Antimony	60.0	U		P
7440-38-2	Arsenic	13.3			P
7440-39-3	Barium	254			P
7440-41-7	Beryllium	5.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	312000			P
7440-47-3	Chromium	36.4			P
7440-48-4	Cobalt	50.0	U		P
7440-50-8	Copper	114			P
7439-89-6	Iron	28900			P
7439-92-1	Lead	325			P
7439-95-4	Magnesium	109000			P
7439-96-5	Manganese	1660			P
7439-97-6	Mercury	0.68			CV
7440-02-0	Nickel	40.0	U		P
7440-09-7	Potassium	21400			P
7782-49-2	Selenium	5.0	U		P
7440-22-4	Silver	10.0	U		P
7440-23-5	Sodium	37000			P
7440-28-0	Thallium	20.0	U		P
7440-62-2	Vanadium	50.0	U		P
7440-66-6	Zinc	358			P

Color Before: BROWN

Clarity Before: CLOUDY

Texture:

Color After: YELLOW

Clarity After: CLOUDY

Artifacts:

Comments:



## METALS

-1-

## INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

GW-23

Contract: R2317833

Lab Code:

Case No.:

SAS No.:

SDG NO.: GW-18R

Matrix (soil/water): WATER

Lab Sample ID: 660275

Level (low/med): LOW

Date Received: 07/29/03

Concentration Units (ug/L or mg/kg dry weight): µg/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	197			P
7440-36-0	Antimony	60.0	U		P
7440-38-2	Arsenic	10.0	U		P
7440-39-3	Barium	120			P
7440-41-7	Beryllium	5.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	301000			P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	50.0	U		P
7440-50-8	Copper	20.0	U		P
7439-89-6	Iron	3940			P
7439-92-1	Lead	6.1			P
7439-95-4	Magnesium	65400			P
7439-96-5	Manganese	1200			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	40.0	U		P
7440-09-7	Potassium	15100			P
7782-49-2	Selenium	5.0	U		P
7440-22-4	Silver	10.0	U		P
7440-23-5	Sodium	24900			P
7440-28-0	Thallium	10.0	U		P
7440-62-2	Vanadium	50.0	U		P
7440-66-6	Zinc	28.8			P

Color Before: BROWN

Clarity Before: CLOUDY

Texture:

Color After: YELLOW

Clarity After: CLEAR

Artifacts:

Comments:



## METALS

-3-

## BLANKS

Contract: R2317833

Lab Code:

Case No.:

SAS No.:

SDG NO.: GW-18R

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L)						Preparation Blank	C	M
			1	C	2	C	3	C			
Aluminum	100.0	U	100.0	U	100.0	U	100.0	U	100.000	U	P
Antimony	60.0	U	60.0	U	60.0	U	60.0	U	60.000	U	P
Arsenic	10.0	U	10.0	U	10.0	U	10.0	U	10.000	U	P
Barium	20.0	U	20.0	U	20.0	U	20.0	U	20.000	U	P
Beryllium	5.0	U	5.0	U	5.0	U	5.0	U	5.000	U	P
Cadmium	5.0	U	5.0	U	5.0	U	5.0	U	5.000	U	P
Calcium	500.0	U	500.0	U	500.0	U	500.0	U	500.000	U	P
Chromium	10.0	U	10.0	U	10.0	U	10.0	U	10.000	U	P
Cobalt	50.0	U	50.0	U	50.0	U	50.0	U	50.000	U	P
Copper	20.0	U	20.0	U	20.0	U	20.0	U	20.000	U	P
Iron	100.0	U	100.0	U	100.0	U	100.0	U	100.000	U	P
Lead	5.0	U	5.0	U	5.0	U	5.0	U	5.000	U	P
Magnesium	500.0	U	500.0	U	500.0	U	500.0	U	500.000	U	P
Manganese	10.0	U	10.0	U	10.0	U	10.0	U	10.000	U	P
Mercury	0.20	U	0.20	U	0.20	U	0.20	U	0.200	U	CV
Nickel	40.0	U	40.0	U	40.0	U	40.0	U	40.000	U	P
Potassium	2000.0	U	2000.0	U	2000.0	U	2000.0	U	2000.000	U	P
Selenium	5.0	U	5.0	U	5.0	U	5.0	U	5.000	U	P
Silver	10.0	U	10.0	U	10.0	U	10.0	U	10.000	U	P
Sodium	500.0	U	500.0	U	500.0	U	500.0	U	500.000	U	P
Thallium	10.0	U	10.0	U	10.0	U	10.0	U	10.000	U	P
Vanadium	50.0	U	50.0	U	50.0	U	50.0	U	50.000	U	P
Zinc	20.0	U	20.0	U	20.0	U	20.0	U	20.000	U	P



## METALS

-3-

## BLANKS

Contract: R2317833

Lab Code:

Case No.:

SAS No.:

SDG NO.: GW-18R

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L)						Preparation Blank	C	M
			1	C	2	C	3	C			
Aluminum			100.0	U	100.0	U					P
Antimony			60.0	U	60.0	U					P
Arsenic			10.0	U	10.0	U					P
Barium			20.0	U	20.0	U					P
Beryllium			5.0	U	5.0	U					P
Cadmium			5.0	U	5.0	U					P
Calcium			500.0	U	500.0	U					P
Chromium			10.0	U	10.0	U					P
Cobalt			50.0	U	50.0	U					P
Copper			20.0	U	20.0	U					P
Iron			100.0	U	100.0	U					P
Lead			5.0	U	5.0	U					P
Magnesium			500.0	U	500.0	U					P
Manganese			10.0	U	10.0	U					P
Mercury			0.20	U	0.20	U	0.20	U			CV
Nickel			40.0	U	40.0	U					P
Potassium			2000.0	U	2000.0	U					P
Selenium			5.0	U	5.0	U					P
Silver			10.0	U	10.0	U					P
Sodium			500.0	U	500.0	U					P
Thallium			10.0	U	10.0	U					P
Vanadium			50.0	U	50.0	U					P
Zinc			20.0	U	20.0	U					P



## METALS

-3-

## BLANKS

Contract: R2317833

Lab Code:

Case No.:

SAS No.:

SDG NO.: GW-18RPreparation Blank Matrix (soil/water): WATERPreparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L)						Preparation Blank	C	M
			1	C	2	C	3	C			
Potassium	2000.0	U	2000.0	U	2000.0	U	2000.0	U			P
Thallium	10.0	U	10.0	U	10.0	U	10.0	U			P



## METALS

-3-

## BLANKS

Contract: R2317833

Lab Code:

Case No.:

SAS No.:

SDG NO.: GW-18RPreparation Blank Matrix (soil/water): WATERPreparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L)						Preparation Blank	C	M
			1	C	2	C	3	C			
Potassium			2000.0	U	2000.0	U					P
Thallium			10.0	U	10.0	U					P



**METALS**  
**-5A-**  
**SPIKE SAMPLE RECOVERY**

SAMPLE NO.

GW-18RS

Contract: R2317833

Lab Code:

Case No.:

SAS No.:

SDG NO.: GW-18R

Matrix (soil/water): WATER

Level (low/med): LOW

% Solids for Sample: 0.0

Concentration Units (ug/L or mg/kg dry weight): µG/L

Analyte	Control Limit %R	Spiked Sample Result (SSR) C	Sample Result (SR) C	Spike Added (SA)	%R	Q	M
Aluminum		15270.2168	15081.3145	2000.00	9.4		P
Antimony	75 - 125	492.4213	60.0000 U	500.00	98.5		P
Arsenic	75 - 125	71.4391	34.0658	40.00	93.4		P
Barium	75 - 125	2218.8975	246.6400	2000.00	98.6		P
Beryllium	75 - 125	48.9007	5.0000 U	50.00	97.8		P
Cadmium	75 - 125	46.5690	5.0000 U	50.00	93.1		P
Calcium		447703.8750	433357.7188	2000.00	717.3		P
Chromium	75 - 125	216.8394	25.9184	200.00	95.5		P
Cobalt	75 - 125	478.9652	50.0000 U	500.00	95.8		P
Copper	75 - 125	285.1426	46.2915	250.00	95.5		P
Iron		29696.9316	28618.6953	1000.00	107.8		P
Lead	75 - 125	623.6725	149.6117	500.00	94.8		P
Magnesium		84012.4063	80032.6406	2000.00	199.0		P
Manganese	75 - 125	2322.1304	1800.1191	500.00	104.4		P
Mercury	75 - 125	1.2166	0.2112	1.00	100.5		CV
Nickel	75 - 125	491.8894	40.0000 U	500.00	98.4		P
Potassium	75 - 125	37815.2109	19318.2227	20000.00	92.5		P
Selenium	75 - 125	967.0039	5.0000 U	1010.00	95.7		P
Silver	75 - 125	45.5304	10.0000 U	50.00	91.1		P
Sodium	75 - 125	45904.8359	26347.8750	20000.00	97.8		P
Thallium	75 - 125	1879.6677	20.0000 U	2000.00	94.0		P
Vanadium	75 - 125	517.1838	50.0000 U	500.00	103.4		P
Zinc	75 - 125	708.4447	272.0474	500.00	87.3		P

Comments:



## METALS

-5B-

## POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.

GW-18RA

Contract: R2317833

Lab Code: Case No.: SAS No.: SDG NO.: GW-18R

Matrix (soil/water): WATER Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR) C	Sample Result (SR) C	Spike Added (SA)	%R	Q	M
Aluminum		16784.48	15081.31	2000.0	85.2		P
Antimony		511.18	60.00 U	500.0	102.2		P
Arsenic		73.05	34.07	40.0	97.4		P
Barium		2261.82	246.64	2000.0	100.8		P
Beryllium		49.64	5.00 U	50.0	99.3		P
Cadmium		49.25	5.00 U	50.0	98.5		P
Calcium		435167.13	433357.72	2000.0	90.5		P
Chromium		220.64	25.92	200.0	97.4		P
Cobalt		502.79	50.00 U	500.0	100.6		P
Copper		294.27	46.29	250.0	99.2		P
Iron		29698.82	28618.70	1000.0	108.0		P
Lead		652.07	149.61	500.0	100.5		P
Magnesium		81955.91	80032.64	2000.0	96.2		P
Manganese		2284.12	1800.12	500.0	96.8		P
Nickel		516.12	40.00 U	500.0	103.2		P
Potassium		40319.54	19318.22	20000.0	105.0		P
Selenium		1054.17	5.00 U	1010.0	104.4		P
Silver		45.70	10.00 U	50.0	91.4		P
Sodium		45837.93	26347.88	20000.0	97.5		P
Thallium		1831.06	10.00 U	2000.0	91.6		P
Vanadium		527.00	50.00 U	500.0	105.4		P
Zinc		739.76	272.05	500.0	93.5		P

Comments:



## METALS

-6-

## DUPLICATES

SAMPLE NO.

GW-18RD

Contract: R2317833

Lab Code:

Case No.:

SAS No.:

SDG NO.: GW-18R

Matrix (soil/water): WATER

Level (low/med): LOW

% Solids for Sample: 0.0

% Solids for Duplicate:

Concentration Units (ug/L or mg/kg dry weight): µg/L

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum		15081.3145		14408.0186		4.6		P
Antimony		60.0000	U	60.0000	U			P
Arsenic	10.0	34.0658		34.0139		0.2		P
Barium		246.6400		236.7781		4.1		P
Beryllium		5.0000	U	5.0000	U			P
Cadmium		5.0000	U	5.0000	U			P
Calcium		433357.7188		428653.2188		1.1		P
Chromium	10.0	25.9184		25.2265		2.7		P
Cobalt		50.0000	U	50.0000	U			P
Copper	20.0	46.2915		47.9477		3.5		P
Iron		28618.6953		29293.9277		2.3		P
Lead		149.6117		148.9934		0.4		P
Magnesium		80032.6406		81590.1953		1.9		P
Manganese		1800.1191		1838.6344		2.1		P
Mercury	0.2	0.2112		0.2137		1.2		CV
Nickel		40.0000	U	40.0000	U			P
Potassium		19318.2227		18557.3594		4.0		P
Selenium		5.0000	U	5.0000	U			P
Silver		10.0000	U	10.0000	U			P
Sodium		26347.8750		26348.9766		0.0		P
Thallium		20.0000	U	20.0000	U			P
Vanadium		50.0000	U	50.0000	U			P
Zinc		272.0474		246.0015		10.1		P





A FULL SERVICE ENVIRONMENTAL LABORATORY

September 29, 2003

Mr. Glenn Netuschil  
Roux Associates Inc.  
1377 Motor Parkway  
Islandia, NY 11749

PROJECT:HONEYWELL/OUTER HARBOR 25203404  
Submission #:R2318130

Dear Mr. Netuschil

Enclosed are the analytical results of the analyses requested. All data has been reviewed prior to report submission. Should you have any questions please contact me at (585) 288-5380.

Thank you for letting us provide this service.

Sincerely,

COLUMBIA ANALYTICAL SERVICES

A handwritten signature in black ink, appearing to read 'Mark Wilson', is written over the printed name.

Mark Wilson  
Client Service Manager

Enc.





1 Mustard ST.  
Suite 250  
Rochester, NY 14609  
(585) 288-5380

**THIS IS AN ANALYTICAL TEST REPORT FOR:**

Client : Roux Associates Inc.  
Project Reference: HONEYWELL/OUTER HARBOR 25203404  
Lab Submission # : R2318130  
Project Manager : Mark Wilson  
Reported : 09/29/03

Report Contains a total of 30 pages

The results reported herein relate only to the samples received by the laboratory. This report may not be reproduced except in full, without the approval of Columbia Analytical Services.

This package has been reviewed by Columbia Analytical Services' QA Department/Laboratory Director to comply with NELAC standards prior to report submittal. *Michael E. Perry*



## **CASE NARRATIVE**

COMPANY: Roux Associates  
PROJECT: Honeywell/Outer Harbor  
SUBMISSION #: R2318130

Water samples were collected on 08/23/03 and received at CAS on 08/25/03 in good condition at cooler temperatures between 0 and 6 °C. See CAS CLP Batching sheets for a cross-reference between Client ID and CAS Job # and analyses requested.

### **INORGANIC ANALYSIS**

Water samples were analyzed the TAL list of Metals using SW-846 protocol. Mercury was analyzed by the cold vapor method 7470A and all other metals were analyzed by ICP method 6010B.

The Blank Spike (Reference Check) recoveries were all within QC limits. The Matrix Spike recoveries from sample GW-22 were all within QC limits of 75 – 125 %. The RPD from the duplicate analyses were all within QC. The ICP serial dilution was outside limits for Zinc.

No analytical or QC problems were encountered.

### **SEMIVOLATILE ORGANICS**

Water samples were analyzed for Nitrobenzene by SW-846 method 8270C SIM Mode.

All DFTPP tuning criteria were within acceptance limits.

The initial and continuing calibration criteria were met for all analytes.

All internal standard areas were within QC limits.

All surrogate standard recoveries were within QC limits.

The Blank Spike (LCS) recoveries were all within QC limits. The Matrix Spike/Matrix Spike Duplicate recoveries and RPD from sample GW-22 were all within QC limits.

No analytical or QC problems were encountered.









Effective 6/12/2003

## ORGANIC QUALIFIERS

- U - Indicates compound was analyzed for but not detected. The sample quantitation limit must be corrected for dilution and for percent moisture.
- J - Indicates an estimated value. The flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
- N - Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds, where the identification is based on a mass spectral library search.
- P - This flag is used for a pesticide/Aroclor target analyte when there is a greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on Form I and flagged with a "P".
- C - This flag applies to pesticide results where the identification has been confirmed by GC/MS.
- B - This flag is used when the analyte is found in the associated blank as well as in the sample.
- E - This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
- D - This flag identifies all compounds identified in an analysis at a secondary dilution factor. If a sample or extract is re-analyzed at a higher dilution factor, as in the "E" flag above, the "DL" suffix is appended to the sample number on the Form I for the diluted sample, and ALL concentration values reported on that Form I are flagged with the "D" flag.
- A - This flag indicates that a TIC is a suspected aldol-condensation product.
- X - As specified in Case Narrative.
- \* - This flag identifies compounds associated with a quality control parameter which exceeds laboratory limits.

### **CAS/Rochester Lab ID # for State Certifications**

Army Corp of Engineers Validated  
Delaware Accredited  
Connecticut ID # PH0556  
Florida ID # E87674  
Massachusetts ID # M-NY032  
Navy Facilities Engineering Service Center Approved  
Nebraska Accredited

NELAP Accredited  
New York ID # 10145  
New Jersey ID # NY004  
New Hampshire ID # 294100 A/B  
Pennsylvania Registration 68-786  
Rhode Island ID # 158  
South Carolina ID #91012  
West Virginia ID # 292





Effective 6/12/2003

## INORGANIC QUALIFIERS

C (Concentration) qualifier –

- B - if the reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL) but was greater than or equal to the Instrument Detection Limit (IDL).
- U - if the analyte was analyzed for, but not detected

Q qualifier - Specified entries and their meanings are as follows:

- D - Spike was diluted out
- E - The reported value is estimated because of the presence of interference.
- J - Estimated Value
- M - Duplicate injection precision not met.
- N - Spiked sample recovery not within control limits.
- S - The reported value was determined by the Method of Standard Additions (MSA).
- W - Post-digestion spike for Furnace AA Analysis is out of control limits (85-115), while sample absorbance is less than 50% of spike absorbance.
- \* - Duplicate analysis not within control limits.
- + - Correlation coefficient for the MSA is less than 0.995.

M (Method) qualifier:

- "P" for ICP
- "A" for Flame AA
- "F" for Furnace AA
- "PM" for ICP when Microwave Digestion is used
- "AM" for Flame AA when Microwave Digestion is used
- "FM" for Furnace M when Microwave Digestion is used
- "CV" for Manual Cold Vapor AA
- "AV" for Automated Cold Vapor AA
- "CA" for Midi-Distillation Spectrophotometric
- "AS" for Semi-Automated Spectrophotometric
- "C" for Manual Spectrophotometric
- "T" for Titrimetric
- " " where no data has been entered
- "NR" if the analyte is not required to be analyzed.

## CAS/Rochester Lab ID # for State Certifications

Army Corp of Engineers Validated  
Delaware Accredited  
Connecticut ID # PH0556  
Florida ID # E87674  
Massachusetts ID # M-NY032  
Navy Facilities Engineering Service Center Approved  
Nebraska Accredited  
NELAP Accredited

New York ID # 10145  
New Jersey ID # NY004  
New Hampshire ID # 294100 A/B  
Pennsylvania Registration 68-786  
Rhode Island ID # 158  
South Carolina ID #91012  
West Virginia ID # 292







# Cooler Receipt And Preservation Check Form

Project/Client Roux Submission Number 18130

Cooler received on 8/25/03 by: BC COURIER: CAS UPS FEDEX CD&L CLIENT

1. Were custody seals on outside of cooler? YES NO
2. Were custody papers properly filled out (ink, signed, etc.)? YES NO
3. Did all bottles arrive in good condition (unbroken)? YES NO
4. Did any VOA vials have significant air bubbles? YES NO N/A
5. Were Ice or Ice packs present? YES NO
6. Where did the bottles originate? CAS/ROC CLIENT
7. Temperature of cooler(s) upon receipt: 20 10

Is the temperature within 0° - 6° C?: Yes Yes Yes Yes Yes

If No, Explain Below No No No No No

Date/Time Temperatures Taken: 8/25/03 1535

Thermometer ID: 161 or IR GUN Reading From: Temp Blank or Sample Bottle

## If out of Temperature, Client Approval to Run Samples

Cooler Breakdown: Date: 8/26/03 by: BC

1. Were all bottle labels complete (i.e. analysis, preservation, etc.)? YES NO
2. Did all bottle labels and tags agree with custody papers? YES NO
3. Were correct containers used for the tests indicated? YES NO
4. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated N/A

Explain any discrepancies: \_\_\_\_\_

		YES	NO	Sample I.D.	Reagent	Vol. Added
pH	Reagent					
12	NaOH					
2	HNO <sub>3</sub>	<u>✓</u>				
2	H <sub>2</sub> SO <sub>4</sub>					
Residual Chlorine (+/-)	for TCN & Phenol					
5-9**	P/PCBs (608 only)					

YES = All samples OK

NO = Samples were preserved at lab as listed

PC OK to adjust pH

\*\*If pH adjustment is required, use NaOH and/or H<sub>2</sub>SO<sub>4</sub>

VOC Vial pH Verification (Tested after Analysis) Following Samples Exhibited pH > 2				

Other Comments:



COLUMBIA ANALYTICAL SERVICES

**EXTRACTABLE ORGANICS**

METHOD NITROBENZENE BY SIM 8270C

Reported: 10/01/03

Roux Associates Inc.

**Project Reference:** HONEYWELL/OUTER HARBOR 25203404

**Client Sample ID :** GW18R

---

<b>Date Sampled :</b> 08/23/03	<b>Order #:</b> 666645	<b>Sample Matrix:</b> WATER
<b>Date Received:</b> 08/25/03	<b>Submission #:</b> R2318130	<b>Analytical Run</b> 94907

---

ANALYTE	PQL	RESULT	UNITS
---------	-----	--------	-------

---

DATE EXTRACTED	: 08/29/03
DATE ANALYZED	: 09/03/03
ANALYTICAL DILUTION:	1.04

NITROBENZENE	0.20	0.22	UG/L
--------------	------	------	------

<u>SURROGATE RECOVERIES</u>	<u>QC LIMITS</u>
-----------------------------	------------------

TERPHENYL-d14	(15 - 135 %)	83	%
NITROBENZENE-d5	(30 - 116 %)	75	%
2-FLUOROBIPHENYL	(38 - 107 %)	54	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD NITROBENZENE BY SIM 8270C  
Reported: 10/01/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203404

Client Sample ID : GW19

Date Sampled : 08/23/03      Order #: 666646      Sample Matrix: WATER  
Date Received: 08/25/03      Submission #: R2318130      Analytical Run 94907

ANALYTE	PQL	RESULT	UNITS
---------	-----	--------	-------

DATE EXTRACTED : 08/29/03  
DATE ANALYZED : 09/02/03  
ANALYTICAL DILUTION: 0.93

NITROBENZENE	0.20	0.21	UG/L
--------------	------	------	------

<u>SURROGATE RECOVERIES</u>	<u>QC LIMITS</u>		
-----------------------------	------------------	--	--

TERPHENYL-d14	(15 - 135 %)	104	%
NITROBENZENE-d5	(30 - 116 %)	71	%
2-FLUOROBIPHENYL	(38 - 107 %)	60	%



**COLUMBIA ANALYTICAL SERVICES****EXTRACTABLE ORGANICS**

METHOD NITROBENZENE BY SIM 8270C

Reported: 10/01/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203404

Client Sample ID : GW21

---

Date Sampled : 08/23/03	Order #: 666647	Sample Matrix: WATER
Date Received: 08/25/03	Submission #: R2318130	Analytical Run 94907

---

ANALYTE	PQL	RESULT	UNITS
---------	-----	--------	-------

---

DATE EXTRACTED	: 08/29/03
DATE ANALYZED	: 09/02/03
ANALYTICAL DILUTION:	0.97

NITROBENZENE	0.20	0.19 U	UG/L
--------------	------	--------	------

<u>SURROGATE RECOVERIES</u>	<u>QC LIMITS</u>
-----------------------------	------------------

TERPHENYL-d14	(15 - 135 %)	103	%
NITROBENZENE-d5	(30 - 116 %)	87	%
2-FLUOROBIPHENYL	(38 - 107 %)	66	%



COLUMBIA ANALYTICAL SERVICES

**EXTRACTABLE ORGANICS**

METHOD NITROBENZENE BY SIM 8270C

Reported: 10/01/03

Roux Associates Inc.

**Project Reference:** HONEYWELL/OUTER HARBOR 25203404

**Client Sample ID :** GW22

---

<b>Date Sampled :</b> 08/23/03	<b>Order #:</b> 666648	<b>Sample Matrix:</b> WATER
<b>Date Received:</b> 08/25/03	<b>Submission #:</b> R2318130	<b>Analytical Run</b> 94907

---

ANALYTE	PQL	RESULT	UNITS
---------	-----	--------	-------

---

DATE EXTRACTED	: 08/29/03
DATE ANALYZED	: 09/03/03
ANALYTICAL DILUTION:	1.00

NITROBENZENE	0.20	0.33	UG/L
--------------	------	------	------

<u>SURROGATE RECOVERIES</u>	<u>QC LIMITS</u>		
-----------------------------	------------------	--	--

TERPHENYL-d14	(15 - 135 %)	76	%
NITROBENZENE-d5	(30 - 116 %)	88	%
2-FLUOROBIPHENYL	(38 - 107 %)	60	%



COLUMBIA ANALYTICAL SERVICES

**EXTRACTABLE ORGANICS**

METHOD NITROBENZENE BY SIM 8270C

Reported: 10/01/03

Roux Associates Inc.

**Project Reference:** HONEYWELL/OUTER HARBOR 25203404

**Client Sample ID :** GW23

<b>Date Sampled :</b> 08/23/03	<b>Order #:</b> 666649	<b>Sample Matrix:</b> WATER
<b>Date Received:</b> 08/25/03	<b>Submission #:</b> R2318130	<b>Analytical Run</b> 94907

ANALYTE	PQL	RESULT	UNITS
---------	-----	--------	-------

DATE EXTRACTED	: 08/29/03
DATE ANALYZED	: 09/03/03
ANALYTICAL DILUTION:	1.01

NITROBENZENE	0.20	0.73	UG/L
--------------	------	------	------

<u>SURROGATE RECOVERIES</u>	<u>QC LIMITS</u>
-----------------------------	------------------

TERPHENYL-d14	(15 - 135 %)	88	%
NITROBENZENE-d5	(30 - 116 %)	99	%
2-FLUOROBIPHENYL	(38 - 107 %)	64	%



**COLUMBIA ANALYTICAL SERVICES****EXTRACTABLE ORGANICS**

METHOD NITROBENZENE BY SIM 8270C

Reported: 10/01/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203404

Client Sample ID : GW32

---

Date Sampled : 08/23/03	Order #: 666650	Sample Matrix: WATER
Date Received: 08/25/03	Submission #: R2318130	Analytical Run 94907

---

ANALYTE	PQL	RESULT	UNITS
---------	-----	--------	-------

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DATE EXTRACTED	: 08/29/03
DATE ANALYZED	: 09/03/03
ANALYTICAL DILUTION:	1.05

NITROBENZENE	0.20	1.2	UG/L
--------------	------	-----	------

<u>SURROGATE RECOVERIES</u>	<u>QC LIMITS</u>
-----------------------------	------------------

TERPHENYL-d14	(15 - 135 %)	79	%
NITROBENZENE-d5	(30 - 116 %)	101	%
2-FLUOROBIPHENYL	(38 - 107 %)	69	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD NITROBENZENE BY SIM 8270C  
Reported: 09/29/03

Project Reference:  
Client Sample ID : METHOD BLANK

Date Sampled :	Order #: 668394	Sample Matrix: WATER
Date Received:	Submission #:	Analytical Run 94907

ANALYTE	PQL	RESULT	UNITS
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DATE EXTRACTED : 08/29/03  
DATE ANALYZED : 09/02/03  
ANALYTICAL DILUTION: 1.00

NITROBENZENE	0.20	0.20 U	UG/L
--------------	------	--------	------

SURROGATE RECOVERIES	QC LIMITS
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TERPHENYL-d14	(15 - 135 %)	83	%
NITROBENZENE-d5	(30 - 116 %)	64	%
2-FLUOROBIPHENYL	(38 - 107 %)	52	%



COLUMBIA ANALYTICAL SERVICES

QUALITY CONTROL SUMMARY    MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY  
WATER

Spiked Order No. :    666648    Roux Associates Inc.

Client ID: GW22

Test: NITROBENZENE BY SIM 8270C

Analytical Units:    UG/L

Run Number        :    94907

ANALYTE	SPIKE ADDED	CONCENT. SAMPLE	MATRIX SPIKE		MATRIX SPIKE DUP.				QC LIMITS	
			FOUND	% REC.	FOUND	% REC.	RPD	RPD	REC.	
NITROBENZENE	1.00	0.330	1.70	137	1.60	127	6	30	50 - 150	



COLUMBIA ANALYTICAL SERVICES

QUALITY CONTROL SUMMARY    LABORATORY CONTROL SAMPLE  
WATER

Spiked Order No. :    668395

Client ID:

Test: NITROBENZENE BY SIM 8270C

Analytical Units:        UG/L

Run Number            :    94907

ANALYTE	SPIKE ADDED	SAMPLE CONCENT.	BLANK SPIKE		QC LIMITS
			FOUND	% REC.	REC.
NITROBENZENE	1.00	0	0.810	81	50 - 150



METALS  
COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Contract: R2318130 SDG No.: GW18R  
Lab Code: Case No.: SAS No.:  
SOW No.: SW846 CLP-M Client: Roux Associates Inc.

<u>Sample No.</u>	<u>Lab Sample ID.</u>
<u>GW18R</u>	<u>666645</u>
<u>GW19</u>	<u>666646</u>
<u>GW21</u>	<u>666647</u>
<u>GW22</u>	<u>666648</u>
<u>GW22D</u>	<u>666648D</u>
<u>GW22S</u>	<u>666648S</u>
<u>GW23</u>	<u>666649</u>
<u>GW32</u>	<u>666650</u>

Were ICP interelement corrections applied? Yes/No YES

Were ICP background corrections applied? Yes/No YES

If yes-were raw data generated before application of background corrections? Yes/No NO

Comments: See Attached Case Narrative

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Michael K. Perry Name: Michael K. Perry  
Date: 10/1/03 Title: Laboratory Manager



## METALS

-1-

## INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

GW18R

Contract: R2318130

Lab Code:

Case No.:

SAS No.:

SDG NO.: GW18R

Matrix (soil/water): WATER

Lab Sample ID: 666645

Level (low/med): LOW

Date Received: 08/25/03

Concentration Units (ug/L or mg/kg dry weight):  $\mu\text{G/L}$ 

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	38700			P
7440-36-0	Antimony	60.0	U		P
7440-38-2	Arsenic	84.0			P
7440-39-3	Barium	479			P
7440-41-7	Beryllium	5.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	478000			P
7440-47-3	Chromium	59.3			P
7440-48-4	Cobalt	50.0	U		P
7440-50-8	Copper	69.1			P
7439-89-6	Iron	53900			P
7439-92-1	Lead	246			P
7439-95-4	Magnesium	92800			P
7439-96-5	Manganese	2820			P
7439-97-6	Mercury	0.50			CV
7440-02-0	Nickel	48.4			P
7440-09-7	Potassium	28700			P
7782-49-2	Selenium	5.0	U		P
7440-22-4	Silver	10.0	U		P
7440-23-5	Sodium	32700			P
7440-28-0	Thallium	30.0	U		P
7440-62-2	Vanadium	80.6			P
7440-66-6	Zinc	390		E	P

Color Before: BROWN

Clarity Before: CLOUDY

Texture:

Color After: YELLOW

Clarity After: CLOUDY

Artifacts:

Comments:



## METALS

-1-

## INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

GW19

Contract: R2318130

Lab Code:

Case No.:

SAS No.:

SDG NO.: GW18R

Matrix (soil/water): WATER

Lab Sample ID: 666646

Level (low/med): LOW

Date Received: 08/25/03

Concentration Units (ug/L or mg/kg dry weight):  $\mu\text{G/L}$ 

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	3310			P
7440-36-0	Antimony	60.0	U		P
7440-38-2	Arsenic	10.0	U		P
7440-39-3	Barium	32.2			P
7440-41-7	Beryllium	5.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	63500			P
7440-47-3	Chromium	59.6			P
7440-48-4	Cobalt	50.0	U		P
7440-50-8	Copper	20.0	U		P
7439-89-6	Iron	122			P
7439-92-1	Lead	5.0	U		P
7439-95-4	Magnesium	500	U		P
7439-96-5	Manganese	10.0	U		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	40.0	U		P
7440-09-7	Potassium	427000			P
7782-49-2	Selenium	16.8			P
7440-22-4	Silver	10.0	U		P
7440-23-5	Sodium	29500			P
7440-28-0	Thallium	10.0	U		P
7440-62-2	Vanadium	50.0	U		P
7440-66-6	Zinc	20.0	U	E	P

Color Before: YELLOW

Clarity Before: CLEAR

Texture:

Color After: YELLOW

Clarity After: CLEAR

Artifacts:

Comments:



## METALS

-1-

## INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

GW21

Contract: R2318130

Lab Code:

Case No.:

SAS No.:

SDG NO.: GW18R

Matrix (soil/water): WATER

Lab Sample ID: 666647

Level (low/med): LOW

Date Received: 08/25/03

Concentration Units (ug/L or mg/kg dry weight):  $\mu\text{G/L}$ 

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	100	U		P
7440-36-0	Antimony	60.0	U		P
7440-38-2	Arsenic	10.0	U		P
7440-39-3	Barium	51.9			P
7440-41-7	Beryllium	5.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	47100			P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	50.0	U		P
7440-50-8	Copper	20.0	U		P
7439-89-6	Iron	135			P
7439-92-1	Lead	5.0	U		P
7439-95-4	Magnesium	3320			P
7439-96-5	Manganese	10.0	U		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	40.0	U		P
7440-09-7	Potassium	22000			P
7782-49-2	Selenium	5.0	U		P
7440-22-4	Silver	10.0	U		P
7440-23-5	Sodium	14300			P
7440-28-0	Thallium	10.0	U		P
7440-62-2	Vanadium	50.0	U		P
7440-66-6	Zinc	20.0	U	E	P

Color Before: YELLOW

Clarity Before: CLEAR

Texture:

Color After: YELLOW

Clarity After: CLEAR

Artifacts:

Comments:



## METALS

-1-

## INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

GW22

Contract: R2318130

Lab Code:

Case No.:

SAS No.:

SDG NO.: GW18R

Matrix (soil/water): WATER

Lab Sample ID: 666648

Level (low/med): LOW

Date Received: 08/25/03

Concentration Units (ug/L or mg/kg dry weight):  $\mu\text{G/L}$ 

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	86500			P
7440-36-0	Antimony	79.4			P
7440-38-2	Arsenic	44.3			P
7440-39-3	Barium	878			P
7440-41-7	Beryllium	5.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	658000			P
7440-47-3	Chromium	165			P
7440-48-4	Cobalt	50.0	U		P
7440-50-8	Copper	411			P
7439-89-6	Iron	120000			P
7439-92-1	Lead	1260			P
7439-95-4	Magnesium	201000			P
7439-96-5	Manganese	4270			P
7439-97-6	Mercury	2.1			CV
7440-02-0	Nickel	115			P
7440-09-7	Potassium	42200			P
7782-49-2	Selenium	5.0	U		P
7440-22-4	Silver	10.0	U		P
7440-23-5	Sodium	49200			P
7440-28-0	Thallium	50.0	U		P
7440-62-2	Vanadium	169			P
7440-66-6	Zinc	1170		E	P

Color Before: BROWN

Clarity Before: CLOUDY

Texture:

Color After: YELLOW

Clarity After: CLOUDY

Artifacts:

Comments:



## METALS

-1-

## INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

GW23

Contract: R2318130

Lab Code:

Case No.:

SAS No.:

SDG NO.: GW18R

Matrix (soil/water): WATER

Lab Sample ID: 666649

Level (low/med): LOW

Date Received: 08/25/03

Concentration Units (ug/L or mg/kg dry weight):  $\mu\text{G/L}$ 

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	532			P
7440-36-0	Antimony	60.0	U		P
7440-38-2	Arsenic	10.5			P
7440-39-3	Barium	343			P
7440-41-7	Beryllium	5.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	254000			P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	50.0	U		P
7440-50-8	Copper	21.5			P
7439-89-6	Iron	7900			P
7439-92-1	Lead	15.9			P
7439-95-4	Magnesium	82500			P
7439-96-5	Manganese	720			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	40.0	U		P
7440-09-7	Potassium	32500			P
7782-49-2	Selenium	5.0	U		P
7440-22-4	Silver	10.0	U		P
7440-23-5	Sodium	58000			P
7440-28-0	Thallium	10.0	U		P
7440-62-2	Vanadium	50.0	U		P
7440-66-6	Zinc	23.7		E	P

Color Before: YELLOW

Clarity Before: CLEAR

Texture:

Color After: YELLOW

Clarity After: CLEAR

Artifacts:

Comments:



## METALS

-1-

## INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

GW32

Contract: R2318130

Lab Code:

Case No.:

SAS No.:

SDG NO.: GW18R

Matrix (soil/water): WATER

Lab Sample ID: 666650

Level (low/med): LOW

Date Received: 08/25/03

Concentration Units (ug/L or mg/kg dry weight):  $\mu\text{G/L}$ 

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1360			P
7440-36-0	Antimony	60.0	U		P
7440-38-2	Arsenic	10.1			P
7440-39-3	Barium	337			P
7440-41-7	Beryllium	5.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	259000			P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	50.0	U		P
7440-50-8	Copper	20.0	U		P
7439-89-6	Iron	8710			P
7439-92-1	Lead	16.4			P
7439-95-4	Magnesium	84500			P
7439-96-5	Manganese	665			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	40.0	U		P
7440-09-7	Potassium	27700			P
7782-49-2	Selenium	5.0	U		P
7440-22-4	Silver	10.0	U		P
7440-23-5	Sodium	53000			P
7440-28-0	Thallium	10.0	U		P
7440-62-2	Vanadium	50.0	U		P
7440-66-6	Zinc	28.0		E	P

Color Before: YELLOW

Clarity Before: CLEAR

Texture:

Color After: YELLOW

Clarity After: CLEAR

Artifacts:

Comments:



## METALS

-3-

## BLANKS

Contract: R2318130

Lab Code:

Case No.:

SAS No.:

SDG NO.: GW18R

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L)						Preparation Blank	C	M
			1	C	2	C	3	C			
Aluminum	100.0	U	100.0	U	100.0	U	100.0	U	100.000	U	P
Antimony	60.0	U	60.0	U	60.0	U	60.0	U	60.000	U	P
Arsenic	10.0	U	10.0	U	10.0	U	10.0	U	10.000	U	P
Barium	20.0	U	20.0	U	20.0	U	20.0	U	20.000	U	P
Beryllium	5.0	U	5.0	U	5.0	U	5.0	U	5.000	U	P
Cadmium	5.0	U	5.0	U	5.0	U	5.0	U	5.000	U	P
Calcium	500.0	U	500.0	U	500.0	U	500.0	U	500.000	U	P
Chromium	10.0	U	10.0	U	10.0	U	10.0	U	10.000	U	P
Cobalt	50.0	U	50.0	U	50.0	U	50.0	U	50.000	U	P
Copper	20.0	U	20.0	U	20.0	U	20.0	U	20.000	U	P
Iron	100.0	U	100.0	U	100.0	U	100.0	U	100.000	U	P
Lead	5.0	U	5.0	U	5.0	U	5.0	U	5.000	U	P
Magnesium	500.0	U	500.0	U	500.0	U	500.0	U	500.000	U	P
Manganese	10.0	U	10.0	U	10.0	U	10.0	U	10.000	U	P
Mercury	0.20	U	0.20	U	0.20	U	0.20	U	0.200	U	CV
Nickel	40.0	U	40.0	U	40.0	U	40.0	U	40.000	U	P
Potassium	2000.0	U	2000.0	U	2000.0	U	2000.0	U	2000.000	U	P
Selenium	5.0	U	5.0	U	5.0	U	5.0	U	5.000	U	P
Silver	10.0	U	10.0	U	10.0	U	10.0	U	10.000	U	P
Sodium	500.0	U	500.0	U	500.0	U	500.0	U	500.000	U	P
Thallium	10.0	U	10.0	U	10.0	U	10.0	U	10.000	U	P
Vanadium	50.0	U	50.0	U	50.0	U	50.0	U	50.000	U	P
Zinc	20.0	U	20.0	U	20.0	U	20.0	U	20.000	U	P



## METALS

-3-

## BLANKS

Contract: R2318130

Lab Code:

Case No.:

SAS No.:

SDG NO.: GW18R

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L)						Preparation Blank	C	M
			1	C	2	C	3	C			
Aluminum			100.0	U	100.0	U					P
Antimony			60.0	U	60.0	U					P
Arsenic			10.0	U	10.0	U					P
Barium			20.0	U	20.0	U					P
Beryllium			5.0	U	5.0	U					P
Cadmium			5.0	U	5.0	U					P
Calcium			500.0	U	500.0	U	500.0	U			P
Chromium			10.0	U	10.0	U					P
Cobalt			50.0	U	50.0	U					P
Copper			20.0	U	20.0	U					P
Iron			100.0	U	100.0	U					P
Lead			5.0	U	5.0	U					P
Magnesium			500.0	U	500.0	U					P
Manganese			10.0	U	10.0	U					P
Mercury			0.20	U	0.20	U	0.20	U			CV
Nickel			40.0	U	40.0	U					P
Potassium			2000.0	U	2000.0	U	2000.0	U			P
Selenium			5.0	U	5.0	U					P
Silver			10.0	U	10.0	U					P
Sodium			500.0	U	500.0	U	500.0	U			P
Thallium			10.0	U	10.0	U					P
Vanadium			50.0	U	50.0	U					P
Zinc			20.0	U	20.0	U					P



METALS

-3-

BLANKS

Contract: R2318130

Lab Code: Case No.: SAS No.: SDG NO.: GW18R

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L)						Preparation Blank	C	M
			1	C	2	C	3	C			
Potassium	2000.0	U	2000.0	U	2000.0	U	2000.0	U			P
Thallium	10.0	U	10.0	U	10.0	U	10.0	U			P



METALS  
-3-  
BLANKS

Contract: R2318130

Lab Code: Case No.: SAS No.: SDG NO.: GW18R

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	Continuing Calibration Blank (ug/L)						Preparation Blank		
		1	C	2	C	3	C			
Potassium		2000.0	U	2000.0	U	2000.0	U			P
Thallium		10.0	U							P



METALS  
-5A-  
SPIKE SAMPLE RECOVERY

SAMPLE NO.

GW22S

Contract: R2318130

Lab Code:

Case No.:

SAS No.:

SDG NO.: GW18R

Matrix (soil/water): WATER

Level (low/med): LOW

% Solids for Sample: 0.0

Concentration Units (ug/L or mg/kg dry weight): µG/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum		82329.0391		86535.0078		2000.00	-210.3		P
Antimony	75 - 125	532.4425		79.3970		500.00	90.6		P
Arsenic	75 - 125	81.3682		44.3138		40.00	92.6		P
Barium	75 - 125	2781.6262		877.7886		2000.00	95.2		P
Beryllium	75 - 125	48.0227		5.0000	U	50.00	96.0		P
Cadmium	75 - 125	49.3263		5.0000	U	50.00	98.7		P
Calcium		649569.1797		657931.8750		2000.00	-418.1		P
Chromium	75 - 125	345.9819		164.7212		200.00	90.6		P
Cobalt	75 - 125	500.8821		50.0000	U	500.00	100.2		P
Copper	75 - 125	635.2899		410.9124		250.00	89.8		P
Iron		117651.1875		119664.0156		1000.00	-201.3		P
Lead	75 - 125	1697.0819		1261.2146		500.00	87.2		P
Magnesium		200199.3906		201105.4063		2000.00	-45.3		P
Manganese		4683.8799		4268.0010		500.00	83.2		P
Mercury	75 - 125	2.9817		2.0704		1.00	91.1		CV
Nickel	75 - 125	558.1971		115.0518		500.00	88.6		P
Potassium	75 - 125	59114.2031		42185.3086		20000.00	84.6		P
Selenium	75 - 125	1007.5565		5.0000	U	1010.00	99.8		P
Silver	75 - 125	43.0246		10.0000	U	50.00	86.0		P
Sodium	75 - 125	68444.6250		49153.7539		20000.00	96.5		P
Thallium	75 - 125	1856.5379		50.0000	U	2000.00	92.8		P
Vanadium	75 - 125	638.2900		168.5310		500.00	94.0		P
Zinc	75 - 125	1581.7679		1167.1798		500.00	82.9		P

Comments:





A FULL SERVICE ENVIRONMENTAL LABORATORY

September 26, 2003

Mr. Glenn Netuschil  
Roux Associates Inc.  
1377 Motor Parkway  
Islandia, NY 11749

PROJECT: HONEYWELL/OUTER HARBOR 25203404  
Submission #: R2318129

Dear Mr. Netuschil

Enclosed are the analytical results of the analyses requested. All data has been reviewed prior to report submission. Should you have any questions please contact me at (585) 288-5380.

Thank you for letting us provide this service.

Sincerely,

COLUMBIA ANALYTICAL SERVICES

A handwritten signature in black ink, appearing to read 'Mark Wilson', is written over the printed name.

Mark Wilson  
Client Service Manager

Enc.





1 Mustard ST.  
Suite 250  
Rochester, NY 14609  
(585) 288-5380

**THIS IS AN ANALYTICAL TEST REPORT FOR:**

Client : Roux Associates Inc.  
Project Reference: HONEYWELL/OUTER HARBOR 25203404  
Lab Submission # : R2318129  
Project Manager : Mark Wilson  
Reported : 09/26/03

Report Contains a total of 45 pages

The results reported herein relate only to the samples received by the laboratory. This report may not be reproduced except in full, without the approval of Columbia Analytical Services.

This package has been reviewed by Columbia Analytical Services' QA Department/Laboratory Director to comply with NELAC standards prior to report submittal. *Michael F. Perry*



## **CASE NARRATIVE**

COMPANY: Roux Associates  
PROJECT: Honeywell/Outer Harbor  
SUBMISSION #: R2318129

Soil samples were collected on 08/23-24/03 and received at CAS on 08/25/03 in good condition at a cooler temperatures of 1 and 2 °C. See CAS CLP Batching sheets for a cross-reference between Client ID and CAS Job # and analyses requested.

### **TOTAL ORGANIC CARBON**

Soil samples were analyzed for Total Organic Carbon by the Lloyd Kahn Method.

The Blank Spike (Reference Check) recoveries were all within QC limits. The Matrix Spike recoveries from sample PTSB-10(4-6') were all within QC limits. The RPD from the duplicate analyses were all within QC.

No analytical or QC problems were encountered.

### **SEMIVOLATILE ORGANICS**

Soil samples were analyzed for Nitrobenzene by SW-846 method 8270C.

All DFTPP tuning criteria were within acceptance limits.

The initial and continuing calibration criteria were met for all analytes.

All internal standard areas were within QC limits.

All surrogate standard recoveries were within QC limits. Surrogates were diluted out in several samples due to high levels of target compounds in the samples.

The Blank Spike (Reference Check) were all within QC limits. The Matrix Spike/Matrix Spike Duplicate recoveries and RPD from sample PTSB-10(4-6') were all within QC limits.

No analytical or QC problems were encountered.



SDG #: PT5B-10		SUBMISSION R2318129		CLIENT: Roux Associates Inc.		CLIENT REP: Mark Wilson		PROJECT: HONEYWELL/OUTER HARBOR		CUSTODY SEAL: PRESENT/ABSENT:		SHIPPING No.:		SUMMARY PKG: Y X N		DATE REVISED: 8/26/03		DATE DUE: 09/22/03		PROTOCOL: 846	
BATCH COMPLETE: <input type="checkbox"/> yes		DISKETTE REQUESTED: Y X N		DATE: 08/25/03		CUSTODY SEAL: PRESENT/ABSENT:		CHAIN OF CUSTODY: PRESENT/ABSENT:		DATE SAMPLED		DATE RECEIVED		pH		% SOLIDS		REMARKS			
CAS JOB #	CLIENT/EPA ID	MATRIX	REQUESTED PARAMETERS	DATE SAMPLED	DATE RECEIVED	pH	% SOLIDS	REMARKS													
666622	PT5B-10(4'-6')	SOIL	QC 8270/TOC	8/23/03	8/25/03																
666624	PT5B-10(14'-16')	SOIL	8270/TOC	8/23/03	8/25/03																
666625	PT5B-20(14'-16')	SOIL	8270/TOC	8/23/03	8/25/03																
666626	PT5B-1(14'-16')	SOIL	8270/TOC	8/23/03	8/25/03																
666628	PT5B-11(4'-6')	SOIL	8270/TOC	8/23/03	8/25/03																
666630	PT5B-11(18'-20')	SOIL	8270/TOC	8/23/03	8/25/03																
666632	PT5B-12(16'-18')	SOIL	8270/TOC	8/24/03	8/25/03																
666633	PT5B-13(16'-18')	SOIL	8270/TOC	8/24/03	8/25/03																
666635	PT5B-14(18'-20')	SOIL	8270/TOC	8/24/03	8/25/03																
666637	PT5B-15(18'-20')	SOIL	8270/TOC	8/24/03	8/25/03																
666641	PT5B-19(18'-20')	SOIL	8270/TOC	8/24/03	8/25/03																
666642	PT5B-6(6'-8')	SOIL	8270/TOC	8/24/03	8/25/03																
666643	PT5B-6(12'-14')	SOIL	8270/TOC	8/24/03	8/25/03																
666644	PT5B-2(12'-14')	SOIL	8270/TOC	8/24/03	8/25/03																
6666785	PT5B-5(14'-16')	SOIL	8270, TOC	8/23/03	8/25/03																





Effective 6/12/2003

## ORGANIC QUALIFIERS

- U - Indicates compound was analyzed for but not detected. The sample quantitation limit must be corrected for dilution and for percent moisture.
- J - Indicates an estimated value. The flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
- N - Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds, where the identification is based on a mass spectral library search.
- P - This flag is used for a pesticide/Aroclor target analyte when there is a greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on Form I and flagged with a "P".
- C - This flag applies to pesticide results where the identification has been confirmed by GC/MS.
- B - This flag is used when the analyte is found in the associated blank as well as in the sample.
- E - This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
- D - This flag identifies all compounds identified in an analysis at a secondary dilution factor. If a sample or extract is re-analyzed at a higher dilution factor, as in the "E" flag above, the "DL" suffix is appended to the sample number on the Form I for the diluted sample, and ALL concentration values reported on that Form I are flagged with the "D" flag.
- A - This flag indicates that a TIC is a suspected aldol-condensation product.
- X - As specified in Case Narrative.
- \* - This flag identifies compounds associated with a quality control parameter which exceeds laboratory limits.

### **CAS/Rochester Lab ID # for State Certifications**

Army Corp of Engineers Validated  
Delaware Accredited  
Connecticut ID # PH0556  
Florida ID # E87674  
Massachusetts ID # M-NY032  
Navy Facilities Engineering Service Center Approved  
Nebraska Accredited

NELAP Accredited  
New York ID # 10145  
New Jersey ID # NY004  
New Hampshire ID # 294100 A/B  
Pennsylvania Registration 68-786  
Rhode Island ID # 158  
South Carolina ID #91012  
West Virginia ID # 292





Effective 6/12/2003

## INORGANIC QUALIFIERS

C (Concentration) qualifier –

- B - if the reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL) but was greater than or equal to the Instrument Detection Limit (IDL).
- U - if the analyte was analyzed for, but not detected

Q qualifier - Specified entries and their meanings are as follows:

- D - Spike was diluted out
- E - The reported value is estimated because of the presence of interference.
- J - Estimated Value
- M - Duplicate injection precision not met.
- N - Spiked sample recovery not within control limits.
- S - The reported value was determined by the Method of Standard Additions (MSA).
- W - Post-digestion spike for Furnace AA Analysis is out of control limits (85-115), while sample absorbance is less than 50% of spike absorbance.
- \* - Duplicate analysis not within control limits.
- + - Correlation coefficient for the MSA is less than 0.995.

M (Method) qualifier:

- "P" for ICP
- "A" for Flame AA
- "F" for Furnace AA
- "PM" for ICP when Microwave Digestion is used
- "AM" for Flame AA when Microwave Digestion is used
- "FM" for Furnace M when Microwave Digestion is used
- "CV" for Manual Cold Vapor AA
- "AV" for Automated Cold Vapor AA
- "CA" for Midi-Distillation Spectrophotometric
- "AS" for Semi-Automated Spectrophotometric
- "C" for Manual Spectrophotometric
- "T" for Titrimetric
- " " where no data has been entered
- "NR" if the analyte is not required to be analyzed.

### **CAS/Rochester Lab ID # for State Certifications**

Army Corp of Engineers Validated  
Delaware Accredited  
Connecticut ID # PH0556  
Florida ID # E87674  
Massachusetts ID # M-NY032  
Navy Facilities Engineering Service Center Approved  
Nebraska Accredited  
NELAP Accredited

New York ID # 10145  
New Jersey ID # NY004  
New Hampshire ID # 294100 A/B  
Pennsylvania Registration 68-786  
Rhode Island ID # 158  
South Carolina ID #91012  
West Virginia ID # 292



# CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

五

CAS Contact

FO

PAGE

X (585) 288-8475

222 x1

1-800-691-6911

288-5

1609-0859

chester, NY

Site 250 • 8

Mustard St.

One

serum

**An Example**

[illegible]







# Cooler Receipt And Preservation Check Form

Project/Client ROX Submission Number 18129

Cooler received on 8/25/03 by: BC COURIER: CAS UPS FEDEX CD&L CLIENT

1. Were custody seals on outside of cooler? YES NO
2. Were custody papers properly filled out (ink, signed, etc.)? YES NO
3. Did all bottles arrive in good condition (unbroken)? YES NO
4. Did any VOA vials have significant air bubbles? YES NO N/A
5. Were Ice or Ice packs present? YES NO
6. Where did the bottles originate? CAS/ROC CLIENT
7. Temperature of cooler(s) upon receipt: 2° 1°

Is the temperature within 0° - 6° C?: Yes Yes Yes Yes Yes

If No, Explain Below No No No No No

Date/Time Temperatures Taken: 8/25/03 1535

Thermometer ID: 161 or IR GUN Reading From: Temp Blank or Sample Bottle

## If out of Temperature, Client Approval to Run Samples

Cooler Breakdown: Date: 8/26/03 by: BC

1. Were all bottle labels complete (i.e. analysis, preservation, etc.)? YES NO
2. Did all bottle labels and tags agree with custody papers? YES NO
3. Were correct containers used for the tests indicated? YES NO
4. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated N/A

Explain any discrepancies: \_\_\_\_\_

		YES	NO	Sample I.D.	Reagent	Vol. Added
pH	Reagent					
12	NaOH					
2	HNO <sub>3</sub>					
2	H <sub>2</sub> SO <sub>4</sub>					
Residual Chlorine (+/-)	for TCN & Phenol					
5-9**	P/PCBs (608 only)					

YES = All samples OK

NO = Samples were preserved at lab as listed

PC OK to adjust pH

\*\*If pH adjustment is required, use NaOH and/or H<sub>2</sub>SO<sub>4</sub>

VOC Vial pH Verification (Tested after Analysis) Following Samples Exhibited pH > 2					

Other Comments:



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270 NITROBENZENE  
Reported: 09/26/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203404

Client Sample ID : PTSB-10 (4'-6')

Date Sampled : 08/23/03      Order #: 666622      Sample Matrix: SOIL/SEDIMENT  
Date Received: 08/25/03      Submission #: R2318129      Percent Solid: 67.5

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/26/03			
DATE ANALYZED : 08/27/03			
ANALYTICAL DILUTION: 5.00			Dry Weight
NITROBENZENE	330	12000	UG/KG
SURROGATE RECOVERIES	QC LIMITS		
TERPHENYL-d14	(18 - 137 %)	93	%
NITROBENZENE-d5	(23 - 120 %)	70	%
2-FLUOROBIPHENYL	(30 - 115 %)	85	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270 NITROBENZENE  
Reported: 09/26/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203404

Client Sample ID : PTSB-10(14'-16')

Date Sampled : 08/23/03      Order #: 666624      Sample Matrix: SOIL/SEDIMENT  
Date Received: 08/25/03      Submission #: R2318129      Percent Solid: 76.1

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/26/03			
DATE ANALYZED : 08/27/03			
ANALYTICAL DILUTION: 3.00			Dry Weight
NITROBENZENE	330	9100	UG/KG
<u>SURROGATE RECOVERIES</u>	<u>QC LIMITS</u>		
TERPHENYL-d14	(18 - 137 %)	94	%
NITROBENZENE-d5	(23 - 120 %)	70	%
2-FLUOROBIPHENYL	(30 - 115 %)	86	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270 NITROBENZENE  
Reported: 09/26/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203404

Client Sample ID : PTSB-20(14'-16')

Date Sampled : 08/23/03      Order #: 666625      Sample Matrix: SOIL/SEDIMENT  
Date Received: 08/25/03      Submission #: R2318129      Percent Solid: 76.8

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/26/03			
DATE ANALYZED : 08/27/03			
ANALYTICAL DILUTION: 5.00			Dry Weight
NITROBENZENE	330	14000	UG/KG
<u>SURROGATE RECOVERIES</u>	<u>QC LIMITS</u>		
TERPHENYL-d14	(18 - 137 %)	74	%
NITROBENZENE-d5	(23 - 120 %)	64	%
2-FLUOROBIPHENYL	(30 - 115 %)	74	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270 NITROBENZENE  
Reported: 09/26/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203404

Client Sample ID : PTSB-1(14'-16')

Date Sampled : 08/23/03      Order #: 666626      Sample Matrix: SOIL/SEDIMENT  
Date Received: 08/25/03      Submission #: R2318129      Percent Solid: 78.2

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/26/03			
DATE ANALYZED : 08/27/03			
ANALYTICAL DILUTION: 5.00			Dry Weight
NITROBENZENE	330	7500	UG/KG
SURROGATE RECOVERIES	QC LIMITS		
TERPHENYL-d14	(18 - 137 %)	87	%
NITROBENZENE-d5	(23 - 120 %)	73	%
2-FLUOROBIPHENYL	(30 - 115 %)	84	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270 NITROBENZENE  
Reported: 09/26/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203404

Client Sample ID : PTSB-11(4'-6')

Date Sampled : 08/23/03      Order #: 666628      Sample Matrix: SOIL/SEDIMENT  
Date Received: 08/25/03      Submission #: R2318129      Percent Solid: 67.7

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/26/03			
DATE ANALYZED : 08/28/03			
ANALYTICAL DILUTION: 25.00			Dry Weight
NITROBENZENE	330	100000	UG/KG
<u>SURROGATE RECOVERIES</u>	<u>QC LIMITS</u>		
TERPHENYL-d14	(18 - 137 %)	D	%
NITROBENZENE-d5	(23 - 120 %)	D	%
2-FLUOROBIPHENYL	(30 - 115 %)	D	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270 NITROBENZENE  
Reported: 09/26/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203404

Client Sample ID : PTSB-11(18'-20')

Date Sampled : 08/23/03      Order #: 666630      Sample Matrix: SOIL/SEDIMENT  
Date Received: 08/25/03      Submission #: R2318129      Percent Solid: 76.5

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/26/03			
DATE ANALYZED : 08/28/03			
ANALYTICAL DILUTION: 10.00			Dry Weight
NITROBENZENE	330	43000	UG/KG
<u>SURROGATE RECOVERIES</u>	<u>QC LIMITS</u>		
TERPHENYL-d14	(18 - 137 %)	105	%
NITROBENZENE-d5	(23 - 120 %)	67	%
2-FLUOROBIPHENYL	(30 - 115 %)	91	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270 NITROBENZENE  
Reported: 09/26/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203404

Client Sample ID : PTSB-12(16'-18')

Date Sampled : 08/24/03      Order #: 666632      Sample Matrix: SOIL/SEDIMENT  
Date Received: 08/25/03      Submission #: R2318129      Percent Solid: 77.9

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/26/03			
DATE ANALYZED : 08/28/03			
ANALYTICAL DILUTION: 250.00			Dry Weight
NITROBENZENE	330	760000	UG/KG
<u>SURROGATE RECOVERIES</u>	<u>QC LIMITS</u>		
TERPHENYL-d14	(18 - 137 %)	D	%
NITROBENZENE-d5	(23 - 120 %)	D	%
2-FLUOROBIPHENYL	(30 - 115 %)	D	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270 NITROBENZENE  
Reported: 09/26/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203404

Client Sample ID : PTSB-13 (16'-18')

Date Sampled : 08/24/03      Order #: 666633      Sample Matrix: SOIL/SEDIMENT  
Date Received: 08/25/03      Submission #: R2318129      Percent Solid: 74.5

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/26/03			
DATE ANALYZED : 08/28/03			
ANALYTICAL DILUTION: 500.00			Dry Weight
NITROBENZENE	330	1200000	UG/KG
<u>SURROGATE RECOVERIES</u>	<u>QC LIMITS</u>		
TERPHENYL-d14	(18 - 137 %)	D	%
NITROBENZENE-d5	(23 - 120 %)	D	%
2-FLUOROBIPHENYL	(30 - 115 %)	D	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270 NITROBENZENE  
Reported: 09/26/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203404

Client Sample ID : PTSB-14(18'-20')

Date Sampled : 08/24/03      Order #: 666635      Sample Matrix: SOIL/SEDIMENT  
Date Received: 08/25/03      Submission #: R2318129      Percent Solid: 77.6

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/26/03			
DATE ANALYZED : 08/28/03			
ANALYTICAL DILUTION: 200.00			Dry Weight
NITROBENZENE	330	590000	UG/KG
<u>SURROGATE RECOVERIES</u>	<u>QC LIMITS</u>		
TERPHENYL-d14	(18 - 137 %)	D	%
NITROBENZENE-d5	(23 - 120 %)	D	%
2-FLUOROBIPHENYL	(30 - 115 %)	D	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270 NITROBENZENE  
Reported: 09/26/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203404

Client Sample ID : PTSB-15(18'-20')

Date Sampled : 08/24/03      Order #: 666637      Sample Matrix: SOIL/SEDIMENT  
Date Received: 08/25/03      Submission #: R2318129      Percent Solid: 72.8

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/26/03			
DATE ANALYZED : 08/28/03			
ANALYTICAL DILUTION: 50.00			Dry Weight
NITROBENZENE	330	220000	UG/KG
<u>SURROGATE RECOVERIES</u>	<u>QC LIMITS</u>		
TERPHENYL-d14	(18 - 137 %)	D	%
NITROBENZENE-d5	(23 - 120 %)	D	%
2-FLUOROBIPHENYL	(30 - 115 %)	D	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270 NITROBENZENE  
Reported: 09/26/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203404

Client Sample ID : PTSB-19(18'-20')

Date Sampled : 08/24/03      Order #: 666641      Sample Matrix: SOIL/SEDIMENT  
Date Received: 08/25/03      Submission #: R2318129      Percent Solid: 78.2

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/26/03			
DATE ANALYZED : 08/28/03			
ANALYTICAL DILUTION: 100.00			Dry Weight
NITROBENZENE	330	230000	UG/KG
<u>SURROGATE RECOVERIES</u>	<u>QC LIMITS</u>		
TERPHENYL-d14	(18 - 137 %)	D	%
NITROBENZENE-d5	(23 - 120 %)	D	%
2-FLUOROBIPHENYL	(30 - 115 %)	D	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270 NITROBENZENE  
Reported: 09/26/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203404

Client Sample ID : PTSB-6(6'-8')

Date Sampled : 08/24/03      Order #: 666642      Sample Matrix: SOIL/SEDIMENT  
Date Received: 08/25/03      Submission #: R2318129      Percent Solid: 69.6

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/26/03			
DATE ANALYZED : 08/28/03			
ANALYTICAL DILUTION: 20.00			Dry Weight
NITROBENZENE	330	110000	UG/KG
<u>SURROGATE RECOVERIES</u>	<u>QC LIMITS</u>		
TERPHENYL-d14	(18 - 137 %)	D	%
NITROBENZENE-d5	(23 - 120 %)	D	%
2-FLUOROBIPHENYL	(30 - 115 %)	D	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270 NITROBENZENE  
Reported: 09/26/03

Roux Associates Inc.  
Project Reference: HONEYWELL/OUTER HARBOR 25203404  
Client Sample ID : PTSB-6(12'-14')

Date Sampled : 08/24/03      Order #: 666643      Sample Matrix: SOIL/SEDIMENT  
Date Received: 08/25/03      Submission #: R2318129      Percent Solid: 72.2

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/26/03			
DATE ANALYZED : 08/28/03			
ANALYTICAL DILUTION: 20.00			Dry Weight
NITROBENZENE	330	76000	UG/KG
<u>SURROGATE RECOVERIES</u>	<u>QC LIMITS</u>		
TERPHENYL-d14	(18 - 137 %)	D	%
NITROBENZENE-d5	(23 - 120 %)	D	%
2-FLUOROBIPHENYL	(30 - 115 %)	D	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270 NITROBENZENE  
Reported: 09/26/03

Roux Associates Inc.  
Project Reference: HONEYWELL/OUTER HARBOR 25203404  
Client Sample ID : PTSB-2(12'-14')

Date Sampled : 08/24/03      Order #: 666644      Sample Matrix: SOIL/SEDIMENT  
Date Received: 08/25/03      Submission #: R2318129      Percent Solid: 75.0

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/26/03			
DATE ANALYZED : 08/28/03			
ANALYTICAL DILUTION: 10.00			Dry Weight
NITROBENZENE	330	23000	UG/KG
<u>SURROGATE RECOVERIES</u>	<u>QC LIMITS</u>		
TERPHENYL-d14	(18 - 137 %)	75	%
NITROBENZENE-d5	(23 - 120 %)	53	%
2-FLUOROBIPHENYL	(30 - 115 %)	62	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270 NITROBENZENE  
Reported: 09/26/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203404

Client Sample ID : PTSB-5(14-16')

Date Sampled : 08/23/03      Order #: 666785      Sample Matrix: SOIL/SEDIMENT  
Date Received: 08/25/03      Submission #: R2318129      Percent Solid: 76.6

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/26/03			
DATE ANALYZED : 08/28/03			
ANALYTICAL DILUTION: 10.00			Dry Weight
NITROBENZENE	330	27000	UG/KG
SURROGATE RECOVERIES	QC LIMITS		
TERPHENYL-d14	(18 - 137 %)	73	%
NITROBENZENE-d5	(23 - 120 %)	54	%
2-FLUOROBIPHENYL	(30 - 115 %)	69	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270 NITROBENZENE  
Reported: 09/26/03

Project Reference:  
Client Sample ID : METHOD BLANK

Date Sampled :	Order #: 667188	Sample Matrix: SOIL/SEDIMENT
Date Received:	Submission #:	Percent Solid: 100

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/26/03			
DATE ANALYZED : 08/27/03			
ANALYTICAL DILUTION: 1.00			Dry Weight
NITROBENZENE	330	120 J	UG/KG
<u>SURROGATE RECOVERIES</u>	<u>QC LIMITS</u>		
TERPHENYL-d14	(18 - 137 %)	87	%
NITROBENZENE-d5	(23 - 120 %)	57	%
2-FLUOROBIPHENYL	(30 - 115 %)	63	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270 NITROBENZENE  
Reported: 09/26/03

Project Reference:  
Client Sample ID : METHOD BLANK

Date Sampled :	Order #: 667188	Sample Matrix: SOIL/SEDIMENT
Date Received:	Submission #:	Percent Solid: 100

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/26/03			
DATE ANALYZED : 08/28/03			
ANALYTICAL DILUTION: 1.00			Dry Weight
NITROBENZENE	330	130 J	UG/KG
SURROGATE RECOVERIES	QC LIMITS		
TERPHENYL-d14	(18 - 137 %)	93	%
NITROBENZENE-d5	(23 - 120 %)	59	%
2-FLUOROBIPHENYL	(30 - 115 %)	65	%



COLUMBIA ANALYTICAL SERVICES

QUALITY CONTROL SUMMARY    MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY  
SOIL/SEDIMENT

Spiked Order No. :    666622    Roux Associates Inc.

Client ID: PTSB-10(4'-6')

Test: 8270 NITROBENZENE

Analytical Units:    UG/KG

Run Number        :    94711

Percent Solid    :    67.5

ANALYTE	SPIKE ADDED	CONCENT. SAMPLE	MATRIX SPIKE		MATRIX SPIKE DUP.				QC LIMITS	
			FOUND	% REC.	FOUND	% REC.	RPD	RPD	REC.	
NITROBENZENE	4930	11900	16300	89	14800	59	10	30	46 - 102	



COLUMBIA ANALYTICAL SERVICES

QUALITY CONTROL SUMMARY    LABORATORY CONTROL SAMPLE  
SOIL/SEDIMENT

Spiked Order No. :    667189

Client ID:

Test: 8270 NITROBENZENE

Analytical Units:    UG/KG

Run Number        :    94711

ANALYTE	SPIKE ADDED	SAMPLE CONCENT.	BLANK SPIKE		QC LIMITS
			FOUND	% REC.	REC.
NITROBENZENE	3330	0	2800	84	46 - 102



COLUMBIA ANALYTICAL SERVICES

Reported: 09/26/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203404

Client Sample ID : PTSB-10(4'-6')

Date Sampled : 08/23/03

Order #: 666622

Sample Matrix: SOIL/SEDIMENT

Date Received: 08/25/03

Submission #: R2318129

ANALYTE	METHOD	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	TIME ANALYZED	DILUTION
PERCENT SOLIDS	160.0	1.0	67.5	%	08/27/03	10:38	1.0
TOTAL ORGANIC CARBON	TOC.LK	300	18200	MG/KG	09/02/03	11:49	1.0



COLUMBIA ANALYTICAL SERVICES

Reported: 09/26/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203404

Client Sample ID : PTSB-10(14'-16')

Date Sampled : 08/23/03

Order #: 666624

Sample Matrix: SOIL/SEDIMENT

Date Received: 08/25/03

Submission #: R2318129

ANALYTE	METHOD	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	TIME ANALYZED	DILUTION
PERCENT SOLIDS	160.0	1.0	76.1	%	08/27/03	10:38	1.0
TOTAL ORGANIC CARBON	TOC.LK	300	12800	MG/KG	09/02/03	11:49	1.0



COLUMBIA ANALYTICAL SERVICES

Reported: 09/26/03

Roux Associates Inc.  
Project Reference: HONEYWELL/OUTER HARBOR 25203404  
Client Sample ID : PTSB-20(14'-16')

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Date Sampled : 08/23/03	Order #: 666625	Sample Matrix: SOIL/SEDIMENT
Date Received: 08/25/03	Submission #: R2318129	

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ANALYTE	METHOD	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	TIME ANALYZED	DILUTION
PERCENT SOLIDS	160.0	1.0	76.8	%	08/27/03	10:38	1.0
TOTAL ORGANIC CARBON	TOC.LK	300	16600	MG/KG	09/02/03	11:49	1.0

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COLUMBIA ANALYTICAL SERVICES

Reported: 09/26/03

Roux Associates Inc.  
Project Reference: HONEYWELL/OUTER HARBOR 25203404  
Client Sample ID : PTSB-1(14'-16')

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Date Sampled : 08/23/03	Order #: 666626	Sample Matrix: SOIL/SEDIMENT
Date Received: 08/25/03	Submission #: R2318129	

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ANALYTE	METHOD	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	TIME ANALYZED	DILUTION
PERCENT SOLIDS	160.0	1.0	78.2	%	08/27/03	10:38	1.0
TOTAL ORGANIC CARBON	TOC.LK	300	12800	MG/KG	09/02/03	11:49	1.0

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COLUMBIA ANALYTICAL SERVICES

Reported: 09/26/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203404

Client Sample ID : PTSB-11(4'-6')

Date Sampled : 08/23/03

Order #: 666628

Sample Matrix: SOIL/SEDIMENT

Date Received: 08/25/03

Submission #: R2318129

ANALYTE	METHOD	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	TIME ANALYZED	DILUTION
PERCENT SOLIDS	160.0	1.0	67.7	%	08/27/03	10:38	1.0
TOTAL ORGANIC CARBON	TOC.LK	300	24100	MG/KG	09/02/03	11:49	1.0



COLUMBIA ANALYTICAL SERVICES

Reported: 09/26/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203404

Client Sample ID : PTSB-11(18'-20')

Date Sampled : 08/23/03

Order #: 666630

Sample Matrix: SOIL/SEDIMENT

Date Received: 08/25/03

Submission #: R2318129

ANALYTE	METHOD	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	TIME ANALYZED	DILUTION
PERCENT SOLIDS	160.0	1.0	76.5	%	08/27/03	10:38	1.0
TOTAL ORGANIC CARBON	TOC.LK	300	14800	MG/KG	09/02/03	11:49	1.0



COLUMBIA ANALYTICAL SERVICES

Reported: 09/26/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203404

Client Sample ID : PTSB-12(16'-18')

Date Sampled : 08/24/03

Order #: 666632

Sample Matrix: SOIL/SEDIMENT

Date Received: 08/25/03

Submission #: R2318129

ANALYTE	METHOD	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	TIME ANALYZED	DILUTION
PERCENT SOLIDS	160.0	1.0	77.9	%	08/27/03	10:38	1.0
TOTAL ORGANIC CARBON	TOC.LK	300	19500	MG/KG	09/02/03	11:49	1.0



COLUMBIA ANALYTICAL SERVICES

Reported: 09/26/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203404

Client Sample ID : PTSB-13(16'-18')

Date Sampled : 08/24/03

Order #: 666633

Sample Matrix: SOIL/SEDIMENT

Date Received: 08/25/03

Submission #: R2318129

ANALYTE	METHOD	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	TIME ANALYZED	DILUTION
PERCENT SOLIDS	160.0	1.0	74.5	%	08/27/03	10:38	1.0
TOTAL ORGANIC CARBON	TOC.LK	300	21300	MG/KG	09/02/03	11:49	1.0



COLUMBIA ANALYTICAL SERVICES

Reported: 09/26/03

Roux Associates Inc.  
Project Reference: HONEYWELL/OUTER HARBOR 25203404  
Client Sample ID : PTSB-14 (18'-20')

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Date Sampled : 08/24/03	Order #: 666635	Sample Matrix: SOIL/SEDIMENT
Date Received: 08/25/03	Submission #: R2318129	

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ANALYTE	METHOD	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	TIME ANALYZED	DILUTION
PERCENT SOLIDS	160.0	1.0	77.6	%	08/27/03	10:38	1.0
TOTAL ORGANIC CARBON	TOC.LK	300	33900	MG/KG	09/02/03	11:49	1.0

---



COLUMBIA ANALYTICAL SERVICES

Reported: 09/26/03

Roux Associates Inc.  
Project Reference: HONEYWELL/OUTER HARBOR 25203404  
Client Sample ID : PTSB-15(18'-20')

---

Date Sampled : 08/24/03	Order #: 666637	Sample Matrix: SOIL/SEDIMENT
Date Received: 08/25/03	Submission #: R2318129	

---

ANALYTE	METHOD	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	TIME ANALYZED	DILUTION
PERCENT SOLIDS	160.0	1.0	72.8	%	08/27/03	10:38	1.0
TOTAL ORGANIC CARBON	TOC.LK	300	14000	MG/KG	09/02/03	11:49	1.0

---



COLUMBIA ANALYTICAL SERVICES

Reported: 09/26/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203404

Client Sample ID : PTSB-19(18'-20')

Date Sampled : 08/24/03

Order #: 666641

Sample Matrix: SOIL/SEDIMENT

Date Received: 08/25/03

Submission #: R2318129

ANALYTE	METHOD	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	TIME ANALYZED	DILUTION
PERCENT SOLIDS	160.0	1.0	78.2	%	08/27/03	10:38	1.0
TOTAL ORGANIC CARBON	TOC.LK	300	15800	MG/KG	09/02/03	11:49	1.0



COLUMBIA ANALYTICAL SERVICES

Reported: 09/26/03

Roux Associates Inc.  
Project Reference: HONEYWELL/OUTER HARBOR 25203404  
Client Sample ID : PTSB-6(6'-8')

---

Date Sampled : 08/24/03	Order #: 666642	Sample Matrix: SOIL/SEDIMENT
Date Received: 08/25/03	Submission #: R2318129	

---

ANALYTE	METHOD	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	TIME ANALYZED	DILUTION
PERCENT SOLIDS	160.0	1.0	69.6	%	08/27/03	10:38	1.0
TOTAL ORGANIC CARBON	TOC.LK	300	19600	MG/KG	09/02/03	11:49	1.0

---



COLUMBIA ANALYTICAL SERVICES

Reported: 09/26/03

Roux Associates Inc.  
Project Reference: HONEYWELL/OUTER HARBOR 25203404  
Client Sample ID : PTSB-6(12'-14')

---

Date Sampled : 08/24/03	Order #: 666643	Sample Matrix: SOIL/SEDIMENT
Date Received: 08/25/03	Submission #: R2318129	

---

ANALYTE	METHOD	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	TIME ANALYZED	DILUTION
PERCENT SOLIDS	160.0	1.0	72.2	%	08/27/03	10:38	1.0
TOTAL ORGANIC CARBON	TOC.LK	300	19400	MG/KG	09/02/03	11:49	1.0

---



COLUMBIA ANALYTICAL SERVICES

Reported: 09/26/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203404

Client Sample ID : PTSB-2(12'-14')

Date Sampled : 08/24/03

Order #: 666644

Sample Matrix: SOIL/SEDIMENT

Date Received: 08/25/03

Submission #: R2318129

ANALYTE	METHOD	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	TIME ANALYZED	DILUTION
PERCENT SOLIDS	160.0	1.0	75.0	%	08/27/03	10:38	1.0
TOTAL ORGANIC CARBON	TOC.LK	300	13900	MG/KG	09/02/03	11:49	1.0



COLUMBIA ANALYTICAL SERVICES

Reported: 09/26/03

Roux Associates Inc.  
Project Reference: HONEYWELL/OUTER HARBOR 25203404  
Client Sample ID : PTSB-5(14-16')

---

Date Sampled : 08/23/03	Order #: 666785	Sample Matrix: SOIL/SEDIMENT
Date Received: 08/25/03	Submission #: R2318129	

---

ANALYTE	METHOD	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	TIME ANALYZED	DILUTION
PERCENT SOLIDS	160.0	1.0	76.6	%	08/27/03	10:38	1.0
TOTAL ORGANIC CARBON	TOC.LK	300	10300	MG/KG	09/02/03	11:49	1.0

---



Report Date : 09/26/03  
 CAS Order # : 666622 - PTSB-10 (4'-6')  
 Client : Roux Associates Inc.  
 : HONEYWELL/OUTER HARBOR 25203404  
 Reported Units: %  
 Run # : 94710

**PRECISION**

ORIGINAL	DUPLICATE	RPD
67.5	68.2	1

**PERCENT SOLIDS**



## INORGANIC QUALITY CONTROL SUMMARY

Report Date : 09/26/03  
CAS Order # : 666622 - PTSB-10 (4'-6')  
Client : Roux Associates Inc.  
Reported Units: MG/KG  
Run # : 94861  
Percent Solid : 67.5

## PRECISION ACCURACY

PRECISION			ACCURACY		
ORIGINAL	DUPLICATE	RPD	FOUND	ADDED	% REC. LIMITS
18200	21400	16	27100	15200	59 30 - 168

TOTAL ORGANIC CARBON



CAS Submission #: R2318129  
Client: Roux Associates Inc.  
HONEYWELL/OUTER HARBOR 25203404

BLANK SPIKES

BLANK	FOUND	ADDED	% REC	LIMITS	RUN	UNITS
300 U	1800	250	90	80 - 120	94861	MG/KG

TOTAL ORGANIC CARBON





A FULL SERVICE ENVIRONMENTAL LABORATORY

October 2, 2003

Mr. Glenn Netuschil  
Roux Associates Inc.  
1377 Motor Parkway  
Islandia, NY 11749

PROJECT:HONEYWELL/OUTER HARBOR 25203404  
Submission #:R2318167

Dear Mr. Netuschil

Enclosed are the analytical results of the analyses requested. All data has been reviewed prior to report submission. Should you have any questions please contact me at (585) 288-5380.

Thank you for letting us provide this service.

Sincerely,

COLUMBIA ANALYTICAL SERVICES

A handwritten signature in black ink, appearing to read 'Mark Wilson', is written over the typed name.

Mark Wilson  
Client Service Manager

Enc.





1 Mustard ST.  
Suite 250  
Rochester, NY 14609  
(585) 288-5380

**THIS IS AN ANALYTICAL TEST REPORT FOR:**

Client : Roux Associates Inc.  
Project Reference: HONEYWELL/OUTER HARBOR 25203404  
Lab Submission # : R2318167  
Project Manager : Mark Wilson  
Reported : 10/02/03

Report Contains a total of 30 pages

The results reported herein relate only to the samples received by the laboratory. This report may not be reproduced except in full, without the approval of Columbia Analytical Services.

This package has been reviewed by Columbia Analytical Services' QA Department/Laboratory Director to comply with NELAC standards prior to report submittal. *Michael E. Perry*



## **CASE NARRATIVE**

COMPANY: Roux Associates  
PROJECT: Honeywell/Outer Harbor  
SUBMISSION #: R2318167

Soil samples were collected on 08/25-27/03 and received at CAS on 08/27/03 in good condition at a cooler temperatures 2 °C. See CAS CLP Batching sheets for a cross-reference between Client ID and CAS Job # and analyses requested.

### **TOTAL ORGANIC CARBON**

Soil samples were analyzed for Total Organic Carbon by the Lloyd Kahn Method.

The Blank Spike (Reference Check) recoveries were all within QC limits.

No analytical or QC problems were encountered.

### **SEMIVOLATILE ORGANICS**

Soil samples were analyzed for Nitrobenzene by SW-846 method 8270C.

All DFTPP tuning criteria were within acceptance limits.

The initial and continuing calibration criteria were met for all analytes.

All internal standard areas were within QC limits.

All surrogate standard recoveries were within QC limits. Surrogates were diluted out in several samples due to high levels of target compounds in the samples.

The Blank Spike (Reference Check) were all within QC limits.

No analytical or QC problems were encountered.



[illegible]





Effective 6/12/2003

## ORGANIC QUALIFIERS

- U - Indicates compound was analyzed for but not detected. The sample quantitation limit must be corrected for dilution and for percent moisture.
- J - Indicates an estimated value. The flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
- N - Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds, where the identification is based on a mass spectral library search.
- P - This flag is used for a pesticide/Aroclor target analyte when there is a greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on Form I and flagged with a "P".
- C - This flag applies to pesticide results where the identification has been confirmed by GC/MS.
- B - This flag is used when the analyte is found in the associated blank as well as in the sample.
- E - This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
- D - This flag identifies all compounds identified in an analysis at a secondary dilution factor. If a sample or extract is re-analyzed at a higher dilution factor, as in the "E" flag above, the "DL" suffix is appended to the sample number on the Form I for the diluted sample, and ALL concentration values reported on that Form I are flagged with the "D" flag.
- A - This flag indicates that a TIC is a suspected aldol-condensation product.
- X - As specified in Case Narrative.
- \* - This flag identifies compounds associated with a quality control parameter which exceeds laboratory limits.

### **CAS/Rochester Lab ID # for State Certifications**

Army Corp of Engineers Validated  
Delaware Accredited  
Connecticut ID # PH0556  
Florida ID # E87674  
Massachusetts ID # M-NY032  
Navy Facilities Engineering Service Center Approved  
Nebraska Accredited

NELAP Accredited  
New York ID # 10145  
New Jersey ID # NY004  
New Hampshire ID # 294100 A/B  
Pennsylvania Registration 68-786  
Rhode Island ID # 158  
South Carolina ID # 91012  
West Virginia ID # 292





Effective 6/12/2003

## INORGANIC QUALIFIERS

C (Concentration) qualifier –

- B - if the reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL) but was greater than or equal to the Instrument Detection Limit (IDL).
- U - if the analyte was analyzed for, but not detected

Q qualifier - Specified entries and their meanings are as follows:

- D - Spike was diluted out
- E - The reported value is estimated because of the presence of interference.
- J - Estimated Value
- M - Duplicate injection precision not met.
- N - Spiked sample recovery not within control limits.
- S - The reported value was determined by the Method of Standard Additions (MSA).
- W - Post-digestion spike for Furnace AA Analysis is out of control limits (85-115), while sample absorbance is less than 50% of spike absorbance.
- \* - Duplicate analysis not within control limits.
- + - Correlation coefficient for the MSA is less than 0.995.

M (Method) qualifier:

- "P" for ICP
- "A" for Flame AA
- "F" for Furnace AA
- "PM" for ICP when Microwave Digestion is used
- "AM" for Flame AA when Microwave Digestion is used
- "FM" for Furnace M when Microwave Digestion is used
- "CV" for Manual Cold Vapor AA
- "AV" for Automated Cold Vapor AA
- "CA" for Midi-Distillation Spectrophotometric
- "AS" for Semi-Automated Spectrophotometric
- "C" for Manual Spectrophotometric
- "T" for Titrimetric
- " " where no data has been entered
- "NR" if the analyte is not required to be analyzed.

## **CAS/Rochester Lab ID # for State Certifications**

Army Corp of Engineers Validated  
Delaware Accredited  
Connecticut ID # PH0556  
Florida ID # E87674  
Massachusetts ID # M-NY032  
Navy Facilities Engineering Service Center Approved  
Nebraska Accredited  
NELAP Accredited

New York ID # 10145  
New Jersey ID # NY004  
New Hampshire ID # 294100 A/B  
Pennsylvania Registration 68-786  
Rhode Island ID # 158  
South Carolina ID #91012  
West Virginia ID # 292





# CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

One Mustard St., Suite 250 • Rochester, NY 14609-0859 • (585) 288-5380 • 800-695-7222 x11 • FAX (585) 288-8475

PAGE 1 OF 1

CAS Contact

Project Name <b>Honeywell/Duta Huber</b>		Project Number <b>25203Y04</b>		ANALYSIS REQUESTED (Include Method Number and Container Preservative)	
Project Manager <b>Glenn Detushil</b>		Report CC		PRESERVATIVE	
Company/Address <b>Roux Associates Inc. 209 Shaffer Street 11749 Islandia, NY</b>				PRELIMINARY RESULTS	
Phone # <b>(631) 232 2600</b>		FAX <b>(631) 232 - 0898</b>		METALS, TOTAL (List in comments below)	
Sampler's Signature <i>[Signature]</i>		Sampler's Printed Name <b>John Huber</b>		METALS, DISSOLVED (List in comments below)	
CLIENT SAMPLE ID		FOR OFFICE USE ONLY LAB ID		PESTICIDES	
PTSB-16 (4'-8' bgs)	667395	8/25	15:00	GC VOAS	
PTSB-16 (16'-18' bgs)	96	8/25	15:15	GCMS SVOAS	
PTSB-7 (14'-16' bgs)	97	8/25	16:00	GCMS SVOAS	
PTSB-7 (4'-8' bgs)	98	8/25	15:45	GCMS SVOAS	
PTSB-8 (16'-20' bgs)	400	8/25	16:15	GCMS SVOAS	
PTSB-9 (16'-20' bgs)	03	8/27	9:00	GCMS SVOAS	
PTSB-4 (16'-20' bgs)	05	8/27	10:30	GCMS SVOAS	
PTSB-3 (16'-18' bgs)	07	8/27	11:30	GCMS SVOAS	
SPECIAL INSTRUCTIONS/COMMENTS <b>Metals</b>		TURNAROUND REQUIREMENTS RUSH (SUBCHARGES APPLY) 24 hr <input checked="" type="checkbox"/> 48 hr <input type="checkbox"/> 5 day <input type="checkbox"/> STANDARD REQUESTED FAX DATE REQUESTED REPORT DATE		REPORT REQUIREMENTS I. Results Only II. Results + QC Summaries (LCS, DUP, MSMSD as required) III. Results + QC and Calibration Summaries IV. Data Validation Report with Raw Data V. Specialized Forms / Custom Report Edita Yes No	
CUSTODY SEALS: Y N		RECEIVED BY <i>[Signature]</i> Signature Printed Name Firm Date/Time		RECEIVED BY <i>[Signature]</i> Signature Printed Name Firm Date/Time	
SAMPLE RECEIPT: CONDITION/COOLER TEMP:		RECEIVED BY <i>[Signature]</i> Signature Printed Name Firm Date/Time		RECEIVED BY <i>[Signature]</i> Signature Printed Name Firm Date/Time	



# Cooler Receipt And Preservation Check Form

Project/Client ROUX Submission Number R2-18167

Cooler received on 8-27-03 by: RE COURIER: CAS UPS FEDEX CD&L CLIENT

1. Were custody seals on outside of cooler? YES NO
2. Were custody papers properly filled out (ink, signed, etc.)? YES NO
3. Did all bottles arrive in good condition (unbroken)? YES NO
4. Did any VOA vials have significant air bubbles? YES NO N/A
5. Were Ice or Ice packs present? YES NO
6. Where did the bottles originate? CAS/ROC CLIENT
7. Temperature of cooler(s) upon receipt: 2<sup>9</sup>

Is the temperature within 0° - 6° C?: Yes Yes Yes Yes Yes

If No, Explain Below No No No No No

Date/Time Temperatures Taken: 8-27-03 @ 14:22

Thermometer ID: 161 or IR GUN Reading From: Temp Blank or Sample Bottle

## If out of Temperature, Client Approval to Run Samples

Cooler Breakdown: Date: 8-28-03 by: RE

1. Were all bottle labels complete (i.e. analysis, preservation, etc.)? YES NO
2. Did all bottle labels and tags agree with custody papers? YES NO
3. Were correct containers used for the tests indicated? YES NO
4. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated N/A

Explain any discrepancies: \_\_\_\_\_

		YES	NO	Sample I.D.	Reagent	Vol. Added
pH	Reagent					
12	NaOH					
2	HNO <sub>3</sub>					
2	H <sub>2</sub> SO <sub>4</sub>					
Residual Chlorine (+/-)	for TCN & Phenol					
5-9**	P/PCBs (608 only)					

YES = All samples OK

NO = Samples were preserved at lab as listed

PC OK to adjust pH

\*\*If pH adjustment is required, use NaOH and/or H<sub>2</sub>SO<sub>4</sub>

VOC Vial pH Verification (Tested after Analysis) Following Samples Exhibited pH > 2		

Other Comments:



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270 NITROBENZENE  
Reported: 10/02/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203404

Client Sample ID : PTSB-16(4'-8')

Date Sampled : 08/25/03      Order #: 667395      Sample Matrix: SOIL/SEDIMENT  
Date Received: 08/27/03      Submission #: R2318167      Percent Solid: 66.8

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/28/03			
DATE ANALYZED : 08/28/03			
ANALYTICAL DILUTION: 500.00			Dry Weight
NITROBENZENE	330	1500000	UG/KG
SURROGATE RECOVERIES	QC LIMITS		
TERPHENYL-d14	(18 - 137 %)	D	%
NITROBENZENE-d5	(23 - 120 %)	D	%
2-FLUOROBIPHENYL	(30 - 115 %)	D	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270 NITROBENZENE  
Reported: 10/02/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203404

Client Sample ID : PTSB-16(16'-18')

Date Sampled : 08/25/03      Order #: 667396      Sample Matrix: SOIL/SEDIMENT  
Date Received: 08/27/03      Submission #: R2318167      Percent Solid: 78.5

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/28/03			
DATE ANALYZED : 08/29/03			
ANALYTICAL DILUTION: 250.00			Dry Weight
NITROBENZENE	330	920000	UG/KG
<u>SURROGATE RECOVERIES</u>	<u>QC LIMITS</u>		
TERPHENYL-d14	(18 - 137 %)	D	%
NITROBENZENE-d5	(23 - 120 %)	D	%
2-FLUOROBIPHENYL	(30 - 115 %)	D	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270 NITROBENZENE  
Reported: 10/02/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203404

Client Sample ID : PTSB-7(14'-16')

Date Sampled : 08/25/03      Order #: 667397      Sample Matrix: SOIL/SEDIMENT  
Date Received: 08/27/03      Submission #: R2318167      Percent Solid: 78.0

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/28/03			
DATE ANALYZED : 08/28/03			
ANALYTICAL DILUTION: 250.00			Dry Weight
NITROBENZENE	330	590000	UG/KG
<u>SURROGATE RECOVERIES</u>	<u>QC LIMITS</u>		
TERPHENYL-d14	(18 - 137 %)	D	%
NITROBENZENE-d5	(23 - 120 %)	D	%
2-FLUOROBIPHENYL	(30 - 115 %)	D	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270 NITROBENZENE  
Reported: 10/02/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203404

Client Sample ID : PTSB-7(4'-8')

Date Sampled : 08/25/03      Order #: 667398      Sample Matrix: SOIL/SEDIMENT  
Date Received: 08/27/03      Submission #: R2318167      Percent Solid: 74.3

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/28/03			
DATE ANALYZED : 08/28/03			
ANALYTICAL DILUTION: 100.00			Dry Weight
NITROBENZENE	330	150000	UG/KG
<u>SURROGATE RECOVERIES</u>	<u>QC LIMITS</u>		
TERPHENYL-d14	(18 - 137 %)	D	%
NITROBENZENE-d5	(23 - 120 %)	D	%
2-FLUOROBIPHENYL	(30 - 115 %)	D	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270 NITROBENZENE  
Reported: 10/02/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203404

Client Sample ID : PTSB-8(16'-20')

Date Sampled : 08/25/03      Order #: 667400      Sample Matrix: SOIL/SEDIMENT  
Date Received: 08/27/03      Submission #: R2318167      Percent Solid: 79.2

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/28/03			
DATE ANALYZED : 08/29/03			
ANALYTICAL DILUTION: 100.00			Dry Weight
NITROBENZENE	330	120000	UG/KG
<u>SURROGATE RECOVERIES</u>	<u>QC LIMITS</u>		
TERPHENYL-d14	(18 - 137 %)	D	%
NITROBENZENE-d5	(23 - 120 %)	D	%
2-FLUOROBIPHENYL	(30 - 115 %)	D	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270 NITROBENZENE  
Reported: 10/02/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203404

Client Sample ID : PTSB-9(16'-20')

Date Sampled : 08/27/03      Order #: 667403      Sample Matrix: SOIL/SEDIMENT  
Date Received: 08/27/03      Submission #: R2318167      Percent Solid: 77.7

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/28/03			
DATE ANALYZED : 08/28/03			
ANALYTICAL DILUTION: 1.00			Dry Weight
NITROBENZENE	330	46 J	UG/KG
SURROGATE RECOVERIES		QC LIMITS	
TERPHENYL-d14	(18 - 137 %)	67	%
NITROBENZENE-d5	(23 - 120 %)	46	%
2-FLUOROBIPHENYL	(30 - 115 %)	59	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270 NITROBENZENE  
Reported: 10/02/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203404

Client Sample ID : PTSB-4(16'-20')

Date Sampled : 08/27/03      Order #: 667405      Sample Matrix: SOIL/SEDIMENT  
Date Received: 08/27/03      Submission #: R2318167      Percent Solid: 76.0

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/28/03			
DATE ANALYZED : 08/28/03			
ANALYTICAL DILUTION: 2.00			Dry Weight
NITROBENZENE	330	1400	UG/KG
<u>SURROGATE RECOVERIES</u>	<u>QC LIMITS</u>		
TERPHENYL-d14	(18 - 137 %)	80	%
NITROBENZENE-d5	(23 - 120 %)	69	%
2-FLUOROBIPHENYL	(30 - 115 %)	86	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270 NITROBENZENE  
Reported: 10/02/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203404

Client Sample ID : PTSB-3(16'-18')

Date Sampled : 08/27/03      Order #: 667407      Sample Matrix: SOIL/SEDIMENT  
Date Received: 08/27/03      Submission #: R2318167      Percent Solid: 81.2

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/28/03			
DATE ANALYZED : 08/28/03			
ANALYTICAL DILUTION: 3.00			Dry Weight
NITROBENZENE	330	1200 U	UG/KG
<u>SURROGATE RECOVERIES</u>	<u>QC LIMITS</u>		
TERPHENYL-d14	(18 - 137 %)	76	%
NITROBENZENE-d5	(23 - 120 %)	62	%
2-FLUOROBIPHENYL	(30 - 115 %)	56	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270 NITROBENZENE  
Reported: 10/02/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203404

Client Sample ID : PTSB-17(16'-20')

Date Sampled : 08/25/03      Order #: 667504      Sample Matrix: SOIL/SEDIMENT  
Date Received: 08/27/03      Submission #: R2318167      Percent Solid: 74.2

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/28/03			
DATE ANALYZED : 08/29/03			
ANALYTICAL DILUTION: 500.00			Dry Weight
NITROBENZENE	330	650000	UG/KG
<u>SURROGATE RECOVERIES</u>	<u>QC LIMITS</u>		
TERPHENYL-d14	(18 - 137 %)	D	%
NITROBENZENE-d5	(23 - 120 %)	D	%
2-FLUOROBIPHENYL	(30 - 115 %)	D	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270 NITROBENZENE  
Reported: 10/02/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203404

Client Sample ID : PTSB-18(16'-20')

Date Sampled : 08/25/03      Order #: 667505      Sample Matrix: SOIL/SEDIMENT  
Date Received: 08/27/03      Submission #: R2318167      Percent Solid: 78.3

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/28/03			
DATE ANALYZED : 08/29/03			
ANALYTICAL DILUTION: 200.00			Dry Weight
NITROBENZENE	330	1000000	UG/KG
<u>SURROGATE RECOVERIES</u>	<u>QC LIMITS</u>		
TERPHENYL-d14	(18 - 137 %)	D	%
NITROBENZENE-d5	(23 - 120 %)	D	%
2-FLUOROBIPHENYL	(30 - 115 %)	D	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270 NITROBENZENE  
Reported: 10/02/03

Project Reference:  
Client Sample ID : METHOD BLANK

Date Sampled :	Order #: 667633	Sample Matrix: SOIL/SEDIMENT
Date Received:	Submission #:	Percent Solid: 100

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/28/03			
DATE ANALYZED : 08/28/03			
ANALYTICAL DILUTION: 1.00			Dry Weight
NITROBENZENE	330	330 U	UG/KG
SURROGATE RECOVERIES	QC LIMITS		
TERPHENYL-d14	(18 - 137 %)	61	%
NITROBENZENE-d5	(23 - 120 %)	43	%
2-FLUOROBIPHENYL	(30 - 115 %)	53	%





Dup Spiked Order No. : 667635

Client ID:

Client ID:

Analytical Units: UG/KG

Analytical Units: UG/KG

---

			BLANK SPIKE		BLANK SPIKE DUP.			QC LIMITS	
	SPIKE	SAMPLE							
ANALYTE	ADDED	CONCENT.	FOUND	% REC.	FOUND	% REC.	RPD	RPD	REC.
NITROBENZENE	3300	0	2500	75	2100	63	17	30	46 - 102



COLUMBIA ANALYTICAL SERVICES

Reported: 10/02/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203404

Client Sample ID : PTSB-16(4'-8')

Date Sampled : 08/25/03

Order #: 667395

Sample Matrix: SOIL/SEDIMENT

Date Received: 08/27/03

Submission #: R2318167

ANALYTE	METHOD	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	TIME ANALYZED	DILUTION
PERCENT SOLIDS	160.0	1.0	66.8	%	08/29/03	12:03	1.0
TOTAL ORGANIC CARBON	TOC.LK	300	24700	MG/KG	09/02/03	11:49	1.0



COLUMBIA ANALYTICAL SERVICES

Reported: 10/02/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203404

Client Sample ID : PTSB-16(16'-18')

Date Sampled : 08/25/03

Order #: 667396

Sample Matrix: SOIL/SEDIMENT

Date Received: 08/27/03

Submission #: R2318167

ANALYTE	METHOD	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	TIME ANALYZED	DILUTION
PERCENT SOLIDS	160.0	1.0	78.5	%	08/29/03	12:03	1.0
TOTAL ORGANIC CARBON	TOC.LK	300	18200	MG/KG	09/03/03	10:42	1.0



COLUMBIA ANALYTICAL SERVICES

Reported: 10/02/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203404

Client Sample ID : PTSB-7(14'-16')

Date Sampled : 08/25/03

Order #: 667397

Sample Matrix: SOIL/SEDIMENT

Date Received: 08/27/03

Submission #: R2318167

ANALYTE	METHOD	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	TIME ANALYZED	DILUTION
PERCENT SOLIDS	160.0	1.0	78.0	%	08/29/03	12:03	1.0
TOTAL ORGANIC CARBON	TOC.LK	300	20200	MG/KG	09/03/03	10:42	1.0



COLUMBIA ANALYTICAL SERVICES

Reported: 10/02/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203404

Client Sample ID : PTSE-7(4'-8')

Date Sampled : 08/25/03

Order #: 667398

Sample Matrix: SOIL/SEDIMENT

Date Received: 08/27/03

Submission #: R2318167

ANALYTE	METHOD	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	TIME ANALYZED	DILUTION
PERCENT SOLIDS	160.0	1.0	74.3	%	08/29/03	12:03	1.0
TOTAL ORGANIC CARBON	TOC.LK	300	16000	MG/KG	09/03/03	10:42	1.0



COLUMBIA ANALYTICAL SERVICES

Reported: 10/02/03

Roux Associates Inc.  
Project Reference: HONEYWELL/OUTER HARBOR 25203404  
Client Sample ID : PTSB-8(16'-20')

Date Sampled : 08/25/03	Order #: 667400	Sample Matrix: SOIL/SEDIMENT
Date Received: 08/27/03	Submission #: R2318167	

ANALYTE	METHOD	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	TIME ANALYZED	DILUTION
PERCENT SOLIDS	160.0	1.0	79.2	%	08/29/03	12:03	1.0
TOTAL ORGANIC CARBON	TOC.LK	300	18900	MG/KG	09/03/03	10:42	1.0



COLUMBIA ANALYTICAL SERVICES

Reported: 10/02/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203404

Client Sample ID : PTSB-9(16'-20')

Date Sampled : 08/27/03

Order #: 667403

Sample Matrix: SOIL/SEDIMENT

Date Received: 08/27/03

Submission #: R2318167

ANALYTE	METHOD	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	TIME ANALYZED	DILUTION
PERCENT SOLIDS	160.0	1.0	77.7	%	08/29/03	12:03	1.0
TOTAL ORGANIC CARBON	TOC.LK	300	4960	MG/KG	09/03/03	10:42	1.0



COLUMBIA ANALYTICAL SERVICES

Reported: 10/02/03

Roux Associates Inc.  
Project Reference: HONEYWELL/OUTER HARBOR 25203404  
Client Sample ID : PTSB-4(16'-20')

---

Date Sampled : 08/27/03	Order #: 667405	Sample Matrix: SOIL/SEDIMENT
Date Received: 08/27/03	Submission #: R2318167	

---

ANALYTE	METHOD	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	TIME ANALYZED	DILUTION
PERCENT SOLIDS	160.0	1.0	76.0	%	08/29/03	12:03	1.0
TOTAL ORGANIC CARBON	TOC.LK	300	7920	MG/KG	09/03/03	10:42	1.0

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COLUMBIA ANALYTICAL SERVICES

Reported: 10/02/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203404

Client Sample ID : PTSB-3(16'-18')

Date Sampled : 08/27/03

Order #: 667407

Sample Matrix: SOIL/SEDIMENT

Date Received: 08/27/03

Submission #: R2318167

ANALYTE	METHOD	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	TIME ANALYZED	DILUTION
PERCENT SOLIDS	160.0	1.0	81.2	%	08/29/03	12:03	1.0
TOTAL ORGANIC CARBON	TOC.LK	300	11800	MG/KG	09/03/03	10:42	1.0



COLUMBIA ANALYTICAL SERVICES

Reported: 10/02/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203404

Client Sample ID : PTSB-17(16'-20')

Date Sampled : 08/25/03

Order #: 667504

Sample Matrix: SOIL/SEDIMENT

Date Received: 08/27/03

Submission #: R2318167

ANALYTE	METHOD	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	TIME ANALYZED	DILUTION
PERCENT SOLIDS	160.0	1.0	74.2	%	08/29/03	12:03	1.0
TOTAL ORGANIC CARBON	TOC.LK	300	21000	MG/KG	09/03/03	10:42	1.0



COLUMBIA ANALYTICAL SERVICES

Reported: 10/02/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203404

Client Sample ID : PTSB-18(16'-20')

Date Sampled : 08/25/03

Order #: 667505

Sample Matrix: SOIL/SEDIMENT

Date Received: 08/27/03

Submission #: R2318167

ANALYTE	METHOD	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	TIME ANALYZED	DILUTION
PERCENT SOLIDS	160.0	1.0	78.3	%	08/29/03	12:03	1.0
TOTAL ORGANIC CARBON	TOC.LK	300	22800	MG/KG	09/03/03	10:42	1.0



CAS Submission #: R2318167  
Client: Roux Associates Inc.  
HONEYWELL/OUTER HARBOR 25203404

## BLANK SPIKES

	BLANK	FOUND	ADDED	% REC	LIMITS	RUN	UNITS
TOTAL ORGANIC CARBON	300 U	1800	250	90	80 - 120	94861	MG/KG
	300 U	1750	250	88	80 - 120	94943	MG/KG





A FULL SERVICE ENVIRONMENTAL LABORATORY

October 2, 2003

Mr. Glenn Netuschil  
Roux Associates Inc.  
1377 Motor Parkway  
Islandia, NY 11749

PROJECT: HONEYWELL/OUTER HARBOR  
Submission #: R2318212

Dear Mr. Netuschil

Enclosed are the analytical results of the analyses requested. All data has been reviewed prior to report submission. Should you have any questions please contact me at (585) 288-5380.

Thank you for letting us provide this service.

Sincerely,

COLUMBIA ANALYTICAL SERVICES

A handwritten signature in black ink, appearing to read 'Mark Wilson', is written over the typed name.

Mark Wilson  
Client Service Manager

Enc.





1 Mustard ST.  
Suite 250  
Rochester, NY 14609  
(585) 288-5380

**THIS IS AN ANALYTICAL TEST REPORT FOR:**

Client : Roux Associates Inc.  
Project Reference: HONEYWELL/OUTER HARBOR  
Lab Submission # : R2318212  
Project Manager : Mark Wilson  
Reported : 10/02/03

Report Contains a total of 12 pages

The results reported herein relate only to the samples received by the laboratory. This report may not be reproduced except in full, without the approval of Columbia Analytical Services.

This package has been reviewed by Columbia Analytical Services' QA Department/Laboratory Director to comply with NELAC standards prior to report submittal. *Michael K Perry*



## **CASE NARRATIVE**

COMPANY: Roux Associates  
PROJECT: Honeywell/Outer Harbor  
SUBMISSION #: R2318212

Soil samples were collected on 08/27/03 and received at CAS on 08/29/03 in good condition at a cooler temperatures 6 °C. See CAS CLP Batching sheets for a cross-reference between Client ID and CAS Job # and analyses requested.

### **TOTAL ORGANIC CARBON**

Soil samples were analyzed for Total Organic Carbon by the Lloyd Kahn Method.

The Blank Spike (Reference Check) recoveries were all within QC limits.

No analytical or QC problems were encountered.

### **SEMIVOLATILE ORGANICS**

Soil samples were analyzed for Nitrobenzene by SW-846 method 8270C.

All DFTPP tuning criteria were within acceptance limits.

The initial and continuing calibration criteria were met for all analytes.

All internal standard areas were within QC limits.

All surrogate standard recoveries were within QC limits.

The Blank Spike (Reference Check) were all within QC limits.

No analytical or QC problems were encountered.



[illegible]





Effective 6/12/2003

## ORGANIC QUALIFIERS

- U - Indicates compound was analyzed for but not detected. The sample quantitation limit must be corrected for dilution and for percent moisture.
- J - Indicates an estimated value. The flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
- N - Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds, where the identification is based on a mass spectral library search.
- P - This flag is used for a pesticide/Aroclor target analyte when there is a greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on Form I and flagged with a "P".
- C - This flag applies to pesticide results where the identification has been confirmed by GC/MS.
- B - This flag is used when the analyte is found in the associated blank as well as in the sample.
- E - This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
- D - This flag identifies all compounds identified in an analysis at a secondary dilution factor. If a sample or extract is re-analyzed at a higher dilution factor, as in the "E" flag above, the "DL" suffix is appended to the sample number on the Form I for the diluted sample, and ALL concentration values reported on that Form I are flagged with the "D" flag.
- A - This flag indicates that a TIC is a suspected aldol-condensation product.
- X - As specified in Case Narrative.
- \* - This flag identifies compounds associated with a quality control parameter which exceeds laboratory limits.

### **CAS/Rochester Lab ID # for State Certifications**

Army Corp of Engineers Validated  
Delaware Accredited  
Connecticut ID # PH0556  
Florida ID # E87674  
Massachusetts ID # M-NY032  
Navy Facilities Engineering Service Center Approved  
Nebraska Accredited

NELAP Accredited  
New York ID # 10145  
New Jersey ID # NY004  
New Hampshire ID # 294100 A/B  
Pennsylvania Registration 68-786  
Rhode Island ID # 158  
South Carolina ID #91012  
West Virginia ID # 292





Effective 6/12/2003

## INORGANIC QUALIFIERS

C (Concentration) qualifier –

- B - if the reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL) but was greater than or equal to the Instrument Detection Limit (IDL).
- U - if the analyte was analyzed for, but not detected

Q qualifier - Specified entries and their meanings are as follows:

- D - Spike was diluted out
- E - The reported value is estimated because of the presence of interference.
- J - Estimated Value
- M - Duplicate injection precision not met.
- N - Spiked sample recovery not within control limits.
- S - The reported value was determined by the Method of Standard Additions (MSA).
- W - Post-digestion spike for Furnace AA Analysis is out of control limits (85-115), while sample absorbance is less than 50% of spike absorbance.
- \* - Duplicate analysis not within control limits.
- + - Correlation coefficient for the MSA is less than 0.995.

M (Method) qualifier:

- "P" for ICP
- "A" for Flame AA
- "F" for Furnace AA
- "PM" for ICP when Microwave Digestion is used
- "AM" for Flame AA when Microwave Digestion is used
- "FM" for Furnace M when Microwave Digestion is used
- "CV" for Manual Cold Vapor AA
- "AV" for Automated Cold Vapor AA
- "CA" for Midi-Distillation Spectrophotometric
- "AS" for Semi-Automated Spectrophotometric
- "C" for Manual Spectrophotometric
- "T" for Titrimetric
- " " where no data has been entered
- "NR" if the analyte is not required to be analyzed.

### **CAS/Rochester Lab ID # for State Certifications**

Army Corp of Engineers Validated  
Delaware Accredited  
Connecticut ID # PH0556  
Florida ID # E87674  
Massachusetts ID # M-NY032  
Navy Facilities Engineering Service Center Approved  
Nebraska Accredited  
NELAP Accredited

New York ID # 10145  
New Jersey ID # NY004  
New Hampshire ID # 294100 A/B  
Pennsylvania Registration 68-786  
Rhode Island ID # 158  
South Carolina ID #91012  
West Virginia ID # 292







# Cooler Receipt And Preservation Check Form

Project/Client ROUX Submission Number R2-18212

Cooler received on 8/24/03 by AE COURIER: CAS UPS FEDEX CD&L CLIENT

1. Were custody seals on outside of cooler? YES NO
2. Were custody papers properly filled out (ink, signed, etc.)? YES NO
3. Did all bottles arrive in good condition (unbroken)? YES NO
4. Did any VOA vials have significant air bubbles? YES NO N/A
5. Were Ice or Ice packs present? YES NO
6. Where did the bottles originate? CAS/ROC CLIENT
7. Temperature of cooler(s) upon receipt: 6°

Is the temperature within 0° - 6° C?: Yes Yes Yes Yes Yes

If No, Explain Below No No No No No

Date/Time Temperatures Taken: 8/24/03 9:35

Thermometer ID: 161 or IR GUN Reading From: Temp Blank or Sample Bottle

## If out of Temperature, Client Approval to Run Samples

Cooler Breakdown: Date: 8-29-03 by: AE

1. Were all bottle labels complete (i.e. analysis, preservation, etc.)? YES NO
2. Did all bottle labels and tags agree with custody papers? YES NO
3. Were correct containers used for the tests indicated? YES NO
4. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated N/A

Explain any discrepancies:

		YES	NO	Sample I.D.	Reagent	Vol. Added
pH	Reagent					
12	NaOH					
2	HNO <sub>3</sub>					
2	H <sub>2</sub> SO <sub>4</sub>					
Residual Chlorine (+/-)	for TCN & Phenol					
5-9**	P/PCBs (608 only)					

YES = All samples OK

NO = Samples were preserved at lab as listed

PC OK to adjust pH

\*\*If pH adjustment is required, use NaOH and/or H<sub>2</sub>SO<sub>4</sub>

VOC Vial pH Verification (Tested after Analysis) Following Samples Exhibited pH > 2				

Other Comments:



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270 NITROBENZENE  
Reported: 10/02/03

Roux Associates Inc.  
Project Reference: HONEYWELL/OUTER HARBOR  
Client Sample ID : PTSB-21(14'-18')

Date Sampled : 08/27/03      Order #: 667992      Sample Matrix: SOIL/SEDIMENT  
Date Received: 08/29/03      Submission #: R2318212      Percent Solid: 83.2

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/29/03			
DATE ANALYZED : 09/03/03			
ANALYTICAL DILUTION: 5.00			Dry Weight
NITROBENZENE	330	10000	UG/KG
SURROGATE RECOVERIES	QC LIMITS		
TERPHENYL-d14	(18 - 137 %)	76	%
NITROBENZENE-d5	(23 - 120 %)	59	%
2-FLUOROBIPHENYL	(30 - 115 %)	66	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270 NITROBENZENE  
Reported: 10/02/03

Project Reference:  
Client Sample ID : METHOD BLANK

Date Sampled :	Order #: 668494	Sample Matrix: SOIL/SEDIMENT
Date Received:	Submission #:	Percent Solid: 100

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 08/29/03			
DATE ANALYZED : 09/02/03			
ANALYTICAL DILUTION: 1.00			Dry Weight
NITROBENZENE	330	330 U	UG/KG
<u>SURROGATE RECOVERIES</u>	<u>QC LIMITS</u>		
TERPHENYL-d14	(18 - 137 %)	84	%
NITROBENZENE-d5	(23 - 120 %)	64	%
2-FLUOROBIPHENYL	(30 - 115 %)	68	%



Dup Spiked Order No. : 668496

Client ID:

Analytical Units: UG/KG

ANALYTE	SPIKE	SAMPLE	BLANK SPIKE		BLANK SPIKE DUP.			QC LIMITS	
	ADDED	CONCENT.	FOUND	% REC.	FOUND	% REC.	RPD	RPD	REC.
NITROBENZENE	3300	0	2800	84	2700	81	4	30	46 - 102



COLUMBIA ANALYTICAL SERVICES

Reported: 10/02/03

Roux Associates Inc.  
Project Reference: HONEYWELL/OUTER HARBOR  
Client Sample ID : PTSB-21(14'-18')

---

Date Sampled : 08/27/03	Order #: 667992	Sample Matrix: SOIL/SEDIMENT
Date Received: 08/29/03	Submission #: R2318212	

---

ANALYTE	METHOD	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	TIME ANALYZED	DILUTION
PERCENT SOLIDS	160.0	1.0	83.2	%	09/05/03	10:03	1.0
TOTAL ORGANIC CARBON	TOC.LK	300	9950	MG/KG	09/03/03	10:42	1.0

---



CAS Submission #: R2318212  
Client: Roux Associates Inc.  
HONEYWELL/OUTER HARBOR

BLANK SPIKES

BLANK	FOUND	ADDED	% REC	LIMITS	RUN	UNITS
300 U	1750	250	88	80 - 120	94943	MG/KG

TOTAL ORGANIC CARBON





A FULL SERVICE ENVIRONMENTAL LABORATORY

October 2, 2003

Mr. Glenn Netuschil  
Roux Associates Inc.  
1377 Motor Parkway  
Islandia, NY 11749

PROJECT: HONEYWELL/OUTER HARBOR  
Submission #: R2318212

Dear Mr. Netuschil

Enclosed are the analytical results of the analyses requested. All data has been reviewed prior to report submission. Should you have any questions please contact me at (585) 288-5380.

Thank you for letting us provide this service.

Sincerely,

COLUMBIA ANALYTICAL SERVICES

A handwritten signature in black ink, appearing to read 'Mark Wilson', is written over the printed name.

Mark Wilson  
Client Service Manager

Enc.





A FULL SERVICE ENVIRONMENTAL LABORATORY

December 12, 2003

Mr. Glenn Netuschil  
Roux Associates Inc.  
1377 Motor Parkway  
Islandia, NY 11749

PROJECT:HONEYWELL OUTER HARBOR 25203Y04  
Submission #:R2319164

Dear Mr. Netuschil

Enclosed are the analytical results of the analyses requested. All data has been reviewed prior to report submission. Should you have any questions please contact me at (585) 288-5380.

Thank you for letting us provide this service.

Sincerely,

COLUMBIA ANALYTICAL SERVICES

A handwritten signature in black ink, appearing to read 'Mark Wilson', is written over the typed name.

Mark Wilson  
Client Service Manager

Enc.





1 Mustard ST.  
Suite 250  
Rochester, NY 14609  
(585) 288-5380

THIS IS AN ANALYTICAL TEST REPORT FOR:

Client : Roux Associates Inc.  
Project Reference: HONEYWELL OUTER HARBOR 25203Y04  
Lab Submission # : R2319164  
Project Manager : Mark Wilson  
Reported : 12/12/03

Report Contains a total of 14 pages

The results reported herein relate only to the samples received by the laboratory. This report may not be reproduced except in full, without the approval of Columbia Analytical Services.

This package has been reviewed by Columbia Analytical Services' QA Department/Laboratory Director to comply with NELAC standards prior to report submittal. *Michael K. Perry*



## **CASE NARRATIVE**

COMPANY: Roux Associates  
PROJECT: Honeywell/Outer Harbor  
SUBMISSION #: R2319164

Soil samples were collected on 11/12/03 and received at CAS on 11/13/03 in good condition at a cooler temperatures 3 °C. See CAS CLP Batching sheets for a cross-reference between Client ID and CAS Job # and analyses requested.

### **SEMIVOLATILE ORGANICS**

Soil samples were analyzed for Nitrobenzene by SW-846 method 8270C.

An MS/MSD was performed on PTSB-23 (14-16'). Due to the high concentration of Nitrobenzene in the sample, recoveries could not be calculated and have been flagged "D". RPD was within limits.

All Blank Spike recoveries were all within QC limits.

All DFTPP tuning criteria were within acceptance limits.

The initial and continuing calibration criteria were met for all analytes.

All internal standard areas were within QC limits.

Surrogates were diluted out in several samples due to high levels of target compounds in the samples.

No analytical or QC problems were encountered.









Effective 6/12/2003

## ORGANIC QUALIFIERS

- U - Indicates compound was analyzed for but not detected. The sample quantitation limit must be corrected for dilution and for percent moisture.
- J - Indicates an estimated value. The flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
- N - Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds, where the identification is based on a mass spectral library search.
- P - This flag is used for a pesticide/Aroclor target analyte when there is a greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on Form I and flagged with a "P".
- C - This flag applies to pesticide results where the identification has been confirmed by GC/MS.
- B - This flag is used when the analyte is found in the associated blank as well as in the sample.
- E - This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
- D - This flag identifies all compounds identified in an analysis at a secondary dilution factor. If a sample or extract is re-analyzed at a higher dilution factor, as in the "E" flag above, the "DL" suffix is appended to the sample number on the Form I for the diluted sample, and ALL concentration values reported on that Form I are flagged with the "D" flag.
- A - This flag indicates that a TIC is a suspected aldol-condensation product.
- X - As specified in Case Narrative.
- \* - This flag identifies compounds associated with a quality control parameter which exceeds laboratory limits.

### **CAS/Rochester Lab ID # for State Certifications**

Army Corp of Engineers Validated  
Delaware Accredited  
Connecticut ID # PH0556  
Florida ID # E87674  
Massachusetts ID # M-NY032  
Navy Facilities Engineering Service Center Approved  
Nebraska Accredited

NELAP Accredited  
New York ID # 10145  
New Jersey ID # NY004  
New Hampshire ID # 294100 A/B  
Pennsylvania Registration 68-786  
Rhode Island ID # 158  
South Carolina ID #91012  
West Virginia ID # 292





Effective 6/12/2003

## INORGANIC QUALIFIERS

C (Concentration) qualifier –

- B - if the reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL) but was greater than or equal to the Instrument Detection Limit (IDL).
- U - if the analyte was analyzed for, but not detected

Q qualifier - Specified entries and their meanings are as follows:

- D - Spike was diluted out
- E - The reported value is estimated because of the presence of interference.
- J - Estimated Value
- M - Duplicate injection precision not met.
- N - Spiked sample recovery not within control limits.
- S - The reported value was determined by the Method of Standard Additions (MSA).
- W - Post-digestion spike for Furnace AA Analysis is out of control limits (85-115), while sample absorbance is less than 50% of spike absorbance.
- \* - Duplicate analysis not within control limits.
- + - Correlation coefficient for the MSA is less than 0.995.

M (Method) qualifier:

- "P" for ICP
- "A" for Flame AA
- "F" for Furnace AA
- "PM" for ICP when Microwave Digestion is used
- "AM" for Flame AA when Microwave Digestion is used
- "FM" for Furnace M when Microwave Digestion is used
- "CV" for Manual Cold Vapor AA
- "AV" for Automated Cold Vapor AA
- "CA" for Midi-Distillation Spectrophotometric
- "AS" for Semi-Automated Spectrophotometric
- "C" for Manual Spectrophotometric
- "T" for Titrimetric
- " " where no data has been entered
- "NR" if the analyte is not required to be analyzed.

### **CAS/Rochester Lab ID # for State Certifications**

Army Corp of Engineers Validated  
Delaware Accredited  
Connecticut ID # PH0556  
Florida ID # E87674  
Massachusetts ID # M-NY032  
Navy Facilities Engineering Service Center Approved  
Nebraska Accredited  
NELAP Accredited

New York ID # 10145  
New Jersey ID # NY004  
New Hampshire ID # 294100 A/B  
Pennsylvania Registration 68-786  
Rhode Island ID # 158  
South Carolina ID #91012  
West Virginia ID # 292







# Cooler Receipt And Preservation Check Form

Project/Client Roux Submission Number 223-1916A

Cooler received on 11/13/03 by: MC COURIER CAS UPS FEDEX CD&L CLIENT

- Were custody seals on outside of cooler? YES NO
- Were custody papers properly filled out (ink, signed, etc.)? YES NO
- Did all bottles arrive in good condition (unbroken)? YES NO
- Did any VOA vials have significant air bubbles? YES NO N/A
- Were Ice or Ice packs present? YES NO
- Where did the bottles originate? CAS/ROC CLIENT
- Temperature of cooler(s) upon receipt: 30

Is the temperature within 0° - 6° C?: Yes Yes Yes Yes Yes

If No, Explain Below No No No No No

Date/Time Temperatures Taken: 11/13/03 14:15

Thermometer ID: 161 or IR GUN Reading From: Temp Blank or Sample Bottle

## If out of Temperature, Client Approval to Run Samples

Cooler Breakdown: Date: 11/13/03 by: umc

- Were all bottle labels complete (i.e. analysis, preservation, etc.)? YES NO
- Did all bottle labels and tags agree with custody papers? YES NO
- Were correct containers used for the tests indicated? YES NO
- Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated N/A

Explain any discrepancies:

		YES	NO	Sample I.D.	Reagent	Vol. Added
pH	Reagent					
12	NaOH					
2	HNO <sub>3</sub>					
2	H <sub>2</sub> SO <sub>4</sub>					
Residual Chlorine (+/-)	for TCN & Phenol					
5-9**	P/PCBs (608 only)					

YES = All samples OK

NO = Samples were preserved at lab as listed

PC OK to adjust pH

\*\*If pH adjustment is required, use NaOH and/or H<sub>2</sub>SO<sub>4</sub>

VOC Vial pH Verification (Tested after Analysis) Following Samples Exhibited pH > 2		

Other Comments:



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270 NITROBENZENE  
Reported: 12/12/03

Roux Associates Inc.

Project Reference: HONEYWELL OUTER HARBOR 25203Y04

Client Sample ID : PTSB-22(16-20')

Date Sampled : 11/12/03      Order #: 688315      Sample Matrix: SOIL/SEDIMENT  
Date Received: 11/13/03      Submission #: R2319164      Percent Solid: 81.9

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 11/14/03			
DATE ANALYZED : 11/14/03			
ANALYTICAL DILUTION: 250.00			Dry Weight
NITROBENZENE	330	420000	UG/KG
<u>SURROGATE RECOVERIES</u>	<u>QC LIMITS</u>		
TERPHENYL-d14	(18 - 137 %)	D	%
NITROBENZENE-d5	(23 - 120 %)	D	%
2-FLUOROBIPHENYL	(30 - 115 %)	D	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270 NITROBENZENE  
Reported: 12/12/03

Roux Associates Inc.

Project Reference: HONEYWELL OUTER HARBOR 25203Y04

Client Sample ID : PTSB-23(14-16')

Date Sampled : 11/12/03      Order #: 688316      Sample Matrix: SOIL/SEDIMENT  
Date Received: 11/13/03      Submission #: R2319164      Percent Solid: 80.8

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 11/14/03			
DATE ANALYZED : 11/14/03			
ANALYTICAL DILUTION: 200.00			Dry Weight
NITROBENZENE	330	590000	UG/KG
SURROGATE RECOVERIES	QC LIMITS		
TERPHENYL-d14	(18 - 137 %)	D	%
NITROBENZENE-d5	(23 - 120 %)	D	%
2-FLUOROBIPHENYL	(30 - 115 %)	D	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270 NITROBENZENE  
Reported: 12/12/03

Project Reference:  
Client Sample ID : METHOD BLANK

Date Sampled :	Order #: 688665	Sample Matrix: SOIL/SEDIMENT
Date Received:	Submission #:	Percent Solid: 100

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 11/14/03			
DATE ANALYZED : 11/14/03			
ANALYTICAL DILUTION: 1.00			Dry Weight
NITROBENZENE	330	330 U	UG/KG
SURROGATE RECOVERIES	QC LIMITS		
TERPHENYL-d14	(18 - 137 %)	82	%
NITROBENZENE-d5	(23 - 120 %)	69	%
2-FLUOROBIPHENYL	(30 - 115 %)	71	%



COLUMBIA ANALYTICAL SERVICES

QUALITY CONTROL SUMMARY    MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY  
SOIL/SEDIMENT

Spiked Order No. :    688316    Roux Associates Inc.

Client ID: PTSB-23(14-16')

Test: 8270 NITROBENZENE

Analytical Units:    UG/KG

Run Number        :    97705

Percent Solid    :    80.8

ANALYTE	SPIKE ADDED	CONCENT. SAMPLE	MATRIX SPIKE		MATRIX SPIKE DUP.				QC LIMITS	
			FOUND	% REC.	FOUND	% REC.	RPD	RPD	REC.	
NITROBENZENE	4120	594000	681000	D	656000	D	4	30	46 - 102	





Dup Spiked Order No. : 688671

Dup Spiked Order No. : 688671

Test: 8270 NITROBENZENE

Run Number : 97705

			BLANK SPIKE		BLANK SPIKE DUP.			QC LIMITS	
ANALYTE	SPIKE ADDED	SAMPLE CONCENT.	FOUND	% REC.	FOUND	% REC.	RPD	RPD	REC.
NITROBENZENE	3300	0	2700	81	2800	84	4	30	46 - 102



COLUMBIA ANALYTICAL SERVICES

Reported: 12/12/03

Roux Associates Inc.  
Project Reference: HONEYWELL OUTER HARBOR 25203Y04  
Client Sample ID : PTSB-22(16-20')

Date Sampled : 11/12/03	Order #: 688315	Sample Matrix: SOIL/SEDIMENT
Date Received: 11/13/03	Submission #: R2319164	

ANALYTE	METHOD	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	TIME ANALYZED	DILUTION
PERCENT SOLIDS	160.0	1.0	81.9	%	11/17/03	10:30	1.0



COLUMBIA ANALYTICAL SERVICES

Reported: 12/12/03

Roux Associates Inc.

Project Reference: HONEYWELL OUTER HARBOR 25203Y04

Client Sample ID : PTSB-23(14-16')

Date Sampled : 11/12/03

Order #: 688316

Sample Matrix: SOIL/SEDIMENT

Date Received: 11/13/03

Submission #: R2319164

ANALYTE	METHOD	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	TIME ANALYZED	DILUTION
PERCENT SOLIDS	160.0	1.0	80.8	%	11/17/03	10:30	1.0





A FULL SERVICE ENVIRONMENTAL LABORATORY

November 10, 2003

Mr. Glenn Netuschil  
Roux Associates Inc.  
1377 Motor Parkway  
Islandia, NY 11749

PROJECT:HONEYWELL/OUTER HARBOR 25203Y04  
Submission #:R2318866

Dear Mr. Netuschil:

Enclosed are the analytical results of the analyses requested. The analytical data was provided to you on 10/27/03 per a Facsimile transmittal. All data has been reviewed prior to report submission.

Should you have any questions please contact me at (585) 288-5380.

Thank you for letting us provide this service.

Sincerely,

COLUMBIA ANALYTICAL SERVICES

  
Mark Wilson  
Client Service Manager

Enc.



## **CASE NARRATIVE**

COMPANY: Roux Associates  
PROJECT: Honeywell/Outer Harbor  
SUBMISSION #: R2318866

Soil samples were collected on 10/20-21/03 and received at CAS on 10/23/03 in good condition at a cooler temperatures 5 °C. See CAS CLP Batching sheets for a cross-reference between Client ID and CAS Job # and analyses requested.

### **SEMIVOLATILE ORGANICS**

Soil samples were analyzed for Nitrobenzene by SW-846 method 8270C.

An MS/MSD was performed on PTSB-29 0-8'. Due to the high concentration of Nitrobenzene in the sample, recoveries could not be calculated and have been flagged "D". RPD was within limits.

All Blank Spike recoveries were all within QC limits.

All DFTPP tuning criteria were within acceptance limits.

The initial and continuing calibration criteria were met for all analytes.

All internal standard areas were within QC limits.

All surrogate standard recoveries were within QC limits. Surrogates were diluted out in several samples due to high levels of target compounds in the samples.

No analytical or QC problems were encountered.



[illegible]





Effective 6/12/2003

## ORGANIC QUALIFIERS

- U - Indicates compound was analyzed for but not detected. The sample quantitation limit must be corrected for dilution and for percent moisture.
- J - Indicates an estimated value. The flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
- N - Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds, where the identification is based on a mass spectral library search.
- P - This flag is used for a pesticide/Aroclor target analyte when there is a greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on Form I and flagged with a "P".
- C - This flag applies to pesticide results where the identification has been confirmed by GC/MS.
- B - This flag is used when the analyte is found in the associated blank as well as in the sample.
- E - This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
- D - This flag identifies all compounds identified in an analysis at a secondary dilution factor. If a sample or extract is re-analyzed at a higher dilution factor, as in the "E" flag above, the "DL" suffix is appended to the sample number on the Form I for the diluted sample, and ALL concentration values reported on that Form I are flagged with the "D" flag.
- A - This flag indicates that a TIC is a suspected aldol-condensation product.
- X - As specified in Case Narrative.
- \* - This flag identifies compounds associated with a quality control parameter which exceeds laboratory limits.

### **CAS/Rochester Lab ID # for State Certifications**

Army Corp of Engineers Validated  
Delaware Accredited  
Connecticut ID # PH0556  
Florida ID # E87674  
Massachusetts ID # M-NY032  
Navy Facilities Engineering Service Center Approved  
Nebraska Accredited

NELAP Accredited  
New York ID # 10145  
New Jersey ID # NY004  
New Hampshire ID # 294100 A/B  
Pennsylvania Registration 68-786  
Rhode Island ID # 158  
South Carolina ID #91012  
West Virginia ID # 292





1 Mustard ST.  
Suite 250  
Rochester, NY 14609  
(585) 288-5380

THIS IS AN ANALYTICAL TEST REPORT FOR:

Client : Roux Associates Inc.  
Project Reference: HONEYWELL/OUTER HARBOR 25203Y04  
Lab Submission # : R2318866  
Project Manager : Mark Wilson  
Reported : 11/10/03

Report Contains a total of 32 pages

The results reported herein relate only to the samples received by the laboratory. This report may not be reproduced except in full, without the approval of Columbia Analytical Services.

This package has been reviewed by Columbia Analytical Services' QA Department/Laboratory Director to comply with NELAC standards prior to report submittal. *Michael E. Perry*





# CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

SR #

CAS Contact

PAGE 1 OF 2

One Mustard St., Suite 250 • Rochester, NY 14609-0859 • (585) 288-5380 • 800-695-7222 x11 • FAX (585) 288-8475

Project Name: Honeywell/Delta Hdr		Project Number: 25203104		ANALYSIS REQUESTED (Include Method Number and Container Preservative)															
Project Manager: Glenn Metaschil		Report CC		PRESERVATIVE		METALS, TOTAL (List in comments below)								METALS, DISSOLVED (List in comments below)		PRESERVATIVE KEY			
Company/Address: Roux Assoc. Inc. 201 Shafter Street 11749 Islandia, N.Y.		Phone #: (631) 232-2600		FAX: (631) 232-9898		GCMS VOAS □ CLP		GCMS SVOAS □ CLP		GCMS VOAS □ CLP		GCMS SVOAS □ CLP		GCMS VOAS □ CLP		0. NONE 1. HCL 2. HNO <sub>3</sub> 3. H <sub>2</sub> SO <sub>4</sub> 4. NaOH 5. Zn. Acetate 6. MeOH 7. NaHSO <sub>4</sub> 8. Other ICE			
Sample's Signature: John Huber		Sample's Printed Name: John Huber		Matrix: 50/L		PCBs □ 608 □ CLP										PESTICIDES □ 601/602		REMARKS/ALTERNATE DESCRIPTION	
CLIENT SAMPLE ID		FOR OFFICE USE ONLY		SAMPLING DATE		SAMPLING TIME		LAB ID		DATE		TIME		MATRIX		REMARKS/ALTERNATE DESCRIPTION			
PTSB-30 14-16'		6P2115		10/20/03		2:30		50/L		10/20/03		2:00		1		GRAB			
PTSB-29 0-8'		16		10/21/03		2:00		16		10/21/03		2:00		1		COMPOSITE			
PTSB-24 0-8'		17		10/21/03		10:40		17		10/21/03		10:40		1		COMPOSITE			
PTSB-28 12-14'		18		10/21/03		12:15		18		10/21/03		12:15		1		GRAB			
PTSB-29 14-16'		19		10/21/03		2:00		19		10/21/03		2:00		1		GRAB			
PTSB-27 16-18'		20		10/21/03		9:30		20		10/21/03		9:30		1		GRAB			
PTSB-31 8-10'		21		10/21/03		3:30		21		10/21/03		3:30		1		GRAB			
PTSB-31 0-8'		22		10/21/03		3:30		22		10/21/03		3:30		1		COMPOSITE			
PTSB-24 12-14'		22		10/21/03		10:40		22		10/21/03		10:40		1		GRAB			
SPECIAL INSTRUCTIONS/COMMENTS																INVOICE INFORMATION			
Metals																PO#			
BILL TO:																BILL TO:			
REQUESTED REPORT DATE																REQUESTED REPORT DATE			
REQUESTED FAX DATE																REQUESTED FAX DATE			
RUSH (SURCHARGES APPLY)																RUSH (SURCHARGES APPLY)			
24 hr 48 hr 5 day																24 hr 48 hr 5 day			
STANDARD																STANDARD			
REPORT REQUIREMENTS																REPORT REQUIREMENTS			
I. Results Only																I. Results Only			
II. Results + QC Summaries (LCS, DUP, MSMSD as required)																II. Results + QC Summaries (LCS, DUP, MSMSD as required)			
III. Results + QC and Calibration Summaries																III. Results + QC and Calibration Summaries			
IV. Data Validation Report with Raw Data																IV. Data Validation Report with Raw Data			
V. Specialized Forms / Custom Report																V. Specialized Forms / Custom Report			
Edata Yes No																Edata Yes No			
RELINQUISHED BY																RELINQUISHED BY			
Signature																Signature			
Printed Name																Printed Name			
Firm																Firm			
Date/Time																Date/Time			
SUBMISSION #																SUBMISSION #			
RECEIVED BY																RECEIVED BY			
Signature																Signature			
Printed Name																Printed Name			
Firm																Firm			
Date/Time																Date/Time			



[illegible]

**Distribution:** White - Return to Originator; Yellow - Lab Copy; Pink - Retained by Client



## Cooler Receipt And Preservation Check Form

Project/Client

Roux

Submission Number

18866

Cooler received on 10/23/03 by BC COURIER: CAS UPS FEDEX CD&L CLIENT

1. Were custody seals on outside of cooler? YES NO
2. Were custody papers properly filled out (ink, signed, etc.)? YES NO
3. Did all bottles arrive in good condition (unbroken)? YES NO
4. Did any VOA vials have significant air bubbles? YES NO N/A
5. Were Ice or Ice packs present? YES NO
6. Where did the bottles originate? CAS/ROC, CLIENT
7. Temperature of cooler(s) upon receipt: 5

Is the temperature within 0° - 6° C?: Yes Yes Yes Yes Yes

If No, Explain Below No No No No No

Date/Time Temperatures Taken: 10/23/03 1400Thermometer ID: 161 or IR GUN Reading From: Temp Blank or Sample Bottle

If out of Temperature, Client Approval to Run Samples

Cooler Breakdown: Date:

10/23/03

by:

BC

1. Were all bottle labels complete (i.e. analysis, preservation, etc.)? YES NO
2. Did all bottle labels and tags agree with custody papers? YES NO
3. Were correct containers used for the tests indicated? YES NO
4. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated N/A

Explain any discrepancies:

		YES	NO	Sample I.D.	Reagent	Vol. Added
pH	Reagent					
12	NaOH					
2	HNO <sub>3</sub>					
2	H <sub>2</sub> SO <sub>4</sub>					
Residual Chlorine (+/-)	for TCN & Phenol					
5-9**	P/PCBs (608 only)					

YES = All samples OK

NO = Samples were preserved at lab as listed

PC OK to adjust pH

\*\*If pH adjustment is required, use NaOH and/or H<sub>2</sub>SO<sub>4</sub>.

VOC Vial pH Verification (Tested after Analysis) Following Samples Exhibited pH > 2				

Other Comments:



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270 NITROBENZENE  
Reported: 11/10/03

Roux Associates Inc.  
Project Reference: HONEYWELL/OUTER HARBOR 25203Y04  
Client Sample ID : PTSB-30 14-16'

Date Sampled : 10/20/03      Order #: 682115      Sample Matrix: SOIL/SEDIMENT  
Date Received: 10/23/03      Submission #: R2318866      Percent Solid: 72.6

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 10/23/03			
DATE ANALYZED : 10/24/03			
ANALYTICAL DILUTION: 100.00			Dry Weight
NITROBENZENE	330	430000	UG/KG
<u>SURROGATE RECOVERIES</u>	<u>QC LIMITS</u>		
TERPHENYL-d14	(18 - 137 %)	D	%
NITROBENZENE-d5	(23 - 120 %)	D	%
2-FLUOROBIPHENYL	(30 - 115 %)	D	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270 NITROBENZENE  
Reported: 11/10/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203Y04

Client Sample ID : PTSB-29 0-8'

Date Sampled : 10/21/03      Order #: 682116      Sample Matrix: SOIL/SEDIMENT  
Date Received: 10/23/03      Submission #: R2318866      Percent Solid: 72.8

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 10/23/03			
DATE ANALYZED : 10/24/03			
ANALYTICAL DILUTION: 400.00			Dry Weight
NITROBENZENE	330	1600000	UG/KG
<u>SURROGATE RECOVERIES</u>	<u>QC LIMITS</u>		
TERPHENYL-d14	(18 - 137 %)	D	%
NITROBENZENE-d5	(23 - 120 %)	D	%
2-FLUOROBIPHENYL	(30 - 115 %)	D	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270 NITROBENZENE  
Reported: 11/10/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203Y04

Client Sample ID : PTSB-24 0-8'

Date Sampled : 10/21/03      Order #: 682117      Sample Matrix: SOIL/SEDIMENT  
Date Received: 10/23/03      Submission #: R2318866      Percent Solid: 70.7

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 10/23/03			
DATE ANALYZED : 10/24/03			
ANALYTICAL DILUTION: 100.00			Dry Weight
NITROBENZENE	330	500000	UG/KG
<u>SURROGATE RECOVERIES</u>	<u>QC LIMITS</u>		
TERPHENYL-d14	(18 - 137 %)	D	%
NITROBENZENE-d5	(23 - 120 %)	D	%
2-FLUOROBIPHENYL	(30 - 115 %)	D	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270 NITROBENZENE  
Reported: 11/10/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203Y04

Client Sample ID : PTSB-28 12-14'

Date Sampled : 10/21/03      Order #: 682118      Sample Matrix: SOIL/SEDIMENT  
Date Received: 10/23/03      Submission #: R2318866      Percent Solid: 73.2

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 10/23/03			
DATE ANALYZED : 10/24/03			
ANALYTICAL DILUTION: 100.00			Dry Weight
NITROBENZENE	330	410000	UG/KG
SURROGATE RECOVERIES	QC LIMITS		
TERPHENYL-d14	(18 - 137 %)	D	%
NITROBENZENE-d5	(23 - 120 %)	D	%
2-FLUOROBIPHENYL	(30 - 115 %)	D	%



**COLUMBIA ANALYTICAL SERVICES**

**EXTRACTABLE ORGANICS**  
**METHOD 8270 NITROBENZENE**  
**Reported: 11/10/03**

Roux Associates Inc.

**Project Reference:** HONEYWELL/OUTER HARBOR 25203Y04

**Client Sample ID :** PTSB-29 14-16'

**Date Sampled :** 10/21/03      **Order #:** 682119      **Sample Matrix:** SOIL/SEDIMENT  
**Date Received:** 10/23/03      **Submission #:** R2318866      **Percent Solid:** 77.0

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 10/23/03			
DATE ANALYZED : 10/24/03			
ANALYTICAL DILUTION: 50.00			Dry Weight
NITROBENZENE	330	120000	UG/KG
<u>SURROGATE RECOVERIES</u>	<u>QC LIMITS</u>		
TERPHENYL-d14	(18 - 137 %)	D	%
NITROBENZENE-d5	(23 - 120 %)	D	%
2-FLUOROBIPHENYL	(30 - 115 %)	D	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270 NITROBENZENE  
Reported: 11/10/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203Y04

Client Sample ID : PTSB-27 16-18'

Date Sampled : 10/21/03      Order #: 682120      Sample Matrix: SOIL/SEDIMENT  
Date Received: 10/23/03      Submission #: R2318866      Percent Solid: 77.2

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 10/23/03			
DATE ANALYZED : 10/24/03			
ANALYTICAL DILUTION: 100.00			Dry Weight
NITROBENZENE	330	520000	UG/KG
<u>SURROGATE RECOVERIES</u>	<u>QC LIMITS</u>		
TERPHENYL-d14	(18 - 137 %)	D	%
NITROBENZENE-d5	(23 - 120 %)	D	%
2-FLUOROBIPHENYL	(30 - 115 %)	D	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270 NITROBENZENE  
Reported: 11/10/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203Y04

Client Sample ID : PTSB-31 8-10'

Date Sampled : 10/21/03      Order #: 682121      Sample Matrix: SOIL/SEDIMENT  
Date Received: 10/23/03      Submission #: R2318866      Percent Solid: 77.1

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 10/23/03			
DATE ANALYZED : 10/27/03			
ANALYTICAL DILUTION: 25.00			Dry Weight
NITROBENZENE	330	64000	UG/KG
<u>SURROGATE RECOVERIES</u>	<u>QC LIMITS</u>		
TERPHENYL-d14	(18 - 137 %)	D	%
NITROBENZENE-d5	(23 - 120 %)	D	%
2-FLUOROBIPHENYL	(30 - 115 %)	D	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270 NITROBENZENE  
Reported: 11/10/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203Y04

Client Sample ID : PTSB-24 12-14'

Date Sampled : 10/21/03      Order #: 682122      Sample Matrix: SOIL/SEDIMENT  
Date Received: 10/23/03      Submission #: R2318866      Percent Solid: 77.4

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 10/23/03			
DATE ANALYZED : 10/24/03			
ANALYTICAL DILUTION: 50.00			Dry Weight
NITROBENZENE	330	63000	UG/KG
<u>SURROGATE RECOVERIES</u>	<u>QC LIMITS</u>		
TERPHENYL-d14	(18 - 137 %)	D	%
NITROBENZENE-d5	(23 - 120 %)	D	%
2-FLUOROBIPHENYL	(30 - 115 %)	D	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270 NITROBENZENE  
Reported: 11/10/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203Y04

Client Sample ID : PTSB-31 0-8'

Date Sampled : 10/21/03      Order #: 682123      Sample Matrix: SOIL/SEDIMENT  
Date Received: 10/23/03      Submission #: R2318866      Percent Solid: 70.2

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 10/23/03			
DATE ANALYZED : 10/24/03			
ANALYTICAL DILUTION: 200.00			Dry Weight
NITROBENZENE	330	500000	UG/KG
SURROGATE RECOVERIES	QC LIMITS		
TERPHENYL-d14	(18 - 137 %)	D	%
NITROBENZENE-d5	(23 - 120 %)	D	%
2-FLUOROBIPHENYL	(30 - 115 %)	D	%



COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS  
METHOD 8270 NITROBENZENE  
Reported: 11/10/03

Roux Associates Inc.

Project Reference: HONEYWELL/OUTER HARBOR 25203Y04

Client Sample ID : PTSB-26 10-12'

Date Sampled : 10/21/03      Order #: 682124      Sample Matrix: SOIL/SEDIMENT  
Date Received: 10/23/03      Submission #: R2318866      Percent Solid: 75.0

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 10/23/03			
DATE ANALYZED : 10/27/03			
ANALYTICAL DILUTION: 400.00			Dry Weight
NITROBENZENE	330	1600000	UG/KG
<u>SURROGATE RECOVERIES</u>	<u>QC LIMITS</u>		
TERPHENYL-d14	(18 - 137 %)	D	%
NITROBENZENE-d5	(23 - 120 %)	D	%
2-FLUOROBIPHENYL	(30 - 115 %)	D	%