

ROCKWELL ENGINEERING & CONSTRUCTION SERVICES, Inc.

1825 WOODBINE ROAD
FAIRBANKS, ALASKA 99709
PHONE: (907) 457-7625
FAX: (907) 457-7620

RECEIVED

102.38.118

g

Date: January 22, 2003

Attention: Mr. Jim Roles
First Strike Environmental
204 Quarry Road
Roseburg, OR 97470-9453

MAR 03 2003

CONTAMINATED
SITES
FAIRBANKS

Subject: **Groundwater Sampling and Air Screening - Fourth Quarter
Through December 31, 2002
239 Ina Street, Fairbanks, Alaska
FSE Project No./Re: 99-12-10
Rockwell E&C Project No. 2123**

Dear Mr. Roles,

Rockwell Engineering & Construction Services, Inc. conducted fourth quarter groundwater sampling at 239 Ina Street on November 15, 2002. Monthly screening of the vapor extraction system (VES) and crawlspace were conducted on October 14, November 15, and December 6, 2002. This report summarizes the fourth quarter data.

Summary tables and charts are presented in Attachment 1. Table 1 presents monthly air screening results. Table 2 presents groundwater sampling results. Table 3 lists Alaska Department of Environmental Conservation (ADEC) groundwater cleanup levels. Chart 1 displays diesel range organics (DRO) and benzene concentration trends in groundwater. The site layout is presented in Attachment 2. Complete laboratory test results are presented in Attachment 3.

Recent soil sampling conducted in the crawlspace under the house is discussed in a separate letter report.

FIELD ACTIVITIES

Groundwater sample W9 was collected with a peristaltic pump using the no purge method. Clean latex gloves were worn throughout sampling. The sample containers were placed into a chilled cooler and delivered to CT&E Environmental Services in Fairbanks directly after sampling. Sample W9 was analyzed for DRO by AK method 102 and benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA Method 8021B.

For monthly VES screening, a photoionization detector (PID) was used to measure hydrocarbon vapors in the foundation vent, crawlspace vent, and crawlspace. The foundation vent has been operating continuously during the fourth quarter and was on during screening. Note that the crawlspace vent was turned off in March 28, 2002.

DISCUSSION OF RESULTS

The groundwater test results from W9 for both DRO and BTEX were below method detection limits (non-detect). Groundwater results remain below the ADEC cleanup level for DRO for the fourth consecutive sampling event. BTEX compounds have not been detected in the groundwater for the past two years. In a letter dated September 27, 2002, ADEC required four consecutive sampling events below cleanup levels before requesting a 'no further remedial action planned' (NFRAP).

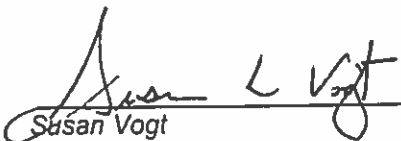
The foundation vent PID readings for October, November, and December were 8.7, 5.1, and 5.0 parts per million (ppm), respectively. The crawlspace and crawlspace vent readings were all 0.0 ppm with the exception of the crawlspace vent reading for October, which was 1.1 ppm. PID readings for the foundation vent have decreased from a February 2002 high of 180 ppm to the December 2002 5.0 ppm reading. There has been a continuing downward trend since May 2002 reading of 20.9 ppm. Readings in the crawlspace have remained at 0.0 ppm since November 2001.

CONCLUSIONS

The groundwater results from this sampling and previous rounds show the ADEC cleanup levels for DRO and BTEX have been achieved. These results indicate that soil contamination remaining under the foundation footer has not migrated to the shallow groundwater table. Based on these results, Rockwell E&C concludes there is no further need to monitor or delineate the shallow groundwater table at the site.

If you have any questions, please contact me at (907) 457-7625.

Sincerely,



Susan Vogt
Environmental Operations Manager
Rockwell Engineering & Construction Services

1-22-03
Date

Cc: ADEC, Sharon Richmond

ATTACHMENT 1
TABLES AND CHARTS

TABLE 1: AIR SCREENING READINGS

Date	Foundation Vent Readings	Crawlspace Vent Readings	Crawlspace Readings
8/25/00	11.8-32.2	0.0-112	--
9/12/00	0.0	0.6	0.0
9/18/00	0.0	0.0	0.0
9/22/00	0.0	0.0	0.0
9/25/00	1.4-202	0.0-15.6	0.0-0.5
9/29/00	0.0-0.5	0.0-1.4	0.0-0.2
10/3/00	1.4	1.4	0.0-3.5
11/3/00	0.0	0.0-45.0	0.0
2/12/01	0.0	0.0	0.0
3/6/01	0.0-0.3	0.3-1.1	0.0
4/13/01	0.0	0.0	0.0
4/16/01	1.1-64.4	0.0	0.0
5/31/01	31.4-47.7	0.0	0.0
6/13/01	22.2-46.0	0.0	0.0
7/9/01	10.4-266	0.9	0.0
8/20/01	0.5-20.2	0.0	0.0
9/11/01	20.5-145	0.0-0.1	0.0-1.1
10/23/01	0.0	0.0	0.0
11/8/01	157-159	0.0-12.5	0.0
11/14/01	122	0.0	0.0
11/16/01	124	0.0	0.0
11/20/01	101-117	0.0-0.1	0.0
11/28/01	0.0	0.0	25.3
12/13/01	118-228	0.0	0.0
1/7/02	9.0-175	0.0	0.0
2/13/02	3.7-180	0.0	0.0
3/28/02	0.0-4.4	0.0	0.0
4/26/02	16.4	0.0	0.0
5/23/02	20.9	0.0	0.0
6/7/02	12.4	0.0	0.0
7/23/02	12.9	0.0	0.0
9/19/02	12.2	3.7	0.0
10/14/02	8.7	1.1	0.0
11/15/02	5.1	0.0	0.0
12/6/02	5.0	0.0	0.0

Readings were taken using a PID. Results are listed in parts per million (ppm).
 -- = No readings collected.

TABLE 2: GROUNDWATER TEST RESULTS

DATE	Sample ID	DRO	Benzene	Toluene	Ethyl-benzene	Xylenes
8/8/00	W1	1.84	0.00073	0.00894	0.0116	0.0481
11/30/00	W2	2.35	ND	ND	ND	0.01241
3/6/01	W3	2.69	ND	ND	ND	ND
6/13/01	W4	1.28	ND	ND	ND	ND
9/11/01	W5	3.48	ND	ND	ND	ND
12/13/01	W6	1.10	ND	ND	ND	ND
6/7/02	W7	1.13	ND	ND	ND	ND
9/19/02	W8	0.886	ND	ND	ND	ND
11/15/02	W9	ND	ND	ND	ND	ND

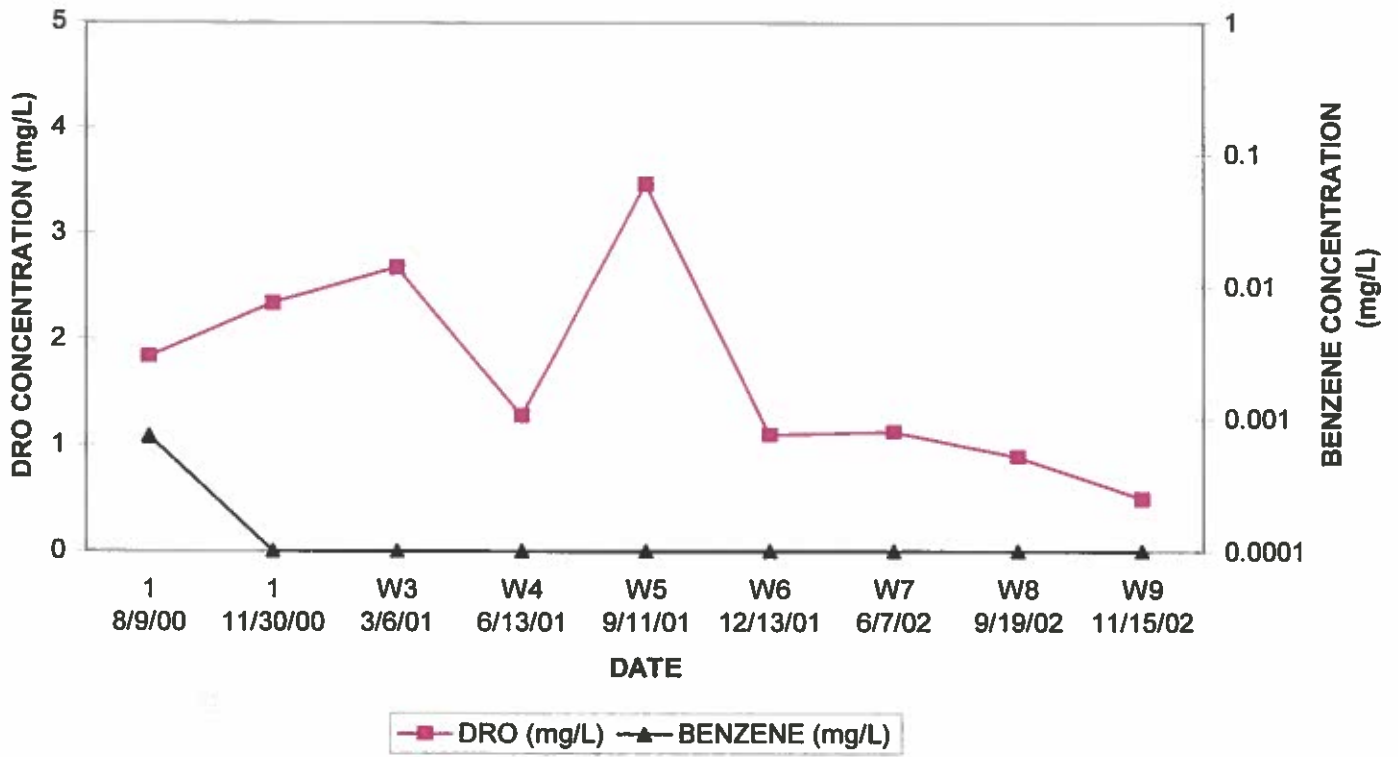
Results shown in milligrams per liter (mg/L).
 ND = Not detected at or below method detection limit;
 NA = Not analyzed.

TABLE 3: ADEC GROUNDWATER CLEANUP LEVELS

Parameter	Groundwater Cleanup Level (mg/L)
DRO	1.5
Benzene	0.005
Toluene	1.0
Ethylbenzene	0.7
Xylenes	10.0

From Table C, 18 AAC 75.345, ADEC.

CHART 1: GROUNDWATER TRENDS



ATTACHMENT 2

SITE LAYOUT

ROCKWELL ENGINEERING &
CONSTRUCTION SERVICES INC.
1825 WOODBINE ROAD
FAIRBANKS, ALASKA 99709

Project Name

SITE LAYOUT

Date
2002

SITE ASSESSOR
AB

Location

239 INA STREET
FAIRBANKS, ALASKA

DRAWN BY
MR

Drawing Of
1 1

INA STREET

CARPORT
239 INA STREET
HOUSE

Excavation
Boundary



CRAWLSPACE
VENT LINES

DOOR

FORMER
TANK

50'

MW-1

FOUNDATION
VENT LINE

SCALE



10 FEET

FAN UNITS

VENTS

Excavation
Boundary

Key:

= Monitoring Well

ATTACHMENT 3
LABORATORY RESULTS



Job# 2123

CTE Environmental Services
Alaska Division
Level I Data Report

Project: 239 Ina St
Client: Rockwell Engineering & Construction
CT&E Work Order: 1027091

Contents:

Chain of Custody/Sample Rec Form
Case Narrative
Final Report Pages
QC Summary Pages

Note:

Unless otherwise noted, all quality assurance/quality control criteria are in compliance with the proper regulatory authority and/or CTE's Quality Assurance Program Plan.



Case Narrative

Client ROCKWEL Rockwell Engineering & Construction
Workorder 1027091 239 Ina St

Printed Date/Time 11/20/2002 8:45

Sample ID Client Sample ID

1027091002 PS S1

BTEX - BFB surrogate recovery is biased high due to hydrocarbon interference. Results are not affected.
DRO - Surrogate is outside QC goals (biased high) due to hydrocarbon interference. Sample results should not be affected.
DRO - The pattern is consistent with a weathered middle distillate.

1027091003 PS S2

BTEX - BFB surrogate recovery is biased high due to hydrocarbon interference. Results are not affected.
DRO - Surrogate is outside QC goals (biased high) due to hydrocarbon interference. Sample results should not be affected.
DRO - The pattern is consistent with a weathered middle distillate.

1027091005 PS S4

DRO - The pattern is consistent with a weathered middle distillate.

1027091007 PS S6

BTEX - BFB surrogate recovery is biased high due to hydrocarbon interference. Results are not affected.
DRO - Surrogate is outside QC goals (biased high) due to hydrocarbon interference. Sample results should not be affected.
DRO - The pattern is consistent with a weathered middle distillate.

1027091008 PS S7

BTEX - BFB surrogate recovery is biased high due to hydrocarbon interference. Results are not affected.
DRO - Surrogate is outside QC goals (biased high) due to hydrocarbon interference. Sample results should not be affected.
DRO - The pattern is consistent with a weathered middle distillate.

CHAIN OF CUSTODY RECORD



CT&E Environmental Services Inc.
Laboratory Division

1 CLIENT: Rockwell Engineering PHONE NO: (907) 457-7625 PWSID: _____
 CONTACT: Alex Beaver 484-8544
 PROJECT: 234 Ina St
 REPORTS TO: 1825 Woodbine Rd.
Fairbanks, AK 99701 FAX NO: (907) 457-7620
 INVOICE TO: SAME QUOTE# _____ P.O. NUMBER: _____

CT&E Reference: _____ PAGE 1 OF 1

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	No. CONTAINERS	SAMPLE TYPE C = COMP G = GRAB	Preservatives Used			REMARKS
							HA	HA	MOH	
1 A-E	W9	15 Nov 02	1100	W	5	G	X			
2 A-B	S1		1200	S	2	G		X		
3 A-B	S2		1200	S	2	G		X		
4 A-B	S3		1210	S	2	G		X		
5 A-B	S4		1217	S	2	G		X		
6 A-B	S5		1248	S	2	G		X		
7 A-B	S6		1257	S	2	G		X		
8 A-B	S7		1309	S	2	G		X		
9 A	TR(s)				1					
10 A-B	TR(w)				1					

Shipping Carrier: Bund Temperature: Temp's -1.6C
 Shipping Ticket No: _____ Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT
 Data Deliverables: _____
 Level I Level II Level III EDD Type: _____
 Requested Turnaround Time and Special Instructions: 3 day TAT
RUSH

2 Collected/Relinquished By: (1) [Signature] Received By: Shannon James
 Relinquished By: (2) _____ Received By: _____
 Relinquished By: (3) Shannon James Received By: _____
 Relinquished By: (4) _____ Received For Laboratory By: [Signature]



RUSH

Yes No

Are samples RUSH, priority, or within 24 hrs. of hold time?

If yes have you done e-mail notification? NA

Are samples within 24 hrs. of hold time or due date?

If yes, have you spoken with Supervisor? NA

Archiving bottles - if required, are they properly marked?

Are there any problems (e.g., ids, analyses)? PT/10/02

Were samples preserved correctly and pH verified? NA

(1) Had to add HCl to 1 D. 3ml.

(2) #1: LID INDICATES "S7" FOR LABS INDICATES "S7"

#2: LID INDICATES "S7" FOR LABS INDICATES "S6"

Has Project Manager been notified of problems? CALLER P.M. SUE

Is this a DOD project? (USACE, Navy, AFCEE): WHO INDICATES USE

If yes, complete page 2 of Sample Receipt Form LID 1027.

Will a data package be required? PT/10/02

If this is for PWS, provide PWSID. 5770A

Is there a quote for this project?

Will courier charges apply?

Method of payment?

Completed by (sign): Shannon Gaines (print): Shannon Gaines

Login proof (check one): waived required performed by: _____

Notes:

of each Container Received:

- 950 ml amber unpres'd 2
- 950 ml amber w / HCl
- 500 ml amber w / H₂SO₄
- 1L cubies unpres'd
- 1L Cubitainers w / HNO₃
- 1L Cubitainers w / H₂SO₄
- 1L Cubitainers w / NaOH + ZnAc
- 250 mL Nalgene NaOH
- 120 ml coli bottles
- 60 ml Nalgene unpres'd
- 60 mL Nalgene w/ H₂SO₄
- 8 oz amber unpres'd 7
- 4 oz amber unpres'd
- 4 oz w / septa w / MeOH
- 40 ml vials w / HCl
- 40 mL ascorbic acid + HCl

- Other (specify) _____
- Other (specify) _____
- Other (specify) _____
- Other (specify) _____

TO BE COMPLETED IN ANCHORAGE UPON ARRIVAL FROM FAIRBANKS OR HAWAII.
NOTES RECORDED BELOW ARE ACTIONS NEEDED UPON ARRIVAL IN ANCHORAGE.

Notes:

DATE / TIME: 11/16/07 09:10

COOLER AND TEMP BLANK READINGS*

Cooler ID 2 Temp Blank 1.8 Cooler 1.4

CUSTODY SEALS INTACT: YES / NO # / WHERE: 2 IN FREEZER

COMPLETED BY (INITIALS): SG

Due Date: 11-20-07

Received Date/Time: 11-15-07 1:50

Received Temperature: _____

Thermometer ID: probe C

Cooler ID 1 Temp Blank 1.6c Cooler Temp 1.6c

Matrix of each Sample:

1 " " " " " "
2 " " " " " "
" " " " " "
" " " " " "
" " " " " "

Trip Blank 10-9

BMS/BMSD _____

Additional Sample Remarks

- Extra Sample Volume? _____
- Limited Sample Volume? _____
- Field pres'd for volatiles? _____
- Field-filtered for dissolved? _____
- Lab-filtered for dissolved? _____
- Ref Lab required? _____

*Temperature readings include thermometer correction factors.

CUSTODY SEAL

Date 15 Nov 02
Signature alya n



CUSTODY SEAL

Date 15 Nov 02
Signature alya n



1027091

TB

COOLER

1.9

1.8

#2



CT&E Environmental Services Inc.
CUSTODY SEAL

Signature:

Shannon Rivers

Date/Time:

11-15-07 4:30



CT&E Environmental Services Inc.
CUSTODY SEAL

Signature:

Shannon Rivers

Date/Time:

11-15-07 4:30



200 W. Potter Drive
Anchorage, AK 99518-1605
Tel: (907) 562-2343
Fax: (907) 561-5301
Web: <http://www.cteesi.com>

Alex Beaver
Rockwell Engr & Const
1825 Woodbine
Fairbanks, AK 99709

Work Order:	1027091 239 Ina St
Client:	Rockwell Engineering & Construction
Report Date:	November 20, 2002

Enclosed are the analytical results associated with the above workorder.

As required by the state of Alaska and the USEPA, a formal Quality Assurance/Quality Control Program is maintained by CT&E. A copy of our Quality Control Manual that outlines this program is available at your request.

Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth in our Quality Assurance Program Plan.

If you have any questions regarding this report or if we can be of any other assistance, please call your CT&E Project Manager at (907) 562-2343.

The following descriptors may be found on your report which will serve to further qualify the data.

- U Indicates the analyte was analyzed for but not detected.
- F Indicates an estimated value that falls below PQL, but is greater than the MDL.
- J Indicates an estimated value that falls below PQL, but is greater than the MDL.
- B Indicates the analyte is found in the blank associated with the sample.
- * The analyte has exceeded allowable limits.
- GT Greater Than
- D Secondary Dilution
- LT Less Than
- ! Surrogate out of range



CT&E Ref.# 1027091001
Client Name Rockwell Engineering & Construction
Project Name/# 239 Ina St
Client Sample ID W9
Matrix Water (Surface, Eff., Ground)

All Dates/Times are Alaska Standard Time
Printed Date/Time 11/20/2002 10:29
Collected Date/Time 11/15/2002 11:00
Received Date/Time 11/15/2002 13:50
Technical Director Stephen C. Ede

Released By Stephen C. Ede

Sample Remarks:

Table with 9 columns: Parameter, Results, PQL, Units, Method, Allowable Limits, Prep Date, Analysis Date, Init. Rows include Volatile Fuels Department (Benzene, Toluene, Ethylbenzene, P & M -Xylene, o-Xylene), Surrogates (1,4-Difluorobenzene, 4-Bromofluorobenzene), Semivolatile Organic Fuels Department (Diesel Range Organics), and Surrogates (5a Androstane).



CT&E Ref.# 1027091010
Client Name Rockwell Engineering & Construction
Project Name/# 239 Ina St
Client Sample ID TB
Matrix Water (Surface, Eff., Ground)

All Dates/Times are Alaska Standard Time
Printed Date/Time 11/20/2002 10:29
Collected Date/Time 11/15/2002 0:00
Received Date/Time 11/15/2002 13:50
Technical Director Stephen C. Ede

Released By

Sample Remarks:

Table with 10 columns: Parameter, Results, PQL, Units, Method, Allowable Limits, Prep Date, Analysis Date, Init. Rows include Volatile Fuels Department (Benzene, Toluene, Ethylbenzene, P & M -Xylene, o-Xylene) and Surrogates (1,4-Difluorobenzene, 4-Bromofluorobenzene).



CT&E Ref.# 467149 Method Blank
 Client Name Rockwell Engineering & Construction
 Project Name/# 239 Ina St
 Matrix Water (Surface, Eff., Ground)

Printed Date/Time 11/20/2002 8:45
 Prep Batch VXX 9874
 Method SW5030
 Date 11/18/2002

QC results affect the following production samples:
 1027091001, 1027091010

Sample Remarks:

Parameter	Results	Reporting Limit	Units	Analysis Date	Init
Volatile Fuels Department					
Gasoline Range Organics	0.0450 U	0.0450	mg/L	11/18/02	ECG
Benzene	0.000250 U	0.000250	mg/L	11/18/02	ECG
Toluene	0.00100 U	0.00100	mg/L	11/18/02	ECG
Ethylbenzene	0.00100 U	0.00100	mg/L	11/18/02	ECG
P & M -Xylene	0.00100 U	0.00100	mg/L	11/18/02	ECG
o-Xylene	0.00100 U	0.00100	mg/L	11/18/02	ECG
Surrogates					
1,4-Difluorobenzene <Surr>	100		%	11/18/02	ECG
4-Bromofluorobenzene <Surr>	87.7		%	11/18/02	ECG
Batch	VFC 5562				
Method	AK101/8021B				
Instrument	HP 5890 Series II PID+FID VCA				



CT&E Ref.# 467150 Lab Control Sample
 467151 Lab Control Sample Duplicate
 Client Name Rockwell Engineering & Construction
 Project Name/# 239 Ina St
 Matrix Water (Surface, Eff., Ground)

Printed Date/Time 11/20/2002 8:45
 Prep Batch VXX 9874
 Method SW5030
 Date 11/18/2002

QC results affect the following production samples:
 1027091001, 1027091010

Sample Remarks:
 LCS
 LCSD

Parameter	QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date	Init
Volatile Fuels Department								
Gasoline Range Organics	LCS 0.913	101	(60-120)			0.9 mg/L	11/18/02	ECG
	LCSD 0.896	100		2	(< 20)	0.9 mg/L	11/18/02	ECG
Benzene	LCS 0.0411	97	(79-131)			0.0426 mg/L	11/18/02	ECG
	LCSD 0.0411	97		0	(< 20)	0.0426 mg/L	11/18/02	ECG
Toluene	LCS 0.137	99	(86-117)			0.139 mg/L	11/18/02	ECG
	LCSD 0.140	101		3	(< 20)	0.139 mg/L	11/18/02	ECG
Ethylbenzene	LCS 0.0246	101	(86-127)			0.0244 mg/L	11/18/02	ECG
	LCSD 0.0282	116		14	(< 20)	0.0244 mg/L	11/18/02	ECG
P & M -Xylene	LCS 0.0859	97	(83-115)			0.0886 mg/L	11/18/02	ECG
	LCSD 0.0962	109		11	(< 20)	0.0886 mg/L	11/18/02	ECG
o-Xylene	LCS 0.0315	93	(88-116)			0.0339 mg/L	11/18/02	ECG
	LCSD 0.0333	98		6	(< 20)	0.0339 mg/L	11/18/02	ECG
Surrogates								
1,4-Difluorobenzene <Surr>	LCS	106	(75-120)			0.05 mg/L	11/18/02	ECG
	LCSD	108		2		0.05 mg/L	11/18/02	ECG
4-Bromofluorobenzene <Surr>	LCS	109	(60-120)			0.05 mg/L	11/18/02	ECG
	LCSD	107		2		0.05 mg/L	11/18/02	ECG

Batch VFC 5562
 Method AK101/8021B
 Instrument HP 5890 Series II PID+FID VCA



CT&E Ref.# 467034 Method Blank
Client Name Rockwell Engineering & Construction
Project Name/# 239 Ina St
Matrix Water (Surface, Eff., Ground)

Printed Date/Time 11/20/2002 8:45
Prep Batch XXX 11146
Method SW3510C
Date 11/19/2002

QC results affect the following production samples:
1027091001

Sample Remarks:

Table with 6 columns: Parameter, Results, Reporting Limit, Units, Analysis Date, Int. Includes rows for Diesel Range Organics, Residual Range Organics GC, and Surrogates (5a Androstane, n-Triacontane-d62).



CT&E Ref.# 467035 Lab Control Sample
467036 Lab Control Sample Duplicate
Client Name Rockwell Engineering & Construction
Project Name/# 239 Ina St
Matrix Water (Surface, Eff., Ground)

Printed Date/Time 11/20/2002 8:45
Prep Batch XXX 11146
Method SW3510C
Date 11/19/2002

QC results affect the following production samples:
1027091001

Sample Remarks:
LCS
LCSD

Table with 8 columns: Parameter, QC Results, Pct Recov, LCS/LCSD Limits, RPD, RPD Limits, Spiked Amount, Analysis Date, Init. Rows include Diesel Range Organics, Residual Range Organics GC, Surrogates (n-Triacontane-d62, 5a Androstane).