



**Analytical Resources, Incorporated**  
Analytical Chemists and Consultants

11, February 2002

Richard A. Poulin  
Smith & Lowney, P.L.L.C.  
2317 East John Street  
Seattle, WA 98112

**RE: Case 2**

Dear Mr. Poulin:

Please find enclosed a sample custody record (COC) and a set of analytical results for the above referenced project. Analytical Resources, Inc. accepted four water samples on 31, January 2002. Samples were received intact and there were no discrepancies between the container labels and the COC.

Analysis for the requested parameters proceeded without incident for metals and conventional's. The glycol's had a continuing calibration outside the acceptable control limits. The samples were re-analyzed outside the recommended holding time. The re-analysis data confirmed the original data. Both sets of data have been reported.

Quality control analysis results are included for your review.

Copies of the reports and all associated raw data will be kept on file at ARI. If you have any questions or require additional information, please contact your project manager.

Sincerely,  
ANALYTICAL RESOURCES, INC.

Client Services  
400 Ninth Avenue North  
Seattle, WA 98109  
Project Manager: Susan Snyder

cc: file EB44

Exhibit	361
Date	2/15/02
Witness	Willing
Diana Mills, Court Reporter	

EB44

# Chain of Custody Record & Laboratory Analysis Request



Analytical Resources, Incorporated  
Analytical Chemists and Consultants  
400 Ninth Avenue North  
Seattle, WA 98109-4708  
206-621-6490 206-621-7523 (fax)

Page \_\_\_ of \_\_\_

Turn Around Requested: \_\_\_\_\_

Report to: <i>Greg Wingard</i>		Proj Name:			Analyses Requested						Notes/Comments
Company: <i>CASE</i>		Proj Number:			<i>Physical</i>	<i>7.55</i>	<i>Total metal</i>	<i>disolved metals</i>	<i>Total metals 20</i>	<i>disolved metals</i>	
Address: <i>PO Box 4051</i>		Sampler: <i>Greg Wingard</i>									
Phone:		Shipping Method:									
Fax:		AirBill:									
Sample ID	Sample Date	Sample Time	Sample Matrix	No Containers							
<i>010</i>	<i>1-31-02</i>	<i>2:58</i>	<i>W</i>	<i>1</i>	<i>X</i>						
<i>011</i>	<i>1-31-02</i>	<i>3:02</i>	<i>W</i>	<i>1</i>			<i>X</i>		<i>X</i>		
<i>012</i>	<i>1-31-02</i>	<i>3:04</i>	<i>W</i>	<i>1</i>		<i>X</i>		<i>X</i>			
<i>013</i>	<i>1-31-02</i>	<i>3:09</i>	<i>W</i>	<i>1</i>	<i>X</i>						

Relinquished: (Signature) <i>Greg Wingard</i>	Relinquished: (Signature)	Relinquished: (Signature)	Special Instructions/Notes
Printed name: <i>Greg Wingard</i>	Printed name:	Printed name:	
Company: <i>CASE</i>	Company:	Company:	
Date: <i>1-31-02</i> Time: <i>6:10</i>	Date: Time:	Date: Time:	
Received by: <i>Deborah Johnson</i>	Received by:	Received by:	Number of Coolers: Cooler Temp(s): COC Seals Intact? Bottles Intact?
Printed name: <i>Deborah Johnson</i>	Printed name:	Printed name:	
Company: <i>ARI</i>	Company:	Company:	
Date: <i>1/31/02</i> Time: <i>18:10</i>	Date: Time:	Date: Time:	

AR 021293

ORGANICS ANALYSIS DATA SHEET  
GLYCOLS by GC-FID

Sample No: Method Blank

Lab Sample ID: 020602MB  
LIMS ID: 02-1274  
Matrix: Water

QC Report No: EB44-Smith & Lowney, P.L.L.C.  
Project: CASE

Date Sampled: NA  
Date Received: NA

Data Release Authorized: *[Signature]*  
Reported: 02/11/02

Date Analyzed: 02/06/02

Conc/Dilution Factor: 1:1

CAS Number	Analyte	mg/L
107-21-1	Ethylene Glycol	5.0 U
57-55-6	Propylene Glycol	5.0 U

Glycol Surrogate Recovery

Cyclohexanone 70.0%

Data Qualifiers

- J Indicates an estimated value when that result is less than the calculated detection limit.
- E Indicates a value above the linear range of the detector.  
Dilution Required
- S Indicates no value reported due to saturation of the detector.
- D Indicates the surrogate was diluted out.
- U Indicates compound was analyzed for, but not detected at the given detection limit.
- B Found in associated method blank
- NA Indicates compound was not analyzed.
- NR Indicates no recovery due to interferences.
- Y Indicates a raised reporting limit due to matrix interferences.  
The analyte may be present at or below the listed concentration, but in the opinion of the analyst, confirmation was inadequate.

FORM-1

AR 021294

ORGANICS ANALYSIS DATA SHEET  
GLYCOLS by GC-FID

Sample No: 010

Lab Sample ID: EB44A  
LTMS ID: 02-1274  
Matrix: WaterQC Report No: EB44-Smith & Lowney, P.L.L.C.  
Project: CASEDate Sampled: 01/31/02  
Date Received: 01/31/02Data Release Authorized: *N*  
Reported: 02/11/02

Date Analyzed: 02/06/02

Conc/Dilution Factor: 1:1

CAS Number	Analyte	mg/L
107-21-1	Ethylene Glycol	5.0 U
57-55-6	Propylene Glycol	11

Glycol Surrogate Recovery

Cyclohexanone 120%

## Data Qualifiers

- J Indicates an estimated value when that result is less than the calculated detection limit.
- E Indicates a value above the linear range of the detector.  
Dilution Required
- S Indicates no value reported due to saturation of the detector.
- D Indicates the surrogate was diluted out.
- U Indicates compound was analyzed for, but not detected at the given detection limit.
- B Found in associated method blank
- NA Indicates compound was not analyzed.
- NR Indicates no recovery due to interferences.
- Y Indicates a raised reporting limit due to matrix interferences.  
The analyte may be present at or below the listed concentration, but in the opinion of the analyst, confirmation was inadequate.

FORM-1

AR 021295

ORGANICS ANALYSIS DATA SHEET  
GLYCOLS by GC-FID

Sample No: 010  
MATRIX SPIKE

Lab Sample ID: EB44A-MS  
LIMS ID: 02-1274  
Matrix: Water

QC Report No: EB44-Smith & Lowney, P.L.L.C.  
Project: CASE

Date Sampled: 01/31/02  
Date Received: 01/31/02

Data Release Authorized: *ph*  
Reported: 02/11/02

Date Analyzed: 02/06/02

Conc/Dilution Factor: 1:1

CAS Number	Analyte	mg/L
107-21-1	Ethylene Glycol	---
57-55-6	Propylene Glycol	---

Glycol Surrogate Recovery

Cyclohexanone 76.0%

Data Qualifiers

- J Indicates an estimated value when that result is less than the calculated detection limit.
- E Indicates a value above the linear range of the detector.  
Dilution Required
- S Indicates no value reported due to saturation of the detector.
- D Indicates the surrogate was diluted out.
- U Indicates compound was analyzed for, but not detected at the given detection limit.
- B Found in associated method blank
- NA Indicates compound was not analyzed.
- NR Indicates no recovery due to interferences.
- Y Indicates a raised reporting limit due to matrix interferences.  
The analyte may be present at or below the listed concentration, but in the opinion of the analyst, confirmation was inadequate.

FORM-1

AR 021296

ORGANICS ANALYSIS DATA SHEET  
GLYCOLS by GC-FID

Sample No: 010  
SPIKE DUPLICATE

Lab Sample ID: EB44A-MSD  
LIMS ID: 02-1274  
Matrix: Water

QC Report No: EB44-Smith & Lowney, P.L.L.C.  
Project: CASE

Date Sampled: 01/31/02  
Date Received: 01/31/02

Data Release Authorized: *pk*  
Reported: 02/11/02

Date Analyzed: 02/06/02

Conc/Dilution Factor: 1:1

CAS Number	Analyte	mg/L
107-21-1	Ethylene Glycol	---
57-55-6	Propylene Glycol	---

Glycol Surrogate Recovery

Cyclohexanone 126%

Data Qualifiers

- J Indicates an estimated value when that result is less than the calculated detection limit.
- E Indicates a value above the linear range of the detector.  
Dilution Required
- S Indicates no value reported due to saturation of the detector.
- D Indicates the surrogate was diluted out.
- U Indicates compound was analyzed for, but not detected at the given detection limit.
- B Found in associated method blank
- NA Indicates compound was not analyzed.
- NR Indicates no recovery due to interferences.
- Y Indicates a raised reporting limit due to matrix interferences.  
The analyte may be present at or below the listed concentration, but in the opinion of the analyst, confirmation was inadequate.

FORM-1

AR 021297

ORGANICS ANALYSIS DATA SHEET  
GLYCOLS by GC-FID



Lab Sample ID: EB44A  
LIMS ID: 02-1274  
Matrix: Water

Sample No: 010  
QC Report No: EB44-Smith & Lowney, P.L.L.C.  
Project: CASE

Date Received: 01/31/02

Data Release Authorized: *[Signature]*  
Reported: 02/11/02

MATRIX SPIKE/SPIKE DUPLICATE RECOVERY

CONSTITUENT	SAMPLE VALUE	SPIKE FOUND	SPIKE ADDED	% RECOVERY	RPD
MATRIX SPIKE					
Ethylene Glycol	< 5.0	46.0	50.0	92.0%	
Propylene Glycol	11.0	54.0	50.0	86.0%	
MATRIX SPIKE DUPLICATE					
Ethylene Glycol	< 5.0	66.0	50.0	132%	36%
Propylene Glycol	11.0	71.0	50.0	120%	33%

Values reported in parts per million (mg/L)

Glycol SPIKE CONTROL LIMITS  
Percent Recovery 30-160%

FORM-III

AR 021298

ORGANICS ANALYSIS DATA SHEET  
GLYCOLS by GC-FID



Lab Sample ID: EB44SB  
LIMS ID: 02-1274  
Matrix: Water

QC Report No: EB44-Smith & Lowney, P.L.L.C.  
Project: CSE

Data Release Authorized: *pl*  
Reported: 02/11/02

LABORATORY CONTROL SAMPLE

CONSTITUENT	SPIKE FOUND	SPIKE ADDED	% RECOVERY
Ethylene Glycol	37.0	50.0	74.0%
Propylene Glycol	45.0	50.0	90.0%

GLYCOL SURROGATE RECOVERIES

Cyclohexanone 106 %

Values reported in parts per million (mg/L)

GLYCOL SPIKE CONTROL LIMITS  
Percent Recovery 30-160%

FORM-III

AR 021299



ORGANICS ANALYSIS DATA SHEET  
GLYCOLS by GC-FID

Sample No: Method Blank

Lab Sample ID: 020802MB  
LIMS ID: 02-1690  
Matrix: Water

QC Report No: EB44-Smith & Lowney, P.L.L.C.  
Project: CASE

Date Sampled: NA  
Date Received: NA

Data Release Authorized:  
Reported: 02/11/02

Date Analyzed: 02/08/02

Conc/Dilution Factor: 1:1

CAS Number	Analyte	mg/L
107-21-1	Ethylene Glycol	5.0 U
57-55-6	Propylene Glycol	5.0 U

Glycol Surrogate Recovery

Cyclohexanone 132%

Data Qualifiers

- J Indicates an estimated value when that result is less than the calculated detection limit.
- E Indicates a value above the linear range of the detector.  
Dilution Required
- S Indicates no value reported due to saturation of the detector.
- D Indicates the surrogate was diluted out.
- U Indicates compound was analyzed for, but not detected at the given detection limit.
- B Found in associated method blank
- NA Indicates compound was not analyzed.
- NR Indicates no recovery due to interferences.
- Y Indicates a raised reporting limit due to matrix interferences. The analyte may be present at or below the listed concentration, but in the opinion of the analyst, confirmation was inadequate.

FORM-1

AR 021300

ORGANICS ANALYSIS DATA SHEET  
GLYCOLS by GC-FID

Sample No: 010

Lab Sample ID: EB44A  
LIMS ID: 02-1690  
Matrix: Water

QC Report No: EB44-Smith & Lowney, P.L.L.C.  
Project: CASE

Date Sampled: 01/31/02  
Date Received: 01/31/02

Data Release Authorized: *[Signature]*  
Reported: 02/11/02

Date Analyzed: 02/09/02

Conc/Dilution Factor: 1:1

CAS Number	Analyte	mg/L
107-21-1	Ethylene Glycol	5.0 U
57-55-6	Propylene Glycol	11

Glycol Surrogate Recovery

Cyclohexanone 80.0%

Data Qualifiers

- J Indicates an estimated value when that result is less than the calculated detection limit.
- E Indicates a value above the linear range of the detector.  
Dilution Required
- S Indicates no value reported due to saturation of the detector.
- D Indicates the surrogate was diluted out.
- U Indicates compound was analyzed for, but not detected at the given detection limit.
- B Found in associated method blank
- NA Indicates compound was not analyzed.
- NR Indicates no recovery due to interferences.
- Y Indicates a raised reporting limit due to matrix interferences.  
The analyte may be present at or below the listed concentration, but in the opinion of the analyst, confirmation was inadequate.

FORM-1

AR 021301

ORGANICS ANALYSIS DATA SHEET  
GLYCOLS by GC-FID

Sample No: 010  
MATRIX SPIKE

Lab Sample ID: EB44A-MS  
LIMS ID: 02-1690  
Matrix: Water

QC Report No: EB44-Smith & Lowney, P.L.L.C.  
Project: CASE

Date Sampled: 01/31/02  
Date Received: 01/31/02

Data Release Authorized: *[Signature]*  
Reported: 02/11/02

Date Analyzed: 02/09/02

Conc/Dilution Factor: 1:1

CAS Number	Analyte	mg/L
107-21-1	Ethylene Glycol	---
57-55-6	Propylene Glycol	---

Glycol Surrogate Recovery

Cyclohexanone 90.0%

Data Qualifiers

- J Indicates an estimated value when that result is less than the calculated detection limit.
- E Indicates a value above the linear range of the detector.  
Dilution Required
- S Indicates no value reported due to saturation of the detector.
- D Indicates the surrogate was diluted out.
- U Indicates compound was analyzed for, but not detected at the given detection limit.
- B Found in associated method blank
- NA Indicates compound was not analyzed.
- NR Indicates no recovery due to interferences.
- Y Indicates a raised reporting limit due to matrix interferences. The analyte may be present at or below the listed concentration, but in the opinion of the analyst, confirmation was inadequate.

FORM-1

ORGANICS ANALYSIS DATA SHEET  
GLYCOLS by GC-FID

Sample No: 010  
SPIKE DUPLICATE

Lab Sample ID: EB44A-MSD  
LIMS ID: 02-1690  
Matrix: Water

QC Report No: EB44-Smith & Lowney, P.L.L.C.  
Project: CASE

Date Sampled: 01/31/02  
Date Received: 01/31/02

Data Release Authorized *[Signature]*  
Reported: 02/11/02

Date Analyzed: 02/09/02

Conc/Dilution Factor: 1:1

CAS Number	Analyte	mg/L
107-21-1	Ethylene Glycol	---
57-55-6	Propylene Glycol	---

Glycol Surrogate Recovery

Cyclohexanone 90.0%

Data Qualifiers

- J Indicates an estimated value when that result is less than the calculated detection limit.
- E Indicates a value above the linear range of the detector.  
Dilution Required
- S Indicates no value reported due to saturation of the detector.
- D Indicates the surrogate was diluted out.
- U Indicates compound was analyzed for, but not detected at the given detection limit.
- B Found in associated method blank
- NA Indicates compound was not analyzed.
- NR Indicates no recovery due to interferences.
- Y Indicates a raised reporting limit due to matrix interferences.  
The analyte may be present at or below the listed concentration,  
but in the opinion of the analyst, confirmation was inadequate.

FORM-1

ORGANICS ANALYSIS DATA SHEET  
GLYCOLS by GC-FID



Lab Sample ID: EB44A  
LIMS ID: 02-1690  
Matrix: Water

Sample No: 010  
QC Report No: EB44-Smith & Lowney, P.L.L.C.  
Project: CASE

Date Received: 01/31/02

Data Release Authorized *JD*  
Reported: 02/11/02

MATRIX SPIKE/SPIKE DUPLICATE RECOVERY

CONSTITUENT	SAMPLE VALUE	SPIKE FOUND	SPIKE ADDED	% RECOVERY	RPD
MATRIX SPIKE					
Ethylene Glycol	< 5.0	62.0	50.0	124%	
Propylene Glycol	11.0	60.0	50.0	98.0%	
MATRIX SPIKE DUPLICATE					
Ethylene Glycol	< 5.0	47.0	50.0	94.0%	28%
Propylene Glycol	11.0	55.0	50.0	88.0%	11%

Values reported in parts per million (mg/L)

Glycol SPIKE CONTROL LIMITS  
Percent Recovery 30-160%

FORM-III

AR 021304

ORGANICS ANALYSIS DATA SHEET  
GLYCOLS by GC-FID



Lab Sample ID: EB44SB  
LIMS ID: 02-1690  
Matrix: Water

QC Report No: EB44-Smith & Lowney, P.L.L.C.  
Project: CASE

Data Release Authorized *(Signature)*  
Reported: 02/11/02

LABORATORY CONTROL SAMPLE

CONSTITUENT	SPIKE FOUND	SPIKE ADDED	% RECOVERY
Ethylene Glycol	47.0	50.0	94.0%
Propylene Glycol	48.0	50.0	96.0%

GLYCOL SURROGATE RECOVERIES

Cyclohexanone 76.0%

Values reported in parts per million (mg/L)

GLYCOL SPIKE CONTROL LIMITS  
Percent Recovery 30-160%

FORM-III

AR 021305

**INORGANICS ANALYSIS DATA SHEET**  
**TOTAL METALS**

Sample No: Method Blank

Lab Sample ID: EB44MB  
LIMS ID: 02-1276  
Matrix: Water

QC Report No: EB44-Smith & Lowney, P.L.L.C.  
Project: CASE

Date Sampled: NA  
Date Received: NA

Data Release Authorized: *[Signature]*  
Reported: 02/07/02

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	ug/L
3010A	02/04/02	6010B	02/06/02	7440-70-2	Calcium	50	50 U
200.8	02/04/02	200.8	02/05/02	7440-50-8	Copper	0.5	0.5 U
3010A	02/04/02	6010B	02/06/02	7439-95-4	Magnesium	50	50 U
200.8	02/04/02	200.8	02/05/02	7440-66-6	Zinc	4	4 U

U Analyte undetected at given RL

RL Reporting Limit

FORM-I

**INORGANICS ANALYSIS DATA SHEET  
TOTAL METALS**

Sample No: 012

Lab Sample ID: EB44C  
LIMS ID: 02-1276  
Matrix: Water

QC Report No: EB44-Smith & Lowney, P.L.L.C.  
Project: CASE

Date Sampled: 01/31/02  
Date Received: 01/31/02

Data Release Authorized: *[Signature]*  
Reported: 02/07/02

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	ug/L
3010A	02/04/02	6010B	02/06/02	7440-70-2	Calcium	50	15,600
200.8	02/04/02	200.8	02/05/02	7440-50-8	Copper	0.5	41.1
3010A	02/04/02	6010B	02/06/02	7439-95-4	Magnesium	50	2,000
200.8	02/04/02	200.8	02/05/02	7440-66-6	Zinc	4	36

Calculated Hardness (mg-CaCO3/L): 47

U Analyte undetected at given RL

RL Reporting Limit

FORM-I



METALS ANALYSIS DATA SHEET  
TOTAL METALS



Sample No: 012  
Lab Sample ID: EB44LCS      QC Report No: EB44-Smith & Lowney, P.L.L.C.  
LIMS ID: 02-1276      Project: CASE  
Matrix: Water      Date Received: 01/31/02  
Data Release Authorized: *[Signature]*  
Reported: 02/07/02

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Spike ng/L	Spike Added	% Recovery	Q
Calcium	10100	10000	101%	
Copper	25.6	25.0	106%	
Magnesium	10200	10000	102%	
Zinc	81.0	80.0	101%	

'Q' codes:      N = control limit not met

Control Limits:      80-120%

FORM-VII

AR 021308


INORGANICS ANALYSIS DATA SHEET  
DISSOLVED METALS

Sample No: Method Blank

Lab Sample ID: EB44MB  
LIMS ID: 02-1275  
Matrix: Water

QC Report No: EB44-Smith & Lowney, P.L.L.C.  
Project: CASE

Date Sampled: NA  
Date Received: NA

Data Release Authorized:   
Reported: 02/07/02

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	ug/L
6010B	02/04/02	6010B	02/06/02	7440-70-2	Calcium	50	50 U
200.8	02/04/02	200.8	02/05/02	7440-50-8	Copper	0.5	0.5 U
6010B	02/04/02	6010B	02/06/02	7439-95-4	Magnesium	50	50 U
200.8	02/04/02	200.8	02/05/02	7440-66-6	Zinc	4	4 U

U Analyte undetected at given RL

RL Reporting Limit

FORM-I

AR 021309

INORGANICS ANALYSIS DATA SHEET  
DISSOLVED METALS

Sample No: 011

Lab Sample ID: EB44B  
LIMS ID: 02-1275  
Matrix: Water

QC Report No: EB44-Smith & Lowney, P.L.L.C.  
Project: CASE

Date Sampled: 01/31/02  
Date Received: 01/31/02

Data Release Authorized  
Reported: 02/07/02

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	ug/L
6010B	02/04/02	6010B	02/06/02	7440-70-2	Calcium	50	16,000
200.8	02/04/02	200.8	02/05/02	7440-50-8	Copper	0.5	35.4
6010B	02/04/02	6010B	02/06/02	7439-95-4	Magnesium	50	2,040
200.8	02/04/02	200.8	02/05/02	7440-66-6	Zinc	4	24
Calculated Dissolved Hardness (mg-CaCO3/L):					48		

U Analyte undetected at given RL

RL Reporting Limit

FORM-1

METALS ANALYSIS DATA SHEET  
DISSOLVED METALS



Sample No: 011  
Lab Sample ID: EB44LCS  
LIMS ID: 02-1275  
Matrix: Water  
QC Report No: ER44-Smith & Lowney, P.L.L.C.  
Project: CASE  
Date Received: 01/31/02  
Data Release Authorized: *[Signature]*  
Reported: 02/07/02

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Spike ug/L	Spike Added	% Recovery	Q
Calcium	10300	10000	103%	
Copper	24.0	25.0	96.0%	
Magnesium	10500	10000	105%	
Zinc	80	80.0	100%	

'Q' codes: N = control limit not met

Control Limits: 80-120%

FORM-VII

AR 021311

QA Report - Method Blank Analysis

Matrix: Water

QC Report No: EB44-Smith & Lowney, P.L.L.C.  
Project: CASE

Data Release Authorized: *MP* Date Received: NA  
Reported: 02/08/02 Dr. M.A. Perkins

METHOD BLANK RESULTS  
CONVENTIONALS

<u>Analysis</u>				
<u>Date &amp; Batch</u>	<u>Constituent</u>	<u>Units</u>		<u>Result</u>
02/05/02 02052#1	Total Suspended Solids	mg/L	< 1.0	U

**Final Report  
Laboratory Analysis of Conventional Parameters**

Sample No: 013

Lab Sample ID: EB44D

QC Report No: EB44-Smith & Lowney, P.L.L.C.

LIMS ID: 02-1277

Project: CASE

Matrix: Water

Date Sampled: 01/31/02

Data Release Authorized: *MP*

Date Received: 01/31/02

Reported: 02/08/02 Dr. M.A. Perkins

Analyte	Analysis			Units	Result
	Date & Batch	Method	RL		
Total Suspended Solids	02/05/02 02052#1	EPA 160.2	1.1	mg/L	3.3

RL Analytical reporting limit  
U Undetected at reported detection limit

Report for EB44 received 01/31/02