

**TOTAL DISSOLVED SOLIDS**

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URS TDMT Only TDCN: 0321  
Project #: 62251 Loc: 09.64 Type: 64



## ICF TECHNOLOGY INCORPORATED

### MEMORANDUM

TO: Kevin Mayer  
Environmental Engineer  
South Coast Groundwater Section (H-6-4)

THROUGH: Richard Bauer  
Environmental Scientist  
Quality Assurance Management Section (P-3-2)

FROM: Margie D. Weiner *MSW*  
Senior Data Review Oversight Chemist  
Environmental Services Assistance Team (ESAT)

DATE: July 16, 1993

SUBJECT: Review of Analytical Data



Attached are comments resulting from ESAT Region IX review of the following analytical data:

SITE: Newmark-Muscoy  
EPA SSI NO.: J5  
CERCLIS I.D. NO.: CAD981434517  
CASE/SAS NO.: 20085 Memo #04  
SDG NO.: MYL259

LABORATORY: Weyerhaeuser Company (WEYER)  
ANALYSIS: RAS Total Dissolved Metals

SAMPLE NO.: 4 Water Samples (See Case Summary)

COLLECTION DATE: May 24 and 25, 1993

REVIEWER: Blake Brown, ESAT/ICF

If there are any questions, please contact Margie D. Weiner (ESAT/ICF) at (415) 882-3061.

### Attachment

cc: Bruce Woods, TPO USEPA Region X  
Larry Zinky, URS SAC

TPO:  FYI     Attention     Action

SAMPLING ISSUES:  Yes     No

## Data Validation Report

Case No.: 20085 Memo #04  
 Site: Newmark-Muscoy  
 Laboratory: Weyerhaeuser Company (WEYER)  
 Reviewer: Blake Brown, ESAT/ICF  
 Date: July 16, 1993

I. Case Summary

SAMPLE INFORMATION: SAMPLE #: MYL259, MYL261, MYL262 and MYL264

COLLECTION DATE: May 24 and 25, 1993  
 SAMPLE RECEIPT DATE: May 25, 1993

CONCENTRATION & MATRIX: 4 Low Concentration Groundwater Samples

FIELD QC: Field Blanks (FB): None  
 Equipment Blanks (EB): None  
 Background Samples (BG): None  
 Duplicates (D1): MYL261 and MYL262

LABORATORY QC: Matrix Spike: MYL264  
 Duplicates: MYL264  
 ICP Serial Dilution: MYL264

## ANALYSIS: RAS Total Dissolved Metals

<u>Analyte</u>	<u>Sample Preparation and Digestion Date</u>	<u>Analysis Date</u>
ICP Metals	June 24, 1993	June 28, 1993
GFAA: Arsenic	June 24, 1993	June 25, 1993
Lead	June 24, 1993	June 25, 1993
Selenium	June 24, 1993	June 25, 1993
Thallium	June 24, 1993	June 25, 1993
Mercury	June 11, 1993	June 15, 1993

## ADDITIONAL COMMENTS:

The analytical results with qualifications are listed in Table 1A. The definitions of the data qualifiers used in Table 1A are listed in Table 1B. This report was prepared in accordance with the EPA Contract Laboratory Program Inorganic Statement of Work (ILM02.1), and the EPA Draft Document "Laboratory Data Validation Functional Guidelines For Evaluating Inorganic Analyses," October, 1989.

## II. Validation Summary

The data were evaluated based on the following parameters:

<u>Parameter</u>	<u>Acceptable</u>	<u>Comment</u>
1. Data Completeness	Yes	
2. Sample Holding Times	Yes	
3. Calibration	Yes	
a. Initial Calibration Verification		
b. Continuing Calibration Verification		
c. Calibration Blank		
4. Blanks	Yes	
a. Laboratory Preparation Blank		
b. Field Blank		
c. Equipment Blank		
5. ICP Interference Check Sample Analysis	Yes	
6. Laboratory Control Sample Analysis	Yes	
7. Spiked Sample Analysis	Yes	
8. Laboratory Duplicate Sample Analysis	Yes	
9. Field Duplicate Sample Analysis	N/A	
10. GFAA QC Analysis	No	B
a. Duplicate Injections		
b. Analytical Spikes		
c. Method of Standard Addition		
11. ICP Serial Dilution Analysis	Yes	
12. Sample Quantitation	Yes	A
13. Sample Result Verification	Yes	

N/A - Not Applicable

## III. Validity and Comments

A. The following results are estimated and are flagged "J" in Table 1A.

- All results above the instrument detection limit but below the contract required detection limit (denoted with an "L" qualifier)

Results above the instrument detection limit (IDL) but below the contract required detection limit (CRDL) are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.

B. The following results are estimated because of GFAA analytical spike recovery results outside method QC limits. The results are flagged "J" in Table 1A.

- Selenium in samples MYL261 and MYL264

Selenium was analyzed by the graphite furnace atomic absorption (GFAA) technique, which requires that a post-digestion analytical spike be performed for each sample to establish the accuracy of the individual analytical determination. The analytical spike recovery results for selenium in samples MYL261 and MYL264 did not meet the 85-115% criteria for accuracy. The percent recovery and possible percent bias for selenium is presented below and is based on an ideal recovery of 100%.

<u>Analyte</u>	<u>Sample Number</u>	<u>% Recovery</u>	<u>% Bias</u>
Selenium	MYL261	84.0	-16.0
	MYL264	83.0	-17.0

The post-digestion spike recovery results for selenium in samples MYL261 and MYL264 show an analytical deficiency. The results reported for selenium in samples MYL261 and MYL264 were non-detected, and may be false negatives.

## ANALYTICAL RESULTS

Page 1 of 1

TABLE 1A

Case No.: 20085 Memo #04  
 Site: Newmark-Muscovy  
 Lab.: Weyerhaeuser Company (WEYER)  
 Reviewer: Blake Brown, ESAT/ICF Technology, Inc.  
 Date: July 16, 1993

Analysis Type: Low Concentration Groundwater  
 Samples for RAS Total Metals

Concentration in ug/L

Station Location Sample I.D. Date of Collection	WMW-113-01 MYL259 05/24/93			WMW-114-01 MYL261 D1 05/25/93			WMW-114-02 MYL262 D1 05/25/93			WMW-115-01 MYL264 05/24/93			LAB BLANK			IDL			CRDL		
	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Aluminum	21.0	L J	A	20.6	U		20.6	U		23.7	L J	A	20.6	U		20.6			200		
Antimony	16.0	U		16.0	U		16.0	U		16.0	U		16.0	U		16.0			60.0		
Arsenic	1.1	U		1.1	U		1.1	U		1.1	U		1.1	U		1.1			10.0		
Barium	31.6	L J	A	66.9	L J	A	65.6	L J	A	96.0	L J	A	0.40	U		0.40			200		
Beryllium	0.30	U		0.30	U		0.30	U		0.30	U		0.30	U		0.30			5.0		
Cadmium	3.7	U		3.7	U		3.7	U		3.7	U		3.7	U		3.7			5.0		
Calcium	58200			99500			97000			143000			30.3	L J	A	7.7			5000		
Chromium	4.9	L J	A	2.8	U		2.8	U		3.5	L J	A	2.8	U		2.8			10.0		
Cobalt	3.2	U		3.2	U		3.2	U		3.2	U		3.2	U		3.2			50.0		
Copper	2.7	U		2.7	U		2.7	U		2.7	U		2.7	U		2.7			25.0		
Iron	40.5	L J	A	11.2	L J	A	14.0	L J	A	22.1	L J	A	6.8	L J	A	6.1			100		
Lead	0.50	U		0.95	L J	A	1.0	L J	A	0.50	U		0.50	U		0.50			3.0		
Magnesium	11800			20000			19600			28600			30.1	U		30.1			5000		
Manganese	0.80	U		246			240			1120			0.80	U		0.80			15.0		
Mercury	0.10	U		0.10	U		0.10	U		0.10	U		0.10	U		0.10			0.20		
Nickel	19.8	U		19.8	U		19.8	U		19.8	U		19.8	U		19.8			40.0		
Potassium	3720	L J	A	4800	L J	A	4970	L J	A	5540			1196	L J	A	726			5000		
Selenium	1.1	U		1.1	U	J B	1.1	U		1.1	U	J B	1.1	U		1.1			5.0		
Silver	2.9	U		2.9	U		2.9	U		2.9	U		2.9	U		2.9			10.0		
Sodium	10100			15400			15200			17500			24.5	L J	A	14.1			5000		
Thallium	1.4	U		1.4	U		1.4	U		1.4	U		1.4	U		1.4			10.0		
Vanadium	4.1	L J	A	2.7	U		2.7	U		2.7	U		2.7	U		2.7			50.0		
Zinc	7.1	L J	A	5.8	L J	A	1.6	U		2.8	L J	A	2.5	L J	A	1.6			20.0		

Val-Validity Refer to Data Qualifiers in Table 1B

Com.-Comments Refer to the Corresponding Section in the Narrative for each letter.

IDL-Instrument Detection Limit for Waters, MDL-Method Detection Limit for Soils.

D1, D2, etc.-Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank, TB-Travel Blank, BG-Background

CRDL-Contract Required Detection Limit

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR INORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared in accordance with the EPA draft document, "Laboratory Data Validation Functional Guidelines For Evaluating Inorganic Analyses," October, 1989.

NO QUALIFIER indicates that the data are acceptable both qualitatively and quantitatively.

- U The analyte was analyzed for but was not detected above the level of the reported value. The reported value is the Instrument Detection Limit (IDL) for waters and the Method Detection Limit (MDL) for soils for all the analytes except Cyanide (CN) and Mercury (Hg). For CN and Hg, the reported value is the Contract Required Detection Limit (CRDL).
- L The analyte was analyzed for but results fell between the IDL for waters or the MDL for soils and the CRDL. Results are estimated and are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.
- J The analyte was analyzed for and was positively identified, but the reported numerical value may not be consistent with the amount actually present in the environmental sample.
- R The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary to confirm or deny the presence of the analyte.
- UJ A combination of the "U" and the "J" qualifier. The analyte was analyzed for but was not detected above the reported value. The reported value may not accurately or precisely represent the sample IDL or MDL.

TPO: FYI    Attention    Action

Region IX

INORGANIC REGIONAL DATA ASSESSMENT

CASE NO. 20085 Memo #04      LABORATORY Weyerhaeuser Company

SDG NO. MYL259      SITE NAME Newmark-Muscoy

SOW NO. ILM02.1      REVIEW COMPLETION DATE July 16, 1993

REVIEWER  ESD     ESAT      REVIEWER'S NAME Blake Brown

NO. OF SAMPLES    4 WATER    \_\_\_\_\_ SOIL    \_\_\_\_\_ OTHER

	ICP	GFAA	Hg	Cyanide
1. HOLDING TIMES	<u>0</u>	<u>0</u>	<u>0</u>	_____
2. CALIBRATION	<u>0</u>	<u>0</u>	<u>0</u>	_____
3. BLANKS	<u>0</u>	<u>0</u>	<u>0</u>	_____
4. ICP INTERFERENCE CHECK SAMPLE (ICS)	<u>0</u>			
5. LABORATORY CONTROL SAMPLE (LCS)	<u>0</u>	<u>0</u>	<u>N/A</u>	_____
6. DUPLICATE ANALYSIS	<u>0</u>	<u>0</u>	<u>0</u>	_____
7. MATRIX SPIKE ANALYSIS	<u>0</u>	<u>0</u>	<u>0</u>	_____
8. METHOD OF STANDARD ADDITION (MSA)		<u>N/A</u>		
9. ICP SERIAL DILUTION	<u>0</u>			
10. SAMPLE QUANTITATION	<u>0</u>	<u>0</u>	<u>0</u>	_____
11. SAMPLE VERIFICATION	<u>0</u>	<u>0</u>	<u>0</u>	_____
12. GFAA ANALYTICAL SPIKE		<u>X</u>		
13. OVERALL ASSESSMENT	<u>0</u>	<u>X</u>	<u>0</u>	_____

0 - No problems or minor problems that affect data quality.  
X - No more than about 5% of the data points have limitations on data quality. Data points are either qualified as estimates or rejected.  
M - More than about 5% of the data points are qualified as estimates.  
Z - More than about 5% of the data points have been rejected.  
N/A - Not Applicable.

TPO ACTION:

TPO ATTENTION:

AREAS OF CONCERN:

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Fax 415/882-3199



ICF TECHNOLOGY INCORPORATED

URS TDMT Only TDCN: 0309  
Project #: 62251 Loc: 09.64 Type: 64

MEMORANDUM

TO: Kevin Mayer  
Environmental Engineer  
South Coast Groundwater Section (H-6-4)

THROUGH: Richard Bauer  
Environmental Scientist  
Quality Assurance Management Section (P-3-2)

FROM: Margie D. Weiner *MSW*  
Senior Data Review Oversight Chemist  
Environmental Services Assistance Team (ESAT)

DATE: July 6, 1993

SUBJECT: Review of Analytical Data



Attached are comments resulting from ESAT Region IX review of the following analytical data:

SITE: Newmark-Muscoy  
EPA SSI NO.: J5  
CERCLIS I.D. NO.: CAD981434517  
CASE/SAS NO.: LV3S39 Memo #12  
SDG NO.: SY5684

LABORATORY: Region IX, Las Vegas  
ANALYSIS: SAS Total Dissolved Solids (TDS)

SAMPLE NO.: 4 Water Samples (See Case Summary)

COLLECTION DATE: May 24 and 25, 1993

REVIEWER: Chris Davis, ESAT/ICF

If there are any questions, please contact Margie D. Weiner (ESAT/ICF) at (415) 882-3061.

Attachment

cc: Brenda Bettencourt, Chief, Laboratory Support Section (P-3-1)  
Steve Remaley, TPO USEPA Region IX  
Larry Zinky, URS SAC

TPO: [ ]FYI [X]Attention [ ]Action

SAMPLING ISSUES: [ ]Yes [X]No

## Data Validation Report

Case No.: LV3S39 Memo #12  
Site: Newmark-Muscoy  
Laboratory: Region IX, Las Vegas  
Reviewer: Chris Davis, ESAT/ICF  
Date: July 6, 1993

I. Case Summary

SAMPLE INFORMATION: SAMPLE #: SY5684 through SY5687

COLLECTION DATE: May 24 and 25, 1993  
SAMPLE RECEIPT DATE: May 25 and 26, 1993

CONCENTRATION & MATRIX: 4 Low Concentration Groundwater Samples

FIELD QC: Field Blanks (FB): None  
Equipment Blanks (EB): None  
Background Samples (BG): None  
Duplicates (D1): SY5685 and SY5686

LABORATORY QC: Duplicates: SY5687

ANALYSIS: Total Dissolved Solids (TDS)

<u>Analyte</u>	<u>Method</u>	<u>Date Analyzed</u>
TDS	EPA 160.1	May 26, 1993

## METHOD NON-COMPLIANCE:

TPO ATTENTION: Only one concentration of QC reference sample was available for analysis, whereas the SAS Client Request Form (CRF) requires analysis at two concentrations.

## ADDITIONAL COMMENTS:

The analytical results with qualifications are listed in Table 1A. The definitions of the data qualifiers used in Table 1A are listed in Table 1B. This report was prepared in accordance with the SAS CRF for TDS, EPA 600/4-79-020 Methods for Chemical Analysis of Water and Wastes (March, 1983), and the EPA Draft Document "Laboratory Data Validation Functional Guidelines For Evaluating Inorganic Analyses," (October, 1989).

II. Validation Summary

The data were evaluated based on the following parameters:

<u>Parameter</u>	<u>Acceptable</u>	<u>Comment</u>
1. Data Completeness	Yes	
2. Sample Holding Times	Yes	
3. Calibration	N/A	
a. Initial Calibration Verification		
b. Continuing Calibration Verification		
c. Calibration Blank		
4. Blanks	Yes	
a. Laboratory Preparation Blank		
b. Field Blank		
c. Equipment Blank		
5. ICP Interference Check Sample Analysis	N/A	
6. Laboratory Control Sample Analysis	Yes	
7. Spiked Sample Analysis	N/A	
8. Laboratory Duplicate Sample Analysis	Yes	
9. Field Duplicate Sample Analysis	Yes	
10. GFAA QC Analysis	N/A	
a. Duplicate Injections		
b. Analytical Spikes		
c. Method of Standard Addition		
11. ICP Serial Dilution Analysis	N/A	
12. Sample Quantitation	Yes	
13. Sample Result Verification	Yes	

N/A - Not Applicable

III. Overall Assessment of Data

All of the QC requirements, specified in the SAS contract, have been met. The reported results for TDS in all of the samples were appropriately and correctly calculated.

ANALYTICAL RESULTS  
TABLE 1A

Case No.: LV3S39 Memo #12  
 Site: Newmark-Muscovy  
 Lab.: Region IX, Las Vegas  
 Reviewer: Chris Davis, ESAT/ICF Technology, Inc.  
 Date: July 6, 1993

Analysis Type: Low Concentration Groundwater  
 Samples for SAS Total Dissolved  
 Solids (TDS)

Concentration in mg/L

Station Location	WMW113-01			WMW114-01			WMW114-02			WMW115-01			Lab Blank			IDL			CRDL		
Sample I.D.	SY5684			SY5685 D1			SY5686 D1			SY5687											
Date of Collection	05/24/93			05/25/93			05/25/93			05/24/93											
Parameter	Result	Val	Com	Result	Val	Com	Result	Val	Com												
TDS	253			381			393			576			20.0 U			20.0			20.0		

Val-Validity Refer to Data Qualifiers in Table 1B

Com.-Comments Refer to the Corresponding Section in the Narrative for each letter.

IDL-Instrument Detection Limit for Waters, MDL-Method Detection Limit for Soils.

D1, D2, etc.-Field Duplicate Pairs

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TABLE 1B

DATA QUALIFIER DEFINITIONS FOR INORGANIC DATA REVIEW

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- U The analyte was analyzed for but was not detected above the level of the reported value. The reported value is the Instrument Detection Limit (IDL) for waters and the Method Detection Limit (MDL) for soils for all the analytes except Cyanide (CN) and Mercury (Hg). For CN and Hg, the reported value is the Contract Required Detection Limit (CRDL).
- L The analyte was analyzed for but results fell between the IDL for waters or the MDL for soils and the CRDL. Results are estimated and are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.
- J The analyte was analyzed for and was positively identified, but the reported numerical value may not be consistent with the amount actually present in the environmental sample.
- R The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary to confirm or deny the presence of the analyte.
- UJ A combination of the "U" and the "J" qualifier. The analyte was analyzed for but was not detected above the reported value. The reported value may not accurately or precisely represent the sample IDL or MDL.

TPO: [ ]FYI [X]Attention [ ]Action

Region IX

INORGANIC REGIONAL DATA ASSESSMENT

CASE NO. LV3S39 Memo #12 LABORATORY Region IX, Las Vegas

SDG NO. SY5684 SITE NAME Newmark-Muscoy

SOW NO. EPA Method 160.1 REVIEW COMPLETION DATE July 6, 1993

REVIEWER [ ] ESD [X] ESAT REVIEWER'S NAME Chris Davis

NO. OF SAMPLES 4 WATER \_\_\_\_\_ SOIL \_\_\_\_\_ OTHER \_\_\_\_\_

	ICP	GFAA	Hg	TDS
1. HOLDING TIMES	_____	_____	_____	<u>0</u>
2. CALIBRATION	_____	_____	_____	<u>N/A</u>
3. BLANKS	_____	_____	_____	<u>0</u>
4. ICP INTERFERENCE CHECK SAMPLE (ICS)	_____	_____	_____	
5. LABORATORY CONTROL SAMPLE (LCS)	_____	_____	_____	<u>0</u>
6. DUPLICATE ANALYSIS	_____	_____	_____	<u>0</u>
7. MATRIX SPIKE ANALYSIS	_____	_____	_____	
8. METHOD OF STANDARD ADDITION (MSA)		_____		
9. ICP SERIAL DILUTION	_____			
10. SAMPLE QUANTITATION	_____	_____	_____	<u>0</u>
11. SAMPLE VERIFICATION	_____	_____	_____	<u>0</u>
12. GFAA ANALYTICAL SPIKE		_____		
13. OVERALL ASSESSMENT	_____	_____	_____	<u>0</u>

O - No problems or minor problems that affect data quality.

X - No more than about 5% of the data points have limitations on data quality. Data points are either qualified as estimates or rejected.

M - More than about 5% of the data points are qualified as estimates.

Z - More than about 5% of the data points have been rejected.

N/A - Not Applicable.

TPO ATTENTION: Only one concentration of QC reference sample was available for analysis, whereas the SAS Client Request Form (CRF) requires analysis at two concentrations.

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URS CONSULTANTS, INC.

JUN 21 1993

RECEIVED



ICF TECHNOLOGY INCORPORATED

URS TDMT Only TDCN: 0295  
Project #: 62251 Loc: 09.64 Type: 64

MEMORANDUM

TO: Kevin Mayer  
Environmental Engineer  
South Coast Groundwater Section (H-6-4)

THROUGH: Richard Bauer  
Environmental Scientist  
Quality Assurance Management Section (P-3-2)

FROM: Margie D. Weiner *MDW*  
Senior Data Review Oversight Chemist  
Environmental Services Assistance Team (ESAT)

DATE: June 16, 1993

SUBJECT: Review of Analytical Data

Attached are comments resulting from ESAT Region IX review of the following analytical data:

SITE: Newmark-Muscoy  
EPA SSI NO.: J5  
CERCLIS I.D. NO.: CAD981434517  
CASE/SAS NO.: LV3S39 Memo #06  
SDG NO.: SY5673

LABORATORY: Region IX, Las Vegas  
ANALYSIS: SAS Total Dissolved Solids (TDS)

SAMPLE NO.: 11 Water Samples (See Case Summary)

COLLECTION DATE: May 3 through 7, 1993

REVIEWER: Chris Davis, ESAT/ICF

If there are any questions, please contact Margie D. Weiner (ESAT/ICF) at (415) 882-3061.

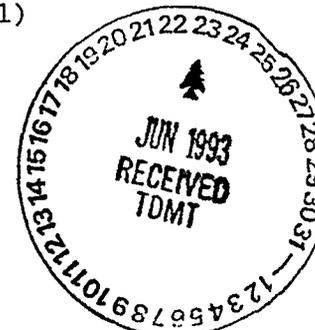
Attachment

cc: Brenda Bettencourt, Chief, Laboratory Support Section (P-3-1)  
Larry Zinky, URS SAC

TPO: FYI Attention Action

SAMPLING ISSUES: Yes No

ESAT-QA-9A-8534/LV3S39M6.RPT



## Data Validation Report

Case No.: LV3S39 Memo #06  
Site: Newmark-Muscoy  
Laboratory: Region IX, Las Vegas  
Reviewer: Chris Davis, ESAT/ICF  
Date: June 16, 1993

I. Case Summary

SAMPLE INFORMATION: SAMPLE #: SY5664, SY5665, SY5673 through SY5677, and SY5679 through SY5682

COLLECTION DATE: May 3 through 7, 1993  
SAMPLE RECEIPT DATE: May 4 through 8, 1993

CONCENTRATION & MATRIX: Low Concentration Groundwater Samples

FIELD QC: Field Blanks (FB): None  
Equipment Blanks (EB): None  
Background Samples (BG): None  
Duplicates (DL): SY5664 and SY5665

LABORATORY QC: Matrix Spike: Not Applicable  
Duplicates: SY5679

ANALYSIS: SAS Total Dissolved Solids (TDS)

<u>Analyte</u>	<u>Method</u>	<u>Date Analyzed</u>
TDS	EPA 160.1	May 5 and 10, 1993

## ADDITIONAL COMMENTS:

The analytical results with qualifications are listed in Table 1A. The definitions of the data qualifiers used in Table 1A are listed in Table 1B. This report was prepared in accordance with the SAS Client Request Form (GRF) for TDS, EPA 600/4-79-020 Methods for Chemical Analysis of Water and Wastes (March, 1983), and the EPA Draft Document "Laboratory Data Validation Functional Guidelines For Evaluating Inorganic Analyses," (October, 1989).

## II. Validation Summary

The data were evaluated based on the following parameters:

<u>Parameter</u>	<u>Acceptable</u>	<u>Comment</u>
1. Data Completeness	Yes	
2. Sample Holding Times	Yes	
3. Calibration	Yes	
a. Initial Calibration Verification		
b. Continuing Calibration Verification		
c. Calibration Blank		
4. Blanks	Yes	
a. Laboratory Preparation Blank		
b. Field Blank		
c. Equipment Blank		
5. ICP Interference Check Sample Analysis	N/A	
6. Laboratory Control Sample Analysis	Yes	
7. Spiked Sample Analysis	N/A	
8. Laboratory Duplicate Sample Analysis	Yes	
9. Field Duplicate Sample Analysis	No	A
10. GFAA QC Analysis	N/A	
a. Duplicate Injections		
b. Analytical Spikes		
c. Method of Standard Addition		
11. ICP Serial Dilution Analysis	N/A	
12. Sample Quantitation	Yes	
13. Sample Result Verification	Yes	

N/A - Not Applicable

## III. Validity and Comments

- A. An 84.3 relative percent difference (RPD) was obtained for TDS in the analysis of field duplicate pair samples SY5664 and SY5665. The analysis of field duplicate samples is a measure of both field and analytical precision. The results are expected to vary more than laboratory duplicates ( $\pm 20$  RPD or  $\pm$ CRDL criteria for precision) since sampling variability is included in the measurement. The imprecision in the results of the analysis of the field duplicate pair may be due to the sample matrix, high levels of solids in the sample, poor sampling or laboratory technique, or method defects. The effect on the quality of the data is not known.

ANALYTICAL RESULTS  
TABLE 1A

Case No.: LV3S39 Memo #06  
 Site: Newmark-Muscovy  
 Lab.: Region IX, Las Vegas  
 Reviewer: Chris Davis, ESAT/ICF Technology, Inc.  
 Date: June 16, 1993

Analysis Type: Low Concentration Groundwater  
 Samples for SAS Total  
 Dissolved Solids (TDS)

Concentration in ug/L

Station Location	WMW08B-21			WMW08B-22			WMW01B-21			MUNI-103-01			WMW01C-21			WMW01G-21			WMW01H-21		
Sample I.D.	SY5664 D1			SY5665 D1			SY5673			SY5674			SY5675			SY5676			SY5677		
Date of Collection	5/07/93			5/07/93			5/03/93			5/04/93			5/04/93			5/05/93			5/04/93		
Parameter	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
TDS	153		A	376		A	305			320			374			645			225		
Station Location	WMW-11-21			WMW-12-21			MUNI-107-01			MUNI-109-01			Lab Blank			IDL			CRDL		
Sample I.D.	SY5679			SY5680			SY5681			SY5682											
Date of Collection	5/05/93			5/05/93			5/05/93			5/06/93											
Parameter	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
TDS	367			330			393			420			20.0 U			20.0			20.0		

Val-Validity Refer to Data Qualifiers in Table 1B  
 Com.-Comments Refer to the Corresponding Section in the Narrative for each letter.  
 IDL-Instrument Detection Limit for Waters, MDL.-Method Detection Limit for Soils.

D1, D2, etc.-Field Duplicate Pairs  
 FB-Field Blank, EB-Equipment Blank, TB-Travel Blank, BG-Background  
 CRDL.-Contract Required Detection Limit

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR INORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared in accordance with the EPA draft document, "Laboratory Data Validation Functional Guidelines For Evaluating Inorganic Analyses," October, 1989.

NO QUALIFIER indicates that the data are acceptable both qualitatively and quantitatively.

- U The analyte was analyzed for but was not detected above the level of the reported value. The reported value is the Instrument Detection Limit (IDL) for waters and the Method Detection Limit (MDL) for soils for all the analytes except Cyanide (CN) and Mercury (Hg). For CN and Hg, the reported value is the Contract Required Detection Limit (CRDL).
- L The analyte was analyzed for but results fell between the IDL for waters or the MDL for soils and the CRDL. Results are estimated and are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.
- J The analyte was analyzed for and was positively identified, but the reported numerical value may not be consistent with the amount actually present in the environmental sample.
- R The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary to confirm or deny the presence of the analyte.
- UJ A combination of the "U" and the "J" qualifier. The analyte was analyzed for but was not detected above the reported value. The reported value may not accurately or precisely represent the sample IDL or MDL.

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR INORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared in accordance with the EPA draft document, "Laboratory Data Validation Functional Guidelines For Evaluating Inorganic Analyses," October, 1989.

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- UJ A combination of the "U" and the "J" qualifier. The analyte was analyzed for but was not detected above the reported value. The reported value may not accurately or precisely represent the sample IDL or MDL.

TPO: FYI    Attention    Action

Region IX

INORGANIC REGIONAL DATA ASSESSMENT

CASE NO. LV3S39 Memo #06    LABORATORY Region IX, Las Vegas

SDG NO. SY5673    SITE NAME Newmark-Muscoy

SOW NO. \_\_\_\_\_    REVIEW COMPLETION DATE June 16, 1993

REVIEWER  ESD     ESAT    REVIEWER'S NAME Chris Davis

NO. OF SAMPLES    11 WATER    \_\_\_\_\_ SOIL    \_\_\_\_\_ OTHER

	ICP	GFAA	Hg	TDS
1. HOLDING TIMES	_____	_____	_____	<u>0</u>
2. CALIBRATION	_____	_____	_____	<u>0</u>
3. BLANKS	_____	_____	_____	<u>0</u>
4. ICP INTERFERENCE CHECK SAMPLE (ICS)	_____	_____	_____	_____
5. LABORATORY CONTROL SAMPLE (LCS)	_____	_____	_____	<u>0</u>
6. DUPLICATE ANALYSIS	_____	_____	_____	<u>0</u>
7. MATRIX SPIKE ANALYSIS	_____	_____	_____	<u>0</u>
8. METHOD OF STANDARD ADDITION (MSA)	_____	_____	_____	_____
9. ICP SERIAL DILUTION	_____	_____	_____	_____
10. SAMPLE QUANTITATION	_____	_____	_____	<u>0</u>
11. SAMPLE VERIFICATION	_____	_____	_____	<u>0</u>
12. GFAA ANALYTICAL SPIKE	_____	_____	_____	_____
13. OVERALL ASSESSMENT	_____	_____	_____	<u>0</u>

O - No problems or minor problems that affect data quality.  
X - No more than about 5% of the data points have limitations on data quality. Data points are either qualified as estimates or rejected.  
M - More than about 5% of the data points are qualified as estimates.  
Z - More than about 5% of the data points have been rejected.  
N/A - Not Applicable.

TPO ACTION:

TPO ATTENTION:

AREAS OF CONCERN:

160 Spear Street, Suite 1380  
San Francisco, CA  
94105-1535  
415/882-3000  
Fax 415/882-3199



## ICF TECHNOLOGY INCORPORATED

URS TDMT Only	TDCN: 0308
Project #: 62251	Loc: 09.64 Type: 64

### MEMORANDUM

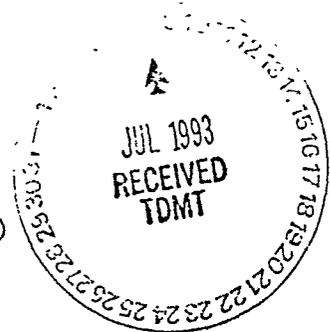
TO: Colette Kostelec  
Environmental Engineer  
South Coast Groundwater Section (H-6-4)

THROUGH: Richard Bauer  
Environmental Scientist  
Quality Assurance Management Section (P-3-2)

FROM: Margie D. Weiner *M.D.W.*  
Senior Data Review Oversight Chemist  
Environmental Services Assistance Team (ESAT)

DATE: May 28, 1993

SUBJECT: Review of Analytical Data



Attached are comments resulting from ESAT Region IX review of the following analytical data:

SITE: Newmark (Muscoy)  
EPA SSI NO.: J5  
CERCLIS I.D. NO.: CAD981434517  
CASE/SAS NO.: LV3S39 Memo #02  
SDG NO.: SY5568

LABORATORY: Region IX, Las Vegas  
ANALYSIS: SAS Total Dissolved Solids (TDS)

SAMPLE NO.: 20 Water Samples (See Case Summary)

COLLECTION DATE: April 16, 20, 21, 22, 26 through 29, 1993

REVIEWER: Blake Brown, ESAT/ICF

If there are any questions, please contact Margie D. Weiner (ESAT/ICF) at (415) 882-3061.

### Attachment

cc: Brenda Bettencourt, Chief, Laboratory Support Section (P-3-1)

TPO: FYI    Attention    Action

SAMPLING ISSUES: Yes    No

## Data Validation Report

Case No.: LV3S39 Memo #02  
Site: Newmark (Muscoy)  
Laboratory: Region IX, Las Vegas  
Reviewer: Blake Brown, ESAT/ICF  
Date: May 28, 1993

I. Case Summary

SAMPLE INFORMATION: SAMPLE #: SY5568, SY5652 through SY5663, and SY5666  
through SY5672

COLLECTION DATE: April 16, 20, 21, 22 and 26 through 29, 1993  
SAMPLE RECEIPT DATE: April 20 through 23, and April 27 through 30

CONCENTRATION & MATRIX: 20 Low Concentration Water Samples

FIELD QC: Field Blanks (FB): None  
Equipment Blanks (EB): None  
Background Samples (BG): None  
Duplicates (D1): SY5653 and SY5654  
(D2): SY5668 and SY5669

LABORATORY QC: Matrix Spike: Not Applicable  
Duplicates: SY5658

ANALYSIS: SAS Total Dissolved Solids (TDS)

<u>Analyte</u>	<u>EPA Method Number</u>	<u>Analysis Date</u>
TDS	160.1	April 21, 23, 29 and 30 1993; May 5, 1993

## ADDITIONAL COMMENTS:

The analytical results with qualifications are listed in Table 1A. The definitions of the data qualifiers used in Table 1A are listed in Table 1B. This report was prepared in accordance with the SAS Client Request Form (CRF) for TDS, EPA 600/4-79-020 Methods for Chemical Analysis of Water and Wastes (March, 1983), and the EPA Draft Document "Laboratory Data Validation Functional Guidelines For Evaluating Inorganic Analyses," (October, 1989).

## II. Validation Summary

The data were evaluated based on the following parameters:-

<u>Parameter</u>	<u>Acceptable</u>	<u>Comment</u>
1. Data Completeness	Yes	
2. Sample Holding Times	Yes	
3. Calibration	N/A	
a. Initial Calibration Verification		
b. Continuing Calibration Verification		
c. Calibration Blank		
4. Blanks	Yes	
a. Laboratory Preparation Blank		
b. Field Blank		
c. Equipment Blank		
5. ICP Interference Check Sample Analysis	N/A	
6. Laboratory Control Sample Analysis	Yes	
7. Spiked Sample Analysis	N/A	
8. Laboratory Duplicate Sample Analysis	Yes	
9. Field Duplicate Sample Analysis	Yes	
10. GFAA QC Analysis	N/A	
a. Duplicate Injections		
b. Analytical Spikes		
c. Method of Standard Addition		
11. ICP Serial Dilution Analysis	N/A	
12. Sample Quantitation	Yes	
13. Sample Result Verification	Yes	

N/A - Not Applicable

## III. Overall Assessment of Data

All of the QC requirements specified in the SAS contract have been met. The reported results for TDS in all of the samples were appropriately and correctly calculated.

## ANALYTICAL RESULTS

Page 1 of 2

TABLE 1A

Case No.: LV3839 Memo #02

Site: Muscoy (Newmark)

Lab.: Region IX, Las Vegas

Reviewer: Blake Brown, ESAT/ICF Technology, Inc.

Date: May 28, 1993

Analysis Type: Low Concentration Water  
Samples for SAS TDS

Concentration in mg/L

Station Location Sample LD. Date of Collection	MUNI-105-01 SY558 4/16/93			MUNI-101-01 SY5652 4/20/93			MUNI-104-01 SY5653 D1 4/20/93			MUNI-104-02 SY5654 D1 4/20/93			MUNI-108-01 SY5655 4/20/93			MUNI-112-01 SY5656 4/20/93			MUNI-110-01 SY5657 4/21/93		
Parameter	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
TDS	355			288			324			364			300			349			300		
Station Location Sample LD. Date of Collection	MUNI-111-01 SY5658 4/21/93			MUNI-106-01 SY5659 4/22/93			MUNI-102-01 SY5660 4/22/93			MUNI-101-21 SY5661 4/22/93			WMW06A-21 SY5662 4/26/93			WMW06B-21 SY5663 4/26/93			WMW08A-21 SY5666 4/27/93		
Parameter	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
TDS	305			392			371			344			349			337			293		
Station Location Sample LD. Date of Collection	WMW01F-21 SY5667 4/27/93			WMW01E-21 SY5668 4/28/93			WMW01E-22 SY5669 4/28/93			WMW01D-21 SY5670 4/28/93			WMW01A-21 SY5671 4/28/93			SY5672 4/29/93			Lab Blank		
Parameter	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
TDS	168			194			196			354			267			607			20.0 U		

Val-Validity Refer to Data Qualifiers in Table 1B

Com.-Comments Refer to the Corresponding Section in the Narrative for each letter.

IDL-Instrument Detection Limit for Waters, MDL-Method Detection Limit for Soils.

D1, D2, etc.-Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank, TB-Travel Blank, BG-Background

CRDL-Contract Required Detection Limit

ANALYTICAL RESULTS  
TABLE 1A

Case No.: LV3S39 Memo #02  
 Site: Muscoy (Newmark)  
 Lab.: Region IX, Las Vegas  
 Reviewer: Blake Brown, ESAT/ICF Technology, Inc.  
 Date: May 28, 1993

Analysis Type: Low Concentration Water  
 Samples for SAS TDS

Concentration in mg/L

Station Location Sample I.D. Date of Collection	IDL			CRDL															
Parameter	Result	Val	Com																
TDS	20.0			20.0															
Station Location Sample I.D. Date of Collection																			
Parameter	Result	Val	Com																
Station Location Sample I.D. Date of Collection																			
Parameter	Result	Val	Com																

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TPO:  FYI     Attention     Action

Region IX

INORGANIC REGIONAL DATA ASSESSMENT

CASE NO. LV3S39 Memo #02      LABORATORY Region IX, Las Vegas

SDG NO. SY5568      SITE NAME Newmark (Muscoy)

SOW NO. EPA Method 160.1      REVIEW COMPLETION DATE May 28, 1993

REVIEWER  ESD     ESAT      REVIEWER'S NAME Blake Brown

NO. OF SAMPLES    20 WATER    \_\_\_\_\_ SOIL    \_\_\_\_\_ OTHER

	ICP	GFAA	Hg	TDS
1. HOLDING TIMES	_____	_____	_____	<u>0</u>
2. CALIBRATION	_____	_____	_____	<u>N/A</u>
3. BLANKS	_____	_____	_____	<u>0</u>
4. ICP INTERFERENCE CHECK SAMPLE (ICS)	_____			
5. LABORATORY CONTROL SAMPLE (LCS)	_____	_____	_____	<u>0</u>
6. DUPLICATE ANALYSIS	_____	_____	_____	<u>0</u>
7. MATRIX SPIKE ANALYSIS	_____	_____	_____	<u>N/A</u>
8. METHOD OF STANDARD ADDITION (MSA)		_____		
9. ICP SERIAL DILUTION	_____			
10. SAMPLE QUANTITATION	_____	_____	_____	<u>0</u>
11. SAMPLE VERIFICATION	_____	_____	_____	<u>0</u>
12. GFAA ANALYTICAL SPIKE		_____		
13. OVERALL ASSESSMENT	_____	_____	_____	<u>0</u>

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TPO ACTION:

TPO ATTENTION:

AREAS OF CONCERN: