ANALYTICAL RESULTS
TABLE 1A*

Case No.: LV2S38 Memo #14
Site: Newmark
Lab.: Region IX, Las Vegas
Reviewer: Margaret L. May, ESAT/ICF Technology, Inc.
Date: May 19, 1992

Analysis Type: Low Level Water Samples for SAS TPH as Gasoline and Diesel by the LUFT Method

Concentration in mg/L

Sample Location / Sample I.D.	SY0153			SY0172			SY0173 TB			SY0184			SY0185			SY0186 TB			SY0194 EB		
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Diesel	0.5 U		A	0.5 U			0.5 U			0.5 U			0.5 U			NA			0.5 U		
Gasoline	5 U			5 U			5 U			5 U			5 U			5 U			5 U		

Sample Location / Sample I.D.	SY0195 D1			SY0197 TB			Method Blank DWBLK1 03/18/92			Method Blank DWBLK2 03/26/92			Method Blank DWBLK3 03/30/92			Method Blank GWBLK1 03/23/92			Method Blank GWBLK2 03/26/92		
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Diesel	0.5 U			NA			0.5 U			0.5 U			0.5 U			NA			NA		
Gasoline	5 U			5 U			NA			NA			NA			5 U			5 U		

*The Sample Quantitation Limits are listed in Table 2.
Val-Validity Refer to Data Qualifiers in Table 1B.
Com.-Comments Refer to the Corresponding Section in the Narrative for each letter.
QL-Quantitation Limits
NA-Not Analyzed

D1, D2, etc.-Field Duplicate Pairs
FB-Field Blank, EB-Equipment Blank, TB-Travel Blank
BG-Background Sample

ANALYTICAL RESULTS
LE 1A*

Case No.: LV2S38 Memo #14
Site: Newmark
Lab.: Region IX, Las Vegas
Reviewer: Margaret L. May, ESAT/ICF Technology, Inc.
Date: May 19, 1992

Analysis Type: Low Level Water Samples for SAS TPH as Gasoline and Diesel by the LUFT Method

Concentration in mg/L

Sample Location Sample I.D.	Method Blank GWBLK3 03/31/92			QL																	
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Diesel	NA			0.5																	
Gasoline	5 U			5																	
Sample Location Sample I D.																					
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com

*The Sample Quantitation Limits are listed in Table 2.
Val-Validity Refer to Data Qualifiers in Table 1B.
Com.-Comments Refer to the Corresponding Section in the Narrative for each letter.
QL-Quantitation Limits
NA-Not Analyzed

D1, D2, etc.-Field Duplicate Pairs
FB-Field Blank, EB-Equipment Blank, TB-Travel Blank
BG-Background Sample

TABLE 1B
DATA QUALIFIERS

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

U Indicates that the compound is not detected above the concentration listed.

L Indicates results which fall below the Quantitation Limit. Results are considered estimates and usable for limited purposes.

J Results are estimated and the data are valid for limited purposes. The results are qualitatively acceptable.

N Presumptive evidence of the presence of the material. The compound identification is considered to be tentative. The data are usable for limited purposes.

R Results are rejected and data are invalid for all purposes.

TABLE 2
Sample Quantitation Limits

Case No.: LV2S38 Memo #14
Site: Newmark
Laboratory: Region IX, Las Vegas
Reviewer: Margaret L. May
ESAT/ICF Technology, Inc.
Date: May 19, 1992

Analyte	Units, mg/L	Q	C
TPH as Diesel	0.5		A
TPH as Gasoline	5		

To calculate the sample quantitation limits, multiply QL by the following factors:

Sample No.	TPH
SY0153	1
SY0172	1
SY0173	1
SY0184	1
SY0185	1
SY0186	1
SY0194	1
SY0195	1
SY0197	1
Method Blanks	1

Q - Qualifier
C - Comment

TPO: [ ] ACTION [X] FYI Region IX

ORGANIC REGIONAL DATA ASSESSMENT

CASE NO. LV2S38 Memo #14 LABORATORY Region IX, Las Vegas

SDG NO. SY0153 DATA USER _____

SOW TPH by the LUFT Method REVIEW COMPLETION DATE May 19, 1992

NO. OF SAMPLES 9 WATER _____ SOIL _____ OTHER

REVIEWER [ ] ESD [X] ESAT [ ] OTHER, CONTRACT/CONTRACTOR _____

	VOA	BNA	PEST	TPH
1. HOLDING TIMES				O
2. GC-MS TUNE/GC PERFORMANCE				O
3. INITIAL CALIBRATIONS				O
4. CONTINUING CALIBRATIONS				O
5. FIELD QC				O
6. LABORATORY BLANKS				O
7. SURROGATES				F
8. MATRIX SPIKE/DUPLICATES				O
9. REGIONAL QC				F
10. INTERNAL STANDARDS				F
11. COMPOUND IDENTIFICATION				O
12. COMPOUND QUANTITATION				O
13. SYSTEM PERFORMANCE				O
14. OVERALL ASSESSMENT				O

O = No problems or minor problems that do not affect data usability.
X = No more than about 5% of the data points are qualified as either estimated or unusable.
M = More than about 5% of the data points are qualified as estimated.
Z = More than about 5% of the data points are qualified as unusable.
F = Not applicable.

TPO ACTION ITEMS: _____

AREAS OF CONCERN: _____

160 Spear Street, Suite 1380
San Francisco, California
94105-1535

415/957-0110

URS TDMT Only TDCN: 0852
Project #: 6217 2 Loc: 09.71 Type: 71

ICF TECHNOLOGY INCORPORATED

JUL 28 1992

MEMORANDUM

DATE: July 24, 1992

URS CONSULTANTS, INC.
JUL 29 1992
RECEIVED

SUBJECT: Review of Analytical Data

FROM: Carolyn Studeny
ESAT Senior Organic Data Reviewer
ICF Technology, Inc.

THROUGH: Roseanne Sakamoto RF
Environmental Protection Specialist
Quality Assurance Management Section
Environmental Services Branch, OPM (P-3-2)

TO: Kevin P. Mayer
Remedial Project Manager
South Coast Groundwater Section (H-6-4)

Attached are comments resulting from Region 9 review of the following analytical data:

SITE:	Newmark
EPA SITE ID NO:	J5
CASE/SAS NO.:	LV2S38 Memo #25
SDG NO.:	YK629
LABORATORY:	Region IX, Las Vegas
ANALYSIS:	RAS Pesticides/PCBs
SAMPLE NO.:	11 Water Samples (See Case Summary)
COLLECTION DATE:	June 24 through 26, 1992
REVIEWER:	Margaret L. May ESAT/ICF Technology, Inc.
TELEPHONE NUMBER:	(415) 882-3174

If there are any questions, please contact the reviewer.

JUL 1992
RECEIVED
TDMT

Attachment

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

cc: Brenda Bettencourt
Larry Zinky, URS SAC

Data Validation Report

Case No.: LV2S38 Memo #25
Site: Newmark
Laboratory: Region IX, Las Vegas
Reviewer: Margaret L. May, ESAT/ICF Technology, Inc.
Date: July 24, 1992

I. Case Summary

SAMPLE INFORMATION:

PEST Sample Numbers:	YK625 through YK635
Concentration and Matrix:	Low Level Water
Analysis:	RAS Pesticides/PCBs
SOW:	3/90
Collection Date:	June 24 through 26, 1992
Sample Receipt Date:	June 26 and 27, 1992
Extraction Date:	June 29 and 30, 1992
Analysis Date:	July 2 and 3, 1992

FIELD QC:

Trip Blanks (TB):	None
Field Blanks (FB):	None
Equipment Blanks (EB):	None
Background Samples (BG):	None
Field Duplicates (D1):	YK631/YK632

METHOD BLANKS AND ASSOCIATED SAMPLES:

PBLK1:	YK629 through YK633, YK635, YK635MS and YK635MSD
PBLK2:	YK625 through YK628 and YK634

TABLES:

1A:	Analytical Results with Qualifications
1B:	Data Qualifiers
2:	Sample Quantitation Limits of Target Compound List (TCL) Analytes

ADDITIONAL COMMENTS:
This report was prepared according to the EPA document, "Laboratory Data Validation Functional Guidelines for Evaluating Organic Analyses," April 11, 1985.

MS - Matrix Spike; MSD - Matrix Spike Duplicate

II. Validation Summary

	VOA		BNA		PEST	
	Acceptable	Comment	Acceptable	Comment	Acceptable	Comment
HOLDING TIMES	[ ]	[ ]	[ ]	[ ]	[Y]	[A]
GC/MS TUNE/GC PERFORMANCE	[ ]	[ ]	[ ]	[ ]	[Y]	[ ]
CALIBRATIONS	[ ]	[ ]	[ ]	[ ]	[Y]	[ ]
FIELD QC	[ ]	[ ]	[ ]	[ ]	[Y]	[ ]
LABORATORY BLANKS	[ ]	[ ]	[ ]	[ ]	[Y]	[ ]
SURROGATES	[ ]	[ ]	[ ]	[ ]	[Y]	[ ]
MATRIX SPIKE/DUPLICATES	[ ]	[ ]	[ ]	[ ]	[Y]	[ ]
INTERNAL STANDARDS	[ ]	[ ]	[ ]	[ ]	[N/A]	[ ]
COMPOUND IDENTIFICATION	[ ]	[ ]	[ ]	[ ]	[Y]	[ ]
COMPOUND QUANTITATION	[ ]	[ ]	[ ]	[ ]	[Y]	[ ]
SYSTEM PERFORMANCE	[ ]	[ ]	[ ]	[ ]	[Y]	[B]

N/A = Not Applicable

III. Validity and Comments

A. The 40 CFR 136 technical holding times were not exceeded for any of the samples analyzed.

B. All results are considered valid and usable for all purposes. All quality control criteria have been met and are considered acceptable.

ANALY' \L RESULTS
TA..E 1A*

Case No.: LV2S38 Memo #25
Site: Newmark
Lab.: Region IX, Las Vegas
Reviewer: Margaret L. May, ESAT/ICF Technology, Inc.
Date: July 24, 1992

Analysis Type: Low Level Water Samples for RAS Pesticides/PCBs

Concentration in ug/L

Sample I.D.	YK625			YK626			YK627			YK628			YK629			YK630			YK631 D1		
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
No Pestic. ides/PCBs Detected	ND			ND			ND			ND			ND			ND			ND		

Sample I.D.	YK632 D1			YK633			YK634			YK635			Method Blank PBLK1			Method Blank PBLK2					
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
No Pesticides/PCBs Detected	ND			ND			ND			ND			ND			ND					

*The requested analytes were analyzed for, but "Not Detected". The Sample Quantitation Limits are listed in Table 2.
Val-Validity Refer to Data Qualifiers in Table 1B.
Com.-Comments Refer to the Corresponding Section in the Narrative for each letter.
CRQL-Contract Required Quantitation Limits
NA-Not Analyzed ND-Not Detected

D1, D2, etc.-Field Duplicate Pairs
FB-Field Blank, EB-Equipment Blank, TB-Travel Blank
BG-Background Sample

TABLE 1B
DATA QUALIFIERS

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

U Indicates that the compound is not detected above the concentration listed.

L Indicates results which fall below the Contract Required Quantitation Limit. Results are considered estimates and usable for limited purposes.

J Results are estimated and the data are valid for limited purposes. The results are qualitatively acceptable.

N Presumptive evidence of the presence of the material. The compound identification is considered to be tentative. The data are usable for limited purposes.

R Results are rejected and data are invalid for all purposes.

TABLE 2
Sample Quantitation Limits

Case No.: LV2S38 Memo #25.
Site: Newmark
Laboratory: Region IX, Las Vegas
Reviewer: Margaret L. May
ESAT/ICF Technology, Inc.
Date: July 24, 1992

Pesticides/PCBs	Units, ug/L	Q	C
alpha-BHC	0.05		
beta-BHC	0.05		
delta-BHC	0.05		
gamma-BHC (Lindane)	0.05		
Heptachlor	0.05		
Aldrin	0.05		
Heptachlor epoxide	0.05		
Endosulfan I	0.05		
Dieldrin	0.1		
4,4'-DDE	0.1		
Endrin	0.1		
Endosulfan II	0.1		
4,4'-DDD	0.1		
Endosulfan sulfate	0.1		
4,4'-DDT	0.1		
Methoxychlor	0.5		
Endrin ketone	0.1		
Endrin aldehyde	0.1		
alpha-Chlordane	0.05		
gamma-Chlordane	0.05		
Toxaphene	5		
Aroclor-1016	1		
Aroclor-1221	2		
Aroclor-1232	1		
Aroclor-1242	1		
Aroclor-1248	1		
Aroclor-1254	1		
Aroclor-1260	1		

Q - Qualifier
C - Comment

TABLE 2
(cont'd)

To calculate the sample quantitation limits, multiply CRQL by the following factors:

Sample No.	Pesticides
YK625	1
YK626	1
YK627	1
YK628	1
YK629	1
YK630	1
YK631	1
YK632	1
YK633	1
YK634	1
YK635	1
Method Blanks	1

TPO: [ ] ACTION [ ] ATTENTION [X] FYI Region IX

ORGANIC REGIONAL DATA ASSESSMENT

CASE NO. LV2S38 Memo #25 LABORATORY Region IX, Las Vegas

SDG NO. YK629 DATA USER

SOW 3/90 REVIEW COMPLETION DATE July 24, 1992

NO. OF SAMPLES 11 WATER SOIL OTHER

REVIEWER [ ] ESD [X] ESAT [ ] OTHER, CONTRACT/CONTRACTOR

	VOA	BNA	PEST	OTHER
1. HOLDING TIMES			0	
2. GC-MS TUNE/GC PERFORMANCE			0	
3. INITIAL CALIBRATIONS			0	
4. CONTINUING CALIBRATIONS			0	
5. FIELD QC			0	
6. LABORATORY BLANKS			0	
7. SURROGATES			0	
8. MATRIX SPIKE/DUPLICATES			0	
9. REGIONAL QC			F	
10. INTERNAL STANDARDS			F	
11. COMPOUND IDENTIFICATION			0	
12. COMPOUND QUANTITATION			0	
13. SYSTEM PERFORMANCE			0	
14. OVERALL ASSESSMENT			0	

0 = No problems or minor problems that do not affect data usability.
X = No more than about 5% of the data points are qualified as either estimated or unusable.
M = More than about 5% of the data points are qualified as estimated.
Z = More than about 5% of the data points are qualified as unusable.
F = Not applicable.

TPO ACTION ITEMS:

TPO ATTENTION ITEMS:

AREAS OF CONCERN:

160 Spear Street, Suite 1380
San Francisco, California
94105-1535

415/957-0110

URS TDMT Only TDCN: 0703
Project #: 62172 Loc: 09.71 Type: 71

ICF TECHNOLOGY INCORPORATED

JUN 11 1992

MEMORANDUM

DATE: June 8, 1992

SUBJECT: Review of Analytical Data

FROM: Carolyn Studeny
ESAT Senior Organic Data Reviewer
ICF Technology, Inc.

THROUGH: Jacob Silva
Environmental Scientist
Quality Assurance Management Section
Environmental Services Branch, OPM (P-3-2)

TO: Kevin Mayer
Remedial Project Manager
South Coast Ground Water Section (H-6-4)

Attached are comments resulting from Region 9 review of the following analytical data:

SITE:	Newmark
EPA SITE ID NO:	J5
CASE/SAS NO.:	LV2S38 Memo #23
SDG NO.:	YK618
LABORATORY:	Las Vegas, Region IX
ANALYSIS:	Ras Pesticides/PCBs
SAMPLE NO.:	7 Samples (In Case summary)
COLLECTION DATE:	April 7 through 21, 1992
REVIEWER:	Anh Do ESAT/ICF Technology, Inc.
TELEPHONE NUMBER:	(415) 882-3052

If there are any questions, please contact the reviewer.

Attachment

TPO: [ ]For Action [X]FYI

cc: Brenda Bettencourt
Larry Zinky - URS SAC

JUN 1992 RECEIVED TDMT

Data Validation Report

Case No.: LV2S38 Memo #23
Site: Newmark
Laboratory: Las Vegas, Region IX
Reviewer: Anh Do, ESAT/ICF Technology, Inc.
Date: June 8, 1992

I. Case Summary

SAMPLE INFORMATION:

PEST Sample Numbers:	YK618 through YK624
Concentration and Matrix:	Low Level Water
Analysis:	Ras Pesticides/PCBs
SOW:	2/88
Collection Date:	April 7 through 21, 1992
Sample Receipt Date:	April 8 through 22, 1992
Extraction Date:	April 9 through 23, 1992
Analysis Date:	May 21, 1992

FIELD QC:

Trip Blanks (TB):	None
Field Blanks (FB):	None
Equipment Blanks (EB):	YK619
Background Samples (BG):	None
Field Duplicates (D1):	None

METHOD BLANKS AND ASSOCIATED SAMPLES:

PBLK1:	YK618 through YK621, YK620MS and YK620MSD
PBLK2:	YK622
PBLK3:	YK623 and YK624

TABLES:

1A:	Analytical Results with Qualifications
1B:	Data Qualifiers
2:	Sample Quantitation Limits of Target Compound List (TCL) Analytes

ADDITIONAL COMMENTS:

This report was prepared according to the EPA document, "Laboratory Data Validation Functional Guidelines for Evaluating Organic Analyses," April 11, 1985.

MS - Matrix Spike; MSD - Matrix Spike Duplicate

II. Validation Summary

	VOA		BNA		PEST	
	Acceptable	Comment	Acceptable	Comment	Acceptable	Comment
HOLDING TIMES	[ ]	[ ]	[ ]	[ ]	[Y]	[B]
GC/MS TUNE/GC PERFORMANCE	[ ]	[ ]	[ ]	[ ]	[Y]	[ ]
CALIBRATIONS	[ ]	[ ]	[ ]	[ ]	[Y]	[A]
FIELD QC	[ ]	[ ]	[ ]	[ ]	[Y]	[ ]
LABORATORY BLANKS	[ ]	[ ]	[ ]	[ ]	[Y]	[ ]
SURROGATES	[ ]	[ ]	[ ]	[ ]	[Y]	[ ]
MATRIX SPIKE/DUPLICATES	[ ]	[ ]	[ ]	[ ]	[Y]	[ ]
INTERNAL STANDARDS	[ ]	[ ]	[ ]	[ ]	[N/A]	[ ]
COMPOUND IDENTIFICATION	[ ]	[ ]	[ ]	[ ]	[Y]	[ ]
COMPOUND QUANTITATION	[ ]	[ ]	[ ]	[ ]	[Y]	[ ]
SYSTEM PERFORMANCE	[ ]	[ ]	[ ]	[ ]	[Y]	[C]

N/A = Not Applicable

III. Validity and Comments

A. Due to calibration problems, the quantitation limits for the following analytes are considered as estimates (J) and usable for limited purposes only (see Table 2):

- Dieldrin and methoxychlor in sample numbers YK622, YK623 and YK624

Percent Differences (%D) of 20.8% and 43.2% were observed for dieldrin and methoxychlor, respectively, in the Continuing Calibrations performed May 21, 1992. These exceed the $\leq \pm 15\%$ QC limit.

B. The 40 CFR 136 technical holding times were not exceeded for any of the samples analyzed.

C. All other results are considered valid and usable for all purposes. All quality control criteria have been met and are considered acceptable.

MS - Matrix Spike; MSD - Matrix Spike Duplicate

ANALYTICAL RESULTS
TABLE 1A*

Case No.: LV2838 Memo #23
Site: Newmark
Lab.: Region IX, Las Vegas
Reviewer: Anh Do, ESAT/ICP Technology, Inc.
Date: June 8, 1992

Analysis Type: Low Level Water Samples for RAS Pesticides/PCBs

Concentration in ug/L

Sample Location / Sample I.D.	YK618			YK619 EB			YK620			YK621			YK622			YK623			YK624		
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
No Pesticides/PCBs detected	ND			ND			ND			ND			ND			ND			ND		
Sample Location / Sample I.D.	Method Blank PBLK1			Method Blank PBLK2			Method Blank PBLK3														
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
No Pesticides/PCBs detected	ND			ND			ND														

*The requested analytes were analyzed for, but "Not Detected". The Sample Quantitation Limits are listed in Table 2.
Val-Validity Refer to Data Qualifiers in Table 1B.
Com.-Comments Refer to the Corresponding Section in the Narrative for each letter.
CRQL-Contract Required Quantitation Limits
NA-Not Analyzed, ND-Not Detected

D1, D2, *etc.*-Field Duplicate Pairs
FB-Field Blank, EB-Equipment Blank, TB-Travel Blank
BG-Background Sample

TABLE 1B
DATA QUALIFIERS

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

U Indicates that the compound is not detected above the concentration listed.

L Indicates results which fall below the Contract Required Quantitation Limit. Results are considered estimates and usable for limited purposes.

J Results are estimated and the data are valid for limited purposes. The results are qualitatively acceptable.

N Presumptive evidence of the presence of the material. The compound identification is considered to be tentative. The data are usable for limited purposes.

R Results are rejected and data are invalid for all purposes.

TABLE 2
Sample Quantitation Limits

Case No.: LV2S38 Memo #23
Site: Newmark
Laboratory: Las Vegas, Region IX
Reviewer: Anh Do
ESAT/ICF Technology, Inc.
Date: June 8, 1992

Pesticides/PCBs	Units, ug/L	Q	C
alpha-BHC	0.05		
beta-BHC	0.05		
delta-BHC	0.05		
gamma-BHC (Lindane)	0.05		
Heptachlor	0.05		
Aldrin	0.05		
Heptachlor epoxide	0.05		
Endosulfan I	0.05		
Dieldrin	0.1	J	A
4,4'-DDE	0.1		
Endrin	0.1		
Endosulfan II	0.1		
4,4'-DDD	0.1		
Endosulfan sulfate	0.1		
4,4'-DDT	0.1		
Methoxychlor	0.5	J	A
Endrin ketone	0.1		
alpha-Chlordane	0.5		
gamma-Chlordane	0.5		
Toxaphene	1		
Aroclor-1016	0.5		
Aroclor-1221	0.5		
Aroclor-1232	0.5		
Aroclor-1242	0.5		
Aroclor-1248	0.5		
Aroclor-1254	1		
Aroclor-1260	1		

Q - Qualifier
C - Comment

TABLE 2
(cont'd)

To calculate the sample quantitation limits, multiply CRQL by the following factors:

Sample No.	Pesticides
YK618	1
YK619	1
YK620	1
YK621	1
YK622	1
YK623	1
YK624	1
Method Blanks	1

TPO: [ ] ACTION [X] FYI Region IX

ORGANIC REGIONAL DATA ASSESSMENT

CASE NO. LV2S38 Memo #23 LABORATORY Region IX, Las Vegas

SDG NO. YK618 DATA USER

SOW 2/88 REVIEW COMPLETION DATE June 8, 1992

NO. OF SAMPLES 7 WATER SOIL OTHER

REVIEWER [ ] ESD [X] ESAT [ ] OTHER, CONTRACT/CONTRACTOR

	VOA	BNA	PEST	OTHER
1. HOLDING TIMES			O	
2. GC PERFORMANCE			O	
3. INITIAL CALIBRATIONS			O	
4. CONTINUING CALIBRATIONS			X	
5. FIELD QC			O	
6. LABORATORY BLANKS			O	
7. SURROGATES			O	
8. MATRIX SPIKE/DUPLICATES			O	
9. REGIONAL QC			F	
10. INTERNAL STANDARDS			F	
11. COMPOUND IDENTIFICATION			O	
12. COMPOUND QUANTITATION			O	
13. SYSTEM PERFORMANCE			O	
14. OVERALL ASSESSMENT			X	

O = No problems or minor problems that do not affect data usability.
X = No more than about 5% of the data points are qualified as either estimated or unusable.
M = More than about 5% of the data points are qualified as estimated.
Z = More than about 5% of the data points are qualified as unusable.
F = Not applicable.

TPO ACTION ITEMS:

AREAS OF CONCERN:

160 Spear Street, Suite 1380
San Francisco, California
94105-1535

415/957-0110

URS TDMT Only TDCN: 0677
Project #: 62172 Loc: 09.71 Type: 71

ICF TECHNOLOGY INCORPORATED

MEMORANDUM

DATE: May 14, 1992

SUBJECT: Review of Analytical Data

FROM: Carolyn Studeny
ESAT Senior Organic Data Reviewer
ICF Technology, Inc.

THROUGH: Jacob Silva
Environmental Scientist
Quality Assurance Management Section
Environmental Services Branch, OPM (P-3-2)

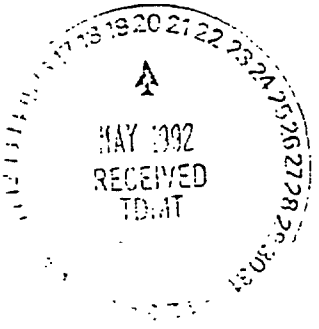
TO: Kevin Mayer
Remedial Project Manager
South Coast Groundwater Section (H-6-4)

Attached are comments resulting from Region 9 review of the following analytical data:

SITE:	Newmark
EPA SITE ID NO:	J5
CASE/SAS NO.:	LV2S38 Memo #12
SDG NO.:	YK599
LABORATORY:	Region IX, Las Vegas
ANALYSIS:	RAS Pesticides/PCBs
SAMPLE NO.:	7 Water Samples (see Case Summary)
COLLECTION DATE:	March 10 through 26, 1992
REVIEWER:	Lisa Hanusiak ESAT/ICF Technology, Inc.
TELEPHONE NUMBER:	(415) 882-3063

If there are any questions, please contact the reviewer.

Attachment



TPO: [ ]For Action [X]FYI
cc: Brenda Bettencourt
Larry Zinky - URS SAC

Data Validation Report

Case No.: LV2S38 Memo #12
Site: Newmark
Laboratory: Region IX, Las Vegas
Reviewer: Lisa Hanusiak, ESAT/ICF Technology, Inc.
Date: May 13, 1992

I. Case Summary

SAMPLE INFORMATION:

PEST Sample Numbers:	YK599, YK601 and YK604 through YK608
Concentration and Matrix:	Low Level Water
Analysis:	RAS Pesticides/PCBs
SOW:	2/88
Collection Date:	March 10 through 26, 1992
Sample Receipt Date:	March 13 through 27, 1992
Extraction Date:	March 16 through April 12, 1992
Analysis Date:	March 22 through April 12, 1992

FIELD QC:

Trip Blanks (TB):	None
Field Blanks (FB):	None
Equipment Blanks (EB):	YK606 and YK607
Background Samples (BG):	None
Field Duplicates (D1):	None

METHOD BLANKS AND ASSOCIATED SAMPLES:

PBLK2 (3/16/92):	YK599 and YK601
PBLK8 (3/26/92):	YK604, YK604MS, YK604MSD and YK605
PBLK10 (3/27/92):	YK606
PBLK1 (3/31/92):	YK607 and YK608

TABLES:

1A:	Analytical Results with Qualifications
1B:	Data Qualifiers
2:	Sample Quantitation Limits of Target Compound List (TCL) Analytes

ADDITIONAL COMMENTS:
This report was prepared according to the EPA document "Laboratory Data Validation Functional Guidelines For Evaluating Organic Analyses," April 11, 1985.

MS - Matrix Spike; MSD - Matrix Spike Duplicate

II. Validation Summary

	VOA		BNA		PEST	
	Acceptable	Comment	Acceptable	Comment	Acceptable	Comment
HOLDING TIMES	[ ]	[ ]	[ ]	[ ]	[Y]	[C]
GC/MS TUNE/GC PERFORMANCE	[ ]	[ ]	[ ]	[ ]	[N]	[A]
CALIBRATIONS	[ ]	[ ]	[ ]	[ ]	[N]	[A]
FIELD QC	[ ]	[ ]	[ ]	[ ]	[Y]	[ ]
LABORATORY BLANKS	[ ]	[ ]	[ ]	[ ]	[Y]	[ ]
SURROGATES	[ ]	[ ]	[ ]	[ ]	[Y]	[ ]
MATRIX SPIKE/DUPLICATES	[ ]	[ ]	[ ]	[ ]	[Y]	[B]
INTERNAL STANDARDS	[ ]	[ ]	[ ]	[ ]	[N/A]	[ ]
COMPOUND IDENTIFICATION	[ ]	[ ]	[ ]	[ ]	[Y]	[ ]
COMPOUND QUANTITATION	[ ]	[ ]	[ ]	[ ]	[Y]	[ ]
SYSTEM PERFORMANCE	[ ]	[ ]	[ ]	[ ]	[Y]	[D]

N/A = Not Applicable

III. Validity and Comments

A. Due to endrin breakdown problems, the quantitation limits for the following analyte are considered estimates (J) and usable for limited purposes only (see Table 2):

- Endrin in sample numbers YK604, YK605, YK606 and method blank PBLK10

Endrin breakdown exceeding the <20% QC limit was observed in the evaluation check for 4,4'-DDT/Endrin breakdown for the analyses run March 30 through April 3, 1992 as follows:

DATE	TOTAL DEGRADATION PRIMARY COLUMN	CONFIRMATION COLUMN	ASSOCIATED SAMPLES
4/2/92 05:47	25.5%	17.5%	YK604
4/2/92 20:18	26.9%	20.6%	YK605, PBLK10
4/3/92 10:09	29.6%	20.2%	YK606

The quantitation limits for endrin in the samples listed above are considered questionable and false negatives may exist.

B. No endrin was recovered in matrix spike sample number YK604MS. This may be indicative of the endrin breakdown problem noted in Comment A, for which the data have been qualified accordingly.

C. The 40 CFR 136 technical holding times were not exceeded for any of the samples analyzed.

D. All other results are considered valid and usable for all purposes. All other quality control criteria have been met and are considered acceptable.

ANALYTICAL RESULTS
TABLE 1A*

Case No.: LV2838 Memo #12
Site: Newmark
Lab.: Region IX, Las Vegas
Reviewer: Lisa Hanusiak, ESAT/ICF Technology, Inc.
Date: May 14, 1992

Analysis Type: Low Level Water Samples for RAS Pesticides/PCBs

Concentration in ug/L

Sample Location / Sample I D.	YK599			YK601			YK604			YK605			YK606 EB			YK607 EB			YK608		
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
No Pesticides/PCBs detected	ND			ND			ND			ND			ND			ND			ND		
Sample Location / Sample I.D.	Method Blank PBLK2 (3/16/92)			Method Blank PBLK8 (3/26/92)			Method Blank PBLK10 (3/27/92)			Method Blank PBLK1 (3/31/92)											
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
No Pesticides/PCBs detected	ND			ND			ND			ND											

*The requested analytes were analyzed for , but "Not Detected". The Sample Quantitation Limitsed are listed in Table 2.
Val-Validity Refer to Data Qualifiers in Table 1B.
Com.-Comments Refer to the Corresponding Section in the Narrative for each letter.
CRQL-Contract Required Quantitation Limits
NA-Not Analyzed, ND-Not Detected
D1, D2, etc.-Field Duplicate Pairs
FB-Field Blank, EB-Equipment Blank, TB-Travel Blank
BG-Background Sample

TABLE 1B
DATA QUALIFIERS

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

U Indicates that the compound is not detected above the concentration listed.

L Indicates results which fall below the Contract Required Quantitation Limit. Results are considered estimates and usable for limited purposes.

J Results are estimated and the data are valid for limited purposes. The results are qualitatively acceptable.

N Presumptive evidence of the presence of the material. The compound identification is considered to be tentative. The data are usable for limited purposes.

R Results are rejected and data are invalid for all purposes.

TABLE 2
Sample Quantitation Limits

Case No.: LV2S38 Memo #12
Site: Newmark
Laboratory: Region IX, Las Vegas
Reviewer: Lisa Hanusiak
ESAT/ICF Technology, Inc.
Date: May 14, 1992

Pesticides/PCBs	Units, ug/L	Q	C
alpha-BHC	0.05		
beta-BHC	0.05		
delta-BHC	0.05		
gamma-BHC (Lindane)	0.05		
Heptachlor	0.05		
Aldrin	0.05		
Heptachlor epoxide	0.05		
Endosulfan I	0.05		
Dieldrin	0.1		
4,4'-DDE	0.1		
Endrin	0.1	J	A
Endosulfan II	0.1		
4,4'-DDD	0.1		
Endosulfan sulfate	0.1		
4,4'-DDT	0.1		
Methoxychlor	0.5		
Endrin ketone	0.1		
alpha-Chlordane	0.5		
gamma-Chlordane	0.5		
Toxaphene	1		
Aroclor-1016	0.5		
Aroclor-1221	0.5		
Aroclor-1232	0.5		
Aroclor-1242	0.5		
Aroclor-1248	0.5		
Aroclor-1254	1		
Aroclor-1260	1		

Q - Qualifier
C - Comment

TABLE 2
(Continued)

To calculate the sample quantitation limits, multiply CRQL by the following factors:

Sample No.	Pesticides/PCBs
YK599	1.00
YK601	1.00
YK604	1.00
YK605	1.00
YK606	1.00
YK607	1.00
YK608	1.00
Method Blanks	1.00

TPO: [ ] ACTION [X] FYI Region IX

ORGANIC REGIONAL DATA ASSESSMENT

CASE NO. LV2S38 Memo #12 LABORATORY Region IX

SDG NO. YK599 DATA USER

SOW 2/88 REVIEW COMPLETION DATE May 14, 1992

NO. OF SAMPLES 7 WATER SOIL OTHER

REVIEWER [ ] ESD [X] ESAT [ ] OTHER, CONTRACT/CONTRACTOR

	VOA	BNA	PEST	OTHER
1. HOLDING TIMES			O	
2. GC-MS TUNE/GC PERFORMANCE			X	
3. INITIAL CALIBRATIONS			X	
4. CONTINUING CALIBRATIONS			X	
5. FIELD QC			O	
6. LABORATORY BLANKS			O	
7. SURROGATES			O	
8. MATRIX SPIKE/DUPLICATES			O	
9. REGIONAL QC			F	
10. INTERNAL STANDARDS			F	
11. COMPOUND IDENTIFICATION			O	
12. COMPOUND QUANTITATION			O	
13. SYSTEM PERFORMANCE			O	
14. OVERALL ASSESSMENT			X	

O = No problems or minor problems that do not affect data usability.
X = No more than about 5% of the data points are qualified as either estimated or unusable.
M = More than about 5% of the data points are qualified as estimated.
Z = More than about 5% of the data points are qualified as unusable.
F = Not applicable.

TPO ACTION ITEMS:

AREAS OF CONCERN: The quantitation limits for endrin in several of the samples were qualified due endrin degradation problems.

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415/957-0110

URS TDMT Only TDCN: 0810
Project #: 6272 Loc: 09.72 Type: 72

ICF TECHNOLOGY INCORPORATED

MEMORANDUM

TO: Kevin Mayer
Remedial Project Manager
South Coast Groundwater Section (H-6-4)

THROUGH: Roseanne Sakamoto
Environmental Protection Specialist
Quality Assurance Management Section (P-3-2)

FROM: Margie D. Weiner MDW
Inorganic Data Reviewer
Environmental Services Assistance Team (ESAT)

DATE: August 14, 1992

SUBJECT: Review of Analytical Data

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

SITE:	Newmark
EPA SITE ID NO:	J5
CASE/SAS NO.:	18400 Memo #30
SDG NO.:	MYJ443
LABORATORY:	Keystone Lab-Houston (KEYTX)
ANALYSIS:	RAS Metals
SAMPLE NO.:	MYJ443 through MYJ453
COLLECTION DATE:	June 24, 25, and 26, 1992
REVIEWER:	Chris Davis, ESAT/ICF

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

Attachment

cc: Edward Kantor, EMSL-LV, QAD
Steve Remaley, USEPA Region IX
Ray Flores, (Acting) TPO USEPA Region VI

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

AUG 1992 RECEIVED TDMT

ESAT-QA-9A-6828/C1840030.RPT

Data Validation Report

Case No.: 18400 Memo #30
Site: Newmark
Laboratory: Keystone Lab-Houston (KEYTX)
Reviewer: Chris Davis, ESAT/ICF
Date: August 14, 1992

I. Case Summary

SAMPLE INFORMATION: SAMPLE #: MYJ443 through MYJ453

COLLECTION DATE: June 24, 25, and 26, 1992
SAMPLE RECEIPT DATE: June 30, 1992

CONCENTRATION & MATRIX: 11 Low Concentration Groundwater Samples

FIELD QC: Field Blanks (FB): None
Equipment Blanks (EB): None
Background Samples (BG): None
Duplicates (D1): MYJ449 and MYJ450

LABORATORY QC: Matrix Spike: MYJ453
Duplicates: MYJ453
ICP Serial Dilution: MYJ453

ANALYSIS: RAS Metals

Analyte	Sample Preparation and Digestion Date	Analysis Date
ICP Metals	July 16, 1992	July 29, 1992
GFAA: Arsenic	July 16, 1992	July 26, 1992
Lead	July 16, 1992	July 28, 1992
Selenium	July 16, 1992	July 30, 1992
Thallium	July 16, 1992	July 24, 1992
Mercury	July 20, 1992	July 20, 1992

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 for March, 1990, 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:

Parameter	Acceptable	Comment
1. Data Completeness	Yes	E
2. Sample Holding Times	Yes	F
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	No	B
8. Laboratory Duplicate Sample Analysis	Yes	
9. Field Duplicate Sample Analysis	No	D
10. GFAA QC Analysis	No	C
a. Duplicate Injections		
b. Analytical Spikes		
11. ICP Serial Dilution Analysis	Yes	
12. Sample Quantitation	Yes	A
13. Sample Result Verification	Yes	G

N/A = Not Applicable

III. Validity and Comments

A. The following results are estimated and are considered usable for limited purposes. The results 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 and are considered usable for limited purposes because of accuracy problems. The results are flagged "J" in Table 1A.

- Lead in all of the samples

The matrix spike recovery results for lead in QC sample number MYJ453 did not meet the 75-125% criteria for accuracy. The percent recovery and percent bias for each analyte is presented below and is based on an ideal recovery of 100%.

Analyte	MYJ453 % Recovery	MYJ453 % Bias
Lead	73.5	-26.5

Results above the IDL are considered quantitatively uncertain. The detection limits reported for lead in all of the samples may be biased low and false negatives may exist.

C. The following results are estimated and are considered usable for limited purposes because of accuracy problems. The results are flagged "J" in Table 1A.

- Lead in samples MYJ443 through MYJ453
- Selenium in samples MYJ443, MYJ446, MYJ447, MYJ450, MYJ451, and MYJ453
- Thallium in sample MYJ443

Lead, selenium, and thallium were 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 lead, selenium, and thallium in the samples listed above did not meet the 85-115% criteria for accuracy. The percent recovery and percent bias for each analyte is presented below and is based on an ideal recovery of 100%.

Analyte	Sample Number	% Recovery	% Bias
Lead	MYJ443	70.0	-30.0
	MYJ444	70.5	-29.5
	MYJ445	67.5	-32.5
	MYJ446	57.0	-43.0
	MYJ447	58.0	-42.0
	MYJ448	59.5	-40.5
	MYJ449	74.0	-26.0
	MYJ450	72.0	-28.0
	MYJ451	72.0	-28.0
	MYJ452	65.5	-34.5
	MYJ453	50.0	-50.0
Selenium	MYJ443	63.0	-37.0
	MYJ446	83.0	-17.0
	MYJ447	82.0	-18.0
	MYJ450	70.0	-30.0
	MYJ451	70.0	-30.0
	MYJ453	75.0	-30.0
Thallium	MYJ443	81.5	-18.5

The post-digestion analytical spike recovery results for lead, selenium, and thallium in the samples listed above show an analytical deficiency. The results reported for selenium and thallium in sample MYJ443 are considered quantitatively uncertain

and may be biased low. The detection limits reported for lead in all of the samples, and for selenium in samples MYJ446, MYJ447, MYJ450, MYJ451, and MYJ453, may be biased low, and false negatives may exist.

D. A 97.7 Relative Percent Difference (RPD) was obtained for zinc in the analysis of field duplicate pair samples MYJ449 and MYJ450. 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 (±20 RPD or ±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.

E. A CRDL standard was not analyzed during the analysis of the samples for mercury. The linearity near the CRDL for mercury could therefore not be verified. According to the 3/90 SOW, in order to verify linearity near the CRDL, the laboratory must analyze an AA standard at the CRDL or the IDL, whichever is greater, at the beginning of each sample analysis run, but not before the Initial Calibration Verification (ICV).

F. The 40 CFR 136 (Clean Water Act) technical holding times were not exceeded for any of the samples. There were no holding time problems.

G. All of the other results are considered usable for all purposes. All QC requirements, other than those discussed above, have been met and are considered acceptable.

ANALYTICAL RESULTS
TABLE 1A

Case No.: 18400 Memo #30
Site: Newmark
Lab.: Keystone Lab-Houston (KEYTX)
Reviewer: Chris Davis, ESAT/ICF Technology, Inc.
Date: August 14, 1992

Analysis Type: Low Concentration Groundwater Samples for RAS Total Metals

Concentration in ug/L

Sample Location	WMW01A-01C				WMW01B-01C				MWM01C-01C				WMW01D-01C				WMW01E-01C				WMW01F-01C				MWM01G-01C			
Sample I.D.	MYJ443				MYJ444				MYJ445				MYJ446				MYJ447				MYJ448				MYJ449 D1			
Parameter	Result		Val	Com	Result		Val	Com	Result		Val	Com	Result		Val	Com	Result		Val	Com	Result		Val	Com	Result		Val	Com
Aluminum	20.0	U			20.0	U			20.0	U			20.0	U			20.0	U			20.0	U			20.0	U		
Antimony	19.0	U			19.0	U			19.0	U			19.0	U			19.0	U			19.0	U			19.0	U		
Arsenic	2.0	U			2.0	U			2.0	U			2.0	U			2.0	U			2.0	U			2.0	U		
Barium	45.5	L	J	A	47.5	L	J	A	47.4	L	J	A	49.3	L	J	A	47.5	L	J	A	51.1	L	J	A	46.7	L	J	A
Beryllium	1.0	U			1.0	U			1.0	U			1.0	U			1.0	U			1.0	U			1.0	U		
Cadmium	2.0	U			2.0	U			2.0	U			2.0	U			2.0	U			2.0	U			2.0	U		
Calcium	83600				81800				81500				85400				83600				90100				84800			
Chromium	3.8	L	J	A	4.8	L	J	A	4.2	L	J	A	4.2	L	J	A	5.0	L	J	A	5.4	L	J	A	4.9	L	J	A
Cobalt	4.0	U			4.0	U			4.0	U			4.0	U			4.0	U			4.3	L	J	A	4.0	U		
Copper	4.0	U			4.0	U			4.0	U			4.0	U			4.0	U			4.0	U			4.0	U		
Iron	923				447				455				533				542				836				906			
Lead	1.0	U	J	BC	1.0	U	J	BC	1.0	U	J	BC	1.0	U	J	BC	1.0	U	J	BC	1.0	U	J	BC	1.0	U	J	BC
Magnesium	15600				14800				14900				15600				15300				16500				15600			
Manganese	27.5				13.4	L	J	A	16.8				23.4				26.5				40.6				46.7			
Mercury	0.20	U			0.20	U			0.20	U			0.20	U			0.20	U			0.20	U			0.20	U		
Nickel	16.0	U			16.0	U			16.0	U			16.0	U			16.0	U			16.0	U			16.0	U		
Potassium	3630	L	J	A	3400	L	J	A	3270	L	J	A	3690	L	J	A	3620	L	J	A	3980	L	J	A	3400	L	J	A
Selenium	3.8	L	J	AC	3.0	U			3.0	U			3.0	U	J	C	3.0	U	J	C	3.0	U			3.0	U		
Silver	3.0	U			3.0	U			3.0	U			3.0	U			3.0	U			3.0	U			3.0	U		
Sodium	24800				17900				17900				18800				18500				19900				19100			
Thallium	6.8	L	J	AC	1.0	U			1.0	U			1.0	U			1.2	L	J	A	1.9	L	J	A	1.1	L	J	A
Vanadium	3.0	U			3.3	L	J	A	3.9	L	J	A	3.3	L	J	A	3.0	U			4.5	L	J	A	3.9	L	J	A
Zinc	14.3	L	J	A	8.4	L	J	A	11.4	L	J	A	11.9	L	J	A	10.4	L	J	A	27.3				27.2			D

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

Case No.: 18400 Memo #30
Site: Newmark
Lab.: Keystone Lab-Houston (KEYTX)
Reviewer: Chris Davis, ESAT/ICF Technology, Inc.
Date: August 14, 1992

Analysis Type: Low Concentration Groundwater Samples for RAS Total Metals

Concentration in ug/L

Sample Location / Sample I.D.	WMW01G-02C MYJ450 D1			WMW01H-01C MYJ451			WMW01I-01C MYJ452			WMW01J-01C MYJ453			LAB BLANK			IDL			CRDL		
Parameter	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Aluminum	20.0 U			20.0 U			20.0 U			20.0 U			20.0 U			20.0			200		
Antimony	19.0 U			19.0 U			19.0 U			19.0 U			19.0 U			19.0			60.0		
Arsenic	2.0 U			2.0 U			2.0 U			2.0 U			2.0 U			2.0			10.0		
Barium	47.5 L	J	A	40.7 L	J	A	36.0 L	J	A	38.6 L	J	A	1.0 U			1.0			200		
Beryllium	1.0 U			1.0 U			1.0 U			1.0 U			1.0 U			1.0			5.0		
Cadmium	2.0 U			2.0 U			2.0 U			2.0 U			2.0 U			2.0			5.0		
Calcium	86200			79100			75400			78400			6.9 L	J	A	5.0			5000		
Chromium	6.8 L	J	A	7.6 L	J	A	5.2 L	J	A	93.2			3.0 U			3.0			10.0		
Cobalt	4.0 U			4.0 U			4.1 L	J	A	4.0 U			4.0 U			4.0			50.0		
Copper	4.0 U			4.0 U			4.0 U			4.0 U			4.0 L			4.0			25.0		
Iron	927			1150			1830			4140			13.9 L	J	A	5.0			100		
Lead	1.0 U	J	BC	1.0 U	J	BC	1.0 U	J	BC	1.0 U	J	BC	1.0 U			1.0			3.0		
Magnesium	15800			14800			14700			17300			27.0 U			27.0			5000		
Manganese	47.8			82.8			141			349			1.0 U			1.0			15.0		
Mercury	0.20 U			0.20 U			0.20 U			0.20 U			0.20 U			0.20			0.20		
Nickel	16.0 U			16.0 U			16.0 U			16.0 U			16.0 U			16.0			40.0		
Potassium	3630 L	J	A	3170 L	J	A	3250 L	J	A	4040 L	J	A	676 U			676			5000		
Selenium	3.0 U	J	C	3.0 U	J	C	3.0 U			3.0 U	J	C	3.0 U			3.0			5.0		
Silver	3.0 U			3.0 U			3.0 U			3.0 U			3.0 U			3.0			10.0		
Sodium	19400			18200			18200			35900			27.0 U			27.0			5000		
Thallium	1.0 U			1.0 U			1.0 U			3.5 L	J	A	1.6 L	J	A	1.0			10.0		
Vanadium	3.0 U			3.0 U			3.0 U			3.0 U			3.0 U			3.0			50.0		
Zinc	79.1		D	15.3 L	J	A	16.0 L	J	A	59.8			2.0 U			2.0			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

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 considered usable for limited purposes.

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. Results are estimated and the data considered usable for <u>limited</u> purposes. Results are qualitatively acceptable.

R The analyte was analyzed for, but the presence <u>or</u> absence of the analyte has not been verified. Resampling and reanalysis are necessary to confirm or deny the presence of the analyte. Results are rejected and data are <u>unusable</u> for any purposes.

UJ 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 [ ]For Action Region IX

INORGANIC REGIONAL DATA ASSESSMENT

CASE NO. 18400 Memo #30 LABORATORY Keystone Lab-Houston (KEYTX)

SDG NO. MYJ443 SITE NAME Newmark

SOW NO. 3/90 REVIEW COMPLETION DATE August 14, 1992

REVIEWER [ ] ESD [X] ESAT REVIEWER'S NAME Chris Davis, ESAT/ICF

NO. OF SAMPLES _____ WATER _____ SOIL _____ OTHER

	ICP	AA	Hg	Cyanide
1. HOLDING TIMES	0	0	0	
2. CALIBRATION	0	0	0	
3. BLANKS	0	0	0	
4. ICP INTERFERENCE CHECK SAMPLE (ICS)	0			
5. LABORATORY CONTROL SAMPLE (LCS)	0	0		
6. DUPLICATE ANALYSIS	0	0	0	
7. MATRIX SPIKE ANALYSIS	0	M	0	
8. METHOD OF STANDARD ADDITION (MSA)		0		
9. ICP SERIAL DILUTION	0			
10. SAMPLE QUANTITATION	0	0	0	
11. SAMPLE VERIFICATION	0	0	0	
12. OTHER QC	0	0	0	
13. OVERALL ASSESSMENT	0	M	0	

O = No problems or minor problems that do not affect data usability.
X = No more than about 5% of the data points are qualified as either estimated or unusable.
M = More than about 5% of the data points are qualified as estimated.
Z = More than about 5% of the data points are qualified as unusable.
N/A = Not applicable.

TPO ATTENTION: No CRDL standard was analyzed for mercury.
AREAS OF CONCERN: The CRDL standards for lead and thallium were recovered at 147% and 148% respectively. This leads the reviewer to be concerned that the results for thallium greater than the IDL but less than the CRDL may be biased high.

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415/957-0110

URS TDMT Only TDCN: 0704
Project #: 62172 Loc: 09.72 Type: 72

ICF TECHNOLOGY INCORPORATED

MEMORANDUM

DATE: June 12, 1992

SUBJECT: Review of Analytical Data

FROM: Margie Weiner for MW
ESAT Inorganic Data Reviewer
ICF Technology, Inc.

THROUGH: Jacob Silva
Environmental Scientist
Quality Assurance Management Section
Environmental Services Branch, OPM (P-3-2)

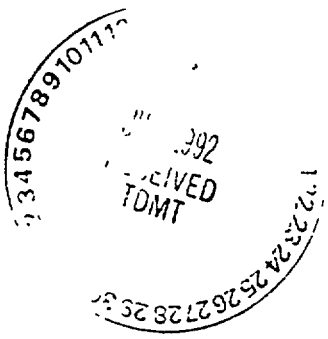
TO: Kevin Mayer
Remedial Project Manager
South Coast Groundwater Section (H-6-4)

Attached are comments resulting from Region 9 review of the following analytical data:

SITE:	Newmark
EPA SITE ID NO:	J5
CASE/SAS NO.:	LV2S38 Memo #18
SDG NO.:	MYH647
LABORATORY:	Region IX, Las Vegas
ANALYSIS:	RAS Total Metals
SAMPLE NO.:	MYH647, MYH649, and MYH652 through MYH656
COLLECTION DATE:	March 10, 12, 24, 25, and 26, 1992
REVIEWER:	Jack D. Sheets ESAT/ICF Technology, Inc.
TELEPHONE NUMBER:	(415) 882-3061

If there are any questions, please contact the reviewer.

Attachment



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

ESATQA9A-6458/JLVS3818.RPT

Data Validation Report

Case No.: LV2S38 Memo #18
Site: Newmark
Laboratory: Region IX, Las Vegas
Reviewer: Jack D. Sheets, ESAT/ICF Technology, Inc.
Date: June 12, 1992

I. Case Summary

SAMPLE INFORMATION: SAMPLE #: MYH647, MYH649, and MYH652 through MYH656

COLLECTION DATE: March 10, 12, 24, 25, and 26, 1992
SAMPLE RECEIPT DATE: March 13, 25, 26, and 27, 1992

CONCENTRATION & MATRIX: 5 Low concentration groundwater samples and 2 Low concentration rinsate samples

FIELD QC: Field Blanks (FB): None
Equipment Blanks (EB): MYH654 and MYH655
Background Samples (BG): None
Duplicates (D1): None

LABORATORY QC: Matrix Spike: MYH652
Duplicates: MYH652
ICP Serial Dilution: MYH652

ANALYSIS: RAS Total Metals

Analyte		Sample Preparation and Digestion Date	Analysis Date
ICP Metals		April 15, 1992	May 4, 1992
GFAA:	Arsenic	April 15, 1992	April 20, 1992
	Lead	April 15, 1992	April 21, 1992
	Selenium	April 15, 1992	April 21, 1992
	Thallium	April 15, 1992	April 20, 1992
Mercury		March 31, 1992	March 31, 1992

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 for March 1990 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:

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

N/A = Not Applicable

III. Validity and Comments

A. The following detection limits are rejected and unusable for any purpose because of calibration problems. The detection limits are flagged "R" in Table 1A.

- Mercury in all of the samples and the Lab Blank

An insufficient number of calibration standards was used in the analysis of the samples for mercury. No standards lower than 5.0 µg/L were analyzed in the calibration of mercury by the automated cold vapor technique. Method 245.2 CLP-M specifies the analysis of standards containing 0.0, 0.2, 0.5, 1.0, 5.0, 10.0, 15.0, and 20.0 µg/L. The laboratory used standards containing 0.0, 5.0, 10.0, and 15.0 µg/L. The 5.0 µg/L standard is 25 times greater than the IDL and the CRDL. This deficiency is exemplified by the reported zero percent recovery of the CRA standard. Although there are no acceptance criteria for the CRA standard, a zero percent recovery indicates a problem with the mercury analysis near the detection limit. The detection limits for mercury in all of the samples and the Lab Blank are rejected because of these analytical deficiencies.

B. The results reported in Table 1A for the following analytes are considered as estimates (J) and are usable for limited purposes only.

- 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.

C. The following results are considered usable for limited purposes because of accuracy problems. The results are considered estimates and are flagged "J" in Table 1A.

- Aluminum in all samples and the Lab Blank

The matrix spike recovery results for aluminum in QC sample number MYH652 did not meet the 75-125% criteria for accuracy as listed below. The possible percent bias for aluminum is also presented below.

Analyte	MYH652 % Recovery	MYH652 % Bias
Aluminum	62.5	-37.5

Results above the IDL are considered quantitatively questionable. The results reported for aluminum in all samples and lab blanks may be biased low.

D. The following results are considered usable for limited purposes because of accuracy problems. The results are considered as estimates and are flagged "J" in Table 1A.

- Lead in samples MYH647, MYH649, MYH653, MYH654, and MYH656

Lead was analyzed by the Graphite Furnace Atomic Absorption (GFAA) technique, which requires that a post-digest analytical spike be performed for each sample to establish the accuracy of the individual analytical determination. The post-digestion spike recovery result for lead in the samples listed above did not meet the 85-115% criteria for accuracy as listed below. The possible percent bias for lead is also presented below.

Analyte	Sample #	% Recovery	% Bias
Lead	MYH647	77.5	-22.5
	MYH649	68.7	-31.3
	MYH653	70.0	-30.0
	MYH654	68.5	-31.5
	MYH656	75.5	-24.5

The results reported for lead in the samples listed above may be biased low and false negatives may exist.

An analytical spike was not performed in the analysis of the laboratory duplicate sample for arsenic, lead, selenium, and thallium. This analytical deficiency is not expected to affect the results.

E. An equipment blank is reagent water that has been collected as a sample using decontaminated sampling equipment. The intent of an equipment blank is to monitor for contamination introduced by the sampling activity, although any laboratory introduced contamination will also be present. Equipment blank sample number MYH654 contained the following analytes above the CRDL.

Analyte	Concentration (ug/L)	CRDL (ug/L)
Calcium	8770	5000
Iron	203	100
Zinc	30.7	20.0

F. The 40 CFR 136 technical holding times were not exceeded for any of the samples. There were no holding time problems.

G. All of the other results are considered valid and usable for all purposes. All QC parameters, other than those discussed above, have been met and are considered acceptable.

ANALYTICAL RESULTS
TAI 1A

Case No.: LV2S38 Memo #18
Site: Newmark
Lab.: Region IX, Las Vegas
Reviewer: Jack D. Sheets, ESAT/ICF Technology, Inc.
Date: June 12, 1992

Analysis Type: Low Concentration Water Samples for RAS Total Metals

Concentration in ug/L

Sample Type	Groundwater			Groundwater			Groundwater			Groundwater			Rinsate			Rinsate			Groundwater		
Sample Location	WMW04A-01C			WMW04B-01C			WMW05A-01C			WMW05B-01C			WER02-01C			WER03B-01C			WMW03B-01C		
Sample I.D.	MYH647			MYH649			MYH652			MYH653			MYH654 EB			MYH655 EB			MYH656		
Parameter	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Aluminum	220	J	C	144 L	J	BC	5180	J	C	301	J	C	74.5 L	J	BC	61.7 L	J	BC	2300	J	C
Antimony	28.2 U			28.2 U			28.2 U			28.2 U			28.2 U			28.2 U			28.2 U		
Arsenic	2.0 L	J	B	1.3 U			1.8 L	J	B	1.3 U			1.3 U			1.3 U			1.3 L	J	B
Barium	35.7 L	J	B	37.2 L	J	B	61.4 L	J	B	45.2 L	J	B	29.7 U			29.7 U			70.2 L	J	B
Beryllium	0.67 U			0.67 U			0.67 U			0.67 U			0.67 U			0.67 U			0.67 U		
Cadmium	2.4 U			2.4 U			2.4 U			2.4 U			2.4 U			2.4 U			2.4 U		
Calcium	64600			72400			43400			81500			8770			524 U			76400		
Chromium	11.9			4.1 L	J	B	16.4			4.2 L	J	B	3.0 U			3.0 U			11.9		
Cobalt	9.0 U			9.0 U			9.0 U			9.0 U			9.0 U			9.0 U			9.0 U		
Copper	3.7 U			3.7 U			10.4 L	J	B	3.7 U			3.7 U			3.7 U			3.7 U		
Iron	4670			570			20000			3250			203			40.6 U			4210		
Lead	1 0 U	J	D	1.0 U	J	D	10.6			1.6 L	J	BD	1.5 L	J	BD	1.4 L	J	B	4.7	J	D
Magnesium	13600			15700			10200			16500			2100 L	J	B	607 U			18100		
Manganese	91.1			47.4			341			110			4.4 L	J	B	2.4 U			121		
Mercury	0.20 U	R	A	0.20 U	R	A	0.20 U	R	A	0.20 U	R	A	0.20 U	R	A	0.20 U	R	A	0.20 U	R	A
Nickel	12.7 U			12.7 U			17.6 L	J	B	12.7 U			12.7 U			12.7 U			12.7 U		
Potassium	3880 L	J	B	4680 L	J	B	6380			5180			830 L	J	B	744 U			7110		
Selenium	1.3 U			1.3 U			1.3 U			1.3 U			1.3 U			1.3 U			1.3 U		
Silver	4.0 U			4.0 U			4.0 U			4.0 U			4.0 U			4.0 U			4.0 U		
Sodium	23900			19700			19800			15800			3230 L	J	B	454 U			45700		
Thallium	0.60 U			0.60 U			0.60 U			0.60 U			0.60 U			0.60 U			0.60 U		
Vanadium	8.6 U			8.6 U			9.8 L	J	B	8.6 U			8.6 U			8.6 U			8.6 U		
Zinc	588			389			358			108			30.7			13.0 U			190		

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

Case No.. LV2S38 Memo #18
Site: Newmark
Lab.: Region IX, Las Vegas
Reviewer: Jack D. Sheets, ESAT/ICF Technology, Inc.
Date: June 12, 1992

Analysis Type: Low Concentration Water Samples for RAS Total Metals

Concentration in ug/L

Sample Location / Sample I.D.	Lab Blank			IDL			CRDL																	
Parameter	Result		Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Aluminum	50.0	U	J	C	50.0			200																
Antimony	28.2	U			28.2			60																
Arsenic	1.4	L	J	B	1.3			10																
Barium	29.7	U			29.7			200																
Beryllium	0.67	U			0.67			5																
Cadmium	2 4	U			2.4			5																
Calcium	524	U			524			5000																
Chromium	3.0	U			3.0			10																
Cobalt	9.0	U			9.0			50																
Copper	3.7	U			3.7			25																
Iron	40.6	U			40.6			100																
Lead	1.0	U			1.0			3																
Magnesium	607	U			607			5000																
Manganese	2.4	U			2.4			15																
Mercury	0.20	U	R	A	0.2			0.2																
Nickel	12.7	U			12.7			40																
Potassium	744	U			744			5000																
Selenium	1.3	U			1.3			5																
Silver	4.0	U			4.0			10																
Sodium	454	U			454			5000																
Thallium	0.60	U			0.60			10																
Vanadium	8 6	U			8.6			50																
Zinc	13.0	U			13.0			20																

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 QUALIFIERS

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

U Indicates that the parameter is not detected above the concentration listed. (Usually the Instrument Detection Limit for waters and the Method Detection Limit for soils with a correction for percent solids).

L Indicates results which fall between the Instrument Detection Limit for waters or the Method Detection Limit for soils and the Contract Required Detection Limit. Results are considered estimates and are usable for limited purposes.

J Results are considered estimates and are usable for limited purposes. The results are qualitatively acceptable.

R Results are rejected and are unusable for any purposes.

TPO: [X] ACTION [ ] FYI

Region IX

INORGANIC REGIONAL DATA ASSESSMENT

CASE NO. LV2S38 Memo #18 LABORATORY Region IX, Las Vegas

SDG NO. MYH647 DATA USER

SOW 3/90 REVIEW COMPLETION DATE June 12, 1992

NO. OF SAMPLES 7 WATER SOIL OTHER

REVIEWER [ ] ESD [X] ESAT [ ] OTHER, CONTRACT/CONTRACTOR

	ICP	AA	Hg	Cyanide
1. HOLDING TIMES	O	O	O	
2. INITIAL CALIBRATIONS	O	O	Z	
3. CONTINUING CALIBRATIONS	O	O	O	
4. FIELD AND EQUIPMENT BLANKS	O	O	O	
5. LABORATORY BLANKS	O	O	O	
6. ICP INTERFERENCE CHECK SAMPLE (ICS)	O			
7. LABORATORY CONTROL SAMPLE (LCS)	O	O	F	
8. LABORATORY DUPLICATE ANALYSIS	O	O	O	
9. MATRIX SPIKE ANALYSIS	M	M	O	
10. METHOD OF STANDARD ADDITION (MSA)		F		
11. ICP SERIAL DILUTION	O			
12. SAMPLE VERIFICATION	O	O	O	
13. REGIONAL QC	F	F	F	
14. OVERALL ASSESSMENT	M	M	Z	

O = No problems or minor problems that do not affect data usability.
X = No more than about 5% of the data points are qualified as either estimated or unusable.
M = More than about 5% of the data points are qualified as estimated.
Z = More than about 5% of the data points are qualified as unusable.
F = Not applicable.

TPO: [X] ACTION [ ] FYI Region IX

INORGANIC REGIONAL DATA ASSESSMENT

CASE NO. LV2S38 Memo #18 LABORATORY Region IX, Las Vegas

SDG NO. MYH647 DATA USER

SOW 3/90 REVIEW COMPLETION DATE June 12, 1992

NO. OF SAMPLES 7 WATER SOIL OTHER

REVIEWER [ ] ESD [X] ESAT [ ] OTHER, CONTRACT/CONTRACTOR

TPO ACTION ITEMS: An insufficient number of mercury calibration standards was analyzed. Low CRDL recovery was obtained for Hg (0.0%). While there are no criteria established for CRDL recovery, a low recovery may cause false negatives. This problem indicates an anlytical uncertainty near the detection limit.

AREAS OF CONCERN: Matrix spike % recovery was high for selenium and low for aluminum. Analytical spikes recoveries for lead were low. The equipment blank MYH654 contained calcium, iron and lead at concentrations above the CRDL. The equipment blank was collected on March 25, 1992, and, although no other samples were collected that day, samples MYH652 and MYH653, which were collected March 24, and samples MYH655 and MYH656, which were collected March 26, might be affected by the contamination found in the blank.

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415/957-0110

URS TDMT Only TDCN: 0909
Project #: 62172 Loc: 09.T2 Type: 72

ICF TECHNOLOGY INCORPORATED

MEMORANDUM

DATE: June 12, 1992

SUBJECT: Review of Analytical Data

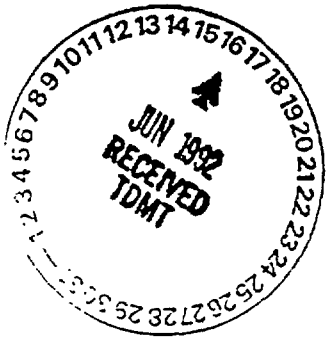
FROM: Victoria Taylor
ESAT Senior Analytical Chemist
ICF Technology, Inc.

THROUGH: Jacob Silva
Environmental Scientist
Quality Assurance Management Section
Environmental Services Branch, OPM (P-3-2)

TO: Kevin Mayer
Remedial Project Manager
South Coast Groundwater Section (H-6-4)

Attached are comments resulting from Region 9 review of the following analytical data:

SITE:	Newmark
EPA SITE ID NO:	J5
CASE/SAS NO.:	LV2S38 Memo #21
SDG NO.:	MYH666
LABORATORY:	Region 9, Las Vegas
ANALYSIS:	RAS Total Metals
SAMPLE NO.:	7 Water Samples (see Case Summary)
COLLECTION DATE:	April 6, 9, 20 and 21, 1992
REVIEWER:	Rameen Moezzi ESAT/ICF Technology, Inc.
TELEPHONE NUMBER:	(415) 882-3062



If there are any questions, please contact the reviewer.

Attachment

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

ESATQA9A-6464/RLS38M21.RPT

Data Validation Report

Case No.: LV2S38 Memo #21
Site: Newmark
Laboratory: Region 9, Las Vegas
Reviewer: Rameen Moezzi, ESAT/ICF Technology, Inc.
Date: June 12, 1992

I. Case Summary

SAMPLE INFORMATION: SAMPLE #: MYH666 through MYH672

COLLECTION DATE: April 6, 9, 20 and 21, 1992
SAMPLE RECEIPT DATE: April 8, 10 and 22, 1992

CONCENTRATION & MATRIX: 6 Low Concentration Groundwater Samples and 1 Rinsate Sample

FIELD QC: Field Blanks (FB): None
Equipment Blanks (EB): MYH667
Background Samples (BG): None
Duplicates (D1): None

LABORATORY QC: Matrix Spike: MYH668 and MYH672
Duplicates: MYH668 and MYH672
ICP Serial Dilution: MYH668 and MYH672

ANALYSIS: RAS Total Metals

Analyte		Sample Preparation and Digestion Date	Analysis Date
ICP Metals		April 20 and 30, 1992	May 6 and 7, 1992
GFAA:	Arsenic	April 20 and 30, 1992	May 13, 1992
	Lead	April 20 and 30, 1992	May 14, 1992
	Selenium	April 20 and 30, 1992	May 13, 1992
	Thallium	April 20 and 30, 1992	May 14, 1992
Mercury		May 4, 1992	May 4, 1992

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 for March 1990 and the EPA document "Laboratory Data Validation Functional Guidelines For Evaluating Inorganic Analyses" (1985).

II. Validation Summary

The data were evaluated based on the following parameters:

Parameter	Acceptable	Comment
1. Data Completeness	Yes	
2. Sample Holding Times	Yes	G
3. Calibration	No	F
a. Initial Calibration Verification		
b. Continuing Calibration Verification		
c. Calibration Blank		
4. Blanks	Yes	
a. Laboratory Preparation Blank		
b. Field Blank		
5. ICP Interference Check Sample Analysis	Yes	
6. Laboratory Control Sample Analysis	Yes	
7. Spiked Sample Analysis	No	AB
8. Laboratory Duplicate Sample Analysis	No	D
9. Field Duplicate Sample Analysis	N/A	
10. GFAA QC Analysis	No	B
a. Duplicate Injections		
b. Analytical Spikes		
11. ICP Serial Dilution Analysis	No	E
12. Sample Quantitation	Yes	C
13. Sample Result Verification	Yes	H

N/A = Not Applicable

III. Validity and Comments

A. The following detection limit is considered unusable because of accuracy problems. The detection limit is rejected and is flagged "R" in Table 1A.

- Aluminum in sample number MYH671

The matrix spike recovery result for aluminum in QC sample number MYH672 did not meet the 75-125% criteria as listed below. The possible percent bias for this analyte is also shown below.

Analyte	MYH671 % Recovery	MYH671 % Bias
Aluminum	28.4	-71.6

The detection limit for aluminum in sample number MYH671 is considered unusable because of the low percent matrix spike recovery obtained. The matrix spike recovery result shows a severe analytical deficiency and false negatives may exist.

B. The following results are considered usable for limited purposes because of accuracy problems. The results are considered as estimates and are flagged "J" in Table 1A.

- Aluminum in sample number MYH672

The matrix spike recovery results for aluminum in QC sample number MYH672 did not meet the 75-125% criteria for accuracy as listed below. The possible percent bias for this analyte is also presented below.

Analyte	MYH672 % Recovery	MYH672 % Bias
Aluminum	28.4	-71.6

Results above the IDL are considered quantitatively questionable. The result for aluminum in sample number MYH672 may be biased low.

The post-digest spike recovery result for aluminum is presented below.

Analyte	Sample #	% Recovery	% Bias
Aluminum	MYH672	44	-56

The post-digestion spike recovery result for aluminum in QC sample number MYH672 shows a severe analytical deficiency and the result for MYH672 may be biased low and a false negative may exist for MYH671.

C. The results reported in Table 1A for the following analytes are considered as estimates (J) and are usable for limited purposes only.

- 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.

D. The following results are considered usable for limited purposes because of precision problems. The results are considered as estimates and are flagged "J" in Table 1A.

- Aluminum in sample numbers MYH671 and MYH672
- Lead in sample numbers MYH666 through MYH670

Laboratory duplicate results did not meet the ±20% Relative Percent Difference (RPD) and ±CRDL criteria for precision as listed below.

Analyte	Sample# Lab. Dup.	RPD
Aluminum	MYH672	52.5
Lead	MYH668	120

The detection limits and results for aluminum in sample numbers MYH671 and MYH672, respectively, and the results for lead in sample numbers MYH666 through MYH670 are considered quantitatively questionable. The inconsistency of the results between laboratory duplicates may be due to high levels of solids in the sample, poor sampling or laboratory technique, or method defects. Aluminum was present in sample number MYH672 at a concentration of 2671 ug/L, while in the duplicate analysis, aluminum was present at a concentration of 1560 ug/L. Lead was present in sample number MYH668 at a concentration of 1.6 ug/L, while in the duplicate analysis, lead was present at a concentration of 6.4 ug/L.

Note: Sample number MYH671 was previously rejected for aluminum. See Comment A.

E. The following results are considered usable for limited purposes because of a problem with the ICP serial dilution. The results are considered as estimates and are flagged "J" in Table 1A.

- Aluminum in sample numbers MYH671 and MYH672

The percent difference of the ICP serial dilution analysis of sample number MYH672 did not meet the 10% criteria for the analytes shown below.

Analyte	MYH672 % Difference
Aluminum	35

The detection limit and result reported for aluminum in sample numbers MYH671 and MYH672, respectively, are considered quantitatively questionable. Chemical and physical interferences may exist due to the sample matrix.

Note: Sample number MYH671 was previously rejected for aluminum. See Comment A.

F. The following results are considered usable for limited purposes because of calibration problems. The results are considered as estimates and are flagged "J" in Table 1A.

- Mercury in all of the samples and the Lab Blanks

An insufficient number of calibration standards was used in the analysis of the samples for mercury. No standards lower than 5.0

ug/L were analyzed in the calibration of mercury by the automated cold vapor technique. Method 245.2 CLP-M specifies the analysis of standards containing 0.0, 0.2, 0.5, 1.0, 5.0, 10.0, 15.0 and 20.0 ug/L. The laboratory used standards containing 0.0, 5.0, 10.0 and 15.0 ug/L. The 5.0 ug/L standard is 25 times greater than the IDL and the CRDL. The effect of this calibration inadequacy on the data is unknown. The results for mercury in all of the samples and the Lab Blanks are considered quantitatively questionable because of this analytical deficiency.

G. The 40 CFR 136 holding times were not exceeded for any of the samples. There were no holding time problems.

H. All of the other results are considered valid and usable for all purposes. All QC parameters, other than those discussed above, have been met and are considered acceptable.

ANALYTICAL RESULTS
TABLE 1A

Case No.: LV2S38 Memo #21
Site: Newmark
Lab.: Region 9, Las Vegas
Reviewer: Rameen Moezzi, ESAT/ICF Technology, Inc.
Date: June 12, 1992

Analysis Type: Low Concentration Water Samples for RAS Total Metals

Concentration in ug/L

Sample Location	WMW03A-01C				WER02B-01C				WMW02B-01C				WMW02B-02C				WMW02A-01C				WMW06A-01C				WMW06B-01C			
Sample I.D.	MYH666				MYH667 EB				MYH668				MYH669				MYH670				MYH671				MYH672			
Parameter	Result		Val	Com	Result		Val	Com	Result		Val	Com	Result		Val	Com	Result		Val	Com	Result		Val	Com	Result		Val	Com
Aluminum	5880				50.0	U			464				773				115	L	J	C	50.0	U	R	ADE	2670		J	BDE
Antimony	28 2	U			28.2	U			28.2	U			28.2	U			28.2	U			28.2	U			28.2	U		
Arsenic	2.0	L	J	C	1.3	U			1.3	U			1.3	U			1.3	U			1.3	U			1.3	U		
Barium	60.4	L	J	C	29.7	U			64.6	L	J	C	69.0	L	J	C	62.4	L	J	C	41.7	L	J	C	54.9	L	J	C
Beryllium	0.67	U			0.67	U			0.67	U			0.67	U			0.67	U			0.67	U			0.67	U		
Cadmium	2.4	U			2.4	U			2.4	U			2.4	U			2.4	U			2.4	U			2.4	U		
Calcium	57500				524	U			87900				88100				78600				76500				72700			
Chromium	21.4				3.9	L	J	C	5.4	L	J	C	7.1	L	J	C	8.3	L	J	C	3.0	U			9.3	L	J	C
Cobalt	9.0	U			9.0	U			9.0	U			9.0	U			9.0	U			9.0	U			9.0	U		
Copper	13.4	L	J	C	3.7	U			3.7	U			3.7	U			3.7	U			3.7	U			4.6	L	J	C
Iron	28400				40.6	U			9640				10000				12200				52600				5480			
Lead	10 0		J	D	1.3	L	J	CD	1.6	L	J	CD	3.9		J	D	2.1	L	J	CD	1.2	L	J	C	2.5	L	J	C
Magnesium	17900				607	U			17800				17900				15500				16200				17000			
Manganese	340				2.4	U			172				165				273				428				109			
Mercury	0.20	U	J	F	0.20	U	J	F	0.20	U	J	F	0.20		J	F	0.20		J	F	0.20	U	J	F	0.20	U	J	F
Nickel	17.4	L	J	C	12.7	U			14.2	L	J	C	12.7	U			12.7	U			19.7	L	J	C	12.7	U		
Potassium	7880				744	U			4860	L	J	C	4760	L	J	C	3170	L	J	C	2490	L	J	C	3190	L	J	C
Selenium	1.3	U			1.3	U			1.3	U			1.3	U			1.3	U			1.3	U			1.3	U		
Silver	4.0	U			4.0	U			4.0	U			4.0	U			4.0	U			4.0	U			4.0	U		
Sodium	52500				454	U			18600				18500				19200				17000				23300			
Thallium	0.60	U			0.60	U			0.60	U			0.60	U			0.60	U			0.60	U			0.60	U		
Vanadium	10 3	L	J	C	8.6	U			8.6	U			8.6	U			8.6	U			8.6	U			8.6	U		
Zinc	1330				13.0	U			568				562				1060				545				498			

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

Case No.: LV2S38 Memo #21
Site: Newmark
Lab.: Region 9, Las Vegas
Reviewer: Rameen Moezzi, ESAT/ICF Technology, Inc.
Date: June 12, 1992

Analysis Type: Low Concentration Water Samples for RAS Total Metals

Concentration in ug/L

Sample Location Sample I.D.	LAB BLANK 1			LAB BLANK 2			IDL			CRDL											
Parameter	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Aluminum	50.0 U			50.0 U			50.0			200											
Antimony	28.2 U			28.2 U			28.2			60.0											
Arsenic	1.3 U			1.3 U			1.3			10.0											
Barium	29.7 U			29.7 U			29.7			200											
Beryllium	0.67 U			0.67 U			0.70			5.0											
Cadmium	2.4 U			2.4 U			2.4			5.0											
Calcium	524 U			524 U			524			5000											
Chromium	3.4 L	J	C	3.0 U			3.0			10.0											
Cobalt	9.0 U			9.0 U			9.0			50.0											
Copper	3.7 U			3.7 U			3.7			25.0											
Iron	40.6 U			40.6 U			40.6			100											
Lead	1 0 U			1.0 U			1 0			3.0											
Magnesium	607 U			607 U			607			5000											
Manganese	2 4 U			2.4 U			2.4			15.0											
Mercury	0.20 U	J	F	NA			0.20			0.20											
Nickel	12.7 U			12.7 U			12.7			40.0											
Potassium	744 U			744 U			744			5000											
Selenium	1.3 U			1.3 U			1.3			5.0											
Silver	4.0 U			4.0 U			4.0			10.0											
Sodium	454 U			454 U			454			5000											
Thallium	0.60 U			0.60 U			0.60			10.0											
Vanadium	8 6 U			8 6 U			8 6			50.0											
Zinc	13 0 U			13.0 U			13.0			20.0											

NA-Not Analyzed
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 QUALIFIERS

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

U Indicates that the parameter is not detected above the concentration listed. (Usually the Instrument Detection Limit for waters and the Method Detection Limit for soils with a correction for percent solids).

L Indicates results which fall between the Instrument Detection Limit for waters or the Method Detection Limit for soils and the Contract Required Detection Limit. Results are considered estimates and are usable for limited purposes.

J Results are considered estimates and are usable for limited purposes. The results are qualitatively acceptable.

R Results are rejected and are unusable for any purposes.