



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
ENVIRONMENTAL SCIENCE CENTER
701 MAPES ROAD
FORT MEADE, MARYLAND 20755-5350

DATE : July 28, 2009

SUBJECT: Region III Data QA Review

FROM : Colleen Walling *CC Walling*
Region III ESAT RPO (3EA20)

TO : Michael Towle
Regional Project Manager (3HS31)

Attached is the inorganic data validation report for the Tank Car Corporation of America site (CASE # 38651; SDG # MC06T4). This report has been completed by the Region III Environmental Services Assistance Team (ESAT) contractor under the direction of Region III EAID.

If you have any questions regarding this review, please call me at (410) 305-2763.

Attachments

cc: Joshua Cope (TTEMI)

TO File #: 0021

TDF#: 07008

OFFICE OF ANALYTICAL SERVICES AND QUALITY ASSURANCE



Lockheed Martin Enterprise Solutions & Services
ESAT Region 3
US EPA Environmental Science Center
701 Mapes Road Ft. Meade, MD 20755-5350
Telephone 410-305-3037 Facsimile 410-305-3597

DATE: July 17, 2009

SUBJECT: Level IM2 Inorganic Data Validation for Case 38651
SDG: MC06T4
Site: Tank Car Corporation of America

FROM: Shilpa Udani *SU*
Inorganic Data Reviewer

Through: Mahboobeh Mecanic *MM*
Senior Data Review Chemist

TO: Colleen Walling
ESAT Region 3 Project Officer

OVERVIEW

Case 38651, Sample Delivery Group (SDG) MC06T4, consisted of four (4) soil samples and seven (7) aqueous samples submitted to ChemTech Consulting Group (CHEM) for total metals analyses. The sample set included one (1) field blank, one (1) rinsate blank, one (1) aqueous field duplicate pair and one (1) soil field duplicate pair. Samples were analyzed in accordance with Contract Laboratory Program (CLP) Statement of Work (SOW) ILM05.4 through the Routine Analytical Services (RAS) program.

SUMMARY

Data were validated according to the Region III Modifications to the National Functional Guidelines for Inorganic Data Review, level IM2. Areas of concern with respect to data usability are listed below.

Data in this Case have been impacted by outliers present in the laboratory and field blanks as well as matrix spike, Laboratory duplicate and the ICP serial dilution analyses. Details for these outliers are discussed under "Minor Problems", specific samples affected are outlined in "Table 1A" and qualified analytical results for all samples are summarized on the Data Summary Forms (DSFs).

MINOR PROBLEMS

Field (FB), Preparation (PB) and Continuing Calibration (CCBs) Blanks had reported results greater than the Method Detection Limits (MDLs) for the analytes listed below. Positive results reported for these analytes in affected samples which are less than five times ($< 5X$) the blank concentrations may be biased high and have been qualified "B" on the DSFs.

<u>Blanks</u>	<u>Affected Analytes</u>
FB	aluminum (Al), iron (Fe), zinc (Zn)
PBW	Al, calcium (Ca), Fe, sodium (Na)
CCB	arsenic (As)

CCBs and/or PBs had negative results greater than the absolute values of the MDLs for the analytes listed below. Positive results reported for these analytes in affected samples which are less than two times ($< 2X$) the absolute values of the blank concentrations may be biased low. The "L" qualifier for these outliers has been superseded by "J" on the DSFs. Quantitation limits for these analytes in affected samples may be biased low and have been qualified "UL" on the DSFs.

<u>Blanks</u>	<u>Affected Analytes</u>
PBS	silver (Ag), thallium (Tl)
CCB	lead (Pb), mercury (Hg), silver (Ag), Na

Relative Percent Differences (RPDs) for the laboratory duplicate analyses were outside control limits (35% RPD or $\pm 2XCRQL$) for cobalt (Co), Pb, Mn, and Zn in soil matrix. Reported results for these analytes are estimated and have been qualified "J" on the DSFs.

Percent Differences (%Ds) for the ICP serial dilution analysis were outside the control limits ($> 10\%$) for the analytes listed below. Reported positive results for these analytes in all samples are estimated and have been qualified "J" on the DSFs unless superseded by "B".

<u>Matrix</u>	<u>Analytes</u>
Soil	Na, vanadium (V)
Aqueous	Al, Fe, Na

Matrix spike recoveries were low ($< 75\%$ but $> 30\%$) for analytes listed below. Low recoveries may be attributed to matrix interferences or analyte lost during the digestion process. Positive results reported for these analytes in affected samples may be biased low and have been qualified "L" on the DSFs unless superseded by "J". Quantitation limits for this analyte in affected samples may be biased low and have been qualified "UL" on the DSFs.

<u>Matrix</u>	<u>Analytes</u>
Soil	antimony (Sb), Tl
Aqueous	manganese (Mn)

The matrix spike recovery was high (>125%) for Zn in the soil matrix. Positive results reported for this analyte in this SDG may be biased high. The “K” qualifier for this outlier has been superseded by “J” on the DSFs.

NOTES

Positive results which are less than the CRQLs but greater than MDLs have been qualified “J” on the DSFs unless superseded by “B”.

Post digestion spike recoveries for soil QC sample were low (<75% but > 30%) for Al, Tl and Zn. No data were qualified based on these outliers.

Relative percent differences (RPDs) for the laboratory duplicate analysis in soil QC sample were outside contractual control limits (20% RPD or \pm CRQL) for barium (Ba) and copper (Cu) and nickel (Ni). However, RPDs for these analytes in this SDG were within Region 3 established control limits (35% RPD, or ± 2 XCRQL) for soil analysis. No data were qualified for these analytes in this SDG based on laboratory duplicate imprecision.

Reported results for the field duplicate pair MC06T5/MC06T6 were within the control limit of 35% RPD, ± 2 XCRQL for all analytes.

Reported results for the field duplicate pair MC06X0/MC06X1 were within the control limit of 20% RPD, \pm CRQL for all analytes except Fe.

Data for Case 38651, SDG MC06T4, were reviewed in accordance with Region III Modifications to the National Functional Guidelines for Evaluating Inorganic Analyses, April 1993.

ATTACHMENTS

INFORMATION REGARDING REPORT CONTENT

Table 1A is a summary of qualifiers applied to the laboratory-generated results during data validation.

TABLE 1A	SUMMARY OF QUALIFIERS ON DATA SUMMARY FORMS AFTER DATA VALIDATION
TABLE 1B	CODES USED IN COMMENTS COLUMN OF TABLE 1A
APPENDIX A	GLOSSARY OF DATA QUALIFIER CODES
APPENDIX B	DATA SUMMARY FORMS
APPENDIX C	CHAIN OF CUSTODY RECORDS
APPENDIX D	LABORATORY CASE NARRATIVE

TABLE 1A
SUMMARY OF QUALIFIERS ON DATA SUMMARY
FORM AFTER DATA VALIDATION

Case 38651, SDG MC06T4

<u>ANALYTE</u>	<u>SAMPLES AFFECTED</u>	<u>POSITIVE VALUES</u>	<u>NON- DETECTED VALUES</u>	<u>BIAS</u>	<u>COMMENTS*</u>
Al	MC06X0, MC06X1	B		High	FB (32.9 J ug/L) SD (43%)
	MC06W6	B		High	PB (11.895 J ug/L) SD (43%)
	MC06W2, MC06W3, MC06X2, MC06X8	J			SD (43%)
Sb	MC06T5		UL	Low	MSL (74%)
	MC06T4, MC06T6, MC06W4	J			> MDL < CRQL MSL (74%)
As	MC06W2, MC06W3	B		High	CCB (3.489 J ug/L)
Ca	MC06X2	B		High	PB (68,603 J ug/L)
Co	MC06T4, MC06T5, MC06T6, MC06W4	J			DUP (94%)
Fe	MC06W6	B		High	PB (21.820 J ug/L) SD (11%)
	MC06X1	B		High	FB (45.2 J ug/L) SD (11%)
	MC06W2, MC06W3, MC06X0, MC06X8	J			SD (11%)
Pb	MC06T4, MC06T5, MC06T6, MC06W4	J			DUP (57%)

* See explanation of comments in Table 1B

TABLE 1A
SUMMARY OF QUALIFIERS ON DATA SUMMARY
FORM AFTER DATA VALIDATION

Case 38651, SDG MC06T4

<u>ANALYTE</u>	<u>SAMPLES AFFECTED</u>	<u>POSITIVE VALUES</u>	<u>NON- DETECTED VALUES</u>	<u>BIAS</u>	<u>COMMENTS*</u>
Pb	MC06W2, MC06W3, MC06W6, MC06X0, MC06X1, MC06X2		UL	Low	CBN (– 2.112 J ug/L)
Mn	MC06T4, MC06T5, MC06T6, MC06W4	J			DUP (87%)
	MC06W2, MC06W3, MC06X0, MC06X1, MC06X2, MC06X8	L	UL	Low	MSL (60%)
	MC06W6	J			> MDL < CRQL MSL (60%)
Hg	MC06T5, MC06T6, MC06W4	J			> MDL < CRQL CBN (– 0.076 J ug/L)
Ag	MC06T4, MC06T5, MC06T6		UL	Low	PBN (– 0.193 J mg/Kg)
	MC06W4	J			> MDL < CRQL PBN (– 0.193 J mg/Kg)
	MC06X0, MC06X1, MC06X2, MC06X8		UL	Low	CBN (– 2.143 J ug/L)
Na	MC06T4, MC06T5, MC06T6, MC06W4	J			SD (16%)
	MC06W6	B		High	PB (157.704 J ug/L) SD (12%)
	MC06X2		UL	Low	CBN (– 98.115 J ug/L)

* See explanation of comments in Table 1B

TABLE 1A
SUMMARY OF QUALIFIERS ON DATA SUMMARY
FORM AFTER DATA VALIDATION

Case 38651, SDG MC06T4

<u>ANALYTE</u>	<u>SAMPLES AFFECTED</u>	<u>POSITIVE VALUES</u>	<u>NON- DETECTED VALUES</u>	<u>BIAS</u>	<u>COMMENTS*</u>
Na	MC06W2, MC06W3, MC06X0, MC06X1, MC06X8	J			SD (12%)
Tl	MC06T4, MC06T5, MC06T6, MC06W4		UL	Low	PBN (– 0.480 J mg/Kg) MSL (49%)
V	MC06T4, MC06T5, MC06T6, MC06W4	J			SD (11%)
Zn	MC06T4, MC06T5, MC06T6, MC06W4	J			DUP (53%) MSH (132%)
	MC06W2, MC06W3, MC06X0, MC06X1, MC06X8	B		High	FB (13.9 J ug/L)

* See explanation of comments in Table 1B

TABLE 1B
CODES USED IN COMMENTS COLUMN

FB	=	The field blank had reported results greater than MDLs [results are in parenthesis]. Reported results which are less than five times (<5X) the blank concentration may be biased high.
SD	=	Percent differences (%Ds) for the ICP serial dilution analysis were outside the (10%) control limit. [%Ds are in parenthesis]. Positive results are estimated.
PB	=	Preparation blanks had reported results greater than MDLs [results are in parenthesis]. Reported results which are less than five times (<5X) the blank concentration may be biased high.
MSL	=	Matrix spike recoveries were low (>30 % but < 75%) [%recoveries are in parenthesis]. Reported results and quantitation may be biased low.
>MDL <CRQL	=	Reported results are between MDL and CRQL and are considered estimated.
CCB	=	Continuing calibration blanks had reported results greater than the MDLs [results are in parenthesis]. Reported results which are less than five times (<5X) the blank concentration may be biased high.
DUP	=	The relative percent difference for the laboratory duplicate analysis was outside the control limit (35% RPD, $\pm 2XCRQL$) (RPDs are in parenthesis). Reported results limits are estimated.
CBN	=	Continuing calibration blanks had reported negative results greater than absolute value of MDLs [results are in parenthesis]. Reported results which are less than two times (<2X) the absolute value of the blank and quantitation limits may be biased low.
PBN	=	Preparation blanks had reported negative results greater than absolute value of MDLs [results are in parenthesis]. Reported results which are less than two times (<2X) the absolute value of the blank and quantitation limits may be biased low.

APPENDIX A
Glossary of Qualifier Codes

GLOSSARY OF DATA QUALIFIER CODES (INORGANIC)

CODES RELATED TO IDENTIFICATION

(confidence concerning presence or absence of analytes):

U = Not detected. The associated number indicates approximate sample concentration necessary to be detected.

(NO CODE) = Confirmed identification.

B = Not detected substantially above the level reported in laboratory or field blanks.

R = Unusable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result.

N = Tentative identification. Consider present.
Special methods may be needed to confirm its presence or absence in future sampling efforts.

CODES RELATED TO QUANTITATION

(can be used for both positive results and sample quantitation limits):

J = Analyte Present. Reported value may not be accurate or precise.

K = Analyte present. Reported value may be biased high. Actual value is expected to be lower.

L = Analyte present. Reported value may be biased low.
Actual value is expected to be higher.

UJ = Not detected, quantitation limit may be inaccurate or imprecise.

UL = Not detected, quantitation limit is probably higher.

OTHER CODES

Q = No analytical result.

APPENDIX B
Data Summary Forms

DATA SUMMARY FORM: INORGANIC

Page 1 of 3

Case #: 38651

SDG : MC06T4

Number of Soil Samples : 4

Site :

TANK CAR CORPORATION OF AMERICA

Number of Water Samples : 7

Lab. :

CHEM

Sample Number :		MC06T4		MC06T5		MC06T6		MC06W4			
Sampling Location :		TCCA-SS-18		TCCA-SS-13		TCCA-SS-19		TCCA-WA-01			
Field QC :				Dup. of MC06T6		Dup. of MC06T5					
Matrix :		Soil		Soil		Soil		Soil			
Units :		mg/Kg		mg/Kg		mg/Kg		mg/Kg			
Date Sampled :		6/10/2009		6/10/2009		6/10/2009		6/11/2009			
Time Sampled :		10:57		11:08		11:04		16:00			
%Solids :		78.4		81.0		80.5		78.0			
Dilution Factor :		1.0		1.0		1.0		1.0			
ANALYTE	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	20	17700		14000		15300		8690			
ANTIMONY	6	1.1	J		UL	1.0	J	2.0	J		
ARSENIC	1	6.8		5.9		6.1		3.7			
BARIUM	20	106		101		104		181			
BERYLLIUM	0.5	1.6		1.0		1.1		9.5			
CADMIUM	0.5							0.20	J		
CALCIUM	500	1720		3050		2910		9510			
CHROMIUM	1	31.9		20.7		22.5		17.8			
COBALT	5	47.5	J	9.2	J	9.9	J	27.8	J		
COPPER	2.5	33.9		17.5		17.3		246			
IRON	10	34500		21300		22000		50700			
LEAD	1	147	J	29.4	J	29.1	J	75.0	J		
MAGNESIUM	500	3960		2680		2850		8850			
MANGANESE	1.5	1400	J	667	J	727	J	3400	J		
MERCURY	0.1	0.054	J	0.055	J	0.081	J	0.045	J		
NICKEL	4	28.1		11.3		12.0		41.9			
POTASSIUM	500	2650		839		939		2780			
SELENIUM	3.5										
SILVER	1		UL		UL		UL	0.13	J		
SODIUM	500	176	J	104	J	136	J	668	J		
THALLIUM	2.5		UL		UL		UL		UL		
VANADIUM	5	50.6	J	34.2	J	37.1	J	19.6	J		
ZINC	6	105	J	57.1	J	55.9	J	1870	J		

CRQL = Contract Required Quantitation Limit

SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits: (CRQL * Dilution Factor) / (%Solids/ 100)

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DATA SUMMARY FORM: INORGANIC

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Case #: 38651

SDG : MC06T4

Site :

TANK CAR CORPORATION OF AMERICA

Lab. :

CHEM

Sample Number :		MC06W2		MC06W3		MC06W6		MC06X0		MC06X1	
Sampling Location :		TCCA-MW-04		TCCA-MW-05		TCCA-FB-01		TCCA-MW-06		TCCA-MW-07	
Field QC :						Field Blank		Dup. of MC06X1		Dup. of MC06X0	
Matrix :		Water		Water		Water		Water		Water	
Units :		ug/L		ug/L		ug/L		ug/L		ug/L	
Date Sampled :		6/11/2009		6/11/2009		6/11/2009		6/12/2009		6/12/2009	
Time Sampled :		10:15		15:36		17:34		08:45		08:57	
Dilution Factor :		1.0		1.0		1.0		1.0		1.0	
ANALYTE	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	200	1380	J	650	J	32.9	B	57.1	B	29.1	B
ANTIMONY	60										
*ARSENIC	10	2.9	B	3.5	B			4.6	J	3.3	J
BARIUM	200	73.0	J	64.4	J			41.4	J	41.6	J
BERYLLIUM	5	1.3	J								
*CADMIUM	5										
CALCIUM	5000	57800		11300		129	J	75800		76300	
*CHROMIUM	10	2.7	J					2.9	J	2.2	J
COBALT	50	5.7	J	6.8	J						
COPPER	25										
IRON	100	10500	J	6860	J	45.2	B	278	J	161	B
*LEAD	10		UL		UL		UL		UL		UL
MAGNESIUM	5000	36100		3980	J			30900		31100	
MANGANESE	15	1750	L	7800	L	3.3	J	135	L	129	L
MERCURY	0.2										
*NICKEL	40	11.1	J	9.2	J						
POTASSIUM	5000	12300		13500				4580	J	4800	J
SELENIUM	35										
SILVER	10								UL		UL
SODIUM	5000	8750	J	93400	J	37.8	B	78600	J	80800	J
THALLIUM	25										
VANADIUM	50										
ZINC	60	45.3	B	38.8	B	13.9	J	10.9	B	8.4	B

CRQL = Contract Required Quantitation Limit

*Action Level Exists

SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits: (CRQL * Dilution Factor)

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DATA SUMMARY FORM: INORGANIC

Page 3 of 3

Case #: 38651

SDG : MC06T4

Site :

TANK CAR CORPORATION OF AMERICA

Lab. :

CHEM

Sample Number :		MC06X2		MC06X8							
Sampling Location :		TCCA-RB-01		TCCA-SW-01							
Field QC :		Rinsate Blank									
Matrix :		Water		Water							
Units :		ug/L		ug/L							
Date Sampled :		6/12/2009		6/15/2009							
Time Sampled :		11:57		10:22							
Dilution Factor :		1.0		1.0							
ANALYTE	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	200	17.3	J	636	J						
ANTIMONY	60										
*ARSENIC	10			4.1	J						
BARIUM	200			17.3	J						
BERYLLIUM	5										
*CADMIUM	5										
CALCIUM	5000	115	B	15200							
*CHROMIUM	10			1.5	J						
COBALT	50										
COPPER	25			19.0	J						
IRON	100			1410	J						
*LEAD	10		UL	4.7	J						
MAGNESIUM	5000			6190							
MANGANESE	15		UL	107	L						
MERCURY	0.2										
*NICKEL	40										
POTASSIUM	5000			3180	J						
SELENIUM	35										
SILVER	10		UL		UL						
SODIUM	5000		UL	4930	J						
THALLIUM	25										
VANADIUM	50										
ZINC	60			17.3	B						

CRQL = Contract Required Quantitation Limit

*Action Level Exists

SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits: (CRQL * Dilution Factor)

Revised 09/99

APPENDIX C

Chain of Custody (COC) Records

EPA USEPA Contract Laboratory Program
Inorganic Traffic Report & Chain of Custody Record

Case No: 38651
 DAS No: R

Region: 3		Date Shipped: 6/11/2009		Chain of Custody Record	
Project Code: CT4593		Carrier Name: FedEx		Sampler Signature:	
Account Code: PAN000306553		Airbill: 857499847980		Relinquished By (Date / Time)	
Spill ID: AGX		Shipped to: ChemTech Consulting Group (CHEM)		Received By (Date / Time)	
Site Name/State: TCCA June 09 Metals/PA		284 Sheffield St.			
Project Leader: Jordan Vaughn		Mountainside NJ 07092			
Action:		(908) 789-8900			
Sampling Co: Tetra Tech					

INORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	ORGANIC SAMPLE No.	QC Type
MC06T4	Soil (0"-12")/ Jordan Vaughn	L/G	Met+Hg (14)	TCCA2107, TCCA2108, TCCA2109 (3)	TCCA-SS-18	S: 6/10/2009 10:57		MS/MSD
MC06T5	Soil (0"-12")/ Jordan Vaughn	L/G	Met+Hg (14)	TCCA2110 (1)	TCCA-SS-13	S: 6/10/2009 11:08		Duplicate of TCCA-SS-19
MC06T6	Soil (0"-12")/ Jordan Vaughn	L/G	Met+Hg (14)	TCCA2111 (1)	TCCA-SS-19	S: 6/10/2009 11:04		-
MC06W2	Ground Water/ Jordan Vaughn	L/G	ICPMS-T (14)	TCCA2135 (HNO3), TCCA2136 (HNO3), TCCA2137 (HNO3) (3)	TCCA-MW-04	S: 6/11/2009 10:15		MS/MSD
MC06W3	Ground Water/ Jordan Vaughn	L/G	ICPMS-T (14)	TCCA2138 (HNO3) (1)	TCCA-MW-05	S: 6/11/2009 15:36		-
MC06W4	Waste/ Jordan Vaughn	L/G	Met+Hg (14)	TCCA2139 (1)	TCCA-WA-01	S: 6/11/2009 16:00		Waste Soil
MC06W6	Ground Water/ Jordan Vaughn	L/G	ICPMS-T (14)	TCCA2140 (HNO3) (1)	TCCA-FB-01	S: 6/11/2009 17:34		Field Blank

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key: ICPMS-T = ICP Metals & Hg - Total, Met+Hg = ICP Metals + Hg soil	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced? _____

TR Number: 3-023200937-061109-0002

PR provides preliminary results. Requests for preliminary results will increase analytical costs.
 Send Copy to: Sample Management Office, Attn: Heather Bauer, CSC, 15000 Conference Center Dr., Chantilly, VA 20151-3819; Phone 703/818-4200; Fax 703/818-4602

REGION COPY



USEPA Contract Laboratory Program Inorganic Traffic Report & Chain of Custody Record

Case No: 38651

R

DAS No:

Region: 3	Date Shipped: 6/15/2009	Carrier Name: FedEx	Shipped to: ChemTech Consulting Group (CHEM)	Relinquished By	Received By	Sampler Signature:
Project Code: CT4593	Airbill: 857499847979		284 Sheffield St.	(Date / Time)	(Date / Time)	
Account Code: PAN000306553			Mountainside NJ 07092			
CERCLIS ID: AGX			(908) 789-8900	1		
Spill ID: TCCA June 09 Metals/PA				2		
Site Name/State: Jordan Vaughn				3		
Project Leader: Jordan Vaughn				4		
Action: Tetra Tech						
Sampling Co: Tetra Tech						

INORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNOVER	PRESERVATIVE/ Bottles	TAG No./	STATION LOCATION	SAMPLE COLLECT DATE/TIME	ORGANIC SAMPLE No.	QC Type
MC06X0	Ground Water/ Jordan Vaughn	L/G	ICPMS-T (14)	TCCA2152 (HNO3) (1)		TCCA-MW-06	S: 6/12/2009 8:45		
MC06X1	Ground Water/ Jordan Vaughn	L/G	ICPMS-T (14)	TCCA2153 (HNO3) (1)		TCCA-MW-07	S: 6/12/2009 8:57		Duplicate of TCCA-MW-06
MC06X2	Ground Water/ Jordan Vaughn	L/G	ICPMS-T (14)	TCCA2154 (HNO3) (1)		TCCA-RB-01	S: 6/12/2009 11:57		Rinsate blank
MC06X8	Surface Water/ Jordan Vaughn	L/G	ICPMS-T (14)	TCCA2174 (HNO3) (1)		TCCA-SW-01	S: 6/15/2009 10:22		

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key: ICPMS-T = ICP Metals & Hg - Total	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced? _____

TR Number: 3-023200937-061509-0001

PR provides preliminary results. Requests for preliminary results will increase analytical costs.

Send Copy to: Sample Management Office, Attn: Heather Bauer, CSC, 15000 Conference Center Dr., Chantilly, VA 20151-3819; Phone 703/818-4200; Fax 703/818-4602

REGION COPY

U.S. EPA Region III Analytical Request Form

Revision 10.06

38651

875 6-3-09

ASQAB USE ONLY	
RAS#	CT4593
DAS#	Analytical TAT
NSF#	14 DAYS

Date: 6/2/09		Site Activity: Removal Site Evaluations <i>Assessment</i>	
Site Name: Tank Car Corporation of America		Street Address: 1725 Walnut Ave	
City: Orland	State: PA	Latitude:	Longitude:
Program: Superfund	Acct. #: 2009 T03 N 302DC6C A3GXRS00	CERCLIS #: <i>PAN600 306 5553</i>	
Site ID:	Spill ID: A3GX	Operable Unit:	
Site Specific QA Plan Submitted: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes		Title: START3 QAPP	Date Approved: November 2006
EPA Project Leader: Michael Towle	Phone#: 215-814-3272	Cell Phone #:	E-mail: towle.michael@epa.gov
Request Preparer: JOSHUA COPE	Phone#: 610-364-2130	Cell Phone #:	E-mail: Joshua.cope@ttemi.com
Site Leader: Jordan Vaughn	Phone#: 610-364-2141	Cell Phone #:	E-mail: Jordan.vaughn@ttemi.com
Contractor: Tetra Tech EM Inc			
#Samples 13	Matrix: water	Parameter: TCL VOC	Method: SOM01.2 <i>30691</i>
#Samples 11	Matrix: water	Parameter: TCL SVOC	Method: SOM01.2 <i>30692</i>
#Samples 11	Matrix: water	Parameter: TAL Metals & Hg	Method: ILM05.4 ICPAES & Hg <i>30695</i>
#Samples 4	Matrix: soil	Parameter: TCL SVOC	Method: SOM01.2 <i>30693</i>
#Samples 6	Matrix: soil	Parameter: TAL Metals & Hg	Method: ILM05.4 ICPAES & Hg <i>30694</i>
Ship Date From: 6/10/09		Ship Date To: 6/12/09	Inorg. Validation Level IM2
Unvalidated Data Requested: <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes		If Yes, TAT Needed: <input checked="" type="checkbox"/> 14days <input type="checkbox"/> 7days <input type="checkbox"/> 48hrs <input type="checkbox"/> 24hrs <input type="checkbox"/> Other (Specify) <i>PR's by ESA7</i>	
Validated Data Package Due: <input type="checkbox"/> 42 days <input checked="" type="checkbox"/> 30 days <input type="checkbox"/> 21days <input type="checkbox"/> 14 days <input type="checkbox"/> Other (Specify) <i>14/10</i>			
Electronic Data Deliverables Required: <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes (EDDs will be provided in Region 3 EDD Format)			
Special Instructions: See attached Required Limits and CRQL/CRDLs Needed. * Analyze by ILM05.4 ICPAES & Hg. Report results in ug/wipe.			

APPENDIX D

Laboratory Case Narrative

USEPA - CLP

COVER PAGE

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW08065Lab Code: CHEM Case No.: 38651 NRAS No.: _____ SDG No.: MC06T4SOW No.: ILM05.4

EPA Sample No.	Lab Sample ID
<u>MC06T4</u>	<u>A3147-01</u>
<u>MC06T4D</u>	<u>A3147-02</u>
<u>MC06T4S</u>	<u>A3147-03</u>
<u>MC06T5</u>	<u>A3147-04</u>
<u>MC06T6</u>	<u>A3147-05</u>
<u>MC06W2</u>	<u>A3147-06</u>
<u>MC06W2D</u>	<u>A3147-07</u>
<u>MC06W2S</u>	<u>A3147-08</u>
<u>MC06W3</u>	<u>A3147-09</u>
<u>MC06W4</u>	<u>A3147-10</u>
<u>MC06W6</u>	<u>A3147-11</u>
<u>MC06X0</u>	<u>A3147-12</u>
<u>MC06X1</u>	<u>A3147-13</u>
<u>MC06X2</u>	<u>A3147-14</u>
<u>MC06X8</u>	<u>A3147-15</u>
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

		ICP-AES	ICP-MS
Were ICP-AES and ICP-MS interelement corrections applied?	(Yes/No)	<u>YES</u>	_____
Were ICP-AES and ICP-MS background corrections applied?	(Yes/No)	<u>YES</u>	_____
If yes, were raw data generated before application of background corrections?	(Yes/No)	<u>NO</u>	_____

Comments:

THE "E" QUALIFIERS ON FORM I AND VIII FOR ALUMINUM, IRON, SODIUM AND VANADIUM INDICATE CHEMICAL OR PHYSICAL INTERFERENCE EFFECTS, WHICH WERE SUSPECTED DURING THOSE ELEMENTS' ANALYSES ONLY.

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

Signature: Mildred Reyes
Date: 6/29/09Name: MILDRED V. REYES
Title: DOCUMENT CONTROL OFFICER

COVER PAGE

ILM05.4

CHEMTECH
284 Sheffield Street
Mountainside, NJ 07092

SDG NARRATIVE

USEPA
SDG # MC06T4
CASE # 38651
CONTRACT # EPW08065
LAB NAME: CHEMTECH CONSULTING GROUP
LAB CODE: CHEM
CHEMTECH PROJECT # A3147

A. Number of Samples and Date of Receipt

4 Soil & 7 Water Samples were delivered to the laboratory intact on 06/12/09.

B. Parameters

Test requested for Metals CLP Full (by ICP-AES) & Hg.

C. Cooler Temp

Indicator Bottle: Presence/Absence
Cooler: 3°C

D. Detail Documentation (related to Sample Handling Shipping, Analytical Problem, Temp of Cooler etc):

E. Corrective Action taken for above:

F. Analytical Techniques:

All analyses were based on CLP Methodology by method ILM05.4

G. Calculation:

Calculation example for ICP-AES Soil Sample:

Conversion of Results from mg/L or ppm to mg/kg (Dry Weight Basis):

Results reported in Mg/Kg = (Result in mg/L or ppm for ICP-AES) X 1000 X Fraction of % Solid (100/
% Solid) X Dilution Factor (if any) X Fraction of Sample Amount Taken in ICP-Soil Prep.

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284 Sheffield Street

Mountainside, NJ 07092

Example of Fraction of Sample Amount Taken in ICP-AES Soil Prep = $1/10$ (1.0×10 or 0.50×20)

(if 1.0 g of sample taken during Digestion and the Final Volume was made to 100 ml or 0.5 g to Final Volume 50ml)

Or

Example of Fraction of Sample Amount Taken in ICP-AES Soil Prep = $1/10.2$ (1.02×10 or 0.51×20)

(if 1.02 g of sample taken during Digestion and the Final Volume was made to 100 ml or 0.51 g to Final Volume 50ml)

Etc.

Calculation example for ICP-AES Water Sample:

Results reported in Ug/L = Results in ppm $\times 1000 \times$ Dilution Factor (if any) \times Fraction of Sample Amount Taken in ICP Water- Prep

Fraction of Sample Amount Taken in ICP Water- Prep = $100/100$ or $50/50 = 1$
(if 100 ml Initial Volume taken and Final Volume was made to 100 ml or 50 ml Initial Volume and Final Volume made to 50 ml in ICP-AES Water Digestion procedure)

Calculation example for Hg Soil Sample:

Conversion of Results from ppb to mg/kg (Dry Weight Basis):

Results reported in Mg/Kg = (Result in ppb for Hg) \times Fraction of % Solid ($100/\%$ Solid) \times Dilution Factor (if any) \times Fraction of Sample Amount Taken in Prep.

Example of Fraction of Sample Amount Taken in Hg Soil Prep = $1/2$ (0.2×10)
(if 0.2 g of sample taken during Digestion and the Final Volume was made to 100 ml)

Or

Example of Fraction of Sample Amount Taken in Hg Soil Prep = $1/2.1$ (0.21×10)
(if 0.21 g of sample taken during Digestion and the Final Volume was made to 100 ml)

Etc.

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Calculation example for Hg Water Sample:

Results reported in Ug/L = Results in ppb X Dilution Factor (if any) X Fraction of Sample Amount Taken in Water Hg-Prep.

Fraction of Sample Amount Taken in Water Hg-Prep = $100/100 = 1$
(if 100 ml Initial Volume taken and made it to Final Volume as 100 ml)

H. QA/ QC

Calibrations met requirements. Interference check met requirements. Blank analyses did not indicate any presence of contamination. Laboratory Control sample was within control limits. Spike sample did meet requirements except for Antimony, Manganese, Thallium & Zinc. Duplicate sample did meet requirements except for the Barium, Cobalt, Copper, Lead, Manganese, Nickel & Zinc. Serial Dilution did meet requirements except for Aluminum, Iron, Sodium & Vanadium.

I certify that the data package is in compliance with the terms and conditions of the contract both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Director or his designee, as verified by the following signature.

Signature Mildred V. Reyes

Name: Mildred V. Reyes

Date 6/29/09

Title: Document Control Officer

CHEMTECH

QC: LB44786

A3147

PERCENT SOLIDS

ANALYST: PO
DATE: 06/16/09

Lab ID	Client ID	Dish #	Dish Weight (g)	Dish Wt + Sample (g)	Dish Wt + Dry Sample (g)	% Solids
A3147-01	MC06T4	1	1.16	9.14	7.41	78.4
A3147-02	MC06T4D	2	1.17	9.11	7.3	77.3
A3147-03	MC06T4S	3	NR	NR	NR	NR
A3147-04	MC06T5	4	1.17	9.03	7.53	81.0
A3147-05	MC06T6	5	1.17	9.13	7.57	80.5
A3147-10	MC06W4	6	1.16	9.04	7.3	78.0
BLANK	DISH	B1	1.17	1.17	1.17	0.0

 OVEN TEMP: 106°C
 TIME IN: 06/15/09 19:00 at
 TIME OUT: 06/16/09 10:00 am

SAMPLE LOG-IN SHEET

Lab Name CHEMTECH CONSULTING GROUP

Page 1 of 1

Received By (Print Name) <u>mayur CHRIS GREB</u>		Log-in Date <u>6/12/2009</u>	
Received By (Signature) <u>CHRIS GREB</u>			
Case Number <u>38651</u>	Sample Delivery Group No. <u>MC06T4</u>	NRAS Number <u>N/A</u>	

Remarks: 1. Custody Seal(s) <u>Present/Absent*</u> <u>Intact/Broken</u> 2. Custody Seal Nos. <u>N/A</u> 3. Traffic Reports/Chain Of Custody Records or Packing Lists <u>Present/Absent*</u> 4. Airbill <u>Airbill/Sticker</u> <u>Present/Absent*</u> 5. Airbill No. <u>857499847980</u> 6. Sample Tags <u>Present/Absent*</u> Sample Tag # <u>Listed/Not Listed</u> <u>On TR/ Chain-of-Custody</u> 7. Sample Condition <u>Intact/Broken*/Leaking</u> 8. Cooler Temperature Indicator Bottle <u>Present/Absent*</u> 9. Cooler Temperature <u>30</u> 10. Does information on custody records, traffic reports, and sample tags agree? <u>Yes/No*</u> 11. Date Received at Lab <u>6-12-09</u> 12. Time Received <u>9:15</u>	Corresponding				Remarks: Condition of Sample shipment, etc.
	EPA Sample #	Aqueous Sample pH	Sample Tag #	Assigned Lab #	
	MC06T4	<u>N/A</u>	TCC21 <u>07</u>	A3147-01	
	MC06T4D	<u> </u>	TCC21 <u>08</u>	A3147-02	
	MC06T4S	<u> </u>	TCC21 <u>09</u>	A3147-03	
	MC06T5	<u> </u>	TCC21 <u>10</u>	A3147-04	
	MC06T6	<u> </u>	TCC21 <u>11</u>	A3147-05	
	MC06W2	<u><2</u>	TCC21 <u>35</u>	A3147-06	
	MC06W2D	<u> </u>	TCC21 <u>36</u>	A3147-07	
	MC06W2S	<u> </u>	TCC21 <u>37</u>	A3147-08	
	MC06W3	<u>N/A</u>	TCC21 <u>38</u>	A3147-09	
	MC06W4	<u> </u>	TCC21 <u>39</u>	A3147-10	
	MC06W6	<u><2</u>	TCC21 <u>40</u>	A3147-11	
	<div style="position: absolute; top: 0; left: 0; width: 100%; height: 100%; border: 1px solid black; transform: rotate(-45deg); opacity: 0.5;"></div>				

Sample Transfer	
Fraction <u>7</u>	Fraction <u>Metals</u>
Area # <u>7</u>	Area # <u>R31</u>
By <u>CHRIS GREB</u>	By <u>CHRIS GREB</u>
On <u>6-12-09</u>	On <u>6-12-09</u>

* Contact SMO and attach record of resolution

Reviewed By <u>SNEHAC MEHTA</u>	Logbook No. <u></u>
Date <u>6-12-09</u>	Logbook Page <u></u>

SAMPLE LOG-IN SHEET

Lab Name CHEMTECH CONSULTING GROUP

Page 1 of 1

Received By (Print Name) <u>mayur CHRTJ GREB</u>		Log-in Date 6/16/2009												
Received By (Signature) <u>CHRTJ GREB</u>														
Case Number 38651	Sample Delivery Group No. MC06T4	NRAS Number <u>N/A</u>												
Remarks: 1. Custody Seal(s) <u>Present</u> Absent* <u>Intact</u> Broken 2. Custody Seal Nos. <u>N/A</u> 3. Traffic Reports/Chain Of Custody Records or Packing Lists <u>Present</u> Absent* 4. Airbill <u>Airbill</u> Sticker <u>Present</u> Absent* 5. Airbill No. <u>857499847479</u> 6. Sample Tags <u>Present</u> Absent* Sample Tag # <u>Listed</u> Not Listed <u>On TR/ Chain-of-Custody</u> 7. Sample Condition <u>Intact</u> Broken*/Leaking 8. Cooler Temperature Indicator Bottle <u>Present</u> Absent* 9. Cooler Temperature <u>4C</u> 10. Does information on custody records, traffic reports, and sample tags agree? <u>Yes</u> No* 11. Date Received at Lab <u>6/16/09</u> 12. Time Received <u>8:55</u>	Corresponding													
	EPA Sample #	Aqueous Sample pH	Sample Tag #	Assigned Lab #	Remarks: Condition of Sample shipment, etc.									
	MC06X0	< 2	TCC21 52	A3147-12	Intact									
	MC06X1		TCC21 53	A3147-13										
	MC06X2		TCC21 54	A3147-14										
	MC06X8		TCC21 74	A3147-15										
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td colspan="2" style="text-align:center;">Sample Transfer</td> </tr> <tr> <td style="width:50%;">Fraction <u>METHS</u></td> <td style="width:50%;">Fraction <u> </u></td> </tr> <tr> <td>Area # <u>P31</u></td> <td>Area # <u> </u></td> </tr> <tr> <td>By <u>CHRTJ GREB</u></td> <td>By <u> </u></td> </tr> <tr> <td>On <u>6/16/09</u></td> <td>On <u> </u></td> </tr> </table>					Sample Transfer		Fraction <u>METHS</u>	Fraction <u> </u>	Area # <u>P31</u>	Area # <u> </u>	By <u>CHRTJ GREB</u>	By <u> </u>	On <u>6/16/09</u>	On <u> </u>
Sample Transfer														
Fraction <u>METHS</u>	Fraction <u> </u>													
Area # <u>P31</u>	Area # <u> </u>													
By <u>CHRTJ GREB</u>	By <u> </u>													
On <u>6/16/09</u>	On <u> </u>													
* Contact SMO and attach record of resolution														
Reviewed By <u>DR. NAC MENA</u>		Logbook No. <u> </u>												
Date <u>6-16-09</u>		Logbook Page <u> </u>												