



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

DATE : June 3, 2009

SUBJECT: Region III Data QA Review

FROM : Colleen Walling *DS for CW*
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 # 38495; SDG # MC0664). 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#: 05055

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DATE: May 28, 2009

SUBJECT: Inorganic Data Validation (IM2 Level)
Case: 38495
SDG: MC0664
Site: Tank Car Corporation of America

FROM: Donald M. Brown *DMB*
Inorganic Data Reviewer

g Mahboobeh Mecanic *RWC*
Senior Oversight Chemist

TO: Colleen Walling
ESAT Region 3 Project Officer

OVERVIEW

Case 38495, Sample Delivery Group (SDG) MC0664, consisted of one (1) soil sample analyzed for total metals and cyanide (CN⁻) and seventeen (17) soil samples analyzed for total metals. All samples were analyzed by Chemtech Consulting Group (CHEM). The sample set contained no field Quality Control (QC) samples. 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 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.

The field (MC0651) and rinsate (MC0652) blanks associated with the samples in this SDG were analyzed in a separate SDG (MC0651). The results for these blanks are included in Appendix C.

Data in this case have been impacted by outliers present in the technical holding time and laboratory, field and rinsate blanks as well as the matrix spike, laboratory control sample and ICP serial dilution analyses. Details of 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

The aqueous technical holding time of fourteen (14) days from time of sample collection to sample analysis for CN^- has been exceeded by one (1) day for sample MC0664. Although no technical holding time has been established for soil samples, the aqueous holding time was applied by the reviewer. The positive result for this analyte in this sample may be biased low. The "L" qualifier for this outlier has been superseded by "J" on the DSF.

Continuing calibration (CCB), field (FB) and/or rinsate (RB) blanks had reported results greater than the Method Detection Limits (MDLs) for the analytes listed below. Positive results for these analytes in affected samples which are less than or equal to five times ($\leq 5X$) the blank concentrations may be biased high and have been qualified "B" on the DSFs.

<u>Blank</u>	<u>Affected Analytes</u>
CCB	cadmium (Cd)
FB	thallium (Tl)
RB	sodium (Na)

A CCB had a negative result greater than the absolute value of the MDL for mercury (Hg). The positive result for this analyte in sample MC0667 which is less than two times ($< 2X$) the absolute value of the blank concentration may be biased low. The "L" qualifier for this outlier in this sample has been superseded by "J" on the DSF. Quantitation limits for this analyte in affected samples may be biased low and have been qualified "UL" on the DSFs.

Matrix spike recoveries were low ($< 75\%$ but $> 30\%$) for antimony (Sb) and selenium (Se). Low recoveries may be attributed to matrix interferences or analyte lost during the digestion process. Positive results for these analytes in affected samples 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.

The solid laboratory control sample (LCS) result was outside the lower control limit for barium (Ba). Positive results for this analyte in all samples may be biased low. The "L" qualifier for this outlier has been superseded by "J" on the DSFs.

Percent differences (%Ds) in the ICP serial dilution analysis were outside the control limit ($> 10\%$) for Ba, calcium (Ca), chromium (Cr), iron (Fe), lead (Pb), manganese (Mn) and nickel (Ni). Positive results for these analytes in all samples are estimated due to possible matrix interferences and have been qualified "J" on the DSFs.

NOTES

Reported results between MDLs and CRQLs were qualified "J" on the DSFs unless superseded by "B".

Samples MC0667 and MC0668 were reanalyzed at a ten-fold (10X) dilution in order to bring the concentration of zinc (Zn) within the linear range of the instrument. Results for this analyte in these samples were reported from the diluted analyses and annotated with a "+" on the DSF.

Data for Case 38495, SDG MC0664, were reviewed in accordance with the National Functional Guidelines for Evaluating Inorganic Analyses with Modifications for use within Region III.

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

DCN: 38495.MC0664IM2.doc

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

Case 38495, SDG MC0664

<u>ANALYTE</u>	<u>SAMPLES AFFECTED</u>	<u>POSITIVE VALUES</u>	<u>NON- DETECTED VALUES</u>	<u>BIAS</u>	<u>COMMENTS*</u>
Sb	MC06D8, MC06D9, MC06E1, MC06E4, MC06E5, MC06E6, MC06E7, MC06E8, MC06F0, MC0664	J			>MDL<CRQL MSL (61%)
	MC06E0, MC06E2, MC06E3, MC06E9, MC0665, MC0666, MC0667, MC0668		UL	Low	MSL (61%)
Ba	All Samples	J			ISD (17%) LCSL (50%)
Cd	MC06E0	B		High	CCB (0.895 J µg/L)
	MC0666	B		High	CCB (0.477 J µg/L)
Ca	All Samples	J			ISD (11%)
Cr	All Samples	J			ISD (14%)
Fe	All Samples	J			ISD (13%)
Pb	All Samples	J			ISD (21%)
Mn	All Samples	J			ISD (13%)
Hg	MC0667	J			>MDL<CRQL CBN (-0.081 J µg/L)
	MC06D9, MC0665, MC0666, MC0668		UL	Low	CBN (-0.081 J µg/L)

* See explanation of comments in Table 1B

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

Case 38495, SDG MC0664

<u>ANALYTE</u>	<u>SAMPLES AFFECTED</u>	<u>POSITIVE VALUES</u>	<u>NON- DETECTED VALUES</u>	<u>BIAS</u>	<u>COMMENTS*</u>
Ni	All Samples	J			ISD (19%)
Se	MC06E0, MC06E1, MC0664	J			>MDL<CRQL MSL (71%)
	All Samples Except MC06E0, MC06E1, MC0664		UL	Low	MSL (71%)
Na	All Samples Except MC06E0, MC0665, MC0666, MC0667, MC0668	B		High	RB (564 J µg/L)
Tl	MC0664, MC0667, MC0668	B		High	FB (5.5 J µg/L)
CN ⁻	MC0664	J			>MDL<CRQL HT (1 day)

* See explanation of comments in Table 1B

TABLE 1B
CODES USED IN COMMENTS COLUMN

>MDL = <CRQL	Reported results are greater than MDLs but less than CRQLs and are considered estimated.
MSL =	Matrix spike recoveries were low (<75% but >30%) [% recoveries are in parenthesis]. Positive results and quantitation limits may be biased low.
ISD =	Percent differences (%Ds) in the ICP serial dilution analysis were outside the control limit (>10%) [%Ds are in parenthesis]. Positive results are estimated.
LCSL =	Solid laboratory control sample result was outside the lower control limit [% recovery is in parenthesis]. Positive results may be biased low.
CCB =	Continuing calibration blanks had results >MDLs [results are in parenthesis]. Positive results which are $\leq 5X$ the blank concentrations may be biased high.
CBN =	Continuing calibration blank had a negative result with an absolute value >MDL [result is in parenthesis]. The positive result which is <2X the absolute value of the blank concentration and quantitation limits may be biased low.
RB =	Rinsate blank had a result >MDL [result is in parenthesis]. Positive results which are $\leq 5X$ the blank concentration may be biased high.
FB =	Field blank had a result >MDL [result is in parenthesis]. Positive results which are $\leq 5X$ the blank concentration may be biased high.
HT =	Holding time was exceeded [# of days exceeded is in parenthesis]. The positive result may be biased low.

Appendix A

Glossary of Data 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 4

Case #: 38495

SDG : MC0664

Number of Soil Samples : 18

Site :

TANK CAR CORPORATION OF AMERICA

Number of Water Samples : 0

Lab. :

CHEM

Sample Number :		MC06D8		MC06D9		MC06E0		MC06E1		MC06E2	
Sampling Location :		TCCA-RSS-40		TCCA-RSS-41		TCCA-RSS-42		TCCA-RSS-43		TCCA-RSS-44	
Matrix :		Soil		Soil		Soil		Soil		Soil	
Units :		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Date Sampled :		4/30/2009		4/30/2009		4/30/2009		4/30/2009		4/30/2009	
Time Sampled :		11:06		11:09		11:11		11:14		11:21	
%Solids :		75.0		78.7		79.3		76.7		81.6	
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	20	18900		18100		13500		11600		15000	
ANTIMONY	6	1.6	J	1.4	J		UL	0.99	J		UL
ARSENIC	1	14.6		2.5		3.4		3.7		9.0	
BARIUM	20	328	J	85.3	J	111	J	111	J	274	J
BERYLLIUM	0.5	4.0		3.9		1.2		0.83		2.4	
CADMIUM	0.5	0.67				0.23	B			0.68	
CALCIUM	500	3660	J	796	J	9390	J	8230	J	4820	J
CHROMIUM	1	38.9	J	13.2	J	23.2	J	23.0	J	31.4	J
COBALT	5	15.2		20.1		9.9		7.9		12.7	
COPPER	2.5	189		30.5		28.6		26.8		109	
IRON	10	30900	J	49600	J	23800	J	18400	J	23300	J
LEAD	1	386	J	30.6	J	48.9	J	49.0	J	557	J
MAGNESIUM	500	12700		21200		8770		5540		7470	
MANGANESE	1.5	1190	J	2630	J	749	J	601	J	841	J
MERCURY	0.1	0.11	J		UL	0.061	J	0.047	J	0.11	J
NICKEL	4	34.6	J	23.1	J	15.7	J	12.5	J	23.5	J
POTASSIUM	500	1980		5190		2340		1500		1520	
SELENIUM	3.5		UL		UL	1.1	J	1.3	J		UL
SILVER	1	0.40	J	0.25	J					0.24	J
SODIUM	500	184	B	181	B	404	J	213	B	149	B
THALLIUM	2.5										
VANADIUM	5	36.1		27.7		35.9		32.0		32.9	
ZINC	6	1120		133		102		85.3		722	

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 #: 38495

SDG : MC0664

Site :

TANK CAR CORPORATION OF AMERICA

Lab. :

CHEM

Sample Number :	MC06E3	MC06E4	MC06E5	MC06E6	MC06E7						
Sampling Location :	TCCA-RSS-45	TCCA-RSS-46	TCCA-RSS-47	TCCA-RSS-48	TCCA-RSS-49						
Matrix :	Soil	Soil	Soil	Soil	Soil						
Units :	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg						
Date Sampled :	4/30/2009	4/30/2009	4/30/2009	4/30/2009	4/30/2009						
Time Sampled :	11:25	11:28	11:32	11:40	11:45						
%Solids :	68.4	71.1	78.1	74.3	73.6						
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	20	15500		18700		16800		18700		15000	
ANTIMONY	6		UL	1.4	J	1.5	J	1.3	J	1.2	J
ARSENIC	1	7.1		9.7		8.6		10.5		8.5	
BARIUM	20	114	J	127	J	152	J	142	J	211	J
BERYLLIUM	0.5	3.2		4.0		5.2		4.6		10.0	
CADMIUM	0.5	1.3		0.41	J	0.52	J	0.38	J	0.91	
CALCIUM	500	2320	J	2290	J	3000	J	2420	J	5720	J
CHROMIUM	4	37.0	J	36.0	J	38.0	J	35.6	J	62.6	J
COBALT	5	15.1		17.4		17.1		18.0		25.6	
COPPER	2.5	140		141		245		181		600	
IRON	10	25500	J	32700	J	36400	J	31800	J	33200	J
LEAD	1	158	J	191	J	260	J	250	J	440	J
MAGNESIUM	500	5380		13900		9920		14700		7230	
MANGANESE	1.5	885	J	1000	J	1140	J	1010	J	1400	J
MERCURY	0.1	0.15		0.092	J	0.091	J	0.12	J	0.096	J
NICKEL	4	27.5	J	31.6	J	42.7	J	43.7	J	75.7	J
POTASSIUM	500	1380		3120		1930		3220		1500	
SELENIUM	3.5		UL		UL		UL		UL		UL
SILVER	1	0.63	J	0.20	J	0.18	J	0.17	J	0.23	J
SODIUM	500	127	B	174	B	196	B	159	B	307	B
THALLIUM	2.5										
VANADIUM	5	34.8		37.0		36.5		35.4		34.2	
ZINC	6	614		696		1350		984		2950	

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 #: 38495

SDG : MC0664

Site :

TANK CAR CORPORATION OF AMERICA

Lab. :

CHEM

Sample Number :		MC06E8		MC06E9		MC06F0		MC0664		MC0665	
Sampling Location :		TCCA-RSS-50		TCCA-RSS-51		TCCA-RSS-52		TCCA-SB-32-0203		TCCA-SS-13	
Matrix :		Soil		Soil		Soil		Soil		Soil	
Units :		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Date Sampled :		4/30/2009		4/30/2009		4/30/2009		4/28/2009		4/29/2009	
Time Sampled :		11:48		11:51		11:54		09:40		14:39	
%Solids :		67.8		78.5		81.2		80.5		98.0	
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	20	18100		8500		15400		5590		39300	
ANTIMONY	6	1.2	J		UL	1.6	J	1.8	J		UL
ARSENIC	1	4.8		5.3		6.3		35.0		4.9	
BARIUM	20	126	J	81.7	J	198	J	60.5	J	582	J
BERYLLIUM	0.5	6.2		3.8		3.5		0.48	J	12.3	
CADMIUM	0.5	0.87		0.31	J	0.50	J	1.4		0.058	J
CALCIUM	500	2800	J	1690	J	1570	J	1250	J	21400	J
CHROMIUM	1	37.5	J	31.9	J	27.1	J	18.7	J	70.4	J
COBALT	5	26.5		13.8		22.5		2.7	J	25.0	
COPPER	2.5	273		183		96.4		43.2		1040	
IRON	10	39700	J	20000	J	32700	J	10200	J	55000	J
*LEAD	1	232	J	179	J	201	J	214	J	575	J
MAGNESIUM	500	13700		2510		11600		917		3590	
MANGANESE	1.5	1510	J	525	J	1170	J	62.2	J	408	J
MERCURY	0.1	0.23		0.052	J	0.068	J	0.52			UL
NICKEL	4	53.8	J	29.4	J	33.2	J	7.1	J	119	J
POTASSIUM	500	2960		612	J	3370		619		4720	
SELENIUM	3.5		UL		UL		UL	3.8	J		UL
SILVER	1	0.23	J			0.25	J			0.42	J
SODIUM	500	157	B	132	B	175	B	324	B	2400	
THALLIUM	2.5							0.55	B		
VANADIUM	5	35.9		23.9		33.5		17.7		67.8	
ZINC	6	1390		840		489		827		4260	
CYANIDE	2.5		Q		Q		Q	0.62	J		Q

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 #: 38495

SDG : MC0664

Site :

TANK CAR CORPORATION OF AMERICA

Lab. :

CHEM

Sample Number :	MC0666	MC0667	MC0668								
Sampling Location :	TCCA-SS-14	TCCA-SS-15	TCCA-SS-16								
Matrix :	Soil	Soil	Soil								
Units :	mg/Kg	mg/Kg	mg/Kg								
Date Sampled :	4/29/2009	4/29/2009	4/29/2009								
Time Sampled :	14:33	14:49	15:04								
%Solids :	97.6	93.0	95.3								
Dilution Factor :	1.0	1.0 / 10	1.0 / 10								
ANALYTE	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	20	40300		17200		18000					
ANTIMONY	6		UL		UL		UL				
ARSENIC	1	5.8		6.9		7.4					
BARIUM	20	617	J	592	J	413	J				
BERYLLIUM	0.5	12.0		59.4		64.0					
CADMIUM	0.5	0.17	B	1.2		0.62					
CALCIUM	500	20900	J	27400	J	23900	J				
CHROMIUM	1	73.8	J	158	J	114	J				
COBALT	5	26.1		92.2		81.8					
COPPER	2.5	875		3910		3150					
IRON	10	55800	J	91900	J	88800	J				
LEAD	1	531	J	1220	J	1250	J				
MAGNESIUM	500	3660		5270		4700					
MANGANESE	1.5	398	J	1620	J	1610	J				
MERCURY	0.1		UL	0.053	J		UL				
NICKEL	4	116	J	445	J	388	J				
POTASSIUM	500	4730		1270		1500					
SELENIUM	3.5		UL		UL		UL				
SILVER	1	0.39	J	1.7		1.3					
SODIUM	500	2520		3940		3130					
THALLIUM	2.5			0.72	B	0.64	B				
VANADIUM	5	70.5		21.3		21.8					
ZINC	6	4240		21600+		23700+					

CRQL = Contract Required Quantitation Limit

SEE NARRATIVE FOR CODE DEFINITIONS

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

Revised 09/99

+ = Result reported from diluted analysis.

Appendix C

Chain-of-Custody Records



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

Case No: 38495

DAS No:

R

Region: 3	Date Shipped: 4/30/2009	Carrier Name: FedEx	Shipped to: ChemTech Consulting Group (CHEM) 284 Sheffield St. Mountainside NJ 07092 (908) 789-8900
Project Code: CT4550	Airbill: 857499849743		
Account Code: PAN000306553			
CERCLIS ID: AGX			
Spill ID: TCCA April 09 Metals/PA			
Site Name/State: Jordan Vaughn			
Project Leader: Jordan Vaughn			
Action:			
Sampling Co: Tetra Tech			

Chain of Custody Record		Sampler Signature:
Relinquished By	(Date / Time)	Received By
1		
2		
3		
4		

INORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	ORGANIC SAMPLE No.	QC Type
MC06D2	Soil (0"-12")/ Jordan Vaughn	L/G	Met+Hg (14)	TCCA1952 (1)	TCCA-RSS-34	S: 4/30/2009 10:45		-
MC06D3	Soil (0"-12")/ Jordan Vaughn	L/G	Met+Hg (14)	TCCA1953 (1)	TCCA-RSS-35	S: 4/30/2009 10:49		-
MC06D4	Soil (0"-12")/ Jordan Vaughn	L/G	Met+Hg (14)	TCCA1954 (1)	TCCA-RSS-36	S: 4/30/2009 10:54		-
MC06D5	Soil (0"-12")/ Jordan Vaughn	L/G	Met+Hg (14)	TCCA1955 (1)	TCCA-RSS-37	S: 4/30/2009 10:58		-
MC06D6	Soil (0"-12")/ Jordan Vaughn	L/G	Met+Hg (14)	TCCA1956 (1)	TCCA-RSS-38	S: 4/30/2009 11:01		-
MC06D7	Soil (0"-12")/ Jordan Vaughn	L/G	Met+Hg (14)	TCCA1957 (1)	TCCA-RSS-39	S: 4/30/2009 11:03		-
MC06D8	Soil (0"-12")/ Jordan Vaughn	L/G	Met+Hg (14)	TCCA1958 (1)	TCCA-RSS-40	S: 4/30/2009 11:06		-
MC06D9	Soil (0"-12")/ Jordan Vaughn	L/G	Met+Hg (14)	TCCA1959 (1)	TCCA-RSS-41	S: 4/30/2009 11:09		-
MC06E0	Soil (0"-12")/ Jordan Vaughn	L/G	Met+Hg (14)	TCCA1960 (1)	TCCA-RSS-42	S: 4/30/2009 11:11		-
MC06E1	Soil (0"-12")/ Jordan Vaughn	L/G	Met+Hg (14)	TCCA1961 (1)	TCCA-RSS-43	S: 4/30/2009 11:14		-
MC06E2	Soil (0"-12")/ Jordan Vaughn	L/G	Met+Hg (14)	TCCA1962 (1)	TCCA-RSS-44	S: 4/30/2009 11:21		-

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

TR Number: 3-023200937-043009-0003

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: 38495
DAS No:

R

Region: 3	Date Shipped: 4/30/2009	Carrier Name: FedEx	Airbill: 857499849743	Shipped to: ChemTech Consulting Group (CHEM) 284 Sheffield St. Mountainside NJ 07092 (908) 789-8900
Project Code: CT4550	Carrier Name: FedEx	Airbill: 857499849743	Shipped to: ChemTech Consulting Group (CHEM) 284 Sheffield St. Mountainside NJ 07092 (908) 789-8900	
CERCLIS ID: PAN000306553	Carrier Name: FedEx	Airbill: 857499849743	Shipped to: ChemTech Consulting Group (CHEM) 284 Sheffield St. Mountainside NJ 07092 (908) 789-8900	
Spill ID: AGX	Carrier Name: FedEx	Airbill: 857499849743	Shipped to: ChemTech Consulting Group (CHEM) 284 Sheffield St. Mountainside NJ 07092 (908) 789-8900	
Site Name/State: TCCA April 09 Metals/PA	Carrier Name: FedEx	Airbill: 857499849743	Shipped to: ChemTech Consulting Group (CHEM) 284 Sheffield St. Mountainside NJ 07092 (908) 789-8900	
Project Leader: Jordan Vaughn	Carrier Name: FedEx	Airbill: 857499849743	Shipped to: ChemTech Consulting Group (CHEM) 284 Sheffield St. Mountainside NJ 07092 (908) 789-8900	
Action:	Carrier Name: FedEx	Airbill: 857499849743	Shipped to: ChemTech Consulting Group (CHEM) 284 Sheffield St. Mountainside NJ 07092 (908) 789-8900	
Sampling Co: Tetra Tech	Carrier Name: FedEx	Airbill: 857499849743	Shipped to: ChemTech Consulting Group (CHEM) 284 Sheffield St. Mountainside NJ 07092 (908) 789-8900	

INORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNDOWN	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	ORGANIC SAMPLE No.	QC Type
MC06E3	Soil (0"-12")/ Jordan Vaughn	L/G	Met+Hg (14)	TCCA1963 (1)	TCCA-RSS-45	S: 4/30/2009 11:25		
MC06E4	Soil (0"-12")/ Jordan Vaughn	L/G	Met+Hg (14)	TCCA1964 (1)	TCCA-RSS-46	S: 4/30/2009 11:28		
MC06E5	Soil (0"-12")/ Jordan Vaughn	L/G	Met+Hg (14)	TCCA1965 (1)	TCCA-RSS-47	S: 4/30/2009 11:32		
MC06E6	Soil (0"-12")/ Jordan Vaughn	L/G	Met+Hg (14)	TCCA1966 (1)	TCCA-RSS-48	S: 4/30/2009 11:40		
MC06E7	Soil (0"-12")/ Jordan Vaughn	L/G	Met+Hg (14)	TCCA1967 (1)	TCCA-RSS-49	S: 4/30/2009 11:45		
MC06E8	Soil (0"-12")/ Jordan Vaughn	L/G	Met+Hg (14)	TCCA1968 (1)	TCCA-RSS-50	S: 4/30/2009 11:48		
MC06E9	Soil (0"-12")/ Jordan Vaughn	L/G	Met+Hg (14)	TCCA1969 (1)	TCCA-RSS-51	S: 4/30/2009 11:51		
MC06F0	Soil (0"-12")/ Jordan Vaughn	L/G	Met+Hg (14)	TCCA1970 (1)	TCCA-RSS-52	S: 4/30/2009 11:54		MS/MSD

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

TR Number: 3-023200937-043009-0003

PK 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



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

Case No: 38495
DAS No: MC0664
SDG No: L

Date Shipped: 4/29/2009
Carrier Name: FedEx
Airbill: 857498858115
Shipped to: ChemTech Consulting
Group (CHEM)
284 Sheffield St.
Mountainside, NJ 07092
(908) 789-8999

Chain of Custody Record

Relinquished By	(Date / Time)	Sampler Signature	Received By	(Date / Time)
1 JNW	4/29/09 1:00 PM	[Signature]	SNENA MARIA	5:30 PM
2				
3				
4				

INORGANIC SAMPLE No. MC0664
MATRIX: Soil (>12")
CONC/ TYPE: M/G
ANALYSIS/ TURNAROUND: Met+CN+Hg (14)
TAG No./ PRESERVATIVE/ Bottles: TCCA1879 (1)
STATION LOCATION: TCCA-SB-32-0203
SAMPLE COLLECT DATE/TIME: S: 4/28/2009 9:40
FOR LAB USE ONLY
Sample Condition On Receipt

Shipment for Case Complete 7N	Sample(s) to be used for laboratory test:	Additional Sampler Signatures:	Cooler Temperature Upon Receipt: 30C	Chain of Custody Seal Number: N/A
Analysis Key: Met+CN+Hg = ICP metals & CN 4. Hg soil	Concentration: L = Low, M = Low Medium, H = High	Type/Designate: Composite = G, Grab = G		Custody Seal Intact? AD Shipweight Issd? 65

TR Number: 3-023300937-04290-0003

PR provides preliminary results. Request for preliminary results will increase analytical costs.
Send Copy to: Sample Management Office, Attn: Heather Bauer, CSC, 15000 Conference Center Dr., Chantilly, VA 20158-3619; Phone 703/818-4200; Fax 703/818-4200

LABORATORY COPY



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

Date Shipped: 4/29/2009	Case No: 38495
Carrier Name: FedEx	DAS No: MC0664
Airbill: 857499859115	SDG No: EPW06063
Shipped to: ChemTech Consulting Group (CHEM) 284 Sheffield St. Mountainside NJ 07092 (908) 789-8900	For Lab Use Only
	Lab Contract No:
	Unit Price:
	Transfer To:
	Lab Contract No:
	Unit Price:

INORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	ORGANIC SAMPLE No.	FOR LAB USE ONLY Sample Condition On Receipt
MC0665	Soil (0"-12") Jordan Vaughn	M/G	Met+Hg (14)	TCCA1880 (1)	TCCA-SS-13	S: 4/29/2009 14:39		
MC0666	Soil (0"-12") Jordan Vaughn	M/G	Met+Hg (14)	TCCA1881 (1)	TCCA-SS-14	S: 4/29/2009 14:33		
MC0667	Soil (0"-12") Jordan Vaughn	M/G	Met+Hg (14)	TCCA1882 (1)	TCCA-SS-15	S: 4/29/2009 14:49		
MC0668	Soil (0"-12") Jordan Vaughn	M/G	Met+Hg (14)	TCCA1883 (1)	TCCA-SS-16	S: 4/29/2009 15:04		
MC0669	Soil (0"-12") Jordan Vaughn	M/G	Met+Hg (14)	TCCA1884 (1)	TCCA-SS-17	S: 4/29/2009 15:10		

EPA sample: MC0669 IS IN SDN# MC0669

Shipment for Case Complete Y/N	Sample(s) to be used for laboratory QC: MC0669 = MS/MSD	Additional Sampler Signature(s):	Cooler Temperature Upon Receipt: 3°C	Chain of Custody Seal Number: N/A
Analysis Key: Met+Hg = ICP Metals + Hg soil.	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Custody Seal Intact? 1/2	Shipment Test? 1/2

TR Number: 3-023200937-042909-0004

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 703/898-4200; Fax 703/898-4200

LABORATORY COPY

U.S. EPA Region III Analytical Request Form

Revision 10.06

975 4-20-09

ASQ/AB USE ONLY	
RAS#	GT4550
DAS#	
NSF#	
Analytical TAT	
14 Days	

38495

Date: 4/20/09		Site Activity: Removal Site Evaluations Assessment	
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 #:	PAN000306553
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 10	Matrix: soil	Parameter: TCL VOC	Method: SOM01.2 30458
#Samples 35	Matrix: soil	Parameter: TCL SVOC	Method: SOM01.2 30459
#Samples 40	Matrix: soil	Parameter: TAL Metals & Hg + 31 more CALEM	Method: ILM05.4 ICPAES & Hg 30463
#Samples 13	Matrix: soil	Parameter: Cyanide	Method: ILM05.4 ICPAES 30464
#Samples 9	Matrix: water	Parameter: TCL VOC	Method: SOM01.2 30461
#Samples 6	Matrix: water	Parameter: TCL SVOC	Method: SOM01.2 30460
#Samples 6	Matrix: water	Parameter: TAL Metals & Hg	Method: ILM05.4 ICPAES & Hg 30462
Ship Date From: 4/27/09	Ship Date To: 4/30/09	Org. Validation Level M2	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) PR's by EGAT	
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)		14/16	
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. *Method substitution permitted.			

FORM ARF- 10/06

Revision 1.1

DATA SUMMARY FORM: INORGANIC

Page 3 of 3

Case #: 38495

SDG : MC0651

Site :

TANK CAR CORPORATION OF AMERICA

Lab. :

CHEM

Sample Number :		MC0651		MC0652		MC0661		MC0662		MC0663	
Sampling Location : (Prefix : TCCA-)		FB-042809-1		RB-042809-1		TW-13		TW-26		TW-33	
Field QC :		Field Blank		Rinsate Blank		Dup of MC0662		Dup of MC0661			
Matrix :		Water		Water		Water		Water		Water	
Units :		ug/L		ug/L		ug/L		ug/L		ug/L	
Date Sampled :		4/28/2009		4/28/2009		4/27/2009		4/27/2009		4/28/2009	
Time Sampled :		12:06		14:18		16:28		16:25		12:37	
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	15.5	B	18.9	B	64.1	B	122	J	232	
ANTIMONY	60					13.5	J	13.1	J		
*ARSENIC	10		UL		UL		UL		UL	5.3	J
BARIUM	200					117	J	124	J	174	J
BERYLLIUM	5										
*CADMIUM	5					1.9	J	2.0	J	1.3	J
CALCIUM	5000	693	J	881	J	29600		30400		45600	
*CHROMIUM	10					48.2		50.2		4.7	J
COBALT	50									9.4	J
COPPER	25		UJ		UJ	99.8	J	139	J	67.7	J
IRON	100	29.2	B	39.8	B	214	B	593		5970	
*LEAD	10		UJ		UJ	47.6	J	76.4	J	571	J
MAGNESIUM	5000	52.4	J	65.8	J	3960	J	4080	J	6350	
MANGANESE	15					117		129		497	
MERCURY	0.2										
*NICKEL	40					50.1		54.2		251	
POTASSIUM	5000	263	J	201	J	3610	J	3610	J	6590	
SELENIUM	35										
SILVER	10										
SODIUM	5000	293	J	564	J	17300	J	17800	J	47200	J
THALLIUM	25	5.5	B	5.2	B	4.6	B	6.1	B	7.1	B
VANADIUM	50										
ZINC	60	10.9	B	13.3	B	468		542		1000	

CRQL = Contract Required Quantitation Limit

*Action Level Exists

SEE NARRATIVE FOR CODE DEFINITIONS

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

Revised 09/99

Prefix : All sample locations are prefixed TCCA-

Appendix D

Laboratory Case Narrative

USEPA - CLP

COVER PAGE

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW08065Lab Code: CHEM Case No.: 38495 NRAS No.: _____ SDG No.: MC0664SOW No.: ILM05.4

EPA Sample No.	Lab Sample ID
<u>MC0664</u>	<u>A2543-01</u>
<u>MC0664D</u>	<u>A2543-21</u>
<u>MC0664S</u>	<u>A2543-22</u>
<u>MC0665</u>	<u>A2543-19</u>
<u>MC0666</u>	<u>A2543-16</u>
<u>MC0667</u>	<u>A2543-17</u>
<u>MC0668</u>	<u>A2543-18</u>
<u>MC06D8</u>	<u>A2543-20</u>
<u>MC06D9</u>	<u>A2543-15</u>
<u>MC06E0</u>	<u>A2543-02</u>
<u>MC06E1</u>	<u>A2543-03</u>
<u>MC06E2</u>	<u>A2543-04</u>
<u>MC06E3</u>	<u>A2543-05</u>
<u>MC06E4</u>	<u>A2543-06</u>
<u>MC06E5</u>	<u>A2543-07</u>
<u>MC06E6</u>	<u>A2543-08</u>
<u>MC06E7</u>	<u>A2543-09</u>
<u>MC06E8</u>	<u>A2543-10</u>
<u>MC06E9</u>	<u>A2543-11</u>
<u>MC06F0</u>	<u>A2543-12</u>
<u>MC06F0D</u>	<u>A2543-13</u>
<u>MC06F0S</u>	<u>A2543-14</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 BARIUM, CALCIUM, CHROMIUM, IRON, LEAD, MANGANESE AND NICKEL INDICATE CHEMICAL OR PHYSICAL INTERFERENCE EFFECTS, WHICH WERE SUSPECTED DURING THOSE

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: 2h. Rohan For Mildred Name: MILDRED V. REYESDate: 03/14/09Title: DOCUMENT CONTROL OFFICER

CHEMTECH

**284 Sheffield Street
Mountainside, NJ 07092**

SDG NARRATIVE

**USEPA
SDG # MC0664
CASE # 38495
CONTRACT # EPW08065
LAB NAME: CHEMTECH CONSULTING GROUP
LAB CODE: CHEM
CHEMTECH PROJECT # A2543**

A. Number of Samples and Date of Receipt

18 Soil Samples were delivered to the laboratory intact on 05/01/09.

B. Parameters

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

C. Cooler Temp

Indicator Bottle: Presence/Absence
Cooler: 3°C

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

Issue 1: The water samples are listed on the TR/COC as ICP-MS-T= ICP-Metals & Hg; however, per scheduling the analysis for the water samples should be ICP-AES TM and Hg.

Issue 2: The airbill number is listed as 8574-9985-9115 on the TR/COC for six of the samples; however, these samples were actually received under airbill 8574-9984-9743.

Issue 3: There are not enough samples designated for laboratory QC on the TR/COC. The laboratory would like to select the following samples for laboratory QC for the additional SDGs:

Lab QC sample MC0663 (Water) and MC0656 (Soil) – SDG MC0651

Lab QC sample MC06B8 – SDG MC0698

Lab QC sample ~~MC0069~~ – SDG ~~MC0069~~

Lab QC sample MC06F0 – SDG MC0664

CHEMTECH

284 Sheffield Street

Mountainside, NJ 07092

E. Corrective Action taken for above:

Resolution 1: In accordance with previous direction from Region 3, the laboratory will note the issue in the Case/SDG Narrative, perform the analyses as indicated on the Scheduling Notification Form, and proceed with the analysis of the samples. The resolution will be applied to all TR/COCs received for this Case that list an incorrect analysis.

Resolution 2: In accordance with previous direction from Region 3, the laboratory will note the issue in the Case/SDG Narrative and proceed with the analysis of the samples.

Resolution 3: In accordance with previous direction from Region 3, the laboratory will select a sample for laboratory QC as long as the sample is not a PE, blank, or rinsate sample. The laboratory will note the issue in the Case/SDG Narrative, notify the SMO coordinator of the sample selected for laboratory QC, and proceed with the analysis of the samples.

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.

Example of Fraction of Sample Amount Taken in ICP-AES Soil Prep = 1/10 (1.0 X 10 or 0.50 X 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 X 10 or 0.51 X 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.

CHEMTECH

284 Sheffield Street

Mountainside, NJ 07092

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) X Fraction of % Solid (100/ % Solid) X Dilution Factor (if any) X Fraction of Sample Amount Taken in Prep.

Example of Fraction of Sample Amount Taken in Hg Soil Prep = $1 / 2$ (0.2 X 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 X 10)
(if 0.21 g of sample taken during Digestion and the Final Volume was made to 100 ml)
Etc.

Calculation example for CN Soil Sample:

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

Results reported in Mg/Kg = (Result in Ug/L for CN) X Fraction of % Solid (100/ % Solid) X Dilution Factor (if any) X Fraction of Sample Amount Taken in Prep.

Example of Fraction of Sample Amount Taken in CN Soil Prep = $1/20$ (1 X 20)
(if 1.0 g of sample taken during Digestion and the Final Volume was made to 50 ml)

Or

Example of Fraction of Sample Amount Taken in Hg Soil Prep = $1 / 20.2$ (1.01 X 20)
(if 1.01 g of sample taken during Digestion and the Final Volume was made to 50 ml)
Etc.

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 and Selenium. Duplicate sample did meet requirements. Serial Dilution did meet requirements except Barium, Calcium, Chromium, Iron, Lead, Manganese & Nickel.

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 Zh. Rohan Formildred Name: Mildred V. Reyes

Date 05/14/09

Title: Document Control Officer

CHEMTECH

QC: LB44148 A2543

PERCENT SOLIDS

ANALYST: R. P. [Signature]
DATE: 05/08/09

Lab ID	GlantID	Dish #	Dish Weight (g)	Dish Wt. Sample (g)	Dish Wt. Dry Sample (g)	% Solids
A2543-01	MC0664	1	1.18	9.12	7.57	80.5
A2543-02	MC06E0	2	1.18	9.05	7.42	79.3
A2543-03	MC06E1	3	1.18	9.05	7.21	76.7
A2543-04	MC06E2	4	1.19	9.01	7.57	81.6
A2543-05	MC06E3	5	1.16	9.09	6.58	68.4
A2543-06	MC06E4	6	1.18	8.95	6.7	71.1
A2543-07	MC06E5	7	1.17	8.95	7.24	78.1
A2543-08	MC06E6	8	1.18	9.02	7	74.3
A2543-09	MC06E7	9	1.18	9.07	6.98	73.6
A2543-10	MC06E8	10	1.18	8.97	6.46	67.8
A2543-11	MC06E9	11	1.19	8.98	7.3	78.5
A2543-12	MC06F0	12	1.19	9.04	7.56	81.2
A2543-13	MC06F0D	13	1.17	9.09	7.58	81.0
A2543-14	MC06F0S	14	NR	NR	NR	NR
A2543-15	MC06D9	15	1.16	8.98	7.31	78.7
A2543-16	MC0666	16	1.16	9	8.81	97.6
A2543-17	MC0667	17	1.18	9.03	8.48	93.0
A2543-18	MC0668	18	1.19	9	8.63	95.3
A2543-19	MC0665	19	1.17	9.01	8.85	98.0
A2543-20	MC06D8	20	1.17	9.05	7.08	75.0
BLANK	DISH	B1	1.18	1.18	1.18	0.0

OVEN TEMP: 106 °C
 TIME IN: 05/04/09 19:30 01
 TIME OUT: 05/05/09 11:00 01

CHEMTECH

QC: LB 44285

A2543

PERCENT SOLIDS

Lab ID	Client ID	Dish #	Dish Weight (g)	Dish Weight Sample (g)	Dish Weight Sample (g)	% Solids
A2543-21	MC0664D	1	1.17	9.03	7.47	80.2
A2543-22	MC0664S	2	NR	NR	NR	NR
BLANK	DISH	B1	1.17	1.17	1.17	0.0

ANALYST: PDDATE: 05/13/09

OVEN TEMP: 1060
 TIME IN: 05/12/09 18:30
 TIME OUT: 05/13/09 10:00

A. J. 05/13/09