Gulf Coast ACCUTEST LABORATORIES

09/03/14

Technical Report for

Weston Solutions

CES- Chemical Spill/4904 Griggs, Houston, TX

Accutest Job Number: TC52863X

Sampling Date: 08/07/14

Report to:

Weston Solutions
5599 San Felipe Suite 700
Houston, TX 77056
k.warr@westonsolutions.com; T.A.Walzer@WestonSolutions.com

ATTN: Kristie Warr

Total number of pages in report: **21**

NELAP ACCREDITED TNI LABORATORY

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Richard Rodriguez
Laboratory Director

9857094

Client Service contact: Sylvia Garza 713-271-4700

Certifications: TX (T104704220-14-15, 1M104704220-14-1) AR (14-016-0) AZ (AZ0769) FL (E87628) KS (E-10366) LA (85695/04004) NJ (TX010) OK (2014-139) VA (2085)

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Accutest Laboratories

Sample Summary

Weston Solutions

CES- Chemical Spill/4904 Griggs, Houston, TX

Job No: TC52863X

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
TC52863-1X	08/07/14	11:20		08/07/14	AQ	Water	CES-CS-TANK 408
TC52863-2X	08/07/14	12:15		08/07/14	AQ	Water	CES-CS-TANK 407

Gulf Coast ACCUTEST LABORATORIES

Subcontract Lab Data

Report of Analysis

2

Your P.O. #: TC52863X
Your Project #: TC52863X
Your C.O.C. #: na

Attention:Sylvia Garza

Accutest
Gulf Coast Texas
10165 Harwin Drive
Houston, TX
USA 77036

Report Date: 2014/09/02
Report #: R3142390
Version: 1

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B4E4122
Received: 2014/08/12, 13:35

Sample Matrix: Water
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Dioxins/Furans in Water (8290A) (1)	2	2014/08/22	2014/08/28	BRL SOP-00406	EPA 8290A m
2378TCDF Confirmation in Water	1	N/A	2014/08/29	BRL SOP-00406	EPA 8290 m

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) Confirmatory runs for 2,3,7,8-TCDF are performed only if the primary result is greater than the RDL.

U = Undetected at the limit of quantitation.
J = Estimated concentration between the EDL & RDL.
B = Blank Contamination.
Q = One or more quality control criteria failed.
E = Analyte concentration exceeds the maximum concentration level.
K = Estimated maximum possible concentration due to ion abundance ratio failure.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Ivana Vukovic, Env Project Manager
Email: IVukovic@maxxam.ca
Phone# (905) 817-5700
==========
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Maxxam Job #: B4E4122
Report Date: 2014/09/02

Accutest
Client Project #: TC52863X
Your P.O. #: TC52863X

DIOXINS AND FURANS BY HRMS (WATER)

Maxxam ID		XB7418							
Sampling Date		2014/08/07 11:20							
COC Number		na				TOXIC EQUIVALENCY		# of	
	Units	TC52863-1X/CES-CS-TANK408	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
2,3,7,8-Tetra CDD *	pg/L	47 U (1)	47	200	4.0	1.00	47.0	N/A	3728103
1,2,3,7,8-Penta CDD *	pg/L	15 U	15	500	4.0	1.00	15.0	N/A	3728103
1,2,3,4,7,8-Hexa CDD *	pg/L	11 U	11	500	4.0	0.100	1.10	N/A	3728103
1,2,3,6,7,8-Hexa CDD *	pg/L	82 J	10	500	4.0	0.100	8.20	N/A	3728103
1,2,3,7,8,9-Hexa CDD *	pg/L	27 U (2)	27	500	4.0	0.100	2.70	N/A	3728103
1,2,3,4,6,7,8-Hepta CDD *	pg/L	616	10	500	4.0	0.0100	6.16	N/A	3728103
Octa CDD *	pg/L	3930	56	1000	8.0	0.000300	1.18	N/A	3728103
Total Tetra CDD *	pg/L	86 J	10	200	4.0	N/A	N/A	1	3728103
Total Penta CDD *	pg/L	254 J	15	500	4.0	N/A	N/A	2	3728103
Total Hexa CDD *	pg/L	447 J	10	500	4.0	N/A	N/A	4	3728103
Total Hepta CDD *	pg/L	1040	10	500	4.0	N/A	N/A	2	3728103
2,3,7,8-Tetra CDF **	pg/L	440 U (3)	440	200	4.0	0.100	44.0	N/A	3728103
1,2,3,7,8-Penta CDF **	pg/L	15 U	15	500	4.0	0.0300	0.450	N/A	3728103
2,3,4,7,8-Penta CDF **	pg/L	14 U	14	500	4.0	0.300	4.20	N/A	3728103
1,2,3,4,7,8-Hexa CDF **	pg/L	19 U	19	500	4.0	0.100	1.90	N/A	3728103
1,2,3,6,7,8-Hexa CDF **	pg/L	19 U	19	500	4.0	0.100	1.90	N/A	3728103
2,3,4,6,7,8-Hexa CDF **	pg/L	316 J	19	500	4.0	0.100	31.6	N/A	3728103
1,2,3,7,8,9-Hexa CDF **	pg/L	22 U	22	500	4.0	0.100	2.20	N/A	3728103
1,2,3,4,6,7,8-Hepta CDF **	pg/L	120 U (2)	120	500	4.0	0.0100	1.20	N/A	3728103
1,2,3,4,7,8,9-Hepta CDF **	pg/L	11 U	11	500	4.0	0.0100	0.110	N/A	3728103
Octa CDF **	pg/L	1650	36	1000	8.0	0.000300	0.495	N/A	3728103

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

QC Batch = Quality Control Batch

* CDD = Chloro Dibenzo-p-Dioxin

N/A = Not Applicable

** CDF = Chloro Dibenzo-p-Furan

(1) RT > 3 seconds - PCDD/DF analysis - Peak detected exceeds expected retention time (from internal standard) by greater than 3 seconds.
RT>2 seconds - PCDD/DF analysis-Peak maxima of monitored ions exceeds 2 seconds

(2) EMPC / NDR - Peak detected does not meet ratio criteria and has resulted in an elevated detection limit.

(3) RT > 3 seconds - PCDD/DF analysis - Peak detected exceeds expected retention time (from internal standard) by greater than 3 seconds.

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Maxxam Job #: B4E4122
Report Date: 2014/09/02

Accutest
Client Project #: TC52863X
Your P.O. #: TC52863X

DIOXINS AND FURANS BY HRMS (WATER)

Maxxam ID		XB7418							
Sampling Date		2014/08/07 11:20							
COC Number		na				TOXIC EQUIVALENCY		# of	
	Units	TC52863-1X/CES-CS-TANK408	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
Total Tetra CDF **	pg/L	2820	12	200	4.0	N/A	N/A	6	3728103
Total Penta CDF **	pg/L	6160	14	500	4.0	N/A	N/A	3	3728103
Total Hexa CDF **	pg/L	558	20	500	4.0	N/A	N/A	3	3728103
Total Hepta CDF **	pg/L	140 U (1)	140	500	4.0	N/A	N/A	N/A	3728103
Confirmation 2,3,7,8-Tetra CDF **	pg/L	62 J	18	100	N/A	0.100	6.20	N/A	3728632
TOTAL TOXIC EQUIVALENCY	pg/L	N/A	N/A	N/A	N/A	N/A	132	N/A	N/A
Surrogate Recovery (%)									
C13-1234678 HeptaCDD *	%	38	N/A	N/A	N/A	N/A	N/A	N/A	3728103
C13-1234678 HeptaCDF **	%	34	N/A	N/A	N/A	N/A	N/A	N/A	3728103
C13-123478 HexaCDF **	%	36	N/A	N/A	N/A	N/A	N/A	N/A	3728103
C13-123678 HexaCDD *	%	43	N/A	N/A	N/A	N/A	N/A	N/A	3728103
C13-12378 PentaCDD *	%	44	N/A	N/A	N/A	N/A	N/A	N/A	3728103
C13-12378 PentaCDF **	%	30	N/A	N/A	N/A	N/A	N/A	N/A	3728103
C13-2378 TetraCDD *	%	46	N/A	N/A	N/A	N/A	N/A	N/A	3728103
C13-2378 TetraCDF **	%	38	N/A	N/A	N/A	N/A	N/A	N/A	3728103
C13-OCDD *	%	36	N/A	N/A	N/A	N/A	N/A	N/A	3728103
Confirmation C13-2378 TetraCDF **	%	52	N/A	N/A	N/A	N/A	N/A	N/A	3728632

EDL = Estimated Detection Limit
RDL = Reportable Detection Limit
TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.
WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds
QC Batch = Quality Control Batch
** CDF = Chloro Dibenzo-p-Furan
N/A = Not Applicable
* CDD = Chloro Dibenzo-p-Dioxin
(1) EMPC / NDR - Peak detected does not meet ratio criteria and has resulted in an elevated detection limit.

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Maxxam Job #: B4E4122
Report Date: 2014/09/02

Accutest
Client Project #: TC52863X
Your P.O. #: TC52863X

DIOXINS AND FURANS BY HRMS (WATER)

Maxxam ID		XB7420							
Sampling Date		2014/08/07 12:15							
COC Number		na				TOXIC EQUIVALENCY		# of	
	Units	TC52863-2X/CES-CS-TANK407	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
2,3,7,8-Tetra CDD *	pg/L	130 U	130	2000	400	1.00	130	N/A	3728103
1,2,3,7,8-Penta CDD *	pg/L	100 U	100	5000	400	1.00	100	N/A	3728103
1,2,3,4,7,8-Hexa CDD *	pg/L	160 U	160	5000	400	0.100	16.0	N/A	3728103
1,2,3,6,7,8-Hexa CDD *	pg/L	150 U	150	5000	400	0.100	15.0	N/A	3728103
1,2,3,7,8,9-Hexa CDD *	pg/L	150 U	150	5000	400	0.100	15.0	N/A	3728103
1,2,3,4,6,7,8-Hepta CDD *	pg/L	2010 J	110	5000	400	0.0100	20.1	N/A	3728103
Octa CDD *	pg/L	16600	760	10000	800	0.000300	4.98	N/A	3728103
Total Tetra CDD *	pg/L	1190 J	130	2000	400	N/A	N/A	2	3728103
Total Penta CDD *	pg/L	560 U (1)	560	5000	400	N/A	N/A	N/A	3728103
Total Hexa CDD *	pg/L	550 U (1)	550	5000	400	N/A	N/A	N/A	3728103
Total Hepta CDD *	pg/L	4600 J	110	5000	400	N/A	N/A	2	3728103
2,3,7,8-Tetra CDF **	pg/L	930 U (2)	930	2000	400	0.100	93.0	N/A	3728103
1,2,3,7,8-Penta CDF **	pg/L	100 U	100	5000	400	0.0300	3.00	N/A	3728103
2,3,4,7,8-Penta CDF **	pg/L	100 U	100	5000	400	0.300	30.0	N/A	3728103
1,2,3,4,7,8-Hexa CDF **	pg/L	200 U	200	5000	400	0.100	20.0	N/A	3728103
1,2,3,6,7,8-Hexa CDF **	pg/L	200 U	200	5000	400	0.100	20.0	N/A	3728103
2,3,4,6,7,8-Hexa CDF **	pg/L	673 J	200	5000	400	0.100	67.3	N/A	3728103
1,2,3,7,8,9-Hexa CDF **	pg/L	230 U	230	5000	400	0.100	23.0	N/A	3728103
1,2,3,4,6,7,8-Hepta CDF **	pg/L	830 U (1)	830	5000	400	0.0100	8.30	N/A	3728103
1,2,3,4,7,8,9-Hepta CDF **	pg/L	150 U	150	5000	400	0.0100	1.50	N/A	3728103
Octa CDF **	pg/L	2920 J	570	10000	800	0.000300	0.876	N/A	3728103
Total Tetra CDF **	pg/L	8200	160	2000	400	N/A	N/A	5	3728103
Total Penta CDF **	pg/L	4540 J	100	5000	400	N/A	N/A	3	3728103
Total Hexa CDF **	pg/L	985 J	210	5000	400	N/A	N/A	2	3728103

EDL = Estimated Detection Limit
RDL = Reportable Detection Limit
TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.
WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds
QC Batch = Quality Control Batch
* CDD = Chloro Dibenzo-p-Dioxin
N/A = Not Applicable
** CDF = Chloro Dibenzo-p-Furan
(1) EMPC / NDR - Peak detected does not meet ratio criteria and has resulted in an elevated detection limit.
(2) RT > 3 seconds - PCDD/DF analysis - Peak detected exceeds expected retention time (from internal standard) by greater than 3 seconds.

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Maxxam Job #: B4E4122
Report Date: 2014/09/02

Accutest
Client Project #: TC52863X
Your P.O. #: TC52863X

DIOXINS AND FURANS BY HRMS (WATER)

Maxxam ID		XB7420							
Sampling Date		2014/08/07 12:15							
COC Number		na				**TOXIC EQUIVALENCY**		# of	
	Units	**TC52863-2X/CES-CS-TANK407**	**EDL**	**RDL**	**MDL**	**TEF (2005 WHO)**	**TEQ(DL)**	**Isomers**	**QC Batch**
Total Hepta CDF **	pg/L	920 U (1)	920	5000	400	N/A	N/A	N/A	3728103
TOTAL TOXIC EQUIVALENCY	pg/L	N/A	N/A	N/A	N/A	N/A	568	N/A	N/A
Surrogate Recovery (%)									
C13-1234678 HeptaCDD *	%	44	N/A	N/A	N/A	N/A	N/A	N/A	3728103
C13-1234678 HeptaCDF **	%	42	N/A	N/A	N/A	N/A	N/A	N/A	3728103
C13-123478 HexaCDF **	%	47	N/A	N/A	N/A	N/A	N/A	N/A	3728103
C13-123678 HexaCDD *	%	53	N/A	N/A	N/A	N/A	N/A	N/A	3728103
C13-12378 PentaCDD *	%	55	N/A	N/A	N/A	N/A	N/A	N/A	3728103
C13-12378 PentaCDF **	%	42	N/A	N/A	N/A	N/A	N/A	N/A	3728103
C13-2378 TetraCDD *	%	70	N/A	N/A	N/A	N/A	N/A	N/A	3728103
C13-2378 TetraCDF **	%	43	N/A	N/A	N/A	N/A	N/A	N/A	3728103
C13-OCDD *	%	42	N/A	N/A	N/A	N/A	N/A	N/A	3728103

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

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QC Batch = Quality Control Batch

** CDF = Chloro Dibenzo-p-Furan

N/A = Not Applicable

* CDD = Chloro Dibenzo-p-Dioxin

(1) EMPC / NDR - Peak detected does not meet ratio criteria and has resulted in an elevated detection limit.

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Maxxam Job #: B4E4122
Report Date: 2014/09/02

Accutest
Client Project #: TC52863X
Your P.O. #: TC52863X

TEST SUMMARY

Maxxam ID: XB7418
Sample ID: TC52863-1X/CES-CS-TANK408
Matrix: Water

Collected: 2014/08/07
Shipped:
Received: 2014/08/12

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dioxins/Furans in Water (8290A)	HRMS/MS	3728103	2014/08/22	2014/08/28	Owen Cosby
2378TCDF Confirmation in Water	HRMS/MS	3728632	N/A	2014/08/29	Vica Cioranic

Maxxam ID: XB7420
Sample ID: TC52863-2X/CES-CS-TANK407
Matrix: Water

Collected: 2014/08/07
Shipped:
Received: 2014/08/12

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dioxins/Furans in Water (8290A)	HRMS/MS	3728103	2014/08/22	2014/08/28	Owen Cosby

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Maxxam Job #: B4E4122
Report Date: 2014/09/02

Accutest
Client Project #: TC52863X
Your P.O. #: TC52863X

GENERAL COMMENTS

Sample XB7418-01 : Internal standard recoveries below method acceptance criteria due to severe matrix effects .
A high level of solids (10.8g) were also present which were filtered, extracted separately and recombined with the liquid extract.

Results relate only to the items tested.

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Maxxam Job #: B4E4122
Report Date: 2014/09/02

Accutest
Client Project #: TC52863X
Your P.O. #: TC52863X

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	Units	QC Limits
3728103	OBC	Spiked Blank	C13-1234678 HeptaCDD	2014/08/28		99	%	40 - 135
			C13-1234678 HeptaCDF	2014/08/28		79	%	40 - 135
			C13-123478 HexaCDF	2014/08/28		76	%	40 - 135
			C13-123678 HexaCDD	2014/08/28		98	%	40 - 135
			C13-12378 PentaCDD	2014/08/28		85	%	40 - 135
			C13-12378 PentaCDF	2014/08/28		59	%	40 - 135
			C13-2378 TetraCDD	2014/08/28		74	%	40 - 135
			C13-2378 TetraCDF	2014/08/28		56	%	40 - 135
			C13-OCDD	2014/08/28		93	%	40 - 135
			2,3,7,8-Tetra CDD	2014/08/28		82	%	80 - 140
			1,2,3,7,8-Penta CDD	2014/08/28		86	%	80 - 140
			1,2,3,4,7,8-Hexa CDD	2014/08/28		94	%	80 - 140
			1,2,3,6,7,8-Hexa CDD	2014/08/28		81	%	80 - 140
			1,2,3,7,8,9-Hexa CDD	2014/08/28		87	%	80 - 140
			1,2,3,4,6,7,8-Hepta CDD	2014/08/28		88	%	80 - 140
			Octa CDD	2014/08/28		85	%	80 - 140
			2,3,7,8-Tetra CDF	2014/08/28		82	%	80 - 140
			1,2,3,7,8-Penta CDF	2014/08/28		85	%	80 - 140
			2,3,4,7,8-Penta CDF	2014/08/28		82	%	80 - 140
			1,2,3,4,7,8-Hexa CDF	2014/08/28		88	%	80 - 140
			1,2,3,6,7,8-Hexa CDF	2014/08/28		80	%	80 - 140
			2,3,4,6,7,8-Hexa CDF	2014/08/28		83	%	80 - 140
			1,2,3,7,8,9-Hexa CDF	2014/08/28		84	%	80 - 140
			1,2,3,4,6,7,8-Hepta CDF	2014/08/28		88	%	80 - 140
			1,2,3,4,7,8,9-Hepta CDF	2014/08/28		89	%	80 - 140
			Octa CDF	2014/08/28		86	%	80 - 140
3728103	OBC	Spiked Blank DUP	C13-1234678 HeptaCDD	2014/08/28		96	%	40 - 135
			C13-1234678 HeptaCDF	2014/08/28		81	%	40 - 135
			C13-123478 HexaCDF	2014/08/28		76	%	40 - 135
			C13-123678 HexaCDD	2014/08/28		102	%	40 - 135
			C13-12378 PentaCDD	2014/08/28		84	%	40 - 135
			C13-12378 PentaCDF	2014/08/28		56	%	40 - 135
			C13-2378 TetraCDD	2014/08/28		72	%	40 - 135
			C13-2378 TetraCDF	2014/08/28		54	%	40 - 135
			C13-OCDD	2014/08/28		94	%	40 - 135
			2,3,7,8-Tetra CDD	2014/08/28		82	%	80 - 140
			1,2,3,7,8-Penta CDD	2014/08/28		83	%	80 - 140
			1,2,3,4,7,8-Hexa CDD	2014/08/28		90	%	80 - 140
			1,2,3,6,7,8-Hexa CDD	2014/08/28		81	%	80 - 140
			1,2,3,7,8,9-Hexa CDD	2014/08/28		83	%	80 - 140
			1,2,3,4,6,7,8-Hepta CDD	2014/08/28		85	%	80 - 140
			Octa CDD	2014/08/28		83	%	80 - 140
			2,3,7,8-Tetra CDF	2014/08/28		83	%	80 - 140
			1,2,3,7,8-Penta CDF	2014/08/28		86	%	80 - 140
			2,3,4,7,8-Penta CDF	2014/08/28		81	%	80 - 140
			1,2,3,4,7,8-Hexa CDF	2014/08/28		88	%	80 - 140
			1,2,3,6,7,8-Hexa CDF	2014/08/28		80	%	80 - 140
			2,3,4,6,7,8-Hexa CDF	2014/08/28		81	%	80 - 140
			1,2,3,7,8,9-Hexa CDF	2014/08/28		85	%	80 - 140
			1,2,3,4,6,7,8-Hepta CDF	2014/08/28		85	%	80 - 140
			1,2,3,4,7,8,9-Hepta CDF	2014/08/28		85	%	80 - 140
			Octa CDF	2014/08/28		85	%	80 - 140
3728103	OBC	RPD	2,3,7,8-Tetra CDD	2014/08/28	NC		%	25

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Maxxam Job #: B4E4122
Report Date: 2014/09/02

Accutest
Client Project #: TC52863X
Your P.O. #: TC52863X

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	Units	QC Limits
			1,2,3,7,8-Penta CDD	2014/08/28	NC		%	25
			1,2,3,4,7,8-Hexa CDD	2014/08/28	NC		%	25
			1,2,3,6,7,8-Hexa CDD	2014/08/28	NC		%	25
			1,2,3,7,8,9-Hexa CDD	2014/08/28	NC		%	25
			1,2,3,4,6,7,8-Hepta CDD	2014/08/28	NC		%	25
			Octa CDD	2014/08/28	NC		%	25
			2,3,7,8-Tetra CDF	2014/08/28	NC		%	25
			1,2,3,7,8-Penta CDF	2014/08/28	NC		%	25
			2,3,4,7,8-Penta CDF	2014/08/28	NC		%	25
			1,2,3,4,7,8-Hexa CDF	2014/08/28	NC		%	25
			1,2,3,6,7,8-Hexa CDF	2014/08/28	NC		%	25
			2,3,4,6,7,8-Hexa CDF	2014/08/28	NC		%	25
			1,2,3,7,8,9-Hexa CDF	2014/08/28	NC		%	25
			1,2,3,4,6,7,8-Hepta CDF	2014/08/28	NC		%	25
			1,2,3,4,7,8,9-Hepta CDF	2014/08/28	NC		%	25
			Octa CDF	2014/08/28	NC		%	25
3728103	OBC	Method Blank	C13-1234678 HeptaCDD	2014/08/28		92	%	40 - 135
			C13-1234678 HeptaCDF	2014/08/28		73	%	40 - 135
			C13-123478 HexaCDF	2014/08/28		69	%	40 - 135
			C13-123678 HexaCDD	2014/08/28		93	%	40 - 135
			C13-12378 PentaCDD	2014/08/28		82	%	40 - 135
			C13-12378 PentaCDF	2014/08/28		55	%	40 - 135
			C13-2378 TetraCDD	2014/08/28		72	%	40 - 135
			C13-2378 TetraCDF	2014/08/28		55	%	40 - 135
			C13-OCDD	2014/08/28		91	%	40 - 135
			2,3,7,8-Tetra CDD	2014/08/28	1.1 U, EDL=1.1		pg/L	
			1,2,3,7,8-Penta CDD	2014/08/28	1.1 U, EDL=1.1		pg/L	
			1,2,3,4,7,8-Hexa CDD	2014/08/28	1.2 U, EDL=1.2		pg/L	
			1,2,3,6,7,8-Hexa CDD	2014/08/28	1.1 U, EDL=1.1		pg/L	
			1,2,3,7,8,9-Hexa CDD	2014/08/28	1.1 U, EDL=1.1		pg/L	
			1,2,3,4,6,7,8-Hepta CDD	2014/08/28	1.2 U, EDL=1.2		pg/L	
			Octa CDD	2014/08/28	1.2 J, EDL=1.1		pg/L	
			Total Tetra CDD	2014/08/28	1.1 U, EDL=1.1		pg/L	
			Total Penta CDD	2014/08/28	1.1 U, EDL=1.1		pg/L	
			Total Hexa CDD	2014/08/28	5.0 U, EDL=5.0 (1)		pg/L	
			Total Hepta CDD	2014/08/28	1.2 U, EDL=1.2		pg/L	
			2,3,7,8-Tetra CDF	2014/08/28	1.1 U, EDL=1.1		pg/L	
			1,2,3,7,8-Penta CDF	2014/08/28	1.2 U, EDL=1.2		pg/L	

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Maxxam Job #: B4E4122
Report Date: 2014/09/02

Accutest
Client Project #: TC52863X
Your P.O. #: TC52863X

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	Units	QC Limits
			2,3,4,7,8-Penta CDF	2014/08/28	1.2 U, EDL=1.2		pg/L	
			1,2,3,4,7,8-Hexa CDF	2014/08/28	1.1 U, EDL=1.1		pg/L	
			1,2,3,6,7,8-Hexa CDF	2014/08/28	1.1 U, EDL=1.1		pg/L	
			2,3,4,6,7,8-Hexa CDF	2014/08/28	1.1 U, EDL=1.1		pg/L	
			1,2,3,7,8,9-Hexa CDF	2014/08/28	1.3 U, EDL=1.3		pg/L	
			1,2,3,4,6,7,8-Hepta CDF	2014/08/28	0.99 U, EDL=0.99		pg/L	
			1,2,3,4,7,8,9-Hepta CDF	2014/08/28	1.2 U, EDL=1.2		pg/L	
			Octa CDF	2014/08/28	1.2 U, EDL=1.2		pg/L	
			Total Tetra CDF	2014/08/28	1.1 U, EDL=1.1		pg/L	
			Total Penta CDF	2014/08/28	1.2 U, EDL=1.2		pg/L	
			Total Hexa CDF	2014/08/28	1.1 U, EDL=1.1		pg/L	
			Total Hepta CDF	2014/08/28	1.1 U, EDL=1.1		pg/L	
3728632	VCI	Method Blank	Confirmation 2,3,7,8-Tetra CDF	2014/08/29	0.87 U, EDL=0.87		pg/L	
			Confirmation C13-2378 TetraCDF	2014/08/29		76	%	40 - 135

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).

(1) EMPC / NDR - Peak detected does not meet ratio criteria and has resulted in an elevated detection limit.

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Maxxam Job #: B4E4122
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Accutest
Client Project #: TC52863X
Your P.O. #: TC52863X

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Owen Cosby, BSc.C.Chem, Supervisor, HRMS Services

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Gulf Coast ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

ACCUTEST Laboratories

CHAIN OF CUSTODY

10165 Harwin Dr. Ste 150 Houston, TX 77036
TEL 713-271-4700 FAX 713-271-4770
www.accutest.com

PAGE ___ OF ___

FED-EX Tracking #:
Bottle Order Control #:
Accutest Quote #:
Accutest Job #: TC52863

Client / Reporting Information

Company Name: Weston Solutions, Inc.
Street Address: 5599 San Felipe, Suite 700
City / State / Zip: Houston, TX 77056
Project Contact / E-mail: Tom Walzer/Kristi Warr
Phone # / Fax #:
Sampler(s) Name(s) / Phone #: Ben Latham

Project Information

Project Name: CES Chemical Spill
Street: 4904 Griggs
City / State: Houston TX
Project #:
Client Purchase Order #:
Project Manager: Derrick Cobb

Billing Information (if different from Report to)

Company Name: Weston Solutions
Street Address: 5599 San Felipe Suite 700
City / State / Zip: Houston, TX 77056
Attention: Kristi Warr

Requested Analyses

Accutest Sample #	Field ID / Point of Collection	Date	Time	Sampled By	Matrix	# of bottles	HCl	NaOH	ZnAcNaOH	HNO3	H2SO4	NONE	DI Water	MEOH	TSP	NaHSO4	ENCORE	OTHER	VOA, TCL	SVOA, TCL	Metals/PCB	TPH TX1005	CN/Sulfide/TOC/AMW/Anions	Physical Properties	H2S	Halogens	Dioxin Furans	Herbicid/Pesticides TCL	LAB USE ONLY
1	CES-CS-TANK 408	08/07/2014	1120		W	22	3												✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	1,2 3,4
2	CES-CS-TANK 407	08/07/2014	1215		W	22	3												✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	1,2 3,4

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; Ol - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank

Turnaround Time (Business days)

- ☐ Standard
- ☐ 5 Day *RUSH*
- ☐ 4 Day *RUSH*
- ☐ 3 Day *RUSH*
- ☐ 2 Day *RUSH*
- ☐ 1 Day *EMERGENCY*
- Emergency & Rush T/A data available VIA Lablink

Approved By (Accutest PM): / Date:

Data Deliverable Information

- ☐ Commercial "A" (Level 1)
- ☐ Commercial "B" (Level 2)
- ☐ FULT1 (Level 3+4)
- ☐ REDT1 (Level 3+4)
- ☐ Commercial "C"
- ☐ TRRP
- ☐ EDD Format
- ☐ Other _____

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC & Surrogate Summary

Comments / Special Instructions

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 Tom A. Walzer	08/07/2014 1605	1	2		2
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal # ☐ Intact ☐ Not intact	Preserved where applicable ☐	On Ice ☐ Cooler Temp.

TC52863X: Chain of Custody
Page 1 of 5

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: TC52863 **Client:** WESTON SOLUTIONS **Project:** CES CHEMICAL SPILL

Date / Time Received: 8/7/2014 **Delivery Method:** **Airbill #'s:**

No. Coolers: 4 **Therm ID:** IR6; **Temp Adjustment Factor:** 0;

Cooler Temps (Initial/Adjusted): #1: (3.43/3.43); #2: (3.1/3.1); #3: (2.2/2.2); #4: (1.2/1.2);

Cooler Security	Y	N		Y	N
1. Custody Seals Present:	☑	☐	3. COC Present:	☑	☐
2. Custody Seals Intact:	☑	☐	4. Smpl Dates/Time OK	☑	☐

Cooler Temperature	Y	N
1. Temp criteria achieved:	☑	☐
2. Cooler temp verification:		
3. Cooler media:	Ice (Bag)	

Quality Control Preservation	Y	N	N/A	WTB	STB
1. Trip Blank present / cooler:	☐	☐	☑	☐	☐
2. Trip Blank listed on COC:	☐	☐	☑		
3. Samples preserved properly:	☑	☐			
4. VOCs headspace free:	☐	☑	☐		

Sample Integrity - Documentation	Y	N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

Sample Integrity - Condition	Y	N
1. Sample recvd within HT:	☑	☐
2. All containers accounted for:	☑	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions	Y	N	N/A
1. Analysis requested is clear:	☑	☐	
2. Bottles received for unspecified tests	☐	☑	
3. Sufficient volume recvd for analysis:	☑	☐	
4. Compositing instructions clear:	☐	☐	☑
5. Filtering instructions clear:	☐	☐	☑

Comments Received all 6 vials with headspace on sample "ces-cs-tank-407"
Sample "ces-cs-tank-408" is water with a small layer of oil.

Accutest Laboratories
V:713.271.4700
10165 Harwin Drive
F: 713.271.4770
Houston, TX 77036
www/accutest.com

TC52863X: Chain of Custody
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Problem Resolution

Accutest Job Number: TC52863

CSR: _____ **Response Date:** _____

Response:

Sample Receipt Log

Job #: TC52863 **Date / Time Received:** 8/7/2014 **Initials:** BG

Client: WESTON SOLUTIONS

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
4	TC52863-1	LAG	1	4HH	N/P	Note #2 - Preservative check not applicable.	IR6	1.2	0	1.2
4	TC52863-1	LAG	2	4HH	N/P	Note #2 - Preservative check not applicable.	IR6	1.2	0	1.2
4	TC52863-1	LAG	3	4HH	N/P	Note #2 - Preservative check not applicable.	IR6	1.2	0	1.2
4	TC52863-1	LAG	4	4HH	N/P	Note #2 - Preservative check not applicable.	IR6	1.2	0	1.2
4	TC52863-1	LAG	5	4HH	N/P	Note #2 - Preservative check not applicable.	IR6	1.2	0	1.2
4	TC52863-1	LAG	6	4HH	N/P	Note #2 - Preservative check not applicable.	IR6	1.2	0	1.2
4	TC52863-1	LAG	7	4HH	N/P	Note #2 - Preservative check not applicable.	IR6	1.2	0	1.2
4	TC52863-1	LAG	8	4HH	N/P	Note #2 - Preservative check not applicable.	IR6	1.2	0	1.2
4	TC52863-1	LAG	9	4HH	N/P	Note #2 - Preservative check not applicable.	IR6	1.2	0	1.2
4	TC52863-1	LAG	10	4HH	N/P	Note #2 - Preservative check not applicable.	IR6	1.2	0	1.2
4	TC52863-1	LAG	11	4HH	N/P	Note #2 - Preservative check not applicable.	IR6	1.2	0	1.2
4	TC52863-1	LAG	12	3J	N/P	Note #2 - Preservative check not applicable.	IR6	1.2	0	1.2
4	TC52863-1	LAG	13	3J	N/P	Note #2 - Preservative check not applicable.	IR6	1.2	0	1.2
4	TC52863-1	LAG	14	SUB	N/P	Note #2 - Preservative check not applicable.	IR6	1.2	0	1.2
4	TC52863-1	LAG	15	SUB	N/P	Note #2 - Preservative check not applicable.	IR6	1.2	0	1.2
4	TC52863-1	LAG	16	SUB	N/P	Note #2 - Preservative check not applicable.	IR6	1.2	0	1.2
4	TC52863-1	40ml	17	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR6	1.2	0	1.2
4	TC52863-1	40ml	18	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR6	1.2	0	1.2
4	TC52863-1	40ml	19	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR6	1.2	0	1.2
4	TC52863-1	40ml	20	4HH	HCL	pH < 2	IR6	1.2	0	1.2
4	TC52863-1	40ml	21	4HH	HCL	pH < 2	IR6	1.2	0	1.2
4	TC52863-1	40ml	22	4HH	HCL	pH < 2	IR6	1.2	0	1.2
2	TC52863-2	LAG	1	4JJ	N/P	Note #2 - Preservative check not applicable.	IR6	3.1	0	3.1

Sample Receipt Log

Job #: TC52863 **Date / Time Received:** 8/7/2014 **Initials:** BG

Client: WESTON SOLUTIONS

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
2	TC52863-2	LAG	2	4JJ	N/P	Note #2 - Preservative check not applicable.	IR6	3.1	0	3.1
2	TC52863-2	LAG	3	4JJ	N/P	Note #2 - Preservative check not applicable.	IR6	3.1	0	3.1
2	TC52863-2	LAG	4	4JJ	N/P	Note #2 - Preservative check not applicable.	IR6	3.1	0	3.1
2	TC52863-2	LAG	5	4JJ	N/P	Note #2 - Preservative check not applicable.	IR6	3.1	0	3.1
2	TC52863-2	LAG	6	4JJ	N/P	Note #2 - Preservative check not applicable.	IR6	3.1	0	3.1
2	TC52863-2	LAG	7	4JJ	N/P	Note #2 - Preservative check not applicable.	IR6	3.1	0	3.1
2	TC52863-2	LAG	8	4JJ	N/P	Note #2 - Preservative check not applicable.	IR6	3.1	0	3.1
2	TC52863-2	LAG	9	4JJ	N/P	Note #2 - Preservative check not applicable.	IR6	3.1	0	3.1
2	TC52863-2	LAG	10	4JJ	N/P	Note #2 - Preservative check not applicable.	IR6	3.1	0	3.1
2	TC52863-2	LAG	11	4JJ	N/P	Note #2 - Preservative check not applicable.	IR6	3.1	0	3.1
2	TC52863-2	LAG	12	3J	N/P	Note #2 - Preservative check not applicable.	IR6	3.1	0	3.1
2	TC52863-2	LAG	13	3J	N/P	Note #2 - Preservative check not applicable.	IR6	3.1	0	3.1
2	TC52863-2	LAG	14	SUB	N/P	Note #2 - Preservative check not applicable.	IR6	3.1	0	3.1
2	TC52863-2	LAG	15	SUB	N/P	Note #2 - Preservative check not applicable.	IR6	3.1	0	3.1
2	TC52863-2	LAG	16	SUB	N/P	Note #2 - Preservative check not applicable.	IR6	3.1	0	3.1
2	TC52863-2	40ml	17	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR6	3.1	0	3.1
2	TC52863-2	40ml	18	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR6	3.1	0	3.1
2	TC52863-2	40ml	19	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR6	3.1	0	3.1
2	TC52863-2	40ml	20	4JJ	HCL	pH < 2	IR6	3.1	0	3.1
2	TC52863-2	40ml	21	4JJ	HCL	pH < 2	IR6	3.1	0	3.1
2	TC52863-2	40ml	22	4JJ	HCL	pH < 2	IR6	3.1	0	3.1