One Stanton Street
Marinette, WI 54143-2542

Tele: 715-735-7411

July 17, 2017

Mr. Conor Neal
Geologist
EPA Region 5
Land & Chemicals Division
77 West Jackson Blvd, LU-9J
Chicago, IL 60604-3590

Subject: Quarterly Progress Report (April through June 2017)
Administrative Order on Consent (February 26, 2009)
Tyco Fire Products LP
Stanton Street Facility
Marinette, Wisconsin
WID 006 125 215

Dear Mr. Neal:

Section VI, 21, b (Page 10) of the Administrative Order on Consent (AOC), dated February 26, 2009, requires Tyco Fire Products LP (Tyco) to submit quarterly progress reports to the U.S. Environmental Protection Agency (USEPA) Region 5 and the Wisconsin Department of Natural Resources (WDNR). The reports are required to document activities conducted as part of the Resource Conservation and Recovery Act (RCRA) Corrective Actions at the Tyco facility in Marinette, Wisconsin. The enclosed report covers the period from April 1, 2017 through June 30, 2017, and presents a brief description of the work completed to date, data collected, problems encountered, and schedule of activities as required by the February 2009 AOC.

Work Completed During this Reporting Period

Operation of the groundwater collection and treatment system (GWCTS) continued through the second quarter of 2017. A summary of the operational data is included as Attachment 1. The Discharge Monitoring Reports (DMRs) are included in Attachment 2.

The Semi-Annual Barrier Wall Inspection was completed on June, 7, 2017 by Ryan Suennen and Jeff Danko from Tyco. The boat for the river side inspection was provided and operated by MJB industries. During the river side inspection, several tieback connections in the main plant area of the site were noted to have dripping water. This was likely due to abnormally high groundwater levels present on the site that resulted from near record rainfalls for the month. MJB was contracted to correct the leaks, and repairs were completed on June 14, 2017. Details of the inspection are included in Attachment 3.

The first of four rounds of the surface water sampling was completed on June 7, 2017 by Ryan Suennen and Jeff Danko. Results from the event are included in Attachment 4. Additional surface water sampling events will be completed on an approximate quarterly basis.

The Spring Barrier Wall Groundwater Monitoring Plan Update (BWGMPU) groundwater sampling event was completed on April 28, 2017. Laboratory results from this event are included in Attachment 5.

The mobilization for the temporary dewatering system was completed on June 30, 2017 by Endpoint Solutions. Some damage was noted to the secondary containment pipes and this damage was repaired on July 10, 2017.

Additional Activities

Tyco completed the quarterly download of data from the transducers installed in prescribed monitoring wells on July 6, 2017. Manual groundwater elevation data was obtained at each transducer location for calibration of the data at the time of the download. Manual groundwater elevation data were also collected from the former 8th Street Slip and former Salt Vault areas in accordance with the pump down program requirements. Transducers from the MW105 and MW040 well nests were relocated to the MW108 and MW003 well nests on June 12, 2017.

Data Collected

Extraction and treatment volumes, analytical testing, and discharge data are required as part of the Wisconsin Pollutant Discharge and Elimination System (WPDES) permits obtained from WDNR for operation of the GWCTS. The GWCTS operates under permit WPDES WI-0001040-07-0. Attachment 2 includes the monthly WPDES DMRs for April 2017 through June 2017 for the GWCTS. Additional data on the operation of the GWCTS is included in Attachment 1.

Groundwater elevation data were collected from monitoring wells located in the former 8th Street Slip and Salt Vault as part of the interim shut down (winter period) for the pump down program. Groundwater elevation data were collected on April 24, 2017, May 10, 2017, and June 6, 2017. As documented in the April submittal of the water level data, Tyco installed permanent extensions on the majority of the monitoring wells in the pump down area. The elevation survey for these monitoring wells is pending, therefore, elevation data for the April, May and June events will require evaluation following completion of the survey.

Groundwater elevation data recorded by installed transducers was downloaded on July 6, 2017 and is under evaluation. Transducers have been reset to collect data hourly. The site-wide data will be provided in the annual report.

Problems Encountered

Near record spring rainfalls contributed to several complications at the site as groundwater levels were noted as being abnormally high. Additionally, on two noted occasions in June, the river water level reached high enough to lap over the Vertical Barrier Wall into the wetland area of the site. This additionally contributed to increased groundwater levels in that area. The GWCT system and Phyto Plots are working to manage the groundwater load at the site.

No additional problems were encountered during this reporting period.

Schedule of Upcoming Activities

The following is a summary of activities to be conducted during the next reporting period.

- Submit the quarterly progress report.
- Complete VBW survey and survey of newly extended Monitoring Wells
- Collect additional round of surface water samples.
- Complete the 3rd quarter semi-annual barrier wall, cover area, and monitoring well inspections.
- Address inspection findings for the vertical barrier wall, cover areas, and monitoring wells.
- Implement the planned storm water management and storm sewer improvements.
- Complete GWCTS trials with water from salt vault and 8th St. slip areas.
- Complete storm sewer repairs and modifications.
- Begin the dye test pilot project in the river.
- Complete 3rd quarter tree plot inspections.

List of Key Correspondence and Document Submittals

Table 1
Documents Submitted
Quarterly Progress Report (April through June 2017), Tyco Fire Products LP Facility, Marinette, Wisconsin

Description of Submittal	Submitted To	Date Submitted
Dye Testing Extension Request	USEPA	May 1, 2017
PDP Water Level Measurements	USEPA	April 24, 2017
PDP Water Level Measurements	USEPA	May 15, 2017
Response to Dye Testing Comments	WDNR	May 16, 2017
System Testing Letter	WDNR	June 20, 2017
SOP Surface Water Sampling	WDNR	May 31, 2017

Table 2
Correspondence from Agency
Quarterly Progress Report (April through June 2017) Tyco Fire Products LP Facility, Marinette, Wisconsin

Description of Correspondence	Received From	Date Received
Comments on Response to Dye Testing Comments	WDNR	April 24, 2017
Dye Test Extension Approval	USEPA	May 8, 2017

Table 2
Correspondence from Agency
Quarterly Progress Report (April through June 2017) Tyco Fire Products LP Facility, Marinette, Wisconsin

Description of Correspondence	Received From	Date Received
BWGMPU Recommendations Letter	USEPA	June 19, 2017
Comments on SOP Surface Water Sampling	WDNR	June 22, 2017
Pump Down Program Letter	USEPA	June 26, 2017

Please contact me at 715-587-6670 if you have any questions or require additional information.

Respectfully Yours,

Tyco Fire Products LP

Ryan Suennen
Environmental Field Projects

Attachments

1 GWCTS Operation Summary
2 DMRs for the GWCTS
3 VBW Inspection Summary
4 Surface Water sample results
5 BWGMPU sample results

cc: Kristin DuFresne, WDNR
Jim Killian, WDNR
Joe Janeczek, Johnson Controls
Rich Mator, Johnson Controls
Scott Stacy, Tyco Fire Products LP
Jeff Danko, Tyco
Mariel Carter, Stephenson Public Library

Document Control No.: 20170717 US10.11014

Attachment 1
GWCTS Operation Summary

MEMORANDUM

Groundwater Collection and Treatment System Operation

SUBJECT: Groundwater Collection and Treatment System Operation for Tyco Fire Products LP, Marinette, Wisconsin

DATE: July 12, 2017

Operation of the groundwater collection and treatment system (GWCTS) occurring from April 1, 2017 through June 30, 2017 is summarized below:

- The GWCTS operated for 15 days in April, 20 days in May, and 24 days in June, for a total of 59 days.
- Approximately 180,000 gallons of reject water was produced during system operations and subsequently disposed of off site.
- The precipitation recorded from the weather station in Marinette, Wisconsin was 15.43 inches of rain. (https://www.ncdc.noaa.gov/cdo-web/datasets/GHCND/stations/GHCND:USC00475091/detail).
- An estimated total of 863,962 gallons was discharged to the Menominee River as effluent under WPDES permit.
- An estimated total of 979,280 gallons of groundwater were extracted (not including volumes extracted as part of the pump down program) from the site during the reporting period. Details of water volumes extracted from each area of the site and changes in water levels are shown in the Table 1 below.

Table 1 – Extraction Well Data Summary

Extraction Well	Gallons Run Q2 2017 (4/01/2017-6/30/2017)	Gallons Run Q2 2016 (4/01/2016-6/30/2016)
EW-1	49,797	231,831
EW-2	205	48,249
EW-3	10,057	0
EW-4	15,585	23,286
EW-5	275,535	68,758
EW-6	389,537	683,732
EW-7	345,076	90,549
Total	979,280	1,146,405

Attachment 2
DMRs

eReport Certify - TYCO FIRE PROTECTION PRODUCTS LP - 402133

Facility Name
TYCO FIRE PROTECTION PRODUCTS LP
Form Type
Wastewater Discharge Monitoring Long Report
DOC ID
374699
Reporting Period
3/1/2017 to 3/31/2017
Enter Certification Code
gdangaryon
E-Mail was sent to
afleury@tycoint.com
Return To List
Certification complete.

The Official Internet site for the Wisconsin Department of Natural Resources

101 S. Webster Street . PO Box 7921 . Madison, Wisconsin 53707-7921 . 608.266.2621

Questions or comments about this e-form : Contact Us

eReport Certify - TYCO FIRE PROTECTION PRODUCTS LP - 402133

Facility Name
TYCO FIRE PROTECTION PRODUCTS LP
Form Type
Wastewater Discharge Monitoring Long Report
DOC ID
374699
Reporting Period
3/1/2017 to 3/31/2017
Enter Certification Code
gdangaryon
E-Mail was sent to
afleury@tycoint.com
Certify
Return To List
Without leaving THIS page, check E-Mail address for message containing Certification code. Enter code and click 'Certify' button to complete Submittal.
Submittal of this form is required by section 283.55, Wis. Stats., and chapters NR 205 and NR 214 or NR 204, Wis. Admin. Code.

Personally identifiable information collected on this form may be used for purposes other than that for which it was originally collected. Under Wisconsin's open records laws, DNR is required to provide all non-confidential information to any person who requests it. Such information may be provided to the public in written or electronic form. Information reported may be made available to the public via a DNR web page.

I certify under penalty of law that this form submitted to DNR on 4/20/2017 for the period 3/1/2017 to 3/31/2017 and identified by the DOC ID number listed above was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Wastewater Discharge Monitoring Long Report

Facility Name: TYCO FIRE PROTECTION PRODUCTS LP
Contact Address: One Stanton Street
Marinette, WI 54143
Facility Contact: Judith Rost, Sr Lab Tech
Phone Number: (715) 735-7411
Reporting Period: 03/01/2017 - 03/31/2017
Form Due Date: 04/21/2017
Permit Number: 0001040

For DNR Use Only

Date Received:	
DOC:	374699
FIN:	7245
FID:	438039470
Region:	Northeast Region
Permit Drafter:	Trevor J Moen
Reviewer:	Bruce S. Oman
Office:	Peshtigo

	Sample Point	001	703	001	001	001
	Description	PRIOR TO MENOMINEE RIVER	Intake Water Monitoring	PRIOR TO MENOMINEE RIVER	PRIOR TO MENOMINEE RIVER	PRIOR TO MENOMINEE RIVER
	Parameter	211	280	487	374	373
	Description	Flow Rate	Mercury, Total Recoverable	Temperature	pH (Minimum)	pH (Maximum)
	Units	MGD	ng/L	degF	su	su
	Sample Type	CONTINUOUS	GRAB	GRAB	CONTINUOUS	CONTINUOUS
	Frequency	DAILY	MONTHLY	MONTHLY	DAILY	DAILY
Sample Results	Day 1	0.03485		54	7.2	7.7
	2	0.06970		60	6.9	7.2
	3	0.02862		60	6.9	7.1
	4	0.00501		56	7.1	7.5
	5	0.02355		55	7.3	7.6
	6	0.08865		66	6.9	7.4
	7	0.06564		63	7.1	7.4
	8	0.04254		60	7.0	7.4
	9	0.07277		63	7.0	7.1
	10	0.03311		57	7.0	7.4
	11	0.01170		54	7.4	7.8
	12	0.01280		51	7.6	8.3
	13	0.06481		59	7.0	7.6
	14	0.05381		61	6.8	7.0
	15	0.04540		60	6.9	7.2
	16	0.07462	5.9	73	7.1	8.4
	17	0.06198		63	7.0	7.2
	18	0.00945		58	7.2	7.6
	19	0.02016		55	7.5	8.0
	20	0.04768		64	7.1	7.5
	21	0.05186		62	6.8	7.2
	22	0.04969		82	6.8	7.2
	23	0.06450		65	6.8	7.2
	24	0.08770		60	6.6	7.0
	25	0.04706		61	6.8	7.2
	26	0.04027		49	6.8	7.0
	27	0.06532		64	6.9	7.2
	28	0.05526		64	6.8	7.1
	29	0.04647		63	6.8	7.0
	30	0.08213		64	6.8	7.2
	31	0.02664		65	7.0	7.3

	Sample Point	001	703	001	001	001
	Description	PRIOR TO MENOMINEE RIVER	Intake Water Monitoring	PRIOR TO MENOMINEE RIVER	PRIOR TO MENOMINEE RIVER	PRIOR TO MENOMINEE RIVER
	Parameter	211	280	487	374	373
	Description	Flow Rate	Mercury, Total Recoverable	Temperature	pH (Minimum)	pH (Maximum)
	Units	MGD	ng/L	degF	su	su
Summary Values	Monthly Avg	0.047862903	5.9	61	6.996774194	7.387096774
	Monthly Total					
	Daily Max	0.08865	5.9	82	7.6	8.4
	Daily Min	0.00501	5.9	49	6.6	7
	Rolling 12 Month Avg					
Limit(s) in Effect	Monthly Avg					
	Monthly Total					
	Daily Max					11 0
	Daily Min				4 0	
	Rolling 12 Month Avg					
QA/QC Information	LOD		0.14			
	LOQ		0.5			
	QC Exceedance	N	N	N	N	N
	Lab Certification		999580010			

	Sample Point	001	001	001	001	001
	Description	PRIOR TO MENOMINEE RIVER	PRIOR TO MENOMINEE RIVER	PRIOR TO MENOMINEE RIVER	PRIOR TO MENOMINEE RIVER	PRIOR TO MENOMINEE RIVER
	Parameter	379	376	388	231	35
	Description	pH Total Exceedance Time Minutes	pH Exceedances Greater Than 60 Minutes	Phosphorus, Total	Hardness, Total as CaCO3	Arsenic, Total Recoverable
	Units	minutes	Number	mg/L	mg/L	ug/L
	Sample Type	CONTINUOUS	CONTINUOUS	24 HR COMP	24 HR COMP	24 HR COMP
	Frequency	DAILY	DAILY	WEEKLY	MONTHLY	MONTHLY
Sample Results	Day 1			0.015	230	91
	2					
	3					
	4					
	5					
	6					
	7					
	8			0.015	230	150
	9					
	10					
	11					
	12					
	13					
	14					
	15			0.21	240	100
	16					
	17					
	18					
	19					
	20					
	21					
	22			0.49	410	160
	23					
	24					
	25					
	26					
	27					
	28					
	29					
	30					
	31					

	Sample Point	001		001		001		001		001	
	Description	PRIOR TO MENOMINEE RIVER		PRIOR TO MENOMINEE RIVER		PRIOR TO MENOMINEE RIVER		PRIOR TO MENOMINEE RIVER		PRIOR TO MENOMINEE RIVER	
	Parameter	379		376		388		231		35	
	Description	pH Total Exceedance Time Minutes		pH Exceedances Greater Than 60 Minutes		Phosphorus, Total		Hardness, Total as CaCO3		Arsenic, Total Recoverable	
	Units	minutes		Number		mg/L		mg/L		ug/L	
Summary Values	**Monthly Avg**					0.1825		277.5		125.25	
	Monthly Total										
	Daily Max					0.49		410		160	
	Daily Min					0.015		230		91	
	Rolling 12 Month Avg					0.3					
Limit(s) in Effect	**Monthly Avg**										
	Monthly Total	446	0								
	Daily Max			0	0					680	0
	Daily Min										
	Rolling 12 Month Avg					1	0				
QA/QC Information	**LOD**					0.015				2.5	
	LOQ					0.05				5	
	QC Exceedance	N		N		N		N		N	
	Lab Certification					999580010		999580010		999580010	

	Sample Point	001	001	001	001	001
	Description	PRIOR TO MENOMINEE RIVER	PRIOR TO MENOMINEE RIVER	PRIOR TO MENOMINEE RIVER	PRIOR TO MENOMINEE RIVER	PRIOR TO MENOMINEE RIVER
	Parameter	35	147	147	87	152
	Description	Arsenic, Total Recoverable	Copper, Total Recoverable	Copper, Total Recoverable	Cadmium, Total Recoverable	Cyanide, Amenable
	Units	lbs/day	ug/L	lbs/day	ug/L	ug/L
	Sample Type	CALCULATED	24 HR COMP	24 HR COMP	24 HR COMP	24 HR COMP
	Frequency	MONTHLY	MONTHLY	MONTHLY	MONTHLY	MONTHLY
Sample Results	Day 1	0.02639	12	0.00348	<0.27	<3.6
	2					
	3					
	4					
	5					
	6					
	7					
	8	0.0525	16	0.0056	<0.27	
	9					
	10					
	11					
	12					
	13					
	14					
	15	0.038	48	0.01824	<0.27	
	16					
	17					
	18					
	19					
	20					
	21					
	22	0.0656	47	0.01927	<.27	
	23					
	24					
	25					
	26					
	27					
	28					
	29					
	30					
	31					

	Sample Point	001		001		001		001		001	
	Description	PRIOR TO MENOMINEE RIVER		PRIOR TO MENOMINEE RIVER		PRIOR TO MENOMINEE RIVER		PRIOR TO MENOMINEE RIVER		PRIOR TO MENOMINEE RIVER	
	Parameter	35		147		147		87		152	
	Description	Arsenic, Total Recoverable		Copper, Total Recoverable		Copper, Total Recoverable		Cadmium, Total Recoverable		Cyanide, Amenable	
	Units	lbs/day		ug/L		lbs/day		ug/L		ug/L	
Summary Values	Monthly Avg	0.0456225		30.75		0.0116475		0		0	
	Monthly Total										
	Daily Max	0.0656		48		0.01927		<0.27		<3.6	
	Daily Min	0.02639		12		0.00348		<0.27		<3.6	
	Rolling 12 Month Avg										
Limit(s) in Effect	Monthly Avg										
	Monthly Total										
	Daily Max	12	0	69	0	0.98	0				
	Daily Min										
	Rolling 12 Month Avg										
QA/QC Information	LOD			1.5				0.27		3.6	
	LOQ			5				1		10	
	QC Exceedance	N		N		N		N		N	
	Lab Certification			999580010				999580010		999580010	

	Sample Point	001	001	101	101	101
	Description	PRIOR TO MENOMINEE RIVER	PRIOR TO MENOMINEE RIVER	Metal Finishing Effluent	Metal Finishing Effluent	Metal Finishing Effluent
	Parameter	112	280	211	457	342
	Description	Chlorine, Total Residual	Mercury, Total Recoverable	Flow Rate	Suspended Solids, Total	Oil & Grease (Freon)
	Units	ug/L	ng/L	MGD	mg/L	mg/L
	Sample Type	GRAB	GRAB	CONTINUOUS	24 HR COMP	GRAB
	Frequency	MONTHLY	MONTHLY	DAILY	DAILY	2/WEEK
Sample Results	Day 1			0.02054	5.2	3.2
	2			0.02688	5.8	2.9
	3			0.01789	8.3	
	4					
	5					
	6			0.03520	4.3	
	7			0.03721	2.2	
	8	30		0.02888	5.8	3.6
	9			0.03055	8.9	2.9
	10			0.02733	2.9	
	11			0.00803	11.7	
	12					
	13			0.03536	6.0	
	14			0.03215	6.6	
	15			0.03333	8.1	3.0
	16		1.3	0.03462	6.3	3.5
	17			0.03427	5.7	
	18			0.00746	15.0	
	19					
	20			0.03522	4.8	
	21			0.02956	16.2	
	22			0.03067	17.8	1.9
	23			0.02689	11.7	1.6
	24			0.02739	10.2	
	25			0.03014	19.2	
	26					
	27			0.03713	16.3	
	28			0.03517	9.2	
	29			0.03257	6.4	
	30			0.03129	5.6	
	31			0.02693	5.2	

	Sample Point	001	001	101	101	101
	Description	PRIOR TO MENOMINEE RIVER	PRIOR TO MENOMINEE RIVER	Metal Finishing Effluent	Metal Finishing Effluent	Metal Finishing Effluent
	Parameter	112	280	211	457	342
	Description	Chlorine, Total Residual	Mercury, Total Recoverable	Flow Rate	Suspended Solids, Total	Oil & Grease (Freon)
	Units	ug/L	ng/L	MGD	mg/L	mg/L
Summary Values	Monthly Avg	30	1.3	0.028948462	8.669230769	2.825
	Monthly Total					
	Daily Max	30	1.3	0.03721	19.2	3.6
	Daily Min	30	1.3	0.00746	2.2	1.6
	Rolling 12 Month Avg					
Limit(s) in Effect	Monthly Avg				31 0	26 0
	Monthly Total					
	Daily Max				60 0	52 0
	Daily Min					
	Rolling 12 Month Avg					
QA/QC Information	LOD	30	0.14			1.5
	LOQ	100	0.5			5.5
	QC Exceedance	N	N	N	N	N
	Lab Certification		999580010		438039470	999580010

	Sample Point	101	101	101	101	101
	Description	Metal Finishing Effluent	Metal Finishing Effluent	Metal Finishing Effluent	Metal Finishing Effluent	Metal Finishing Effluent
	Parameter	87	133	315	553	155
	Description	Cadmium, Total Recoverable	Chromium, Total Recoverable	Nickel, Total Recoverable	Zinc, Total Recoverable	Cyanide, Total
	Units	ug/L	ug/L	ug/L	ug/L	ug/L
	Sample Type	24 HR COMP	24 HR COMP	24 HR COMP	24 HR COMP	GRAB
	Frequency	2/WEEK	MONTHLY	2/WEEK	2/WEEK	MONTHLY
Sample Results	Day 1	<0.27	<2.7	33	53	<3.6
	2	<0.27	<2.7	9.4	21	
	3					
	4					
	5					
	6					
	7					
	8	<0.27	<2.7	11	25	
	9	<0.27	<2.7	8.5	20	
	10					
	11					
	12					
	13					
	14					
	15	0.33	<2.7	7.7	18	
	16	0.31	<2.7	5.7	14	
	17					
	18					
	19					
	20					
	21					
	22	<0.27	<2.7	24	75	
	23	<0.27	<2.7	17	46	
	24					
	25					
	26					
	27					
	28					
	29					
	30					
	31					

	Sample Point	101		101		101		101		101	
	Description	Metal Finishing Effluent		Metal Finishing Effluent		Metal Finishing Effluent		Metal Finishing Effluent		Metal Finishing Effluent	
	Parameter	87		133		315		553		155	
	Description	Cadmium, Total Recoverable		Chromium, Total Recoverable		Nickel, Total Recoverable		Zinc, Total Recoverable		Cyanide, Total	
	Units	ug/L		ug/L		ug/L		ug/L		ug/L	
Summary Values	Monthly Avg	0.08		0		14.5375		34		0	
	Monthly Total										
	Daily Max	0.33		<2.7		33		75		<3.6	
	Daily Min	<0.27		<2.7		5.7		14		<3.6	
	Rolling 12 Month Avg										
Limit(s) in Effect	Monthly Avg	260	0	1710	0	2380	0	1480	0	650	0
	Monthly Total										
	Daily Max	690	0	2770	0	3980	0	2610	0	1200	0
	Daily Min										
	Rolling 12 Month Avg										
QA/QC Information	LOD	0.27		2.7		1.3		7.6		3.6	
	LOQ	1		5		5		10		10	
	QC Exceedance	N		N		N		N		N	
	Lab Certification	999580010		999580010		999580010		999580010		999580010	

	Sample Point	101	101	101	101	101
	Description	Metal Finishing Effluent	Metal Finishing Effluent	Metal Finishing Effluent	Metal Finishing Effluent	Metal Finishing Effluent
	Parameter	147	264	430	374	373
	Description	Copper, Total Recoverable	Lead, Total Recoverable	Silver, Total Recoverable	pH (Minimum)	pH (Maximum)
	Units	ug/L	ug/L	ug/L	su	su
	Sample Type	24 HR COMP	24 HR COMP	24 HR COMP	CONTINUOUS	CONTINUOUS
	Frequency	2/WEEK	MONTHLY	MONTHLY	DAILY	DAILY
Sample Results	Day 1	4.7	<1.3	<0.75	7.0	7.6
	2	4.2	<1.3	<0.75	6.6	7.2
	3				6.7	7.2
	4					
	5					
	6				6.8	7.4
	7				6.4	7.3
	8	5.5	<1.3	<0.75	6.4	6.9
	9	6.1	<1.3	<0.75	6.5	7.0
	10				6.4	7.0
	11				6.6	7.0
	12					
	13				6.4	7.6
	14				6.7	7.7
	15	4.9	<1.3	<0.75	6.8	7.6
	16	4.3	<1.3	<0.75	6.7	7.7
	17				6.8	7.5
	18				6.9	7.5
	19					
	20				6.0	7.2
	21				6.6	7.2
	22	10	<1.3	<0.75	6.5	6.8
	23	11	<1.3	<0.75	6.2	6.7
	24				6.3	6.8
	25				6.6	6.9
	26					
	27				6.7	7.8
	28				6.7	7.3
	29				6.6	7.2
	30				6.5	7.5
	31				6.7	7.4

	Sample Point	101		101		101		101		101	
	Description	Metal Finishing Effluent		Metal Finishing Effluent		Metal Finishing Effluent		Metal Finishing Effluent		Metal Finishing Effluent	
	Parameter	147		264		430		374		373	
	Description	Copper, Total Recoverable		Lead, Total Recoverable		Silver, Total Recoverable		pH (Minimum)		pH (Maximum)	
	Units	ug/L		ug/L		ug/L		su		su	
Summary Values	Monthly Avg	6.3375		0		0		6.580769231		7.269230769	
	Monthly Total										
	Daily Max	11		<1.3		<0.75		7		7.8	
	Daily Min	4.2		<1.3		<0.75		6		6.7	
	Rolling 12 Month Avg										
Limit(s) in Effect	Monthly Avg	2070	0	430	0	240	0				
	Monthly Total										
	Daily Max	3380	0	690	0	430	0			11	0
	Daily Min							4	0		
	Rolling 12 Month Avg										
QA/QC Information	LOD	1.5		1.3		0.75					
	LOQ	5		2.5		2.5					
	QC Exceedance	N		N		N		N		N	
	Lab Certification	999580010		999580010		999580010					

	Sample Point	101	101	101	101	101
	Description	Metal Finishing Effluent	Metal Finishing Effluent	Metal Finishing Effluent	Metal Finishing Effluent	Metal Finishing Effluent
	Parameter	379	376	507	40	490
	Description	pH Total Exceedance Time Minutes	pH Exceedances Greater Than 60 Minutes	Total Toxic Organics	Benzene	Tetrachloroethylene
	Units	minutes	Number	ug/L	ug/L	ug/L
	Sample Type	CALCULATED	CALCULATED	24 HR COMP	24 HR COMP	24 HR COMP
	Frequency	DAILY	DAILY	MONTHLY	MONTHLY	MONTHLY
Sample Results	Day 1					
	2					
	3					
	4					
	5					
	6					
	7					
	8					
	9					
	10					
	11					
	12					
	13					
	14					
	15					
	16					
	17					
	18					
	19					
	20					
	21					
	22					
	23					
	24					
	25					
	26					
	27					
	28					
	29					
	30					
	31					

	Sample Point	101		101		101		101		101	
	Description	Metal Finishing Effluent		Metal Finishing Effluent		Metal Finishing Effluent		Metal Finishing Effluent		Metal Finishing Effluent	
	Parameter	379		376		507		40		490	
	Description	pH Total Exceedance Time Minutes		pH Exceedances Greater Than 60 Minutes		Total Toxic Organics		Benzene		Tetrachloroethylene	
	Units	minutes		Number		ug/L		ug/L		ug/L	
Summary Values	Monthly Avg										
	Monthly Total										
	Daily Max										
	Daily Min										
	Rolling 12 Month Avg										
Limit(s) in Effect	Monthly Avg										
	Monthly Total	446	0	0	0						
	Daily Max					2130					
	Daily Min										
	Rolling 12 Month Avg										
QA/QC Information	LOD										
	LOQ										
	QC Exceedance	N		N		N		N		N	
	Lab Certification										

	Sample Point	101	101	101	101	101
	Description	Metal Finishing Effluent	Metal Finishing Effluent	Metal Finishing Effluent	Metal Finishing Effluent	Metal Finishing Effluent
	Parameter	500	561	200	508	285
	Description	Toluene	1,1,1-Trichloro- ethane	Ethylbenzene	Trichloro- ethylene	Methylene chloride
	Units	ug/L	ug/L	ug/L	ug/L	ug/L
	Sample Type	24 HR COMP	24 HR COMP	24 HR COMP	24 HR COMP	24 HR COMP
	Frequency	MONTHLY	MONTHLY	MONTHLY	MONTHLY	MONTHLY
Sample Results	**Day 1**					
	2					
	3					
	4					
	5					
	6					
	7					
	8					
	9					
	10					
	11					
	12					
	13					
	14					
	15					
	16					
	17					
	18					
	19					
	20					
	21					
	22					
	23					
	24					
	25					
	26					
	27					
	28					
	29					
	30					
	31					

	Sample Point	101	101	101	101	101
	Description	Metal Finishing Effluent	Metal Finishing Effluent	Metal Finishing Effluent	Metal Finishing Effluent	Metal Finishing Effluent
	Parameter	500	561	200	508	285
	Description	Toluene	1,1,1-Trichloro- ethane	Ethylbenzene	Trichloro- ethylene	Methylene chloride
	Units	ug/L	ug/L	ug/L	ug/L	ug/L
Summary Values	Monthly Avg					
	Monthly Total					
	Daily Max					
	Daily Min					
	Rolling 12 Month Avg					
Limit(s) in Effect	Monthly Avg					
	Monthly Total					
	Daily Max					
	Daily Min					
	Rolling 12 Month Avg					
QA/QC Information	LOD					
	LOQ					
	QC Exceedance					
	Lab Certification					

	Sample Point	101	106	106	106	107
	Description	Metal Finishing Effluent	Future remedial action ww	Future remedial action ww	Future remedial action ww	Mercury Field Blank Results
	Parameter	167	211	35	457	280
	Description	Di-n-butyl phthalate (dibutyl phthalate)	Flow Rate	Arsenic, Total Recoverable	Suspended Solids, Total	Mercury, Total Recoverable
	Units	ug/L	gpd	ug/L	mg/L	ng/L
	Sample Type	24 HR COMP	CONTINUOUS	24 HR COMP	24 HR COMP	GRAB
	Frequency	MONTHLY	DAILY	WEEKLY	WEEKLY	MONTHLY
Sample Results	Day 1					
	2					
	3					
	4					
	5					
	6					
	7					
	8					
	9					
	10					
	11					
	12					
	13					
	14					
	15					
	16					<0.14
	17					
	18					
	19					
	20					
	21					
	22					
	23					
	24					
	25					
	26					
	27					
	28					
	29					
	30					
	31					

	Sample Point	101	106	106	106	107
	Description	Metal Finishing Effluent	Future remedial action ww	Future remedial action ww	Future remedial action ww	Mercury Field Blank Results
	Parameter	167	211	35	457	280
	Description	Di-n-butyl phthalate (dibutyl phthalate)	Flow Rate	Arsenic, Total Recoverable	Suspended Solids, Total	Mercury, Total Recoverable
	Units	ug/L	gpd	ug/L	mg/L	ng/L
Summary Values	Monthly Avg					0
	Monthly Total					
	Daily Max					<0.14
	Daily Min					<0.14
	Rolling 12 Month Avg					
Limit(s) in Effect	Monthly Avg					
	Monthly Total					
	Daily Max					
	Daily Min					
	Rolling 12 Month Avg					
QA/QC Information	LOD					0.14
	LOQ					0.5
	QC Exceedance	N	N	N	N	N
	Lab Certification					999580010

	Sample Point	003	003	003	003	003
	Description	Future remedial action dischg	Future remedial action dischg	Future remedial action dischg	Future remedial action dischg	Future remedial action dischg
	Parameter	211	457	35	374	373
	Description	Flow Rate	Suspended Solids, Total	Arsenic, Total Recoverable	pH (Minimum)	pH (Maximum)
	Units	MGD	mg/L	ug/L	su	su
	Sample Type	CONTINUOUS	24 HR COMP	24 HR COMP	CONTINUOUS	CONTINUOUS
	Frequency	DAILY	WEEKLY	WEEKLY	DAILY	DAILY
Sample Results	Day 1	0.031605	1.1	190	6.5	8.5
	2	0.030191			6.4	8.9
	3	0.023893			7.0	8.5
	4					
	5					
	6					
	7	0.024948			6.8	8.5
	8	0.017761	1.3	160	6.1	8.9
	9	0.007510			6.7	8.0
	10	0.026202			7.1	8.0
	11					
	12					
	13	0.010779			6.4	7.8
	14	0.025832			6.5	8.4
	15	0.014282	1.3	170	6.4	8.7
	16	0.028794			6.4	8.0
	17	0.017998			6.5	8.0
	18					
	19					
	20					
	21	0.023569			6.2	8.9
	22	0.013226	<1.0	160	6.1	8.9
	23					
	24	0.022740			6.3	8.5
	25					
	26					
	27					
	28	0.017329			6.3	8.9
	29					
	30					
	31	0.018867			7.6	8.9

	Sample Point	003	003	003	003	003
	Description	Future remedial action dischg	Future remedial action dischg	Future remedial action dischg	Future remedial action dischg	Future remedial action dischg
	Parameter	211	457	35	374	373
	Description	Flow Rate	Suspended Solids, Total	Arsenic, Total Recoverable	pH (Minimum)	pH (Maximum)
	Units	MGD	mg/L	ug/L	su	su
Summary Values	Monthly Avg	0.020913294	0.925	170	6.547058824	8.488235294
	Monthly Total					
	Daily Max	0.031605	1.3	190	7.6	8.9
	Daily Min	0.00751	<1	160	6.1	7.8
	Rolling 12 Month Avg					
Limit(s) in Effect	Monthly Avg					
	Monthly Total					
	Daily Max			680 0		11 0
	Daily Min				4 0	
	Rolling 12 Month Avg					
QA/QC Information	LOD			2.5		
	LOQ			5		
	QC Exceedance	N	N	N	N	N
	Lab Certification		438039470	999580010		

	Sample Point	003	003
	Description	Future remedial action dischg	Future remedial action dischg
	Parameter	379	376
	Description	pH Total Exceedance Time Minutes	pH Exceedances Greater Than 60 Minutes
	Units	minutes	Number
	Sample Type	CONTINUOUS	CONTINUOUS
	Frequency	DAILY	DAILY
Sample Results	Day 1		
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
	11		
	12		
	13		
	14		
	15		
	16		
	17		
	18		
	19		
	20		
	21		
	22		
	23		
	24		
	25		
	26		
	27		
	28		
	29		
	30		
	31		

	Sample Point	003		003	
	Description	Future remedial action dischg		Future remedial action dischg	
	Parameter	379		376	
	Description	pH Total Exceedance Time Minutes		pH Exceedances Greater Than 60 Minutes	
	Units	minutes		Number	
Summary Values	Monthly Avg				
	Monthly Total				
	Daily Max				
	Daily Min				
	Rolling 12 Month Avg				
Limit(s) in Effect	Monthly Avg				
	Monthly Total	446	0		
	Daily Max			0	0
	Daily Min				
	Rolling 12 Month Avg				
QA/QC Information	LOD				
	LOQ				
	QC Exceedance	N		N	
	Lab Certification				

Footnotes (DNR Use Only; Instructions for completing this form that are unique for your facility may be displayed here.)

1. Based on my inquiry of the person or persons directly responsible for managing compiliance with the permit limitation for TTO I certify that to the best of my knowledge and belief no dumping of concentrated toxic organics into the wastewaters has
2. occurred since filing of the last discharge monitoring report. I further certify that this facility is implementing the solvent management plan submitted to the department.

General Remarks

Cl- ran on a Hach machine once a month
Per Sandie Fredrick from Test America Laboratories she had previously spoke to a WDNR representative that their Available CN- is the same as Amenable CN-.

Laboratory Quality Control Comments

eForm Listing - TYCO FIRE PROTECTION PRODUCTS LP - Fleury, Anne

- Wastewater Reporting Forms
  - eDMR (6)
    - eDMR Long (3)
      - Active (3)
        - **04/01/2017 - 04/30/2017 - Certified**
        - 05/01/2017 - 05/31/2017 - New
        - 06/01/2017 - 06/30/2017 - New
      - History
    - eDMR Short (3)
  - Sludge/Septage: Characteristics & Disposal (0)
    - 49 Characteristics Report (0)
    - 52 Other Disposal Methods Report (0)
    - 55 Annual Land Application Report (0)
    - Create new 52/55 Land Application Form

Report Type:	Wastewater Discharge Monitoring Long Report
Frequency:	Monthly
Period:	4/1/2017 - 4/30/2017
	April, 2017
Due Date:	5/21/2017
Status:	Certified
File Name:	409043.xml

View Form | Upload XML File | Download XML File | Submit | Certify | Print Report

Return | LogOut

Please select an action
Form 52 & 55 Label
Label
Ok

The Official Internet site for the Wisconsin Department of Natural Resources

101 S. Webster Street . PO Box 7921 . Madison, Wisconsin 53707-7921 . 608.266.2621

Questions or comments about this e-form : Contact Us

Wastewater Discharge Monitoring Long Report

Facility Name: TYCO FIRE PROTECTION PRODUCTS LP
Contact Address: One Stanton Street
Marinette, WI 54143
Facility Contact: Judith Rost, Sr Lab Tech
Phone Number: (715) 735-7411
Reporting Period: 04/01/2017 - 04/30/2017
Form Due Date: 05/21/2017
Permit Number: 0001040

For DNR Use Only

Date Received:	
DOC:	381178
FIN:	7245
FID:	438039470
Region:	Northeast Region
Permit Drafter:	Trevor J Moen
Reviewer:	Bruce S. Oman
Office:	Peshtigo

	Sample Point	001	703	001	001	001
	Description	PRIOR TO MENOMINEE RIVER	Intake Water Monitoring	PRIOR TO MENOMINEE RIVER	PRIOR TO MENOMINEE RIVER	PRIOR TO MENOMINEE RIVER
	Parameter	211	280	487	374	373
	Description	Flow Rate	Mercury, Total Recoverable	Temperature	pH (Minimum)	pH (Maximum)
	Units	MGD	ng/L	degF	su	su
	Sample Type	CONTINUOUS	GRAB	GRAB	CONTINUOUS	CONTINUOUS
	Frequency	DAILY	MONTHLY	MONTHLY	DAILY	DAILY
Sample Results	Day 1	0.016580		64	7.2	7.4
	2	0.020700		62	7.2	7.7
	3	0.112160		62	6.8	7.3
	4	0.073910		63	6.8	7.0
	5	0.064470		66	6.9	7.2
	6	0.057110		66	7.1	7.5
	7	0.052180		64	7.3	7.6
	8	0.020840		66	7.2	7.5
	9	0.011600		62	7.4	7.7
	10	0.097360		63	6.8	7.4
	11	0.076980		65	6.8	7.2
	12	0.052370		69	6.8	7.1
	13	0.053930		84	7.0	7.2
	14	0.031480		70	7.0	7.6
	15	0.048660		66	6.9	7.1
	16	0.008660		63	6.9	7.0
	17	0.073910		65	7.0	7.5
	18	0.070700		69	6.4	7.1
	19	0.153030		69	6.5	7.0
	20	0.069870		63	6.4	6.8
	21	0.054300		67	6.8	7.0
	22	0.021670		62	6.8	7.2
	23	0.009690		63	7.1	7.6
	24	0.057570		65	6.9	7.3
	25	0.057860		67	6.8	7.0
	26	0.115080		68	6.4	7.1
	27	0.054500		68	6.3	7.2
	28	0.060980	8.0	65	7.0	7.2
	29	0.008800			7.0	7.3
	30	0.050510			6.9	7.8
	31					

	Sample Point	001	703	001	001	001
	Description	PRIOR TO MENOMINEE RIVER	Intake Water Monitoring	PRIOR TO MENOMINEE RIVER	PRIOR TO MENOMINEE RIVER	PRIOR TO MENOMINEE RIVER
	Parameter	211	280	487	374	373
	Description	Flow Rate	Mercury, Total Recoverable	Temperature	pH (Minimum)	pH (Maximum)
	Units	MGD	ng/L	degF	su	su
Summary Values	Monthly Avg	0.055248667	8	65.928571429	6.88	7.286666667
	Monthly Total					
	Daily Max	0.15303	8	84	7.4	7.8
	Daily Min	0.00866	8	62	6.3	6.8
	Rolling 12 Month Avg					
Limit(s) in Effect	Monthly Avg					
	Monthly Total					
	Daily Max					11 0
	Daily Min				4 0	
	Rolling 12 Month Avg					
QA/QC Information	LOD		0.5			
	LOQ		0.14			
	QC Exceedance	N	N	N	N	N
	Lab Certification		999580010			

	Sample Point	001	001	001	001	001
	Description	PRIOR TO MENOMINEE RIVER	PRIOR TO MENOMINEE RIVER	PRIOR TO MENOMINEE RIVER	PRIOR TO MENOMINEE RIVER	PRIOR TO MENOMINEE RIVER
	Parameter	379	376	388	231	35
	Description	pH Total Exceedance Time Minutes	pH Exceedances Greater Than 60 Minutes	Phosphorus, Total	Hardness, Total as CaCO3	Arsenic, Total Recoverable
	Units	minutes	Number	mg/L	mg/L	ug/L
	Sample Type	CONTINUOUS	CONTINUOUS	24 HR COMP	24 HR COMP	24 HR COMP
	Frequency	DAILY	DAILY	WEEKLY	MONTHLY	MONTHLY
Sample Results	Day 1					
	2					
	3			0.45	200	270
	4					
	5					
	6					
	7					
	8					
	9					
	10			0.76	240	330
	11					
	12					
	13					
	14					
	15					
	16					
	17					
	18			0.68	280	230
	19					
	20					
	21					
	22					
	23					
	24			0.45	310	420
	25					
	26					
	27					
	28					
	29					
	30					
	31					

	Sample Point	001		001		001		001		001	
	Description	PRIOR TO MENOMINEE RIVER		PRIOR TO MENOMINEE RIVER		PRIOR TO MENOMINEE RIVER		PRIOR TO MENOMINEE RIVER		PRIOR TO MENOMINEE RIVER	
	Parameter	379		376		388		231		35	
	Description	pH Total Exceedance Time Minutes		pH Exceedances Greater Than 60 Minutes		Phosphorus, Total		Hardness, Total as CaCO3		Arsenic, Total Recoverable	
	Units	minutes		Number		mg/L		mg/L		ug/L	
Summary Values	**Monthly Avg**					0.585		257.5		312.5	
	Monthly Total										
	Daily Max					0.76		310		420	
	Daily Min					0.45		200		230	
	Rolling 12 Month Avg					0.3					
Limit(s) in Effect	**Monthly Avg**										
	Monthly Total	446	0								
	Daily Max			0	0					680	0
	Daily Min										
	Rolling 12 Month Avg					1	0				
QA/QC Information	**LOD**					0.024				2.1	
	LOQ					0.05				5	
	QC Exceedance	N		N		N		N		N	
	Lab Certification					999580010		999580010		999580010	

	Sample Point	001	001	001	001	001
	Description	PRIOR TO MENOMINEE RIVER	PRIOR TO MENOMINEE RIVER	PRIOR TO MENOMINEE RIVER	PRIOR TO MENOMINEE RIVER	PRIOR TO MENOMINEE RIVER
	Parameter	35	147	147	87	152
	Description	Arsenic, Total Recoverable	Copper, Total Recoverable	Copper, Total Recoverable	Cadmium, Total Recoverable	Cyanide, Amenable
	Units	lbs/day	ug/L	lbs/day	ug/L	ug/L
	Sample Type	CALCULATED	24 HR COMP	24 HR COMP	24 HR COMP	24 HR COMP
	Frequency	MONTHLY	MONTHLY	MONTHLY	MONTHLY	MONTHLY
Sample Results	Day 1					
	2					
	3	0.2511	16	0.01488	<0.49	<3.0
	4					
	5					
	6					
	7					
	8					
	9					
	10	0.2673	25	0.02025	4.0	
	11					
	12					
	13					
	14					
	15					
	16					
	17					
	18	0.1357	19	0.01121	2.9	
	19					
	20					
	21					
	22					
	23					
	24	0.1806	23	0.00989	5.7	
	25					
	26					
	27					
	28					
	29					
	30					
	31					

	Sample Point	001	001	001	001	001
	Description	PRIOR TO MENOMINEE RIVER	PRIOR TO MENOMINEE RIVER	PRIOR TO MENOMINEE RIVER	PRIOR TO MENOMINEE RIVER	PRIOR TO MENOMINEE RIVER
	Parameter	35	147	147	87	152
	Description	Arsenic, Total Recoverable	Copper, Total Recoverable	Copper, Total Recoverable	Cadmium, Total Recoverable	Cyanide, Amenable
	Units	lbs/day	ug/L	lbs/day	ug/L	ug/L
Summary Values	Monthly Avg	0.208675	20.75	0.0140575	3.15	0
	Monthly Total					
	Daily Max	0.2673	25	0.02025	5.7	<3
	Daily Min	0.1357	16	0.00989	<0.49	<3
	Rolling 12 Month Avg					
Limit(s) in Effect	Monthly Avg					
	Monthly Total					
	Daily Max	12 0	69 0	0.98 0		
	Daily Min					
	Rolling 12 Month Avg					
QA/QC Information	LOD		1.7		0.49	3
	LOQ		5		1	10
	QC Exceedance	N	N	N	N	N
	Lab Certification		999580010		999580010	999580010

	Sample Point	001	001	101	101	101
	Description	PRIOR TO MENOMINEE RIVER	PRIOR TO MENOMINEE RIVER	Metal Finishing Effluent	Metal Finishing Effluent	Metal Finishing Effluent
	Parameter	112	280	211	457	342
	Description	Chlorine, Total Residual	Mercury, Total Recoverable	Flow Rate	Suspended Solids, Total	Oil & Grease (Freon)
	Units	ug/L	ng/L	MGD	mg/L	mg/L
	Sample Type	GRAB	GRAB	CONTINUOUS	24 HR COMP	GRAB
	Frequency	MONTHLY	MONTHLY	DAILY	DAILY	2/WEEK
Sample Results	Day 1			0.0121	11.0	
	2					
	3			0.0394	12.5	1.6
	4			0.0403	6.5	<1.6
	5			0.0419	2.7	
	6			0.0324	5.4	
	7			0.0315	7.2	
	8			0.0132	9.3	
	9					
	10	20		0.0327	18.0	1.7
	11			0.0405	5.4	1.8
	12			0.0382	7.9	
	13			0.0250	11.3	
	14			0.0125	13.2	
	15					
	16					
	17			0.0462	20.7	
	18			0.0471	6.0	<1.6
	19			0.0461	5.5	2.6
	20			0.0417	9.8	
	21			0.0469	11.2	
	22			0.0160	10.8	
	23					
	24			0.0387	10.1	2.3
	25			0.0406	7.0	2.5
	26			0.0414	9.8	
	27			0.0375	5.2	
	28		9.0	0.0456	9.7	
	29			0.0146	6.5	
	30					
	31					

	Sample Point	001	001	101	101	101
	Description	PRIOR TO MENOMINEE RIVER	PRIOR TO MENOMINEE RIVER	Metal Finishing Effluent	Metal Finishing Effluent	Metal Finishing Effluent
	Parameter	112	280	211	457	342
	Description	Chlorine, Total Residual	Mercury, Total Recoverable	Flow Rate	Suspended Solids, Total	Oil & Grease (Freon)
	Units	ug/L	ng/L	MGD	mg/L	mg/L
Summary Values	**Monthly Avg**	20	9	0.034254167	9.279166667	1.5625
	Monthly Total					
	Daily Max	20	9	0.0471	20.7	2.6
	Daily Min	20	9	0.0121	2.7	<1.6
	Rolling 12 Month Avg					
Limit(s) in Effect	**Monthly Avg**				31 0	26 0
	Monthly Total					
	Daily Max				60 0	52 0
	Daily Min					
	Rolling 12 Month Avg					
QA/QC Information	**LOD**	30	0.14			1.6
	LOQ	100	0.5			6.1
	QC Exceedance	N	N	N	N	N
	Lab Certification		999580010		438039470	999580010

	Sample Point	101	101	101	101	101
	Description	Metal Finishing Effluent	Metal Finishing Effluent	Metal Finishing Effluent	Metal Finishing Effluent	Metal Finishing Effluent
	Parameter	87	133	315	553	155
	Description	Cadmium, Total Recoverable	Chromium, Total Recoverable	Nickel, Total Recoverable	Zinc, Total Recoverable	Cyanide, Total
	Units	ug/L	ug/L	ug/L	ug/L	ug/L
	Sample Type	24 HR COMP	24 HR COMP	24 HR COMP	24 HR COMP	GRAB
	Frequency	2/WEEK	MONTHLY	2/WEEK	2/WEEK	MONTHLY
Sample Results	Day 1					
	2					
	3	<0.49	<2.2	13	49	<3.0
	4	<0.49	<2.2	6.9	46	
	5					
	6					
	7					
	8					
	9					
	10	<0.49	<2.2	6.8	40	
	11	<0.49	<2.2	9.7	34	
	12					
	13					
	14					
	15					
	16					
	17	<0.49	<2.2	12	41	
	18	<0.49	<2.2	11	44	
	19					
	20					
	21					
	22					
	23					
	24	<0.49	2.2	3.5	41	
	25	<0.49	<2.2	22	42	
	26					
	27					
	28					
	29					
	30					
	31					

	Sample Point	101		101		101		101		101	
	Description	Metal Finishing Effluent		Metal Finishing Effluent		Metal Finishing Effluent		Metal Finishing Effluent		Metal Finishing Effluent	
	Parameter	87		133		315		553		155	
	Description	Cadmium, Total Recoverable		Chromium, Total Recoverable		Nickel, Total Recoverable		Zinc, Total Recoverable		Cyanide, Total	
	Units	ug/L		ug/L		ug/L		ug/L		ug/L	
Summary Values	**Monthly Avg**	0		0.275		10.6125		42.125		0	
	Monthly Total										
	Daily Max	<0.49		2.2		22		49		<3	
	Daily Min	<0.49		<2.2		3.5		34		<3	
	Rolling 12 Month Avg										
Limit(s) in Effect	**Monthly Avg**	260	0	1710	0	2380	0	1480	0	650	0
	Monthly Total										
	Daily Max	690	0	2770	0	3980	0	2610	0	1200	0
	Daily Min										
	Rolling 12 Month Avg										
QA/QC Information	**LOD**	0.49		2.2		1.5		3.6		3	
	LOQ	1		5		5		10		10	
	QC Exceedance	N		N		N		N		N	
	Lab Certification	999580010		999580010		999580010		999580010		999580010	

	Sample Point	101	101	101	101	101
	Description	Metal Finishing Effluent	Metal Finishing Effluent	Metal Finishing Effluent	Metal Finishing Effluent	Metal Finishing Effluent
	Parameter	147	264	430	374	373
	Description	Copper, Total Recoverable	Lead, Total Recoverable	Silver, Total Recoverable	pH (Minimum)	pH (Maximum)
	Units	ug/L	ug/L	ug/L	su	su
	Sample Type	24 HR COMP	24 HR COMP	24 HR COMP	CONTINUOUS	CONTINUOUS
	Frequency	2/WEEK	MONTHLY	MONTHLY	DAILY	DAILY
Sample Results	Day 1				6.7	8.1
	2					
	3	12	<1.3	<1.1	6.7	7.7
	4	10	<1.3	<1.1	6.7	7.2
	5				6.8	8.0
	6				6.4	7.6
	7				6.6	7.0
	8				6.8	7.4
	9					
	10	11	<1.3	<1.1	6.7	7.8
	11	11	<1.3	<1.1	6.8	8.2
	12				6.1	7.4
	13				6.2	7.2
	14				6.4	6.8
	15					
	16					
	17	15	<1.3	<1.1	6.8	8.0
	18	14	<1.3	<1.1	6.7	7.7
	19				6.4	7.2
	20				6.4	7.4
	21				6.2	7.7
	22				6.3	7.0
	23					
	24	8.1	<1.3	<1.1	6.5	7.7
	25	17	<1.3	<1.1	6.2	7.4
	26				6.9	7.4
	27				6.6	7.3
	28				6.6	7.7
	29				6.7	7.2
	30					
	31					

	Sample Point	101		101		101		101		101	
	Description	Metal Finishing Effluent		Metal Finishing Effluent		Metal Finishing Effluent		Metal Finishing Effluent		Metal Finishing Effluent	
	Parameter	147		264		430		374		373	
	Description	Copper, Total Recoverable		Lead, Total Recoverable		Silver, Total Recoverable		pH (Minimum)		pH (Maximum)	
	Units	ug/L		ug/L		ug/L		su		su	
Summary Values	**Monthly Avg**	12.2625		0		0		6.55		7.504166667	
	Monthly Total										
	Daily Max	17		<1.3		<1.1		6.9		8.2	
	Daily Min	8.1		<1.3		<1.1		6.1		6.8	
	Rolling 12 Month Avg										
Limit(s) in Effect	**Monthly Avg**	2070	0	430	0	240	0				
	Monthly Total										
	Daily Max	3380	0	690	0	430	0			11	0
	Daily Min							4	0		
	Rolling 12 Month Avg										
QA/QC Information	**LOD**	1.7		1.3		1.1					
	LOQ	5		2.5		2.5					
	QC Exceedance	N		N		N		N		N	
	Lab Certification	999580010		999580010		999580010					

	Sample Point	101	101	101	101	101
	Description	Metal Finishing Effluent	Metal Finishing Effluent	Metal Finishing Effluent	Metal Finishing Effluent	Metal Finishing Effluent
	Parameter	379	376	507	40	490
	Description	pH Total Exceedance Time Minutes	pH Exceedances Greater Than 60 Minutes	Total Toxic Organics	Benzene	Tetrachloroethylene
	Units	minutes	Number	ug/L	ug/L	ug/L
	Sample Type	CALCULATED	CALCULATED	24 HR COMP	24 HR COMP	24 HR COMP
	Frequency	DAILY	DAILY	MONTHLY	MONTHLY	MONTHLY
Sample Results	Day 1					
	2					
	3					
	4					
	5					
	6					
	7					
	8					
	9					
	10					
	11					
	12					
	13					
	14					
	15					
	16					
	17					
	18					
	19					
	20					
	21					
	22					
	23					
	24					
	25					
	26					
	27					
	28					
	29					
	30					
	31					

	Sample Point	101		101		101		101		101	
	Description	Metal Finishing Effluent		Metal Finishing Effluent		Metal Finishing Effluent		Metal Finishing Effluent		Metal Finishing Effluent	
	Parameter	379		376		507		40		490	
	Description	pH Total Exceedance Time Minutes		pH Exceedances Greater Than 60 Minutes		Total Toxic Organics		Benzene		Tetrachloroethylene	
	Units	minutes		Number		ug/L		ug/L		ug/L	
Summary Values	Monthly Avg										
	Monthly Total										
	Daily Max										
	Daily Min										
	Rolling 12 Month Avg										
Limit(s) in Effect	Monthly Avg										
	Monthly Total	446	0	0	0						
	Daily Max					2130					
	Daily Min										
	Rolling 12 Month Avg										
QA/QC Information	LOD										
	LOQ										
	QC Exceedance	N		N		N		N		N	
	Lab Certification										

	Sample Point	101	101	101	101	101
	Description	Metal Finishing Effluent	Metal Finishing Effluent	Metal Finishing Effluent	Metal Finishing Effluent	Metal Finishing Effluent
	Parameter	500	561	200	508	285
	Description	Toluene	1,1,1-Trichloro- ethane	Ethylbenzene	Trichloro- ethylene	Methylene chloride
	Units	ug/L	ug/L	ug/L	ug/L	ug/L
	Sample Type	24 HR COMP	24 HR COMP	24 HR COMP	24 HR COMP	24 HR COMP
	Frequency	MONTHLY	MONTHLY	MONTHLY	MONTHLY	MONTHLY
Sample Results	Day 1					
	2					
	3					
	4					
	5					
	6					
	7					
	8					
	9					
	10					
	11					
	12					
	13					
	14					
	15					
	16					
	17					
	18					
	19					
	20					
	21					
	22					
	23					
	24					
	25					
	26					
	27					
	28					
	29					
	30					
	31					

	Sample Point	101	101	101	101	101
	Description	Metal Finishing Effluent	Metal Finishing Effluent	Metal Finishing Effluent	Metal Finishing Effluent	Metal Finishing Effluent
	Parameter	500	561	200	508	285
	Description	Toluene	1,1,1-Trichloro- ethane	Ethylbenzene	Trichloro- ethylene	Methylene chloride
	Units	ug/L	ug/L	ug/L	ug/L	ug/L
Summary Values	Monthly Avg					
	Monthly Total					
	Daily Max					
	Daily Min					
	Rolling 12 Month Avg					
Limit(s) in Effect	Monthly Avg					
	Monthly Total					
	Daily Max					
	Daily Min					
	Rolling 12 Month Avg					
QA/QC Information	LOD					
	LOQ					
	QC Exceedance					
	Lab Certification					

	Sample Point	101	106	106	106	107
	Description	Metal Finishing Effluent	Future remedial action ww	Future remedial action ww	Future remedial action ww	Mercury Field Blank Results
	Parameter	167	211	35	457	280
	Description	Di-n-butyl phthalate (dibutyl phthalate)	Flow Rate	Arsenic, Total Recoverable	Suspended Solids, Total	Mercury, Total Recoverable
	Units	ug/L	gpd	ug/L	mg/L	ng/L
	Sample Type	24 HR COMP	CONTINUOUS	24 HR COMP	24 HR COMP	GRAB
	Frequency	MONTHLY	DAILY	WEEKLY	WEEKLY	MONTHLY
Sample Results	Day 1					
	2					
	3					
	4					
	5					
	6					
	7					
	8					
	9					
	10					
	11					
	12					
	13					
	14					
	15					
	16					
	17					
	18					
	19					
	20					
	21					
	22					
	23					
	24					
	25					
	26					
	27					
	28					<0.14
	29					
	30					
	31					

	Sample Point	101	106	106	106	107
	Description	Metal Finishing Effluent	Future remedial action ww	Future remedial action ww	Future remedial action ww	Mercury Field Blank Results
	Parameter	167	211	35	457	280
	Description	Di-n-butyl phthalate (dibutyl phthalate)	Flow Rate	Arsenic, Total Recoverable	Suspended Solids, Total	Mercury, Total Recoverable
	Units	ug/L	gpd	ug/L	mg/L	ng/L
Summary Values	Monthly Avg					0
	Monthly Total					
	Daily Max					<0.14
	Daily Min					<0.14
	Rolling 12 Month Avg					
Limit(s) in Effect	Monthly Avg					
	Monthly Total					
	Daily Max					
	Daily Min					
	Rolling 12 Month Avg					
QA/QC Information	LOD					0.14
	LOQ					0.5
	QC Exceedance	N	N	N	N	N
	Lab Certification					999580010

	Sample Point	003	003	003	003	003
	Description	Future remedial action dischg	Future remedial action dischg	Future remedial action dischg	Future remedial action dischg	Future remedial action dischg
	Parameter	211	457	35	374	373
	Description	Flow Rate	Suspended Solids, Total	Arsenic, Total Recoverable	pH (Minimum)	pH (Maximum)
	Units	MGD	mg/L	ug/L	su	su
	Sample Type	CONTINUOUS	24 HR COMP	24 HR COMP	CONTINUOUS	CONTINUOUS
	Frequency	DAILY	WEEKLY	WEEKLY	DAILY	DAILY
Sample Results	Day 1					
	2					
	3					
	4	0.000225			8.9	8.9
	5	0.011196	<1.0	360	6.4	8.9
	6	0.025372			6.5	8.9
	7	0.014539			6.3	7.9
	8					
	9					
	10					
	11	0.023623	<1.0	250	6.1	8.9
	12	0.019989			7.0	8.9
	13	0.003156			7.6	8.0
	14	0.021524			6.5	8.0
	15					
	16					
	17					
	18	0.025233	<1.0	300	7.0	8.9
	19	0.019502			6.4	8.9
	20					
	21					
	22					
	23					
	24	0.032728			7.1	8.0
	25	0.005442	<1.0	58	7.1	8.3
	26	0.006306			6.3	8.2
	27	0.001610			7.6	8.9
	28	0.004627			6.3	7.9
	29					
	30					
	31					

	Sample Point	003	003	003	003	003
	Description	Future remedial action dischg	Future remedial action dischg	Future remedial action dischg	Future remedial action dischg	Future remedial action dischg
	Parameter	211	457	35	374	373
	Description	Flow Rate	Suspended Solids, Total	Arsenic, Total Recoverable	pH (Minimum)	pH (Maximum)
	Units	MGD	mg/L	ug/L	su	su
Summary Values	Monthly Avg	0.014338133	0	242	6.873333333	8.5
	Monthly Total					
	Daily Max	0.032728	<1	360	8.9	8.9
	Daily Min	0.000225	<1	58	6.1	7.9
	Rolling 12 Month Avg					
Limit(s) in Effect	Monthly Avg					
	Monthly Total					
	Daily Max			680 0		11 0
	Daily Min				4 0	
	Rolling 12 Month Avg					
QA/QC Information	LOD			2.1		
	LOQ			5		
	QC Exceedance	N	N	N	N	N
	Lab Certification		438039470	999580010		

	Sample Point	003	003
	Description	Future remedial action dischg	Future remedial action dischg
	Parameter	379	376
	Description	pH Total Exceedance Time Minutes	pH Exceedances Greater Than 60 Minutes
	Units	minutes	Number
	Sample Type	CONTINUOUS	CONTINUOUS
	Frequency	DAILY	DAILY
Sample Results	Day 1		
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
	11		
	12		
	13		
	14		
	15		
	16		
	17		
	18		
	19		
	20		
	21		
	22		
	23		
	24		
	25		
	26		
	27		
	28		
	29		
	30		
	31		

	Sample Point	003		003	
	Description	Future remedial action dischg		Future remedial action dischg	
	Parameter	379		376	
	Description	pH Total Exceedance Time Minutes		pH Exceedances Greater Than 60 Minutes	
	Units	minutes		Number	
Summary Values	Monthly Avg				
	Monthly Total				
	Daily Max				
	Daily Min				
	Rolling 12 Month Avg				
Limit(s) in Effect	Monthly Avg				
	Monthly Total	446	0		
	Daily Max			0	0
	Daily Min				
	Rolling 12 Month Avg				
QA/QC Information	LOD				
	LOQ				
	QC Exceedance	N		N	
	Lab Certification				

Footnotes (DNR Use Only; Instructions for completing this form that are unique for your facility may be displayed here.)

1. Based on my inquiry of the person or persons directly responsible for managing compiliance with the permit limitation for TTO I certify that to the best of my knowledge and belief no dumping of concentrated toxic organics into the wastewaters has
2. occurred since filing of the last discharge monitoring report. I further certify that this facility is implementing the solvent management plan submitted to the department.

General Remarks

Total Residual Chlorine run on a HACH Handheld once a month
Per Sandie Fredrick from Test America Laboratories that their Available CN- is the same as Amenable CN-

Laboratory Quality Control Comments

For the last two days of April the temperature chart for OF001 did not read because the arm came loose so it did not take a reading.

eReport Certify - TYCO FIRE PROTECTION PRODUCTS LP - 411059

Facility Name
TYCO FIRE PROTECTION PRODUCTS LP
Form Type
Wastewater Discharge Monitoring Long Report
DOC ID
381179
Reporting Period
5/1/2017 to 5/31/2017
Enter Certification Code
ppichoment
E-Mail was sent to
afleury@tycoint.com
Return To List
Certification complete.

The Official Internet site for the Wisconsin Department of Natural Resources

101 S. Webster Street . PO Box 7921 . Madison, Wisconsin 53707-7921 . 608.266.2621

Questions or comments about this e-form : Contact Us

eReport Certify - TYCO FIRE PROTECTION PRODUCTS LP - 411059

Facility Name
TYCO FIRE PROTECTION PRODUCTS LP
Form Type
Wastewater Discharge Monitoring Long Report
DOC ID
381179
Reporting Period
5/1/2017 to 5/31/2017
Enter Certification Code

ppichoment

E-Mail was sent to
afleury@tycoint.com

Certify

Return To List

Without leaving THIS page, check E-Mail address for message containing Certification code. Enter code and click 'Certify' button to complete Submittal.
Submittal of this form is required by section 283.55, Wis. Stats., and chapters NR 205 and NR 214 or NR 204, Wis. Admin. Code.

Personally identifiable information collected on this form may be used for purposes other than that for which it was originally collected. Under Wisconsin's open records laws, DNR is required to provide all non-confidential information to any person who requests it. Such information may be provided to the public in written or electronic form. Information reported may be made available to the public via a DNR web page.

I certify under penalty of law that this form submitted to DNR on 6/9/2017 for the period 5/1/2017 to 5/31/2017 and identified by the DOC ID number listed above was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Wastewater Discharge Monitoring Long Report

Facility Name: TYCO FIRE PROTECTION PRODUCTS LP
Contact Address: One Stanton Street
Marinette, WI 54143
Facility Contact: Judith Rost, Sr Lab Tech
Phone Number: (715) 735-7411
Reporting Period: 05/01/2017 - 05/31/2017
Form Due Date: 06/21/2017
Permit Number: 0001040

For DNR Use Only

Date Received:	
DOC:	381179
FIN:	7245
FID:	438039470
Region:	Northeast Region
Permit Drafter:	Trevor J Moen
Reviewer:	Bruce S. Oman
Office:	Peshtigo

	Sample Point	001	703	001	001	001
	Description	PRIOR TO MENOMINEE RIVER	Intake Water Monitoring	PRIOR TO MENOMINEE RIVER	PRIOR TO MENOMINEE RIVER	PRIOR TO MENOMINEE RIVER
	Parameter	211	280	487	374	373
	Description	Flow Rate	Mercury, Total Recoverable	Temperature	pH (Minimum)	pH (Maximum)
	Units	MGD	ng/L	degF	su	su
	Sample Type	CONTINUOUS	GRAB	GRAB	CONTINUOUS	CONTINUOUS
	Frequency	DAILY	MONTHLY	MONTHLY	DAILY	DAILY
Sample Results	Day 1	0.07487		62	6.7	7.1
	2	0.07943			6.9	7.3
	3	0.04879			7.0	7.2
	4	0.05546		68	7.0	7.2
	5	0.06000		70	6.8	7.2
	6	0.02359		66	6.9	7.3
	7	0.01060		63	7.3	7.4
	8	0.05698		67	7.2	7.5
	9	0.07137		68	6.8	7.2
	10	0.07743		71	6.6	7.4
	11	0.06094		71	6.8	7.3
	12	0.05483		71	6.9	7.1
	13	0.0		68	7.0	7.4
	14	0.00806		68	7.4	7.8
	15	0.08287		71	6.6	6.9
	16	0.08085		69	6.9	7.5
	17	0.06703		74	6.7	7.3
	18	0.05702	6.1	88	6.8	7.4
	19	0.03213		72	6.8	7.1
	20	0.01154		67	7.0	7.6
	21	0.07507		59	6.7	7.3
	22	0.06910		70	6.8	7.0
	23	0.08616		69	7.2	7.4
	24	0.06738		67	7.3	7.6
	25	0.05497		72	7.2	7.4
	26	0.03016		72	7.3	7.4
	27	0.00687		73	7.3	7.5
	28	0.03443		68	7.2	7.5
	29	0.02762		69	7.1	7.4
	30	0.08265		69	7.1	7.8
	31	0.07725		72	7.6	8.5

	Sample Point	001	703	001	001	001
	Description	PRIOR TO MENOMINEE RIVER	Intake Water Monitoring	PRIOR TO MENOMINEE RIVER	PRIOR TO MENOMINEE RIVER	PRIOR TO MENOMINEE RIVER
	Parameter	211	280	487	374	373
	Description	Flow Rate	Mercury, Total Recoverable	Temperature	pH (Minimum)	pH (Maximum)
	Units	MGD	ng/L	degF	su	su
Summary Values	Monthly Avg	0.052433871	6.1	69.448275862	6.996774194	7.387096774
	Monthly Total					
	Daily Max	0.08616	6.1	88	7.6	8.5
	Daily Min	0	6.1	59	6.6	6.9
	Rolling 12 Month Avg					
Limit(s) in Effect	Monthly Avg					
	Monthly Total					
	Daily Max					11 0
	Daily Min				4 0	
	Rolling 12 Month Avg					
QA/QC Information	LOD		0.14			
	LOQ		0.5			
	QC Exceedance	N	N	N	N	N
	Lab Certification		999580010			

	Sample Point	001	001	001	001	001
	Description	PRIOR TO MENOMINEE RIVER	PRIOR TO MENOMINEE RIVER	PRIOR TO MENOMINEE RIVER	PRIOR TO MENOMINEE RIVER	PRIOR TO MENOMINEE RIVER
	Parameter	379	376	388	231	35
	Description	pH Total Exceedance Time Minutes	pH Exceedances Greater Than 60 Minutes	Phosphorus, Total	Hardness, Total as CaCO3	Arsenic, Total Recoverable
	Units	minutes	Number	mg/L	mg/L	ug/L
	Sample Type	CONTINUOUS	CONTINUOUS	24 HR COMP	24 HR COMP	24 HR COMP
	Frequency	DAILY	DAILY	WEEKLY	MONTHLY	MONTHLY
Sample Results	Day 1					
	2			0.41	410	130
	3					
	4					
	5					
	6					
	7					
	8			0.18	270	160
	9					
	10					
	11					
	12					
	13					
	14					
	15			0.18	290	230
	16					
	17					
	18					
	19					
	20					
	21					
	22			0.16	240	240
	23					
	24					
	25					
	26					
	27					
	28					
	29					
	30					
	31					

	Sample Point	001		001		001		001		001	
	Description	PRIOR TO MENOMINEE RIVER		PRIOR TO MENOMINEE RIVER		PRIOR TO MENOMINEE RIVER		PRIOR TO MENOMINEE RIVER		PRIOR TO MENOMINEE RIVER	
	Parameter	379		376		388		231		35	
	Description	pH Total Exceedance Time Minutes		pH Exceedances Greater Than 60 Minutes		Phosphorus, Total		Hardness, Total as CaCO3		Arsenic, Total Recoverable	
	Units	minutes		Number		mg/L		mg/L		ug/L	
Summary Values	Monthly Avg					0.2325		302.5		190	
	Monthly Total										
	Daily Max					0.41		410		240	
	Daily Min					0.16		240		130	
	Rolling 12 Month Avg					0.3					
Limit(s) in Effect	Monthly Avg										
	Monthly Total	446	0								
	Daily Max			0	0					680	0
	Daily Min										
	Rolling 12 Month Avg					1	0				
QA/QC Information	LOD					0.024				2.1	
	LOQ					0.05				5	
	QC Exceedance	N		N		N		N		N	
	Lab Certification					999580010		999580010		999580010	

	Sample Point	001	001	001	001	001
	Description	PRIOR TO MENOMINEE RIVER	PRIOR TO MENOMINEE RIVER	PRIOR TO MENOMINEE RIVER	PRIOR TO MENOMINEE RIVER	PRIOR TO MENOMINEE RIVER
	Parameter	35	147	147	87	152
	Description	Arsenic, Total Recoverable	Copper, Total Recoverable	Copper, Total Recoverable	Cadmium, Total Recoverable	Cyanide, Amenable
	Units	lbs/day	ug/L	lbs/day	ug/L	ug/L
	Sample Type	CALCULATED	24 HR COMP	24 HR COMP	24 HR COMP	24 HR COMP
	Frequency	MONTHLY	MONTHLY	MONTHLY	MONTHLY	MONTHLY
Sample Results	Day 1					
	2	0.0858	11	0.00726	1.8	<3.0
	3					
	4					
	5					
	6					
	7					
	8	0.0752	9.7	0.004559	<0.49	
	9					
	10					
	11					
	12					
	13					
	14					
	15	0.1541	9.4	0.006298	3.5	
	16					
	17					
	18					
	19					
	20					
	21					
	22	0.1392	8.7	0.005046	3.4	
	23					
	24					
	25					
	26					
	27					
	28					
	29					
	30					
	31					

	Sample Point	001		001		001		001		001					
	Description	PRIOR TO MENOMINEE RIVER		PRIOR TO MENOMINEE RIVER		PRIOR TO MENOMINEE RIVER		PRIOR TO MENOMINEE RIVER		PRIOR TO MENOMINEE RIVER					
	Parameter	35		147		147		87		152					
	Description	Arsenic, Total Recoverable		Copper, Total Recoverable		Copper, Total Recoverable		Cadmium, Total Recoverable		Cyanide, Amenable					
	Units	lbs/day		ug/L		lbs/day		ug/L		ug/L					
Summary Values	**Monthly Avg**	0.113575		9.7		0.00579075		2.175		0					
	Monthly Total														
	Daily Max	0.1541		11		0.00726		3.5		<3					
	Daily Min	0.0752		8.7		0.004559		<0.49		<3					
	Rolling 12 Month Avg														
Limit(s) in Effect	**Monthly Avg**														
	Monthly Total														
	Daily Max	12	0	69	0	0.98	0								
	Daily Min														
	Rolling 12 Month Avg														
QA/QC Information	**LOD**			1.7				0.49		3					
	LOQ			5				1		10					
	QC Exceedance	N		N		N		N		N					
	Lab Certification			999580010				999580010		999580010					

	Sample Point	001	001	101	101	101
	Description	PRIOR TO MENOMINEE RIVER	PRIOR TO MENOMINEE RIVER	Metal Finishing Effluent	Metal Finishing Effluent	Metal Finishing Effluent
	Parameter	112	280	211	457	342
	Description	Chlorine, Total Residual	Mercury, Total Recoverable	Flow Rate	Suspended Solids, Total	Oil & Grease (Freon)
	Units	ug/L	ng/L	MGD	mg/L	mg/L
	Sample Type	GRAB	GRAB	CONTINUOUS	24 HR COMP	GRAB
	Frequency	MONTHLY	MONTHLY	DAILY	DAILY	2/WEEK
Sample Results	Day 1			0.0437	11.0	
	2			0.0455	11.4	3.9
	3			0.0371	10.7	1.6
	4			0.0439	6.3	
	5			0.0436	9.2	
	6			0.0191	10.6	
	7					
	8			0.0438	8.7	1.8
	9	20		0.0395	5.8	1.6
	10			0.0400	6.7	
	11			0.0406	4.6	
	12			0.0425	4.0	
	13					
	14					
	15			0.0409	8.7	1.6
	16			0.0302	6.3	<1.5
	17			0.0241	5.2	
	18		5.0	0.0326	4.8	
	19			0.0268	6.7	
	20					
	21					
	22			0.0233	8.7	<1.4
	23			0.0235	5.3	<1.5
	24			0.0235	6.0	
	25			0.0376	5.2	
	26			0.0212	4.3	
	27					
	28					
	29					
	30			0.0498	6.6	
	31			0.0537	3.8	

	Sample Point	001	001	101	101	101
	Description	PRIOR TO MENOMINEE RIVER	PRIOR TO MENOMINEE RIVER	Metal Finishing Effluent	Metal Finishing Effluent	Metal Finishing Effluent
	Parameter	112	280	211	457	342
	Description	Chlorine, Total Residual	Mercury, Total Recoverable	Flow Rate	Suspended Solids, Total	Oil & Grease (Freon)
	Units	ug/L	ng/L	MGD	mg/L	mg/L
Summary Values	Monthly Avg	20	5	0.035934783	6.982608696	1.3125
	Monthly Total					
	Daily Max	20	5	0.0537	11.4	3.9
	Daily Min	20	5	0.0191	3.8	<1.4
	Rolling 12 Month Avg					
Limit(s) in Effect	Monthly Avg				31 0	26 0
	Monthly Total					
	Daily Max				60 0	52 0
	Daily Min					
	Rolling 12 Month Avg					
QA/QC Information	LOD	30	0.14			1.5
	LOQ	100	0.5			5.8
	QC Exceedance	N	N	N	N	N
	Lab Certification		999580010		438039470	999580010

	Sample Point	101	101	101	101	101
	Description	Metal Finishing Effluent	Metal Finishing Effluent	Metal Finishing Effluent	Metal Finishing Effluent	Metal Finishing Effluent
	Parameter	87	133	315	553	155
	Description	Cadmium, Total Recoverable	Chromium, Total Recoverable	Nickel, Total Recoverable	Zinc, Total Recoverable	Cyanide, Total
	Units	ug/L	ug/L	ug/L	ug/L	ug/L
	Sample Type	24 HR COMP	24 HR COMP	24 HR COMP	24 HR COMP	GRAB
	Frequency	2/WEEK	MONTHLY	2/WEEK	2/WEEK	MONTHLY
Sample Results	Day 1					
	2	<0.49	<2.2	5.0	38	<3.0
	3	<0.49	<2.2	5.0	45	
	4					
	5					
	6					
	7					
	8	<0.49	<2.2	4.5	25	
	9	<0.49	<2.2	3.5	26	
	10					
	11					
	12					
	13					
	14					
	15	<0.49	<2.2	16	71	
	16	<0.49	<2.2	3.7	44	
	17					
	18					
	19					
	20					
	21					
	22	<0.49	<2.2	7.3	57	
	23	<0.49	<2.2	4.7	61	
	24					
	25					
	26					
	27					
	28					
	29					
	30					
	31					

	Sample Point	101		101		101		101		101	
	Description	Metal Finishing Effluent		Metal Finishing Effluent		Metal Finishing Effluent		Metal Finishing Effluent		Metal Finishing Effluent	
	Parameter	87		133		315		553		155	
	Description	Cadmium, Total Recoverable		Chromium, Total Recoverable		Nickel, Total Recoverable		Zinc, Total Recoverable		Cyanide, Total	
	Units	ug/L		ug/L		ug/L		ug/L		ug/L	
Summary Values	**Monthly Avg**	0		0		6.2125		45.875		0	
	Monthly Total										
	Daily Max	<0.49		<2.2		16		71		<3	
	Daily Min	<0.49		<2.2		3.5		25		<3	
	Rolling 12 Month Avg										
Limit(s) in Effect	**Monthly Avg**	260	0	1710	0	2380	0	1480	0	650	0
	Monthly Total										
	Daily Max	690	0	2770	0	3980	0	2610	0	1200	0
	Daily Min										
	Rolling 12 Month Avg										
QA/QC Information	**LOD**	0.49		2.2		1.5		3.6		3	
	LOQ	1		5		5		10		10	
	QC Exceedance	N		N		N		N		N	
	Lab Certification	999580010		999580010		999580010		999580010		999580010	

	Sample Point	101	101	101	101	101
	Description	Metal Finishing Effluent	Metal Finishing Effluent	Metal Finishing Effluent	Metal Finishing Effluent	Metal Finishing Effluent
	Parameter	147	264	430	374	373
	Description	Copper, Total Recoverable	Lead, Total Recoverable	Silver, Total Recoverable	pH (Minimum)	pH (Maximum)
	Units	ug/L	ug/L	ug/L	su	su
	Sample Type	24 HR COMP	24 HR COMP	24 HR COMP	CONTINUOUS	CONTINUOUS
	Frequency	2/WEEK	MONTHLY	MONTHLY	DAILY	DAILY
Sample Results	Day 1				6.7	7.7
	2	14	<1.3	<1.1	6.6	7.4
	3	12	<1.3	<1.1	6.2	7.2
	4				6.2	7.1
	5				6.1	6.9
	6				6.7	7.0
	7					
	8	12	<1.3	<1.1	6.4	7.7
	9	9.5	<1.3	<1.1	6.1	7.4
	10				6.4	7.2
	11				6.7	7.3
	12				6.2	6.5
	13					
	14					
	15	11	<1.3	<1.1	7.1	7.7
	16	10	<1.3	<1.1	6.5	7.4
	17				6.6	7.6
	18				6.6	7.0
	19				6.2	6.7
	20					
	21					
	22	10	<1.3	<1.1	6.6	7.6
	23	9.7	<1.3	<1.1	6.3	6.8
	24				6.2	7.0
	25				6.8	7.9
	26				6.2	7.6
	27					
	28					
	29					
	30				6.6	8.0
	31				6.6	8.6

	Sample Point	101		101		101		101		101	
	Description	Metal Finishing Effluent		Metal Finishing Effluent		Metal Finishing Effluent		Metal Finishing Effluent		Metal Finishing Effluent	
	Parameter	147		264		430		374		373	
	Description	Copper, Total Recoverable		Lead, Total Recoverable		Silver, Total Recoverable		pH (Minimum)		pH (Maximum)	
	Units	ug/L		ug/L		ug/L		su		su	
Summary Values	**Monthly Avg**	11.025		0		0		6.460869565		7.360869565	
	Monthly Total										
	Daily Max	14		<1.3		<1.1		7.1		8.6	
	Daily Min	9.5		<1.3		<1.1		6.1		6.5	
	Rolling 12 Month Avg										
Limit(s) in Effect	**Monthly Avg**	2070	0	430	0	240	0				
	Monthly Total										
	Daily Max	3380	0	690	0	430	0			11	0
	Daily Min							4	0		
	Rolling 12 Month Avg										
QA/QC Information	**LOD**	1.7		1.3		1.1					
	LOQ	5		2.5		2.5					
	QC Exceedance	N		N		N		N		N	
	Lab Certification	999580010		999580010		999580010					

	Sample Point	101	101	101	101	101
	Description	Metal Finishing Effluent	Metal Finishing Effluent	Metal Finishing Effluent	Metal Finishing Effluent	Metal Finishing Effluent
	Parameter	379	376	507	40	490
	Description	pH Total Exceedance Time Minutes	pH Exceedances Greater Than 60 Minutes	Total Toxic Organics	Benzene	Tetrachloroethylene
	Units	minutes	Number	ug/L	ug/L	ug/L
	Sample Type	CALCULATED	CALCULATED	24 HR COMP	24 HR COMP	24 HR COMP
	Frequency	DAILY	DAILY	MONTHLY	MONTHLY	MONTHLY
Sample Results	Day 1					
	2					
	3					
	4					
	5					
	6					
	7					
	8					
	9					
	10					
	11					
	12					
	13					
	14					
	15					
	16					
	17					
	18					
	19					
	20					
	21					
	22					
	23					
	24					
	25					
	26					
	27					
	28					
	29					
	30					
	31					

	Sample Point	101	101	101	101	101
	Description	Metal Finishing Effluent	Metal Finishing Effluent	Metal Finishing Effluent	Metal Finishing Effluent	Metal Finishing Effluent
	Parameter	379	376	507	40	490
	Description	pH Total Exceedance Time Minutes	pH Exceedances Greater Than 60 Minutes	Total Toxic Organics	Benzene	Tetrachloroethylene
	Units	minutes	Number	ug/L	ug/L	ug/L
Summary Values	Monthly Avg					
	Monthly Total					
	Daily Max					
	Daily Min					
	Rolling 12 Month Avg					
Limit(s) in Effect	Monthly Avg					
	Monthly Total	446	0			
	Daily Max			2130		
	Daily Min					
	Rolling 12 Month Avg					
QA/QC Information	LOD					
	LOQ					
	QC Exceedance	N	N	N	N	N
	Lab Certification					

	Sample Point	101	101	101	101	101
	Description	Metal Finishing Effluent	Metal Finishing Effluent	Metal Finishing Effluent	Metal Finishing Effluent	Metal Finishing Effluent
	Parameter	500	561	200	508	285
	Description	Toluene	1,1,1-Trichloro- ethane	Ethylbenzene	Trichloro- ethylene	Methylene chloride
	Units	ug/L	ug/L	ug/L	ug/L	ug/L
	Sample Type	24 HR COMP	24 HR COMP	24 HR COMP	24 HR COMP	24 HR COMP
	Frequency	MONTHLY	MONTHLY	MONTHLY	MONTHLY	MONTHLY
Sample Results	Day 1					
	2					
	3					
	4					
	5					
	6					
	7					
	8					
	9					
	10					
	11					
	12					
	13					
	14					
	15					
	16					
	17					
	18					
	19					
	20					
	21					
	22					
	23					
	24					
	25					
	26					
	27					
	28					
	29					
	30					
	31					

	Sample Point	101	101	101	101	101
	Description	Metal Finishing Effluent	Metal Finishing Effluent	Metal Finishing Effluent	Metal Finishing Effluent	Metal Finishing Effluent
	Parameter	500	561	200	508	285
	Description	Toluene	1,1,1-Trichloro- ethane	Ethylbenzene	Trichloro- ethylene	Methylene chloride
	Units	ug/L	ug/L	ug/L	ug/L	ug/L
Summary Values	Monthly Avg					
	Monthly Total					
	Daily Max					
	Daily Min					
	Rolling 12 Month Avg					
Limit(s) in Effect	Monthly Avg					
	Monthly Total					
	Daily Max					
	Daily Min					
	Rolling 12 Month Avg					
QA/QC Information	LOD					
	LOQ					
	QC Exceedance					
	Lab Certification					

	Sample Point	101	106	106	106	107
	Description	Metal Finishing Effluent	Future remedial action ww	Future remedial action ww	Future remedial action ww	Mercury Field Blank Results
	Parameter	167	211	35	457	280
	Description	Di-n-butyl phthalate (dibutyl phthalate)	Flow Rate	Arsenic, Total Recoverable	Suspended Solids, Total	Mercury, Total Recoverable
	Units	ug/L	gpd	ug/L	mg/L	ng/L
	Sample Type	24 HR COMP	CONTINUOUS	24 HR COMP	24 HR COMP	GRAB
	Frequency	MONTHLY	DAILY	WEEKLY	WEEKLY	MONTHLY
Sample Results	Day 1					
	2					
	3					
	4					
	5					
	6					
	7					
	8					
	9					
	10					
	11					
	12					
	13					
	14					
	15					
	16					
	17					
	18					<0.14
	19					
	20					
	21					
	22					
	23					
	24					
	25					
	26					
	27					
	28					
	29					
	30					
	31					

	Sample Point	101	106	106	106	107
	Description	Metal Finishing Effluent	Future remedial action ww	Future remedial action ww	Future remedial action ww	Mercury Field Blank Results
	Parameter	167	211	35	457	280
	Description	Di-n-butyl phthalate (dibutyl phthalate)	Flow Rate	Arsenic, Total Recoverable	Suspended Solids, Total	Mercury, Total Recoverable
	Units	ug/L	gpd	ug/L	mg/L	ng/L
Summary Values	Monthly Avg					0
	Monthly Total					
	Daily Max					<0.14
	Daily Min					<0.14
	Rolling 12 Month Avg					
Limit(s) in Effect	Monthly Avg					
	Monthly Total					
	Daily Max					
	Daily Min					
	Rolling 12 Month Avg					
QA/QC Information	LOD					0.14
	LOQ					0.5
	QC Exceedance	N	N	N	N	N
	Lab Certification					999580010

	Sample Point	003	003	003	003	003
	Description	Future remedial action dischg	Future remedial action dischg	Future remedial action dischg	Future remedial action dischg	Future remedial action dischg
	Parameter	211	457	35	374	373
	Description	Flow Rate	Suspended Solids, Total	Arsenic, Total Recoverable	pH (Minimum)	pH (Maximum)
	Units	MGD	mg/L	ug/L	su	su
	Sample Type	CONTINUOUS	24 HR COMP	24 HR COMP	CONTINUOUS	CONTINUOUS
	Frequency	DAILY	WEEKLY	WEEKLY	DAILY	DAILY
Sample Results	Day 1					
	2	0.002983			6.5	8.9
	3	0.013768			7.8	8.9
	4	0.001737			6.1	8.6
	5	0.016490	<1.0	150	6.1	8.6
	6	0.011665			7.9	8.7
	7					
	8	0.004824			6.8	8.4
	9	0.029029	<1.0	200	6.3	8.1
	10	0.013978			6.5	7.1
	11	0.012347			6.4	8.6
	12	0.006300			6.4	8.9
	13					
	14					
	15	0.018942			6.1	7.0
	16	0.023773	<1.0	680	6.1	7.2
	17	0.011658			6.4	7.7
	18	0.018654			6.5	8.8
	19	0.027998			7.0	8.7
	20	0.003668			8.3	8.5
	21					
	22	0.022205	<1.0	560	8.0	8.4
	23	0.010478			7.8	8.2
	24					
	25					
	26					
	27					
	28					
	29					
	30	0.031369			7.7	8.8
	31	0.022082			7.0	8.6

	Sample Point	003	003	003	003	003
	Description	Future remedial action dischg	Future remedial action dischg	Future remedial action dischg	Future remedial action dischg	Future remedial action dischg
	Parameter	211	457	35	374	373
	Description	Flow Rate	Suspended Solids, Total	Arsenic, Total Recoverable	pH (Minimum)	pH (Maximum)
	Units	MGD	mg/L	ug/L	su	su
Summary Values	Monthly Avg	0.0151974	0	397.5	6.885	8.335
	Monthly Total					
	Daily Max	0.031369	<1	680	8.3	8.9
	Daily Min	0.001737	<1	150	6.1	7
	Rolling 12 Month Avg					
Limit(s) in Effect	Monthly Avg					
	Monthly Total					
	Daily Max			680 0		11 0
	Daily Min				4 0	
	Rolling 12 Month Avg					
QA/QC Information	LOD			2.1		
	LOQ			5		
	QC Exceedance	N	N	N	N	N
	Lab Certification		438039470	999580010		

	Sample Point	003	003
	Description	Future remedial action dischg	Future remedial action dischg
	Parameter	379	376
	Description	pH Total Exceedance Time Minutes	pH Exceedances Greater Than 60 Minutes
	Units	minutes	Number
	Sample Type	CONTINUOUS	CONTINUOUS
	Frequency	DAILY	DAILY
Sample Results	Day 1		
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
	11		
	12		
	13		
	14		
	15		
	16		
	17		
	18		
	19		
	20		
	21		
	22		
	23		
	24		
	25		
	26		
	27		
	28		
	29		
	30		
	31		

	Sample Point	003		003	
	Description	Future remedial action dischg		Future remedial action dischg	
	Parameter	379		376	
	Description	pH Total Exceedance Time Minutes		pH Exceedances Greater Than 60 Minutes	
	Units	minutes		Number	
Summary Values	Monthly Avg				
	Monthly Total				
	Daily Max				
	Daily Min				
	Rolling 12 Month Avg				
Limit(s) in Effect	Monthly Avg				
	Monthly Total	446	0		
	Daily Max			0	0
	Daily Min				
	Rolling 12 Month Avg				
QA/QC Information	LOD				
	LOQ				
	QC Exceedance	N		N	
	Lab Certification				

Footnotes (DNR Use Only; Instructions for completing this form that are unique for your facility may be displayed here.)

1. Based on my inquiry of the person or persons directly responsible for managing compiliance with the permit limitation for TTO I certify that to the best of my knowledge and belief no dumping of concentrated toxic organics into the wastewaters has
2. occurred since filing of the last discharge monitoring report. I further certify that this facility is implementing the solvent management plan submitted to the department.

General Remarks

Total Residual Chlorine is run on a HACH handheld machine once a month
Per Sandie Fredrick from Test America Laboratories that their Available CN- is the same as Amenable CN- per WDNR contact

Laboratory Quality Control Comments

On May 2-3 the temperature chart for OF001 had a failure so, that is why the two days are left empty but, now the problem is fixed.

Attachment 3
Barrier Wall Inspection Summary

Quarter 2 Spring Vertical Barrier Wall Inspection Summary

The 2017 Quarter 2 Vertical Barrier Wall Visual Inspection was performed by Ryan Suennen and Jeff Danko of Tyco. The inspection was completed on 6/7/17. The Inspection observations are below. There were no repeat findings from the 2016 fall inspection, all issues identified during that inspection have been repaired and resolved.

Observation 1

During the river side inspection of the Barrier Wall in the main plant area of the facility, Tyco noted 8 localized instances where site groundwater was dripping from the penetrations in the wall created to support the tieback structure. The general location of the leaks is shown by the figure on the next page. MJB was immediately contracted to tighten and seal the tieback bolts in a manner consistent with previous similar work. This work was completed on 6/14/17. Tyco will complete a follow-up inspection in the next quarter to verify the corrective actions taken continue to be effective at stopping the leaks. In all, 20 bolts showed some signs of potential leakage and all were tightened and sealed. It is likely that the leaks occurred because of the higher than normal site groundwater levels which are attributable to the near record rainfall recorded during the month of June.

MENOMINEE RIVER

FORMER OUTFALL #10 (ABANDONED)

REMEDIATION OUTFALL

2010 SHEET PILE WALL

OUTFALL #1

OUTFALL #2

OUTFALL #3

BUILDING 88

H-PILE WALL

GROUNDWATER TREATMENT BUILDING

BLDG 41

BLDG 42

COAL DOCK AREA

BLDG 43

BLDG 40

NEW OUTFALL #10

OUTFALL #4

2010 SHEET PILE WALL

H-PILE WALL

OUTFALL #5

OUTFALL #6

TURNING BASIN AREA

EXISTING BARRIER WALL

Observation 1

BUILDING 36

2009 SLURRY WALL

MAIN PLANT AREA

FORMER SALT VAULT

FORMER EIGHTH STREET SLIP

WETLANDS AREA

2010 SHEET PILE WALL

2009 SLURRY WALL

BUILDING 29

BUILDING 59

2009 SLURRY WALL

STANTON STREET

WATER STREET

LEGEND

FIGURE 2

CONTAINMENT BARRIER WALL DETAILS

CH2MHILL

Attachment 4
Surface Water Sampling Results

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 500-129739-2

Job Description: Surface Water Sampling

For:
Tyco Fire Protection Products
1 Stanton St
Marinette, WI 54143

Attention: Mr. Ryan Suennen

Approved for release.
Richard C Wright
Senior Project Manager
6/30/2017 9:20 AM

Richard C Wright, Senior Project Manager
2417 Bond Street, University Park, IL, 60484
richard.wright@testamericainc.com
06/30/2017

All questions regarding this test report should be directed to the TestAmerica Project Manager whose signature appears on this report. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.

Table of Contents

Table of Contents

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job Narrative
500-129739-2

Comments
No additional comments.

Receipt
The samples were received on 6/16/2017 9:10 AM; the samples arrived in good condition, properly preserved and, where required, on ice.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Tyco Fire Protection Products
Project/Site: Surface Water Sampling

TestAmerica Job ID: 500-129739-2

Client Sample ID: DWMAR-060717 — Lab Sample ID: 500-129739-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00077	J	0.0010	0.00015	mg/L	1		200.8	Total/NA

Client Sample ID: DWMEN-060717 — Lab Sample ID: 500-129739-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0012		0.0010	0.00015	mg/L	1		200.8	Total/NA

Client Sample ID: SW1-060717 — Lab Sample ID: 500-129739-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0011		0.0010	0.00015	mg/L	1		200.8	Total/NA

Client Sample ID: SW2-060717 — Lab Sample ID: 500-129739-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0012		0.0010	0.00015	mg/L	1		200.8	Total/NA

Client Sample ID: SW3-060717 — Lab Sample ID: 500-129739-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0012		0.0010	0.00015	mg/L	1		200.8	Total/NA

Client Sample ID: SW3/D-060717 — Lab Sample ID: 500-129739-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0011		0.0010	0.00015	mg/L	1		200.8	Total/NA

Client Sample ID: SW4-060717 — Lab Sample ID: 500-129739-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0012		0.0010	0.00015	mg/L	1		200.8	Total/NA

Client Sample ID: FB#1-060717 — Lab Sample ID: 500-129739-8

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample ID: DWMAR-060717
Date Collected: 06/07/17 08:51
Date Received: 06/16/17 09:10

Lab Sample ID: 500-129739-1
Matrix: Water

Method: 200.8 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00077	J	0.0010	0.00015	mg/L		06/29/17 11:10	06/29/17 13:40	1

Client Sample ID: DWMEN-060717
Date Collected: 06/07/17 09:47
Date Received: 06/16/17 09:10

Lab Sample ID: 500-129739-2
Matrix: Water

Method: 200.8 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0012		0.0010	0.00015	mg/L		06/29/17 11:10	06/29/17 13:44	1

Client Sample ID: SW1-060717
Date Collected: 06/07/17 11:31
Date Received: 06/16/17 09:10

Lab Sample ID: 500-129739-3
Matrix: Water

Method: 200.8 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0011		0.0010	0.00015	mg/L		06/29/17 11:10	06/29/17 13:59	1

Client Sample ID: SW2-060717
Date Collected: 06/07/17 11:46
Date Received: 06/16/17 09:10

Lab Sample ID: 500-129739-4
Matrix: Water

Method: 200.8 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0012		0.0010	0.00015	mg/L		06/29/17 11:10	06/29/17 14:03	1

Client Sample ID: SW3-060717
Date Collected: 06/07/17 12:02
Date Received: 06/16/17 09:10

Lab Sample ID: 500-129739-5
Matrix: Water

Method: 200.8 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0012		0.0010	0.00015	mg/L		06/29/17 11:10	06/29/17 14:07	1

Client Sample ID: SW3/D-060717
Date Collected: 06/07/17 12:02
Date Received: 06/16/17 09:10

Lab Sample ID: 500-129739-6
Matrix: Water

Method: 200.8 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0011		0.0010	0.00015	mg/L		06/29/17 11:10	06/29/17 14:18	1

Client Sample ID: SW4-060717
Date Collected: 06/07/17 11:55
Date Received: 06/16/17 09:10

Lab Sample ID: 500-129739-7
Matrix: Water

Method: 200.8 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0012		0.0010	0.00015	mg/L		06/29/17 11:10	06/29/17 14:22	1

Client Sample ID: FB#1-060717
Date Collected: 06/07/17 15:07
Date Received: 06/16/17 09:10

Lab Sample ID: 500-129739-8
Matrix: Water

Method: 200.8 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00015		0.0010	0.00015	mg/L		06/29/17 11:10	06/29/17 14:26	1

Default Detection Limits

Client: Tyco Fire Protection Products
Project/Site: Surface Water Sampling

TestAmerica Job ID: 500-129739-2

Method: 200.8 - Metals (ICP/MS)

Prep: 200.8

Analyte	RL	MDL	Units	Method
Arsenic	0.0010	0.00015	mg/L	200.8

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 500-391317/1-A
Matrix: Water
Analysis Batch: 391366

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 391317

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00015		0.0010	0.00015	mg/L		06/29/17 11:10	06/29/17 13:31	1

Lab Sample ID: LCS 500-391317/2-A
Matrix: Water
Analysis Batch: 391366

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 391317

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.100	0.0975		mg/L		97	85 - 115

Lab Sample ID: 500-129739-2 MS
Matrix: Water
Analysis Batch: 391366

Client Sample ID: DWMEN-060717
Prep Type: Total/NA
Prep Batch: 391317

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.0012		0.100	0.0989		mg/L		98	70 - 130

Lab Sample ID: 500-129739-2 MSD
Matrix: Water
Analysis Batch: 391366

Client Sample ID: DWMEN-060717
Prep Type: Total/NA
Prep Batch: 391317

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.0012		0.100	0.0998		mg/L		99	70 - 130	1	20

QC Association Summary

Client: Tyco Fire Protection Products
Project/Site: Surface Water Sampling

TestAmerica Job ID: 500-129739-2

Metals

Prep Batch: 391317

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-129739-1	DWMAR-060717	Total/NA	Water	200.8	
500-129739-2	DWMEN-060717	Total/NA	Water	200.8	
500-129739-3	SW1-060717	Total/NA	Water	200.8	
500-129739-4	SW2-060717	Total/NA	Water	200.8	
500-129739-5	SW3-060717	Total/NA	Water	200.8	
500-129739-6	SW3/D-060717	Total/NA	Water	200.8	
500-129739-7	SW4-060717	Total/NA	Water	200.8	
500-129739-8	FB#1-060717	Total/NA	Water	200.8	
MB 500-391317/1-A	Method Blank	Total/NA	Water	200.8	
LCS 500-391317/2-A	Lab Control Sample	Total/NA	Water	200.8	
500-129739-2 MS	DWMEN-060717	Total/NA	Water	200.8	
500-129739-2 MSD	DWMEN-060717	Total/NA	Water	200.8	

Analysis Batch: 391366

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-129739-1	DWMAR-060717	Total/NA	Water	200.8	391317
500-129739-2	DWMEN-060717	Total/NA	Water	200.8	391317
500-129739-3	SW1-060717	Total/NA	Water	200.8	391317
500-129739-4	SW2-060717	Total/NA	Water	200.8	391317
500-129739-5	SW3-060717	Total/NA	Water	200.8	391317
500-129739-6	SW3/D-060717	Total/NA	Water	200.8	391317
500-129739-7	SW4-060717	Total/NA	Water	200.8	391317
500-129739-8	FB#1-060717	Total/NA	Water	200.8	391317
MB 500-391317/1-A	Method Blank	Total/NA	Water	200.8	391317
LCS 500-391317/2-A	Lab Control Sample	Total/NA	Water	200.8	391317
500-129739-2 MS	DWMEN-060717	Total/NA	Water	200.8	391317
500-129739-2 MSD	DWMEN-060717	Total/NA	Water	200.8	391317

Client Sample ID: DWMAR-060717
Lab Sample ID: 500-129739-1
Date Collected: 06/07/17 08:51
Matrix: Water
Date Received: 06/16/17 09:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.8			391317	06/29/17 11:10	LWN	TAL CHI
Total/NA	Analysis	200.8		1	391366	06/29/17 13:40	FXG	TAL CHI

Client Sample ID: DWMEN-060717
Lab Sample ID: 500-129739-2
Date Collected: 06/07/17 09:47
Matrix: Water
Date Received: 06/16/17 09:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.8			391317	06/29/17 11:10	LWN	TAL CHI
Total/NA	Analysis	200.8		1	391366	06/29/17 13:44	FXG	TAL CHI

Client Sample ID: SW1-060717
Lab Sample ID: 500-129739-3
Date Collected: 06/07/17 11:31
Matrix: Water
Date Received: 06/16/17 09:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.8			391317	06/29/17 11:10	LWN	TAL CHI
Total/NA	Analysis	200.8		1	391366	06/29/17 13:59	FXG	TAL CHI

Client Sample ID: SW2-060717
Lab Sample ID: 500-129739-4
Date Collected: 06/07/17 11:46
Matrix: Water
Date Received: 06/16/17 09:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.8			391317	06/29/17 11:10	LWN	TAL CHI
Total/NA	Analysis	200.8		1	391366	06/29/17 14:03	FXG	TAL CHI

Client Sample ID: SW3-060717
Lab Sample ID: 500-129739-5
Date Collected: 06/07/17 12:02
Matrix: Water
Date Received: 06/16/17 09:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.8			391317	06/29/17 11:10	LWN	TAL CHI
Total/NA	Analysis	200.8		1	391366	06/29/17 14:07	FXG	TAL CHI

Client Sample ID: SW3/D-060717
Lab Sample ID: 500-129739-6
Date Collected: 06/07/17 12:02
Matrix: Water
Date Received: 06/16/17 09:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.8			391317	06/29/17 11:10	LWN	TAL CHI
Total/NA	Analysis	200.8		1	391366	06/29/17 14:18	FXG	TAL CHI

Lab Chronicle

Client: Tyco Fire Protection Products
Project/Site: Surface Water Sampling

TestAmerica Job ID: 500-129739-2

Client Sample ID: SW4-060717
Date Collected: 06/07/17 11:55
Date Received: 06/16/17 09:10

Lab Sample ID: 500-129739-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.8			391317	06/29/17 11:10	LWN	TAL CHI
Total/NA	Analysis	200.8		1	391366	06/29/17 14:22	FXG	TAL CHI

Client Sample ID: FB#1-060717
Date Collected: 06/07/17 15:07
Date Received: 06/16/17 09:10

Lab Sample ID: 500-129739-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.8			391317	06/29/17 11:10	LWN	TAL CHI
Total/NA	Analysis	200.8		1	391366	06/29/17 14:26	FXG	TAL CHI

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Accreditation/Certification Summary

Client: Tyco Fire Protection Products
TestAmerica Job ID: 500-129739-2
Project/Site: Surface Water Sampling

Laboratory: TestAmerica Chicago

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Wisconsin	State Program	5	999580010	08-31-17 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Tyco Fire Protection Products
Project/Site: Surface Water Sampling

TestAmerica Job ID: 500-129739-2

Method	Method Description	Protocol	Laboratory
200.8	Metals (ICP/MS)	EPA	TAL CHI

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: Tyco Fire Protection Products
Project/Site: Surface Water Sampling

TestAmerica Job ID: 500-129739-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-129739-1	DWMAR-060717	Water	06/07/17 08:51	06/16/17 09:10
500-129739-2	DWMEN-060717	Water	06/07/17 09:47	06/16/17 09:10
500-129739-3	SW1-060717	Water	06/07/17 11:31	06/16/17 09:10
500-129739-4	SW2-060717	Water	06/07/17 11:46	06/16/17 09:10
500-129739-5	SW3-060717	Water	06/07/17 12:02	06/16/17 09:10
500-129739-6	SW3/D-060717	Water	06/07/17 12:02	06/16/17 09:10
500-129739-7	SW4-060717	Water	06/07/17 11:55	06/16/17 09:10
500-129739-8	FB#1-060717	Water	06/07/17 15:07	06/16/17 09:10

METALS

COVER PAGE
METALS

Lab Name: TestAmerica Chicago Job Number: 500-129739-2

SDG No.:

Project: Surface Water Sampling

Client Sample ID	Lab Sample ID
DWMAR-060717	500-129739-1
DWMEN-060717	500-129739-2
SW1-060717	500-129739-3
SW2-060717	500-129739-4
SW3-060717	500-129739-5
SW3/D-060717	500-129739-6
SW4-060717	500-129739-7
FB#1-060717	500-129739-8

Comments:

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: DWMAR-060717 Lab Sample ID: 500-129739-1

Lab Name: TestAmerica Chicago Job No.: 500-129739-2

SDG ID.:

Matrix: Water Date Sampled: 06/07/2017 08:51

Reporting Basis: WET Date Received: 06/16/2017 09:10

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-38-2	Arsenic	0.00077	0.0010	0.00015	mg/L	J		1	200.8

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: DWMEN-060717 Lab Sample ID: 500-129739-2

Lab Name: TestAmerica Chicago Job No.: 500-129739-2

SDG ID.:

Matrix: Water Date Sampled: 06/07/2017 09:47

Reporting Basis: WET Date Received: 06/16/2017 09:10

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-38-2	Arsenic	0.0012	0.0010	0.00015	mg/L			1	200.8

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: SW1-060717 Lab Sample ID: 500-129739-3

Lab Name: TestAmerica Chicago Job No.: 500-129739-2

SDG ID.:

Matrix: Water Date Sampled: 06/07/2017 11:31

Reporting Basis: WET Date Received: 06/16/2017 09:10

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-38-2	Arsenic	0.0011	0.0010	0.00015	mg/L			1	200.8

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: SW2-060717 Lab Sample ID: 500-129739-4

Lab Name: TestAmerica Chicago Job No.: 500-129739-2

SDG ID.:

Matrix: Water Date Sampled: 06/07/2017 11:46

Reporting Basis: WET Date Received: 06/16/2017 09:10

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-38-2	Arsenic	0.0012	0.0010	0.00015	mg/L			1	200.8

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: SW3-060717 Lab Sample ID: 500-129739-5

Lab Name: TestAmerica Chicago Job No.: 500-129739-2

SDG ID.:

Matrix: Water Date Sampled: 06/07/2017 12:02

Reporting Basis: WET Date Received: 06/16/2017 09:10

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-38-2	Arsenic	0.0012	0.0010	0.00015	mg/L			1	200.8

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: SW3/D-060717 Lab Sample ID: 500-129739-6

Lab Name: TestAmerica Chicago Job No.: 500-129739-2

SDG ID.:

Matrix: Water Date Sampled: 06/07/2017 12:02

Reporting Basis: WET Date Received: 06/16/2017 09:10

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-38-2	Arsenic	0.0011	0.0010	0.00015	mg/L			1	200.8

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: SW4-060717 Lab Sample ID: 500-129739-7

Lab Name: TestAmerica Chicago Job No.: 500-129739-2

SDG ID.:

Matrix: Water Date Sampled: 06/07/2017 11:55

Reporting Basis: WET Date Received: 06/16/2017 09:10

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-38-2	Arsenic	0.0012	0.0010	0.00015	mg/L			1	200.8

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: FB#1-060717 Lab Sample ID: 500-129739-8

Lab Name: TestAmerica Chicago Job No.: 500-129739-2

SDG ID.:

Matrix: Water Date Sampled: 06/07/2017 15:07

Reporting Basis: WET Date Received: 06/16/2017 09:10

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-38-2	Arsenic	<0.00015	0.0010	0.00015	mg/L			1	200.8

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Chicago Job No.: 500-129739-2

SDG No.:

ICV Source: M17EICVMS_00005 Concentration Units: ug/L

CCV Source: M17FCCVMS_00003

Analyte	ICV 500-391366/7 06/29/2017 10:19				CCV 500-391366/37 06/29/2017 12:17				CCV 500-391366/50 06/29/2017 14:11			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Arsenic	202		200	101	254		250	102	253		250	101

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Chicago Job No.: 500-129739-2

SDG No.:

ICV Source: M17EICVMS_00005 Concentration Units: ug/L

CCV Source: M17FCCVMS_00003

Analyte	CCV 500-391366/61 06/29/2017 15:14											
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Arsenic	249		250	100								

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Chicago Job No.: 500-129739-2

SDG No.:

ICV Source: M17FMRLMS_00003 Concentration Units: ug/L

CCV Source: M17FMRLMS_00003

Analyte	ICVL 500-391366/9 06/29/2017 10:27				CCVL 500-391366/39 06/29/2017 12:25				CCVL 500-391366/74 06/29/2017 16:05			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Arsenic	0.935	J	1.00	94	1.04		1.00	104	1.05		1.00	105

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: TestAmerica Chicago Job No.: 500-129739-2

SDG No.:

Method: 200.8 Instrument ID: ICPMS4

Lab Sample ID: CRI 500-391366/12 Concentration Units: ug/L

CRQL Check Standard Source: M17FCRIMS_00002

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Arsenic	2.00	1.85		93	50-150

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IIB-IN

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Chicago Job No.: 500-129739-2

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 500-391366/8 06/29/2017 10:23		CCB 500-391366/38 06/29/2017 12:21		CCB 500-391366/51 06/29/2017 14:14		CCB 500-391366/62 06/29/2017 15:19	
		Found	C	Found	C	Found	C	Found	C
Arsenic	1.0	<0.15		<0.15		<0.15		<0.15	

Italicized analytes were not requested for this sequence.

3-IN
METHOD BLANK
METALS

Lab Name: TestAmerica Chicago Job No.: 500-129739-2

SDG No.:

Concentration Units: mg/L Lab Sample ID: MB 500-391317/1-A

Instrument Code: ICPMS4 Batch No.: 391366

CAS No.	Analyte	Concentration	C	Q	Method
7440-38-2	Arsenic	<0.00015			200.8

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Chicago Job No.: 500-129739-2

SDG No.:

Lab Sample ID: ICSA 500-391366/10 Instrument ID: ICPMS4

Lab File ID: 010ICSA.d ICS Source: M17FICSAMS_00002

Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Arsenic		**-0.0350**	
Aluminum	*100000*	*98915*	*99*
Antimony		*0.0690*	
Barium		*0.0810*	
Beryllium		*0.0980*	
Boron		*-2.83*	
Cadmium		*0.175*	
Calcium	*100000*	*101712*	*102*
Chromium		*0.597*	
Cobalt		*0.150*	
Copper		*-1.80*	
Iron	*100000*	*98874*	*99*
Lead		*0.285*	
Magnesium	*100000*	*100514*	*101*
Manganese		*0.455*	
Molybdenum	*2000*	*1893*	*95*
Nickel		*0.352*	
Potassium	*100000*	*100728*	*101*
Selenium		*0.448*	
Silver		*0.0480*	
Sodium	*100000*	*100713*	*101*
Strontium		*1.00*	
Thallium		*0.0350*	
Tin		*0.0920*	
Titanium	*2000*	*2010*	*101*
Vanadium		*-0.845*	
Zinc		*2.07*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Chicago Job No.: 500-129739-2

SDG No.:

Lab Sample ID: ICSAB 500-391366/11 Instrument ID: ICPMS4

Lab File ID: 011ICSB.d ICS Source: M17FICSABMS_00002

Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Found Percent Recovery
Arsenic	**20.0**	**21.5**	**108**
Aluminum	*100000*	*97282*	*97*
Antimony	*20.0*	*21.5*	*107*
Barium	*20.0*	*20.4*	*102*
Beryllium	*20.0*	*17.8*	*89*
Boron	*50.0*	*44.1*	*88*
Cadmium	*20.0*	*21.0*	*105*
Calcium	*100000*	*99771*	*100*
Chromium	*20.0*	*20.2*	*101*
Cobalt	*20.0*	*19.7*	*98*
Copper	*20.0*	*19.5*	*97*
Iron	*100000*	*97341*	*97*
Lead	*20.0*	*20.2*	*101*
Magnesium	*100000*	*98477*	*98*
Manganese	*20.0*	*20.1*	*101*
Molybdenum	*2000*	*1912*	*96*
Nickel	*20.0*	*19.8*	*99*
Potassium	*100000*	*99520*	*100*
Selenium	*20.0*	*23.1*	*115*
Silver	*20.0*	*21.3*	*107*
Sodium	*100000*	*99224*	*99*
Strontium	*20.0*	*23.1*	*115*
Thallium	*20.0*	*20.3*	*102*
Tin		*0.0360*	
Titanium	*2000*	*1976*	*99*
Vanadium	*20.0*	*19.1*	*95*
Zinc	*20.0*	*23.1*	*116*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

5A-IN
MATRIX SPIKE SAMPLE RECOVERY
METALS

Client ID: DWMEN-060717 MS
Lab ID: 500-129739-2 MS
Lab Name: TestAmerica Chicago
Job No.: 500-129739-2
SDG No.:
Matrix: Water
Concentration Units: mg/L
% Solids:

Analyte	SSR	C	Sample Result (SR)	C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Arsenic	0.0989		0.0012		0.100	98	70-130		200.8

SSR = Spiked Sample Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VA - IN

5A-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
METALS

Client ID: DWMEN-060717 MSD
Lab ID: 500-129739-2 MSD
Lab Name: TestAmerica Chicago
Job No.: 500-129739-2
SDG No.:
Matrix: Water
Concentration Units: mg/L
% Solids:

Analyte	(SDR)	C	Spike Added (SA)	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Arsenic	0.0998		0.100	99	70-130	1	20		200.8

SDR = Sample Duplicate Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VD - IN

7A-IN
LAB CONTROL SAMPLE
METALS

Lab ID: LCS 500-391317/2-A

Lab Name: TestAmerica Chicago Job No.: 500-129739-2

Sample Matrix: Water LCS Source: M17ESPKMS_00001

Analyte	Water(mg/L)							
	True	Found	C	%R	Limits		Q	Method
Arsenic	0.100	0.0975		97	85	115		200.8

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

8-IN
ICP-AES AND ICP-MS SERIAL DILUTIONS
METALS

Lab ID: 500-129739-2

SDG No:

Lab Name: TestAmerica Chicago Job No: 500-129739-2

Matrix: Water Concentration Units: mg/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	Method
Arsenic	0.0012		0.00115	J	NC		200.8

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIII-IN

9-IN
DETECTION LIMITS
METALS

Lab Name: TestAmerica Chicago Job Number: 500-129739-2

SDG Number:

Matrix: Water Instrument ID: ICPMS4

Method: 200.8 MDL Date: 03/29/2017 09:59

Prep Method: 200.8

Analyte	Wavelength/ Mass	RL (ug/L)	MDL (ug/L)
Arsenic		1	0.151

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS

Lab Name: TestAmerica Chicago Job Number: 500-129739-2

SDG Number:

Matrix: Water Instrument ID: ICPMS4

Method: 200.8 XMDL Date: 03/29/2017 10:03

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Arsenic		1	0.151

11-IN
LINEAR RANGES
METALS

Lab Name: TestAmerica Chicago Job No: 500-129739-2

SDG No.:

Instrument ID: ICPMS4 Date: 05/31/2016 14:50

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Arsenic		5000	200.8

12-IN
PREPARATION LOG
METALS

Lab Name: TestAmerica Chicago Job No.: 500-129739-2

SDG No.:

Prep Method: 200.8

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 500-391317/1-A	06/29/2017 11:10	391317		50	50
LCS 500-391317/2-A	06/29/2017 11:10	391317		50	50
500-129739-1	06/29/2017 11:10	391317		50	50
500-129739-2	06/29/2017 11:10	391317		50	50
500-129739-2 MS	06/29/2017 11:10	391317		50	50
500-129739-2 MSD	06/29/2017 11:10	391317		50	50
500-129739-3	06/29/2017 11:10	391317		50	50
500-129739-4	06/29/2017 11:10	391317		50	50
500-129739-5	06/29/2017 11:10	391317		50	50
500-129739-6	06/29/2017 11:10	391317		50	50
500-129739-7	06/29/2017 11:10	391317		50	50
500-129739-8	06/29/2017 11:10	391317		50	50

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Chicago Job No.: 500-129739-2

SDG No.:

Instrument ID: ICPMS4 Analysis Method: 200.8

Start Date: 06/29/2017 09:56 End Date: 06/29/2017 16:05

Lab Sample Id	D/F	Type	Time	Analytes
				As
ZZZZZZ			09:56	
ICIS 500-391366/2			10:00	X
STD1 500-391366/3 IC			10:03	X
STD2 500-391366/4 IC			10:07	X
STD3 500-391366/5 IC	1		10:11	X
ZZZZZZ			10:15	
ICV 500-391366/7	1		10:19	X
ICB 500-391366/8	1		10:23	X
ICVL 500-391366/9	1		10:27	X
ICSA 500-391366/10	1		10:31	X
ICSAB 500-391366/11	1		10:35	X
CRI 500-391366/12	1		10:38	X
CCV 500-391366/13			10:42	
CCB 500-391366/14			10:46	
ZZZZZZ			10:51	
ZZZZZZ			10:55	
ZZZZZZ			10:59	
ZZZZZZ			11:03	
ZZZZZZ			11:07	
ZZZZZZ			11:11	
ZZZZZZ			11:15	
ZZZZZZ			11:19	
ZZZZZZ			11:23	
ZZZZZZ			11:27	
CCV 500-391366/25			11:30	
CCB 500-391366/26			11:34	
ZZZZZZ			11:38	
ZZZZZZ			11:42	
ZZZZZZ			11:46	
ZZZZZZ			11:50	
ZZZZZZ			11:54	
ZZZZZZ			11:58	
ZZZZZZ			12:02	
ZZZZZZ			12:06	
ZZZZZZ			12:09	
ZZZZZZ			12:14	
CCV 500-391366/37	1		12:17	X
CCB 500-391366/38	1		12:21	X
CCVL 500-391366/39	1		12:25	X
MB 500-391317/1-A	1	T	13:31	X
LCS 500-391317/2-A	1	T	13:36	X
500-129739-1	1	T	13:40	X

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Chicago Job No.: 500-129739-2

SDG No.:

Instrument ID: ICPMS4 Analysis Method: 200.8

Start Date: 06/29/2017 09:56 End Date: 06/29/2017 16:05

Lab Sample Id	D/F	Type	Time	Analytes																								
				As																								
500-129739-2	1	T	13:44	X																								
500-129739-2 MS	1	T	13:48	X																								
500-129739-2 MSD	1	T	13:52	X																								
500-129739-2 SD	5	T	13:55	X																								
500-129739-3	1	T	13:59	X																								
500-129739-4	1	T	14:03	X																								
500-129739-5	1	T	14:07	X																								
CCV 500-391366/50	1		14:11	X																								
CCB 500-391366/51	1		14:14	X																								
500-129739-6	1	T	14:18	X																								
500-129739-7	1	T	14:22	X																								
500-129739-8	1	T	14:26	X																								
ZZZZZZ			14:29																									
ZZZZZZ			14:33																									
ZZZZZZ			14:37																									
ZZZZZZ			14:41																									
ZZZZZZ			14:44																									
ZZZZZZ			14:48																									
CCV 500-391366/61	1		15:14	X																								
CCB 500-391366/62	1		15:19	X																								
ZZZZZZ			15:23																									
ZZZZZZ			15:27																									
ZZZZZZ			15:31																									
ZZZZZZ			15:34																									
ZZZZZZ			15:38																									
ZZZZZZ			15:42																									
ZZZZZZ			15:46																									
ZZZZZZ			15:50																									
ZZZZZZ			15:53																									
CCV 500-391366/72			15:57																									
CCB 500-391366/73			16:01																									
CCVL 500-391366/74	1		16:05	X																								

Prep Types:
T = Total/NA

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Chicago Job No.: 500-129739-2

SDG No.:

ICP-MS Instrument ID: ICPMS4 Start Date: 06/29/2017 End Date: 06/29/2017

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Li-6	Q	Element Sc	Q	Element Y-89	Q	Element Rh-103	Q	Element Tb	Q
STD3 500-391366/5 I	10:11	88		99		98		93		98	
ICV 500-391366/7	10:19	91		102		100		96		102	
ICB 500-391366/8	10:23	94		101		99		100		101	
ICVL 500-391366/9	10:27	98		101		100		100		103	
ICSA 500-391366/10	10:31	91		102		100		91		101	
ICSAB 500-391366/11	10:35	93		104		99		90		99	
CRI 500-391366/12	10:38	96		106		105		102		105	
CCV 500-391366/37	12:17	102		107		102		97		102	
CCB 500-391366/38	12:21	104		105		105		104		103	
CCVL 500-391366/39	12:25	97		106		104		102		104	
MB 500-391317/1-A	13:31	100		106		106		105		105	
LCS 500-391317/2-A	13:36	102		108		105		99		103	
500-129739-1	13:40	100		105		106		98		103	
500-129739-2	13:44	97		105				96		102	
500-129739-2 MS	13:48	93		106		123		97		100	
500-129739-2 MSD	13:52	94		108				98		102	
500-129739-2 SD	13:55	92		106		108		100		101	
500-129739-3	13:59	102		109		112		99		101	
500-129739-4	14:03	98		108		112		100		102	
500-129739-5	14:07	98		108		112		99		102	
CCV 500-391366/50	14:11	95		104		101		95		100	
CCB 500-391366/51	14:14	97		100		100		98		99	
500-129739-6	14:18	100		107		110		100		103	
500-129739-7	14:22	96		107		111		99		102	
500-129739-8	14:26	95		102		101		100		99	
CCV 500-391366/61	15:14	100		107		104		98		103	
CCB 500-391366/62	15:19	99		108		105		106		104	
CCVL 500-391366/74	16:05	96		105		103		101		102	

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Chicago Job No.: 500-129739-2

SDG No.:

ICP-MS Instrument ID: ICPMS4 Start Date: 06/29/2017 End Date: 06/29/2017

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Bi	Q	Element	Q	Element	Q	Element	Q	Element	Q
STD3 500-391366/5 I	10:11	90									
ICV 500-391366/7	10:19	94									
ICB 500-391366/8	10:23	101									
ICVL 500-391366/9	10:27	100									
ICSA 500-391366/10	10:31	92									
ICSAB 500-391366/11	10:35	89									
CRI 500-391366/12	10:38	101									
CCV 500-391366/37	12:17	95									
CCB 500-391366/38	12:21	101									
CCVL 500-391366/39	12:25	101									
MB 500-391317/1-A	13:31	105									
LCS 500-391317/2-A	13:36	98									
500-129739-1	13:40	101									
500-129739-2	13:44	117									
500-129739-2 MS	13:48	97									
500-129739-2 MSD	13:52	107									
500-129739-2 SD	13:55	102									
500-129739-3	13:59	101									
500-129739-4	14:03	99									
500-129739-5	14:07	107									
CCV 500-391366/50	14:11	94									
CCB 500-391366/51	14:14	98									
500-129739-6	14:18	117									
500-129739-7	14:22	107									
500-129739-8	14:26										
CCV 500-391366/61	15:14	96									
CCB 500-391366/62	15:19	104									
CCVL 500-391366/74	16:05	101									

METALS BATCH WORKSHEET

Lab Name: TestAmerica Chicago Job No.: 500-129739-2

SDG No.:

Batch Number: 391317 Batch Start Date: 06/29/17 11:10 Batch Analyst: Nelson, Larry W

Batch Method: 200.8 Batch End Date: 06/29/17 12:30

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	M17ESPKMS 00001			
MB 500-391317/1		200.8, 200.8		50 mL	50 mL				
LCS 500-391317/2		200.8, 200.8		50 mL	50 mL	0.5 mL			
500-129739-A-1	DWMAR-060717	200.8, 200.8	T	50 mL	50 mL				
500-129739-A-2	DWMEN-060717	200.8, 200.8	T	50 mL	50 mL				
500-129739-A-2 MS	DWMEN-060717	200.8, 200.8	T	50 mL	50 mL	0.5 mL			
500-129739-A-2 MSD	DWMEN-060717	200.8, 200.8	T	50 mL	50 mL	0.5 mL			
500-129739-A-3	SW1-060717	200.8, 200.8	T	50 mL	50 mL				
500-129739-A-4	SW2-060717	200.8, 200.8	T	50 mL	50 mL				
500-129739-A-5	SW3-060717	200.8, 200.8	T	50 mL	50 mL				
500-129739-A-6	SW3/D-060717	200.8, 200.8	T	50 mL	50 mL				
500-129739-A-7	SW4-060717	200.8, 200.8	T	50 mL	50 mL				
500-129739-A-8	FB#1-060717	200.8, 200.8	T	50 mL	50 mL				

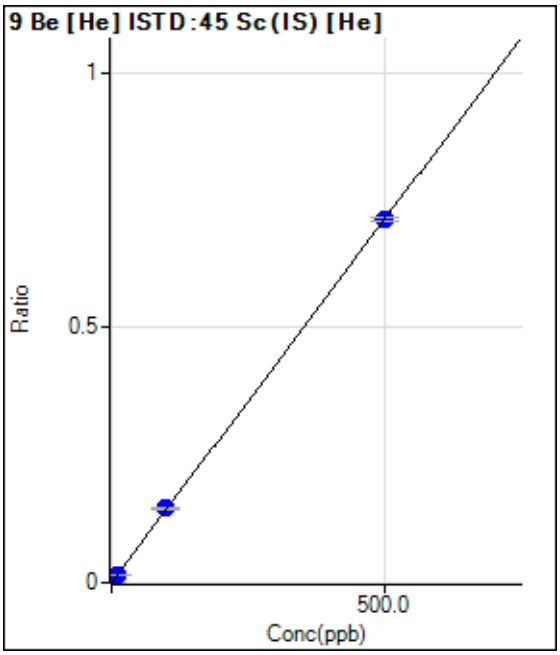
Batch Notes	
Batch Comment	"Hot Plate"
First End time	12:30
Lot # of hydrochloric acid	0000162118
Lot # of Nitric Acid	0000148204
Hot Block ID	C-2782
Oven, Bath or Block Temperature 1	95 Degrees C
Pipette ID	1622
First Start time	11:10 1/cm
Thermometer ID	5833
Digestion Tube/Cup ID	1612138
Uncorrected Temperature	95 Celsius

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Batch Folder: C:\Agilent\ICPMH\1\DATA\MS4062917He-1.b\
Analysis File: MS4062917He-1.batch.bin
DA Date-Time: 6/29/2017 4:03:53 PM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

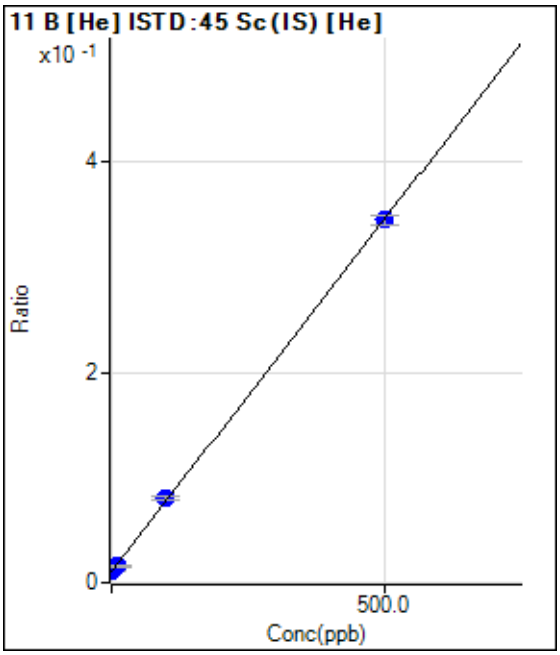
Level	Standard Data File	Sample Name	Acq. Date-Time
1	002CALB.d	ICIS	6/29/2017 10:00:09 AM
2	003CALS.d	Std1	6/29/2017 10:03:56 AM
3	004CALS.d	Std2	6/29/2017 10:07:53 AM
4	005CALS.d	Std3	6/29/2017 10:11:49 AM



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3.33	0.0000	P	173.
2	☐	10.000	10.180	2406.92	0.0145	P	4.6
3	☐	100.000	102.643	23816.62	0.1461	P	2.1
4	☐	500.000	499.468	115711.45	0.7108	P	1.1

y = 0.0014 * x + 2.0482E-005
R = 1.0000
DL = 0.07478
BEC = 0.01439

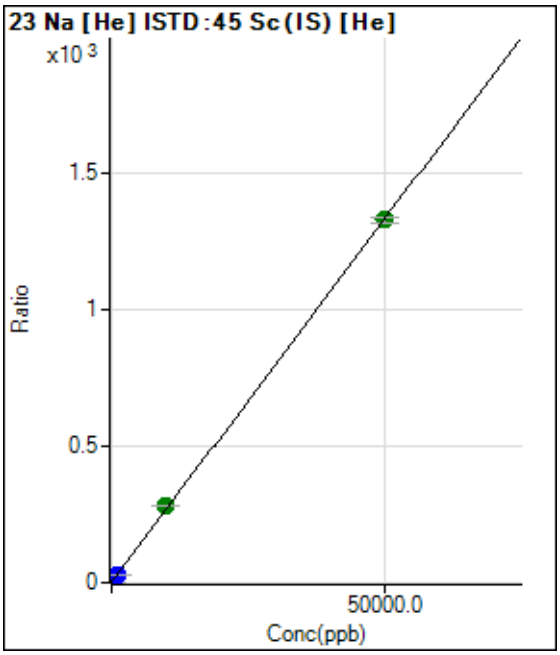
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1720.16	0.0105	P	6.1
2	☐	10.000	8.033	2636.98	0.0159	P	4.3
3	☐	100.000	104.474	13135.38	0.0806	P	3.8
4	☐	500.000	499.145	56209.75	0.3453	P	2.3

y = 6.7069E-004 * x + 0.0105
R = 0.9999
DL = 2.854
BEC = 15.65

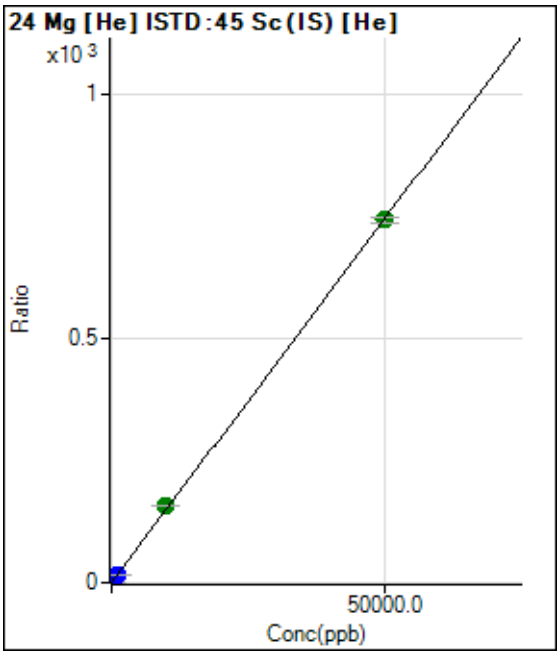
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	209205.41	1.2763	P	0.4
2	☐	1000.000	1096.635	5059200.97	30.4904	P	1.3
3	☐	10000.00	10493.96	45783210.99	280.8326	A	0.2
4	☐	50000.00	49899.27	216609270.1	1,330.579	A	1.5

y = 0.0266 * x + 1.2763
R = 0.9999
DL = 0.5921
BEC = 47.91

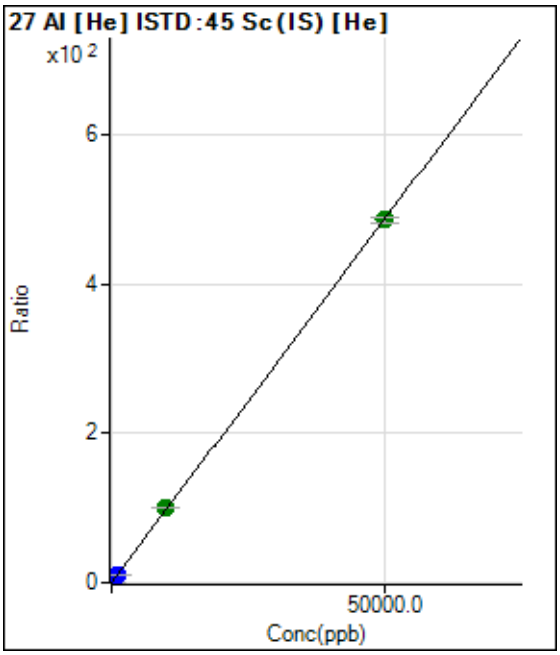
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	6321.37	0.0386	P	3.3
2	☐	1000.000	1098.246	2717554.44	16.3784	P	1.7
3	☐	10000.00	10469.83	25401316.29	155.8101	A	0.2
4	☐	50000.00	49904.06	120872418.2	742.5181	A	1.3

y = 0.0149 * x + 0.0386
R = 1.0000
DL = 0.2543
BEC = 2.591

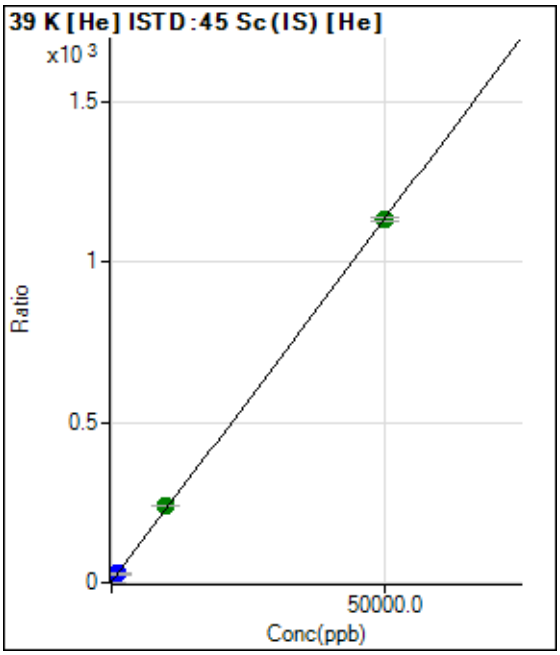
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2136.89	0.0130	P	7.1
2	☐	1000.000	1069.274	1727462.79	10.4111	P	1.4
3	☐	10000.00	10354.75	16418022.67	100.7067	A	0.7
4	☐	50000.00	49927.66	79036533.82	485.5289	A	1.4

y = 0.0097 * x + 0.0130
R = 1.0000
DL = 0.2854
BEC = 1.341

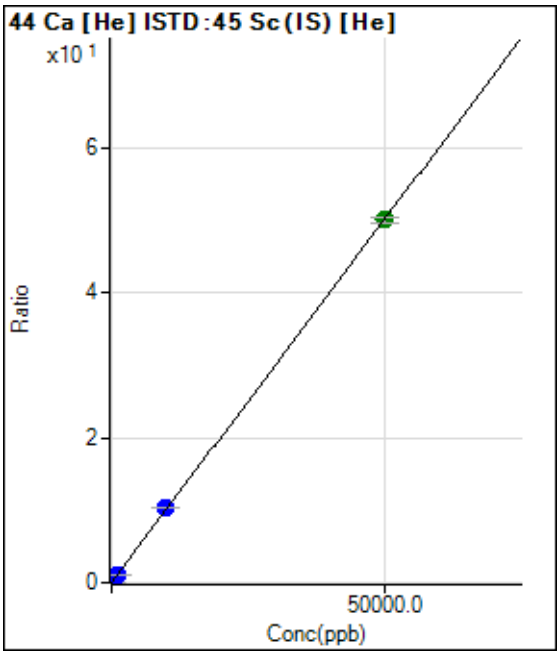
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	440119.28	2.6852	P	1.0
2	☐	1000.000	1078.433	4499571.91	27.1171	P	1.0
3	☐	10000.00	10500.41	39219455.25	240.5722	A	0.6
4	☐	50000.00	49898.34	184461843.9	1,133.132	A	1.2

y = 0.0227 * x + 2.6852
R = 0.9999
DL = 3.383
BEC = 118.5

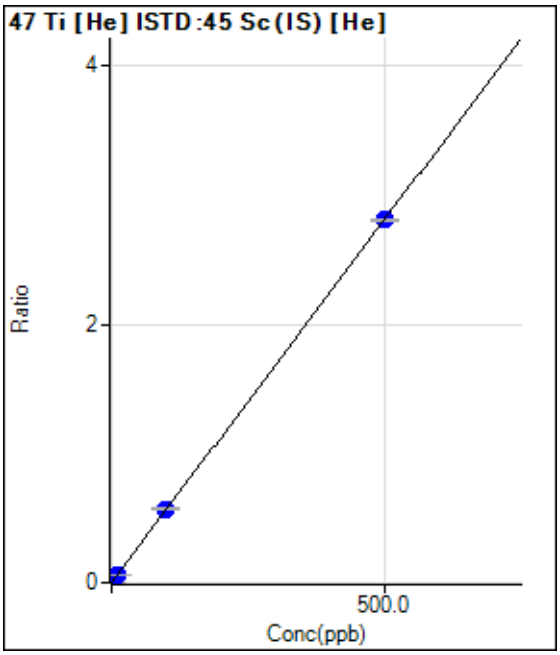
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3201.33	0.0195	P	4.0
2	☐	1000.000	1079.551	182759.51	1.1014	P	1.2
3	☐	10000.00	10254.42	1678516.35	10.2959	P	0.4
4	☐	50000.00	49947.52	8151293.67	50.0740	A	1.3

y = 0.0010 * x + 0.0195
R = 1.0000
DL = 2.336
BEC = 19.49

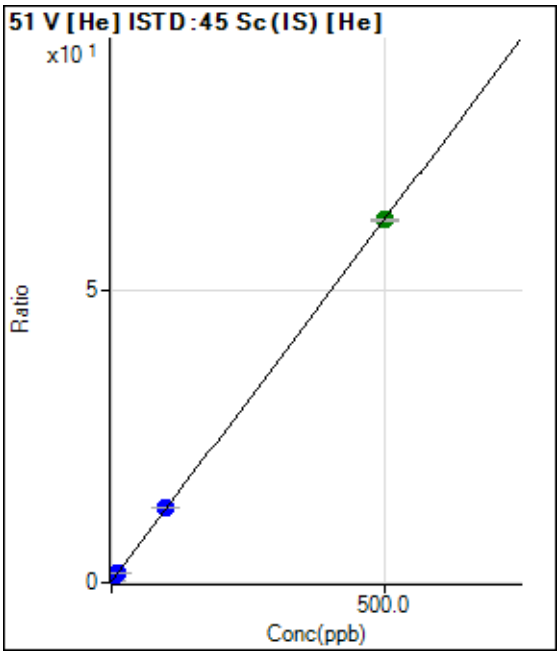
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	33.33	0.0002	P	62.5
2	☐	10.000	10.317	9659.75	0.0582	P	2.0
3	☐	100.000	101.230	92809.12	0.5693	P	1.6
4	☐	500.000	499.748	457377.36	2.8096	P	0.7

y = 0.0056 * x + 2.0304E-004
R = 1.0000
DL = 0.06774
BEC = 0.03612

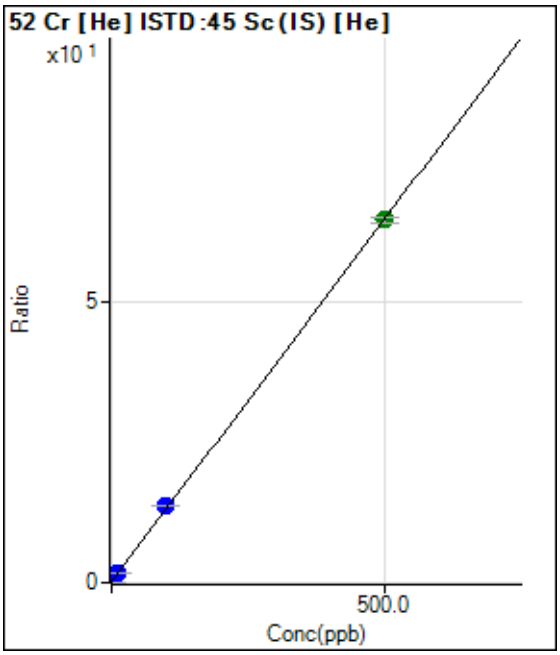
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	36292.49	0.2214	P	1.9
2	☐	10.000	10.520	253501.19	1.5278	P	1.4
3	☐	100.000	102.635	2113857.62	12.9663	P	0.3
4	☐	500.000	499.463	10132642.97	62.2431	A	0.7

y = 0.1242 * x + 0.2214
R = 1.0000
DL = 0.1004
BEC = 1.783

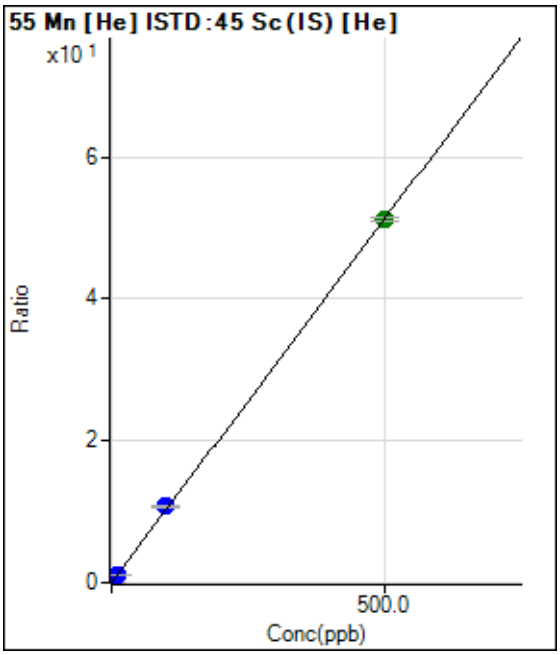
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	26831.64	0.1637	P	1.7
2	☐	10.000	10.950	261311.37	1.5748	P	1.6
3	☐	100.000	104.222	2216264.86	13.5945	P	0.9
4	☐	500.000	499.137	10497294.84	64.4859	A	1.4

y = 0.1289 * x + 0.1637
R = 1.0000
DL = 0.06314
BEC = 1.27

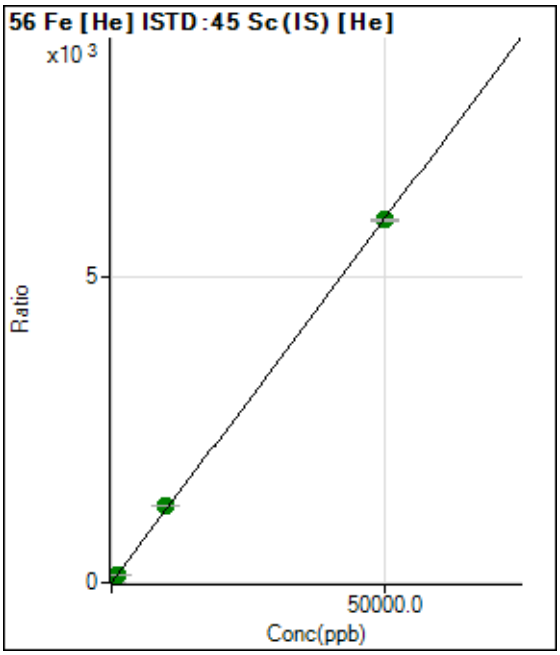
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	696.71	0.0043	P	1.5
2	☐	10.000	10.985	187357.60	1.1291	P	1.4
3	☐	100.000	104.700	1748589.29	10.7258	P	0.5
4	☐	500.000	499.040	8319662.80	51.1071	A	1.1

y = 0.1024 * x + 0.0043
R = 1.0000
DL = 0.00183
BEC = 0.0415

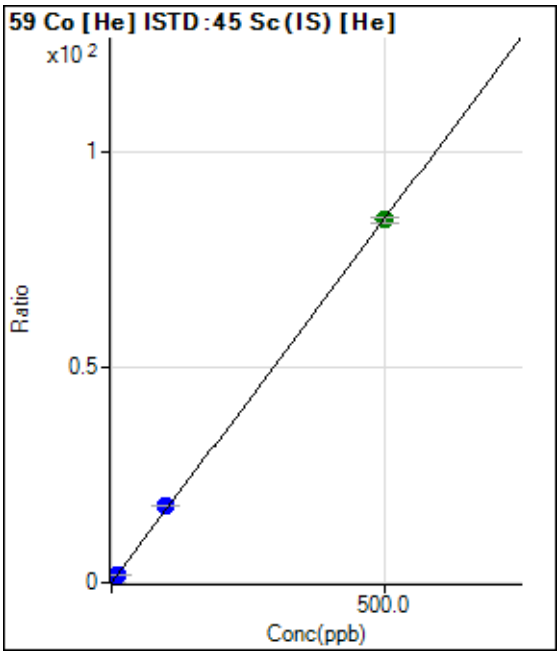
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	49178.27	0.3000	P	1.2
2	☐	1000.000	1104.034	21868902.17	131.7927	A	0.8
3	☐	10000.00	10502.55	203973863.6	1,251.175	A	0.7
4	☐	50000.00	49897.40	967506545.5	5,943.183	A	0.7

y = 0.1191 * x + 0.3000
R = 0.9999
DL = 0.08955
BEC = 2.519

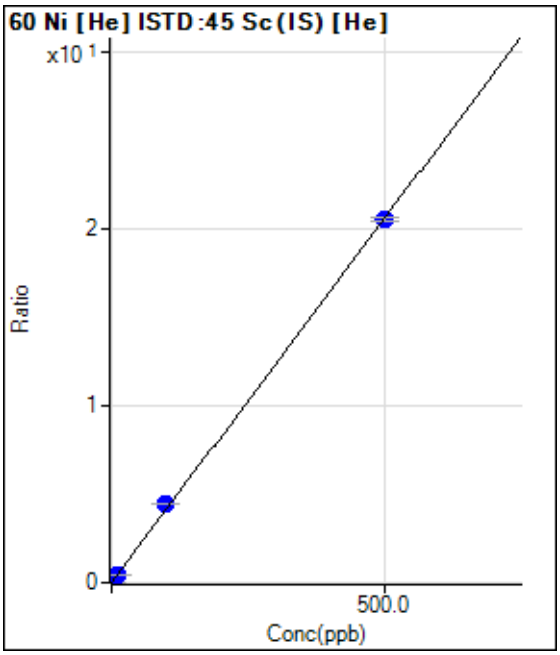
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	223.34	0.0014	P	25.5
2	☐	10.000	11.186	313286.46	1.8882	P	2.0
3	☐	100.000	105.707	2907105.27	17.8321	P	0.5
4	☐	500.000	498.835	13697634.80	84.1458	A	1.3

y = 0.1687 * x + 0.0014
R = 0.9999
DL = 0.006193
BEC = 0.008092

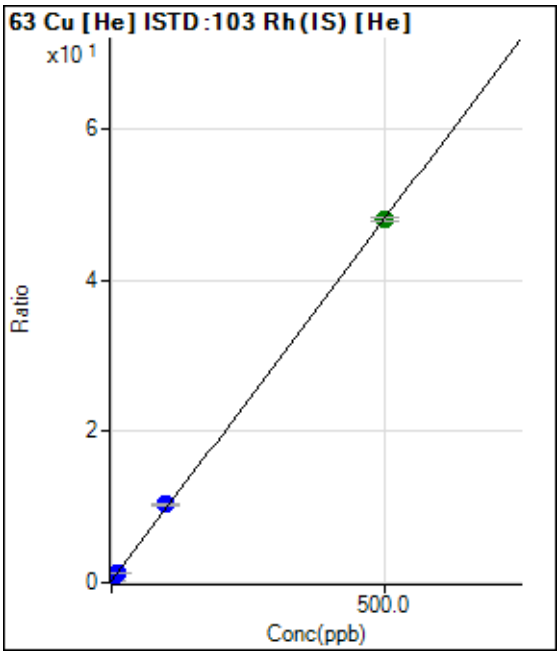
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	646.71	0.0039	P	7.0
2	☐	10.000	11.662	80315.16	0.4840	P	1.6
3	☐	100.000	108.849	731144.62	4.4848	P	0.5
4	☐	500.000	498.197	3339190.78	20.5127	P	1.2

y = 0.0412 * x + 0.0039
R = 0.9998
DL = 0.02012
BEC = 0.09581

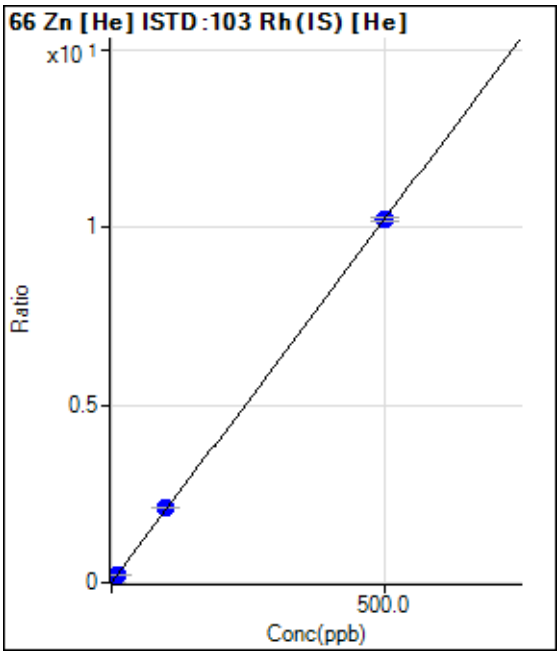
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	43610.97	0.2344	P	1.0
2	☐	10.000	11.077	236955.60	1.2942	P	1.0
3	☐	100.000	105.216	1842906.11	10.3018	P	1.0
4	☐	500.000	498.935	8311103.84	47.9743	A	0.9

y = 0.0957 * x + 0.2344
R = 0.9999
DL = 0.07008
BEC = 2.449

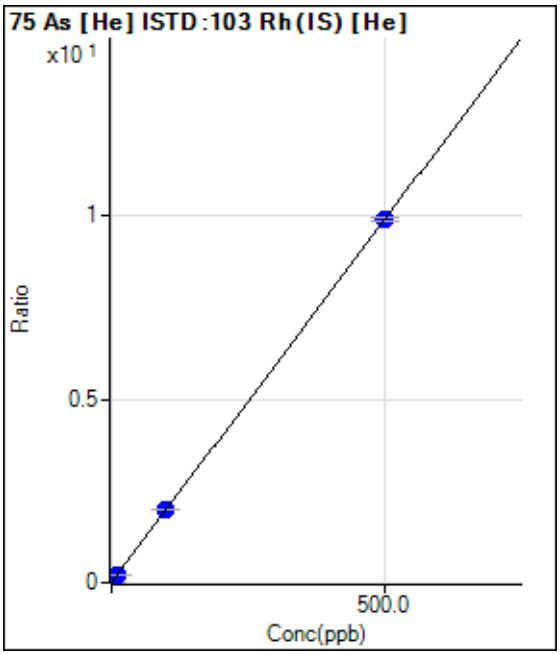
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	856.72	0.0046	P	2.6
2	☐	10.000	11.160	42633.98	0.2328	P	1.9
3	☐	100.000	103.797	380577.18	2.1274	P	1.0
4	☐	500.000	499.217	1769509.61	10.2144	P	1.2

y = 0.0205 * x + 0.0046
R = 1.0000
DL = 0.01743
BEC = 0.2251

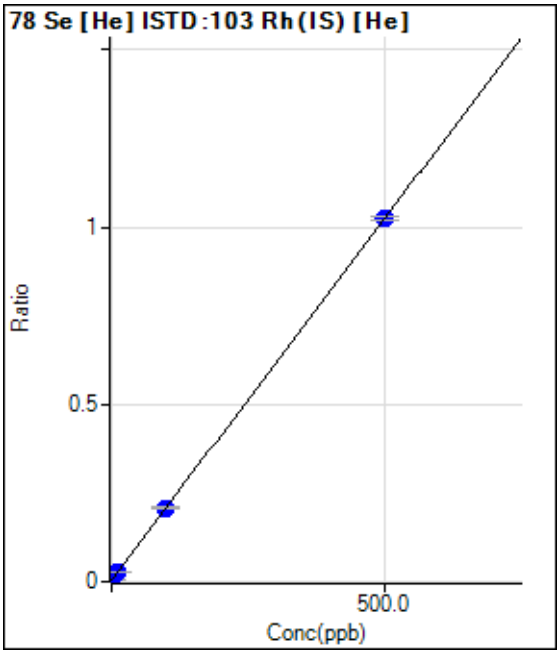
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1455.07	0.0078	P	1.3
2	☐	10.000	10.263	38618.27	0.2109	P	1.5
3	☐	100.000	99.932	355178.31	1.9855	P	1.4
4	☐	500.000	500.008	1715569.33	9.9030	P	1.2

y = 0.0198 * x + 0.0078
R = 1.0000
DL = 0.01526
BEC = 0.3951

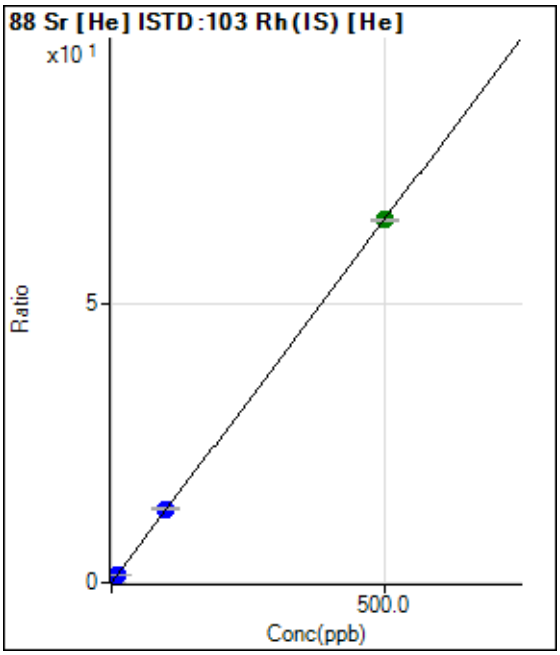
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	734.69	0.0039	P	3.6
2	☐	10.000	10.440	4619.31	0.0252	P	3.6
3	☐	100.000	100.281	37275.38	0.2084	P	0.9
4	☐	500.000	499.935	177228.80	1.0230	P	0.9

y = 0.0020 * x + 0.0039
R = 1.0000
DL = 0.2094
BEC = 1.937

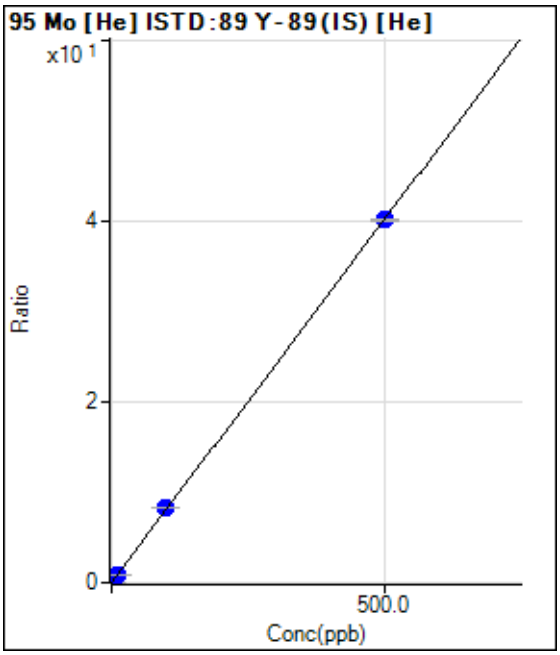
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	596.70	0.0032	P	16.5
2	☐	10.000	10.427	248890.41	1.3593	P	0.7
3	☐	100.000	101.623	2364738.61	13.2191	P	1.4
4	☐	500.000	499.667	11258221.50	64.9843	A	0.4

y = 0.1300 * x + 0.0032
R = 1.0000
DL = 0.0122
BEC = 0.02466

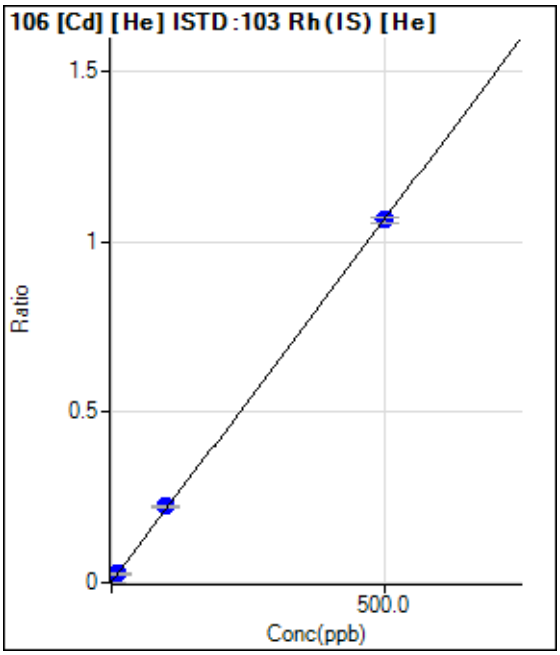
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	60.00	0.0005	P	73.0
2	☐	10.000	10.562	99174.74	0.8505	P	3.0
3	☐	100.000	102.449	939391.63	8.2456	P	0.2
4	☐	500.000	499.499	4529325.66	40.2001	P	0.9

y = 0.0805 * x + 5.2071E-004
R = 1.0000
DL = 0.01417
BEC = 0.00647

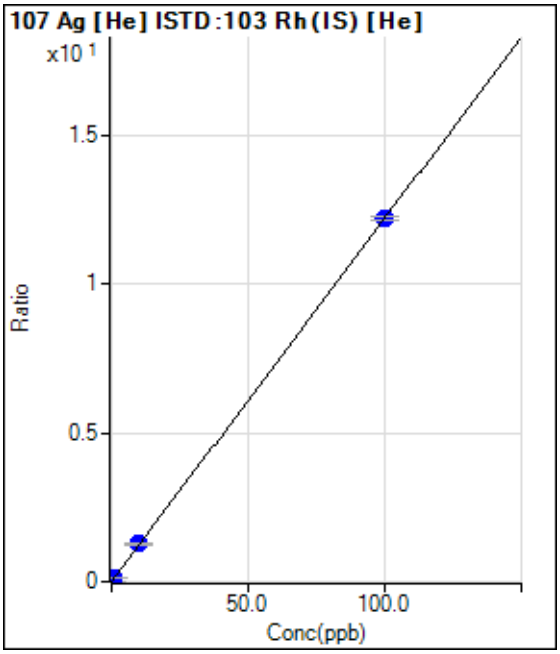
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	376.69	0.0020	P	10.1
2	☐	10.000	11.005	4654.15	0.0254	P	10.9
3	☐	100.000	103.814	39855.64	0.2228	P	0.8
4	☐	500.000	499.217	184246.84	1.0636	P	1.9

y = 0.0021 * x + 0.0020
R = 1.0000
DL = 0.2885
BEC = 0.952

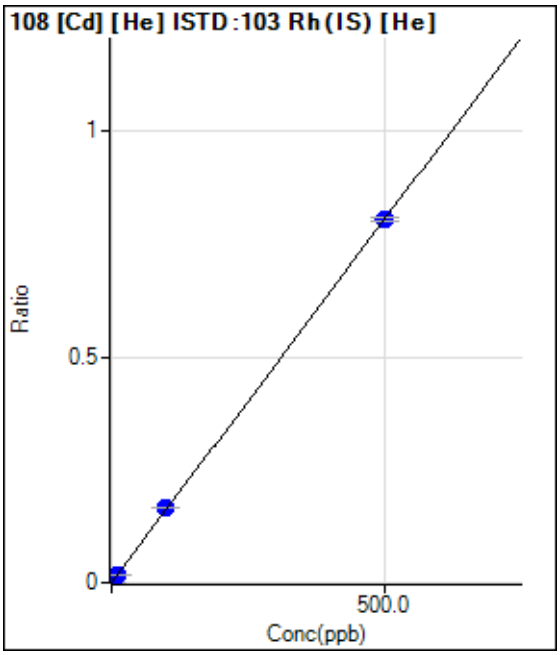
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	20.00	0.0001	P	100.
2	☐	1.000	1.149	25704.14	0.1404	P	2.1
3	☐	10.000	10.424	227597.93	1.2723	P	1.9
4	☐	100.000	99.956	2113481.79	12.1999	P	0.9

y = 0.1221 * x + 1.0768E-004
R = 1.0000
DL = 0.002648
BEC = 0.0008823

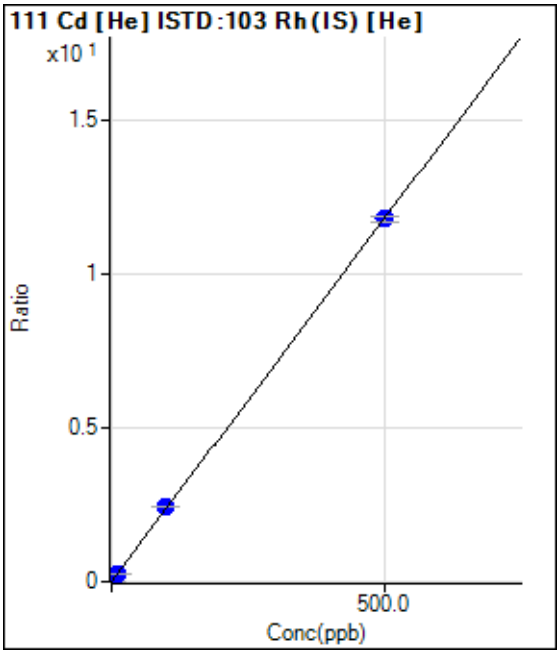
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3.33	0.0000	P	173.
2	☐	10.000	10.796	3183.77	0.0174	P	6.0
3	☐	100.000	102.922	29640.92	0.1657	P	1.7
4	☐	500.000	499.400	139266.49	0.8039	P	0.9

y = 0.0016 * x + 1.7857E-005
R = 1.0000
DL = 0.05764
BEC = 0.01109

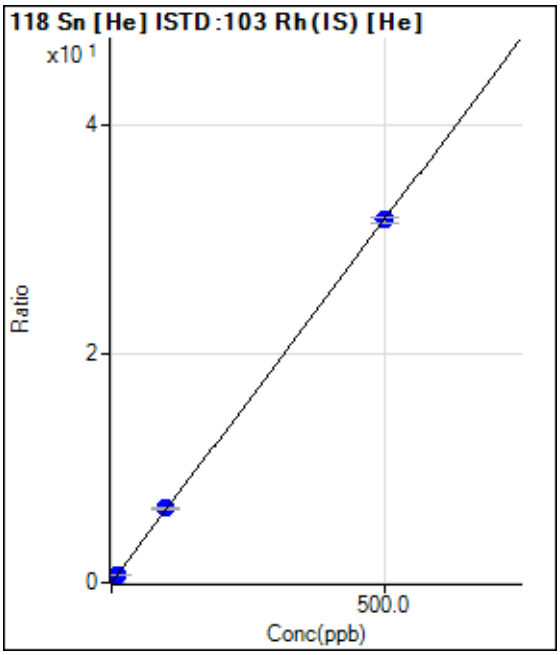
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	290.88	0.0016	P	12.0
2	☐	10.000	10.741	46703.34	0.2550	P	1.6
3	☐	100.000	102.938	434838.73	2.4308	P	1.7
4	☐	500.000	499.398	2041886.19	11.7871	P	1.6

y = 0.0236 * x + 0.0016
R = 1.0000
DL = 0.02392
BEC = 0.06624

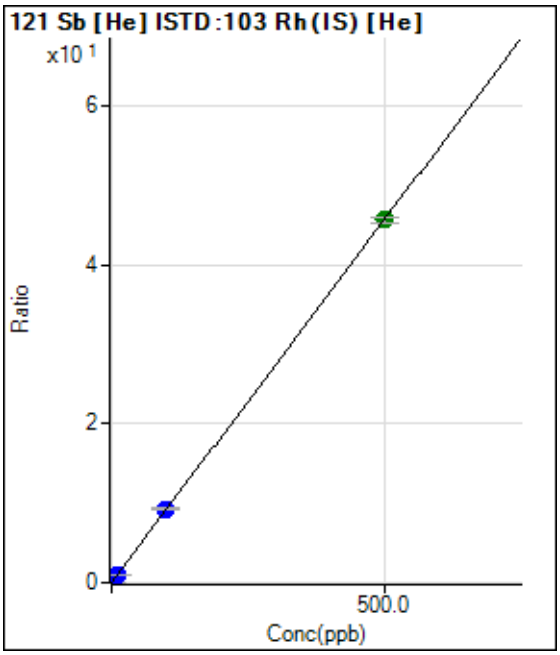
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	856.72	0.0046	P	5.7
2	☐	10.000	10.549	123240.99	0.6731	P	1.1
3	☐	100.000	102.010	1157275.89	6.4692	P	1.5
4	☐	500.000	499.587	5485228.04	31.6645	P	1.7

y = 0.0634 * x + 0.0046
R = 1.0000
DL = 0.01232
BEC = 0.07266

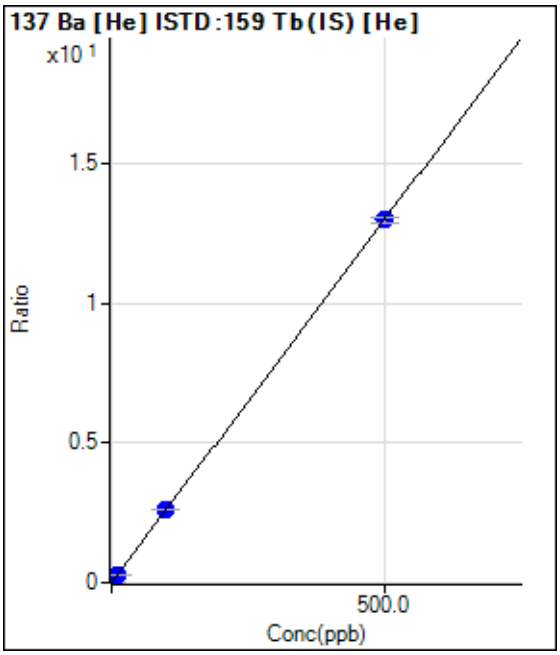
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	296.68	0.0016	P	8.0
2	☐	10.000	10.479	175479.76	0.9585	P	1.3
3	☐	100.000	101.873	1664402.73	9.3042	P	1.6
4	☐	500.000	499.616	7903515.51	45.6244	A	1.6

y = 0.0913 * x + 0.0016
R = 1.0000
DL = 0.004216
BEC = 0.01746

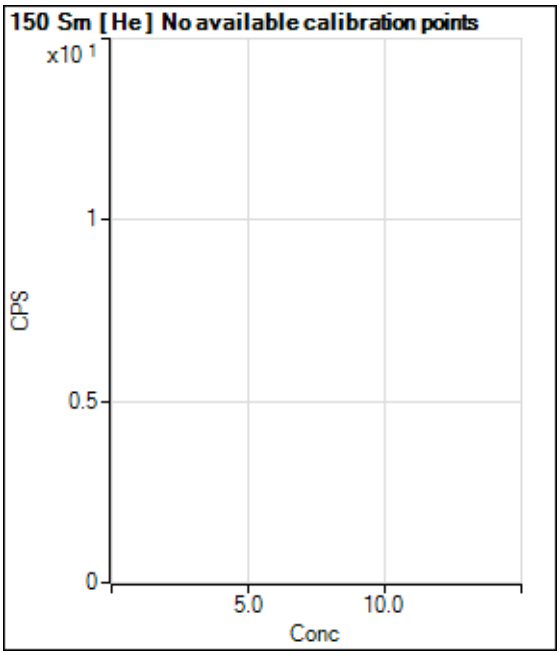
Weight: <None>
Min Conc: 0



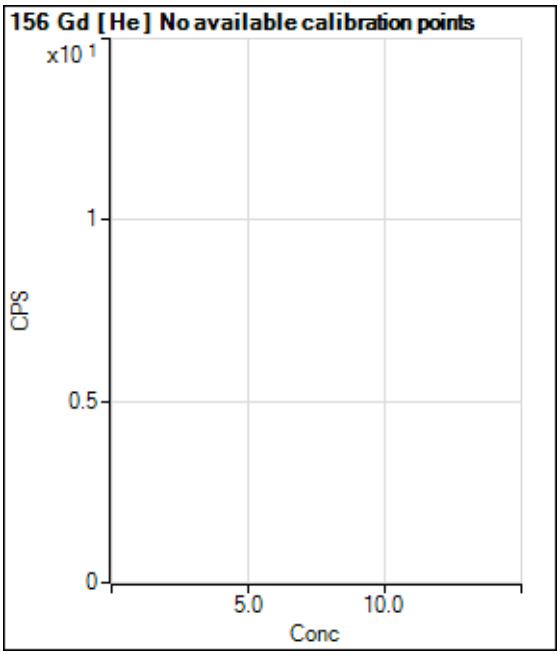
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	163.34	0.0008	P	28.4
2	☐	10.000	10.509	58543.59	0.2738	P	1.2
3	☐	100.000	101.178	553817.38	2.6295	P	1.1
4	☐	500.000	499.754	2637677.36	12.9850	P	1.7

y = 0.0260 * x + 7.8526E-004
R = 1.0000
DL = 0.02572
BEC = 0.03022

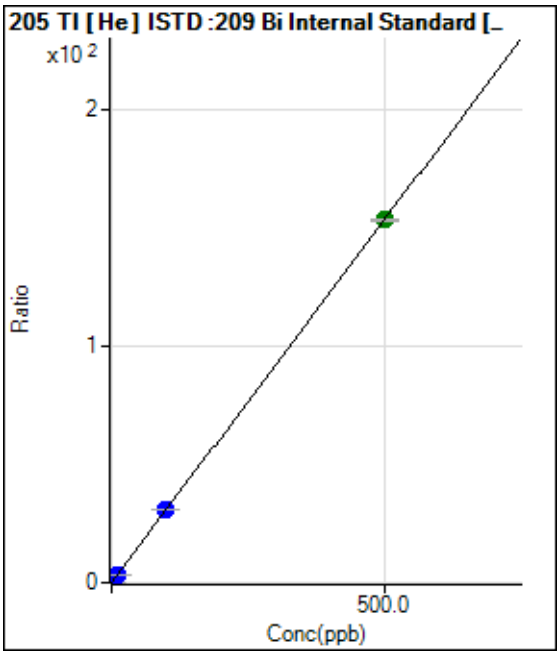
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐						
2	☐						
3	☐						
4	☐						



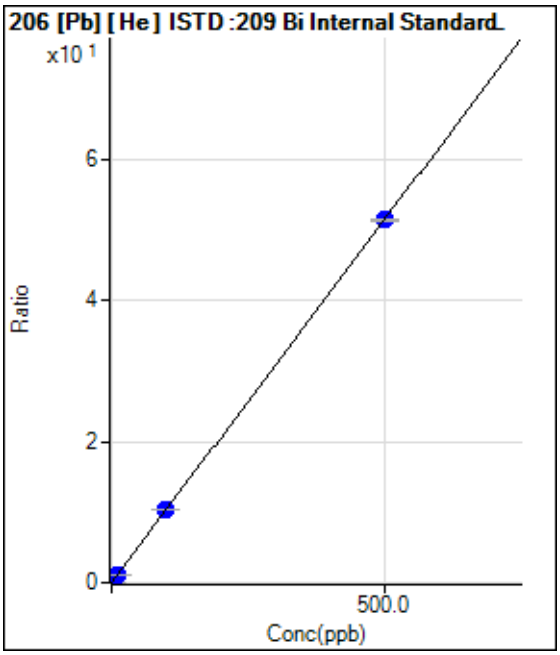
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐						
2	☐						
3	☐						
4	☐						



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	560.04	0.0045	P	24.2
2	☐	10.000	10.279	385484.17	3.1561	P	1.8
3	☐	100.000	100.598	3627873.49	30.8468	P	0.8
4	☐	500.000	499.875	16984365.17	153.2612	A	0.6

y = 0.3066 * x + 0.0045
R = 1.0000
DL = 0.01072
BEC = 0.01474

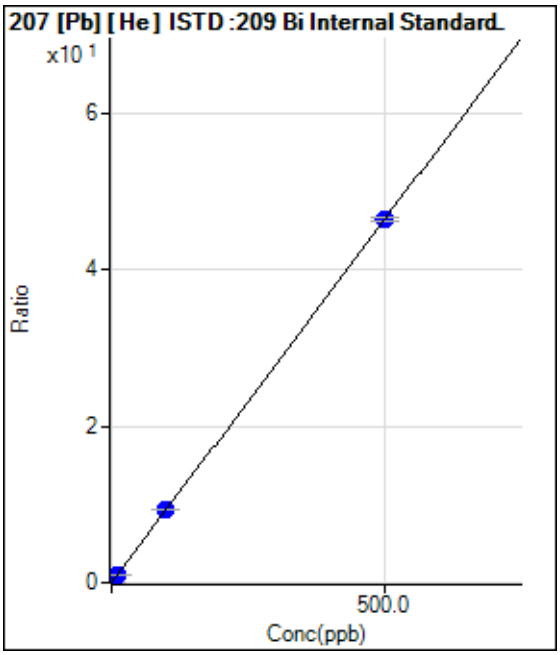
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	90.00	0.0007	P	28.8
2	☐	10.000	10.398	130891.11	1.0714	P	1.5
3	☐	100.000	101.168	1225192.82	10.4176	P	1.1
4	☐	500.000	499.758	5702582.21	51.4590	P	0.6

y = 0.1030 * x + 7.2630E-004
R = 1.0000
DL = 0.006086
BEC = 0.007054

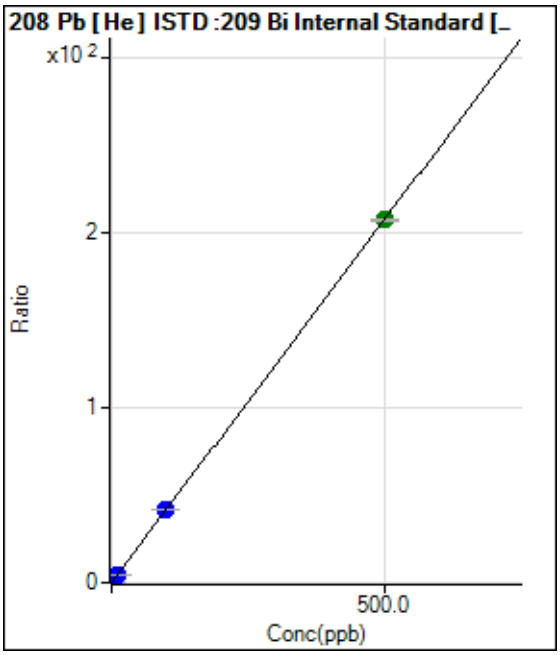
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	150.01	0.0012	P	35.9
2	☐	10.000	10.435	118210.97	0.9678	P	1.3
3	☐	100.000	100.514	1095129.36	9.3119	P	1.2
4	☐	500.000	499.889	5131459.92	46.3067	P	1.0

y = 0.0926 * x + 0.0012
R = 1.0000
DL = 0.01411
BEC = 0.0131

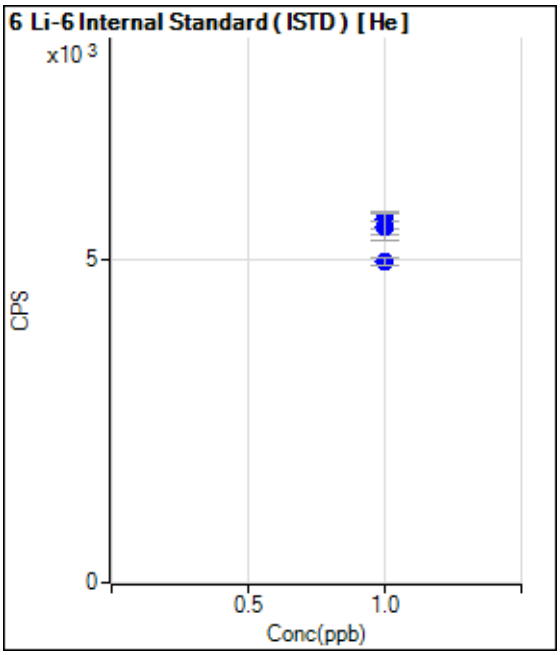
Weight: <None>
Min Conc: 0



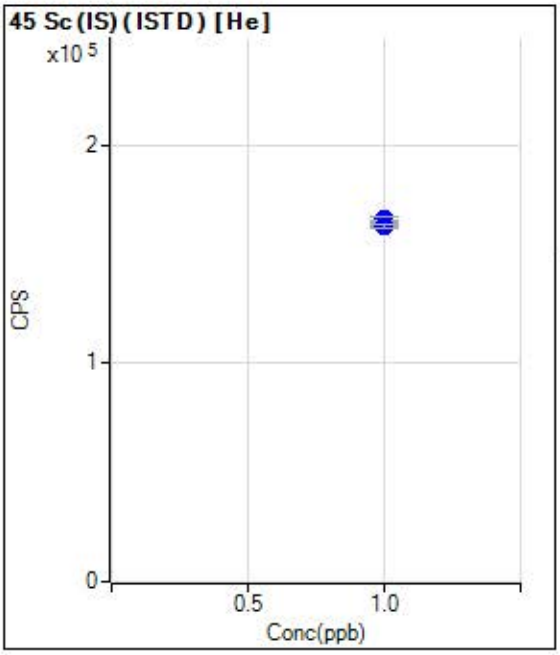
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	540.02	0.0044	P	18.5
2	☐	10.000	10.484	531906.64	4.3546	P	0.7
3	☐	100.000	101.345	4945963.91	42.0550	P	1.0
4	☐	500.000	499.721	22978448.62	207.3519	A	0.5

y = 0.4149 * x + 0.0044
R = 1.0000
DL = 0.005829
BEC = 0.0105

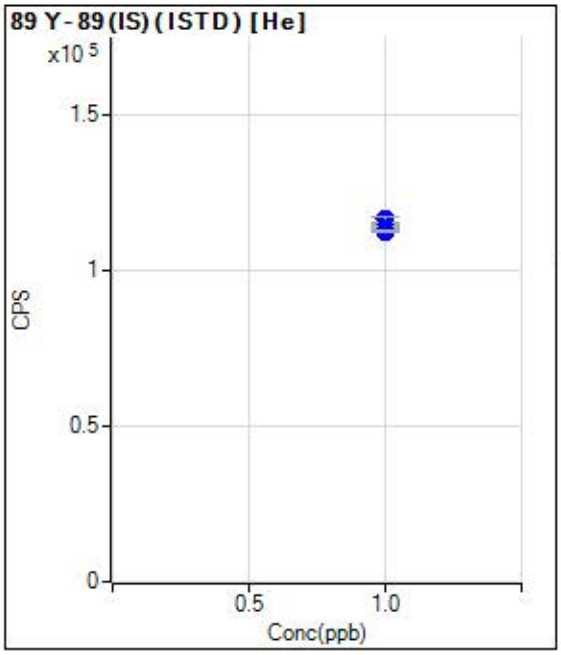
Weight: <None>
Min Conc: 0



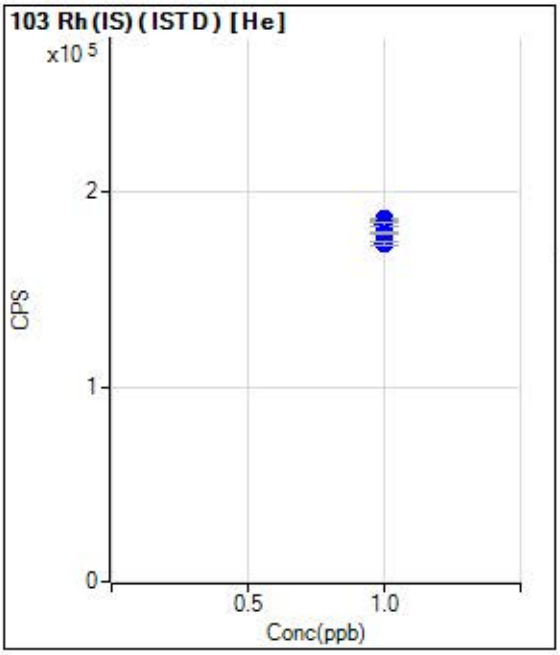
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		5621.11		P	4.9
2	☐	1.000		5501.07		P	3.5
3	☐	1.000		5517.72		P	7.4
4	☐	1.000		4970.87		P	2.4



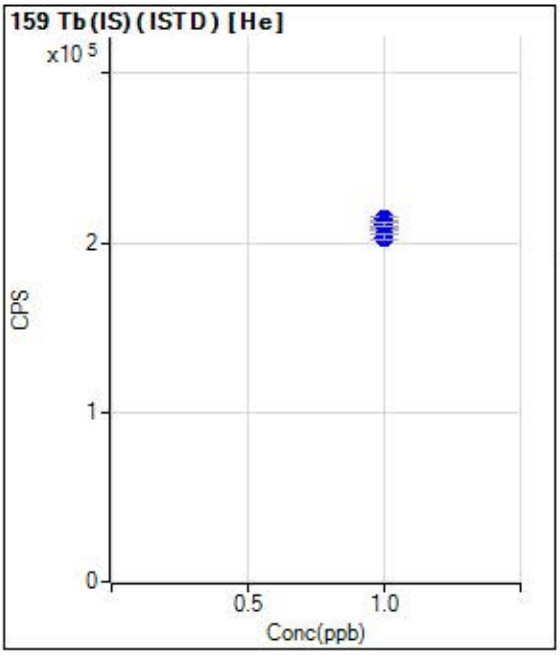
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		163915.78		P	1.1
2	☐	1.000		165943.96		P	1.2
3	☐	1.000		163026.85		P	0.2
4	☐	1.000		162800.57		P	1.1



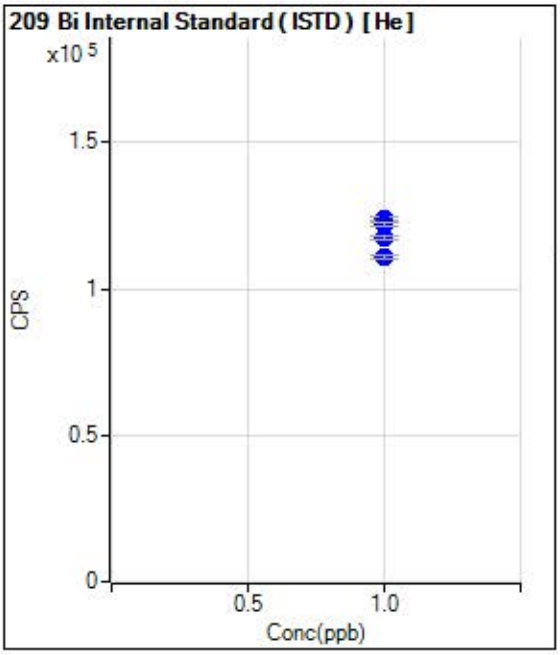
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		115477.25		P	0.7
2	☐	1.000		116637.63		P	1.6
3	☐	1.000		113926.31		P	0.7
4	☐	1.000		112673.92		P	0.7



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		186077.44		P	0.3
2	☐	1.000		183101.84		P	1.1
3	☐	1.000		178903.11		P	0.9
4	☐	1.000		173250.42		P	1.1



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		207732.73		P	0.7
2	☐	1.000		213820.93		P	1.2
3	☐	1.000		210632.32		P	1.1
4	☐	1.000		203171.73		P	1.7



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		123801.67		P	1.2
2	☐	1.000		122154.96		P	1.0
3	☐	1.000		117615.66		P	1.1
4	☐	1.000		110822.96		P	1.1

Batch Summary Report

Batch Folder: C:\Agilent\ICPMH\1\DATA\MS4062917He-1.b\
Analysis File: MS4062917He-1.batch.bin
Tune Step: #1 He

	Rjct	Acq. Date-Time	Data File	Sample Name	Type	Level	Dilution
1		6/29/2017 9:56:21 AM	001CALB.d	blk I.S /tune	CalBlk	1	1.0000
2		6/29/2017 10:00:09 AM	002CALB.d	ICIS	CalBlk	1	1.0000
3		6/29/2017 10:03:56 AM	003CALS.d	Std1	CalStd	2	1.0000
4		6/29/2017 10:07:53 AM	004CALS.d	Std2	CalStd	3	1.0000
5		6/29/2017 10:11:49 AM	005CALS.d	Std3	CalStd	4	1.0000
6		6/29/2017 10:15:56 AM	006 QCS.d	S1	QCS		1.0000
7		6/29/2017 10:19:42 AM	007 ICV.d	ICV	ICV		1.0000
8		6/29/2017 10:23:28 AM	008 ICB.d	ICB	ICB		1.0000
9		6/29/2017 10:27:16 AM	009LICV.d	ICVL	LLICV		1.0000
10		6/29/2017 10:31:22 AM	010ICSA.d	icsa	ICSA		1.0000
11		6/29/2017 10:35:10 AM	011ICSB.d	icsab	ICSB		1.0000
12		6/29/2017 10:38:57 AM	012SMPL.d	CRI	Sample		1.0000
13		6/29/2017 10:42:44 AM	013 CCV.d	CCV	CCV		1.0000
14		6/29/2017 10:46:49 AM	014 CCB.d	CCB	CCB		1.0000
15		6/29/2017 10:51:49 AM	015 PB.d	mb 500-391162/1-a	PB		1.0000
16		6/29/2017 10:55:55 AM	016 LCS.d	lcs 500-391162/2-a	LCS		1.0000
17		6/29/2017 10:59:55 AM	017SMPL.d	500-130240-d-1-a	Sample		1.0000
18		6/29/2017 11:03:42 AM	018SMPL.d	500-130240-d-1-b du	Sample		1.0000
19		6/29/2017 11:07:28 AM	019SMPL.d	500-130240-d-1-c ms	Sample		1.0000
20		6/29/2017 11:11:16 AM	020SMPL.d	500-130240-d-1-a SD@5	Sample		1.0000
21		6/29/2017 11:15:23 AM	021 PB.d	mb 500-391115/1-a	PB		1.0000
22		6/29/2017 11:19:30 AM	022 LCS.d	lcs 500-391115/2-a	LCS		1.0000
23	On	6/29/2017 11:23:16 AM	023SMPL.d	/500-129783-c-1-c	Sample		1.0000
24	On	6/29/2017 11:27:03 AM	024SMPL.d	/500-129783-c-2-c	Sample		1.0000
25		6/29/2017 11:30:49 AM	025 CCV.d	CCV	CCV		1.0000
26		6/29/2017 11:34:35 AM	026 CCB.d	CCB	CCB		1.0000
27		6/29/2017 11:38:44 AM	027SMPL.d	500-129783-c-1-c	Sample		1.0000

	Rjct	Acq. Date-Time	Data File	Sample Name	Type	Level	Dilution
28		6/29/2017 11:42:51 AM	028SMPL.d	500-129783-c-2-c	Sample		1.0000
29		6/29/2017 11:46:37 AM	029SMPL.d	500-129783-d-3-a	Sample		1.0000
30		6/29/2017 11:50:46 AM	030SMPL.d	500-129783-e-4-a	Sample		1.0000
31		6/29/2017 11:54:52 AM	031SMPL.d	500-129783-e-5-a	Sample		1.0000
32		6/29/2017 11:58:38 AM	032SMPL.d	500-129783-c-6-g	Sample		1.0000
33		6/29/2017 12:02:24 PM	033SMPL.d	500-129783-c-6-h du	Sample		1.0000
34		6/29/2017 12:06:11 PM	034SMPL.d	500-129783-d-6-c ms	Sample		1.0000
35		6/29/2017 12:09:57 PM	035SMPL.d	500-129783-e-6-b msd	Sample		1.0000
36		6/29/2017 12:14:03 PM	036SMPL.d	500-129783-c-6-g SD@5	Sample		1.0000
37		6/29/2017 12:17:50 PM	037_CCV.d	CCV	CCV		1.0000
38		6/29/2017 12:21:36 PM	038_CCB.d	CCB	CCB		1.0000
39		6/29/2017 12:25:43 PM	039LCCV.d	CCVL	LLCCV		1.0000
40		6/29/2017 1:31:53 PM	040_PB.d	mb 500-391317/1-a	PB		1.0000
41		6/29/2017 1:36:57 PM	041_LCS.d	lcs 500-391317/2-a	LCS		1.0000
42		6/29/2017 1:40:46 PM	042SMPL.d	500-129739-a-1-c	Sample		1.0000
43		6/29/2017 1:44:32 PM	043SMPL.d	500-129739-a-2-i	Sample		1.0000
44		6/29/2017 1:48:19 PM	044SMPL.d	500-129739-a-2-j ms	Sample		1.0000
45		6/29/2017 1:52:06 PM	045SMPL.d	500-129739-a-2-k msd	Sample		1.0000
46		6/29/2017 1:55:52 PM	046SMPL.d	500-129739-a-2-i SD@5	Sample		1.0000
47		6/29/2017 1:59:38 PM	047SMPL.d	500-129739-a-3-c	Sample		1.0000
48		6/29/2017 2:03:24 PM	048SMPL.d	500-129739-a-4-c	Sample		1.0000
49		6/29/2017 2:07:14 PM	049SMPL.d	500-129739-a-5-c	Sample		1.0000
50		6/29/2017 2:11:00 PM	050_CCV.d	CCV	CCV		1.0000
51		6/29/2017 2:14:45 PM	051_CCB.d	CCB	CCB		1.0000
52		6/29/2017 2:18:31 PM	052SMPL.d	500-129739-a-6-c	Sample		1.0000
53		6/29/2017 2:22:17 PM	053SMPL.d	500-129739-a-7-c	Sample		1.0000
54		6/29/2017 2:26:03 PM	054SMPL.d	500-129739-a-8-c	Sample		1.0000
55		6/29/2017 2:29:48 PM	055SMPL.d	500-130175-b-1-a	Sample		1.0000
56	On	6/29/2017 2:33:35 PM	056SMPL.d	/500-130240-b-1-a	Sample		1.0000
57	On	6/29/2017 2:37:22 PM	057SMPL.d	/500-130249-a-1-a	Sample		1.0000
58	On	6/29/2017 2:41:12 PM	058SMPL.d	/500-130270-a-1-a	Sample		1.0000
59	On	6/29/2017 2:44:57 PM	059SMPL.d	/500-130270-a-1-b du	Sample		1.0000

	Rjct	Acq. Date-Time	Data File	Sample Name	Type	Level	Dilution
60	On	6/29/2017 2:48:44 PM	060SMPL.d	/500-130270-a-1-c ms	Sample		1.0000
61		6/29/2017 3:14:20 PM	061_CCV.d	CCV	CCV		1.0000
62		6/29/2017 3:19:49 PM	062_CCB.d	CCB	CCB		1.0000
63		6/29/2017 3:23:35 PM	063SMPL.d	500-130240-b-1-a	Sample		1.0000
64		6/29/2017 3:27:23 PM	064SMPL.d	500-130249-a-1-a	Sample		1.0000
65		6/29/2017 3:31:10 PM	065SMPL.d	500-130270-a-1-a	Sample		1.0000
66		6/29/2017 3:34:57 PM	066SMPL.d	500-130270-a-1-b du	Sample		1.0000
67		6/29/2017 3:38:46 PM	067SMPL.d	500-130270-a-1-c ms	Sample		1.0000
68		6/29/2017 3:42:34 PM	068SMPL.d	500-130270-a-1-a SD@5	Sample		1.0000
69		6/29/2017 3:46:22 PM	069_PB.d	mb 500-391276/1-a	PB		1.0000
70		6/29/2017 3:50:08 PM	070_LCS.d	lcs 500-391276/2-a	LCS		1.0000
71		6/29/2017 3:53:55 PM	071SMPL.d	500-130062-a-1-f	Sample		1.0000
72		6/29/2017 3:57:40 PM	072_CCV.d	CCV	CCV		1.0000
73		6/29/2017 4:01:27 PM	073_CCB.d	CCB	CCB		1.0000
74		6/29/2017 4:05:12 PM	074LCCV.d	CCVL	LLCCV		1.0000

Analyte Table

		9 Be [He]		11 B [He]		23 Na [He]		24 Mg [He]	
	Sample Name	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS
1	blk I.S /tune	0.000	3.33	<0.000	1656.81	2.233	214797.86	1.098	8819.22
2	ICIS	0.000	3.33	0.000	1720.16	0.000	209205.41	0.000	6321.37
3	Std1	10.180	2406.92	8.033	2636.98	1096.635	5059200.97	1098.246	2717554.44
4	Std2	102.643	23816.62	104.474	13135.38	10493.963	45783210.99	10469.831	25401316.29
5	Std3	499.468	115711.45	499.145	56209.75	49899.275	2.16609E+08	49904.069	1.20872E+08
6	S1	485.729	113962.75	498.512	56851.87	49878.392	2.19270E+08	50130.244	1.22967E+08
7	ICV	196.256	46905.95	197.867	24043.79	20164.024	90416631.98	20022.878	50025929.25
8	ICB	0.155	40.00	4.175	2203.57	0.913	215536.20	0.198	6881.61
9	ICVL	1.186	283.35	49.909	7301.79	211.394	1146545.19	211.718	529244.93
10	icsa	0.098	26.67	<0.000	1440.12	100712.725	4.50238E+08	100513.585	2.50847E+08
11	icsab	17.818	4340.71	44.127	6854.93	99223.726	4.52194E+08	98477.092	2.50491E+08
12	CRI	2.078	516.70	92.940	12655.01	423.321	2181622.93	416.966	1084810.71
13	CCV	242.152	58627.33	243.961	29625.33	25293.749	1.14847E+08	25387.669	64264375.71
14	CCB	0.040	13.33	0.579	1873.49	1.214	225281.99	0.476	7858.75
15	mb 500-39116...	0.068	20.00	<0.000	1586.80	2.451	228179.92	1.029	9162.71
16	lcs 500-391162...	46.418	11700.95	980.217	118277.49	9914.643	46999017.63	9919.152	26143311.28
17	500-130240-d-...	0.011	6.67	110.362	15337.08	33559.596	1.62455E+08	25966.567	70108490.62
18	500-130240-d-...	<0.000	3.33	107.584	14960.07	33748.852	1.62981E+08	25976.869	69967593.96
19	500-130240-d-...	45.663	12094.55	1044.418	132295.60	41342.749	2.05161E+08	34158.489	94569871.92
20	500-130240-d-...	0.026	10.00	28.858	5207.61	6941.985	32484790.35	5377.902	13965203.54
21	mb 500-39111...	0.026	10.00	7.754	2730.31	21.000	319222.74	2.498	13168.73
22	lcs 500-391115...	47.361	11774.41	1011.495	120294.46	10445.326	48808972.60	10459.137	27178222.10
23	/500-129783-c...								
24	/500-129783-c...								
25	CCV	246.325	59490.02	252.124	30476.73	25639.941	1.16131E+08	25474.179	64323937.38
26	CCB	0.111	30.00	3.112	2113.56	0.413	216351.21	0.091	6708.20

Analyte Table

		9 Be [He]		11 B [He]		23 Na [He]		24 Mg [He]	
	Sample Name	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS
27	500-129783-c-...	0.036	13.33	83.027	12314.73	11441.284	56960355.82	15471.918	42844377.70
28	500-129783-c-...	0.011	6.67	0.050	1946.85	24431.054	1.20542E+08	12559.949	34549977.82
29	500-129783-d-...	0.072	23.33	2.042	2246.90	14225.219	71989023.93	12964.254	36524991.96
30	500-129783-e-...	0.026	10.00	438.652	52785.89	279260.150	1.28909E+09	26709.765	68851193.97
31	500-129783-e-...	<0.000	0.00	443.809	54330.64	278422.294	1.30796E+09	26566.570	69695050.63
32	500-129783-c-...	0.011	6.67	467.690	58741.11	115106.024	5.55816E+08	23882.605	64386042.37
33	500-129783-c-...	<0.000	3.33	474.345	59510.55	115857.217	5.59111E+08	24047.381	64794927.37
34	500-129783-d-...	47.778	12594.95	1400.090	175837.82	119079.313	5.87709E+08	32254.347	88876015.34
35	500-129783-e-...	45.966	12134.58	1420.629	178582.12	123002.517	6.07685E+08	33118.053	91349918.64
36	500-129783-c-...	<0.000	3.33	115.295	15644.09	24399.362	1.15963E+08	5149.566	13648464.80
37	CCV	244.801	60800.94	252.211	31351.90	25508.143	1.18811E+08	25490.023	66192937.35
38	CCB	0.040	13.33	9.558	2907.01	13.281	280203.22	0.463	7812.11
39	CCVL	1.091	273.34	50.097	7661.94	222.362	1250967.27	211.538	553529.58
40	mb 500-39131...	<0.000	3.33	4.256	2326.92	15.967	296411.65	4.078	17285.77
41	lcs 500-391317...	47.516	11947.83	1050.904	126365.62	10206.110	48262380.95	10103.744	26564325.44
42	500-129739-a-...	0.067	20.00	28.125	5044.25	8213.415	37814986.10	12517.942	32006060.36
43	500-129739-a-2-i	0.054	16.67	30.811	5340.98	8017.582	36822985.29	12390.745	31600792.03
44	500-129739-a-2-...	47.827	11841.03	969.636	114909.89	17432.773	80980142.13	21435.983	55468875.84
45	500-129739-a-...	46.966	11844.33	991.039	119627.10	17489.719	82769752.10	21647.951	57070447.48
46	500-129739-a-2-...	0.040	13.33	18.342	3953.94	1390.620	6645969.48	2057.071	5314098.88
47	500-129739-a-...	<0.000	3.33	16.801	3893.89	4280.608	20626769.69	9575.594	25493040.45
48	500-129739-a-...	0.012	6.67	12.387	3323.77	4520.118	21507483.84	9603.813	25260107.13
49	500-129739-a-...	0.012	6.67	18.599	4057.28	4774.201	22686552.16	9569.604	25150114.62
50	CCV	246.454	59516.85	249.570	30179.75	25755.727	1.16630E+08	25517.280	64422214.04
51	CCB	0.014	6.67	1.311	1870.17	<0.000	207381.28	<0.000	5607.84
52	500-129739-a-...	0.078	23.33	12.990	3380.44	4665.408	22089591.33	9672.848	25325605.45
53	500-129739-a-...	0.026	10.00	15.637	3687.19	4740.507	22417889.67	9711.850	25400739.62
54	500-129739-a-...	<0.000	3.33	14.127	3350.43	54.171	456195.07	5.930	21266.78
55	500-130175-b-...	0.026	10.00	105.445	14222.82	32237.120	1.50607E+08	24811.662	64648179.04
56	/500-130240-b...								

Analyte Table

		9 Be [He]		11 B [He]		23 Na [He]		24 Mg [He]	
	Sample Name	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS
57	/500-130249-a...								
58	/500-130270-a...								
59	/500-130270-a...								
60	/500-130270-a...								
61	CCV	240.656	60192.11	240.527	30193.15	25196.921	1.18187E+08	25176.348	65832977.35
62	CCB	0.025	10.00	0.440	1910.17	3.375	241699.11	1.256	10129.97
63	500-130240-b-...	0.051	16.67	103.017	14272.88	32813.477	1.56982E+08	25476.746	67974708.98
64	500-130249-a-...	0.023	10.00	188.522	25572.56	275539.383	1.37100E+09	12767.347	35480592.80
65	500-130270-a-...	0.036	13.33	6887.461	858234.18	247356.158	1.22173E+09	96198.780	2.65319E+08
66	500-130270-a-...	0.048	16.67	6751.236	858098.32	240941.969	1.21381E+09	94623.459	2.66198E+08
67	500-130270-a-...	40.973	11143.88	7572.012	972269.28	245363.648	1.24899E+09	101826.298	2.89447E+08
68	500-130270-a-...	0.012	6.67	1630.032	198793.64	53013.279	2.54594E+08	20873.658	55941975.83
69	mb 500-39127...	<0.000	3.33	73.887	11070.55	50.658	483847.62	3.780	17465.91
70	lcs 500-391276...	49.684	12795.01	1040.787	128196.53	10505.265	50862862.57	10542.322	28384307.08
71	500-130062-a-1-f	<0.000	3.33	200.009	26176.61	30230.997	1.45960E+08	40316.832	1.08550E+08
72	CCV	243.555	60256.07	276.955	34113.71	25875.258	1.20040E+08	25888.412	66956742.34
73	CCB	0.067	20.00	26.485	4904.19	11.364	274048.82	<0.000	6454.79
74	CCVL	1.103	273.35	68.551	9713.03	221.329	1233755.95	210.728	545940.50

Analyte Table

		27 Al [He]		39 K [He]		44 Ca [He]		47 Ti [He]	
	Sample Name	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS
1	blk I.S /tune	1.138	3881.40	2.883	442302.94	6.908	4256.61	<0.000	30.00
2	ICIS	0.000	2136.89	0.000	440119.28	0.000	3201.33	0.000	33.33
3	Std1	1069.274	1727462.79	1078.433	4499571.91	1079.551	182759.51	10.317	9659.75
4	Std2	10354.755	16418022.67	10500.414	39219455.25	10254.426	1678516.35	101.230	92809.12
5	Std3	49927.664	79036533.82	49898.348	1.84462E+08	49947.524	8151293.67	499.748	457377.36
6	S1	49684.203	79656107.15	50043.015	1.87355E+08	50132.925	8285955.89	490.941	455037.10
7	ICV	19907.247	32509018.68	19925.723	76251917.19	19904.208	3352659.34	198.609	187510.09
8	ICB	0.507	2980.38	<0.000	440447.48	<0.000	2825.68	0.018	50.00
9	ICVL	101.735	166380.91	511.850	2370448.50	199.327	36399.72	5.207	4890.87
10	icsa	98914.588	1.61351E+08	100728.255	3.83177E+08	101712.141	17101561.75	2010.372	1895658.72
11	icsab	97282.305	1.61752E+08	99520.487	3.85984E+08	99770.523	17098932.22	1975.536	1899058.25
12	CRI	205.467	349503.17	1032.973	4533602.85	402.074	73421.15	10.163	9963.29
13	CCV	25004.088	41366394.38	25292.660	97939175.21	24744.854	4222067.87	248.439	237642.11
14	CCB	0.313	2770.34	1.083	466448.55	<0.000	2861.35	0.002	36.67
15	mb 500-39116...	1.121	4070.62	1.351	461782.52	<0.000	3143.77	0.048	80.00
16	lcs 500-391162...	1903.533	3280417.97	9828.077	39908176.91	9457.239	1681760.49	945.505	941370.74
17	500-130240-d-...	2.349	6511.46	5612.440	23560112.15	68948.836	12541601.75	0.287	330.02
18	500-130240-d-...	4.200	9753.10	5650.798	23660252.15	68959.808	12512573.72	0.272	313.35
19	500-130240-d-...	1889.004	3420360.58	14995.030	63707799.05	73894.655	13782118.25	939.084	982323.53
20	500-130240-d-...	0.865	3743.89	1128.629	4929095.65	13864.001	2427214.99	0.096	130.01
21	mb 500-39111...	2.016	5677.77	5.072	486902.10	15.871	6162.53	0.022	56.67
22	lcs 500-391115...	1984.433	3371678.60	10346.578	41396777.72	9861.708	1729090.64	977.983	960049.67
23	/500-129783-c...								
24	/500-129783-c...								
25	CCV	25133.170	41477894.38	25564.953	98743185.19	24618.448	4190009.74	248.048	236663.65
26	CCB	0.109	2370.25	3.937	466284.04	<0.000	2858.77	<0.000	30.00

Analyte Table

		27 Al [He]		39 K [He]		44 Ca [He]		47 Ti [He]	
	Sample Name	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS
27	500-129783-c-...	17.892	34809.28	3058.175	13392904.80	28155.512	5254397.13	1.149	1240.10
28	500-129783-c-...	5.656	12574.99	292.491	1721163.10	19938.191	3696952.33	1.001	1076.74
29	500-129783-d-...	24.759	48053.72	485.947	2592701.78	25827.332	4904021.92	1.752	1904.63
30	500-129783-e-...	39.206	68324.76	2659.749	10903493.17	40568.410	7047041.86	0.806	820.09
31	500-129783-e-...	30.142	53950.31	2657.774	11089186.92	40563.127	7170413.69	0.731	760.07
32	500-129783-c-...	33.559	61496.08	1479.648	6559799.90	48814.403	8867390.19	0.920	973.41
33	500-129783-c-...	19.898	37395.27	1483.397	6571757.61	48815.585	8861951.88	0.733	783.38
34	500-129783-d-...	1891.982	3409534.64	11266.865	47765989.29	56462.176	10481841.96	933.758	972110.74
35	500-129783-e-...	1907.381	3440799.85	11326.256	48065035.95	57473.223	10681186.96	933.815	973162.95
36	500-129783-c-...	7.393	15128.34	315.879	1752358.52	10011.290	1789953.92	0.284	320.02
37	CCV	25184.341	42743051.03	25634.523	1.01823E+08	24508.466	4289787.26	246.304	241686.84
38	CCB	0.276	2703.68	1.414	467056.47	<0.000	2814.96	0.005	40.00
39	CCVL	101.899	174433.32	519.147	2510025.22	200.425	38291.26	4.900	4820.85
40	mb 500-39131...	3.044	7428.59	3.489	481535.31	12.704	5623.46	0.100	133.34
41	lcs 500-391317...	1926.041	3311148.91	9962.678	40348414.40	9400.497	1667771.74	936.905	930560.92
42	500-129739-a-...	10.419	19646.19	1437.761	6057994.91	31639.842	5451396.50	0.440	460.03
43	500-129739-a-2-i	81.742	138476.25	1433.591	6026303.45	31666.087	5441966.11	12.142	11734.32
44	500-129739-a-2-...	1940.929	3284466.62	11175.884	44495481.00	40659.113	7089025.96	936.140	915171.68
45	500-129739-a-...	1983.661	3419788.07	11188.688	45384479.32	41012.631	7285169.43	943.666	939881.47
46	500-129739-a-2-...	14.716	27075.00	249.908	1447548.52	5510.271	961028.44	2.268	2246.90
47	500-129739-a-...	140.477	246681.33	979.572	4450213.79	21057.075	3778422.56	5.853	5926.62
48	500-129739-a-...	93.154	162406.31	985.192	4419236.81	21172.517	3753431.07	2.920	2937.02
49	500-129739-a-...	101.384	176382.36	995.891	4458578.69	21320.211	3776731.23	3.029	3043.73
50	CCV	25308.339	41758412.71	25471.026	98364011.87	24463.786	4163010.20	247.252	235868.81
51	CCB	0.195	2456.94	4.265	457310.76	<0.000	2558.35	0.004	36.67
52	500-129739-a-...	85.917	149274.18	997.066	4446403.06	21451.676	3785463.19	2.821	2827.05
53	500-129739-a-...	95.926	166241.66	999.671	4451947.12	21392.354	3770936.92	7.412	7308.84
54	500-129739-a-...	7.134	13825.94	39.034	598797.05	34.311	9041.72	0.282	300.01
55	500-130175-b-...	80.446	139244.50	5742.514	23251453.82	66654.212	11700296.12	2.559	2554.57
56	/500-130240-b...								

Analyte Table

		27 Al [He]		39 K [He]		44 Ca [He]		47 Ti [He]	
	Sample Name	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS
57	/500-130249-a...								
58	/500-130270-a...								
59	/500-130270-a...								
60	/500-130270-a...								
61	CCV	24707.434	42225056.04	25093.958	1.00378E+08	23821.800	4198696.46	241.161	238278.25
62	CCB	0.044	2383.60	6.251	500062.08	1.875	3787.72	0.027	63.34
63	500-130240-b-...	48.472	86793.43	5802.641	24054104.64	67988.366	12221281.08	1.522	1567.12
64	500-130249-a-...	127.146	233333.01	7333.178	31526152.87	42349.786	7929205.64	4.341	4594.12
65	500-130270-a-...	10.744	21784.15	259384.302	1.08980E+09	300966.352	55913722.01	0.533	593.37
66	500-130270-a-...	12.158	24818.49	255071.895	1.09310E+09	294338.152	55772956.81	0.679	760.05
67	500-130270-a-...	1788.409	3325045.47	257612.749	1.11550E+09	298727.259	57194348.10	881.038	946323.97
68	500-130270-a-...	3.139	7845.36	55598.125	2.27348E+08	64087.779	11571166.77	0.115	153.34
69	mb 500-39127...	2.392	6691.49	28.995	615915.66	26.371	8468.73	0.031	70.00
70	lcs 500-391276...	1997.167	3516075.26	10424.266	43211226.02	9752.214	1771714.92	985.224	1002072.77
71	500-130062-a-1-f	113.116	201415.46	2232.699	9638749.44	82319.264	14931623.97	4.930	5049.35
72	CCV	25866.994	43724277.68	25865.008	1.02320E+08	24503.698	4271793.97	245.587	240008.90
73	CCB	0.142	2503.62	8.124	497973.21	<0.000	2886.34	<0.000	33.33
74	CCVL	101.371	171807.37	528.582	2521739.13	206.019	38874.39	4.988	4857.51

Analyte Table

		51 V [He]		52 Cr [He]		55 Mn [He]		56 Fe [He]	
	Sample Name	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS
1	blk I.S /tune	0.005	35704.75	0.117	28758.19	0.013	896.73	0.930	66057.65
2	ICIS	0.000	36292.49	0.000	26831.64	0.000	696.71	0.000	49178.27
3	Std1	10.520	253501.19	10.950	261311.37	10.985	187357.60	1104.034	21868902.17
4	Std2	102.635	2113857.62	104.222	2216264.86	104.700	1748589.29	10502.553	2.03974E+08
5	Std3	499.463	10132642.97	499.137	10497294.84	499.040	8319662.80	49897.409	9.67507E+08
6	S1	496.378	10198484.43	497.502	10596821.51	499.835	8439018.21	49773.460	9.77397E+08
7	ICV	199.942	4206215.15	201.211	4381338.48	205.056	3526419.84	20103.577	4.02089E+08
8	ICB	<0.000	35043.19	0.060	28417.75	0.007	830.05	0.767	64871.12
9	ICVL	4.991	139634.18	5.277	140031.43	2.614	45139.94	106.293	2151041.95
10	icsa	<0.000	19551.79	0.597	40365.06	0.455	8532.42	98874.473	1.97520E+09
11	icsab	19.098	443338.13	20.190	472832.76	20.127	353158.98	97340.934	1.98224E+09
12	CRI	10.258	259868.54	9.965	251616.56	5.206	93373.68	208.804	4373939.62
13	CCV	251.621	5353227.00	249.408	5495645.75	250.739	4368714.94	25346.240	5.13626E+08
14	CCB	0.649	51966.12	0.057	29449.22	0.003	776.71	1.060	73395.42
15	mb 500-39116...	0.677	51942.59	0.109	30230.86	0.140	3160.41	1.358	78527.25
16	lcs 500-391162...	487.070	10750857.34	194.999	4479287.22	497.182	9016980.08	1001.393	21174997.18
17	500-130240-d-...	<0.000	35149.97	<0.000	11067.28	0.769	15057.21	10.018	270978.51
18	500-130240-d-...	<0.000	35096.53	<0.000	10827.14	0.787	15354.07	9.692	263277.21
19	500-130240-d-...	482.913	11198672.75	189.063	4563845.97	487.353	9286762.99	994.924	22103657.17
20	500-130240-d-...	0.264	44341.31	<0.000	26297.60	0.265	5471.07	3.025	115205.19
21	mb 500-39111...	0.134	41407.28	<0.000	27920.21	0.242	5050.95	7.709	211843.83
22	lcs 500-391115...	506.158	11013046.09	202.185	4577896.28	520.345	9304721.11	1082.119	22557553.00
23	/500-129783-c...								
24	/500-129783-c...								
25	CCV	250.135	5308575.34	251.241	5522031.79	250.463	4353133.79	25312.441	5.11658E+08
26	CCB	0.038	38012.94	0.107	29839.98	0.002	750.05	0.441	59249.65

Analyte Table

		51 V [He]		52 Cr [He]		55 Mn [He]		56 Fe [He]	
	Sample Name	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS
27	500-129783-c-...	0.376	49886.51	0.182	34822.92	0.859	17159.21	40.795	959990.33
28	500-129783-c-...	0.389	49866.32	0.015	30611.47	0.449	9279.50	16.973	429100.92
29	500-129783-d-...	0.167	45858.44	<0.000	30754.96	70.420	1366053.73	5954.162	1.34317E+08
30	500-129783-e-...	<0.000	35794.89	0.234	33590.46	1180.816	20948888.86	475.633	9866128.39
31	500-129783-e-...	<0.000	36970.52	0.485	39893.80	1168.192	21092165.10	465.733	9832481.10
32	500-129783-c-...	0.433	49852.95	0.042	30648.23	31.943	593449.63	47.025	1069127.85
33	500-129783-c-...	0.456	50334.46	<0.000	29506.09	31.995	594054.74	29.843	697972.28
34	500-129783-d-...	486.598	11230815.66	189.661	4556472.74	521.667	9893556.52	1022.074	22598801.33
35	500-129783-e-...	485.625	11219661.08	189.727	4562712.12	521.181	9893944.44	1067.696	23629858.82
36	500-129783-c-...	0.614	53002.28	0.131	32164.19	6.798	124689.56	10.670	279701.24
37	CCV	247.740	5407483.04	247.938	5604657.42	248.751	4446199.93	25474.329	5.29558E+08
38	CCB	0.254	43475.94	0.128	30968.71	0.011	920.06	0.521	62247.52
39	CCVL	5.390	154758.04	5.331	147803.56	2.586	46751.15	104.744	2219664.29
40	mb 500-39131...	0.175	42369.73	0.078	30264.23	0.220	4674.15	14.621	355632.06
41	lcs 500-391317...	488.312	10752024.42	194.072	4447266.18	502.726	9095617.36	1087.843	22942614.66
42	500-129739-a-...	0.566	50130.59	0.342	35697.91	84.619	1489597.95	205.720	4261444.10
43	500-129739-a-2-i	1.078	60888.98	1.070	51694.95	13.425	236330.55	208.360	4304546.50
44	500-129739-a-2-...	483.916	10488343.17	191.169	4312476.29	504.484	8984320.49	1183.736	24569774.64
45	500-129739-a-...	486.439	10739811.92	190.968	4388926.81	507.737	9211726.11	1242.428	26267760.44
46	500-129739-a-2-...	0.588	51056.58	0.284	34739.22	2.454	44314.85	37.092	818148.17
47	500-129739-a-...	1.154	65247.42	0.889	49786.67	82.662	1515034.04	559.587	11976659.82
48	500-129739-a-...	1.248	66529.59	0.633	43358.94	63.752	1154544.46	472.157	9991810.27
49	500-129739-a-...	1.209	65622.69	0.640	43475.77	62.605	1132917.82	462.387	9778596.31
50	CCV	248.196	5266846.80	248.488	5460924.71	248.329	4315369.21	25504.132	5.15451E+08
51	CCB	0.233	41157.15	0.149	30063.78	0.007	823.38	0.554	60177.45
52	500-129739-a-...	0.766	55690.81	0.516	40494.88	62.544	1127558.68	492.766	10378852.35
53	500-129739-a-...	1.180	64660.39	0.874	48565.96	64.729	1165553.73	556.357	11698376.91
54	500-129739-a-...	0.498	47499.81	0.314	34245.01	0.394	7475.23	68.825	1425366.59
55	500-130175-b-...	1.691	75539.11	0.874	48382.42	40.377	724767.72	858.070	17948654.32
56	/500-130240-b...								

Analyte Table

		51 V [He]		52 Cr [He]		55 Mn [He]		56 Fe [He]	
	Sample Name	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS
57	/500-130249-a...								
58	/500-130270-a...								
59	/500-130270-a...								
60	/500-130270-a...								
61	CCV	240.403	5285007.01	241.444	5496578.67	241.069	4338956.71	24950.976	5.22297E+08
62	CCB	0.095	41263.40	0.084	30871.84	0.011	950.06	0.350	60470.88
63	500-130240-b-...	1.349	69721.55	0.884	49786.30	38.009	698721.48	884.531	18945150.97
64	500-130249-a-...	<0.000	39863.46	3.205	107704.19	233.711	4470107.43	1894.616	42195815.21
65	500-130270-a-...	0.449	51370.82	13.537	353729.88	221.412	4203715.77	130.251	2931312.15
66	500-130270-a-...	0.827	61266.37	13.459	358870.53	216.582	4194163.27	125.205	2876257.97
67	500-130270-a-...	455.428	10847117.76	185.644	4601789.51	672.213	13151632.72	1082.044	24677875.46
68	500-130270-a-...	1.355	70190.62	3.147	102520.36	48.116	888202.95	30.117	700087.51
69	mb 500-39127...	1.202	68309.72	1.876	74718.98	0.114	2930.36	4.747	159460.25
70	lcs 500-391276...	509.801	11493198.16	200.829	4711777.64	527.940	9781676.31	1061.299	22922150.49
71	500-130062-a-1-f	0.656	54801.43	<0.000	28397.68	12.778	237546.70	490.299	10621125.67
72	CCV	245.397	5335260.13	246.234	5544069.29	247.732	4410283.48	25425.806	5.26426E+08
73	CCB	0.234	43472.54	0.091	30454.43	0.007	863.39	0.578	64030.47
74	CCVL	5.518	155949.08	5.349	146726.49	2.626	46985.23	104.221	2186803.56

Analyte Table

		59 Co [He]		60 Ni [He]		63 Cu [He]		66 Zn [He]	
	Sample Name	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS
1	blk I.S /tune	0.010	496.69	0.027	810.05	0.001	42919.27	0.073	1113.41
2	ICIS	0.000	223.34	0.000	646.71	0.000	43610.97	0.000	856.72
3	Std1	11.186	313286.46	11.662	80315.16	11.077	236955.60	11.160	42633.98
4	Std2	105.707	2907105.27	108.849	731144.62	105.216	1842906.11	103.797	380577.18
5	Std3	498.835	13697634.80	498.197	3339190.78	498.935	8311103.84	499.217	1769509.61
6	S1	495.117	13769069.38	494.974	3359930.05	502.041	8401788.00	500.064	1780867.58
7	ICV	200.246	5672007.41	207.453	1434636.70	207.584	3584358.74	206.273	753253.48
8	ICB	0.010	493.36	<0.000	570.03	<0.000	43281.29	0.110	1276.76
9	ICVL	1.103	31112.39	2.255	16064.65	2.692	91333.61	20.199	77556.59
10	icsa	0.150	4464.10	0.352	3090.41	<0.000	10645.65	2.074	7995.46
11	icsab	19.699	568405.63	19.827	140230.80	19.475	350027.12	23.119	79659.78
12	CRI	2.118	62327.76	4.273	31259.37	2.299	86559.18	40.811	159846.68
13	CCV	252.222	7238558.64	256.072	1793913.67	257.837	4448985.66	257.039	939924.88
14	CCB	0.004	353.35	<0.000	530.03	<0.000	12261.15	0.064	1123.42
15	mb 500-39116...	0.002	293.35	<0.000	646.70	<0.000	12609.20	0.141	1423.44
16	lcs 500-391162...	486.952	14545798.11	494.353	3604741.51	257.137	4556503.71	514.116	1929669.56
17	500-130240-d-...	0.174	5567.75	3.282	25222.56	<0.000	27420.95	27.721	106840.52
18	500-130240-d-...	0.171	5461.09	3.279	25135.88	<0.000	27747.02	27.750	106078.48
19	500-130240-d-...	471.368	14794169.36	474.357	3634078.80	257.209	4587522.46	548.310	2071448.15
20	500-130240-d-...	0.042	1486.78	0.675	5537.76	<0.000	13049.52	5.533	21841.25
21	mb 500-39111...	0.012	590.03	0.057	1096.74	<0.000	14160.42	4.632	19334.90
22	lcs 500-391115...	515.079	15171898.94	517.196	3718258.07	262.347	4705348.70	526.174	1999345.96
23	/500-129783-c...								
24	/500-129783-c...								
25	CCV	256.392	7339566.14	254.414	1777976.95	255.359	4447089.82	255.121	941447.49
26	CCB	0.010	523.36	<0.000	393.35	<0.000	18794.86	0.102	1280.10

Analyte Table

		59 Co [He]		60 Ni [He]		63 Cu [He]		66 Zn [He]	
	Sample Name	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS
27	500-129783-c-...	0.122	4093.97	2.529	20109.11	17.829	355906.23	27.769	105019.23
28	500-129783-c-...	0.050	1810.17	1.195	9819.81	13.937	281061.56	9.319	34990.12
29	500-129783-d-...	0.343	11207.36	0.961	8232.27	0.452	51078.01	9.430	36329.25
30	500-129783-e-...	2.166	63531.68	3.856	28180.59	<0.000	36832.92	177.153	622158.10
31	500-129783-e-...	2.136	63752.71	3.797	28260.66	<0.000	32980.70	176.961	628419.33
32	500-129783-c-...	0.185	5894.54	0.632	5431.05	2.168	79028.71	6.933	26184.01
33	500-129783-c-...	0.175	5587.79	0.842	6988.32	2.762	87882.52	7.802	28935.32
34	500-129783-d-...	477.554	14918238.53	472.580	3603423.70	269.004	4610563.43	534.288	1940450.70
35	500-129783-e-...	474.234	14829873.53	468.642	3577018.70	263.854	4580293.71	530.205	1949985.80
36	500-129783-c-...	0.053	1823.50	0.141	1736.83	<0.000	23294.83	1.399	6184.65
37	CCV	256.869	7562120.31	250.391	1799594.87	257.546	4509443.85	256.753	952666.08
38	CCB	0.010	536.70	<0.000	406.69	<0.000	12283.41	0.070	1163.42
39	CCVL	1.067	31509.80	2.172	16218.20	0.405	52028.67	20.686	81468.58
40	mb 500-39131...	0.646	19221.39	0.054	1073.41	<0.000	18265.43	1.841	8218.97
41	lcs 500-391317...	495.766	14775072.70	491.489	3575116.30	253.602	4523070.65	511.449	1931963.72
42	500-129739-a-...	4.374	127011.51	0.713	5721.16	2.921	93677.31	8.449	32334.74
43	500-129739-a-2-i	5.569	161228.93	2.414	17709.67	2.019	76159.31	10.373	38604.69
44	500-129739-a-2-...	486.408	14268293.12	476.251	3410007.87	251.943	4374373.16	513.414	1887794.61
45	500-129739-a-...	484.724	14485738.53	479.265	3496200.68	252.249	4434043.85	514.159	1914050.65
46	500-129739-a-2-...	1.008	29736.59	0.434	3787.23	<0.000	20497.96	1.988	8375.69
47	500-129739-a-...	6.819	206028.33	1.296	10246.73	0.038	43640.98	10.598	40592.54
48	500-129739-a-...	3.099	92616.34	0.652	5444.38	0.058	44691.49	6.058	23934.10
49	500-129739-a-...	5.107	152376.14	0.670	5564.47	<0.000	35772.92	5.872	22972.75
50	CCV	257.268	7363374.47	252.004	1760799.09	258.243	4398980.80	256.030	924228.97
51	CCB	0.007	423.36	<0.000	356.68	<0.000	11165.96	0.107	1233.42
52	500-129739-a-...	3.553	105684.68	0.636	5301.03	0.139	46023.86	4.287	17145.89
53	500-129739-a-...	6.276	186286.04	1.698	12975.44	32.796	620865.32	29.698	112670.79
54	500-129739-a-...	4.726	133959.99	0.296	2703.64	0.336	49594.82	2.669	11013.93
55	500-130175-b-...	4.446	131576.00	3.773	27893.63	0.843	56638.88	8.665	32688.69
56	/500-130240-b...								

Analyte Table

		59 Co [He]		60 Ni [He]		63 Cu [He]		66 Zn [He]	
	Sample Name	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS
57	/500-130249-a...								
58	/500-130270-a...								
59	/500-130270-a...								
60	/500-130270-a...								
61	CCV	250.107	7414400.31	244.146	1766920.60	252.137	4419555.38	252.776	938799.20
62	CCB	0.007	436.69	<0.000	373.35	<0.000	15394.81	0.209	1743.49
63	500-130240-b-...	5.447	165006.63	4.069	30748.44	1.788	74638.13	10.093	38845.28
64	500-130249-a-...	6.731	212300.33	3.619	28554.68	233.147	4046504.29	93.932	345663.83
65	500-130270-a-...	59.689	1866657.52	25.358	194239.17	6.669	148054.47	360.393	1251482.80
66	500-130270-a-...	68.095	2172086.27	25.004	195358.70	6.726	148357.00	358.699	1240401.86
67	500-130270-a-...	494.112	15923759.76	438.046	3445741.62	260.770	4247780.94	852.890	2942582.98
68	500-130270-a-...	13.070	397333.63	5.675	42784.27	<0.000	41259.55	74.887	275614.03
69	mb 500-39127...	0.004	383.35	0.003	753.37	<0.000	11718.57	2.289	10116.66
70	lcs 500-391276...	512.297	15634267.27	504.873	3760946.19	264.095	4717560.23	531.394	2011108.51
71	500-130062-a-1-f	0.425	13218.76	1.105	8945.98	<0.000	31012.67	6.492	24491.57
72	CCV	255.907	7503506.55	249.149	1783485.23	252.270	4438553.85	253.153	943708.06
73	CCB	0.013	610.04	<0.000	386.69	<0.000	8331.01	0.075	1196.75
74	CCVL	1.053	30781.80	2.055	15233.98	0.135	46432.86	20.454	79405.13

Analyte Table

		75 As [He]		78 Se [He]		88 Sr [He]		95 Mo [He]	
	Sample Name	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS
1	blk I.S /tune	0.002	1439.40	<0.000	696.35	0.014	923.39	0.017	220.01
2	ICIS	0.000	1455.07	0.000	734.69	0.000	596.70	0.000	60.00
3	Std1	10.263	38618.27	10.440	4619.31	10.427	248890.41	10.562	99174.74
4	Std2	99.932	355178.31	100.281	37275.38	101.623	2364738.61	102.449	939391.63
5	Std3	500.008	1715569.33	499.935	177228.80	499.667	11258221.50	499.499	4529325.66
6	S1	502.808	1733279.92	504.026	179513.04	501.063	11342159.83	497.099	4549506.70
7	ICV	201.759	713542.98	203.018	74516.52	203.869	4729261.28	196.144	1825931.80
8	ICB	<0.000	1421.06	0.016	741.35	0.006	743.38	0.181	1723.48
9	ICVL	0.935	4888.72	2.310	1607.42	3.993	97011.36	4.164	38562.18
10	icsa	<0.000	1211.05	0.448	826.69	1.000	22655.92	1892.982	17653005.15
11	icsab	21.531	72400.16	23.050	8499.14	23.090	501586.01	1912.324	17660028.07
12	CRI	1.851	8468.12	4.990	2688.89	8.071	200527.42	8.665	84889.80
13	CCV	252.856	895320.25	253.592	93050.09	255.188	5929179.29	248.914	2383101.94
14	CCB	0.042	1642.09	0.202	828.02	<0.000	590.04	0.239	2326.92
15	mb 500-39116...	0.039	1631.75	0.088	784.35	0.002	653.37	0.105	1050.07
16	lcs 500-391162...	98.703	359766.88	99.026	37754.10	1007.424	24034419.64	985.263	9224545.28
17	500-130240-d-...	1.533	7130.84	2.040	1515.08	215.371	5236129.82	9.226	91370.36
18	500-130240-d-...	1.509	6987.11	2.170	1552.41	217.413	5242885.86	8.825	88143.31
19	500-130240-d-...	105.611	387359.50	108.470	41554.24	1250.447	30027505.38	972.100	9613394.03
20	500-130240-d-...	0.309	2583.87	0.557	942.70	42.816	1033239.41	2.804	27066.27
21	mb 500-39111...	<0.000	1318.72	0.013	773.69	0.119	3637.19	0.316	3093.74
22	lcs 500-391115...	99.914	368656.88	100.255	38685.84	1024.964	24756748.80	996.901	9527464.44
23	/500-129783-c...								
24	/500-129783-c...								
25	CCV	251.168	897504.10	251.091	92983.34	251.608	5899507.20	251.012	2376281.37
26	CCB	<0.000	1411.07	<0.000	743.02	0.006	760.05	0.217	2133.55

Analyte Table

		75 As [He]		78 Se [He]		88 Sr [He]		95 Mo [He]	
	Sample Name	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS
27	500-129783-c-...	0.907	4726.67	0.768	1011.37	76.580	1827361.90	0.266	3005.38
28	500-129783-c-...	0.175	2024.13	0.528	900.70	28.731	670335.15	0.122	1226.76
29	500-129783-d-...	0.407	2921.59	0.064	750.02	60.391	1445538.57	0.160	1646.81
30	500-129783-e-...	0.578	3302.66	0.286	777.02	584.050	13027330.23	0.850	8038.87
31	500-129783-e-...	0.557	3268.99	0.336	804.02	587.680	13254204.80	0.886	8459.10
32	500-129783-c-...	1.803	7781.46	0.461	874.03	266.258	6193804.07	5.597	54078.45
33	500-129783-c-...	1.837	7787.79	0.529	886.03	270.473	6200455.53	5.495	53379.70
34	500-129783-d-...	107.682	379669.27	105.505	38875.95	1335.097	30822784.54	993.265	9623328.61
35	500-129783-e-...	106.408	379936.60	104.277	38918.03	1326.743	31016281.21	991.432	9658538.40
36	500-129783-c-...	0.436	3063.95	0.291	845.69	52.931	1282336.99	1.685	16422.02
37	CCV	254.232	913453.19	253.402	94351.15	253.695	5981227.41	251.902	2397369.96
38	CCB	0.024	1598.41	0.156	822.69	0.016	1010.07	0.241	2410.27
39	CCVL	1.040	5409.54	2.538	1738.10	4.057	101125.23	4.221	40743.82
40	mb 500-39131...	<0.000	1507.07	0.054	789.02	0.047	1816.83	0.026	316.68
41	lcs 500-391317...	97.456	357515.78	97.853	37553.63	1017.141	24421092.97	957.736	9382077.57
42	500-129739-a-...	0.770	4202.53	0.275	821.69	104.608	2480428.66	1.285	12685.21
43	500-129739-a-2-i	1.159	5477.56	0.323	820.36	110.044	2549826.16	0.902	11330.91
44	500-129739-a-2-...	98.931	353247.61	98.500	36792.00	1108.761	25913782.11	796.229	9115900.07
45	500-129739-a-...	99.784	360712.11	99.386	37578.70	1118.846	26473581.27	757.987	9294231.94
46	500-129739-a-2-...	0.230	2289.49	0.255	827.02	18.623	448935.40	0.726	7365.23
47	500-129739-a-...	1.054	5258.49	0.257	820.02	33.478	799008.61	0.428	4500.75
48	500-129739-a-...	1.218	5947.38	0.310	853.02	32.946	798703.84	0.386	4070.64
49	500-129739-a-...	1.156	5655.96	0.314	845.02	33.480	802845.67	0.369	3887.29
50	CCV	253.131	884793.89	252.116	91326.80	254.542	5838302.62	249.746	2347411.53
51	CCB	0.055	1619.75	0.146	771.35	0.008	783.39	0.157	1513.46
52	500-129739-a-...	1.083	5433.55	0.137	785.35	33.168	802068.30	0.376	3903.94
53	500-129739-a-...	1.176	5723.98	0.262	825.35	33.654	806332.07	0.342	3580.52
54	500-129739-a-...	0.132	1940.79	0.163	796.69	0.312	8155.57	0.049	523.36
55	500-130175-b-...	2.302	9595.05	2.154	1498.40	204.186	4773739.93	8.527	84170.15
56	/500-130240-b...								

Analyte Table

		75 As [He]		78 Se [He]		88 Sr [He]		95 Mo [He]	
	Sample Name	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS
57	/500-130249-a...								
58	/500-130270-a...								
59	/500-130270-a...								
60	/500-130270-a...								
61	CCV	248.944	895268.21	248.596	92657.99	249.937	5897782.62	246.487	2377533.98
62	CCB	0.024	1627.42	0.074	804.69	0.025	1280.10	0.087	913.40
63	500-130240-b-...	2.190	9419.96	1.957	1460.73	206.833	4952676.91	8.562	86142.75
64	500-130249-a-...	1.439	6516.93	0.590	924.03	76.205	1779636.01	5.503	54978.58
65	500-130270-a-...	0.852	4189.20	1.468	1177.71	926.381	20443310.53	39.102	379431.39
66	500-130270-a-...	1.140	5134.46	1.549	1200.38	925.830	20345400.53	37.139	374134.29
67	500-130270-a-...	106.840	357913.83	108.305	37900.09	2006.265	44004986.01	974.299	9425041.53
68	500-130270-a-...	0.403	2834.25	0.576	918.70	180.862	4220883.48	8.541	83928.03
69	mb 500-39127...	0.148	2113.81	0.097	815.69	0.147	4394.08	0.178	1880.19
70	lcs 500-391276...	103.331	379703.31	105.099	40358.04	1079.407	25966451.28	1011.894	9927350.68
71	500-130062-a-1-f	0.632	3622.07	1.215	1145.37	129.681	3007566.52	5.726	59025.63
72	CCV	248.684	897693.50	252.035	94278.81	253.796	6011408.87	252.612	2399465.54
73	CCB	0.065	1777.10	0.143	827.36	0.012	920.06	0.215	2173.56
74	CCVL	1.050	5369.19	2.719	1781.77	4.073	100064.81	4.128	39688.14

Analyte Table

		106 [Cd] [He]		107 Ag [He]		108 [Cd] [He]		111 Cd [He]	
	Sample Name	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS
1	blk I.S /tune	<0.000	320.02	0.002	53.33	0.034	13.33	<0.000	260.18
2	ICIS	0.000	376.69	0.000	20.00	0.000	3.33	0.000	290.88
3	Std1	11.005	4654.15	1.149	25704.14	10.796	3183.77	10.741	46703.34
4	Std2	103.814	39855.64	10.424	227597.93	102.922	29640.92	102.938	434838.73
5	Std3	499.217	184246.84	99.956	2113481.79	499.400	139266.49	499.398	2041886.19
6	S1	496.244	184020.02	99.996	2124268.25	497.842	139481.83	499.647	2052573.29
7	ICV	202.936	77324.71	42.499	925164.62	201.751	57922.35	202.692	853422.98
8	ICB	<0.000	323.35	0.003	93.34	<0.000	0.00	0.005	313.70
9	ICVL	0.348	513.36	0.539	12228.35	0.691	210.01	0.500	2480.45
10	icsa	0.081	373.35	0.048	1013.40	17.244	4724.20	0.175	967.44
11	icsab	20.523	7618.69	21.326	434308.91	39.900	10720.52	20.971	82832.29
12	CRI	0.819	716.71	1.065	24779.28	1.042	323.35	0.988	4738.09
13	CCV	254.091	96893.27	53.187	1159738.89	254.654	73229.36	254.932	1075048.23
14	CCB	0.089	420.02	0.004	103.34	0.022	10.00	0.010	340.17
15	mb 500-39116...	<0.000	376.68	0.002	63.34	<0.000	3.33	0.002	307.54
16	lcs 500-391162...	51.772	20566.75	53.057	1187946.41	58.136	17169.41	51.178	221841.74
17	500-130240-d-...	0.215	463.36	0.003	80.00	0.112	36.67	0.025	401.33
18	500-130240-d-...	<0.000	343.35	0.002	76.67	0.101	33.33	0.008	323.22
19	500-130240-d-...	50.963	20386.55	49.223	1109341.76	60.511	17987.05	52.037	227046.05
20	500-130240-d-...	<0.000	350.02	0.015	360.02	0.089	30.00	<0.000	261.89
21	mb 500-39111...	<0.000	350.02	0.005	150.01	0.021	10.00	<0.000	273.35
22	lcs 500-391115...	51.086	20550.03	53.888	1221445.30	61.143	18280.79	51.824	227423.06
23	/500-129783-c...								
24	/500-129783-c...								
25	CCV	252.910	97322.53	52.786	1161457.46	250.078	72573.74	253.454	1078591.00
26	CCB	0.133	440.03	0.005	126.67	0.011	6.67	0.020	389.02

Analyte Table

		106 [Cd] [He]		107 Ag [He]		108 [Cd] [He]		111 Cd [He]	
	Sample Name	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS
27	500-129783-c-...	0.133	423.35	0.008	206.68	0.045	16.67	0.055	525.57
28	500-129783-c-...	0.036	376.69	0.005	123.34	0.012	6.67	0.011	327.30
29	500-129783-d-...	0.103	413.35	0.004	116.67	0.023	10.00	0.015	355.07
30	500-129783-e-...	0.346	473.36	0.007	160.01	0.097	30.00	0.145	856.15
31	500-129783-e-...	0.234	436.69	0.007	176.67	0.156	46.67	0.115	740.25
32	500-129783-c-...	0.161	423.36	0.005	123.34	0.093	30.00	0.019	361.26
33	500-129783-c-...	0.169	420.02	0.005	136.67	0.048	16.67	0.029	396.35
34	500-129783-d-...	52.095	20022.72	53.512	1159377.30	60.478	17289.50	52.816	221511.01
35	500-129783-e-...	51.297	19972.75	52.951	1161732.85	61.673	17846.89	51.786	219965.81
36	500-129783-c-...	0.083	410.02	0.003	90.01	0.022	10.00	0.008	325.86
37	CCV	253.266	97996.95	53.218	1177458.58	254.240	74183.98	253.925	1086560.12
38	CCB	<0.000	390.02	0.004	106.67	0.010	6.67	0.006	330.82
39	CCVL	0.472	576.70	0.550	12808.72	0.511	160.01	0.534	2699.19
40	mb 500-39131...	0.032	406.69	0.003	83.34	0.064	23.33	<0.000	295.67
41	lcs 500-391317...	49.768	19912.74	52.735	1188326.75	59.396	17653.30	51.054	222728.86
42	500-129739-a-...	0.071	396.69	0.005	126.67	0.023	10.00	0.012	339.00
43	500-129739-a-2-i	0.589	583.37	0.015	343.35	0.141	43.33	0.077	602.54
44	500-129739-a-2-...	49.502	19281.94	51.841	1137051.73	59.067	17089.38	50.311	213650.69
45	500-129739-a-...	50.438	19882.48	52.056	1156000.03	58.806	17226.18	50.758	218230.67
46	500-129739-a-2-...	0.142	430.02	0.007	186.68	0.045	16.67	0.022	383.99
47	500-129739-a-...	0.228	460.03	0.006	143.34	0.181	56.67	0.023	387.32
48	500-129739-a-...	0.056	400.02	0.006	146.67	0.034	13.33	0.016	364.64
49	500-129739-a-...	0.198	450.02	0.007	180.01	0.067	23.33	0.027	405.45
50	CCV	254.782	95905.09	53.185	1144820.40	251.739	71465.01	255.524	1063728.53
51	CCB	0.006	370.02	0.003	90.00	0.000	3.33	0.006	309.11
52	500-129739-a-...	0.212	460.02	0.004	113.34	0.045	16.67	0.026	403.57
53	500-129739-a-...	0.215	456.69	0.006	160.00	0.090	30.00	0.023	386.72
54	500-129739-a-...	0.026	386.68	0.003	90.00	<0.000	0.00	0.001	295.43
55	500-130175-b-...	0.197	440.02	0.006	146.67	0.139	43.33	0.029	403.02
56	/500-130240-b...								

Analyte Table

		106 [Cd] [He]		107 Ag [He]		108 [Cd] [He]		111 Cd [He]	
	Sample Name	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS
57	/500-130249-a...								
58	/500-130270-a...								
59	/500-130270-a...								
60	/500-130270-a...								
61	CCV	248.644	96300.30	52.150	1154779.10	249.858	72971.62	251.472	1077054.34
62	CCB	0.110	443.36	0.003	83.34	<0.000	0.00	0.015	378.73
63	500-130240-b-...	0.069	400.02	0.008	193.34	0.157	50.00	0.013	345.30
64	500-130249-a-...	0.393	513.36	0.058	1296.77	0.197	60.00	0.097	691.18
65	500-130270-a-...	0.221	423.36	0.371	7702.07	0.404	113.34	0.057	491.85
66	500-130270-a-...	0.300	450.02	0.407	8405.83	0.492	136.67	0.053	473.85
67	500-130270-a-...	50.236	18357.58	50.315	1035762.22	59.195	16074.99	49.590	197632.13
68	500-130270-a-...	0.052	383.35	0.082	1823.50	0.082	26.67	0.013	334.27
69	mb 500-39127...	0.075	430.02	0.004	106.67	0.021	10.00	0.009	351.14
70	lcs 500-391276...	52.021	20837.07	55.112	1244219.57	61.128	18203.95	53.292	232920.73
71	500-130062-a-1-f	0.199	436.69	0.004	106.67	0.128	40.00	0.067	560.72
72	CCV	250.658	97440.12	52.720	1171874.88	254.376	74572.06	253.053	1087825.60
73	CCB	0.108	440.02	0.004	106.67	0.021	10.00	0.020	395.45
74	CCVL	0.751	680.04	0.558	12808.70	0.617	190.01	0.525	2619.23

Analyte Table

		118 Sn [He]		121 Sb [He]		137 Ba [He]		150 Sm [He]	
	Sample Name	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc.	CPS
1	blk I.S /tune	0.023	1110.08	0.036	900.06	0.010	216.68		
2	ICIS	0.000	856.72	0.000	296.68	0.000	163.34		
3	Std1	10.549	123240.99	10.479	175479.76	10.509	58543.59		
4	Std2	102.010	1157275.89	101.873	1664402.73	101.178	553817.38		
5	Std3	499.587	5485228.04	499.616	7903515.51	499.754	2637677.36		
6	S1	502.695	5545400.34	505.554	8035197.80	492.923	2678308.71		
7	ICV	201.133	2274141.89	204.891	3337246.31	200.576	1102586.68		
8	ICB	0.035	1273.42	0.022	663.37	<0.000	160.01		
9	ICVL	4.900	58501.87	2.935	50047.74	2.541	14266.80		
10	icsa	0.092	1776.82	0.069	1350.11	0.081	603.37		
11	icsab	0.036	1143.42	21.450	327086.83	20.389	109174.60		
12	CRI	9.871	120020.62	5.965	104066.42	5.008	28646.24		
13	CCV	254.848	2885944.33	255.627	4170329.10	253.224	1392045.92		
14	CCB	0.017	1083.41	0.006	400.02	0.005	196.68		
15	mb 500-39116...	0.030	1233.43	<0.000	286.68	0.012	236.68		
16	lcs 500-391162...	1000.552	11632438.16	491.677	8236786.34	504.069	2770778.29		
17	500-130240-d-...	0.063	1610.15	1.684	29053.26	343.291	1963590.75		
18	500-130240-d-...	0.002	873.38	1.619	27714.21	345.570	1956676.32		
19	500-130240-d-...	1043.806	12214871.07	514.617	8677456.75	839.302	4709847.74		
20	500-130240-d-...	0.130	2386.93	1.329	22790.01	68.405	383300.55		
21	mb 500-39111...	0.065	1700.16	0.373	6931.69	0.321	1996.87		
22	lcs 500-391115...	1018.196	11984032.74	517.092	8769644.87	509.890	2840703.60		
23	/500-129783-c...								
24	/500-129783-c...								
25	CCV	251.902	2878706.73	253.442	4172525.67	253.587	1394142.22		
26	CCB	0.042	1393.45	0.071	1540.13	0.015	253.34		

Analyte Table

		118 Sn [He]		121 Sb [He]		137 Ba [He]		150 Sm [He]	
	Sample Name	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc.	CPS
27	500-129783-c-...	0.182	2960.38	0.161	2993.71	30.008	169657.04		
28	500-129783-c-...	0.074	1670.15	0.055	1186.76	8.521	47557.83		
29	500-129783-d-...	0.051	1440.12	0.036	903.39	95.225	531728.62		
30	500-129783-e-...	0.081	1666.82	0.098	1810.18	550.972	2950219.75		
31	500-129783-e-...	0.033	1160.09	0.086	1633.48	554.077	2960472.77		
32	500-129783-c-...	0.037	1246.77	0.709	11871.45	81.299	449863.69		
33	500-129783-c-...	0.040	1256.77	0.728	11998.18	82.285	450001.71		
34	500-129783-d-...	1076.405	12109344.40	543.481	8810067.58	593.354	3230484.85		
35	500-129783-e-...	1053.417	12001079.40	535.212	8785455.49	591.741	3224597.97		
36	500-129783-c-...	0.097	2000.20	0.156	2943.71	16.678	93242.61		
37	CCV	253.249	2910135.58	254.897	4219752.75	255.143	1409589.67		
38	CCB	0.049	1486.79	0.026	760.05	0.016	256.68		
39	CCVL	5.032	61616.80	2.919	51090.81	2.594	14777.22		
40	mb 500-39131...	0.092	2026.88	0.017	616.70	0.152	1026.74		
41	lcs 500-391317...	1020.731	11942783.15	514.917	8681761.95	501.168	2784223.40		
42	500-129739-a-...	0.502	6638.27	0.185	3370.47	24.413	135484.70		
43	500-129739-a-2-i	0.731	9066.15	0.275	4754.20	25.686	140853.86		
44	500-129739-a-2-...	998.750	11375199.83	505.028	8287831.54	517.769	2799942.25		
45	500-129739-a-...	1011.845	11667406.08	504.103	8375612.79	517.503	2847167.15		
46	500-129739-a-2-...	0.278	4110.68	0.072	1506.80	4.416	24205.48		
47	500-129739-a-...	0.200	3173.75	0.072	1490.12	13.828	75450.27		
48	500-129739-a-...	0.288	4254.06	0.080	1650.14	14.463	79951.54		
49	500-129739-a-...	0.137	2450.28	0.050	1126.74	13.443	74368.16		
50	CCV	253.686	2836030.06	254.912	4105373.07	254.054	1370786.96		
51	CCB	0.034	1233.43	0.015	546.70	0.005	190.01		
52	500-129739-a-...	0.098	2003.53	0.069	1460.12	14.508	80615.05		
53	500-129739-a-...	0.263	3910.60	0.087	1756.82	13.441	73960.30		
54	500-129739-a-...	0.156	2700.32	0.052	1180.08	0.754	4197.37		
55	500-130175-b-...	0.405	5437.78	1.575	26138.20	70.880	385537.22		
56	/500-130240-b...								

Analyte Table

		118 Sn [He]		121 Sb [He]		137 Ba [He]		150 Sm [He]	
	Sample Name	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc.	CPS
57	/500-130249-a...								
58	/500-130270-a...								
59	/500-130270-a...								
60	/500-130270-a...								
61	CCV	250.424	2880249.33	252.214	4178918.90	249.304	1391433.68		
62	CCB	0.027	1236.77	0.010	486.69	0.080	623.37		
63	500-130240-b-...	0.447	6061.42	1.467	24956.64	67.136	375709.53		
64	500-130249-a-...	0.733	9162.83	0.213	3777.30	48.830	264874.58		
65	500-130270-a-...	2.081	23153.76	1.133	17830.38	24.732	127941.74		
66	500-130270-a-...	2.611	28736.05	2.163	33635.39	24.654	126314.67		
67	500-130270-a-...	1039.855	11115421.08	532.743	8205171.75	530.340	2711056.52		
68	500-130270-a-...	0.530	6855.08	0.254	4440.76	5.134	28399.07		
69	mb 500-39127...	0.064	1706.81	0.006	420.02	0.091	680.04		
70	lcs 500-391276...	1089.167	12768217.31	544.407	9195940.49	2222.361	12125864.40		
71	500-130062-a-1-f	0.214	3233.76	0.114	2146.89	38.882	214517.97		
72	CCV	253.630	2928041.21	253.993	4224069.52	257.770	1423781.12		
73	CCB	0.062	1663.49	0.008	453.36	0.048	440.02		
74	CCVL	5.060	61074.37	2.929	50512.06	2.628	14576.99		

Analyte Table

		156 Gd [He]		205 Tl [He]		206 [Pb] [He]		207 [Pb] [He]	
	Sample Name	Conc.	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS
1	blk I.S /tune			0.015	1110.09	0.014	270.01	0.007	233.34
2	ICIS			0.000	560.04	0.000	90.00	0.000	150.01
3	Std1			10.279	385484.17	10.398	130891.11	10.435	118210.97
4	Std2			100.598	3627873.49	101.168	1225192.82	100.514	1095129.36
5	Std3			499.875	16984365.17	499.758	5702582.21	499.889	5131459.92
6	S1			491.870	17044434.33	491.740	5722758.04	492.263	5153910.55
7	ICV			198.879	7124690.31	201.938	2429432.88	192.629	2084981.84
8	ICB			0.133	5651.26	0.039	593.37	0.032	523.36
9	ICVL			2.043	78009.09	0.544	7015.20	0.514	6034.76
10	icsa			0.035	1723.49	0.299	3587.24	0.279	3080.43
11	icsab			20.326	683359.65	20.187	227831.29	20.033	203470.19
12	CRI			3.956	152711.25	1.060	13786.63	0.993	11694.89
13	CCV			250.127	8929121.12	246.195	2951527.25	246.687	2660681.11
14	CCB			0.086	3873.96	0.021	366.69	0.022	403.35
15	mb 500-39116...			0.016	1193.43	0.016	296.68	0.014	313.35
16	lcs 500-391162...			100.857	3669405.26	100.624	1229378.84	98.890	1087037.85
17	500-130240-d-...			0.044	2183.57	0.183	2373.59	0.174	2100.22
18	500-130240-d-...			0.042	2103.56	0.178	2300.26	0.164	1980.21
19	500-130240-d-...			102.207	3732342.97	101.511	1244909.38	99.949	1102794.36
20	500-130240-d-...			0.008	853.39	0.055	780.05	0.040	606.70
21	mb 500-39111...			<0.000	573.37	0.049	740.04	0.043	663.37
22	lcs 500-391115...			101.942	3751343.28	101.615	1255716.67	100.526	1117612.95
23	/500-129783-c...								
24	/500-129783-c...								
25	CCV			250.611	9128245.07	243.200	2974978.71	242.414	2667801.94
26	CCB			0.095	4264.11	0.029	476.69	0.023	420.02

Analyte Table

		156 Gd [He]		205 Tl [He]		206 [Pb] [He]		207 [Pb] [He]	
	Sample Name	Conc.	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS
27	500-129783-c-...			0.026	1523.48	1.661	20938.21	1.547	17620.58
28	500-129783-c-...			0.009	893.39	0.324	4190.72	0.319	3780.62
29	500-129783-d-...			0.005	743.38	0.157	2106.89	0.145	1826.84
30	500-129783-e-...			0.006	703.37	0.699	8225.84	0.664	7095.23
31	500-129783-e-...			0.003	626.70	0.703	8392.60	0.629	6831.77
32	500-129783-c-...			0.003	633.37	0.148	1866.86	0.137	1626.81
33	500-129783-c-...			0.005	690.04	0.154	1933.52	0.139	1633.48
34	500-129783-d-...			101.860	3593467.24	101.335	1200514.72	100.584	1072088.45
35	500-129783-e-...			101.423	3577413.28	100.470	1190066.41	100.477	1070751.39
36	500-129783-c-...			0.021	1323.45	0.039	563.36	0.036	543.36
37	CCV			255.373	9236306.53	245.991	2988067.56	245.783	2685723.92
38	CCB			0.094	4194.06	0.024	403.35	0.017	350.02
39	CCVL			1.980	76624.30	0.522	6831.79	0.492	5868.00
40	mb 500-39131...			<0.000	286.68	0.063	930.06	0.051	766.72
41	lcs 500-391317...			98.898	3677280.78	97.962	1223262.43	97.212	1092134.93
42	500-129739-a-...			0.038	2043.55	0.437	5724.59	0.427	5101.07
43	500-129739-a-2-i			0.031	2013.54	0.303	4617.51	0.272	3823.96
44	500-129739-a-2-...			84.898	3114304.33	95.042	1170788.03	94.534	1047744.15
45	500-129739-a-...			74.443	3011799.23	88.403	1201034.12	87.504	1069580.24
46	500-129739-a-2-...			0.061	2920.39	0.086	1213.43	0.071	986.74
47	500-129739-a-...			0.010	970.07	0.342	4514.14	0.297	3607.22
48	500-129739-a-...			0.001	583.37	0.316	4090.71	0.282	3357.14
49	500-129739-a-...			<0.000	470.02	0.249	3500.51	0.213	2783.69
50	CCV			254.474	9104587.16	243.004	2919789.96	244.823	2646469.86
51	CCB			0.107	4510.84	0.028	440.02	0.021	380.02
52	500-129739-a-...			0.016	1363.44	0.234	3610.59	0.215	3070.41
53	500-129739-a-...			0.016	1240.10	1.839	25198.14	1.681	20794.62
54	500-129739-a-...			<0.000	616.70	0.098	1836.85	0.099	1760.17
55	500-130175-b-...			0.117	5084.35	2.285	29612.70	2.045	23932.72
56	/500-130240-b...								

Analyte Table

		156 Gd [He]		205 Tl [He]		206 [Pb] [He]		207 [Pb] [He]	
	Sample Name	Conc.	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS
57	/500-130249-a...								
58	/500-130270-a...								
59	/500-130270-a...								
60	/500-130270-a...								
61	CCV			252.395	9176133.82	240.447	2935707.66	243.559	2675254.23
62	CCB			0.041	2190.24	0.021	370.02	0.011	286.68
63	500-130240-b-...			0.101	5334.46	1.532	23769.12	1.400	19636.56
64	500-130249-a-...			0.006	963.40	2.952	45231.29	2.731	37734.05
65	500-130270-a-...			0.164	5774.61	0.162	1833.51	0.131	1403.45
66	500-130270-a-...			0.161	5908.02	0.121	1436.79	0.097	1120.09
67	500-130270-a-...			81.242	3145691.31	81.193	1055819.93	80.625	943247.30
68	500-130270-a-...			0.086	3550.53	0.049	663.37	0.036	520.03
69	mb 500-39127...			0.005	770.05	0.036	566.70	0.036	586.70
70	lcs 500-391276...			0.554	3804004.73	0.563	1281168.05	0.554	1145427.64
71	500-130062-a-1-f			0.031	1710.17	0.645	8199.09	0.585	6768.46
72	CCV			259.831	9422843.40	246.358	3000383.92	247.139	2707864.54
73	CCB			0.095	4340.78	0.026	433.36	0.019	386.69
74	CCVL			1.963	75733.92	0.507	6604.99	0.497	5898.01

Analyte Table

		208 Pb [He]	
	Sample Name	Conc. [ppb]	CPS
1	blk I.S /tune	0.009	976.71
2	ICIS	0.000	540.02
3	Std1	10.484	531906.64
4	Std2	101.345	4945963.91
5	Std3	499.721	22978448.62
6	S1	493.960	23165929.24
7	ICV	198.835	9639738.82
8	ICB	0.034	2290.16
9	ICVL	0.532	27830.89
10	icsa	0.285	13949.67
11	icsab	20.206	919166.10
12	CRI	1.031	54236.04
13	CCV	248.414	12001346.59
14	CCB	0.023	1720.11
15	mb 500-39116...	0.013	1243.40
16	lcs 500-391162...	100.562	4951280.65
17	500-130240-d-...	0.171	9138.01
18	500-130240-d-...	0.171	9111.43
19	500-130240-d-...	101.164	4999634.74
20	500-130240-d-...	0.051	3153.59
21	mb 500-39111...	0.046	3040.23
22	lcs 500-391115...	101.903	5074640.84
23	/500-129783-c...		
24	/500-129783-c...		
25	CCV	245.367	12095353.89
26	CCB	0.026	1943.46

Analyte Table

		208 Pb [He]	
	Sample Name	Conc. [ppb]	CPS
27	500-129783-c-...	1.616	82265.13
28	500-129783-c-...	0.329	17327.91
29	500-129783-d-...	0.156	8621.28
30	500-129783-e-...	0.679	32341.02
31	500-129783-e-...	0.667	32274.37
32	500-129783-c-...	0.145	7554.36
33	500-129783-c-...	0.150	7721.03
34	500-129783-d-...	101.722	4856589.95
35	500-129783-e-...	101.328	4836733.29
36	500-129783-c-...	0.039	2470.17
37	CCV	248.342	12155467.63
38	CCB	0.022	1713.43
39	CCVL	0.517	27427.45
40	mb 500-39131...	0.057	3613.63
41	lcs 500-391317...	98.481	4955669.61
42	500-129739-a-...	0.431	22920.82
43	500-129739-a-2-i	0.294	18284.96
44	500-129739-a-2-...	95.604	4746247.14
45	500-129739-a-...	88.772	4860292.39
46	500-129739-a-2-...	0.075	4467.07
47	500-129739-a-...	0.322	17307.75
48	500-129739-a-...	0.290	15333.53
49	500-129739-a-...	0.233	13439.46
50	CCV	246.776	11948845.14
51	CCB	0.023	1686.77
52	500-129739-a-...	0.229	14423.21
53	500-129739-a-...	1.757	97202.65
54	500-129739-a-...	0.098	7627.68
55	500-130175-b-...	2.138	111880.54
56	/500-130240-b...		

Analyte Table

		208 Pb [He]	
	Sample Name	Conc. [ppb]	CPS
57	/500-130249-a...		
58	/500-130270-a...		
59	/500-130270-a...		
60	/500-130270-a...		
61	CCV	244.692	12039221.59
62	CCB	0.014	1313.40
63	500-130240-b-...	1.481	92819.77
64	500-130249-a-...	2.855	176490.37
65	500-130270-a-...	0.145	6787.50
66	500-130270-a-...	0.117	5784.00
67	500-130270-a-...	81.656	4278953.45
68	500-130270-a-...	0.042	2510.18
69	mb 500-39127...	0.039	2630.19
70	lcs 500-391276...	0.563	5193233.88
71	500-130062-a-1-f	0.619	31880.74
72	CCV	249.234	12232259.40
73	CCB	0.023	1783.45
74	CCVL	0.510	26993.59

ISTD Table

		6 Li-6 Internal Standard (ISTD) [He]		45 Sc (IS) (ISTD) [He]		89 Y - 89 (IS) (ISTD) [He]	
	Sample Name	CPS	Recovery%	CPS	Recovery%	CPS	Recovery%
1	blk I.S /tune	5521.06	100.0	160827.09	100.0	114355.76	100.0
2	ICIS	5621.11	100.0	163915.78	100.0	115477.25	100.0
3	Std1	5501.07	97.9	165943.96	101.2	116637.63	101.0
4	Std2	5517.72	98.2	163026.85	99.5	113926.31	98.7
5	Std3	4970.87	88.4	162800.57	99.3	112673.92	97.6
6	S1	5207.63	92.6	164863.65	100.6	113724.64	98.5
7	ICV	5120.95	91.1	167929.70	102.4	115667.81	100.2
8	ICB	5254.29	93.5	165712.74	101.1	114061.13	98.8
9	ICVL	5524.38	98.3	166001.25	101.3	114886.22	99.5
10	icsa	5094.24	90.6	167775.37	102.4	115930.40	100.4
11	icsab	5240.97	93.2	171016.01	104.3	114768.50	99.4
12	CRI	5387.66	95.8	173798.89	106.0	121646.21	105.3
13	CCV	5187.60	92.3	170124.35	103.8	118964.11	103.0
14	CCB	5484.40	97.6	172159.51	105.0	117823.20	102.0
15	mb 500-39116...	5711.10	101.6	170046.18	103.7	116943.31	101.3
16	lcs 500-391162...	5524.39	98.3	177110.54	108.0	116339.30	100.7
17	500-130240-d-...	5697.80	101.4	181467.04	110.7	122988.87	106.5
18	500-130240-d-...	6014.57	107.0	181034.12	110.4	124034.34	107.4
19	500-130240-d-...	5757.83	102.4	186078.12	113.5	122885.77	106.4
20	500-130240-d-...	5801.17	103.2	174455.53	106.4	119712.64	103.7
21	mb 500-39111...	5887.83	104.7	173897.71	106.1	119302.59	103.3
22	lcs 500-391115...	5734.49	102.0	174621.92	106.5	118785.94	102.9
23	/500-129783-c...						
24	/500-129783-c...						
25	CCV	5367.66	95.5	169700.91	103.5	117629.42	101.9
26	CCB	5421.03	96.4	168072.19	102.5	118688.99	102.8

ISTD Table

		6 Li-6 Internal Standard (ISTD) [He]		45 Sc (IS) (ISTD) [He]		89 Y - 89 (IS) (ISTD) [He]	
	Sample Name	CPS	Recovery%	CPS	Recovery%	CPS	Recovery%
27	500-129783-c-...	5601.07	99.6	186099.08	113.5	137040.41	118.7
28	500-129783-c-...	5477.72	97.4	184872.63	112.8	118749.34	102.8
29	500-129783-d-...	5897.87	104.9	189326.86	115.5	122513.08	106.1
30	500-129783-e-...	5687.79	101.2	173257.36	105.7	116564.65	100.9
31	500-129783-e-...	5701.14	101.4	176317.91	107.6	117719.36	101.9
32	500-129783-c-...	5651.17	100.5	181200.63	110.5	119906.73	103.8
33	500-129783-c-...	5364.36	95.4	181083.18	110.5	120572.39	104.4
34	500-129783-d-...	5831.14	103.7	185192.51	113.0	120383.90	104.2
35	500-129783-e-...	5701.14	101.4	185391.67	113.1	121099.39	104.9
36	500-129783-c-...	5861.19	104.3	178065.74	108.6	120612.67	104.4
37	CCV	5724.48	101.8	174523.56	106.5	118265.40	102.4
38	CCB	5854.54	104.2	171890.05	104.9	120981.11	104.8
39	CCVL	5464.40	97.2	173746.19	106.0	119759.37	103.7
40	mb 500-39131...	5644.46	100.4	174221.73	106.3	122025.78	105.7
41	lcs 500-391317...	5704.44	101.5	176688.08	107.8	121724.06	105.4
42	500-129739-a-...	5644.43	100.4	171823.59	104.8	122045.40	105.7
43	500-129739-a-2-i	5431.09	96.6	171385.72	104.6	155032.67	134.3
44	500-129739-a-2-...	5204.29	92.6	173900.88	106.1	142261.45	123.2
45	500-129739-a-...	5307.68	94.4	177176.05	108.1	152358.37	131.9
46	500-129739-a-2-...	5190.96	92.3	173421.68	105.8	124957.25	108.2
47	500-129739-a-...	5711.12	101.6	178894.60	109.1	128715.74	111.5
48	500-129739-a-...	5514.40	98.1	176736.16	107.8	128842.04	111.6
49	500-129739-a-...	5497.68	97.8	176611.10	107.7	128765.89	111.5
50	CCV	5310.99	94.5	169672.49	103.5	116802.32	101.1
51	CCB	5454.38	97.0	164396.36	100.3	115027.28	99.6
52	500-129739-a-...	5631.11	100.2	175937.99	107.3	126774.19	109.8
53	500-129739-a-...	5421.02	96.4	175751.87	107.2	127754.62	110.6
54	500-129739-a-...	5320.99	94.7	167762.47	102.3	117060.19	101.4
55	500-130175-b-...	5734.48	102.0	175109.39	106.8	122567.17	106.1
56	/500-130240-b...						

ISTD Table

		6 Li-6 Internal Standard (ISTD) [He]		45 Sc (IS) (ISTD) [He]		89 Y - 89 (IS) (ISTD) [He]	
	Sample Name	CPS	Recovery%	CPS	Recovery%	CPS	Recovery%
57	/500-130249-a...						
58	/500-130270-a...						
59	/500-130270-a...						
60	/500-130270-a...						
61	CCV	5597.79	99.6	175737.24	107.2	119849.71	103.8
62	CCB	5554.42	98.8	176903.62	107.9	120857.86	104.7
63	500-130240-b-...	5507.75	98.0	179331.50	109.4	124924.69	108.2
64	500-130249-a-...	5411.02	96.3	186745.86	113.9	124004.44	107.4
65	500-130270-a-...	4957.53	88.2	185369.74	113.1	120551.54	104.4
66	500-130270-a-...	5187.63	92.3	189080.97	115.4	125148.88	108.4
67	500-130270-a-...	5387.69	95.8	191055.48	116.6	120236.35	104.1
68	500-130270-a-...	5691.10	101.2	180111.14	109.9	122026.31	105.7
69	mb 500-39127...	6067.96	107.9	184306.08	112.4	126851.18	109.8
70	lcs 500-391276...	9886.42	175.9	180924.65	110.4	121938.88	105.6
71	500-130062-a-1-f	5774.50	102.7	180954.85	110.4	127939.60	110.8
72	CCV	5581.04	99.3	173824.43	106.0	118030.48	102.2
73	CCB	5921.23	105.3	173557.42	105.9	121787.68	105.5
74	CCVL	5377.65	95.7	172022.24	104.9	119266.57	103.3

ISTD Table

		103 Rh (IS) (ISTD) [He]		159 Tb (IS) (ISTD) [He]		209 Bi Internal Standard (ISTD) [He]	
	Sample Name	CPS	Recovery%	CPS	Recovery%	CPS	Recovery%
1	blk I.S /tune	183179.57	100.0	209149.87	100.0	122907.69	100.0
2	ICIS	186077.44	100.0	207732.73	100.0	123801.67	100.0
3	Std1	183101.84	98.4	213820.93	102.9	122154.96	98.7
4	Std2	178903.11	96.1	210632.32	101.4	117615.66	95.0
5	Std3	173250.42	93.1	203171.73	97.8	110822.96	89.5
6	S1	174054.07	93.5	209128.08	100.7	113028.39	91.3
7	ICV	178361.09	95.9	211554.49	101.8	116850.63	94.4
8	ICB	186280.60	100.1	210714.42	101.4	124872.47	100.9
9	ICVL	185667.46	99.8	213637.27	102.8	123649.81	99.9
10	icsa	170060.89	91.4	209522.00	100.9	113884.90	92.0
11	icsab	166856.27	89.7	205816.03	99.1	109583.89	88.5
12	CRI	190498.04	102.4	218834.71	105.3	125461.21	101.3
13	CCV	178658.14	96.0	211565.91	101.8	116434.37	94.0
14	CCB	189938.03	102.1	215911.87	103.9	125128.50	101.1
15	mb 500-39116...	190034.91	102.1	213609.93	102.8	125894.32	101.7
16	lcs 500-391162...	183445.01	98.6	211562.04	101.8	118653.95	95.8
17	500-130240-d-...	186937.28	100.5	220147.91	106.0	121238.24	97.9
18	500-130240-d-...	185423.12	99.6	217934.90	104.9	120784.42	97.6
19	500-130240-d-...	184649.98	99.2	215987.41	104.0	119101.55	96.2
20	500-130240-d-...	185463.04	99.7	215577.85	103.8	122705.71	99.1
21	mb 500-39111...	194642.29	104.6	218764.35	105.3	128836.28	104.1
22	lcs 500-391115...	185734.79	99.8	214424.04	103.2	120008.07	96.9
23	/500-129783-c...						
24	/500-129783-c...						
25	CCV	180277.64	96.9	211578.69	101.9	118802.31	96.0
26	CCB	191148.38	102.7	214365.77	103.2	127063.79	102.6

ISTD Table

		103 Rh (IS) (ISTD) [He]		159 Tb (IS) (ISTD) [He]		209 Bi Internal Standard (ISTD) [He]	
	Sample Name	CPS	Recovery%	CPS	Recovery%	CPS	Recovery%
27	500-129783-c-...	183427.99	98.6	217397.81	104.7	121930.10	98.5
28	500-129783-c-...	179256.93	96.3	214120.79	103.1	122891.09	99.3
29	500-129783-d-...	184015.70	98.9	214966.12	103.5	124879.85	100.9
30	500-129783-e-...	171509.71	92.2	206099.07	99.2	113123.44	91.4
31	500-129783-e-...	173433.18	93.2	205647.02	99.0	114854.56	92.8
32	500-129783-c-...	178866.04	96.1	212916.56	102.5	116883.49	94.4
33	500-129783-c-...	176262.10	94.7	210417.75	101.3	116370.14	94.0
34	500-129783-d-...	177522.13	95.4	209561.13	100.9	115079.88	93.0
35	500-129783-e-...	179759.12	96.6	209747.54	101.0	115030.94	92.9
36	500-129783-c-...	186207.56	100.1	214803.78	103.4	119803.17	96.8
37	CCV	181281.78	97.4	212624.12	102.4	117985.73	95.3
38	CCB	192855.36	103.6	213819.96	102.9	125340.21	101.2
39	CCVL	190519.33	102.4	216818.69	104.4	125289.35	101.2
40	mb 500-39131...	194476.16	104.5	216981.24	104.5	129456.25	104.6
41	lcs 500-391317...	184631.48	99.2	213817.57	102.9	121271.59	98.0
42	500-129739-a-...	182296.76	98.0	213349.90	102.7	125162.55	101.1
43	500-129739-a-2-i	178132.67	95.7	210829.23	101.5	144652.18	116.8
44	500-129739-a-2-...	179712.29	96.6	208127.80	100.2	119638.82	96.6
45	500-129739-a-...	181946.21	97.8	211746.63	101.9	131934.84	106.6
46	500-129739-a-2-...	185126.85	99.5	209590.52	100.9	126291.35	102.0
47	500-129739-a-...	183386.07	98.6	209566.29	100.9	125522.63	101.4
48	500-129739-a-...	186297.09	100.1	212339.75	102.2	122927.00	99.3
49	500-129739-a-...	184265.03	99.0	212467.69	102.3	132802.59	107.3
50	CCV	176359.78	94.8	207659.31	100.0	116696.34	94.3
51	CCB	181704.15	97.6	205397.83	98.9	120831.22	97.6
52	500-129739-a-...	185807.82	99.9	213426.90	102.7	145172.34	117.3
53	500-129739-a-...	184109.61	98.9	211352.63	101.7	132529.90	107.1
54	500-129739-a-...	186104.51	100.0	205996.48	99.2	170153.05	137.4
55	500-130175-b-...	179779.70	96.6	209274.45	100.7	125585.86	101.4
56	/500-130240-b...						

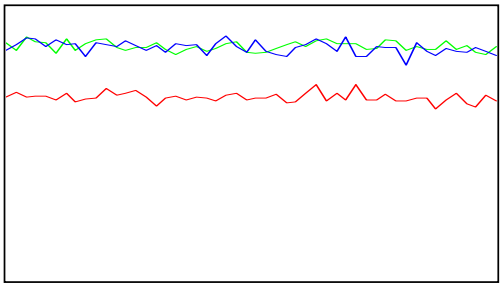
ISTD Table

		103 Rh (IS) (ISTD) [He]		159 Tb (IS) (ISTD) [He]		209 Bi Internal Standard (ISTD) [He]	
	Sample Name	CPS	Recovery%	CPS	Recovery%	CPS	Recovery%
57	/500-130249-a...						
58	/500-130270-a...						
59	/500-130270-a...						
60	/500-130270-a...						
61	CCV	181438.51	97.5	214792.69	103.4	118587.72	95.8
62	CCB	196369.16	105.5	216942.34	104.4	128505.91	103.8
63	500-130240-b-...	184106.15	98.9	215298.72	103.6	149965.74	121.1
64	500-130249-a-...	179517.05	96.5	208675.18	100.5	148453.44	119.9
65	500-130270-a-...	169690.55	91.2	198867.76	95.7	105371.26	85.1
66	500-130270-a-...	168986.61	90.8	196962.44	94.8	109432.76	88.4
67	500-130270-a-...	168675.23	90.6	196744.70	94.7	126304.95	102.0
68	500-130270-a-...	179440.04	96.4	211667.21	101.9	115093.75	93.0
69	mb 500-39127...	196838.86	105.8	216174.26	104.1	128677.99	103.9
70	lcs 500-391276...	184974.49	99.4	210012.04	101.1	21812436.34	17618.9
71	500-130062-a-1-f	178299.93	95.8	212196.82	102.1	122090.63	98.6
72	CCV	182120.95	97.9	212570.36	102.3	118295.14	95.6
73	CCB	195231.30	104.9	216005.11	104.0	129100.09	104.3
74	CCVL	187756.80	100.9	211042.18	101.6	124906.39	100.9

Tune Report

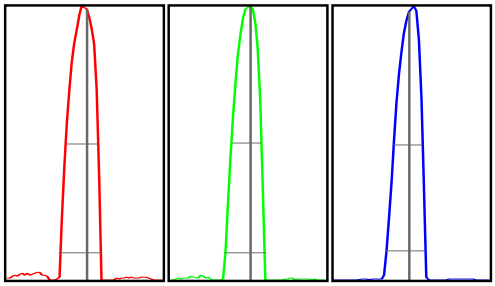
Batch Folder C:\Agilent\ICPMH\1\DATA\MS4062917TUNE.b
Acq. Date-Time 6/29/2017 9:35
Report Comment 072015Atune
Instrument Name G3281A JP11040848

[He]



Mass	Range	Count	RSD%	Background
59	5000	3332	2.686	
89	5000	4264	2.020	
205	5000	4240	2.633	

Ratio 156/140 1.105 %
Integration Time [sec] 0.1 **Sampling Period [sec]** 0.31



Mass	Peak Height	Axis	W-50%	W-10%
59	3287.47	59.05	0.61	0.765
89	4357.04	89.05	0.56	0.740
205	4230.92	205.00	0.53	0.739

Integration Time [sec] 0.1 **Acquisition Time [sec]** 22.54 **Y Axis** Linear

Tune Parameters
Plasma Paramters

RF Power	1450 W	Nebulizer Pump	0.10 rps
RF Matching	1.80 V	S/C Temp	2 ℃
Smpl Depth	10.0 mm	Gas Switch	Makeup Gas
Carrier Gas	1.00 L/min	Makeup/Dilution Gas	0.00 L/min
Option Gas	0.0 %		

Lenses Parameters

Extract 1	0.0 V	Cell Entrance	-50 V
Extract 2	-200.0 V	Cell Exit	-80 V
Omega Bias	-100 V	Deflect	3.0 V
Omega Lens	8.0 V	Plate Bias	-60 V

Cell Parameters

Use Gas	true	OctP Bias	-18.0 V

Tune Report

He Flow	3.5 mL/min	OctP RF	190 V
H2 Flow	0.0 mL/min	Energy Discrimination	3.0 V
3rd Gas Flow	0 %		

[no gas]

Mass	Range	Count	RSD%	Background
7	5000	2552	3.420	1.700
89	10000	9068	2.408	4.500
205	10000	5247	2.215	10.400

Ratio 156/140 1.329 % **Ratio** 70/140 10.489 %

Integration Time [sec] 0.1 **Sampling Period [sec]** 0.311

Mass	Peak Height	Axis	W-50%	W-10%
7	2585.95	6.95	0.66	0.810
89	9101.56	89.05	0.62	0.767
205	5353.43	205.00	0.57	0.768

Integration Time [sec] 0.1 **Acquisition Time [sec]** 22.74 **Y Axis** Linear

Tune Parameters
Plasma Paramters

RF Power	1550 W	Nebulizer Pump	0.10 rps
RF Matching	1.80 V	S/C Temp	2 ℃
Smpl Depth	10.0 mm	Gas Switch	Makeup Gas
Carrier Gas	1.00 L/min	Makeup/Dilution Gas	0.00 L/min
Option Gas	0.0 %		

Lenses Parameters

Extract 1	0.0 V	Cell Entrance	-40 V
Extract 2	-200.0 V	Cell Exit	-70 V
Omega Bias	-90 V	Deflect	14.8 V
Omega Lens	10.0 V	Plate Bias	-40 V

Cell Parameters

Use Gas	false	OctP Bias	-9.0 V
He Flow	0.0 mL/min	OctP RF	165 V
H2 Flow	0.0 mL/min	Energy Discrimination	3.0 V
3rd Gas Flow	0 %		

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484
Phone: 708.534.5200 Fax: 708.534.5211

Chain of Custody Record

Lab Job #: 500-129739

Chain of Custody Number:

Page ____ of ____

Temperature °C of Cooler: —

500-129739 COC

Report To (optional)	Bill To (optional)
Contact: Ryan Suennen	Contact:
Company: Tyco Fire Protection Products	Company:
Address: One Stanton St.	Address:
Address: Marinette, WI 54143	Address:
Phone: 715-735-7411	Phone:
Fax:	Fax:
E-Mail: rsuennen@tycoint.com	PO#/Reference#

Client: Tyco Fire Products
Client Project #:
Project Name: Surface Water Sampling
Project Location/State: Marinette, WI
Lab Project #:
Sampler: R. Suennen
Lab PM:

Preservative: 3
Parameter: Total Arsenic 6010 B

Preservative Key
1. HCL, Cool to 4°
2. H2SO4, Cool to 4°
3. HNO3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. NaHSO4
7. Cool to 4°
8. None
9. Other

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix	Total Arsenic 6010 B	Comments
1		DWMAR-060717	6/7/17	0851	1	W	X	
2	X	DWMEN-060717	6/7/17	0947	3	W	X	
3		SW1-060717	6/7/17	1131	1	W	X	
4		SW2-060717	6/7/17	1146	1	W	X	
5		SW3-060717	6/7/17	1202	1	W	X	
6		SW3/D-060717	6/7/17	1202	1	W	X	
7		SW4-060717	6/7/17	1155	1	W	X	
8		FB#1-060717	6/7/17	1507	1	W	X	

Turnaround Time Required (Business Days)
___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days X 15 Days _____ Other
Requested Due Date _____

Sample Disposal
[ ] Return to Client [X] Disposal by Lab [X] Archive for 6 Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
Ryan Suennen	TYCO	6/15/17	11:30		TA	06/16/17	0910
Relinquished By	Company	Date	Time	Received By	Company	Date	Time
Relinquished By	Company	Date	Time	Received By	Company	Date	Time

Lab Courier
Shipped ✓
Hand Delivered

Matrix Key
WW – Wastewater
W – Water
S – Soil
SL – Sludge
MS – Miscellaneous
OL – Oil
A – Air
SE – Sediment
SO – Soil
L – Leachate
WI – Wipe
DW – Drinking Water
O – Other

Client Comments

Lab Comments:

Login Sample Receipt Checklist

Client: Tyco Fire Protection Products

Job Number: 500-129739-2

Login Number: 129739
List Number: 1
Creator: Kelsey, Shawn M

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Attachment 5
BWGMPU Sampling Results

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-128133-1
Client Project/Site: Barrier Wall Monitoring

For:
Tyco Fire Protection Products
1 Stanton St
Marinette, Wisconsin 54143

Attn: Mr. Ryan Suennen

Authorized for release by:
5/30/2017 8:14:38 AM

Richard Wright, Senior Project Manager
(708)534-5200
richard.wright@testamericainc.com

Table of Contents

Case Narrative

Client: Tyco Fire Protection Products
Project/Site: Barrier Wall Monitoring

TestAmerica Job ID: 500-128133-1

Job ID: 500-128133-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-128133-1

Comments
No additional comments.

Receipt
The samples were received on 5/13/2017 1:15 PM; the samples arrived in good condition, properly preserved and, where required, on ice.

GC/MS VOA
Method(s) 8260B: The method blank for preparation batch 386310 contained Benzene above the reporting limit (RL). None of the samples associated with this method blank contained the target compound; therefore, re-extraction and/or re-analysis of samples were not performed.

Method(s) 8260B: The TCLP Extraction blank for preparation batch 386310 contained Benzene above the reporting limit (RL). None of the samples associated with this method blank contained the target compound; therefore, re-extraction and/or re-analysis of samples were not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D: The following samples contained one acid surrogate outside acceptance limits: T-7 Sludge (500-128133-3), RFR Box 2 (500-128133-6) and RFR Box 3 (500-128133-7). The laboratory's SOP allows one acid and one base surrogate to be outside acceptance limits; therefore, re-extraction was not performed. These results have been reported and qualified.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Tyco Fire Protection Products
Project/Site: Barrier Wall Monitoring

TestAmerica Job ID: 500-128133-1

Client Sample ID: T-12 Sludge — Lab Sample ID: 500-128133-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium	0.046		0.0050	0.0020	mg/L	1		6010B	TCLP

Client Sample ID: Alkaline Sludge — Lab Sample ID: 500-128133-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium	0.0024	J	0.0050	0.0020	mg/L	1		6010B	TCLP

Client Sample ID: T-7 Sludge — Lab Sample ID: 500-128133-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium	0.0027	J	0.0050	0.0020	mg/L	1		6010B	TCLP

Client Sample ID: T-2 Sludge — Lab Sample ID: 500-128133-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.017	J	0.050	0.010	mg/L	1		6010B	TCLP
Cadmium	0.022		0.0050	0.0020	mg/L	1		6010B	TCLP

Client Sample ID: RFR Box 1 — Lab Sample ID: 500-128133-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.19	J	0.50	0.050	mg/L	1		6010B	TCLP
Cadmium	0.0028	J	0.0050	0.0020	mg/L	1		6010B	TCLP

Client Sample ID: RFR Box 2 — Lab Sample ID: 500-128133-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.038	J	0.050	0.010	mg/L	1		6010B	TCLP
Barium	0.14	J	0.50	0.050	mg/L	1		6010B	TCLP
Cadmium	0.0025	J	0.0050	0.0020	mg/L	1		6010B	TCLP
Mercury	0.00030		0.00020	0.00020	mg/L	1		7470A	TCLP

Client Sample ID: RFR Box 3 — Lab Sample ID: 500-128133-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.28	J	0.50	0.050	mg/L	1		6010B	TCLP
Cadmium	0.0034	J	0.0050	0.0020	mg/L	1		6010B	TCLP

This Detection Summary does not include radiochemical test results.

Method Summary

Client: Tyco Fire Protection Products
Project/Site: Barrier Wall Monitoring

TestAmerica Job ID: 500-128133-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CHI
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL CHI
6010B	Metals (ICP)	SW846	TAL CHI
7470A	Mercury (CVAA)	SW846	TAL CHI

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: Tyco Fire Protection Products
Project/Site: Barrier Wall Monitoring

TestAmerica Job ID: 500-128133-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-128133-1	T-12 Sludge	Solid	05/11/17 09:35	05/13/17 13:15
500-128133-2	Alkaline Sludge	Solid	05/11/17 09:36	05/13/17 13:15
500-128133-3	T-7 Sludge	Solid	05/11/17 09:37	05/13/17 13:15
500-128133-4	T-2 Sludge	Solid	05/11/17 09:38	05/13/17 13:15
500-128133-5	RFR Box 1	Solid	05/12/17 10:10	05/13/17 13:15
500-128133-6	RFR Box 2	Solid	05/12/17 10:20	05/13/17 13:15
500-128133-7	RFR Box 3	Solid	05/12/17 10:30	05/13/17 13:15

Client Sample ID: T-12 Sludge

Date Collected: 05/11/17 09:35
Date Received: 05/13/17 13:15

Lab Sample ID: 500-128133-1

Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.010		0.020	0.010	mg/L			05/24/17 05:17	20
Carbon tetrachloride	<0.010		0.020	0.010	mg/L			05/24/17 05:17	20
Chlorobenzene	<0.010		0.020	0.010	mg/L			05/24/17 05:17	20
Chloroform	<0.020		0.040	0.020	mg/L			05/24/17 05:17	20
1,2-Dichloroethane	<0.010		0.020	0.010	mg/L			05/24/17 05:17	20
1,1-Dichloroethene	<0.010		0.020	0.010	mg/L			05/24/17 05:17	20
Methyl Ethyl Ketone	<0.050		0.10	0.050	mg/L			05/24/17 05:17	20
Tetrachloroethene	<0.010		0.020	0.010	mg/L			05/24/17 05:17	20
Trichloroethene	<0.010		0.020	0.010	mg/L			05/24/17 05:17	20
Vinyl chloride	<0.010		0.020	0.010	mg/L			05/24/17 05:17	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*75 - 126*		*05/24/17 05:17*	*20*
Toluene-d8 (Surr)	*96*		*75 - 120*		*05/24/17 05:17*	*20*
4-Bromofluorobenzene (Surr)	*97*		*72 - 124*		*05/24/17 05:17*	*20*
Dibromofluoromethane	*98*		*75 - 120*		*05/24/17 05:17*	*20*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	<0.020		0.020	0.020	mg/L		05/24/17 08:03	05/24/17 18:46	1
3 & 4 Methylphenol	<0.020		0.020	0.020	mg/L		05/24/17 08:03	05/24/17 18:46	1
1,4-Dichlorobenzene	<0.020		0.020	0.020	mg/L		05/24/17 08:03	05/24/17 18:46	1
2,4-Dinitrotoluene	<0.010		0.010	0.010	mg/L		05/24/17 08:03	05/24/17 18:46	1
Hexachlorobenzene	<0.0050		0.0050	0.0050	mg/L		05/24/17 08:03	05/24/17 18:46	1
Hexachlorobutadiene	<0.050		0.050	0.050	mg/L		05/24/17 08:03	05/24/17 18:46	1
Hexachloroethane	<0.050		0.050	0.050	mg/L		05/24/17 08:03	05/24/17 18:46	1
Nitrobenzene	<0.010		0.010	0.010	mg/L		05/24/17 08:03	05/24/17 18:46	1
Pentachlorophenol	<0.20		0.20	0.20	mg/L		05/24/17 08:03	05/24/17 18:46	1
Pyridine	<0.20		0.20	0.20	mg/L		05/24/17 08:03	05/24/17 18:46	1
2,4,5-Trichlorophenol	<0.10		0.10	0.10	mg/L		05/24/17 08:03	05/24/17 18:46	1
2,4,6-Trichlorophenol	<0.050		0.050	0.050	mg/L		05/24/17 08:03	05/24/17 18:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*39*		*27 - 110*	*05/24/17 08:03*	*05/24/17 18:46*	*1*
Phenol-d5 (Surr)	*32*		*20 - 100*	*05/24/17 08:03*	*05/24/17 18:46*	*1*
Nitrobenzene-d5 (Surr)	*77*		*36 - 120*	*05/24/17 08:03*	*05/24/17 18:46*	*1*
2-Fluorobiphenyl (Surr)	*63*		*34 - 110*	*05/24/17 08:03*	*05/24/17 18:46*	*1*
2,4,6-Tribromophenol (Surr)	*86*		*40 - 145*	*05/24/17 08:03*	*05/24/17 18:46*	*1*
Terphenyl-d14 (Surr)	*98*		*40 - 145*	*05/24/17 08:03*	*05/24/17 18:46*	*1*

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.010		0.050	0.010	mg/L		05/19/17 14:16	05/20/17 21:09	1
Barium	<0.050		0.50	0.050	mg/L		05/19/17 14:16	05/20/17 21:09	1
Cadmium	**0.046**		0.0050	0.0020	mg/L		05/19/17 14:16	05/20/17 21:09	1
Chromium	<0.010		0.025	0.010	mg/L		05/19/17 14:16	05/20/17 21:09	1
Lead	<0.0075		0.050	0.0075	mg/L		05/19/17 14:16	05/20/17 21:09	1
Selenium	<0.020		0.050	0.020	mg/L		05/19/17 14:16	05/20/17 21:09	1
Silver	<0.010		0.025	0.010	mg/L		05/19/17 14:16	05/20/17 21:09	1

Client Sample Results

Client: Tyco Fire Protection Products
Project/Site: Barrier Wall Monitoring

TestAmerica Job ID: 500-128133-1

Client Sample ID: T-12 Sludge
Date Collected: 05/11/17 09:35
Date Received: 05/13/17 13:15

Lab Sample ID: 500-128133-1
Matrix: Solid

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		05/19/17 13:15	05/22/17 10:44	1

Client Sample ID: Alkaline Sludge

Date Collected: 05/11/17 09:36
Date Received: 05/13/17 13:15

Lab Sample ID: 500-128133-2

Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.010		0.020	0.010	mg/L			05/24/17 05:46	20
Carbon tetrachloride	<0.010		0.020	0.010	mg/L			05/24/17 05:46	20
Chlorobenzene	<0.010		0.020	0.010	mg/L			05/24/17 05:46	20
Chloroform	<0.020		0.040	0.020	mg/L			05/24/17 05:46	20
1,2-Dichloroethane	<0.010		0.020	0.010	mg/L			05/24/17 05:46	20
1,1-Dichloroethene	<0.010		0.020	0.010	mg/L			05/24/17 05:46	20
Methyl Ethyl Ketone	<0.050		0.10	0.050	mg/L			05/24/17 05:46	20
Tetrachloroethene	<0.010		0.020	0.010	mg/L			05/24/17 05:46	20
Trichloroethene	<0.010		0.020	0.010	mg/L			05/24/17 05:46	20
Vinyl chloride	<0.010		0.020	0.010	mg/L			05/24/17 05:46	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*75 - 126*		*05/24/17 05:46*	*20*
Toluene-d8 (Surr)	*96*		*75 - 120*		*05/24/17 05:46*	*20*
4-Bromofluorobenzene (Surr)	*90*		*72 - 124*		*05/24/17 05:46*	*20*
Dibromofluoromethane	*98*		*75 - 120*		*05/24/17 05:46*	*20*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	<0.020		0.020	0.020	mg/L		05/24/17 08:03	05/24/17 22:18	1
3 & 4 Methylphenol	<0.020		0.020	0.020	mg/L		05/24/17 08:03	05/24/17 22:18	1
1,4-Dichlorobenzene	<0.020		0.020	0.020	mg/L		05/24/17 08:03	05/24/17 22:18	1
2,4-Dinitrotoluene	<0.010		0.010	0.010	mg/L		05/24/17 08:03	05/24/17 22:18	1
Hexachlorobenzene	<0.0050		0.0050	0.0050	mg/L		05/24/17 08:03	05/24/17 22:18	1
Hexachlorobutadiene	<0.050		0.050	0.050	mg/L		05/24/17 08:03	05/24/17 22:18	1
Hexachloroethane	<0.050		0.050	0.050	mg/L		05/24/17 08:03	05/24/17 22:18	1
Nitrobenzene	<0.010		0.010	0.010	mg/L		05/24/17 08:03	05/24/17 22:18	1
Pentachlorophenol	<0.20		0.20	0.20	mg/L		05/24/17 08:03	05/24/17 22:18	1
Pyridine	<0.20		0.20	0.20	mg/L		05/24/17 08:03	05/24/17 22:18	1
2,4,5-Trichlorophenol	<0.10		0.10	0.10	mg/L		05/24/17 08:03	05/24/17 22:18	1
2,4,6-Trichlorophenol	<0.050		0.050	0.050	mg/L		05/24/17 08:03	05/24/17 22:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*52*		*27 - 110*	*05/24/17 08:03*	*05/24/17 22:18*	*1*
Phenol-d5 (Surr)	*73*		*20 - 100*	*05/24/17 08:03*	*05/24/17 22:18*	*1*
Nitrobenzene-d5 (Surr)	*70*		*36 - 120*	*05/24/17 08:03*	*05/24/17 22:18*	*1*
2-Fluorobiphenyl (Surr)	*52*		*34 - 110*	*05/24/17 08:03*	*05/24/17 22:18*	*1*
2,4,6-Tribromophenol (Surr)	*112*		*40 - 145*	*05/24/17 08:03*	*05/24/17 22:18*	*1*
Terphenyl-d14 (Surr)	*87*		*40 - 145*	*05/24/17 08:03*	*05/24/17 22:18*	*1*

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.010		0.050	0.010	mg/L		05/19/17 14:16	05/20/17 21:13	1
Barium	<0.050		0.50	0.050	mg/L		05/19/17 14:16	05/20/17 21:13	1
Cadmium	**0.0024**	**J**	0.0050	0.0020	mg/L		05/19/17 14:16	05/20/17 21:13	1
Chromium	<0.010		0.025	0.010	mg/L		05/19/17 14:16	05/20/17 21:13	1
Lead	<0.0075		0.050	0.0075	mg/L		05/19/17 14:16	05/20/17 21:13	1
Selenium	<0.020		0.050	0.020	mg/L		05/19/17 14:16	05/20/17 21:13	1
Silver	<0.010		0.025	0.010	mg/L		05/19/17 14:16	05/20/17 21:13	1

Client Sample Results

Client: Tyco Fire Protection Products
Project/Site: Barrier Wall Monitoring

TestAmerica Job ID: 500-128133-1

Client Sample ID: Alkaline Sludge
Date Collected: 05/11/17 09:36
Date Received: 05/13/17 13:15

Lab Sample ID: 500-128133-2
Matrix: Solid

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		05/19/17 13:15	05/22/17 10:51	1

Client Sample ID: T-7 Sludge

Date Collected: 05/11/17 09:37
Date Received: 05/13/17 13:15

Lab Sample ID: 500-128133-3

Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.010		0.020	0.010	mg/L			05/24/17 06:16	20
Carbon tetrachloride	<0.010		0.020	0.010	mg/L			05/24/17 06:16	20
Chlorobenzene	<0.010		0.020	0.010	mg/L			05/24/17 06:16	20
Chloroform	<0.020		0.040	0.020	mg/L			05/24/17 06:16	20
1,2-Dichloroethane	<0.010		0.020	0.010	mg/L			05/24/17 06:16	20
1,1-Dichloroethene	<0.010		0.020	0.010	mg/L			05/24/17 06:16	20
Methyl Ethyl Ketone	<0.050		0.10	0.050	mg/L			05/24/17 06:16	20
Tetrachloroethene	<0.010		0.020	0.010	mg/L			05/24/17 06:16	20
Trichloroethene	<0.010		0.020	0.010	mg/L			05/24/17 06:16	20
Vinyl chloride	<0.010		0.020	0.010	mg/L			05/24/17 06:16	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*75 - 126*		*05/24/17 06:16*	*20*
Toluene-d8 (Surr)	*94*		*75 - 120*		*05/24/17 06:16*	*20*
4-Bromofluorobenzene (Surr)	*91*		*72 - 124*		*05/24/17 06:16*	*20*
Dibromofluoromethane	*98*		*75 - 120*		*05/24/17 06:16*	*20*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	<0.020		0.020	0.020	mg/L		05/24/17 08:03	05/24/17 22:47	1
3 & 4 Methylphenol	<0.020		0.020	0.020	mg/L		05/24/17 08:03	05/24/17 22:47	1
1,4-Dichlorobenzene	<0.020		0.020	0.020	mg/L		05/24/17 08:03	05/24/17 22:47	1
2,4-Dinitrotoluene	<0.010		0.010	0.010	mg/L		05/24/17 08:03	05/24/17 22:47	1
Hexachlorobenzene	<0.0050		0.0050	0.0050	mg/L		05/24/17 08:03	05/24/17 22:47	1
Hexachlorobutadiene	<0.050		0.050	0.050	mg/L		05/24/17 08:03	05/24/17 22:47	1
Hexachloroethane	<0.050		0.050	0.050	mg/L		05/24/17 08:03	05/24/17 22:47	1
Nitrobenzene	<0.010		0.010	0.010	mg/L		05/24/17 08:03	05/24/17 22:47	1
Pentachlorophenol	<0.20		0.20	0.20	mg/L		05/24/17 08:03	05/24/17 22:47	1
Pyridine	<0.20		0.20	0.20	mg/L		05/24/17 08:03	05/24/17 22:47	1
2,4,5-Trichlorophenol	<0.10		0.10	0.10	mg/L		05/24/17 08:03	05/24/17 22:47	1
2,4,6-Trichlorophenol	<0.050		0.050	0.050	mg/L		05/24/17 08:03	05/24/17 22:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*58*		*27 - 110*	*05/24/17 08:03*	*05/24/17 22:47*	*1*
Phenol-d5 (Surr)	*115*	*X*	*20 - 100*	*05/24/17 08:03*	*05/24/17 22:47*	*1*
Nitrobenzene-d5 (Surr)	*78*		*36 - 120*	*05/24/17 08:03*	*05/24/17 22:47*	*1*
2-Fluorobiphenyl (Surr)	*58*		*34 - 110*	*05/24/17 08:03*	*05/24/17 22:47*	*1*
2,4,6-Tribromophenol (Surr)	*126*		*40 - 145*	*05/24/17 08:03*	*05/24/17 22:47*	*1*
Terphenyl-d14 (Surr)	*98*		*40 - 145*	*05/24/17 08:03*	*05/24/17 22:47*	*1*

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.010		0.050	0.010	mg/L		05/19/17 14:16	05/20/17 21:25	1
Barium	<0.050		0.50	0.050	mg/L		05/19/17 14:16	05/20/17 21:25	1
Cadmium	**0.0027**	**J**	0.0050	0.0020	mg/L		05/19/17 14:16	05/20/17 21:25	1
Chromium	<0.010		0.025	0.010	mg/L		05/19/17 14:16	05/20/17 21:25	1
Lead	<0.0075		0.050	0.0075	mg/L		05/19/17 14:16	05/20/17 21:25	1
Selenium	<0.020		0.050	0.020	mg/L		05/19/17 14:16	05/20/17 21:25	1
Silver	<0.010		0.025	0.010	mg/L		05/19/17 14:16	05/20/17 21:25	1

Client Sample Results

Client: Tyco Fire Protection Products
Project/Site: Barrier Wall Monitoring

TestAmerica Job ID: 500-128133-1

Client Sample ID: T-7 Sludge
Date Collected: 05/11/17 09:37
Date Received: 05/13/17 13:15

Lab Sample ID: 500-128133-3
Matrix: Solid

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		05/19/17 13:15	05/22/17 10:53	1

Client Sample ID: T-2 Sludge

Date Collected: 05/11/17 09:38
Date Received: 05/13/17 13:15

Lab Sample ID: 500-128133-4

Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.010		0.020	0.010	mg/L			05/24/17 06:45	20
Carbon tetrachloride	<0.010		0.020	0.010	mg/L			05/24/17 06:45	20
Chlorobenzene	<0.010		0.020	0.010	mg/L			05/24/17 06:45	20
Chloroform	<0.020		0.040	0.020	mg/L			05/24/17 06:45	20
1,2-Dichloroethane	<0.010		0.020	0.010	mg/L			05/24/17 06:45	20
1,1-Dichloroethene	<0.010		0.020	0.010	mg/L			05/24/17 06:45	20
Methyl Ethyl Ketone	<0.050		0.10	0.050	mg/L			05/24/17 06:45	20
Tetrachloroethene	<0.010		0.020	0.010	mg/L			05/24/17 06:45	20
Trichloroethene	<0.010		0.020	0.010	mg/L			05/24/17 06:45	20
Vinyl chloride	<0.010		0.020	0.010	mg/L			05/24/17 06:45	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*75 - 126*		*05/24/17 06:45*	*20*
Toluene-d8 (Surr)	*94*		*75 - 120*		*05/24/17 06:45*	*20*
4-Bromofluorobenzene (Surr)	*92*		*72 - 124*		*05/24/17 06:45*	*20*
Dibromofluoromethane	*99*		*75 - 120*		*05/24/17 06:45*	*20*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	<0.020		0.020	0.020	mg/L		05/24/17 08:03	05/24/17 23:15	1
3 & 4 Methylphenol	<0.020		0.020	0.020	mg/L		05/24/17 08:03	05/24/17 23:15	1
1,4-Dichlorobenzene	<0.020		0.020	0.020	mg/L		05/24/17 08:03	05/24/17 23:15	1
2,4-Dinitrotoluene	<0.010		0.010	0.010	mg/L		05/24/17 08:03	05/24/17 23:15	1
Hexachlorobenzene	<0.0050		0.0050	0.0050	mg/L		05/24/17 08:03	05/24/17 23:15	1
Hexachlorobutadiene	<0.050		0.050	0.050	mg/L		05/24/17 08:03	05/24/17 23:15	1
Hexachloroethane	<0.050		0.050	0.050	mg/L		05/24/17 08:03	05/24/17 23:15	1
Nitrobenzene	<0.010		0.010	0.010	mg/L		05/24/17 08:03	05/24/17 23:15	1
Pentachlorophenol	<0.20		0.20	0.20	mg/L		05/24/17 08:03	05/24/17 23:15	1
Pyridine	<0.20		0.20	0.20	mg/L		05/24/17 08:03	05/24/17 23:15	1
2,4,5-Trichlorophenol	<0.10		0.10	0.10	mg/L		05/24/17 08:03	05/24/17 23:15	1
2,4,6-Trichlorophenol	<0.050		0.050	0.050	mg/L		05/24/17 08:03	05/24/17 23:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*44*		*27 - 110*	*05/24/17 08:03*	*05/24/17 23:15*	*1*
Phenol-d5 (Surr)	*42*		*20 - 100*	*05/24/17 08:03*	*05/24/17 23:15*	*1*
Nitrobenzene-d5 (Surr)	*76*		*36 - 120*	*05/24/17 08:03*	*05/24/17 23:15*	*1*
2-Fluorobiphenyl (Surr)	*56*		*34 - 110*	*05/24/17 08:03*	*05/24/17 23:15*	*1*
2,4,6-Tribromophenol (Surr)	*100*		*40 - 145*	*05/24/17 08:03*	*05/24/17 23:15*	*1*
Terphenyl-d14 (Surr)	*93*		*40 - 145*	*05/24/17 08:03*	*05/24/17 23:15*	*1*

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.017**	**J**	0.050	0.010	mg/L		05/19/17 14:16	05/20/17 21:29	1
Barium	<0.050		0.50	0.050	mg/L		05/19/17 14:16	05/20/17 21:29	1
Cadmium	**0.022**		0.0050	0.0020	mg/L		05/19/17 14:16	05/20/17 21:29	1
Chromium	<0.010		0.025	0.010	mg/L		05/19/17 14:16	05/20/17 21:29	1
Lead	<0.0075		0.050	0.0075	mg/L		05/19/17 14:16	05/20/17 21:29	1
Selenium	<0.020		0.050	0.020	mg/L		05/19/17 14:16	05/20/17 21:29	1
Silver	<0.010		0.025	0.010	mg/L		05/19/17 14:16	05/20/17 21:29	1

Client Sample Results

Client: Tyco Fire Protection Products
Project/Site: Barrier Wall Monitoring

TestAmerica Job ID: 500-128133-1

Client Sample ID: T-2 Sludge
Date Collected: 05/11/17 09:38
Date Received: 05/13/17 13:15

Lab Sample ID: 500-128133-4
Matrix: Solid

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		05/19/17 13:15	05/22/17 10:54	1

Client Sample ID: RFR Box 1

Date Collected: 05/12/17 10:10
Date Received: 05/13/17 13:15

Lab Sample ID: 500-128133-5

Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.010		0.020	0.010	mg/L			05/24/17 07:15	20
Carbon tetrachloride	<0.010		0.020	0.010	mg/L			05/24/17 07:15	20
Chlorobenzene	<0.010		0.020	0.010	mg/L			05/24/17 07:15	20
Chloroform	<0.020		0.040	0.020	mg/L			05/24/17 07:15	20
1,2-Dichloroethane	<0.010		0.020	0.010	mg/L			05/24/17 07:15	20
1,1-Dichloroethene	<0.010		0.020	0.010	mg/L			05/24/17 07:15	20
Methyl Ethyl Ketone	<0.050		0.10	0.050	mg/L			05/24/17 07:15	20
Tetrachloroethene	<0.010		0.020	0.010	mg/L			05/24/17 07:15	20
Trichloroethene	<0.010		0.020	0.010	mg/L			05/24/17 07:15	20
Vinyl chloride	<0.010		0.020	0.010	mg/L			05/24/17 07:15	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*75 - 126*		*05/24/17 07:15*	*20*
Toluene-d8 (Surr)	*95*		*75 - 120*		*05/24/17 07:15*	*20*
4-Bromofluorobenzene (Surr)	*93*		*72 - 124*		*05/24/17 07:15*	*20*
Dibromofluoromethane	*98*		*75 - 120*		*05/24/17 07:15*	*20*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	<0.020		0.020	0.020	mg/L		05/24/17 08:03	05/24/17 23:44	1
3 & 4 Methylphenol	<0.020		0.020	0.020	mg/L		05/24/17 08:03	05/24/17 23:44	1
1,4-Dichlorobenzene	<0.020		0.020	0.020	mg/L		05/24/17 08:03	05/24/17 23:44	1
2,4-Dinitrotoluene	<0.010		0.010	0.010	mg/L		05/24/17 08:03	05/24/17 23:44	1
Hexachlorobenzene	<0.0050		0.0050	0.0050	mg/L		05/24/17 08:03	05/24/17 23:44	1
Hexachlorobutadiene	<0.050		0.050	0.050	mg/L		05/24/17 08:03	05/24/17 23:44	1
Hexachloroethane	<0.050		0.050	0.050	mg/L		05/24/17 08:03	05/24/17 23:44	1
Nitrobenzene	<0.010		0.010	0.010	mg/L		05/24/17 08:03	05/24/17 23:44	1
Pentachlorophenol	<0.20		0.20	0.20	mg/L		05/24/17 08:03	05/24/17 23:44	1
Pyridine	<0.20		0.20	0.20	mg/L		05/24/17 08:03	05/24/17 23:44	1
2,4,5-Trichlorophenol	<0.10		0.10	0.10	mg/L		05/24/17 08:03	05/24/17 23:44	1
2,4,6-Trichlorophenol	<0.050		0.050	0.050	mg/L		05/24/17 08:03	05/24/17 23:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*37*		*27 - 110*	*05/24/17 08:03*	*05/24/17 23:44*	*1*
Phenol-d5 (Surr)	*31*		*20 - 100*	*05/24/17 08:03*	*05/24/17 23:44*	*1*
Nitrobenzene-d5 (Surr)	*74*		*36 - 120*	*05/24/17 08:03*	*05/24/17 23:44*	*1*
2-Fluorobiphenyl (Surr)	*68*		*34 - 110*	*05/24/17 08:03*	*05/24/17 23:44*	*1*
2,4,6-Tribromophenol (Surr)	*88*		*40 - 145*	*05/24/17 08:03*	*05/24/17 23:44*	*1*
Terphenyl-d14 (Surr)	*96*		*40 - 145*	*05/24/17 08:03*	*05/24/17 23:44*	*1*

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.010		0.050	0.010	mg/L		05/19/17 14:16	05/20/17 21:33	1
Barium	**0.19**	**J**	0.50	0.050	mg/L		05/19/17 14:16	05/20/17 21:33	1
Cadmium	**0.0028**	**J**	0.0050	0.0020	mg/L		05/19/17 14:16	05/20/17 21:33	1
Chromium	<0.010		0.025	0.010	mg/L		05/19/17 14:16	05/20/17 21:33	1
Lead	<0.0075		0.050	0.0075	mg/L		05/19/17 14:16	05/20/17 21:33	1
Selenium	<0.020		0.050	0.020	mg/L		05/19/17 14:16	05/20/17 21:33	1
Silver	<0.010		0.025	0.010	mg/L		05/19/17 14:16	05/20/17 21:33	1

Client Sample Results

Client: Tyco Fire Protection Products
Project/Site: Barrier Wall Monitoring

TestAmerica Job ID: 500-128133-1

Client Sample ID: RFR Box 1
Date Collected: 05/12/17 10:10
Date Received: 05/13/17 13:15

Lab Sample ID: 500-128133-5
Matrix: Solid

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		05/19/17 13:15	05/22/17 10:56	1

Client Sample ID: RFR Box 2

Date Collected: 05/12/17 10:20
Date Received: 05/13/17 13:15

Lab Sample ID: 500-128133-6

Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.010		0.020	0.010	mg/L			05/24/17 07:44	20
Carbon tetrachloride	<0.010		0.020	0.010	mg/L			05/24/17 07:44	20
Chlorobenzene	<0.010		0.020	0.010	mg/L			05/24/17 07:44	20
Chloroform	<0.020		0.040	0.020	mg/L			05/24/17 07:44	20
1,2-Dichloroethane	<0.010		0.020	0.010	mg/L			05/24/17 07:44	20
1,1-Dichloroethene	<0.010		0.020	0.010	mg/L			05/24/17 07:44	20
Methyl Ethyl Ketone	<0.050		0.10	0.050	mg/L			05/24/17 07:44	20
Tetrachloroethene	<0.010		0.020	0.010	mg/L			05/24/17 07:44	20
Trichloroethene	<0.010		0.020	0.010	mg/L			05/24/17 07:44	20
Vinyl chloride	<0.010		0.020	0.010	mg/L			05/24/17 07:44	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*75 - 126*		*05/24/17 07:44*	*20*
Toluene-d8 (Surr)	*95*		*75 - 120*		*05/24/17 07:44*	*20*
4-Bromofluorobenzene (Surr)	*93*		*72 - 124*		*05/24/17 07:44*	*20*
Dibromofluoromethane	*99*		*75 - 120*		*05/24/17 07:44*	*20*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	<0.020		0.020	0.020	mg/L		05/24/17 08:03	05/25/17 00:13	1
3 & 4 Methylphenol	<0.020		0.020	0.020	mg/L		05/24/17 08:03	05/25/17 00:13	1
1,4-Dichlorobenzene	<0.020		0.020	0.020	mg/L		05/24/17 08:03	05/25/17 00:13	1
2,4-Dinitrotoluene	<0.010		0.010	0.010	mg/L		05/24/17 08:03	05/25/17 00:13	1
Hexachlorobenzene	<0.0050		0.0050	0.0050	mg/L		05/24/17 08:03	05/25/17 00:13	1
Hexachlorobutadiene	<0.050		0.050	0.050	mg/L		05/24/17 08:03	05/25/17 00:13	1
Hexachloroethane	<0.050		0.050	0.050	mg/L		05/24/17 08:03	05/25/17 00:13	1
Nitrobenzene	<0.010		0.010	0.010	mg/L		05/24/17 08:03	05/25/17 00:13	1
Pentachlorophenol	<0.20		0.20	0.20	mg/L		05/24/17 08:03	05/25/17 00:13	1
Pyridine	<0.20		0.20	0.20	mg/L		05/24/17 08:03	05/25/17 00:13	1
2,4,5-Trichlorophenol	<0.10		0.10	0.10	mg/L		05/24/17 08:03	05/25/17 00:13	1
2,4,6-Trichlorophenol	<0.050		0.050	0.050	mg/L		05/24/17 08:03	05/25/17 00:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*17*	*X*	*27 - 110*	*05/24/17 08:03*	*05/25/17 00:13*	*1*
Phenol-d5 (Surr)	*30*		*20 - 100*	*05/24/17 08:03*	*05/25/17 00:13*	*1*
Nitrobenzene-d5 (Surr)	*85*		*36 - 120*	*05/24/17 08:03*	*05/25/17 00:13*	*1*
2-Fluorobiphenyl (Surr)	*76*		*34 - 110*	*05/24/17 08:03*	*05/25/17 00:13*	*1*
2,4,6-Tribromophenol (Surr)	*98*		*40 - 145*	*05/24/17 08:03*	*05/25/17 00:13*	*1*
Terphenyl-d14 (Surr)	*103*		*40 - 145*	*05/24/17 08:03*	*05/25/17 00:13*	*1*

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.038**	**J**	0.050	0.010	mg/L		05/19/17 14:16	05/20/17 21:39	1
Barium	**0.14**	**J**	0.50	0.050	mg/L		05/19/17 14:16	05/20/17 21:39	1
Cadmium	**0.0025**	**J**	0.0050	0.0020	mg/L		05/19/17 14:16	05/20/17 21:39	1
Chromium	<0.010		0.025	0.010	mg/L		05/19/17 14:16	05/20/17 21:39	1
Lead	<0.0075		0.050	0.0075	mg/L		05/19/17 14:16	05/20/17 21:39	1
Selenium	<0.020		0.050	0.020	mg/L		05/19/17 14:16	05/20/17 21:39	1
Silver	<0.010		0.025	0.010	mg/L		05/19/17 14:16	05/20/17 21:39	1

Client Sample Results

Client: Tyco Fire Protection Products
Project/Site: Barrier Wall Monitoring

TestAmerica Job ID: 500-128133-1

Client Sample ID: RFR Box 2
Date Collected: 05/12/17 10:20
Date Received: 05/13/17 13:15

Lab Sample ID: 500-128133-6
Matrix: Solid

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00030		0.00020	0.00020	mg/L		05/19/17 13:15	05/22/17 10:57	1

Client Sample ID: RFR Box 3

Date Collected: 05/12/17 10:30
Date Received: 05/13/17 13:15

Lab Sample ID: 500-128133-7

Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.010		0.020	0.010	mg/L			05/26/17 16:29	20
Carbon tetrachloride	<0.010		0.020	0.010	mg/L			05/26/17 16:29	20
Chlorobenzene	<0.010		0.020	0.010	mg/L			05/26/17 16:29	20
Chloroform	<0.020		0.040	0.020	mg/L			05/26/17 16:29	20
1,2-Dichloroethane	<0.010		0.020	0.010	mg/L			05/26/17 16:29	20
1,1-Dichloroethene	<0.010		0.020	0.010	mg/L			05/26/17 16:29	20
Methyl Ethyl Ketone	<0.050		0.10	0.050	mg/L			05/26/17 16:29	20
Tetrachloroethene	<0.010		0.020	0.010	mg/L			05/26/17 16:29	20
Trichloroethene	<0.010		0.020	0.010	mg/L			05/26/17 16:29	20
Vinyl chloride	<0.010		0.020	0.010	mg/L			05/26/17 16:29	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*111*		*75 - 126*		*05/26/17 16:29*	*20*
Toluene-d8 (Surr)	*99*		*75 - 120*		*05/26/17 16:29*	*20*
4-Bromofluorobenzene (Surr)	*113*		*72 - 124*		*05/26/17 16:29*	*20*
Dibromofluoromethane	*92*		*75 - 120*		*05/26/17 16:29*	*20*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	<0.020		0.020	0.020	mg/L		05/24/17 08:03	05/25/17 00:42	1
3 & 4 Methylphenol	<0.020		0.020	0.020	mg/L		05/24/17 08:03	05/25/17 00:42	1
1,4-Dichlorobenzene	<0.020		0.020	0.020	mg/L		05/24/17 08:03	05/25/17 00:42	1
2,4-Dinitrotoluene	<0.010		0.010	0.010	mg/L		05/24/17 08:03	05/25/17 00:42	1
Hexachlorobenzene	<0.0050		0.0050	0.0050	mg/L		05/24/17 08:03	05/25/17 00:42	1
Hexachlorobutadiene	<0.050		0.050	0.050	mg/L		05/24/17 08:03	05/25/17 00:42	1
Hexachloroethane	<0.050		0.050	0.050	mg/L		05/24/17 08:03	05/25/17 00:42	1
Nitrobenzene	<0.010		0.010	0.010	mg/L		05/24/17 08:03	05/25/17 00:42	1
Pentachlorophenol	<0.20		0.20	0.20	mg/L		05/24/17 08:03	05/25/17 00:42	1
Pyridine	<0.20		0.20	0.20	mg/L		05/24/17 08:03	05/25/17 00:42	1
2,4,5-Trichlorophenol	<0.10		0.10	0.10	mg/L		05/24/17 08:03	05/25/17 00:42	1
2,4,6-Trichlorophenol	<0.050		0.050	0.050	mg/L		05/24/17 08:03	05/25/17 00:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*13*	*X*	*27 - 110*	*05/24/17 08:03*	*05/25/17 00:42*	*1*
Phenol-d5 (Surr)	*23*		*20 - 100*	*05/24/17 08:03*	*05/25/17 00:42*	*1*
Nitrobenzene-d5 (Surr)	*78*		*36 - 120*	*05/24/17 08:03*	*05/25/17 00:42*	*1*
2-Fluorobiphenyl (Surr)	*68*		*34 - 110*	*05/24/17 08:03*	*05/25/17 00:42*	*1*
2,4,6-Tribromophenol (Surr)	*88*		*40 - 145*	*05/24/17 08:03*	*05/25/17 00:42*	*1*
Terphenyl-d14 (Surr)	*101*		*40 - 145*	*05/24/17 08:03*	*05/25/17 00:42*	*1*

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.010		0.050	0.010	mg/L		05/19/17 14:16	05/20/17 21:43	1
Barium	**0.28**	**J**	0.50	0.050	mg/L		05/19/17 14:16	05/20/17 21:43	1
Cadmium	**0.0034**	**J**	0.0050	0.0020	mg/L		05/19/17 14:16	05/20/17 21:43	1
Chromium	<0.010		0.025	0.010	mg/L		05/19/17 14:16	05/20/17 21:43	1
Lead	<0.0075		0.050	0.0075	mg/L		05/19/17 14:16	05/20/17 21:43	1
Selenium	<0.020		0.050	0.020	mg/L		05/19/17 14:16	05/20/17 21:43	1
Silver	<0.010		0.025	0.010	mg/L		05/19/17 14:16	05/20/17 21:43	1

Client Sample Results

Client: Tyco Fire Protection Products
Project/Site: Barrier Wall Monitoring

TestAmerica Job ID: 500-128133-1

Client Sample ID: RFR Box 3
Date Collected: 05/12/17 10:30
Date Received: 05/13/17 13:15

Lab Sample ID: 500-128133-7
Matrix: Solid

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		05/19/17 13:15	05/22/17 10:58	1

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

QC Association Summary

Client: Tyco Fire Protection Products
Project/Site: Barrier Wall Monitoring

TestAmerica Job ID: 500-128133-1

GC/MS VOA

Leach Batch: 386310

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-128133-1	T-12 Sludge	TCLP	Solid	1311	
500-128133-2	Alkaline Sludge	TCLP	Solid	1311	
500-128133-3	T-7 Sludge	TCLP	Solid	1311	
500-128133-4	T-2 Sludge	TCLP	Solid	1311	
500-128133-5	RFR Box 1	TCLP	Solid	1311	
500-128133-6	RFR Box 2	TCLP	Solid	1311	
LB 500-386310/1-A	Method Blank	TCLP	Solid	1311	

Analysis Batch: 386530

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-128133-1	T-12 Sludge	TCLP	Solid	8260B	386310
500-128133-2	Alkaline Sludge	TCLP	Solid	8260B	386310
500-128133-3	T-7 Sludge	TCLP	Solid	8260B	386310
500-128133-4	T-2 Sludge	TCLP	Solid	8260B	386310
500-128133-5	RFR Box 1	TCLP	Solid	8260B	386310
500-128133-6	RFR Box 2	TCLP	Solid	8260B	386310
LB 500-386310/1-A	Method Blank	TCLP	Solid	8260B	386310
MB 500-386530/6	Method Blank	Total/NA	Solid	8260B	
LCS 500-386530/4	Lab Control Sample	Total/NA	Solid	8260B	

Leach Batch: 386877

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-128133-7	RFR Box 3	TCLP	Solid	1311	
LB 500-386877/1-A	Method Blank	TCLP	Solid	1311	

Analysis Batch: 386998

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-128133-7	RFR Box 3	TCLP	Solid	8260B	386877
LB 500-386877/1-A	Method Blank	TCLP	Solid	8260B	386877
MB 500-386998/6	Method Blank	Total/NA	Solid	8260B	
LCS 500-386998/4	Lab Control Sample	Total/NA	Solid	8260B	

GC/MS Semi VOA

Leach Batch: 385776

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-128133-1	T-12 Sludge	TCLP	Solid	1311	
500-128133-2	Alkaline Sludge	TCLP	Solid	1311	
500-128133-3	T-7 Sludge	TCLP	Solid	1311	
500-128133-4	T-2 Sludge	TCLP	Solid	1311	
500-128133-5	RFR Box 1	TCLP	Solid	1311	
500-128133-6	RFR Box 2	TCLP	Solid	1311	
500-128133-7	RFR Box 3	TCLP	Solid	1311	
LB 500-385776/1-G	Method Blank	TCLP	Solid	1311	
500-128133-1 MS	T-12 Sludge	TCLP	Solid	1311	

Prep Batch: 386594

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-128133-1	T-12 Sludge	TCLP	Solid	3510C	385776
500-128133-2	Alkaline Sludge	TCLP	Solid	3510C	385776

GC/MS Semi VOA (Continued)

Prep Batch: 386594 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-128133-3	T-7 Sludge	TCLP	Solid	3510C	385776
500-128133-4	T-2 Sludge	TCLP	Solid	3510C	385776
500-128133-5	RFR Box 1	TCLP	Solid	3510C	385776
500-128133-6	RFR Box 2	TCLP	Solid	3510C	385776
500-128133-7	RFR Box 3	TCLP	Solid	3510C	385776
LB 500-385776/1-G	Method Blank	TCLP	Solid	3510C	385776
MB 500-386594/1-A	Method Blank	Total/NA	Solid	3510C	
LCS 500-386594/2-A	Lab Control Sample	Total/NA	Solid	3510C	
500-128133-1 MS	T-12 Sludge	TCLP	Solid	3510C	385776

Analysis Batch: 386706

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-128133-1	T-12 Sludge	TCLP	Solid	8270D	386594
500-128133-2	Alkaline Sludge	TCLP	Solid	8270D	386594
500-128133-3	T-7 Sludge	TCLP	Solid	8270D	386594
500-128133-4	T-2 Sludge	TCLP	Solid	8270D	386594
500-128133-5	RFR Box 1	TCLP	Solid	8270D	386594
500-128133-6	RFR Box 2	TCLP	Solid	8270D	386594
500-128133-7	RFR Box 3	TCLP	Solid	8270D	386594
LB 500-385776/1-G	Method Blank	TCLP	Solid	8270D	386594
MB 500-386594/1-A	Method Blank	Total/NA	Solid	8270D	386594
LCS 500-386594/2-A	Lab Control Sample	Total/NA	Solid	8270D	386594
500-128133-1 MS	T-12 Sludge	TCLP	Solid	8270D	386594

Metals

Leach Batch: 385776

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-128133-1	T-12 Sludge	TCLP	Solid	1311	
500-128133-2	Alkaline Sludge	TCLP	Solid	1311	
500-128133-3	T-7 Sludge	TCLP	Solid	1311	
500-128133-4	T-2 Sludge	TCLP	Solid	1311	
500-128133-5	RFR Box 1	TCLP	Solid	1311	
500-128133-6	RFR Box 2	TCLP	Solid	1311	
500-128133-7	RFR Box 3	TCLP	Solid	1311	
LB 500-385776/1-B	Method Blank	TCLP	Solid	1311	
LB 500-385776/1-C	Method Blank	TCLP	Solid	1311	
500-128133-1 MS	T-12 Sludge	TCLP	Solid	1311	
500-128133-1 DU	T-12 Sludge	TCLP	Solid	1311	

Prep Batch: 385972

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-128133-1	T-12 Sludge	TCLP	Solid	7470A	385776
500-128133-2	Alkaline Sludge	TCLP	Solid	7470A	385776
500-128133-3	T-7 Sludge	TCLP	Solid	7470A	385776
500-128133-4	T-2 Sludge	TCLP	Solid	7470A	385776
500-128133-5	RFR Box 1	TCLP	Solid	7470A	385776
500-128133-6	RFR Box 2	TCLP	Solid	7470A	385776
500-128133-7	RFR Box 3	TCLP	Solid	7470A	385776
LB 500-385776/1-B	Method Blank	TCLP	Solid	7470A	385776

Metals (Continued)

Prep Batch: 385972 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 500-385972/12-A	Method Blank	Total/NA	Solid	7470A	
LCS 500-385972/13-A	Lab Control Sample	Total/NA	Solid	7470A	
500-128133-1 MS	T-12 Sludge	TCLP	Solid	7470A	385776
500-128133-1 DU	T-12 Sludge	TCLP	Solid	7470A	385776

Prep Batch: 385997

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-128133-1	T-12 Sludge	TCLP	Solid	3010A	385776
500-128133-2	Alkaline Sludge	TCLP	Solid	3010A	385776
500-128133-3	T-7 Sludge	TCLP	Solid	3010A	385776
500-128133-4	T-2 Sludge	TCLP	Solid	3010A	385776
500-128133-5	RFR Box 1	TCLP	Solid	3010A	385776
500-128133-6	RFR Box 2	TCLP	Solid	3010A	385776
500-128133-7	RFR Box 3	TCLP	Solid	3010A	385776
LB 500-385776/1-C	Method Blank	TCLP	Solid	3010A	385776
LCS 500-385997/2-A	Lab Control Sample	Total/NA	Solid	3010A	

Analysis Batch: 386205

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-128133-1	T-12 Sludge	TCLP	Solid	6010B	385997
500-128133-2	Alkaline Sludge	TCLP	Solid	6010B	385997
500-128133-3	T-7 Sludge	TCLP	Solid	6010B	385997
500-128133-4	T-2 Sludge	TCLP	Solid	6010B	385997
500-128133-5	RFR Box 1	TCLP	Solid	6010B	385997
500-128133-6	RFR Box 2	TCLP	Solid	6010B	385997
500-128133-7	RFR Box 3	TCLP	Solid	6010B	385997
LB 500-385776/1-C	Method Blank	TCLP	Solid	6010B	385997
LCS 500-385997/2-A	Lab Control Sample	Total/NA	Solid	6010B	385997

Analysis Batch: 386307

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-128133-1	T-12 Sludge	TCLP	Solid	7470A	385972
500-128133-2	Alkaline Sludge	TCLP	Solid	7470A	385972
500-128133-3	T-7 Sludge	TCLP	Solid	7470A	385972
500-128133-4	T-2 Sludge	TCLP	Solid	7470A	385972
500-128133-5	RFR Box 1	TCLP	Solid	7470A	385972
500-128133-6	RFR Box 2	TCLP	Solid	7470A	385972
500-128133-7	RFR Box 3	TCLP	Solid	7470A	385972
LB 500-385776/1-B	Method Blank	TCLP	Solid	7470A	385972
MB 500-385972/12-A	Method Blank	Total/NA	Solid	7470A	385972
LCS 500-385972/13-A	Lab Control Sample	Total/NA	Solid	7470A	385972
500-128133-1 MS	T-12 Sludge	TCLP	Solid	7470A	385972
500-128133-1 DU	T-12 Sludge	TCLP	Solid	7470A	385972

Surrogate Summary

Client: Tyco Fire Protection Products
Project/Site: Barrier Wall Monitoring

TestAmerica Job ID: 500-128133-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		12DCE	TOL	BFB	DBFM
Lab Sample ID	Client Sample ID	(75-126)	(75-120)	(72-124)	(75-120)
LCS 500-386530/4	Lab Control Sample	87	99	94	93
LCS 500-386998/4	Lab Control Sample	111	98	112	93
MB 500-386530/6	Method Blank	94	97	95	99
MB 500-386998/6	Method Blank	106	101	118	90

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid **Prep Type: TCLP**

		Percent Surrogate Recovery (Acceptance Limits)			
		12DCE	TOL	BFB	DBFM
Lab Sample ID	Client Sample ID	(75-126)	(75-120)	(72-124)	(75-120)
500-128133-1	T-12 Sludge	92	96	97	98
500-128133-2	Alkaline Sludge	92	96	90	98
500-128133-3	T-7 Sludge	93	94	91	98
500-128133-4	T-2 Sludge	93	94	92	99
500-128133-5	RFR Box 1	92	95	93	98
500-128133-6	RFR Box 2	93	95	93	99
500-128133-7	RFR Box 3	111	99	113	92
LB 500-386310/1-A	Method Blank	91	95	92	97
LB 500-386877/1-A	Method Blank	115	100	113	90

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		2FP	PHL	NBZ	FBP	TBP	TPH
Lab Sample ID	Client Sample ID	(27-110)	(20-100)	(36-120)	(34-110)	(40-145)	(40-145)
LCS 500-386594/2-A	Lab Control Sample	56	44	85	82	97	101
MB 500-386594/1-A	Method Blank	36	36	76	68	72	102

Surrogate Legend

2FP = 2-Fluorophenol (Surr)
PHL = Phenol-d5 (Surr)
NBZ = Nitrobenzene-d5 (Surr)
FBP = 2-Fluorobiphenyl (Surr)
TBP = 2,4,6-Tribromophenol (Surr)
TPH = Terphenyl-d14 (Surr)

Surrogate Summary

Client: Tyco Fire Protection Products
Project/Site: Barrier Wall Monitoring

TestAmerica Job ID: 500-128133-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid **Prep Type: TCLP**

		Percent Surrogate Recovery (Acceptance Limits)							
		2FP	PHL	NBZ	FBP	TBP	TPH		
Lab Sample ID	Client Sample ID	(27-110)	(20-100)	(36-120)	(34-110)	(40-145)	(40-145)		
500-128133-1	T-12 Sludge	39	32	77	63	86	98		
500-128133-1 MS	T-12 Sludge	54	40	80	75	100	98		
500-128133-2	Alkaline Sludge	52	73	70	52	112	87		
500-128133-3	T-7 Sludge	58	115 X	78	58	126	98		
500-128133-4	T-2 Sludge	44	42	76	56	100	93		
500-128133-5	RFR Box 1	37	31	74	68	88	96		
500-128133-6	RFR Box 2	17 X	30	85	76	98	103		
500-128133-7	RFR Box 3	13 X	23	78	68	88	101		
LB 500-385776/1-G	Method Blank	31	31	75	66	79	101		

Surrogate Legend

2FP = 2-Fluorophenol (Surr)
PHL = Phenol-d5 (Surr)
NBZ = Nitrobenzene-d5 (Surr)
FBP = 2-Fluorobiphenyl (Surr)
TBP = 2,4,6-Tribromophenol (Surr)
TPH = Terphenyl-d14 (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-386530/6
Matrix: Solid
Analysis Batch: 386530

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.0010	0.00050	mg/L			05/24/17 01:52	1
Carbon tetrachloride	<0.00050		0.0010	0.00050	mg/L			05/24/17 01:52	1
Chlorobenzene	<0.00050		0.0010	0.00050	mg/L			05/24/17 01:52	1
Chloroform	<0.0010		0.0020	0.0010	mg/L			05/24/17 01:52	1
1,2-Dichloroethane	<0.00050		0.0010	0.00050	mg/L			05/24/17 01:52	1
1,1-Dichloroethene	<0.00050		0.0010	0.00050	mg/L			05/24/17 01:52	1
Methyl Ethyl Ketone	<0.0025		0.0050	0.0025	mg/L			05/24/17 01:52	1
Tetrachloroethene	<0.00050		0.0010	0.00050	mg/L			05/24/17 01:52	1
Trichloroethene	<0.00050		0.0010	0.00050	mg/L			05/24/17 01:52	1
Vinyl chloride	<0.00050		0.0010	0.00050	mg/L			05/24/17 01:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*75 - 126*		*05/24/17 01:52*	*1*
Toluene-d8 (Surr)	*97*		*75 - 120*		*05/24/17 01:52*	*1*
4-Bromofluorobenzene (Surr)	*95*		*72 - 124*		*05/24/17 01:52*	*1*
Dibromofluoromethane	*99*		*75 - 120*		*05/24/17 01:52*	*1*

Lab Sample ID: LCS 500-386530/4
Matrix: Solid
Analysis Batch: 386530

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0500	0.0413		mg/L		83	70 - 120
Carbon tetrachloride	0.0500	0.0403		mg/L		81	65 - 122
Chlorobenzene	0.0500	0.0469		mg/L		94	70 - 120
Chloroform	0.0500	0.0402		mg/L		80	70 - 120
1,2-Dichloroethane	0.0500	0.0416		mg/L		83	68 - 127
1,1-Dichloroethene	0.0500	0.0419		mg/L		84	67 - 122
Methyl Ethyl Ketone	0.0500	0.0407		mg/L		81	53 - 141
Tetrachloroethene	0.0500	0.0463		mg/L		93	70 - 128
Trichloroethene	0.0500	0.0451		mg/L		90	70 - 125
Vinyl chloride	0.0500	0.0458		mg/L		92	64 - 126

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*87*		*75 - 126*
Toluene-d8 (Surr)	*99*		*75 - 120*
4-Bromofluorobenzene (Surr)	*94*		*72 - 124*
Dibromofluoromethane	*93*		*75 - 120*

Lab Sample ID: MB 500-386998/6
Matrix: Solid
Analysis Batch: 386998

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.0010	0.00050	mg/L			05/26/17 15:36	1
Carbon tetrachloride	<0.00050		0.0010	0.00050	mg/L			05/26/17 15:36	1
Chlorobenzene	<0.00050		0.0010	0.00050	mg/L			05/26/17 15:36	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-386998/6
Matrix: Solid
Analysis Batch: 386998

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	<0.0010		0.0020	0.0010	mg/L			05/26/17 15:36	1
1,2-Dichloroethane	<0.00050		0.0010	0.00050	mg/L			05/26/17 15:36	1
1,1-Dichloroethene	<0.00050		0.0010	0.00050	mg/L			05/26/17 15:36	1
Methyl Ethyl Ketone	<0.0025		0.0050	0.0025	mg/L			05/26/17 15:36	1
Tetrachloroethene	<0.00050		0.0010	0.00050	mg/L			05/26/17 15:36	1
Trichloroethene	<0.00050		0.0010	0.00050	mg/L			05/26/17 15:36	1
Vinyl chloride	<0.00050		0.0010	0.00050	mg/L			05/26/17 15:36	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*75 - 126*		*05/26/17 15:36*	*1*
Toluene-d8 (Surr)	*101*		*75 - 120*		*05/26/17 15:36*	*1*
4-Bromofluorobenzene (Surr)	*118*		*72 - 124*		*05/26/17 15:36*	*1*
Dibromofluoromethane	*90*		*75 - 120*		*05/26/17 15:36*	*1*

Lab Sample ID: LCS 500-386998/4
Matrix: Solid
Analysis Batch: 386998

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0500	0.0502		mg/L		100	70 - 120
Carbon tetrachloride	0.0500	0.0460		mg/L		92	65 - 122
Chlorobenzene	0.0500	0.0492		mg/L		98	70 - 120
Chloroform	0.0500	0.0490		mg/L		98	70 - 120
1,2-Dichloroethane	0.0500	0.0551		mg/L		110	68 - 127
1,1-Dichloroethene	0.0500	0.0457		mg/L		91	67 - 122
Methyl Ethyl Ketone	0.0500	0.0428		mg/L		86	53 - 141
Tetrachloroethene	0.0500	0.0484		mg/L		97	70 - 128
Trichloroethene	0.0500	0.0477		mg/L		95	70 - 125
Vinyl chloride	0.0500	0.0367		mg/L		73	64 - 126

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*111*		*75 - 126*
Toluene-d8 (Surr)	*98*		*75 - 120*
4-Bromofluorobenzene (Surr)	*112*		*72 - 124*
Dibromofluoromethane	*93*		*75 - 120*

Lab Sample ID: LB 500-386310/1-A
Matrix: Solid
Analysis Batch: 386530

Client Sample ID: Method Blank
Prep Type: TCLP

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.191		0.020	0.010	mg/L			05/24/17 02:21	20
Carbon tetrachloride	<0.010		0.020	0.010	mg/L			05/24/17 02:21	20
Chlorobenzene	<0.010		0.020	0.010	mg/L			05/24/17 02:21	20
Chloroform	<0.020		0.040	0.020	mg/L			05/24/17 02:21	20
1,2-Dichloroethane	<0.010		0.020	0.010	mg/L			05/24/17 02:21	20
1,1-Dichloroethene	<0.010		0.020	0.010	mg/L			05/24/17 02:21	20
Methyl Ethyl Ketone	<0.050		0.10	0.050	mg/L			05/24/17 02:21	20

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LB 500-386310/1-A
Matrix: Solid
Analysis Batch: 386530

Client Sample ID: Method Blank
Prep Type: TCLP

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	<0.010		0.020	0.010	mg/L			05/24/17 02:21	20
Trichloroethene	<0.010		0.020	0.010	mg/L			05/24/17 02:21	20
Vinyl chloride	<0.010		0.020	0.010	mg/L			05/24/17 02:21	20

Surrogate	*LB %Recovery*	*LB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*91*		*75 - 126*		*05/24/17 02:21*	*20*
Toluene-d8 (Surr)	*95*		*75 - 120*		*05/24/17 02:21*	*20*
4-Bromofluorobenzene (Surr)	*92*		*72 - 124*		*05/24/17 02:21*	*20*
Dibromofluoromethane	*97*		*75 - 120*		*05/24/17 02:21*	*20*

Lab Sample ID: LB 500-386877/1-A
Matrix: Solid
Analysis Batch: 386998

Client Sample ID: Method Blank
Prep Type: TCLP

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.010		0.020	0.010	mg/L			05/26/17 16:03	20
Carbon tetrachloride	<0.010		0.020	0.010	mg/L			05/26/17 16:03	20
Chlorobenzene	<0.010		0.020	0.010	mg/L			05/26/17 16:03	20
Chloroform	<0.020		0.040	0.020	mg/L			05/26/17 16:03	20
1,2-Dichloroethane	<0.010		0.020	0.010	mg/L			05/26/17 16:03	20
1,1-Dichloroethene	<0.010		0.020	0.010	mg/L			05/26/17 16:03	20
Methyl Ethyl Ketone	<0.050		0.10	0.050	mg/L			05/26/17 16:03	20
Tetrachloroethene	<0.010		0.020	0.010	mg/L			05/26/17 16:03	20
Trichloroethene	<0.010		0.020	0.010	mg/L			05/26/17 16:03	20
Vinyl chloride	<0.010		0.020	0.010	mg/L			05/26/17 16:03	20

Surrogate	*LB %Recovery*	*LB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*115*		*75 - 126*		*05/26/17 16:03*	*20*
Toluene-d8 (Surr)	*100*		*75 - 120*		*05/26/17 16:03*	*20*
4-Bromofluorobenzene (Surr)	*113*		*72 - 124*		*05/26/17 16:03*	*20*
Dibromofluoromethane	*90*		*75 - 120*		*05/26/17 16:03*	*20*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-386594/1-A
Matrix: Solid
Analysis Batch: 386706

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 386594

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	<0.0020		0.0020	0.0020	mg/L		05/24/17 08:03	05/24/17 17:49	1
3 & 4 Methylphenol	<0.0020		0.0020	0.0020	mg/L		05/24/17 08:03	05/24/17 17:49	1
1,4-Dichlorobenzene	<0.0020		0.0020	0.0020	mg/L		05/24/17 08:03	05/24/17 17:49	1
2,4-Dinitrotoluene	<0.0010		0.0010	0.0010	mg/L		05/24/17 08:03	05/24/17 17:49	1
Hexachlorobenzene	<0.00050		0.00050	0.00050	mg/L		05/24/17 08:03	05/24/17 17:49	1
Hexachlorobutadiene	<0.0050		0.0050	0.0050	mg/L		05/24/17 08:03	05/24/17 17:49	1
Hexachloroethane	<0.0050		0.0050	0.0050	mg/L		05/24/17 08:03	05/24/17 17:49	1
Nitrobenzene	<0.0010		0.0010	0.0010	mg/L		05/24/17 08:03	05/24/17 17:49	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-386594/1-A
Matrix: Solid
Analysis Batch: 386706

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 386594

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	<0.020		0.020	0.020	mg/L		05/24/17 08:03	05/24/17 17:49	1
Pyridine	<0.020		0.020	0.020	mg/L		05/24/17 08:03	05/24/17 17:49	1
2,4,5-Trichlorophenol	<0.010		0.010	0.010	mg/L		05/24/17 08:03	05/24/17 17:49	1
2,4,6-Trichlorophenol	<0.0050		0.0050	0.0050	mg/L		05/24/17 08:03	05/24/17 17:49	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*36*		*27 - 110*	*05/24/17 08:03*	*05/24/17 17:49*	*1*
Phenol-d5 (Surr)	*36*		*20 - 100*	*05/24/17 08:03*	*05/24/17 17:49*	*1*
Nitrobenzene-d5 (Surr)	*76*		*36 - 120*	*05/24/17 08:03*	*05/24/17 17:49*	*1*
2-Fluorobiphenyl (Surr)	*68*		*34 - 110*	*05/24/17 08:03*	*05/24/17 17:49*	*1*
2,4,6-Tribromophenol (Surr)	*72*		*40 - 145*	*05/24/17 08:03*	*05/24/17 17:49*	*1*
Terphenyl-d14 (Surr)	*102*		*40 - 145*	*05/24/17 08:03*	*05/24/17 17:49*	*1*

Lab Sample ID: LCS 500-386594/2-A
Matrix: Solid
Analysis Batch: 386706

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 386594

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Methylphenol	0.0400	0.0354		mg/L		88	53 - 110
3 & 4 Methylphenol	0.0400	0.0327		mg/L		82	53 - 110
1,4-Dichlorobenzene	0.0400	0.0293		mg/L		73	23 - 110
2,4-Dinitrotoluene	0.0400	0.0415		mg/L		104	63 - 122
Hexachlorobenzene	0.0400	0.0402		mg/L		100	61 - 120
Hexachlorobutadiene	0.0400	0.0293		mg/L		73	20 - 100
Hexachloroethane	0.0400	0.0277		mg/L		69	20 - 100
Nitrobenzene	0.0400	0.0353		mg/L		88	53 - 110
Pentachlorophenol	0.0800	0.0751		mg/L		94	23 - 129
Pyridine	0.0400	0.0241		mg/L		60	15 - 110
2,4,5-Trichlorophenol	0.0400	0.0394		mg/L		99	63 - 120
2,4,6-Trichlorophenol	0.0400	0.0377		mg/L		94	62 - 110

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorophenol (Surr)	*56*		*27 - 110*
Phenol-d5 (Surr)	*44*		*20 - 100*
Nitrobenzene-d5 (Surr)	*85*		*36 - 120*
2-Fluorobiphenyl (Surr)	*82*		*34 - 110*
2,4,6-Tribromophenol (Surr)	*97*		*40 - 145*
Terphenyl-d14 (Surr)	*101*		*40 - 145*

Lab Sample ID: LB 500-385776/1-G
Matrix: Solid
Analysis Batch: 386706

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 386594

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	<0.020		0.020	0.020	mg/L		05/24/17 08:03	05/24/17 17:20	1
3 & 4 Methylphenol	<0.020		0.020	0.020	mg/L		05/24/17 08:03	05/24/17 17:20	1
1,4-Dichlorobenzene	<0.020		0.020	0.020	mg/L		05/24/17 08:03	05/24/17 17:20	1
2,4-Dinitrotoluene	<0.010		0.010	0.010	mg/L		05/24/17 08:03	05/24/17 17:20	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LB 500-385776/1-G
Matrix: Solid
Analysis Batch: 386706

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 386594

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobenzene	<0.0050		0.0050	0.0050	mg/L		05/24/17 08:03	05/24/17 17:20	1
Hexachlorobutadiene	<0.050		0.050	0.050	mg/L		05/24/17 08:03	05/24/17 17:20	1
Hexachloroethane	<0.050		0.050	0.050	mg/L		05/24/17 08:03	05/24/17 17:20	1
Nitrobenzene	<0.010		0.010	0.010	mg/L		05/24/17 08:03	05/24/17 17:20	1
Pentachlorophenol	<0.20		0.20	0.20	mg/L		05/24/17 08:03	05/24/17 17:20	1
Pyridine	<0.20		0.20	0.20	mg/L		05/24/17 08:03	05/24/17 17:20	1
2,4,5-Trichlorophenol	<0.10		0.10	0.10	mg/L		05/24/17 08:03	05/24/17 17:20	1
2,4,6-Trichlorophenol	<0.050		0.050	0.050	mg/L		05/24/17 08:03	05/24/17 17:20	1

Surrogate	*LB %Recovery*	*LB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*31*		*27 - 110*	*05/24/17 08:03*	*05/24/17 17:20*	*1*
Phenol-d5 (Surr)	*31*		*20 - 100*	*05/24/17 08:03*	*05/24/17 17:20*	*1*
Nitrobenzene-d5 (Surr)	*75*		*36 - 120*	*05/24/17 08:03*	*05/24/17 17:20*	*1*
2-Fluorobiphenyl (Surr)	*66*		*34 - 110*	*05/24/17 08:03*	*05/24/17 17:20*	*1*
2,4,6-Tribromophenol (Surr)	*79*		*40 - 145*	*05/24/17 08:03*	*05/24/17 17:20*	*1*
Terphenyl-d14 (Surr)	*101*		*40 - 145*	*05/24/17 08:03*	*05/24/17 17:20*	*1*

Lab Sample ID: 500-128133-1 MS
Matrix: Solid
Analysis Batch: 386706

Client Sample ID: T-12 Sludge
Prep Type: TCLP
Prep Batch: 386594

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Methylphenol	<0.020		0.400	0.356		mg/L		89	53 - 110
3 & 4 Methylphenol	<0.020		0.400	0.324		mg/L		81	53 - 110
1,4-Dichlorobenzene	<0.020		0.400	0.279		mg/L		70	23 - 110
2,4-Dinitrotoluene	<0.010		0.400	0.416		mg/L		104	63 - 122
Hexachlorobenzene	<0.0050		0.400	0.390		mg/L		98	61 - 120
Hexachlorobutadiene	<0.050		0.400	0.281		mg/L		70	20 - 100
Hexachloroethane	<0.050		0.400	0.261		mg/L		65	20 - 100
Nitrobenzene	<0.010		0.400	0.353		mg/L		88	53 - 110
Pentachlorophenol	<0.20		0.800	0.954		mg/L		119	23 - 129
Pyridine	<0.20		0.400	0.237		mg/L		59	15 - 110
2,4,5-Trichlorophenol	<0.10		0.400	0.416		mg/L		104	63 - 120
2,4,6-Trichlorophenol	<0.050		0.400	0.399		mg/L		100	62 - 110

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorophenol (Surr)	*54*		*27 - 110*
Phenol-d5 (Surr)	*40*		*20 - 100*
Nitrobenzene-d5 (Surr)	*80*		*36 - 120*
2-Fluorobiphenyl (Surr)	*75*		*34 - 110*
2,4,6-Tribromophenol (Surr)	*100*		*40 - 145*
Terphenyl-d14 (Surr)	*98*		*40 - 145*

Method: 6010B - Metals (ICP)

Lab Sample ID: LCS 500-385997/2-A
Matrix: Solid
Analysis Batch: 386205

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 385997

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.100	0.106		mg/L		106	80 - 120
Barium	0.500	0.559		mg/L		112	80 - 120
Cadmium	0.0500	0.0542		mg/L		108	80 - 120
Chromium	0.200	0.217		mg/L		109	80 - 120
Lead	0.100	0.103		mg/L		103	80 - 120
Selenium	0.100	0.0973		mg/L		97	80 - 120
Silver	0.0500	0.0520		mg/L		104	80 - 120

Lab Sample ID: LB 500-385776/1-C
Matrix: Solid
Analysis Batch: 386205

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 385997

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.010		0.050	0.010	mg/L		05/19/17 14:16	05/20/17 20:04	1
Barium	<0.050		0.50	0.050	mg/L		05/19/17 14:16	05/20/17 20:04	1
Cadmium	<0.0020		0.0050	0.0020	mg/L		05/19/17 14:16	05/20/17 20:04	1
Chromium	<0.010		0.025	0.010	mg/L		05/19/17 14:16	05/20/17 20:04	1
Lead	<0.0075		0.050	0.0075	mg/L		05/19/17 14:16	05/20/17 20:04	1
Selenium	<0.020		0.050	0.020	mg/L		05/19/17 14:16	05/20/17 20:04	1
Silver	<0.010		0.025	0.010	mg/L		05/19/17 14:16	05/20/17 20:04	1

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-385972/12-A
Matrix: Solid
Analysis Batch: 386307

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 385972

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		05/19/17 13:15	05/22/17 10:30	1

Lab Sample ID: LCS 500-385972/13-A
Matrix: Solid
Analysis Batch: 386307

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 385972

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00200	0.00196		mg/L		98	80 - 120

Lab Sample ID: LB 500-385776/1-B
Matrix: Solid
Analysis Batch: 386307

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 385972

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		05/19/17 13:15	05/22/17 10:33	1

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: 500-128133-1 MS
Matrix: Solid
Analysis Batch: 386307

Client Sample ID: T-12 Sludge
Prep Type: TCLP
Prep Batch: 385972

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	<0.00020		0.00100	0.000947		mg/L		95	50 - 150

Lab Sample ID: 500-128133-1 DU
Matrix: Solid
Analysis Batch: 386307

Client Sample ID: T-12 Sludge
Prep Type: TCLP
Prep Batch: 385972

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Mercury	<0.00020		<0.00020		mg/L		NC	20

Client Sample ID: T-12 Sludge

Lab Sample ID: 500-128133-1

Date Collected: 05/11/17 09:35

Matrix: Solid

Date Received: 05/13/17 13:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			386310	05/22/17 13:40	JLC	TAL CHI
TCLP	Analysis	8260B		20	386530	05/24/17 05:17	JMP	TAL CHI
TCLP	Leach	1311			385776	05/18/17 13:45	RMP	TAL CHI
TCLP	Prep	3510C			386594	05/24/17 08:03	JJH	TAL CHI
TCLP	Analysis	8270D		1	386706	05/24/17 18:46	GES	TAL CHI
TCLP	Leach	1311			385776	05/18/17 13:45	RMP	TAL CHI
TCLP	Prep	3010A			385997	05/19/17 14:16	JNH	TAL CHI
TCLP	Analysis	6010B		1	386205	05/20/17 21:09	PJ1	TAL CHI
TCLP	Leach	1311			385776	05/18/17 13:45	RMP	TAL CHI
TCLP	Prep	7470A			385972	05/19/17 13:15	MJD	TAL CHI
TCLP	Analysis	7470A		1	386307	05/22/17 10:44	MJD	TAL CHI

Client Sample ID: Alkaline Sludge

Lab Sample ID: 500-128133-2

Date Collected: 05/11/17 09:36

Matrix: Solid

Date Received: 05/13/17 13:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			386310	05/22/17 13:40	JLC	TAL CHI
TCLP	Analysis	8260B		20	386530	05/24/17 05:46	JMP	TAL CHI
TCLP	Leach	1311			385776	05/18/17 13:45	RMP	TAL CHI
TCLP	Prep	3510C			386594	05/24/17 08:03	JJH	TAL CHI
TCLP	Analysis	8270D		1	386706	05/24/17 22:18	GES	TAL CHI
TCLP	Leach	1311			385776	05/18/17 13:45	RMP	TAL CHI
TCLP	Prep	3010A			385997	05/19/17 14:16	JNH	TAL CHI
TCLP	Analysis	6010B		1	386205	05/20/17 21:13	PJ1	TAL CHI
TCLP	Leach	1311			385776	05/18/17 13:45	RMP	TAL CHI
TCLP	Prep	7470A			385972	05/19/17 13:15	MJD	TAL CHI
TCLP	Analysis	7470A		1	386307	05/22/17 10:51	MJD	TAL CHI

Client Sample ID: T-7 Sludge

Lab Sample ID: 500-128133-3

Date Collected: 05/11/17 09:37

Matrix: Solid

Date Received: 05/13/17 13:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			386310	05/22/17 13:40	JLC	TAL CHI
TCLP	Analysis	8260B		20	386530	05/24/17 06:16	JMP	TAL CHI
TCLP	Leach	1311			385776	05/18/17 13:45	RMP	TAL CHI
TCLP	Prep	3510C			386594	05/24/17 08:03	JJH	TAL CHI
TCLP	Analysis	8270D		1	386706	05/24/17 22:47	GES	TAL CHI
TCLP	Leach	1311			385776	05/18/17 13:45	RMP	TAL CHI
TCLP	Prep	3010A			385997	05/19/17 14:16	JNH	TAL CHI
TCLP	Analysis	6010B		1	386205	05/20/17 21:25	PJ1	TAL CHI
TCLP	Leach	1311			385776	05/18/17 13:45	RMP	TAL CHI
TCLP	Prep	7470A			385972	05/19/17 13:15	MJD	TAL CHI

Lab Chronicle

Client: Tyco Fire Protection Products
Project/Site: Barrier Wall Monitoring

TestAmerica Job ID: 500-128133-1

Client Sample ID: T-7 Sludge
Date Collected: 05/11/17 09:37
Date Received: 05/13/17 13:15

Lab Sample ID: 500-128133-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Analysis	7470A		1	386307	05/22/17 10:53	MJD	TAL CHI

Client Sample ID: T-2 Sludge
Date Collected: 05/11/17 09:38
Date Received: 05/13/17 13:15

Lab Sample ID: 500-128133-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			386310	05/22/17 13:40	JLC	TAL CHI
TCLP	Analysis	8260B		20	386530	05/24/17 06:45	JMP	TAL CHI
TCLP	Leach	1311			385776	05/18/17 13:45	RMP	TAL CHI
TCLP	Prep	3510C			386594	05/24/17 08:03	JJH	TAL CHI
TCLP	Analysis	8270D		1	386706	05/24/17 23:15	GES	TAL CHI
TCLP	Leach	1311			385776	05/18/17 13:45	RMP	TAL CHI
TCLP	Prep	3010A			385997	05/19/17 14:16	JNH	TAL CHI
TCLP	Analysis	6010B		1	386205	05/20/17 21:29	PJ1	TAL CHI
TCLP	Leach	1311			385776	05/18/17 13:45	RMP	TAL CHI
TCLP	Prep	7470A			385972	05/19/17 13:15	MJD	TAL CHI
TCLP	Analysis	7470A		1	386307	05/22/17 10:54	MJD	TAL CHI

Client Sample ID: RFR Box 1
Date Collected: 05/12/17 10:10
Date Received: 05/13/17 13:15

Lab Sample ID: 500-128133-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			386310	05/22/17 13:40	JLC	TAL CHI
TCLP	Analysis	8260B		20	386530	05/24/17 07:15	JMP	TAL CHI
TCLP	Leach	1311			385776	05/18/17 13:45	RMP	TAL CHI
TCLP	Prep	3510C			386594	05/24/17 08:03	JJH	TAL CHI
TCLP	Analysis	8270D		1	386706	05/24/17 23:44	GES	TAL CHI
TCLP	Leach	1311			385776	05/18/17 13:45	RMP	TAL CHI
TCLP	Prep	3010A			385997	05/19/17 14:16	JNH	TAL CHI
TCLP	Analysis	6010B		1	386205	05/20/17 21:33	PJ1	TAL CHI
TCLP	Leach	1311			385776	05/18/17 13:45	RMP	TAL CHI
TCLP	Prep	7470A			385972	05/19/17 13:15	MJD	TAL CHI
TCLP	Analysis	7470A		1	386307	05/22/17 10:56	MJD	TAL CHI

Client Sample ID: RFR Box 2
Date Collected: 05/12/17 10:20
Date Received: 05/13/17 13:15

Lab Sample ID: 500-128133-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			386310	05/22/17 13:40	JLC	TAL CHI
TCLP	Analysis	8260B		20	386530	05/24/17 07:44	JMP	TAL CHI
TCLP	Leach	1311			385776	05/18/17 13:45	RMP	TAL CHI

Lab Chronicle

Client: Tyco Fire Protection Products
Project/Site: Barrier Wall Monitoring

TestAmerica Job ID: 500-128133-1

Client Sample ID: RFR Box 2

Date Collected: 05/12/17 10:20
Date Received: 05/13/17 13:15

Lab Sample ID: 500-128133-6

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Prep	3510C			386594	05/24/17 08:03	JJH	TAL CHI
TCLP	Analysis	8270D		1	386706	05/25/17 00:13	GES	TAL CHI
TCLP	Leach	1311			385776	05/18/17 13:45	RMP	TAL CHI
TCLP	Prep	3010A			385997	05/19/17 14:16	JNH	TAL CHI
TCLP	Analysis	6010B		1	386205	05/20/17 21:39	PJ1	TAL CHI
TCLP	Leach	1311			385776	05/18/17 13:45	RMP	TAL CHI
TCLP	Prep	7470A			385972	05/19/17 13:15	MJD	TAL CHI
TCLP	Analysis	7470A		1	386307	05/22/17 10:57	MJD	TAL CHI

Client Sample ID: RFR Box 3

Date Collected: 05/12/17 10:30
Date Received: 05/13/17 13:15

Lab Sample ID: 500-128133-7

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			386877	05/25/17 13:05	JLC	TAL CHI
TCLP	Analysis	8260B		20	386998	05/26/17 16:29	TCT	TAL CHI
TCLP	Leach	1311			385776	05/18/17 13:45	RMP	TAL CHI
TCLP	Prep	3510C			386594	05/24/17 08:03	JJH	TAL CHI
TCLP	Analysis	8270D		1	386706	05/25/17 00:42	GES	TAL CHI
TCLP	Leach	1311			385776	05/18/17 13:45	RMP	TAL CHI
TCLP	Prep	3010A			385997	05/19/17 14:16	JNH	TAL CHI
TCLP	Analysis	6010B		1	386205	05/20/17 21:43	PJ1	TAL CHI
TCLP	Leach	1311			385776	05/18/17 13:45	RMP	TAL CHI
TCLP	Prep	7470A			385972	05/19/17 13:15	MJD	TAL CHI
TCLP	Analysis	7470A		1	386307	05/22/17 10:58	MJD	TAL CHI

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Accreditation/Certification Summary

Client: Tyco Fire Protection Products
Project/Site: Barrier Wall Monitoring

TestAmerica Job ID: 500-128133-1

Laboratory: TestAmerica Chicago

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
Wisconsin	State Program	5	999580010	08-31-17

Analysis Method	Prep Method	Matrix	Analyte

TestAmerica

THE LEADER IN ENVIRONMENTA[L TESTING]

2417 Bond Street, University Park, IL 6[0484]
Phone: 708.534.5200 Fax: 708.53[4.5211]

500-128133 COC

Report To (optional)		Bill To (optional)	
Contact:	Ryan Swennen	Contact:	
Company:	Tyco	Company:	
Address:	One Stanton St	Address:	
Address:	Marinette, WI 54143	Address:	
Phone:	715-587-6679	Phone:	
Fax:		Fax:	
E-Mail:	Ryan Swennen @ tycoint.com	PO#/Reference#	

Chain of Custody Record

Lab Job #: 500-128133

Chain of Custody Number:

Page 1 of 1

Temperature °C of Cooler: Unchilled

Client: TYCO
Client Project #:

Project Name: Waste Profile

Project Location/State: Marinette, WI
Lab Project #:

Sampler: R Swennen
Lab PM:

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix	6010B TCLP As (Preservative 8)	1311 TCLP Extraction (Preservative 8)	TCLP Mercury 7470A (Preservative 8)	TCLP VOC 8260B (Preservative 8)	TCLP ZHE Extract 1311 (Preservative 8)	TCLP SVOC 8270D (Preservative 8)				Comments
1		T-12 Sludge	5-11-17	9:35	1	S	X	X	X	X	X	X				
2		Alkaline Sludge	5-11-17	9:36	1	S	↓	↓	↓	↓	↓	↓				
3		T-7 Sludge	5-11-17	9:37	1	S	↓	↓	↓	↓	↓	↓				
4		T-2 Sludge	5-11-17	9:38	1	S	↓	↓	↓	↓	↓	↓				
5		RFR Box 1	5-12-17	10:19	1	S	↓	↓	↓	↓	↓	↓				
6		RFR Box 2	5-12-17	10:20	1	S	↓	↓	↓	↓	↓	↓				
7		RFR Box 3	5-12-17	10:30	1	S	↓	↓	↓	↓	↓	↓				

End Sample RS 5-12-17

Preservative Key
1. HCL, Cool to 4°
2. H2SO4, Cool to 4°
3. HNO3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. NaHSO4
7. Cool to 4°
8. None
9. Other

Turnaround Time Required (Business Days)
___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days X 10 Days ___ 15 Days ___ Other
Requested Due Date ________

Sample Disposal
[ ] Return to Client [X] Disposal by Lab [X] Archive for 1 Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
Ryan Swennen	Tyco	5-12-17	11:30	[signature]	TA-CHI	5/13/17	1315

Lab Courier:
Shipped: FedEx
Hand Delivered:

Matrix Key
WW – Wastewater
W – Water
S – Soil
SL – Sludge
MS – Miscellaneous
OL – Oil
A – Air
SE – Sediment
SO – Soil
L – Leachate
WI – Wipe
DW – Drinking Water
O – Other

Client Comments

Lab Comments:

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Login Sample Receipt Checklist

Client: Tyco Fire Protection Products

Job Number: 500-128133-1

Login Number: 128133
List Number: 1
Creator: Scott, Sherri L

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	False	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	Unchilled
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	