W0638110004

LS-MW-1320 Revision 4 Page 21 of 28

ATTACHMENT 1 RADIONUCLIDE RELEASE INITIAL REPORT ELECTRONIC FORMAT PAGE 1 of 4

STATE OF ILLINOIS

NUCLEAR POWER PLANT

RADIONUCLIDE RELEASE REPORT

INITIAL REPORT

The following information must be submitted to the Illinois Environmental Protection Agency and to the Illinois Emergency Management Agency to report a release of a radionuclide pursuant to 35 Ill. Adm. Code 1010.202. This initial report must be submitted to each agency via phone and electronically within 24 hours of the release. Please attach additional sheets as needed.

This form can also be used by a licensee that, pursuant to the last section of 35 Ill. Adm. Code 1010.104, reports a release of radionuclides that is not required to be reported under Section 13.6 of the Environmental Protection Act.

Report Date/Time 1830/June 9, 2014

Nuclear Generation Station Name Dresden Nuclear Power Station

Address 6500 North Dresden Road

City, State, Zip Morris, IL 60450

Name of Principal Executive Officer Shane M. Marik

Telephone Number 815-416-3600

Signature_

Name of Licensee Exelon Generation Company, LLC

Address 4300 Winfield Rd.

City, State, Zip Warrenville, IL 60555-5701

IEPA - DIVISION OF RECORDS MANAGEMENT RELEASABLE

FEB 2 2 2017

REVIEWER: MED

ATTACHMENT 1 RADIONUCLIDE RELEASE INITIAL REPORT ELECTRONIC FORMAT PAGE 2 of 4

Specific Location of Release 2/3 Sewage Treatment Plant

Time of Release Various times on the dates 04/02/2014 thru 06/07/2014

Duration of Release 04/02/2014 - 06/07/2014

Identify Radionuclide Release Tritium

Estimate the Quantity of Release (Curies) 0.1 Ci (Maximum based on bounding calculations)

Estimate of Volume Released 465,600 gallons

Estimate of Concentration (pCi/L) of Release_50,000 pCi/L

Estimate of Flow-Rate, if on-going: The system is currently isolated

General Description of Release (including, but not limited to, whether release was to groundwater, surface water, or soil; a description of release area; and the size of affected area)

During sampling of the sewage treatment facility clearwell, it was discovered that the system contained approximately 50,000 pCi/L of tritium. At the time of discovery, no effluent was being discharged from the facility. However, upon investigation it was determined that between the time period of 04/02/2014 to 06/07/2014, elevated levels of tritium existed at the discharge of the plant. It has been determined that no greater than 0.1 Curies were discharged from the site. The majority of this discharge was to the Kankakee River via the sewage treatment plant effluent. A small amount, determined to be less than 2%, was discharged to the Morris, IL sewage treatment facility. This release has been determined to be related to the groundwater tritium which was identified and reported to the IEPA on June 8, 2014. The system is currently isolated, and is not discharging to the Kankakee River.

Actions Taken in Response to Release

The station has initiated a number of Actions in response to the release including:

1. Isolation of the discharge to the Kankakee River

2. Sampling of on-site monitoring wells to identify source of tritium

3. Inspections of the on-site leak location

4. Development of a repair plan.

ATTACHMENT 1 RADIONUCLIDE RELEASE INITIAL REPORT ELECTRONIC FORMAT PAGE 3 of 4

Known and Anticipated Impacts to Human Health and/or Environment

Based upon the small amount of Tritium (determined to be no greater than 0.1 Ci) that was discharged into the Kankakee River, there are no known or anticipated impacts to Human Health or to the Environment.

Additional Information

This report is being made based on additional information gathered following the voluntary report made to the IEPA and IEMA on June 8, 2014 due to the discovery of elevated levels of tritium in the site groundwater.

Number for reporting via telephone:

Illinois EPA – (217) 782-3637

IEMA - (800) 782-7860 (217) 782-7860 (if calling from outside Illinois)

Submit electronically to:

IEPA at "EPA.RadRelease@Illinois.gov"

IEMA at "ema.npprelease@illinois.gov"

Contacts for Further Information

Name Ron Novy

Address 6500 North Dresden Road

City, State, Zip<u>Morris, IL 60450</u>

Telephone Number 815-416-3211

ATTACHMENT 1 RADIONUCLIDE RELEASE INITIAL REPORT ELECTRONIC FORMAT PAGE 4 of 4

Name<u>Randy Schmidt</u>

Address 6500 North Dresden Road

City, State, Zip Morris, IL 64050

Telephone Number <u>815-416-3200</u>



Dresden Nuclear Power Station

6500 North Dresden Road Morris, IL 60450

815-942-2920 Telephone www.exeloncorp.com

> 35 III. Adm. Code 1010.204 35 III. Adm. Code 1010.104

June 13, 2014

SVPLTR# 14-0038

Illinois Environmental Protection Agency Bureau of Water Groundwater Section 1021 North Grand Avenue East P.O. Box 19276 Springfield, Illinois 62794-9276

Illinois Emergency Management Agency Division of Nuclear Safety Bureau of Environmental Safety 1035 Outer Park Drive Springfield, IL 62704

Subject: Nuclear Power Plant Follow-Up Report

The enclosed information is being submitted electronically, and by hard copy, to both the Illinois Environmental Protection Agency and to the Illinois Emergency Management Agency pursuant to 35 Ill. Adm. Code 1010.204 as a follow-up report to the reporting of a release of a radionuclide. In addition, the information is being provided pursuant to the last section of 35 Ill. Adm. Code 1010.104, releases of radionuclides that are not required to be reported under Section 13.6 of the Environmental Protection Act.

Should you have any questions concerning this letter, please contact Mr. Randy Schmidt at (815)-416-3200

Respectfully,

Share March

Shane M. Marik Site Vice President Dresden Nuclear Power Station

Enclosure: State of Illinois Nuclear Power Plant Radionuclide Release Report Follow-Up Report



Dresden Nuclear Power Station

6500 North Dresden Road Morris, IL 60450

815-942-2920 Telephone www.exeloncorp.com

STATE OF ILLINOIS NUCLEAR POWER PLANT RADIONUCLIDE RELEASE REPORT FOLLOW-UP REPORT

Initial Report Date/Time_1830/June 9, 2014 Follow-up Report Date June 13, 2014

Nuclear Generation Station Name Dresden Nuclear Power Station

Address 6500 North Dresden Road

City, State, Zip Morris, IL 60450

Name of Principal Executive Officer Shane M. Marik

Telephone Number 815-416-3600 Signature

If any of the information provided in the initial report for this release has changed, please provide an update of changed information.

The information provided in the initial report, related to the release has not changed.

Estimate of Quantity Released but not Recovered (Curies) 0.1 Ci (Maximum based on bounding calculations)

Estimate of Volume Released but not Recovered 465,600 gallons (Water)

Estimate of Concentration (pCi/L) Released but not Recovered <u>50,000 pCi/L (Tritium)</u>

STATE OF ILLINOIS NUCLEAR POWER PLANT

RADIONUCLIDE RELEASE REPORT

FOLLOW-UP REPORT

Updated Description of Activities Taken in Response to the Release

The Sewage Treatment Plant has been restored and a system restart is in progress. The on-site sampling and monitoring has identified the on-site location of the Tritium source. A storage tank, located well within the plant's boundaries, has been identified as the source, and a leakage path from the tank has been discovered. The tank has been drained and the leak is isolated. Further inspections of the tank will continue. Excavation of the source area is in progress, and actions to mitigate the transfer of Tritium into the STP are complete.

Additional Activities Planned in Response to the Release:

In parallel to the excavation activities, the station has been preparing the necessary work packages and repair plans to ensure that repairs can begin as quickly as possible on the isolated tank. Once repaired, testing of the system will commence. Monitoring of sampling well concentrations will continue, following the repair, to monitor potential migration pathways. An investigation of the release is planned, and further actions will be developed based upon the results of the investigation.

Attachments:

- 1. Copies of the laboratory analyses used to confirm the presence of, or conducted in response to, the release.
- 2. Map showing the locations of samples taken to confirm the release
- 3. Map showing the groundwater flow direction and groundwater contours
- 4. Map showing the boundary of the licensee controlled area, and structures, roads, and other surface features.

STATE OF ILLINOIS NUCLEAR POWER PLANT

RADIONUCLIDE RELEASE REPORT

FOLLOW-UP REPORT

Submitted electronically to:

IEPA at "EPA.RadRelease@illinois.gov" IEMA at "ema.npprelease@illinois.gov"

Submitted hard copies to the addresses below:

Illinois Environmental Protection Agency Bureau of Water Groundwater Section 1021 North Grand Avenue East P.O. Box 19276 Springfield, Illinois 62794-9276

Illinois Emergency Management Agency Division of Nuclear Safety Bureau of Environmental Safety 1035 Outer Park Drive Springfield, IL 62704

Contacts for Further Information
Name Ron Novy
Address 6500 North Dresden Road
City, State, Zip Morris, IL 60450
Telephone Number 815-416-3211

Name <u>Randy Schmidt</u>	
Address 6500 North Dresden Road	
City, State, Zip Morris, IL 64050	
Telephone Number <u>815-416-3200</u>	

Attachment 1 Copies of the laboratory analyses used to confirm the presence of, or conducted in response to, the release CURRENT DATE: 8-JUN-2014 01:57:21.95 STATION NAME: DRESDEN

STP EFFLUENT

UNCONDITIONAL RELEASE 1600 ml

CONFIGURATION FILE....: SYS\$SYSDEVICE: [CRU.SAMP]36P407_SAMP_6989.CNF;1 BKGND SUBTRACTION FILE.: CECO_BLANK:BKG_36P407_MRLIQ1600_6914.CNF DATE-TIME SAMPLE OBTAINED....: 8-JUN-2014 01:25:34.73 DATE-TIME SAMPLE ANALYZED....: 8-JUN-2014 01:26:52.37 COUNT REAL TIME...... 0 00:30:00.30 SAMPLE QUANTITY..... 1.60140E+03 ML COLLECTOR'S INITIALS...: JNB ANALYST'S INITIALS..... EK DETECTOR SERIAL NUMBER..: 36P407 GEOMETRY TYPE..... MRLIQ1600 DEADTIME..... 0.0% SAMPLE CODE......: UNCONDTNLRELSSAMPLE POINT...... NUCLIDE LIBRARY..... ENV LLD DEPARTMENT..... CHEMISTRY LabWare ID...: REMARK...: SAMPLED 6/7/14 @2232 ENERGY CALIB GAIN.....: 4.99783E-01 FWHM CALIB GAIN.....: 4.05111E-02 ENERGY CALIB OFFSET.....: 6.76349E-02 FWHM CALIB OFFSET.....: 5.45299E-01 Summary of Nuclide Activity Total number of lines in spectrum 1 Number of unidentified lines 0 Number of lines tentatively identified by NID 1 100.00% Nuclide Type : NATURAL Wtd Mean Wtd Mean Uncorrected Decay Corr Decay Corr 1-Sigma Nuclide Hlife Decay 1-Sigma Error %Error Flags UCI/ML UCI/ML PB-214 9999.00Y 1.00 0.000E+00 0.000E+00 0.000E+00 0.00 ----------Total Activity : 0.000E+00 0.000E+00 Grand Total Activity : 0.000E+00 0.000E+00 Flags: "K" = Keyline not found "M" = Manually accepted "E" = Manually edited "A" = Nuclide specific abn. limit

Post-NID Peak Search Report Sample ID : 6989

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It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw %Err	Fit	Nuclides
0	352.14	41	25	1.35	704.45	698	11 28.1		PB-214

2.4

Unidentified Energy Lines Sample ID : 6989

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None

1.

Flags: "T" = Tentatively associated

Nuclide Line Activity Report Sample ID : 6989

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Nuclide	Type: NATU	RAL					
Nuclide PB-214	Energy 53.23 241.91 295.17 351.90 785.91	%Abn 0.00 0.00 0.00 0.00* 0.00	%Eff 2.899E-01 4.639E+00 4.355E+00 4.052E+00	Uncorrected UCI/ML Line Line 0.000E+00 Line	UCI/ML Not Found Not Found Not Found 0.000E+00	%Error 0.00	Status Absent Absent Absent OK Absent
	Final Mean	for 1	Valid Peaks	= 0.000E+0	0+/- 0.000E	E+00 (0	.00%)

Flag: "*" = Keyline

Minimum Detectable Activity Report Sample ID : 6989

Acquisition date : 8-JUN-2014 01:26:52

Nuclide	Bckgnd Sum	Energy (keV)	MDA (UCI/I		
MN-54*	9.	834.84	6.3004	4E-09	
CO-58*	7.	810.77	5.590		
FE-59*	9.	1099.25	1.371	3E-08	
CO-60*	5.	1173.24	6.2530	5E-09	
ZN-65*	7.	1115.55	1.389	5E-08	
NB-95*	15.	765.83	7.3222	2E-09	/
ZR-95*	11.	756.74	1.179		
I-131*	24.	364.48	7.379	9E-09	
CS-134*	14.	604.70	6.355	5E-09	
CS-137*	6.	661.66	5.5089	9E-09	
BA-140*	17.	537.32	2.5859	9E-08	
LA-140*	3.	1596.18	6.4802	2E-09	
Analyst:		¹⁹	EK	Date:	6-8
			<u>6.</u>	8	CL.

Reviewed by: _____

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Date: 6/9 /14

Page : 5

CURRENT DATE: 6-JUN-2014 09:19:42.06 STATION NAME: DRESDEN

a. .

GENERAL LIQUID

2/3 CONDENSATE STORAGE TANKS

NUCLIDE LIBRARY.....: GENLIQ CALIBRATION DATE.....: 16-MAY-2012 14:57:00.00 DEPARTMENT....: CHEMISTRY LabWare ID...: 5471528 REMARK...: ROUTINE

ENERGY CALIB GAIN.....: 5.00223E-01 FWHM CALIB GAIN.....: 3.45253E-02 ENERGY CALIB OFFSET....: -3.30212E-02 FWHM CALIB OFFSET.....: 5.04285E-01

Summary of Nuclide Activity

Total number of lines in spectrum2Number of unidentified lines0Number of lines tentatively identified by NID2100.00%

Nuclide Type : FG

Nuclide XE-135*	Hlife Decay 9.09H 1.08 Total Activity :	2.511E-08	Wtd Mean Decay Corr UCI/G 2.725E-08 2.725E-08	Decay Corr 1-Sigma Error 1.395E-08	l-Sigma %Error Flags 51.18
Grand	Total Activity :	2.511E-08	2.725E-08		
Flags: "	K" = Keyline not f E" = Manually edit	found ced	"M" = Manua "A" = Nucli	lly accepted de specific abr	. limit

Post-NID Peak Search Report Sample ID : 6935

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Page : 2 Acquisition date : 6-JUN-2014 08:59:10

It	Energy	Area	Bkgnd FWHM	Channel	Left	Pw %Err	Fit	Nuclides
0	241.61	12	6 0.98	483.08	480	6 41.8		
0	250.52	17	17 1.00	500.88	495	9 50.8		XE-135*

Unidentified Energy Lines Page : 3 Sample ID : 6935 Acquisition date : 6-JUN-2014 08:59:10 It Energy Area Bkgnd FWHM Channel Left Pw Cts/Sec %Err %Eff Flags 0 241.61 12 6 0.98 483.08 480 6 1.04E-02 41.8 3.48E+00 T Flags: "T" = Tentatively associated

Nuclide Line Activity Report Sample ID : 6935

Nuclide Type: FG

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Nuclide XE-135*	51	%Abn 90.13* 0.22 2.90	%Eff 3.383E+00 2.472E+00	Uncorrected UCI/G 2.511E-08 Line Line	UCI/G 2.725E-08 Not Found	%Error 51.18	Status OK Absent Absent
	Final Mean	for 1	Valid Peaks	= 2.725E-0	8+/- 1.395E	S-08 (51	.18%)

Flag: "*" = Keyline

Rejected Report Sample ID : 6935

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Page : 5 Acquisition date : 6-JUN-2014 08:59:10

 Half-Life
 Activity 1-Sigma

 Nuclide
 Half-life
 Ratio
 Energy %Abund
 (UCI/G) %Error Rejected by

 SR-92
 2.71H
 0.39
 241.52
 3.00
 7.053E-07
 44.30
 Abun.

 430.56
 3.30
 -- Not Found -- 953.32
 3.60
 -- Not Found --

 1383.94*
 90.00
 -- Not Found -- 1383.94*
 90.00
 --

 % Abundances
 Found =
 3.00
 (Abn. Limit = 65.00%)
 65.00%

Flag: "*" = Keyline

Minimum Detectable Activity Report Sample ID : 6935

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Acquisition date : 6-JUN-2014 08:59:10

	Bckgnd	Energy	MDA
Nuclide	Sum	(keV)	(UCI/G)
MN-54*	7.	834.84	5.0187E-08
CO-58*	1.	810.77	1.8272E-08
FE-59*	1.	1099.25	4.2265E-08
CO-60*	3.	1332.50	4.8593E-08
ZN-65*	2.	1115.55	7.4770E-08
KR-87*	4.	402.58	6.4840E-08
KR-88*	14.	196.32	9.8349E-08
NB-95	1.	765.83	1.8163E-08
ZR-95	3.	756.74	5.6062E-08
MO-99*	19.	140.51	2.1753E-08
CD-109	13.	88.00	4.6014E-07
I-131*	2.	364.48	1.5045E-08
XE-133*	16.	81.00	5.8041E-08
XE-133M*	9.	233.22	1.7354E-07
CS-134*	2.	604.70	1.9087E-08
CS-137*	9.	661.66	5.3001E-08
XE-138*	5.	258.41	1.0181E-06
BA-140	6.	537.32	1.1988E-07
LA-140	0.	1596.18	0.0000E+00
CE-141*	14.	145.44	3.5218E-08
CE-144*	12.	133.54	1.3922E-07

Date: b-bHDate: b/g/igN Analyst: _____ Reviewed by: _____

Page : 6

CURRENT DATE: 10-JUN-2014 12:21:25.51 STATION NAME: DRESDEN RR SEPTIC RINSE UNCONDITIONAL RELEASE 1600 ml CONFIGURATION FILE....: SYS\$SYSDEVICE: [CRU.SAMP] 36P407_SAMP_7079.CNF;2/ BKGND SUBTRACTION FILE .: CECO_BLANK: BKG_36P407_MRLIQ1600_6914. CNF DATE-TIME SAMPLE OBTAINED....: 10-JUN-2014 11:50:00.00/ DATE-TIME SAMPLE ANALYZED....: 10-JUN-2014 11:50:56.19 COUNT LIVE TIME..... 0 00:30:00.00/ COUNT REAL TIME...... 0 00:30:00.44 SAMPLE QUANTITY..... 1.60000E+03 ML COLLECTOR'S INITIALS...: FH ANALYST'S INITIALS.....; DC DETECTOR SERIAL NUMBER. : 36P407 GEOMETRY TYPE..... MRLIQ1600 / DEADTIME..... 0.0% SAMPLE CODE.....: UNCONDINLRELSSAMPLE POINT.....: NUCLIDE LIBRARY..... ENV_LLD CALIBRATION DATE...... 18-APR-2014 10:54:00.00 DEPARTMENT..... CHEMISTRY LabWare ID...: REMARK ...: 6-10-14 11:30 A Simple of truck fush on 6/10/14. ENERGY CALIB GAIN: 4.99773E-01 FWHM CALIB GAIN: 4.18904E-02 ENERGY CALIB OFFSET.....: 8.39556E-02 FWHM CALIB OFFSET.....: 5.27076E-01 Summary of Nuclide Activity Total number of lines in spectrum 13 Number of unidentified lines 0 Number of lines tentatively identified by NID 13 100.00% Nuclide Type : NATURAL Wtd Mean Wtd Mean Uncorrected Decay Corr Decay Corr 1-Sigma Nuclide UCI/ML Decay Hlife UCI/ML 1-Sigma Error %Error Flags K-40 1.28E+09Y 1.00 0.000E+00 0.000E+00 0.000E+00 0.00 TL-208 9999.00Y 1.00 0.000E+00 0.000E+00 0.000E+00 0.00 PB-212 9999.00Y 1.00 0.000E+00 0.000E+00 0.000E+00 0.00 9999.00Y1.000.000E+009999.00Y1.000.000E+001600.00Y1.000.000E+009999.00Y1.000.000E+00 0.000E+00 0.000E+00 0.000E+00 BI-214 0.000E+00 0.00 PB-214 0.000E+00 0.00 RA-226 0.000E+00 0.00 AC-228 0.000E+00 0.000E+00 0.00 ----------Total Activity : 0.000E+00 0.000E+00 Nuclide Type : AP Wtd Mean Wtd Mean Uncorrected Decay Corr Decay Corr 1-Sigma Nuclide Hlife Decay UCI/ML UCI/ML 1-Sigma Error %Error Flags CO-60* 5.27Y 1.00 1.607E-08 1.607E-08 0.341E-08 21.25 ------------------

Total, Activity : 1.607E-08 1.607E-08

Grand Total Activity : 1.607E-08 1.607E-08

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Flags: "K" = Keyline not found "M" = Manually accepted "E" = Manually edited "A" = Nuclide specific abn. limit

9 J Post-NID Peak Search Report Sample ID : 7079

Page : 2 Acquisition date : 10-JUN-2014 11:50:56

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides
0	186.59	86	61	2.27	373.18	369	9	19.5		RA-226
0	238.50	147	82	1.03	477.06	471	11	14.5		PB-212
0	295.48	81	66	1.04	591.06	586	11	22.4		PB-214
0	352.24	118	83	1.19	704.62	698	14	18.9		PB-214
0	583.39	77	30	1.31	1167.14	1161	12	18.2		TL-208
0	609.25	169	34	1.60	1218.88	1210	17	11.0		BI-214
0	768.01	18	15	0.73	1536.54	1532	10	47.8		BI-214
0	911.23	60	19	1.13	1823.11	1818	12	19.3		AC-228
0	968.98	51	16	1.83	1938.67	1932	13	21.3		AC-228
0	1120.86	52	12	2.24	2242.57	2237	13	19.7		BI-214
0	1172.56*	33	3	2.28	2346.02	2338	15	30.7		CO-60*
0	1332.48	32	10	0.69	2666.00	2659	14	28.1		CO-60*
0	1460.74*	76	8	2.43	2922.64	2915	16	20.0		K-40

Unidentified Energy Lines Sample ID : 7079

None

Flags: "T" = Tentatively associated

Nuclide Line Activity Report Sample ID : 7079

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Nuclide	Type:	NATU	RAL									
			0.21		0 (1-Sigma %Erroi	
Nuclide	Ene: 1460		*AD	n ^*	%Ef		UCI/N			E/ML DOE+00이		
K-40	1460	.80	0.0	0 ^	1./14	20+00	0.0001	2+00	0.00	06400	0.00	OK
	Final	Mean	for	1	Valid	Peaks	= 0.0	000E+0	0+/-	0.000E	3+00 (0.00%)
TL-208	583	.13	0.0	0*	3.117	7E+00	0.0001	E+00	0.00	00E+00	0.00	OK
	Final	Mean	for	1	Valid	Peaks	= 0.0	000E+0	0+/-	0.000	5+00 (0.00%)
PB-212	238	.62	0.0	0*	4.655	5E+00	0.000	E+00	0.00	00E+00	0.00	OK
	Final	Mean	for	1	Valid	Peaks	= 0.0	000E+0	0+/-	0.000E	5+00 (0.00%)
BI-214	609	.32	0.0	0*	3.038	3E+00	0.000	E+00	0.00	00E+00	0.00	OK
	665	.45	0.0	0	2.878	8E+00		Line	Not	Found		Absent
	768	.37	0.0	0	2.62	5E+00	0.0001	E+00	0.00	00E+00	0.00	OK
	806	.19	0.0	0	2.542	2E+00		Line	Not	Found		Absent
	934		0.0		2.300	0E+00		Line	Not	Found		Absent
	1120		0.0			8E+00	0.000	E+00	0.00	00E+00	0.00	OK
	1155		0.0			7E+00			Not	Found		Absent
	1238		0.0			7E+00				Found		Absent
	1280		0.0			5E+00				Found		Absent
	1377		0.0			2E+00				Found		Absent
	1401		0.0			4E+00				Found		Absent
	1408		0.0			9E+00				Found		Absent
	1509		0.0			1E+00				Found		Absent
	1661		0.0			2E+00				Found		Absent
	1729		0.0			5E+00				Found		Absent
	1764		0.0			3E+00				Found		Absent
	1847		0.0			9E+00				Found		Absent
	T041		0.0	0	1.JJ.	00+00			noc	1 Ound		
	Final	Mean	for	3	Valid	Peaks	= 0.	000E+0	0+/-	0.0001	E+00 (0.00%)
PB-214	53	.23	0.0	0	2.89	9E-01		Line	Not	Found		Absent
		.91			4.63					Found		Absent
		.17	0.0			4E+00	0.000			00E+00	0.00	OK
					4.05						0.00	OK
												Absent
	Final	Mean	for	2	Valid	Peaks	= 0.	000E+0	0+/-	0.000E	5+00 (0.00%)
RA-226	185	.99	0.0	0*	4.804	4E+00	0.000	E+00	0.0	00E+00	0.00	OK
	Final	Mean	for	1	Valid	Peaks	= 0.	000E+0	0+/-	0.000E	5+00 (0.00%)
AC-228	220	30	0 0	0*	4 12	38+00		Line	Not	Found		Absent
MC-220	550 701	70	0.0	0	2 564	5E+00		Line	Not	Found		Absent OK Absent
	/ 74 01 1	10	0.0	0	2,00	00+00	0 000	ETUU DITTE	0 00	10E+00	0 00	OK
	277	ε0 • τ0	0.0	0	2.33		0.000	Tine	Not	Found		Absent
	204	10	0.0	0	2.24	25700 25100	0 000			JOETUO	0.00	OK
	202	. 10	0.0	0	2.24	2G+UU	0.000	5700	0.00	00400	0.00	
	Final	Mean	for	2	Valid	Peaks	= 0.	000E+0	0+/-	0.000E	5+00 (0.00%)

Nuclide Line Activity Report (continued)Page: 5Sample ID : 7079Acquisition date : 10-JUN-2014 11:50:56

Nuclide Type: AP

Uncorrected Decay Corr 1-Sigma %Eff UCI/ML UCI/ML &Error Status Nuclide &Abn Energy 1.574E-08 1.574E-08 31.36 99.90* OK CO-60* 1173.24 1.967E+00 OK 1332.50 99.98 1.809E+00 1.637E-08 1.637E-08 28.89 Final Mean for 2 Valid Peaks = 1.607E-08+/-3.414E-09 (21.25%)

Flag: "*" = Keyline

Minimum Detectable Activity Report Sample ID : 7079

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Page : 6 Acquisition date : 10-JUN-2014 11:50:56

	Bckgnd	Energy	MDA
Nuclide	Sum	(keV)	(UCI/ML)
MN-54*	25.	834.84	9.8254E-09
CO-58*	17.	810.77	8.1725E-09
FE-59*	10.	1099.25	1.4050E-08
ZN-65*	10.	1115.55	1.6004E-08
NB-95*	19.	765.83	8.1251E-09
ZR-95*	15.	756.74	1.3376E-08
I-131*	34.	364.48	8.6247E-09
CS-134*	22.	604.70	7.6795E-09
CS-137*	25.	661.66	9.9661E-09
BA-140*	22.	537.32	2.9153E-08
LA-140*	3.	1596.18	6.7694E-09

Date: <u>6-10-14</u> Date: <u>6/10-14</u> Analyst: ΙŽ Reviewed by:

CURRENT DATE: 10-JUN-2014 11:28:51.11 STATION NAME: DRESDEN

\star RR SEPTIC

UNCONDITIONAL RELEASE 1600 ml

CONFIGURATION FILE....: SYS\$SYSDEVICE: [CRU.SAMP] 36P407_SAMP_7076.CNF;1 BKGND SUBTRACTION FILE .: CECO_BLANK: BKG_36P407 MRLIQ1600 6914. CNF DATE-TIME SAMPLE OBTAINED....: 10-JUN-2014 10:57:00.00 DATE-TIME SAMPLE ANALYZED....: 10-JUN-2014 10:58:21.51 SAMPLE QUANTITY..... 1.60200E+03 ML COLLECTOR'S INITIALS...: FH ANALYST'S INITIALS..... DC DETECTOR SERIAL NUMBER..: 36P407 GEOMETRY TYPE..... MRLIO1600 DEADTIME..... 0.0% SAMPLE CODE.....: UNCONDTNLRELSSAMPLE POINT.....: NUCLIDE LIBRARY..... ENV LLD CALIBRATION DATE..... 18-APR-2014 10:54:00.00 DEPARTMENT..... CHEMISTRY LabWare ID...: REMARK...: 6-9-14 17:20 * Staples Left by diriver & STP ON 6/9/14 Seface ENERGY CALIB GAIN.....: 4.99773E-01 FWHM CALIB GAIN.....: 4.18904E-02 ENERGY CALIB OFFSET....: 8.39556E-02 FWHM CALIB OFFSET.....: 5.27076E-01 Summary of Nuclide Activity Total number of lines in spectrum 19 Number of unidentified lines 3 Number of lines tentatively identified by NID 16 84.21% Nuclide Type : NATURAL Wtd Mean Wtd Mean Uncorrected Decay Corr Decay Corr 1-Sigma Nuclide Hlife UCI/ML Decay UCI/ML 1-Sigma Error %Error Flags K-40 1.28E+09Y 1.00 0.000E+00 0.000E+00 0.000E+00 0.00 TL-208 9999.00Y 1.00 0.000E+00 0.000E+00 0.000E+00 0.00 PB-212 9999.00Y 1.00 0.000E+00 0.000E+00 0.000E+00 0.00 1.000.000E+000.000E+000.000E+001.000.000E+000.000E+000.000E+001.000.000E+000.000E+000.000E+00 BI-214 9999.00Y 0.00 PB-2149999.00Y1.000.000E+00RA-2261600.00Y1.000.000E+00 0.00 0.00 AC-228 9999.00Y 1.00 0.000E+00 0.000E+00 0.000E+00 0.00 _____ ______ Total Activity : 0.000E+00 0.000E+00 Nuclide Type : AP Wtd Mean Wtd Mean Uncorrected Decay Corr Decay Corr 1-Sigma Nuclide UCI/ML UCI/ML Hlife Decay 1-Sigma Error %Error Flags 1.386E-08 0.364E-08 CO-60* 5.27Y 1.00 1.386E-08 26.25 -----_ _ _ _ _ _ _ _ _

Total Attivity : 1.386E-08 1.386E-08

Grand Total Activity : 1.386E-08

Flags: "K" = Keyline not found "E" = Manually edited

(1.386E-08

"M" = Manually accepted "A" = Nuclide specific abn. limit

6.

Post-NID Peak Search Report Sample ID : 7076

Page : 2 Acquisition date : 10-JUN-2014 10:58:21

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	%Err	Fit Nuclides
0	185.95	151	56	1.61	371.91	367	9	12.1	RA-226
0	209.37	65	65	1.42	418.77	415	7	24.0	NO PEAK De Ulioliy
3	238.70	213	70	1.22	477.46	473	16	9.2	1.33E+00 PB-212
3	241.89	68	67	1.57	483.83	473	16	28.1	PB-214
0	295.18	132	75	1.35	590.45	584	13	16.1	PB-214
0	338.74	69	76	1.17	677.61	673	12	27.7	AC-228
0	352.00	240	64	1.11	704.16	699	10	9.0	PB-214
0	463.06	38	25	1.45	926.38	921	10	29.3	NO PEAK & Gluli
0	583.26	92	25	1.15	1166.88	1162	9	14.2	TL-208
0	609.31	186	29	1.55	1219.00	1214	11	9.3	BI-214 (1)
0	860.92	33	18	1.73	1722.46	1717	14	32.2	No PEAK & Gliding
0	911.30	109	19	1.70	1823.25	1815	15	12.9	AC-228
0	969.15	69	23	1.01	1939.02	1933	12	18.5	AC-228
0	1120.55	57	24	1.02	2241.95	2234	12	21.7	BI-214
0	1173.18*	30	4	1.57	2347.25	2339	16	33.2	CO-60*
0	1238.47	16	11	1.37	2477.90	2474	9	42.3	BI-214
0	1333.66	25	18	1.62	2668.36	2661	13	41.0	CO-60*
0	1461.01*	120	12			2915	15	14.1	K-40
0	1764.81	56	0	1.85	3531.05	3523	14	13.4	BI-214

Unidentified Energy Lines Page : 3 Acquisition date : 10-JUN-2014 10:58:21 Sample ID : 7076 Bkgnd FWHM Channel Left Pw Cts/Sec %Err %Eff Flags It Energy Area 0 209.37 65 65 1.42 418.77 415 7 3.60E-02 24.0 4.77E+00 463.06 25 1.45 0 38 926.38 921 10 2.13E-02 29.3 3.55E+00 18 1.73 1722.46 1717 14 1.83E-02 32.2 2.43E+00 0 860.92 33

Flags: "T" = Tentatively associated

Nuclide Line Activity Report Sample ID : 7076

Nuclide Type: NATURAL Uncorrected Decay Corr 1-Sigma Nuclide Energy %Abn %Eff UCI/ML UCI/ML &Error Status 1.711E+00 0.000E+00 K-40 1460.80 0.00* 0.000E+00 0.00 OK Final Mean for 1 Valid Peaks = 0.000E+00+/-0.000E+00 (0.00%) TL-208 583.13 0.00* 3.118E+00 0.000E+00 0.000E+00 0.00 OK Final Mean for 1 Valid Peaks = 0.000E+00+/-0.000E+00 (0.00%) 0.00 PB-212 238.62 0.00* 4.654E+00 0.000E+00 0.000E+00 OK Final Mean for 1 Valid Peaks = 0.000E+00+/-0.000E+00 (0.00%) **BI-214** 609.32 0.00* 3.038E+00 0.000E+00 0.000E+00 0.00 OK 665.45 0.00 2.878E+00 ----- Line Not Found _ _ _ _ _ Absent 768.37 0.00 Line Not Found 2.624E+00 _ _ _ _ _ Absent ----806.19 0.00 2.542E+00 Line Not Found Absent _ _ _ _ _ _ _ _ _ _ 934.05 ---- Line Not Found 0.00 2.300E+00 _ _ _ _ _ Absent 1120.28 0.00 2.028E+00 0.000E+00 0.000E+00 0.00 OK 1155.19 0.00 1.987E+00 ---- Line Not Found _ _ _ _ _ Absent 1238.11 0.00 1.896E+00 0.000E+00 0.00 0.000E+00 OK ----- Line Not Found 1280.96 0.00 1.855E+00 _ _ _ _ _ Absent Line Not Found 1377.65 0.00 1.772E+00----_ _ _ _ _ Absent 1401.50 ----- Line Not Found 0.00 1.754E+00 _ _ _ _ _ Absent Line Not Found 1408.01 0.00 1.749E+00_ _ _ _ _ _ _ _ _ _ Absent 1509.23 0.00 1.681E+00 ____ Line Not Found _ _ _ _ _ Absent 1661.32 0.00 1.602E+00 _ _ _ _ _ Line Not Found Absent _ _ _ _ _ 1729.65 0.00 1.575E+00 ---- Line Not Found Absent _ _ _ _ _ 1764.54 0.00 1.563E+00 0.000E+00 0.000E+00 0.00 OK 1847.44 0.00 1.539E+00----- Line Not Found ----Absent Final Mean for 4 Valid Peaks = 0.000E+00+/-0.000E+00 (0.00%) ----- Line Not Found Absent PB-214 53.23 0.00 2.899E-01 _ _ _ _ _ 241.91 0.00 4.639E+00 0.000E+00 0.000E+00 0.00 OK 295.17 0.00 4.355E+00 0.000E+00 0.000E+00 0.00 OK 351.90 0.00* 4.053E+00 0.000E+00 0.000E+00 0.00 OK 785.91 0.00 2.585E+00 ----Line Not Found _ _ _ _ _ Absent Final Mean for 3 Valid Peaks = 0.000E+00+/-0.000E+00 (0.00%) RA-226 185.99 0.00* 4.804E+00 0.000E+00 0.000E+00 0.00 OK Final Mean for 1 Valid Peaks = 0.000E+00+/-0.000E+00 (0.00%) AC-228 338.30 0.00* 4.121E+00 0.000E+00 0.000E+00 0.00 OK 794.70 0.00 2.566E+00 ---- Line Not Found Absent _ _ _ _ _ 911.10 0.00 2.339E+00 0.000E+00 0.000E+00 0.00 OK 964.60 0.00 2.249E+00 ---- Line Not Found Absent _ _ _ _ _ 969.10 0.00 2.242E+00 0.000E+00 0.000E+00 0.00 OK Final Mean for 3 Valid Peaks = 0.000E+00+/- 0.000E+00 (0.00%)

Nuclide Line Activity Report (continued)Page : 5Sample ID : 7076Acquisition date : 10-JUN-2014 10:58:21

Nuclide Type: AP Uncorrected Decay Corr 1-Sigma Nuclide Energy %Abn %Eff UCI/ML UCI/ML %Error Status CO-60* 1173.24 99.90* 1.966E+00 1.454E-08 1.454E-08 33.79 OK 1332.50 99.98 1.808E+00 1.304E-08 1.304E-08 41.53 OK Final Mean for 2 Valid Peaks = 1.386E-08+/- 3.639E-09 (26.25%)

Flag: "*" = Keyline

Minimum Detectable Activity Report Sample ID : 7076 Page : 6 Acquisition date : 10-JUN-2014 10:58:21

	Bckgnd	Energy	MDA	
Nuclide	Sum	(keV)	(UCI/ML)	
MN-54*	28.	834.84	1.0301E-08	
CO-58*	15.	810.77	7.7953E-09	
FE-59*	15.	1099.25	1.6998E-08	
ZN-65*	12.	1115.55	1.6867E-08	
NB-95*	23.	765.83	8.9468E-09	
ZR-95*	25.	756.74	1.6721E-08	
I-131*	39.	364.48	9.1952E-09	
CS-134*	27.	604.70	8.4578E-09	
CS-137*	30.	661.66	1.0758E-08	
BA-140*	23.	537.32	2.9564E-08	
LA-140*	3.	1596.18	6.4778E-09 🖌	
			$\left(o\right) $	
Analyst:		D	Date:(0[14	<u> </u>
Reviewed by	•	2nyt	Date: 6/10/14	
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CURRENT DATE: 9-JUN-2014 08:51:45.76 STATION NAME: DRESDEN GENERAL LIQUID 2/3 CONDENSATE STORAGE TANKS CONFIGURATION FILE....: SYS\$SYSDEVICE: [CRU.SAMP] 8973824 SAMP 7014.CNF;1 BKGND SUBTRACTION FILE .: CECO BLANK: BKG 8973824 MRLIQ500 6882. CNF DATE-TIME SAMPLE OBTAINED.... 9-JUN-2014 07:55:00.00 DATE-TIME SAMPLE ANALYZED....: 9-JUN-2014 08:31:15.18 COUNT LIVE TIME...... 0 00:20:00.00 SAMPLE QUANTITY..... 5.04000E+02 G COLLECTOR'S INITIALS...: CT ANALYST'S INITIALS..... MW DETECTOR SERIAL NUMBER..: 8973824 GEOMETRY TYPE..... MRLIQ500 DEADTIME..... 0.0% SAMPLE CODE.....: 2/3CONDSTOR SAMPLE POINT.....: NUCLIDE LIBRARY..... GENLIQ DEPARTMENT.....: CHEMISTRY LabWare ID...: 5474530 REMARK...: ROUTINE ENERGY CALIB GAIN.....: 5.00258E-01 FWHM CALIB GAIN.....: 3.52553E-02 ENERGY CALIB OFFSET....: -4.60065E-03 FWHM CALIB OFFSET....: 4.88894E-01 Summary of Nuclide Activity Total number of lines in spectrum 3 Number of unidentified lines 0 Number of lines tentatively identified by NID 100.00% 3 Nuclide Type : AP Wtd Mean Wtd Mean Uncorrected Decay Corr Decay Corr 1-Sigma Nuclide Hlife CO-60* 5.27Y Decay UCI/G UCI/G 1-Sigma Error %Error Flags 2.902E-07 5.27Y 1.00 2.902E-07 0.327E-07 11.27 ______ _____ Total Activity : 2.902E-07 2.902E-07 Nuclide Type : FG Wtd Mean Wtd Mean Uncorrected Decay Corr Decay Corr 1-Sigma UCI/G UCI/G 1-Sigma Error %Error Flags Nuclide Hlife Decay XE-135* 9.09H 1.06 3.622E-08 3.841E-08 1.238E-08 32.23 _ Total Activity : 3.841E-08 3.622E-08 Grand Total Activity : 3.264E-07 3.286E-07 Flags: "K" = Keyline not found "M" = Manually accepted

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Post-NID Peak Search Report Sample ID : 7014

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Page : 2 Acquisition date : 9-JUN-2014 08:31:15

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It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw %Err	Fit	Nuclides
0	249.55	25	11	0.93	498.84	494	9 31.6		XE-135*
0	1173.05	53	3	1.87	2344.90	2339	11 14.9		CO-60*
0	1332.31	49	0	1.81	2663.24	2657	12 14.3		CO-60*

Unidentified Energy Lines Sample ID : 7014

γ.

Page : 3 Acquisition date : 9-JUN-2014 08:31:15

None

Flags: "T" = Tentatively associated

Nuclide Line Activity Report Sample ID : 7014

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Page : 4 Acquisition date : 9-JUN-2014 08:31:15

Nuclide	Type: AP				
			Uncorrected De	ecay Corr 1	
Nuclide	Energy	%Abn %Eff	UCI/G	UCI/G	<pre>%Error Status</pre>
CO-60*	310.00	Double Escape	Line N	Not Found	Absent
*	821.00	Single Escape	Line N	Not Found	Absent
	1173.24	99.90 8.327E-	D1 2.871E-07 2	2.871E-07	16.23 OK
	1332.50	99.98* 7.469E-	01 2.932E-07 2	2.932E-07	15.65 OK
	Final Mea	n for 2 Valid Pea	aks = 2.902E-074	+/- 3.270E-	08 (11.27%)

Nuclide Type: FG

Macriae	1990.10		1	Uncorrected	Decav Corr	1-Sigma	
Nuclide	Energy	%Abn	%Eff	UCI/G	UCI/G		Status
XE-135*	249.79	90.13*	3.394E+00	3.622E-08	3.841E-08	32.23	OK
	358.39	0.22	2.472E+00	Line			Absent
	608.18	2.90	1.503E+00	Line	Not Found		Absent
	Final Mean	for 1	Valid Peaks	= 3.841E-0	8+/- 1.238E	-08 (32	.23%)

Rejected Report Sample ID : 7014 Page : 5 Acquisition date : 9-JUN-2014 08:31:15

Flag: "*" = Keyline

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Minimum Detectable Activity Report Sample ID : 7014

Nuclide	Bckgnd Sum	Energy (keV)	MDA (UCI/G)	
MN-54*	15.	834.84	7.1879E-08	
CO-58*	5.	810.77	4.0291E-08	
FE-59*	3.	1099.25	7.2611E-08	
ZN-65*	14.	1115.55	1.7454E-07	
KR-87*	5.	402.58	6.2468E-08	
KR-88*	16.	196.32	9.6158E-08	
NB-95	1.	765.83	1.9409E-08	
ZR-95	1.	756.74	3.0767E-08	
MO-99*	21.	140.51	2.2720E-08	
CD-109	17.	88.00	5.3152E-07	
I-131*	7.	364.48	2.7120E-08	
XE-133*	22.	81.00	6.6503E-08	
XE-133M*	9.	233.22	1.7338E-07	
CS-134*	3.	604.70	2.4821E-08	
CS-137*	5.	661.66	3.9183E-08	
XE-138*	9.	258.41	5.7487E-07	<i>v</i>
BA-140	4.	537.32	9.6793E-08	
LA-140	1.	1596.18	2.4719E-08	
CE-141*	17.	145.44	3.8219E-08	
CE-144*	21.	133.54	1.8141E-07	
Analyst:	the	/	Date:	6.9.14
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		1.5		6-10-14
Reviewed 1	by:		Date:	
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32

CURRENT DATE: 11-JUN-2014 00:52:47.68 STATION NAME: DRESDEN 2/3 CST O/S FENCE 1' DEPTH DIRT OR POURABLE SOLIDS -CONFIGURATION FILE....: SYS\$SYSDEVICE: [CRU.SAMP] 2997068_SAMP 7100.CNF;1 BKGND SUBTRACTION FILE .: CECO BLANK: BKG 2997068 MRDIRT1000 7000. CNF DATE-TIME SAMPLE OBTAINED....: 11-JUN-2014 00:38:55.14 DATE-TIME SAMPLE ANALYZED....: 11-JUN-2014 00:42:18.81 COUNT LIVE TIME...... 0 00:10:00.00 -COUNT REAL TIME...... 0 00:10:00.32 SAMPLE QUANTITY..... 2.54890E+03 G / COLLECTOR'S INITIALS...: RP ANALYST'S INITIALS.....: DC DETECTOR SERIAL NUMBER..: 2997068 GEOMETRY TYPE..... MRDIRT1000 DEADTIME..... 0.1% SAMPLE CODE..... DIRT SAMPLE POINT..... NUCLIDE LIBRARY..... DIRT CALIBRATION DATE..... 15-JAN-2013 10:56:30.22 DEPARTMENT..... CHEMISTRY LabWare ID...: REMARK ...: ENERGY CALIB GAIN.....: 4.99810E-01 FWHM CALIB GAIN.....: 3.60145E-02 ENERGY CALIB OFFSET....: -1.49471E-02 FWHM CALIB OFFSET.....: 5.91511E-01 Summary of Nuclide Activity 17 Total number of lines in spectrum 0 Number of unidentified lines Number of lines tentatively identified by NID 17 100.00% Nuclide Type : NATURAL Wtd Mean Wtd Mean Decay Corr 1-Sigma Uncorrected Decay Corr 1-Sigma Error %Error Flags UCI/G Hlife Decay UCI/G Nuclide 50.03 9.773E-07 4.889E-07 K-40 1.28E+09Y 1.00 9.773E-07 39.22 1.750E-08 TL-208 9999.00Y 1.00 4.463E-08 4.463E-08 33.66 2.183E-07 0.735E-07 BI-212 9999.00Y 1.00 2.183E-07 0.292E-07 17.00 1.00 1.719E-07 1.719E-07 PB-212 9999.00Y 9999.00Y 1.00 5.408E-07 7.94 5.408E-07 0.429E-07 BI-214 9999.00Y 1.00 2.612E-07 2.612E-07 9999.00Y 1.00 3.470E-07 3.470E-07 0.345E-07 13.22 PB-214 0.471E-07 13.58 AC-228 9999.00Y ______ ____ 2.561E-06 2.561E-06 Total Activity : Nuclide Type : AP Wtd Mean Wtd Mean Uncorrected Decay Corr Decay Corr 1-Sigma UCI/G 1-Sigma Error %Error Flags UCI/G Hlife Decay Nuclide 6.508E-08 1.433E-08 22.02 1.00 6.508E-08 CO-60 / 5.27Y _____ _ _ _ _ _ _ _ _ _ _ _

Total Activity : 6.508E-08 6.508E-08

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Grand Total Activity : 2.626E-06 2.626E-06

Flags: "K" = Keyline not found "M" = Manually accepted "E" = Manually edited "A" = Nuclide specific abn. limit

e . Post-NID Peak Search Report Sample ID : 7100

Page : 2 Acquisition date : 11-JUN-2014 00:42:18

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides
3	75.15	85	104	1.06	150.38	147	13	21.5	5.46E-01	PB-212
3	77.33	115	101	0.95	154.74	147	13	16.8		PB-212
0	238.72*	90	83	1.02	477.65	474	8	29.5		PB-212
0	242.14	42	56	0.99	484.49	482	7	34.6		PB-214
0	295.55*	103	49	1.72	591.36	585	14	20.2		PB-214
0	352.06*	122	51	1.37	704.41	700	10	17.5		PB-214
0	464.16	49	19	5.16	928.69	920	19	25.7		AC-228
0	583.02*	36	18	1.74	1166.51	1161	12	38.6		TL-208
0	609.21*	199	11	1.05	1218.92	1213	11	9.3		BI-214
0	727.17	21	7	1.72	1454.91	1450	10	32.9		BI-212
0	768.07	20	11	1.45	1536.75	1532	11	39.1		BI-214
0	910.86	60	0	2.10	1822.45	1817	11	12.9		AC-228
0	1120.41	53	5	1.58	2241.71	2237	10	15.9		BI-214
0	1174.24	35	3	0.75	2349.40	2343	16	21.0		CO-60
0	1238.25	27	6	1.86	2477.48	2470	12	26.4		BI-214
0	1460.90*	47	10	2.06	2922.95	2917	15	49.6		K-40
0	1764.78	48	0	1.64	3530.94	3524	14	14.4		BI-214

Unidentified Energy Lines Sample ID : 7100

None

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Flags: "T" = Tentatively associated

Nuclide Line Activity Report Sample ID : 7100

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Nuclide	Type: NAT	JRAL	T	Incorrected Decay Corr 1-Sigma
Nuclide K-40	Energy 1460.80	%Abn 10.67*	%Eff 7.969E-01	UCI/G UCI/G %Error Status 9.773E-07 9.773E-07 50.03 OK
	Final Mea	n for 1	Valid Peaks	= 9.773E-07+/- 4.889E-07 (50.03%)
TL-208	84.90 277.14	1.52 6.79	3.074E+00 3.015E+00	Line Not Found Absent Line Not Found Absent
	583.14	84.23*	1.707E+00	4 463E-08 4 463E-08 39.22 OK
	860.26	12.46	1.235E+00	Line Not Found Absent
	Final Mea	n for 1	Valid Peaks	= 4.463E-08+/- 1.750E-08 (39.22%)
BI-212	727.18	11.83*	1.422E+00	2.183E-07 2.183E-07 33.66 OK
	Final Mea	n for 1	Valid Peaks	= 2.183E-07+/- 7.348E-08 (33.66%)
PB-212	74.82	10.69*	2.493E+00	5.652E-07 5.652E-07 23.21 OK
10 010	77.11	18.00	2.636E+00	4.294E-07 4.294E-07 18.74 OK
	87.30	8.04	3.194E+00 3.327E+00	Line Not Found Absent
	238.63	44.65	3.327E+00	1.066E-07 1.066E-07 30.29 OK
	300.09	3.41	2.851E+00	Line Not Found Absent
	Final Mea	in for 3	Valid Peaks	= 1.719E-07+/- 2.922E-08 (17.00%)
BI-214	609.32	46.28*	1.647E+00	
	665.45	1.57	1.531E+00	Line Not Found Absent
	768.37		1.359E+00	5.162E-07 5.162E-07 39.76 OK
	806.19		1.304E+00	Line Not Found Absent
	934.05		1.151E+00	Line Not Found Absent 6.230E-07 6.230E-07 17.26 OK
	1120.28	15.15	9.872E-01	
	1155.19	1.70	9.623E-01	
	1238.11	5.94	9.086E-01	
	1280.96		8.838E-01	
	1377.65	4.11 1.39	8.339E-01	
	1401.50		8.228E-01	
	1408.01	2.49		
	1509.23	2.22	7.777E-01	
	1661.32	1.15	7.263E-01	
	1729.64	2.97	7.072E-01	
	1764.54	15.84	6.982E-01 6.790E-01	
				a = 5.408E-07+/- 4.295E-08 (7.94%)
	=			Line Not Found Absent
PB-214	53.23	1.11		
	241.91	1.49	3.297E+00 2.882E+00	5.0251 07 0700
	295.17	19.25		
	351.90	19.25 37.21* 1.10	2.536E+00	Line Not Found Absent
S	Final Mea	an for 3		s = 2.612E-07+/- 3.452E-08 (13.22%)
AC-228	90.05	2.13	3.320E+00	Line Not Found Absent

93.35	3.48	3.456E+00	 Line Not Found	 Absent
129.10	2.77	4.105E+00	 Line Not Found	 Absent
209.40	4.43	3.593E+00	 Line Not Found	 Absent

Nuclide Line Activity Report (continued) Sample ID : 7100 Page : 5 Acquisition date : 11-JUN-2014 00:42:18

Nuclide	Type:	NATU	LAS									
						τ	Jncorre	cted 1	Decay	/ Corr	1-Sigma	
Nuclide	Ener	rgy	&Abi	n	%Ef	f	UCI/	G	ŪŪ	CI/G	%Error	Status
	270	.30	3.6	0	3.067	7E+00		Line	Not	Found		Absent
	328	.00	3.2	1.	2.673	3E+00		Line	Not	Found		Absent
	338	.40	11.3	6	2.612	2E+00		Line	Not	Found		Absent
	409	.40	2.1	3	2.261	LE+00		Line	Not	Found		Absent
	463	.00	4.4	3	2.050)E+00	9.537E	-07	9.53	37E-07	26.66	OK
	478	.20	0.2	3	2.002	2E+00		Line	Not	Found		Absent
	755	.20	1.0	5	1.378	3E+00		Line	Not	Found		Absent
	772	.10	1.5	5	1.353	3E+00		Line	Not	Found		Absent
	794	.80	4.6	3	1.320)E+00		Line	Not	Found		Absent
	835	.60	1.7	5	1.265	5E+00		Line	Not	Found		Absent
	911	.07	27.7	0*	1.176	5E+00	3.255E	-07	3.25	55E-07	14.73	OK
	964	.60	5.2	1	1.120)E+00		Line	Not	Found		Absent
	968	.90	16.6	2	1.116	5E+00		Line	Not	Found		Absent
	1495	.45	1.0	0	7.830	DE-01		Line	Not	Found		Absent
	1587	.90	3.5	5	7.495	5E-01		Line	Not	Found		Absent
	1630	.63	1.8	6	7.357	7E-01		Line	Not	Found		Absent
	Final	Mean	for	2	Valid	Peaks	= 3.4	70E-0	7+/-	4.711E	-08 (13	.58%)

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Nucrue	Type. Ar			Uncorrected	Decay Corr	1-Sima	
Nuclide CO-60	Energy 1173.24	%Abn 99.90	%Eff	UCI/G 6.508E-08	UCI/G	%Error	Status OK
	1332.50	99.98*		Line			Absent
	Final Mean	for 1	Valid Peaks	s = 6.508E-0	8+/- 1.433E	-08 (22	.02%)

. Rejected Report Sample ID : 7100

Page : 6 Acquisition date : 11-JUN-2014 00:42:18

8

Minimum Detect Sample ID : 73	cable Activity	Report	Page : 7 Acquisition date : 11-JUN-2014 00:42:18
Nuclide	Bckgnd Sum	Energy (keV)	MDA (UCI/G)
CS-134* CS-137*	14. 28.	604.70 661.66	2.2174E-08 3.7140E-08
Analyst:			AK Date: 6-11-14
Reviewed by	:		Date: 6-11-14

CURRENT DATE: 11-JUN-2014 05:40:52.96 STATION NAME: DRESDEN 2/3 CST 0/S N FENCE 4' DEPTH DIRT OR POURABLE SOLIDS CONFIGURATION FILE....: SYS\$SYSDEVICE: [CRU.SAMP] 2997068_SAMP_7102.CNF;1 BKGND SUBTRACTION FILE .: CECO BLANK: BKG 2997068 MRDIRT1000 7000. CNF DATE-TIME SAMPLE OBTAINED....: 11-JUN-2014 05:28:04.90 DATE-TIME SAMPLE ANALYZED....: 11-JUN-2014 05:30:24.79 COUNT LIVE TIME...... 0 00:10:00.00 COUNT REAL TIME...... 0 00:10:00.26 SAMPLE OUANTITY..... 2.24820E+03 G ANALYST'S INITIALS..... DC COLLECTOR'S INITIALS...: RP GEOMETRY TYPE..... MRDIRT1000 DETECTOR SERIAL NUMBER..: 2997068 DEADTIME..... 0.0% SAMPLE CODE..... DIRT SAMPLE POINT..... NUCLIDE LIBRARY..... DIRT CALIBRATION DATE...... 15-JAN-2013 10:56:30.22 DEPARTMENT..... CHEMISTRY LabWare ID. REMARK...: (WO#1745402-01 ENERGY CALIB GAIN.....: 4.99810E-01 FWHM CALIB GAIN.....: 3.60145E-02 ENERGY CALIB OFFSET....: -1.49471E-02 FWHM CALIB OFFSET.....: 5.91511E-01 Summary of Nuclide Activity Total number of lines in spectrum 15 Number of unidentified lines 0 Number of lines tentatively identified by NID 15 100.00% Nuclide Type : NATURAL Wtd Mean Wtd Mean Decay Corr 1-Siqma Uncorrected Decay Corr %Error Flags 1-Sigma Error UCI/G Nuclide Hlife Decay UCI/G 22.18 2.649E-06 0.588E-06 K-40 1.28E+09Y 1.00 2.649E-06 19.83 1.026E-07 0.204E-07 1.00 1.026E-07 TL-208 9999.00Y 29.81 3.098E-07 0.924E-07 1.00 3.098E-07 BI-212 9999.00Y 15.76 1.00 2.070E-07 2.070E-07 0.326E-07 PB-212 9999.00Y 0.325E-07 29.26 1.00 1.112E-07 1.112E-07 9999.00Y BI-214 1.00 1.023E-07 0.339E-07 33.14 9999.00Y 1.023E-07 PB-214 7.329E-07 2.723E-07 37.15 1600.00Y 1.00 7.329E-07 RA-226 0.524E-07 15.01 3.491E-07 9999.00Y 1.00 3.491E-07 AC-228 _____ _ _ _ _ _ _ _ _ _ _ 4.564E-06 4.564E-06 Total Activity : Nuclide Type : ANNIH Wtd Mean Wtd Mean 1-Siqma Uncorrected Decay Corr Decay Corr 1-Sigma Error %Error Flags UCI/G UCI/G Nuclide Hlife Decay 0.000E+00 0.00 1.00 0.000E+00 0.000E+00 ANN-511 9999.00Y

Total Activity : 0.000E+00	0.000E+00
Grand Total Activity : 4.564E-06	4.564E-06
Flags: "K" = Keyline not found "E" = Manually edited	"M" = Manually accepted "A" = Nuclide specific abn. limit

Post-NID Peak Search Report Sample ID : 7102 ٠

Page : 2 Acquisition date : 11-JUN-2014 05:30:24

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It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides
0	77.53	71	129	1.06	155.15	152	7	29.6		PB-212
0	87.39	58	151	1.38	174.88	170	9	40.5		PB-212
0	186.36	46	70	1.44	372.89	367	9	36.5		RA-226
1	238.78*	137	32	1.26	477.77	472	28	18.1	1.69E+00	PB-212
1	241.51	31	42	1.27	483.23	472	28	44.5		PB-214
0	352.17*	41	22	0.87	704.63	700	9	40.1		PB-214
0	462.67	36	3	1.39	925.73	919	12	19.4		AC-228
0	510.74	38	5	1.52	1021.89	1017	10	19.7		ANN-511
0	583.35*	64	11	1.38	1167.18	1161	13	22.3		TL-208
0	609.19*	33	9	1.42	1218.88	1215	9	38.9		BI-214
0	727.34	26	8	1.82	1455.27	1449	11	28.9		BI-212
0	860.87	25	4	0.87	1722.42	1717	14	25.9		TL-208
0	911.05	49	6	2.08	1822.81	1816	11	17.1		AC-228
0	1120.99	27	7	4.29	2242.87	2235	15	29.2		BI-214
0	1460.89*	112	3	1.57	2922.93	2917	12	21.2		K-40

Unidentified Energy Lines Sample ID : 7102

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None

Flags: "T" = Tentatively associated

Nuclide Line Activity Report Sample ID : 7102

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Nuclide	Type: NATUR	LAS	_		¥.
	-	9.71	9.DEF	Incorrected Decay Corr 1-Sigma UCI/G UCI/G %Error	Status
	Energy 1460.80	*ADII	3611 7 969F-01	UCI/G UCI/G %Error 2.649E-06 2.649E-06 22.18	OK
K-40	1460.80	10.07"	7.9098 01		
	Final Mean	for 1	Valid Peaks	= 2.649E-06+/- 5.877E-07 (22.	18%)
TL-208	84.90	1.52	3.074E+00		Absent
	277.14	6.79	3.015E+00		Absent
	583.14	84.23*		8.964E-08 8.964E-08 23.36	OK
	860.26	12.46	1.234E+00	3.238E-07 3.238E-07 26.71	OK
	Final Mean	for 2	Valid Peaks	= 1.026E-07+/- 2.035E-08 (19.	83%)
BI-212	727.18	11.83*	1.422E+00	3.098E-07 3.098E-07 29.81	OK
DI 210					
	Final Mean	for 1	Valid Peaks	= 3.098E-07+/- 9.236E-08 (29.	
PB-212	74.82	10.69*			Absent
	77.11	18.00		2.981E-07 2.981E-07 30.80	OK OK
	87.30	8.04	3.198E+00	4.503E-07 4.503E-07 41.28 1.845E-07 1.845E-07 19.26	OK
	238.63		3.326E+00		Absent
	300.09	3.41	2.851E+00	Line Not Found	10000110
	Final Mean	for 3	Valid Peaks	= 2.070E-07+/- 3.262E-08 (15.	76%)
BI-214	609.32	46.28*	1.647E+00	8.632E-08 8.632E-08 39.50	OK
D1 2-1		1.57	1.531E+00	Line Not Found	Absent
		5.04	1.358E+00	Line Not Found	Absent
	806.19	1.23	1.304E+00	Line Not Found	Absent
	934.05	3.21	1.151E+00	Line Not Found	Absent OK
	1120.28	15.15	9.867E-01	3.619E-07 3.619E-07 29.94	Absent
	1155.19	1.70	9.623E-01	The Not round	Absent
	1238.11	5.94	9.086E-01	Line Not Found	Absent
	1280.96		8.838E-01 8.339E-01	Line Not Found	Absent
	1377.65		8.228E-01	Line Not Found	Absent
	1401.50	2.49	8.198E-01	Line Not Found	Absent
	1408.01 1509.23	2.22	7.777E-01	Line Not Found	Absent
		1.15	7.263E-01	Line Not Found	Absent
	1729 64	2 97	7 072E-01	Line Not Found	Absent
	1764.54	15.84	6.982E-01	Line Not Found	Absent
	1847.44	2.09	6.790E-01	Line Not Found	Absent
	Final Mear	n for 2	Valid Peaks	= 1.112E-07+/- 3.253E-08 (29	.26%)
	E2 22	1 11	8.576E-01	Line Not Found	Absent
PB-214	53.23 241.91	7 49	3.303E+00		OK
	241.91 295 17	19.25	2.885E+00	Line Not Found	Absent
	351.90	37.21*	2.536E+00		OK
		1.10		Line Not Found	Absent
				s = 1.023E-07+/- 3.391E-08 (33	.14왕)
RA-226				7.329E-07 7.329E-07 37.15	OK

Final Mean for 1 Valid Peaks = 7.329E-07+/- 2.723E-07 (37.15%)

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Nuclide Line Activity Report (continued) Page : 5 Sample ID : 7102 Acquisition date : 11-JUN-2014 05:30:24

Nuclide	Type:	NATU	RAL		Ilncorre	cted I)ecal	Corr	1-Sigma	
			0.71	%Eff	UCI/		ן גושט שיק זדו	CI/G	%Error	Status
Nuclide	Ener		%Abn		•			•		Absent
AC-228	90	.05	2.13	3.320E+00				Found		
	93	.35	3.48	3.456E+00				Found		Absent
	129	.10	2.77	4.105E+00		Line	Not	Found		Absent
	209		4.43	3.593E+00		Line	Not	Found		Absent
	270		3.60	3.067E+00		Line	Not	Found		Absent
	328		3.21	2.673E+00		Line	Not	Found		Absent
	338		11.36	2.612E+00		Line	Not	Found		Absent
	409		2.13	2.261E+00		Line	Not	Found		Absent
	463		4.43	2.055E+00	7.876E	-07	7.8	76E-07	20.65	OK
	478		0.23	2.002E+00			Not	Found		Absent
	755		1.05	1.378E+00		Line	Not	Found		Absent
	772		1.55	1.353E+00		Line	Not	Found		Absent
	794		4.63	1.320E+00		Line	Not	Found		Absent
	835		1.75	1.265E+00		Line	Not	Found		Absent
		.07	27.70*	1.176E+00	2.983E	-07	2.9	B3E-07	18.55	OK
		.60	5.21	1.120E+00		Line	Not	Found		Absent
		.90	16.62	1.116E+00		Line	Not	Found		Absent
	1495		1.00	7.830E-01		Line	Not	Found		Absent
	1587		3.55	7.495E-01		Line	Not	Found		Absent
			1.86	7.357E-01				Found		Absent
	1630	.05	T.00	,						
					4	0170 0	7.1	E 2201	7_00 / 15	018ነ

Final Mean for 2 Valid Peaks = 3.491E-07+/- 5.239E-08 (15.01%)

Nuclide Type: ANNIH Nuclide Energy %Abn %Eff UCI/G UCI/G %Error Status ANN-511 511.00 0.00* 1.900E+00 0.000E+00 0.000E+00 0.00 Final Mean for 1 Valid Peaks = 0.000E+00+/- 0.000E+00 (0.00%)

Rejected Report Sample ID : 7102

Page : 6 Acquisition date : 11-JUN-2014 05:30:24

Minimum Detectal Sample ID : 710		Report	Acquisition date :	Page : 7 11-JUN-2014 05:30:24
Nuclide	Bckgnd Sum	Energy (keV)	MDA (UCI/G)	
CS-134* CS-137*	16. 15.	604.70 661.66	2.6173E-08 3.1726E-08	
Analyst:			Date:	6/11/14
Reviewed by:		{J	Date:	6-11-14

CURRENT DATE: 3-JUN-2014 09:28:38.89 STATION NAME: DRESDEN

GENERAL LIQUID

WASTEWATER TREATMENT GRAB

CONFIGURATION FILE....: SYS\$SYSDEVICE: [CRU.SAMP] 36P407 SAMP 6821.CNF;1 BKGND SUBTRACTION FILE .: CECO BLANK: BKG 36P407 MRLIQ1600 6692. CNF DATE-TIME SAMPLE OBTAINED....: 3-JUN-2014 08:55:00.00 DATE-TIME SAMPLE ANALYZED....: 3-JUN-2014 08:58:00.99 COUNT REAL TIME...... 0 00:30:00.31 SAMPLE QUANTITY..... 1.61000E+03 G COLLECTOR'S INITIALS...: DM ANALYST'S INITIALS..... AA DETECTOR SERIAL NUMBER..: 36P407 GEOMETRY TYPE..... MRLIQ1600 DEADTIME..... 0.0% SAMPLE CODE..... WWTFGRAB SAMPLE POINT.....: NUCLIDE LIBRARY..... ENV LLD CALIBRATION DATE..... 18-APR-2014 10:54:00.00 DEPARTMENT..... CHEMISTRY LabWare ID...: 5467831 REMARK...: CONTAMINATION CHECK ENERGY CALIB GAIN.....: 4.99816E-01 FWHM CALIB GAIN.....: 3.95339E-02 ENERGY CALIB OFFSET....: 6.08794E-02 FWHM CALIB OFFSET.....: 5.57076E-01 Summary of Nuclide Activity 2 Total number of lines in spectrum Number of unidentified lines 0 2 Number of lines tentatively identified by NID 100.00% Nuclide Type : COSMIC INTERFER Wtd Mean Wtd Mean Uncorrected Decay Corr Decay Corr 1-Sigma UCI/G 1-Sigma Error %Error Flags Decay UCI/G Nuclide Hlife GE - 75M1.08 0.000E+00 0.000E+00 0.000E+00 0.00 9999.00S _____ _ _ _ _ _ _ _ _ _ _ Total Activity : 0.000E+00 0.000E+00 Grand Total Activity : 0.000E+00 0.000E+00 "M" = Manually accepted Flags: "K" = Keyline not found "E" = Manually edited "A" = Nuclide specific abn. limit

Post-NID Peak Search Report Sample ID : 6821

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides
-	67.10	29			134.13					GE-75M
0	198.72	24	24	1.35	397.47	394	1	39.8		GE - 75M

Unidentified Energy Lines Sample ID : 6821

None

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Flags: "T" = Tentatively associated

Nuclide Line Activity Report Sample ID : 6821

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Nuclide	Type: COSMI	C INTER	RFER	Uncorrected Decay Corr 1-Sigma
Nuclide GE-75M	Energy 66.00 139.70 198.40 596.00	%Abn 0.00 0.00* 0.00 0.00	%Eff 9.998E-01 4.464E+00 4.795E+00 3.078E+00	UCI/G UCI/G %Error Status 0.000E+00 0.000E+00 0.00 OK
	Final Mean	for 2	Valid Peaks	s = 0.000E+00+/- 0.000E+00 (0.00%)

Rejected Report Sample ID : 6821

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Page : 5 Acquisition date : 3-JUN-2014 08:58:00

Page : Minimum Detectable Activity Report Acquisition date : 3-JUN-2014 08:58:00 Sample ID : 6821 MDA Energy Bckgnd (UCI/G)(keV) Nuclide Sum 5.0939E-09 834.84 9. MN-54* 5.9857E-09 810.77 12. CO-58* 8.3817E-09 1099.25 5. FE-59* 6.4594E-09 9. 1173.24 CO-60* 1.2466E-08 -1115.55 9. ZN-65* 5.4285E-09 765.83 11. NB-95* 1.0299E-08 756.74 ZR-95* 12. 5.6515E-09 364.48 18. I-131* 7.4106E-09 604.70 26. CS-134* 4.2296E-09 661.66 6. CS-137* 2.0944E-08 537.32 15. BA-140* 3.9407E-09 1596.18 2. LA-140* Date: Analyst: Date: Reviewed by: _

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CURRENT DATE: 8-JUN-2014 01:24:26.60 STATION NAME: DRESDEN

STP SAND FILTER EFFLUENT

UNCONDITIONAL RELEASE 1600 ml

CONFIGURATION FILE....: SYS\$SYSDEVICE: [CRU.SAMP] 36P407_SAMP_6988.CNF;1 BKGND SUBTRACTION FILE.: CECO_BLANK:BKG_36P407_MRLIQ1600_6914.CNF DATE-TIME SAMPLE OBTAINED..... 8-JUN-2014 00:52:34.17/ DATE-TIME SAMPLE ANALYZED....: 8-JUN-2014 00:53:56.99 COUNT LIVE TIME...... 0 00:30:00.00 / COUNT REAL TIME...... 0 00:30:00.32 SAMPLE QUANTITY..... 1.61020E+03 ML / ANALYST'S INITIALS.....: EK COLLECTOR'S INITIALS...: JNB DETECTOR SERIAL NUMBER..: 36P407 / GEOMETRY TYPE.....: MRLIQ1600 / DEADTIME..... 0.0% SAMPLE CODE.....: UNCONDINLRELSSAMPLE POINT.....: NUCLIDE LIBRARY..... ENV LLD DEPARTMENT..... CHEMISTRY LabWare ID...: REMARK...: SAMPLED 6/7/14 @2230 ENERGY CALIB GAIN.....: 4.99783E-01 FWHM CALIB GAIN.....: 4.05111E-02 ENERGY CALIB OFFSET....: 6.76349E-02 FWHM CALIB OFFSET.....: 5.45299E-01 Summary of Nuclide Activity 3 Total number of lines in spectrum Number of unidentified lines 0 Number of lines tentatively identified by NID 3 100.00% Nuclide Type : COSMIC INTERFER Wtd Mean Wtd Mean 1-Sigma Uncorrected Decay Corr Decay Corr UCI/ML 1-Sigma Error %Error Flags UCI/ML Hlife Decay Nuclide 0.000E+00 0.000E+00 0.00 0.000E+00 GE-75M 9999.00S 1.07 _____ _____ 0.000E+00 0.000E+00 Total Activity : Nuclide Type : NATURAL Wtd Mean Wtd Mean Uncorrected Decay Corr Decay Corr 1-Sigma 1-Sigma Error %Error Flags UCI/ML UCI/ML Decay Nuclide Hlife 0.000E+00 0.000E+00 0.00 0.000E+00 1.00 BI-214 9999.00Y 0.000E+00 0.00 PB-214 9999.00Y 1.00 0.000E+00 0.000E+00 _____ _ _ _ _ _ _ _ _ _ _ 0.000E+00 0.000E+00 Total Activity : Grand Total Activity : 0.000E+00 0.000E+00

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Flags: "K" = Keyline not found "E" = Manually edited

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"M" = Manually accepted "A" = Nuclide specific abn. limit

Post-NID Peak Search Report Sample ID : 6988

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Page : 2 Acquisition date : 8-JUN-2014 00:53:56

It	Energy	Area	Bkgnd	FWHM Channel	Left	Pw %Err	Fit	Nuclides
Ō	67.19 352.20 609.43	18 26 34	35	0.55 134.31 1.54 704.58 1.23 1219.26	699	11 49.3		GE-75M PB-214 BI-214

Unidentified Energy Lines Sample ID : 6988 Page : 3 Acquisition date : 8-JUN-2014 00:53:56

None

Flags: "T" = Tentatively associated

Nuclide Line Activity Report Sample ID : 6988

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Nuclide	Type: COSMI	C INTER	FER	Uncorrected	Decay Corr	1-Sigma	
Nuclide GE-75M	Energy 66.00 139.70 198.40 596.00	%Abn 0.00 0.00* 0.00 0.00	%Eff 1.006E+00 4.464E+00 4.795E+00 3.078E+00	UCI/ML 0.000E+00 Lind	UCI/ML 0.000E+00 E Not Found Not Found	%Error 0.00 	Status OK Absent Absent Absent
	Final Mean	for 1	Valid Peaks	s = 0.000E +	00+/- 0.000H	Ξ+00 (0.00%)

Nuclide	Type: NATUR	AL	r1	ncorrected	Decas	/ Corr	1-Sigma	
Nuclide BI-214	Energy 609.32 665.45 768.37 806.19 934.05 1120.28 1155.19 1238.11 1280.96 1377.65 1401.50 1408.01 1509.23 1661.32	<pre>%Abn 0.00* 0.00 0.00 0.00 0.00 0.00 0.00 0.</pre>	<pre>%Eff 3.037E+00 2.878E+00 2.624E+00 2.542E+00 2.300E+00 2.029E+00 1.987E+00 1.897E+00 1.855E+00 1.772E+00 1.754E+00 1.749E+00 1.681E+00 1.602E+00</pre>	Lin Lin Lin Lin Lin Lin Lin Lin Lin Lin	UC 0.00 Not Not Not Not Not Not Not Not Not Not	Found Found Found Found Found Found Found Found Found Found Found Found Found Found Found Found Found	1-Sigma %Error 0.00 	Status OK Absent Absent Absent Absent Absent Absent Absent Absent Absent Absent Absent Absent
	1729.65 1764.54 1847.44 Final Mean	0.00 0.00 0.00 for 1	1.575E+00 1.563E+00 1.539E+00 Valid Peaks	Li: Li:	ne Not ne Not	Found Found Found 0.000E	 3+00 (Absent Absent 0.00%)
PB-214	53.23 241.91 295.17 351.90 785.91	0.00 0.00 0.00 0.00* 0.00	2.899E-01 4.639E+00 4.355E+00 4.052E+00 2.585E+00	Li Li 0.000E+00 Li	ne Not ne Not 0.0 ne Not	Found Found 00E+00 Found	0.00	Absent Absent Absent OK Absent
	Final Mean	for 1	Valid Peaks	= 0.000E	+00+/-	0.0001	S+00 (0.00%)

Minimum Detectable Activity Report Sample ID : 6988

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Page : 5 Acquisition date : 8-JUN-2014 00:53:56

	Bckgnd	Energy	MDA
Nuclide	Sum	(keV)	(UCI/ML)
MN-54*	6.	834.84	5.1676E-09
CO-58*	12.	810.77	6.9356E-09
FE-59*	8.	1099.25	1.3071E-08
CO-60*	5.	1173.24	6.0532E-09
ZN-65*	6.	1115.55	1.2739E-08
NB-95*	6.	765.83	4.9112E-09 🖌
ZR-95*	11.	756.74	1.1438E-08
I-131*	24.	364.48	7.2744E-09
CS-134*	14.	604.70	6.3479E-09
CS-137*	13.	661.66	7.3510E-09
BA-140*	15.	537.32	2.4172E-08
LA-140*	2.	1596.18	5.8435E-09
Analyst:			AL Date: 6-8-14
* <u></u>			
Reviewed by:	<u></u>		$\frac{1}{h} Date: \frac{6/8}{4}$
			ť

CURRENT DATE: 8-JUN-2014 00:52:33.68 STATION NAME: DRESDEN

MD-11

UNCONDITIONAL RELEASE 1600 ml

CONFIGURATION FILE....: SYS\$SYSDEVICE: [CRU.SAMP] 36P407_SAMP_6987.CNF;2 BKGND SUBTRACTION FILE.: CECO_BLANK:BKG_36P407_MRLIQ1600_6914.CNF DATE-TIME SAMPLE OBTAINED..... 8-JUN-2014 00:21:10.60 / DATE-TIME SAMPLE ANALYZED....: 8-JUN-2014 00:22:03.62 COUNT LIVE TIME...... 0 00:30:00.00 / SAMPLE QUANTITY..... 1.61340E+03 ML / ANALYST'S INITIALS.....: JNB COLLECTOR'S INITIALS...: JNB ANALYST'S INITIALS....: JNB DETECTOR SERIAL NUMBER..: 36P407 GEOMETRY TYPE..... MRLIQ1600 COLLECTOR'S INITIALS...: JNB DEADTIME..... 0.0% SAMPLE CODE.....: UNCONDINLRELSSAMPLE POINT.....: NUCLIDE LIBRARY..... ENV LLD CALIBRATION DATE..... 18-APR-2014 10:54:00.00 DEPARTMENT..... CHEMISTRY LabWare ID...: REMARK...: 6/7/14@2155 ENERGY CALIB GAIN.....: 4.99783E-01 FWHM CALIB GAIN.....: 4.05111E-02 ENERGY CALIB OFFSET....: 6.76349E-02 FWHM CALIB OFFSET.....: 5.45299E-01 Summary of Nuclide Activity 3 Total number of lines in spectrum 0 / Number of unidentified lines Number of lines tentatively identified by NID 100.00% 3 Nuclide Type : NATURAL Wtd Mean Wtd Mean Uncorrected Decay Corr Decay Corr 1-Sigma 1-Sigma Error %Error Flags UCI/ML UCI/ML Hlife Decay Nuclide 0.000E+00 0.000E+00 0.00 0.000E+00 0.000E+00 0.00 9999.00Y 1.00 0.000E+00 BI-214 1.00 0.000E+00 0.000E+00 PB-214 9999.00Y _____ ______ Total Activity : 0.000E+00 0.000E+00 Grand Total Activity : 0.000E+00 0.000E+00 "M" = Manually accepted Flags: "K" = Keyline not found "A" = Nuclide specific abn. limit "E" = Manually edited

Post-NID Peak Search Report Sample ID : 6987

8.44

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It	Energy	Area	Bkgnd	FWHM Channel	Left	Pw %Err	Fit	Nuclides
0 0 0	295.05 352.73 609.11	27 27 58	42	0.98 590.23 1.23 705.64 1.64 1218.62	701	6 32.3 10 48.9 10 16.6		PB-214 PB-214 BI-214

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Unidentified Energy Lines Sample ID : 6987

None

Flags: "T" = Tentatively associated

Nuclide Line Activity Report Sample ID : 6987

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Nuclide	Type: NATUR	AL		•			Corr	1 Giama	
						Jecay		1-Sigma	dhabua
Nuclide	Energy	%Abn	%Eff	UCI/MI			/ML		
BI-214	609.32	0.00*	3.038E+00	0.000E-		-)0E+00	0.00	OK
	665.45	0.00	2.878E+00		Line	Not	Found		Absent
	768.37	0.00	2.624E+00		Line	Not	Found		Absent
	806.19	0.00	2.542E+00		Line	Not	Found		Absent
	934.05	0.00	2.300E+00		Line	Not	Found		Absent
	1120.28	0.00	2.029E+00		Line	Not	Found		Absent
	1155.19	0.00	1.987E+00		Line	Not	Found		Absent
	1238.11	0.00	1.897E+00		Line	Not	Found		Absent
	1280.96	0.00	1.855E+00		Line	Not	Found		Absent
3	1377.65	0.00	1.772E+00				Found		Absent
	1401.50	0.00	1.754E+00				Found		Absent
	1401.00	0.00	1.749E+00				Found		Absent
	1509.23	0.00	1.681E+00				Found		Absent
	1661.32	0.00	1.602E+00				Found		Absent
	1729.65	0.00	1.575E+00				Found		Absent
	1764.54	0.00	1.563E+00				Found		Absent
		0.00	1.539E+00				Found		Absent
	1847.44	0.00	T. 332400		2220				
	Final Mean	for 1	Valid Peaks	= 0.0	00E+0	0+/-	0.0001	Ξ+00 (0.00%)
DD 014	F7 77	0.00	2.899E-01		Line	Not	Found		Absent
PB-214	53.23	0.00	4.639E+00				Found		Absent
	241.91			0.000E			00E+00	0.00	OK
	295.17	0.00	4.356E+00				00E+00	0.00	OK
	351.90	0.00*	4.049E+00	0.000E					Absent
	785.91	0.00	2.585E+00		Line	NOL	Found		Maciic
	Final Mean	for 2	Valid Peaks	= 0.0	00E+0	0+/-	0.000	E+00 (0.00%)

Flag: "*" = Keyline

Minimum Detectable Activity Report Acquisition date : 8-JUN-2014 00:22:03 Sample ID : 6987 MDA Energy Bckqnd (UCI/ML) (keV) Sum Nuclide 6.2727E-09 9. 834.84 MN-54* 5.6643E-09 7. 810.77 CO-58* 1.1336E-08 1099.25 6. FE-59* 1173.24 6.9803E-09 7. CO-60* 1.8327E-08 1115.55 14. ZN-65* 7.6355E-09 765.83 NB-95* 16. 9.5813E-09 756.74 7. ZR-95* 6.3211E-09 364.48 17. I-131* 6.6040E-09 604.70 16. CS-134* 5.9769E-09 8. 661.66 CS-137* 2.1363E-08 11. 537.32 BA-140* 7.3809E-09 1596.18 4. LA-140* 6/8/14 Date: Analyst: Date: Reviewed by: _____

Page : 5

CURRENT DATE: 8-JUN-2014 00:06:38.29 STATION NAME: DRESDEN DOMESTIC WATER (MUDS) UNCONDITIONAL RELEASE 1600 ml CONFIGURATION FILE....: SYS\$SYSDEVICE: [CRU.SAMP] 36P407 SAMP_6983.CNF;1 BKGND SUBTRACTION FILE.: CECO_BLANK:BKG_36P407_MRLIQ1600_6914.CNF DATE-TIME SAMPLE OBTAINED....: 7-JUN-2014 23:34:10.04 DATE-TIME SAMPLE ANALYZED....: 7-JUN-2014 23:36:02.97 COUNT LIVE TIME...... 0 00:30:00.00 / COUNT REAL TIME...... 0 00:30:00.44 SAMPLE QUANTITY..... 1.60600E+03 ML / ANALYST'S INITIALS.....: EK COLLECTOR'S INITIALS...: RT GEOMETRY TYPE..... MRLIQ1600 DETECTOR SERIAL NUMBER..: 36P407 DEADTIME..... 0.0% SAMPLE CODE.....: UNCONDINLRELSSAMPLE POINT...... NUCLIDE LIBRARY..... ENV LLD CALIBRATION DATE...... 18-APR-2014 10:54:00.00 DEPARTMENT..... CHEMISTRY LabWare ID...: REMARK...: SAMPLED 6/7/14 @2205 ENERGY CALIB GAIN.....: 4.99783E-01 FWHM CALIB GAIN...... 4.05111E-02 ENERGY CALIB OFFSET....: 6.76349E-02 FWHM CALIB OFFSET.....: 5.45299E-01 Summary of Nuclide Activity 11 Total number of lines in spectrum 1/ Number of unidentified lines Number of lines tentatively identified by NID 10 90.91% Nuclide Type : NATURAL Wtd Mean Wtd Mean Uncorrected Decay Corr Decay Corr 1-Sigma 1-Sigma Error %Error Flags UCI/ML Decay UCI/ML Nuclide Hlife 0.000E+00 0.000E+00 0.00 1.00 0.000E+00 BI-214 9999.00Y 0.00 0.000E+00 1.00 0.000E+00 0.000E+00 PB-214 9999.00Y _____ _____ Total Activity : 0.000E+00 0.000E+00 Grand Total Activity : 0.000E+00 0.000E+00 "M" = Manually accepted Flags: "K" = Keyline not found "A" = Nuclide specific abn. limit "E" = Manually edited

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Post-NID Peak Search Report Sample ID : 6983

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It	Energy	Area	Bkgnd	FWHM Channel	Left	Pw %Err	Fit	Nuclides
	77.20 241.95 295.37 351.90 609.23 768.43 933.90 1120.63 1238.31 1377.28 1764.69	38 82 200 355 327 43 30 54 38 48 81	86 68 61 47 44 21 3 28 3 0 0	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	152 480 584 698 1213 1530 1863 2234 2471 2747 3523	$\begin{array}{cccccccccccccccccccccccccccccccccccc$		X-R44 PB-214 PB-214 PB-214 BI-214 BI-214 BI-214 BI-214 BI-214 BI-214 BI-214 BI-214 BI-214

 Unidentified Energy Lines
 Page : 3

 Sample ID : 6983
 Acquisition date : 7-JUN-2014 23:36:02

 It Energy Area Bkgnd FWHM Channel Left Pw Cts/Sec %Err %Eff Flags

 0
 77.20
 38
 86
 1.73
 154.33
 152
 8 2.09E-02
 45.8
 1.68E+00

Flags: "T" = Tentatively associated

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Nuclide Line Activity Report Sample ID : 6983

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Nuclide	Type: NATUR	AL		-			
			U	Incorrected I	Decay Corr	1-Sigma	
Nuclide	Energy	%Abn	%Eff			%Error	Status
BI-214	609.32	0.00*	3.038E+00	0.000E+00			OK
	665.45	0.00	2.878E+00	Line			Absent
	768.37	0.00	2.624E+00	0.000E+00	0.000E+00	0.00	OK
	806.19	0.00	2.542E+00	Line	Not Found		Absent
	934.05	0.00	2.300E+00	0.000E+00	0.000E+00	0.00	OK
	1120.28	0.00	2.028E+00	0.000E+00		0.00	OK
	1155.19	0.00	1.987E+00	Line	Not Found		Absent
	1238.11	0.00	1.897E+00	0.000E+00	0.000E+00	0.00	OK
	1280.96	0.00	1.855E+00	Line	Not Found		Absent
	1377.65	0.00	1.772E+00	0.000E+00	0.000E+00	0.00	OK
	1401.50	0.00	1.754E+00		Not Found		Absent
	1408.01	0.00	1.749E+00		Not Found		Absent
	1509.23	0.00	1.681E+00		Not Found		Absent
	1661.32	0.00	1.602E+00		Not Found		Absent
	1729.65	0.00	1.575E+00	Line	Not Found		Absent
	1764.54	0.00	1.563E+00	0.000E+00	0.000E+00	0.00	OK
	1847.44	0.00	1.539E+00	Line	Not Found		Absent
2	Final Mean	for 7	Valid Peaks	= 0.000E+0	0+/- 0.000E	2+00 (0.00%)
PB-214	53.23	0.00	2.899E-01	Line	Not Found		Absent
PD-214	241.91	0.00	4.639E+00	0.000E+00		0.00	OK
	295.17	0.00	4.354E+00	0.000E+00		0.00	OK
		0.00*		0.000E+00		0.00	OK
	351.90 785.91	0.00*	2.585E+00	Line			Absent
	102.71	0.00	2.3030700				
	Final Mean	for 3	Valid Peaks	= 0.000E+0	0+/- 0.000E	E+00 (0.00%)

Flag: "*" = Keyline

Minimum Detectable Activity Report Sample ID : 6983

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Nuclide	Bckgnd Sum	Energy (keV)	MDA (UCI/ML)	
MN-54*	23.	834.84	9.4604E-09	
CO-58*	16.	810.77	7.8540E-09	
FE-59*	13.	1099.25	1.5682E-08	
CO-60*	12.	1173.24	8.9386E-09	
ZN-65*	16.	1115.55	1.9128E-08	
NB-95*	26.	765.83	9.4580E-09	
ZR-95*	14.	756.74	1.2996E-08	
I-131*	27.	364.48	7.8104E-09	
CS-134*	23.	604.70	7.8479E-09	
CS-137*	22.	661.66	9.3025E-09	
BA-140*	19.	537.32	2.7008E-08	
LA-140*	9.	1596.18	1.0004E-08	

Analyst:	EK	Date: _	6-8-14
Reviewed by:	$\overline{\gamma}_{t}$	Date: _	6/8/14

CURRENT DATE: 7-JUN-2014 22:00:22.24 STATION NAME: DRESDEN SEWAGE EJ PIT AKA RAW SEWAGE UNCONDITIONAL RELEASE 1600 ml CONFIGURATION FILE....: SYS\$SYSDEVICE: [CRU.SAMP] 36P407 SAMP 6974.CNF;1 BKGND SUBTRACTION FILE .: CECO BLANK: BKG 36P407 MRLIQ1600 6914. CNF DATE-TIME SAMPLE OBTAINED....: 7-JUN-2014 21:00:00.00 DATE-TIME SAMPLE ANALYZED....: 7-JUN-2014 21:29:52.70 COUNT LIVE TIME...... 0 00:30:00.00 COUNT REAL TIME...... 0 00:30:00.40 SAMPLE OUANTITY..... 1.60000E+03 ML ANALYST'S INITIALS..... JG COLLECTOR'S INITIALS...: DETECTOR SERIAL NUMBER..: 36P407 GEOMETRY TYPE..... MRLIQ1600 / DEADTIME..... 0.0% SAMPLE CODE.....: UNCONDINLRELSSAMPLE POINT...... NUCLIDE LIBRARY..... ENV LLD CALIBRATION DATE..... 18-APR-2014 10:54:00.00 DEPARTMENT..... CHEMISTRY LabWare ID...: REMARK...: OIL LOG# AND/OR REAL SAMPLE TIME ENERGY CALIB GAIN.....: 4.99740E-01 FWHM CALIB GAIN.....: 3.99021E-02 ENERGY CALIB OFFSET....: 7.00696E-02 FWHM CALIB OFFSET.....: 5.55232E-01 Summary of Nuclide Activity 13 Total number of lines in spectrum 2 Number of unidentified lines Number of lines tentatively identified by NID 11 84.62% Nuclide Type : NATURAL Wtd Mean Wtd Mean Uncorrected Decay Corr Decay Corr 1-Sigma UCI/ML 1-Sigma Error %Error Flags Decay UCI/ML Nuclide Hlife 0.000E+00 0.000E+00 0.00 BI-214 9999.00Y 1.00 0.000E+00 0.000E+00 0.00 0.000E+00 1.00 0.000E+00 PB-214 9999.00Y _____ _____ Total Activity : 0.000E+00 0.000E+00 0.000E+00 Grand Total Activity : 0.000E+00 "M" = Manually accepted Flags: "K" = Keyline not found "A" = Nuclide specific abn. limit "E" = Manually edited

Post-NID Peak Search Report Sample ID : 6974

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Page : 2 Acquisition date : 7-JUN-2014 21:29:52

It	Energy	Area	Bkgnd	FWHM Channel	Left	Pw %Err	Fit	Nuclides
0 0 0 3	242.56 295.23 351.85 474.95 609.19	62 138 253 21 216	92 31 48 13 21	1.48 485.24 1.21 590.63 0.94 703.93 0.82 950.25 1.42 1218.88	479 587 699 946 1214		59E+00	PB-214 PB-214 PB-214 Bi - 2.14 Bi - 2.14 L
3	612.24		3_	2.05 1224.98	<u>1214</u> -	$-\frac{1}{10}(55.5)$		BI-214
0	768.40	24	21	1.54 1537.45	1530	12 43.2		BI-214 BI-214
0	934.33	14	14	1.60 1869.50	1864	14 62.7		
0	1120.12	59	9	2.18 2241.26	2235	12 16.5		BI-214
Ō	1238.21	37	0	1.48 2477.57	2471	13 16.4		BI-214
ō	1377.48	20	7	0.74 2756.25	2749	15 38.0		BI-214
õ	1729.88	17	0	1.46 3461.41	3456	10 24.3		BI-214
ŏ	1764.58	50	0	1.66 3530.86	3524	13 14.1		BI-214

Page : 3 Unidentified Energy Lines Acquisition date : 7-JUN-2014 21:29:52 Sample ID : 6974 Area Bkgnd FWHM Channel Left Pw Cts/Sec %Err %Eff Flags Energy It 3.50E+00 950.25 946 8 1.14E-02 38.3 13 0.82 21 474.95 0 3 2.05 1224.98 1214 16 1.27E-02 55.5 3.03E+00 23 612.24 3

Flags: "T" = Tentatively associated

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Nuclide Line Activity Report Sample ID : 6974

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Nuclide	Type: NATUR	AL	-	The second se	Corr	1_Giama	
				Incorrected I	Jecay Corr	L-STAWA	Chatura
Nuclide	Energy	%Abn	%Eff	UCI/ML	OCT/ML	%Error	
BI-214	609.32	0.00*	3.038E+00	0.000E+00		0.00	OK
D1-214	665.45	0.00	2.878E+00	Line			Absent
	768.37	0.00	2.624E+00	0.000E+00	0.000E+00	0.00	OK
	806.19	0.00	2.542E+00	Line			Absent
	934.05	0.00	2.299E+00	0.000E+00		0.00	OK
	1120.28	0.00	2.029E+00	0.000E+00	0.000E+00	0.00	OK
	1155.19	0.00	1.987E+00	Line	Not Found		Absent
85	1238.11	0.00	1.897E+00	0.000E+00	0.000E+00	0.00	OK
	1280.96	0.00	1.855E+00	Line	Not Found		Absent
	1377.65	0.00	1.772E+00	0.000E+00	0.000E+00	0.00	OK
	1401.50	0.00	1.754E+00	Line	Not Found		Absent
		0.00	1.749E+00		Not Found		Absent
	1408.01	0.00	1.681E+00		Not Found		Absent
	1509.23		1.602E+00		Not Found		Absent
	1661.32	0.00	1.575E+00	0.000E+00	0.000E+00	0.00	OK
	1729.65	0.00		0.000E+00	0.000E+00	0.00	OK
	1764.54	0.00	1.563E+00	Line			Absent
	1847.44	0.00	1.539E+00	une	Not Found		1000110
	Final Mean	for 8	Valid Peaks	= 0.000E+0	0+/- 0.0001	E+00 (0.00%)
	F2 02	0.00	2.899E-01	Line	Not Found		Absent
PB-214	53.23		4.636E+00	0.000E+00		0.00	OK
	241.91	0.00		0.000E+00		0.00	OK
	295.17	0.00	4.355E+00	0.000E+00		0.00	OK
	351.90	0.00*	4.053E+00				Absent
	785.91	0.00	2.585E+00	Line	NOT FOUND		ADSCILL
	Final Mean	for 3	Valid Peaks	= 0.000E+0	0+/- 0.0003	E+00 (0.00%)

Flag: "*" = Keyline

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Minimum Detectable Activity Report Sample ID : 6974

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	7.8519E-09
NN-54* 12. 810.77 CO-58* 12. 810.77 FE-59* 8. 1099.25 CO-60* 8. 1173.24 ZN-65* 8. 1115.55 NB-95* 24. 765.83 ZR-95* 13. 756.74 I-131* 32. 364.48 CS-134* 25. 604.70 CS-137* 11. 661.66 BA-140* 11. 537.32	7.1306E-09 1.3132E-08 7.5214E-09 1.4087E-08 9.0806E-09 1.2550E-08 8.4418E-09 8.2323E-09 6.8021E-09 2.0968E-08 9.9351E-09

 $\frac{EK}{2} \quad \text{Date:} \quad \frac{6-8-14}{6/8/14}$ Analyst: _____ 4 Reviewed by: _____

CURRENT DATE: 4-JUN-2014 11:55:17.24 STATION NAME: DRESDEN

GENERAL LIQUID

SEWAGE TREATMENT PLANT EFFLUENT

CONFIGURATION FILE....: SYS\$SYSDEVICE: [CRU.SAMP] 36P407 SAMP 6872.CNF;1 BKGND SUBTRACTION FILE.: CECO_BLANK:BKG_36P407_MRLIQ1600_6692.CNF DATE-TIME SAMPLE OBTAINED..... 4-JUN-2014 11:21:01.17 DATE-TIME SAMPLE ANALYZED....: 4-JUN-2014 11:24:48.06 COUNT LIVE TIME...... 0 00:30:00.00 COUNT REAL TIME...... 0 00:30:00.31 SAMPLE QUANTITY..... 1.61480E+03 G COLLECTOR'S INITIALS...: DM ANALYST'S INITIALS..... AA GEOMETRY TYPE..... MRLIQ1600 DETECTOR SERIAL NUMBER..: 36P407 DEADTIME..... 0.0% SAMPLE POINT.....: SAMPLE CODE..... STPEFF NUCLIDE LIBRARY..... ENV LLD CALIBRATION DATE..... 18-APR-2014 10:54:00.00 DEPARTMENT..... CHEMISTRY LabWare ID...: 5469240 REMARK...: CONTAMINATION CHECK ENERGY CALIB GAIN.....: 4.99800E-01 FWHM CALIB GAIN.....: 3.89050E-02 ENERGY CALIB OFFSET....: 7.71762E-02 FWHM CALIB OFFSET.....: 5.72995E-01 Summary of Nuclide Activity 3 Total number of lines in spectrum Number of unidentified lines 0 Number of lines tentatively identified by NID 3 100.00% Nuclide Type : NATURAL Uncorrected Decay Corr Decay Corr 1-Sigma 1-Sigma Error %Error Flags UCI/G UCI/G Nuclide Hlife Decay 0.000E+00 0.000E+00 0.00 1.00 0.000E+00 BI-214 9999.00Y 1.00 0.000E+00 0.000E+00 0.000E+00 0.00 PB-214 9999.00Y _____ _____ Total Activity : 0.000E+00 0.000E+00 Grand Total Activity : 0.000E+00 0.000E+00 "M" = Manually accepted Flags: "K" = Keyline not found "A" = Nuclide specific abn. limit "E" = Manually edited

• Post-NID Peak Search Report Sample' ID : 6872

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It	Energy	Area	Bkgnd	FWHM Channel	Left	Pw %Err	Fit	Nuclides
0 0 0	352.28 609.38 1119.97	32 46 19	17	3.31 704.69 1.08 1219.10 1.75 2240.68	1214	11 22.8		PB-214 BI-214 BI-214

Unidentified Energy Lines Sample' ID : 6872

None

Flags: "T" = Tentatively associated

• Nuclide Line Activity Report Sample ID : 6872

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Nuclide	Type: NATURA	\L			Uncorrected Decay Corr	1-Sigma
Nuclide BI-214	Energy 609.32 665.45	Area 46	%Abn 0.00* 0.00	%Eff 3.037E+00 2.878E+00	Uncorrected Decay Corr UCI/G UCI/G 0.000E+00 0.000E+00 Line Not Found Line Not Found	*Error 0.00
	768.37 806.19 934.05	 19	0.00 0.00 0.00 0.00	2.624E+00 2.542E+00 2.300E+00 2.029E+00	Line Not Found Line Not Found 0.000E+00 0.000E+00	0.00
	1120.28 1155.19 1238.11 1280.96		0.00 0.00 0.00	1.987E+00 1.897E+00 1.855E+00 1.772E+00	Line Not Found Line Not Found Line Not Found	
	1377.65 1401.50 1408.01 1509.23		0.00 0.00 0.00 0.00	1.754E+00 1.749E+00 1.681E+00	Line Not Found Line Not Found Line Not Found	
	1661.32 1729.65 1764.54 1847.44		0.00 0.00 0.00 0.00	1.602E+00 1.575E+00 1.563E+00 1.539E+00	Line Not Found Line Not Found Line Not Found	
PB-214	53.23 241.91 295.17 351.90 785.91	32	0.00 0.00 0.00 0.00* 0.00	2.899E-01 4.639E+00 4.355E+00 4.051E+00 2.585E+00	Line Not Found Line Not Found 0.000E+00 0.000E+00	0.00

Flag: "*" = Keyline

Rejected Report Sample ID : 6872

Flag: "*" = Keyline

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Minimum Detectable Activity Report Sample ID : 6872 ~ .

Page : 6 Acquisition date : 4-JUN-2014 11:24:48

Nuclide MN-54* CO-58* FE-59* CO-60* ZN-65* NB-95* ZR-95* I-131* CS-134* CS-137*	Bckgnd Sum 17. 7. 9. 7. 9. 8. 26. 22. 11.	Energy (keV) 834.84 810.77 1099.25 1173.24 1115.55 765.83 756.74 364.48 604.70 661.66 537.32	MDA (UCI/G) 6.0880E-09 8.1067E-09 1.1849E-08 7.8856E-09 1.3536E-08 5.9710E-09 1.0230E-08 7.6280E-09 7.7002E-09 6.7890E-09 2.4432E-08
BA-140* LA-140*	15. 4.	1596.18	7.1715E-09
Analyst:		<u>M</u>	Date: 6^{-4-14}
Reviewed by:			\square Date: $6/5/614$

1.	Sample Information						
	Sample Point:	· · · · ·		$\overline{\Omega}$			
	Collection Date/Tin	1e:	T14	LAD			
	Sample by:	Dm			_		
2.	Analysis Data:		6 erc	6-7-14			
	Sample Analysis D	ate:	6-7-14				
	Days of Sample De	ecay:	D		<u> </u>		
	Circle Instrument L	Ised	2550T		2900TI	R #2	I
	Protocol Used:		LLD: .	/825	pCi/L		
3.	Count Data:					-5	
	Sample #1 cpm	/32	dpm:	508	µCi/g:	5.72E	
	Sample #2 cpm	/37	dpm:	528	µCi/g:	<u>5.726</u> 5.956 ⁻⁵	
	Sample #3 cpm	128	dpm:	496	µCi/g:	5.58E ⁻⁵	
4.	Sample Activity:						2
	NOTE:	<u>1µCi</u> g	Ξ	<u>10⁹ pCi</u> L			
4.1	Average Sample A	ctivity (unco	rrected), μ	Ci/g: <u>5.79</u>	<u>56</u> -5_x	1.0E9= <u>57,5</u> c	∞_pCi/L √
4.2	If sample is not an follows:	alyzed withir	n 7 days of	collection,	then DEC	AY correct activ	
	Uncorrected Avera	ige Sample /	Activity * e ⁽	In2/12.35)*(da	ys since sam	oling/365.25)	
4.3	Decay corrected ³ (If samples are an	-l activity =	/	V/A	µCi/g >	(1.0E9= <u>N/A</u>	pCi/L
Perfo	rmed by:	R	EK	Date:(6-7-14		
Data	Entry (µCi/g)by:		<u>A</u>	Dat	te: <u>6-7-</u>	íY	
	ewed by:		6/8/14				
		1'	SRRS#	<u>2K.100</u>			

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DATA SHEET 2

•

1.	Sample Information:					
	Sample Point: <u><u><u>R</u>+R Sept</u></u>	ic		_		
	Collection Date/Time: 6-9-	14/17	20	_		
	Sample by: FH			-		
2.	Analysis Data:					
	Sample Analysis Date:	6-10-14	<u> </u>	-		
	Days of Sample Decay:					
	Circle Instrument Used	2550TF	R #1	2900TF	R #2	
	Protocol Used: 3	_ LLD:	1965	_ pCi/L		
3.	Count Data:				Q 10155 6	_
	Sample #1 cpm	_ dpm: _	Λ,	_ µCi/g: _	8.1552-2	>
	Sample #2 cpm	_ dpm: _		_ µCi/g: _	8.4815-	5
	Sample #1 cpm $153,18$ Sample #2 cpm 157.51 Sample #3 cpm $148,53$ Sample Activity:	_ dpm: _	4	_ µCi/g: _	7.999 6-5	
4.	Sample Activity:					
	NOTE: <u>1µCi</u> g	=	10 ⁹ pCi L			
L	· · · · · · · · · · · · · · · · · · ·					
4.1	Average Sample Activity (uncorre	ected), μC	i/g: <u>8,28</u>	2-5 x	1.0E9= <u>820</u> 50	_pCi/L
4.2	If sample is not analyzed within 7 follows:	-			-	' as
	Uncorrected Average Sample Act	ivity * e ⁽ⁱⁿ	2/12.35)*(days	since sampl	ing/365.25)	
4.3	Decay corrected ³ H activity = (If samples are analyzed within 7					_pCi/L
Perfor	rmed by:		Date:	6-10	-14	
Data I	Entry (µCi/g)by:	7	Date:		~A	-
Revie		////// SRRS# <u>21</u>	K.100			

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DATA SHEET 2

1.	Sample Information:		
	Sample Point: <u>R+R</u> Sept:	i Truck Rinse	
	Collection Date/Time: 6-10	0-14/1130	
	Sample by: FH	, . ,	
2.	Analysis Data:		
	Sample Analysis Date:	-10-14	-
	Days of Sample Decay:	<	
	Circle Instrument Used	2550TR #1	2900TR #2
	Protocol Used: 3	LLD: 1965	_pCi/L
3.	Count Data:		÷
	Sample #1 cpm	dpm:	μCi/g: <u>1,032ε-4</u> μCi/g: <u>1,019ε-4</u>
	Sample #2 cpm		
	Sample #3 cpm6-84	_ dpm:	μCi/g: 1.0365-4
4.	Sample Activity:		
r			è
	NOTE: <u>1µCi</u> g	= <u>10⁹ pCi</u> L	
	· ·		
		147	9-6-10-11
4.1	Average Sample Activity (uncorre	cted), μCi/g: <u>1.02</u>	75-4 x 1.0E9= 102 / pCi/L
4.2	Average Sample Activity (uncorre If sample is not analyzed within 7 follows:	days of collection, tl	nen DECAY correct activity as
	Uncorrected Average Sample Act	ivity * e ^{(In2/12.35)*(days}	since sampling/365.25)
4.3	Decay corrected ³ H activity = (If samples are analyzed within 7	ル/A days of collection, th	μCi/g x 1.0E9= <u>ν/Α</u> pCi/L ten ENTER N/A.)
Perfor	rmed by:	Date:	6-10-14
Data I	Entry (µCi/g)by:	Date:	~~
Revie	wed by:	<i>⊾اب∞∤</i> SRRS# <u>2K.100</u>	

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1.	Sample Information:		`
	Sample Point: <u>R+R Septic</u>	Truck Ringe (Filter	red)
	Collection Date/Time:6-10	-14/1130	•
	Sample by: F+I	•	
2.	Analysis Data:		
	Sample Analysis Date:	6-10-14	-
	Days of Sample Decay:	۷۱	-
	Circle Instrument Used	2550TR #1	2900TR #2
	Protocol Used:3	_LLD: <u>1965</u>	_pCi/L
3.	Count Data:		
	Sample #1 cpm Sample #2 cpm	_ dpm: _//	_ µCi/g: <u>5.4145-5</u>
	Sample #2 cpm	_ dpm:	_μCi/g: <u>5. 3455-5</u> _μCi/g: <u>5. 2185-5</u>
	Sample #3 cpm 8	_ dpm:	_µCi/g: <u>5.2185-5</u>
4.	Sample Activity:	/	
[409 - 01]
	NOTE: <u>1µCi</u> g	= <u>10⁹ pCi</u> L	
-			
	Average Sample Activity (uncorre	537	545 53253
4.1	Average Sample Activity (uncorre	ected), μCi/g: <u></u>	x 1.0E9≡pCi/L
4.2	If sample is not analyzed within a follows:		
	Uncorrected Average Sample Ac	ctivity * e ^{(In2/12.35)*(days}	since sampling/365.25)
4.3	Decay corrected ³ H activity = (If samples are analyzed within 7	ア/A 7 days of collection, th	_ μCi/g x 1.0E9= <u> </u>
Perfo	rmed by:FH	Date:	6-10-14
Data	Entry (µCi/g)by:	Date	6-10-14
Revie	ewed by:	6/10/14	
	Sul	SRRS# <u>2K.100</u>	

1.	Sample Informatio Sample Point: Collection Date/Tin Sample by:	ne: <u>6-3</u>		0810			
2.	Analysis Data: Sample Analysis I Days of Sample D Circle Instrument Protocol Used:	Used	2550T	R#1	– – 2900TR pCi/L	#2	
3.	Count Data:	2	dom	11	uCi/a:	1.25-6	
	Sample #1 cpm _ Sample #2 cpm _ Sample #3 cpm _	3	dpm:	12	μCi/g: _ μCi/g: _	1.3E-6	
4.	Sample #3 cpm _ Sample Activity:	/	dpm:	6	µCi/g: _	6.06-7	
10	NOTE:	<u>1µCi</u> g	=	<u>10⁹ pCi</u> L			
4.1	Average Sample	Activity (unco	rrected), μ	Ci/g: <u>/./c</u>	6 5X	1.0E9= <u>//00</u>	pCi/L
4.2	If sample is not a	nalyzed withir	n 7 days of	collection,	then DEC	AY correct activ	
	Uncorrected Ave	age Sample	Activity * e	(in2/12.35)*(da	ys since samp	ling/365.25)	
4.3	Decay corrected (If samples are a	³ H activity = nalyzed withir	n 7 days of	N/A collection,	μCi/g x then ENTE	1.0E9= <u>11/4</u> ER N/A.)	pCi/L
Perf	ormed by:		EK	Date: _	-7-14		
	a Entry (µCi/g)by:					-14	
	iewed by:		18/14				
		L		<u>2K.100</u>			

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1.	Sample Informati Sample Point: Collection Date/T	254	2/14/	1240)		
	Sample by:		///				
2.	Analysis Data: Sample Analysis Days of Sample I	Decay:	4				
	Circle Instrument		2 <u>5</u> 50TF		2900TF	<i>₹</i> #2	
•	Protocol Used:		LLD:	1025	pCi/L		
3.	Count Data: Sample #1 cpm	1	dpm:	5	µCi/g:	5.0E ⁻⁷ 1.0E ⁻⁶ 2.0E ⁻⁷	
	Sample #2 cpm	<u>~</u>	apm	(µC//g:	-7	
		0	dpm: _		µCi/g:	2.0E	
4.	Sample Activity:						
	NOTE:	<u>1µCi</u> g	= :	10 ⁹ pCi L			
4.1	Average Sample	Activity (unco	rrected), μC	i/g: <u>6.</u>	0E ⁻⁷ x	1.0E9= <u>600</u> pC	;i/L
4.2	If sample is not a follows:	nalyzed withir	n 7 days of c	collection,	then DEC	AY correct activity as	
	Uncorrected Ave	rage Sample /	Activity * e ^{(In}	2/12.35)*(day	s since samp	ling/365.25)	
4.3	Decay corrected (If samples are a		/\ n 7 days of c			1.0E9= <u>N/A</u> pC ER N/A.)	i/L
Perfor	med by:			Date:	5-7-14		
Data I	Entry (µCi/g)by:		EN	<u></u> Date	e: <u>6-7</u>	-14	
	wed by:		<u> </u>	<u>K.100</u>			

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1.	Sample Information: 3500
	Collection Date/Time: 6/2/14/1250
	Sample by:
2.	Analysis Data: Sample Analysis Date:6-6-14
	Days of Sample Decay:
	Circle Instrument Used 2550TR #1 2900TR #2
_	Protocol Used: <u>3</u> LLD: <u>/825</u> pCi/L
3.	Count Data:
	Sample #1 cpm dpm:5μCi/g:6. ΟΕ
	Sample #2 cpm dpm: µCi/g:4 <i>E</i>
	Sample #1 cpm / dpm: 5 μ Ci/g: 6.0E ⁻⁷ Sample #2 cpm 3 dpm: /3 μ Ci/g: 1.4E ⁻⁶ Sample #3 cpm 4 dpm: /5 μ Ci/g: 1.7E ⁻⁶
4.	Sample Activity:
	NOTE: $\frac{1\mu Ci}{g} = \frac{10^9 pCi}{L}$
	16 /2.
4.1	Average Sample Activity (uncorrected), $\mu Ci/g$: <u>/36</u> x 1.0E9= <u>/300</u> pCi/L
4.2	If sample is not analyzed within 7 days of collection, then DECAY correct activity as follows:
	Uncorrected Average Sample Activity * e ^{(In2/12.35)*(days since sampling/365.25)}
4.3	Decay corrected ³ H activity = $\frac{\sqrt{4}}{\mu \text{Ci/g x 1.0E9}} = \frac{\sqrt{4}}{\mu \text{Ci/g x 1.0E9}}$ pCi/L (If samples are analyzed within 7 days of collection, then ENTER N/A.)
Perfo	rmed by: EK Date:6-7-/4/
Data	rmed by:
	ewed by:
	SRRS# <u>2K.100</u>

1.	Sample Information:		
	Sample Point:M M N M	J - 114 S	
	Sample Point:M M D M Collection Date/Time:6.8	-14 1700	
	Sample by:	<u>,, , , , , , , , , , , , , , , , , , ,</u>	
2.	Analysis Data:		
~ .	Sample Analysis Date:6`8	2.14	
	Days of Sample Decay:($\widehat{}$	
	Circle Instrument Used	2550TR #1	2900TR #2
		LLD: <u>957</u>	pCi/L
3.	Count Data:		
0.	1.11.2	dom:	_µCi/g: <u>5.8798-7</u>
	Sample #2 cpm	_ dpm:	μCi/g: <u>8.506ξ-)</u>
	Sample #3 cpm/ U	/	μCi/g: 5-93 55.938-7
4 .	Sample Activity:		
	NOTE: <u>1µCi</u> g	= <u>10⁹ pCi</u>	
	3		
			(LLD <957)
4.1	Average Sample Activity (uncorre	cted), μCi/g: 🦉 🕺	x 1.0E9= <u>677</u> pCi/L
4.2	If sample is not analyzed within 7 follows:	days of collection, th	nen DECAY correct activity as
	Uncorrected Average Sample Act	ivity * e ^{(In2/12.35)*(days}	since sampling/365.25)
4.3	Decay corrected 3 H activity = (If samples are analyzed within 7	Ng	µCi/g x 1.0E9=pCi/L
Perfo	ormed by:	Date:	a. 8 · 19
Data	Entry (µCi/g)by:	Date:	68.14
Revie	ewed by:		
	9	SRRS# <u>2K.100</u>	

1.	Sample Information:	1			
	Sample Point: <u>MW DN</u>	1265	<u>``</u>		
	Collection Date/Time: $6^{-}6^{-}$		0		
	Sample by:				
2.	Analysis Data:	6-8-14			
	Sample Analysis Date: (2011			
	Days of Sample Decay:	0			
	Circle Instrument Used	2550T	R #1	(2900TR	#2
	Protocol Used: 3	LLD: _	957	pCi/L	
3.	Count Data:				
	Sample #1 cpm434.4	$\frac{3}{\sqrt{2}}$ dpm:	Ar	µCi/g:	1.8208-4 1.7888-4 1.8168-4
	Sample #2 cpm	7 dpm: .	-A	µCi/g:	1:1886-4
	Sample #3 cpm 729. () 🧭 dpm: _	/	µCi/g:	1.161
4.	Sample Activity:				
			409-0:		7
	NOTE: <u>1µCi</u> g	=	<u>10⁹ рСі</u> L		
	Average Sample Activity (unc		18	088-4	180783
4.1					
4.2	If sample is not analyzed with follows:	-			
	Uncorrected Average Sample	Activity * e ⁽	In2/12.35)*(da	iys since samplir	ng/365.25)
4.3	Decay corrected ³ H activity = (If samples are analyzed with	in 7 days of		then ENTE	l.0E9= <u>//</u> pCi/L R N/A.)
Perfo	ormed by:	pr_	Date:	58/4	
Data	Entry (µCi/g)by:	m	Da	te: <u>6 - 8 -</u>	.14
Revie	ewed by:	<i>V</i>			
	Ú,	SRRS#	2K.100		

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DATA SHEET 2

1.	Sample Information:
	Sample Point:Mw-Dw-1275
	Collection Date/Time: <u>6-8-14 / 1335</u>
	Sample by: FH
2.	Analysis Data: Sample Analysis Date: Days of Sample Decay: Circle Instrument Used Circle Instrument Circle Instrument Used Circle Instrument Circle Instrumen
_	Protocol Used: LLD: 457 pCi/L
3.	Count Data: Sample #1 cpm $\frac{2.705 \& -6}{4.14}$ Sample #2 cpm $\frac{1.814}{4.14}$ $\frac{1.814}$
4.	Sample Activity:
	NOTE: $\frac{1\mu Ci}{g} = \frac{10^9 pCi}{L}$
L	21455-6 2145
4.1	Average Sample Activity (uncorrected), μ Ci/g: $\frac{2.185\xi-6}{x 1.0E9} = \frac{2.85\xi}{p}$ Ci/L
4.2	If sample is not analyzed within 7 days of collection, then DECAY correct activity as follows:
	Uncorrected Average Sample Activity * e ^{(In2/12.35)*(days since sampling/365.25)}
4.3	Decay corrected ³ H activity = $\mu Ci/g \ge 1.0E9 = \mu pCi/L$ (If samples are analyzed within 7 days of collection, then ENTER N/A.)
Perfo	rmed by: Date: Date:
Data	Entry (µCi/g)by: Date: 6.8.1.4
Revie	ewed by:
	SRRS# <u>2K.100</u>

TRITIUM SAMPLING AND CALCULATIONS FOR WATER SAMPLES

1.	Sample Information:
	Sample Point: <u>MW DN 1075</u>
	Collection Date/Time: <u>6.8.14 /500</u>
	Sample by:
2.	Analysis Data: Sample Analysis Date: <u>6.8.14</u>
	Days of Sample Decay:
	Circle Instrument Used 2550TR #1 (2900TR #2)
	Protocol Used: LLD: pCi/L
2	Count Data:
3.	
	Sample #1 cpm dpm: µCi/g:
	Sample #2 cpm dpm: µCi/g:
	Sample #3 cpm dpm: µCi/g:
4.	Sample Activity:
	NOTE: $\frac{1\mu Ci}{g} = \frac{10^9 pCi}{L}$
	(957)
A 1	Average Sample Activity (uncorrected), μCi/g:x 1.0E9=pCi/L
4.1	If sample is not analyzed within 7 days of collection, then DECAY correct activity as
4.2	follows:
	Uncorrected Average Sample Activity * e ^{(In2/12.35)*(days since sampling/365.25)}
4.3	Decay corrected ³ H activity = $\mu Ci/g \ge 1.0E9 = M^{4} pCi/L$ (If samples are analyzed within 7 days of collection, then ENTER N/A.)
Perfo	ormed by: Date: Date: Date: Date: Δ Date: D
Data	Entry (µCi/g)by: Pate: Date:
Revi	ewed by:
	SRRS# 2K 100

SRRS# <u>2K.100</u>

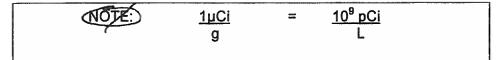
TRITIUM SAMPLING AND CALCULATIONS FOR WATER SAMPLES

1.	Sample Information: Sample Point: DSP 12.5
	Sample by:
2.	Analysis Data:
	Sample Analysis Date:6-8-14
	Days of Sample Decay:
	Circle Instrument Used 2550TR #1 2900TR #2
	Protocol Used: LLD: pCi/L
3.	Count Data:
	Sample #1 cpm 236.13 dpm: μ Ci/g: $9.979\pounds-5$ Sample #2 cpm 238.49 dpm: μ Ci/g: $1.0/5\pounds-4$ Sample #2 cpm 230.30 dpm: μ Ci/g: $7.838\pounds-5$ Sample #3 cpm 230.30 dpm: μ Ci/g: $7.838\pounds-5$
	Sample #2 cpm 238 41 dpm: μ Ci/g: $1.0/52-4$
	230.30 H 9.8382-5
4.	Sample Activity:
	NOTE: $\underline{1\mu Ci} = \underline{10^9 pCi}$
	NOTE: $\underline{1\mu Ci} = \underline{10^{\circ} pCi}$ g L
	@ 9605-5 Gec. 10
4.1	Average Sample Activity (uncorrected), μ Ci/g:x 1.0E9=pCi/L
4.2	If sample is not analyzed within 7 days of collection, then DECAY correct activity as follows:
	Uncorrected Average Sample Activity * e ^{(in2/12.35)*(days since sampling/365.25)}
4.0	Decay corrected ³ H activity = $//A$ $\mu Ci/g \times 1.0E9 = //A$ pCi/L
4.3	(If samples are analyzed within 7 days of collection, then ENTER N/A.)
- (Date: $6 \cdot 8 \cdot 17$
Репо	ormed by: Date: Δ Date: Δ Entry (μCi/g)by: Δ Date: Δ
Data	Entry (µCi/g)by: Date: Date:
Revie	ewed by:

SRRS# <u>2K.100</u>

TRITIUM SAMPLING AND CALCULATIONS FOR WATER SAMPLES

1.	Sample Information: Sample Point: STP EFF		
	Collection Date/Time: 6-4-14		-
	Sample by: DM / F	4	- -
2.	Analysis Data:		
	Sample Analysis Date:	6-7-14	-
	Days of Sample Decay:	3	•
	Circle Instrument Used	2550TR #1	2900TR #2
	Protocol Used: <u>3</u>	LLD: <u>1965</u>	_pCi/L
3.	Count Data:		
	Sample #1 cpm / 23.82	dpm: <u> </u>	µCi/g: <u>5.214 E⁻⁵</u>
	Sample #2 cpm /28.80	dpm: <u>~/A</u>	_µCi/g: _ 5.494 E-5
	Sample #3 cpm /22.91	dpm: <u>~/A</u>	_µCi/g: <u>5.254 E-5</u>
4.	Sample Activity:		



- Average Sample Activity (uncorrected), $\mu Ci/g: 5.321 \varepsilon^{-5} \times 1.0E9 = 53, 210 pCi/L$ 4.1
- If sample is not analyzed within 7 days of collection, then DECAY correct activity as 4.2 follows:

Uncorrected Average Sample Activity * e^{(ln2/12.35)*(days since sampling/365.25)}

Decay corrected ³H activity = $\frac{N/A}{\mu Ci/g \times 1.0E9} = \frac{N/A}{\rho Ci/L}$ pCi/L (If samples are analyzed within 7 days of collection, then ENTER N/A.) 4.3

Performed by: _____ FH ____ Date: ____6-7-14_____

Data Entry (µCi/g)by:		N/A	Date:	NIA	
Reviewed by:	h	<u>6/8/14</u> SRRS# <u>2</u>	<u>K.100</u>		

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DATA SHEET 2

TRITIUM SAMPLING AND CALCULATIONS FOR WATER SAMPLES

Sample Information:		
Sample Point: <u>STPE</u>	FF. (Z)	_
		_
Sample by: Dm/F	тн ′	-
Analysis Data:		
Sample Analysis Date:	6-7-14	
Days of Sample Decay:	3	_
Circle Instrument Used	2550TR #1	2900TR #2
Protocol Used: 3	LLD: 1965	_ pCi/L
Count Data:		
Sample #1 cpm	_ dpm:	_ µCi/g:
Sample #2 cpm	_ dpm:	_μCi/g: <u>5.401 ξ.5</u> _μCi/g: <u>5.003 ξ.5</u> _μCi/g: <u>5.020 ξ.5</u>
Sample #3 cpm	_ dpm:	_µCi/g: <u>5.0208-5</u>
Sample Activity:		
NOTE: <u>1µCi</u> g	= <u>10⁹ pCi</u> L	
	Collection Date/Time: $6-4-$ Sample by: Dm/F Analysis Data: Sample Analysis Date: $Days$ of Sample Decay: $Days$ of Sample Decay: $Circle Instrument Used$ Protocol Used: 3 Count Data: Sample #1 cpm 128.02 Sample #2 cpm 117.37 Sample #3 cpm 117.55 Sample Activity: 117.55	Sample Analysis Date: $6-7-14$ Days of Sample Decay:3Circle Instrument Used2550TR #1Protocol Used:3LLD:/965Count Data:Sample #1 cpm128.02Sample #2 cpm117.37JI7.35dpm:ASample #3 cpm117.55Sample Activity:

- 4.1 Average Sample Activity (uncorrected), μCi/g: <u>5 / μ(1 ξ-5 x 1.0E9= 5/4/</u> pCi/L
- 4.2 If sample is not analyzed within 7 days of collection, then DECAY correct activity as follows:

Uncorrected Average Sample Activity * e^{(In2/12.35)*(days since sampling/365.25)}

4.3 Decay corrected ³H activity = $\underline{M4}$ µCi/g x 1.0E9= $\underline{M4}$ pCi/L (If samples are analyzed within 7 days of collection, then ENTER N/A.) Performed by: $\underline{M2}$ Date: $\underline{G7.14}$ Data Entry (µCi/g)by: $\underline{M2}$ Date: $\underline{G7.14}$ Reviewed by: $\underline{M4}$ $\underline{G7.14}$ Reviewed by: $\underline{M4}$ $\underline{G7.14}$ SRRS# 2K.100

TRITIUM SAMPLING AND CALCULATIONS FOR WATER SAMPLES

· . . '

1.	Sample Information:				
	Sample Point: STP EFF. (Resample)				
	Collection Date/Time: 6-7-14 / 1230				
	Sample by: FH				
2.	Analysis Data:				
	Sample Analysis Date:6-7-14				
	Days of Sample Decay: < 1				
	Circle Instrument Used 2550TR #1 (2900TR #2)				
	Protocol Used: 3 LLD: 1965 pCi/L				
3.	Count Data:				
	Sample #1 cpm 103.25 dpm: 1/ µCi/g: 4.3138-5				
	Sample #2 cpm 107.87 dpm: μ Ci/g: $4.5745-5$				
	Sample #3 cpm dpm: HµCi/g: (7, 991 E-5				
4.	Sample Activity:				
	NOTE: $\frac{1\mu Ci}{g} = \frac{10^9 pCi}{L}$				
	3				
	11/562 5 11/562				
4.1	Average Sample Activity (uncorrected), $\mu Ci/g: 4.4/592-5$ x 1.0E9= 44.592				
4.2					
	Uncorrected Average Sample Activity * e ^{(In2/12.35)*(days since sampling/365.25)}				
4.0	Decay corrected ³ H activity = M_{μ} µCi/g x 1.0E9= M_{μ} pCi/l				
4.3	(If samples are analyzed within 7 days of collection, then ENTER N/A.)				
Perfo	rmed by: Date: Date:				
	04 (2)4				
Data Entry (µCi/g)by: Date:Date:					
Revie	wed by:X <u>Listiv</u>				
	νν SRRS# <u>2Κ.100</u>				

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DATA SHEET 2

TRITIUM SAMPLING AND CALCULATIONS FOR WATER SAMPLES

1. Sample Information
Sample Point:SD-1 / CB-1
Collection Date/Time: <u>6.8.14</u> 17/D
Sample by:
2 Analysis Data:
2. Analysis Data:
Sample Analysis Date:
Days of Sample Decay: Circle Instrument Used 2550TR #1 2900TR #2
Protocol Used: LLD: PCi/L
3. Count Data:
Sample #1 cpm <u>63.89</u> dpm: <u>µCi/g</u> : <u>2.709 s-5</u>
Sample #1 cpm (25.01) dpm: $\mu Ci/g:$ $\pi \cdot 707 \cdot 2^{-7}$ Sample #2 cpm 55.97 dpm: $\mu Ci/g:$ $2-705 \cdot 5^{-5}$ Sample #3 cpm $G(1.39)$ dpm: $\mu Ci/g:$ $2-762 \cdot \epsilon - 5$
Sample #3 cpm $G'_{1,39}$ dpm: $T_{uCi/q}$ 2.762 E-5
4. Sample Activity:
NOTE: $\underline{1\mu Ci} = \underline{10^9 pCi}$
NOTE: $\frac{1\mu Ci}{g} = \frac{10^9 pCi}{L}$
4.1 Average Sample Activity (uncorrected), μ Ci/g: <u>2.6257-5</u> 1.0E9= <u>26255</u> pCi/L
4.2 If sample is not analyzed within 7 days of collection, then DECAY correct activity as follows:
Uncorrected Average Sample Activity * e ^{(In2/12.35)*(days since sampling/365.25)}
122 114
4.3 Decay corrected ³ H activity = $\mu Ci/g \times 1.0E9 = \frac{p + p + p}{p + p + p} Ci/L$ (If samples are analyzed within 7 days of collection, then ENTER N/A.)
$(\Lambda - 68.14)$
Performed by: Date: Date:
Data Entry (µCi/g)by: / Date: Date:

SRRS# <u>2K.100</u>

1.	Sample Information:			
	Sample Point: Rw TANK 1	ARM BERM	_	
	Collection Date/Time:	4 @ 0/30		
	Sample by:		-	
2.	Analysis Data:			
	Sample Analysis Date:	5-9-14		
	Days of Sample Decay:	Ð		
	Circle Instrument Used	2550TR #1	2900TR #2	
	Protocol Used: 3	LLD: 1965		
3.	Count Data:			
	Sample #1 cpm/.84	_ dpm://A	μCi/g: <u>7.805</u>	,
	Sample #2 cpmO	dpm:/A	_µCi/g:	
	Sample #3 cpm0.97			
4.	Sample Activity:	<u> </u>	7) 7)	,
	NOTE: <u>1µCi</u>	= <u>10⁹ pCi</u>		
	g	L		
4.1	Average Sample Activity (uncorre	ected). μCi/g: 3.979	e ⁻⁷ x 1.0E9= <i>397.9</i>	pCi/L
4.2	If sample is not analyzed within 7 follows:	days of collection, t	hen DECAY correct activity	
	Uncorrected Average Sample Ac	tivity * e ^{(In2/12.35)*(days}	since sampling/365.25)	
4.3				pCi/L
	Decay corrected ³ H activity = (If samples are analyzed within 7	days of collection, th	nen ENTER N/A.)	J
Perfo	rmed by:	<u> </u>	-9-14	
Data	Entry (µCi/g)by:		NA	
Revie	ewed by: b	<u>-11-H</u>		
		SRRS# <u>2K.100</u>		

1.	Sample Information: Sample Point: <u>DSP 119-5</u> Collection Date/Time: <u>CB-14/14</u> Sample by: <u>A</u>	910	
2.	Analysis Data: Sample Analysis Date: Days of Sample Decay:	- 14 >	
	Circle Instrument Used	2550TR #1 <	2900TR #2
	Protocol Used:3	_ LLD: <u>957</u>	_pCi/L
3.	Count Data: Sample #1 cpm	_ dpm:	$\mu Ci/g: 1.2132-2 \mu Ci/g: 0 \mu Ci/g: 1.3492-7 \mu Ci/g: 1.3492-7$
	Sample #2 cpm	_ dpm:	_μCi/g:
	Sample #3 cpm $_{\circ}$ 3 \angle	_ dpm:	µCi/g:
4.	Sample Activity:		
	NOTE: <u>1µCi</u> g	= <u>10⁹ pCi</u> L	
4.1	Average Sample Activity (uncorre	ected), μCi/g: <u> </u>	<u>72 (-7x 1.0E9= 4.49 pCi/L</u>
4.2	If sample is not analyzed within 7 follows:	•	-
	Uncorrected Average Sample Ac	tivity * e ^{(in2/12.35)*(days)}	since sampling/365.25)
4.3	Decay corrected ³ H activity = (If samples are analyzed within 7	days of collection, the	
Perfo	rmed by:	Date:	-8-14
Data I	Entry (µCi/g)by:	Date:	6.8.14
Revie	wed by:	-14	
		SRRS# <u>2K.100</u>	

TRITIUM SAMPLING AND CALCULATIONS FOR WATER SAMPLES

1.	Sample Information:			
	Sample Point:		-	
	Collection Date/Time: <u>6-9-</u>	14/1825		
	Sample by: Fh		-	
2.	Analysis Data:			
	Sample Analysis Date:	6-9-14	**	
	Days of Sample Decay:	<	_	
	Circle Instrument Used	2550TR #1	2900TR #2	
	Protocol Used: 3	LLD: 1965	pCi/L	
3.	Count Data:			
	Sample #1 cpm	dpm: <u> </u>	_µCi/g: <u>1.211E</u> -	3
	Sample #2 cpm	dpm:/A	_µCi/g: _1.225 E	• 3
	Sample #3 cpm2843. 8			
4.	Sample Activity:	-		

NOTE:	<u>1µCi</u>	=	10 ⁹ рСі	
	g		L	

- 4.1 Average Sample Activity (uncorrected), $\mu Ci/g$: <u>1.217E⁻³</u> x 1.0E9= <u>1,217,000</u> pCi/L
- 4.2 If sample is not analyzed within 7 days of collection, then DECAY correct activity as follows:

Uncorrected Average Sample Activity * e^{(In2/12 35)*(days since sampling/365 25)}

4.3 Decay corrected ³H activity = $\frac{N/A}{\mu Ci/g \times 1.0E9} = \frac{N/A}{\mu Ci/g \times 1.0E9}$

Data Entry (µCi/g)by:	N/A	Date:	N/A	

Reviewed by:	PS	6-11-14

SRRS# 2K.100

TRITIUM SAMPLING AND CALCULATIONS FOR WATER SAMPLES

1.	Sample Information:						
	Sample Point:	2/3 '8	LST	•			
	Collection Date/Time:	6-9	-14/	1630			
9	Sample by:						
2.	Analysis Data:						
	Sample Analysis Date:		6-9-	14			
	Days of Sample Decay	/:	<1				
	Circle Instrument Used	Ì	2550T	R #1	2900TF	R #2	
	Protocol Used:	4	_ LLD:	N/A	pCi/L		
3.	Count Data:						
	Sample #1 cpm7	596	_ dpm:	NJA	μCi/g:	2.930 E-3	
	Sample #2 cpm7	631	_ dpm:	NA	µCi/g:	2.975E-3	
	Sample #3 cpm7						
4.	Sample Activity:						
	NOTE:	<u>lµCi</u>	=	<u>10⁹ pCi</u>		282	
1		g		L			

- 4.1 Average Sample Activity (uncorrected), μCi/g: 2-949ε⁻³ x 1.0E9=2,949,660pCi/L
- 4.2 **If** sample is not analyzed within 7 days of collection, **then DECAY** correct activity as follows:

Uncorrected Average Sample Activity * e^{(In2/12.35)*(days since sampling/365.25)}

4.3 Decay corrected ³H activity = $\frac{N/A}{\mu \text{Ci/g} \times 1.0\text{E9} = \frac{N/A}{\mu \text{Ci/g}}}$ pCi/L (If samples are analyzed within 7 days of collection, then ENTER N/A.)

Performed by:	<u> </u>	Date:	6-9-14
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Data Entry (µCi/g)by:	N/A	Date:	N/A
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Reviewed by:	3 5	1-11-14	
-			

TRITIUM SAMPLING AND CALCULATIONS FOR WATER SAMPLES

1.	Sample Information:					
	Sample Point:	2/3 'A' C	ST		-	
	Collection Date/Time:		4 / 16	18	_	
	Sample by:	FH			-	
2.	Analysis Data:					
	Sample Analysis Date:	6-	9-14		-	
	Days of Sample Decay:				_	
	Circle Instrument Used	2	2550TR		2900TR	#2
	Protocol Used:	<u>4</u> ı	LD:	N/A	_ pCi/L	
3. *	Count Data:					
	Sample #1 cpm6	167 (lpm:	N/A	µCi/g: _	2.479E-3
	Sample #2 cpm6					
	Sample #3 cpm6					
4.	Sample Activity:					
		<u>ıCi</u>	= <u>1</u>	0 ⁹ pCi		
		g		L		

- 4.1 Average Sample Activity (uncorrected), μ Ci/g: **<u>Z.489</u> \varepsilon^{-3} x 1.0E9= <u>2,489,600</u>** pCi/L
- 4.2 If sample is not analyzed within 7 days of collection, then DECAY correct activity as follows:

Uncorrected Average Sample Activity * e^{(In2/12.35)*(days since sampling/365.25)}

4.3 Decay corrected ³H activity = $\frac{N/A}{\mu \text{Ci/g} \times 1.0\text{E9} = \frac{N/A}{\rho \text{Ci/L}}}$ pCi/L (If samples are analyzed within 7 days of collection, then ENTER N/A.)

. .

Performed by:		FH	Date:		6-9-14	
Data Entry (µCi/g)by:		A/N	<u> </u>	Date:	N/A	
Reviewed by:	<u></u> <u> </u>	6-11-14			·	

TRITIUM SAMPLING AND CALCULATIONS FOR WATER SAMPLES

1.	Sample Information:		
	Sample Point: Old Surge	tank	_
	Collection Date/Time: 6-9-14/	11156	_
	Sample by:		-
			-
2.	Analysis Data:		
	Sample Analysis Date:	6-9-14	-
	Days of Sample Decay:	<1	_
	Circle Instrument Used	2550TR #1	2900TR #2
	Protocol Used: 3	_ LLD: _/965	_ pCi/L
3.	Count Data:		
	Sample #1 cpm5 z . 2 7	dpm: <i>N/A</i>	µCi/g: <u>2.336 E-S</u>
	Sample #2 cpm59.80	_ dpm: <u> </u>	µCi/g: 2.699 E-5
	Sample #3 cpm53 . 18	_ dpm: <i>N/A</i>	_μCi/g: <u>2.406 E-5</u>
4.	Sample Activity:		
		· · · · · · · · · · · · · · · · · · ·	

NOTE:	<u>1µCi</u>	=	<u>10⁹ pCi</u>	
	g		L	

- 4.1 Average Sample Activity (uncorrected), μCi/g: 2.481 ε⁻⁵ x 1.0E9= 24, 810 pCi/L
- 4.2 If sample is not analyzed within 7 days of collection, then DECAY correct activity as follows:

Uncorrected Average Sample Activity * e^{(In2/12 35)*(days since sampling/365 25)}

4.3 Decay corrected ³H activity = $\frac{N/A}{\mu Ci/g \times 1.0E9} = \frac{N/A}{\rho Ci/L}$ pCi/L (If samples are analyzed within 7 days of collection, then ENTER N/A.)

		D (
Data Entry (µCi/g)by:	NIA	Date:	Nr/Itt	
				-

Reviewed by: <u>B</u> 1-1-14

TRITIUM SAMPLING AND CALCULATIONS FOR WATER SAMPLES

1.	Sample Information:	N .	
	Sample Point: New Surge	tank	_
	Collection Date/Time: 6-9-14	11150	_
		11150	-
	Sample by:A		-
2.	Analysis Data:		
	Sample Analysis Date:	6-9-14	_
	Days of Sample Decay:	<1	_
	Circle Instrument Used	2550TR #1	2900TR #2
	Protocol Used: 3	_ LLD:	_ pCi/L
3.	Count Data:		
	Sample #1 cpm /23. 53	_ dpm://A	_µCi/g: <u>5.332 E-S</u>
	Sample #2 cpm		μCi/g: <u>5.143 ε - S</u>
	Sample #3 cpm13 . 15		
4.	Sample Activity:		

Γ	NOTE:	<u>1µCi</u>	=	<u>10⁹ pCi</u>	
		g		L	
1					

- 4.1 Average Sample Activity (uncorrected), $\mu Ci/g$: $5.137 \varepsilon^{-5} \times 1.0E9 = 51,370 pCi/L$
- 4.2 If sample is not analyzed within 7 days of collection, then DECAY correct activity as follows:

Uncorrected Average Sample Activity * e^{(In2/12,35)*(days since sampling/365,25)}

4.3 Decay corrected ³H activity = $\frac{N/A}{\mu \text{Ci/g x 1.0E9}} = \frac{N/A}{\mu \text{Ci/g x 1.0E9}} \text{pCi/L}$ (If samples are analyzed within 7 days of collection, then ENTER N/A.)

Performed by:	<u>F</u>	-H	_ Date: _		6-9-14	
Data Entry (µCi/g)by:		N/A		Date: _	N/A	
Reviewed by:	PS	6-11-14	_			
		SRRS	# <u>2K.100</u>			

TRITIUM SAMPLING AND CALCULATIONS FOR WATER SAMPLES

Collection Date/Time: $(g^{-}9-H/1)!4_{b}$ Sample by: A_{b} 2. Analysis Data: Sample Analysis Data: Sample Analysis Date: $6^{-}9-14$ Days of Sample Decay: 41 Circle Instrument Used 2550TR #1 2900TR #2 Protocol Used: 3 LLD: 1965 pCi/L 3. Count Data: Sample #1 cpm 10.95 dpm: N/A µCi/g: $4.717 \le 5$ Sample #2 cpm 103.55 dpm: N/A µCi/g: $4.451 \le 5$ Sample #3 cpm $107 \cdot 84$ dpm: N/A µCi/g: $4.633 \le 5$ 4. Sample Activity: NOTE: $1\muCi$ = 10^{9} pCi g L 4. Average Sample Activity (uncorrected), μ Ci/g: $4.600 \le 5$ x 1.0E9= $46,600$ p 4.2 If sample is not analyzed within 7 days of collection, then DECAY correct activity a follows: Uncorrected Average Sample Activity * $e^{(ln2/12 \cdot 35)^{*}(days since sampling/365 \cdot 25)}$	1.	Sample Information:		
Sample by: <u>A</u> 2. Analysis Data: Sample Analysis Data: <u>6 - 9 - 14</u> Days of Sample Decay: <u>41</u> Circle Instrument Used 2550TR #1 <u>2900TR #2</u> Protocol Used: <u>3</u> LLD: <u>1965</u> pCi/L 3. Count Data: Sample #1 cpm <u>10.95</u> dpm: <u>N/A</u> µCi/g: <u>4.717 E^5</u> Sample #2 cpm <u>103.55</u> dpm: <u>N/A</u> µCi/g: <u>4.451 E^5</u> Sample #3 cpm <u>107 · 8.4</u> dpm: <u>N/A</u> µCi/g: <u>4.633 E^5</u> 4. Sample Activity: NOTE: <u>1µCi</u> = <u>10⁹ pCi</u> g L 4.1 Average Sample Activity (uncorrected), µCi/g: <u>4.600 E^5</u> x 1.0E9= <u>46,000 p</u> 4.2 If sample is not analyzed within 7 days of collection, then DECAY correct activity a follows: Uncorrected Average Sample Activity * e ^{(ln2/12 35)*(days since sampling/365 25)}		Sample Point: <u>A Acration TK</u>		
Sample by: <u>A</u> 2. Analysis Data: Sample Analysis Data: <u>6 - 9 - 14</u> Days of Sample Decay: <u>41</u> Circle Instrument Used 2550TR #1 <u>2900TR #2</u> Protocol Used: <u>3</u> LLD: <u>1965</u> pCi/L 3. Count Data: Sample #1 cpm <u>10.95</u> dpm: <u>N/A</u> µCi/g: <u>4.717 E^5</u> Sample #2 cpm <u>103.55</u> dpm: <u>N/A</u> µCi/g: <u>4.451 E^5</u> Sample #3 cpm <u>107 · 8.4</u> dpm: <u>N/A</u> µCi/g: <u>4.633 E^5</u> 4. Sample Activity: NOTE: <u>1µCi</u> = <u>10⁹ pCi</u> g L 4.1 Average Sample Activity (uncorrected), µCi/g: <u>4.600 E^5</u> x 1.0E9= <u>46,000 p</u> 4.2 If sample is not analyzed within 7 days of collection, then DECAY correct activity a follows: Uncorrected Average Sample Activity * e ^{(ln2/12 35)*(days since sampling/365 25)}		Collection Date/Time: 6-9-14/1140		
Sample Analysis Date: <u>6-9-14</u> Days of Sample Decay: <u>41</u> Circle Instrument Used 2550TR #1 2900TR #2 Protocol Used: <u>3</u> LLD: <u>1965</u> pCi/L 3. Count Data: Sample #1 cpm <u>110.95</u> dpm: <u>N/A</u> µCi/g: <u>4.717 E.5</u> Sample #2 cpm <u>103.55</u> dpm: <u>N/A</u> µCi/g: <u>4.451 E.5</u> Sample #3 cpm <u>107.84</u> dpm: <u>N/A</u> µCi/g: <u>4.633 E.5</u> 4. Sample Activity: NOTE: <u>1µCi</u> = <u>10⁹ pCi</u> g L 4.1 Average Sample Activity (uncorrected), µCi/g: <u>4.600 E⁻⁵ x 1.0E9= <u>46,000 p</u> 4.2 If sample is not analyzed within 7 days of collection, then DECAY correct activity a follows: Uncorrected Average Sample Activity * e^{(ln2/12.35)*(days since sampling/365 25)}</u>	34	Sample by:		
Days of Sample Decay: <u>21</u> Circle Instrument Used 2550TR #1 2900TR #2 Protocol Used: <u>3</u> LLD: <u>1965</u> pCi/L 3. Count Data: Sample #1 cpm <u>110.95</u> dpm: <u>N/A</u> μ Ci/g: <u>4.717 E.5</u> Sample #2 cpm <u>103.55</u> dpm: <u>N/A</u> μ Ci/g: <u>4.45) E.5</u> Sample #3 cpm <u>107.84</u> dpm: <u>N/A</u> μ Ci/g: <u>4.633 E.5</u> 4. Sample Activity: NOTE: <u>1μCi</u> = <u>10⁹ pCi</u> L 4.1 Average Sample Activity (uncorrected), μ Ci/g: <u>4.600 E⁻⁵ x 1.0E9=</u> <u>46,600 p</u> 4.2 If sample is not analyzed within 7 days of collection, then DECAY correct activity a follows: Uncorrected Average Sample Activity * e ^{(ln2/12 35)*(days since sampling/365 25)}	2.			
Days of Sample Decay: <u>21</u> Circle Instrument Used 2550TR #1 2900TR #2 Protocol Used: <u>3</u> LLD: <u>1965</u> pCi/L 3. Count Data: Sample #1 cpm <u>110.95</u> dpm: <u>N/A</u> μ Ci/g: <u>4.717 E.5</u> Sample #2 cpm <u>103.55</u> dpm: <u>N/A</u> μ Ci/g: <u>4.45) E.5</u> Sample #3 cpm <u>107.84</u> dpm: <u>N/A</u> μ Ci/g: <u>4.633 E.5</u> 4. Sample Activity: NOTE: <u>1μCi</u> = <u>10⁹ pCi</u> L 4.1 Average Sample Activity (uncorrected), μ Ci/g: <u>4.600 E⁻⁵ x 1.0E9=</u> <u>46,600 p</u> 4.2 If sample is not analyzed within 7 days of collection, then DECAY correct activity a follows: Uncorrected Average Sample Activity * e ^{(ln2/12 35)*(days since sampling/365 25)}		Sample Analysis Date: <u>6-9-14</u>		
Circle Instrument Used 2550TR #1 2000TR #2 Protocol Used: <u>3</u> LLD: <u>/965</u> pCi/L 3. Count Data: Sample #1 cpm <u>/10.95</u> dpm: <u>N/A</u> µCi/g: <u>4.717 E.5</u> Sample #2 cpm <u>/03.55</u> dpm: <u>N/A</u> µCi/g: <u>4.451 E.5</u> Sample #3 cpm <u>/07.84</u> dpm: <u>N/A</u> µCi/g: <u>4.633 E.5</u> 4. Sample Activity: $\frac{NOTE: \frac{1µCi}{g} = \frac{10^9 pCi}{L}$ 4.1 Average Sample Activity (uncorrected), µCi/g: <u>4.600 E^5 x 1.0E9= 46,000 p</u> 4.2 If sample is not analyzed within 7 days of collection, then DECAY correct activity a follows: Uncorrected Average Sample Activity * e ^{(In2/12 35)*(days since sampling/365 25)}		Days of Sample Decay:		
Protocol Used: <u>3</u> LLD: <u>/965</u> pCi/L 3. Count Data: Sample #1 cpm <u>/10.95</u> dpm: <u>N/A</u> μ Ci/g: <u>4.717 E-5</u> Sample #2 cpm <u>/03.55</u> dpm: <u>N/A</u> μ Ci/g: <u>4.451 E-5</u> Sample #3 cpm <u>/07.84</u> dpm: <u>N/A</u> μ Ci/g: <u>4.633 E-5</u> 4. Sample Activity: <u>NOTE: 1μCi = 10⁹ pCi L 4.1 Average Sample Activity (uncorrected), μCi/g: <u>4.600 E-5</u> x 1.0E9= <u>46,000 p</u> 4.2 If sample is not analyzed within 7 days of collection, then DECAY correct activity a follows: Uncorrected Average Sample Activity * e^{(In2/12.35)*(days since sampling/365 25)}</u>			2900TR #2	
 3. Count Data: Sample #1 cpm <u>/10.95</u> dpm: <u>N/A</u> μCi/g: <u>4.717 E⁻⁵</u> Sample #2 cpm <u>/03.55</u> dpm: <u>N/A</u> μCi/g: <u>4.451 E⁻⁵</u> Sample #3 cpm <u>/07.84</u> dpm: <u>N/A</u> μCi/g: <u>4.633 E⁻⁵</u> 4. Sample Activity: NOTE: <u>1μCi</u> = <u>10⁹ pCi</u> L 4.1 Average Sample Activity (uncorrected), μCi/g: <u>4.600 E⁻⁵ x 1.0E9= <u>46,000 p</u></u> 4.2 If sample is not analyzed within 7 days of collection, then DECAY correct activity a follows: Uncorrected Average Sample Activity * e^{(In2/12 35)*(days since sampling/365 25)} 		Protocol Used: 3 LLD: /9	165 pCi/L	
Sample #2 cpm 103.55 dpm: N/A μ Ci/g: $4.451E^{-5}$ Sample #3 cpm 107.84 dpm: N/A μ Ci/g: $4.633E^{-5}$ 4. Sample Activity: NOTE: $\frac{1\mu\text{Ci}}{g} = \frac{10^9 \text{ pCi}}{\text{L}}$ 4.1 Average Sample Activity (uncorrected), μ Ci/g: $4.600E^{-5} \times 1.0E9 = \frac{46,000}{\text{F}} \text{ p}$ 4.2 If sample is not analyzed within 7 days of collection, then DECAY correct activity a follows: Uncorrected Average Sample Activity * $e^{(\ln 2/12 35)^*(\text{days since sampling/365 25)}}$	3.		······································	
Sample #3 cpm <u>107.84</u> dpm: <u>N/A</u> μ Ci/g: <u>$4.633 E^{-5}$</u> 4. Sample Activity: NOTE: <u>1μCi</u> = <u>$10^9 pCi$</u> g <u>L</u> 4.1 Average Sample Activity (uncorrected), μ Ci/g: <u>$4.600 E^{-5} \times 1.0E9 = 46,600 p$</u> 4.2 If sample is not analyzed within 7 days of collection, then DECAY correct activity a follows: Uncorrected Average Sample Activity * e ^{(ln2/12 35)*(days since sampling/365 25)}		Sample #1 cpm dpm:	/A μCi/g: <u>4.717 ε·5</u>	
Sample #3 cpm <u>107.84</u> dpm: <u>N/A</u> μ Ci/g: <u>$4.633 E^{-5}$</u> 4. Sample Activity: NOTE: <u>1μCi</u> = <u>$10^9 pCi$</u> g <u>L</u> 4.1 Average Sample Activity (uncorrected), μ Ci/g: <u>$4.600 E^{-5} \times 1.0E9 = 46,600 p$</u> 4.2 If sample is not analyzed within 7 days of collection, then DECAY correct activity a follows: Uncorrected Average Sample Activity * e ^{(ln2/12 35)*(days since sampling/365 25)}		Sample #2 cpm /03.55 dpm:	/A μCi/g: <u>4.451 ε - 5</u>	
 4. Sample Activity: NOTE: <u>1μCi</u> = <u>10⁹ pCi</u> <u>L</u> 4.1 Average Sample Activity (uncorrected), μCi/g: <u>4.600 E⁻⁵ x 1.0E9</u> <u>46,000 p</u> 4.2 If sample is not analyzed within 7 days of collection, then DECAY correct activity a follows: Uncorrected Average Sample Activity * e^{(ln2/12.35)*(days since sampling/365.25)} 		Sample #3 cpm /07 · 8 4 dpm:/	1 <u>Α</u> μCi/g: <u>4.633 ε-5</u>	
 4.1 Average Sample Activity (uncorrected), μCi/g: <u>4.600 E^{-S}</u> x 1.0E9= <u>46,000</u> p 4.2 If sample is not analyzed within 7 days of collection, then DECAY correct activity a follows: Uncorrected Average Sample Activity * e^{(In2/12,35)*(days since sampling/365,25)} 	4 .	Sample Activity:		
 4.1 Average Sample Activity (uncorrected), μCi/g: <u>4.600 E^{-S}</u> x 1.0E9= <u>46,000</u> p 4.2 If sample is not analyzed within 7 days of collection, then DECAY correct activity a follows: Uncorrected Average Sample Activity * e^{(In2/12,35)*(days since sampling/365,25)} 		NOTE: <u>1µCi</u> = <u>10⁹ p</u>	<u>oCi</u>	
 4.2 If sample is not analyzed within 7 days of collection, then DECAY correct activity a follows: Uncorrected Average Sample Activity * e^{(ln2/12.35)*(days since sampling/365.25)} 	e	g L		
 4.2 If sample is not analyzed within 7 days of collection, then DECAY correct activity a follows: Uncorrected Average Sample Activity * e^{(ln2/12.35)*(days since sampling/365.25)} 				
 4.2 If sample is not analyzed within 7 days of collection, then DECAY correct activity a follows: Uncorrected Average Sample Activity * e^{(ln2/12.35)*(days since sampling/365.25)} 	4.1	Average Sample Activity (uncorrected) uCi/d:	4.600 E-5 x 1 0F9= 46,000 pCi	L
follows: Uncorrected Average Sample Activity * e ^{(In2/12 35)*(days since sampling/365 25)}				
	4.2	follows		
4.3 Decay corrected ³ H activity = $\frac{N/A}{\mu \text{Ci/g x 1.0E9} = \frac{N/A}{\mu \text$	4.3	Decay corrected ³ H activity = $\frac{N/A}{(If \text{ samples are analyzed within 7 days of collect})}$	μCi/g x 1.0E9= <u><i>λ/A</i></u> pCi. ction, then ENTER N/A.)	/L
Performed by: FH Date:6-9-14	Perfo	rmed by: FH Date:	6-9-14	

Data Entry (µCi/g)by:	 N/A	Date:	NA	
Reviewed by:	6-11-14			

DATA SHEET 2

TRITIUM SAMPLING AND CALCULATIONS FOR WATER SAMPLES

1

1.	Sample Information Sample Point: Collection Date/T	B Auration					
2.	Sample by: Analysis Data: Sample Analysis Days of Sample D Circle Instrument Protocol Used:	Date: Decay: Used	<u>کا</u> 2550T	R #1		R #2	
3. 4.	Count Data: Sample #1 cpm Sample #2 cpm Sample #3 cpm Sample Activity:	98.90 95.33 95.36	dpm: dpm: dpm:	N/A N/A N/A	μCi/g: μCi/g: μCi/g:	4.194 E-5 4.076 E-5 4.076 E-5	
	NOTE:	<u>1µCi</u> g	=	<u>10⁹ pCi</u> L			
4.1 4.2	Average Sample If sample is not a follows: Uncorrected Aver	nalyzed within	7 days of	collection,	then DEC	AY correct activ	
4.3	Decay corrected (if samples are a						pCi/L
Perfor	rmed by:	FH		Date:	6-9-	/4	
Data I	Entry (µCi/g)by:	N/A		Date	e:	N/A	
	wed by:					·	

TRITIUM SAMPLING AND CALCULATIONS FOR WATER SAMPLES

1.	Sample Information:	Λ		
	Sample Point:est of	+ 2/3 B (SI	Ľ	
	Collection Date/Time:	14 1250		
	Sample by:		_	
2.	Analysis Data:			
	Sample Analysis Date:	6-9-14	_	
	Days of Sample Decay:	<		
	Circle Instrument Used	2550TR #1	2900TR #2	
	Protocol Used:4	_ LLD:/A	pCi/L	
3.	Count Data:			
	Sample #1 cpm5932	_ dpm:/4	μCi/g: Ζ.Ιδεε -	3
	Sample #2 cpm5836	dpm: <i>N/A</i>	µCi/g: 2_148 _3	3
	Sample #3 cpm58 44	dpm: <u>N/A</u>	μCi/g:146 ε-3	1
4.	Sample Activity:			

NOTE:	1µCi	1	<u>10⁹ pCi</u>
081	g		L

- 4.1 Average Sample Activity (uncorrected), μCi/g: <u>2.150 ε⁻³ x</u> 1.0E9= <u>2,150,000</u>pCi/L
- 4.2 If sample is not analyzed within 7 days of collection, then DECAY correct activity as follows:

Uncorrected Average Sample Activity * e^{(In2/12.35)*(days since sampling/365.25)}

4.3 Decay corrected ³H activity = $\frac{N/A}{\mu \text{Ci/g} \times 1.0\text{E9} = \frac{N/A}{p \text{Ci/L}}}$ pCi/L (If samples are analyzed within 7 days of collection, then ENTER N/A.)

 Performed by:
 FH
 Date:
 6-9-14

 Data Entry (μCi/g)by:
 N/A
 Date:
 N/A

 Reviewed by:
 SRRS# 2K.100
 SRRS# 2K.100
 SRRS# 2K.100

TRITIUM SAMPLING AND CALCULATIONS FOR WATER SAMPLES

1.	Sample Information:
	Sample Point:
	Collection Date/Time: <u>6-7-14 @ 2155</u>
	Sample by:
2.	Analysis Data:
	Sample Analysis Date:6-8-144
	Days of Sample Decay:
	Circle Instrument Used 2550TR #1 2900TR #2
	Protocol Used: <u>3</u> LLD: <u>2000</u> pCi/L
3.	Count Data:
	Sample #1 cpm dpm: 13206_ µCi/g: 1.4812 E-3
	Sample #2 cpm dpm: 42572_ µCi/g:
	Sample #3 cpm dpm: /3228 µCi/g: µCi/g:
4 .	Sample Activity:
	NOTE: $1\mu Ci$ = $10^9 pCi$
	g L
L	
4.1	Average Sample Activity (uncorrected), μCi/g: <u>1.4891E-3</u> x 1.0E9= <u>/489100</u> pCi/L
4.2	If sample is not analyzed within 7 days of collection, then DECAY correct activity as follows:

Uncorrected Average Sample Activity * e^{(In2/12,35)*(days since sampling/365,25)}

4.3 Decay corrected ³H activity = $\frac{M/A}{\mu Ci/g \times 1.0E9} = \frac{M/A}{\mu Ci/g \times 1.0E9} = \frac{M/A}{\mu Ci/L}$ pCi/L (If samples are analyzed within 7 days of collection, then ENTER N/A.)

Performed by:		101	Date:	6-8	7-14	·	
Data Entry (µCi/g)by:		NA		Date:	M	×	
Reviewed by:	PS	6-11-14		•	,		
		SRRS#	2K.100				

1.	Sample Information:
	Sample Point: <u>STP Ejector</u>
	Collection Date/Time: <u>6-7-14 @ 2100</u>
	Sample by:G
2.	Analysis Data:
	Sample Analysis Date: <u>6-8-14</u>
	Days of Sample Decay:
	Circle Instrument Used 2550TR #1 2900TR #2
	Protocol Used: <u>3</u> LLD: <u>2000</u> pCi/L
3.	Count Data:
	Sample #1 cpm #9 dpm: 192 μCi/g: 2.16E-S Sample #2 cpm \$1 dpm: 200 μCi/g: 2.25E-S
	Sample #2 cpm dpm: 200 µCi/g: 1.25E-S
	Sample #3 cpm dpm: 206 µCi/g: 2.32E-5
4.	Sample Activity:
	NOTE: $\underline{1\mu Ci} = \underline{10^9 pCi}$
	g L
L	
4.1	Average Sample Activity (uncorrected), μCi/g: <u>2.24E-S</u> x 1.0E9= <u>2240</u> pCi/L
4.2	If sample is not analyzed within 7 days of collection, then DECAY correct activity as follows:
	Uncorrected Average Sample Activity * e ^{(In2/12.35)*(days since sampling/365.25)}
4.3	Decay corrected ³ H activity = $//A$ µCi/g x 1.0E9= $//A$ pCi/L (If samples are analyzed within 7 days of collection, then ENTER N/A.)
Perfo	rmed by: //// Date:6-8-/4
	Entry (µCi/g)by: Date:/A
Revie	ewed by: P5_6-11-14
	SRRS# <u>2K.100</u>

1.	Sample Information:	
	Sample Point: Domestic Water (MUD)	D
	Collection Date/Time: 6-7-14 @ 2205	
	Sample by:	
		_
2.	Analysis Data:	
	Sample Analysis Date:6-8-14	-
	Days of Sample Decay:	_
	Circle Instrument Used 2550TR #1	2900TR #2
	Protocol Used: <u>3</u> LLD: <u>2000</u>	pCi/L
3.	Count Data:	
	Sample #1 cpm 2 dpm: 7	_μCi/g: <i>ΤΕ-7</i>
	Sample #2 cpm dpm:	_μCi/g: <u>3E-7</u>
	Sample #3 cpm dpm:/0	_μCi/g: <u>3E-7</u> _μCi/g: <u>1.1E-5</u>
4.	Sample Activity:	
	NOTE: $\underline{1\mu Ci} = \underline{10^9 pCi}$	
	g L	
4.1	Average Sample Activity (uncorrected), μ Ci/g:	
4.2	If sample is not analyzed within 7 days of collection, t follows:	
	Uncorrected Average Sample Activity * e ^{(In2/12.35)*(day}	s since sampling/365.25)
	Decay corrected ³ H activity = \mathcal{N}/\mathcal{A}	
4.3	(If samples are analyzed within 7 days of collection, t	μC//g x 1.029/////ρC//L hen ENTER Ν/Α.)
	11/1 -	6-8-14
Perfo	formed by: Date:	NIA
Data	a Entry (μCi/g)by:Date	
Revie	iewed by:	
	SRRS# <u>2K.100</u>	

TRITIUM SAMPLING AND CALCULATIONS FOR WATER SAMPLES

1.	Sample Information:
	Sample Point:
	Collection Date/Time:6-7-14@2230
	Sample by:////
2.	Analysis Data:
	Sample Analysis Date: <u>6-8-14</u>
	Days of Sample Decay:
	Circle Instrument Used 2550TR #1 2900TR #2
	Protocol Used: <u>3</u> LLD: <u>2000</u> pCi/L
3.	Count Data:
	Sample #1 apm 107 dom: 410 UCild: 4.61E-5
	Sample #1 cpm <i>107</i> dpm: <u>410</u> µCi/g: <u>4.61<i>E</i>-5</u> Sample #2 cpm <i>108</i> dpm: <u>411</u> µCi/g: <u>4.63<i>E</i>-5</u>
	Sample #2 cpm/08 dpm:// µCi/g:7.6) E-3
	Sample #3 cpm 94 dpm: 360 µCi/g:4.05E-5
4.	Sample Activity:
	NOTE: $1\mu Ci$ = $10^9 pCi$
	g L
4.1	Average Sample Activity (uncorrected), μCi/g: <u>4.43E-5</u> x 1.0E9= <u>44300</u> pCi/
т. I	riverage cample rearry (uncerteer), pergr

4.2 If sample is not analyzed within 7 days of collection, then DECAY correct activity as follows:

Uncorrected Average Sample Activity * e^{(In2/12.35)*(days since sampling/365.25)}

4.3 Decay corrected ³H activity = //A μ Ci/g x 1.0E9= //A pCi/L (If samples are analyzed within 7 days of collection, then ENTER N/A.)

Performed by:	1118	Date:	6-8-14	
Data Entry (µCi/g)by:	NA	Date:	NA	
Reviewed by:	P5 6-11-14			
•	SRRS#	<u>2K.100</u>		

TRITIUM SAMPLING AND CALCULATIONS FOR WATER SAMPLES

1.	Sample Information:	
	Sample Point: <u>STP EA luent</u>	
	Collection Date/Time:	
	Sample by:	
	Sample by.	
2.	Analysis Data:	
	Sample Analysis Date: <u>6-8-14</u>	
	Days of Sample Decay:	
	Circle Instrument Used (2550TR #1)	2900TR #2
	Protocol Used: LLD:2000	pCi/L
3.	Count Data:	•
5.		
	Sample #1 cpm109 dpm:4/7	µCi/g: <u>4.70E-5</u>
	Sample #2 cpm 107 dpm:	µCi/g: <u>4.60 E-S</u>
	Sample #3 cpm /03 dpm: 394	µCi/g: 4.43E-5
4.	Sample Activity:	
	NOTE: $\underline{1\mu Ci} = \underline{10^9 pCi}$	
	g L	
4.1	Average Sample Activity (uncorrected), μCi/g:	<u>E-5</u> x 1.0E9= <u>45800</u> pCi/l
4.2	If sample is not analyzed within 7 days of collection, th	
	follows:	
	Uncorrected Average Sample Activity * e ^{(In2/12.35)*(days s}	since sampling/365.25)
4.0	Decay corrected ³ H activity = $///A$	
4.3	(If samples are analyzed within 7 days of collection, the	en ENTER N/A.)
		1-1-14
Perfo	formed by: Date:	
Data	a Entry (µCi/g)by:Date:	NA

SRRS# <u>2K.100</u>

PS 6-11-11

Reviewed by:

1.	Sample Information:
	Sample Point: Intake Canal
	Collection Date/Time: <u>6-7-14 @ 2225</u>
	Sample by:///
2.	Analysis Data:
	Sample Analysis Date:6-8-/44
	Days of Sample Decay:
	Circle Instrument Used 2550TR #1 2900TR #2
	Protocol Used: <u>3</u> LLD: <u>2000</u> pCi/L
3.	Count Data:
	Sample #1 cpm 12 dpm: 45 μ Ci/g: 5.1E-6 Sample #2 cpm 13 dpm: 449 μ Ci/g: 5.5E-6 Sample #3 cpm 10 dpm: 38 μ Ci/g: 4.3E-6
	Sample #2 cpm /3 dpm:49 µCi/g:5.5 <i>E</i> 6
	Sample #3 cpm dpm: 38µCi/g: 4.3 <i>E</i> -6
4.	Sample Activity:
	NOTE: $\underline{1\mu Ci} = \underline{10^9 pCi}$
	NOTE: $\frac{1\mu Ci}{g} = \frac{10^9 pCi}{L}$
4.1	Average Sample Activity (uncorrected), μCi/g: <u>SE-6</u> x 1.0E9= <u>S000</u> pCi/L
4.2	If sample is not analyzed within 7 days of collection, then DECAY correct activity as follows:
	Uncorrected Average Sample Activity * e ^{(In2/12.35)*(days since sampling/365.25)}
4.3	Decay corrected ³ H activity = $\frac{1/A}{1}$ $\mu Ci/g \times 1.0E9 = \frac{1/A}{1}$ pCi/L
4.3	(If samples are analyzed within 7 days of collection, then ENTER N/A.)
Perf	ormed by: /// Date:6-8-19
	NA
Data	Entry (µCi/g)by: Date:
Revi	ewed by:
	SRRS# <u>2K.100</u>

1.	Sample Information: Sample Point: <u>STP Effluent</u> Collection Date/Time: <u>6-7-14 @ 1230</u>
	Sample by: FH
2.	Analysis Data: Sample Analysis Date: <u>6-8-14</u> Days of Sample Decay: <u>< 1</u> Circle Instrument Used 2550TR #1 2900TR #2 Protocol Used: <u>5</u> LLD: <u>1965</u> pCi/L
3.	Count Data:
	Sample #1 cpm dpm: V/AµCi/g: 4.141 <i>E-5</i>
	Sample #2 cpm 93.06 dpm: µCi/g: 3.941 <i>E</i> - S
	Sample #3 cpm 95. 24 dpm: µCi/g: 4.048 E-5
4.	Sample Activity:
	NOTE: $\frac{1\mu Ci}{g} = \frac{10^9 pCi}{L}$
4.1	Average Sample Activity (uncorrected), μCi/g: <u>4.045E-S</u> x 1.0E9= <u>40432</u> pCi/L
4.2	If sample is not analyzed within 7 days of collection, then DECAY correct activity as follows:
	Uncorrected Average Sample Activity * e ^{(In2/12 35)*(days since sampling/365.25)}
4.3	Decay corrected ³ H activity = $\frac{M/A}{\mu Ci/g \times 1.0E9} = \frac{M/A}{\mu Ci/g \times 1.0E9}$ pCi/L (If samples are analyzed within 7 days of collection, then ENTER N/A.)
Perfo	rmed by: Date:6-8-14
Data	Entry (µCi/g)by:N
Revie	wed by: <u>6/8/14</u> SRRS# <u>2K.100</u>

DATA SHEET 2

1.	Sample Information:			
	Sample Point: 2/3 Inter	ke Canal	-	
	Collection Date/Time:	-14 @ 2225	_	
	Sample by:////		-	
2.	Analysis Data:			
	Sample Analysis Date:	- 8-14		
	Days of Sample Decay:	<1	-	
	Circle Instrument Used		2900TR #	2
	Protocol Used:3			
2	Count Data:			
3.		dom: N/A	uCi/a:	4.600E-6
	Sample #1 cpm /0.86 Sample #2 cpm 8.93			1 133F-1
	Sample #2 cpm	_ dpm://A	µCi/g:	1.0.110 0
	Sample #3 cpm 7.13	_ dpm://A	µCi/g:	3.060 E-G
4.	Sample Activity:			
				л
	NOTE: <u>1µCi</u> g	= <u>10⁹ pCi</u> L		
]
4.1	Average Sample Activity (uncorre	ected), uCi/g: 3.8	31E-6x 1.0	E9= 383/ pCi/L
4.2	If sample is not analyzed within 7			
	follows:	-		
	Uncorrected Average Sample Act	tivity * e ^{(ln2/12,35)*(days}	s since sampling	(365.25)
4.3	Decay corrected ³ H activity = (If samples are analyzed within 7	NIA	_ µCi/g x 1.0	DE9= <u>////</u> pCi/L
Perfo	ormed by:	Date:	6-8-14	4
Data	Entry (µCi/g)by:N	ADate	· NA	
Revie	ewed by: 6/8/17			
	(SRRS# 2K.100		

DATA SHEET 2

TRITIUM SAMPLING AND CALCULATIONS FOR WATER SAMPLES

1.	Sample Information: Sample Point:			
	Collection Date/Time:	-14 @ 2155		
2.	Analysis Data: Sample Analysis Date: Days of Sample Decay: Circle Instrument Used Protocol Used:	<u><!--</u--> 2550TR #1</u>	2900TR #2	
3.	Count Data: Sample #1 cpm <u>3209.13</u> Sample #2 cpm <u>3192.77</u>	dpm: <u>////</u> dpm:////		- <i>f4</i> /
	NOTE: <u>1µCi</u> g	= <u>10⁹ pCi</u> L		
4.1	Average Sample Activity (uncorrec	cted), μCi/g: <u>/.36</u>	60E-3 x 1.0E9= /360000 pCi/	Ľ

4.2 If sample is not analyzed within 7 days of collection, then DECAY correct activity as follows:

Uncorrected Average Sample Activity * e^{(In2/12,35)*(days since sampling/365,25)}

4.3 Decay corrected ³H activity = $\frac{1/A}{(If samples are analyzed within 7 days of collection, then ENTER N/A.)}$

____ Date: ______6-8-1 Performed by: _____ NA Data Entry (µCi/g)by: ____ Date: Reviewed by: ________ SRRS# 2K.100

1.	Sample Information:
	Sample Point:
	Collection Date/Time:
	Sample by:
2.	Analysis Data:
	Sample Analysis Date:6-8-14
	Days of Sample Decay:
	Circle Instrument Used 2550TR #1 2900TR #2
	Protocol Used: LLD:PCi/L
3.	Count Data:
	Sample #1 cpm <u>53.17</u> dpm: <u><i>N</i>//A</u> μCi/g: <u>2.28/<i>E</i>-5</u> Sample #2 cpm <u>54.91</u> dpm: <u><i>N</i>//A</u> μCi/g: <u>2.375<i>E</i>-5</u>
	Sample #3 cpm 57.47 dpm://A µCi/g: 2.501 E-5
4.	Sample Activity:
	7
	NOTE: $\underline{1\mu Ci} = \underline{10^9 pCi}$
	g L
4.1	Average Sample Activity (uncorrected), μCi/g: 2.38655 pCi/L
4.2	If sample is not analyzed within 7 days of collection, then DECAY correct activity as follows:
	Uncorrected Average Sample Activity * e ^{(In2/12.35)*(days since sampling/365.25)}
4.3	Decay corrected ³ H activity = $\mu Ci/g \ge 1.0E9 = N/A_pCi/L$
	(If samples are analyzed within 7 days of collection, then ENTER N/A.)
Perfor	med by: Date:6-8-14
Data I	ntry (µCi/g)by: NA Date: NA
Revie	ved by:
-	SRRS# <u>2K.100</u>

TRITIUM SAMPLING AND CALCULATIONS FOR WATER SAMPLES

1.	Sample Information: Sample Point: <u><i>Domestic Water</i> (17005)</u> Collection Date/Time: <u>6-7-14@2205</u> Sample by: <u>INB</u>
2.	Analysis Data: Sample Analysis Date: <u>6-8-/4</u> Days of Sample Decay: <u>< /</u> Circle Instrument Used 2550TR #1 2900TR #2 Protocol Used: <u>3</u> LLD: <u>1965</u> pCi/L Count Data:
4.	Sample #1 cpm $O. 97$ dpm: N/A μ Ci/g: $4.09SE-7$ Sample #2 cpm $I.96$ dpm: N/A μ Ci/g: $8.311E-7$ Sample #3 cpm D dpm: N/A μ Ci/g: D Sample Activity: M/A μ Ci/g: D
	NOTE: $\frac{1\mu Ci}{g} = \frac{10^9 pCi}{L}$
4.1 4.2	Average Sample Activity (uncorrected), μ Ci/g: <u>4.135E-7</u> x 1.0E9= <u>4/3.5</u> pCi/L If sample is not analyzed within 7 days of collection, then DECAY correct activity as follows: Uncorrected Average Sample Activity * e ^{(ln2/12.35)*(days since sampling/365.25)}
4.3	Decay corrected ³ H activity = $//A$ μ Ci/g x 1.0E9= $//A$ p Ci/L (If samples are analyzed within 7 days of collection, then ENTER N/A.)
Perfo	rmed by://// Date:6///
Data	Entry (µCi/g)by: NA Date: NA
	wed by: 4/8/17 SRRS# 2K 100

1.	Sample Information: Sample Point: <u>STP Sand Filter Effluent</u> Collection Date/Time: <u>6-7-14@2230</u> Sample by: <u>IVB</u>
2.	Analysis Data: Sample Analysis Date: <u>6-8-14</u> Days of Sample Decay: <u><1</u> Circle Instrument Used 2550TR #1 2900TR #2 Protocol Used: <u>3</u> LLD: <u>1965</u> pCi/L
3.	Count Data:
	Sample #1 cpm IOG. 78 dpm: µCi/g: 4.496 E-5
	Sample #2 cpm 95.96_ dpm://AµCi/g:4.084 E-5
	Sample #3 cpm dpm: <u>N/A</u> μCi/g: <u>3. 816 E-5</u>
4.	Sample Activity:
~	NOTE: $\frac{1\mu Ci}{g} = \frac{10^9 pCi}{L}$
4.1	Average Sample Activity (uncorrected), μCi/g: <u>4.152E-5</u> x 1.0E9= <u>41520</u> pCi/L
4.2	If sample is not analyzed within 7 days of collection, then DECAY correct activity as follows:
	Uncorrected Average Sample Activity * e ^{(In2/12.35)*(days since sampling/365.25)}
4.3	Decay corrected ³ H activity = $\underline{MA} \mu Ci/g \times 1.0E9 = \underline{MA} \rho Ci/L$ (If samples are analyzed within 7 days of collection, then ENTER N/A.)
Perf	ormed by: /// Date: 6-8-177
Data	Entry (µCi/g)by:
	ewed by: <u>G 6/8/14</u>
	SRRS# <u>2K.100</u>

TRITIUM SAMPLING AND CALCULATIONS FOR WATER SAMPLES

1.	Sample Information:	
	Sample Point:	-
	Collection Date/Time: 6-7-14@ 2232	_
	Sample by://///	-
2.	Analysis Data:	
	Sample Analysis Date: <u>6-8-14</u>	_
	Days of Sample Decay: < /	_
	Circle Instrument Used 2550TR #1	2900TR #2
	Protocol Used: LLD:	pCi/L
3.	Count Data:	
	Sample #1 cpm99.27_ dpm://A	_µCi/g: #####6664.167E-5
	Sample #2 cpm 89. [<i>O</i> dpm:/]A	µCi/g: ### 37807 3. 781E-5
	Sample #3 cpm 99.42 dpm: N/A	_μCi/g: <u>4.233</u> E-5
4.	Sample Activity:	
	NOTE: $\frac{1\mu Ci}{g} = \frac{10^9 pCi}{L}$	
4.1	Average Sample Activity (uncorrected), μCi/g: 4.0	60E-5x 1.0E9= <u>40600</u> pCi/L
4.2	If sample is not analyzed within 7 days of collection, follows:	
	Uncorrected Average Sample Activity * e ^{(In2/12.35)*(day}	ys since sampling/365.25)

4.3 Decay corrected ³H activity = $\frac{1/A}{\mu Ci/g \times 1.0E9} = \frac{1/A}{\mu Ci/g \times 1.0E9}$ (If samples are analyzed within 7 days of collection, then ENTER N/A.)

Performed by:		IND	Date:	6-8-1	4
Data Entry (µCi/g)by:		1/2	Date:	_ N/A	
Reviewed by:	YG	6/8/14			
	6	SRRS#	<u>2K.100</u>		

1.	Sample Information	n:					
	Sample Point:	DSP-150) 				
	Collection Date/Ti	me: <u>6-9-</u>	14/052	0			
	Sample by:	R	/		_		
2.	Analysis Data:	1.	9.14				
	Sample Analysis	Date: 6	$\frac{1}{2}$				
	Days of Sample D)ecay:					
	Circle Instrument	~	2550T		2900T	R #2	
	Protocol Used:	11	LLD: _	736	pCi/L		
3.	Count Data:					1	
	Sample #1 cpm	ø	dpm:	Ø	µCi/g:	Ø	
	Sample #2 cpm	Ø	dpm:			0.000002	
	Sample #3 cpm	1	dpm:	3	µCi/g:	0.000003	
4.	Sample Activity:						
	NOTE:	<u>1µCi</u> 9	=	<u>10⁹ pCi</u> L			
4.1	Average Sample	Activity (uncor	rrected), μ	Ci/g: <u>0.00</u>	۱۹۹۶ میں then DEC	1.0E9= 2w (< 736) AY correct activity a	oCi/L as
4.2	follows:						
	Uncorrected Ave	rage Sample A	Activity * e	in2/12.35)"(day	s since sam	ping/365.25)	
4.3	Decay corrected (If samples are a	³ H activity		la la	uCi/a x	(1.0E9=	oCi/L
Perfo	ormed by:	'AUV		Date:	. 8.14		
Data	Entry (µCi/g)by: _	NI	A	Dat	e:	/A	
Revi	ewed by:	PS 6-11	1-14	014 4 0 0			
			SRRS#	2K.100			

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DATA SHEET 2

1.	Sample Information: Sample Point: <u>CBG</u> Collection Date/Time: <u>6-9-14/0D45</u> Sample by: <u> </u>	
2.	Analysis Data: Sample Analysis Date: <u>6-9-14</u> Days of Sample Decay: <u>5000000000000000000000000000000000000</u>	2900TR #2 pCi/L
3. 4.	Sample #2 cpm /29 dpm: 687	_μCi/g: <u>0.0000749</u> _μCi/g: <u>0.0000779</u> _μCi/g: <u>0.0000793</u>
	NOTE: <u>1µCi</u> = <u>10⁹ pCi</u> g L	
4.1 4.2	Average Sample Activity (uncorrected), μCi/g: <u>Ø.000</u> If sample is not analyzed within 7 days of collection, the follows:	hen DECAY correct activity as
4.3 Perfo	Uncorrected Average Sample Activity * $e^{(\ln 2/12.35)^*(days)}$ Decay corrected ³ H activity = $\frac{M}{(lf samples are analyzed within 7 days of collection, the formed by: Date:$	_ μCi/g x 1.0E9= <u> </u>
Data		: <u>~//</u>
	SRRS# 2K.100	

DATA SHEET 2

1.	Sample Information		10				
	Collection Date/Ti		i-14/002	30	_		
	Sample by:	^ '					
2.	Analysis Data: Sample Analysis I Days of Sample D Circle Instrument Protocol Used:	lecay: Used	2550T LLD:	<u> </u>	— pCi/L_	R #2	
3.	Count Data:	10		0.	-	A (1111029	
	Sample #1 cpm _				µCi/g:	0.000079	
	Sample #2 cpm		dpm:			0.000087	-
	Sample #3 cpm	18	dpm:	70	µCi/g:	0.000079	_
4.	Sample Activity:						
2	NOTE:	<u>1µCi</u> g	22	<u>10⁹ pCi</u> L			
	9		<u> </u>				
4.1	Average Sample	Activity (unc	orrected), μ	Ci/g: <u>(). ()</u>	owogz x	1.0E9= <u>8200</u>	_pCi/L
4.2	If sample is not a follows:	nalyzed with	in 7 days of	collection,	then DEC	AY correct activity	y as
	Uncorrected Ave	age Sample	Activity * e	(In2/12.35)*(day	ys since samp	ling/365.25)	
4.3	Decay corrected (If samples are a	³ H activity =/	n NA	collection,	μCi/g x then ENT	1.0E9= <u>N/A</u>	_pCi/L
Perfo	ormed by:	hl		Date:(· · § · 14		
Data	Entry (µCi/g)by: _		NA	Dat	e:N	A	
Revie	ewed by:	RS	6-11-14	-			
	-		SRRS#	<u>2K.100</u>			

DATA SHEET 2

1.	Sample Information Sample Point: Collection Date/Ti Sample by:	<u>CBK</u> me: <u>6-8-11</u>	1	0025			
2.	Analysis Data: Sample Analysis I Days of Sample D Circle Instrument Protocol Used:	Decay: Used	2550T		 2900TR pCi/L	#2	
3.	Count Data:	Ø	dpm:	Ø	uCi/a:	Ć	
	Sample #1 cpm _ Sample #2 cpm _		dpm:	Ø	μCi/g: _ μCi/g: _	Ø	
4.	Sample #3 cpm _ Sample Activity:	2	dpm:	/0	µCi/g:	1. 00000 //	
	NOTE:	<u>1µCi</u> 9	2	<u>10⁹ pCi</u> L			
4.1	Average Sample	Activity (uncor	rected), µ	.Ci/g: <i>(). 000</i>	NUA3 x	1.0E9= <u>300 (2</u> 200	pCi/L
4.2	If sample is not a follows:	nalyzed within	7 days of	f collection,	then DEC	AY correct activi	ty as
	Uncorrected Ave	rage Sample A	ctivity * e	(In2/12.35)*(da)	ys since sampl	ling/365.25)	
4.3	Decay corrected (If samples are a	³ H activity	N 7 days of	collection,	μCi/g x then ENTE	1.0E9= MA	pCi/L
Perfo	ormed by:	NV		Date:	. 8. 14		
Data	Entry (µCi/g)by: _	~	11	Dat	e:	~/4	_
Revi	ewed by:	_P\$_6	<u>- 11-14</u> SRRS#	<u>2K.100</u>			

1. Sample Information: Sample Point: <u>MW-DN-1135</u> Collection Date/Time: <u>6-9-14/0230</u> Sample by: <u>R</u>							
2.	Analysis Data: Sample Analysis D						
	Days of Sample De Circle Instrument U Protocol Used:	lsed	2550T		2900TR pCi/L	#2	
3.	Count Data: Sample #1 cpm	ß	dpm: _	· · ·	µCi/g: _	Ø	
	Sample #2 cpm Sample #3 cpm		dpm: _	1k	µCi/g: _ µCi/g: _	p p	
4.	Sample Activity:						
	NOTE:	<u>1µCi</u> g	=	<u>10⁹ pCi</u> L			
4.1	Average Sample A	ctivity (uncor	rrected), μ	Ci/g:	% x 1	1.0E9= <u>\$(293</u>	シpCi/L
4.2	If sample is not an follows:	alyzed within	7 days of	collection,	then DEC/	AY correct activ	/ity as
	Uncorrected Avera	ige Sample A	Activity * e ⁽	In2/12.35)*(da	ys since sampli	ing/305.25)	
4.3	Decay corrected ³ I (If samples are an	<pre>- activity = _ alyzed within</pre>	<i>No</i> 7 days of	collection,	μCi/g x then ENTE	1.0E9= /// R N/A.)	pCi/L
Perfo	ormed by:	PS F	Ur mm	Date:	6-9-14		
Data	Entry (µCi/g)by:	NA	١	Dat	te: NA		
	ewed by:P						

TRITIUM SAMPLING AND CALCULATIONS FOR WATER SAMPLES

1.	Sample Information:			
	Sample Point: <u>MW-DA</u>)-1025		
	Collection Date/Time: 10-9-1	14/0300	_	
	Sample by:			
2.	Analysis Data:	0(
	Sample Analysis Date:6	-9-14		
	Days of Sample Decay:	Ð		
	Circle Instrument Used	2550TR #1	(2900TR #2)	
	Protocol Used: 2	LLD: <u>957</u>	pCi/L	
3.	Count Data:			
	Sample #1 cpmO	dpm:	µCi/g:)
	Sample #2 cpmO	dpm:0	µCi/g:0	
	Sample #3 cpm	dpm:	µCi/g:0	
4.	Sample Activity:			
	NOTE: <u>1µCi</u>	= <u>10⁹ pCi</u>		
	g	L		
L				
4.1	Average Sample Activity (uncor	rrected), μCi/g:	x 1.0E9	= 0 (95)pCi/L
4.2	If sample is not analyzed within follows:	7 days of collection,	then DECAY co	rrect activity as
	Uncorrected Average Sample A	ctivity * e ^{(In2/12.35)*(day)}	s since sampling/365	.25)
4.3	Decay corrected 3 H activity =	NIA	uCi/a x 1.0E9	= ~ pCi/L
4.5	Decay corrected ³ H activity = _ (If samples are analyzed within	7 days of collection, f	then ENTER N/A	4.)
Perfo	ormed by:	Date: <u></u>	, es	
Data	Entry (µCi/g)by:	Date	: N/	
Revie	ewed by:	-11-11	34 (14	
		SRRS# <u>2K.100</u>		

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1.	Sample Information: Sample Point: $___SP - 115S$ Collection Date/Time: $_6-8-14/2305$ Sample by: $_\R$
2.	Analysis Data: Sample Analysis Date:6-9-14 Days of Sample Decay:
	Circle Instrument Used 2550TR #1 2900TR #2
	Protocol Used: LLD:957pCi/L
3.	Count Data:
	Sample #1 cpm dpm:/A µCi/g:
	Sample #2 cpm
	Sample #3 cpm dpm: <u>N/A</u> µCi/g:O
4.	Sample Activity:
	NOTE: $\frac{1\mu Ci}{g} = \frac{10^9 pCi}{L}$
4.1	Average Sample Activity (uncorrected), μCi/g: x 1.0E9=pCi/L
4.2	If sample is not analyzed within 7 days of collection, then DECAY correct activity as follows:
	Uncorrected Average Sample Activity * e ^{(In2/12.35)*(days since sampling/365.25)}
4.3	Decay corrected ³ H activity = $\frac{N/A}{\mu Ci/g \times 1.0E9} = \frac{N/A}{\mu Ci/g \times 1.0E9}$ pCi/L (If samples are analyzed within 7 days of collection, then ENTER N/A.)
Perfo	ormed by: EK Date: 6-9-14
Data	Entry (µCi/g)by:
	ewed by: PS6-1[-14
L/CAL	SRRS# <u>2K.100</u>

1.	ample Information: ample Point: <u>107</u> collection Date/Time: <u>6.10.14</u> /0350 cample by: <u>Mrscrek</u>	
2.	Analysis Data: Sample Analysis Date: <u>6-/0-/4</u> Days of Sample Decay: <u><1</u> Circle Instrument Used 2550TR #1 2900TR #2 Protocol Used: <u>3</u> LLD: <u>1965</u> pCi/L	
3.	Count Data: Sample #1 cpm <u>/88.82</u> dpm: <u>Ν/Α</u> μCi/g: <u>8.0656</u> -5	
	Sample #1 cpm $/20.22$ dpm: $/4/4$ μ Ci/g: $7.954e^{-5}$ Sample #2 cpm $/85.29$ dpm: N/A μ Ci/g: $7.954e^{-5}$ Sample #3 cpm $/8/.33$ dpm: N/A μ Ci/g: $7.79/e^{-5}$	
	Sample #2 cpm _/85. 27 dpm: _/ $1/4$ $\mu C/g$ /.737=	
	Sample #3 cpm <u>/8/.33</u> dpm: <u>N/A</u> µCi/g: <u>/.777</u>	
4.	Sample Activity:	
	NOTE: $\frac{1\mu Ci}{g} = \frac{10^9 pCi}{L}$	
4.1	Average Sample Activity (uncorrected), μCi/g: <u>7.937ε⁻⁵</u> x 1.0E9= <u>79,370</u> pCi/	/L
4.2	f sample is not analyzed within 7 days of collection, then DECAY correct activity as	
	Uncorrected Average Sample Activity * e ^{(In2/12 35)*(days since sampling/365 25)}	
4.3	Decay corrected ³ H activity = $\frac{N/4}{\mu Ci/g \times 1.0E9} = \frac{N/4}{\mu Ci/g \times 1.0E9}$	/L
Perfo	ned by: EK_ Date:/4	
Data	ntry (µCi/g)by:	
	red by: P5 6-[1-/4]	
	SRRS# <u>2K.100</u>	

1.	Sample Information: Sample Point:	HOLE	
	Collection Date/Time:6-/	0.14 / 0235	_
8	Sample by:	k	
2.	Analysis Data: Sample Analysis Date: Days of Sample Decay: Circle Instrument Used Protocol Used:4	</th <th>2900TR #2 pCi/L</th>	2900TR #2 pCi/L
3.	Count Data:		2
	Sample #1 cpm	dpm: <u>N/A</u>	μCi/g: _ <i>μCi/g:</i>
	Sample #2 cpm3510	dpm: <u>N/A</u>	μCi/g: _ <u>1.274</u> € ⁻³
4.	Sample #1 cpm 3465 Sample #2 cpm 3510 Sample #3 cpm 3534 Sample Activity:	dpm: <u>~1/4</u>	µCi/g: <i>l.</i> 288 <i>E</i> 3
· ·	Cumpier cumpie		·····
	NOTE: <u>1µCi</u> g	= <u>10⁹ pCi</u> L	
4.1	-		x 1.0E9= <u>ا, 268, میں p</u> Ci/ then DECAY correct activity as
4.2	follows:		
	Uncorrected Average Sample A		
4.3	Decay corrected ³ H activity = _ (If samples are analyzed within	N/A 7 days of collection,	μCi/g x 1.0E9= <u>//4</u> pCi/ then ENTER N/A.)
Perf	ormed by:	Date:(0-10-14
			e: <u>N/A</u>
Revi	ewed by:		
		SRRS# 2K.100	

1.	Sample Information Sample Point: Collection Date/Tim Sample by:	ne:	1-14 /	55105 2145	_		
2.	Analysis Data: Sample Analysis D Days of Sample De Circle Instrument U Protocol Used:	ate: ecay: Ised	(<u>6</u> −/0- < [2550T	- <i>14</i> R #1	2900TF pCi/L	R #2	
 4. 	Count Data: Sample #1 cpm Sample #2 cpm Sample #3 cpm Sample Activity:	/228,78 1235.24 1237.68	_ dpm: _ _ dpm: _ _ dpm: _	N/A N/A	μCi/g: μCi/g: μCi/g:	5.932E ⁻⁴ 6.032E ⁻⁴ 6.055E ⁻⁴	
	NOTE:	<u>1µCi</u> g	=	<u>10⁹ ρCi</u> L			
4.1 4.2	Average Sample A If sample is not and follows:	alyzed within 7	days of	collection, t	hen DEC	AY correct acti	
4.3	Uncorrected Average Sample Activity * $e^{(ln2/12 \ 35)^*(days since sampling/365 \ 25)}$ Decay corrected ³ H activity = $\cancel{N/4}$ µCi/g x 1.0E9= $\cancel{N/4}$ pCi/g (If samples are analyzed within 7 days of collection, then ENTER N/A.)						
Perfor	med by:	Ek	<u> </u>	Date:	-10-14		
	Entry (µCi/g)by:		~	<u>/4</u> Date	: NA		
	wed by:	R 6	- <u>//-//</u> srrs# <u>2</u>	<u>:K.100</u>			

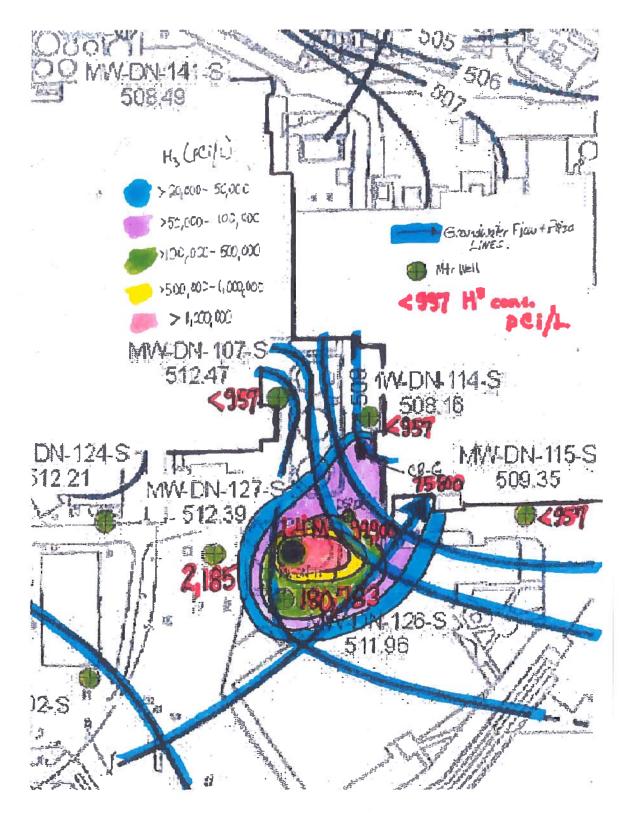
DATA SHEET 2

TRITIUM SAMPLING AND CALCULATIONS FOR WATER SAMPLES

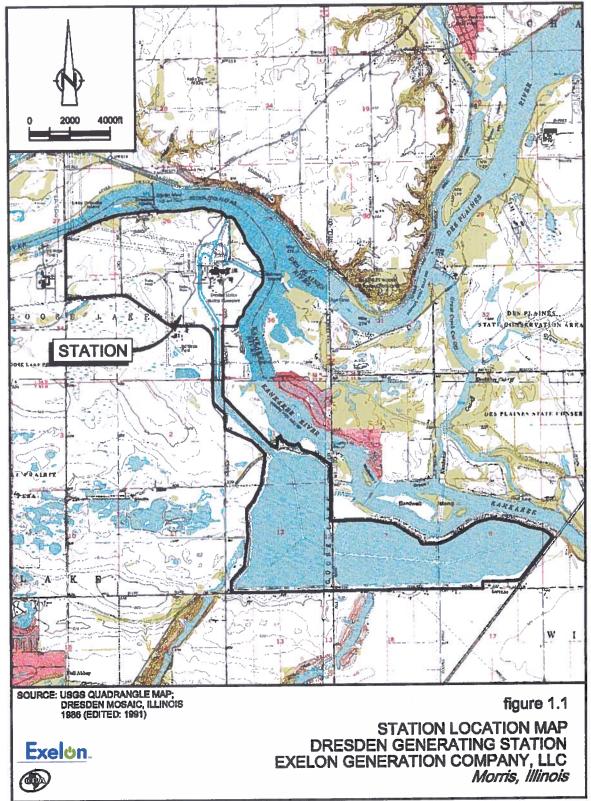
1.	Sample Information:
	Sample Point: <u>MUDS MH</u>
	Collection Date/Time: <u>6-9-14 / 2140</u>
	Sample by:
2.	Analysis Data:
	Sample Analysis Date: <u>6-/0-/4</u> Days of Sample Decay: </th
	Days of Sample Decay: < /
	Circle Instrument Used 2550TR #1 2900TR #2
	Protocol Used: 3 LLD: 1965 pCi/L
3.	Count Data:
	Sample #1 cpm 34.41 dpm: N/A μ Ci/g: $1.550 \leq -5$ Sample #2 cpm 39.17 dpm: N/A μ Ci/g: $1.78/e^{-5}$ Sample #3 cpm 36.41 dpm: N/A μ Ci/g: $1.65/e^{-5}$
	Sample #2 cpm <u>39.17</u> dpm: <u>N/A</u> µCi/g: <u>1.78/e⁻⁵</u>
	Sample #3 cpm $\frac{36.41}{100000000000000000000000000000000000$
4.	Sample Activity:
	NOTE: $\frac{1\mu Ci}{g} = \frac{10^9 \rho Ci}{L}$
4.1	Average Sample Activity (uncorrected), µCi/g: <u>۱٬۵۵/۲⁵ x 1.0E9= المران pCi/l</u>
4.2	If sample is not analyzed within 7 days of collection, then DECAY correct activity as follows:
	Uncorrected Average Sample Activity * e ^{(In2/12,35)*(days since sampling/365,25)}
4.3	Decay corrected ³ H activity = $\frac{N/A}{\mu Ci/g \times 1.0E9} = \frac{N/A}{\mu Ci/L}$ pCi/L (If samples are analyzed within 7 days of collection, then ENTER N/A.)
Perfo	rmed by: EK_ Date:0-14
Data	Entry (µCi/g)by:////Date:////
Revie	wed by:

Attachment 2 Map showing the locations of samples taken to confirm the release

Initial Sample Location Map



Attachment 3 Map showing the groundwater flow direction and groundwater contours Attachment 4 Map showing the boundary of the licensee controlled area, and structures, roads, and other surface features



45138-23(015)GN-WA055 AUG 30/2008