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ANALYTICAL REPORT

Eurofins TestAmerica, Pittsburgh
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Laboratory Job ID: 180-93012-1
Client Project/Site: JSF_STR_20190717_1B
Revision: 2

For:
Environmental Standards Inc.
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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

PA Lab ID: 02-00416

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Narrative

Job Narrative
180-93012-1

Revised Report
This report was revised to correct the total Radium results on sample 180-93012-35 and fix the sample ID of sample 180-93012-60. This replaces the previous final report.

Receipt
The samples were received on 7/20/2019 9:15 AM; the samples arrived in good condition, properly preserved and on ice. The temperatures of the 14 coolers at receipt time were 2.2º C, 2.2º C, 2.5º C, 2.5º C, 3.0º C, 3.0º C, 3.0º C, 3.0º C, 3.3º C, 3.5º C, 3.7º C, 3.7º C, 3.8º C and 4.1º C.

RAD
Method 903.0: Ra-226 Prep Batch 160-436351
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.
JSF-STR-FB01-20190718 ~ NA (180-93012-61), JSF-STR-HR07-RB-MID-20190718 ~ STR-HR07 (180-93012-62), JSF-STR-HR07-CC-SUR-20190718 ~ STR-HR07 (180-93012-63), JSF-STR-HR07-CC-MID-20190718 ~ STR-HR07 (180-93012-64), JSF-STR-HR07-CC-BOT-20190718 ~ STR-HR07 (180-93012-65), JSF-STR-HR07-LB-SUR-20190718 ~ STR-HR07 (180-93012-66), JSF-STR-HR07-LB-BOT-20190718 ~ STR-HR07 (180-93012-67), JSF-STR-HR06-CC-MID-20190718 ~ STR-HR07 (180-93012-68), JSF-STR-DUP03-20190717 (180-93012-69), (LCS 160-436351/1-A), (LCSD 160-436351/2-A) and (MB 160-436351/12-A)

Method 903.0: Ra-226 Prep Batch 160-436533
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.
JSF-STR-HR09-LB-SUR-20190717 ~ STR-HR09 (180-93012-41), JSF-STR-HR09-LB-MID-20190717 ~ STR-HR09 (180-93012-42), JSF-STR-HR09-LB-BOT-20190717 ~ STR-HR09 (180-93012-43), JSF-STR-HR09-CC-SUR-20190717 ~ STR-HR09 (180-93012-44), JSF-STR-HR09-CC-MID-20190717 ~ STR-HR09 (180-93012-45), JSF-STR-HR09-CC-BOT-20190717 ~ STR-HR09 (180-93012-46), JSF-STR-HR09-RB-SUR-20190717 ~ STR-HR09 (180-93012-47), JSF-STR-HR09-RB-MID-20190717 ~ STR-HR09 (180-93012-48), JSF-STR-HR09-RB-BOT-20190717 ~ STR-HR09 (180-93012-49), JSF-STR-HR08-LB-SUR-20190717 ~ STR-HR08 (180-93012-50), JSF-STR-HR08-LB-MID-20190717 ~ STR-HR08 (180-93012-51), JSF-STR-HR08-LB-BOT-20190717 ~ STR-HR08 (180-93012-52), JSF-STR-HR08-CC-SUR-20190717 ~ STR-HR08 (180-93012-53), JSF-STR-HR08-CC-MID-20190717 ~ STR-HR08 (180-93012-54), JSF-STR-HR08-CC-BOT-20190717 ~ STR-HR08 (180-93012-55), JSF-STR-HR08-RB-SUR-20190717 ~ STR-HR08 (180-93012-56), JSF-STR-HR08-RB-MID-20190717 ~ STR-HR08 (180-93012-57), JSF-STR-HR08-RB-BOT-20190717 ~ STR-HR08 (180-93012-58), JSF-STR-DUP02-20190717-20190717 ~ NA (180-93012-59), JSF-STR-HR07-RB-MID-20190717 ~ STR-HR07 (180-93012-60), (LCS 160-436533/1-A), (LCSD 160-436533/2-A) and (MB 160-436533/23-A)

Method 903.0: Ra-226 Prep Batch 160-436518
The following samples have a DER result outside of the acceptance criteria of 2 (4.45) for Ra-226. Duplicate precision is demonstrated by acceptable relative percent difference (RPD), within the limit of 40% (37%). The data have been reported with this narrative.
JSF-STR-HR04-CC-BOT-20190717 ~ STR-HR04 (180-93012-21), JSF-STR-HR04-RB-SUR-20190717 ~ STR-HR04 (180-93012-22), JSF-STR-HR04-RB-BOT-20190717 ~ STR-HR04 (180-93012-23), JSF-STR-HR03-RB-SUR-20190717 ~ STR-HR03 (180-93012-24), JSF-STR-HR03-RB-BOT-20190717 ~ STR-HR03 (180-93012-25), JSF-STR-HR03-CC-SUR-20190717 ~ STR-HR03 (180-93012-26), JSF-STR-HR03-CC-MID-20190717 ~ STR-HR03 (180-93012-27), JSF-STR-HR03-CC-BOT-20190717 ~ STR-HR03 (180-93012-28), JSF-STR-HR03-LB-SUR-20190717 ~ STR-HR03 (180-93012-29), JSF-STR-HR03-LB-BOT-20190717 ~ STR-HR03 (180-93012-30), JSF-STR-HR02-LB-SUR-20190717 ~ STR-HR02 (180-93012-31), JSF-STR-HR02-LB-BOT-20190717 ~ STR-HR02 (180-93012-32), JSF-STR-HR02-CC-SUR-20190717 ~ STR-HR02 (180-93012-33), JSF-STR-HR02-CC-BOT-20190717 ~ STR-HR02 (180-93012-34), JSF-STR-HR02-RB-SUR-20190717 ~ STR-HR02 (180-93012-35), JSF-STR-HR02-RB-BOT-20190717 ~ STR-HR02 (180-93012-36), JSF-STR-HR01-RB-MID-20190717 ~ STR-HR01 (180-93012-37), JSF-STR-HR01-CC-MID-20190717 ~ STR-HR01 (180-93012-38), JSF-STR-HR01-LB-MID-20190717 ~ STR-HR01 (180-93012-39), JSF-STR-DUP01-20190717 ~ NA (180-93012-40), (LCS 160-436518/1-A), (LCSD 160-436518/2-A) and (MB 160-436518/23-A)

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Method 903.0: Ra-226 Prep Batch 160-436518
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.
JSF-STR-HR04-CC-BOT-20190717 ~ STR-HR04 (180-93012-21), JSF-STR-HR04-RB-SUR-20190717 ~ STR-HR04 (180-93012-22), JSF-STR-HR04-RB-BOT-20190717 ~ STR-HR04 (180-93012-23), JSF-STR-HR03-RB-SUR-20190717 ~ STR-HR03 (180-93012-24), JSF-STR-HR03-RB-BOT-20190717 ~ STR-HR03 (180-93012-25), JSF-STR-HR03-CC-SUR-20190717 ~ STR-HR03 (180-93012-26), JSF-STR-HR03-CC-MID-20190717 ~ STR-HR03 (180-93012-27), JSF-STR-HR03-CC-BOT-20190717 ~ STR-HR03 (180-93012-28), JSF-STR-HR03-LB-SUR-20190717 ~ STR-HR03 (180-93012-29), JSF-STR-HR03-LB-BOT-20190717 ~ STR-HR03 (180-93012-30), JSF-STR-HR02-LB-SUR-20190717 ~ STR-HR02 (180-93012-31), JSF-STR-HR02-LB-BOT-20190717 ~ STR-HR02 (180-93012-32), JSF-STR-HR02-CC-SUR-20190717 ~ STR-HR02 (180-93012-33), JSF-STR-HR02-CC-BOT-20190717 ~ STR-HR02 (180-93012-34), JSF-STR-HR02-RB-SUR-20190717 ~ STR-HR02 (180-93012-35), JSF-STR-HR02-RB-BOT-20190717 ~ STR-HR02 (180-93012-36), JSF-STR-HR01-RB-MID-20190717 ~ STR-HR01 (180-93012-37), JSF-STR-HR01-CC-MID-20190717 ~ STR-HR01 (180-93012-38), JSF-STR-HR01-LB-MID-20190717 ~ STR-HR01 (180-93012-39), JSF-STR-DUP01-20190717 ~ NA (180-93012-40), (LCS 160-436518/1-A), (LCSD 160-436518/2-A) and (MB 160-436518/23-A)

Method 903.0: Ra-228 Prep Batch 160-436514
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.
JSF-STR-FB01-20190717 ~ NA (180-93012-1), JSF-STR-EB01-20190717 ~ NA (180-93012-2), JSF-STR-HR06-LB-SUR-20190717 ~ STR-HR06 (180-93012-3), JSF-STR-HR06-LB-BOT-20190717 ~ STR-HR06 (180-93012-4), JSF-STR-HR06-CC-SUR-20190717 ~ STR-HR06 (180-93012-5), JSF-STR-HR06-CC-MID-20190717 ~ STR-HR06 (180-93012-6), JSF-STR-HR06-CC-BOT-20190717 ~ STR-HR06 (180-93012-7), JSF-STR-HR06-RB-SUR-20190717 ~ STR-HR06 (180-93012-8), JSF-STR-HR06-RB-BOT-20190717 ~ STR-HR06 (180-93012-9), JSF-STR-HR05-RB-SUR-20190717 ~ STR-HR05 (180-93012-10), JSF-STR-HR05-RB-BOT-20190717 ~ STR-HR05 (180-93012-11), JSF-STR-HR05-CC-SUR-20190717 ~ STR-HR05 (180-93012-12), JSF-STR-HR05-CC-MID-20190717 ~ STR-HR05 (180-93012-13), JSF-STR-HR05-CC-BOT-20190717 ~ STR-HR05 (180-93012-14), JSF-STR-HR05-LB-SUR-20190717 ~ STR-HR05 (180-93012-15), JSF-STR-HR05-LB-BOT-20190717 ~ STR-HR05 (180-93012-16), JSF-STR-HR04-LB-SUR-20190717 ~ STR-HR04 (180-93012-17), JSF-STR-HR04-LB-BOT-20190717 ~ STR-HR04 (180-93012-18), JSF-STR-HR04-CC-SUR-20190717 ~ STR-HR04 (180-93012-19), JSF-STR-HR04-CC-MID-20190717 ~ STR-HR04 (180-93012-20), (LCS 160-436514/1-A), (LCSD 160-436514/2-A) and (MB 160-436514/23-A)

Method 903.0: Ra-226 Prep Batch 160-436518
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.
JSF-STR-HR02-RB-SUR-20190717 ~ STR-HR02 (180-93012-35)

Method 904.0: Ra-228 Prep Batch 160-436532
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.
JSF-STR-HR04-CC-BOT-20190717 ~ STR-HR04 (180-93012-21), JSF-STR-HR04-RB-SUR-20190717 ~ STR-HR04 (180-93012-22), JSF-STR-HR04-RB-BOT-20190717 ~ STR-HR04 (180-93012-23), JSF-STR-HR03-RB-SUR-20190717 ~ STR-HR03 (180-93012-24), JSF-STR-HR03-RB-BOT-20190717 ~ STR-HR03 (180-93012-25), JSF-STR-HR03-CC-SUR-20190717 ~ STR-HR03 (180-93012-26), JSF-STR-HR03-CC-MID-20190717 ~ STR-HR03 (180-93012-27), JSF-STR-HR03-CC-BOT-20190717 ~ STR-HR03 (180-93012-28), JSF-STR-HR03-LB-SUR-20190717 ~ STR-HR03 (180-93012-29), JSF-STR-HR03-LB-BOT-20190717 ~ STR-HR03 (180-93012-30), JSF-STR-HR02-LB-SUR-20190717 ~ STR-HR02 (180-93012-31), JSF-STR-HR02-LB-BOT-20190717 ~ STR-HR02 (180-93012-32), JSF-STR-HR02-CC-SUR-20190717 ~ STR-HR02 (180-93012-33), JSF-STR-HR02-CC-BOT-20190717 ~ STR-HR02 (180-93012-34), JSF-STR-HR02-RB-SUR-20190717 ~ STR-HR02 (180-93012-35), JSF-STR-HR02-RB-BOT-20190717 ~ STR-HR02 (180-93012-36),

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JSF-STR-HR01-RB-MID-20190717 ~ STR-HR01 (180-93012-37), JSF-STR-HR01-CC-MID-20190717 ~ STR-HR01 (180-93012-38), JSF-STR-HR01-LB-MID-20190717 ~ STR-HR01 (180-93012-39), JSF-STR-DUP01-20190717 ~ NA (180-93012-40), (LCS 160-436532/1-A), (LCSD 160-436532/2-A) and (MB 160-436532/23-A)

Method 904.0: Ra-228 Prep Batch 160-436534
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.
JSF-STR-HR09-LB-SUR-20190717 ~ STR-HR09 (180-93012-41), JSF-STR-HR09-LB-MID-20190717 ~ STR-HR09 (180-93012-42), JSF-STR-HR09-LB-BOT-20190717 ~ STR-HR09 (180-93012-43), JSF-STR-HR09-CC-SUR-20190717 ~ STR-HR09 (180-93012-44), JSF-STR-HR09-CC-MID-20190717 ~ STR-HR09 (180-93012-45), JSF-STR-HR09-CC-BOT-20190717 ~ STR-HR09 (180-93012-46), JSF-STR-HR09-RB-SUR-20190717 ~ STR-HR09 (180-93012-47), JSF-STR-HR09-RB-MID-20190717 ~ STR-HR09 (180-93012-48), JSF-STR-HR09-RB-BOT-20190717 ~ STR-HR09 (180-93012-49), JSF-STR-HR08-LB-SUR-20190717 ~ STR-HR08 (180-93012-50), JSF-STR-HR08-LB-MID-20190717 ~ STR-HR08 (180-93012-51), JSF-STR-HR08-LB-BOT-20190717 ~ STR-HR08 (180-93012-52), JSF-STR-HR08-CC-SUR-20190717 ~ STR-HR08 (180-93012-53), JSF-STR-HR08-CC-MID-20190717 ~ STR-HR08 (180-93012-54), JSF-STR-HR08-CC-BOT-20190717 ~ STR-HR08 (180-93012-55), JSF-STR-HR08-RB-SUR-20190717 ~ STR-HR08 (180-93012-56), JSF-STR-HR08-RB-MID-20190717 ~ STR-HR08 (180-93012-57), JSF-STR-HR08-RB-BOT-20190717 ~ STR-HR08 (180-93012-58), JSF-STR-DUP02-20190717-20190717 ~ NA (180-93012-59), JSF-STR-HR07-RB-MID-20190719 ~ STR-HR07 (180-93012-60), (LCS 160-436534/1-A), (LCSD 160-436534/2-A) and (MB 160-436534/23-A)

Method(s) 904.0: Ra-228 Prep Batch 160-436356
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.
JSF-STR-FB01-20190718 ~ NA (180-93012-61), JSF-STR-HR07-RB-MID-20190718 ~ STR-HR07 (180-93012-62), JSF-STR-HR07-CC-SUR-20190718 ~ STR-HR07 (180-93012-63), JSF-STR-HR07-CC-MID-20190718 ~ STR-HR07 (180-93012-64), JSF-STR-HR07-CC-BOT-20190718 ~ STR-HR07 (180-93012-65), JSF-STR-HR07-LB-SUR-20190718 ~ STR-HR07 (180-93012-66), JSF-STR-HR07-LB-BOT-20190718 ~ STR-HR07 (180-93012-67), JSF-STR-HR06-CC-MID-20190718 ~ STR-HR07 (180-93012-68), JSF-STR-DUP03-20190717 (180-93012-69), (LCS 160-436356/1-A), (LCSD 160-436356/2-A) and (MB 160-436356/12-A)

Method 904.0: Ra-228 Prep Batch 160-436515
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.
JSF-STR-FB01-20190717 ~ NA (180-93012-1), JSF-STR-EB01-20190717 ~ NA (180-93012-2), JSF-STR-HR06-LB-SUR-20190717 ~ STR-HR06 (180-93012-3), JSF-STR-HR06-LB-BOT-20190717 ~ STR-HR06 (180-93012-4), JSF-STR-HR06-CC-SUR-20190717 ~ STR-HR06 (180-93012-5), JSF-STR-HR06-CC-MID-20190717 ~ STR-HR06 (180-93012-6), JSF-STR-HR06-CC-BOT-20190717 ~ STR-HR06 (180-93012-7), JSF-STR-HR06-RB-SUR-20190717 ~ STR-HR06 (180-93012-8), JSF-STR-HR06-RB-BOT-20190717 ~ STR-HR06 (180-93012-9), JSF-STR-HR05-RB-SUR-20190717 ~ STR-HR05 (180-93012-10), JSF-STR-HR05-RB-BOT-20190717 ~ STR-HR05 (180-93012-11), JSF-STR-HR05-CC-SUR-20190717 ~ STR-HR05 (180-93012-12), JSF-STR-HR05-CC-MID-20190717 ~ STR-HR05 (180-93012-13), JSF-STR-HR05-CC-BOT-20190717 ~ STR-HR05 (180-93012-14), JSF-STR-HR05-LB-SUR-20190717 ~ STR-HR05 (180-93012-15), JSF-STR-HR05-LB-BOT-20190717 ~ STR-HR05 (180-93012-16), JSF-STR-HR04-LB-SUR-20190717 ~ STR-HR04 (180-93012-17), JSF-STR-HR04-LB-BOT-20190717 ~ STR-HR04 (180-93012-18), JSF-STR-HR04-CC-SUR-20190717 ~ STR-HR04 (180-93012-19), JSF-STR-HR04-CC-MID-20190717 ~ STR-HR04 (180-93012-20), (LCS 160-436515/1-A), (LCSD 160-436515/2-A) and (MB 160-436515/23-A)

Method PrecSep_0: Radium 228 Prep Batch 160- 436356:
Insufficient sample volume was available to perform a sample duplicate for the following samples: JSF-STR-FB01-20190718 ~ NA (180-93012-61), JSF-STR-HR07-RB-MID-20190718 ~ STR-HR07 (180-93012-62), JSF-STR-HR07-CC-SUR-20190718 ~ STR-HR07 (180-93012-63), JSF-STR-HR07-CC-MID-20190718 ~ STR-HR07 (180-93012-64), JSF-STR-HR07-CC-BOT-20190718 ~ STR-HR07 (180-93012-65), JSF-STR-HR07-LB-SUR-20190718 ~ STR-HR07 (180-93012-66), JSF-STR-HR07-LB-BOT-20190718 ~ STR-HR07 (180-93012-67), JSF-STR-HR06-CC-MID-20190718 ~ STR-HR07 (180-93012-68) and JSF-STR-DUP03-20190717 (180-93012-69). A

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laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method PrecSep_0: Radium 228 Prep Batch 160-436534:
Insufficient sample volume was available to perform a sample duplicate for the following samples: JSF-STR-HR09-LB-SUR-20190717 ~ STR-HR09 (180-93012-41), JSF-STR-HR09-LB-MID-20190717 ~ STR-HR09 (180-93012-42), JSF-STR-HR09-LB-BOT-20190717 ~ STR-HR09 (180-93012-43), JSF-STR-HR09-CC-SUR-20190717 ~ STR-HR09 (180-93012-44), JSF-STR-HR09-CC-MID-20190717 ~ STR-HR09 (180-93012-45), JSF-STR-HR09-CC-BOT-20190717 ~ STR-HR09 (180-93012-46), JSF-STR-HR09-RB-SUR-20190717 ~ STR-HR09 (180-93012-47), JSF-STR-HR09-RB-MID-20190717 ~ STR-HR09 (180-93012-48), JSF-STR-HR09-RB-BOT-20190717 ~ STR-HR09 (180-93012-49), JSF-STR-HR08-LB-SUR-20190717 ~ STR-HR08 (180-93012-50), JSF-STR-HR08-LB-MID-20190717 ~ STR-HR08 (180-93012-51), JSF-STR-HR08-LB-BOT-20190717 ~ STR-HR08 (180-93012-52), JSF-STR-HR08-CC-SUR-20190717 ~ STR-HR08 (180-93012-53), JSF-STR-HR08-CC-MID-20190717 ~ STR-HR08 (180-93012-54), JSF-STR-HR08-CC-BOT-20190717 ~ STR-HR08 (180-93012-55), JSF-STR-HR08-RB-SUR-20190717 ~ STR-HR08 (180-93012-56), JSF-STR-HR08-RB-MID-20190717 ~ STR-HR08 (180-93012-57), JSF-STR-HR08-RB-BOT-20190717 ~ STR-HR08 (180-93012-58), JSF-STR-DUP02-20190717-20190717 ~ NA (180-93012-59) and JSF-STR-HR07-RB-MID-20190717 ~ STR-HR07 (180-93012-60). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method PrecSep_0: Radium 228 Prep Batch 436515:
Insufficient sample volume was available to perform a sample duplicate for the following samples: JSF-STR-FB01-20190717 ~ NA (180-93012-1), JSF-STR-EB01-20190717 ~ NA (180-93012-2), JSF-STR-HR06-LB-SUR-20190717 ~ STR-HR06 (180-93012-3), JSF-STR-HR06-LB-BOT-20190717 ~ STR-HR06 (180-93012-4), JSF-STR-HR06-CC-SUR-20190717 ~ STR-HR06 (180-93012-5), JSF-STR-HR06-CC-MID-20190717 ~ STR-HR06 (180-93012-6), JSF-STR-HR06-CC-BOT-20190717 ~ STR-HR06 (180-93012-7), JSF-STR-HR06-RB-SUR-20190717 ~ STR-HR06 (180-93012-8), JSF-STR-HR06-RB-BOT-20190717 ~ STR-HR06 (180-93012-9), JSF-STR-HR05-RB-SUR-20190717 ~ STR-HR05 (180-93012-10), JSF-STR-HR05-RB-BOT-20190717 ~ STR-HR05 (180-93012-11), JSF-STR-HR05-CC-SUR-20190717 ~ STR-HR05 (180-93012-12), JSF-STR-HR05-CC-MID-20190717 ~ STR-HR05 (180-93012-13), JSF-STR-HR05-CC-BOT-20190717 ~ STR-HR05 (180-93012-14), JSF-STR-HR05-LB-SUR-20190717 ~ STR-HR05 (180-93012-15), JSF-STR-HR05-LB-BOT-20190717 ~ STR-HR05 (180-93012-16), JSF-STR-HR04-LB-SUR-20190717 ~ STR-HR04 (180-93012-17), JSF-STR-HR04-LB-BOT-20190717 ~ STR-HR04 (180-93012-18), JSF-STR-HR04-CC-SUR-20190717 ~ STR-HR04 (180-93012-19) and JSF-STR-HR04-CC-MID-20190717 ~ STR-HR04 (180-93012-20). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method PrecSep STD: Radium 226 Prep Batch 160- 436351:
Insufficient sample volume was available to perform a sample duplicate for the following samples: JSF-STR-FB01-20190718 ~ NA (180-93012-61), JSF-STR-HR07-RB-MID-20190718 ~ STR-HR07 (180-93012-62), JSF-STR-HR07-CC-SUR-20190718 ~ STR-HR07 (180-93012-63), JSF-STR-HR07-CC-MID-20190718 ~ STR-HR07 (180-93012-64), JSF-STR-HR07-CC-BOT-20190718 ~ STR-HR07 (180-93012-65), JSF-STR-HR07-LB-SUR-20190718 ~ STR-HR07 (180-93012-66), JSF-STR-HR07-LB-BOT-20190718 ~ STR-HR07 (180-93012-67), JSF-STR-HR06-CC-MID-20190718 ~ STR-HR07 (180-93012-68) and JSF-STR-DUP03-20190717 (180-93012-69). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method PrecSep STD: Radium 226 Prep Batch 160-436533:
Insufficient sample volume was available to perform a sample duplicate for the following samples: JSF-STR-HR09-LB-SUR-20190717 ~ STR-HR09 (180-93012-41), JSF-STR-HR09-LB-MID-20190717 ~ STR-HR09 (180-93012-42), JSF-STR-HR09-LB-BOT-20190717 ~ STR-HR09 (180-93012-43), JSF-STR-HR09-CC-SUR-20190717 ~ STR-HR09 (180-93012-44), JSF-STR-HR09-CC-MID-20190717 ~ STR-HR09 (180-93012-45), JSF-STR-HR09-CC-BOT-20190717 ~ STR-HR09 (180-93012-46), JSF-STR-HR09-RB-SUR-20190717 ~ STR-HR09 (180-93012-47), JSF-STR-HR09-RB-MID-20190717 ~ STR-HR09 (180-93012-48), JSF-STR-HR09-RB-BOT-20190717 ~ STR-HR09 (180-93012-49), JSF-STR-HR08-LB-SUR-20190717 ~ STR-HR08 (180-93012-50), JSF-STR-HR08-LB-MID-20190717 ~ STR-HR08 (180-93012-51), JSF-STR-HR08-LB-BOT-20190717 ~ STR-HR08 (180-93012-52), JSF-STR-HR08-CC-SUR-20190717 ~ STR-HR08 (180-93012-53), JSF-STR-HR08-CC-MID-20190717 ~ STR-HR08 (180-93012-54), JSF-STR-HR08-CC-BOT-20190717 ~ STR-HR08 (180-93012-55), JSF-STR-HR08-RB-SUR-20190717 ~ STR-HR08 (180-93012-56), JSF-STR-HR08-RB-MID-20190717 ~ STR-HR08 (180-93012-57), JSF-STR-HR08-RB-BOT-20190717 ~ STR-HR08 (180-93012-58), JSF-STR-DUP02-20190717-20190717 ~ NA (180-93012-59) and JSF-STR-HR07-RB-MID-20190717 ~ STR-HR07 (180-93012-60). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method PrecSep STD: Radium 226 Prep Batch 436514:
Insufficient sample volume was available to perform a sample duplicate for the following samples: JSF-STR-FB01-20190717 ~ NA (180-93012-1), JSF-STR-EB01-20190717 ~ NA (180-93012-2), JSF-STR-HR06-LB-SUR-20190717 ~ STR-HR06 (180-93012-3),

Job ID: 180-93012-1 (Continued)

Laboratory: Eurofins TestAmerica, Pittsburgh (Continued)

JSF-STR-HR06-LB-BOT-20190717 ~ STR-HR06 (180-93012-4), JSF-STR-HR06-CC-SUR-20190717 ~ STR-HR06 (180-93012-5), JSF-STR-HR06-CC-MID-20190717 ~ STR-HR06 (180-93012-6), JSF-STR-HR06-CC-BOT-20190717 ~ STR-HR06 (180-93012-7), JSF-STR-HR06-RB-SUR-20190717 ~ STR-HR06 (180-93012-8), JSF-STR-HR06-RB-BOT-20190717 ~ STR-HR06 (180-93012-9), JSF-STR-HR05-RB-SUR-20190717 ~ STR-HR05 (180-93012-10), JSF-STR-HR05-RB-BOT-20190717 ~ STR-HR05 (180-93012-11), JSF-STR-HR05-CC-SUR-20190717 ~ STR-HR05 (180-93012-12), JSF-STR-HR05-CC-MID-20190717 ~ STR-HR05 (180-93012-13), JSF-STR-HR05-CC-BOT-20190717 ~ STR-HR05 (180-93012-14), JSF-STR-HR05-LB-SUR-20190717 ~ STR-HR05 (180-93012-15), JSF-STR-HR05-LB-BOT-20190717 ~ STR-HR05 (180-93012-16), JSF-STR-HR04-LB-SUR-20190717 ~ STR-HR04 (180-93012-17), JSF-STR-HR04-LB-BOT-20190717 ~ STR-HR04 (180-93012-18), JSF-STR-HR04-CC-SUR-20190717 ~ STR-HR04 (180-93012-19) and JSF-STR-HR04-CC-MID-20190717 ~ STR-HR04 (180-93012-20). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

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

Definitions/Glossary

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Qualifiers

Rad

Qualifier	Qualifier Description
*	RPD of the LCS and LCSD exceeds the control limits
U	Result is less than the sample detection limit.

Glossary

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

Accreditation/Certification Summary

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Laboratory: Eurofins TestAmerica, Pittsburgh

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	19-033-0	06-27-20
California	State	2891	04-30-20
Connecticut	State	PH-0688	09-30-20
Florida	NELAP	E871008	06-30-20
Illinois	NELAP	004375	06-30-20
Kansas	NELAP	E-10350	03-31-20
Kentucky (UST)	State	162013	04-30-20
Kentucky (WW)	State	KY98043	12-31-19
Louisiana	NELAP	04041	06-30-20
Minnesota	NELAP	042-999-482	12-31-19
Nevada	State	PA00164	07-31-20
New Hampshire	NELAP	2030	04-04-20
New Hampshire	NELAP	2030	04-04-20
New Jersey	NELAP	PA005	06-30-20
New York	NELAP	11182	04-01-20
North Carolina (WW/SW)	State	434	12-31-19
North Dakota	State	R-227	04-30-20
Oregon	NELAP	PA-2151	02-06-20
Pennsylvania	NELAP	02-00416	04-30-20
Rhode Island	State	LAO00362	12-30-19
South Carolina	State	89014	04-30-20
Texas	NELAP	T104704528	03-31-20
US Fish & Wildlife	US Federal Programs	058448	07-31-20
USDA	Federal	P-Soil-01	06-26-22
USDA	US Federal Programs	P330-16-00211	06-26-22
Utah	NELAP	PA001462019-8	05-31-20
Virginia	NELAP	10043	09-15-20
West Virginia DEP	State	142	01-31-20
Wisconsin	State	998027800	08-31-20

Accreditation/Certification Summary

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Laboratory: Eurofins TestAmerica, St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-19
California	Los Angeles County Sanitation Districts	10259	06-30-20
California	State	2886	06-30-20
Connecticut	State	PH-0241	03-31-21
Florida	NELAP	E87689	06-30-20
HI - RadChem Recognition	State	n/a	06-30-20
Illinois	NELAP	004553	11-30-19
Iowa	State Program	373	12-01-20
Kansas	NELAP	E-10236	10-31-19 *
Kentucky (DW)	State	KY90125	12-31-19
Louisiana	NELAP	04080	06-30-20
Louisiana (DW)	State	LA011	12-31-19
Maryland	State	310	09-30-20
MI - RadChem Recognition	State	9005	06-30-20
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-20
New Jersey	NELAP	MO002	06-30-20
New York	NELAP	11616	04-01-20
North Dakota	State	R-207	06-30-20
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-20
Pennsylvania	NELAP	68-00540	02-28-20
South Carolina	State	85002001	06-30-20
Texas	NELAP	T104704193-19-13	07-31-20
US Fish & Wildlife	US Federal Programs	058448	07-31-20
USDA	US Federal Programs	P330-17-00028	02-02-20
Utah	NELAP	MO000542019-11	07-31-20
Virginia	NELAP	10310	06-14-20
Washington	State Program	C592	08-30-19 *
West Virginia DEP	State Program	381	10-31-19 *

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

Sample Summary

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-93012-1	JSF-STR-FB01-20190717 ~ NA	Water	07/17/19 08:10	07/20/19 09:15	
180-93012-2	JSF-STR-EB01-20190717 ~ NA	Water	07/17/19 08:20	07/20/19 09:15	
180-93012-3	JSF-STR-HR06-LB-SUR-20190717 ~ STR-HR06	Water	07/17/19 08:30	07/20/19 09:15	
180-93012-4	JSF-STR-HR06-LB-BOT-20190717 ~ STR-HR06	Water	07/17/19 08:50	07/20/19 09:15	
180-93012-5	JSF-STR-HR06-CC-SUR-20190717 ~ STR-HR06	Water	07/17/19 09:10	07/20/19 09:15	
180-93012-6	JSF-STR-HR06-CC-MID-20190717 ~ STR-HR06	Water	07/17/19 09:20	07/20/19 09:15	
180-93012-7	JSF-STR-HR06-CC-BOT-20190717 ~ STR-HR06	Water	07/17/19 09:30	07/20/19 09:15	
180-93012-8	JSF-STR-HR06-RB-SUR-20190717 ~ STR-HR06	Water	07/17/19 09:40	07/20/19 09:15	
180-93012-9	JSF-STR-HR06-RB-BOT-20190717 ~ STR-HR06	Water	07/17/19 09:50	07/20/19 09:15	
180-93012-10	JSF-STR-HR05-RB-SUR-20190717 ~ STR-HR05	Water	07/17/19 10:10	07/20/19 09:15	
180-93012-11	JSF-STR-HR05-RB-BOT-20190717 ~ STR-HR05	Water	07/17/19 10:20	07/20/19 09:15	
180-93012-12	JSF-STR-HR05-CC-SUR-20190717 ~ STR-HR05	Water	07/17/19 10:30	07/20/19 09:15	
180-93012-13	JSF-STR-HR05-CC-MID-20190717 ~ STR-HR05	Water	07/17/19 10:35	07/20/19 09:15	
180-93012-14	JSF-STR-HR05-CC-BOT-20190717 ~ STR-HR05	Water	07/17/19 10:40	07/20/19 09:15	
180-93012-15	JSF-STR-HR05-LB-SUR-20190717 ~ STR-HR05	Water	07/17/19 10:55	07/20/19 09:15	
180-93012-16	JSF-STR-HR05-LB-BOT-20190717 ~ STR-HR05	Water	07/17/19 11:05	07/20/19 09:15	
180-93012-17	JSF-STR-HR04-LB-SUR-20190717 ~ STR-HR04	Water	07/17/19 11:25	07/20/19 09:15	
180-93012-18	JSF-STR-HR04-LB-BOT-20190717 ~ STR-HR04	Water	07/17/19 11:30	07/20/19 09:15	
180-93012-19	JSF-STR-HR04-CC-SUR-20190717 ~ STR-HR04	Water	07/17/19 11:45	07/20/19 09:15	
180-93012-20	JSF-STR-HR04-CC-MID-20190717 ~ STR-HR04	Water	07/17/19 11:50	07/20/19 09:15	
180-93012-21	JSF-STR-HR04-CC-BOT-20190717 ~ STR-HR04	Water	07/17/19 11:55	07/20/19 09:15	
180-93012-22	JSF-STR-HR04-RB-SUR-20190717 ~ STR-HR04	Water	07/17/19 12:15	07/20/19 09:15	
180-93012-23	JSF-STR-HR04-RB-BOT-20190717 ~ STR-HR04	Water	07/17/19 12:20	07/20/19 09:15	
180-93012-24	JSF-STR-HR03-RB-SUR-20190717 ~ STR-HR03	Water	07/17/19 12:35	07/20/19 09:15	
180-93012-25	JSF-STR-HR03-RB-BOT-20190717 ~ STR-HR03	Water	07/17/19 12:40	07/20/19 09:15	
180-93012-26	JSF-STR-HR03-CC-SUR-20190717 ~ STR-HR03	Water	07/17/19 12:55	07/20/19 09:15	
180-93012-27	JSF-STR-HR03-CC-MID-20190717 ~ STR-HR03	Water	07/17/19 13:05	07/20/19 09:15	
180-93012-28	JSF-STR-HR03-CC-BOT-20190717 ~ STR-HR03	Water	07/17/19 13:10	07/20/19 09:15	
180-93012-29	JSF-STR-HR03-LB-SUR-20190717 ~ STR-HR03	Water	07/17/19 13:25	07/20/19 09:15	
180-93012-30	JSF-STR-HR03-LB-BOT-20190717 ~ STR-HR03	Water	07/17/19 13:30	07/20/19 09:15	
180-93012-31	JSF-STR-HR02-LB-SUR-20190717 ~ STR-HR02	Water	07/17/19 14:35	07/20/19 09:15	
180-93012-32	JSF-STR-HR02-LB-BOT-20190717 ~ STR-HR02	Water	07/17/19 14:40	07/20/19 09:15	
180-93012-33	JSF-STR-HR02-CC-SUR-20190717 ~ STR-HR02	Water	07/17/19 15:00	07/20/19 09:15	
180-93012-34	JSF-STR-HR02-CC-BOT-20190717 ~ STR-HR02	Water	07/17/19 15:05	07/20/19 09:15	
180-93012-35	JSF-STR-HR02-RB-SUR-20190717 ~ STR-HR02	Water	07/17/19 15:15	07/20/19 09:15	
180-93012-36	JSF-STR-HR02-RB-BOT-20190717 ~ STR-HR02	Water	07/17/19 15:20	07/20/19 09:15	
180-93012-37	JSF-STR-HR01-RB-MID-20190717 ~ STR-HR01	Water	07/17/19 15:40	07/20/19 09:15	
180-93012-38	JSF-STR-HR01-CC-MID-20190717 ~ STR-HR01	Water	07/17/19 15:50	07/20/19 09:15	
180-93012-39	JSF-STR-HR01-LB-MID-20190717 ~ STR-HR01	Water	07/17/19 16:15	07/20/19 09:15	
180-93012-40	JSF-STR-DUP01-20190717 ~ NA	Water	07/17/19 00:00	07/20/19 09:15	
180-93012-41	JSF-STR-HR09-LB-SUR-20190717 ~ STR-HR09	Water	07/17/19 17:15	07/20/19 09:15	
180-93012-42	JSF-STR-HR09-LB-MID-20190717 ~ STR-HR09	Water	07/17/19 17:25	07/20/19 09:15	
180-93012-43	JSF-STR-HR09-LB-BOT-20190717 ~ STR-HR09	Water	07/17/19 17:30	07/20/19 09:15	
180-93012-44	JSF-STR-HR09-CC-SUR-20190717 ~ STR-HR09	Water	07/17/19 17:50	07/20/19 09:15	
180-93012-45	JSF-STR-HR09-CC-MID-20190717 ~ STR-HR09	Water	07/17/19 17:55	07/20/19 09:15	
180-93012-46	JSF-STR-HR09-CC-BOT-20190717 ~ STR-HR09	Water	07/17/19 18:00	07/20/19 09:15	
180-93012-47	JSF-STR-HR09-RB-SUR-20190717 ~ STR-HR09	Water	07/17/19 18:10	07/20/19 09:15	
180-93012-48	JSF-STR-HR09-RB-MID-20190717 ~ STR-HR09	Water	07/17/19 18:15	07/20/19 09:15	
180-93012-49	JSF-STR-HR09-RB-BOT-20190717 ~ STR-HR09	Water	07/17/19 18:20	07/20/19 09:15	
180-93012-50	JSF-STR-HR08-LB-SUR-20190717 ~ STR-HR08	Water	07/17/19 18:45	07/20/19 09:15	
180-93012-51	JSF-STR-HR08-LB-MID-20190717 ~ STR-HR08	Water	07/17/19 18:50	07/20/19 09:15	
180-93012-52	JSF-STR-HR08-LB-BOT-20190717 ~ STR-HR08	Water	07/17/19 18:55	07/20/19 09:15	
180-93012-53	JSF-STR-HR08-CC-SUR-20190717 ~ STR-HR08	Water	07/17/19 19:10	07/20/19 09:15	

Sample Summary

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-93012-54	JSF-STR-HR08-CC-MID-20190717 ~ STR-HR08	Water	07/17/19 19:15	07/20/19 09:15	
180-93012-55	JSF-STR-HR08-CC-BOT-20190717 ~ STR-HR08	Water	07/17/19 19:20	07/20/19 09:15	
180-93012-56	JSF-STR-HR08-RB-SUR-20190717 ~ STR-HR08	Water	07/17/19 19:55	07/20/19 09:15	
180-93012-57	JSF-STR-HR08-RB-MID-20190717 ~ STR-HR08	Water	07/17/19 20:00	07/20/19 09:15	
180-93012-58	JSF-STR-HR08-RB-BOT-20190717 ~ STR-HR08	Water	07/17/19 20:05	07/20/19 09:15	
180-93012-59	JSF-STR-DUP02-20190717-20190717 ~ NA	Water	07/17/19 00:00	07/20/19 09:15	
180-93012-60	JSF-STR-HR07-RB-MID-20190717 ~ STR-HR07	Water	07/17/19 20:35	07/20/19 09:15	
180-93012-61	JSF-STR-FB01-20190718 ~ NA	Water	07/18/19 10:50	07/20/19 09:15	
180-93012-62	JSF-STR-HR07-RB-MID-20190718 ~ STR-HR07	Water	07/18/19 11:00	07/20/19 09:15	
180-93012-63	JSF-STR-HR07-CC-SUR-20190718 ~ STR-HR07	Water	07/18/19 11:20	07/20/19 09:15	
180-93012-64	JSF-STR-HR07-CC-MID-20190718 ~ STR-HR07	Water	07/18/19 11:25	07/20/19 09:15	
180-93012-65	JSF-STR-HR07-CC-BOT-20190718 ~ STR-HR07	Water	07/18/19 11:30	07/20/19 09:15	
180-93012-66	JSF-STR-HR07-LB-SUR-20190718 ~ STR-HR07	Water	07/18/19 11:55	07/20/19 09:15	
180-93012-67	JSF-STR-HR07-LB-BOT-20190718 ~ STR-HR07	Water	07/18/19 12:00	07/20/19 09:15	
180-93012-68	JSF-STR-HR06-CC-MID-20190718 ~ STR-HR07	Water	07/18/19 12:25	07/20/19 09:15	
180-93012-69	JSF-STR-DUP03-20190717	Water	07/17/19 00:00	07/20/19 09:15	

Method Summary

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Method	Method Description	Protocol	Laboratory
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
Ra226_Ra228 Pos	Combined Radium-226 and Radium-228	TAL-STL	TAL SL
PrecSep STD	Preparation, Precipitate Separation (Standard In-Growth)	None	TAL SL
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL

Protocol References:

EPA = US Environmental Protection Agency

None = None

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Lab Chronicle

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-FB01-20190717 ~ NA

Lab Sample ID: 180-93012-1

Date Collected: 07/17/19 08:10
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.58 mL	1.0 g	436514	07/25/19 14:09	ORM	TAL SL
Total/NA	Analysis	903.0		1			442562	09/10/19 06:03	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.58 mL	1.0 g	436515	07/25/19 14:17	ORM	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	442169	09/08/19 12:49	CDR	TAL SL
	Instrument ID:	GFPCPURPLE								
Total/NA	Analysis	Ra226_Ra228 Pos		1			443476	09/23/19 11:52	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Client Sample ID: JSF-STR-EB01-20190717 ~ NA

Lab Sample ID: 180-93012-2

Date Collected: 07/17/19 08:20
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.70 mL	1.0 g	436514	07/25/19 14:09	ORM	TAL SL
Total/NA	Analysis	903.0		1			442562	09/10/19 06:03	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.70 mL	1.0 g	436515	07/25/19 14:17	ORM	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	442167	09/08/19 13:01	CDR	TAL SL
	Instrument ID:	GFPCPROTEAN								
Total/NA	Analysis	Ra226_Ra228 Pos		1			443476	09/19/19 15:24	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Client Sample ID: JSF-STR-HR06-LB-SUR-20190717 ~ STR-HR06

Lab Sample ID: 180-93012-3

Date Collected: 07/17/19 08:30
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.53 mL	1.0 g	436514	07/25/19 14:09	ORM	TAL SL
Total/NA	Analysis	903.0		1			442562	09/10/19 06:06	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.53 mL	1.0 g	436515	07/25/19 14:17	ORM	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	442167	09/08/19 13:02	CDR	TAL SL
	Instrument ID:	GFPCPROTEAN								
Total/NA	Analysis	Ra226_Ra228 Pos		1			443476	09/23/19 11:52	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Client Sample ID: JSF-STR-HR06-LB-BOT-20190717 ~ STR-HR06

Lab Sample ID: 180-93012-4

Date Collected: 07/17/19 08:50
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.17 mL	1.0 g	436514	07/25/19 14:09	ORM	TAL SL
Total/NA	Analysis	903.0		1			442562	09/10/19 06:04	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.17 mL	1.0 g	436515	07/25/19 14:17	ORM	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	442167	09/08/19 13:02	CDR	TAL SL
	Instrument ID:	GFPCPROTEAN								
Total/NA	Analysis	Ra226_Ra228 Pos		1			443476	09/23/19 11:52	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Client Sample ID: JSF-STR-HR06-CC-SUR-20190717 ~ STR-HR06

Lab Sample ID: 180-93012-5

Date Collected: 07/17/19 09:10
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.65 mL	1.0 g	436514	07/25/19 14:09	ORM	TAL SL
Total/NA	Analysis	903.0		1			442562	09/10/19 06:04	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.65 mL	1.0 g	436515	07/25/19 14:17	ORM	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	442167	09/08/19 13:02	CDR	TAL SL
	Instrument ID:	GFPCPROTEAN								
Total/NA	Analysis	Ra226_Ra228 Pos		1			443476	09/23/19 11:52	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Client Sample ID: JSF-STR-HR06-CC-MID-20190717 ~ STR-HR06

Lab Sample ID: 180-93012-6

Date Collected: 07/17/19 09:20
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.03 mL	1.0 g	436514	07/25/19 14:09	ORM	TAL SL
Total/NA	Analysis	903.0		1			442562	09/10/19 06:05	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.03 mL	1.0 g	436515	07/25/19 14:17	ORM	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	442167	09/08/19 13:03	CDR	TAL SL
	Instrument ID:	GFPCPROTEAN								
Total/NA	Analysis	Ra226_Ra228 Pos		1			443476	09/23/19 11:52	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Lab Chronicle

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR06-CC-BOT-20190717 ~ STR-HR06

Lab Sample ID: 180-93012-7

Date Collected: 07/17/19 09:30
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.64 mL	1.0 g	436514	07/25/19 14:09	ORM	TAL SL
Total/NA	Analysis	903.0		1			442562	09/10/19 06:05	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.64 mL	1.0 g	436515	07/25/19 14:17	ORM	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	442167	09/08/19 13:04	CDR	TAL SL
	Instrument ID:	GFPCPROTEAN								
Total/NA	Analysis	Ra226_Ra228 Pos		1			443476	09/23/19 11:52	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Client Sample ID: JSF-STR-HR06-RB-SUR-20190717 ~ STR-HR06

Lab Sample ID: 180-93012-8

Date Collected: 07/17/19 09:40
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.08 mL	1.0 g	436514	07/25/19 14:09	ORM	TAL SL
Total/NA	Analysis	903.0		1			442562	09/10/19 06:05	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.08 mL	1.0 g	436515	07/25/19 14:17	ORM	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	442167	09/08/19 13:04	CDR	TAL SL
	Instrument ID:	GFPCPROTEAN								
Total/NA	Analysis	Ra226_Ra228 Pos		1			443476	09/23/19 11:52	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Client Sample ID: JSF-STR-HR06-RB-BOT-20190717 ~ STR-HR06

Lab Sample ID: 180-93012-9

Date Collected: 07/17/19 09:50
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.25 mL	1.0 g	436514	07/25/19 14:09	ORM	TAL SL
Total/NA	Analysis	903.0		1			442562	09/10/19 08:05	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.25 mL	1.0 g	436515	07/25/19 14:17	ORM	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	442167	09/08/19 13:04	CDR	TAL SL
	Instrument ID:	GFPCPROTEAN								
Total/NA	Analysis	Ra226_Ra228 Pos		1			443476	09/23/19 11:52	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Client Sample ID: JSF-STR-HR05-RB-SUR-20190717 ~ STR-HR05

Lab Sample ID: 180-93012-10

Date Collected: 07/17/19 10:10
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.12 mL	1.0 g	436514	07/25/19 14:09	ORM	TAL SL
Total/NA	Analysis	903.0		1			442562	09/10/19 08:05	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.12 mL	1.0 g	436515	07/25/19 14:17	ORM	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	442167	09/08/19 13:04	CDR	TAL SL
	Instrument ID:	GFPCPROTEAN								
Total/NA	Analysis	Ra226_Ra228 Pos		1			443476	09/19/19 15:24	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Client Sample ID: JSF-STR-HR05-RB-BOT-20190717 ~ STR-HR05

Lab Sample ID: 180-93012-11

Date Collected: 07/17/19 10:20
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.20 mL	1.0 g	436514	07/25/19 14:09	ORM	TAL SL
Total/NA	Analysis	903.0		1			442562	09/10/19 08:05	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.20 mL	1.0 g	436515	07/25/19 14:17	ORM	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	442167	09/08/19 13:04	CDR	TAL SL
	Instrument ID:	GFPCPROTEAN								
Total/NA	Analysis	Ra226_Ra228 Pos		1			443476	09/19/19 15:24	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Client Sample ID: JSF-STR-HR05-CC-SUR-20190717 ~ STR-HR05

Lab Sample ID: 180-93012-12

Date Collected: 07/17/19 10:30
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.63 mL	1.0 g	436514	07/25/19 14:09	ORM	TAL SL
Total/NA	Analysis	903.0		1			442562	09/10/19 08:06	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.63 mL	1.0 g	436515	07/25/19 14:17	ORM	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	442167	09/08/19 13:04	CDR	TAL SL
	Instrument ID:	GFPCPROTEAN								
Total/NA	Analysis	Ra226_Ra228 Pos		1			443476	09/19/19 15:24	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Lab Chronicle

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR05-CC-MID-20190717 ~ STR-HR05

Lab Sample ID: 180-93012-13

Date Collected: 07/17/19 10:35
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.42 mL	1.0 g	436514	07/25/19 14:09	ORM	TAL SL
Total/NA	Analysis	903.0		1			442562	09/10/19 08:06	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.42 mL	1.0 g	436515	07/25/19 14:17	ORM	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	442151	09/08/19 12:53	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Analysis	Ra226_Ra228 Pos		1			443476	09/19/19 15:24	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Client Sample ID: JSF-STR-HR05-CC-BOT-20190717 ~ STR-HR05

Lab Sample ID: 180-93012-14

Date Collected: 07/17/19 10:40
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.44 mL	1.0 g	436514	07/25/19 14:09	ORM	TAL SL
Total/NA	Analysis	903.0		1			442562	09/10/19 08:06	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.44 mL	1.0 g	436515	07/25/19 14:17	ORM	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	442151	09/08/19 12:53	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Analysis	Ra226_Ra228 Pos		1			443476	09/19/19 15:24	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Client Sample ID: JSF-STR-HR05-LB-SUR-20190717 ~ STR-HR05

Lab Sample ID: 180-93012-15

Date Collected: 07/17/19 10:55
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.64 mL	1.0 g	436514	07/25/19 14:09	ORM	TAL SL
Total/NA	Analysis	903.0		1			442562	09/10/19 08:06	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.64 mL	1.0 g	436515	07/25/19 14:17	ORM	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	442151	09/08/19 12:53	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Analysis	Ra226_Ra228 Pos		1			443476	09/19/19 15:24	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Lab Chronicle

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR05-LB-BOT-20190717 ~ STR-HR05

Lab Sample ID: 180-93012-16

Date Collected: 07/17/19 11:05
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.57 mL	1.0 g	436514	07/25/19 14:09	ORM	TAL SL
Total/NA	Analysis	903.0		1			442562	09/10/19 08:07	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.57 mL	1.0 g	436515	07/25/19 14:17	ORM	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	442151	09/08/19 12:54	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Analysis	Ra226_Ra228 Pos		1			443476	09/19/19 15:24	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Client Sample ID: JSF-STR-HR04-LB-SUR-20190717 ~ STR-HR04

Lab Sample ID: 180-93012-17

Date Collected: 07/17/19 11:25
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.23 mL	1.0 g	436514	07/25/19 14:09	ORM	TAL SL
Total/NA	Analysis	903.0		1			442562	09/10/19 08:07	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.23 mL	1.0 g	436515	07/25/19 14:17	ORM	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	442151	09/08/19 12:53	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Analysis	Ra226_Ra228 Pos		1			443476	09/19/19 15:24	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Client Sample ID: JSF-STR-HR04-LB-BOT-20190717 ~ STR-HR04

Lab Sample ID: 180-93012-18

Date Collected: 07/17/19 11:30
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.18 mL	1.0 g	436514	07/25/19 14:09	ORM	TAL SL
Total/NA	Analysis	903.0		1			442562	09/10/19 08:07	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.18 mL	1.0 g	436515	07/25/19 14:17	ORM	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	442151	09/08/19 12:54	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Analysis	Ra226_Ra228 Pos		1			443476	09/19/19 15:24	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Lab Chronicle

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR04-CC-SUR-20190717 ~ STR-HR04

Lab Sample ID: 180-93012-19

Date Collected: 07/17/19 11:45
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.33 mL	1.0 g	436514	07/25/19 14:09	ORM	TAL SL
Total/NA	Analysis	903.0		1			442559	09/10/19 08:13	CDR	TAL SL
	Instrument ID:	GFPCPURPLE								
Total/NA	Prep	PrecSep_0			1000.33 mL	1.0 g	436515	07/25/19 14:17	ORM	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	442151	09/08/19 12:54	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Analysis	Ra226_Ra228 Pos		1			443476	09/19/19 15:24	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Client Sample ID: JSF-STR-HR04-CC-MID-20190717 ~ STR-HR04

Lab Sample ID: 180-93012-20

Date Collected: 07/17/19 11:50
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.26 mL	1.0 g	436514	07/25/19 14:09	ORM	TAL SL
Total/NA	Analysis	903.0		1			442559	09/10/19 08:13	CDR	TAL SL
	Instrument ID:	GFPCPURPLE								
Total/NA	Prep	PrecSep_0			1000.26 mL	1.0 g	436515	07/25/19 14:17	ORM	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	442151	09/08/19 12:54	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Analysis	Ra226_Ra228 Pos		1			443476	09/19/19 15:24	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Client Sample ID: JSF-STR-HR04-CC-BOT-20190717 ~ STR-HR04

Lab Sample ID: 180-93012-21

Date Collected: 07/17/19 11:55
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.75 mL	1.0 g	436518	07/25/19 14:51	ORM	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	441511	08/31/19 22:04	KLS	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.75 mL	1.0 g	436532	07/25/19 16:03	ORM	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	441352	08/30/19 14:49	KLS	TAL SL
	Instrument ID:	GFPCPURPLE								
Total/NA	Analysis	Ra226_Ra228 Pos		1			442458	09/09/19 13:14	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Lab Chronicle

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR04-RB-SUR-20190717 ~ STR-HR04

Lab Sample ID: 180-93012-22

Date Collected: 07/17/19 12:15
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.43 mL	1.0 g	436518	07/25/19 14:51	ORM	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	441511	08/31/19 22:04	KLS	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.43 mL	1.0 g	436532	07/25/19 16:03	ORM	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	441352	08/30/19 14:49	KLS	TAL SL
	Instrument ID:	GFPCPURPLE								
Total/NA	Analysis	Ra226_Ra228 Pos		1			442458	09/09/19 13:14	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Client Sample ID: JSF-STR-HR04-RB-BOT-20190717 ~ STR-HR04

Lab Sample ID: 180-93012-23

Date Collected: 07/17/19 12:20
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.12 mL	1.0 g	436518	07/25/19 14:51	ORM	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	441783	09/05/19 15:35	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.12 mL	1.0 g	436532	07/25/19 16:03	ORM	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	441352	08/30/19 14:49	KLS	TAL SL
	Instrument ID:	GFPCPURPLE								
Total/NA	Analysis	Ra226_Ra228 Pos		1			442458	09/09/19 13:14	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Client Sample ID: JSF-STR-HR03-RB-SUR-20190717 ~ STR-HR03

Lab Sample ID: 180-93012-24

Date Collected: 07/17/19 12:35
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.19 mL	1.0 g	436518	07/25/19 14:51	ORM	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	441511	08/31/19 22:05	KLS	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.19 mL	1.0 g	436532	07/25/19 16:03	ORM	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	441352	08/30/19 14:50	KLS	TAL SL
	Instrument ID:	GFPCPURPLE								
Total/NA	Analysis	Ra226_Ra228 Pos		1			442458	09/09/19 13:14	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Lab Chronicle

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR03-RB-BOT-20190717 ~ STR-HR03

Lab Sample ID: 180-93012-25

Date Collected: 07/17/19 12:40
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.01 mL	1.0 g	436518	07/25/19 14:51	ORM	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	441511	08/31/19 22:05	KLS	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.01 mL	1.0 g	436532	07/25/19 16:03	ORM	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	441352	08/30/19 14:50	KLS	TAL SL
	Instrument ID:	GFPCPURPLE								
Total/NA	Analysis	Ra226_Ra228 Pos		1			442458	09/09/19 13:14	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Client Sample ID: JSF-STR-HR03-CC-SUR-20190717 ~ STR-HR03

Lab Sample ID: 180-93012-26

Date Collected: 07/17/19 12:55
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.27 mL	1.0 g	436518	07/25/19 14:51	ORM	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	441783	09/05/19 15:35	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.27 mL	1.0 g	436532	07/25/19 16:03	ORM	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	441352	08/30/19 14:50	KLS	TAL SL
	Instrument ID:	GFPCPURPLE								
Total/NA	Analysis	Ra226_Ra228 Pos		1			442458	09/09/19 13:14	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Client Sample ID: JSF-STR-HR03-CC-MID-20190717 ~ STR-HR03

Lab Sample ID: 180-93012-27

Date Collected: 07/17/19 13:05
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.43 mL	1.0 g	436518	07/25/19 14:51	ORM	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	441511	08/31/19 22:05	KLS	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.43 mL	1.0 g	436532	07/25/19 16:03	ORM	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	441352	08/30/19 14:50	KLS	TAL SL
	Instrument ID:	GFPCPURPLE								
Total/NA	Analysis	Ra226_Ra228 Pos		1			442458	09/09/19 13:14	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Lab Chronicle

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR03-CC-BOT-20190717 ~ STR-HR03

Lab Sample ID: 180-93012-28

Date Collected: 07/17/19 13:10
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.69 mL	1.0 g	436518	07/25/19 14:51	ORM	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	441511	08/31/19 22:06	KLS	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.69 mL	1.0 g	436532	07/25/19 16:03	ORM	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	441352	08/30/19 14:50	KLS	TAL SL
	Instrument ID:	GFPCPURPLE								
Total/NA	Analysis	Ra226_Ra228 Pos		1			442458	09/09/19 13:14	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Client Sample ID: JSF-STR-HR03-LB-SUR-20190717 ~ STR-HR03

Lab Sample ID: 180-93012-29

Date Collected: 07/17/19 13:25
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.79 mL	1.0 g	436518	07/25/19 14:51	ORM	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	441511	08/31/19 22:06	KLS	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.79 mL	1.0 g	436532	07/25/19 16:03	ORM	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	441352	08/30/19 14:50	KLS	TAL SL
	Instrument ID:	GFPCPURPLE								
Total/NA	Analysis	Ra226_Ra228 Pos		1			442458	09/09/19 13:14	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Client Sample ID: JSF-STR-HR03-LB-BOT-20190717 ~ STR-HR03

Lab Sample ID: 180-93012-30

Date Collected: 07/17/19 13:30
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.56 mL	1.0 g	436518	07/25/19 14:51	ORM	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	441783	09/05/19 15:35	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.56 mL	1.0 g	436532	07/25/19 16:03	ORM	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	441352	08/30/19 14:50	KLS	TAL SL
	Instrument ID:	GFPCPURPLE								
Total/NA	Analysis	Ra226_Ra228 Pos		1			442458	09/09/19 13:14	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Lab Chronicle

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR02-LB-SUR-20190717 ~ STR-HR02

Lab Sample ID: 180-93012-31

Date Collected: 07/17/19 14:35
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.24 mL	1.0 g	436518	07/25/19 14:51	ORM	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	441711	09/01/19 14:02	KLS	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.24 mL	1.0 g	436532	07/25/19 16:03	ORM	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	441487	08/30/19 14:53	KLS	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Analysis	Ra226_Ra228 Pos		1			442458	09/09/19 13:14	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Client Sample ID: JSF-STR-HR02-LB-BOT-20190717 ~ STR-HR02

Lab Sample ID: 180-93012-32

Date Collected: 07/17/19 14:40
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.35 mL	1.0 g	436518	07/25/19 14:51	ORM	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	441711	09/01/19 14:02	KLS	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.35 mL	1.0 g	436532	07/25/19 16:03	ORM	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	441487	08/30/19 14:54	KLS	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Analysis	Ra226_Ra228 Pos		1			442458	09/09/19 13:14	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Client Sample ID: JSF-STR-HR02-CC-SUR-20190717 ~ STR-HR02

Lab Sample ID: 180-93012-33

Date Collected: 07/17/19 15:00
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.51 mL	1.0 g	436518	07/25/19 14:51	ORM	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	441783	09/05/19 15:35	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.51 mL	1.0 g	436532	07/25/19 16:03	ORM	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	441487	08/30/19 14:54	KLS	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Analysis	Ra226_Ra228 Pos		1			442458	09/09/19 13:14	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Lab Chronicle

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR02-CC-BOT-20190717 ~ STR-HR02

Lab Sample ID: 180-93012-34

Date Collected: 07/17/19 15:05
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.10 mL	1.0 g	436518	07/25/19 14:51	ORM	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	441711	09/01/19 14:03	KLS	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.10 mL	1.0 g	436532	07/25/19 16:03	ORM	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	441487	08/30/19 14:55	KLS	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Analysis	Ra226_Ra228 Pos		1			442458	09/09/19 13:14	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Client Sample ID: JSF-STR-HR02-RB-SUR-20190717 ~ STR-HR02

Lab Sample ID: 180-93012-35

Date Collected: 07/17/19 15:15
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.64 mL	1.0 g	436518	07/25/19 14:51	ORM	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	442653	09/11/19 05:44	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.64 mL	1.0 g	436532	07/25/19 16:03	ORM	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	441487	08/30/19 14:55	KLS	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Analysis	Ra226_Ra228 Pos		1			442458	09/09/19 13:14	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Client Sample ID: JSF-STR-HR02-RB-BOT-20190717 ~ STR-HR02

Lab Sample ID: 180-93012-36

Date Collected: 07/17/19 15:20
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.44 mL	1.0 g	436518	07/25/19 14:51	ORM	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	441711	09/01/19 14:03	KLS	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.44 mL	1.0 g	436532	07/25/19 16:03	ORM	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	441487	08/30/19 14:56	KLS	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Analysis	Ra226_Ra228 Pos		1			442458	09/09/19 13:14	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Lab Chronicle

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR01-RB-MID-20190717 ~ STR-HR01

Lab Sample ID: 180-93012-37

Date Collected: 07/17/19 15:40
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.11 mL	1.0 g	436518	07/25/19 14:51	ORM	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	441711	09/01/19 14:03	KLS	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.11 mL	1.0 g	436532	07/25/19 16:03	ORM	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	441487	08/30/19 14:57	KLS	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Analysis	Ra226_Ra228 Pos		1			442458	09/09/19 13:14	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Client Sample ID: JSF-STR-HR01-CC-MID-20190717 ~ STR-HR01

Lab Sample ID: 180-93012-38

Date Collected: 07/17/19 15:50
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.68 mL	1.0 g	436518	07/25/19 14:51	ORM	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	441711	09/01/19 14:03	KLS	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.68 mL	1.0 g	436532	07/25/19 16:03	ORM	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	441487	08/30/19 14:55	KLS	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Analysis	Ra226_Ra228 Pos		1			442458	09/09/19 13:14	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Client Sample ID: JSF-STR-HR01-LB-MID-20190717 ~ STR-HR01

Lab Sample ID: 180-93012-39

Date Collected: 07/17/19 16:15
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.07 mL	1.0 g	436518	07/25/19 14:51	ORM	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	441711	09/01/19 14:03	KLS	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.07 mL	1.0 g	436532	07/25/19 16:03	ORM	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	441487	08/30/19 14:56	KLS	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Analysis	Ra226_Ra228 Pos		1			442458	09/09/19 13:14	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Lab Chronicle

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-DUP01-20190717 ~ NA

Lab Sample ID: 180-93012-40

Date Collected: 07/17/19 00:00
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.50 mL	1.0 g	436518	07/25/19 14:51	ORM	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	441711	09/01/19 14:04	KLS	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.50 mL	1.0 g	436532	07/25/19 16:03	ORM	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	441487	08/30/19 14:58	KLS	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Analysis	Ra226_Ra228 Pos		1			442458	09/09/19 13:14	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Client Sample ID: JSF-STR-HR09-LB-SUR-20190717 ~ STR-HR09

Lab Sample ID: 180-93012-41

Date Collected: 07/17/19 17:15
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.26 mL	1.0 g	436533	07/25/19 17:51	ORM	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	441698	09/04/19 10:33	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.26 mL	1.0 g	436534	07/25/19 18:32	ORM	TAL SL
Total/NA	Analysis	904.0		1			441625	09/03/19 13:56	KLS	TAL SL
	Instrument ID:	GFPCORANGE								
Total/NA	Analysis	Ra226_Ra228 Pos		1			442458	09/09/19 13:15	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Client Sample ID: JSF-STR-HR09-LB-MID-20190717 ~ STR-HR09

Lab Sample ID: 180-93012-42

Date Collected: 07/17/19 17:25
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.48 mL	1.0 g	436533	07/25/19 17:51	ORM	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	441698	09/04/19 10:33	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.48 mL	1.0 g	436534	07/25/19 18:32	ORM	TAL SL
Total/NA	Analysis	904.0		1			441625	09/03/19 13:56	KLS	TAL SL
	Instrument ID:	GFPCORANGE								
Total/NA	Analysis	Ra226_Ra228 Pos		1			442458	09/09/19 13:15	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Lab Chronicle

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR09-LB-BOT-20190717 ~ STR-HR09

Lab Sample ID: 180-93012-43

Date Collected: 07/17/19 17:30
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.34 mL	1.0 g	436533	07/25/19 17:51	ORM	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	441698	09/04/19 10:33	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.34 mL	1.0 g	436534	07/25/19 18:32	ORM	TAL SL
Total/NA	Analysis	904.0		1			441625	09/03/19 13:56	KLS	TAL SL
	Instrument ID:	GFPCORANGE								
Total/NA	Analysis	Ra226_Ra228 Pos		1			442458	09/09/19 13:15	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Client Sample ID: JSF-STR-HR09-CC-SUR-20190717 ~ STR-HR09

Lab Sample ID: 180-93012-44

Date Collected: 07/17/19 17:50
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.79 mL	1.0 g	436533	07/25/19 17:51	ORM	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	441698	09/04/19 10:33	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.79 mL	1.0 g	436534	07/25/19 18:32	ORM	TAL SL
Total/NA	Analysis	904.0		1			441587	09/03/19 13:59	KLS	TAL SL
	Instrument ID:	GFPCPURPLE								
Total/NA	Analysis	Ra226_Ra228 Pos		1			442458	09/09/19 13:15	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Client Sample ID: JSF-STR-HR09-CC-MID-20190717 ~ STR-HR09

Lab Sample ID: 180-93012-45

Date Collected: 07/17/19 17:55
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.65 mL	1.0 g	436533	07/25/19 17:51	ORM	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	441698	09/04/19 10:33	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.65 mL	1.0 g	436534	07/25/19 18:32	ORM	TAL SL
Total/NA	Analysis	904.0		1			441587	09/03/19 13:59	KLS	TAL SL
	Instrument ID:	GFPCPURPLE								
Total/NA	Analysis	Ra226_Ra228 Pos		1			442458	09/09/19 13:15	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Lab Chronicle

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR09-CC-BOT-20190717 ~ STR-HR09

Lab Sample ID: 180-93012-46

Date Collected: 07/17/19 18:00
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.07 mL	1.0 g	436533	07/25/19 17:51	ORM	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	441698	09/04/19 10:33	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.07 mL	1.0 g	436534	07/25/19 18:32	ORM	TAL SL
Total/NA	Analysis	904.0		1			441587	09/03/19 13:59	KLS	TAL SL
	Instrument ID:	GFPCPURPLE								
Total/NA	Analysis	Ra226_Ra228 Pos		1			442458	09/09/19 13:15	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Client Sample ID: JSF-STR-HR09-RB-SUR-20190717 ~ STR-HR09

Lab Sample ID: 180-93012-47

Date Collected: 07/17/19 18:10
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.42 mL	1.0 g	436533	07/25/19 17:51	ORM	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	441698	09/04/19 10:33	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.42 mL	1.0 g	436534	07/25/19 18:32	ORM	TAL SL
Total/NA	Analysis	904.0		1			441587	09/03/19 13:59	KLS	TAL SL
	Instrument ID:	GFPCPURPLE								
Total/NA	Analysis	Ra226_Ra228 Pos		1			442458	09/09/19 13:15	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Client Sample ID: JSF-STR-HR09-RB-MID-20190717 ~ STR-HR09

Lab Sample ID: 180-93012-48

Date Collected: 07/17/19 18:15
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.45 mL	1.0 g	436533	07/25/19 17:51	ORM	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	441697	09/04/19 10:35	CDR	TAL SL
	Instrument ID:	GFPCPURPLE								
Total/NA	Prep	PrecSep_0			1000.45 mL	1.0 g	436534	07/25/19 18:32	ORM	TAL SL
Total/NA	Analysis	904.0		1			441587	09/03/19 14:00	KLS	TAL SL
	Instrument ID:	GFPCPURPLE								
Total/NA	Analysis	Ra226_Ra228 Pos		1			442458	09/09/19 13:15	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Lab Chronicle

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR09-RB-BOT-20190717 ~ STR-HR09

Lab Sample ID: 180-93012-49

Date Collected: 07/17/19 18:20
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.26 mL	1.0 g	436533	07/25/19 17:51	ORM	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	441697	09/04/19 10:35	CDR	TAL SL
	Instrument ID:	GFPCPURPLE								
Total/NA	Prep	PrecSep_0			1000.26 mL	1.0 g	436534	07/25/19 18:32	ORM	TAL SL
Total/NA	Analysis	904.0		1			441587	09/03/19 14:00	KLS	TAL SL
	Instrument ID:	GFPCPURPLE								
Total/NA	Analysis	Ra226_Ra228 Pos		1			442458	09/09/19 13:15	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Client Sample ID: JSF-STR-HR08-LB-SUR-20190717 ~ STR-HR08

Lab Sample ID: 180-93012-50

Date Collected: 07/17/19 18:45
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.01 mL	1.0 g	436533	07/25/19 17:51	ORM	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	441698	09/04/19 13:22	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.01 mL	1.0 g	436534	07/25/19 18:32	ORM	TAL SL
Total/NA	Analysis	904.0		1			441587	09/03/19 14:00	KLS	TAL SL
	Instrument ID:	GFPCPURPLE								
Total/NA	Analysis	Ra226_Ra228 Pos		1			442458	09/09/19 13:15	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Client Sample ID: JSF-STR-HR08-LB-MID-20190717 ~ STR-HR08

Lab Sample ID: 180-93012-51

Date Collected: 07/17/19 18:50
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.60 mL	1.0 g	436533	07/25/19 17:51	ORM	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	441698	09/04/19 13:22	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.60 mL	1.0 g	436534	07/25/19 18:32	ORM	TAL SL
Total/NA	Analysis	904.0		1			441587	09/03/19 14:00	KLS	TAL SL
	Instrument ID:	GFPCPURPLE								
Total/NA	Analysis	Ra226_Ra228 Pos		1			442458	09/09/19 13:15	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Lab Chronicle

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR08-LB-BOT-20190717 ~ STR-HR08

Lab Sample ID: 180-93012-52

Date Collected: 07/17/19 18:55
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.20 mL	1.0 g	436533	07/25/19 17:51	ORM	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	441698	09/04/19 13:22	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.20 mL	1.0 g	436534	07/25/19 18:32	ORM	TAL SL
Total/NA	Analysis	904.0		1			441587	09/03/19 14:00	KLS	TAL SL
	Instrument ID:	GFPCPURPLE								
Total/NA	Analysis	Ra226_Ra228 Pos		1			442458	09/09/19 13:15	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Client Sample ID: JSF-STR-HR08-CC-SUR-20190717 ~ STR-HR08

Lab Sample ID: 180-93012-53

Date Collected: 07/17/19 19:10
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.46 mL	1.0 g	436533	07/25/19 17:51	ORM	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	441698	09/04/19 13:22	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.46 mL	1.0 g	436534	07/25/19 18:32	ORM	TAL SL
Total/NA	Analysis	904.0		1			441587	09/03/19 14:01	KLS	TAL SL
	Instrument ID:	GFPCPURPLE								
Total/NA	Analysis	Ra226_Ra228 Pos		1			442458	09/09/19 13:15	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Client Sample ID: JSF-STR-HR08-CC-MID-20190717 ~ STR-HR08

Lab Sample ID: 180-93012-54

Date Collected: 07/17/19 19:15
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.72 mL	1.0 g	436533	07/25/19 17:51	ORM	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	441698	09/04/19 13:22	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.72 mL	1.0 g	436534	07/25/19 18:32	ORM	TAL SL
Total/NA	Analysis	904.0		1			441587	09/03/19 14:01	KLS	TAL SL
	Instrument ID:	GFPCPURPLE								
Total/NA	Analysis	Ra226_Ra228 Pos		1			442458	09/09/19 13:15	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Client Sample ID: JSF-STR-HR08-CC-BOT-20190717 ~ STR-HR08

Lab Sample ID: 180-93012-55

Date Collected: 07/17/19 19:20
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.38 mL	1.0 g	436533	07/25/19 17:51	ORM	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	441697	09/04/19 13:24	CDR	TAL SL
	Instrument ID:	GFPCPURPLE								
Total/NA	Prep	PrecSep_0			1000.38 mL	1.0 g	436534	07/25/19 18:32	ORM	TAL SL
Total/NA	Analysis	904.0		1			441587	09/03/19 14:01	KLS	TAL SL
	Instrument ID:	GFPCPURPLE								
Total/NA	Analysis	Ra226_Ra228 Pos		1			442458	09/09/19 13:15	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Client Sample ID: JSF-STR-HR08-RB-SUR-20190717 ~ STR-HR08

Lab Sample ID: 180-93012-56

Date Collected: 07/17/19 19:55
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.50 mL	1.0 g	436533	07/25/19 17:51	ORM	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	441697	09/04/19 13:24	CDR	TAL SL
	Instrument ID:	GFPCPURPLE								
Total/NA	Prep	PrecSep_0			1000.50 mL	1.0 g	436534	07/25/19 18:32	ORM	TAL SL
Total/NA	Analysis	904.0		1			441587	09/03/19 14:01	KLS	TAL SL
	Instrument ID:	GFPCPURPLE								
Total/NA	Analysis	Ra226_Ra228 Pos		1			442458	09/09/19 13:15	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Client Sample ID: JSF-STR-HR08-RB-MID-20190717 ~ STR-HR08

Lab Sample ID: 180-93012-57

Date Collected: 07/17/19 20:00
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.78 mL	1.0 g	436533	07/25/19 17:51	ORM	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	441698	09/04/19 15:28	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.78 mL	1.0 g	436534	07/25/19 18:32	ORM	TAL SL
Total/NA	Analysis	904.0		1			441587	09/03/19 14:01	KLS	TAL SL
	Instrument ID:	GFPCPURPLE								
Total/NA	Analysis	Ra226_Ra228 Pos		1			442458	09/09/19 13:15	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Lab Chronicle

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR08-RB-BOT-20190717 ~ STR-HR08

Lab Sample ID: 180-93012-58

Date Collected: 07/17/19 20:05
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.32 mL	1.0 g	436533	07/25/19 17:51	ORM	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	441698	09/04/19 15:28	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.32 mL	1.0 g	436534	07/25/19 18:32	ORM	TAL SL
Total/NA	Analysis	904.0		1			441587	09/03/19 14:01	KLS	TAL SL
	Instrument ID:	GFPCPURPLE								
Total/NA	Analysis	Ra226_Ra228 Pos		1			442458	09/09/19 13:15	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Client Sample ID: JSF-STR-DUP02-20190717-20190717 ~ NA

Lab Sample ID: 180-93012-59

Date Collected: 07/17/19 00:00
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.16 mL	1.0 g	436533	07/25/19 17:51	ORM	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	441698	09/04/19 15:28	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.16 mL	1.0 g	436534	07/25/19 18:32	ORM	TAL SL
Total/NA	Analysis	904.0		1			441626	09/03/19 14:03	KLS	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Analysis	Ra226_Ra228 Pos		1			442458	09/09/19 13:15	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Client Sample ID: JSF-STR-HR07-RB-MID-20190717 ~ STR-HR07

Lab Sample ID: 180-93012-60

Date Collected: 07/17/19 20:35
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.02 mL	1.0 g	436533	07/25/19 17:51	ORM	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	441698	09/04/19 15:28	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.02 mL	1.0 g	436534	07/25/19 18:32	ORM	TAL SL
Total/NA	Analysis	904.0		1			441626	09/03/19 14:04	KLS	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Analysis	Ra226_Ra228 Pos		1			442458	09/09/19 13:15	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Lab Chronicle

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-FB01-20190718 ~ NA

Lab Sample ID: 180-93012-61

Date Collected: 07/18/19 10:50
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.44 mL	1.0 g	436351	07/25/19 08:46	KAW	TAL SL
Total/NA	Analysis	903.0		1			441698	09/04/19 15:27	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.44 mL	1.0 g	436356	07/25/19 09:14	KAW	TAL SL
Total/NA	Analysis	904.0		1			441698	09/04/19 09:06	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Analysis	Ra226_Ra228 Pos		1			442458	09/09/19 13:16	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Client Sample ID: JSF-STR-HR07-RB-MID-20190718 ~ STR-HR07

Lab Sample ID: 180-93012-62

Date Collected: 07/18/19 11:00
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.76 mL	1.0 g	436351	07/25/19 08:46	KAW	TAL SL
Total/NA	Analysis	903.0		1			441698	09/04/19 15:27	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.76 mL	1.0 g	436356	07/25/19 09:14	KAW	TAL SL
Total/NA	Analysis	904.0		1			441698	09/04/19 09:06	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Analysis	Ra226_Ra228 Pos		1			442458	09/09/19 13:16	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Client Sample ID: JSF-STR-HR07-CC-SUR-20190718 ~ STR-HR07

Lab Sample ID: 180-93012-63

Date Collected: 07/18/19 11:20
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.49 mL	1.0 g	436351	07/25/19 08:46	KAW	TAL SL
Total/NA	Analysis	903.0		1			441697	09/04/19 15:35	CDR	TAL SL
	Instrument ID:	GFPCPURPLE								
Total/NA	Prep	PrecSep_0			1000.49 mL	1.0 g	436356	07/25/19 09:14	KAW	TAL SL
Total/NA	Analysis	904.0		1			441698	09/04/19 09:06	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Analysis	Ra226_Ra228 Pos		1			442458	09/09/19 13:16	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Lab Chronicle

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR07-CC-MID-20190718 ~ STR-HR07

Lab Sample ID: 180-93012-64

Date Collected: 07/18/19 11:25
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.35 mL	1.0 g	436351	07/25/19 08:46	KAW	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	441697	09/04/19 15:35	CDR	TAL SL
	Instrument ID:	GFPCPURPLE								
Total/NA	Prep	PrecSep_0			1000.35 mL	1.0 g	436356	07/25/19 09:14	KAW	TAL SL
Total/NA	Analysis	904.0		1			441698	09/04/19 09:07	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Analysis	Ra226_Ra228 Pos		1			442458	09/09/19 13:16	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Client Sample ID: JSF-STR-HR07-CC-BOT-20190718 ~ STR-HR07

Lab Sample ID: 180-93012-65

Date Collected: 07/18/19 11:30
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.25 mL	1.0 g	436351	07/25/19 08:46	KAW	TAL SL
Total/NA	Analysis	903.0		1			441697	09/04/19 17:46	CDR	TAL SL
	Instrument ID:	GFPCPURPLE								
Total/NA	Prep	PrecSep_0			1000.25 mL	1.0 g	436356	07/25/19 09:14	KAW	TAL SL
Total/NA	Analysis	904.0		1			441698	09/04/19 09:08	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Analysis	Ra226_Ra228 Pos		1			442458	09/09/19 13:16	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Client Sample ID: JSF-STR-HR07-LB-SUR-20190718 ~ STR-HR07

Lab Sample ID: 180-93012-66

Date Collected: 07/18/19 11:55
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.14 mL	1.0 g	436351	07/25/19 08:46	KAW	TAL SL
Total/NA	Analysis	903.0		1			441697	09/04/19 17:46	CDR	TAL SL
	Instrument ID:	GFPCPURPLE								
Total/NA	Prep	PrecSep_0			1000.14 mL	1.0 g	436356	07/25/19 09:14	KAW	TAL SL
Total/NA	Analysis	904.0		1			441698	09/04/19 09:10	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Analysis	Ra226_Ra228 Pos		1			442458	09/09/19 13:16	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Lab Chronicle

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR07-LB-BOT-20190718 ~ STR-HR07

Lab Sample ID: 180-93012-67

Date Collected: 07/18/19 12:00
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.38 mL	1.0 g	436351	07/25/19 08:46	KAW	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	441698	09/04/19 17:44	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.38 mL	1.0 g	436356	07/25/19 09:14	KAW	TAL SL
Total/NA	Analysis	904.0		1			441698	09/04/19 09:11	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Analysis	Ra226_Ra228 Pos		1			442458	09/09/19 13:16	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Client Sample ID: JSF-STR-HR06-CC-MID-20190718 ~ STR-HR07

Lab Sample ID: 180-93012-68

Date Collected: 07/18/19 12:25
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.32 mL	1.0 g	436351	07/25/19 08:46	KAW	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	441698	09/04/19 17:45	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.32 mL	1.0 g	436356	07/25/19 09:14	KAW	TAL SL
Total/NA	Analysis	904.0		1			441698	09/04/19 09:11	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Analysis	Ra226_Ra228 Pos		1			442458	09/09/19 13:16	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Client Sample ID: JSF-STR-DUP03-20190717

Lab Sample ID: 180-93012-69

Date Collected: 07/17/19 00:00
Date Received: 07/20/19 09:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep STD			1000.59 mL	1.0 g	436351	07/25/19 08:46	KAW	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	441698	09/04/19 17:45	CDR	TAL SL
	Instrument ID:	GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.59 mL	1.0 g	436356	07/25/19 09:14	KAW	TAL SL
Total/NA	Analysis	904.0		1			441731	09/04/19 09:03	CDR	TAL SL
	Instrument ID:	GFPCPROTEAN								
Total/NA	Analysis	Ra226_Ra228 Pos		1			442458	09/09/19 13:16	SMP	TAL SL
	Instrument ID:	NOEQUIP								

Laboratory References:

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Analyst References:

Lab: TAL SL

Batch Type: Prep

KAW = Kayla Walker

ORM = Octavia Moore

Batch Type: Analysis

CDR = Conrad Reuscher

KLS = Kody Saulters

SMP = Siobhan Perry

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-FB01-20190717 ~ NA

Lab Sample ID: 180-93012-1

Date Collected: 07/17/19 08:10
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0519	U	0.0990	0.0991	1.00	0.227	pCi/L	07/25/19 14:09	09/10/19 06:03	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*90.7*		*40 - 110*	*07/25/19 14:09*	*09/10/19 06:03*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.00212	U	0.226	0.226	1.00	0.403	pCi/L	07/25/19 14:17	09/08/19 12:49	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*90.7*		*40 - 110*	*07/25/19 14:17*	*09/08/19 12:49*	*1*
Y Carrier	*92.0*		*40 - 110*	*07/25/19 14:17*	*09/08/19 12:49*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.00212	U	0.247	0.247	5.00		pCi/L		09/23/19 11:52	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-EB01-20190717 ~ NA

Lab Sample ID: 180-93012-2

Date Collected: 07/17/19 08:20
Matrix: Water
Date Received: 07/20/19 09:15

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.107	U	0.115	0.115	1.00	0.275	pCi/L	07/25/19 14:09	09/10/19 06:03	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*83.9*		*40 - 110*	*07/25/19 14:09*	*09/10/19 06:03*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0878	U	0.312	0.313	1.00	0.539	pCi/L	07/25/19 14:17	09/08/19 13:01	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*83.9*		*40 - 110*	*07/25/19 14:17*	*09/08/19 13:01*	*1*
Y Carrier	*89.7*		*40 - 110*	*07/25/19 14:17*	*09/08/19 13:01*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.0878	U	0.333	0.333	5.00		pCi/L		09/19/19 15:24	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR06-LB-SUR-20190717 ~ STR-HR06

Lab Sample ID: 180-93012-3

Date Collected: 07/17/19 08:30
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.00745	U	0.117	0.117	1.00	0.234	pCi/L	07/25/19 14:09	09/10/19 06:06	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*82.8*		*40 - 110*	*07/25/19 14:09*	*09/10/19 06:06*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0742	U	0.297	0.297	1.00	0.516	pCi/L	07/25/19 14:17	09/08/19 13:02	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*82.8*		*40 - 110*	*07/25/19 14:17*	*09/08/19 13:02*	*1*
Y Carrier	*86.4*		*40 - 110*	*07/25/19 14:17*	*09/08/19 13:02*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.0817	U	0.319	0.319	5.00		pCi/L		09/23/19 11:52	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR06-LB-BOT-20190717 ~ STR-HR06

Lab Sample ID: 180-93012-4

Date Collected: 07/17/19 08:50
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.00307	U	0.121	0.121	1.00	0.243	pCi/L	07/25/19 14:09	09/10/19 06:04	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.8*		*40 - 110*	*07/25/19 14:09*	*09/10/19 06:04*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0505	U	0.328	0.328	1.00	0.571	pCi/L	07/25/19 14:17	09/08/19 13:02	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.8*		*40 - 110*	*07/25/19 14:17*	*09/08/19 13:02*	*1*
Y Carrier	*89.0*		*40 - 110*	*07/25/19 14:17*	*09/08/19 13:02*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.0536	U	0.350	0.350	5.00		pCi/L		09/23/19 11:52	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR06-CC-SUR-20190717 ~ STR-HR06

Lab Sample ID: 180-93012-5

Date Collected: 07/17/19 09:10
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.00675	U	0.0897	0.0897	1.00	0.191	pCi/L	07/25/19 14:09	09/10/19 06:04	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.1*		*40 - 110*	*07/25/19 14:09*	*09/10/19 06:04*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.423	U	0.280	0.283	1.00	0.435	pCi/L	07/25/19 14:17	09/08/19 13:02	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.1*		*40 - 110*	*07/25/19 14:17*	*09/08/19 13:02*	*1*
Y Carrier	*86.4*		*40 - 110*	*07/25/19 14:17*	*09/08/19 13:02*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.423	U	0.294	0.297	5.00		pCi/L		09/23/19 11:52	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR06-CC-MID-20190717 ~ STR-HR06

Lab Sample ID: 180-93012-6

Date Collected: 07/17/19 09:20
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0450	U	0.120	0.121	1.00	0.222	pCi/L	07/25/19 14:09	09/10/19 06:05	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.5*		*40 - 110*	*07/25/19 14:09*	*09/10/19 06:05*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0347	U	0.252	0.252	1.00	0.452	pCi/L	07/25/19 14:17	09/08/19 13:03	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.5*		*40 - 110*	*07/25/19 14:17*	*09/08/19 13:03*	*1*
Y Carrier	*87.5*		*40 - 110*	*07/25/19 14:17*	*09/08/19 13:03*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.0450	U	0.279	0.280	5.00		pCi/L		09/23/19 11:52	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR06-CC-BOT-20190717 ~ STR-HR06

Lab Sample ID: 180-93012-7

Date Collected: 07/17/19 09:30
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.00898	U	0.0990	0.0990	1.00	0.203	pCi/L	07/25/19 14:09	09/10/19 06:05	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*89.8*		*40 - 110*	*07/25/19 14:09*	*09/10/19 06:05*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0742	U	0.246	0.247	1.00	0.450	pCi/L	07/25/19 14:17	09/08/19 13:04	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*89.8*		*40 - 110*	*07/25/19 14:17*	*09/08/19 13:04*	*1*
Y Carrier	*93.8*		*40 - 110*	*07/25/19 14:17*	*09/08/19 13:04*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.00898	U	0.265	0.266	5.00		pCi/L		09/23/19 11:52	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR06-RB-SUR-20190717 ~ STR-HR06

Lab Sample ID: 180-93012-8

Date Collected: 07/17/19 09:40
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.00442	U	0.135	0.135	1.00	0.264	pCi/L	07/25/19 14:09	09/10/19 06:05	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*83.1*		*40 - 110*	*07/25/19 14:09*	*09/10/19 06:05*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.268	U	0.281	0.282	1.00	0.458	pCi/L	07/25/19 14:17	09/08/19 13:04	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*83.1*		*40 - 110*	*07/25/19 14:17*	*09/08/19 13:04*	*1*
Y Carrier	*93.1*		*40 - 110*	*07/25/19 14:17*	*09/08/19 13:04*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.273	U	0.312	0.313	5.00		pCi/L		09/23/19 11:52	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR06-RB-BOT-20190717 ~ STR-HR06

Lab Sample ID: 180-93012-9

Date Collected: 07/17/19 09:50
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.00260	U	0.116	0.116	1.00	0.229	pCi/L	07/25/19 14:09	09/10/19 08:05	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.5*		*40 - 110*	*07/25/19 14:09*	*09/10/19 08:05*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.185	U	0.224	0.225	1.00	0.371	pCi/L	07/25/19 14:17	09/08/19 13:04	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.5*		*40 - 110*	*07/25/19 14:17*	*09/08/19 13:04*	*1*
Y Carrier	*95.3*		*40 - 110*	*07/25/19 14:17*	*09/08/19 13:04*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.188	U	0.252	0.253	5.00		pCi/L		09/23/19 11:52	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR05-RB-SUR-20190717 ~ STR-HR05

Lab Sample ID: 180-93012-10

Date Collected: 07/17/19 10:10
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0131	U	0.103	0.103	1.00	0.214	pCi/L	07/25/19 14:09	09/10/19 08:05	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.0*		*40 - 110*	*07/25/19 14:09*	*09/10/19 08:05*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0664	U	0.229	0.229	1.00	0.419	pCi/L	07/25/19 14:17	09/08/19 13:04	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.0*		*40 - 110*	*07/25/19 14:17*	*09/08/19 13:04*	*1*
Y Carrier	*89.7*		*40 - 110*	*07/25/19 14:17*	*09/08/19 13:04*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.000	U	0.251	0.251	5.00		pCi/L		09/19/19 15:24	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR05-RB-BOT-20190717 ~ STR-HR05

Lab Sample ID: 180-93012-11

Date Collected: 07/17/19 10:20
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0842	U	0.0956	0.0959	1.00	0.240	pCi/L	07/25/19 14:09	09/10/19 08:05	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*83.3*		*40 - 110*	*07/25/19 14:09*	*09/10/19 08:05*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0490	U	0.282	0.282	1.00	0.495	pCi/L	07/25/19 14:17	09/08/19 13:04	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*83.3*		*40 - 110*	*07/25/19 14:17*	*09/08/19 13:04*	*1*
Y Carrier	*85.6*		*40 - 110*	*07/25/19 14:17*	*09/08/19 13:04*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.0490	U	0.298	0.298	5.00		pCi/L		09/19/19 15:24	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR05-CC-SUR-20190717 ~ STR-HR05

Lab Sample ID: 180-93012-12

Date Collected: 07/17/19 10:30
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0560	U	0.150	0.151	1.00	0.273	pCi/L	07/25/19 14:09	09/10/19 08:06	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*82.8*		*40 - 110*	*07/25/19 14:09*	*09/10/19 08:06*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0416	U	0.250	0.250	1.00	0.453	pCi/L	07/25/19 14:17	09/08/19 13:04	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*82.8*		*40 - 110*	*07/25/19 14:17*	*09/08/19 13:04*	*1*
Y Carrier	*97.6*		*40 - 110*	*07/25/19 14:17*	*09/08/19 13:04*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.0560	U	0.292	0.292	5.00		pCi/L		09/19/19 15:24	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR05-CC-MID-20190717 ~ STR-HR05

Lab Sample ID: 180-93012-13

Date Collected: 07/17/19 10:35
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0374	U	0.124	0.125	1.00	0.234	pCi/L	07/25/19 14:09	09/10/19 08:06	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.8*		*40 - 110*	*07/25/19 14:09*	*09/10/19 08:06*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.379	U	0.274	0.276	1.00	0.428	pCi/L	07/25/19 14:17	09/08/19 12:53	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.8*		*40 - 110*	*07/25/19 14:17*	*09/08/19 12:53*	*1*
Y Carrier	*89.7*		*40 - 110*	*07/25/19 14:17*	*09/08/19 12:53*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.416	U	0.301	0.303	5.00		pCi/L		09/19/19 15:24	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR05-CC-BOT-20190717 ~ STR-HR05

Lab Sample ID: 180-93012-14

Date Collected: 07/17/19 10:40
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.105	U	0.0898	0.0903	1.00	0.245	pCi/L	07/25/19 14:09	09/10/19 08:06	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*78.2*		*40 - 110*	*07/25/19 14:09*	*09/10/19 08:06*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.348	U	0.265	0.267	1.00	0.416	pCi/L	07/25/19 14:17	09/08/19 12:53	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*78.2*		*40 - 110*	*07/25/19 14:17*	*09/08/19 12:53*	*1*
Y Carrier	*92.3*		*40 - 110*	*07/25/19 14:17*	*09/08/19 12:53*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.348	U	0.280	0.282	5.00		pCi/L		09/19/19 15:24	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR05-LB-SUR-20190717 ~ STR-HR05

Lab Sample ID: 180-93012-15

Date Collected: 07/17/19 10:55
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0516	U	0.114	0.114	1.00	0.209	pCi/L	07/25/19 14:09	09/10/19 08:06	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*81.1*		*40 - 110*	*07/25/19 14:09*	*09/10/19 08:06*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.165	U	0.242	0.242	1.00	0.406	pCi/L	07/25/19 14:17	09/08/19 12:53	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*81.1*		*40 - 110*	*07/25/19 14:17*	*09/08/19 12:53*	*1*
Y Carrier	*90.1*		*40 - 110*	*07/25/19 14:17*	*09/08/19 12:53*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.217	U	0.268	0.268	5.00		pCi/L		09/19/19 15:24	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR05-LB-BOT-20190717 ~ STR-HR05

Lab Sample ID: 180-93012-16

Date Collected: 07/17/19 11:05
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0746	U	0.100	0.100	1.00	0.246	pCi/L	07/25/19 14:09	09/10/19 08:07	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*84.2*		*40 - 110*	*07/25/19 14:09*	*09/10/19 08:07*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.111	U	0.248	0.248	1.00	0.425	pCi/L	07/25/19 14:17	09/08/19 12:54	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*84.2*		*40 - 110*	*07/25/19 14:17*	*09/08/19 12:54*	*1*
Y Carrier	*88.6*		*40 - 110*	*07/25/19 14:17*	*09/08/19 12:54*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.111	U	0.267	0.267	5.00		pCi/L		09/19/19 15:24	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR04-LB-SUR-20190717 ~ STR-HR04

Lab Sample ID: 180-93012-17

Date Collected: 07/17/19 11:25
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.160	U	0.149	0.150	1.00	0.227	pCi/L	07/25/19 14:09	09/10/19 08:07	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*76.8*		*40 - 110*	*07/25/19 14:09*	*09/10/19 08:07*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.288	U	0.262	0.263	1.00	0.419	pCi/L	07/25/19 14:17	09/08/19 12:53	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*76.8*		*40 - 110*	*07/25/19 14:17*	*09/08/19 12:53*	*1*
Y Carrier	*86.4*		*40 - 110*	*07/25/19 14:17*	*09/08/19 12:53*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	**0.448**		0.301	0.303	5.00		pCi/L		09/19/19 15:24	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR04-LB-BOT-20190717 ~ STR-HR04

Lab Sample ID: 180-93012-18

Date Collected: 07/17/19 11:30
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0248	U	0.127	0.127	1.00	0.262	pCi/L	07/25/19 14:09	09/10/19 08:07	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*82.2*		*40 - 110*	*07/25/19 14:09*	*09/10/19 08:07*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.216	U	0.254	0.255	1.00	0.419	pCi/L	07/25/19 14:17	09/08/19 12:54	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*82.2*		*40 - 110*	*07/25/19 14:17*	*09/08/19 12:54*	*1*
Y Carrier	*88.2*		*40 - 110*	*07/25/19 14:17*	*09/08/19 12:54*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.216	U	0.284	0.285	5.00		pCi/L		09/19/19 15:24	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR04-CC-SUR-20190717 ~ STR-HR04

Lab Sample ID: 180-93012-19

Date Collected: 07/17/19 11:45
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.113	U	0.101	0.102	1.00	0.258	pCi/L	07/25/19 14:09	09/10/19 08:13	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.2*		*40 - 110*	*07/25/19 14:09*	*09/10/19 08:13*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.241	U	0.270	0.271	1.00	0.442	pCi/L	07/25/19 14:17	09/08/19 12:54	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.2*		*40 - 110*	*07/25/19 14:17*	*09/08/19 12:54*	*1*
Y Carrier	*85.6*		*40 - 110*	*07/25/19 14:17*	*09/08/19 12:54*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.241	U	0.288	0.290	5.00		pCi/L		09/19/19 15:24	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR04-CC-MID-20190717 ~ STR-HR04

Lab Sample ID: 180-93012-20

Date Collected: 07/17/19 11:50
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0116	U	0.146	0.146	1.00	0.280	pCi/L	07/25/19 14:09	09/10/19 08:13	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*83.3*		*40 - 110*	*07/25/19 14:09*	*09/10/19 08:13*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.282	U	0.262	0.263	1.00	0.422	pCi/L	07/25/19 14:17	09/08/19 12:54	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*83.3*		*40 - 110*	*07/25/19 14:17*	*09/08/19 12:54*	*1*
Y Carrier	*90.8*		*40 - 110*	*07/25/19 14:17*	*09/08/19 12:54*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.294	U	0.300	0.301	5.00		pCi/L		09/19/19 15:24	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR04-CC-BOT-20190717 ~ STR-HR04

Lab Sample ID: 180-93012-21

Date Collected: 07/17/19 11:55
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.172	U	0.167	0.167	1.00	0.259	pCi/L	07/25/19 14:51	08/31/19 22:04	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.2*		*40 - 110*	*07/25/19 14:51*	*08/31/19 22:04*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.160	U	0.292	0.292	1.00	0.496	pCi/L	07/25/19 16:03	08/30/19 14:49	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.2*		*40 - 110*	*07/25/19 16:03*	*08/30/19 14:49*	*1*
Y Carrier	*90.1*		*40 - 110*	*07/25/19 16:03*	*08/30/19 14:49*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.332	U	0.336	0.336	5.00		pCi/L		09/09/19 13:14	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR04-RB-SUR-20190717 ~ STR-HR04

Lab Sample ID: 180-93012-22

Date Collected: 07/17/19 12:15
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0630	U	0.169	0.169	1.00	0.315	pCi/L	07/25/19 14:51	08/31/19 22:04	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*60.2*		*40 - 110*	*07/25/19 14:51*	*08/31/19 22:04*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.294	U	0.424	0.425	1.00	0.710	pCi/L	07/25/19 16:03	08/30/19 14:49	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*60.2*		*40 - 110*	*07/25/19 16:03*	*08/30/19 14:49*	*1*
Y Carrier	*86.4*		*40 - 110*	*07/25/19 16:03*	*08/30/19 14:49*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.357	U	0.456	0.457	5.00		pCi/L		09/09/19 13:14	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR04-RB-BOT-20190717 ~ STR-HR04

Lab Sample ID: 180-93012-23

Date Collected: 07/17/19 12:20
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0366	U *	0.0860	0.0861	1.00	0.158	pCi/L	07/25/19 14:51	09/05/19 15:35	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*65.8*		*40 - 110*	*07/25/19 14:51*	*09/05/19 15:35*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.152	U	0.333	0.333	1.00	0.625	pCi/L	07/25/19 16:03	08/30/19 14:49	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*65.8*		*40 - 110*	*07/25/19 16:03*	*08/30/19 14:49*	*1*
Y Carrier	*86.0*		*40 - 110*	*07/25/19 16:03*	*08/30/19 14:49*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.0366	U	0.344	0.344	5.00		pCi/L		09/09/19 13:14	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR03-RB-SUR-20190717 ~ STR-HR03

Lab Sample ID: 180-93012-24

Date Collected: 07/17/19 12:35
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.303		0.181	0.183	1.00	0.236	pCi/L	07/25/19 14:51	08/31/19 22:05	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*82.8*		*40 - 110*	*07/25/19 14:51*	*08/31/19 22:05*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0940	U	0.293	0.293	1.00	0.509	pCi/L	07/25/19 16:03	08/30/19 14:50	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*82.8*		*40 - 110*	*07/25/19 16:03*	*08/30/19 14:50*	*1*
Y Carrier	*83.7*		*40 - 110*	*07/25/19 16:03*	*08/30/19 14:50*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.397	U	0.344	0.345	5.00		pCi/L		09/09/19 13:14	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR03-RB-BOT-20190717 ~ STR-HR03

Lab Sample ID: 180-93012-25

Date Collected: 07/17/19 12:40
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0548	U	0.155	0.155	1.00	0.333	pCi/L	07/25/19 14:51	08/31/19 22:05	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*71.5*		*40 - 110*	*07/25/19 14:51*	*08/31/19 22:05*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.113	U	0.308	0.308	1.00	0.571	pCi/L	07/25/19 16:03	08/30/19 14:50	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*71.5*		*40 - 110*	*07/25/19 16:03*	*08/30/19 14:50*	*1*
Y Carrier	*89.0*		*40 - 110*	*07/25/19 16:03*	*08/30/19 14:50*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.000	U	0.345	0.345	5.00		pCi/L		09/09/19 13:14	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR03-CC-SUR-20190717 ~ STR-HR03

Lab Sample ID: 180-93012-26

Date Collected: 07/17/19 12:55
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0606	U *	0.0874	0.0876	1.00	0.149	pCi/L	07/25/19 14:51	09/05/19 15:35	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*71.8*		*40 - 110*	*07/25/19 14:51*	*09/05/19 15:35*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.00558	U	0.258	0.258	1.00	0.467	pCi/L	07/25/19 16:03	08/30/19 14:50	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*71.8*		*40 - 110*	*07/25/19 16:03*	*08/30/19 14:50*	*1*
Y Carrier	*97.2*		*40 - 110*	*07/25/19 16:03*	*08/30/19 14:50*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.0606	U	0.272	0.272	5.00		pCi/L		09/09/19 13:14	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR03-CC-MID-20190717 ~ STR-HR03

Lab Sample ID: 180-93012-27

Date Collected: 07/17/19 13:05
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.117	U	0.139	0.140	1.00	0.227	pCi/L	07/25/19 14:51	08/31/19 22:05	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*87.9*		*40 - 110*	*07/25/19 14:51*	*08/31/19 22:05*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.102	U	0.255	0.255	1.00	0.439	pCi/L	07/25/19 16:03	08/30/19 14:50	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*87.9*		*40 - 110*	*07/25/19 16:03*	*08/30/19 14:50*	*1*
Y Carrier	*94.6*		*40 - 110*	*07/25/19 16:03*	*08/30/19 14:50*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.219	U	0.290	0.291	5.00		pCi/L		09/09/19 13:14	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR03-CC-BOT-20190717 ~ STR-HR03

Lab Sample ID: 180-93012-28

Date Collected: 07/17/19 13:10
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0156	U	0.137	0.137	1.00	0.283	pCi/L	07/25/19 14:51	08/31/19 22:06	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*74.9*		*40 - 110*	*07/25/19 14:51*	*08/31/19 22:06*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.418	U	0.317	0.319	1.00	0.497	pCi/L	07/25/19 16:03	08/30/19 14:50	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*74.9*		*40 - 110*	*07/25/19 16:03*	*08/30/19 14:50*	*1*
Y Carrier	*90.1*		*40 - 110*	*07/25/19 16:03*	*08/30/19 14:50*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.418	U	0.345	0.347	5.00		pCi/L		09/09/19 13:14	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR03-LB-SUR-20190717 ~ STR-HR03

Lab Sample ID: 180-93012-29

Date Collected: 07/17/19 13:25
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0567	U	0.152	0.152	1.00	0.283	pCi/L	07/25/19 14:51	08/31/19 22:06	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*74.9*		*40 - 110*	*07/25/19 14:51*	*08/31/19 22:06*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0505	U	0.265	0.265	1.00	0.490	pCi/L	07/25/19 16:03	08/30/19 14:50	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*74.9*		*40 - 110*	*07/25/19 16:03*	*08/30/19 14:50*	*1*
Y Carrier	*92.7*		*40 - 110*	*07/25/19 16:03*	*08/30/19 14:50*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.0567	U	0.305	0.305	5.00		pCi/L		09/09/19 13:14	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR03-LB-BOT-20190717 ~ STR-HR03

Lab Sample ID: 180-93012-30

Date Collected: 07/17/19 13:30
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.00211	U *	0.0990	0.0990	1.00	0.195	pCi/L	07/25/19 14:51	09/05/19 15:35	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*71.5*		*40 - 110*	*07/25/19 14:51*	*09/05/19 15:35*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.101	U	0.298	0.298	1.00	0.557	pCi/L	07/25/19 16:03	08/30/19 14:50	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*71.5*		*40 - 110*	*07/25/19 16:03*	*08/30/19 14:50*	*1*
Y Carrier	*84.9*		*40 - 110*	*07/25/19 16:03*	*08/30/19 14:50*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.000	U	0.314	0.314	5.00		pCi/L		09/09/19 13:14	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR02-LB-SUR-20190717 ~ STR-HR02

Lab Sample ID: 180-93012-31

Date Collected: 07/17/19 14:35
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.108	U	0.139	0.140	1.00	0.333	pCi/L	07/25/19 14:51	09/01/19 14:02	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*56.2*		*40 - 110*	*07/25/19 14:51*	*09/01/19 14:02*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.526	U	0.445	0.448	1.00	0.711	pCi/L	07/25/19 16:03	08/30/19 14:53	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*56.2*		*40 - 110*	*07/25/19 16:03*	*08/30/19 14:53*	*1*
Y Carrier	*92.3*		*40 - 110*	*07/25/19 16:03*	*08/30/19 14:53*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.526	U	0.466	0.469	5.00		pCi/L		09/09/19 13:14	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR02-LB-BOT-20190717 ~ STR-HR02

Lab Sample ID: 180-93012-32

Date Collected: 07/17/19 14:40
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.154	U	0.149	0.149	1.00	0.232	pCi/L	07/25/19 14:51	09/01/19 14:02	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*76.8*		*40 - 110*	*07/25/19 14:51*	*09/01/19 14:02*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0701	U	0.294	0.294	1.00	0.513	pCi/L	07/25/19 16:03	08/30/19 14:54	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*76.8*		*40 - 110*	*07/25/19 16:03*	*08/30/19 14:54*	*1*
Y Carrier	*95.7*		*40 - 110*	*07/25/19 16:03*	*08/30/19 14:54*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.224	U	0.330	0.330	5.00		pCi/L		09/09/19 13:14	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR02-CC-SUR-20190717 ~ STR-HR02

Lab Sample ID: 180-93012-33

Date Collected: 07/17/19 15:00
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0946	U *	0.109	0.109	1.00	0.177	pCi/L	07/25/19 14:51	09/05/19 15:35	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*62.4*		*40 - 110*	*07/25/19 14:51*	*09/05/19 15:35*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.341	U	0.377	0.378	1.00	0.618	pCi/L	07/25/19 16:03	08/30/19 14:54	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*62.4*		*40 - 110*	*07/25/19 16:03*	*08/30/19 14:54*	*1*
Y Carrier	*89.3*		*40 - 110*	*07/25/19 16:03*	*08/30/19 14:54*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.436	U	0.392	0.393	5.00		pCi/L		09/09/19 13:14	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR02-CC-BOT-20190717 ~ STR-HR02

Lab Sample ID: 180-93012-34

Date Collected: 07/17/19 15:05
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0539	U	0.111	0.111	1.00	0.200	pCi/L	07/25/19 14:51	09/01/19 14:03	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*85.9*		*40 - 110*	*07/25/19 14:51*	*09/01/19 14:03*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.424	U	0.261	0.264	1.00	0.541	pCi/L	07/25/19 16:03	08/30/19 14:55	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*85.9*		*40 - 110*	*07/25/19 16:03*	*08/30/19 14:55*	*1*
Y Carrier	*82.6*		*40 - 110*	*07/25/19 16:03*	*08/30/19 14:55*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.0539	U	0.284	0.286	5.00		pCi/L		09/09/19 13:14	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR02-RB-SUR-20190717 ~ STR-HR02

Lab Sample ID: 180-93012-35

Date Collected: 07/17/19 15:15
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0808	U	0.0621	0.0626	1.00	0.158	pCi/L	07/25/19 14:51	09/11/19 05:44	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*72.9*		*40 - 110*	*07/25/19 14:51*	*09/11/19 05:44*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0734	U	0.255	0.255	1.00	0.479	pCi/L	07/25/19 16:03	08/30/19 14:55	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*72.9*		*40 - 110*	*07/25/19 16:03*	*08/30/19 14:55*	*1*
Y Carrier	*88.2*		*40 - 110*	*07/25/19 16:03*	*08/30/19 14:55*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.000	U	0.262	0.263	5.00		pCi/L		09/09/19 13:14	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR02-RB-BOT-20190717 ~ STR-HR02

Lab Sample ID: 180-93012-36

Date Collected: 07/17/19 15:20
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0140	U	0.135	0.135	1.00	0.275	pCi/L	07/25/19 14:51	09/01/19 14:03	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*75.1*		*40 - 110*	*07/25/19 14:51*	*09/01/19 14:03*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0127	U	0.322	0.322	1.00	0.579	pCi/L	07/25/19 16:03	08/30/19 14:56	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*75.1*		*40 - 110*	*07/25/19 16:03*	*08/30/19 14:56*	*1*
Y Carrier	*86.4*		*40 - 110*	*07/25/19 16:03*	*08/30/19 14:56*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.000	U	0.349	0.349	5.00		pCi/L		09/09/19 13:14	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR01-RB-MID-20190717 ~ STR-HR01

Lab Sample ID: 180-93012-37

Date Collected: 07/17/19 15:40
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0201	U	0.0908	0.0909	1.00	0.184	pCi/L	07/25/19 14:51	09/01/19 14:03	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*74.3*		*40 - 110*	*07/25/19 14:51*	*09/01/19 14:03*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.120	U	0.333	0.333	1.00	0.578	pCi/L	07/25/19 16:03	08/30/19 14:57	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*74.3*		*40 - 110*	*07/25/19 16:03*	*08/30/19 14:57*	*1*
Y Carrier	*81.9*		*40 - 110*	*07/25/19 16:03*	*08/30/19 14:57*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.140	U	0.345	0.345	5.00		pCi/L		09/09/19 13:14	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR01-CC-MID-20190717 ~ STR-HR01

Lab Sample ID: 180-93012-38

Date Collected: 07/17/19 15:50
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0474	U	0.117	0.118	1.00	0.219	pCi/L	07/25/19 14:51	09/01/19 14:03	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*76.6*		*40 - 110*	*07/25/19 14:51*	*09/01/19 14:03*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.402	U	0.331	0.333	1.00	0.526	pCi/L	07/25/19 16:03	08/30/19 14:55	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*76.6*		*40 - 110*	*07/25/19 16:03*	*08/30/19 14:55*	*1*
Y Carrier	*87.5*		*40 - 110*	*07/25/19 16:03*	*08/30/19 14:55*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.450	U	0.351	0.353	5.00		pCi/L		09/09/19 13:14	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR01-LB-MID-20190717 ~ STR-HR01

Lab Sample ID: 180-93012-39

Date Collected: 07/17/19 16:15
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0127	U	0.111	0.111	1.00	0.230	pCi/L	07/25/19 14:51	09/01/19 14:03	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.2*		*40 - 110*	*07/25/19 14:51*	*09/01/19 14:03*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.304	U	0.286	0.288	1.00	0.562	pCi/L	07/25/19 16:03	08/30/19 14:56	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.2*		*40 - 110*	*07/25/19 16:03*	*08/30/19 14:56*	*1*
Y Carrier	*88.2*		*40 - 110*	*07/25/19 16:03*	*08/30/19 14:56*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.000	U	0.307	0.309	5.00		pCi/L		09/09/19 13:14	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-DUP01-20190717 ~ NA

Lab Sample ID: 180-93012-40

Date Collected: 07/17/19 00:00
Matrix: Water
Date Received: 07/20/19 09:15

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0165	U	0.146	0.146	1.00	0.284	pCi/L	07/25/19 14:51	09/01/19 14:04	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*75.4*		*40 - 110*	*07/25/19 14:51*	*09/01/19 14:04*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.451	U	0.371	0.373	1.00	0.591	pCi/L	07/25/19 16:03	08/30/19 14:58	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*75.4*		*40 - 110*	*07/25/19 16:03*	*08/30/19 14:58*	*1*
Y Carrier	*84.5*		*40 - 110*	*07/25/19 16:03*	*08/30/19 14:58*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.468	U	0.399	0.401	5.00		pCi/L		09/09/19 13:14	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR09-LB-SUR-20190717 ~ STR-HR09

Lab Sample ID: 180-93012-41

Date Collected: 07/17/19 17:15
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.86		0.401	0.435	1.00	0.278	pCi/L	07/25/19 17:51	09/04/19 10:33	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*81.4*		*40 - 110*	*07/25/19 17:51*	*09/04/19 10:33*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.638		0.334	0.340	1.00	0.497	pCi/L	07/25/19 18:32	09/03/19 13:56	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*81.4*		*40 - 110*	*07/25/19 18:32*	*09/03/19 13:56*	*1*
Y Carrier	*83.0*		*40 - 110*	*07/25/19 18:32*	*09/03/19 13:56*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	2.50		0.522	0.552	5.00		pCi/L		09/09/19 13:15	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR09-LB-MID-20190717 ~ STR-HR09

Lab Sample ID: 180-93012-42

Date Collected: 07/17/19 17:25
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0312	U	0.174	0.174	1.00	0.343	pCi/L	07/25/19 17:51	09/04/19 10:33	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*62.7*		*40 - 110*	*07/25/19 17:51*	*09/04/19 10:33*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.218	U	0.331	0.332	1.00	0.557	pCi/L	07/25/19 18:32	09/03/19 13:56	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*62.7*		*40 - 110*	*07/25/19 18:32*	*09/03/19 13:56*	*1*
Y Carrier	*94.2*		*40 - 110*	*07/25/19 18:32*	*09/03/19 13:56*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.249	U	0.374	0.375	5.00		pCi/L		09/09/19 13:15	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR09-LB-BOT-20190717 ~ STR-HR09

Lab Sample ID: 180-93012-43

Date Collected: 07/17/19 17:30
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0212	U	0.204	0.204	1.00	0.415	pCi/L	07/25/19 17:51	09/04/19 10:33	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*64.7*		*40 - 110*	*07/25/19 17:51*	*09/04/19 10:33*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.131	U	0.298	0.298	1.00	0.559	pCi/L	07/25/19 18:32	09/03/19 13:56	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*64.7*		*40 - 110*	*07/25/19 18:32*	*09/03/19 13:56*	*1*
Y Carrier	*93.1*		*40 - 110*	*07/25/19 18:32*	*09/03/19 13:56*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.000	U	0.361	0.361	5.00		pCi/L		09/09/19 13:15	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR09-CC-SUR-20190717 ~ STR-HR09

Lab Sample ID: 180-93012-44

Date Collected: 07/17/19 17:50
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0349	U	0.151	0.151	1.00	0.296	pCi/L	07/25/19 17:51	09/04/19 10:33	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*70.1*		*40 - 110*	*07/25/19 17:51*	*09/04/19 10:33*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.294	U	0.373	0.374	1.00	0.619	pCi/L	07/25/19 18:32	09/03/19 13:59	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*70.1*		*40 - 110*	*07/25/19 18:32*	*09/03/19 13:59*	*1*
Y Carrier	*80.7*		*40 - 110*	*07/25/19 18:32*	*09/03/19 13:59*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.328	U	0.402	0.403	5.00		pCi/L		09/09/19 13:15	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR09-CC-MID-20190717 ~ STR-HR09

Lab Sample ID: 180-93012-45

Date Collected: 07/17/19 17:55
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0560	U	0.203	0.203	1.00	0.395	pCi/L	07/25/19 17:51	09/04/19 10:33	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*53.7*		*40 - 110*	*07/25/19 17:51*	*09/04/19 10:33*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.00946	U	0.483	0.483	1.00	0.864	pCi/L	07/25/19 18:32	09/03/19 13:59	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*53.7*		*40 - 110*	*07/25/19 18:32*	*09/03/19 13:59*	*1*
Y Carrier	*73.3*		*40 - 110*	*07/25/19 18:32*	*09/03/19 13:59*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.0655	U	0.524	0.524	5.00		pCi/L		09/09/19 13:15	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR09-CC-BOT-20190717 ~ STR-HR09

Lab Sample ID: 180-93012-46

Date Collected: 07/17/19 18:00
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0909	U	0.201	0.201	1.00	0.362	pCi/L	07/25/19 17:51	09/04/19 10:33	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*65.8*		*40 - 110*	*07/25/19 17:51*	*09/04/19 10:33*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.00945	U	0.357	0.357	1.00	0.636	pCi/L	07/25/19 18:32	09/03/19 13:59	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*65.8*		*40 - 110*	*07/25/19 18:32*	*09/03/19 13:59*	*1*
Y Carrier	*89.0*		*40 - 110*	*07/25/19 18:32*	*09/03/19 13:59*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.0909	U	0.410	0.410	5.00		pCi/L		09/09/19 13:15	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR09-RB-SUR-20190717 ~ STR-HR09

Lab Sample ID: 180-93012-47

Date Collected: 07/17/19 18:10
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.112	U	0.192	0.192	1.00	0.336	pCi/L	07/25/19 17:51	09/04/19 10:33	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*71.5*		*40 - 110*	*07/25/19 17:51*	*09/04/19 10:33*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0840	U	0.341	0.341	1.00	0.625	pCi/L	07/25/19 18:32	09/03/19 13:59	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*71.5*		*40 - 110*	*07/25/19 18:32*	*09/03/19 13:59*	*1*
Y Carrier	*76.6*		*40 - 110*	*07/25/19 18:32*	*09/03/19 13:59*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.112	U	0.391	0.391	5.00		pCi/L		09/09/19 13:15	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR09-RB-MID-20190717 ~ STR-HR09

Lab Sample ID: 180-93012-48

Date Collected: 07/17/19 18:15
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0992	U	0.163	0.163	1.00	0.375	pCi/L	07/25/19 17:51	09/04/19 10:35	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*67.2*		*40 - 110*	*07/25/19 17:51*	*09/04/19 10:35*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.201	U	0.351	0.352	1.00	0.596	pCi/L	07/25/19 18:32	09/03/19 14:00	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*67.2*		*40 - 110*	*07/25/19 18:32*	*09/03/19 14:00*	*1*
Y Carrier	*84.5*		*40 - 110*	*07/25/19 18:32*	*09/03/19 14:00*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.201	U	0.387	0.388	5.00		pCi/L		09/09/19 13:15	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR09-RB-BOT-20190717 ~ STR-HR09

Lab Sample ID: 180-93012-49

Date Collected: 07/17/19 18:20
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0649	U	0.171	0.172	1.00	0.373	pCi/L	07/25/19 17:51	09/04/19 10:35	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*70.1*		*40 - 110*	*07/25/19 17:51*	*09/04/19 10:35*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0848	U	0.309	0.310	1.00	0.541	pCi/L	07/25/19 18:32	09/03/19 14:00	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*70.1*		*40 - 110*	*07/25/19 18:32*	*09/03/19 14:00*	*1*
Y Carrier	*89.3*		*40 - 110*	*07/25/19 18:32*	*09/03/19 14:00*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.0848	U	0.353	0.355	5.00		pCi/L		09/09/19 13:15	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR08-LB-SUR-20190717 ~ STR-HR08

Lab Sample ID: 180-93012-50

Date Collected: 07/17/19 18:45
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0181	U	0.174	0.174	1.00	0.354	pCi/L	07/25/19 17:51	09/04/19 13:22	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*74.6*		*40 - 110*	*07/25/19 17:51*	*09/04/19 13:22*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.190	U	0.277	0.277	1.00	0.529	pCi/L	07/25/19 18:32	09/03/19 14:00	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*74.6*		*40 - 110*	*07/25/19 18:32*	*09/03/19 14:00*	*1*
Y Carrier	*88.2*		*40 - 110*	*07/25/19 18:32*	*09/03/19 14:00*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.000	U	0.327	0.327	5.00		pCi/L		09/09/19 13:15	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR08-LB-MID-20190717 ~ STR-HR08

Lab Sample ID: 180-93012-51

Date Collected: 07/17/19 18:50
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0663	U	0.103	0.103	1.00	0.265	pCi/L	07/25/19 17:51	09/04/19 13:22	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*76.6*		*40 - 110*	*07/25/19 17:51*	*09/04/19 13:22*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0825	U	0.282	0.282	1.00	0.493	pCi/L	07/25/19 18:32	09/03/19 14:00	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*76.6*		*40 - 110*	*07/25/19 18:32*	*09/03/19 14:00*	*1*
Y Carrier	*82.2*		*40 - 110*	*07/25/19 18:32*	*09/03/19 14:00*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.0825	U	0.300	0.300	5.00		pCi/L		09/09/19 13:15	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR08-LB-BOT-20190717 ~ STR-HR08

Lab Sample ID: 180-93012-52

Date Collected: 07/17/19 18:55
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0654	U	0.162	0.162	1.00	0.303	pCi/L	07/25/19 17:51	09/04/19 13:22	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*70.1*		*40 - 110*	*07/25/19 17:51*	*09/04/19 13:22*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.119	U	0.335	0.335	1.00	0.579	pCi/L	07/25/19 18:32	09/03/19 14:00	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*70.1*		*40 - 110*	*07/25/19 18:32*	*09/03/19 14:00*	*1*
Y Carrier	*86.0*		*40 - 110*	*07/25/19 18:32*	*09/03/19 14:00*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.185	U	0.372	0.372	5.00		pCi/L		09/09/19 13:15	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR08-CC-SUR-20190717 ~ STR-HR08

Lab Sample ID: 180-93012-53

Date Collected: 07/17/19 19:10
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0219	U	0.167	0.167	1.00	0.325	pCi/L	07/25/19 17:51	09/04/19 13:22	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*71.5*		*40 - 110*	*07/25/19 17:51*	*09/04/19 13:22*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.00294	U	0.279	0.279	1.00	0.504	pCi/L	07/25/19 18:32	09/03/19 14:01	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*71.5*		*40 - 110*	*07/25/19 18:32*	*09/03/19 14:01*	*1*
Y Carrier	*89.3*		*40 - 110*	*07/25/19 18:32*	*09/03/19 14:01*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.0219	U	0.325	0.325	5.00		pCi/L		09/09/19 13:15	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR08-CC-MID-20190717 ~ STR-HR08

Lab Sample ID: 180-93012-54

Date Collected: 07/17/19 19:15
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0879	U	0.182	0.182	1.00	0.329	pCi/L	07/25/19 17:51	09/04/19 13:22	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*70.3*		*40 - 110*	*07/25/19 17:51*	*09/04/19 13:22*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.199	U	0.335	0.335	1.00	0.567	pCi/L	07/25/19 18:32	09/03/19 14:01	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*70.3*		*40 - 110*	*07/25/19 18:32*	*09/03/19 14:01*	*1*
Y Carrier	*81.5*		*40 - 110*	*07/25/19 18:32*	*09/03/19 14:01*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.287	U	0.381	0.381	5.00		pCi/L		09/09/19 13:15	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR08-CC-BOT-20190717 ~ STR-HR08

Lab Sample ID: 180-93012-55

Date Collected: 07/17/19 19:20
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.00916	U	0.154	0.154	1.00	0.312	pCi/L	07/25/19 17:51	09/04/19 13:24	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.2*		*40 - 110*	*07/25/19 17:51*	*09/04/19 13:24*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0506	U	0.258	0.258	1.00	0.456	pCi/L	07/25/19 18:32	09/03/19 14:01	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.2*		*40 - 110*	*07/25/19 18:32*	*09/03/19 14:01*	*1*
Y Carrier	*88.6*		*40 - 110*	*07/25/19 18:32*	*09/03/19 14:01*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.0506	U	0.300	0.300	5.00		pCi/L		09/09/19 13:15	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR08-RB-SUR-20190717 ~ STR-HR08

Lab Sample ID: 180-93012-56

Date Collected: 07/17/19 19:55
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.198	U	0.0999	0.101	1.00	0.310	pCi/L	07/25/19 17:51	09/04/19 13:24	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*83.9*		*40 - 110*	*07/25/19 17:51*	*09/04/19 13:24*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0433	U	0.281	0.281	1.00	0.509	pCi/L	07/25/19 18:32	09/03/19 14:01	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*83.9*		*40 - 110*	*07/25/19 18:32*	*09/03/19 14:01*	*1*
Y Carrier	*82.6*		*40 - 110*	*07/25/19 18:32*	*09/03/19 14:01*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.000	U	0.298	0.299	5.00		pCi/L		09/09/19 13:15	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR08-RB-MID-20190717 ~ STR-HR08

Lab Sample ID: 180-93012-57

Date Collected: 07/17/19 20:00
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.00941	U	0.158	0.158	1.00	0.320	pCi/L	07/25/19 17:51	09/04/19 15:28	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*76.0*		*40 - 110*	*07/25/19 17:51*	*09/04/19 15:28*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.00642	U	0.337	0.337	1.00	0.604	pCi/L	07/25/19 18:32	09/03/19 14:01	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*76.0*		*40 - 110*	*07/25/19 18:32*	*09/03/19 14:01*	*1*
Y Carrier	*77.0*		*40 - 110*	*07/25/19 18:32*	*09/03/19 14:01*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.000	U	0.372	0.372	5.00		pCi/L		09/09/19 13:15	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR08-RB-BOT-20190717 ~ STR-HR08

Lab Sample ID: 180-93012-58

Date Collected: 07/17/19 20:05
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.142	U	0.147	0.147	1.00	0.361	pCi/L	07/25/19 17:51	09/04/19 15:28	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*70.6*		*40 - 110*	*07/25/19 17:51*	*09/04/19 15:28*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0584	U	0.282	0.282	1.00	0.517	pCi/L	07/25/19 18:32	09/03/19 14:01	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*70.6*		*40 - 110*	*07/25/19 18:32*	*09/03/19 14:01*	*1*
Y Carrier	*91.2*		*40 - 110*	*07/25/19 18:32*	*09/03/19 14:01*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.000	U	0.318	0.318	5.00		pCi/L		09/09/19 13:15	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-DUP02-20190717-20190717 ~ NA

Lab Sample ID: 180-93012-59

Date Collected: 07/17/19 00:00
Matrix: Water
Date Received: 07/20/19 09:15

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0763	U	0.155	0.156	1.00	0.279	pCi/L	07/25/19 17:51	09/04/19 15:28	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.2*		*40 - 110*	*07/25/19 17:51*	*09/04/19 15:28*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0142	U	0.315	0.315	1.00	0.563	pCi/L	07/25/19 18:32	09/03/19 14:03	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.2*		*40 - 110*	*07/25/19 18:32*	*09/03/19 14:03*	*1*
Y Carrier	*82.2*		*40 - 110*	*07/25/19 18:32*	*09/03/19 14:03*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.0763	U	0.351	0.352	5.00		pCi/L		09/09/19 13:15	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR07-RB-MID-20190717 ~ STR-HR07

Lab Sample ID: 180-93012-60

Date Collected: 07/17/19 20:35
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.109	U	0.0884	0.0889	1.00	0.259	pCi/L	07/25/19 17:51	09/04/19 15:28	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*82.2*		*40 - 110*	*07/25/19 17:51*	*09/04/19 15:28*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.124	U	0.278	0.278	1.00	0.519	pCi/L	07/25/19 18:32	09/03/19 14:04	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*82.2*		*40 - 110*	*07/25/19 18:32*	*09/03/19 14:04*	*1*
Y Carrier	*82.6*		*40 - 110*	*07/25/19 18:32*	*09/03/19 14:04*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.000	U	0.292	0.292	5.00		pCi/L		09/09/19 13:15	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-FB01-20190718 ~ NA

Lab Sample ID: 180-93012-61

Date Collected: 07/18/19 10:50
Matrix: Water
Date Received: 07/20/19 09:15

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0413	U	0.165	0.165	1.00	0.354	pCi/L	07/25/19 08:46	09/04/19 15:27	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*85.6*		*40 - 110*	*07/25/19 08:46*	*09/04/19 15:27*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.156	U	0.272	0.272	1.00	0.459	pCi/L	07/25/19 09:14	09/04/19 09:06	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*85.6*		*40 - 110*	*07/25/19 09:14*	*09/04/19 09:06*	*1*
Y Carrier	*87.5*		*40 - 110*	*07/25/19 09:14*	*09/04/19 09:06*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.156	U	0.318	0.318	5.00		pCi/L		09/09/19 13:16	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR07-RB-MID-20190718 ~ STR-HR07

Lab Sample ID: 180-93012-62

Date Collected: 07/18/19 11:00
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.125	U	0.143	0.143	1.00	0.372	pCi/L	07/25/19 08:46	09/04/19 15:27	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.5*		*40 - 110*	*07/25/19 08:46*	*09/04/19 15:27*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.289	U	0.237	0.238	1.00	0.374	pCi/L	07/25/19 09:14	09/04/19 09:06	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.5*		*40 - 110*	*07/25/19 09:14*	*09/04/19 09:06*	*1*
Y Carrier	*91.6*		*40 - 110*	*07/25/19 09:14*	*09/04/19 09:06*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.289	U	0.277	0.278	5.00		pCi/L		09/09/19 13:16	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR07-CC-SUR-20190718 ~ STR-HR07

Lab Sample ID: 180-93012-63

Date Collected: 07/18/19 11:20
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.105	U	0.172	0.172	1.00	0.395	pCi/L	07/25/19 08:46	09/04/19 15:35	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.2*		*40 - 110*	*07/25/19 08:46*	*09/04/19 15:35*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0829	U	0.281	0.281	1.00	0.489	pCi/L	07/25/19 09:14	09/04/19 09:06	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.2*		*40 - 110*	*07/25/19 09:14*	*09/04/19 09:06*	*1*
Y Carrier	*85.6*		*40 - 110*	*07/25/19 09:14*	*09/04/19 09:06*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.0829	U	0.329	0.329	5.00		pCi/L		09/09/19 13:16	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR07-CC-MID-20190718 ~ STR-HR07

Lab Sample ID: 180-93012-64

Date Collected: 07/18/19 11:25
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0469	U	0.192	0.192	1.00	0.404	pCi/L	07/25/19 08:46	09/04/19 15:35	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*81.1*		*40 - 110*	*07/25/19 08:46*	*09/04/19 15:35*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.202	U	0.293	0.294	1.00	0.490	pCi/L	07/25/19 09:14	09/04/19 09:07	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*81.1*		*40 - 110*	*07/25/19 09:14*	*09/04/19 09:07*	*1*
Y Carrier	*89.7*		*40 - 110*	*07/25/19 09:14*	*09/04/19 09:07*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.202	U	0.350	0.351	5.00		pCi/L		09/09/19 13:16	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR07-CC-BOT-20190718 ~ STR-HR07

Lab Sample ID: 180-93012-65

Date Collected: 07/18/19 11:30
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0562	U	0.178	0.178	1.00	0.383	pCi/L	07/25/19 08:46	09/04/19 17:46	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*79.7*		*40 - 110*	*07/25/19 08:46*	*09/04/19 17:46*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.289	U	0.325	0.326	1.00	0.535	pCi/L	07/25/19 09:14	09/04/19 09:08	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*79.7*		*40 - 110*	*07/25/19 09:14*	*09/04/19 09:08*	*1*
Y Carrier	*89.0*		*40 - 110*	*07/25/19 09:14*	*09/04/19 09:08*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.289	U	0.371	0.371	5.00		pCi/L		09/09/19 13:16	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR07-LB-SUR-20190718 ~ STR-HR07

Lab Sample ID: 180-93012-66

Date Collected: 07/18/19 11:55
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0234	U	0.197	0.197	1.00	0.404	pCi/L	07/25/19 08:46	09/04/19 17:46	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*77.4*		*40 - 110*	*07/25/19 08:46*	*09/04/19 17:46*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0469	U	0.277	0.277	1.00	0.488	pCi/L	07/25/19 09:14	09/04/19 09:10	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*77.4*		*40 - 110*	*07/25/19 09:14*	*09/04/19 09:10*	*1*
Y Carrier	*89.7*		*40 - 110*	*07/25/19 09:14*	*09/04/19 09:10*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.0469	U	0.340	0.340	5.00		pCi/L		09/09/19 13:16	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR07-LB-BOT-20190718 ~ STR-HR07

Lab Sample ID: 180-93012-67

Date Collected: 07/18/19 12:00
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0125	U	0.211	0.211	1.00	0.427	pCi/L	07/25/19 08:46	09/04/19 17:44	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*70.6*		*40 - 110*	*07/25/19 08:46*	*09/04/19 17:44*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0300	U	0.267	0.267	1.00	0.475	pCi/L	07/25/19 09:14	09/04/19 09:11	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*70.6*		*40 - 110*	*07/25/19 09:14*	*09/04/19 09:11*	*1*
Y Carrier	*94.6*		*40 - 110*	*07/25/19 09:14*	*09/04/19 09:11*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.0300	U	0.340	0.340	5.00		pCi/L		09/09/19 13:16	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-HR06-CC-MID-20190718 ~ STR-HR07

Lab Sample ID: 180-93012-68

Date Collected: 07/18/19 12:25
Date Received: 07/20/19 09:15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.00476	U	0.180	0.180	1.00	0.365	pCi/L	07/25/19 08:46	09/04/19 17:45	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*76.0*		*40 - 110*	*07/25/19 08:46*	*09/04/19 17:45*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0838	U	0.275	0.275	1.00	0.479	pCi/L	07/25/19 09:14	09/04/19 09:11	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*76.0*		*40 - 110*	*07/25/19 09:14*	*09/04/19 09:11*	*1*
Y Carrier	*87.5*		*40 - 110*	*07/25/19 09:14*	*09/04/19 09:11*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.0886	U	0.329	0.329	5.00		pCi/L		09/09/19 13:16	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Client Sample ID: JSF-STR-DUP03-20190717

Lab Sample ID: 180-93012-69

Date Collected: 07/17/19 00:00
Matrix: Water
Date Received: 07/20/19 09:15

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0972	U	0.200	0.200	1.00	0.361	pCi/L	07/25/19 08:46	09/04/19 17:45	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*72.3*		*40 - 110*	*07/25/19 08:46*	*09/04/19 17:45*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.259	U	0.366	0.367	1.00	0.611	pCi/L	07/25/19 09:14	09/04/19 09:03	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*72.3*		*40 - 110*	*07/25/19 09:14*	*09/04/19 09:03*	*1*
Y Carrier	*87.9*		*40 - 110*	*07/25/19 09:14*	*09/04/19 09:03*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.356	U	0.417	0.418	5.00		pCi/L		09/09/19 13:16	1

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-436351/12-A
Matrix: Water
Analysis Batch: 441698

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 436351

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.04931	U	0.161	0.161	1.00	0.306	pCi/L	07/25/19 08:46	09/04/19 17:45	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*86.4*		*40 - 110*	*07/25/19 08:46*	*09/04/19 17:45*	*1*

Lab Sample ID: LCS 160-436351/1-A
Matrix: Water
Analysis Batch: 441698

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 436351

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.4	11.15		1.42	1.00	0.301	pCi/L	98	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*87.3*		*40 - 110*

Lab Sample ID: LCSD 160-436351/2-A
Matrix: Water
Analysis Batch: 441698

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 436351

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			11.4	11.85		1.50	1.00	0.308	pCi/L	104	75 - 125	0.24	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*91.2*		*40 - 110*

Lab Sample ID: MB 160-436514/23-A
Matrix: Water
Analysis Batch: 442562

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 436514

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.03047	U	0.129	0.129	1.00	0.243	pCi/L	07/25/19 14:09	09/10/19 10:07	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*86.7*		*40 - 110*	*07/25/19 14:09*	*09/10/19 10:07*	*1*

Lab Sample ID: LCS 160-436514/1-A
Matrix: Water
Analysis Batch: 442562

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 436514

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.4	11.86		1.37	1.00	0.265	pCi/L	105	75 - 125		

Method: 903.0 - Radium-226 (GFPC) (Continued)

Lab Sample ID: LCS 160-436514/1-A
Matrix: Water
Analysis Batch: 442562

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 436514

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	81.6		40 - 110

Lab Sample ID: LCSD 160-436514/2-A
Matrix: Water
Analysis Batch: 442562

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 436514

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			11.4	9.624		1.14	1.00	0.230	pCi/L	85	75 - 125	0.89	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	91.8		40 - 110

Lab Sample ID: MB 160-436518/23-A
Matrix: Water
Analysis Batch: 441711

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 436518

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.02745	U	0.0919	0.0919	1.00	0.205	pCi/L	07/25/19 14:51	09/01/19 14:04	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	92.1		40 - 110	07/25/19 14:51	09/01/19 14:04	1

Lab Sample ID: LCS 160-436518/1-A
Matrix: Water
Analysis Batch: 441511

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 436518

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.4	9.466		1.21	1.00	0.319	pCi/L	83	75 - 125		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	70.3		40 - 110

Lab Sample ID: LCSD 160-436518/2-A
Matrix: Water
Analysis Batch: 441783

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 436518

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			11.4	13.72	*	1.48	1.00	0.214	pCi/L	121	75 - 125	1.58	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	82.8		40 - 110

Method: 903.0 - Radium-226 (GFPC) (Continued)

Lab Sample ID: MB 160-436533/23-A
Matrix: Water
Analysis Batch: 441698

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 436533

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.09975	U	0.113	0.113	1.00	0.303	pCi/L	07/25/19 17:51	09/04/19 15:28	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*67.2*		*40 - 110*	*07/25/19 17:51*	*09/04/19 15:28*	*1*

Lab Sample ID: LCS 160-436533/1-A
Matrix: Water
Analysis Batch: 441698

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 436533

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.4	12.32		1.47	1.00	0.311	pCi/L	108	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*85.0*		*40 - 110*

Lab Sample ID: LCSD 160-436533/2-A
Matrix: Water
Analysis Batch: 441698

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 436533

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			11.4	10.49		1.30	1.00	0.284	pCi/L	92	75 - 125	0.66	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*84.5*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-436356/12-A
Matrix: Water
Analysis Batch: 441731

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 436356

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.3112	U	0.290	0.291	1.00	0.468	pCi/L	07/25/19 09:14	09/04/19 09:03	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*86.4*		*40 - 110*	*07/25/19 09:14*	*09/04/19 09:03*	*1*
Y Carrier	*88.2*		*40 - 110*	*07/25/19 09:14*	*09/04/19 09:03*	*1*

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-436356/1-A
Matrix: Water
Analysis Batch: 441698

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 436356

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			9.62	10.63		1.23	1.00	0.416	pCi/L	111	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*87.3*		*40 - 110*
Y Carrier	*90.1*		*40 - 110*

Lab Sample ID: LCSD 160-436356/2-A
Matrix: Water
Analysis Batch: 441698

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 436356

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			9.62	10.09		1.16	1.00	0.386	pCi/L	105	75 - 125	0.23	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*91.2*		*40 - 110*
Y Carrier	*87.5*		*40 - 110*

Lab Sample ID: MB 160-436515/23-A
Matrix: Water
Analysis Batch: 442151

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 436515

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.07571	U	0.265	0.265	1.00	0.459	pCi/L	07/25/19 14:17	09/08/19 12:55	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*86.7*		*40 - 110*	*07/25/19 14:17*	*09/08/19 12:55*	*1*
Y Carrier	*92.3*		*40 - 110*	*07/25/19 14:17*	*09/08/19 12:55*	*1*

Lab Sample ID: LCS 160-436515/1-A
Matrix: Water
Analysis Batch: 442169

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 436515

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			9.61	10.03		1.19	1.00	0.407	pCi/L	104	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*81.6*		*40 - 110*
Y Carrier	*87.9*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCSD 160-436515/2-A
Matrix: Water
Analysis Batch: 442169

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 436515

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			9.61	9.472		1.10	1.00	0.381	pCi/L	99	75 - 125	0.25	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*91.8*		*40 - 110*
Y Carrier	*90.5*		*40 - 110*

Lab Sample ID: MB 160-436532/23-A
Matrix: Water
Analysis Batch: 441470

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 436532

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.3808	U	0.301	0.303	1.00	0.480	pCi/L	07/25/19 16:03	08/30/19 14:38	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.1*		*40 - 110*	*07/25/19 16:03*	*08/30/19 14:38*	*1*
Y Carrier	*95.7*		*40 - 110*	*07/25/19 16:03*	*08/30/19 14:38*	*1*

Lab Sample ID: LCS 160-436532/1-A
Matrix: Water
Analysis Batch: 441352

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 436532

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			9.64	9.068		1.17	1.00	0.570	pCi/L	94	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*70.3*		*40 - 110*
Y Carrier	*89.0*		*40 - 110*

Lab Sample ID: LCSD 160-436532/2-A
Matrix: Water
Analysis Batch: 441352

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 436532

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			9.64	9.346		1.14	1.00	0.513	pCi/L	97	75 - 125	0.12	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*82.8*		*40 - 110*
Y Carrier	*91.6*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: MB 160-436534/23-A
Matrix: Water
Analysis Batch: 441626

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 436534

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.02594	U	0.342	0.342	1.00	0.607	pCi/L	07/25/19 18:32	09/03/19 14:04	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*67.2*		*40 - 110*	*07/25/19 18:32*	*09/03/19 14:04*	*1*
Y Carrier	*86.4*		*40 - 110*	*07/25/19 18:32*	*09/03/19 14:04*	*1*

Lab Sample ID: LCS 160-436534/1-A
Matrix: Water
Analysis Batch: 441625

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 436534

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			9.62	9.558		1.15	1.00	0.465	pCi/L	99	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*85.0*		*40 - 110*
Y Carrier	*85.6*		*40 - 110*

Lab Sample ID: LCSD 160-436534/2-A
Matrix: Water
Analysis Batch: 441625

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 436534

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			9.62	9.302		1.14	1.00	0.445	pCi/L	97	75 - 125	0.11	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*84.5*		*40 - 110*
Y Carrier	*81.9*		*40 - 110*

QC Association Summary

Client: Environmental Standards Inc.
Project/Site: JSF_STR_20190717_1B

Job ID: 180-93012-1

Rad

Prep Batch: 436351

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-93012-61	JSF-STR-FB01-20190718 ~ NA	Total/NA	Water	PrecSep STD	
180-93012-62	JSF-STR-HR07-RB-MID-20190718 ~ STR-HR07	Total/NA	Water	PrecSep STD	
180-93012-63	JSF-STR-HR07-CC-SUR-20190718 ~ STR-HR07	Total/NA	Water	PrecSep STD	
180-93012-64	JSF-STR-HR07-CC-MID-20190718 ~ STR-HR07	Total/NA	Water	PrecSep STD	
180-93012-65	JSF-STR-HR07-CC-BOT-20190718 ~ STR-HR07	Total/NA	Water	PrecSep STD	
180-93012-66	JSF-STR-HR07-LB-SUR-20190718 ~ STR-HR07	Total/NA	Water	PrecSep STD	
180-93012-67	JSF-STR-HR07-LB-BOT-20190718 ~ STR-HR07	Total/NA	Water	PrecSep STD	
180-93012-68	JSF-STR-HR06-CC-MID-20190718 ~ STR-HR07	Total/NA	Water	PrecSep STD	
180-93012-69	JSF-STR-DUP03-20190717	Total/NA	Water	PrecSep STD	
MB 160-436351/12-A	Method Blank	Total/NA	Water	PrecSep STD	
LCS 160-436351/1-A	Lab Control Sample	Total/NA	Water	PrecSep STD	
LCSD 160-436351/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep STD	

Prep Batch: 436356

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-93012-61	JSF-STR-FB01-20190718 ~ NA	Total/NA	Water	PrecSep_0	
180-93012-62	JSF-STR-HR07-RB-MID-20190718 ~ STR-HR07	Total/NA	Water	PrecSep_0	
180-93012-63	JSF-STR-HR07-CC-SUR-20190718 ~ STR-HR07	Total/NA	Water	PrecSep_0	
180-93012-64	JSF-STR-HR07-CC-MID-20190718 ~ STR-HR07	Total/NA	Water	PrecSep_0	
180-93012-65	JSF-STR-HR07-CC-BOT-20190718 ~ STR-HR07	Total/NA	Water	PrecSep_0	
180-93012-66	JSF-STR-HR07-LB-SUR-20190718 ~ STR-HR07	Total/NA	Water	PrecSep_0	
180-93012-67	JSF-STR-HR07-LB-BOT-20190718 ~ STR-HR07	Total/NA	Water	PrecSep_0	
180-93012-68	JSF-STR-HR06-CC-MID-20190718 ~ STR-HR07	Total/NA	Water	PrecSep_0	
180-93012-69	JSF-STR-DUP03-20190717	Total/NA	Water	PrecSep_0	
MB 160-436356/12-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-436356/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-436356/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Prep Batch: 436514

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-93012-1	JSF-STR-FB01-20190717 ~ NA	Total/NA	Water	PrecSep STD	
180-93012-2	JSF-STR-EB01-20190717 ~ NA	Total/NA	Water	PrecSep STD	
180-93012-3	JSF-STR-HR06-LB-SUR-20190717 ~ STR-HR06	Total/NA	Water	PrecSep STD	
180-93012-4	JSF-STR-HR06-LB-BOT-20190717 ~ STR-HR06	Total/NA	Water	PrecSep STD	
180-93012-5	JSF-STR-HR06-CC-SUR-20190717 ~ STR-HR06	Total/NA	Water	PrecSep STD	
180-93012-6	JSF-STR-HR06-CC-MID-20190717 ~ STR-HR06	Total/NA	Water	PrecSep STD	
180-93012-7	JSF-STR-HR06-CC-BOT-20190717 ~ STR-HR06	Total/NA	Water	PrecSep STD	
180-93012-8	JSF-STR-HR06-RB-SUR-20190717 ~ STR-HR06	Total/NA	Water	PrecSep STD	
180-93012-9	JSF-STR-HR06-RB-BOT-20190717 ~ STR-HR06	Total/NA	Water	PrecSep STD	
180-93012-10	JSF-STR-HR05-RB-SUR-20190717 ~ STR-HR05	Total/NA	Water	PrecSep STD	
180-93012-11	JSF-STR-HR05-RB-BOT-20190717 ~ STR-HR05	Total/NA	Water	PrecSep STD	
180-93012-12	JSF-STR-HR05-CC-SUR-20190717 ~ STR-HR05	Total/NA	Water	PrecSep STD	
180-93012-13	JSF-STR-HR05-CC-MID-20190717 ~ STR-HR05	Total/NA	Water	PrecSep STD	
180-93012-14	JSF-STR-HR05-CC-BOT-20190717 ~ STR-HR05	Total/NA	Water	PrecSep STD	
180-93012-15	JSF-STR-HR05-LB-SUR-20190717 ~ STR-HR05	Total/NA	Water	PrecSep STD	
180-93012-16	JSF-STR-HR05-LB-BOT-20190717 ~ STR-HR05	Total/NA	Water	PrecSep STD	
180-93012-17	JSF-STR-HR04-LB-SUR-20190717 ~ STR-HR04	Total/NA	Water	PrecSep STD	
180-93012-18	JSF-STR-HR04-LB-BOT-20190717 ~ STR-HR04	Total/NA	Water	PrecSep STD	
180-93012-19	JSF-STR-HR04-CC-SUR-20190717 ~ STR-HR04	Total/NA	Water	PrecSep STD	
180-93012-20	JSF-STR-HR04-CC-MID-20190717 ~ STR-HR04	Total/NA	Water	PrecSep STD	
MB 160-436514/23-A	Method Blank	Total/NA	Water	PrecSep STD	

Rad (Continued)

Prep Batch: 436514 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 160-436514/1-A	Lab Control Sample	Total/NA	Water	PrecSep STD	
LCSD 160-436514/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep STD	

Prep Batch: 436515

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-93012-1	JSF-STR-FB01-20190717 ~ NA	Total/NA	Water	PrecSep_0	
180-93012-2	JSF-STR-EB01-20190717 ~ NA	Total/NA	Water	PrecSep_0	
180-93012-3	JSF-STR-HR06-LB-SUR-20190717 ~ STR-HR06	Total/NA	Water	PrecSep_0	
180-93012-4	JSF-STR-HR06-LB-BOT-20190717 ~ STR-HR06	Total/NA	Water	PrecSep_0	
180-93012-5	JSF-STR-HR06-CC-SUR-20190717 ~ STR-HR06	Total/NA	Water	PrecSep_0	
180-93012-6	JSF-STR-HR06-CC-MID-20190717 ~ STR-HR06	Total/NA	Water	PrecSep_0	
180-93012-7	JSF-STR-HR06-CC-BOT-20190717 ~ STR-HR06	Total/NA	Water	PrecSep_0	
180-93012-8	JSF-STR-HR06-RB-SUR-20190717 ~ STR-HR06	Total/NA	Water	PrecSep_0	
180-93012-9	JSF-STR-HR06-RB-BOT-20190717 ~ STR-HR06	Total/NA	Water	PrecSep_0	
180-93012-10	JSF-STR-HR05-RB-SUR-20190717 ~ STR-HR05	Total/NA	Water	PrecSep_0	
180-93012-11	JSF-STR-HR05-RB-BOT-20190717 ~ STR-HR05	Total/NA	Water	PrecSep_0	
180-93012-12	JSF-STR-HR05-CC-SUR-20190717 ~ STR-HR05	Total/NA	Water	PrecSep_0	
180-93012-13	JSF-STR-HR05-CC-MID-20190717 ~ STR-HR05	Total/NA	Water	PrecSep_0	
180-93012-14	JSF-STR-HR05-CC-BOT-20190717 ~ STR-HR05	Total/NA	Water	PrecSep_0	
180-93012-15	JSF-STR-HR05-LB-SUR-20190717 ~ STR-HR05	Total/NA	Water	PrecSep_0	
180-93012-16	JSF-STR-HR05-LB-BOT-20190717 ~ STR-HR05	Total/NA	Water	PrecSep_0	
180-93012-17	JSF-STR-HR04-LB-SUR-20190717 ~ STR-HR04	Total/NA	Water	PrecSep_0	
180-93012-18	JSF-STR-HR04-LB-BOT-20190717 ~ STR-HR04	Total/NA	Water	PrecSep_0	
180-93012-19	JSF-STR-HR04-CC-SUR-20190717 ~ STR-HR04	Total/NA	Water	PrecSep_0	
180-93012-20	JSF-STR-HR04-CC-MID-20190717 ~ STR-HR04	Total/NA	Water	PrecSep_0	
MB 160-436515/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-436515/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-436515/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Prep Batch: 436518

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-93012-21	JSF-STR-HR04-CC-BOT-20190717 ~ STR-HR04	Total/NA	Water	PrecSep STD	
180-93012-22	JSF-STR-HR04-RB-SUR-20190717 ~ STR-HR04	Total/NA	Water	PrecSep STD	
180-93012-23	JSF-STR-HR04-RB-BOT-20190717 ~ STR-HR04	Total/NA	Water	PrecSep STD	
180-93012-24	JSF-STR-HR03-RB-SUR-20190717 ~ STR-HR03	Total/NA	Water	PrecSep STD	
180-93012-25	JSF-STR-HR03-RB-BOT-20190717 ~ STR-HR03	Total/NA	Water	PrecSep STD	
180-93012-26	JSF-STR-HR03-CC-SUR-20190717 ~ STR-HR03	Total/NA	Water	PrecSep STD	
180-93012-27	JSF-STR-HR03-CC-MID-20190717 ~ STR-HR03	Total/NA	Water	PrecSep STD	
180-93012-28	JSF-STR-HR03-CC-BOT-20190717 ~ STR-HR03	Total/NA	Water	PrecSep STD	
180-93012-29	JSF-STR-HR03-LB-SUR-20190717 ~ STR-HR03	Total/NA	Water	PrecSep STD	
180-93012-30	JSF-STR-HR03-LB-BOT-20190717 ~ STR-HR03	Total/NA	Water	PrecSep STD	
180-93012-31	JSF-STR-HR02-LB-SUR-20190717 ~ STR-HR02	Total/NA	Water	PrecSep STD	
180-93012-32	JSF-STR-HR02-LB-BOT-20190717 ~ STR-HR02	Total/NA	Water	PrecSep STD	
180-93012-33	JSF-STR-HR02-CC-SUR-20190717 ~ STR-HR02	Total/NA	Water	PrecSep STD	
180-93012-34	JSF-STR-HR02-CC-BOT-20190717 ~ STR-HR02	Total/NA	Water	PrecSep STD	
180-93012-35	JSF-STR-HR02-RB-SUR-20190717 ~ STR-HR02	Total/NA	Water	PrecSep STD	
180-93012-36	JSF-STR-HR02-RB-BOT-20190717 ~ STR-HR02	Total/NA	Water	PrecSep STD	
180-93012-37	JSF-STR-HR01-RB-MID-20190717 ~ STR-HR01	Total/NA	Water	PrecSep STD	
180-93012-38	JSF-STR-HR01-CC-MID-20190717 ~ STR-HR01	Total/NA	Water	PrecSep STD	
180-93012-39	JSF-STR-HR01-LB-MID-20190717 ~ STR-HR01	Total/NA	Water	PrecSep STD	
180-93012-40	JSF-STR-DUP01-20190717 ~ NA	Total/NA	Water	PrecSep STD	

Rad (Continued)

Prep Batch: 436518 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 160-436518/23-A	Method Blank	Total/NA	Water	PrecSep STD	
LCS 160-436518/1-A	Lab Control Sample	Total/NA	Water	PrecSep STD	
LCSD 160-436518/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep STD	

Prep Batch: 436532

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-93012-21	JSF-STR-HR04-CC-BOT-20190717 ~ STR-HR04	Total/NA	Water	PrecSep_0	
180-93012-22	JSF-STR-HR04-RB-SUR-20190717 ~ STR-HR04	Total/NA	Water	PrecSep_0	
180-93012-23	JSF-STR-HR04-RB-BOT-20190717 ~ STR-HR04	Total/NA	Water	PrecSep_0	
180-93012-24	JSF-STR-HR03-RB-SUR-20190717 ~ STR-HR03	Total/NA	Water	PrecSep_0	
180-93012-25	JSF-STR-HR03-RB-BOT-20190717 ~ STR-HR03	Total/NA	Water	PrecSep_0	
180-93012-26	JSF-STR-HR03-CC-SUR-20190717 ~ STR-HR03	Total/NA	Water	PrecSep_0	
180-93012-27	JSF-STR-HR03-CC-MID-20190717 ~ STR-HR03	Total/NA	Water	PrecSep_0	
180-93012-28	JSF-STR-HR03-CC-BOT-20190717 ~ STR-HR03	Total/NA	Water	PrecSep_0	
180-93012-29	JSF-STR-HR03-LB-SUR-20190717 ~ STR-HR03	Total/NA	Water	PrecSep_0	
180-93012-30	JSF-STR-HR03-LB-BOT-20190717 ~ STR-HR03	Total/NA	Water	PrecSep_0	
180-93012-31	JSF-STR-HR02-LB-SUR-20190717 ~ STR-HR02	Total/NA	Water	PrecSep_0	
180-93012-32	JSF-STR-HR02-LB-BOT-20190717 ~ STR-HR02	Total/NA	Water	PrecSep_0	
180-93012-33	JSF-STR-HR02-CC-SUR-20190717 ~ STR-HR02	Total/NA	Water	PrecSep_0	
180-93012-34	JSF-STR-HR02-CC-BOT-20190717 ~ STR-HR02	Total/NA	Water	PrecSep_0	
180-93012-35	JSF-STR-HR02-RB-SUR-20190717 ~ STR-HR02	Total/NA	Water	PrecSep_0	
180-93012-36	JSF-STR-HR02-RB-BOT-20190717 ~ STR-HR02	Total/NA	Water	PrecSep_0	
180-93012-37	JSF-STR-HR01-RB-MID-20190717 ~ STR-HR01	Total/NA	Water	PrecSep_0	
180-93012-38	JSF-STR-HR01-CC-MID-20190717 ~ STR-HR01	Total/NA	Water	PrecSep_0	
180-93012-39	JSF-STR-HR01-LB-MID-20190717 ~ STR-HR01	Total/NA	Water	PrecSep_0	
180-93012-40	JSF-STR-DUP01-20190717 ~ NA	Total/NA	Water	PrecSep_0	
MB 160-436532/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-436532/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-436532/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Prep Batch: 436533

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-93012-41	JSF-STR-HR09-LB-SUR-20190717 ~ STR-HR09	Total/NA	Water	PrecSep STD	
180-93012-42	JSF-STR-HR09-LB-MID-20190717 ~ STR-HR09	Total/NA	Water	PrecSep STD	
180-93012-43	JSF-STR-HR09-LB-BOT-20190717 ~ STR-HR09	Total/NA	Water	PrecSep STD	
180-93012-44	JSF-STR-HR09-CC-SUR-20190717 ~ STR-HR09	Total/NA	Water	PrecSep STD	
180-93012-45	JSF-STR-HR09-CC-MID-20190717 ~ STR-HR09	Total/NA	Water	PrecSep STD	
180-93012-46	JSF-STR-HR09-CC-BOT-20190717 ~ STR-HR09	Total/NA	Water	PrecSep STD	
180-93012-47	JSF-STR-HR09-RB-SUR-20190717 ~ STR-HR09	Total/NA	Water	PrecSep STD	
180-93012-48	JSF-STR-HR09-RB-MID-20190717 ~ STR-HR09	Total/NA	Water	PrecSep STD	
180-93012-49	JSF-STR-HR09-RB-BOT-20190717 ~ STR-HR09	Total/NA	Water	PrecSep STD	
180-93012-50	JSF-STR-HR08-LB-SUR-20190717 ~ STR-HR08	Total/NA	Water	PrecSep STD	
180-93012-51	JSF-STR-HR08-LB-MID-20190717 ~ STR-HR08	Total/NA	Water	PrecSep STD	
180-93012-52	JSF-STR-HR08-LB-BOT-20190717 ~ STR-HR08	Total/NA	Water	PrecSep STD	
180-93012-53	JSF-STR-HR08-CC-SUR-20190717 ~ STR-HR08	Total/NA	Water	PrecSep STD	
180-93012-54	JSF-STR-HR08-CC-MID-20190717 ~ STR-HR08	Total/NA	Water	PrecSep STD	
180-93012-55	JSF-STR-HR08-CC-BOT-20190717 ~ STR-HR08	Total/NA	Water	PrecSep STD	
180-93012-56	JSF-STR-HR08-RB-SUR-20190717 ~ STR-HR08	Total/NA	Water	PrecSep STD	
180-93012-57	JSF-STR-HR08-RB-MID-20190717 ~ STR-HR08	Total/NA	Water	PrecSep STD	
180-93012-58	JSF-STR-HR08-RB-BOT-20190717 ~ STR-HR08	Total/NA	Water	PrecSep STD	
180-93012-59	JSF-STR-DUP02-20190717-20190717 ~ NA	Total/NA	Water	PrecSep STD	

Rad (Continued)

Prep Batch: 436533 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-93012-60	JSF-STR-HR07-RB-MID-20190717 ~ STR-HR07	Total/NA	Water	PrecSep STD	
MB 160-436533/23-A	Method Blank	Total/NA	Water	PrecSep STD	
LCS 160-436533/1-A	Lab Control Sample	Total/NA	Water	PrecSep STD	
LCSD 160-436533/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep STD	

Prep Batch: 436534

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-93012-41	JSF-STR-HR09-LB-SUR-20190717 ~ STR-HR09	Total/NA	Water	PrecSep_0	
180-93012-42	JSF-STR-HR09-LB-MID-20190717 ~ STR-HR09	Total/NA	Water	PrecSep_0	
180-93012-43	JSF-STR-HR09-LB-BOT-20190717 ~ STR-HR09	Total/NA	Water	PrecSep_0	
180-93012-44	JSF-STR-HR09-CC-SUR-20190717 ~ STR-HR09	Total/NA	Water	PrecSep_0	
180-93012-45	JSF-STR-HR09-CC-MID-20190717 ~ STR-HR09	Total/NA	Water	PrecSep_0	
180-93012-46	JSF-STR-HR09-CC-BOT-20190717 ~ STR-HR09	Total/NA	Water	PrecSep_0	
180-93012-47	JSF-STR-HR09-RB-SUR-20190717 ~ STR-HR09	Total/NA	Water	PrecSep_0	
180-93012-48	JSF-STR-HR09-RB-MID-20190717 ~ STR-HR09	Total/NA	Water	PrecSep_0	
180-93012-49	JSF-STR-HR09-RB-BOT-20190717 ~ STR-HR09	Total/NA	Water	PrecSep_0	
180-93012-50	JSF-STR-HR08-LB-SUR-20190717 ~ STR-HR08	Total/NA	Water	PrecSep_0	
180-93012-51	JSF-STR-HR08-LB-MID-20190717 ~ STR-HR08	Total/NA	Water	PrecSep_0	
180-93012-52	JSF-STR-HR08-LB-BOT-20190717 ~ STR-HR08	Total/NA	Water	PrecSep_0	
180-93012-53	JSF-STR-HR08-CC-SUR-20190717 ~ STR-HR08	Total/NA	Water	PrecSep_0	
180-93012-54	JSF-STR-HR08-CC-MID-20190717 ~ STR-HR08	Total/NA	Water	PrecSep_0	
180-93012-55	JSF-STR-HR08-CC-BOT-20190717 ~ STR-HR08	Total/NA	Water	PrecSep_0	
180-93012-56	JSF-STR-HR08-RB-SUR-20190717 ~ STR-HR08	Total/NA	Water	PrecSep_0	
180-93012-57	JSF-STR-HR08-RB-MID-20190717 ~ STR-HR08	Total/NA	Water	PrecSep_0	
180-93012-58	JSF-STR-HR08-RB-BOT-20190717 ~ STR-HR08	Total/NA	Water	PrecSep_0	
180-93012-59	JSF-STR-DUP02-20190717-20190717 ~ NA	Total/NA	Water	PrecSep_0	
180-93012-60	JSF-STR-HR07-RB-MID-20190717 ~ STR-HR07	Total/NA	Water	PrecSep_0	
MB 160-436534/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-436534/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-436534/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

TVA Environmental Investigations

Tennessee Valley Authority

COOLER No.:	1	of	14
COC No:	JSF_STR_20190717_1B		
1 of 6 Pages			
Task Desc:	JSF_STR		

Chain-of-Custody / Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed and accurate

Required Ship to Lab:		Required Project Information:		Required Sampler Information	
Lab Name:	TestAmerica Pittsburgh	Site ID #:	JOHN SEVIER FOSSIL PLANT	Sampler: Tyler Baker	
Lab Address:	301 Alpha Drive	Project #:	0779777	Sampling Company: TVA	
	RIDC Park	Site Address	611 Old Highway 70 S	Address: TVA Chickamauga Power Service Center, 4601 N. Access Road, 37415	
	Pittsburgh, PA 15238	City	Rogersville State, Zip: TN, 37857	City/State: Chattanooga, TN	Phone: 423-876-6733
Lab Manager Contact Information		Site PM Name:	Roy Quinn		
Lab PM:	Gail Lage	Phone/Fax:	423-751-3753	Sampling Team Number:	1
Phone/Fax:	615-301-5741/615-726-3404	Site PM Email:	jrquinn@tva.gov	Send EDD/Hard Copy to:	tva_deliverables@envstd.com
Lab Email:	Gail.Lage@testamericainc.com				

Analysis Turnaround Time

☐ CALENDAR DAYS ☑ WORKING DAYS

TAT if different from Below _____

☐ 24 Hours
☐ 3 Business Days
☐ 5 Business Days
☑ 10 Business Days (Standard)

ITEMS #	SAMPLE ID Samples IDs MUST BE UNIQUE	SAMPLE LOCATION	Sample Depth: Depth Unit	Sample Depth: Meters Start Depth	Sample Depth: Meters End Depth	MATRIX CODE	G= GRAB C=COMP	SAMPLE TYPE	SAMPLE DATE	SAMPLE TIME	# OF CONTAINERS	Comments/ Lab Sample I.D.	MS/MSD	Analysis: SW_RAD	Preserve: HNO3	Filtered: N
1	JSF-STR-FB01-20190717	NA	NA	NA		AQ	G	FB	7/17/2019	0810	3		☐	X		
2	JSF-STR-EB01-20190717	NA	NA	NA		AQ	G	EB	7/17/2019	0820	3		☐	X		
3	JSF-STR-HR06-LB-SUR-20190717	STR-HR06	0.5	NA		SW	G	N	7/17/2019	0830	3		☐	X		
4	JSF-STR-HR06-LB-BOT-20190717	STR-HR06	2.8	NA		SW	G	N	7/17/2019	0850	3		☐	X		
5	JSF-STR-HR06-CC-SUR-20190717	STR-HR06	0.5	NA		SW	G	N	7/17/2019	0910	3		☐	X		
6	JSF-STR-HR06-CC-MID-20190717	STR-HR06	1.5	NA		SW	G	N	7/17/2019	0920	3		☐	X		
7	JSF-STR-HR06-CC-BOT-20190717	STR-HR06	3.1	NA		SW	G	N	7/17/2019	0930	3		☐	X		
8	JSF-STR-HR06-RB-SUR-20190717	STR-HR06	0.5	NA		SW	G	N	7/17/2019	0940	3		☐	X		
9	JSF-STR-HR06-RB-BOT-20190717	STR-HR06	2.7	NA		SW	G	N	7/17/2019	0950	3		☐	X		
10	JSF-STR-HR05-RB-SUR-20190717	STR-HR05	0.5	NA		SW	G	N	7/17/2019	1010	3		☐	X		
11	JSF-STR-HR05-RB-BOT-20190717	STR-HR05	2.5	NA		SW	G	N	7/17/2019	1020	3		☐	X		
12													☐			
13													☐			

Tyler Baker 7-19-19

180-93012 Chain of Custody

Additional Comments/Special Instructions:

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Tyler Baker / TVA	7-19-19	1600	[illegible]	7/20/19	915

SHIPPING METHOD:	SAMPLER NAME AND SIGNATURE
Fedex	Tyler Baker Tyler Baker

Sample Receipt Conditions

Temperature in °C	Sample on Ice?	Sample Intact?	Trip Blank?
☑Yes ☐No	☑Yes ☐No	☑Yes ☐No	☑Yes ☐No
☐Yes ☐No	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
☐Yes ☐No	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
☐Yes ☐No	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No

254779-254790, 683611
683610

Form TVA 30067A

TVA Environmental Investigations

Tennessee Valley Authority

Chain-of-Custody / Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed and accurate

COOLER No.:	1 of 14
COC No:	JSF_STR_20190717_1B
2 of 6 Pages	
Task Desc:	JSF_STR

Required Ship to Lab:		Required Project Information:				Required Sampler Information			
Lab Name:	TestAmerica Pittsburgh	Site ID #:	JOHN SEVIER FOSSIL PLANT			Sampler: Tyler Baker			
Lab Address:	301 Alpha Drive	Project #:	0779777			Sampling Company: TVA			
	RIDC Park	Site Address	611 Old Highway 70 S			Address: TVA Chickamauga Power Service Center, 4601 N. Access Road, 37415			
	Pittsburgh, PA 15238	City	Rogersville	State, Zip:	TN, 37857	City/State: Chattanooga, TN	Phone:	423-876-6733	
Lab Manager Contact Information		Site PM Name:	Roy Quinn						
Lab PM:	Gail Lage	Phone/Fax:	423-751-3753			Sampling Team Number:	1		
Phone/Fax:	615-301-5741/615-726-3404	Site PM Email:	jrquinn@tva.gov			Send EDD/Hard Copy to:	tva_deliverables@envstd.com		
Lab Email:	Gail.Lage@testamericainc.com								

Analysis Turnaround Time

☐ CALENDAR DAYS ☑ WORKING DAYS

TAT if different from Below _____

- ☐ 24 Hours
- ☐ 3 Business Days
- ☐ 5 Business Days
- ☑ 10 Business Days (Standard)

ITEMS #	SAMPLE ID Samples IDs MUST BE UNIQUE	SAMPLE LOCATION	Sample Depth: Depth Unit	Sample Depth: Meters Start Depth	Sample Depth: Meters End Depth	MATRIX CODE	G= GRAB C=COMP	SAMPLE TYPE	SAMPLE DATE	SAMPLE TIME	# OF CONTAINERS	Comments/ Lab Sample I.D.	MS/MSD	Analysis: SW_RAD	Preserve: HNO3	Filtered: N
1	JSF-STR-HR05-CC-SUR-20190717	STR-HR05		0.5	NA	SW	G	N	7/17/2019	1030	3		☐	X		
2	JSF-STR-HR05-CC-MID-20190717	STR-HR05		2.0	NA	SW	G	N	7/17/2019	1035	3		☐	X		
3	JSF-STR-HR05-CC-BOT-20190717	STR-HR05		3.0	NA	SW	G	N	7/17/2019	1040	3		☐	X		
4	JSF-STR-HR05-LB-SUR-20190717	STR-HR05		0.5	NA	SW	G	N	7/17/2019	1055	3		☐	X		
5	JSF-STR-HR05-LB-BOT-20190717	STR-HR05		2.5	NA	SW	G	N	7/17/2019	1105	3		☐	X		
6	JSF-STR-HR04-LB-SUR-20190717	STR-HR04		0.5	NA	SW	G	N	7/17/2019	1125	3		☐	X		
7	JSF-STR-HR04-LB-BOT-20190717	STR-HR04		2.8	NA	SW	G	N	7/17/2019	1130	3		☐	X		
8	JSF-STR-HR04-CC-SUR-20190717	STR-HR04		0.5	NA	SW	G	N	7/17/2019	1145	3		☐	X		
9	JSF-STR-HR04-CC-MID-20190717	STR-HR04		2.0	NA	SW	G	N	7/17/2019	1150	3		☐	X		
10	JSF-STR-HR04-CC-BOT-20190717	STR-HR04		3.8	NA	SW	G	N	7/17/2019	1155	3		☐	X		
11	JSF-STR-HR04-RB-SUR-20190717	STR-HR04		0.5	NA	SW	G	N	7/17/2019	1215	3		☐	X		
12	JSF-STR-HR04-RB-BOT-20190717	STR-HR04		2.6	NA	SW	G	N	7/17/2019	1220	3		☐	X		
13													☐			

Additional Comments/Special Instructions:

RELINQISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Tyler Baker / TVA	7-19-19	1600	[illegible] TMT	7/20/19	915

SHIPPING METHOD:	SAMPLER NAME AND SIGNATURE
Fedex	Tyler Baker Tyler Baker

Sample Receipt Conditions			
☐Yes ☐No	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
☐Yes ☐No	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
☐Yes ☐No	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
☐Yes ☐No	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
Temperature in °C	Sample on Ice?	Sample Intact?	Trip Blank?

Form TVA 30067A

TVA Environmental Investigations

Tennessee Valley Authority

Chain-of-Custody / Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed and accurate

COOLER No.:	1 of 14
COC No:	JSF_STR_20190717_1B
3 of 6 Pages	
Task Desc:	JSF_STR

Required Ship to Lab:	
Lab Name:	TestAmerica Pittsburgh
Lab Address:	301 Alpha Drive RIDC Park Pittsburgh, PA 15238
Lab Manager Contact Information	
Lab PM:	Gail Lage
Phone/Fax:	615-301-5741/615-726-3404
Lab Email:	Gail.Lage@testamericainc.com

Required Project Information:			
Site ID #:	JOHN SEVIER FOSSIL PLANT		
Project #:	0779777		
Site Address	611 Old Highway 70 S		
City	Rogersville	State, Zip:	TN, 37857
Site PM Name:	Roy Quinn		
Phone/Fax:	423-751-3753		
Site PM Email:	jrquinn@tva.gov		

Required Sampler Information			
Sampler: Tyler Baker			
Sampling Company: TVA			
Address: TVA Chickamauga Power Service Center, 4601 N. Access Road, 37415			
City/State: Chattanooga, TN		Phone:	423-876-6733
Sampling Team Number:	1		
Send EDD/Hard Copy to:	tva_deliverables@envstd.com		

Analysis Turnaround Time

☐ CALENDAR DAYS ☑ WORKING DAYS

TAT if different from Below _____

- ☐ 24 Hours
- ☐ 3 Business Days
- ☐ 5 Business Days
- ☑ 10 Business Days (Standard)

ITEMS #	SAMPLE ID Samples IDs MUST BE UNIQUE	SAMPLE LOCATION	Sample Depth Depth Unit Start Depth	Sample Depth Depth Unit End Depth (Meters)	MATRIX CODE	G= GRAB C=COMP	SAMPLE TYPE	SAMPLE DATE	SAMPLE TIME	# OF CONTAINERS	Comments/ Lab Sample I.D.	MS/MSD	Analysis SW_RAD (Filtered N, Preserve HNO3)
1	JSF-STR-HR03-RB-SUR-20190717	STR-HR03	0.5	NA	SW	G	N	7/17/2019	1235	3		☐	X
2	JSF-STR-HR03-RB-BOT-20190717	STR-HR03	2.7	NA	SW	G	N	7/17/2019	1240	3		☐	X
3	JSF-STR-HR03-CC-SUR-20190717	STR-HR03	0.5	NA	SW	G	N	7/17/2019	1255	3		☐	X
4	JSF-STR-HR03-CC-MID-20190717	STR-HR03	2.0	NA	SW	G	N	7/17/2019	1305	3		☐	X
5	JSF-STR-HR03-CC-BOT-20190717	STR-HR03	3.7	NA	SW	G	N	7/17/2019	1310	3		☐	X
6	JSF-STR-HR03-LB-SUR-20190717	STR-HR03	0.5	NA	SW	G	N	7/17/2019	1325	3		☐	X
7	JSF-STR-HR03-LB-BOT-20190717	STR-HR03	2.5	NA	SW	G	N	7/17/2019	1330	3		☐	X
8	JSF-STR-HR02-LB-SUR-20190717	STR-HR02	0.5	NA	SW	G	N	7/17/2019	1435	3		☐	X
9	JSF-STR-HR02-LB-BOT-20190717	STR-HR02	2.3	NA	SW	G	N	7/17/2019	1440	3		☐	X
10	JSF-STR-HR02-CC-SUR-20190717	STR-HR02	0.5	NA	SW	G	N	7/17/2019	1500	3		☐	X
11	JSF-STR-HR02-CC-BOT-20190717	STR-HR02	2.9	NA	SW	G	N	7/17/2019	1505	3		☐	X
12												☐	
13												☐	

Additional Comments/Special Instructions:

~~Additional volume collected should be used for LDs.~~ +f 6071919

RELINQISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Tyler Baker / TVA	7-19-19	1600	[illegible] THA	7/20/19	915

SHIPPING METHOD:	SAMPLER NAME AND SIGNATURE
Fedex	Tyler Baker Tyler Baker

Sample Receipt Conditions			
☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
Temperature in °C	Sample on Ice?	Sample Intact?	Trip Blank?

Form TVA 30067A

TVA Environmental Investigations

Tennessee Valley Authority

COOLER No.:	1	of	14
COC No:	JSF_STR_20190717_1B		
4 of 6 Pages			
Task Desc:	JSF_STR		

Chain-of-Custody / Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed and accurate

Required Ship to Lab:		Required Project Information:		Required Sampler Information	
Lab Name:	TestAmerica Pittsburgh	Site ID #:	JOHN SEVIER FOSSIL PLANT	Sampler: Tyler Baker	
Lab Address:	301 Alpha Drive	Project #:	0779777	Sampling Company: TVA	
	RIDC Park	Site Address	611 Old Highway 70 S	Address: TVA Chickamauga Power Service Center, 4601 N. Access Road, 37415	
	Pittsburgh, PA 15238	City	Rogersville State, Zip: TN, 37857	City/State: Chattanooga, TN	Phone: 423-876-6733
Lab Manager Contact Information		Site PM Name:	Roy Quinn		
Lab PM:	Gail Lage	Phone/Fax:	423-751-3753	Sampling Team Number:	1
Phone/Fax:	615-301-5741/615-726-3404	Site PM Email:	jrquinn@tva.gov	Send EDD/Hard Copy to:	tva_deliverables@envstd.com
Lab Email:	Gail.Lage@testamericainc.com				

Analysis Turnaround Time

☐ CALENDAR DAYS ☑ WORKING DAYS

TAT if different from Below _____

☐ 24 Hours
☐ 3 Business Days
☐ 5 Business Days
☑ 10 Business Days (Standard)

ITEMS #	SAMPLE ID Samples IDs MUST BE UNIQUE	SAMPLE LOCATION	Sample Depth Depth Unit Start Depth	Sample Depth Meters End Depth	MATRIX CODE	G= GRAB C=COMP	SAMPLE TYPE	SAMPLE DATE	SAMPLE TIME	# OF CONTAINERS	Comments/ Lab Sample I.D.	MS/MSD	Analysis SW_RAD	Filtered N	Preserve HNO3
1	JSF-STR-HR02-RB-SUR-20190717	STR-HR02	0.5	NA	SW	G	N	7/17/2019	1515	3		☐	X		
2	JSF-STR-HR02-RB-BOT-20190717	STR-HR02	2.7	NA	SW	G	N	7/17/2019	1520	3		☐	X		
3	JSF-STR-HR01-RB-MID-20190717	STR-HR01	1.5	NA	SW	G	N	7/17/2019	1540	3		☐	X		
4	JSF-STR-HR01-CC-MID-20190717	STR-HR01	1.5	NA	SW	G	N	7/17/2019	1550	3		☐	X		
5	JSF-STR-HR01-LB-MID-20190717	STR-HR01	1.2	NA	SW	G	N	7/17/2019	1615	3		☐	X		
6	JSF-STR-DUP01-20190717	NA	NA	NA	SW	G	FD	7/17/2019	NA	3		☐	X		
7	JSF-STR-HR09-LB-SUR-20190717	STR-HR09	0.5	NA	SW	G	N	7/17/2019	1715	3		☐	X		
8	JSF-STR-HR09-LB-MID-20190717	STR-HR09	2.5	NA	SW	G	N	7/17/2019	1725	3		☐	X		
9	JSF-STR-HR09-LB-BOT-20190717	STR-HR09	4.6	NA	SW	G	N	7/17/2019	1730	3		☐	X		
10	JSF-STR-HR09-CC-SUR-20190717	STR-HR09	0.5	NA	SW	G	N	7/17/2019	1750	3		☐	X		
11	JSF-STR-HR09-CC-MID-20190717	STR-HR09	2.5	NA	SW	G	N	7/17/2019	1755	3		☐	X		
12	JSF-STR-HR09-CC-BOT-20190717	STR-HR09	4.8	NA	SW	G	N	7/17/2019	1800	3		☐	X		
13												☐			

Additional Comments/Special Instructions:

~~Additional volume collected should be used~~ for LDs T-3071919

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Tyler Baker/TVA	7-19-19	1600	TVA	7/20/19	915

Sample Receipt Conditions: Temperature in °C; Sample on Ice? ☐Yes ☐No; Sample Intact? ☐Yes ☐No; Trip Blank? ☐Yes ☐No

SHIPPING METHOD:	SAMPLER NAME AND SIGNATURE
Fedex	Tyler Baker

Form TVA 30067A

TVA Environmental Investigations

Tennessee Valley Authority

COOLER No.:	1	of	14
COC No:	JSF_STR_20190717_1B		
5 of 6 Pages			
Task Desc:	JSF_STR		

Chain-of-Custody / Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed and accurate

Required Ship to Lab:		Required Project Information:		Required Sampler Information	
Lab Name:	TestAmerica Pittsburgh	Site ID #:	JOHN SEVIER FOSSIL PLANT	Sampler: Tyler Baker	
Lab Address:	301 Alpha Drive	Project #:	0779777	Sampling Company: TVA	
	RIDC Park	Site Address	611 Old Highway 70 S	Address: TVA Chickamauga Power Service Center, 4601 N. Access Road, 37415	
	Pittsburgh, PA 15238	City	Rogersville State, Zip: TN, 37857	City/State: Chattanooga, TN	Phone: 423-876-6733
Lab Manager Contact Information		Site PM Name:	Roy Quinn		
Lab PM:	Gail Lage	Phone/Fax:	423-751-3753	Sampling Team Number:	1
Phone/Fax:	615-301-5741/615-726-3404	Site PM Email:	jrquinn@tva.gov	Send EDD/Hard Copy to:	tva_deliverables@envstd.com
Lab Email:	Gail.Lage@testamericainc.com				

Analysis Turnaround Time

☐ CALENDAR DAYS ☑ WORKING DAYS

TAT if different from Below _____

☐ 24 Hours
☐ 3 Business Days
☐ 5 Business Days
☑ 10 Business Days (Standard)

ITEMS #	SAMPLE ID Samples IDs MUST BE UNIQUE	SAMPLE LOCATION	Sample Depth: Depth Unit: Start Depth	Sample Depth: Meters: End Depth	MATRIX CODE	G= GRAB C=COMP	SAMPLE TYPE	SAMPLE DATE	SAMPLE TIME	# OF CONTAINERS	Comments/ Lab Sample I.D.	MS/MSD	Analysis: SW_RAD	Preserve: HNO3	Filtered: N
1	JSF-STR-HR09-RB-SUR-20190717	STR-HR09	0.5	NA	SW	G	N	7/17/2019	1810	3		☐	X		
2	JSF-STR-HR09-RB-MID-20190717	STR-HR09	2.5	NA	SW	G	N	7/17/2019	1815	3		☐	X		
3	JSF-STR-HR09-RB-BOT-20190717	STR-HR09	4.7	NA	SW	G	N	7/17/2019	1820	3		☐	X		
4	JSF-STR-HR08-LB-SUR-20190717	STR-HR08	0.5	NA	SW	G	N	7/17/2019	1845	3		☐	X		
5	JSF-STR-HR08-LB-MID-20190717	STR-HR08	2.0	NA	SW	G	N	7/17/2019	1850	3		☐	X		
6	JSF-STR-HR08-LB-BOT-20190717	STR-HR08	3.7	NA	SW	G	N	7/17/2019	1855	3		☐	X		
7	JSF-STR-HR08-CC-SUR-20190717	STR-HR08	0.5	NA	SW	G	N	7/17/2019	1910	3		☐	X		
8	JSF-STR-HR08-CC-MID-20190717	STR-HR08	2.9	NA	SW	G	N	7/17/2019	1915	3		☐	X		
9	JSF-STR-HR08-CC-BOT-20190717	STR-HR08	5.5	NA	SW	G	N	7/17/2019	1920	3		☐	X		
10	JSF-STR-HR08-RB-SUR-20190717	STR-HR08	0.5	NA	SW	G	N	7/17/2019	1955	3		☐	X		
11	JSF-STR-HR08-RB-MID-20190717	STR-HR08	2.0	NA	SW	G	N	7/17/2019	2000	3		☐	X		
12	JSF-STR-HR08-RB-BOT-20190717	STR-HR08	3.7	NA	SW	G	N	7/17/2019	2005	3		☐	X		
13	JSF-STR-DUP02-20190717	NA	NA	NA	SW	G	FD	7/17/2019	NA	3		☐	X		

Additional Comments/Special Instructions:

RELINQISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Tyler Baker 7-19-19 A	7-19-19	1600	[signature] 7/20/19 TVA	7/20/19	915

SHIPPING METHOD:	SAMPLER NAME AND SIGNATURE
Fedex	Tyler Baker Tyler Baker

Sample Receipt Conditions: Temperature in °C; Sample on Ice?; Sample Intact?; Trip Blank?

Form TVA 30067A

TVA Environmental Investigations

Tennessee Valley Authority

COOLER No.:	1	of	14
COC No:	JSF_STR_20190717_1B		
6 of 6 Pages			
Task Desc:	JSF_STR		

Chain-of-Custody / Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed and accurate

Required Ship to Lab:		Required Project Information:				Required Sampler Information			
Lab Name:	TestAmerica Pittsburgh	Site ID #:	JOHN SEVIER FOSSIL PLANT			Sampler: Tyler Baker			
Lab Address:	301 Alpha Drive	Project #:	0779777			Sampling Company: TVA			
	RIDC Park	Site Address	611 Old Highway 70 S			Address: TVA Chickamauga Power Service Center, 4601 N. Access Road, 37415			
	Pittsburgh, PA 15238	City	Rogersville	State, Zip:	TN, 37857	City/State: Chattanooga, TN		Phone:	423-876-6733
Lab Manager Contact Information		Site PM Name:	Roy Quinn						
Lab PM:	Gail Lage	Phone/Fax:	423-751-3753			Sampling Team Number:	1		
Phone/Fax:	615-301-5741/615-726-3404	Site PM Email:	jrquinn@tva.gov			Send EDD/Hard Copy to:	tva_deliverables@envstd.com		
Lab Email:	Gail.Lage@testamericainc.com								

Analysis Turnaround Time

☐ CALENDAR DAYS ☑ WORKING DAYS

TAT if different from Below _____

☐ 24 Hours
☐ 3 Business Days
☐ 5 Business Days
☑ 10 Business Days (Standard)

ITEMS #	SAMPLE ID Samples IDs MUST BE UNIQUE	SAMPLE LOCATION	Sample Depth: Depth Unit	Sample Depth: Meters Start Depth	Sample Depth: Meters End Depth	MATRIX CODE	G= GRAB C=COMP	SAMPLE TYPE	SAMPLE DATE	SAMPLE TIME	# OF CONTAINERS	Comments/ Lab Sample I.D.	MS/MSD	Filtered: N	Preserve: HNO3	Analysis: SW_RAD
1	JSF-STR-HR07-RB-MID-20190717	STR-HR07		0.9	NA	SW	G	N	7/17/2019	2035	3		☐			X
2	JSF-STR-FB01-20190718	NA		NA	NA	AQ	G	FB	7/18/2019	1050	3		☐			X
3	JSF-STR-HR07-RB-MID-20190718	STR-HR07		1.5	NA	SW	G	N	7/18/2019	1100	3		☐			X
4	JSF-STR-HR07-CC-SUR-20190718	STR-HR07		0.5	NA	SW	G	N	7/18/2019	1120	3		☐			X
5	JSF-STR-HR07-CC-MID-20190718	STR-HR07		1.8	NA	SW	G	N	7/18/2019	1125	3		☐			X
6	JSF-STR-HR07-CC-BOT-20190718	STR-HR07		3.3	NA	SW	G	N	7/18/2019	1130	3		☐			X
7	JSF-STR-HR07-LB-SUR-20190718	STR-HR07		0.5	NA	SW	G	N	7/18/2019	1155	3		☐			X
8	JSF-STR-HR07-LB-BOT-20190718	STR-HR07		2.8	NA	SW	G	N	7/18/2019	1200	3		☐			X
9	JSF-STR-HR06-CC-MID-20190718	STR-HR06		1.5	NA	SW	G	N	7/18/2019	1225	3		☐			X
10	JSF-STR-DUP03-20190717	NA		NA	NA	SW	G	FD	7/17/2019	NA	3		☐			X
11													☐			
12													☐			
13													☐			

Tyler Baker 7-19-19

Additional Comments/Special Instructions:

~~Additional volume collected should be used~~ for ~~LDs.~~ FB071919

RELINQISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Tyler Baker / TVA	7-19-19	1600	[illegible]	7/20/19	915

SHIPPING METHOD:	SAMPLER NAME AND SIGNATURE
Fedex	Tyler Baker Tyler Baker

Sample Receipt Conditions			
☐Yes ☐No	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
☐Yes ☐No	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
☐Yes ☐No	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
☐Yes ☐No	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
Temperature in °C	Sample on Ice?	Sample Intact?	Trip Blank?

Form TVA 30067A

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Rumble, Jennifer L	Carrier Tracking No(s):	COC No: 180-369256.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: jennifer.rumble@testamericainc.com	State of Origin: Tennessee	Page: Page 1 of 8
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 180-93012-1
Address: 13715 Rider Trail North, ,	Due Date Requested: 8/21/2019			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: JSF_STR_20190717_1B	Project #: 18019862			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PrecSep_STD Ra-226	904.0/PrecSep_0 Ra-228	Ra226_228GFPC_P/ Combined Radium-226/228	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
JSF-STR-FB01-20190717 ~ NA (180-93012-1)	7/17/19	08:10 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-EB01-20190717 ~ NA (180-93012-2)	7/17/19	08:20 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-HR06-LB-SUR-20190717 ~ STR-HR06 (180-93012-3)	7/17/19	08:30 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-HR06-LB-BOT-20190717 ~ STR-HR06 (180-93012-4)	7/17/19	08:50 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-HR06-CC-SUR-20190717 ~ STR-HR06 (180-93012-5)	7/17/19	09:10 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-HR06-CC-MID-20190717 ~ STR-HR06 (180-93012-6)	7/17/19	09:20 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-HR06-CC-BOT-20190717 ~ STR-HR06 (180-93012-7)	7/17/19	09:30 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-HR06-RB-SUR-20190717 ~ STR-HR06 (180-93012-8)	7/17/19	09:40 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-HR06-RB-BOT-20190717 ~ STR-HR06 (180-93012-9)	7/17/19	09:50 Eastern		Water			X	X	X	3	TVA - Batch alone

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	7-23-19 1700	TAP	[signature]	7/24/19 09:15	TA STL
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Rumble, Jennifer L	Carrier Tracking No(s):	COC No: 180-369256.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: jennifer.rumble@testamericainc.com	State of Origin: Tennessee	Page: Page 2 of 8
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 180-93012-1
Address: 13715 Rider Trail North, ,	Due Date Requested: 8/21/2019			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: JSF_STR_20190717_1B	Project #: 18019862			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PrecSep_STD Ra-226	904.0/PrecSep_0 Ra-228	Ra226_228GFPC_P/ Combined Radium-226/228	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
JSF-STR-HR05-RB-SUR-20190717 ~ STR-HR05 (180-93012-10)	7/17/19	10:10 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-HR05-RB-BOT-20190717 ~ STR-HR05 (180-93012-11)	7/17/19	10:20 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-HR05-CC-SUR-20170717 ~ STR-HR05 (180-93012-12)	7/17/19	10:30 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-HR05-CC-MID-20170717 ~ STR-HR05 (180-93012-13)	7/17/19	10:35 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-HR05-CC-BOT-20170717 ~ STR-HR05 (180-93012-14)	7/17/19	10:40 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-HR05-LB-SUR-20170717 ~ STR-HR05 (180-93012-15)	7/17/19	10:55 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-HR05-LB-BOT-20170717 ~ STR-HR05 (180-93012-16)	7/17/19	11:05 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-HR04-LB-SUR-20170717 ~ STR-HR04 (180-93012-17)	7/17/19	11:25 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-HR04-LB-BOT-20170717 ~ STR-HR04 (180-93012-18)	7/17/19	11:30 Eastern		Water			X	X	X	3	TVA - Batch alone

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. I

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by:	Date/Time: 7-23-19 1700	Company: TAP	Received by:	Date/Time: 7/24/19 09:15	Company: TA STL
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:		

Ver: 01/16/2019

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Rumble, Jennifer L	Carrier Tracking No(s):	COC No: 180-369256.3
Client Contact: Shipping/Receiving	Phone:	E-Mail: jennifer.rumble@testamericainc.com	State of Origin: Tennessee	Page: Page 3 of 8
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 180-93012-1
Address: 13715 Rider Trail North, ,	Due Date Requested: 8/21/2019			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: JSF_STR_20190717_1B	Project #: 18019862			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PrecSep_STD Ra-226	904.0/PrecSep_0 Ra-228	Ra226_228GFPC_P/ Combined Radium-226/228	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
JSF-STR-HR04-CC-SUR-20170717 ~ STR-HR04 (180-93012-19)	7/17/19	11:45 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-HR04-CC-MID-20170717 ~ STR-HR04 (180-93012-20)	7/17/19	11:50 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-HR04-CC-BOT-20170717 ~ STR-HR04 (180-93012-21)	7/17/19	11:55 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-HR04-RB-SUR-20170717 ~ STR-HR04 (180-93012-22)	7/17/19	12:15 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-HR04-RB-BOT-20170717 ~ STR-HR04 (180-93012-23)	7/17/19	12:20 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-HR03-RB-SUR-20190717 ~ STR-HR03 (180-93012-24)	7/17/19	12:35 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-HR03-RB-BOT-20190717 ~ STR-HR03 (180-93012-25)	7/17/19	12:40 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-HR03-CC-SUR-20190717 ~ STR-HR03 (180-93012-26)	7/17/19	12:55 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-HR03-CC-MID-20190717 ~ STR-HR03 (180-93012-27)	7/17/19	13:05 Eastern		Water			X	X	X	3	TVA - Batch alone

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. I

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:		Method of Shipment:	
Relinquished by:	Date/Time: 7-23-19 1700	Company TAP	Received by:	Date/Time: 7/24/19 09:15	Company TASTL
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:		

Ver: 01/16/2019

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Rumble, Jennifer L	Carrier Tracking No(s):	COC No: 180-369256.4
Client Contact: Shipping/Receiving	Phone:	E-Mail: jennifer.rumble@testamericainc.com	State of Origin: Tennessee	Page: Page 4 of 8
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 180-93012-1
Address: 13715 Rider Trail North, ,	Due Date Requested: 8/21/2019			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: JSF_STR_20190717_1B	Project #: 18019862			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PrecSep_STD Ra-226	904.0/PrecSep_0 Ra-228	Ra226_228GFPC_P/ Combined Radium-226/228	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
JSF-STR-HR03-CC-BOT-20190717 ~ STR-HR03 (180-93012-28)	7/17/19	13:10 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-HR03-LB-SUR-20190717 ~ STR-HR03 (180-93012-29)	7/17/19	13:25 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-HR03-LB-BOT-20190717 ~ STR-HR03 (180-93012-30)	7/17/19	13:30 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-HR02-LB-SUR-20190717 ~ STR-HR02 (180-93012-31)	7/17/19	14:35 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-HR02-LB-BOT-20190717 ~ STR-HR02 (180-93012-32)	7/17/19	14:40 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-HR02-CC-SUR-20190717 ~ STR-HR02 (180-93012-33)	7/17/19	15:00 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-HR02-CC-BOT-20190717 ~ STR-HR02 (180-93012-34)	7/17/19	15:05 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-HR02-RB-SUR-20190717 ~ STR-HR02 (180-93012-35)	7/17/19	15:15 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-HR02-RB-BOT-20190717 ~ STR-HR02 (180-93012-36)	7/17/19	15:20 Eastern		Water			X	X	X	3	TVA - Batch alone

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. I

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: [signature]	Date/Time: 7-23-19 1700	Company: TAP	Received by: [signature]	Date/Time: 7/24/19 09:15	Company: TA-STL
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:		

Ver: 01/16/2019

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Rumble, Jennifer L	Carrier Tracking No(s):	COC No: 180-369256.5
Client Contact: Shipping/Receiving	Phone:	E-Mail: jennifer.rumble@testamericainc.com	State of Origin: Tennessee	Page: Page 5 of 8
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 180-93012-1
Address: 13715 Rider Trail North, ,	Due Date Requested: 8/21/2019			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: JSF_STR_20190717_1B	Project #: 18019862			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PrecSep_STD Ra-226	904.0/PrecSep_0 Ra-228	Ra226_228GFPC_P/ Combined Radium-226/228	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
JSF-STR-HR01-RB-MID-20190717 ~ STR-HR01 (180-93012-37)	7/17/19	15:40 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-HR01-CC-MID-20190717 ~ STR-HR01 (180-93012-38)	7/17/19	15:50 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-HR01-LB-MID-20190717 ~ STR-HR01 (180-93012-39)	7/17/19	16:15 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-DUP01-20190717 ~ NA (180-93012-40)	7/17/19	Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-HR09-LB-SUR-20190717 ~ STR-HR09 (180-93012-41)	7/17/19	17:15 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-HR09-LB-MID-20190717 ~ STR-HR09 (180-93012-42)	7/17/19	17:25 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-HR09-LB-BOT-20190717 ~ STR-HR09 (180-93012-43)	7/17/19	17:30 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-HR09-CC-SUR-20190717 ~ STR-HR09 (180-93012-44)	7/17/19	17:50 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-HR09-CC-MID-20190717 ~ STR-HR09 (180-93012-45)	7/17/19	17:55 Eastern		Water			X	X	X	3	TVA - Batch alone

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. I

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by:	Date/Time: 9-23-19 1700	Company TAP	Received by:	Date/Time: 7/24/19 09:15	Company TASTL
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:		

Ver: 01/16/2019

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Rumble, Jennifer L	Carrier Tracking No(s):	COC No: 180-369256.6
Client Contact: Shipping/Receiving	Phone:	E-Mail: jennifer.rumble@testamericainc.com	State of Origin: Tennessee	Page: Page 6 of 8
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 180-93012-1
Address: 13715 Rider Trail North, ,	Due Date Requested: 8/21/2019			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: JSF_STR_20190717_1B	Project #: 18019862			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PrecSep_STD Ra-226	904.0/PrecSep_0 Ra-228	Ra226_228GFPC_P/ Combined Radium-226/228	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
JSF-STR-HR09-CC-BOT-20190717 ~ STR-HR09 (180-93012-46)	7/17/19	18:00 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-HR09-RB-SUR-20190717 ~ STR-HR09 (180-93012-47)	7/17/19	18:10 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-HR09-RB-MID-20190717 ~ STR-HR09 (180-93012-48)	7/17/19	18:15 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-HR09-RB-BOT-20190717 ~ STR-HR09 (180-93012-49)	7/17/19	18:20 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-HR08-LB-SUR-20190717 ~ STR-HR08 (180-93012-50)	7/17/19	18:45 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-HR08-LB-MID-20190717 ~ STR-HR08 (180-93012-51)	7/17/19	18:50 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-HR08-LB-BOT-20190717 ~ STR-HR08 (180-93012-52)	7/17/19	18:55 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-HR08-CC-SUR-20190717 ~ STR-HR08 (180-93012-53)	7/17/19	19:10 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-HR08-CC-MID-20190717 ~ STR-HR08 (180-93012-54)	7/17/19	19:15 Eastern		Water			X	X	X	3	TVA - Batch alone

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. I

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:		Time:	Method of Shipment:	
Relinquished by:	Date/Time: 7-23-19 1700	Company TAP	Received by:	Date/Time: 7/24/19 09:15	Company TA STL
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:		

Ver: 01/16/2019

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Rumble, Jennifer L	Carrier Tracking No(s):	COC No: 180-369256.7
Client Contact: Shipping/Receiving	Phone:	E-Mail: jennifer.rumble@testamericainc.com	State of Origin: Tennessee	Page: Page 7 of 8
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 180-93012-1
Address: 13715 Rider Trail North, ,	Due Date Requested: 8/21/2019			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: JSF_STR_20190717_1B	Project #: 18019862			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PrecSep_STD Ra-226	904.0/PrecSep_0 Ra-228	Ra226_228GFPC_P/ Combined Radium-226/228	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
JSF-STR-HR08-CC-BOT-20190717 ~ STR-HR08 (180-93012-55)	7/17/19	19:20 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-HR08-RB-SUR-20190717 ~ STR-HR08 (180-93012-56)	7/17/19	19:55 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-HR08-RB-MID-20190717 ~ STR-HR08 (180-93012-57)	7/17/19	20:00 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-HR08-RB-BOT-20190717 ~ STR-HR08 (180-93012-58)	7/17/19	20:05 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-DUP02-20190717-20190717 ~ NA (180-93012-59)	7/17/19	Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-HR07-RB-MID-20190719 ~ STR-HR07 (180-93012-60)	7/17/19	20:35 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-FB01-20190718 ~ NA (180-93012-61)	7/18/19	10:50 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-HR07-RB-MID-20190718 ~ STR-HR07 (180-93012-62)	7/18/19	11:00 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-HR07CC-SUR-20190718 ~ STR-HR07 (180-93012-63)	7/18/19	11:20 Eastern		Water			X	X	X	3	TVA - Batch alone

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. I

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by:	Date/Time: 7-25-19 1700	Company TAP	Received by:	Date/Time: 7/24/19 09:15	Company TASTL
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:		

Ver: 01/16/2019

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Rumble, Jennifer L	Carrier Tracking No(s):	COC No: 180-369256.8
Client Contact: Shipping/Receiving	Phone:	E-Mail: jennifer.rumble@testamericainc.com	State of Origin: Tennessee	Page: Page 8 of 8
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 180-93012-1
Address: 13715 Rider Trail North, ,	Due Date Requested: 8/21/2019			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: JSF_STR_20190717_1B	Project #: 18019862			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PrecSep_STD Ra-226	904.0/PrecSep_0 Ra-228	Ra226_228GFPC_P/ Combined Radium-226/228	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
JSF-STR-HR07-CC-MID-20190718 ~ STR-HR07 (180-93012-64)	7/18/19	11:25 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-HR07-CC-BOT-20190718 ~ STR-HR07 (180-93012-65)	7/18/19	11:30 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-HR07-LB-SUR-20190718 ~ STR-HR07 (180-93012-66)	7/18/19	11:55 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-HR07-LB-BOT-20190718 ~ STR-HR07 (180-93012-67)	7/18/19	12:00 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-HR06-CC-MID-20190718 ~ STR-HR07 (180-93012-68)	7/18/19	12:25 Eastern		Water			X	X	X	3	TVA - Batch alone
JSF-STR-DUP03-20190717 (180-93012-69)	7/17/19	Eastern		Water			X	X	X	3	TVA - Batch alone

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. I

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by:	Date/Time: 7-23-19 1700	Company TAS	Received by:	Date/Time: 7/24/19 09:15	Company TA STL
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:		

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: Environmental Standards Inc.

Job Number: 180-93012-1

Login Number: 93012
List Number: 1
Creator: Kovitch, Christina M

List Source: Eurofins TestAmerica, Pittsburgh

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

Login Sample Receipt Checklist

Client: Environmental Standards Inc.

Job Number: 180-93012-1

Login Number: 93012
List Number: 2
Creator: Harris, Lorin C

List Source: Eurofins TestAmerica, St. Louis
List Creation: 07/24/19 05:11 PM

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