



Ft. Collins, Colorado

LIMS Version: 7.534

Page 1 of 1

Sunday, March 28, 2021

Karen Waters-Husted
Central Plateau Cleanup Company, LLC
825 Jadwin Avenue
Richland, WA 99352

Re: ALS Workorder: 2102410
Project Name: 200-UP-1, February 2021
Project Number: I21-015

Dear Ms. Waters-Husted:

Four water samples were received from Central Plateau Cleanup Company, LLC, on 3/1/2021. The samples were scheduled for the following analyses:

MetalsTritium

The results for these analyses are contained in the enclosed reports.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, ALS certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental.

Thank you for your confidence in ALS Environmental. Should you have any questions, please call.

Sincerely,

ALS Environmental
Katie M. O'Brien
Project Manager

We certify that this data package is in compliance with the SOW, both technically and for completeness, including a full description of, explanation of, and corrective actions for, any and all deviations, from either the analyses requested or the case narrative requested. Release of the data contained in this hard copy data package has been authorized by the Laboratory Analytical Manager (or designee) and the laboratory's client services representative as verified by their signatures on this report.

ALS -- Fort Collins**Sample Number(s) Cross-Reference Table**

OrderNum: 2102410**Client Name:** Central Plateau Cleanup Company, LLC**Client Project Name:** 200-UP-1, February 2021**Client Project Number:** I21-015**Client PO Number:** BOA 74395

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
B3YYD4	2102410-1		WATER	23-Feb-21	11:53
B3YYD9	2102410-2		WATER	23-Feb-21	11:53
B3YYF0	2102410-3		WATER	23-Feb-21	11:53
B3YYD5	2102410-4		WATER	23-Feb-21	11:53

CENTRAL PLATEAU CLEANUP COMPANY		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		C.O.C.# I21-015-009
Collector: Tim Callaway CPC		Contact/Requester: Karen Waters-Husted	Telephone No.: 509-376-4650	
SAF No.: I21-015	Sampling Origin: Hanford Site	Purchase Order/Charge Code: 900152		
Project Title: 200-UP-1, February 2021	Logbook No.: HNF-N-506 -121/23	Ice Chest No.: GUS-082		
Shipped To (Lab): ALS Environmental Ft. Collins	Method of Shipment: Commercial Carrier	Bill of Lading/Air Bill No.: 7729 92804085		
Protocol: CERCLA	Priority: 30 Days	Offsite Property No.: N/A		

2102410

POSSIBLE SAMPLE HAZARDS/REMARK ** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1	SPECIAL INSTRUCTIONS N/A
---	------------------------------------

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative	
B3YYD4	1	N	W	02/23/21	1153	1x500-mL G/P	6010_METALS_ICP: GW 10; 6020_METALS_ICPMS: GW 06	6 Months	HNO3 to pH <2
B3YYD4	↓	N	W	↓	↓	1x250-mL P	SMR_TRITIUM_LSC	6 Months	None
B3YYD9	2	Y	W	↓	↓	1x500-mL G/P	6010_METALS_ICP: GW 10; 6020_METALS_ICPMS: GW 06	6 Months	HNO3 to pH <2

Relinquished By			Received By			Matrix *	
Print First and Last Name	Signature	Date/Time	Print First and Last Name	Signature	Date/Time	S = Soil	DS = Drum Solids
Tim Callaway CPC	<i>[Signature]</i>	FEB 23 2021 1240	SSU-1	<i>[Signature]</i>	FEB 23 2021 1240	SE = Sediment	DL = Drum Liquids
SSU-1		FEB 24 2021 0645	Jeff Lucas CPC	<i>[Signature]</i>	FEB 24 2021 0645	SO = Solid	T = Tissue
Jeff Lucas CPC	<i>[Signature]</i>	FEB 24 2021 1400	FEDEX			SL = Sludge	WI = Wipe
3 of 39		FEDEX	Rose Arant	<i>[Signature]</i>	03-01-21 1000	W = Water	L = Liquid
						O = Oil	V = Vegetation
						A = Air	X = Other

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process):	Disposed By:	Date/Time:
---------------------------------	---	--------------	------------

ALS2102410
March 28, 2021
ALS2102410

3 of 39

Rev. 0

CENTRAL PLATEAU CLEANUP COMPANY y	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST 2102410	C.O.C. # I21-015-010
		Page 1 of 1

Collector: Tim Callaway CPCC	Contact/Requester: Karen Waters-Husted	Telephone No.: 509-376-4650
SAF No.: I21-015	Sampling Origin: Hanford Site	Purchase Order/Charge Code: 900152
Project Title: 200-UP-1, February 2021	Logbook No.: HNF-N-506 -121/23	Ice Chest No.: GWS-082
Shipped To (Lab): ALS Environmental Ft. Collins	Method of Shipment Commercial Carrier	Bill of Lading/Air Bill No.: 7729 92804685
Protocol: CERCLA	Priority: 30 Days	Offsite Property No.: N/A

POSSIBLE SAMPLE HAZARDS/REMARK ** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1	SPECIAL INSTRUCTIONS N/A
---	------------------------------------

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative	
B3YYF0	3	y	W	02/23/21	1153	1x500-mL G/P	6010_METALS_ICP: GW 10; 6020_METALS_ICPMS: GW 06	6 Months	HNO3 to pH <2
B3YYD5	4	N	W	↓	↓	1x500-mL G/P	6010_METALS_ICP: GW 10; 6020_METALS_ICPMS: GW 06	6 Months	HNO3 to pH <2
B3YYD5	↓	N	W	↓	↓	1x250-mL P	SMR_TRITIUM_LSC	6 Months	None

Relinquished By			Received By			Matrix *
Print First and Last Name	Signature	Date/Time	Print First and Last Name	Signature	Date/Time	
Tim Callaway CPCC	<i>[Signature]</i>	FEB 23 2021 1240	SSU-1	<i>[Signature]</i>	FEB 23 2021 1240	S = Soil DS = Drum Solids SE = Sediment DL = Drum Liquids SO = Solid T = Tissue SL = Sludge WI = Wipe W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other
SSU-1	<i>[Signature]</i>	FEB 24 2021 0645	Jeff Lucas CPCC	<i>[Signature]</i>	FEB 24 2021 0645	
Jeff Lucas CPCC	<i>[Signature]</i>	FEB 24 2021 1400	FEDEX	<i>[Signature]</i>		
4 OF 39	FEDEX		Rose Ardent	<i>[Signature]</i>	03-01-21 1000	

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process):	Disposed By:	Date/Time:
--------------------------	---	--------------	------------

4 OF 39

ALS2102410

March 28, 2021
ALS2102410

Rev. 0

ALS2102410

Page 1 of 1

ORIGIN ID:PSCA (509) 373-3580
JANELLE ZUNKER
CPCC
6269 LATAH ST.

SHIP DATE: 24FEB21
ACTWGT: 74.00 LB
CAD: 107068051/INET4340

RICHLAND, WA 99354
UNITED STATES US

BILL THIRD PARTY

TO JULIE ELLINGSON
ALS GLOBAL
225 COMMERCE DRIVE

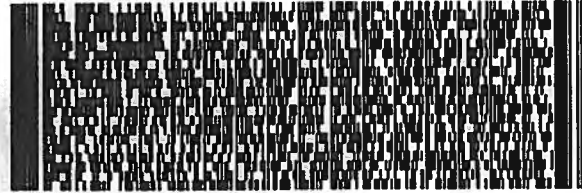
9-2
0.5

56DJB/CB7/AF54A

FORT COLLINS CO 80524

(970) 490-1511
INV:
PO:

REF: 900153 GWS-082
DEPT:



FedEx
Express



THU - 25 FEB 10:30A

PRIORITY OVERNIGHT

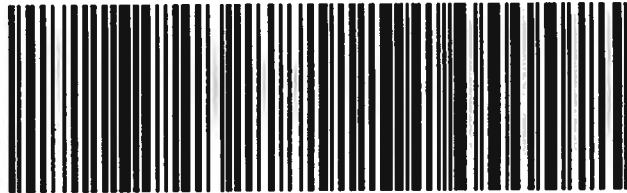
TRK# 7729 9280 4685
0201

DSR

80524

XH FTCA

CO-US DEN





Metals

Case Narrative

Central Plateau Cleanup Company, LLC

200-UP-1, February 2021 – I21-015

Work Order Number: 2102410

1. The samples were prepared and analyzed based on SW-846, 3rd Edition procedures.

For analysis by Trace ICP and ICP-MS, the samples were digested following method 3005A and the current revision of SOP 806.

2. Analysis by Trace ICP followed method 6010D and the current revision of SOP 834.
3. Analysis by ICP-MS followed method 6020B and the current revision of SOP 827.
4. All standards and solutions are NIST traceable and were used within their recommended shelf life.
5. The samples were prepared and analyzed within the established hold time.

All in house quality control procedures were followed, as described below.

6. General quality control procedures.
 - A preparation (method) blank and laboratory control sample were digested and analyzed with the samples in this digestion batch.
 - The preparation (method) blank associated with this digestion batch was below the reporting limit for the requested analytes. Sample results have been compared to the blank results and are flagged as appropriate.
 - All laboratory control sample criteria were met.
 - All initial and continuing calibration blanks were below the reporting limit for the requested analytes.
 - All initial and continuing calibration verifications were within the acceptance criteria for the requested analytes.



- The interference check samples and high standard read-backs associated with Method 6010D were within acceptance criteria.
- The interference check samples associated with Method 6020B were analyzed.

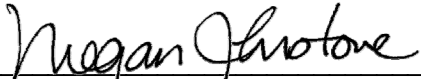
7. Matrix specific quality control procedures.

Sample 2102410-3 was designated as the quality control sample for each analysis.

Similarity of matrix and therefore relevance of the QC results should not be automatically inferred for any sample other than the native sample selected for QC.

- A matrix spike and matrix spike duplicate were digested and analyzed with each batch. All acceptance criteria for accuracy and precision were met.
 - A serial dilution was analyzed with each ICP batch. All acceptance criteria were met.
8. It is a standard practice that samples for ICP-MS are analyzed at a dilution. The 5X factor can be considered an artifact of the prep and does not indicate a secondary dilution and is therefore not flagged as a dilution.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, ALS certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.



Megan Johnstone
Inorganics Primary Data Reviewer

3/22/21
Date



Keith M. W.
Inorganics Final Data Reviewer

3/23/21
Date



Inorganic Data Reporting Qualifiers

The following qualifiers are used as needed by the laboratory when reporting results of inorganic analyses.

- Result qualifier -- A "B" is entered if the reported value was obtained from a reading that was less than the Reporting Limit but greater than or equal to the Method Detection Limit (MDL). If the analyte was analyzed for but not detected a "U" is entered. For samples, negative values are reported as non-detects ("U" flagged). For blanks, if the absolute value of the negative value is above the MDL and below the reporting limit, then the result is "B" flagged.
- QC qualifier -- Specified entries and their meanings are as follows:
 - E - The reported value is estimated because of the presence of interference. An explanatory note may be included in the narrative.
 - M - Duplicate injection precision was not met.
 - N - Spiked sample recovery not within control limits. A post spike is analyzed for all ICP analyses when the matrix spike and or spike duplicate fail and the native sample concentration is less than four times the spike added concentration.
 - Z - Spiked recovery not within control limits. An explanatory note may be included in the narrative.
 - * - Duplicate analysis (relative percent difference) not within control limits.
 - S - SAR value is estimated as one or more analytes used in the calculation were not detected above the detection limit.
 - C - The analyte was detected in both the sample and the associated QC blank, and the sample concentration was $\leq 20X$ the blank concentration.
 - D - Analyte was reported at a secondary dilution factor, typically $DF > 1$ (i.e., the primary preparation required dilution to either bring the analyte within the calibration range or to minimize interference). Required for organics/wetchem if the sample was diluted.

Dissolved IRON**Method SW6010D****Sample Results**

Lab Name: ALS -- Fort Collins
Client Name: Central Plateau Cleanup Company, LLC
Client Project ID: 200-UP-1, February 2021 I21-015
Work Order Number: 2102410 **Final Volume:** 50 ml
Reporting Basis: As Received **Matrix:** WATER
Analyst: Steve Workman **Result Units:** UG/L

Client Sample ID	Lab ID	Date Collected	Date Prepared	Date Analyzed	Percent Moisture	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Flag	Sample Aliquot
B3YYD9	2102410-2	2/23/2021	3/3/2021	03/03/2021	N/A	1	44	100	44	U	50 ml
B3YYF0	2102410-3	2/23/2021	3/3/2021	03/03/2021	N/A	1	44	100	44	U	50 ml

Comments:

1. ND or U = Not Detected at or above the client requested detection limit.

Data Package ID: *IT2102410-1*

Total Recoverable IRON**Method SW6010D****Sample Results****Lab Name:** ALS -- Fort Collins**Client Name:** Central Plateau Cleanup Company, LLC**Client Project ID:** 200-UP-1, February 2021 I21-015**Work Order Number:** 2102410**Final Volume:** 50 ml**Reporting Basis:** As Received**Matrix:** WATER**Analyst:** Steve Workman**Result Units:** UG/L

Client Sample ID	Lab ID	Date Collected	Date Prepared	Date Analyzed	Percent Moisture	Dilution Factor	Result	RptLimit/LOQ/LOD	MDL/DL	Flag	Sample Aliquot
B3YYD4	2102410-1	2/23/2021	3/3/2021	03/03/2021	N/A	1	140	100	44		50 ml
B3YYD5	2102410-4	2/23/2021	3/3/2021	03/03/2021	N/A	1	87	100	44	B	50 ml

Comments:

1. ND or U = Not Detected at or above the client requested detection limit.

Data Package ID: *IT2102410-1*

ALS2102410

Total Recoverable ICPMS Metals**Method SW6020B****Sample Results****Lab Name:** ALS -- Fort Collins**Work Order Number:** 2102410**Client Name:** Central Plateau Cleanup Company, LLC**ClientProject ID:** 200-UP-1, February 2021 I21-015**Field ID:** B3YYD4**Lab ID:** 2102410-1**Sample Matrix:** WATER**% Moisture:** N/A**Date Collected:** 23-Feb-21**Date Extracted:** 03-Mar-21**Date Analyzed:** 05-Mar-21**Prep Method:** SW3005 Rev A**Prep Batch:** IP210303-5**QCBatchID:** IP210303-5-4**Run ID:** IM210305-10A6**Cleanup:** NONE**Basis:** As Received**File Name:** 029SMPL.**Analyst:** Jill M. Latelle**Sample Aliquot:** 50 ml**Final Volume:** 50 ml**Result Units:** UG/L**Clean DF:** 1**Analysis ReqCode:** 6020_METALS_I

CASNO	Target Analyte	Dilution Factor	Result	Result Qualifier	Reporting Limit	MDL
7440-47-3	CHROMIUM	5	33		5	2.4
7439-96-5	MANGANESE	5	3.2	B	5	2.4
7439-98-7	MOLYBDENUM	5	9		1	0.23
7440-02-0	NICKEL	5	17		10	1.3

Data Package ID: *IM2102410-1***Date Printed:** Monday, March 22, 2021**ALS -- Fort Collins**

Page 1 of 4

LIMS Version: 7.013

ALS2102410

Dissolved ICPMS Metals**Method SW6020B****Sample Results****Lab Name:** ALS -- Fort Collins**Work Order Number:** 2102410**Client Name:** Central Plateau Cleanup Company, LLC**ClientProject ID:** 200-UP-1, February 2021 I21-015**Field ID:** B3YYD9**Lab ID:** 2102410-2**Sample Matrix:** WATER**% Moisture:** N/A**Date Collected:** 23-Feb-21**Date Extracted:** 03-Mar-21**Date Analyzed:** 05-Mar-21**Prep Method:** SW3005 Rev A**Prep Batch:** IP210303-5**QCBatchID:** IP210303-5-4**Run ID:** IM210305-10A6**Cleanup:** NONE**Basis:** As Received**File Name:** 030SMPL.**Analyst:** Jill M. Latelle**Sample Aliquot:** 50 ml**Final Volume:** 50 ml**Result Units:** UG/L**Clean DF:** 1**Analysis ReqCode:** 6020_METALS_I

CASNO	Target Analyte	Dilution Factor	Result	Result Qualifier	Reporting Limit	MDL
7440-47-3	CHROMIUM	5	11		5	2.4
7439-96-5	MANGANESE	5	2.4	U	5	2.4
7439-98-7	MOLYBDENUM	5	6.9		1	0.23
7440-02-0	NICKEL	5	4.3	B	10	1.3

Data Package ID: IM2102410-1**Date Printed:** Monday, March 22, 2021**ALS -- Fort Collins**

Page 2 of 4

LIMS Version: 7.013

ALS2102410

Dissolved ICPMS Metals**Method SW6020B****Sample Results****Lab Name:** ALS -- Fort Collins**Work Order Number:** 2102410**Client Name:** Central Plateau Cleanup Company, LLC**ClientProject ID:** 200-UP-1, February 2021 I21-015**Field ID:** B3YYF0**Lab ID:** 2102410-3**Sample Matrix:** WATER**% Moisture:** N/A**Date Collected:** 23-Feb-21**Date Extracted:** 03-Mar-21**Date Analyzed:** 05-Mar-21**Prep Method:** SW3005 Rev A**Prep Batch:** IP210303-5**QCBatchID:** IP210303-5-4**Run ID:** IM210305-10A6**Cleanup:** NONE**Basis:** As Received**File Name:** 031SMPL.**Analyst:** Jill M. Latelle**Sample Aliquot:** 50 ml**Final Volume:** 50 ml**Result Units:** UG/L**Clean DF:** 1**Analysis ReqCode:** 6020_METALS_I

CASNO	Target Analyte	Dilution Factor	Result	Result Qualifier	Reporting Limit	MDL
7440-47-3	CHROMIUM	5	11		5	2.4
7439-96-5	MANGANESE	5	2.4	U	5	2.4
7439-98-7	MOLYBDENUM	5	6.8		1	0.23
7440-02-0	NICKEL	5	3.6	B	10	1.3

Data Package ID: IM2102410-1**Date Printed:** Monday, March 22, 2021**ALS -- Fort Collins**

Page 3 of 4

LIMS Version: 7.013

ALS2102410

Total Recoverable ICPMS Metals**Method SW6020B****Sample Results****Lab Name:** ALS -- Fort Collins**Work Order Number:** 2102410**Client Name:** Central Plateau Cleanup Company, LLC**ClientProject ID:** 200-UP-1, February 2021 I21-015**Field ID:** B3YYD5**Lab ID:** 2102410-4**Sample Matrix:** WATER**% Moisture:** N/A**Date Collected:** 23-Feb-21**Date Extracted:** 03-Mar-21**Date Analyzed:** 05-Mar-21**Prep Method:** SW3005 Rev A**Prep Batch:** IP210303-5**QCBatchID:** IP210303-5-4**Run ID:** IM210305-10A6**Cleanup:** NONE**Basis:** As Received**File Name:** 036SMPL.**Analyst:** Jill M. Latelle**Sample Aliquot:** 50 ml**Final Volume:** 50 ml**Result Units:** UG/L**Clean DF:** 1**Analysis ReqCode:** 6020_METALS_I

CASNO	Target Analyte	Dilution Factor	Result	Result Qualifier	Reporting Limit	MDL
7440-47-3	CHROMIUM	5	21		5	2.4
7439-96-5	MANGANESE	5	2.4	U	5	2.4
7439-98-7	MOLYBDENUM	5	7.6		1	0.23
7440-02-0	NICKEL	5	9.9	B	10	1.3

Data Package ID: *IM2102410-1***Date Printed:** Monday, March 22, 2021**ALS -- Fort Collins**

Page 4 of 4

LIMS Version: 7.013

ALS2102410

ICP Metals

Method SW6010D

Method Blank

Lab Name: ALS -- Fort Collins

Work Order Number: 2102410

Client Name: Central Plateau Cleanup Company, LLC

ClientProject ID: 200-UP-1, February 2021 I21-015

Lab ID: IP210303-5MB

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 03-Mar-21

Date Analyzed: 03-Mar-21

Prep Batch: IP210303-5

QCBatchID: IP210303-5-3

Run ID: IT210303-2A3

Cleanup: NONE

Basis: N/A

File Name: 210303A.

Sample Aliquot: 50 ml

Final Volume: 50 ml

Result Units: UG/L

Clean DF: 1

CASNO	Target Analyte	DF	Result	Result Qualifier	Reporting Limit	MDL
7439-89-6	IRON	1	44	U	100	44

Data Package ID: IT2102410-1

ALS2102410

ICP Metals

Method SW6010D

Laboratory Control Sample

Lab Name: ALS -- Fort Collins

Work Order Number: 2102410

Client Name: Central Plateau Cleanup Company, LLC

ClientProject ID: 200-UP-1, February 2021 I21-015

Lab ID: IP210303-5LCS

Sample Matrix: WATER

Prep Batch: IP210303-5

Sample Aliquot: 50 ml

% Moisture: N/A

QCBatchID: IP210303-5-3

Final Volume: 50 ml

Date Collected: N/A

Run ID: IT210303-2A3

Result Units: UG/L

Date Extracted: 03/03/2021

Cleanup: NONE

Clean DF: 1

Date Analyzed: 03/03/2021

Basis: N/A

Prep Method: SW3005A

File Name: 210303A.

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
7439-89-6	IRON	1000	981	100		98	80 - 120%

Data Package ID: IT2102410-1

ALS2102410

ICP Metals

Method SW6010D

Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS -- Fort Collins

Work Order Number: 2102410

Client Name: Central Plateau Cleanup Company, LLC

ClientProject ID: 200-UP-1, February 2021 I21-015

Field ID: B3YYF0

LabID: 2102410-3MS

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 23-Feb-21

Date Extracted: 03-Mar-21

Date Analyzed: 03-Mar-21

Prep Method: SW3005 Rev A

Prep Batch: IP210303-5

QCBatchID: IP210303-5-3

Run ID: IT210303-2A3

Cleanup: NONE

Basis: As Received

Sample Aliquot: 50 ml

Final Volume: 50 ml

Result Units: UG/L

File Name: 210303A.

CASNO	Target Analyte	Sample Result	Samp Qual	MS Result	MS Qual	Reporting Limit	Spike Added	MS % Rec.	Control Limits
7439-89-6	IRON	44	U	1000		100	1000	100	80 - 120%

Field ID: B3YYF0

LabID: 2102410-3MSD

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 23-Feb-21

Date Extracted: 03-Mar-21

Date Analyzed: 03-Mar-21

Prep Method: SW3005 Rev A

Prep Batch: IP210303-5

QCBatchID: IP210303-5-3

Run ID: IT210303-2A3

Cleanup: NONE

Basis: As Received

Sample Aliquot: 50 ml

Final Volume: 50 ml

Result Units: UG/L

File Name: 210303A.

CASNO	Target Analyte	MSD Result	MSD Qual	Spike Added	MSD % Rec.	Reporting Limit	RPD Limit	RPD
7439-89-6	IRON	1010		1000	101	100	20	1

Data Package ID: IT2102410-1

Prep Batch ID: IP210303-5

Start Date: 03/03/21	End Date: 03/03/21	Concentration Method: NONE	Batch Created By: txs
Start Time: 11:25	End Time: 18:00	Extract Method: SW3005A	Date Created: 03/03/21
Prep Analyst: Tyler S. Sabo		Initial Volume Units: ml	Time Created: 11:28
Comments:		Final Volume Units: ml	Validated By: txs
<div style="border: 1px solid black; height: 30px; width: 100%;"></div>			Date Validated: 03/03/21
			Time Validated: 11:59

QC Batch ID: IP210303-5-3

Lab ID	QC Type	Field ID	Matrix	Date Collected	Initial Wt/Vol	Final Wt/Vol	Cleanup Method	Cleanup DF	Order Number
IP210303-5	MB	XXXXXX	WATER	XXXXXX	50	50	NONE	1	2102410
IP210303-5	LCS	XXXXXX	WATER	XXXXXX	50	50	NONE	1	2102410
2102410-3	MS	B3YYF0	WATER	2/23/2021	50	50	NONE	1	2102410
2102410-3	MSD	B3YYF0	WATER	2/23/2021	50	50	NONE	1	2102410
2102410-1	SMP	B3YYD4	WATER	2/23/2021	50	50	NONE	1	2102410
2102410-2	SMP	B3YYD9	WATER	2/23/2021	50	50	NONE	1	2102410
2102410-3	SMP	B3YYF0	WATER	2/23/2021	50	50	NONE	1	2102410
2102410-4	SMP	B3YYD5	WATER	2/23/2021	50	50	NONE	1	2102410
2102444-3	SMP	XXXXXX	WATER	XXXXXX	50	50	NONE	1	2102444
2102444-4	SMP	XXXXXX	WATER	XXXXXX	50	50	NONE	1	2102444

QC Types

CAR	Carrier reference sample	DLS	Detection Limit Standard
DUP	Laboratory Duplicate	LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicat	LODV	Limit of Detection Verification
LOQV	Limit of Quantitation Verification	MB	Method Blank
MS	Laboratory Matrix Spike	MSD	Laboratory Matrix Spike Duplicate
REP	Sample replicate	RVS	Reporting Level Verification Standar
SMP	Field Sample	SYS	Sample Yield Spike

ALS2102410

ICPMS Metals

Method SW6020B

Method Blank

Lab Name: ALS -- Fort Collins

Work Order Number: 2102410

Client Name: Central Plateau Cleanup Company, LLC

ClientProject ID: 200-UP-1, February 2021 I21-015

Lab ID: IP210303-5MB

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 03-Mar-21

Date Analyzed: 05-Mar-21

Prep Batch: IP210303-5

QCBatchID: IP210303-5-4

Run ID: IM210305-10A6

Cleanup: NONE

Basis: N/A

File Name: 027SMPL.

Sample Aliquot: 50 ml

Final Volume: 50 ml

Result Units: UG/L

Clean DF: 1

CASNO	Target Analyte	DF	Result	Result Qualifier	Reporting Limit	MDL
7440-47-3	CHROMIUM	5	2.4	U	5	2.4
7439-96-5	MANGANESE	5	2.4	U	5	2.4
7439-98-7	MOLYBDENUM	5	0.23	U	1	0.23
7440-02-0	NICKEL	5	1.3	U	10	1.3

Data Package ID: IM2102410-1

ALS2102410

ICPMS Metals

Method SW6020B

Laboratory Control Sample

Lab Name: ALS -- Fort Collins

Work Order Number: 2102410

Client Name: Central Plateau Cleanup Company, LLC

ClientProject ID: 200-UP-1, February 2021 I21-015

Lab ID: IM210303-5LCS

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 03/03/2021

Date Analyzed: 03/05/2021

Prep Method: SW3005A

Prep Batch: IP210303-5

QCBatchID: IP210303-5-4

Run ID: IM210305-10A6

Cleanup: NONE

Basis: N/A

File Name: 028SMPL.

Sample Aliquot: 50 ml

Final Volume: 50 ml

Result Units: UG/L

Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
7440-47-3	CHROMIUM	500	463	5		93	80 - 120%
7439-96-5	MANGANESE	100	91.3	5		91	80 - 120%
7439-98-7	MOLYBDENUM	100	92.4	1		92	80 - 120%
7440-02-0	NICKEL	500	493	10		99	80 - 120%

Data Package ID: IM2102410-1

ALS2102410

ICPMS Metals

Method SW6020B

Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS -- Fort Collins

Work Order Number: 2102410

Client Name: Central Plateau Cleanup Company, LLC

ClientProject ID: 200-UP-1, February 2021 I21-015

Field ID: B3YYF0
LabID: 2102410-3MS

Sample Matrix: WATER
 % Moisture: N/A
 Date Collected: 23-Feb-21
 Date Extracted: 03-Mar-21
 Date Analyzed: 05-Mar-21
 Prep Method: SW3005 Rev A

Prep Batch: IP210303-5
 QCBatchID: IP210303-5-4
 Run ID: IM210305-10A6
 Cleanup: NONE
 Basis: As Received

Sample Aliquot: 50 ml
 Final Volume: 50 ml
 Result Units: UG/L
 File Name: 033SMPL.

CASNO	Target Analyte	Sample Result	Samp Qual	MS Result	MS Qual	Reporting Limit	Spike Added	MS % Rec.	Control Limits
7440-47-3	CHROMIUM	11		476		5	500	93	75 - 125%
7439-96-5	MANGANESE	2.4	U	93.8		5	100	94	75 - 125%
7439-98-7	MOLYBDENUM	6.8		99.6		1	100	93	75 - 125%
7440-02-0	NICKEL	3.6	B	485		10	500	96	75 - 125%

Field ID: B3YYF0
LabID: 2102410-3MSD

Sample Matrix: WATER
 % Moisture: N/A
 Date Collected: 23-Feb-21
 Date Extracted: 03-Mar-21
 Date Analyzed: 05-Mar-21
 Prep Method: SW3005 Rev A

Prep Batch: IP210303-5
 QCBatchID: IP210303-5-4
 Run ID: IM210305-10A6
 Cleanup: NONE
 Basis: As Received

Sample Aliquot: 50 ml
 Final Volume: 50 ml
 Result Units: UG/L
 File Name: 034SMPL.

CASNO	Target Analyte	MSD Result	MSD Qual	Spike Added	MSD % Rec.	Reporting Limit	RPD Limit	RPD
7440-47-3	CHROMIUM	476		500	93	5	20	0
7439-96-5	MANGANESE	94.2		100	94	5	20	0
7439-98-7	MOLYBDENUM	103		100	96	1	20	3
7440-02-0	NICKEL	493		500	98	10	20	2

Data Package ID: IM2102410-1

Prep Batch ID: IP210303-5

Start Date: 03/03/21	End Date: 03/03/21	Concentration Method: NONE	Batch Created By: txs
Start Time: 11:25	End Time: 18:00	Extract Method: SW3005A	Date Created: 03/03/21
Prep Analyst: Tyler S. Sabo		Initial Volume Units: ml	Time Created: 11:28
Comments:		Final Volume Units: ml	Validated By: txs
<div style="border: 1px solid black; height: 30px; width: 100%;"></div>			Date Validated: 03/03/21
			Time Validated: 11:59

QC Batch ID: IP210303-5-4

Lab ID	QC Type	Field ID	Matrix	Date Collected	Initial Wt/Vol	Final Wt/Vol	Cleanup Method	Cleanup DF	Order Number
IP210303-5	MB	XXXXXX	WATER	XXXXXX	50	50	NONE	1	2102410
IM210303-5	LCS	XXXXXX	WATER	XXXXXX	50	50	NONE	1	2102410
2102410-3	MS	B3YYF0	WATER	2/23/2021	50	50	NONE	1	2102410
2102410-3	MSD	B3YYF0	WATER	2/23/2021	50	50	NONE	1	2102410
2102410-1	SMP	B3YYD4	WATER	2/23/2021	50	50	NONE	1	2102410
2102410-2	SMP	B3YYD9	WATER	2/23/2021	50	50	NONE	1	2102410
2102410-3	SMP	B3YYF0	WATER	2/23/2021	50	50	NONE	1	2102410
2102410-4	SMP	B3YYD5	WATER	2/23/2021	50	50	NONE	1	2102410

QC Types

CAR	Carrier reference sample	DLS	Detection Limit Standard
DUP	Laboratory Duplicate	LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicat	LODV	Limit of Detection Verification
LOQV	Limit of Quantitation Verification	MB	Method Blank
MS	Laboratory Matrix Spike	MSD	Laboratory Matrix Spike Duplicate
REP	Sample replicate	RVS	Reporting Level Verification Standar
SMP	Field Sample	SYS	Sample Yield Spike



Tritium

Case Narrative

Central Plateau Cleanup Company, LLC

200-UP-1, February 2021 – I21-015

Work Order Number: 2102410

1. The samples were prepared according to the current revision of SOP 700.
2. The samples were analyzed for the presence of tritium according to the current revision of SOP 704. The analyses were completed on 03/25/2021.
3. The analysis results for these samples are reported in units of pCi/L. The samples were not filtered prior to analysis.
4. The matrix spike and matrix spike duplicate of sample 2103001-1 are shared for this work order. The matrix spikes were performed on a Central Plateau Cleanup Company, LLC sample. The results can be found in the following report.
5. In accordance with project specific instructions, the evaluation threshold for Relative Percent Difference (RPD) has been set at 20%. RPD is defined as:

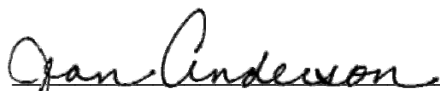
$$RPD = \frac{|S - D|}{(S + D)/2} * 100$$

Where: S = sample activity result and D = duplicate activity result.

6. No anomalous situations were encountered during the preparation or analysis of these samples. All quality control criteria were met.




The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, ALS certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.



Jean Anderson
Radiochemistry Primary Data Reviewer

3/26/21
Date



Radiochemistry Final Data Reviewer

3/28/21
Date

Tritium by Liquid Scintillation

PAI 704 Rev 13

Method Blank Results

Lab Name: ALS -- Fort Collins
Work Order Number: 2102410
Client Name: Central Plateau Cleanup Company, LLC
ClientProject ID: 200-UP-1, February 2021 I21-015

Lab ID: 3H210323-1MB	Sample Matrix: WATER	Prep Batch: 3H210323-1	Final Aliquot: 10.0 ml
	Prep SOP: PAI 700 Rev 15	QCBatchID: 3H210323-1-1	Result Units: pCi/l
	Date Collected: 23-Mar-21	Run ID: 3H210323-1A	File Name: B60_09_032401
	Date Prepared: 23-Mar-21	Count Time: 90 minutes	
	Date Analyzed: 25-Mar-21		

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	DL	Lab Qualifier
10028-17-8	H-3	-4.74E+01 +/- 1.88E+02	3.18E+02	4.00E+02	NA	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.

Abbreviations:

TPU - Total Propagated Uncertainty
MDC - Sample specific Minimum Detectable Concentration
BDL - Below Detection Limit

M - Requested MDC not met.
B - Analyte concentration greater than MDC.
B3 - Analyte concentration greater than MDC but less than Requested MDC.
DL - Decision Level

Data Package ID: H32102410-1

Tritium by Liquid Scintillation

PAI 704 Rev 13

Laboratory Control Sample(s)**Lab Name:** ALS -- Fort Collins**Work Order Number:** 2102410**Client Name:** Central Plateau Cleanup Company, LLC**ClientProject ID:** 200-UP-1, February 2021 I21-015**Lab ID:** 3H210323-1LCS**Sample Matrix:** WATER**Prep Batch:** 3H210323-1**Final Aliquot:** 9.68 ml**Prep SOP:** PAI 700 Rev 15**QCBatchID:** 3H210323-1-1**Result Units:** pCi/l**Date Collected:** 23-Mar-21**Run ID:** 3H210323-1A**File Name:** B60_09_032401**Date Prepared:** 23-Mar-21**Count Time:** 80.45 minutes**Date Analyzed:** 25-Mar-21

CASNO	Target Nuclide	Results +/- 2s TPU	MDC	Spike Added	% Rec	Control Limits	Lab Qualifier
10028-17-8	H-3	3.80E+04 +/- 5.81E+03	3.48E+02	3.840E+04	98.9	80 - 120	

Comments:**Qualifiers/Flags:**

U - Result is less than the sample specific MDC.
 Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
 Y2 - Chemical Yield outside default limits.
 L - LCS Recovery below lower control limit.
 H - LCS Recovery above upper control limit.
 P - LCS Recovery within control limits.
 M - The requested MDC was not met.
 M3 - The requested MDC was not met, but thereported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty
 MDC - Minimum Detectable Concentration

Data Package ID: H32102410-1

Tritium by Liquid Scintillation

PAI 704 Rev 13

Matrix Spike Results

Lab Name: ALS -- Fort Collins
Work Order Number: 2102410
Client Name: Central Plateau Cleanup Company, LLC
ClientProject ID: 200-UP-1, February 2021 I21-015

Field ID:	Shared QC
Lab ID:	2103001-1MS

Sample Matrix: WATER
Prep SOP: PAI 700 Rev 15
Date Collected: 25-Feb-21
Date Prepared: 23-Mar-21
Date Analyzed: 24-Mar-21

Prep Batch: 3H210323-1
QC Batch ID: 3H210323-1-1
Run ID: 3H210323-1A
Count Time: 64.1 minutes
Report Basis: Unfiltered

Final Aliquot: 9.68 ml
Prep Basis: Unfiltered
Moisture(%): 100.000
Result Units: pCi/l
File Name: B60_09_032401

Analysis ReqCode: SMR_TRITIUM_L

CASNO	Target Nuclide	Matrix Spike	Sample Results	MDC	Spike Added	% Rec	Control Limits	Lab Qualifier
10028-17-8	H-3	4.84E+04	5.65E+03	3.93E+02	3.840E+04	111	75 - 125	

Comments:

Qualifiers/Flags:

- U - Result is less than the sample specific MDC.
- Y1 - Chemical Yield in control at 100-110%. Quantitative yield is assumed.
- Y2 - Chemical Yield outside default limits.
- N - Matrix Spike Recovery outside control limits
- P - Matrix Spike Recovery within control limits
- M - The requested MDC was not met.
- M3 - The requested MDC was not met, but thereported activity is greater than the reported MDC.

Abbreviations:

MDC - Sample specific Minimum Detectable Concentration

Data Package ID: H32102410-1

Tritium by Liquid Scintillation

PAI 704 Rev 13

Matrix Spike Results

Lab Name: ALS -- Fort Collins
Work Order Number: 2102410
Client Name: Central Plateau Cleanup Company, LLC
ClientProject ID: 200-UP-1, February 2021 I21-015

Field ID: Shared QC	Sample Matrix: WATER	Prep Batch: 3H210323-1	Final Aliquot: 9.68 ml
Lab ID: 2103001-1MSD	Prep SOP: PAI 700 Rev 15	QCBatchID: 3H210323-1-1	Prep Basis: Unfiltered
Analysis ReqCode: SMR_TRITIUM_L	Date Collected: 25-Feb-21	Run ID: 3H210323-1A	Moisture(%): 100.000
	Date Prepared: 23-Mar-21	Count Time: 69.4 minutes	Result Units: pCi/l
	Date Analyzed: 24-Mar-21	Report Basis: Unfiltered	File Name: B60_09_032401

CASNO	Target Nuclide	Matrix Spike	Sample Results	MDC	Spike Added	% Rec	Control Limits	Lab Qualifier
10028-17-8	H-3	4.46E+04	5.65E+03	3.77E+02	3.840E+04	101	75 - 125	

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
 Y1 - Chemical Yield in control at 100-110%. Quantitative yield is assumed.
 Y2 - Chemical Yield outside default limits.
 N - Matrix Spike Recovery outside control limits
 P - Matrix Spike Recovery within control limits
 M - The requested MDC was not met.
 M3 - The requested MDC was not met, but thereported activity is greater than the reported MDC.

Abbreviations:

MDC - Sample specific Minimum Detectable Concentration

Data Package ID: H32102410-1

Tritium by Liquid Scintillation

PAI 704 Rev 13

Duplicate Sample Results (DER)

Lab Name: ALS -- Fort Collins

Work Order Number: 2102410

Client Name: Central Plateau Cleanup Company, LLC

ClientProject ID: 200-UP-1, February 2021 I21-015

Field ID:	Shared QC
Lab ID:	2103001-1MSD

Sample Matrix: WATER

Prep SOP: PAI 700 Rev 15

Date Collected: 25-Feb-21

Date Prepared: 23-Mar-21

Date Analyzed: 24-Mar-21

Prep Batch: 3H210323-1

QCBatchID: 3H210323-1-1

Run ID: 3H210323-1A

Count Time: 69.4 minutes

Report Basis: Unfiltered

Final Aliquot: 9.68 ml

Prep Basis: Unfiltered

Moisture(%): 100.000

Result Units: pCi/l

File Name: B60_09_032401

CASNO	Analyte	Sample				Duplicate				DER	DER Lim
		Result +/-	2 s TPU	MDC	Flags	Result +/-	2 s TPU	MDC	Flags		
10028-17-8	H-3	4.84E+04 +/-	7.39E+03	3.93E+02		4.46E+04 +/-	6.81E+03	3.77E+02		0.381	3

Comments:

Duplicate Qualifiers/Flags:

- U - Result is less than the sample specific MDC.
- Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
- Y2 - Chemical Yield outside default limits.
- W - DER is greater than Warning Limit of 1.42
- D - DER is greater than Control Limit of 3
- LT - Result is less than Request MDC, greater than sample specific MDC
- M - Requested MDC not met.
- M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
- L - LCS Recovery below lower control limit.
- H - LCS Recovery above upper control limit.
- P - LCS, Matrix Spike Recovery within control limits.
- N - Matrix Spike Recovery outside control limits

Abbreviations:

- TPU - Total Propagated Uncertainty
- DER - Duplicate Error Ratio
- BDL - Below Detection Limit
- NR - Not Reported

Data Package ID: H32102410-1

Tritium by Liquid Scintillation

PAI 704 Rev 13

Duplicate Sample Results (RPD)

Lab Name: ALS -- Fort Collins

Work Order Number: 2102410

Client Name: Central Plateau Cleanup Company, LLC

ClientProject ID: 200-UP-1, February 2021 I21-015

Field ID:	Shared QC
Lab ID:	2103001-1MSD

Sample Matrix: WATER

Prep SOP: PAI 700 Rev 15

Date Collected: 25-Feb-21

Date Prepared: 23-Mar-21

Date Analyzed: 24-Mar-21

Prep Batch: 3H210323-1

QCBatchID: 3H210323-1-1

Run ID: 3H210323-1A

Count Time: 69.4 minutes

Report Basis: Unfiltered

Final Aliquot: 9.68 ml

Prep Basis: Unfiltered

Moisture(%): 100.000

Result Units: pCi/l

File Name: B60_09_032401

CASNO	Analyte	Sample				Duplicate				RPD	RPD Lim
		Result +/-	2 s TPU	MDC	Flags	Result +/-	2 s TPU	MDC	Flags		
10028-17-8	H-3	4.84E+04 +/-	7.39E+03	3.93E+02		4.46E+04 +/-	6.81E+03	3.77E+02		8.00	20

Comments:

Qualifiers/Flags:

- + - Duplicate RPD not within limits.
- U - Result is less than the sample specific MDC.
- Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
- Y2 - Chemical Yield outside default limits.
- M - Requested MDC not met.
- M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
- L - LCS Recovery below lower control limit.
- H - LCS Recovery above upper control limit.
- P - LCS, Matrix Spike Recovery within control limits.
- N - Matrix Spike Recovery outside control limits
- NC - Not Calculated for duplicate results less than 5 times MDC

Abbreviations:

- TPU - Total Propagated Uncertainty
- BDL - Below Detection Limit
- NR - Not Reported

Data Package ID: H32102410-1

Tritium by Liquid Scintillation

PAI 704 Rev 13

Sample Results

Lab Name: ALS -- Fort Collins

Work Order Number: 2102410

Client Name: Central Plateau Cleanup Company, LLC

ClientProject ID: 200-UP-1, February 2021 I21-015

Field ID:	Shared QC
Lab ID:	2103001-1

Sample Matrix: WATER

Prep Batch: 3H210323-1

Final Aliquot: 10.0 ml

Prep SOP: PAI 700 Rev 15

QCBatchID: 3H210323-1-1

Prep Basis: Unfiltered

Date Collected: 25-Feb-21

Run ID: 3H210323-1A

Moisture(%): 100.000

Date Prepared: 23-Mar-21

Count Time: 90 minutes

Result Units: pCi/l

Date Analyzed: 24-Mar-21

Report Basis: Unfiltered

File Name: B60_09_032401

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	DL	Lab Qualifier
10028-17-8	H-3	5.65E+03 +/- 9.12E+02	3.20E+02	4E+02	NA	

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Sample specific Minimum Detectable Concentration

BDL - Below Detection Limit

DL - Decision Level

Data Package ID: H32102410-1

ALS2102410

Tritium by Liquid Scintillation

PAI 704 Rev 13

Duplicate Sample Results (DER)

Lab Name: ALS -- Fort Collins

Work Order Number: 2102410

Client Name: Central Plateau Cleanup Company, LLC

ClientProject ID: 200-UP-1, February 2021 I21-015

Field ID: B3YYD4

Lab ID: 2102410-1DUP

Sample Matrix: WATER

Prep SOP: PAI 700 Rev 15

Date Collected: 23-Feb-21

Date Prepared: 23-Mar-21

Date Analyzed: 24-Mar-21

Prep Batch: 3H210323-1

QCBatchID: 3H210323-1-1

Run ID: 3H210323-1A

Count Time: 90 minutes

Report Basis: Unfiltered

Final Aliquot: 10.0 ml

Prep Basis: Unfiltered

Moisture(%): 100.000

Result Units: pCi/l

File Name: B60_09_032401

CASNO	Analyte	Sample				Duplicate				DER	DER Lim
		Result +/-	2 s TPU	MDC	Flags	Result +/-	2 s TPU	MDC	Flags		
10028-17-8	H-3	1.29E+04 +/-	2.00E+03	3.20E+02		1.35E+04 +/-	2.08E+03	3.20E+02		0.201	3

Comments:

Duplicate Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.

Y2 - Chemical Yield outside default limits.

W - DER is greater than Warning Limit of 1.42

D - DER is greater than Control Limit of 3

LT - Result is less than Request MDC, greater than sample specific MDC

M - Requested MDC not met.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

L - LCS Recovery below lower control limit.

H - LCS Recovery above upper control limit.

P - LCS, Matrix Spike Recovery within control limits.

N - Matrix Spike Recovery outside control limits

Abbreviations:

TPU - Total Propagated Uncertainty

DER - Duplicate Error Ratio

BDL - Below Detection Limit

NR - Not Reported

Data Package ID: H32102410-1

Tritium by Liquid Scintillation

PAI 704 Rev 13

Duplicate Sample Results (RPD)

Lab Name: ALS -- Fort Collins

Work Order Number: 2102410

Client Name: Central Plateau Cleanup Company, LLC

ClientProject ID: 200-UP-1, February 2021 I21-015

Field ID:	B3YYD4
Lab ID:	2102410-1DUP

Sample Matrix: WATER

Prep SOP: PAI 700 Rev 15

Date Collected: 23-Feb-21

Date Prepared: 23-Mar-21

Date Analyzed: 24-Mar-21

Prep Batch: 3H210323-1

QCBatchID: 3H210323-1-1

Run ID: 3H210323-1A

Count Time: 90 minutes

Report Basis: Unfiltered

Final Aliquot: 10.0 ml

Prep Basis: Unfiltered

Moisture(%): 100.000

Result Units: pCi/l

File Name: B60_09_032401

CASNO	Analyte	Sample				Duplicate				RPD	RPD Lim
		Result +/-	2 s TPU	MDC	Flags	Result +/-	2 s TPU	MDC	Flags		
10028-17-8	H-3	1.29E+04 +/-	2.00E+03	3.20E+02		1.35E+04 +/-	2.08E+03	3.20E+02		4.00	20

Comments:

Qualifiers/Flags:

- + - Duplicate RPD not within limits.
- U - Result is less than the sample specific MDC.
- Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
- Y2 - Chemical Yield outside default limits.
- M - Requested MDC not met.
- M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
- L - LCS Recovery below lower control limit.
- H - LCS Recovery above upper control limit.
- P - LCS, Matrix Spike Recovery within control limits.
- N - Matrix Spike Recovery outside control limits
- NC - Not Calculated for duplicate results less than 5 times MDC

Abbreviations:

- TPU - Total Propagated Uncertainty
- BDL - Below Detection Limit
- NR - Not Reported

Data Package ID: H32102410-1

Tritium by Liquid Scintillation

PAI 704 Rev 13

Sample Results

Lab Name: ALS -- Fort Collins
Work Order Number: 2102410
Client Name: Central Plateau Cleanup Company, LLC
ClientProject ID: 200-UP-1, February 2021 I21-015

Field ID:	B3YYD4
Lab ID:	2102410-1

Sample Matrix: WATER	Prep Batch: 3H210323-1	Final Aliquot: 10.0 ml
Prep SOP: PAI 700 Rev 15	QCBatchID: 3H210323-1-1	Prep Basis: Unfiltered
Date Collected: 23-Feb-21	Run ID: 3H210323-1A	Moisture(%): 100.000
Date Prepared: 23-Mar-21	Count Time: 90 minutes	Result Units: pCi/l
Date Analyzed: 24-Mar-21	Report Basis: Unfiltered	File Name: B60_09_032401

Analysis ReqCode: SMR_TRITIUM_L

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	DL	Lab Qualifier
10028-17-8	H-3	1.29E+04 +/- 2.00E+03	3.20E+02	4E+02	NA	

Comments:

Qualifiers/Flags:

- U - Result is less than the sample specific MDC.
- Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
- Y2 - Chemical Yield outside default limits.
- M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
- M - The requested MDC was not met.

Abbreviations:

- TPU - Total Propagated Uncertainty
- MDC - Sample specific Minimum Detectable Concentration
- BDL - Below Detection Limit
- DL - Decision Level

Data Package ID: H32102410-1

Tritium by Liquid Scintillation

PAI 704 Rev 13

Sample Duplicate Results**Lab Name:** ALS -- Fort Collins**Work Order Number:** 2102410**Client Name:** Central Plateau Cleanup Company, LLC**ClientProject ID:** 200-UP-1, February 2021 I21-015

Field ID:	B3YYD4
Lab ID:	2102410-1DUP

Sample Matrix: WATER**Prep Batch:** 3H210323-1**Final Aliquot:** 10.0 ml**Prep SOP:** PAI 700 Rev 15**QCBatchID:** 3H210323-1-1**Prep Basis:** Unfiltered**Date Collected:** 23-Feb-21**Run ID:** 3H210323-1A**Moisture(%):** 100.000**Date Prepared:** 23-Mar-21**Count Time:** 90 minutes**Result Units:** pCi/l**Date Analyzed:** 24-Mar-21**Report Basis:** Unfiltered**File Name:** B60_09_032401

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	DL	Lab Qualifier
10028-17-8	H-3	1.35E+04 +/- 2.08E+03	3.20E+02	4E+02	NA	

Comments:**Qualifiers/Flags:**

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.

Y2 - Chemical Yield outside default limits.

M - The requested MDC was not met.

M3 - The requested MDC was not met, but thereported activity is greater than the reported MDC.

W - DER is greater than Warning Limit of 1.42

D - DER is greater than Control Limit of 3

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Sample specific Minimum Detectable Concentration

BDL - Below Detection Limit

DL - Decision Level

Data Package ID: H32102410-1**Date Printed:**

Friday, March 26, 2021

ALS -- Fort Collins

LIMS Version: 7.013

Page 1 of 1

Tritium by Liquid Scintillation

PAI 704 Rev 13

Sample Results

Lab Name: ALS -- Fort Collins
Work Order Number: 2102410
Client Name: Central Plateau Cleanup Company, LLC
ClientProject ID: 200-UP-1, February 2021 I21-015

Field ID:	B3YYD5
Lab ID:	2102410-4

Sample Matrix: WATER	Prep Batch: 3H210323-1	Final Aliquot: 10.0 ml
Prep SOP: PAI 700 Rev 15	QCBatchID: 3H210323-1-1	Prep Basis: Unfiltered
Date Collected: 23-Feb-21	Run ID: 3H210323-1A	Moisture(%): 100.000
Date Prepared: 23-Mar-21	Count Time: 90 minutes	Result Units: pCi/l
Date Analyzed: 24-Mar-21	Report Basis: Unfiltered	File Name: B60_09_032401

Analysis ReqCode: SMR_TRITIUM_L

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	DL	Lab Qualifier
10028-17-8	H-3	1.27E+04 +/- 1.98E+03	3.20E+02	4E+02	NA	

Comments:

Qualifiers/Flags:

- U - Result is less than the sample specific MDC.
- Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
- Y2 - Chemical Yield outside default limits.
- M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
- M - The requested MDC was not met.

Abbreviations:

- TPU - Total Propagated Uncertainty
- MDC - Sample specific Minimum Detectable Concentration
- BDL - Below Detection Limit
- DL - Decision Level

Data Package ID: H32102410-1

Prep Batch ID: 3H210323-1

Start Date: 03/23/21	End Date: 03/23/21	Concentration Method: NONE	Batch Created By: jcp
Start Time: 10:42	End Time: 10:42	Extract Method: PAI 70015	Date Created: 03/23/21
Prep Analyst: John C. Petrovic		Initial Volume Units: ml	Time Created: 10:43
Comments:		Final Volume Units: ml	Validated By: jcp
<div style="border: 1px solid black; height: 30px; width: 100%;"></div>			Date Validated: 03/24/21
			Time Validated: 8:27

QC Batch ID: 3H210323-1-1

Lab ID	QC Type	Field ID	Matrix	Date Collected	Initial Wt/Vol	Final Wt/Vol	Cleanup Method	Cleanup DF	Order Number
3H210323-1	MB	XXXXXX	WATER	XXXXXX	30	10	NONE	1	2102410
3H210323-1CB1	MB	XXXXXX	WATER	XXXXXX	30	10	NONE	1	2102410
3H210323-1CB2	MB	XXXXXX	WATER	XXXXXX	30	10	NONE	1	2102410
3H210323-1CB3	MB	XXXXXX	WATER	XXXXXX	30	10	NONE	1	2102410
3H210323-1	LCS	XXXXXX	WATER	XXXXXX	30	9.6774	NONE	1	2102410
2103001-1	MS	XXXXXX	WATER	XXXXXX	30	9.6774	NONE	1	2103001
2103001-1	MSD	XXXXXX	WATER	XXXXXX	30	9.6774	NONE	1	2103001
2102410-1	DUP	B3YYD4	WATER	2/23/2021	30	10	NONE	1	2102410
2102410-1	SMP	B3YYD4	WATER	2/23/2021	30	10	NONE	1	2102410
2102410-4	SMP	B3YYD5	WATER	2/23/2021	30	10	NONE	1	2102410
2102412-1	SMP	XXXXXX	WATER	XXXXXX	30	10	NONE	1	2102412
2103001-1	SMP	XXXXXX	WATER	XXXXXX	30	10	NONE	1	2103001
2103001-2	SMP	XXXXXX	WATER	XXXXXX	30	10	NONE	1	2103001
2103199-2	SMP	XXXXXX	WATER	XXXXXX	30	10	NONE	1	2103199
2103234-3	SMP	XXXXXX	WATER	XXXXXX	30	10	NONE	1	2103234
2103278-5	SMP	XXXXXX	WATER	XXXXXX	30	10	NONE	1	2103278
2103278-6	SMP	XXXXXX	WATER	XXXXXX	30	10	NONE	1	2103278
2103278-7	SMP	XXXXXX	WATER	XXXXXX	30	10	NONE	1	2103278
2103297-4	SMP	XXXXXX	WATER	XXXXXX	30	10	NONE	1	2103297
2103298-1	SMP	XXXXXX	WATER	XXXXXX	30	10	NONE	1	2103298
2103298-2	SMP	XXXXXX	WATER	XXXXXX	30	10	NONE	1	2103298

Prep Batch ID: 3H210323-1

Start Date: 03/23/21	End Date: 03/23/21	Concentration Method: NONE	Batch Created By: jcp
Start Time: 10:42	End Time: 10:42	Extract Method: PAI 70015	Date Created: 03/23/21
Prep Analyst: John C. Petrovic		Initial Volume Units: ml	Time Created: 10:43
Comments:		Final Volume Units: ml	Validated By: jcp
<div style="border: 1px solid black; height: 30px; width: 100%;"></div>			Date Validated: 03/24/21
			Time Validated: 8:27

QC Types

CAR	Carrier reference sample		DLS	Detection Limit Standard	
DUP	Laboratory Duplicate		LCS	Laboratory Control Sample	
LCSD	Laboratory Control Sample Duplicat		LODV	Limit of Detection Verification	
LOQV	Limit of Quantitation Verification		MB	Method Blank	
MS	Laboratory Matrix Spike		MSD	Laboratory Matrix Spike Duplicate	
REP	Sample replicate		RVS	Reporting Level Verification Standar	
SMP	Field Sample		SYS	Sample Yield Spike	