

SOUTHWEST RESEARCH INSTITUTE®

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CHEMISTRY AND CHEMICAL ENGINEERING DIVISION
DEPARTMENT OF ANALYTICAL AND ENVIRONMENTAL CHEMISTRY

March 06, 2018

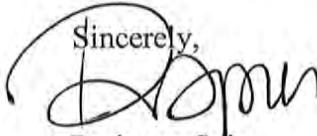
CH2M Hill Plateau Remediation Company
2420 Stevens Center Place
Mail Stop H8-41
Richland, WA 99352

Attn: Ms. Karen Waters-Husted

Subject: SAF No: I18-004, S18-001, S18-010
SDG Number: 626485
SwRI Project Number: 20859.01.00X
SwRI Task Order Number: 180118-7, 180131-10, 180202-3
SwRI Sample Receipt Number: 61022, 61091, 61112
Samples Received: 01/18/18, 01/31/18, 02/02/18
Fraction: Various Radchem Analyses

Dear Ms. Waters-Husted:

Please find the revised report, which has been updated to include the inadvertently omitted Chain-of-Custody from the previous data package. No other item was changed. If you should have any questions, please do not hesitate to contact me at (210) 522-3242, or at radonna.spies@swri.org.

Sincerely,

 Radonna Spies
 Principal Scientist

APPROVED:


 Michael J. Dammann
 Director
RPS: jz
Encl

PROBLEM AND DISCREPANCY (P&D) REPORT		P&D Number: PD18-0148
		Rev. Number: 0
		Laboratory: SWRI
		SDG Number: SWRI626485
		Date Initiated: 03/06/2018
<u>SAMPLE EVENT INFORMATION</u>		
SAF NUM(S):	S18-001	
<u>SAMPLING INFORMATION</u>		
NUMBER OF SAMPLES:	1	
SAMPLE MATRIX:	WATER	
<u>ISSUE BACKGROUND</u>		
CLASS:	Narrative Issues	
TYPE:	Missing Information	
DESCRIPTION:	The report is missing the COC for sample B3FXM7	
<u>RESOLUTION</u>		
PROPOSED RESOLUTION:	Please correct the issue and resubmit the hard copy data package	
FINAL RESOLUTION:	accept proposed resolution	
SUBMITTED BY:		
MEDLEY, HA		03/06/2018
_____		_____

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CHEMISTRY AND CHEMICAL ENGINEERING DIVISION
DEPARTMENT OF ANALYTICAL AND ENVIRONMENTAL CHEMISTRYRegistered to
ISO 9001

February 09, 2018

CH2M Hill Plateau Remediation Company
2420 Stevens Center Place
Mail Stop H8-41
Richland, WA 99352

Attn: Ms. Karen Waters-Husted

Subject:	SAF No:	I18-004, S18-001, S18-010
	SDG Number:	626485
	SwRI Project Number:	20859.01.00X
	SwRI Task Order Number:	180118-7, 180131-10, 180202-3
	SwRI Sample Receipt Number:	61022, 61091, 61112
	Samples Received:	01/18/18, 01/31/18, 02/02/18
	Fraction:	Various Radchem Analyses

Dear Ms. Waters-Husted:

Please find the enclosed results for the eight (08) overall water samples received on the above referenced date. If you should have any questions, please do not hesitate to contact me at (210) 522-3242, or at radonna.spies@swri.org.

Sincerely,

Radonna Spies
Principal Scientist

APPROVED:

Michael J. Dammann
Director

RPS: mg
Encl



Benefiting government, industry and the public through innovative science and technology

SOUTHWEST RESEARCH INSTITUTE\
CLIENT: CH2M Hill Plateau Remediation Company
SwRI PROJECT#: 20859.01.00X
SwRI TASK ORDER: 180118-7, 180131-10, 180202-3
SwRI SRR: 61022, 61091, 61112
SDG: 626485
SAF: I18-004, S18-001, S18-010
VTSR: 01/18/18, 01/31/18, 02/02/18

CHAIN-OF-CUSTODY & SAMPLE RECEIPT PAPERWORK

Total Page Count:
Fraction: Radchem Pages: 010001-
..... Report 010039

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST 010002	C.O.C.# I18-004-152
		Page 1 of 12

Collector: Dan Woehle CHPRC	Contact/Requester: Karen Waters-Husted	Telephone No.: 509-376-4650 <i>dw 1/17/18</i>
SAF No.: I18-004	Sampling Origin: Hanford Site	Purchase Order/Charge Code: 300071
Project Title: SURV18, JANUARY 2018	Logbook No.: HNF-N-506 <i>-95/79</i>	Ice Chest No.: <i>6005-594</i>
Shipped To (Lab): Southwest Research Institute	Method of Shipment Commercial Carrier	Bill of Lading/Air Bill No.: <i>7712 40050315</i>
Protocol SURV	Priority: 30 Days	Offsite Property No.: <i>8971</i>

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
B3FXK1	N	W	<i>JAN 16 2018</i>	<i>1220</i>	1x250-mL P	906.0 TRITIUM_LSC: COMMON	6 Months	None
B3FXK1	N	W	<i>✓</i>	<i>✓</i>	1x1-L G/P	SRISO_SEP_PRECIP_GPC: COMMON	6 Months	HNO3 to pH <2

CHPRC
SRR # 61022
SDG # 626485

SwRI Prjct # 20859.01.00X
TO: 180118-7

SWRI

Relinquished By: Dan Woehle <i>Dan Woehle</i> JAN 16 2018 <i>1235</i> <small>Print First and Last Name Signature Date/Time</small>	Received By: <i>Troy L Bacon</i> <i>Troy L Bacon</i> JAN 16 2018 <i>1235</i> <small>Print First and Last Name Signature Date/Time</small>	Matrix * S = Soil DS = Drum Solids SE = Sediment DL = Drum Liquid SO = Solid T = Tissue SL = Sludge WI = Wipe W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other
Relinquished By: Troy Bacon <i>Troy L Bacon</i> JAN 16 2018 <i>1315</i> <small>Print First and Last Name Signature Date/Time</small>	Received By: SSU-1 JAN 16 2018 <i>1315</i> <small>Print First and Last Name Signature Date/Time</small>	
Relinquished By: SSU-1 JAN 17 2018 <i>0730</i> <small>Print First and Last Name Signature Date/Time</small>	Received By: <i>Lesly Wall</i> <i>Lesly Wall</i> JAN 17 2018 <i>0730</i> <small>Print First and Last Name Signature Date/Time</small>	
Relinquished By: <i>Lesly Wall</i> <i>Lesly Wall</i> JAN 17 2018 <i>1400</i> <small>Print First and Last Name Signature Date/Time</small>	Received By: FEDEX JAN 17 2018 <i>1400</i> <small>Print First and Last Name Signature Date/Time</small>	
FINAL SAMPLE DISPOSITION Disposal Method (e.g., Return to customer, per lab procedure, used in process):		Disposed By: _____ Date/Time: _____

3/6/2018

REV.1

CH2M Hill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST 010004	C.O.C.# I18-004-154 Page 1 of 12
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Collector: Dan Woehle CHPRC	Contact/Requester: Karen Waters-Husted	Telephone No.: 509-376-4650
SAF No.: I18-004	Sampling Origin: Hanford Site	Purchase Order/Charge Code: 300071
Project Title: SURV18, JANUARY 2018	Logbook No.: HNF-N-506 -95/79	Ice Chest No.: 6005-594
Shipped To (Lab): Southwest Research Institute	Method of Shipment: Commercial Carrier	Bill of Lading/Air Bill No.: 771240050315
Protocol: SURV	Priority: 30 Days	Offsite Property No.: 8971

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
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Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3FXL1	N		JAN 16 2018	1130	1x250-mL P	906.0_TRITIUM_LSC: COMMON	6 Months	None
B3FXL1	N	W	↓	↓	1x1-L G/P	SRISO_SEP_PRECIP_GPC: COMMON	6 Months	HNO3 to pH <2

CHPRC
 SRR # 61022
 SDG # 626485

SwRI Prjct # 20859.01.00X
 TO: 180118-7

SWRI

Relinquished By: Dan Woehle <i>Dan Woehle</i> Signature	Received By: Troy Bacon <i>Troy L. Bacon</i> Signature	Matrix * S = Soil DS = Drum Solids SE = Sediment DL = Drum Liquid SO = Solid T = Tissue SL = Sludge WI = Wipe W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other
Relinquished By: Troy Bacon <i>Troy L. Bacon</i> Signature	Received By: SSU-1 Signature	
Relinquished By: SSU-1 Signature	Received By: Lesly Wall <i>Lesly Wall</i> Signature	
Relinquished By: Lesly Wall <i>Lesly Wall</i> Signature	Received By: FEDEX Signature	

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process):	Disposed By:	Date/Time:
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3/6/2018/9 162.

REV.1

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		010006	C.O.C.# S18-001-344
Collector: Barbara Briggs /CHPRC		Contact/Requester: Karen Waters-Husted		Telephone No.: 509-376-4650	
SAF No.: S18-001		Sampling Origin: Hanford Site		Purchase Order/Charge Code: 300071	
Project Title: SURV, JANUARY 2018		Logbook No.: HNF-N-506 -95 pg 78		Ice Chest No.: GWS-715	
Shipped To (Lab): Southwest Research Institute		Method of Shipment Commercial Carrier		Bill of Lading/Air Bill No.: 771227431511	
Protocol SURV		Priority: 30 Days		Offsite Property No.: 8961	

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
B3FXL2	N	W	1/15/18	1348	1x1-L G/P	SRISO_SEP_PRECIP_GPC: COMMON	6 Months	HNO3 to pH <2
B3FXL2	N	W	1/15/18	1348	1x250-mL P	906.0_TRITIUM_LSC: COMMON	6 Months	None

CHPRC
 SRR # 61022
 SDG # 626485

SwRI Prjct # 20859.01.00X
 TO: 180118-7

SWRI

Relinquished By: Barbara Briggs /CHPRC <i>Barbara Briggs</i> Print First and Last Name Signature	JAN 1 5 2018 1445 Date/Time	Received By: SSU-1 Print First and Last Name Signature	JAN 1 5 2018 1445 Date/Time	Matrix * S = Soil DS = Drum Solids SE = Sediment DL = Drum Liquid SO = Solid T = Tissue SL = Sludge WI = Wipe W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other	
Relinquished By: SSU-1 Print First and Last Name Signature	JAN 1 6 2018 0900 Date/Time	Received By: Lesly Wall /CHPRC <i>Lesly Wall</i> Print First and Last Name Signature	JAN 1 6 2018 0900 Date/Time		
Relinquished By: Lesly Wall /CHPRC <i>Lesly Wall</i> Print First and Last Name Signature	JAN 1 6 2018 1400 Date/Time	Received By: FEDEX Print First and Last Name Signature	Date/Time		
Relinquished By: FED EX Print First and Last Name Signature	Date/Time	Received By: David Garcia /CHPRC <i>David Garcia</i> Print First and Last Name Signature	01-18-2018 09:00 Date/Time		
FINAL SAMPLE DISPOSITION		Disposal Method (e.g., Return to customer, per lab procedure, used in process):		Disposed By:	Date/Time:

3/6/2018

Rev.1REV.1

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			C.O.C. # S18-001-350			
					Page 1 of 12			
Collector: Dan Woehle CHPRC		Contact/Requester: Karen Waters-Husted		Telephone No.: 509-376-4650				
SAF No.: S18-001		Sampling Origin: Hanford Site		Purchase Order/Charge Code: 300071				
Project Title: SURV, JANUARY 2018		Logbook No.: HNF-N-506 - 95/79		Ice Chest No.: 605-594				
Shipped To (Lab): Southwest Research Institute		Method of Shipment: Commercial Carrier		Bill of Lading/Air Bill No.: 7712 40050315				
Protocol: SURV		Priority: 30 Days		Offsite Property No.: 8971				
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
B3FXM7	N		JAN 16 2018	0954	1x250-mL P	906.0 TRITIUM_LSC: COMMON	6 Months	None

CHPRC
SRR # 61022
SDG # 626485

SwRI Prjct # 20859.01.00X
TO: 180118-7

SwRI

Relinquished By: Dan Woehle CHPRC <i>Dan Woehle</i> JAN 16 2018 1040 Print First and Last Name Signature Date/Time	Received By: Troy Bacon CHPRC <i>Troy L Bacon</i> JAN 16 2018 1040 Print First and Last Name Signature Date/Time	Matrix * S = Soil DS = Drum Solids SE = Sediment DL = Drum Liquid SO = Solid T = Tissue SL = Sludge WI = Wipe W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other	
Relinquished By: Troy Bacon CHPRC <i>Troy L Bacon</i> JAN 16 2018 1325 Print First and Last Name Signature Date/Time	Received By: SSU-1 JAN 16 2018 1325 Print First and Last Name Signature Date/Time		
Relinquished By: SSU-1 JAN 17 2018 0730 Print First and Last Name Signature Date/Time	Received By: Lesly Wall CHPRC <i>Lesly Wall</i> JAN 17 2018 0730 Print First and Last Name Signature Date/Time		
Relinquished By: Lesly Wall CHPRC <i>Lesly Wall</i> JAN 17 2018 1400 Print First and Last Name Signature Date/Time	Received By: FEDEX JAN 17 2018 Print First and Last Name Signature Date/Time		
FINAL SAMPLE DISPOSITION Disposal Method (e.g., Return to customer, per lab procedure, used in process):		Disposed By:	Date/Time:

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			C.O.C.# S18-001-349			
					Page 1 of <i>12</i>			
Collector: Dan Woehle CHPRC	Contact/Requester: Karen Waters-Husted	Telephone No.: 509-376-4650 <i>HW 1/17/18</i>						
SAF No.: S18-001	Sampling Origin: Hanford Site	Purchase Order/Charge Code: 300071						
Project Title: SURV, JANUARY 2018	Logbook No.: HNF-N-506 <i>95/179</i>	Ice Chest No.: <i>6205-594</i>						
Shipped To (Lab): Southwest Research Institute	Method of Shipment: Commercial Carrier	Bill of Lading/Air Bill No.: <i>7712 40050315</i>						
Protocol: SURV	Priority: 30 Days	Offsite Property No.: <i>8971</i>						
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
B3FXM8	N		JAN 16 2018	<i>0730</i>	1x250-mL P	906.0_TRITIUM_LSC: COMMON	6 Months	None

CHPRC SRR # 61022
 SwRI Prjet # 20859.01.00X
 TO: 180118-7
 SDG # 626485

Relinquished By: Dan Woehle <i>Dan Woehle</i> JAN 16 2018 <i>1040</i> Print First and Last Name Signature Date/Time	Received By: Troy Bacon <i>Troy L. Bacon</i> JAN 16 2018 <i>1040</i> Print First and Last Name Signature Date/Time	Matrix * S = Soil DS = Drum Solids SE = Sediment DL = Drum Liquid SO = Solid T = Tissue SL = Sludge WI = Wipe W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other	
Relinquished By: Troy Bacon <i>Troy L. Bacon</i> JAN 16 2018 <i>1325</i> Print First and Last Name Signature Date/Time	Received By: SSU-1 SSU-1 JAN 16 2018 <i>1325</i> Print First and Last Name Signature Date/Time		
Relinquished By: SSU-1 SSU-1 JAN 17 2018 <i>0730</i> Print First and Last Name Signature Date/Time	Received By: Lesly Wall <i>Lesly Wall</i> JAN 17 2018 <i>0730</i> Print First and Last Name Signature Date/Time		
Relinquished By: Lesly Wall <i>Lesly Wall</i> JAN 17 2018 <i>1400</i> Print First and Last Name Signature Date/Time	Received By: FEDEX FEDEX Print First and Last Name Signature Date/Time		
FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process):	Disposed By:	Date/Time:

3/6/2018

6 Lbs

REV.1

CH2M Hill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # S18-010-536 Page 1 of 1
010011		

Collector: Malcom Chunn CHPRC	Contact/Requester: Karen Waters-Husted	Telephone No.: 509-376-4650
SAF No.: S18-010	Sampling Origin: Hanford Site	Purchase Order/Charge Code: 300071
Project Title: SURV, OCTOBER 2017	Logbook No.: HNF-N-506 98/32	Ice Chest No.: GWS-699
Shipped To (Lab): Southwest Research Institute	Method of Shipment: Commercial Carrier	Bill of Lading/Air Bill No.: 77135650 0761
Protocol: CERCLA	Priority: 30 Days	Offsite Property No.: 9007

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
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Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3D796	N		JAN 29 2018	1420	1x250-mL P	906.0_TRITIUM_LSC: COMMON	6 Months	None

CHPRC
 SRR # 61091
 SDG # 626485

SwRI Prjct # 20859.01.00X
 TO: 180131-10

SWRI

Relinquished By: Malcom Chunn M R Chunn Print First and Last Name	JAN 29 2018 Date/Time	1500 Date/Time	Received By: SSU-1 Print First and Last Name	JAN 29 2018 Date/Time	1500 Date/Time	Matrix * S = Soil DS = Drum Solids SE = Sediment DL = Drum Liquid SO = Solid T = Tissue SL = Sludge WI = Wipe W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other
Relinquished By: SSU-1 Print First and Last Name	JAN 30 2018 Date/Time	0700 Date/Time	Received By: Jeff Lucas Print First and Last Name	JAN 30 2018 Date/Time	0700 Date/Time	
Relinquished By: Jeff Lucas Print First and Last Name	JAN 30 2018 Date/Time	1400 Date/Time	Received By: FEDEX Print First and Last Name	Date/Time	Date/Time	
Relinquished By: FEDEX Print First and Last Name	Date/Time	Date/Time	Received By: David Garcia Print First and Last Name	01-31-2018 Date/Time	09:00 Date/Time	
FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process):				Disposed By:	Date/Time:

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST 010012	C.O.C.# S18-001-341 Page 1 of 1
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Collector: Chris Fulton CHPRC	Contact/Requester: Karen Waters-Husted	Telephone No.: 509-376-4650
SAF No.: S18-001	Sampling Origin: Hanford Site	Purchase Order/Charge Code: 300071
Project Title: SURV, JANUARY 2018	Logbook No.: HNF-N-506 ~96	Ice Chest No.: GWS-699
Shipped To (Lab): Southwest Research Institute	Method of Shipment: Commercial Carrier	Bill of Lading/Air Bill No.: 771356500761
Protocol: SURV	Priority: 30 Days	Offsite Property No.: 9007

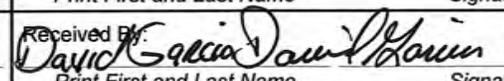
POSSIBLE SAMPLE HAZARDS/REMARK ** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1	SPECIAL INSTRUCTIONS N/A
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Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3FXK3	N	W	1-22-18	1118	1x250-mL P	906.0_TRITIUM_LSC: COMMON	6 Months	None

CHPRC
 SRR # 61091
 SDG # 626485

SWRI

SwRI Prjct # 20859.01.00X
 TO: 180131-10

Relinquished By: Chris Fulton Signature:  Date/Time: JAN 22 2018 1435	Received By: SSU-1 Signature: _____ Date/Time: JAN 22 2018 1437	Matrix * S = Soil DS = Drum Solids SE = Sediment DL = Drum Liquid SO = Solid T = Tissue SL = Sludge WI = Wipe W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other
Relinquished By: SSU-1 Signature: _____ Date/Time: JAN 30 2018 0700	Received By: Jeff Lucas Signature:  Date/Time: JAN 30 2018 0700	
Relinquished By: Jeff Lucas Signature:  Date/Time: JAN 30 2018 1400	Received By: FEDEX Signature: _____ Date/Time: _____	
Relinquished By: FED EX Signature: _____ Date/Time: _____	Received By: David Garcia Signature:  Date/Time: 01-31-2018 09:00	
FINAL SAMPLE DISPOSITION Disposal Method (e.g., Return to customer, per lab procedure, used in process):		Disposed By: _____ Date/Time: _____

3/6/2018

REV.1

CH2M Hill Plateau
Remediation Company

7/65

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST 010013

C.O.C.#
S18-001-343

Page 1 of 22

Collector: Juan Aguilar /CHPRC	Contact/Requester: Karen Waters-Husted	Telephone No.: 509-376-4650
SAF No.: S18-001	Sampling Origin: Hanford Site	Purchase Order/Charge Code: 300071
Project Title: SURV, JANUARY 2018	Logbook No.: HNF-N-506 -97156	Ice Chest No.: GWS-209
Shipped To (Lab): Southwest Research Institute	Method of Shipment Commercial Carrier	Bill of Lading/Air Bill No.: 7713 7891 7795
Protocol SURV	Priority: 30 Days	Offsite Property No.: 9015

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
B3FXK7	N	W	1-31-18	0950	1x1-L G/P	SRISO_SEP_PRECIP_GPC: COMMON	6 Months	HNO3 to pH <2

CHPRC
 SRR # 61112
 SDG # 626485

SwRI Prjct # 20859.01.00X
 TO: 180202-3

Relinquished By: Juan Aguilar /CHPRC Signature: [Signature] Date/Time: JAN 31 2018 1010	Received By: Frank Hall /CHPRC Signature: [Signature] Date/Time: JAN 31 2018 1010	Matrix * S = Soil DS = Drum Solids SE = Sediment DL = Drum Liquid SO = Solid T = Tissue SL = Sludge WI = Wipe W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other
Relinquished By: Frank Hall /CHPRC Signature: [Signature] Date/Time: JAN 31 2018 0645	Received By: SSU-1 Signature: [Signature] Date/Time: JAN 31 2018 0645	
Relinquished By: SSU-1 Signature: [Signature] Date/Time: FEB 01 2018 0700	Received By: Lesly Wall /CHPRC Signature: [Signature] Date/Time: FEB 01 2018 0700	
Relinquished By: Lesly Wall /CHPRC Signature: [Signature] Date/Time: FEB 01 2018 1400	Received By: FEDEX Signature: [Signature] Date/Time: [Signature]	

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

Laboratory Task Order

TO #: 180118-7 Revision: 2

SDG: 626485
 VTSR: 01/18/18
 SAF: I18-004 S18-001

SRR #'s: 61022
 Client(s): CH2M Hill Plateau Remediation Company

Project(s): 20859.01.00X
 Manager(s): SPIES, RADONNA
 To Client: 02/18/18

Instructions

CH2MHill Plateau Remediation Company. 300071
 SAF No. I18-004
 SAF No. S18-001

SDG 626485 is open until 02/01/18

30-day TAT.
 CURRENTLY, FINAL DATA/HARDCOPY IS DUE TO THE CLIENT ON 02/17/2018.

10 overall samples (13 containers) were received on 01/18/2018.
 OUT of the 10 samples, ONLY the 5 that require RAD are ALL listed here.

DELIVERY NOTE _ The cooler GWS-715 (7712 2743 1541) was shipped out on 01/16/18 (Tuesday) for intended delivery on 01/17/18 (Wednesday). Due to a delay with FED EX, the cooler was finally delivered to SwRI on 01/18/18 (Thursday).

Sample Analysis REQUIRED
 906.0 TRITIUM_LSC: COMMON
 10028-17-8 Tritium
 SRISO_SEP_PRECIP_GPC: COMMON
 Strontium-90

DATA DELIVERABLE _ Summary (Narrative / Results only)
 REQUESTER _ Karen Waters-Husted

ATTACHMENT C - QC Requirements for Chemical and Radiochemical Analysis
 Section 7.2.2 Sample Data Packages
 Section 7.2.3 Hard Copy Deliverable format
 Section 7.2.4 Final Data Package Requirements
 Section 8.8 CHPRC Electronic Address

Electronic copies of all sample receipt information, COCs, priority data packages, final data packages, corrected/revised data packages, closure reports, status reports, invoices, etc. shall be sent to: mailto:CPP_Sample_Management@rl.gov

REVISION 1, DRmz 01/31/18: Task Order revised to indicate additional samples were received on 01/31/18, which have been grouped with SDG 626485, located in Task Order # 180131-10, SRR 61091.
 REVISION 2, DRmz 02/02/18: Task Order revised to indicate an additional sample was received on 02/02/18, which has been grouped with SDG 626485, located in Task Order # 180202-3, SRR 61112. SDG is NOW CLOSED.

Documents Related to this task order: 236210[COC for SRR 61022], 236212[Paperwork for SRR 61022]

Deliverables --> Hard Copy: no EDD: -YES- PDF: -YES-

Test: DIG-H3
 Section: RADPREP

Holding: 180 days from CED

Digestion for H3

Cnt: 5

System ID	Type	Cont	Matrix	Customer ID	CED	Method Date
626485		1-TRITIUM	Water	B3FXK1	16 Jan 18	15 Jul 18
626486		1-TRITIUM	Water	B3FXL1	16 Jan 18	15 Jul 18
626487		2-TRITIUM	Water	B3FXL2	15 Jan 18	14 Jul 18
626489		1	Water	B3FXM7	16 Jan 18	15 Jul 18
626490		1	Water	B3FXM8	16 Jan 18	15 Jul 18

Test: GPC-Sr90_905.0
 Section: RADCHEM

Holding: 180 days from CED

Strontium-90 by gas flow proportional counting EPA 905.0

Cnt: 3

System ID	Type	Cont	Matrix	Customer ID	CED	Method Date
626485		2-SEP	Water	B3FXK1	16 Jan 18	15 Jul 18



Southwest Research Institute

Laboratory Task Order

TO #: 180118-7 Revision: 2

Project(s): 20859.01.00X
Manager(s): SPIES, RADONNA
To Client: 02/16/18SDG: 626485
VTSR: 01/18/18
SAF: I18-004 S18-001SRR #'s: 61022
Client(s): CH2M Hill Plateau Remediation Company

System ID	Type	Cont	Matrix	Customer ID	CED	Method Date
626486		2-SEP	Water	B3FXL1	16 Jan 18	15 Jul 18
626487		1-SEP	Water	B3FXL2	15 Jan 18	14 Jul 18

Test: LSC-H3_906
Section: RADCHEM

Holding: 180 days from CED

EPA Method 906 Tritium by liquid scintillation counting

Cnt: 5

System ID	Type	Cont	Matrix	Customer ID	CED	Method Date
626485		1-TRITIUM	Water	B3FXK1	16 Jan 18	15 Jul 18
626486		1-TRITIUM	Water	B3FXL1	16 Jan 18	15 Jul 18
626487		2-TRITIUM	Water	B3FXL2	15 Jan 18	14 Jul 18
626489		1	Water	B3FXM7	16 Jan 18	15 Jul 18
626490		1	Water	B3FXM8	16 Jan 18	15 Jul 18

Test: SEP-Sr90
Section: RADPREP

Holding: 180 days from CED

Separation for Sr90

Cnt: 3

System ID	Type	Cont	Matrix	Customer ID	CED	Method Date
626485		2-SEP	Water	B3FXK1	16 Jan 18	15 Jul 18
626486		2-SEP	Water	B3FXL1	16 Jan 18	15 Jul 18
626487		1-SEP	Water	B3FXL2	15 Jan 18	14 Jul 18



Sample Receipt

Southwest Research Institute

Sample Receipt Number: 61022

VTSR: 01/18/18

Time: 09:00:00

Project: 20859.01.00X

Manager: SPIES, RADONNA

Case #: CHPRC

Logged in by: DXGARCIA

Client: CH2M Hill Plateau Remediation Company

Creation Date: 01/18/18

Notes

Samples were received intact.

Fed Ex Tracking #(s):

7712 4005 0315_ 1.9°C (wet ice)

7712 2743 1S41_ 0.8°C (wet ice)

pH Test Paper 0.0 to 3.0

lot - 230315

Exp: 10/30/2018

pH Test Paper 0.0- 13.0

Lot - 230016

Exp: 10/30/2019

Ice Chest No.:

GWS-715

GWS-594

Test requirements located on the applicable Task Order.

See chain-of-custody as part of the SRR system for more information.

ALL SAMPLE CONTAINERS / APPLICABLE ITEMS WERE RECEIVED OK.

<i>Background CPM: <150 cpm</i> <i>Container Wipe CPM: <150 cpm</i> <i>Total CPM: <150 cpm</i>

System ID	Customer ID	CED	Matrix	Containers	Special Reqs.
626485	B3FXK1	01/16/18	Water	2	
626486	B3FXL1	01/16/18	Water	2	
626487	B3FXL2	01/15/18	Water	2	
626488	B3FXL8	01/16/18	Water	1	
626489	B3FXM7	01/16/18	Water	1	
626490	B3FXM8	01/16/18	Water	1	
626491	B3FXM9	01/16/18	Water	1	
626492	B3FXP7	01/17/18	Water	1	
626493	B3FXV2	01/17/18	Water	1	
626494	B3FYD0	01/11/18	Water	1	

Containers: 13

Samples: 10

These documents are associated with this receipt: 236210[COC for SRR 61022], 236212[Paperwork for SRR 61022]

Thermometer: 021056 Temperature: Note
--

61022 CH2M Hill Plateau Remediation

Southwest Research Institute
Traffic Report

Sample Custodian Signature: David Gami



- 1. Custody Seal Present
- 2. Chain of Custody Present
- 3. Sample Tags Not Present *N/A*
Sample Tag Numbers Not on COC
- 4. SMO Forms Present

Client: CH2M Hill Plateau Remediation Company

Project: 20859.01.00X

Case: CHPRC / SDG: *See T.O.*

Sample Receipt: 61022

Airbill: 771227431541,771240050315

Custody Seal #(s): N/A

Date Received	Time Received	COC Record	SMO Sample #	Corresponding		Traffic Rpt, Tags, COC Agree	Sample Condition
				Sample Tag #	SwRI #		
01/18/18	09:00:00	I18-004-152	B3FXK1	N/A	626485	YES	Intact
01/18/18	09:00:00	I18-004-154	B3FXL1	N/A	626486	YES	Intact
01/18/18	09:00:00	S18-001-344	B3FXL2	N/A	626487	YES	Intact
01/18/18	09:00:00	W18-001-328	B3FXL8	N/A	626488	YES	Intact
01/18/18	09:00:00	S18-001-350	B3FXM7	N/A	626489	YES	Intact
01/18/18	09:00:00	S18-001-349	B3FXM8	N/A	626490	YES	Intact
01/18/18	09:00:00	W18-001-335	B3FXM9	N/A	626491	YES	Intact
01/18/18	09:00:00	W18-001-344	B3FXP7	N/A	626492	YES	Intact
01/18/18	09:00:00	W18-001-352	B3FXV2	N/A	626493	YES	Intact
01/18/18	09:00:00	W18-001-381	B3FYD0	N/A	626494	YES	Intact

SAMPLE LOG-IN SHEET

Lab Name Southwest Research Institute			Page 1 of 1		
Received By (Print Name) DAVID GARCIA			Log-in Date 01/18/2018		
Received By (Signature) <i>David Garcia</i>					
Case Number CHPRC		Sample Delivery Group No. N/A		SAS Number N/A	
Remarks: 20859.01.00X		Corresponding		Remarks: Condition of Sample Shipment, etc	
	EPA Sample #	Sample Tag #	Assigned Lab #		
1. Custody Seal(s)	<input checked="" type="radio"/> Present / <input type="radio"/> Absent* <input checked="" type="radio"/> Intact / <input type="radio"/> Broken	B3FXK1	N/A	626485	Intact
2. Custody Seal Nos.	N/A	B3FXL1	N/A	626486	Intact
		B3FXL2	N/A	626487	Intact
3. Chain-of Custody Records	<input checked="" type="radio"/> Present / <input type="radio"/> Absent*	B3FXL8	N/A	626488	Intact
4. Traffic Reports or Packing Lists	<input checked="" type="radio"/> Present / <input type="radio"/> Absent*	B3FXM7	N/A	626489	Intact
5. Airbill	Airbill / Sticker <input checked="" type="radio"/> Present / <input type="radio"/> Absent*	B3FXM8	N/A	626490	Intact
		B3FXM9	N/A	626491	Intact
6. Airbill No.	771227431541, 77124005 0315	B3FXP7	N/A	626492	Intact
7. Sample Tags	Present <input checked="" type="radio"/> Absent <input type="radio"/> N/A	B3FXV2	N/A	626493	Intact
Sample Tag Numbers	Listed / <input checked="" type="radio"/> Not listed on Chain of Custody	B3FYD0	N/A	626494	Intact
8. Sample Condition	<input checked="" type="radio"/> Intact / <input type="radio"/> Broken* / <input type="radio"/> Leaking				
9. Cooler Temperature	Note C				
10. Does Information on custody records, traffic reports, and sample tags agree?	<input checked="" type="radio"/> Yes / <input type="radio"/> No*				
11. Date Received at Lab	01/18/2018				
12. Time Received	09:00:00				
Sample Transfer					
Fraction	Inorg	Fraction			
Area #	R.13	Area #			
By	DAVID GARCIA	By			
On	01/18/2018	On			

* Contact SMO and attach record of resolution

Reviewed By <i>David Garcia</i>	Logbook No. Sample Receipt (61022)
Date 01/18/18	Logbook Page No. <input checked="" type="checkbox"/> 10069 Sec 30F6

Southwest Research Institute

Laboratory Task Order

TO #: 180131-10 Revision: 2

Project(s): 20859.01.00X
 Manager(s): SPIES, RADONNA
 To Client: 02/16/18

SDG: 626485
 VTSR: 01/31/18
 SAF: S18-001 S18-010

SRR #'s: 61091
 Client(s): CH2M Hill Plateau Remediation Company

Instructions

CH2MHill Plateau Remediation Company. 300071
 SAF No. S18-001
 SAF No. S18-010

SDG 626485 is open until 02/01/18

GROUPED _ with samples in SDG 626485, located in Task Order # 180118-7, SRR 61022.

30-day TAT.
 CURRENTLY, FINAL DATA/HARDCOPY IS DUE TO THE CLIENT ON 02/17/2018.

2 overall samples (2 containers) were received on 01/31/2018, which are ALL listed here.

Sample Analysis REQUIRED
 906.0 TRITIUM_LSC: COMMON
 10028-17-8 Tritium

DATA DELIVERABLE _ Summary (Narrative / Results only)
 REQUESTER _ Karen Waters-Husted

ATTACHMENT C - QC Requirements for Chemical and Radiochemical Analysis
 Section 7.2.2 Sample Data Packages
 Section 7.2.3 Hard Copy Deliverable format
 Section 7.2.4 Final Data Package Requirements
 Section 8.8 CHPRC Electronic Address

Electronic copies of all sample receipt information, COCs, priority data packages, final data packages, corrected/revised data packages, closure reports, status reports, invoices, etc. shall be sent to: mailto:^CPP_Sample_Management@rl.gov

REVISION 1, DRmz 02/02/18: Task Order revised to indicate an additional sample was received on 02/02/18, which has been grouped with SDG 626485, located in Task Order # 180202-3, SRR 61112. SDG is NOW CLOSED.

REVISION 2, DRmz 02/08/18: Task Order revised to correct the SAFs.

Documents Related to this task order: 236990[COC for SRR 61091], 236998[Paperwork for SRR 61091]

Deliverables --> Hard Copy: no EDD: -YES- PDF: -YES-

Test: DIG-H3 Holding: 180 days from CED
 Section: RADPREP

Digestion for H3

Cnt: 2

System ID	Type	Cont	Matrix	Customer ID	CED	Method Date
626957		1	Water	B3D796	29 Jan 18	28 Jul 18
626958		1	Water	B3FXK3	22 Jan 18	21 Jul 18

Test: LSC-H3_906 Holding: 180 days from CED
 Section: RADCHEM

EPA Method 906 Tritium by liquid scintillation counting

Cnt: 2

System ID	Type	Cont	Matrix	Customer ID	CED	Method Date
626957		1	Water	B3D796	29 Jan 18	28 Jul 18
626958		1	Water	B3FXK3	22 Jan 18	21 Jul 18



Sample Receipt

Southwest Research Institute

Sample Receipt Number: 61091

VTSR: 01/31/18

Time: 09:00:00

Project: 20859.01.00X

Manager: SPIES, RADONNA

Case #: S18-010

Logged in by: DXGARCIA

Client: CH2M Hill Plateau Remediation Company

Creation Date: 01/31/18

Notes

Samples were received intact,

Fed Ex Tracking #(s):

7713 5650 0761_ 20.7°C (no ice)

Ice Chest No.:

GWS-699

Test requirements located on the applicable Task Order.

See chain-of-custody as part of the SRR system for more information.

ALL SAMPLE CONTAINERS / APPLICABLE ITEMS WERE RECEIVED OK.

Background CPM: <150 cpm Container Wipe CPM: <150 cpm Total CPM: <150

System ID	Customer ID	CED	Matrix	Containers	Special Reqs.
626957	B3D796	01/29/18	Water	1	
626958	B3FXK3	01/22/18	Water	1	

Containers: 2

Samples: 2

These documents are associated with this receipt: 236990[COC for SRR 61091], 236998[Paperwork for SRR 61091]

Thermometer: 021056 Temperature: 20.7
--

61091 CH2M Hill Plateau Remediation

Southwest Research Institute

Traffic Report

Sample Custodian Signature:

Daniel Garcia



- 1. Custody Seal Present
- 2. Chain of Custody Present
- 3. Sample Tags Not Present
Sample Tag Numbers Not on COC
- 4. SMO Forms Present

MA

Client: CH2M Hill Plateau Remediation Company

Project: 20859.01.00X

Case: S18-010 / SDG: SEE TO

Sample Receipt: 61091

Airbill: 7713 5650 0761

Custody Seal #(s): N/A

Date Received	Time Received	COC Record	SMO Sample #	Corresponding		Traffic Rpt, Tags, COC Agree	Sample Condition
				Sample Tag #	SwRI #		
01/31/18	09:00:00	S18-010-536	B3D796	N/A	626957	YES	Intact
01/31/18	09:00:00	S18-001-341	B3FXK3	N/A	626958	YES	Intact

SAMPLE LOG-IN SHEET

Lab Name Southwest Research Institute			Page 1 of 1
Received By (Print Name) DAVID GARCIA			Log-in Date 01/31/2018
Received By (Signature) <i>David Garcia</i>			
Case Number S18-010	Sample Delivery Group No. N/A	SAS Number N/A	
Remarks: 20859.01.00X	Corresponding		Remarks: Condition of Sample Shipment, etc
	EPA Sample #	Sample Tag #	Assigned Lab #
1. Custody Seal(s)	<input checked="" type="radio"/> Present / <input checked="" type="radio"/> Intact	<input type="radio"/> Absent / <input type="radio"/> Broken	
	B3D796	N/A	626957
2. Custody Seal Nos.	N/A		
	B3FXK3	N/A	626958
3. Chain-of Custody Records	<input checked="" type="radio"/> Present	<input type="radio"/> Absent *	
4. Traffic Reports or Packing Lists	<input checked="" type="radio"/> Present	<input type="radio"/> Absent *	
5. Airbill	<input checked="" type="radio"/> Airbill / <input checked="" type="radio"/> Sticker	<input type="radio"/> Present / <input type="radio"/> Absent *	
6. Airbill No.	7713 5650 0761		
7. Sample Tags	Present	<input checked="" type="radio"/> Absent	
Sample Tag Numbers	Listed	<input checked="" type="radio"/> Not listed on Chain of Custody	
8. Sample Condition	<input checked="" type="radio"/> Intact	<input type="radio"/> Broken* / <input type="radio"/> Leaking	
9. Cooler Temperature	20.7C		
10. Does Information on custody records, traffic reports, and sample tags agree?	<input checked="" type="radio"/> Yes / <input type="radio"/> No *		
11. Date Received at Lab	01/31/2018		
12. Time Received	09:00:00		
Sample Transfer			
Fraction Inorg	Fraction		
Area # R.13	Area #		
By DAVID GARCIA	By		
On 01/31/2018	On		

* Contact SMO and attach record of resolution

Reviewed By <i>Art Dequell</i>	Logbook No. Sample Receipt (61091)
Date 1.31.18	Logbook Page No. 10082 Sec 1002

Southwest Research Institute

Laboratory Task Order

TO #: 180202-3 Revision: 0

Project(s): 20859.01.00X
 Manager(s): SPIES, RADONNA
 To Client: 02/16/18

SDG: 626485
 VTSR: 02/02/18
 SAF: S18-001

SRR #'s: 61112
 Client(s): CH2M Hill Plateau Remediation Company

Instructions

CH2MHill Plateau Remediation Company. 300071
 SAF No. S18-001

SDG 626485 is open until 02/01/18

GROUPED _ with samples in SDG 626485, located in Task Order # 180118-7, SRR 61022; Task Order # 180131-10, SRR 61091.

30-day TAT.
 FINAL DATA/HARDCOPY IS DUE TO THE CLIENT ON 02/17/2018.

1 overall sample (1 container) was received on 02/02/2018, which is listed here.

Sample Analysis REQUIRED
 SRISO_SEP_PRECIP_GPC: COMMON
 Strontium-90

DATA DELIVERABLE _ Summary (Narrative / Results only)
 REQUESTER _ Karen Waters-Husted

ATTACHMENT C - QC Requirements for Chemical and Radiochemical Analysis
 Section 7.2.2 Sample Data Packages
 Section 7.2.3 Hard Copy Deliverable format
 Section 7.2.4 Final Data Package Requirements
 Section 8.8 CHPRC Electronic Address

Electronic copies of all sample receipt information, COCs, priority data packages, final data packages, corrected/revised data packages, closure reports, status reports, invoices, etc. shall be sent to: mailto:^CPP_Sample_Management@rl.gov

Deliverables --> Hard Copy: no EDD: -YES- PDF: -YES-

Test: GPC-Sr90_905.0
 Section: RADCHEM

Holding: 180 days from CED

Strontium-90 by gas flow proportional counting EPA 905.0

Cnt: 1

System ID	Type	Cont	Matrix	Customer ID	CED	Method Date
627055		1	Water	B3FXK7	31 Jan 18	30 Jul 18

Test: SEP-Sr90
 Section: RADPREP

Holding: 180 days from CED

Separation for Sr90

Cnt: 1

System ID	Type	Cont	Matrix	Customer ID	CED	Method Date
627055		1	Water	B3FXK7	31 Jan 18	30 Jul 18



Sample Receipt

Southwest Research Institute

VTSR: 02/02/18

Time: 08:50:00

Project: 20859.01.00X

Sample Receipt Number: 61112

Revision: 1

Manager: SPIES, RADONNA

Case #: CHPRC

This Receipt was Revised 02/02/2018

Logged in by: DRAMIREZ

Client: CH2M Hill Plateau Remediation Company

Creation Date: 02/02/18

Notes

Cooler were delivered to SwRI Shipping & Receiving Warehouse. Div. 01 employees picked up the boxes from Receiving and took custody.

Sample was received intact.

Fed Ex Tracking #:
7713 7891 7795 _ 18.0°C (no ice)

Ice Chest No.:
GWS-709

pH Test Paper 0.0-3.0
Lot # 230315
Exp: 10/30/2018

Test requirements located on the applicable Task Order.

See chain-of-custody as part of the SRR system for more information.

SwRI PROJECT PHASES:

- 001 - admin
- 002 - extraction
- 006 - inorg/rad
- 007 - drg

REVISION 1, DRmz 02/02/18: SRR revised to add pH indicator info.

Backaroud CPM: <140cpm Container Wipe CPM: <140cpm Total CPM: <140cpm

System ID	Customer ID	CED	Matrix	Containers	Special Reqs.
627055	B3FXK7	01/31/18	Water	1	

Containers: 1

Samples: 1

Thermometer: 021056 Temperature: 18.0
--

61112 CH2M Hill Plateau Remediatio

Southwest Research Institute

Traffic Report

Sample Custodian Signature: DRZ



- 1. Custody Seal Present
- 2. Chain of Custody Present
- 3. Sample Tags Not Present *n/a*
Sample Tag Numbers Not on COC
- 4. SMO Forms Present

Client: CH2M Hill Plateau Remediation Company
 Project: 20859.01.00X
 Case: CHPRC / SDG: SEE TO
 Sample Receipt: 61112
 Airbill: 7713 7891 7795

Custody Seal #(s): NA

Date Received	Time Received	COC Record	SMO Sample #	Corresponding		Traffic Rpt, Tags, COC Agree	Sample Condition
				Sample Tag #	SwRI #		
02/02/18	08:50:00	S18-001-343	B3FXK7	NA	627055	YES	Intact

SAMPLE LOG-IN SHEET

Lab Name Southwest Research Institute			Page 1 of 1		
Received By (Print Name) DANNY RAMIREZ			Log-in Date 02/02/2018		
Received By (Signature) <i>[Signature]</i>					
Case Number CHPRC		Sample Delivery Group No. SEE TO			SAS Number N/A
Remarks: 20859.01.00X		Corresponding			Remarks: Condition of Sample Shipment, etc
		EPA Sample #	Sample Tag #	Assigned Lab #	
1. Custody Seal(s)	<input checked="" type="radio"/> Present / <input type="radio"/> Absent* <input checked="" type="radio"/> Intact / <input type="radio"/> Broken	B3FXK7	NA	627055	Intact
2. Custody Seal Nos.	NA				
3. Chain-of Custody Records	<input checked="" type="radio"/> Present / <input type="radio"/> Absent*				
4. Traffic Reports or Packing Lists	<input checked="" type="radio"/> Present / <input type="radio"/> Absent*				
5. Airbill	Airbill/Sticker <input checked="" type="radio"/> Present / <input type="radio"/> Absent*				
6. Airbill No.	7713 7891 7795				
7. Sample Tags	Present / <input checked="" type="radio"/> Absent				
Sample Tag Numbers	Listed / <input checked="" type="radio"/> Not listed on Chain of Custody N/A				
8. Sample Condition	<input checked="" type="radio"/> Intact / <input type="radio"/> Broken* / <input type="radio"/> Leaking				
9. Cooler Temperature	18.0C				
10. Does Information on custody records, traffic reports, and sample tags agree?	<input checked="" type="radio"/> Yes / <input type="radio"/> No*				
11. Date Received at Lab	02/02/2018				
12. Time Received	08:50:00				
Sample Transfer					
Fraction RAD	Fraction				
Area # F13	Area #				
By DANNY RAMIREZ	By				
On 02/02/2018	On				

* Contact SMO and attach record of resolution

Reviewed By <i>[Signature]</i>	Logbook No.	Sample Receipt (61112)
Date 02.2.18	Logbook Page No.	10084 Sec 1 of 2

**SOUTHWEST RESEARCH INSTITUTE\
CLIENT: CH2M Hill Plateau Remediation Company
SwRI PROJECT#: 20859.01.00X
SwRI TASK ORDER: 180118-7, 180131-10, 180202-3
SwRI SRR: 61022, 61091, 61112
SDG: 626485
SAF: I18-004, S18-001, S18-010
VTSR: 01/18/18, 01/31/18, 02/02/18**

RADCHEM ANALYSES

pH Report

SwRI

pH Preservation Report

Sample Receipt: 61022

Customer: CH2M Hill Plateau Remediation

Project: 20859.01.00X

Case: CHPRC

Received: 01/18/2018

Samples Logged in by: DXGARCIA

SwRI #	Customer ID	Container ID	Initial pH	Login			Lab					
				Adjustment	Final pH	Paper Lot	Adjustment	Final pH	Paper lot	Adjusted	Lab Staff ID	
626485 1	B3FXK1	TRITIUM										
626485 2	B3FXK1	SEP	<2									
626486 1	B3FXL1	TRITIUM										
626486 2	B3FXL1	SEP	<2									
626487 1	B3FXL2	SEP	<2									
626487 2	B3FXL2	TRITIUM										
626488 1	B3FXL8		>=12									
626489 1	B3FXM7											
626490 1	B3FXM8											
626491 1	B3FXM9		>=12									
626492 1	B3FXP7		>=12									
626493 1	B3FXV2		>=12									
626494 1	B3FYD0		>=12									

SwRI

pH Preservation Report

Sample Receipt: 61112

Customer: CH2M Hill Plateau Remediation

Project: 20859.01.00X

Case: CHPRC

Received: 02/02/2018

Samples Logged in by: DRAMIREZ

SwRI #	Customer ID	Container ID	Initial pH	Login			Lab					
				Adjustment	Final pH	Paper Lot	Adjustment	Final pH	Paper lot	Adjusted	Lab Staff ID	
627055 1	B3FXK7		<2									

**SOUTHWEST RESEARCH INSTITUTE\
CLIENT: CH2M Hill Plateau Remediation Company
SwRI PROJECT#: 20859.01.00X
SwRI TASK ORDER: 180118-7, 180131-10, 180202-3
SwRI SRR: 61022, 61091, 61112
SDG: 626485
SAF: I18-004, S18-001, S18-010
VTSR: 01/18/18, 01/31/18, 02/02/18**

RADCHEM ANALYSES

Case Narrative

CLIENT: CH2M Hill Plateau Remediation Company

SDG: 626485

SwRI Project Number: 20859.01.00X

SwRI Sample Receipt Number: 61022, 61091, 61112

Page#: 1

SwRI CASE NARRATIVE

1. Eight (08) samples were received for Various Radchem Analyses:

SwRI ID	Customer ID	Matrix
626485	B3FXK1	Water
626486	B3FXL1	Water
626487	B3FXL2	Water
626489	B3FXM7	Water
626490	B3FXM8	Water
626957	B3D796	Water
626958	B3FXK3	Water
627055	B3FXK7	Water

Client: CH2M Hill Plateau Remediation

SDG: 626485

SwRI Project Number: 20859.01.00X

SwRI Task Order Number: 180118-7, 180131-10, 180202-3

RADIOLOGICAL ANALYSIS

The sample SDG 626485 consisted of water samples received for radiological analysis. The water samples for radiological analysis were reported on an "as received" basis. The recommended sample holding time of six months was met.

The samples were analyzed for the following:

Matrix	Analysis	Method
Water	Total Radioactive Strontium	Gas Proportional Counting
Water	Tritium	Liquid Scintillation Spectroscopy

A coverage factor of $k=2$ was applied to the TPU of all analytes. TPU was calculated using 1 sigma error.

The duplicate error ratios are calculated using 1 sigma TPU with a coverage factor of $k=1$.

The reported MDAs are sample-specific.

Total Radioactive Strontium Sample Preparation

A 250ml aliquot of the sample and a duplicate were used for total radioactive strontium. The samples were digested with nitric acid. A preparation blank, laboratory control sample, and a duplicate were digested with the samples. After digesting to dryness, the samples were dissolved and brought to a final volume of 10ml using an 8M nitric acid solution. Carriers and spikes were added prior to the digestion of the samples.

Gas Flow Proportional Counting

Daily instrument checks were within control limits and the weekly four hour background was within date and control limits.

Total Radioactive Strontium

A small portion of the digestion was taken for Sr carrier recovery determination, by ICP, prior to separation. The remaining portion of the digestate was separated using resins and then eluted from the resin, with another small portion taken for post-separation Sr carrier recovery determination by ICP. The elute was evaporated on tarred stainless steel planchets. After flaming and weighing the planchets, they were placed on the Gas Proportional Counter (GPC) for analysis.

For beta GPC analysis, daily instrument checks were within control limits. The weekly four hour background was within date and control limits.

Client: CH2M Hill Plateau Remediation

SDG: 626485

SwRI Project Number: 20859.01.00X

SwRI Task Order Number: 180118-7, 180131-10, 180202-3

For Sr carrier recovery, all ICP instrument QC criteria were met. The percent recoveries were within 90-110% for the initial and continuing calibration verifications. Strontium was not detected above the laboratory's reporting limit in the initial and continuing calibration blanks.

Results for stable Sr carrier were within the control limits of 40-110%. The result for the preparation blank was less than the MDA and the RL. The result for the laboratory control sample was within the control limits of 80-120% recovery. SwRI sample ID 626485 was analyzed in duplicate and the RPD was less than 20%.

Liquid Scintillation Counting (3H)

For all liquid scintillation analysis, the daily instrument performance checks were within the running statistical control limits.

The sample vials were inspected prior to counting to ensure homogeneity of the scintillation fluid with the sample.

3H - Tritium

For all liquid scintillation analysis, the daily instrument performance checks were within the running statistical control limits.

For 3H analysis, a 40ml aliquot was distilled using sodium hydroxide and potassium permanganate with heat. 10ml of Ultima Gold LLT was added as the liquid scintillator and mixed 10ml of distillate prior to counting. The samples were counted on a liquid scintillation counter programmed to count only the 3H region of interest. The liquid scintillation counter 3H program was standardized using 3H as the radioisotope to establish a specific efficiency quench curve.

The result for the preparation blank was less than the MDA and the RL. The result for the laboratory control sample was within the recovery control limits of 80-120%. SwRI sample ID 626485 was analyzed as a duplicate and the RPD was less than 20%. SwRI sample ID 626485 was also analyzed as a matrix spike. The matrix spike was within the recovery limits of 75-125%.

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SDG: 626485

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"I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the laboratory manager or his/her designee, as verified by the following signature. This report shall not be reproduced except in full without the written approval of SwRI."

Wardan A. Naegeli

Research Scientist

02/07/18

Date

**SOUTHWEST RESEARCH INSTITUTE\
CLIENT: CH2M Hill Plateau Remediation Company
SwRI PROJECT#: 20859.01.00X
SwRI TASK ORDER: 180118-7, 180131-10, 180202-3
SwRI SRR: 61022, 61091, 61112
SDG: 626485
SAF: I18-004, S18-001, S18-010
VTSR: 01/18/18, 01/31/18, 02/02/18**

RADCHEM ANALYSES

SOUTHWEST RESEARCH INSTITUTE
CLIENT: CH2M Hill Plateau Remediation Company
SwRI PROJECT#: 20859.01.00X
SwRI TASK ORDER: 180118-7, 180131-10, 180202-3
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VTSR: 01/18/18, 01/31/18, 02/02/18

RADCHEM ANALYSES

Sample Results

SOUTHWEST RESEARCH INSTITUTE

LIQUID SCINTILLATION COUNTING DATA SHEET

Lab Name: Southwest Research Institute

Client: CH2M Hill Plateau Remediation

Lab Code: SwRI

Project No.: 20859.01.00X

Matrix: Water

SRR #: 61022, 61091

Date Received: 01/18/18, 01/31/18

SDG: 626485

Task Order #: 180118-7, 180131-10

SAF #: I18-004, S18-001, S18-010

TRITIUM								
Sample ID	Lab System ID	Analyte	Results (pCi/L)	Q	TPU (2s) (pCi/L)	MDA (pCi/L)	Counting Error (2s)	Date Analyzed
Prep Blank	pbwb02sd2	³ H	7.43E+01	U	1.31E+02	2.22E+02	1.31E+02	02/03/18
Lab Control	lcswb02sd2	³ H	1.06E+04		1.29E+03	2.10E+02	3.68E+02	02/03/18
True Value	-----	³ H	1.12E+04		-----	-----	-----	-----
Recovery	-----	³ H	94.9%		-----	-----	-----	-----
B3FXK1	626485	³ H	2.17E+05		2.53E+04	2.36E+02	1.67E+03	02/03/18
Duplicate result	626485D	³ H	1.86E+05		2.18E+04	2.04E+02	1.44E+03	02/03/18
RPD	-----	³ H	15.0%		-----	-----	-----	-----
Spike result	626485MS	³ H	2.30E+05		2.69E+04	2.42E+02	1.74E+03	02/03/18
True Value	-----	³ H	1.12E+04		-----	-----	-----	-----
Recovery	-----	³ H	117.9%		-----	-----	-----	-----
B3FXL1	626486	³ H	3.37E+03		4.56E+02	2.10E+02	2.31E+02	02/03/18
B3FXL2	626487	³ H	3.52E+03		4.74E+02	2.12E+02	2.36E+02	02/03/18
B3FXM7	626489	³ H	2.18E+03		3.21E+02	2.05E+02	1.96E+02	02/03/18
B3FXM8	626490	³ H	1.05E+02		1.32E+02	2.20E+02	1.31E+02	02/03/18
B3D796	626957	³ H	1.04E+04		1.27E+03	2.13E+02	3.68E+02	02/03/18
B3FXK3	626958	³ H	4.17E+04		4.92E+03	2.20E+02	7.18E+02	02/03/18

Q - Data Qualifier. U - Less than MDA. MDA - Minimum Detectable Activity. TPU - Total Propagated Uncertainty. MDAs are sample specific.

SOUTHWEST RESEARCH INSTITUTE

GAS FLOW PROPORTIONAL COUNTING DATA SHEET

Lab Name: Southwest Research Institute

Client: CH2M Hill Plateau Remediation

Lab Code: SwRI

Project No.: 20859.01.00X

Matrix: Water

SRR #: 61022, 61112

Date Received: 01/18/17, 02/02/18

SDG: 626485

Task Order #: 180118-7, 180202-3

SAF #: 118-004, S18-001

STRONTIUM-90									
Sample ID	Lab System ID	Analyte	Results (pCi/L)	Q	TPU (2s) (pCi/L)	MDA (pCi/L)	Counting Error (2s)	Sr Tracer Rec.	Date Analyzed
Prep Blank	pbwb02sd1	⁹⁰ Sr	8.63E-01	U	8.41E-01	1.19E+00	8.35E-01	87.9%	02/06/18
Lab Control	lcswb02sd1	⁹⁰ Sr	1.36E+02		1.72E+01	1.10E+00	7.10E+00	95.8%	02/06/18
True Value	-----	⁹⁰ Sr	1.50E+02		-----	-----	-----	-----	-----
Recovery	-----	⁹⁰ Sr	90.8%		-----	-----	-----	-----	-----
B3FXX1	626485	⁹⁰ Sr	3.04E+00		1.23E+00	1.08E+00	1.18E+00	97.3%	02/06/18
Duplicate result	626485D	⁹⁰ Sr	3.57E+00		1.32E+00	1.08E+00	1.26E+00	96.9%	02/06/18
RPD	-----	⁹⁰ Sr	16.1%		-----	-----	-----	-----	-----
B3FXL1	626486	⁹⁰ Sr	4.19E-01	U	6.52E-01	1.08E+00	6.50E-01	97.7%	02/06/18
B3FXL2	626487	⁹⁰ Sr	-3.93E-02	U	5.03E-01	1.06E+00	5.03E-01	99.0%	02/06/18
B3FXX7	627055	⁹⁰ Sr	5.67E-01	U	7.04E-01	1.08E+00	7.01E-01	96.8%	02/07/18

Q - Data Qualifier. U - Less than MDA. MDA - Minimum Detectable Activity. TPU - Total Propagated Uncertainty. MDAs are sample specific.