



Tuesday, April 20, 2021

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

Re: ALS Workorder: 2103439
Project Name: SURV, January 2021
Project Number: S21-001

Dear Ms. Waters-Husted:

One water sample was received from Central Plateau Cleanup Company, LLC, on 3/23/2021. The sample was scheduled for the following analysis:

Strontium-90

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: 2103439

Client Name: Central Plateau Cleanup Company, LLC

Client Project Name: SURV, January 2021

Client Project Number: S21-001

Client PO Number: BOA 74395

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
B3YP75	2103439-1		WATER	22-Mar-21	8:48

CENTRAL PLATEAU CLEANUP COMPANY STREET ADDRESS		leanup	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				C.O.C.# S21-001-004	
				2103739		Page 1 of 1		
Collector: Chris Fulton CPCC		Contact/Requester: Karen Waters-Husted		Telephone No.: 509-376-4650				
SAF No.: S21-001		Sampling Origin: Hanford Site		Purchase Order/Charge Code: 900152				
Project Title: SURV, JANUARY 2021		Logbook No.: HNF-N-506-119-44		Ice Chest No.: GWS-030				
Shipped To (Lab): ALS Environmental Ft. Collins		Method of Shipment: Commercial Carrier		Bill of Lading/Air Bill No.: 7732 2874 8165				
Protocol: SURV		Priority: 30 Days		Offsite Property No.: NA SEC 216121				
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
B3YP75	N	W	3-22-21	0849	2x1-L G/P	SMR_SR_RAD_GPC	6 Months	HNO3 to pH <2

Relinquished By			Received By			Matrix *	
<i>Print First and Last Name</i>	<i>Signature</i>	<i>Date/Time</i>	<i>Print First and Last Name</i>	<i>Signature</i>	<i>Date/Time</i>	S = Soil	DS = Drum Solids
Chris Fulton CPCC		MAR 2 2 2021 1055	Lesty Wall CPCC		MAR 2 2 2021 1055	SE = Sediment	DL = Drum Liquids
Lesty Wall CPCC		MAR 2 2 2021 140	FEDEX		3/23/21 1030	SO = Solid	T = Tissue
	FedEx					SL = Sludge	WI = Wipe
						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:

3 of 14

ALS2103439

April 20, 2021

Rev. 0



ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: CPCC Workorder No: 2103439
Project Manager: KMO Initials: TEM Date: 3/23/21

		N/A	YES	NO
1.	Are airbills / shipping documents present and/or removable?		X	
	Tracking number:			
2.	Are custody seals on shipping containers intact?		X	
3.	Are custody seals on sample containers intact?		X	
4.	Is there a COC (chain-of-custody) present?		X	
5.	Is the COC in agreement with samples received? (IDs, dates, times, # of samples, # of containers, matrix, requested analyses, etc.)		X	
6.	Are short-hold samples present?			X
7.	Are all samples within holding times for the requested analyses?		X	
8.	Were all sample containers received intact? (not broken or leaking)		X	
9.	Is there sufficient sample for the requested analyses?		X	
10.	Are samples in proper containers for requested analyses? (form 250, <i>Sample Handling Guidelines</i>)		X	
11.	Are all aqueous samples preserved correctly, if required? (excluding volatiles)		X	
12.	Are all samples requiring no headspace (VOC, GRO, RSK/MEE, radon) free of bubbles > 6 mm (1/4 inch) diameter? (i.e. size of green pea)	X		
13.	Were the samples shipped on ice?		X	
14.	Were cooler temperatures measured at 0.1-6.0°C?			
	IR gun used*: #5			
		RAD ONLY	X	
	Cooler #: <u>1</u> <u>2</u>			
	Temperature (°C): <u>1.4</u> <u>2.8</u>			
	# of custody seals on cooler: <u>2</u> <u>2</u>			
	External µR/hr reading: <u>10</u> <u>11</u>			
	Background µR/hr reading: <u>11</u>			
	Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? Yes			

* Please provide details here for NO responses to boxes above - for 2 thru 5 & 7 thru 12, notify PM & continue w/ login.

Were unpreserved bottles pH checked? N/A All client bottle ID's vs ALS lab ID's double-checked by: TM

If applicable, was the client contacted? YES / NO / NA Contact: _____ Date/Time: _____

Project Manager Signature / Date: [Signature] 3/24/21

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

SHIP DATE: 22MAR21
ACTWGT: 100.00 LB
CAD: 1070668051/INET4340

RICHLAND, WA 99354
UNITED STATES US

BILL THIRD PARTY

TO JULIE ELLINGSON
ALS GLOBAL
225 COMMERCE DRIVE

FORT COLLINS CO 80524

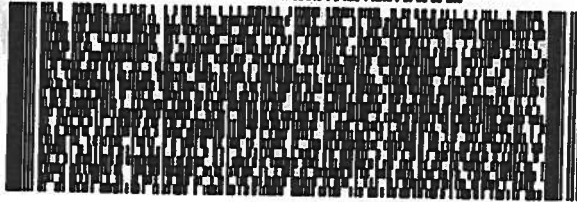
(970) 490-1511
INV:
PO:

REF: 900153/GWS-129

DEPT:

10-2
1.4

560.GIAC39/FE4A



TUE - 23 MAR 10:30A
PRIORITY OVERNIGHT

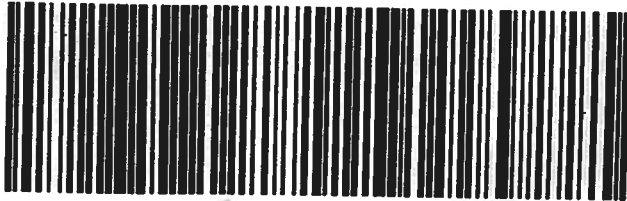
TRK# 7732 2609 8606
0201

DSR

80524

CO-US DEN

XH FTCA



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

SHIP DATE: 22MAR21
ACTWGT: 92.00 LB
CAD: 1070668051/INET4340

RICHLAND, WA 99354
UNITED STATES US

BILL THIRD PARTY

TO JULIE ELLINGSON
ALS GLOBAL
225 COMMERCE DRIVE

FORT COLLINS CO 80524

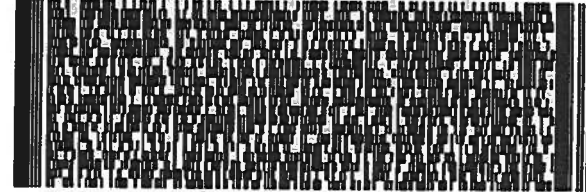
(970) 490-1511
INV:
PO:

REF: 900153/GWS-030

DEPT:

11-2
2.8

560.GIAC39/FE4A



TUE - 23 MAR 10:30A
PRIORITY OVERNIGHT

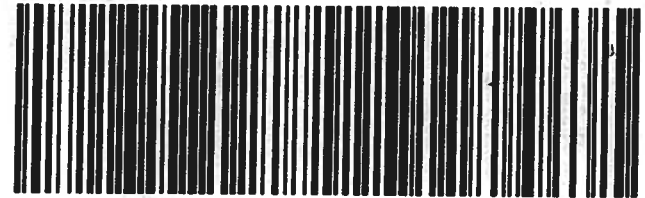
TRK# 7732 2874 8165
0201

DSR

80524

CO-US DEN

XH FTCA





Strontium-90

Case Narrative

Central Plateau Cleanup Company, LLC

SURV, January 2021 – S21-001

Work Order Number: 2103439

1. The sample was prepared according to the current revision of SOP 707.
2. The sample was analyzed for the presence of ⁹⁰Sr according to the current revision of SOP 724. The analysis was completed on 04/14/2021.
3. Total radio-strontium is reported as ⁹⁰Sr. The presence of other radioisotopes of strontium may cause positive bias in the measured strontium concentration.
4. The analysis results for this sample are reported in units of pCi/L. The sample was not filtered prior to analysis.
5. Sample volume was insufficient to allow preparation of a duplicate. A laboratory control sample duplicate (LCSD) was prepared in lieu of a client sample duplicate.
6. 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.

7. No anomalous situations were encountered during the preparation and analysis of this sample. 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
Jean Anderson
Radiochemistry Primary Data Reviewer

4/16/21
Date

[Signature]
Radiochemistry Final Data Reviewer

4/20/21
Date

Strontium-90 by GFPC

PAI 724 Rev 14

Method Blank Results**Lab Name:** ALS -- Fort Collins**Work Order Number:** 2103439**Client Name:** Central Plateau Cleanup Company, LLC**ClientProject ID:** SURV, January 2021 S21-001**Lab ID:** SR210407-1MB**Sample Matrix:** WATER**Prep Batch:** SR210407-1**Final Aliquot:** 994 ml**Prep SOP:** PAI 707 Rev 16**QCBatchID:** SR210407-1-1**Result Units:** pCi/l**Date Collected:** 07-Apr-21**Run ID:** SR210407-1A**File Name:** SRC0414B**Date Prepared:** 07-Apr-21**Count Time:** 1000 minutes**Date Analyzed:** 14-Apr-21

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	DL	Lab Qualifier
10098-97-2	Sr-90	-1.08E-02 +/- 8.62E-02	1.44E-01	1.00E+00	NA	U

Chemical Yield Summary

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
STRONTIUM	9.970E+02	9.37E+02	ug	94.0	40 - 110 %	

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 - Requested MDC not met.

B - Analyte concentration greater than MDC.

B3 - Analyte concentration greater than MDC but less than Requested MDC.

DL - Decision Level

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Sample specific Minimum Detectable Concentration

BDL - Below Detection Limit

Data Package ID: SR2103439-1

Strontium-90 by GFPC

PAI 724 Rev 14

Laboratory Control Sample(s)**Lab Name:** ALS -- Fort Collins**Work Order Number:** 2103439**Client Name:** Central Plateau Cleanup Company, LLC**ClientProject ID:** SURV, January 2021 S21-001**Lab ID:** SR210407-1LCS**Sample Matrix:** WATER**Prep Batch:** SR210407-1**Final Aliquot:** 994 ml**Prep SOP:** PAI 707 Rev 16**QCBatchID:** SR210407-1-1**Result Units:** pCi/l**Date Collected:** 07-Apr-21**Run ID:** SR210407-1A**File Name:** SRC0414A**Date Prepared:** 07-Apr-21**Count Time:** 30 minutes**Date Analyzed:** 14-Apr-21

CASNO	Target Nuclide	Results +/- 2s TPU	MDC	Spike Added	% Rec	Control Limits	Lab Qualifier
10098-97-2	Sr-90	1.08E+01 +/- 2.78E+00	9.44E-01	1.060E+01	102	75 - 125	

Chemical Yield Summary

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
STRONTIUM	9.970E+02	9.42E+02	ug	94.5	40 - 110 %	

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: SR2103439-1

Strontium-90 by GFPC

PAI 724 Rev 14

Laboratory Control Sample(s)**Lab Name:** ALS -- Fort Collins**Work Order Number:** 2103439**Client Name:** Central Plateau Cleanup Company, LLC**ClientProject ID:** SURV, January 2021 S21-001

Lab ID: SR210407-1LCSD	Sample Matrix: WATER	Prep Batch: SR210407-1	Final Aliquot: 994 ml
	Prep SOP: PAI 707 Rev 16	QCBatchID: SR210407-1-1	Result Units: pCi/l
	Date Collected: 07-Apr-21	Run ID: SR210407-1A	File Name: SRC0414A
	Date Prepared: 07-Apr-21	Count Time: 30 minutes	
	Date Analyzed: 14-Apr-21		

CASNO	Target Nuclide	Results +/- 2s TPU	MDC	Spike Added	% Rec	Control Limits	Lab Qualifier
10098-97-2	Sr-90	1.18E+01 +/- 3.04E+00	1.04E+00	1.060E+01	111	75 - 125	

Chemical Yield Summary

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
STRONTIUM	9.970E+02	9.27E+02	ug	93.0	40 - 110 %	

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: SR2103439-1

Strontium-90 by GFPC

PAI 724 Rev 14

Duplicate Sample Results (DER)**Lab Name:** ALS -- Fort Collins**Work Order Number:** 2103439**Client Name:** Central Plateau Cleanup Company, LLC**ClientProject ID:** SURV, January 2021 S21-001

Field ID:	
Lab ID:	SR210407-1LCSD

Sample Matrix: WATER**Prep SOP:** PAI 707 Rev 16**Date Collected:** 07-Apr-21**Date Prepared:** 07-Apr-21**Date Analyzed:** 14-Apr-21**Prep Batch:** SR210407-1**QCBatchID:** SR210407-1-1**Run ID:** SR210407-1A**Count Time:** 30 minutes**Final Aliquot:** 994 ml**Prep Basis:** Unfiltered**Moisture(%):** NA**Result Units:** pCi/l**File Name:** SRC0414A

CASNO	Analyte	Sample				Duplicate				DER	DER Lim
		Result +/-	2 s TPU	MDC	Flags	Result +/-	2 s TPU	MDC	Flags		
10098-97-2	Sr-90	1.08E+01 +/-	2.78E+00	9.44E-01		1.08E+01 +/-	2.78E+00	1.04E+00		0.49	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.

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: SR2103439-1

Strontium-90 by GFPC

PAI 724 Rev 14

Duplicate Sample Results (RPD)**Lab Name:** ALS -- Fort Collins**Work Order Number:** 2103439**Client Name:** Central Plateau Cleanup Company, LLC**ClientProject ID:** SURV, January 2021 S21-001

Field ID:	
Lab ID:	SR210407-1LCSD

Sample Matrix: WATER**Prep SOP:** PAI 707 Rev 16**Date Collected:** 07-Apr-21**Date Prepared:** 07-Apr-21**Date Analyzed:** 14-Apr-21**Prep Batch:** SR210407-1**QCBatchID:** SR210407-1-1**Run ID:** SR210407-1A**Count Time:** 30 minutes**Final Aliquot:** 994 ml**Prep Basis:** Unfiltered**Moisture(%):** NA**Result Units:** pCi/l**File Name:** SRC0414A

CASNO	Analyte	Sample				Duplicate				RPD	RPD Lim
		Result +/-	2 s TPU	MDC	Flags	Result +/-	2 s TPU	MDC	Flags		
10098-97-2	Sr-90	1.08E+01 +/-	2.78E+00	9.44E-01		1.08E+01 +/-	2.78E+00	1.04E+00		9.00	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: SR2103439-1

Strontium-90 by GFPC

PAI 724 Rev 14

Sample Results**Lab Name:** ALS -- Fort Collins**Work Order Number:** 2103439**Client Name:** Central Plateau Cleanup Company, LLC**ClientProject ID:** SURV, January 2021 S21-001

Field ID:	B3YP75
Lab ID:	2103439-1

Sample Matrix: WATER**Prep SOP:** PAI 707 Rev 16**Date Collected:** 22-Mar-21**Date Prepared:** 07-Apr-21**Date Analyzed:** 14-Apr-21**Prep Batch:** SR210407-1**QCBatchID:** SR210407-1-1**Run ID:** SR210407-1A**Count Time:** 120 minutes**Report Basis:** Unfiltered**Final Aliquot:** 994 ml**Prep Basis:** Unfiltered**Moisture(%):** NA**Result Units:** pCi/l**File Name:** SRC0414**Analysis ReqCode:** SMR_SR_RAD_

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	DL	Lab Qualifier
10098-97-2	Sr-90	6.78E-02 +/- 2.25E-01	5.04E-01	1E+00	NA	U

Chemical Yield Summary

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
STRONTIUM	1.550E+03	1.40E+03	ug	90.1	40 - 110 %	

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: SR2103439-1

Prep Batch ID: SR210407-1

Start Date: 04/07/21	End Date: 04/07/21	Concentration Method: NONE	Batch Created By: jxh
Start Time: 9:48	End Time: 9:48	Extract Method: PAI 70716	Date Created: 04/07/21
Prep Analyst: Jirushaya Hantula		Initial Volume Units: ml	Time Created: 9:48
Comments:		Final Volume Units: ml	Validated By: jxh
n/a			Date Validated: 04/13/21
			Time Validated: 13:43

QC Batch ID: SR210407-1-1

Lab ID	QC Type	Field ID	Matrix	Date Collected	Initial Wt/Vol	Final Wt/Vol	Cleanup Method	Cleanup DF	Order Number
SR210407-1	CAR	XXXXXX	WATER	XXXXXX	1000	1000	NONE	1	2103406
SR210407-1	MB	XXXXXX	WATER	XXXXXX	1000	994.01	NONE	1	2103406
SR210407-1	LCS	XXXXXX	WATER	XXXXXX	1000	994.01	NONE	1	2103406
SR210407-1	LCSD	XXXXXX	WATER	XXXXXX	1000	994.01	NONE	1	2104015
2103406-2	SMP	XXXXXX	WATER	XXXXXX	1000	994.01	NONE	1	2103406
2103436-17	SMP	XXXXXX	WATER	XXXXXX	1000	994.01	NONE	1	2103436
2103436-18	SMP	XXXXXX	WATER	XXXXXX	1000	994.01	NONE	1	2103436
2103437-1	SMP	XXXXXX	WATER	XXXXXX	1000	994.01	NONE	1	2103437
2103437-2	SMP	XXXXXX	WATER	XXXXXX	1000	994.01	NONE	1	2103437
2103439-1	SMP	B3YP75	WATER	3/22/2021	1000	994.01	NONE	1	2103439
2104003-4	SMP	XXXXXX	WATER	XXXXXX	1000	994.01	NONE	1	2104003
2104004-1	SMP	XXXXXX	WATER	XXXXXX	1000	994.01	NONE	1	2104004
2104015-2	SMP	XXXXXX	WATER	XXXXXX	1000	994.01	NONE	1	2104015
2104015-3	SMP	XXXXXX	WATER	XXXXXX	1000	994.01	NONE	1	2104015
2104015-4	SMP	XXXXXX	WATER	XXXXXX	1000	994.01	NONE	1	2104015

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