VUA/SV/Pest/PCB	Case:	SDG:
	COMPLETE SDG FILE (CSF) A	AUDIT
Organic Fractions:		
Missing Information	Date Lab Contacted	Date Received
Validator:	Date:	

I. PRESER	VATION	AND H	OLDING '	L	ist all requir ircle all exc	red preser eeded tec	vation code hnical hold	es and circle	omitted pre	servation co	tted prese odes.	rvation.				
				VOA				BNA					PEST/PCB			
Sample No. (TR No.)	Matrix	Pres. Code	Date Sampled	Date Analyzed	# of Days from Sampling to Analysis	Action	Date Extracted	# of Days from Sampling to Extr./(*)	Date Analyzed	# of Days from Sampling to Anal.	Action	Date Extracted	# of Days from Sampling to Extr/.(*)	Date Analyzed	# of Days from Sampling to Anal.	Action
Sampler:			Cor	npany:			Cont	acted: Yes	No Date:	:						
Preservation Co 1. Cool @ 4°C (2. Preserve with 3. Protect from I 4. Freeze 5. Room Temper	± 2°) HCl to at l ight	•			L/L SO: SEI SO:	X - Soxhle	Liquid tion ory Funnel	on				UJ - I	ode: Estimate (J) E Estimate (UJ) Reject (R) No	Non-Detecte	ed Values	
Validator:					_ Date:_											

Case: _____

SDG: _____

						Case:	SDG:
II A. GC/MS INSTRUM	ENT PERFOR	MANCE CHI	ECK – (TUI	NING)	Note: NO	OT for Selected Ion Monitoria	ng (SIM) Analysis
List all Instrument Perform	nance Checks th	at are outside	method QC t	uning acceptan	ce criteria.		
VOA Instrument Performance Check (Compound Name)	Analysis Date and Time	Instrument	Ions Affected	Percent Relative Abundance	QC Limits	Samples Affecte	d Action
Comments:							
SV Instrument Performance Check (Compound Name)	Analysis Date and Time	Instrument	Ions Affected	Percent Relative Abundance	QC Limits	Samples Affecte	d Action
Comments:							
If tuning compounds and cuning criteria with this we		rent from those	specified in	CLP SOW SF.	AM01.X, the v	alidator should include a copy	of the method-specific
Validator:		Da	ate:				

				Case:	SDG:
		RMANCE CHECK - and/or calibration star		alyzed beyond the 12-hour requirement.	
Fraction (VOA or SV)	Tune Standard or CCV ID	Injection Date and Time	Time Elapsed (hours)	Samples Affected	Action

Date:_____

Coco	SDG:
Case:	SDG.

II A. GC/ECD INSTRUMENT PERFORMANCE CHECK - Resolution - List all analytes that are outside resolution criteria.

RCM (Section II)	Date/Time	Instr.	Column	Compound	% Resolution	Samples Affected	Action
PEM (Section II and IV)							
					1		
INDA & B (Section III)					1		
					<u> </u>		
INDA & B (Section IV)					1		

Validator:	Date:
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Case:	SDG:
Cubc.	DDG.

II B. GC/ECD INSTRUMENT PERFORMANCE CHECK - Retention Times - List all analytes that exceed retention time criteria.

PEM (Section II and IV)	Date/Time	Instr.	Column	Compound	RT Window	RT	Samples Affected	Action
								-
								1
								·
INDA & B (Section IV)								
								1
								1

Validator:	Date:
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Case:	SDG:	
Case:	SDG:	

II C. GC/ECD INSTRUMENT PERFORMANCE CHECK - Accuracy Check of Initial Calibration

List all analytes that are outside the %D criteria.

PEM Sample ID	Date/Time	Instr.	Column	Compound	%D	Samples Affected	Action
1 EW Sample 1D	Date/Time	mistr.	Column	Compound	7010	Samples Affected	retion

Validator:	Date:

Case:	SDG:
Casc.	SDO.

II D. GC/ECD INSTRUMENT PERFORMANCE CHECK - Pesticide Degradation - List all analytes that exceed degradation criteria.

PEM (Section II)	Date/Time	Instr.	Column	DDT, Endrin, or Combined	% Breakdown	DDD, DDE, Endrin ketone, Endrin aldehyde Present	Samples Affected	Action
PEM (Section IV)								

Validator: D	oate:
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Case:	SDG:	

III. INITIAL CALIBRATION - List all analytes that are outside calibration criteria.

Date of ICAL	Instrument	Fraction	Matrix	Compound	%RSD	RRF*	Samples Affected	Action (Detect/ND)
Comments:								
* RRF and a	verage RRF							
Did the laboratory follow the correct 12-hour clock analytical sequence? If no, fill out Worksheet VOA/SV-II B. Y N								
Did the labo	Did the laboratory analyze the initial calibration at the appropriate levels?							
Validator:_				Date:				

Case:	SDG:
Cusc	DD 0.

III. INITIAL CALIBRATION - List all analytes that are outside calibration criteria.

Validator:_____ Date:_____

INDA/INDB, INDC, or Multicomponent	Date	Instrument	Column	Analytes	Recalculated RT Window	%RSD	Samples Affected	Action	
A. % RSD Linearity									
B. Retention Time W	indows	<u> </u>			<u> </u>				
Did the laboratory follow	v the correct ana	alytical sequence	?		Y N				
Did the laboratory analyz	ze the initial call	ibration at the ap	propriate con	acentration levels?	$\mathbf{Y} \mathbf{N}$				

Case:	SDG:

IV. CONTINUING CALIBRATION - List all analytes that are outside calibration criteria.

Validator:_____ Date:_____

Fraction (VOA/SV)	Instrument	Date of ICAL	Date & Time of CCAL	Matrix	Compound	%D	RRF	Samples Affected	Action (Detect/ND
Comments:									

C	ap.a
Case:	SDG:

IV A. CALIBRATION VERIFICATION - Accuracy Check (%D) - List all analytes that are outside calibration criteria.

Standard ID	Date	Time	Instrument	Column	Analyte	%D	Samples Affected	Action (Detect/ND)

Validator:	Date:
andator	Datc

Validator:_____ Date:_____

V B. CALIB	RATION VERII	FICATION – Tim	e Elapsed - List all r	non-complian	Case:t standards.	SDG:
Fraction (PEST or PCB)	Instrument and Column ID	Instrument Blank or Sample ID	Injection Date and Time	Time Elapsed (hours)	Samples Affected	Action (Detect/ND)

1. Laboratory: Method, Storage and Instrument Blanks

Sampler: _____ Company: ____ Contacted: Yes No Date: ____

Fraction/ Matrix	Sample ID (Blank Type)	Date Extracted	Date Analyzed	Instrument/ Column	Compound	Conc. (units)

2. Field: Equipment (Rinsate), Trip and Bottle Blanks

Fraction/ Matrix	Sample ID (Blank Type)	Date Extracted	Date Analyzed	Instrument/ Column	Compound	Conc. (units)

Validator: Da	ate:
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Compound	Type of Blank	Date Blank Sampled, Originated, or Analyzed	Max. Conc. (unit)	Blank CRQL (unit)	Blank 2xCRQL¹ (unit)	Blank 5xCRQL ² (unit)	Samples Affected	Action
or methylene chloride or bis(2-ethylhexyl)ph		d acetone only.						
nents:								

VI. **DEUTERATED MONITORING COMPOUNDs (DMCs)** – List all DMC recoveries that are outside the control limits. **NOTE:** The same control limits are applied to the selected ion monitoring (SIM) analysis.

Page 1 of 2

Method			Volatile Method QC Acceptance Criteria												
SFAM01.X	Trace L/M	Vinyl cl <u>Water</u> 40-130 60-135	hloride-d ₃ Soil - 30-150	Chloroe <u>Water</u> 65-130 70-130	thane-ds Soil - 30-150	Water 60-125 60-125	CE <u>Soil</u> - 45-110	2-Butar <u>Water</u> 40-130 40-130	none-d ₅ <u>Soil</u> - 20-135	Chloro <u>Water</u> 70-125 70-125	oform-d <u>Soil</u> - 40-150	Water 70-130 70-125	CA <u>Soil</u> - 70-130	Benze <u>Water</u> 70-125 70-125	ene-d ₆ Soil - 20-135
Other:	•														
Sample ID	Matrix	% Re	ecovery	% Red	covery	% Red	covery	% Rec	covery	% Red	covery	% Red	covery	% Rec	covery
						115:11						1.0 5:11			

DCE=1,1-Dichloroethene -d₂ DCA=1,2-Dichloroethane-d₄

Validator:_____ Date:_____

Note: Refer to NFG for guidance on actions required for failures in DMC recoveries.

Validator:_____

Case:	SDG:
Case	SDG

VI. **DEUTERATED MONITORING COMPOUNDs (DMCs)** – List all DMC recoveries that are outside the control limits. **NOTE:** The same control limits are applied to the selected ion monitoring (SIM) analysis.

Page 2 of 2

Method			Volatile Method QC Acceptance Criteria											
SFAM01.X	Trace L/M	Water 60-140 70-120	DPA <u>Soil</u> - 70-120	Tolue <u>Water</u> 70-130 80-120	ene-d ₈ Soil - 30-130	TI <u>Water</u> 65-120 65-120	OP <u>Soil</u> - 45-120	2-Hexar <u>Water</u> 45-130 45-130	none-d ₅ <u>Soil</u> - 20-135	Water 65-120 65-120	CA <u>Soil</u> - 45-120	Water 80-120 80-120	CZ <u>Soil</u> - 75-120	
Other:	L/WI	70-120	70-120	00-120	30-130	03-120	43-120	43-130	20-133	03-120	43-120	00-120	73-120	
Sample ID	Matrix	% Re	ecovery	% Rec	covery	% Rec	covery	% Rec	covery	% Re	covery	% Red	covery	
														<u> </u>
														<u> </u>

	*	1 1	,	1 1	 -	
Note: Refer to NFG for guidance	on actions	required for failures in I	OMC recoveries.			

Date:_____

VI A.

	Case:	SDG:	
DEUTERATED MONITORING COMPOUNDs (DMCs) – List all DMC reco	veries that are outside the control limits.	Page 1 of 2	

Method									Semi-	-Volatile l	Method (QC Accep	otance Cr	riteria					
		1,4-Dio	1,4-Dioxane-d ₈ Pyridine-d ₅		Phenol-d ₅ BCE			2CP 4MP			NBZ		21	NP	DO	СР			
SFAM01.X		Water	<u>Soil</u>	Water	<u>Soil</u>	Water	<u>Soil</u>	Water	<u>Soil</u>		<u>Soil</u>	Water	<u>Soil</u>	Water	<u>Soil</u>	Water	<u>Soil</u>	Water	<u>Soil</u>
		15-120*	15-120*	20-120*	-	10-130	10-130	25-120	10-150	20-130	15-120	25-125	10-140	20-125	10-135	20-130	10-120	20-120	10-140
Other:																			
Sample ID	Matrix	% Rec	covery	% Rec	overy	% Rec	overy	% Rec	overy	% Rec	overy	% Rec	overy	% Rec	covery	% Rec	covery	% Rec	overy
								_	-		-		-					_	
D.CE D: (2, 11														T*. 1					

BCE= Bis(2-chloroethyl)ether-d ₈ 2CP= 2-Chlorophenol-d ₄ 4MP= 4-Methyhlphenol-	d ₈ NBZ= Nitrobenzene-d ₅	2NP= 2-Nitrophenol-d ₄	DCP= 2,4-Dichlorophenol-d ₃
--	---	-----------------------------------	--

Validator:	Da	te:

*Advisory Limits
Note: Refer to NFG for guidance on actions required for failures in DMC recoveries.

Validator:_____ Date:_____

											Ca	ase:				SDG:			
VI A. DEUTERAT	ED MO	NITORI	ING (COMPO	OUNDs	(DMC	s) – Lis	t all DN	IC reco	veries	that are	outside	the co	ntrol lim	nits.	Pa	ge 2 of	2	
Method									Semi-	-Volatile	Method	QC Accep	otance C	riteria					
		4CA	1	DN	ЛP	AC	CY	4N	IP	FI	LR	NN	ЛΡ	AN	NC .	PY	/R	В	AP
SFAM01.X		<u>Water</u> 1-146* 1	<u>Soil</u> -145*	<u>Water</u> 47-114	<u>Soil</u> 43-111	<u>Water</u> 41-107	<u>Soil</u> 20-97	<u>Water</u> 33-116	<u>Soil</u> 16-166	<u>Water</u> 42-111	<u>Soil</u> 40-108	<u>Water</u> 22-104	<u>Soil</u> 1-121	<u>Water</u> 44-110	<u>Soil</u> 22-98	<u>Water</u> 52-119	<u>Soil</u> 51-120	<u>Water</u> 32-121	<u>Soil</u> 43-111
Other:																			
Sample ID	Matrix	% Recov	very	% Rec	overy	% Rec	covery	% Rec	overy	% Red	covery	% Rec	covery	% Rec	covery	% Rec	covery	% Red	covery
*Advisory Limits		FLR=Fl	uorene	oaniline-d -d ₁₀)pyene-d ₁	NN	ИР=Dime ИР=4,6-D		alate-d ₆ methylpho			cenaphth nthracen			=4-Nitropl =Pyrene-d					
Note: Refer to NFG for gu	idance on	actions requ	uired fo	or failures	in DMC	recoveri	es.												

Case:	SDG:
ease:	BB 6.

VI B. DEUTERATED MONITORING COMPOUNDs (DMCs) for SIM – List all DMC recoveries that are outside the control limits.

Method				Semi-V	olatiles by Selecte	d Ion Monitoring Anal	ysis Method	QC Acceptance C	riteria		
			Fluoranthene-d ₁₀		2-M	ethylnaphthalene-d ₁₀		1,4-Dioxane-d ₈			
SFAM01.X		Water Soil 30- 130 30-130	ACC . I A I .	A -4:	Water Soil 30-130 20-140	ACC . I A I .	A -4:	Water Soil 15- 120* 15-120*	Affected	A -4:	
Other:			Affected Analytes	Action (Detect/ ND)		Affected Analytes	Action (Detect/ ND)		Analytes	Action (Detect/ ND)	
Sample ID	Matrix	% Recovery		ND)	% Recovery		<u></u>	% Recovery		(ND)	
			Fluoranthene Pyrene Benzo(a)anthracene Chrysene Benzo(b)fluoranthene Benzo(a)pyrene Indeno(1,2,2-cd)pyrene Dibenzo(a,h)anthracene Benzo(g,h,i)perylene			Naphthalene 2-Methylnaphthalene Acenaphthylene Acenaphthene Fluorene Pentachlorophenol Phenanthrene Anthracene			1,4-Dioxane		

Validator:	 Date:

*Advisory Limits Note: Refer to NFG for guidance on actions required for failures in DMC recoveries.

Case:	SDG:
Cuse:	5E G

VI. SURROGATE COMPOUNDS: Spike Recoveries and Retention Time Shift

List all surrogate analytes that are outside the percent recovery and retention time criteria.

9/ Pagayany OC Limita									
		% Recover	y QC Limits			Retention Ti	me Windows		1
	Column 1 Column 2			Column 1 Column 2			ımn 2		
	TCX	DCB	TCX	DCB	TCX	DCB	TCX	DCB	
ζ	30-150	30-150	30-150	30-150					
Date/Time		% Re	ecovery				Action		
		TCX 30-150	Column 1 TCX DCB 30-150 30-150	TCX DCB TCX 30-150 30-150 30-150	Column 1 Column 2 TCX DCB TCX DCB 30-150 30-150 30-150 30-150	Column 1 Column 2 Column 2 TCX DCB TCX DCB TCX 30-150 30-150 30-150 30-150	Column 1 Column 2 Column 1	Column 1 Column 2 Column 1 Column 2	Column 1 Column 2 Column 1 Column 2 TCX DCB TCX DCB TCX DCB 30-150 30-150 30-150 30-150 30-150

Validator:	Date:	:

Note: Refer to NFG for guidance on actions required for failures in surrogate recoveries.

Case:	SDG:
Casc	500.

VII. SEMIVOLATILE CLEANUP - GPC Calibration and Verification—List all analytes that are outside method cleanup QC criteria.

Type of Cleanup	Instrument # or Lot #	Date/Time GPC Calibrated or Check Solution Analyzed	Compound	% Rec	QC Limits	Samples Affected	Action
the GPC column n	Peak shape require Retention time s	irements? hift requirements?		<u> </u>	<u> </u>		Y Y Y
		_	od required frequency with cor	rect compo	ounds and conce	ntrations?	Y
re all compounds le	ess than QL for the	e GPC/Silica Gel/Acid-P	Partition blank?				Y

Retention time shift requirements?		Y	N		
Was the GPC calibration, Silica Gel cleanup checked at the method required frequency with correct compounds and concentrations?					
Were all compounds less than QL for the GPC/Silica Gel/Acid-Partition blank?		Y	N		
Did the blank surrogate recoveries and IS area counts and RTs (if added) meet method Q	QC acceptance criteria?	Y	N		
Comments:					
			-		
Validator: Date:					

Validator:_____ Date:_____

Date/Time of GPC Calibration or Calib. Verification	GC Analysis Date	Analyte	GPC % Resolution or RT Shift	% Rec	QC Limits	Samples Affected	Action
							_
ere all target compoun	_						Y
_		tions performed at the responding Aroclor sta					Y Y

Action
Y N

SDG: _____

	Samples Affected	Sulfur Interference	Action	
		(Major/Minor/Limited)		
Were all target	compounds less than QL for the Sulfur bla	nk?		Y N
Action: Refer	o EPA R1 DR Supplement guidance (Sect	ion 2.9) for actions to be taken for deficient sulfur cleanup	. Comment on any action taken below.	

SDG: _____

			SDG:							
/II D. PESTIC	CIDE/PCB CLEANUP - Other	Cleanup Procedures								
Cleanup Procedu	ure:, a	appropriate for samples?	Y	N						
Cleanup also per	rformed for associated QC sample	les?	Y	N						
sample chromat	ograms were reviewed and found	d to be free from interferences.	Y	N						
no, list the analytes and samples affected by the unacceptable cleanup procedure.										
	Samples Affected	Description and Degree of Interference (Major/Minor/Limited)	Action							
		<u> </u>								
Comments:										
				-						
/alidator:		Date:								

	-		_	ncentration	Level					
		Column 1			Column 2*	olumn 2* Method QC I			Limits	
Compound	MS % Rec.	MSD % Rec.	RPD	MS % Rec.	MSD % Rec.	RPD	% Recovery	RPD	Action	
	Compound	Compound MS %	Compound MS % MSD %	Compound MS % MSD %	Compound MS % MSD % MS %	Compound MS % MSD % MS % MSD %	Compound MS % MSD % MSD % RPD	Compound MS % MSD % MSD % RPD % Recovery	Compound MS % MSD % MSD % RPD % Recovery RPD	

						Case	:		SDG:	
	DUPLICATE PRECIS parate worksheet for ea			ate analytes	that are outsid	le criteria.				
•		Duplicate Sam	•	r	N	Iatrix				
		Sample		ple QL	Duplicate	Duplicate QL		DDD	QC Acceptance	
Fraction	Compound	Conc.	SQL	2xSQL	Conc.	SQL	2xSQL	RPD	Criteria RPD or NA*	Action
*For instances whe	ere one duplicate result is	ND (or reported l	ess than the	sample QL).						
Does the MS/MSI	data indicate acceptable	laboratory precisi	ion?	Y	N					
Refer to EPA R1 I	OR Supplement guidance	for field duplicate	actions (Se	ction 2.7).						
Comments:										
Sampler Name	Contrac	tor Nama:		Data Contac	tad:					
•										
Neason for Contac	et and resolution obtained:						_			
Validator:			Date:							

UA/SV/PesuPCD-A-A			
	Case:	SDG:	_

X A. ACCURACY CHECK (**Performance Evaluation Results**) - List all analytes that are outside criteria.

Are more than one-half of the PES analytes within criteria for each parameter? Y N

PE Sample Number	Ampule Number	Fraction	Type of PES	Matrix	Analyte	Conc.	Region I EPA PES Scores*	Non-EPA PES Scores**	Samples Affected	Action

Refer to NFG for PES actions.

*	For Region I PESs indicate the Region I PES Score Report Result:	Action High; Action Low; TCL MISS; TCL CONTAMINANT; TIC HIT; TIC MISS; TIC
	CONTAMINANT	

**	For Non-EPA PESs	indicate the non-EPA	PES Score:	PES COMPOUND MISS:	PES COMPOUND	CONTAMINANT:	PES COMPOUND H	HIT (% R	tecovery Lir	nits)

Case:	SDG:
ease.	DD 0.

X B. ACCURACY CHECK (Laboratory Control Sample [LCS] Results) - List all analytes that are outside criteria.

LCS ID	Matrix	Method	Fraction	Compound	Acceptable %R Range	Column 1 LCS %R	Column 2 LCS %R	Samples Affected	Action

	_
Validator:	Date:

EPA R1 Data Validation Worksheet **VOA/SV-XI**

Retention Time Method QC acceptance criteria:									
Sample Number (TRs)	Date and Time Analyzed	Instrument	Fraction	Non-Compliant Internal Standard	Internal Standard Area	RT Shift	Acceptable Range (IS area or RT shift)	Action	

Case: ______ SDG: _____

XII. TARGET COMPOUND IDENTIFICATION – List the analytes that are outside the acceptance criteria.

Sample Number	Compound	MS Ions	RRT	Action
<u> </u>				

EPA R1 Data	Validation	Worksheet	
Pest/PCB-XII	[

Case:	SDG:
Casc	3DO

XII. ANALYTE IDENTIFICATION

List samples below that contained false positive and/or negative reported results, and samples that contained detected compounds which have a percent difference greater than $\pm 25\%$ between the two columns.

	A 1	Column	1 ID:		Column 2 ID:				
Sample ID	Analyte	RT	RT Window	Conc.	RT	RT Window	Conc.	%D	Action

Was GC/MS Confirm	nation performed for the appropria	ate samples	s? Y N			
Validator:		Da	ate:			

EPA R1 Data Validation Worksheet **VOA/SV-XIII**

XIII. SAMPLE QUANTITATION AND % SOLIDS

ll soil/sediment samples have % solids greater than or equal to 309	Y N	
list sample numbers r to EPA R1 DR Supplement guidance for actions related to %soli	ds (Section 2.8).	
Fraction	Calculation	
VOA		
Sample No.:		
Reported Compound:		
Reported Value:		
Not Detected Compound:		
Reported Quantitation Limit:		
BNA		
Sample No.:		
Reported Compound:		
Reported Value:		
Not Detected Compound:		
Reported Quantitation Limit:		

SDG: _____

Case: _____

EPA R1 Data Validation Worksheet **Pest/PCB-XIII**

XIII. SAMPLE QUANTITATION AND %SOLIDS

all soil/sediment samples have % solids greater than or equal to 30	%?	Y N
o, list sample numberser to EPA R1 DR Supplement guidance for actions related to %soli	ds (Section 2.8).	
Fraction	Calculation	
Pesticides		
Sample No.:		
Reported Compound:		
Reported Value:		
Not Detected Compound:		
Reported Quantitation Limit:		
Aroclors		
Sample No.:		
Reported Compound:		
Reported Value:		
Not Detected Compound:		
Reported Quantitation Limit:		

Case: ______ SDG: _____

Case:	SDG:
Casc	SDO

XIV. TENTATIVELY IDENTIFIED COMPOUNDS (TICs)

List the 5 TICs having the highest concentration for each sample parameter.

Validator:______ Date:_____

Sample Number	Fraction	Compound	RRT	Est. Conc.	Action