Ft. Stewart RF1 DATA VALIDATION CHECK	KLIST
PROJECT NAME: Ft. Clewart Crans army PROJECT NUMBER: FST-019 SAMPLING DATE: 15+17 Sept 93 SAMPLE IDENTIFICATION: FST-017 SB1-9-93, SBG, SB7 S88 SAMPLING TEAM: J. Smitht Thick Boiller ANALYZING LABORATORY: Carr Jaboralory ( ANALYSES PERFORMED: \$015, 624/8140, 5. Companients SAMPLE MATRIX: homequeum (Soil) QA REPORTING LEVEL: IF	ALIDATION DATE: 30 0273 582, 583, 583,044, 584,585 4 550, 704,704,704,52
FIELD SAMPLING LOGS: 1/	PERFORMANCE REPORTED ACCEPTABLE NOT NO YES NO YES REOUIRED
1. SAMPLING DATES NOTED 2. SAMPLING TEAM INDICATED 3. SAMPLE IDENTIFICATION TRACEABLE TO LOCATION COLLECTED 4. SAMPLE LOCATION 5. SAMPLE DEPTH FOR SOILS 6. COLLECTION TECHNIQUE (BAILER, PUMP ETC 7. FIELD SAMPLE PREPARATION TECHNIQUES 8. SAMPLE TYPE (GRAB, COMPOSITE) 9. SAMPLE CONTAINER TYPE 10. PRESERVATION METHODS 11. CHAIN OF CUSTODY FORM COMPLETED 12. REQUIRED ANALYTICAL METHODS REQUESTED 13. FIELD (WATER AND SOIL) SAMPLE LOGS COMPLETED PROPERLY AND SIGNED 14. NUMBER AND TYPE OF FIELD QC SAMPLES COLLECTED (BLANKS, REPLICATES, SPLITS, ETC.) 15. FIELD EQUIPMENT CALIBRATION 16. FIELD EQUIPMENT CALIBRATION 17. SAMPLE SHIPPING 18. LABORATORY TASK ORDER  1/ FIELD SAMPLING LOGS = WATER AND/OR SOIL/SCOMMENTS:	SEDIMENT SAMPLING LOGS

ANALYTICAL DATA PACKAGE DOCUMENTATION		
GENERAL INFORMATION		
ALL QA REPORTING LEVELS	PERFORMANCE REPORTED ACCEPTABLE NOT NO YES NO YES REQUIRED	
1. SAMPLE RESULTS 2. PARAMETERS ANALYZED 3. METHOD OF ANALYSIS 4. DETECTION LIMITS OF ANALYSIS 5. MASTER TRACKING LIST 6. SAMPLE COLLECTION DATE 7. LAB SAMPLE RECEIVED DATE 8. SAMPLE PREPARATION/EXTRACTION DATE 9. SAMPLE ANALYSIS DATE 10. COPY OF CHAIN-OF-CUSTODY FORM SIGNED BY THE LAB SAMPLE CUSTODIAN 11. A NARRATIVE SUMMARY OF QA OR SAMPLE PROBLEMS IS PROVIDED.		
AFTER COMPLETING SECTION ONE PROCEED TO TLEVEL OF SECTION TWO (INORGANIC ANALYSES) ANALYSES), FOLLOWING COMPLETION OF THESE FOUR (DATA EVALUATION SUMMARY).  ANALYTICAL DATA VALIDATION CHECKLIST SECTION TWOINORGANIC ANALYSES.	AND/OR SECTION THREE (ORGANIC SECTIONS PROCEED TO SECTION	
METALS AND CLASSICAL WET OF COMMETTED AND CLASSICAL WET OF CLASSICAL WET OF COMMETTED AND CLASSICAL WET OF CLASSICAL WET O	CHEMISTRY METHODS  REPORTED IN LIMITS NOT  NO YES NO YES REQUIRED	
1. METHOD BLANKS % RECOVERY (%R) 2. MS2' OR RWSD5' OR LD6' %R 4. RPD7'		
COMMENTS:		
4/ MSD = MATRIX SPIKE DUP.; 5/ RWS	MPLES IN ANALYTICAL BATCH  = REAGENT WATER SPIKE;  D = REAGENT WATER SPIKE DUP.;  = RELATIVE PERCENT DIFFERENCE	

ANALYTICAL DATA VALIDATION CHECKLIST SECTION TWO

INORGANIC ANALYS	CE C	
METALS AND CLASSICAL WET CH	HEMISTRY ME	THODS
QA REPORTING LEVEL: II REQUIREMENTS (BAICH SPECIFIC QA)'	REPORTED NO YES	
1. METHOD BLANKS 2. MS % RECOVERY (%R) 3. MSD OR LAB DUPLICATE % R 4. RWS % R 5. RWSD % R 6. RPDS FOR MS/MSD, SAMPLE/LD, RWS/RWSD 7. LCS** %R 8. ICVS ** %R	44444	KICK CKKK
COMMENTS:		
OA REPORTING LEVEL: III REQUIREMENTS (SAMPLE SPECIFIC QA) 10/		
1. CALIBRATION CURVE STANDARDS 2. ICVS %R 3. CCVS 1 / %R 4. LCS %R 5. METHOD BLANKS 6. ICS 2 / %R (ICP only) 7. DCS 2 / %R (ICP only) 8. MS %R 9. LD OR MSD %R AND RPD 10. POST DIGESTION ANALYTICAL SPIKE 4 /		
COMMENTS:		
6/ LD = LABORATORY DUPLICATE 7/ DDD	REAGENT W	ATER SPIKE;
8/ LCS = LABORATORY CONTROL SAMPLE; 9/ ICVS = INITIAL CALIBRATION VERIFICATIO 10/ SAMPLE SPECIFIC QA: APPLIES TO PROJECT 11/ CCVS = CONTINUING CALIBRATION VERIFICA 12/ ICS = INTERFERENCE CHECK SAMPLE; 13/ 14/ POST DIGESTION ANALYTICAL SPIKE APPLIE	N STANDARD SPECIFIC TION STAND	; SAMPLES. ARD;

ECTION THREE ORGANIC ANAI	YSES		
A REPORTING LEVEL: I_ REQUIREMENTS	REPORTED No YES	In LIMITS No YES	NOT REQUIRED
1. WATER BLANKS 2. EXTRACTION BLANKS 3. RWS¹/ 4. RWSD²/ 5. RPD³/			
COMMENTS:			
		1419	
DA REPORTING LEVEL: II REQUIREMENTS A. GAS CHROMATOGRAPHY (NO MASS SPEC) O	R WET CHEMIST	RY PROCEDI	IRE
1. WATER BLANKS 2. EXTRACTION BLANKS 3. MS4/ (BATCH SPECIFIC) 4. MSD5/ (BATCH SPECIFIC) 5. LD6/ (OPTIONAL) 6. MS/MSD RPD OR SAMPLE/LD RPD 7. RWS 8. RWSD 9. RWS RPD 10. SURROGATE SPIKES			
B. GAS CHROMATOGRAPH/MASS SPECTROMETER			
1. WATER BLANKS 2. EXTRACTION BLANKS 3. MS (BATCH SPECIFIC) 4. MSD (BATCH SPECIFIC) 5. LD (OPTIONAL) 6. MS/MSD RPD OR SAMPLE/LD RPD 7. RWS 8. RWSD 9. RWS RPD 10. SURROGATE SPIKES			
COMMENTS:			
555		•	·

<sup>1/</sup> RWS = REAGENT WATER SPIKE; 2/ RWSD = REAGENT WATER SPIKE DUPLICATE; 3/ RPD = RELATIVE PERCENT DIFFERENCE; 4/ MS = MATRIX SPIKE; 5/ MSD = MATRIX SPIKE DUPLICATE; 6/ LD = LAB DUP

ANALYTICAL DATA VALIDATION CHECKLIST SECTION FOUR	
DATA EVALUATION S	•
PROJECT NAME Grow Helipat PROJECT NAME Grow Helipation C	JECT NUMBER: FS7-019 DATE: 10 04-93
ALL QA REPORTING LEVELS (I,II,III)	PERFORMANCE
SUMMARY OF CHECKLIST FINDINGS	REPORTED ACCEPTABLE NOT NO YES NO YES REQUIRED
1. FIELD MEASUREMENTS OF PH AND SPECIFIC CONDUCTANCE ARE CONSISTENT WITH HISTORICAL DATA  2. FIELD RECORDS 3. METHODS (GEN.INFO. SECTION ONE) 4. HOLDING TIMES (MASTER SAMPLE LIST) A. EXTRACTION HOLDING TIMES B. ANALYSIS HOLDING TIMES 5. DETECTION LIMITS (SECTION ONE) 6. BLANKS (SECTIONS TWO OR THREE) A. EQUIPMENT RINSATE BLANKS B. FIELD BLANKS C. TRIP BLANKS D. LABORATORY BLANKS 7. FIELD REPLICATES 8. FIELD SPLITS 9. GEOPHYSICAL COMPARISONS A. CATION VS ANION B. TDS VS SPEC. CONDUCTANCE C. PH VS ALK/ACIDITY D. OTHER 10. METALS QA DATA (SECTION TWO) 11. INORGANIC WET CHEMISTRY (SEC. TWO) 12. ORGANIC GA DATA-GC (SECTION THREE-A) 13. ORGANIC WET CHEMISTRY (SEC. THREE-B) 14. ORGANIC OA DATA-GC/MS (SEC. THREE-B)	
AFTER COMPLETING THIS SECTION GO TO SECTION COMMENTS:	ON FIVE.

ANALYTICA SECTION F	L DATA VALIDATION CHECKLIST	-
DATA VALIDATION CODING TX. Stewart RF1		
PROJECT NAME: Evan Heliport PROJECT NUMBER: FST-029  QA REPORTING LEVEL: TE VALIDATION DATE: 20 6.7 93		
	IER CODES ASSIGNED TO DATA: R, U, J, U/J, B, NO FLAG FICATION OF SAMPLES AND PARAMETERS WITH CODES:  SAMPLE ID PARAMETERS	
R CODE _		-
B CODE _		
U CODE		
J CODE _		
U/J CCDE		
EXPLANATIO	on:all acceptable	
/ALIDATION	PERFORMED BY: FRANZ FROELICHER  SIGNED: 20 Oct 93	

DATA VALIDATION CHECKLIST to Struckt RF1 SECTION ONE PROJECT NAME: RECIRCULATING WASH IMPOUNDMENT PROJECT NUMBER: FST 030 SAMPLING DATE: 10/14/53 VALIDATION DATE: 20 DEC 53 SAMPLE IDENTIFICATION: FST-030-1-10-43, FST-030-1-0-0-10-93 SAMPLING TEAM: ANALYZING LABORATORY: CARR CA135 ANALYSES PERFORMED: pH, yoc 5240, Face Till? SAMPLE MATRIX: NONAQUEOUS QA REPORTING LEVEL: \_\_\_\_\_\_\_\_\_ FIELD DATA PACKAGE DOCUMENTATION PERFORMANCE REPORTED ACCEPTABLE NOT FIELD SAMPLING LOGS: 1/ NO YES No YES REQUIRED 1. SAMPLING DATES NOTED 2. SAMPLING TEAM INDICATED 3. Sample identification traceable to LOCATION COLLECTED 4. SAMPLE LOCATION 5. SAMPLE DEPTH FOR SOILS 6. COLLECTION TECHNIQUE (BAILER, PUMP ETC 7. FIELD SAMPLE PREPARATION TECHNIQUES 8. SAMPLE TYPE (GRAB, COMPOSITE) 9. SAMPLE CONTAINER TYPE 10. PRESERVATION METHODS 11. CHAIN OF CUSTODY FORM COMPLETED 12. REQUIRED ANALYTICAL METHODS REQUESTED 13. FIELD (WATER AND SOIL) SAMPLE LOGS COMPLETED PROPERLY AND SIGNED 14. NUMBER AND TYPE OF FIELD QC SAMPLES COLLECTED (BLANKS, REPLICATES, SPLITS, ETC.) 15. FIELD EQUIPMENT CALIBRATION 16. FIELD EQUIPMENT DECONTAMINATION 17. SAMPLE SHIPPING 18. LABORATORY TASK ORDER 1/ FIELD SAMPLING LOGS = WATER AND/OR SOIL/SEDIMENT SAMPLING LOGS

COMMENTS:\_\_\_\_

ANALYTICAL DATA PACKAGE DOCUMENTATION		
GENERAL INFORMATION		
ALL QA REPORTING LEVELS	PERFORMANCE REPORTED ACCEPTABLE NOT NO YES NO YES REQUIRED	
1. SAMPLE RESULTS 2. PARAMETERS ANALYZED 3. METHOD OF ANALYSIS 4. DETECTION LIMITS OF ANALYSIS 5. MASTER TRACKING LIST 6. SAMPLE COLLECTION DATE 7. LAB SAMPLE RECEIVED DATE 8. SAMPLE PREPARATION/EXTRACTION DATE 9. SAMPLE ANALYSIS DATE 10. COPY OF CHAIN-OF-CUSTODY FORM SIGNED BY THE LAB SAMPLE CUSTODIAN 11. A NARRATIVE SUMMARY OF QA OR SAMPLE PROBLEMS IS PROVIDED.		
COMMENTS:  AFTER COMPLETING SECTION ONE PROCEED TO THE APPROPRIATE QA REPORTING LEVEL OF SECTION TWO (INORGANIC ANALYSES) AND/OR SECTION THREE (ORGANIC ANALYSES). FOLLOWING COMPLETION OF THESE SECTIONS PROCEED TO SECTION FOUR (DATA EVALUATION SUMMARY).  ANALYTICAL DATA VALIDATION CHECKLIST SECTION TWO		
INORGANIC ANALY	SESSESSETHODS	
QA_REPORTING LEVEL: I REQUIREMENTS (BATCH SPECIFIC QA) !/	REPORTED IN LIMITS NOT NO YES NO YES REQUIRED	
1. METHOD BLANKS % RECOVERY (%R) 2. MSD4/ OR RWSD5/ OR LD6/ %R 4. RPD7/		
COMMENTS:		
4/ MSD = MATRIX SPIKE DUP.: 5/ RWSE	MPLES IN ANALYTICAL BATCH  = REAGENT WATER SPIKE:  = RELATIVE PERCENT DIFFERENCE	

ANALYTICAL DATA VALIDATION CHECKLIST SECTION TWO

TUOD CAUTE			
INORGANIC ANALYSES			
	SELLIZ JEJ ME	THOO?	
QA REPORTING LEVEL: II REQUIREMENTS (BATCH SPECIFIC QA) 1/	REPORTED No YES	IN LIMITS NO NO YES REQUI	
1. METHOD BLANKS 2. MS % RECOVERY (%R) 3. MSD OR LAB DUPLICATE % R 4. RWS % R 5. RWSD % R 6. RPDS FOR MS/MSD, SAMPLE/LD, RWS/RWSD 7. LCSB/ %R 8. ICVS 9/ %R			
COMMENTS:	<u> </u>		
QA REPORTING LEVEL: III REQUIREMENTS (SAMPLE SPECIFIC QA) 10/			
1. CALIBRATION CURVE STANDARDS 2. ICVS %R 3. CCVS 1 / %R 4. LCS %R 5. METHOD BLANKS 6. ICS 2 / %R (ICP ONLY) 7. DCS 3 / %R (ICP ONLY) 8. MS %R 9. LD OR MSD %R AND RPD 10. POST DIGESTION ANALYTICAL SPIKE 14 /			
COMMENTS:			
6/ LD = LABORATORY DUPLICATE: 7/ RPD =	REAGENT W REAGENT OF RELATIVE OF	ATER SPIKE; WATER SPIKE DUP PERCENT DIFFERE	NCE
9/ ICVS = INITIAL CALIBRATION VERIFICATIO 10/ SAMPLE SPECIFIC QA: APPLIES TO PROJECT 11/ CCVS = CONTINUING CALIBRATION VERIFICA 12/ ICS = INTERFERENCE CHECK SAMPLE: 13/ 14/ POST DIGESTION ANALYTICAL SPIKE APPLIE	SPECIFIC TION STAND	SAMPLES. ARD;	'LE;

ORGANIC AN	ALYSES		
A REPORTING LEVEL: I_ EQUIREMENTS	REPORTED NO YES	IN LIMITS NO YES	
1. WATER BLANKS 2. EXTRACTION BLANKS 3. RWS¹/ 4. RWSD²/ 5. RPD³/			
OMMENTS:			· · · · · · · · · · · · · · · · · · ·
		4.6	
A REPORTING LEVEL: II EQUIREMENTS . GAS CHROMATOGRAPHY (NO MASS SPEC)	OR WET CHEMI	STRY PROCED	URE
1. WATER BLANKS 2. EXTRACTION BLANKS 3. MS4/ (BATCH SPECIFIC) 4. MSD5/ (BATCH SPECIFIC) 5. LD6/ (OPTIONAL) 6. MS/MSD RPD OR SAMPLE/LD RPD 7. RWS 8. RWSD 9. RWS RPD 10. SURROGATE SPIKES			
GAS CHROMATOGRAPH/MASS SPECTROMETE	<u>FR</u>		
1. WATER BLANKS 2. EXTRACTION BLANKS 3. MS (BATCH SPECIFIC) 4. MSD (BATCH SPECIFIC) 5. LD (OPTIONAL) 6. MS/MSD RPD OR SAMPLE/LD RPD 7. RWS 8. RWSD 9. RWS RPD 10. SURROGATE SPIKES			
OMMENTS:			

<sup>5/</sup> RPD = RELATIVE PERCENT DIFFERENCE; 4/ MS = MATRIX SPIKE; 5/ MSD = MATRIX SPIKE DUPLICATE; 6/ LD = LAB DUP

DATA EVALUATION SUMMARY EL. Stewart RF1

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VA ANALYTICAL DATA VALIDATION CHECKLIST SECTION FOUR PROJECT NAME: NECIRCOLATING WASH IMPUND PROJECT NUMBER: FST-030 OA REPORTING LEVEL: IL VALIDATION DATE: 20 000 93 ALL QA REPORTING LEVELS (I.II.III) PERFORMANCE REPORTED ACCEPTABLE NOT SUMMARY OF CHECKLIST FINDINGS NO YES REQUIRED YES 1. FIELD MEASUREMENTS OF PH AND SPECIFIC CONDUCTANCE ARE CONSISTENT WITH HISTORICAL DATA 2. FIELD RECORDS 3. METHODS (GEN.INFO. SECTION ONE)
4. HOLDING TIMES (MASTER SAMPLE LIST) A. EXTRACTION HOLDING TIMES B. ANALYSIS HOLDING TIMES 5. DETECTION LIMITS (SECTION ONE) 6. BLANKS (SECTIONS TWO OR THREE) A. EQUIPMENT RINSATE BLANKS B. FIELD BLANKS C. TRIP BLANKS D. LABORATORY BLANKS 7. FIELD REPLICATES 8. FIELD SPLITS 9. GEOPHYSICAL COMPARISONS A. CATION VS ANION B. TDS VS SPEC. CONDUCTANCE C. PH VS ALK/ACIDITY D. OTHER 10. METALS QA DATA (SECTION TWO) 11. INORGANIC WET CHEMISTRY (SEC. TWO) 12. ORGANIC OA DATA-GC (SECTION THREE-A) 13. ORGANIC WET CHEMISTRY (SEC. THREE-A) 14. ORGANIC QA DATA-GC/MS (SEC. THREE-B) AFTER COMPLETING THIS SECTION GO TO SECTION FIVE. COMMENTS: RAC

TION CHECKLIST

DATA VALIDATION CODING Ft. Stewart RF1 ANALYTICAL DATA VALIDATION CHECKLIST SECTION FIVE PROJECT NAME: REGIRCULATING WASH EMPOUND. PROJECT NUMBER: FST-030

QA REPORTING LEVEL: IT VALIDATION DATE: 20 DEC 93 1. QUALIFIER CODES ASSIGNED TO DATA: R. U. J. U/J. B. NO FLAG 2. IDENTIFICATION OF SAMPLES AND PARAMETERS WITH CODES: SAMPLE ID - PARAMETERS R CODE B CODE U CODE J CODE U/J CCDE EXPLANATION: see Section 4 acceptable

VALIDATION PERFORMED BY

SIGNED: FRANZ FROELICHER

DATE: 30 Dec 93

Ft. Stewart RF, DATA VALIDATION CHECK	CLIST
SAMPLE IDENTIFICATION: CST-031551 S32, S5 A. Samita, Lary offile Touth Mike Ba SAMPLING TEAM:  ANALYZING LABORATORY: Corr Solvandory ANALYSES PERFORMED: 8015/614/8140, 355	Taules  ALIDATION DATE: 21 Per 93  3 CS3 Dup, LS4, SS C, SS6  12  50, 105, 1/9040/9045
QA REPORTING LEVEL: The	
FIELD DATA PACKAGE DOCUM	PERFORMANCE REPORTED ACCEPTABLE NOT NO YES NO YES REQUIRED
1. SAMPLING DATES NOTED 2. SAMPLING TEAM INDICATED 3. SAMPLE IDENTIFICATION TRACEABLE TO LOCATION COLLECTED 4. SAMPLE LOCATION 5. SAMPLE LOCATION 5. SAMPLE DEPTH FOR SOILS 6. COLLECTION TECHNIQUE (BAILER, PUMP ETC. 7. FIELD SAMPLE PREPARATION TECHNIQUES 8. SAMPLE TYPE (GRAB, COMPOSITE) 9. SAMPLE CONTAINER TYPE 10. PRESERVATION METHODS 11. CHAIN OF CUSTODY FORM COMPLETED 12. REQUIRED ANALYTICAL METHODS REQUESTED 13. FIELD (WATER AND SOIL) SAMPLE LOGS COMPLETED PROPERLY AND SIGNED 14. NUMBER AND TYPE OF FIELD QC SAMPLES COLLECTED (BLANKS, REPLICATES, SPLITS, ETC.) 15. FIELD EQUIPMENT CALIBRATION 16. FIELD EQUIPMENT CALIBRATION 17. SAMPLE SHIPPING 18. LABORATORY TASK ORDER	

2/ MS = MATRIX SPIKE:

4/ MSD = MATRIX SPIKE DUP.;

6/ LD = LABORATORY DUPLICATE:

ANALYTICAL DATA PACKAGE	
GENERAL INFORMA	PERFORMANCE REPORTED ACCEPTABLE NOT
ALL QA REPORTING LEVELS	No YES NO YES REQUIRE
1. SAMPLE RESULTS 2. PARAMETERS ANALYZED 3. METHOD OF ANALYSIS 4. DETECTION LIMITS OF ANALYSIS 5. MASTER TRACKING LIST 6. SAMPLE COLLECTION DATE 7. LAB SAMPLE RECEIVED DATE 8. SAMPLE PREPARATION/EXTRACTION DATE 9. SAMPLE ANALYSIS DATE 10. COPY OF CHAIN-OF-CUSTODY FORM SIGNED BY THE LAB SAMPLE CUSTODIAN 11. A NARRATIVE SUMMARY OF QA OR SAMPLE PROBLEMS IS PROVIDED.	
AFTER COMPLETING SECTION ONE PROCEED TO T LEVEL OF SECTION TWO (INORGANIC ANALYSES) ANALYSES). FOLLOWING COMPLETION OF THESE FOUR (DATA EVALUATION SUMMARY).	) AND/OR SECTION THREE (ORGAN
ANALYTICAL DATA VALIDATION CHECKLIST SECTION TWO INORGANIC ANALY  METALS AND CLASSICAL WET O	
QA REPORTING LEVEL: I REQUIREMENTS (BATCH SPECIFIC QA) 1/	REPORTED IN LIMITS NOT NO YES NO YES REQUIRE
1. METHOD BLANKS 2. MS <sup>2</sup> /OR RWSD <sup>5</sup> / % RECOVERY (%R) 3. MSD <sup>4</sup> /OR RWSD <sup>5</sup> /OR LD <sup>6</sup> / %R 4. RPD <sup>7</sup> /	
COMMENTS:	
1/ BATCH SPECIFIC OA: APPLIES TO ANY SAI	MPLES IN ANALYTICAL BATCH

3/ RWS = REAGENT WATER SPIKE:

5/ RWSD = REAGENT WATER SPIKE DUP.;
7/ RPD = RELATIVE PERCENT DIFFERENCE

SECTION TWO		
INORGANIC ANALYSES		
QA REPORTING LEVEL: II REQUIREMENTS (BATCH SPECIFIC QA) 1/	REPORTED IN LIMITS NOT NO YES NO YES REQUIRED	
1. METHOD BLANKS 2. MS % RECOVERY (%R) 3. MSD OR <del>LAS DUPLICATE</del> % R 4. RWS % R 5. RWSD % R 6. RPDs FOR MS/MSD, <del>SAMPLE/LD, RWS/RWSD</del> 7. LCS* %R 8. ICVS * %R		
COMMENTS:		
QA REPORTING LEVEL: III REQUIREMENTS (SAMPLE SPECIFIC QA) 10/		
1. CALIBRATION CURVE STANDARDS 2. ICVS %R 3. CCVS 11 / %R 4. LCS %R 5. METHOD BLANKS 6. ICS 12 / %R (ICP ONLY) 7. DCS 13 / %R (ICP ONLY) 8. MS %R 9. LD OR MSD %R AND RPD 10. POST DIGESTION ANALYTICAL SPIKE 14 / COMMENTS:		
1/ SATCH SPECIFIC QA: APPLIES TO ANY SAMP 2/ MS = MATRIX SPIKE; 3/ RWS = 4/ MSD = MATRIX SPIKE DUP.; 5/ RWSD 6/ LD = LABORATORY DUPLICATE; 7/ RPD = 8/ LCS = LABORATORY CONTROL SAMPLE; 9/ ICVS = INITIAL CALIBRATION VERIFICATIO 10/ SAMPLE SPECIFIC QA: APPLIES TO ANY SAMPLE;	<ul> <li>REAGENT WATER SPIKE;</li> <li>REAGENT WATER SPIKE DUP.;</li> <li>RELATIVE PERCENT DIFFERENCE</li> </ul>	
10/ SAMPLE SPECIFIC QA: APPLIES TO PROJECT 11/ CCVS = CONTINUING CALIBRATION VERIFICA 12/ ICS = INTERFERENCE CHECK SAMPLE: 13/ 14/ POST DIGESTION ANALYTICAL SPIKE APPLIE	SPECIFIC SAMPLES. ATION STANDARD:	

ORGANIC ANA	ALYSES
DA REPORTING LEVEL: I_ REQUIREMENTS	REPORTED IN LIMITS NOT NO YES NO YES REQUIRE
1. WATER BLANKS 2. EXTRACTION BLANKS 3. RWS1' 4. RWSD2' 5. RPD3'	
DA REPORTING LEVEL: II REQUIREMENTS A. GAS CHROMATOGRAPHY (NO MASS SPEC) (	OR WET CHEMISTRY PROCEDURE
1. WATER BLANKS 2. EXTRACTION BLANKS 3. MS4/ (BATCH SPECIFIC) 4. MSD5/ (BATCH SPECIFIC) 5. LD6/ (OPTIONAL) 6. MS/MSD RPD OR SAMPLE/LD RPD 7. RWS 8. RWSD 9. RWS RPD 10. SURROGATE SPIKES	
B. GAS CHROMATOGRAPH/MASS SPECTROMETE	2
1. WATER BLANKS 2. EXTRACTION BLANKS 3. MS (BATCH SPECIFIC) 4. MSD (BATCH SPECIFIC) 5. LD (OPTIONAL) 6. MS/MSD RPD OR SAMPLE/LD RPD 7. RWS 8. RWSD 9. RWS RPD 10. SURROGATE SPIKES	

<sup>1/</sup> RWS = REAGENT WATER SPIKE; 2/ RWSD = REAGENT WATER SPIKE DUPLICATE; 3/ RPD = RELATIVE PERCENT DIFFERENCE; 4/ MS = MATRIX SPIKE; 5/ MSD = MATRIX SPIKE DUPLICATE; 6/ LD = LAB DUP

ANALYTICAL DATA VALIDATION CHECKLIST SECTION FOUR DATA EVALUATION S	SUMMARY FL. Stewart RF1
PROJECT NAME: applatt laulis PROJECT	
ALL QA REPORTING LEVELS (I.II.III)  SUMMARY OF CHECKLIST FINDINGS	PERFORMANCE REPORTED ACCEPTABLE NOT NO YES NO YES REQUIRED
1. FIELD MEASUREMENTS OF PH AND SPECIFIC CONDUCTANCE ARE CONSISTENT WITH HISTORICAL DATA  2. FIELD RECORDS 3. METHODS (GEN.INFO. SECTION ONE) 4. HOLDING TIMES (MASTER SAMPLE LIST) A. EXTRACTION HOLDING TIMES B. ANALYSIS HOLDING TIMES 5. DETECTION LIMITS (SECTION ONE) 6. BLANKS (SECTIONS TWO OR THREE) A. EQUIPMENT RINSATE BLANKS B. FIELD BLANKS C. TRIP BLANKS D. LABORATORY BLANKS 7. FIELD REPLICATES 8. FIELD SPLITS 9. GEOPHYSICAL COMPARISONS A. CATION VS ANION B. TDS VS SPEC. CONDUCTANCE C. PH VS ALK/ACIDITY D. OTHER 10. METALS QA DATA (SECTION TWO) 11. INORGANIC WET CHEMISTRY (SEC. TWO) 12. ORGANIC GA DATA-GC (SECTION THREE-A) 13. ORGANIC WET CHEMISTRY (SEC. THREE-A) 14. ORGANIC QA DATA-GC/MS (SEC. THREE-B)	
AFTER COMPLETING THIS SECTION GO TO SECTIO COMMENTS:	N FIVE.

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ANALYTIC SECTION	CAL DATA VALIDATION CHECKLIST FIVE  **D  **D  **D  **D  **D  **D  **D  *
<u> </u>	DATA VALIDATION CODING [] Stawart RF1
PROJEC QA REF	CT NAME: Oxphalt toules PROJECT NUMBER: 157-831 PORTING LEVEL: TE VALIDATION DATE: 15 200-93
1. QUALI	IFIER CODES ASSIGNED TO DATA: R, U, J, U/J, B, NO FLAG
2. IDEN	TIFICATION OF SAMPLES AND PARAMETERS WITH CODES:  Sample ID PARAMETERS
R CODE	
B CODE	
U CODE	
J CODE	
CODE N/J	
EXPLANAT	TION: all acceptable
VALIDAT]	ION PERFORMED BY: FRANZ FROELCCHEIS
	DATE: 21 Dec - 93

H. Stewart RF, DATA VALIDATION CHEC	KLIST
PROJECT NUMBER: FST-032 1 J SAMPLING DATE: 19 12 JAN 13 JAN 19 19 19 19 19 19 19 19 19 19 19 19 19	Level Touls.  ALIDATION DATE: 7 Kov- 93  SB3, SB4, SB5, SB6, SB6 Out
ANALYZING LABORATORY: Con Replanation ANALYSES PERFORMED: 2015, 614/8140, 355  SAMPLE MATRIX: Non Concern (soil) QA REPORTING LEVEL:	4
FIFLD DATA PACKAGE DOCU	MENTATION
FIELD SAMPLING LOGS: 1/	PERFORMANCE REPORTED ACCEPTABLE NOT NO YES NO YES REQUIRED
1. SAMPLING DATES NOTED 2. SAMPLING TEAM INDICATED 3. SAMPLE IDENTIFICATION TRACEABLE TO LOCATION COLLECTED 4. SAMPLE LOCATION 5. SAMPLE DEPTH FOR SOILS 6. COLLECTION TECHNIQUE (BAILER, PUMP ETC 7. FIELD SAMPLE PREPARATION TECHNIQUES 8. SAMPLE TYPE (GRAB, COMPOSITE) 9. SAMPLE CONTAINER TYPE 10. PRESERVATION METHODS 11. CHAIN OF CUSTODY FORM COMPLETED 12. REQUIRED ANALYTICAL METHODS REQUESTED 13. FIELD (WATER AND SOIL) SAMPLE LOGS COMPLETED PROPERLY AND SIGNED 14. NUMBER AND TYPE OF FIELD QC SAMPLES COLLECTED (BLANKS, REPLICATES, SPLITS, ETC.) 15. FIELD EQUIPMENT CALIBRATION 16. FIELD EQUIPMENT DECONTAMINATION 17. SAMPLE SHIPPING 18. LABORATORY TASK ORDER	KKKK KKKKK KKKKKKKKKKKKKKKKKKKKKKKKKKK

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ANALYTICAL DATA PACKAGE	DOCUMENTATION
	TION
ALL QA REPORTING LEVELS	PERFORMANCE REPORTED ACCEPTABLE NOT NO YES NO YES REQUIRED
1. SAMPLE RESULTS 2. PARAMETERS ANALYZED 3. METHOD OF ANALYSIS 4. DETECTION LIMITS OF ANALYSIS 5. MASTER TRACKING LIST 6. SAMPLE COLLECTION DATE 7. LAB SAMPLE RECEIVED DATE 8. SAMPLE PREPARATION/EXTRACTION DATE 9. SAMPLE ANALYSIS DATE 10. COPY OF CHAIN-OF-CUSTODY FORM SIGNED BY THE LAB SAMPLE CUSTODIAN 11. A NARRATIVE SUMMARY OF QA OR SAMPLE PROBLEMS IS PROVIDED.	
AFTER COMPLETING SECTION ONE PROCEED TO TLEVEL OF SECTION TWO (INORGANIC ANALYSES) ANALYSES). FOLLOWING COMPLETION OF THESE FOUR (DATA EVALUATION SUMMARY).	AND/OR SECTION THREE (ORGANIC
ANALYTICAL DATA VALIDATION CHECKLIST SECTION TWO INORGANIC ANALY METALS AND CLASSICAL WET OF	SES
QA REPORTING LEVEL: I	REPORTED IN LIMITS NOT NO YES NO YES REQUIRED
1. METHOD BLANKS % RECOVERY (%R) 2. MS2' OR RWSD5' OR LD6' %R 4. RPD7'	
COMMENTS:	
4/ MSD = MATRIX SPIKE DUP.; 5/ RWS[	MPLES IN ANALYTICAL BATCH  = REAGENT WATER SPIKE;  = REAGENT WATER SPIKE DUP.;  = RELATIVE PERCENT DIFFERENCE

ANALYTICAL DATA VALIDATION CHECKLIST SECTION TWO

INORGANIC ANALYS	SE 0	
METALS AND CLASSICAL WET CH	HEMISTRY ME	THODS
QA REPORTING LEVEL: II REQUIREMENTS (BATCH SPECIFIC QA) > /	REPORTED No YES	IN LIMITS NOT
1. METHOD BLANKS 2. MS % RECOVERY (%R) 3. MSD OR LAB DUPLICATE % R 4. RWS % R 5. RWSD % R 6. RPDs for MS/MSD, SAMPLE/LD, RWS/RWSD 7. LCS*/ %R 8. ICVS **/ %R	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
COMMENTS:		
REQUIREMENTS (SAMPLE SPECIFIC QA) 10/  1. CALIBRATION CURVE STANDARDS 2. ICVS 7R 3. CCVS 11/ 7R 4. LCS 7R 5. METHOD BLANKS 6. ICS 12/ 7R (ICP ONLY) 7. DCS 13/ 7R (ICP ONLY) 8. MS 7R		
9. LD OR MSD %R AND RPD 10. POST DIGESTION ANALYTICAL SPIKE "" COMMENTS:		
or wert 3.		•
1 ID = 1 MODITED IN THE STATE OF THE STATE O	REAGENT WA RELATIVE F N STANDARD; SPECIFIC S TION STANDA	ATER SPIKE: VATER SPIKE DUP.; PERCENT DIFFERENCE : SAMPLES ARD;

ANALYTICAL DATA VALIDATION CHECKLIST SECTION THREE			
ORGANIC ANAL	YSES		
QA REPORTING LEVEL: I_ REQUIREMENTS	REPORTED No YES	IN LIMITS NO YES	NOT REOUIRED
1. WATER BLANKS 2. EXTRACTION BLANKS 3. RWS¹/ 4. RWSD²/ 5. RPD³/			
COMMENTS:			
		4.6	
QA REPORTING LEVEL: II REQUIREMENTS A. GAS CHROMATOGRAPHY (NO MASS SPEC) OF	WET CHEMIS	TRY PROCED	URE
1. WATER BLANKS 2. EXTRACTION BLANKS 3. MS4/ (BATCH SPECIFIC) 4. MSD5/ (BATCH SPECIFIC) 5. LD6/ (OPTIONAL) 6. MS/MSD RPD OR SAMPLE/LD RPD 7. RWS 8. RWSD 9. RWS RPD 10. SURROGATE SPIKES			
B. GAS CHROMATOGRAPH/MASS SPECTROMETER			44,
1. WATER BLANKS 2. EXTRACTION BLANKS 3. MS (BATCH SPECIFIC) 4. MSD (BATCH SPECIFIC) 5. LD (OPTIONAL) 6. MS/MSD RPD OR SAMPLE/LD RPD 7. RWS 8. RWSD 9. RWS RPD 10. SURROGATE SPIKES			
COMMENTS:		•	

<sup>1/</sup> RWS = REAGENT WATER SPIKE; 2/ RWSD = REAGENT WATER SPIKE DUPLICATE; 3/ RPD = RELATIVE PERCENT DIFFERENCE; 4/ MS = MATRIX SPIKE; 5/ MSD = MATRIX SPIKE DUPLICATE; 6/ LD = LAB DUP

ANALYTICAL DATA VALIDATION CHECKLIST SECTION FOUR DATA EVALUATION S	
PROJECT NAME: Supply diesel tombe PROJECT NAME: DEVEL: The VALIDATION (	JECT NUMBER: <u>FST-031</u> DATE: <u>7 Non-93</u>
ALL QA REPORTING LEVELS (I.II.III)  SUMMARY OF CHECKLIST FINDINGS	PERFORMANCE REPORTED ACCEPTABLE NOT NO YES NO YES REQUIRED
1. FIELD MEASUREMENTS OF PH AND SPECIFIC CONDUCTANCE ARE CONSISTENT WITH HISTORICAL DATA  2. FIELD RECORDS  5. METHODS (GEN.INFO. SECTION ONE)  4. HOLDING TIMES (MASTER SAMPLE LIST) A. EXTRACTION HOLDING TIMES B. ANALYSIS HOLDING TIMES  5. DETECTION LIMITS (SECTION ONE)  6. BLANKS (SECTIONS TWO OR THREE) A. EQUIPMENT RINSATE BLANKS B. FIELD BLANKS C. TRIP BLANKS D. LABORATORY BLANKS  7. FIELD REPLICATES  8. FIELD SPLITS  9. GEOPHYSICAL COMPARISONS A. CATION VS ANION B. TDS VS SPEC. CONDUCTANCE C. PH VS ALK/ACIDITY D. OTHER  10. METALS QA DATA (SECTION TWO) 11. INORGANIC WET CHEMISTRY (SEC. TWO) 12. ORGANIC GA DATA-GC (SECTION THREE-A) 13. ORGANIC WET CHEMISTRY (SEC. THREE-B) 14. ORGANIC QA DATA-GC/MS (SEC. THREE-B)	
AFTER COMPLETING THIS SECTION GO TO SECTI COMMENTS:	ON FIVE.

( )

ANALYTICAL SECTION FI	DATA VALIDATION CHECKLIST
	DATA VALIDATION CODING / Sewart RF1
PROJECT	NAME: Supply Diesel Toulo PROJECT NUMBER: FST-03]
UA REPOR	TING LEVEL: The Validation Date: 7 Mon 93
1. QUALTET	ER CODES ASSIGNED TO DATA: R, U, J, U/J, B, NO FLAG
Z. IDENIIF	ICATION OF SAMPLES AND PARAMETERS WITH CODES:  SAMPLE ID  PARAMETERS
R CODE	
B CODE	
U CODE	
J CODE	·
U/J	
CCDE	
XPLANATIO	
	all Prophoble
The second secon	
AL IDATION	PERFORMED BY: FRANZ FROELICHER
	SIGNED:
	DATE: 7 hor 93

DATA VALIDATION CHECKLIST SECTION ONE DEH Perticialo Washous PROJECT NAME: PROJECT NUMBER:\_ SAMPLING DATE: 11 1.193 resourted SVALIDATION DATE: 7 UN SAMPLE IDENTIFICATION: FST 033 SAMPLING TEAM: T. fmite ANALYZING LABORATORY:\_\_\_\_ ANALYSES PERFORMED: 608/\$080, 634/8840 SAMPLE MATRIX: Non Ca OA REPORTING LEVEL: FIELD DATA PACKAGE DOCUMENTATION PERFORMANCE REPORTED ACCEPTABLE NOT FIELD SAMPLING LOGS: 1 No YES No YES REQUIRED 1. SAMPLING DATES NOTED 2. SAMPLING TEAM INDICATED 3. SAMPLE IDENTIFICATION TRACEABLE TO LOCATION COLLECTED 4. SAMPLE LOCATION 5. SAMPLE DEPTH FOR SOILS 6. COLLECTION TECHNIQUE (BAILER, PUMP ETC 7. FIELD SAMPLE PRÉPARATION TECHNIQUES 8. SAMPLE TYPE (GRAB, COMPOSITE) 9. SAMPLE CONTAINER TYPE 10. PRESERVATION METHODS 11. CHAIN OF CUSTODY FORM COMPLETED 12. REQUIRED ANALYTICAL METHODS REQUESTED 13. FIELD (WATER AND SOIL) SAMPLE LOGS COMPLETED PROPERLY AND SIGNED 14. NUMBER AND TYPE OF FIELD QC SAMPLES COLLECTED (BLANKS, REPLICATES, SPLITS, ETC.) 15. FIELD EQUIPMENT CALIBRATION 16. FIELD EQUIPMENT DECONTAMINATION 17. SAMPLE SHIPPING 18. LABORATORY TASK ORDER 1/ FIELD SAMPLING LOGS = WATER AND/OR SOIL/SEDIMENT SAMPLING LOGS COMMENTS:\_\_\_\_

ANALYTICAL DATA PACKAGE	DOCUMENTAT	ION	
GENERAL INFORMA	TION		
ALL QA REPORTING LEVELS	REPORTED NO YES		Not
1. SAMPLE RESULTS 2. PARAMETERS ANALYZED 3. METHOD OF ANALYSIS 4. DETECTION LIMITS OF ANALYSIS 5. MASTER TRACKING LIST 6. SAMPLE COLLECTION DATE 7. LAB SAMPLE RECEIVED DATE 8. SAMPLE PREPARATION/EXTRACTION DATE 9. SAMPLE ANALYSIS DATE 10. COPY OF CHAIN-OF-CUSTODY FORM SIGNED BY THE LAB SAMPLE CUSTODIAN 11. A NARRATIVE SUMMARY OF QA OR SAMPLE PROBLEMS IS PROVIDED.	K K K K K K K K K K K K K K K K K K K	K KKKKKK	
AFTER COMPLETING SECTION ONE PROCEED TO T LEVEL OF SECTION TWO (INORGANIC ANALYSES) ANALYSES). FOLLOWING COMPLETION OF THESE FOUR (DATA EVALUATION SUMMARY).	AND/OR SE	ECTION THREE	CORGANIC
ANALYTICAL DATA VALIDATION CHECKLIST SECTION TWO  METALS AND CLASSICAL WET OF		METHODS	
QA REPORTING LEVEL: I REQUIREMENTS (BATCH SPECIFIC QA) '/	REPORTED NO YES	IN LIMITS NO YES	NOT REQUIRED
1. METHOD BLANKS % RECOVERY (%R) 2. MS2' OR RWSD5' OR LD6' %R 4. RPD7'			
COMMENTS:			
	= REAGENT	NALYTICAL B WATER SPIK T WATER SPI	E:

2/ MS = MATRIX SPIKE; 3/ RWS = REAGENT WATER SPIKE; 4/ MSD = MATRIX SPIKE DUP.; 5/ RWSD = REAGENT WATER SPIKE DUP.; 6/ LD = LABORATORY DUPLICATE; 7/ RPD = RELATIVE PERCENT DIFFERENCE

ANALYTICAL DATA VALIDATION CHECKLIST

SECTION TWO	
INORGANIC ANALY	YSES .
METALS AND CLASSICAL WET C	CHEMISTRY METHODS
QA REPORTING LEVEL: II REQUIREMENTS (BATCH SPECIFIC QA) 1/	REPORTED IN LIMITS NOT NO YES NO YES REQUIRED
1. METHOD BLANKS 2. MS % RECOVERY (%R) 3. MSD OR LAB DUPLICATE % R 4. RWS % R 5. RWSD % R 6. RPDs FOR MS/MSD, SAMPLE/LD, RWS/RWSD 7. LCS*/ %R 8. ICVS */ %R COMMENTS:	
COMMENTS:	
QA REPORTING LEVEL: III REQUIREMENTS (SAMPLE SPECIFIC QA) 10/	
1. CALIBRATION CURVE STANDARDS 2. ICVS %R 3. CCVS''/ %R 4. LCS %R 5. METHOD BLANKS 6. ICS'2/ %R (ICP only) 7. DCS'3/ %R (ICP only) 8. MS %R 9. LD OR MSD %R AND RPD 10. POST DIGESTION ANALYTICAL SPIKE'4/	
COMMENTS:	
3/ 1D = 1.400D	- REAGENT WATER SPIKE;  = REAGENT WATER SPIKE;  = RELATIVE PERCENT DIFFERENCE  ON STANDARD;  T SPECIFIC SAMPLES  ATION STANDARD;

A REPORTING LEVEL: I_	ALYSES REPORTED	In LIMITS	
EOUIREMENTS	NO YES	No YES	REQUIRED
1. WATER BLANKS 2. EXTRACTION BLANKS 3. RWS¹/ 4. RWSD²/ 5. RPD³/			
OMMENTS:			
		41	
DA REPORTING LEVEL: II REQUIREMENTS A. GAS CHROMATOGRAPHY (NO MASS SPEC)	OR WET CHEMIS	STRY PROCED	URE
1. WATER BLANKS 2. EXTRACTION BLANKS 3. MS4' (BATCH SPECIFIC) 4. MSD5' (BATCH SPECIFIC) 5. LD6' (OPTIONAL) 6. MS/MSD RPD OR SAMPLE/LD RPD 7. RWS 8. RWSD 9. RWS RPD 10. SURROGATE SPIKES			
3. GAS CHROMATOGRAPH/MASS SPECTROMETI	<u> </u>		_
1. WATER BLANKS 2. EXTRACTION BLANKS 3. MS (BATCH SPECIFIC) 4. MSD (BATCH SPECIFIC) 5. LD (OPTIONAL) 6. MS/MSD RPD OR SAMPLE/LD RPD 7. RWS 8. RWSD 9. RWS RPD 10. SURROGATE SPIKES			
COMMENTS:			
501 II ICI1 I 3 .		<u> </u>	

<sup>1/</sup> RWS = REAGENT WATER SPIKE; 2/ RWSD = REAGENT WATER SPIKE DUPLICATE; 3/ RPD = RELATIVE PERCENT DIFFERENCE; 4/ MS = MATRIX SPIKE; 5/ MSD = MATRIX SPIKE DUPLICATE; 6/ LD = LAB DUP

ANALYTICAL DATA VALIDATION CHECKLIST	<i>-</i> 1	O.4	,
DATA EVALUATION S			
PROJECT NAME: Portion Warehouse PRO. OA REPORTING LEVEL: 77 VALIDATION E	JECT NUMBER	: FST-0	§ }
ALL QA REPORTING LEVELS (I.II, III)		PERFORMANC	
SUMMARY OF CHECKLIST FINDINGS	REPORTED No YES	ACCEPTABLE NO YES F	NOT REQUIRED
1. FIELD MEASUREMENTS OF PH AND SPECIFIC CONDUCTANCE ARE CONSISTENT WITH HISTORICAL DATA  2. FIELD RECORDS 3. METHODS (GEN.INFO. SECTION ONE) 4. HOLDING TIMES (MASTER SAMPLE LIST) A. EXTRACTION HOLDING TIMES B. ANALYSIS HOLDING TIMES 5. DETECTION LIMITS (SECTION ONE) 6. BLANKS (SECTIONS TWO OR THREE) A. EQUIPMENT RINSATE BLANKS B. FIELD BLANKS C. TRIP BLANKS D. LABORATORY BLANKS 7. FIELD REPLICATES 8. FIELD SPLITS 9. GEOPHYSICAL COMPARISONS A. CATION VS ANION B. TOS VS SPEC. CONDUCTANCE C. PH VS ALK/ACIDITY D. OTHER 10. METALS GA DATA (SECTION TWO) 11. INORGANIC WET CHEMISTRY (SEC. TWO) 12. ORGANIC GA DATA-GC (SECTION THREE-A) 13. ORGANIC WET CHEMISTRY (SEC. THREE-B)			
AFTER COMPLETING THIS SECTION GO TO SECTION COMMENTS:	ON FIVE.		
		hammer the finance of high Admits control to a subhammer the finance of high and high a	and water to comment to the second of the se

ANALYTICAL DATA VALIDAT SECTION FIVE	and the second s		
	DATA VALIDATION CODING FT Slewent RF1		
PROJECT NAME: Perticipation OA REPORTING LEVEL:	VALIDATION DATE: FST-033		
2. IDENTIFICATION OF SA	GNED TO DATA: R, U, J, U/J, B, NO FLAG		
SAMPLE III	PARAMETERS		
R CODE			
8 CODE			
U CODE			
J CODE			
U/J ccoe			
EXPLANATION: QQ	l acceptable		
VALIDATION PERFORMED BY	:_ ERANZ FROKLICHEN		
SIGNED			
DATE	= 7 hor 93		

Et. Stewart RF1 DATA VALIDATION CHECK	(LIST 637)
SAMPLE IDENTIFICATION: FST-034851-10-93  SAMPLING TEAM: JSmith L. Beliff J. Sin ANALYZING LABORATORY: Corr John atom	Mail Rose  ALIDATION DATE: 81 Duc-93  SS2, SS2 Dup, SS3  with M Bouly  3550
FIELD SAMPLING LOGS:1/	PERFORMANCE REPORTED ACCEPTABLE NOT NO YES NO YES REOUIRE
1. SAMPLING DATES NOTED 2. SAMPLING TEAM INDICATED 3. SAMPLE IDENTIFICATION TRACEABLE TO LOCATION COLLECTED 4. SAMPLE LOCATION 5. SAMPLE DEPTH FOR SOILS 6. COLLECTION TECHNIQUE (BAILER, PUMP ETC 7. FIELD SAMPLE PREPARATION TECHNIQUES 8. SAMPLE TYPE (GRAB, COMPOSITE) 9. SAMPLE CONTAINER TYPE 10. PRESERVATION METHODS 11. CHAIN OF CUSTODY FORM COMPLETED 12. REQUIRED ANALYTICAL METHODS REQUESTED 13. FIELD (WATER AND SOIL) SAMPLE LOGS COMPLETED PROPERLY AND SIGNED 14. NUMBER AND TYPE OF FIELD QC SAMPLES COLLECTED (BLANKS, REPLICATES, SPLITS, ETC.) 15. FIELD EQUIPMENT CALIBRATION 16. FIELD EQUIPMENT DECONTAMINATION 17. SAMPLE SHIPPING 18. LABORATORY TASK ORDER	

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2/ MS = MATRIX SPIKE;

4/ MSD = MATRIX SPIKE DUP.; 6/ LD = LABORATORY DUPLICATE;

ANALYTICAL DATA PACKAGE	
GENERAL INFORMA	TION
ALL QA REPORTING LEVELS	PERFORMANCE REPORTED ACCEPTABLE NOT NO YES NO YES REQUIRED
1. SAMPLE RESULTS 2. PARAMETERS ANALYZED 3. METHOD OF ANALYSIS 4. DETECTION LIMITS OF ANALYSIS 5. MASTER TRACKING LIST 6. SAMPLE COLLECTION DATE 7. LAB SAMPLE RECEIVED DATE 8. SAMPLE PREPARATION/EXTRACTION DATE 9. SAMPLE ANALYSIS DATE 10. COPY OF CHAIN-OF-CUSTODY FORM SIGNED BY THE LAB SAMPLE CUSTODIAN 11. A NARRATIVE SUMMARY OF CA OR SAMPLE PROBLEMS IS PROVIDED.	
AFTER COMPLETING SECTION ONE PROCEED TO T LEVEL OF SECTION TWO (INORGANIC ANALYSES) ANALYSES). FOLLOWING COMPLETION OF THESE FOUR (Data Evaluation Summary).	AND/OR SECTION THREE (ORGANIC
ANALYTICAL DATA VALIDATION CHECKLIST SECTION TWO INORGANIC ANALY	'SES
METALS AND CLASSICAL WET C	HEMISTRY METHODS
QA REPORTING LEVEL: I REQUIREMENTS (BATCH SPECIFIC QA) 1/	REPORTED IN LIMITS NOT NO YES NO YES REQUIRED
1. METHOD BLANKS % RECOVERY (%R) 2. MS2' OR RWSD5' OR LD6' %R 4. RPD7'	
COMMENTS:	
1/ PATCH CRECIETO OA	
1/ BATCH SPECIFIC QA: APPLIES TO ANY SAN	MPLES IN ANALYTICAL BATCH

3/ RWS = REAGENT WATER SPIKE;

5/ RWSD = REAGENT WATER SPIKE DUP.; 7/ RPD = RELATIVE PERCENT DIFFERENCE ANALYTICAL DATA VALIDATION CHECKLIST

SECTION IMO		•
- METALS AND CLASSICAL WET CH	ES	T1.0
	FWIZIRY ME	<u> THODS</u>
CA REPORTING LEVEL: II REQUIREMENTS (SAICH SPECIFIC OA) '/	REPORTED No YES	IN LIMITS NOT NO YES REQUIRED
1. METHOD BLANKS 2. MS % RECOVERY (%R) 3. MSD OR LAB DUPLICATE % R 4. RWS % R 5. RWSD % R 6. RPDS FOR MS/MSD, SAMPLE/LD, RWS/RWSD 7. LCS* %R 8. ICVS * %R		
COMMENTS:	<u></u>	
QA REPORTING LEVEL: III REQUIREMENTS (SAMPLE SPECIFIC QA) 19/		
1. CALIBRATION CURVE STANDARDS 2. ICVS %R 3. CCVS 1 / %R 4. LCS %R 5. METHOD BLANKS 6. ICS 2 / %R (ICP ONLY) 7. DCS 3 / %R (ICP ONLY) 8. MS %R 9. LD OR MSD %R AND RPD 10. POST DIGESTION ANALYTICAL SPIKE 14 /		
COMMENTS:		
ATCH SPECIFIC QA: APPLIES TO ANY SAMPLE  MS = MATRIX SPIKE; 3/ RWS =  MSD = MATRIX SPIKE DUP.; 5/ RWSD =  MSD = LABORATORY DUPLICATE; 7/ RPD =  CONTROL SAMPLE;  MO/ SAMPLE SPECIFIC QA: APPLIES TO PROJECT  MO/ CCVS = CONTINUING CALIBRATION VERIFICATION  MO/ CCVS = CONTINUING CALIBRATION VERIFICATION  MO/ CCVS = INTERFERENCE CHECK SAMPLE; 13/ [MO/ POST DIGESTION ANALYTICAL SPIKE APPLIES	REAGENT WAR RELATIVE FOR STANDARD SPECIFIC STANDARD	ATER SPIKE; WATER SPIKE DUP.; PERCENT DIFFERENCE  ; SAMPLES ARD;

## ANALYTICAL DATA VALIDATION CHECKLIST

SECTION THREEORGANIC ANALY	'SES
QA REPORTING LEVEL: I_ REQUIREMENTS	REPORTED IN LIMITS NOT NO YES NO YES REQUIRED
1. WATER BLANKS 2. EXTRACTION BLANKS 3. RWS'/ 4. RWSD2/ 5. RPD3/	
COMMENTS:	
	·: •
QA REPORTING LEVEL: II REQUIREMENTS A. GAS CHROMATOGRAPHY (NO MASS SPEC) OR	WET CHEMISTRY PROCEDURE
1. WATER BLANKS 2. EXTRACTION BLANKS 3. MS4/ (BATCH SPECIFIC) 4. MSD5/ (BATCH SPECIFIC) 5. LD6/ (OPTIONAL) 6. MS/MSD RPD OR SAMPLE/LD RPD 7. RWS 8. RWSD 9. RWS RPD 10. SURROGATE SPIKES	
B. GAS CHROMATOGRAPH/MASS SPECTROMETER	-
1. WATER BLANKS 2. EXTRACTION BLANKS 3. MS (BATCH SPECIFIC) 4. MSD (BATCH SPECIFIC) 5. LD (OPTIONAL) 6. MS/MSD RPD OR SAMPLE/LD RPD 7. RWS 8. RWSD 9. RWS RPD 10. SURROGATE SPIKES	
COMMENTS:	

<sup>1/</sup> RWS = REAGENT WATER SPIKE; 2/ RWSD = REAGENT WATER SPIKE DUPLICATE; 3/ RPD = RELATIVE PERCENT DIFFERENCE; 4/ MS = MATRIX SPIKE; 5/ MSD = MATRIX SPIKE DUPLICATE; 6/ LD = LAB DUP

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ANALYTICAL DATA VALIDATION CHECKLIST SECTION FOUR \_\_DATA EVALUATION SUMMARY FX. PROJECT NAME: Equipment Work Cook PROJECT NUMBER: F57-084 VALIDATION DATE: OA REPORTING LEVEL:\_ ALL QA REPORTING LEVELS (I.II.III) PERFORMANCE REPORTED ACCEPTABLE NOT SUMMARY OF CHECKLIST FINDINGS NO YES NO YES REQUIRED 1. FIELD MEASUREMENTS OF PH AND SPECIFIC CONDUCTANCE ARE CONSISTENT WITH HISTORICAL DATA 2. FIELD RECORDS 3. METHODS (GEN.INFO. SECTION ONE)
4. HOLDING TIMES (MASTER SAMPLE LIST) A. EXTRACTION HOLDING TIMES B. ANALYSIS HOLDING TIMES 5. DETECTION LIMITS (SECTION ONE) 6. BLANKS (SECTIONS TWO OR THREE) A. EQUIPMENT RINSATE BLANKS B. FIELD BLANKS C. TRIP BLANKS D. LABORATORY BLANKS 7. FIELD REPLICATES 8. FIELD SPLITS 9. GEOPHYSICAL COMPARISONS A. CATION VS ANION B. TDS VS SPEC. CONDUCTANCE C. PH VS ALK/ACIDITY D. OTHER 10. METALS QA DATA (SECTION TWO) 11. INORGANIC WET CHEMISTRY (SEC. TWO) 12. ORGANIC CA DATA-GC (SECTION THREE-A) 13. ORGANIC WET CHEMISTRY (SEC. THREE-A)
14. ORGANIC QA DATA-GC/MS (SEC. THREE-B) AFTER COMPLETING THIS SECTION GO TO SECTION FIVE. COMMENTS:

ANALYTICAL	DATA VALIDATION C	HECKLIST
SECTION FI	DAT	A VALIDATION CODING Ft - Ctewart RF
PROJECT OA REPOR	NAME: Equipment	Vol Carl PROJECT NUMBER: EST - 034 VALIDATION DATE: 21 Rec - 93
GV KELON	TING LEVEU: 47	_ VALIDATION DATE: 21 Rec
1. Qualifi	ER CODES ASSIGNED	TO DATA: R. U. J. U/J. B. NO FLAG
2. IDENTIF	FICATION OF SAMPLES SAMPLE ID	AND PARAMETERS WITH CODES: PARAMETERS
R CODE		
B CODE		
U CODE _		
J CODE		
CODE _		
EXPLANATIO	on: ale a	Ecceptable
/ALIDATION	PERFORMED BY:	RAUZ FROELICKER
	SIGNED:	
	DATE 9	1 Ook 93