EG&G ROCKY FLATS

INTEROFFICE CORRESPONDENCE

DATE: November 15, 1993

TO: G. A. Anderson, Remediation Project Management, Bldg. 080, X8504

FROM: R. S. Luker, Environmental Quality Support, Bldg. 080, X8625

SUBJECT: TECHNICAL REVIEW AND COMPARISON OF THE OU 10 WORK PLAN WITH THE INTEGRATED OU FIELD SAMPLING PLAN - RSL-014-93

The Technical Implementation (TI) group within Environmental Restoration (ER) Environmental Quality Support (EQS) has evaluated and compared the Integrated Operable Unit (OU) Field Sampling Plan (FSP), (Jacobs 1993), with the Operable Unit 10 Phase I [Resource Conservation & Recovery Act] Facility Investigation/Remedial Investigation (RFI/RI) Work Plan, (EG&G, 1993) for the purpose of identifying and correcting any significant problems that might compromise data quality, i.e., its scientific and/or legal defensibility. The identified problems and suggested corrections are categorized and summarized below.

Also included in this letter report are the following attachments:

1. Review of the OU 10 surface soil sample field training
2. Environmental Management Inspection Report (EMIR) Check List for the OU 10 Work Plan
3. List of the Required Data Forms

The TI group can provide assistance for implementing corrective actions on items identified in this letter report.

ADMINISTRATIVE

1. Individual Hazardous Substance Site (IHSS) 124 is identified as being an OU 10 IHSS on page 7-24, Section 7.3.1 of the work plan. Table 1-1 of the Work Plan lists IHSS 124 as being in OU 9 and the Table of Contents does not list IHSS 124. However, Table 3-1 of the Field Sampling Plan lists it as being in OU 2. Clarify this discrepancy and make the necessary corrections in the Work Plan.

2. Correct the title of Table 3-1 to read "Sampling Program for the Integrated Operable Units 8,9,10,12,13, and 14".

3. Figure 7.3-2 on page 7-27 of the Work Plan shows potential sampling locations (open circles with dots in the centers) that are not explained in the legend. Clarify these symbols.

4. Three proposed soil gas survey points are identified in Figure 7.3-11 of the Work Plan for IHSS 206. The text on page 7-42 of the Work Plan and Table 3-1 of the FSP do not require soil gas surveys. The figure should be changed to indicated no soil gas survey sampling points.

5. The Work Plan text for OU 10, page 7-53, outlines procedures for High Purity Germanium Detector (HPGe) surveys. Since the Field Instrument to Detect Low Energy Radiation (FIDLER) is going to be substituted for the HPGe, the text should reflect the FIDLER procedures.

6. Section 7.4.4.1 of the Work Plan, part of the text beginning on page 7-54 through page 7-56 is out of place and incomplete. Section 7.4.4.1 starts over again on page 7-57 and is intact. Locate the mistake and make the appropriate changes.

7. There are no headers for the columns in Table 10.2,"Analytical Methods, Detection Limits, and Data Quality Objectives" in Appendix A of the Integrated FSP. Identify the column headings.

8. The acronym "FIDDLER", as reported in Table 3-1 of the FSP is incorrectly spelled. The correct spelling is "FIDLER" (Field Instrument to Detect Low Energy Radiation). Check for this error throughout the text and add the acronym to the List of Acronyms at the beginning of the document.

9. The FSP on page 3-7 indicates that details of the pipe and tank inspections can be found in Section 7.3.9 of the Work Plan. No information concerning the inspections at IHSS 205 is identified in this section. Clarify this discrepancy and define the details of the inspections.

10. Section 7.4.4.1 of the Work Plan explains the use of the HPGe surveys to identify soil sample locations. Table 3-1 of the FSP indicates that the FIDLER will be used. This should be changed to reflect the use of the FIDLER.

11. Section 7.3.2, page 7-26, paragraph 3 of the Work Plan needs correction. The number of soil samples to be collected will be identified in the Stage 1 Tech Memo, not the Stage 2 Tech Memo.

SAMPLING

1. Section 7.3.2, page 7-26, paragraph 3 of the Work Plan states that soil boring samples will be collected at IHSS 129. Table 3-1 of the FSP does not list this sampling event. Clarify the discrepancy.

2. Figure 7.3-2 on page 7-27 of the Work Plan shows ten (10) proposed surficial soil sample locations but Table 3-1 of the FSP identifies 11 sampling locations. Clarify the discrepancy.

3. The soil gas survey points in the Work Plan for IHSS 129 do not correspond to the points listed in Table 3-1 of the FSP. Figures 7.3-2 of the Work Plan has 14 survey points and Table 3-1 of the FSP lists 25 survey points. Clarify the discrepancy.

4. The tank and pipeline inspection locations for IHSS 129 are identified in the Work Plan on page 7-27, Figure 7.3-2. The FSP identifies these inspections but doesn't plan to perform them. Clarify the discrepancy.

5. The soil gas survey points identified for IHSS 170 in the Work Plan does not correspond to the points in the FSP. Figure 7.3-3 of the Work Plan has 233 survey points and Table 3-1 of the FSP lists 224 survey points. The discrepancy needs to be addressed.

6. Confirm that FIDLER surveys will be conducted at all required IHSS's for OU 10 as stated in the FSP and whether or not a mistake exists in the Work Plan which identifies HPGe surveys. Also verify the survey grid spacing to be used at each site.

7. The text in Section 7.3.4 of the Work Plan states that 25 soil samples will be collected at the drum storage area (IHSS 174A), eight samples in the dumpster storage area (IHSS 174B) and two outside the IHSS's boundaries for a total of 35 samples. Figure 7.3-4 indicates only 23 samples being collected in IHSS 174A. Also, Table 3-1 of the FSP lists 33 soil samples to be collected. Clarify these discrepancies.

8. Figure 7.3-5 of the Work Plan identifies 11 soil gas sampling locations at IHSS 175 but Table 3-1 of the FSP lists 10 sampling locations. Clarify the discrepancy.

9. Figure 7.3-6 of the Work Plan identifies 27 soil sampling locations at IHSS 176 but Table 3-1 of the FSP lists 29 sampling locations. Clarify the discrepancy.

10. Figure 7.3-6 of the Work Plan identifies 122 soil gas sampling locations at IHSS 175 but Table 3-1 of the FSP lists 224 sampling locations. Clarify the discrepancy.

11. Figure 7.3-7 of the Work Plan identifies 20 soil gas sampling locations at IHSS 177 but Table 3-1 of the FSP lists 16 sampling locations. Clarify the discrepancy.

12. Section 7.3.10, page 7-40 of the Work Plan (IHSS 205) is contradictory in that it indicates no surficial soil sampling will be conducted at the IHSS but later the text states surficial soil sampling will be conducted. Table 3-1 of the FSP does not list surficial soil sampling as an activity for IHSS 205. Clarify the discrepancy.

13. The text for IHSS 214, page 7-50, and Figure 7.3-16 of the Work Plan, indicate that 25 soil samples will be collected from the site but Table 3-1 of the FSP lists 18 soil samples. Clarify the discrepancy.

14. Text on page 3-6 of the FSP indicates a geophysical survey will be conducted at OU 10 and that the details of the survey are found in Section 7.4.4.1 of the Work Plan. The Work Plan for OU 10 does not identify any geophysical surveys. Correct the discrepancy.

15. Section 3.1 of the FSP (Vertical Profile Sampling) indicates that the details for the sampling at OU 10 are defined in Sections 7.2, 7.3 and 7.4 of the Work Plan. These sections do not define the methods or techniques to be used and do not define an appropriate Standard Operating Procedure (SOP). Define the sampling methods and the techniques to be used at OU 10.

QUALITY ASSURANCE

1. Section 4.2.6, page 4-21 of the Work Plan indicates the Precision, Accuracy Representatives, Completeness, and Comparability (PARCC) parameters are specified in the Quality Assurance Addendum (QAA). The QAA in the Work Plan, page 7-21 indicates the PARCC parameters are discussed in the Quality Assurance Project Plan (QAPjP). The QAPjP provides a definition and a general discussion of the PARCC parameters but does not identify the specific goals for each parameter. The PARCC parameter goals need to be defined exactly for the requirements to be met by OU 10 activities. These parameters need to be developed and coordinated with the laboratory (methods and detection limits) and the risk assessment personnel.

2. Data validation for environmental samples is not specified as how Quality Control samples will be used to actually validate data (i.e. EPA protocols to determine if a contaminant is from an outside source and at what concentrations do the levels in the environmental sample become verified). The Work Plan references the QAPjP, but it does not define the levels either. Clarify how samples are going to be validated.

REFERENCES

Jacobs Engineering Group Ind., 1993. "Integrated Field Sampling Plan (for Operable Units 8,9,10,12,13 and 14), Rocky Flats Plant, Draft (July 1993)". Nonintrusive Investigation of the Phase I RFI/RI Work Plan.

EG&G, 1992. "Final Phase I RFI/RI Work Plan for Operable Unit 10, Other Outside Closures, Rocky Flats Plant". Document Control No 21100-WP-OU10.1 Rev. 0.

This letter report is to inform you of recommended options for addressing the problems identified; it does not require a formal response or rebuttal.

If I can further help you define or comply with your project requirements, please call me at X8625 or Charlie Hayes at X6905.

CHH:maa

Attachments:
As Stated

cc:
K. Bentzen - w/o attachments
W. S. Busby - w/o attachments
C. H. Hayes
M. J. Kowalewski - w/o attachments
B. D. Peterman
ERM Central Records Center (2)

DATE: October 14, 1993

PREPARED BY: Greg DiGregorio

SUBJECT: INSPECTION OF JACOBS ENGINEERING SAMPLING CLASS FOR THE OPERABLE UNIT (OU) 10 FIELD SAMPLING PROGRAM

On October 13, 1993, Jacobs Engineering conducted a sampling class for Integrated Operable Unit subcontractor personnel on the techniques of collecting soil samples according to the EG&G EMD Standard Operating Procedures (SOPs). The field class covered surface soil sampling and vertical soil profiles using the various methods outlined in the SOPs. During the demonstration, several questions were asked about the procedures that are not defined in the SOPs. The following text lists the concerns and recommended actions that should be incorporated through Document Modification Requests (DMR's) or the development of new SOP's:

Concerns:

1. A new SOP was developed for surface soil sampling (5-21000-OPS-GT.08 Surface Soil Sampling). The new SOP has not been controlled/approved and technically cannot be implemented in the sampling program.

   RECOMMENDATION:
   The new SOP for GT.08 should be controlled before the field program is started and should be sent to EQS for review. Following an EQS review, the SOP needs to go out to general review and then to Document Control. The EG&G Project Manager for OU-10 should get this document to EQS as soon as possible.

2. Two vertical soil profile methods/techniques were described in the field demonstration and referenced to SOP 5-21000-OPS-GT.07, Logging and Sampling of Test Pits and Trenches. The SOP describes pits being 9-15 ft. long, 3-5 ft. wide and 4 ft. deep. This SOP is not appropriate for vertical soil profile sampling and leaves too many questions specific to the event unanswered. This SOP will cause more problems for the subcontractor in the future. There is no SOP for vertical profile sampling.

   RECOMMENDATION:
   Develop a Vertical Soil Profile SOP specific for the sampling activity. Submit the SOP to EQS for review prior to beginning the field sampling program for OU-10. A properly written SOP for this activity will alleviate numerous DMR's and changes to the SOP GT.07 which would detract from its' original purpose and scope.

3. The Surface Soil Sampling SOP (GT.07) does not reference the sampling of wet soils.

   RECOMMENDATION:
   The sampling of wet soils can be conducted if the sample was surveyed with a FIDLER. The FIDLER measurements are necessary to determine the amount of radioactivity in the sample for shipment to a laboratory. It is suggested that the sample not be collected from a sample point with standing water. All sampling equipment should be thoroughly decontaminated before and after discrete samples are collected.

EG&G ROCKY FLATS

ENVIRONMENTAL RESTORATION MANAGEMENT

EM Inspection Report (EMIR) Check List

CL No: CL5-21000-WP-OU10.1
Rev. 0
Prepared: 11/1/93

EMIR No.: _____
Page 1 of 4
Approved: [signature]
Approved Date: 11/16/93
Effective Date: _____

Check List for Procedure - No.: 5-21000-WP-OU10.1, 9/93
- Title: Phase I RFI/RI Work Plan for OU10, Other Outside Closures

INSPECTION ITEMS

No.	Item	Initial if Completed
1.	Objectives	
1.1	characterization: nature and extent of contamination within each individual IHSS:	
	- IHSS 129; Oil Leak	_____
	- IHSS 170; P.U, & D. Container Storage Yard - Waste Spills	_____
	- IHSS 174 Container Storage Yard - Waste Spills	_____
	- IHSS 175 Bldg. 980; Container Storage Facility	_____
	- IHSS 176 S&W Contractor Storage Yard	_____
	- IHSS 177; Bldg. 885; Drum Storage Area	_____
	- IHSS 181 Bldg. 334; Cargo Container Area	_____
	- IHSS 182 Bldg. 444/453; Drum Storage Area	_____
	- IHSS 205; Bldg. 460; SUMP #3/Acid Side	_____
	- IHSS 206 Bldg. D-836 (Inactive); Hazardous Waste Tank	_____
	- IHSS 207 Bldg. 444 (Inactive); Acid Dumpsters	_____
	- IHSS 208; Bldg. 444/447 (Inactive); Waste Storage Area	_____
	- IHSS 210 Bldg. 980, Unit 16; Cargo Container	_____
	- IHSS 213 Bldg. 904, Unit 15; Pad Pondcrete Storage	_____
	- IHSS 214 Bldg. 750, Unit 25; Pad Pondcrete and Saltcrete Storage	_____
1.2	environmental evaluation	_____
1.3	sample analysis and data validation	_____
1.4	DQO's/PARCC parameters	_____
1.5	data evaluation	_____
1.6	baseline risk assessment	_____
1.7r	remedial action alternatives	_____
1.8	Phase I RFI/RI report	_____
2.	Field Sampling Plan (Rationale Table 7.1)	
2.1	stage 1:	
2.1.1	HPGe radiation survey	_____
2.1.2	soil gas survey	_____

2.1.3 soil cores . . . . . _____
2.1.4 surficial soil samples . . . . . _____
2.1.5 inspect tanks and ancillary equipment . . . . . _____
2.1.6 sample tank residue . . . . . _____
2.2 stage 2: (TBD Technical Memorandum 1) . . . . . _____
2.2.1 surficial soil samples . . . . . _____
2.2.2 soil cores or borings . . . . . _____
2.3 stage 3: soil borings (TBD Technical Memorandum 2) . . . . . _____
2.4 stage 4: (TBD Technical Memorandum 3) . . . . . _____
2.4.1 soil borings . . . . . _____
2.4.2 sediment and surface water samples . . . . . _____
2.4.3 piezometer installations . . . . . _____
2.4.4 tensiometer nest installations . . . . . _____

3. IHSS Specific Sampling Activities (stage 1)
3.1 Sampling Procedures - Table 7.2 . . . . . _____
3.2 Analytical Program - Table 7.3,7.4, 7.5, 7.7, and 10.2 . . . . . _____
3.3 QA/QC - Table 7.8 . . . . . _____
3.4 IHSS 129:
3.4.1 sampling locations (see Fig. 7.3-2) . . . . . _____
3.4.2 sample types
3.4.2.1 soil gas (grid: 10 ft. centers) . . . . . _____
3.4.2.2 surface soil samples (10 total) . . . . . _____
3.4.2.3 tank residue sample (1 total) . . . . . _____
3.4.2.4 stage 2 soil bore locations (TBD Technical Memorandum 1) . . . . . _____
3.5 IHSS 170:
3.5.1 sampling locations (Fig. 7.3-3) . . . . . _____
3.5.2 sample types
3.5.2.1 HPGe rad survey (grid: 150 ft. centers) . . . . . _____
3.5.2.2 soil gas (grid: 40 ft. centers) . . . . . _____
3.5.2.3 surface soil samples (35 total) . . . . . _____
3.5.2.4 stage 2 soil bore locations (TBD Technical Memorandum 1) . . . . . _____
3.6 IHSS 174:
3.6.1 sampling locations (see Fig. 7.3-4) . . . . . _____
3.6.2 sample types
3.6.1.1 HPGe rad survey (inc. w/IHSS 170) . . . . . _____
3.6.1.2 soil gas (grid: 20 ft. centers) . . . . . _____
3.6.1.3 surface soil samples (35 total) . . . . . _____
3.6.1.4 stage 2 soil bore locations (TBD Technical Memorandum 1) . . . . . _____
3.7 IHSS 175:
3.7.1 sampling locations (see Fig. 7.3-5) . . . . . _____
3.7.2 sample types
3.7.2.1 HPGe rad survey (grid: 75 ft. centers) . . . . . _____
3.7.2.2 soil gas (grid: 20 ft. centers) . . . . . _____
3.7.2.3 surface soil samples (10 total) . . . . . _____
3.7.2.4 stage 2 soil bore locations (TBD Technical Memorandum 1) . . . . . _____
3.8 IHSS 176:
3.8.1 sampling locations (see Fig. 7.3-6) . . . . . _____
3.8.2 sample types
3.8.2.1 HPGe rad survey (grid: 150 ft. centers) . . . . . _____
3.8.2.2 soil gas (triangular grid: 40 ft. centers) . . . . . _____
3.8.2.3 surface soil samples (27 total) . . . . . _____
3.8.2.4 stage 2 bore locations (TBD Technical Memorandum 1) . . . . . _____

3.9 IHSS 177:
- 3.9.1 sampling locations (see Fig. 7.3-7) . . . . . _____
- 3.9.2 sample types
  - 3.9.2.1 HPGe rad survey (grid: 150 ft. centers) . . . . . _____
  - 3.9.2.2 soil gas (grid: 20 ft. centers) . . . . . _____
  - 3.9.2.3 surface soil samples (10 total) . . . . . _____
  - 3.9.2.4 stage 2 bore locations (TBD Technical Memorandum 1) . . . . . _____

3.10 IHSS 181:
- 3.10.1 sampling locations (see Fig. 7.3-8) . . . . . _____
- 3.10.2 sample types
  - 3.10.2.1 HPGe rad survey (single point) . . . . . _____
  - 3.10.2.2 soil gas (3 locations: 20 ft. centers) . . . . . _____
  - 3.10.2.3 stage 2 soil bore locations (TBD Technical Memorandum 1) . . . . . _____

3.11 IHSS 182:
- 3.11.1 sampling locations (see Fig. 7.3-9) . . . . . _____
- 3.11.2 sample types
  - 3.11.2.1 HPGe rad survey (single point) . . . . . _____
  - 3.11.2.2 soil gas (grid: 20 ft. centers) . . . . . _____
  - 3.11.2.3 stage 2 soil bore locations (TBD Technical Memorandum 1) . . . . . _____
  - 3.11.2.4 stage 2 surface soil samples locations (TBD Technical Memorandum 1) _____

3.12 IHSS 205:
- 3.12.1 sampling locations (see Fig. 7.3-10) . . . . . _____
- 3.12.2 sample types (tank residue sample ($\leq$ 3 total) . . . . . _____

3.13 IHSS 206:
- 3.13.1 sampling locations (see Fig. 7.3-11) . . . . . _____
- 3.13.2 sample types
  - 3.13.2.1 surface soil samples (10 total) . . . . . _____
  - 3.13.2.2 stage 2 soil core locations (TBD Technical Memorandum 1) . . . . . _____

3.14 IHSS 207:
- 3.14.1 sampling locations (see Fig. 7.3-12) . . . . . _____
- 3.14.2 sample types
  - 3.14.2.1 HPGe rad survey (single point) . . . . . _____
  - 3.14.2.2 stage 2 soil bore locations (TBD Technical Memorandum 1) . . . . . _____

3.15 IHSS 208:
- 3.15.1 sampling locations (see Fig. 7.3-13) . . . . . _____
- 3.15.2 sample types
  - 3.15.2.1 surface soil samples (3 total) . . . . . _____
  - 3.15.2.2 stage 2 soil core locations (TBD Technical Memorandum 1) . . . . . _____

3.16 IHSS 210:
- 3.16.1 sampling locations (see Fig. 7.3-14) . . . . . _____
- 3.16.2 sample types
  - 3.16.2.1 soil gas (grid: 20 ft. centers) . . . . . _____
  - 3.16.2.2 surface soil samples (10 total) . . . . . _____
  - 3.16.2.3 stage 2 soil bore locations (TBD Technical Memorandum 1) . . . . . _____

3.17 IHSS 213:
- 3.17.1 sampling locations (see Fig. 7.3-15) . . . . . _____
- 3.17.2 sample types
  - 3.17.2.1 HPGe rad survey (grid: 150 ft. centers) . . . . . _____
  - 3.17.2.2 surface soil samples (25 total) . . . . . _____
  - 3.17.2.3 stage 2 soil bore locations (TBD Technical Memorandum 1) . . . . . _____

3.18 IHSS 214:
- 3.18.1 sampling locations (see Fig. 7.3-16) . . . . . _____
  - 3.18.1.1 HPGe Rad Survey (grid: 150 ft. centers) . . . . . _____
  - 3.18.1.2 surface soil samples (25 total) . . . . . _____

3.18.2 sample types
- 3.18.2.1 HPGe rad survey (grid: 150 ft. centers) . . . . . _____
- 3.18.2.2 surface soil samples (25 total) . . . . . _____
- 3.18.2.3 stage 2 soil bore locations (TBD Technical Memorandum 1) . . . . . _____

4.1 sampling schedule approved before sampling . . . . . _____
4.2 laboratory SOPs (Section 10.3.7.2) . . . . . _____
4.3 field equipment (Section 10.12.1) . . . . . _____
4.4 approved/controlled applicable SOP's . . . . . _____

5 . Comments: _____
_____
_____

By: _____ / _____ / _____
Print Name Signature Inspection Date

OU-10 PRELIMINARY
REQUIRED DATA FORMS

ACTIVITY TYPE	DATA FORM ID #	DATA FORM TITLE	IHSS NUMBER	COMMENTS
SURFICIAL SOIL SAMPLING (NONRAD)	GT.8B	SURFACE SOIL SAMPLING FIELD ACTIVITIES REPORT	124 175 213 129 176 214 170 177 174 210	SOPs to be developed according to Work Plan
	GT.10B	SOIL DISTURBANCE ASSESSMENT COMMITTEE EVALUATION FORM		
	GT.10C	LAND USE REQUEST		
	FO.2A	FIELD QA RECORDS TRANSMISSION FORM		
	FO.2B	FIELD QA RECORDS FORM ENVIRONMENTAL MONITORING DEPT		
	FO.3A	EQUIPMENT DECONTAMINATION/WASH CHECKLIST AND RECORD		
	FO.9A	RESIDUAL LAB SOIL CHARACTERIZATION FORM		
	FO.14C	SURFACE SOIL SAMPLE FORM		
	FO.14K	SAMPLE TRACKING FORM		
	FO.16A	RESULTS OF RADIOLOGICAL MEASUREMENTS IN THE FIELD		
	FO.18A	SAMPLE SCREENING RELEASE FORM		
	FO.18B	SAMPLE SCREENING FORM		
SOIL-GAS SURVEY	GT.9B	FLAME IONIZATION DETECTOR FIELD DATA FORM	124 175 210 129 176 170 177 174 182	
	GT.9C	SOIL GAS SURVEY MAP		
	GT.9D	SOIL GAS SURVEY FORM		
	GT.10B	SOIL DISTURBANCE ASSESSMENT COMMITTEE EVALUATION FORM		
	GT.10C	LAND USE REQUEST		
	GT.19A	DATA VERIFICATION CHECKLIST FOR GC ANALYSIS		
	FO.2A	FIELD QA RECORDS TRANSMISSION FORM		
	FO.2B	FIELD QA RECORDS FORM ENVIRONMENTAL MONITORING DEPT		
TEST PITS	GT.1A	BOREHOLE LOG	129	
	GT.7A	PIT, TRENCHES, & CONSTRUCTION EXCAVATIONS REPORT PROFILE		
	GT.7B	SKETCH FORM		
	GT.7C	PHOTO LOG SHEET		
	GT.8A	SURFACE SOIL DATA COLLECTION FORM		
	GT.8B	SURFACE SOIL SAMPLING FIELD ACTIVITIES REPORT		
	GT.10B	SOIL DISTURBANCE ASSESSMENT COMMITTEE EVALUATION FORM		
	GT.10C	LAND USE REQUEST		
	FO.2A	FIELD QA RECORDS TRANSMISSION FORM		
	FO.2B	FIELD QA RECORDS FORM ENVIRONMENTAL MONITORING DEPT		
	FO.3A	EQUIPMENT DECONTAMINATION/WASH CHECKLIST AND RECORD		
	FO.4A	HEAVY EQUIPMENT DECONTAMINATION/WASH CHECKLIST AND RECORD		
	FO.10A	FIELD DRUM LOG FORM		
	FO.14I	PIT AND TRENCH FORM		
	FO.14K	SAMPLE TRACKING FORM		
	FO.16A	RESULTS OF RADIOLOGICAL MEASUREMENTS IN THE FIELD		
	FO.18A	SAMPLE SCREENING RELEASE FORM		
	FO.18B	SAMPLE SCREENING FORM		

RESIDUE SAMPLING	TBD	TBD	124 129	SOPs to be developed according to Work Plan
FIDLER SURVEY	FO.2A FO.2B FO1.15A FO.16A FO.???	FIELD QA RECORDS TRANSMISSION FORM FIELD QA RECORDS FORM ENVIRONMENTAL MONITORING DEPT CALIBRATION REPORT RESULTS OF RADIOLOGICAL MEASUREMENTS IN THE FIELD FIDLER SURVEY MAP	182 214 177 207 181 213	A FIDLER SURVEY MAP needs to be developed prior to the initiation of work and properly utilized
TANK AND PIPE INSPECTIONS	TBD	TBD	124 129 205	SOPs to be developed according to Work Plan
SOIL BORING	FO1.15A FO.2A FO.2B FO.3A FO.4A FO.8A FO.8B FO.8C FO.9A FO.10A FO.10B FO.10C FO.10D FO.14E FO.14K FO.16A FO.18A FO.18B GT.1A GT.1B GT.2A GT.5A GT.10A GT.10B GT.10C	CALIBRATION RECORD FIELD QA RECORDS TRANSMISSION FORM FIELD QA RECORDS FORM ENVIRONMENTAL MONITORING DEPT EQUIPMENT DECONTAMINATION/WASH CHECKLIST AND RECORD HEAVY EQUIPMENT DECONTAMINATION/WASH CHECKLIST AND RECORD FIELD MONITORING RESULTS OF CUTTINGS OR CORE VERIFICATION OF ORGANIC VAPOR MONITORING RESULTS RECORD OF DRILLING FLUIDS AND CUTTINGS RLSC DRUM FIELD LOG FORM DRUM INSPECTION FORM CONTAMINANT CHARACTERIZATION FORM FOR GRAY DRUMS DRUM COMPOSITE LOG FORM SUBSURFACE SOIL SAMPLE FORM SAMPLE TRACKING FORM RESULTS OF RADIOLOGICAL MEASUREMENT IN THE FIELD SAMPLE SCREENING RELEASE FORM SAMPLE SCREENING FORM BOREHOLE LOG PRELIMINARY WELLSITE FIELD LOG HOLLOW-STEM AUGER DRILLING BOREHOLE ABANDONMENT FIELD ACTIVITIES REPORT BOREHOLE CLEARING ANALYSIS SOIL DISTURBANCE ASSESSMENT LAND USE REQUEST	124	

SEDIMENT	SW.6A FO1.15A FO.2A FO.2B FO.3A FO.8A FO.8B FO.10A FO.10B FO.10C FO.10D FO.14D FO.14K FO.16A FO.18A FO.18B GT.10B GT.10C	SEDIMENT SAMPLE COLLECTION FORM CALIBRATION RECORD FIELD QA RECORDS TRANSMISSION FORM FIELD QA RECORDS FORM ENVIRONMENTAL MONITORING DEPT EQUIPMENT DECONTAMINATION/WASH CHECKLIST AND RECORD FIELD MONITORING RESULTS VERIFICATION OF ORGANIC VAPOR MONITORING RESULTS DRUM INSPECTION FORM DRUM LOG FORM CONTAMINANT CHARACTERIZATION FORM FOR GRAY DRUMS DRUM COMPOSITE LOG FORM SEDIMENT SAMPLE FORM SAMPLE TRACKING FORM RESULTS OF RADIOLOGICAL MEASUREMENT IN THE FIELD SAMPLE SCREENING RELEASE FORM SAMPLE SCREENING FORM SOIL DISTURBANCE ASSESSMENT LAND USE REQUEST	124	
SURFACE WATER	SW.1A SW.1B FO.3A FO.10A FO.14F FO.14K FO1.15A	SURFACE WATER COLLECTION FIELD FORM FIELD EQUIPMENT CHECKLIST EQUIPMENT DECONTAMINATION/WASH CHECKLIST AND RECORD DRUM FIELD LOG FORM SURFACE WATER FORM SAMPLE TRACKING FORM CALIBRATION REPORT	124	
ASPHALT/CONCRETE	FO.3A FO.10A FO.10B FO.10C FO.10D FO.14K	EQUIPMENT DECONTAMINATION/WASH AND CHECKLIST AND RECORD DRUM FIELD LOG FORM DRUM INSPECTION FORM CONTAMINANT CHARACTERIZATION FORM FOR GRAY DRUMS DRUM COMPOSITE LOG FORM SAMPLE TRACKING FORM	124	

OU-10 DATA FORMS TO BE IMPLEMENTED
DURING THE NON-INTRUSIVE FIELD PROGRAM

IHSS	FIELD ACTIVITY	DATA FORM
129	SURFACE SOIL SAMPLING SOIL-GAS SURVEY TEST PITS RESIDUE SAMPLING TANK & PIPELINE	FO.14C,GT.8B,GT.8C GT.9B,GT.9C,GT.9D, GT.19A GT.1A,GT.7A,GT.7B,GT.7C,GT.20A FO.17B,SW.1A FO.28 FO.28
170	SURFACE SOIL SAMPLING SOIL-GAS SURVEY	FO.14C,GT.8B,GT.8C GT.9B,GT.9C,GT.9D,GT.19A
174	SURFACE SOIL SAMPLING SOIL-GAS SURVEY FIDLER SURVEY	FO.14C,GT.8B,GT.8C GT.9B,GT.9C,GT.9D,GT.19A FO.16A
175	SURFACE SOIL SAMPLING SOIL-GAS SURVEY FIDLER SURVEY	FO.14C,GT.8B,GT.8C GT.9B,GT.9C,GT.9D,GT.19A FO.16A
176	SURFACE SOIL SAMPLING SOIL-GAS SURVEY	FO.14C,GT.8B,GT.8C GT.9B,GT.9C,GT.9D,GT.19A
177	SURFACE SOIL SAMPLING SOIL-GAS SURVEY FIDLER SURVEY	FO.14C,GT.8B,GT.8C GT.9B,GT.9C,GT.9D,GT.19A FO.16A
181	SOIL-GAS SURVEY FIDLER SURVEY	GT.9B,GT.9C,GT.9D,GT.19A FO.16A
182	SOIL-GAS SURVEY FIDLER SURVEY	GT.9B,GT.9C,GT.9D,GT.19A FO.16A
205	TANK INSPECTION TANK RESIDUE	FO.28 FO.28
206	SURFACE SOIL SAMPLING	FO.14C,GT.8B,GT.8C
207	FIDLER SURVEY	FO.16A
208	SURFACE SOIL SAMPLING	FO.14C,GT.8B,GT.8C
210	SURFACE SOIL SAMPLING SOIL-GAS SURVEY	FO.14C,GT.8B,GT.8C GT.9B,GT.9C,GT.9D
213	SURFACE SOIL SAMPLING FIDLER SURVEY	FO.14C,GT.8B,GT.8C FO.16A
214	SURFACE SOIL SAMPLING FIDLER SURVEY	FO.14C,GT.8B,GT.8C FO.16A