Region VIII Supplement
to
Guidance for Performing Site Inspections
Under CERCLA (September 1992)

1) Chapter 2 - Focused/expanded SI vs Single SI approach.
Confer with EPA on a site-by-site basis to make this decision. Different sites and site conditions lend themselves better to one approach or another. When SI planning begins, please consult with your Site Assessment Manger to discuss this decision.

2) Chapter 2 - On those focused SI's which are done in Region VIII, we request that background and QA/QC samples be included.

3) Chapter 3 - <u>Sampling Plan</u>
We expect that our sampling plans will be essentially unchanged from historical practice. The workplan and the investigation derived wastes plan should be a part of the sampling plan, as they currently are, and not a separate deliverable. The primary purpose of the health and safety plan is to protect the workers who go on site to carry out the sampling plan. This document does not need to be submitted to EPA for review. A preliminary PRESCORE can be generated when developing the sampling plan. The Region sees PRESCORE as an efficient means to identify the data gaps and sampling needs. This PRESCORE does not need to be submitted to EPA and should only take 1 to 5 hours to run.
It is important to us that a preliminary pathway analysis be included. A suggested outline for the sampling plan is attached as Attachment 2 to this memo. This outline should substitute for the ones included in the national guidance on page A-2 of Appendix A and on pages 31 and 32 of Chapter 3.
In Table 3-3 on page 18 please also consider that phthalates can be released from PVC.
On Table 1 on page A-8 of Appendix A the samples are numbered starting with number one for the source and increasing to the background. The Region would like to maintain our historical practice of numbering the background sample number one and increasing to the sources, then the releases and targets. The map on page A-10 of Appendix A does not clearly identify the location of the samples. We expect the maps to more clearly identify the sample locations. The numbers of QA/QC samples should follow the attached Region VIII Superfund Site Assessment Program Quality Control Guidance. (Attachment 1 to this memo.)
The cover page for the sampling plan should include signature blocks for at least the preparer of the document and the EPA Site Assessment Manager (approval).

4) Chapter 4

This chapter is the most valuable section of this guidance document. Please read it and use it as it contains much useful information.

5) Chapter 5 - Reporting

The Region does not see the need to significantly change the SI report formats that we currently use. Within two weeks after completion of the field work, a Sampling Activities Report (SAR) should be prepared. This report documents what was done in the field and includes the field measurements taken. After the analytical results have been received, reviewed, and evaluated relative to the Hazard Ranking System, an Analytical Results Report (ARR) should be prepared. This report presents the data gathered and documents whether or not releases have occurred. The SAR should be an appendix to the ARR. Attached to this document is a sample outline for the ARR (Attachment 3). This substitutes for the outline included on page D-2 of Appendix D.

The cover page of the ARR should include signature blocks for at least the preparer of the report and the EPA Site Assessment Manager (approval).

The Region requires the SI Data sheets on pages B-3 thru B-22 completed and included as an appendix to the SAR. Region 8 does not require Tables GW-2, SW-1, SE-1, SE-2 and AIR-1 to be used. Instead, the Region requests that our historical data table formats be used to present the analytical results. An example set of these tables is included as Attachment 4 to this memo. We do not want the SI worksheets included in Appendix C of the National SI guidance to be completed or submitted as part of SI's.

Post-sampling PRESCORES need not be run and should not be submitted as part of the ARR. Region 8 sees PRESCORE evaluation as an EPA task.

6) Chapter 6

Scoresheets are not requested as part of the ARR by Region VIII.

7) Other---SOP's

The guidance does not deliberate on field SOPs. EPA Region VIII is currently developing uniform SOPs on various field activities. If EPA does not possess a current SOP for Superfund activities from each State or contractor performing SIs with the Region, please submit any SOP in use to your Site Assessment Manager by January 31, 1993.

It has come to the attention of the Region that the logic and requirements of the field log book may not be uniformly known. Until a Regional SOP is available, sample SOPs regarding logbooks for EPA personnel from Regions IV and V are appended as Attachments 5 and 6 for guidance. They are slightly amended for our own temporary use in Site Assessment.

SUPERFUND SITE ASSESSMENT PROGRAM QUALITY CONTROL GUIDANCE

Organic - Contract Laboratory Program (CLP) Routine Analytical Services (RAS) Quality Control Samples

FRACTIONS - Volatiles
- Semi-Volatiles
- Pesticides/PCBs
- Dioxins

SAMPLE TYPE	MEDIA	PURPOSE	COLLECTION	DOCUMENTATION
		(Field QC Samples)		
ıplicate	Aqueous Source	Check lab and field procedures	Collect one per twenty samples taken from areas which are known or suspected to be contaminated	Assign two separate sample numbers, submit blind to the lab
ıuipment Blank Rinsate Blank)	----------	check field decontamination procedures	Collect one per each day prior to sampling when sampling equipment is decontaminated and reused in the field	Assign separate sample number, submit blind to the lab
Field Blank	Aqueous	Check cross-contamination during sample collection,	Collect one per twenty samples taken for each group of samples of a similar matrix Use HPLC-grade water (carbon-free) for organics	Assign separate sample number, submit blind to the lab
OA Trip Blank	Aqueous Air	Check contaminantion from field to lab	Collect one per twenty samples (HPLC-grade water) for organics sampling	Assign separate sample number, submit blind to the lab
		(Laboratory QC Samples)		
latrix Spike & latrix Spike ıuplicate	Aqueous Soil/Sediment Air Source	Required by lab's contract to check organic analysis	Collect triple volume for one water sample per twenty water samples in the first shipment for organics samples	Assign both samples the same sample number Transcribe these numbers on the TR and label them "lab QC"

Attachment 2

SAMPLE PLAN OUTLINE

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Appendices

Appendix	Subject
A	Sampling Activities Report (including Sample Documentation and Shipping Information)
B	Photo Log
C	SI Data Summary (Inspection Report)
D	Well Logs (if wells were installed) Well Installation Report
E	Quality Assurance Reports

References not readily available to the public should be submitted separately for EPA files.

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TABLE 1
ORGANIC ANALYTICAL RESULTS FOR SOIL
BENNETT PAINT/KARPOWITZ COAL FACILITY
TDD #F08-8905-05 - PAN #FUT0110SBA
CASE # 11668
CONCENTRATIONS IN µg/kg

SAMPLE #	BP-SO-1	BP-SO-2	BP-SO-3	BP-SO-4	BP-SO-5	BP-SL-1
TRAFFIC #	HF-388	HF-389	HF-383	HF-390	HF-386	4585H
LOCATION	S.E.CORNR KCC	FORMER LANDFILL	TANK ABC EXCAVATN	WSTRNMST TANK FARM	TANK D EXCAVATN	DRAIN SLUDGE
Acenaphthene	--	--	190j	--	--	--
Toluene	58	8	--	--	--	--
Pyrene	49j	98j	380	--	570	--
Bis(2-ethyl-hexyl)-phthlate	48j	--	--	--	92j	--
2 butanone	--	6j	--	--	--	--
Phenanthrene	--	53j	1100	--	210j	--
Fluoranthene	--	68j	490	--	420j	--
Benzo(a)-anthracene	--	--	82j	--	100j	--
Chrysene	--	--	140j	--	230j	--
Benzo(a)-pyrene	--	--	40j	--	45j	--
Xylene	--	--	--	--	17x	660,000
Fluorene	--	--	--	--	91j	--
Anthracene	--	--	--	--	49j	--
Benzo(b)-fluoranthene	--	--	--	--	110j	--
Ethylbenzene	--	--	--	--	--	160,000

j - The associated numerical value is an estimated quantity because the amount detected is below the contract required detection limit (CRDL) or because minor quality control criteria were not met. Presence of the material is reliable.

TABLE 1 CONT.
ORGANIC ANALYTICAL RESULTS FOR SOIL
BENNETT PAINT/KARPOWITZ COAL FACILITY
TDD #F08-8905-05 - PAN #FUT0110SBA
CASE #11668
CONCENTRATIONS IN µg/kg

SAMPLE #	KC-SO-1	KC-SO-2	KC-SO-3	KC-SO-4	BP-OP-4
TRAFFIC #	HF-373	HF-372	HF-371	HF-374	HF-387
LOCATION	N.E. CORNER	N.W.CORNER	CENTER	STHRNMST	@ DRILLING OF
SAMPLE	OF KCC	OF KCC	OF KCC	OF KCC	BP-MW-4 (15')
Acenaphthene	--	--	--	--	--
Toluene	69	2j	39	17	1j
Pyrene	45j	--	--	45j	--
Bis(2-ethyl-hexyl)-phthlate	--	--	--	--	--
2 butanone	--	--	--	5j	24
Phenanthrene	--	630	--	--	--
Fluoranthene	--	--	--	--	--
Benzo(a)-anthracene	--	--	--	--	--
Chrysene	--	--	--	--	--
Benzo(a)-pyrene	--	--	--	--	--
Xylene	--	18x	23x	--	--
Fluorene	--	--	--	--	--
Anthracene	--	--	--	--	--
Benzo(b)-fluoranthene	--	--	--	--	--
Acetone	73	20	24	--	--
Benzene	--	--	7j	--	--
2-methyl-naphthalene	--	--	--	63j	--

j - The associated numerical value is an estimated quantity because the amount detected is below the contract required detection limit (CRDL) or because minor quality control criteria were not met. Presence of the material is reliable.

TABLE 2
DATA SUMMARY TABLE
ANALYTICAL RESULTS FOR SOIL SAMPLES
BENNETT PAINT/KARPOWITZ COAL FACILITY
TDD #F08-8905-05 - PAN #FUT0110SBA
CASE #11668

SAMPLE #	KC-SO-1	KC-SO-2	KC-SO-3	KC-SO-4	BP-SL-1
TRAFFIC #	MHQ 227	MHQ 226	MHQ 225	MHQ 228	MHQ-550
LOCATION	NE CORNER KCC	NW CORNER KCC	MIDDLE KCC	STHRNMST KCC	Drain BP
Aluminum	8940	11200	15600	7780	10,000b
Antimony	5.8ur	5.9ur	6.2ur	5.9ur	5.2u
Arsenic	2.4b	7.4	2.8	11.7	7.3u
Barium	95.4	165	198	106	3220j
Beryllium	0.66b	0.86b	1.1b	0.66b	0.04u
Cadmium	0.97u	0.99u	1.0u	0.98u	0.61
Calcium	142000	93900	76300	95200	64300b
Chromium	10.1j	13.2j	17.6j	10.4j	67.8j
Cobalt	3.7b	6.9b	8.3b	4.6b	4.1
Copper	13.4	24.5	23.0	33.1	45.6b
Iron	8270	11900	14500	8760	6020
Lead	12.4	39.3	12.1	75.3	59
Magnesium	7200	9700	9350	7790	2220
Manganese	325	478j	291	295	85.5j
Mercury	0.1u	0.2	0.1u	0.1u	39.0
Nickel	8.6b	12.9	16.7	9.9	7.3ub
Potassium	1910	2730	3220	2570	256
Selenium	2.4ur	2.5ur	2.6ur	2.4ur	10.1u
Silver	0.97u	0.99u	1.0u	1.5b	6.5u
Sodium	359u	366u	380u	423b	[180]
Thallium	0.48u	0.50u	0.51u	0.49u	7.5u
Vanadium	13.1	17.9	23.3	15.8	4.4ub
Zinc	37.1j	95.5j	65.6j	68.9j	245.0jb

u - The material was analyzed for, but was not detected. The associated numerical value is the estimated sample quantitation limit or CRDL.

b - Material was detected in the laboratory blanks. Quantity reported is >5X the amount found in the blank (>10X for methylene chloride, acetone, toluene, and phthalates). A false positive result may exist.

j - The associated numerical value is an estimated quantity because the amount detected is below the contract required detection limit (CRDL) or because minor quality control criteria were not met. Presence of the material is reliable.

r - Quality control indicates that data is not usable (material may or may not be present). DO NOT USE THIS DATA!.

TABLE 2
INORGANIC ANALYTICAL RESULTS FOR SOIL SAMPLES
BENNETT PAINT/KARPOWITZ COAL FACILITY
TDD #F08-8905-05 - PAN #FUT0110SBA
CASE #11668
CONCENTRATIONS IN mg/kg

SAMPLE #	BP-OP-4	BP-SO-1	BP-SO-2	BP-SO-3	BP-SO-4	BP-SO-5
TRAFFIC #	MHQ-240	MHQ 241	MHQ 242	MHQ 236	MHQ 243	MHQ 239
LOCATION	OPPTY	BACKGRND LANDFILL	FORMER EXCAVATN	TANK ABC AREA	TANK FARM EXCAVATION	TANK D
Aluminum	4550	6430	7490	9930	18800	9000
Antimony	6.5ur	5.5ur	5.7ur	6.9ur	6.1ur	6.7ur
Arsenic	6.7	7.9	8.2	5.6	12.9	12.8
Barium	112	104	103	199	193	129
Beryllium	0.36b	0.52b	0.45b	0.88b	1.2b	0.84b
Cadmium	1.1u	.91u	0.95u	1.1u	1.0u	1.1u
Calcium	57500	121000	66200	50000	65100	10000
Chromium	9.7	10.5j	18.3j	10.9j	21.1j	23.0j
Cobalt	3.2b	4.8b	4.9b	5.9b	8.9b	7.8b
Copper	15.6	24.6	31.6	19.5	35.4	44.2
Iron	8660	7930	9370	12500	18600	14200
Lead	7.3	41.3	132	16.7	46.8	95.8
Magnesium	14800	35700	5730	7800	9130	25500
Manganese	201	314	292	318j	317j	492j
Mercury	0.1u	0.1u	0.1u	0.1u	0.1u	0.1u
Nickel	8.3b	9.2	8.5b	12.7	19.5	15.1
Potassium	1100b	1680	2130	2140	4490	3130
Selenium	0.27ur	2.3ur	2.4ur	2.9ur	2.6ur	0.28ur
Silver	1.1u	0.91u	1.0b	1.1u	1.1b	1.4b
Sodium	402u	338u	350u	425u	378u	412u
Thallium	0.54u	0.46u	0.47u	0.57u	0.51u	0.56u
Vanadium	13.5b	14.9	14.7	24.3	23.3	25.2
Zinc	30.7j	59.5j	111j	84.9j	114j	209j

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j - The associated numerical value is an estimated quantity because the amount is below the contract required detection limit (CRDL) or because minor quality c criteria were not met. Presence of the material is reliable.

r - Quality control indicates that data is not usable (material may or may not b present). DO NOT USE THIS DATA!.

TABLE 2 CONT.
ORGANIC ANALYTICAL RESULTS FOR WATER SAMPLES
BENNETT PAINT/KARPOWITZ COAL FACILITY
TDD #F08-8905-05 - PAN #FUT0110SBA
CASE #11668
CONCENTRATIONS IN µg/l

SAMPLE #	BP-MW-6	BP-MW-7	BP-DR-1	BP-DR-2	BP-RI-1
TRAFFIC #	HF-381	HF-382	HF-384	HF-385	HF-379
LOCATIN	DUP OF	VOA TRIP	COLLECTION	DUP OF	RINSATE
SAMPLE	BP-MW-3	BLANK	DRAIN AREA	BP-DR-1	BLANK
Acenaphthene	--	--	--	--	--
Toluene	--	2j	--	--	--
Pyrene	--	--	--	--	--
Bis(2-ethyl-hexyl)-phthlate	--	--	--	--	--
2 butanone	--	--	--	--	--
Phenanthrene	--	--	--	--	--
Fluoranthene	--	--	--	--	--
Benzo(a)-anthracene	--	--	--	--	--
Chrysene	--	--	--	--	--
Benzo(a)-pyrene	--	--	--	--	--
Xylene	--	3j	20	4j	--
Fluorene	--	--	--	--	--
Anthracene	--	--	--	--	--
Benzo(b)-fluoranthene	--	--	--	--	--
Acetone	--	--	10	--	--
Benzene	--	--	--	--	--
Methylene-chloride	--	--	1j	2bj	2j
2,4-dimethyl-phenol	--	--	9j	--	--
Benzoic acid	--	--	7j	--	--

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b - Material was detected in the laboratory blanks. Quantity reported is >5X the amount found in the blank (>10X for methylene chloride, acetone, toluene, and phthalates). A false positive result may exist.

TABLE 3
ORGANIC ANALYTICAL RESULTS FOR WATER SAMPLES
BENNETT PAINT/KARPOWITZ COAL FACILITY
TDD #F08-8905-05 - PAN #FUT0110SBA
CASE #11668
CONCENTRATIONS IN µg/l

SAMPLE #	BP-MW-1	BP-MW-2	BP-MW-3	BP-MW-4	BP-MW-5
TRAFFIC #	HF-375	HF-377	HF-380	HF-378	HF-376
SAMPLE LOCATION	UPGRDNT WELL	DNGRDNT OF KCC	NRTHNMST WELL BPF	WSTRNMST WELL BPF	DNGRDNT TANK EXCAVATION PIT
Acenaphthene	--	--	--	--	--
Toluene	--	--	--	--	--
Pyrene	--	--	--	--	--
Bis(2-ethyl-hexyl)-phthlate	--	--	--	--	63b
2 butanone	--	--	--	--	--
Phenanthrene	--	--	--	--	--
Fluoranthene	--	--	--	--	--
Benzo(a)-anthracene	--	--	--	--	--
Chrysene	--	--	--	--	--
Benzo(a)-pyrene	--	--	--	--	--
Xylene	--	--	--	--	--
Fluorene	--	--	--	--	--
Anthracene	--	--	--	--	--
Benzo(b)-fluoranthene	--	--	--	--	--
Acetone	--	--	--	--	--
Benzene	--	--	--	--	--
2-methyl-naphthalene	--	--	--	--	--

b - Material was detected in the laboratory blanks. Quantity reported is >5X the amount found in the blank (>10X for methylene chloride, acetone, toluene, and phthalates). A false positive result may exist.

TABLE 4
ANALYTICAL RESULTS FOR
INORGANIC WATER SAMPLES
BENNETT PAINT/KARPOWITZ COAL FACILITY
TDD #F08-8905-05 - PAN #FUT0110SBA
CASE #11668
CONCENTRATIONS IN µg/l

SAMPLE #	BP-RI-1	BP-MW-6	BP-DR-1	BP-DR-2	BP-MF-1
TRAFFIC #	MHQ 233	MHQ 234	MHQ 237	MHQ 238	MHQ 244
LOCATION	RINSATE BLANK	DUP OF BP-MW-3	DRAIN SAMPLE	DUP OF BP-DR-1	METALS FREE WATER BLANK
Aluminum	21.0u	21.0u	956	578	21.0u
Antimony	24.0u	24.0u	24.0u	24.0u	24.0u
Arsenic	1.0u	12.1	2.6b	2.1b	1.0u
Barium	2.0u	23.7b	558	473	2.1b
Beryllium	1.0u	1.0u	1.0u	1.0u	1.0u
Cadmium	4.0u	4.0u	4.0u	4.0u	4.0u
Calcium	400b	295000	47400	37700	185b
Chromium	5.0u	5.0u	45.8	46.6	5.0u
Cobalt	4.0u	4.0u	4.0u	4.0u	4.0u
Copper	9.6b	8.2b	21.8b	30.1	5.3b
Iron	31.0u	211	4950	3070	31.0u
Lead	1.0u	4.2b	52.2	86.5	2.0b
Magnesium	88.3b	377000	5170	4920b	49.1b
Manganese	5.0u	156	121	120	5.5b
Mercury	0.2u	0.2u	12	8.2	0.2U
Nickel	5.0u	5.0u	5.0u	9.2b	5.0u
Potassium	114b	7690	3390b	3340b	122b
Selenium	1.0u	10.0u	1.0u	1.0u	1.0u
Silver	4.0u	4.0u	4.0u	4.0u	4.0u
Sodium	1480u	922000	49500	50200	1480u
Thallium	2.0u	20.0u	2.0u	2.0u	2.0u
Vanadium	3.0u	3.0u	3.0u	3.0u	3.0u
Zinc	29.5	21.9	916	705	11.3b

u - The material was analyzed for, but was not detected. The associated numerical value is the estimated sample quantitation limit or CRDL.

b - Material was detected in the laboratory blanks. Quantity reported is >5X the amount found in the blank (>10X for methylene chloride, acetone, toluene, and phthalates). A false positive result may exist.

TABLE 4 CONT.
ANALYTICAL RESULTS FOR
INORGANIC COMPOUNDS FOR WATER SAMPLES
BENNETT PAINT/KARPOWITZ COAL FACILITY
TDD #F08-8905-05 - PAN #FUT0110SBA
CASE #11668
CONCENTRATIONS IN µg/l

SAMPLE #	BP-MW-1	BP-MW-2	BP-MW-3	BP-MW-4	BP-MW-5
TRAFFIC #	MHQ 229	MHQ 231	MHQ 235	MHQ 232	MHQ 230
LOCATION	BCKGRND WELL	KCC WELL	DNGRDNT WELL	DNGRDNT WELL	DNGRDNT WELL
Aluminum	72.6b	21.0u	21.0u	26.2b	32.2b
Antimony	24.0u	24.0u	24.0u	24.0u	24.0u
Arsenic	1.1b	8.6b	10.8	1.0u	1.0u
Barium	36.7b	38.9b	23.7b	46.1b	82.4b
Beryllium	1.0u	1.0u	1.0u	1.0u	1.0u
Cadmium	4.0u	4.0u	4.0u	4.0u	4.0u
Calcium	103000	65600	301000	126000	119000
Chromium	5.0u	5.0u	5.0u	5.0u	5.0u
Cobalt	4.0u	4.0u	4.0u	4.0u	4.0u
Copper	15.3b	13.9b	13.3b	7.3b	11.3b
Iron	37.0b	31.0u	226	31.0u	31.0u
Lead	1.0u	1.0u	10.0u	1.8b	1.0u
Magnesium	79300	121000	382000	71700	70200
Manganese	80.8	58.2	158	239	98.4
Mercury	0.2u	0.2u	0.2u	0.2u	0.2u
Nickel	5.0u	8.5b	5.0u	5.0u	10.5b
Potassium	3030b	7940	7830	1350u	1530b
Selenium	10.0u	1.0u	10.0u	1.0u	1.8b
Silver	4.3b	4.0u	4.0u	4.0u	4.0u
Sodium	13800	264000	939000	88000	77500
Thallium	3.0u	2.0u	20.0u	2.0u	2.0u
Vanadium	3.0u	6.7b	3.9b	3.0u	3.0u
Zinc	38.2	20.9	25.1	20.6	24.3

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TABLE 5
WELL ELEVATIONS*
BENNETT PAINT/KARPOWITZ COAL SITE
SALT LAKE CITY, UTAH
TDD F08-8905-05 - PAN FUT0110SBA

MONITORING WELLS (BP-MW-1 THROUGH BP-MW-5)

MONITORING WELL	TOP OF CAP	NATURAL GROUND
BP-MW-1	100.00	97.37
BP-MW-2	99.63	96.96
BP-MW-3	99.44	97.80
BP-MW-4	100.34	97.86
BP-MW-5	101.46	99.34

* Well elevations were surveyed relative to each other with the benchmark elevation used being 100.00 feet on the top cap of BP-MW-1.

3.5 FIELD RECORDS

Branch personnel shall use only bound field logbooks for the maintenance of field records. The standard field logbooks utilized by Branch personnel are those obtained from the General Services Administration federal supply schedule numbers 7530-00-274-5494 and 7530-00-222-3525. Other bound logbooks such as bound surveyors logbooks are acceptable so long as pages cannot be removed without tearing them out.

Preferably, a logbook should be dedicated to an individual project. The investigator's name, project name, and project code should be entered on the inside of the front cover of the logbook. All entries should be dated and time of entry recorded. At the end of each day's activity, or entry of a particular event if appropriate, the investigator should draw a diagonal line at the conclusion of the entry and initial indicating the conclusion of the entry or the days activity.

All aspects of sample collection and handling as well as visual observations shall be documented in the field logbooks. All sample collection equipment (where appropriate), field analytical equipment, and equipment utilized to make physical measurements shall be identified in the field logbooks, ~~as outlined in Sections 4, 5, 6, and 7 of this SCPQAM.~~ All calculations, results, and calibration data for field sampling, field analytical, and field physical measurement equipment shall also be recorded in the field logbooks. All field analyses and measurements must be traceable to the specific piece of field equipment utilized and to the field investigator collecting the sample, making the measurement, or analyses.

All entries in field logbooks shall be dated, shall be legible, and shall contain accurate and inclusive documentation of an individual's project activities. Since field records are the basis for later written reports, language should be objective, factual, and free of personal feelings or other terminology which might prove inappropriate. Once completed, these field logbooks become accountable documents and must be maintained as part of project files.

2.0 Geology/Hydrogeology

The following sections describe, in as much detail as possible, USEPA Region V Technical Support Section operating procedures for hydrogeologic site work.

2.1 Field Activity Logbooks

2.1.1 Background

The field activity logbook Standard Operating Procedure (SOP) establishes requirements for the entry of information into logbooks, thereby ensuring that Technical Support Section (hereafter TSS) field activities are properly documented. This SOP describes logbook entry requirements for all types of projects, specifies the formatting that should be employed, and provides examples. Some flexibility exists when implementing the SOP since different types of projects require different data collection efforts. This SOP does not cover site safety logbook requirements. However, it is the responsibility of the project manager and the field team leader to ensure that the proper information is collected in the field to fulfill the requirements of the field effort.

The purpose of the SOP is to establish the minimum content requirements of logbook entries for all field activities conducted by TSS. The SOP provides guidance to ensure that the documentation for any TSS data collection field activity is correct, complete, and adequate for use in any potential legal proceeding. It is important to remember that field activity documentation can become evidence in civil and criminal law enforcement proceedings, as well as in administrative hearings. Accordingly, such documentation is subject to the review of an opposing counsel attempting to discredit its evidentiary value.

The National Enforcement Investigation Center (NEIC) of the United States Environmental Protection Agency has prepared documents outlining the need for legal proceedings. These various guidelines indicate the importance of all information obtained during the inspections, investigations, and evaluations of uncontrolled hazardous waste sites. Consequently, attention to detail must be applied by TSS personnel to all field documentation efforts for all of TSS's projects. Project personnel must document where, when, how, and from whom any vital project information was obtained. These types of information are key to establishing a proper foundation for admissible evidence.

Complete and accurate entries in field activity logbooks are important for two reasons: to maintain good quality control, and to support any legal proceedings associated with a given project.

Quality control for data collection on a project begins with

the field personnel and their proper recording of all observations, activities, and decisions. It is especially important to fully document any deviations from the project scope, work plans, sampling plans, site safety plans, and QA procedures, and changes in personnel and responsibilities, as well as the reasons for those deviation or changes. Any modifications required by the client or his/her representative must be documented in detail since the cost of the project could be affected by such modifications. The project manager must indicate to the field team what pertinent information must be collected during any field activity to meet the desired objectives of the data collection effort.

The reasons for the importance of field logbooks in legal proceedings are numerous. They can serve as links in the evidentiary process, and must be complete and accurate enough to permit the reconstruction of activities that took place during field assignments. Logbooks are also used for identifying, locating, labeling, and tracking samples and their final disposition. Documentation of any photographs taken during the course of the project must be provided in the logbook, along with a detailed description of what is shown in the pictures. In addition, data recorded in the logbook will assist in the interpretation of the analytical results. For example, if there was heavy rain prior to sample collection, or if the field team had trouble calibrating to the pH meter, this information would later be necessary in order to correctly interpret the data.

In addition to every pertinent detail concerning the various field activities for a specific TSS project, the logbook should contain a summary of any meeting and discussion both with the client and with any Federal, State, or other regulatory agency that was on-site during the field activities. The logbook should also describe any other personnel that appear on-site, such as representatives of a potential responsible party (PRP). The logbook can also be used for cost recovery purposes, which means that data concerning site conditions must be recorded before the response activity or the passage of time eliminates or alters those conditions. The accuracy, detail, completeness, and quality of the logbook is subject to scrutiny by the client, the PRP, any opposing counsel, and the courts. Consequently, the individual making entries into the logbook must take time to ensure the information reflects the importance of the events.

The preceding discussion is not intended to be an exhaustive summary of all the information that should be recorded in the logbook; rather, it is meant to highlight areas that

must be noted in the logbook.

2.1.2 General Guidelines

Following are general guidelines for preparing logbooks:

- o A separate field activity logbook must be maintained for each project.
- o All logbooks must be bound and contain consecutively numbered pages.
- o No pages can be removed for any reason, even if they are partially mutilated or illegible.
- o All field activities (meetings, sampling, surveys, etc.) must be recorded in the site logbook.
- o All information is to be printed legibly into the logbook in waterproof ink, preferably black. If weather conditions do not permit this (i.e. if it is too cold or too wet to write with ink), another medium, such as pencil, may be used but it should be specifically noted in the logbook why waterproof ink was not used.
- o The language used in the logbook should be objective, factual, and free of personal feelings or terminol ogy that might prove inappropriate.
- o Contemporaneous entries are always preferred, since recollections fade or change over time. If TSS personnel are unable to record their observations at the time, they should record them as soon after as possible. The time that the notation is made should be noted, as well as the time of the observation itself.
- o Each successive day's first entry is made on a new, previously blank page.
- o Each page should be dated and all entries should have a time notation based on the 24-hour clock (e.g., 0900 for 9 a.m., 2100 for 9 p.m.).
- o At the completion of the field activity the logbook must be returned to the permanent project file.

The information listed below is not meant to be all-inclusive. Each project manager is responsible for determining the information requirements of each field activity logbook; such information requirements will vary depending on the nature and scope of the project. ~~(See Appendix B for an example of a completed logbook.)~~ PBS 12/23/92

Title Page

Site Name
Location
Start/Finish Date (month/day/year)

First Page of Each Day

Date
Weather
Time of site arrival/entry and departure (24-hour clock)
Personnel on-site

Documentation

Levels of protection (levels originally used, changes, reasons for changes, times of changes)

Specific activities undertaken (e.g., site inspection, air monitoring, drum inventory, soil sampling, etc.), who undertakes these activities, and the time that these activities occur.

Persons contacted and discussions (e.g., site owners, neighboring property owners,)

Note changes in instruction or activities that occur on-site

Note any changes in weather conditions

Equipment Calibration, equipment model, and relative information

If samples are taken ~~and no data collection forms are used~~, then sampling information required for each sampling method needs to be recorded. PBS 12/23/92 Unattached documents and forms are generally not appropriate in Site Assessment w/ See SAP for Option IV paragraph 3 of section 3.5.

Photographic information may be included for photographs:

1. Complete description including location, orientation, and identification of the subject in the photograph.

2. Sequential number of photograph.

3. Camera identification number (e.g., EPA#4652)

The project manager must ensure that all applicable information from the logbook accompanies each photograph.

2.1.4 Signatures

The individual making the last entry of each page must sign the bottom of the page.

2.1.5 Data Collection Forms

If data collection forms are used to record specific information obtained during field activities, then the logbook must provide a record of what forms were used, and a list of applicable station locations.

2.1.6 Corrections

If corrections are necessary, they must be made by drawing a single line through the original entry (in such a manner that the original entry can still be read) and writing the corrected entry alongside it. Most corrected errors will require a footnote explaining the corrections. Do not erase or render the incorrect notation illegible.

2.1.7 Logbook Entry Responsibilities

It is the responsibility of the project manager and field team leader to ensure that the proper information is collected in the field to fulfill the requirements of the project.