



DEPARTMENT OF THE AIR FORCE  
 HEADQUARTERS 27th FIGHTER WING (ACC)  
 CANNON AIR FORCE BASE, NEW MEXICO

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 Cannon AFB NM 88103-5214

30 DEC 1992

Mr Edward Horst, Program Manager  
 Hazardous and Radioactive Materials Bureau  
 New Mexico Environment Department  
 1190 St Francis Drive  
 P O Box 26110  
 Santa Fe NM 87502



RE: RCRA Facility Investigation (RFI) - Solid Waste Management  
 Unit (SWMU) 113, Landfill 5

XIII

Dear Mr Horst

Recently, you forwarded to us a letter, dated November 11, 1992, concerning our RCRA Facility Investigation - SWMU 113, Landfill 5. In this letter, you notified us of deficiencies in the May 15, 1992 RFI/RI and provided specifics to assist us with fulfilling the requirements of an adequate RCRA Facility Investigation for SWMU 113, Landfill 5.

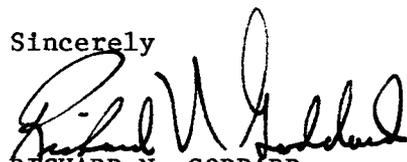
To adequately address the specific deficiencies cited as "Tasks" in your November 11, 1992 letter (as found in the Hazardous and Solid Waste Amendments (HSWA) permit for Cannon Air Force Base NM 7572124454), we are attaching a copy of the proposed Workplan Outline for the RFI/FI of SWMU 113, Landfill 5. Under this outline, we are proposing no additional monitoring wells, only continued monitoring of the existing wells. Included in this RFI/RI is a vadose zone investigation which should satisfy the suggestions outlined in the attachment to HRMB's letter dated February 12, 1992.

Additionally, your November 11, 1992 letter addressed two items from the July 13, 1990 Compliance Agreement concerning the RCRA unit. We disagree with your interpretation of the Compliance Agreement concerning the determination of RCRA background groundwater quality as it relates to meeting the requirements of the Compliance Agreement. Item B.5 of the July 13, 1990 Compliance Agreement directs that "After installation of an adequate groundwater monitoring system, Cannon shall begin determination of RCRA background groundwater quality pursuant to HWMR-5, as amended, 40 CFR, Section 265, Subpart F." This requirement, as stated above, has been met by Cannon AFB. Installation of an adequate groundwater monitoring system has been accomplished, and background groundwater sampling for the first of four quarters has been performed, satisfying the requirement to "begin" determining RCRA background groundwater quality.

Item 2 requests that a surveyed map of the exact location of Cell 3 of Landfill 5 be provided to your office. After some delay, the survey was completed by a registered professional surveyor, and a copy of the survey plat was forwarded to your office on November 20, 1992.

I appreciate your cooperation and assistance in these matters. Your expedient approval of our proposal is greatly appreciated. If you have any questions, please contact Mr Jim Richards or Capt Mac Crawford at (505) 784-4348.

Sincerely



RICHARD N. GODDARD  
Brigadier General, USAF  
Commander

1 Atch  
Proposed Outline for RI LF 5

cc: Steve Alexander, HRWB  
Dave Morgan, NMED  
William Honker, US EPA

Outline for REMEDIAL INVESTIGATION LANDFILL # 5  
Cannon Air Force Base, New Mexico

Objective A Remedial Investigation (RI) with risk assessment and vadose modeling for Landfill # 5 (LF # 5) at Cannon AFB, New Mexico.

Laws Federal: CERCLA, and RCRA.  
State: New Mexico.

Area LF # 5 in the SE corner of the Base, with about 35 cells and buried construction rubble.

Size LF # 5 is about 65-70 acres containing about 35 cells plus construction rubble. There is about 35 acres inside fence, containing about 24 cells. Outside the fence, to the NW is about 30-35 acres, with unknown number of cells; A shallow playa is the western edge of the Landfill, it contains construction rubble. Cell 3 is inside fence and is partially capped and soon to be entirely capped.

Field Work Phase I shall guide the location of  $\approx$  60 borings in Phase II.

Phase I Soil Gas Survey. A 50 foot grid spacing will be used. Points ( $\approx$  1200) to be sampled and screened for VOCs using a PID/FID. Ten percent ( $\approx$  120) shall be analyzed using a field GC. All GC analysis shall be performed for the following compounds; aliphatic and aromatic fuel related hydrocarbons, halogenated hydrocarbons, and volatile organic compounds. Cell 3 will be sampled through the vents.

Geophysics. A geophysical investigation shall help correlate any hot spots identified during the soil gas survey with potential areas of buried materials. Also, the edge of the landfill shall be defined.

Trenches. 20 trenches (max 7' deep) shall be excavated along the edge to delineate the edge of the landfill.

Topographic Survey. A topographic survey shall be prepared of the LF # 5 area.

Phase II Approximately 60 soil borings ( $\approx$  3600') shall be drilled through LF # 5 ( $\approx$  20' thick) into the underlying soil and rock. Locations shall based on Phase I. It is intended to place 2 borings in the large cells, and 1 boring in the smaller cells.

The borings shall be drilled to a depth of 40 feet below the bottom of the landfill, and sampled at; 5', 10', 20', 30', & 40' below landfill - undisturbed soil interface. Surface samples shall be taken at approximately 10 boring, and 3 background locations outside LF # 5. Some extra footage, sampling, and analyses will allocated to be used if something shows up at the bottom of the borings.

LANDFILL #5 SOIL SAMPLES

Matrix Parameter	QUALITY CONTROL (A-E) SAMPLES					QUALITY ASSURANCE (MRD) SAMPLES			
	# of Field Samples	# of Dups/Splits*	# of Sampler Rinsates	# of Trip Blanks	Total A-E Samples	QA Dups/Splits	QA Sampler Rinsates	QA Trip Blanks	Total QA
<b>SOIL SAMPLES</b>									
VOLATILE ORGANICS	300	15	0	0	315	15	0	0	15
SEMI-VOLATILE ORGANICS	300	15	0	0	315	15	0	0	15
TOTAL METALS	300	15	0	0	315	15	0	0	15
TRPH 418.1	300	15	0	0	315	15	0	0	15
PEST/PCB'S	300	15	0	0	315	15	0	0	15
HERBICIDES	75	5	0	0	80	5	0	0	5
TPH, (Light & Heavy) M 8015	75	5	0	0	80	5	0	0	5
TOTAL ORGANIC CARBON	30	3	0	0	33	3	0	0	3

Total Analyses                      1680                      88                      1768                      88                      88

\* Field duplicates should be taken from the areas having the highest potential for contamination.

Chemistry Sampling activities and chemical analysis shall follow; EPA SW-846, as expanded in USACE ER-1110-1-263, 1 October 1990.

LAB Validation Lab shall be validated by USACE Missouri River Division (MRD). Each specific analytical method in each matrix are validated.

Analyses Only soil samples shall be taken. They will be analyzed for:

Volatile organics by EPA method 8240 for TCL with 10 peak library search.

Semi-volatile organics prepared by EPA methods 3510 or 3520 and analyzed by method 8270 for TCL with a 20 peak library search.

Pesticides / PCBs by EPA Method 3520/8080.

Total Recoverable Petroleum Hydrocarbons (TRPH) by EPA Method 9071/418.1.

Total Metals.

Target Analyte List (TAL) 23 metals by Methods 3050/6010.

Priority Pollutant List (PPL) 13 metals by Methods 3050/6010.

RCRA 8 metals by Methods 3050/7060, and 3050/7740.

Arsenic and selenium will be by respective graphite furnace methods 3050/7060 and 3050/7740. Mercury will be by cold vapor Method 7471.

Approximately 1/4 of the samples will be analyzed for;

Herbicides by EPA Method 8150.

Total Petroleum Hydrocarbons (TPH) by the California LUFT Modified EPA 8015 for Light and Heavy Hydrocarbons.

Approximately 10 % of the samples will be analyzed for;

Total organic carbon by Method 9020.

QC, QA, Data Validation

QC Will be according to EPA SW-846 and USACE ER-1110-1-263, 1 October 1990.

QA Will be by USACE MRD Lab according to USACE ER-1110-1-263, 1 October 1990.

Data Validation Shall be using the EPA CLP Functional Guidelines to evaluate SW-846 generated data where applicable. All "critical" samples or a minimum 10% of all samples, will be subjected to a complete data validation in accordance with EPA functional guidelines for analyses. Full data validation of other analytes shall consist of the applicable portions of the QA/QC requirements contained in the CDAP and the analytical methodology:

## Baseline Risk Assessment

A separate section of the RI Report shall be a "Baseline Risk Assessment". The section shall contain one subsection entitled "Human Health Evaluation" and one subsection entitled "Environmental Evaluation".

The Human Health Evaluation shall assess the reasonable and foreseeable current and potential future exposures as well as associated risks to humans from site contaminants in the event no action is taken to remove contaminants and/or prevent their migration.

The Environmental Evaluation shall discuss the potential environmental impacts of site contaminants. All available site information, both from this investigation and any past investigations and/or reports shall be used in the preparation of this section.

## Guidance

The following documents apply: Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual, (Parts A-C), EPA/540/1-89/002;" Volume II, Environmental Evaluation Manual, EPA/540/1-89-001.

EPA document, "Ecological Assessments of Hazardous Waste Sites: A Field and Laboratory Reference Document, EPA/600/3-89/013" may also be consulted.

## Documents that shall be prepared under this effort are:

Documents (A-E LQMP) necessary for MRD Laboratory validation.

ARARs

Remedial Investigation Work Plan

Chemical Data Acquisition Plan

Health and Safety Plan (OSHA 1910.120)

Quality Control Summary Report

Pre-draft RI Report with Risk Assessment for internal review

Draft RI Report with Risk Assessment for general review

Final RI Report with Risk Assessment

Decision Document