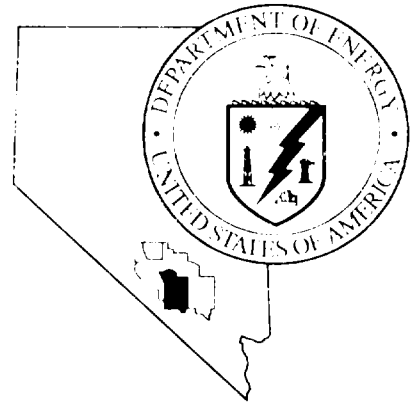


Nevada  
Environmental  
Restoration  
Project

DOE/NV--655



Corrective Action Plan for  
Corrective Action Unit 230:  
Area 22 Sewage Lagoons  
And  
Corrective Action Unit 320:  
Area 22 Desert Rock Airport  
Strainer Box,  
Nevada Test Site, Nevada

**UNCONTROLLED**

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Revision: 0

September 2000

Environmental Restoration  
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U.S. Department of Energy  
Nevada Operations Office

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**CORRECTIVE ACTION PLAN FOR  
CORRECTIVE ACTION UNIT 230:  
AREA 22 SEWAGE LAGOONS  
AND  
CORRECTIVE ACTION UNIT 320:  
AREA 22 DESERT ROCK AIRPORT  
STRAINER BOX,  
NEVADA TEST SITE, NEVADA**

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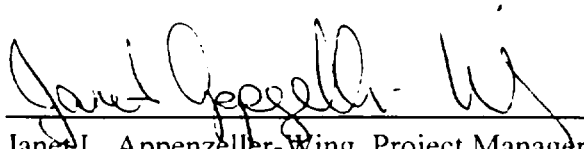
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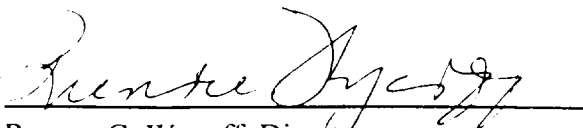
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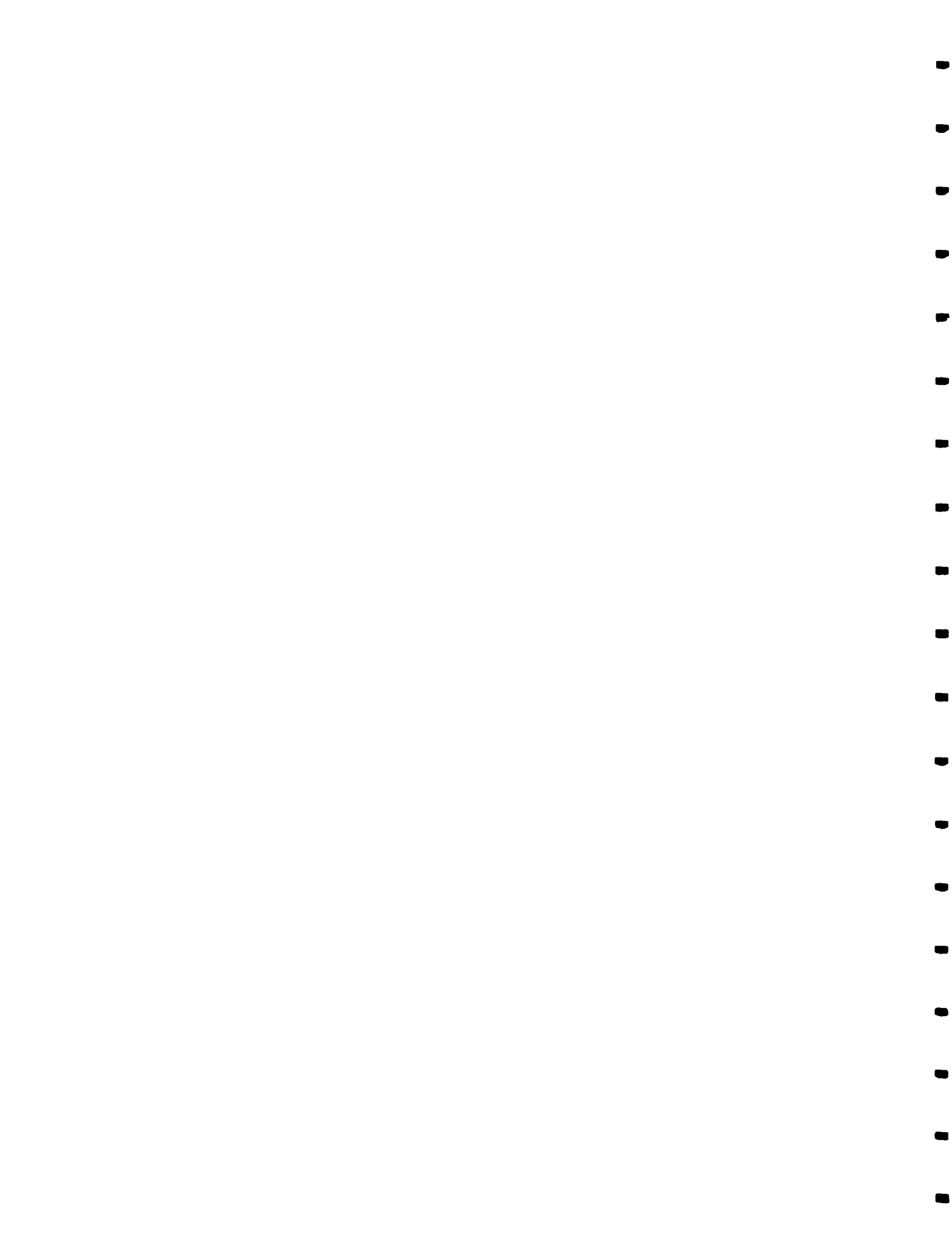
**CORRECTIVE ACTION PLAN FOR  
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CORRECTIVE ACTION UNIT 320:  
AREA 22 DESERT ROCK AIRPORT  
STRAINER BOX,  
NEVADA TEST SITE, NEVADA**

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Date: 9/13/00

Approved By:   
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Environmental Restoration Division

Date: 7/13/00



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## **ACRONYMS AND ABBREVIATIONS**

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BN	Bechtel Nevada
CADD	Corrective Action Decision Document
CAP	Corrective Action Plan
CAU	Corrective Action Unit
CAS	Corrective Action Site
CFR	Code of Federal Regulations
COC	Constituent of Concern
DOE/NV	U.S. Department of Energy, Nevada Operations Office
FFACO	Federal Facility Agreement and Consent Order
ft	feet
gal	gallon
L	liter
m	meters
mg/kg	milligrams per kilogram
NDEP	Nevada Division of Environmental Protection
NEPA	National Environmental Policy Act
NTS	Nevada Test Site
OSHA	Occupational Safety and Health Administration

## **ACRONYMS AND ABBREVIATIONS (Continued)**

PAL	Preliminary Action Level
PID	Photoionization Detector
REOP	Real Estate/Operations Permit
SSHASP	Site-Specific Health and Safety Plan
TPH	Total Petroleum Hydrocarbons

## **EXECUTIVE SUMMARY**

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Corrective Action Unit (CAU) 230, Area 22 Sewage Lagoons and CAU 320, Area 22 Desert Rock Airport Strainer Box are located in Area 22 of the Nevada Test Site (NTS). The CAUs are listed in the Federal Facility Agreement and Consent Order (FFACO, 1996) and include Corrective Action Sites (CASs) 22-03-01, Sewage Lagoon (CAU 230) and 22-99-01, Strainer Box (CAU 320). Included with CAS 22-99-01 is a buried Imhoff tank and a sludge bed.

The site was used for the disposal of sanitary sewage from the Camp Desert Rock Facility from approximately 1951 to 1958. It consists of a buried Imhoff tank (solid/liquid separator), strainer box, sludge bed, sewage lagoons, and associated piping.

Characterization activities done in September 1999 indicated that the only constituent of concern was petroleum hydrocarbons. Concentrations of petroleum hydrocarbons as diesel-range organics exceeding the Nevada Division of Environmental Protection regulatory action level of 100 milligrams per kilogram (mg/kg) were detected in three samples at two locations within the sludge bed area. The concentrations detected were up to 580 mg/kg.

Clean closure of the site involves the excavation and disposal of impacted soil and debris. The soil and debris will be disposed in the NTS Area 6 Hydrocarbon Landfill. Upon completion of excavation, soil samples will be collected from the excavated areas to verify that the petroleum hydrocarbons have been removed. The excavated areas will then be backfilled and regraded. Post-closure care is not required because this is a clean closure.

The remaining components of the site require no corrective action because constituents of concern were not detected above action levels. Best management practices will be done at these areas to prevent or mitigate the accumulation of water or debris in the existing piping.

The eroded area at the buried Imhoff tank will be backfilled with clean material, compacted, and graded. The strainer box will be filled with a cement/grout slurry. In addition, the manholes associated with the septic system will also be filled with a cement/grout slurry.

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## 1.0 INTRODUCTION

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Corrective Action Unit (CAU) 230, Area 22 Sewage Lagoons and CAU 320, Area 22 Desert Rock Airport Strainer Box are located in Area 22 of the Nevada Test Site (NTS) (Figure 1). The CAUs are listed in the Federal Facility Agreement and Consent Order (FFACO, 1996) and include Corrective Action Sites (CASs) 22-03-01, Sewage Lagoon (CAU 230) and 22-99-01, Strainer Box (CAU 320). Included with CAS 22-99-01 is a buried Imhoff tank and a sludge bed. These CAUs will be collectively referred to in this plan as the Area 22 Sewage Lagoons site.

The site history for the CAU is provided in the Corrective Action Investigation Plan (U.S. Department of Energy, Nevada Operations Office [DOE/NV], 1999). The Area 22 Sewage Lagoons site was used for the disposal of sanitary sewage from the Camp Desert Rock Facility and was in operation from 1951 to 1958. It consists of a buried Imhoff tank (solid/liquid separator), strainer box, sludge bed, sewage lagoons, and associated piping (Figure 2).

### 1.1 PURPOSE

The purpose of this Corrective Action Plan (CAP) is to provide the strategy and methodology to close the Area 22 Sewage Lagoons site. The CAU will be closed following state and federal regulations and the FFACO (1996). Site characterization was done during September 1999. Soil samples were collected using a direct-push method and a backhoe. Soil samples were collected from the sludge bed, sewage lagoons, strainer box, and Imhoff tank areas. Characterization of the manholes associated with the septic system leading to the Imhoff tank was done during March 2000. The results of the characterization were reported in the Corrective Action Decision Document (CADD) (DOE/NV, 2000).

Soil sample results indicated that the only constituent of concern (COC) detected above Preliminary Action Levels (PALs) was total petroleum hydrocarbons (TPH) as diesel-range organics. This COC was detected in three samples from the sludge bed at concentrations up to 580 milligrams per kilogram (mg/kg). This exceeds the Nevada Division of Environmental Protection (NDEP) regulatory action level for TPH of 100 mg/kg (Nevada Administrative Code, 1996). Excavation of the area during characterization uncovered asphalt debris, four safety poles, and strands of barbed wire. The TPH-impacted soil and debris will be removed and disposed in the NTS Area 6 Hydrocarbon Landfill.

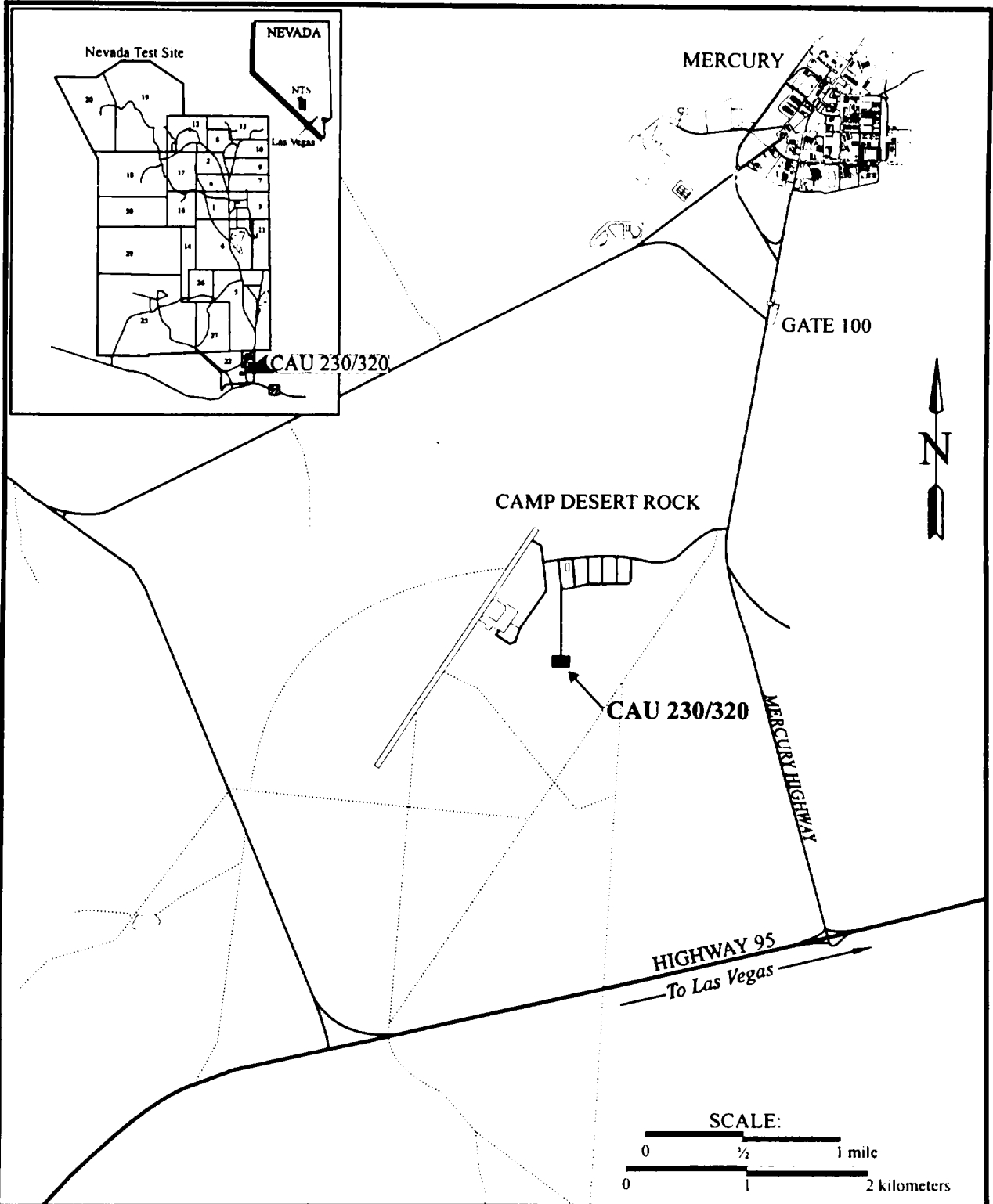
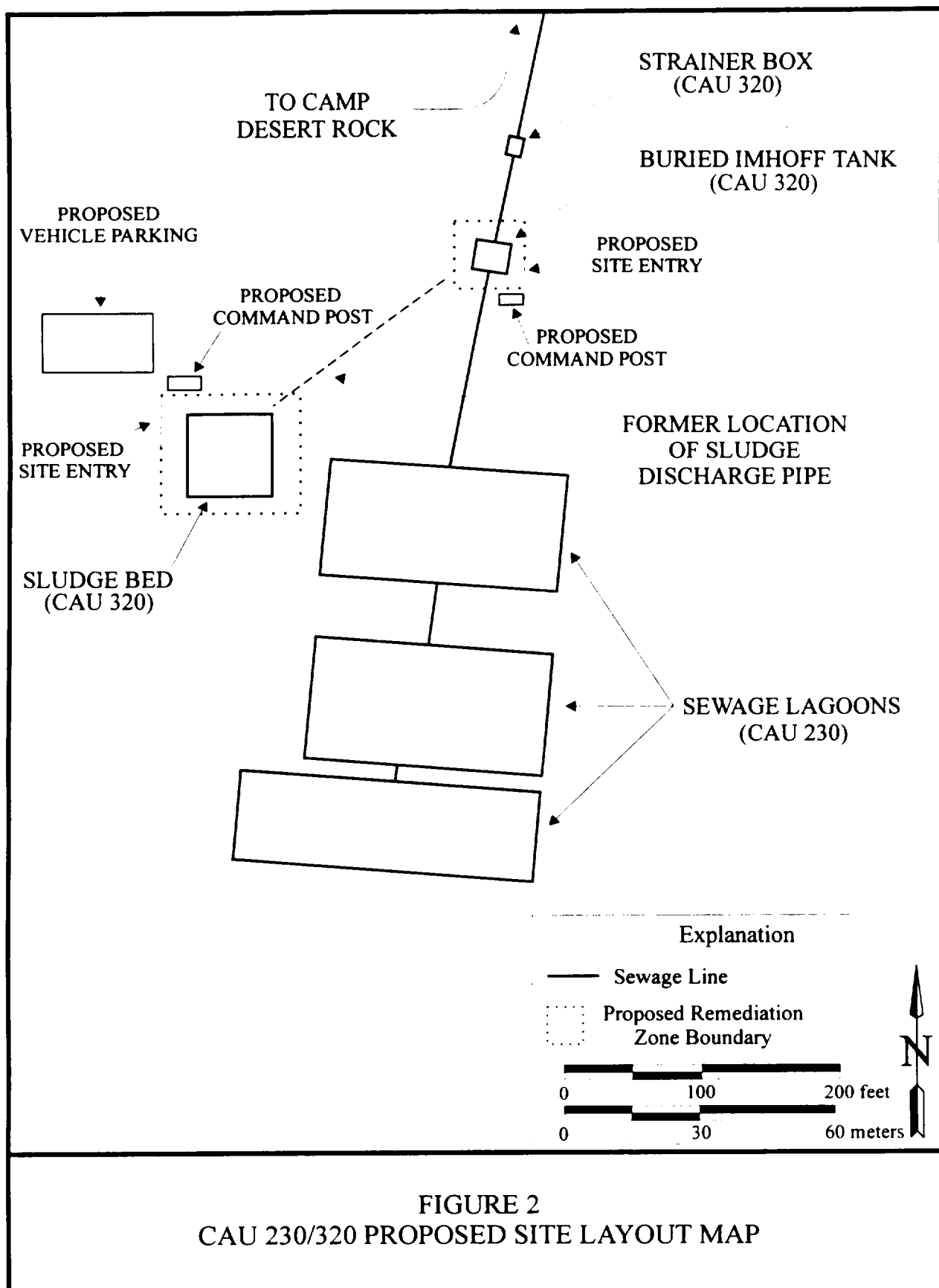


FIGURE 1  
CAU 230/320 LOCATION MAP



No COCs above PALs were detected at any of the other components of the Area 22 Sewage Lagoons site. Therefore, no additional corrective action is required. However, best management practices at these other sites will be done as follows:

- Backfill the eroded area around the buried Imhoff tank.
- Fill the strainer box with cement/grout slurry.
- Fill manholes associated with the septic system with cement/grout slurry.
- No further action is necessary at the sewage lagoons.

## **1.2 SCOPE**

The approved corrective action alternative was chosen in the CADD (DOE/NV, 2000). The approved alternative includes clean closure by excavation and disposal. The scope of the approved corrective action alternative consists of the following activities:

- Preplanning and site preparation.
- Excavating and removing impacted soil and debris.
- Collecting verification soil samples.
- Backfilling the excavation to surface grade with clean fill.
- Perform best management practices on clean sites.
- Disposing of excavated materials following applicable federal, state, and DOE regulations following Section 2.3 of this CAP.
- Preparing a Closure Report to document the closure activities described above.



### **1.3 CORRECTIVE ACTION PLAN CONTENTS**

This document is divided into the following sections in accordance with the approved FFACO CAP outline:

- Section 1.0 - Introduction
- Section 2.0 - Detailed Statement of Work
- Section 3.0 - Schedule
- Section 4.0 - Post-Closure Plan
- Section 5.0 - References

The appendices of this document have been modified from the approved FFACO outline. The following FFACO outline appendices have not been included or revised as indicated below:

- Appendix A1: Engineering Specifications and Drawings

This appendix is not necessary for the site as there are no construction or engineered cover requirements for closure.

- Appendix A2: Sampling and Analysis Plan

The sampling and analysis requirements for the site are detailed in Section 2.4, "Clean-up Verification," therefore, a separate sampling and analysis plan is not included as an appendix.

- Appendix A3: Project Organization

This appendix is identified as Appendix A.

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## **2.0 DETAILED STATEMENT OF WORK**

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### **2.1 APPROVED ALTERNATIVE IMPLEMENTATION**

This section describes how the approved alternative will be implemented at the Area 22 Sewage Lagoons site. The approved alternative includes clean closure by excavation and disposal of impacted soils, verification sampling, and regrading of the site. In addition to field activities, planning and site preparation are also required.

#### **2.1.1 PREPLANNING AND SITE PREPARATION**

Prior to beginning excavation activities, the following planning and preparation activities will be accomplished:

- Preparation of planning documents such as the Site-Specific Health and Safety Plan (SSHASP), the Field Management Plan, National Environmental Policy Act (NEPA) documentation, and a Real Estate/Operations Permit (REOP).
- Site preparation including utility clearance, work permits, and delineation of excavation boundaries.
- Identification and approval of a water source for dust suppression and other construction activities.
- Scheduling and coordination of work.

##### **2.1.1.1 SSHASP/Hazard Analysis**

A SSHASP, Preliminary Hazard Assessment, and Hazard Assessment will be prepared. A copy of the SSHASP will be kept on-file in the Bechtel Nevada (BN) Environmental Restoration and the BN Environment, Safety, and Health Division Offices in Mercury, Nevada. The original document will be kept by the site Health and Safety Officer or designee at the work site. The SSHASP will be available on-site for review and signature by all workers prior to beginning work at the site. The SSHASP will provide a detailed, job-specific plan covering protection against accidents or exposure of workers to contamination. It will also discuss weather/air monitoring, accident reporting, emergency procedures, and physical and environmental hazards. The work will also be performed following the BN Environment, Safety, and Health Manual (BN, 1999). In addition, the Material Safety Data Sheets file will be maintained by the Health and Safety Officer and will be available on-site.

### **2.1.1.2 Field Management Plan**

A Field Management Plan will be prepared for the closure activities. The plan will outline how the work will be accomplished and provide a detailed schedule for the project. In addition, it will identify the responsible parties for each aspect of the project and determine how decisions will be made. A copy of the Field Management Plan will be placed on file at the BN Environmental Restoration offices in Mercury, Nevada, and a copy will also be available at the project field site.

### **2.1.1.3 NEPA Documentation**

A NEPA checklist will be completed prior to beginning excavation activities at the site. If necessary, a follow-up survey will be performed and will report on the condition of existing vegetation, cultural resources, sacred sites, and wildlife immediately adjacent to the area which may be affected by construction activities, equipment and material storage areas, and access routes. Based on the findings of this survey, the excavation activities at the Area 22 Sewage Lagoons site will follow all applicable federal, state, and local laws, regulations, and permits for protection of the environment.

## **2.1.2 CLOSURE ACTIVITIES**

### **2.1.2.1 Excavation of Soil Containing Petroleum Hydrocarbons**

It is estimated that a total maximum of 512 cubic meters (670 cubic yards) of soil and debris at the sludge bed has been impacted with TPH as diesel-range organics (Figure 2). The source of the TPH in the soil is believed to be the asphalt debris discovered during characterization activities. The actual extent and volume of the impacted material will be determined during excavation activities. The depth of the excavation is not anticipated to exceed 2.7 meters (m) (9 feet [ft]). The excavated material will be stockpiled, then loaded into dump trucks, and transported to the NTS Area 6 Hydrocarbon Landfill for disposal. The waste will be managed following Section 2.3 of this CAP. Verification samples will be collected after the impacted soil is removed as discussed in Section 2.4 of this plan.

During excavation, the soil and excavated area will be examined visually for stains or discoloration that may be the result of petroleum hydrocarbons discharged in this area. The soil and excavated area will also be screened using a photoionization detector (PID) for health monitoring and for field screening soil samples. Once all visibly impacted soil is removed, soil samples will be field tested using a PetroFLAG™ hydrocarbon test kit. Any remaining areas identified as impacted above remediation levels will be removed.

### **2.1.2.2 Best Management Practices**

The remainder of the components associated with the Area 22 Sewage Lagoons site were found to have COCs below the PALs and do not require corrective action. However, best management practices will be done at these areas to prevent or mitigate the accumulation of water or debris in the existing piping.

The eroded area at the buried Imhoff tank will be backfilled with clean material and graded and the strainer box will be filled with cement/grout slurry (Figure 2). In addition, the manholes associated with the septic system will also be filled with cement/grout slurry (Figure 3). The cement grout slurry will be slightly expanding to reduce the formation of cracks due to shrinkage.

The sewage lagoons will not require any corrective action.

### **2.1.2.3 Decontamination of Equipment**

Sampling equipment will be decontaminated off-site prior to the start of field activities. Equipment will be decontaminated using Alconox™ and water followed by a deionized water rinse. Equipment will be air dried and placed into clean plastic bags.

Only the heavy equipment bucket will be in contact with the impacted soil. Therefore, if necessary, only the bucket will require decontamination. The bucket will be decontaminated on-site over the impacted soil piles with a solution of Alconox™ and water, and rinsed with clean water. The amount of water used for decontamination will be minimal and will not result in free liquid in the soil piles.

If excessive amounts of water are required for decontamination or if more than the bucket becomes impacted, a lined, bermed decontamination pad will be used. Equipment will be driven onto the pad and steam cleaned. Decontamination rinseate from heavy equipment decontamination that remains in the lined berm at the close of the project will be placed into a 208-liter (L) (55-gallon [gal]) drum prior to disposal in the Area 23 Sewage Lagoon. The decontamination liner will be disposed of in the Area 23 Sanitary Landfill.

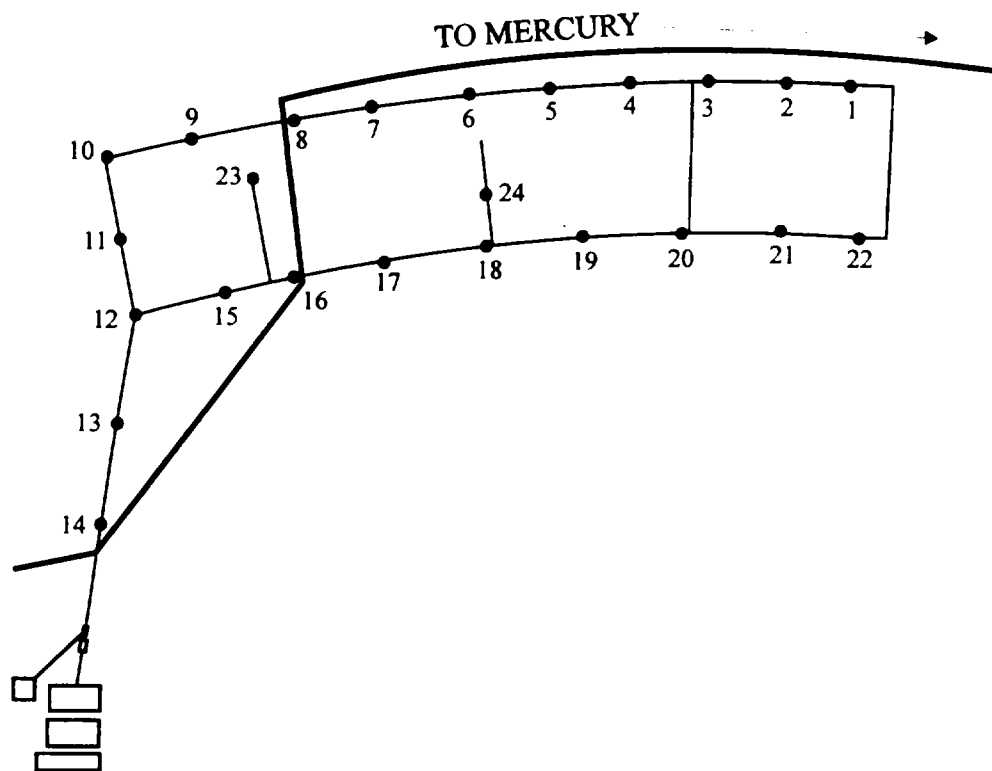


FIGURE 3  
CAU 230/320 MANHOLE LOCATIONS

#### **2.1.2.4 Backfilling and Grading of Site**

The sludge bed excavated area will be backfilled with clean fill soil and leveled to existing grade to minimize surface obstructions and ponding.

## **2.2 CONSTRUCTION QUALITY ASSURANCE/QUALITY CONTROL**

Construction activities consist of excavation and earth moving. Permeability and compaction testing will not be necessary. As a result, construction quality assurance/quality control is not required.

## **2.3 WASTE MANAGEMENT**

Waste streams generated at CAU 230/320 will include soil and debris containing petroleum hydrocarbons and nonhazardous sanitary trash. Petroleum hydrocarbon waste will be disposed of in the NTS Area 6 Hydrocarbon Landfill. Nonhazardous waste, such as sanitary trash, will be disposed of in the NTS Area 23 Sanitary Waste Landfill.

### **2.3.1 CONTAINER MANAGEMENT**

All waste is anticipated to be placed directly into the dump truck that will be used to transport the waste for disposal. If necessary, 208-L (55-gal) drums will be used to store waste generated at CAU 230/320. All drums must be in good condition (no significant rust or dents). Drums will only be filled 7/8 of the maximum capacity. If the drum begins to leak, the contents must be transferred to a drum that is in good condition. The drums must be lined or made of a material that will not react with the waste. The drums must always be closed and locked while stored unless waste is added or removed. They must also be handled in such a manner that will not jeopardize the integrity of the drum.

A secondary containment system will only be required if the drums hold free liquid or are unprotected from contact with accumulated liquid. Drums with solid contents do not require secondary containment.

Appropriate labels and relevant information will be marked on each drum with an indelible marker, or equivalent. The information will be legible and clearly visible for inspections. Pertinent data may be written on duct tape or a blank adhesive label affixed to the side of the container. The drums will be labeled with information such as:

- Type of waste in the drum.
- Location waste was derived from.
- Awaiting/pending analysis if sampling is required.

### **2.3.2 SITE CONTROL**

Where appropriate, temporary barricades (fencing, rope, warning cones, etc.) will be constructed around the remediation zones. A remediation zone is an area where remediation work is being performed, but is not an exclusion zone as defined in Title 29 Code of Federal Regulations (CFR) 1910.120 (Occupational Safety and Health Administration [OSHA], 1996). Appropriate warning signs will be posted. Only properly trained personnel wearing appropriate personal protective equipment as specified in the SSHASP will enter the remediation zones. The proposed remediation zones and site layout are provided in Figure 2.

### **2.3.3 PERSONNEL TRAINING**

Title 29 CFR 1910.120 (OSHA, 1996) details the occupational safety and health requirements that will be followed for personnel supporting excavation activities. All personnel will be required to read, understand, and sign the SSHASP prior to working at the site. A tailgate safety briefing will be held every morning and, as needed, as activities or circumstances change. Only trained and qualified personnel will operate heavy equipment. Training requirements will be detailed in the SSHASP.

### **2.3.4 WASTE MINIMIZATION**

For the duration of the project, site workers will adhere to the BN Waste Minimization and Pollution Prevention Program. Care will be taken to segregate waste from non-waste materials, when possible, to avoid the generation of additional regulated waste.



## **2.4 CLEAN-UP VERIFICATION**

### **2.4.1 VERIFICATION SAMPLING**

Verification sampling is required for a site closure. A verification program must support the field decision that any remaining COCs are less than remediation standards and provide the regulator with confidence that sufficient samples have been collected to verify that the site has been remediated. For CAU 230/320, the approved CADD (DOE/NV, 2000) indicated that TPH as diesel-range organics is the only COC above remediation standards. Only the sludge bed area will require verification sampling. Verification samples will be analyzed for TPH as diesel using U.S. Environmental Protection Agency Method 8015B Modified.

If the excavation does not exceed 1.2 m (4 ft) deep, samples will be collected by hand using a decontaminated stainless steel scoop. If the excavation exceeds 1.2 m (4 ft) in depth, the samples will be collected as grab samples from the soil in the center of the decontaminated bucket of the excavation equipment. All samples will be placed in the appropriate pre-cleaned sample containers.

The closure criteria will be based on the presence of hydrocarbons in the verification samples. The TPH as diesel concentration will not exceed 100 mg/kg for any sample. If this criteria is not met, additional excavation and verification sampling will be done. A two-week analytical turnaround time will be requested for all samples.

Field testing will be done to help determine if all impacted soil has been removed. Soil samples will be collected and analyzed using a PetroFLAG<sup>TM</sup> hydrocarbon field test kit. In addition, headspace analysis of samples will be done using a PID. Samples will be placed in a sealed plastic bag and placed in the sun for 30 minutes. The headspace will then be analyzed using a PID with a 11.2-11.7 electron volt lamp. If field testing results indicate soil impacted above remediation levels, additional excavation and sampling will be done.

After field testing indicates TPH levels are below remediation levels, verification samples will be collected. Verification samples will be collected every 3 m (10 ft) laterally and vertically from the sidewalls and bottom of the excavation. Based on the assumed dimensions of the excavation, a total of 45 verification samples will be collected. Five samples will be collected from each sidewall and 25 samples will be collected from the bottom of the excavation. All samples will be analyzed for TPH as diesel.

The number of samples is based on the assumption that the excavation will be 15- by 15- by 3-m (50- by 50- by 10-ft). If the dimensions of the excavation change, the number of samples will be modified as appropriate. A summary of the number of samples to be collected and the analyses to be performed is provided in Table 1.

**TABLE 1 - CAU 230/320 VERIFICATION SAMPLING PARAMETERS**

PARAMETER	NUMBER OF SAMPLES*	NUMBER OF QUALITY CONTROL SAMPLES	ANALYTICAL METHOD	SAMPLE CONTAINER
<b>Sludge Bed Soil Samples</b>				
Total Petroleum Hydrocarbons-Diesel	45	3 Blind Replicates 1 Equipment Blank  1 MS/MSD per sample batch	SW-846, EPA Method 8015 Modified (EPA, 1996)	1-250 milliliter glass jar per sample  1- 1 liter glass jar for equipment blank

\*The number of samples is based on an assumed excavation size of 15- by 15- by 3- m (50- by 50- by 10- ft). If the dimensions of the excavation change, the number of samples will be modified as appropriate.

Sampling activities will be recorded in a bound logbook with numbered pages and will include the following information:

- Date and time of sampling activities.
- Location of sampling activities.
- Sample numbers.
- Physical description of sample.
- Soil type.
- Volume of each sample collected.
- PetroFLAG<sup>TM</sup> sample results.
- PID headspace sample results.

Field notes will be recorded in black ink. Any errors will be crossed out with a single line and initialed.

All samples will be labeled with a unique sample number using the following nomenclature:

320SB-1

Where:

- 320 is the CAU number.
- SB is the site location.
- 1 is the sample number.

All samples will be cooled to 4°C (40°F) and transported to the BN Analytical Services Laboratory under strict chain-of-custody procedures.

#### **2.4.2 QUALITY CONTROL SAMPLES**

One quality control sample (blind replicate) will be collected. It will be labeled with its own distinct sample number so that the laboratory will not be able to identify it as a quality control sample. The data packages provided by the laboratory will be evaluated by qualified personnel.

## **2.5 PERMITS**

Permits required for this project include an Excavating and Penetration Permit and a REOP.

### **2.5.1 EXCAVATING AND PENETRATION PERMIT**

An approved Excavating and Penetration Permit (BN-0084) will be obtained prior to excavation. The permit contains a justification for the trenching operation and a checklist of pertinent organizations which must inspect the site so that the trenching will not impact utilities or cause a hazardous situation to workers. A copy of this permit will be kept at the project site by the construction superintendent.

### **2.5.2 REOP**

A REOP will be completed prior to starting field activities. This DOE permit authorizes BN the right of occupancy and use of the DOE real estate for closure activities.

## **3.0 SCHEDULE**

---

### **3.1 PROJECT SCHEDULE**

Field work is tentatively planned for the spring of 2001. The schedule will require modifications if conditions exist that are outside the assumptions on which the schedule is developed. The DOE will keep the NDEP apprised of any conditions that may impact the project schedule. In the event that the project schedule requires modifications, the DOE will consult with NDEP personnel prior to making any changes.

### **3.2 FIELD WORK CLOSURE SCHEDULE**

A tentative schedule for planned field work consists of the following:

- Prefield Activities December 2000
- Excavation Activities January 2001
- Waste Disposal January 2001
- Verification Sampling January 2001
- Final Site Restoration January/February 2001
- Closure Report July 2001

Field work will be done in the safest and most efficient manner possible. Sufficient flexibility has been placed in the project schedule to account for minor difficulties (weather, equipment breakdown, etc.). The schedule may require modification if conditions exist that are outside the assumptions on which the scope and schedule are developed.

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## **4.0 POST-CLOSURE PLAN**

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The clean closure of the Area 22 Sewage Lagoons site is expected to remove waste to levels below the remediation standard. Therefore, post-closure care is not required.

### **4.1 INSPECTIONS**

Because this is a clean closure, all constituents of concern will have been removed to the remediation standard. Inspections will not be required following closure and the land can be released for unrestricted use.

### **4.2 MONITORING**

Because this is a clean closure, post-closure monitoring is not required at the Area 22 Sewage Lagoons site as all constituents of concern will have been removed to the remediation standard. The land can be released for unrestricted use.

### **4.3 MAINTENANCE AND REPAIR**

The site will be clean closed. Maintenance or repairs will not be necessary at the site following closure.

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## 5.0 REFERENCES

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BN, see Bechtel Nevada.

Bechtel Nevada, 1999. Environment, Safety, and Health Manual, Las Vegas, NV.

DOE/NV, see U.S. Department of Energy, Nevada Operations Office.

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Federal Facility Agreement and Consent Order (FFACO) of 1996. Prepared by Nevada Division of Environmental Protection, U.S. Department of Energy, and U.S. Department of Defense.

NAC, see Nevada Administrative Code.

Nevada Administrative Code, 1996, NAC 445A.2272. "Contamination of soil: Establishment of action levels," As adopted by the Nevada Environmental Commission, September, Carson City, NV.

OSHA, see Occupational Safety and Health Administration.

Occupational Safety and Health Administration, 1996, Title 29 Code of Federal Regulations 1910.120, Hazardous Waste Operations and Emergency Response, Washington, D.C.

U.S. Department of Energy, Nevada Operations Office, 1999, Corrective Action Investigation Plan for Corrective Action Unit 230: Area 22 Sewage Lagoons and Corrective Action Plan 320: Area 22 Desert Rock Airport Strainer Box, Nevada Test Site, Nevada, Revision 0, DOE/NV--552, Las Vegas, NV.

U.S. Department of Energy, Nevada Operations Office, 2000, Corrective Action Decision Document for Corrective Action Unit 230: Area 22 Sewage Lagoons and Corrective Action Plan 320: Area 22 Desert Rock Airport Strainer Box, Nevada Test Site, Nevada, Revision 0, DOE/NV--601, Las Vegas, NV.

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**APPENDIX A**

**PROJECT ORGANIZATION**

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The following are the DOE/NV project contacts:

Runore C. Wycoff  
Director  
Environmental Restoration Division  
U.S. Department of Energy, Nevada Operations Office  
P.O. Box 98518  
Las Vegas, NV 89193-8518  
(702) 295-0250

Janet L. Appenzeller-Wing  
Project Manager  
Industrial Sites Project  
U.S. Department of Energy, Nevada Operations Office  
P.O. Box 98518  
Las Vegas, NV 89193-8518  
(702) 295-0461

The identification of the project Health and Safety Officer and the Quality Assurance Officer can be found in the appropriate DOE plan. However, personnel are subject to change and it is suggested that the Project Manager be contacted for further information. The Task Manager will be identified in the FFACO Biweekly Activity Report prior to the start of field activities.

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## RECORD OF TECHNICAL CHANGE

Technical Change No. 1Page 1 of 1Project/Job No. WBS 10401030419Date 1/30/01Project/Job Name CAU 230/320. Area 22 Sewage Lagoons and DRA Strainer Box

The following technical changes (including justification) are requested by:

Dennis GustafsonTask Manager

(Name)

(Title)

The project time will be Unchanged..Applicable Project-Specific Document(s): Corrective Action Plan for Corrective Action Unit 230/320, Area 22  
Sewage Lagoons and DRA Strainer Box, Nevada Test Site, Nevada

Approved By:

Janet Appenzeller-Wing  
Janet Appenzeller-Wing, Project Manager  
Industrial Sites ProjectDate 2/12/01Runore C. Wycoff  
Runore C. Wycoff, Division Director  
Environmental Restoration DivisionDate 2/12/01Client Notified Yes ☒ No ☐ Date \_\_\_\_\_NDEP Concurrence Yes ☒ No ☐ Date \_\_\_\_\_Contract Change Order Required Yes ☐ No ☐ \_\_\_\_\_

Contract Change Order No. \_\_\_\_\_

UNCONTROLLED

Technical Change No. 1Page 2 of 2Project/Job No. WBS 10401030419Date 1/30/01Project/Job Name CAU 230/320: Area 22 Sewage Lagoons and DRA Strainer Box

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Site Characterization results from the sludge-bed area reported three samples having total petroleum hydrocarbons (TPH) as diesel-range organics at concentrations ranging from 150 milligrams per kilogram to 580 milligrams per kilogram. Excavation of the sludge-bed area has resulted in removal of construction debris and asphalt. During excavation activities, no soil staining, odor, or discoloration was observed. In addition, screening using a photoionization detector (PID) did not indicate the presence of any petroleum hydrocarbon discharge in this area.

For the purpose of verification sampling, the bottom and side slopes of the excavation will be divided into grids. The bottom of the excavation will be divided into 10 foot by 10 foot cells. The grid system will create 25 cells in the bottom of the excavation, each labeled using a grid coordinate system that will be created in the field. A random number generator (or table) will be used to select 5 of the cells. A surface soil sample will be collected from the center of each of the 5 cells and analyzed for TPH as diesel.

The side slopes of the excavation will be subdivided in plan view into 10 foot by 10 foot cells. The grid system will provide a total of 24 cells around the perimeter of the excavation, each labeled using a grid system that will be created in the field. A random number generator (or table) will be used to select 2 of the cells from each of the four side slopes. A surface soil sample will be collected from the center of each of the 2 cells and analyzed for TPH as diesel.



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## RECORD OF TECHNICAL CHANGE

Technical Change No. 1 Page 1 of 1  
Project/Job No. WES 10401030419 Date 1/30/01  
Project/Job Name CAU 230/320 Area 22 Sewage Lagoons and DRA Strainer Box

The following technical changes (including justification) are requested by:

Deranis Gustafson Task Manager  
(Name) (Title)

The project time will be Unchanged..

Applicable Project-Specific Document(s): Corrective Action Plan for Corrective Action Unit 230/320, Area 22  
Sewage Lagoons and DRA Strainer Box, Nevada Test Site, Nevada

Approved By:

Jane Appenzeller-Wing  
Jane Appenzeller-Wing, Project Manager  
Industrial Site Project

Date 2/12/01

Ronnie Wycoff  
Ronnie C. Wycoff, Division Director  
Environmental Restoration Division

Date 2/12/01

Client Notified Yes ☐ No ☐ Date

NDEP Concurrence Yes ☒ No ☐ Date Michael PK 3/6/01

Contract Change Order Required Yes ☐ No ☐

Contract Change Order No. \_\_\_\_\_

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