

Nevada
Environmental
Restoration
Project

DOE/NV--919



Closure Report for Corrective
Action Unit 346: Areas 8, 10
Housekeeping Sites, Nevada Test
Site, Nevada

Controlled Copy No.:_____

Revision: 0

August 2003

Environmental Restoration
Division



U.S. Department of Energy
National Nuclear Security Administration
Nevada Site Office

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**CLOSURE REPORT
FOR CORRECTIVE ACTION UNIT 346:
AREAS 8, 10 HOUSEKEEPING SITES,
NEVADA TEST SITE, NEVADA**

**Prepared for:
U.S. Department of Energy
National Nuclear Security Administration
Nevada Site Office
Work Performed Under Contract No. DE-AC08-96NV11718**

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**CLOSURE REPORT
FOR CORRECTIVE ACTION UNIT 346:
AREAS 8, 10 HOUSEKEEPING SITES,
NEVADA TEST SITE, NEVADA**

Approved by: SIGNATURE APPROVE
Janet Appenzeller-Wing, Project Manager
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Date: 8/18/03

Approved by: SIGNATURE APPROVE
Runore C. Wycoff, Director
Environmental Restoration Division

Date: 8/18/03

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ADMINISTRATION NEVADA OPERATIONS OFFICE NEPA
ENVIRONMENTAL EVALUATION CHECKLIST

DISTRIBUTION LIST

ACRONYMS AND ABBREVIATIONS

BN	Bechtel Nevada
CAS	Corrective Action Site(s)
CAU	Corrective Action Unit
COC	Contaminant(s) of Concern
CFR	Code of Federal Regulations
DOE/NV	U.S. Department of Energy Nevada Operations Office
EPA	U.S. Environmental Protection Agency
ER	Environmental Restoration
FFACO	Federal Facility Agreement and Consent Order
gal	Gallon(s)
L	Liter(s)
mg/kg	Milligram(s) per kilogram
mg/L	Milligram(s) per liter
NAC	Nevada Administrative Code
NA	Not Applicable
ND	Not Detected
NDEP	Nevada Division of Environmental Protection
NNSA/NSO	U.S. Department of Energy, National Nuclear Security Administration Nevada Site Office
NTS	Nevada Test Site
PA	Preliminary Assessment
PCBs	polychlorinated biphenyls
pCi/g	picoCuries per gram
ppm	parts per million

ACRONYMS AND ABBREVIATIONS (continued)

RCT	Radiological Control Technician
RCRA	Resource Conservation and Recovery Act
SVOC	Semivolatile Organic Compound(s)
SWO	Solid Waste Operations
TCLP	Toxicity Characteristic Leaching Procedure
TPH	Total Petroleum Hydrocarbons
VOC	Volatile Organic Compound(s)

EXECUTIVE SUMMARY

The 14 Corrective Action Sites (CASs) included in Corrective Action Unit 346 were closed by the following actions:

CAS 08-22-04: Clean-closed with no action necessary

CAS 08-22-11: Clean-closed

CAS 08-24-02: Clean-closed with no action necessary

CAS 10-14-01: Clean-closed

CAS 10-22-06: Clean-closed

CAS 10-22-10: Clean-closed

CAS 10-22-12: Clean-closed

CAS 10-22-13: Clean-closed

CAS 10-22-16: Clean-closed

CAS 10-22-22: Clean-closed

CAS 10-22-25: Clean-closed

CAS 10-22-36: Clean-closed

CAS 10-22-37: Clean-closed

CAS 10-24-11: Clean-closed

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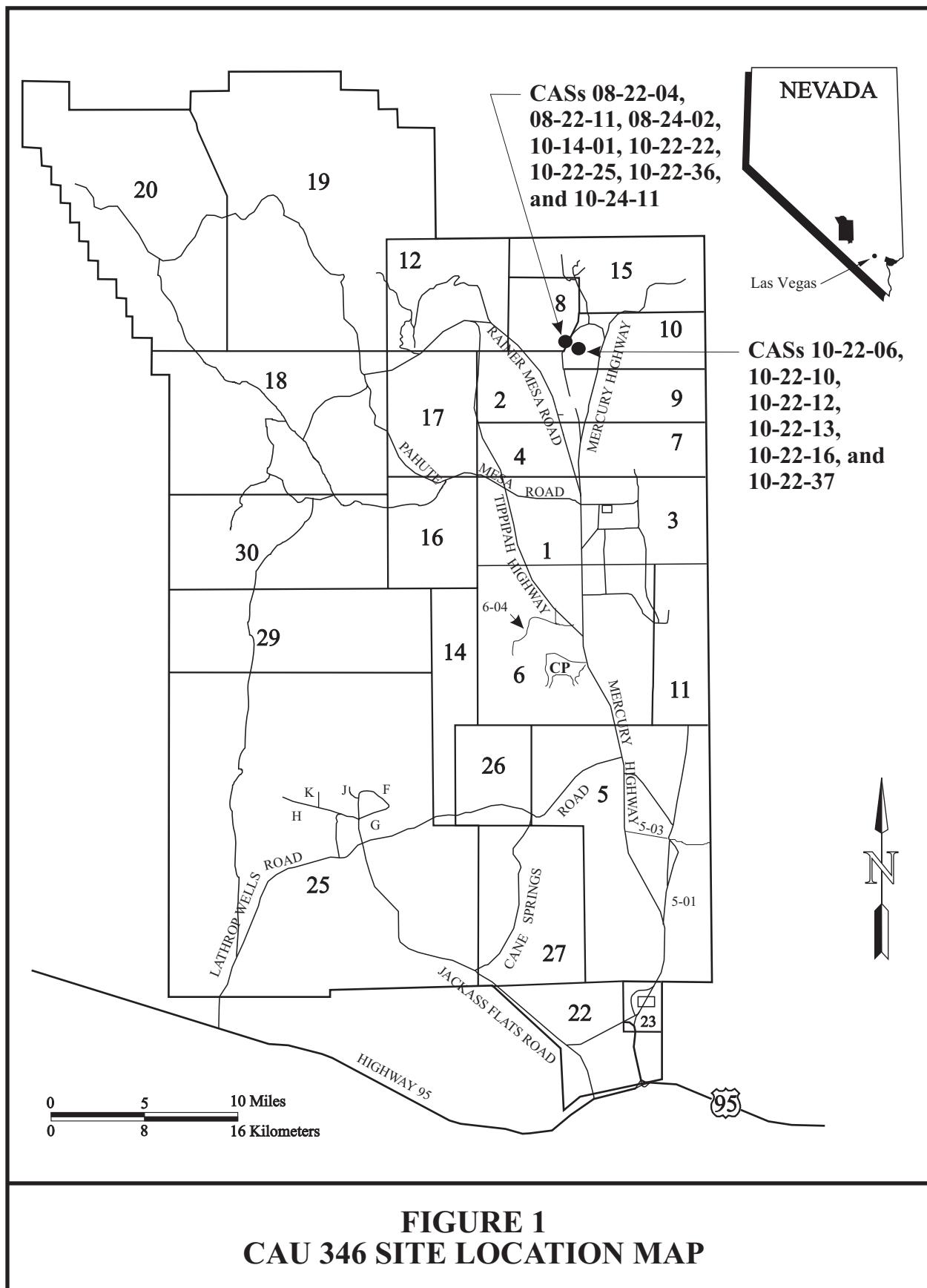
1.0 INTRODUCTION

This Closure Report documents the closure activities conducted for Corrective Action Unit (CAU) 346: Areas 8, 10 Housekeeping Sites. CAU 346 is listed in Appendix III of the Federal Facility Agreement and Consent Order (FFACO, 1996) and consists of the following 14 Corrective Action Sites (CASs) located in Areas 8 and 10 of the Nevada Test Site (NTS) (see Figure 1):

CAS 08-22-04:	Drums (2)
CAS 08-22-11:	Drums; Bucket
CAS 08-24-02:	Battery
CAS 10-14-01:	Transformer
CAS 10-22-06:	Drum (Gas Block)
CAS 10-22-10:	Drum (Gas Block)
CAS 10-22-12:	Drum (Gas Block)
CAS 10-22-13:	Drum (Gas Block)
CAS 10-22-16:	Drum (Gas Block)
CAS 10-22-22:	Drum
CAS 10-22-25:	Drum
CAS 10-22-36:	Paint Can
CAS 10-22-37:	Gas Block
CAS 10-24-11:	Battery

Closure activities consisted of closing each CAS by removing debris and/or material, disposing of the generated waste, and verifying that each site was clean-closed by visual inspection and/or laboratory analysis of soil verification samples.

Copies of the analytical results for the site verification samples are included in Appendix A. Copies of the Sectored Housekeeping Site Closure Verification Forms for each of the 14 CASs are included in Appendix B.



2.0 CLOSURE ACTIVITIES

This section details the specific corrective action activities completed during the closure of CAU 346: Areas 8, 10 Housekeeping Sites.

2.1 DESCRIPTION OF CLOSURE ACTIVITIES

2.1.1 Preplanning and Site Preparation

Planning documents prepared prior to the beginning of closure activities included the following:

Sectored Clean-up Work Plan For Housekeeping Category Waste Sites (U.S. Department of Energy, National Nuclear Security Administrations Nevada Site Office [NNSA/NSO], 2003).

Generic Field Management Plan for Housekeeping Category Waste Sites (Bechtel Nevada [BN], 2000).

Site-Specific Health and Safety Plan for Corrective Action Units 176, 346, 350, 351, 352, & 523 Housekeeping Sites, Nevada Test Site, Nevada (BN, 2003).

BN Solid Waste Operations (SWO) Work Packages.

NNSA/NSO Real Estate/Operation Permit.

BN Environmental Restoration (ER) and SWO personnel held a pre-job field briefing on May 29, 2003 prior to the start of site-closure field activities.

2.2 WASTE CHARACTERIZATION ACTIVITIES

At CASSs 10-14-01, 10-22-22, and 10-22-25, samples were collected and analyzed to characterize the waste that was expected to be generated during site-closure activities. Table 1 provides the results of analyses that were done for the waste characterization samples. Appendix A provides the analytical reports for the waste characterization samples.

2.2.1 CAS 10-14-01: Transformer

An oil-filled circuit breaker was located at this site. The circuit breaker contained three separate oil reservoirs which were each sampled for polychlorinated biphenyls (PCBs). Analytical results showed that the circuit breaker is non-PCB electrical equipment as defined by Title 40, Code of Federal Regulation (CFR) Part 761 (CFR, 2002).

2.2.2 CAS 10-22-22: Drum

One 151-liter (L) (40-gallon [gal]) drum containing granular dehumidifying crystals was located at this site. The crystals were sampled and analyzed for Toxicity Characteristic Leaching

Procedure (TCLP) volatile organic compounds (VOCs), TCLP semivolatile organic compounds (SVOCs), TCLP Resource Conservation and Recovery Act (RCRA) metals, total petroleum hydrocarbons (TPH), Gamma emitters and Tritium. Analytical results presented in Table 1 show that the contents of the drum was not hazardous waste as defined by Title 40 CFR Part 261.24 (CFR, 2002), TPH waste as defined by Part 445A.2272 of the Nevada Administrative Code (NAC, 2003), or as radioactive waste. Analytical data summaries for the samples are included in Appendix A.

TABLE 1 - SUMMARY OF ANALYTICAL RESULTS FOR WASTE CHARACTERIZATION SAMPLES*

SAMPLE IDENTIFICATION	Volatile Organic (mg/L)	TCLP Semivolatile ^b (mg/L)	^b (mg/L)	Polychlorinated ^b (ppm)	Gamma Emitters and ^b (pCi/g)	Total Petroleum ^b (mg/kg)
CAS 10-14-01 - Oil-Filled Circuit Breaker (Sample Delivery Group [SDG] V1894)						
101401-1	NS	NS	NS	ND	NS	NS
101401-2	NS	NS	NS	1.8	NS	NS
101401-3	NS	NS	NS	1.9	NS	NS
CAS 10-22-22 - Drum (SDG V1889 and V1890)						
102222-01	ND	ND	Barium 0.171 Cadmium 0.011	NS	ND	ND
CAS 10-22-25 - Drum (SDG V1889 and V1890)						
102225-01	ND	ND	Barium 0.289 Cadmium 0.026	NS	ND	ND
102225-03	ND	ND	Barium 0.225 Cadmium 0.023	NS	NS	ND

* Refer to Appendix A for laboratory data reports.

^a Toxicity Characteristic Leaching Procedure

^b TCLP VOCs, TCLP SVOCs, TCLP RCRA Metals, PCBs, TPH, Gamma, and Tritium samples analyzed by U.S. Environmental Protection Agency (EPA) Method 1311/8240, 1311/8270, 1311/6010 and 1311/7000, 8082, 8015, 901.1 and 906.0 respectively (EPA, 1996). See analytical reports in Appendix A for detection limits.

^c Resource Conservation and Recovery Act.

Definitions:

mg/L = Milligram(s) per liter

mg/kg = Milligrams(s) per kilogram

NS = Not Sampled

ND = Not detected at laboratory reporting limit or less than laboratory Minimum Detectable Activity. See Appendix A for laboratory reporting limits.

ppm = parts per million

2.2.3 CAS 10-22-25: Drum

One 151-L (40-gal) drum containing granular dehumidifying crystals was located at this site. The crystals were sampled and analyzed for TCLP VOCs, TCLP SVOCs, TCLP RCRA metals, TPH, Gamma emitters, and Tritium. Analytical results presented in Table 1 show that the contents of the drum was not hazardous waste as defined by Title 40 CFR Part 261.24 (CFR, 2002), TPH waste as defined by Part 445A.2272 of the Nevada Administrative Code (NAC, 2003), or as radioactive waste. Analytical data summaries for the samples are included in Appendix A.

2.3 SITE CLOSURE ACTIVITIES

Appendix B provides the Housekeeping Site Closure Verification Forms showing before and after photographs and providing site information.

2.3.1 CAS 08-22-04: Drums (2)

The drums originally identified in the FFACO were not present at the time of the Preliminary Assessment (PA) or during the subsequent BN ER site visit (IT, 2002). The original waste site was located near a mud pit associated with the four craters remaining from the U8d crater area and outlying post-shot holes from the 1970 "Baneberry" test (U.S. Department of Energy, Nevada Operations Office [DOE/NV], 2000). Site closure was documented with photographs and field notes. No further action is required at this site.

2.3.2 CAS 08-22-11: Drums; Buckets

Three empty buckets and two empty drums were located in two mud pits associated with the U8d crater area and outlying post-shot holes from the 1970 "Baneberry" test (DOE/NV, 2000). Previous soil sampling results from the PA indicated the presence of diesel range petroleum hydrocarbons above the Nevada State Action Level (Nevada Administrative Code [NAC], 2003) in the northern mud pit known as Mud Pit B (IT, 2002). Mud Pit B is part of CAS 08-09-03 which is currently included in CAU 357 and scheduled for remediation later in 2003. The housekeeping waste was removed from the mud pits. However, soil samples were not collected, as the diesel range TPH in the soil will be addressed as part of CAU 357 closure activities. All CAU 346 closure activities were documented with photographs and field notes. Clean closure of the housekeeping portion of this site was verified by visual inspection. Verification samples were not required or collected. No further actions relating to CAU 346 are required at this site.

2.3.3 CAS 08-24-02: Battery

The battery originally identified in the FFACO was not present at the time of the PA or during the subsequent BN ER site visit (IT, 2002). The original waste site was located north of the four craters (U10am1 through U10am4) remaining from the 1969 "Tun-A" through "Tun-D" detonations (DOE/NV, 2000). Site closure was documented with photographs and field notes. No further action is required at this site.

2.3.4 CAS 10-14-01: Transformer

An oil-filled circuit breaker was located directly south of the U10cb crater from the 1984 “Normanna test (DOE/NV, 2000). The circuit breaker contained three oil reservoirs that were sampled and showed to contain a maximum of 1.9 parts per million PCBs. This classified the circuit breaker as non-PCB electrical equipment as defined by Title 40, Code of Federal Regulation (CFR) Part 761 (CFR, 2002). The circuit breaker was sprayed and cleaned to address Hanta virus concerns and was removed from the site for recycling/disposal. All closure activities were documented with photographs and field notes. Clean closure of this site was verified by visual inspection. Verification samples were not required or collected. No further action is required at this site.

2.3.5 CAS 10-22-06: Drum (Gas Block)

One gas block drum was located at the site near the crater from the 1966 “Vigil and “Rovenna tests (DOE/NV, 2000). During the PA a surface soil sample was collected adjacent to the west side of the drum and analytical results showed no COC were present in the soil (IT, 2002). The drum was filled with solidified grout and 27 cables of various sizes were protruding from it. Each of the cables was cut and screened for radioactivity. After the drum was released it was disposed of at the Area 9 U10c Landfill. All closure activities were documented with photographs and field notes. Clean closure of this site was verified by visual inspection. Verification samples were not required or collected. No further actions are required at this site.

2.3.6 CAS 10-22-10: Drum (Gas Block)

One partially buried gas block drum was located at the site southwest of the crater from the 1968 “Tub-A and “Tub-F detonations (DOE/NV, 2000). During the PA a surface soil sample was collected adjacent to the south side of the buried drum and analytical results showed no COC were present in the soil (IT, 2002). The drum was filled with solidified grout and 26 cables of various sizes were protruding from it. Each of the cables was cut and screened for radioactivity. After the drum was released it was disposed of at the Area 9 U10c Landfill. All closure activities were documented with photographs and field notes. Clean closure of this site was verified by visual inspection; no verification samples were required or collected. No further actions are required at this site.

2.3.7 CAS 10-22-12: Drum (Gas Block)

One gas block drum was located at the site near the a post-shot hole associated with the 1968 “Tub-C detonation (DOE/NV, 2000). During the PA a surface soil sample was collected immediately south of the drum and analytical results showed no COC were present in the soil (IT, 2002). The drum was filled with solidified grout and 21 cables of various sizes were protruding from it. Each of the cables was cut and screened for radioactivity. After the drum was released it was disposed of at the Area 9 U10c Landfill. All closure activities were documented with photographs and field notes. Clean closure of this site was verified by visual inspection. Verification samples were not required or collected. No further actions are required at this site.

2.3.8 CAS 10-22-13: Drum (Gas Block)

One gas block drum was located at the site near the a post-shot hole associated with the 1968 “Tub-C detonation (DOE/NV, 2000). During the PA a surface soil sample was collected adjacent to the south side of the drum and analytical results showed no COC were present in the soil (IT, 2002). The drum was filled with solidified grout and 23 cables of various sizes were protruding from it. Each of the cables was cut and screened for radioactivity. After the drum was released it was disposed of at the Area 9 U10c Landfill. All closure activities were documented with photographs and field notes. Clean closure of this site was verified by visual inspection. Verification samples were not required or collected. No further actions are required at this site.

2.3.9 CAS 10-22-16: Drum (Gas Block)

One gas block drum was located at the site directly north of the crater associated with the 1966 “Reo test (DOE/NV, 2000). The drum was filled with solidified grout and 52 cables of various sizes were protruding from it. Each of the cables was cut and screened for radioactivity. After the drum was released it was disposed of at the Area 9 U10c Landfill. All closure activities were documented with photographs and field notes. Clean closure of this site was verified by visual inspection. Verification samples were not required or collected. No further actions are required at this site.

2.3.10 CAS 10-22-22: Drum

One 151-L (40-gal) drum filled with dehumidifying crystals was located between the two craters (U10am3 and U10am4) associated with the 1969 “Tun-C and “Tun-D detonations (DOE/NV, 2000). During the PA a surface soil sample was collected beneath the drum and analytical results showed no COC were present in the soil (IT, 2002). The drum was screened for radioactivity. After the drum was released it was disposed of at the Area 9 U10c Landfill. All closure activities were documented with photographs and field notes. Clean closure of this site was verified by visual inspection. Verification samples were not required or collected. No further actions are required at this site.

2.3.11 CAS 10-22-25: Drum

One 151-L (40-gal) drum filled with dehumidifying crystals was located between the two craters (U10am1 and U10am2) associated with the 1969 “Tun-A and “Tun-B detonations (DOE/NV, 2000). During the PA a surface soil sample was collected beneath the drum and analytical results showed no COC were present in the soil (IT, 2002). The drum was screened for radioactivity. After the drum was released it was disposed of at the Area 9 U10c Landfill. All closure activities were documented with photographs and field notes. Clean closure of this site was verified by visual inspection. Verification samples were not required or collected. No further actions are required at this site.

2.3.12 CAS 10-22-36: Paint Can

One empty paint can was located at the site to the south of the crater area from the 1969 “Tun-A through “Tun-D detonations (DOE/NV, 2000). During the PA a surface soil sample was collected beneath the paint can and analytical results showed no COC were present in the soil (IT, 2002). The empty can was removed from the site and disposed of at the Area 9 U10c Landfill. All closure activities were documented with photographs and field notes. Clean closure of this site was verified by visual inspection. Verification samples were not required or collected. No further actions are required at this site.

2.3.13 CAS 10-22-37: Gas Block

One partially buried gas block drum was located to the north of the U10ajf crater associated with the 1968 “Tub-C detonation (DOE/NV, 2000). During the PA a surface soil sample was collected adjacent to the east side of the drum and analytical results showed no COC were present in the soil (IT, 2002). The drum was filled with solidified grout and 14 cables of various sizes were protruding from it. Each of the cables was cut and screened for radioactivity. After the drum was released it was disposed of at the Area 9 U10c Landfill. All closure activities were documented with photographs and field notes. Clean closure of this site was verified by visual inspection. Verification samples were not required or collected. No further actions are required at this site.

2.3.14 CAS 10-24-11: Battery

One intact automotive battery was removed and sent to recycling. All closure activities were documented with photographs and field notes. Clean closure of this site was verified by visual inspection. Verification samples were not required or collected. No further action is required at this site.

3.0 WASTE DISPOSITION

Wastes generated during the closure of CAU 346: Areas 8, 10 Housekeeping Sites were disposed as follows:

CAS 08-22-11: Several empty drums and buckets were disposed of in the Area 9 U10c Landfill.

CAS 10-14-01: One oil-filled circuit breaker was recycled by the BN Site Utilities Department.

CAS 10-22-06: One grout-filled 208-L (55-gal) gas block drum was disposed of in the Area 9 U10c Landfill.

CAS 10-22-10: One grout-filled 208-L (55-gal) gas block drum was disposed of in the Area 9 U10c Landfill.

CAS 10-22-12: One grout-filled 208-L (55-gal) gas block drum was disposed of in the Area 9 U10c Landfill.

CAS 10-22-13: One grout-filled 208-L (55-gal) gas block drum was disposed of in the Area 9 U10c Landfill.

CAS 10-22-16: One grout-filled 208-L (55-gal) gas block drum was disposed of in the Area 9 U10c Landfill.

CAS 10-22-22: One 151-L (40-gal) drum was disposed of in the Area 9 U10c Landfill.

CAS 10-22-25: One 151-L (40-gal) drum was disposed of in the Area 9 U10c Landfill.

CAS 10-22-36: One empty one-gallon paint can was disposed of in the Area 9 U10c Landfill.

CAS 10-22-37: One grout-filled 208-L (55-gal) drum was disposed of in the Area 9 U10c Landfill.

CAS 10-24-11: One intact automotive battery was recycled by BN Fleet Operations.

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4.0 CLOSURE VERIFICATION

None of the sites required collection of closure verification samples.

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5.0 SUMMARY AND RECOMMENDATIONS

5.1 SUMMARY

The following site closure activities were performed for the 14 CASs in CAU 346:

All containers (drums, gas block drums, cans, etc.) were disposed of at the Area 9 U10c Landfill.

One intact vehicle battery was removed and sent to BN Fleet Operations for recycling.

One oil-filled circuit breaker was recycled.

5.2 RECOMMENDATIONS

Since the closure activities for CAU 346 have been completed following the Nevada Division of Environmental Protection (NDEP)-approved *Sectorized Clean-up Work Plan for Housekeeping Category Waste Sites* (NNSA/NSO, 2003) as documented in this report, NNSA/NSO requests the following:

1. A Notice of Completion be provided by the NDEP to the NNSA/NSO for the closure of all CASs in CAU 346:

CAS 08-22-04
CAS 08-22-11
CAS 08-24-02
CAS 10-14-01
CAS 10-22-06
CAS 10-22-10
CAS 10-22-12
CAS 10-22-13
CAS 10-22-16
CAS 10-22-22
CAS 10-22-25
CAS 10-22-36
CAS 10-22-37
CAS 10-24-11

2. CAU 346 be moved from Appendix III to Appendix IV of the FFACO *Closed Corrective Action Units* (FFACO, 1996).

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6.0 REFERENCES

Bechtel Nevada. 2000. Generic Field Management Plan for Housekeeping Category Waste Sites, Las Vegas, NV.

Bechtel Nevada. 2003. Site-Specific Health and Safety Plan for Corrective Action Units 176, 346, 350, 351, 352, & 523 Housekeeping Sites, Nevada Test Site, Nevada, Rev. 1, Las Vegas, NV.

BN, see Bechtel Nevada.

CFR, see Code of Federal Regulations.

Code of Federal Regulations. 2002. Title 40, Part 261.24, "Toxicity Characteristic." Washington D.C.

Code of Federal Regulation. 2002. Title 40, Part 761, "Polychlorinated biphenyls (PCBs) Manufacturing, Processing, Distribution In Commerce, and Use Prohibitions." Washington D.C.

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

EPA, see U.S. Environmental Protection Agency.

FFACO, see Federal Facility Agreement and Consent Order.

Federal Facility Agreement and Consent Order. 1996 (as amended). Agreed to by the State of Nevada, U.S. Department of Energy, and U.S. Department of Defense.

IT, see IT Corporation.

IT Corporation. 2002. Written communications unpublished data contained in the CAU 346 Project Files "Housekeeping Sampling Report for CAU 346 Areas 8, 10 Housekeeping Sites, Nevada Test Site. Las Vegas, NV.

NAC, see Nevada Administrative Code.

Nevada Administrative Code. 2003. NAC 445A.2272, Contamination of Soil: Establishment of Action Levels. Carson City, NV.

NNSA/NSO, see U.S. Department of Energy, National Nuclear Security Administration Nevada Site Office.

U.S. Department of Energy, National Nuclear Security Administration Nevada Site Office. 2003. Sectored Clean-up Work Plan for Housekeeping Category Waste Sites, Revision 2, DOE/NV--579-REV-2, Las Vegas, NV.

U.S. Department of Energy, Nevada Operations Office. 2000. United States Nuclear Tests, July 1945 through September 1992. DOE/NV--209 (Rev. 15). Las Vegas, NV.

U.S. Environmental Protection Agency. 1996. Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, EPA Publication SW-846, Third Edition, Washington D.C.

APPENDIX A

SAMPLE ANALYTICAL RESULTS

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APPENDIX A TABLE OF CONTENTS - SAMPLE ANALYTICAL RESULTS BY SAMPLE DELIVERY GROUP

Analytical results for the samples collected at the indicated Corrective Action Site (CAS) for Corrective Action Unit 346 are presented in this Appendix. The analytical results are grouped by Sample Delivery Group(s), which are arranged in numerical order in this Appendix. Analytical results for the specific CAS can be found by consulting the indicated Sample Delivery Group(s).

<u>CAS</u>	<u>Sample Delivery Group(s)</u>
10-22-22	V1889 and V1890
10-22-25	V1889 and V1890
10-14-01	V1894

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SAMPLE DELIVERY GROUP

V1889

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Bechtel Nevada

ANALYTICAL SERVICES REQUEST & CHAIN OF CUSTODY RECORD

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PROJECT/CLIENT INFORMATION

Project: C-AIR 346	BN Org#: 6502	Send Report to: Aff/1234, 641601	REPORT INFORMATION			SAMPLE INFORMATION		
Charge No.: JFH/11CNS2	ASL Prog.: 	Phone: 7520	Fac: 7761	MS: NT1306	Sampling Site: C-AIR 346			
Project Manager: J-FH Smith	Phone: 210-7775	Turnaround: Standard - 30 days Non-rad, 60 Days Rad, Other	The samples submitted contain (check):					
	Fax: 210-7771	(Rush Preliminary by:)	<input checked="" type="checkbox"/> Hazardous <input type="checkbox"/> Radioactive <input type="checkbox"/> Unknown <input type="checkbox"/> contamination. If known, attach a brief narrative summary identifying contaminants. This information will ensure compliance with applicable regulations and allow for the safe handling of the sample materials.					
LAB USE ONLY						ANALYSES & METHOD		
Rad SGD:	Non-Rad SGD: U1889	11.7	12.5	13.3	14.1	15.0	16.1	17.0
Rad Packet:	Non-Rad Packet:	11.7	12.5	13.3	14.1	15.0	16.1	17.0
Client Services Representative:								
Will these analyses be performed under a signed SOW? <input checked="" type="checkbox"/> YES () NO If so, do analyses entered here agree with the SOW? <input checked="" type="checkbox"/> YES () NO () N/A If not, identify the variation CSR initials indicating review and approval: _____ Date: _____								
COMMENTS (Preservative, size/volume, MS/MSD, special analysis, rad matrix code, count time, etc.)								
ITEM	ID / DESCRIPTION	SAMPLING DATE	TIME	MATRIX				
0	10222501	2/6/03	2:05	crystals	X	X	X	X
1	10222503	2/6/03	2:05	crystals	X	X	X	X
2	10222201	2/6/03	2:25	crystals	X	X	X	X
3	10222201	2/6/03	2:25	crystals	X	X	X	X
4	10222201 M1 M30	2/6/03	2:25	crystals	X	X	X	X
5	10222201	2/6/03	2:25	crystals	X	X	X	X
6	LAST ITEM	2/6/03	2:05	water	X			
7								
8								
9								
Transfer of samples submitted for analyses								
Sampled/Released (Signature/Organization)	DATE / TIME	Received by (Signature/Organization)	DATE / TIME	Complete for samples shipped to an OFF-SITE Subcontract Laboratory				
<i>Kathy Kozak</i>	2-6-03 1600	<i>Jeffrey J. Biergman</i>	2/11/03 1300	Released (Counter & Tracking Info)				
<i>FedEx</i>	2/6/03 0930	<i>Shipping</i>	2/11/03 1300	Received (1st tier Subcontractor Rep)				
				Received (2nd tier Subcontractor Rep)				

Distribution: Original - To be retained by laboratory performing final analysis
 Copy 1 - To be retained by laboratory performing intermediate analysis
 Copy 2 - To be retained by Analytical Services Laboratory
 Copy 3 - To be retained by sampler

Lionville Laboratory, Inc.

DIESEL RANGE ORGANICS BY GC

Report Date: 03/05/03 11:53

RFW Batch Number: 0302L719

Client: BECHTEL NEVADA V1889

Work Order: 60052001001 Page: 1

13

11

	Cust ID: 10222501	10222501	10222503	10222503	10222201	10222201
--	-------------------	----------	----------	----------	----------	----------

Sample
Information

RFW#:	001	001	002	002	003	003
Matrix:	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID
D.F.:	1.00	1.00	1.00	1.00	1.00	1.00
Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	REPREP		REPREP		REPREP	REPREP

p-Terphenyl	45 t	48 %	28 * %	33 * %	17 * %	13 * %
-------------	------	------	--------	--------	--------	--------

Diesel Range Organics	12.8 U	12.8 U	12.8 U	12.8 U	12 J	12.5 U
Motor Oil	12.8 U	12.8 U	12.8 U	12.8 U	12.5 U	12.5 U

	Cust ID: 10222201	10222201	10222201	10222201	BLK	BLK BS
--	-------------------	----------	----------	----------	-----	--------

Sample
Information

RFW#:	003 MS	003 MS	003 MSD	003 MSD	03LE0164-MB1	03LE0164-MB1
Matrix:	SOLID	SOLID	SOLID	SOLID	SOIL	SOIL
D.F.:	1.00	1.00	1.00	1.00	1.00	1.00
Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	REPREP		REPREP		REPREP	REPREP

p-Terphenyl	30 * t	22 * t	19 * %	27 * %	107 %	104 %
-------------	--------	--------	--------	--------	-------	-------

Diesel Range Organics	104 t	98 t	109 %	109 %	12.0 U	111 %
Motor Oil	12.5 U	12.5 U	12.5 U	12.5 U	12.0 U	12.0 U

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not reported. NS= Not spiked.
 %= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

gfe 3/13

Lionville Laboratory, Inc.

DIESEL RANGE ORGANICS BY GC

Report Date: 03/05/03 11:53

RFW Batch Number: 0302L719

Client: BECHTEL NEVADA V1889

Work Order: 60052001001 Page: 2

14

Cust ID: BLK BLK BS

Sample Information

RFW#: 03LE0209-MB1 03LE0209-MB1

Matrix: SOIL SOIL

D.F.: 1.00 1.00

Units: mg/kg mg/kg

p-Terphenyl 94 † 92 †

=====
Diesel Range Organics 12.0 U 92 †
Motor Oil 12.0 U 12.0 U

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not reported. NS= Not spiked.
†= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

4/15/03

Lionville Laboratory, Inc.

GAS RANGE ORGANICS

Report Date: 02/27/03 11:13

RFW Batch Number: 0302L719

Client: BECHTEL NEVADA V1889

Work Order: 60052001001 Page: 1

	Cust ID:	10222501	10222501	10222503	10222503	10222201	10222201
Sample Information	RFW#:	001	001	002	002	003	003
	Matrix:	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID
	D.F.:	1.00	1.00	1.00	1.00	1.00	1.00
	Units:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
		REPREP		REPREP		REPREP	
	Fluorobenzene	0 * %	29 * %	0 * %	5 * %	0 * %	2 * %
Gasoline Range Organics (GRO)		-----fl-----	-----fl-----	-----fl-----	-----fl-----	-----fl-----	-----fl-----
		30 U	60 U	36 U	57 U	33 U	60 U

	Cust ID:	10222201	10222201	10222201	10222201	TBLKHV	TBLKHV BS
Sample Information	RFW#:	003 MS	003 MS	003 MSD	003 MSD	03LVJ220-MB1	03LVJ220-MB1
	Matrix:	SOLID	SOLID	SOLID	SOLID	SOIL	SOIL
	D.F.:	1.00	1.00	1.00	1.00	1.00	1.00
	Units:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
		REPREP		REPREP		REPREP	
	Fluorobenzene	0 * %	0 * %	0 * %	2 * %	113 %	107 %
Gasoline Range Organics (GRO)		-----fl-----	-----fl-----	-----fl-----	-----fl-----	-----fl-----	-----fl-----
		0 * %	0 * %	0 * %	0 * %	30 U	102 %

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not reported. NS= Not spiked.
 %= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. * = Outside of EPA CLP QC

2/27/03

Lionville Laboratory, Inc.

GAS RANGE ORGANICS

Report Date: 02/26/03 16:16

RFW Batch Number: 0302L719

Client: BECHTEL NEVADA V1889

Work Order: 60052001001 Page: 2

Sample
Information

Cust ID: TBLKHW BSD	TBLKHW	TBLKHW BS	TBLKHW BSD
RFW#: 03LVJ220-MB1	03LVJ224-MB1	03LVJ224-MB1	03LVJ224-MB1
Matrix: SOIL	SOIL	SOIL	SOIL
D.P.: 1.00	1.00	1.00	1.00
Units: UG/KG	UG/KG	UG/KG	UG/KG

Fluorobenzene	106 %	99 %	105 %	105 %
Gasoline Range Organics (GRO)	97 %	30 U	99 %	92 %

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not reported. NS= Not spiked.
 %= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

98/10/15

Lionville Laboratory, Inc.

Volatile by GC/MS, TCLP Leachate

Report Date: 02/24/03 M24

RFW Batch Number: 0302L719

Client: BECHTEL NEVADA V1889

Work Order: 60052001001 Page: 1a

		Cust ID: TRIP BLANK		10222501	10222503	10222201	VBLKIC	VBLKIB	
Sample Information	RFW#:	004		005	006	007	03LVH026-MB1	03LVX051-MB1	
	Matrix:	WATER		WATER	WATER	WATER	WATER	WATER	
	D.F.:	1.00		5.00	5.00	5.00	1.00	1.00	
	Units:	MG/L		MG/L	MG/L	MG/L	MG/L	MG/L	
Surrogate	Toluene-d8	101	%	106	%	94	%	99	%
Recovery	Bromofluorobenzene	92	%	107	%	99	%	100	%
	1,2-Dichloroethane-d4	92	%	114	%	110	%	104	%
-----fl-----fl-----fl-----fl-----fl-----fl-----									
Vinyl Chloride		0.010	U	0.050	U	0.050	U	0.010	U
1,1-Dichloroethene		0.005	U	0.025	U	0.025	U	0.005	U
Chloroform		0.005	U	0.025	U	0.025	U	0.005	U
1,2-Dichloroethane		0.005	U	0.025	U	0.025	U	0.005	U
2-Butanone		0.010	U	0.050	U	0.050	U	0.010	U
Carbon Tetrachloride		0.005	U	0.025	U	0.025	U	0.005	U
Trichloroethene		0.005	U	0.025	U	0.025	U	0.005	U
Benzene		0.005	U	0.025	U	0.025	U	0.005	U
Tetrachloroethene		0.005	U	0.025	U	0.025	U	0.005	U
Chlorobenzene		0.005	U	0.025	U	0.025	U	0.005	U

*= Outside of EPA CLP QC limits.

Cust ID: VBLKIB BS LCHBLK

Sample
Information

RFW#: 03LVX051-MB1 03LTV009-LB1

Matrix: WATER WATER

D.P.: 1.00 5.00

Units: MG/L MG/L

Surrogate	Toluene-d8	97	%	88	%
	Bromofluorobenzene	101	%	91	%
Recovery	1,2-Dichloroethane-d4	111	%	99	%
=====fl=====fl=====fl=====fl=====fl=====fl=====					
Vinyl Chloride		111	%	0.050	U
1,1-Dichloroethene		110	%	0.025	U
Chloroform		101	%	0.025	U
1,2-Dichloroethane		107	%	0.025	U
2-Butanone		121	%	0.050	U
Carbon Tetrachloride		112	%	0.025	U
Trichloroethene		106	%	0.025	U
Benzene		93	%	0.025	U
Tetrachloroethene		99	%	0.025	U
Chlorobenzene		90	%	0.025	U

*- Outside of EPA CLP QC limits.

U.S. EPA

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

222201

Lab Name: LIONVILLE LABORATORY Contract: 60052
Lab Code: LVLI Case No.: VI889 SAS No.: SDG No.: 222201
Matrix (soil/water): WATER Lab Sample ID: 0302L719-010
Level (low/med): LOW Date Received: 02/12/03
% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): ug/L

Color Before: _____
Color After: _____

Clarity Before: _____
Clarity After: _____

Texture: _____
Artifacts: _____

Comments:

10222201

TCLP OF 003

FORM I - IN

U.S. EPA

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

Lab Name: LIONVILLE LABORATORY Contract: 60052
Lab Code: LVLI Case No.: V1889 SAS No.: SDG No.: 222201
Matrix (soil/water): WATER Lab Sample ID: 0302L719-008
Level (low/med): LOW Date Received: 02/12/03
% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

Color Before: _____

Clarity Before: _____
Clarity After: _____

Texture: _____
Artifacts: _____

Comments:

10222501
TCLP OF 001

U.S. EPA

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

222503

Lab Name: LIONVILLE LABORATORY Contract: 60052
Lab Code: LVLI Case No.: VI889 SAS No.: SDG No.: 222201
Matrix (soil/water): WATER Lab Sample ID: 0302L719-009
Level (low/med): LOW Date Received: 02/12/03
% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

Color Before: _____
Color After: _____

Clarity Before: _____
Clarity After: _____

Texture: _____
Artifacts: _____

Comments:

10222503

TCLP OF 002

FORM I - IN

RFW Batch Number: 0302L719

Lionville Laboratory, Inc.
Semivolatiles by GC/MS, TCLP Leachate

Report Date: 02/27/03 12:45
Page: 1a

Client: BECHTEL NEVADA V1889

Work Order: 60052001001

	Cust ID:	10222501	10222501	10222501	10222503	10222201	SBLKNR
Sample Information	RFW#:	008	008 MS	008 MSD	009	010	03LE0204-MB1
	Matrix:	WATER	WATER	WATER	WATER	WATER	WATER
	D.F.:	1.00	1.00	1.00	1.00	1.00	1.00
	Units:	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L

Surrogate	Nitrobenzene-d5	78	%	75	%	80	%	89	%	87	%	80	%
Recovery	2-Fluorobiphenyl	81	%	76	%	72	%	80	%	80	%	77	%
	p-Terphenyl-d14	91	%	82	%	96	%	98	%	94	%	88	%
	Phenol-d5	81	%	76	%	77	%	81	%	82	%	88	%
	2-Fluorophenol	98	%	63	%	130	*	104	%	109	%	101	%
	2,4,6-Tribromophenol	97	%	110	%	106	%	96	%	94	%	104	%
	Pyridine	0.050	U	45	%	50	%	0.050	U	0.050	U	0.050	U
	1,4-Dichlorobenzene	0.050	U	69	%	76	%	0.050	U	0.050	U	0.050	U
	2-Methylphenol	0.050	U	85	%	93	%	0.050	U	0.050	U	0.050	U
	3- and/or 4-Methylphenol	0.050	U	84	%	93	%	0.050	U	0.050	U	0.050	U
	Hexachloroethane	0.050	U	67	%	78	%	0.050	U	0.050	U	0.050	U
	Nitrobenzene	0.050	U	74	%	81	%	0.050	U	0.050	U	0.050	U
	Hexachlorobutadiene	0.050	U	67	%	76	%	0.050	U	0.050	U	0.050	U
	2,4,6-Trichlorophenol	0.050	U	83	%	83	%	0.050	U	0.050	U	0.050	U
	2,4,5-Trichlorophenol	0.12	U	74	%	80	%	0.12	U	0.12	U	0.12	U
	2,4-Dinitrotoluene	0.050	U	74	%	72	%	0.050	U	0.050	U	0.050	U
	Hexachlorobenzene	0.050	U	90	%	90	%	0.050	U	0.050	U	0.050	U
	Pentachlorophenol	0.12	U	83	%	74	%	0.12	U	0.12	U	0.12	U

** Outside of EPA CLP QC limits.

Lionville Laboratory, Inc.
Semivolatiles by GC/MS, TCLP Leachate

Report Date: 02/27/03 12:45

RFW Batch Number: 0302L719

Client: BECHTEL NEVADA V1889

Work Order: 60052001001

Page: 2a

Cust ID: SBLKNR BS SBLKNR BSD LCHBLK

Sample Information	RFW#:	03LE0204-MB1	03LE0204-MB1	03LTO021-LB1
	Matrix:	WATER	WATER	WATER
	D.F.:	1.00	1.00	1.00
	Units:	MG/L	MG/L	MG/L

Surrogate Recovery	Nitrobenzene-d5	80	%	79	%	91	%
	2-Fluorobiphenyl	73	%	74	%	85	%
	p-Terphenyl-d14	94	%	97	%	90	%
	Phenol-d5	77	%	77	%	89	%
	2-Fluorophenol	97	%	95	%	111	* %
	2,4,6-Tribromophenol	97	%	105	%	105	%
Pyridine	-----fl-----	77	%	74	%	0.050	U
1,4-Dichlorobenzene	-----fl-----	79	%	77	%	0.050	U
2-Methylphenol	-----fl-----	92	%	93	%	0.050	U
3- and/or 4-Methylphenol	-----fl-----	92	%	94	%	0.050	U
Hexachloroethane	-----fl-----	80	%	77	%	0.050	U
Nitrobenzene	-----fl-----	82	%	84	%	0.050	U
Hexachlorobutadiene	-----fl-----	76	%	74	%	0.050	U
2,4,6-Trichlorophenol	-----fl-----	89	%	95	%	0.050	U
2,4,5-Trichlorophenol	-----fl-----	79	%	88	%	0.12	U
2,4-Dinitrotoluene	-----fl-----	75	%	85	%	0.050	U
Hexachlorobenzene	-----fl-----	86	%	89	%	0.050	U
Pentachlorophenol	-----fl-----	87	%	86	%	0.12	U

*- Outside of EPA CLP QC limits.

SAMPLE DELIVERY GROUP

V1890

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ANALYTICAL SERVICES LABORATORY
SERVICES REQUEST & CHAIN OF CUSTODY RECORD

Page 1 of 1

PROJECT/CLIENT INFORMATION				REPORT INFORMATION				SAMPLE INFORMATION					
Project: <u>C4U 346</u>	BN Org#: <u>0502</u>	Send Report to: <u>Allison Urban</u>		Sampling Site: <u>CAL 342 drums</u>									
Charge No.: <u>5H11CH50</u>	ASL Prog.:	Phone: <u>255-7720</u>	Fax: <u>255-7761</u>	M/S: <u>NTS 306</u>									
Project Manager: <u>Jeff Smith</u>		Turnaround: <input checked="" type="checkbox"/> Standard - 30 days Non-rad, 60 Days Rad, Other: _____											
Phone: <u>255-7775</u>	Fax: <u>255-7761</u>	Rush Preliminary by: _____	Final by: _____										
		Final report format: <input type="checkbox"/> Standard <input type="checkbox"/> NTS-WAC <input type="checkbox"/> Other: _____											
LAB USE ONLY				ANALYSES & METHOD								SAMPLE RECEIPT INFORMATION	
Rad SGD: <u>V1890</u>	Non-Rad SGD: _____			<u>Crystalline (N65-A-002)</u>	<u>Trifluoromethyl (LSC-A-001)</u>							Are all sample containers received intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Rad Packet:	Non-Rad Packet:											Comments: _____	
Client Services Representative: _____												Do the labels agree with this form? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Will these analyses be performed under a signed SOW? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO If so, do analyses entered here agree with the SOW? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A If not, identify the variation: _____												Comments: _____	
CSR initials indicating review and approval: _____ Date: _____												Was a Material Clearance Tag submitted? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
I T E M	ID / DESCRIPTION		SAMPLING DATE	SAMPLING TIME	MATRIX	NTS0B-4005 -						COMMENTS (Preservative, size/volume, MS/MSD, special analysis, rad matrix code, count time, etc.)	
0	<u>10222501</u>		<u>4/6/03</u>	<u>2:05</u>	<u>crystals</u>	<u>X</u>	<u>X</u>					<u>01</u>	
1	<u>10222201</u>		<u>4/6/03</u>	<u>2:25</u>	<u>crystals</u>	<u>X</u>	<u>X</u>					<u>02</u>	
2	<u>LAST ITEM</u>												
3													
4													
5													
6													
7													
8													
9													
Transfer of samples submitted for analyses												Complete for samples shipped to an OFF-SITE Subcontract Laboratory <u>SC-A</u>	
Sampled/Relinquished (Signature/Organization)			DATE / TIME	Received by (Signature/Organization)		Relinquished (BN Representative Signature)		DATE / TIME	Received (Courier & Tracking Info.)				
<u>Kraig Auger</u>			<u>4/6/03 10:00</u>	<u>Jeffrey Auger</u>		<u>CD Castaneda 4/10/03</u>		<u>4/11/03 1:30P</u>	<u>Ref ID# 791294250470</u>				
						Relinquished (Courier & Tracking Info.)			Received (1st tier Subcontractor Rep)				
						<u>791294250470</u>		<u>4/26/03 0930</u>	<u>791294250470</u>				
						Relinquished (1st tier Subcontractor Rep)			Received (2nd tier Subcontractor Rep)				
								<u>4/12/03 0930</u>	<u>KB Condens SCEA</u>				

1 Distribution: Original - To be retained by laboratory performing final analysis
Copy 1 - To be retained by laboratory performing intermediate analysis
Copy 2 - To be retained by Analytical Services Laboratory
Copy 3 - To be retained by sampler

**CASE NARRATIVE
SDG V1810
Laboratory Report Identification Number: 4005**

February 26, 2003

I. Introduction

On February 12, 2003, two soil samples, (SDG V1890), were received for analysis at the Sanford Cohen and Associates (SC&A) Southeastern Environmental Laboratory, located in Montgomery, Alabama. The chain-of-custody accompanying the samples requested that it be analyzed within 45 days of receipt at the laboratory. The turn-around-time was requested to be changed to 14 days by e-mail on February 12, 2003. The samples were analyzed in accordance with the Bechtel Nevada Services Subcontract Task Order Agreement Form, Exhibit B, Statement of Work and Specifications, Rev 1, 1/23/01.

II. Analytical Methodology

The radioanalytical results reported for each sample include the site and laboratory sample identification numbers, collection date, method of analysis, and the quality control samples that were analyzed concurrently. Samples were analyzed in accordance with the following method.

Radionuclide	Method Number	Method Name	Counting Method
Tritium	EPA 906.0	Tritium	Liquid Scintillation
Gamma Emitting Radionuclides	EPA 901.1	Gamma Emitting Radionuclides	Gamma Spectrometry

III. Analytical Results

Deficiencies

None.

Matrix Interferences

There were no indications of matrix interference.

Dilutions

There were no dilutions.

Detection Limits

The required detection limits (RDL) were met for all analyses.

Reanalysis

There were no reanalysis.

Deviations from Protocols

There were no deviations from the written protocols and analytical methods.

Contacts with the CTR

There was no contact with the CTR regarding these samples.

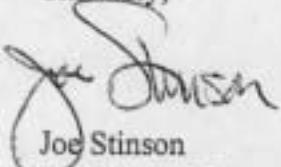
IV. Quality Control

Site Samples Used for Quality Control Samples:

Site Sample Number	Laboratory Sample Number	Type of Quality Control Analysis Sample
Laboratory Type II Water	SCAQC-4005-LC1	Laboratory Control Sample
10222501	SCAQC-4005-LD1	Laboratory Duplicate Sample
Laboratory Type II Water	SCAQC4005-PB	Preparation Blank

The analytical results of all quality control samples met the acceptance criteria specified in the SOW.

Sincerely,



Joe Stinson
Laboratory Manager

2/26/03
Date

Sample and QC Sample Results Summary

Sanford Cohen & Associates
Southeastern Environmental Laboratory

Radioanalytical Results

Report Identification Number: V1890

Project Name: <u>Bechtel Nevada</u>	Chain-of-Custody Number: <u>NONE</u>	Matrix: <u>Soil</u>
Site Sample ID: <u>10222501</u>		
Other Sample ID:	Collection Date: <u>2/6/2003 2:05:00 AM</u> Batch Number: <u>4005</u>	Date Received: <u>2/12/2003</u> Laboratory Code: <u>SCA</u>

<u>Method Number</u>	<u>Radionuclide</u>	<u>Laboratory Sample ID</u>	<u>Activity (pCi/g)</u>	<u>2 σ TPU (pCi/g)</u>	<u>Total Error (pCi/g)</u>	<u>MDA (pCi/g)</u>
EPA 901.1	K-40	NTS03-4005-01	1.21	0.230	0.260	0.158
EPA 901.1	CO-60	NTS03-4005-01	0.004	0.010	0.010	0.017
EPA 901.1	Y-88	NTS03-4005-01	-0.003	0.009	0.009	0.016
EPA 901.1	RU-106	NTS03-4005-01	-0.000	0.078	0.078	0.132
EPA 901.1	SB-125	NTS03-4005-01	-0.008	0.023	0.023	0.039
EPA 901.1	CS-134	NTS03-4005-01	-0.002	0.010	0.010	0.014
EPA 901.1	CS-137	NTS03-4005-01	0.017	0.009	0.010	0.017
EPA 901.1	CE-144	NTS03-4005-01	-0.153	0.499	0.500	0.088
EPA 901.1	PM-144	NTS03-4005-01	0.003	0.008	0.008	0.013
EPA 901.1	PM-146	NTS03-4005-01	0.010	0.011	0.011	0.019
EPA 901.1	EU-152	NTS03-4005-01	0.007	0.018	0.018	0.032
EPA 901.1	EU-154	NTS03-4005-01	0.000	0.000	0.000	0.022
EPA 901.1	EU-155	NTS03-4005-01	0.003	0.022	0.022	0.039
EPA 901.1	PB-212	NTS03-4005-01	0.018	0.019	0.019	0.027
EPA 901.1	AC-228	NTS03-4005-01	0.001	0.036	0.036	0.063
EPA 901.1	TH-234	NTS03-4005-01	0.053	0.165	0.165	0.284
EPA 901.1	U-235	NTS03-4005-01	0.001	0.014	0.014	0.022
EPA 901.1	U-238	NTS03-4005-01	0.506	1.86	1.86	3.03
EPA 901.1	AM-241	NTS03-4005-01	-0.011	0.044	0.044	0.077
EPA 906.0	H-3	NTS03-4005-01	0.005	0.008	0.008	0.014

Quality Control Samples				
<u>Radionuclide</u>	<u>Laboratory Control (LC)</u>	<u>Laboratory Duplicate (LD)</u>	<u>Matrix Spike (MS)</u>	<u>Preparation Blank (PB)</u>
Gamma	SCAQC-4005-LC1	SCAQC-4005-LD1		SCAQC-4005-PB
Tritium	SCAQC-4005-LC1	SCAQC-4005-LD1	SCAQC-4005-MS1	SCAQC-4005-PB

Sanford Cohen & Associates
Southeastern Environmental Laboratory

Radioanalytical Results

Report Identification Number: V1890

Project Name: <u>Bechtel Nevada</u>	Chain-of-Custody Number: <u>NONE</u>	Matrix: <u>Soil</u>				
Site Sample ID: <u>10222201</u>						
Other Sample ID:	Collection Date: <u>2/6/2003 2:25:00 AM</u> Batch Number: <u>4005</u>	Date Received: <u>2/12/2003</u> Laboratory Code: <u>SCA</u>				
Method Number	Radionuclide	Laboratory Sample ID	Activity (pCi/g)	2 σ TPU (pCi/g)	Total Error (pCi/g)	MDA (pCi/g)
EPA 901.1	K-40	NTS03-4005-02	4.17	0.564	0.702	0.210
EPA 901.1	CO-60	NTS03-4005-02	0.009	0.013	0.013	0.023
EPA 901.1	Y-88	NTS03-4005-02	0.003	0.012	0.012	0.023
EPA 901.1	RU-106	NTS03-4005-02	0.004	0.102	0.102	0.182
EPA 901.1	SB-125	NTS03-4005-02	-0.006	0.031	0.031	0.052
EPA 901.1	CS-134	NTS03-4005-02	-0.002	0.012	0.012	0.019
EPA 901.1	CS-137	NTS03-4005-02	0.051	0.020	0.021	0.020
EPA 901.1	CE-144	NTS03-4005-02	-1.22	0.666	0.677	0.125
EPA 901.1	PM-144	NTS03-4005-02	0.001	0.011	0.011	0.017
EPA 901.1	PM-145	NTS03-4005-02	0.007	0.015	0.015	0.027
EPA 901.1	EU-152	NTS03-4005-02	-0.012	0.026	0.026	0.044
EPA 901.1	EU-154	NTS03-4005-02	0.000	0.000	0.000	0.031
EPA 901.1	EU-155	NTS03-4005-02	0.042	0.030	0.030	0.053
EPA 901.1	PB-212	NTS03-4005-02	0.019	0.026	0.026	0.040
EPA 901.1	AC-228	NTS03-4005-02	-0.012	0.050	0.050	0.083
EPA 901.1	TH-234	NTS03-4005-02	0.053	0.203	0.203	0.345
EPA 901.1	U-235	NTS03-4005-02	-0.023	0.020	0.020	0.030
EPA 901.1	U-238	NTS03-4005-02	1.05	2.48	2.48	4.09
EPA 901.1	AM-241	NTS03-4005-02	0.022	0.047	0.048	0.084
EPA 905.0	H-3	NTS03-4005-02	0.021	0.014	0.014	0.021

Radionuclide	Quality Control Samples			
	Laboratory Control (LC)	Laboratory Duplicate (LD)	Matrix Spike (MS)	Preparation Blank (PB)
Gamma	SCAQC-4005-LC1	SCAQC-4005-LD1		SCAQC-4005-PB
Tritium	SCAQC-4005-LC1	SCAQC-4005-LD1	SCAQC-4005-MS1	SCAQC-4005-PB

Sanford Cohen & Associates
Southeastern Environmental Laboratory

Radioanalytical Results

Quality Control Sample
Laboratory Control (LC1)

Report Identification Number: V1890

Project Name: <u>Bechtel Nevada</u>	Chain-of-Custody Number: <u>None</u>	Matrix: <u>Soil</u>
Site Sample ID: <u>N/A</u>		
Other Sample ID: <u>LC1</u>	Collection Date: <u>2/12/2003 8:30:00 AM</u>	Date Received: <u>2/12/2003</u> Laboratory Code: <u>SCA</u>

<u>Method Number</u>	<u>Radionuclide</u>	<u>Laboratory Sample ID</u>	<u>Activity (pCi/g)</u>	<u>2 σ TPU (pCi/g)</u>	<u>Total Error (pCi/g)</u>	<u>MDA (pCi/g)</u>
EPA 901.1	CO-60	SCAQC-4005-LC1	17.9	1.65	2.43	0.079
EPA 901.1	CD-109	SCAQC-4005-LC1	14.0	3.08	3.38	2.31
EPA 901.1	CS-137	SCAQC-4005-LC1	25.0	2.65	3.64	0.124
EPA 906.0	H-3	SCAQC-4005-LC1	2080	311	520	384

Quality Control Samples					
<u>Radionuclide</u>	<u>Laboratory Control (LC)</u>	<u>Laboratory Duplicate (LD)</u>	<u>Matrix Spike (MS)</u>	<u>Preparation Blank (PB)</u>	
Tritium	SCAQC-4005-LC1	SCAQC-4005-LD1	SCAQC-4005-MS1	SCAQC-4005-PB	
Gamma	SCAQC-4005-LC1	SCAQC-4005-LD1		SCAQC-4005-PB	

Sanford Cohen & Associates
Southeastern Environmental Laboratory

Radioanalytical Results

Quality Control Sample
Duplicate (LD1)

Report Identification Number: V1890

Project Name: <u>Bechtel Nevada</u>	Chain-of-Custody Number: <u>NONE</u>	Matrix: <u>Soil</u>
Site Sample ID: <u>10222501</u>		
Other Sample ID: <u>LD1</u>	Collection Date: <u>2/6/2003 2:05:00 AM</u>	Date Received: <u>2/12/2003</u> Laboratory Code: <u>SCA</u>

Method Number	Radionuclide	Laboratory Sample ID	Activity (pCi/g)	2 σ TPU (pCi/g)	Total Error (pCi/g)	MDA (pCi/g)
EPA 901.1	K-40	SCAQC-4005-LD1	1.07	0.250	0.272	0.178
EPA 901.1	CO-60	SCAQC-4005-LD1	-0.001	0.010	0.010	0.016
EPA 901.1	Y-88	SCAQC-4005-LD1	-0.005	0.009	0.009	0.015
EPA 901.1	RU-106	SCAQC-4005-LD1	0.063	0.081	0.082	0.145
EPA 901.1	SB-125	SCAQC-4005-LD1	-0.003	0.022	0.022	0.038
EPA 901.1	CS-134	SCAQC-4005-LD1	0.006	0.010	0.010	0.016
EPA 901.1	CS-137	SCAQC-4005-LD1	-0.004	0.010	0.010	0.016
EPA 901.1	CE-144	SCAQC-4005-LD1	-0.171	0.546	0.546	0.086
EPA 901.1	PM-144	SCAQC-4005-LD1	0.002	0.008	0.008	0.013
EPA 901.1	PM-146	SCAQC-4005-LD1	-0.007	0.011	0.011	0.018
EPA 901.1	EU-152	SCAQC-4005-LD1	0.003	0.018	0.018	0.032
EPA 901.1	EU-154	SCAQC-4005-LD1	0.000	0.000	0.000	0.022
EPA 901.1	EU-155	SCAQC-4005-LD1	0.002	0.023	0.023	0.040
EPA 901.1	PB-212	SCAQC-4005-LD1	-0.000	0.017	0.017	0.026
EPA 901.1	AC-228	SCAQC-4005-LD1	-0.015	0.035	0.035	0.060
EPA 901.1	TH-234	SCAQC-4005-LD1	0.144	0.165	0.165	0.286
EPA 901.1	U-235	SCAQC-4005-LD1	0.004	0.014	0.014	0.023
EPA 901.1	U-238	SCAQC-4005-LD1	-1.22	1.79	1.80	2.65
EPA 901.1	AM-241	SCAQC-4005-LD1	-0.026	0.044	0.044	0.076
EPA 906.0	H-3	SCAQC-4005-LD1	0.006	0.008	0.009	0.014

Laboratory Samples for Duplicates		
Radionuclide	Laboratory Sample ID	Duplicate of Sample ID
GAMMA	SCAQC-4005-LD1	NTS03-4005-01
H-3	SCAQC-4005-LD1	NTS03-4005-01

Radionuclide	Quality Control Samples			
	Laboratory Control (LC)	Laboratory Duplicate (LD)	Matrix Spike (MS)	Preparation Blank (PB)
Tritium	SCAQC-4005-LC1	SCAQC-4005-LD1	SCAQC-4005-MS1	SCAQC-4005-PB
Gamma	SCAQC-4005-LC1	SCAQC-4005-LD1		SCAQC-4005-PB

Sanford Cohen & Associates
Southeastern Environmental Laboratory

Radioanalytical Results

Quality Control Sample
Matrix Spike (MS1)

Report Identification Number: V1890

Project Name: <u>Bechtel Nevada</u>	Chain-of-Custody Number: <u>None</u>	Matrix: <u>Soil</u>
Site Sample ID: <u>10222501</u>		
Other Sample ID: <u>MS1</u>	Collection Date: <u>2/6/2003 2:05:00 AM</u>	Date Received: <u>2/12/2003</u> Laboratory Code: <u>SCA</u>

Method Number	Radionuclide	Laboratory Sample ID	Activity (pCi/g)	2 σ TPU (pCi/g)	Total Error (pCi/g)	MDA (pCi/g)
EPA 906.0	H-3	SCAQC-4005-MS1	9.50	0.111	1.90	0.017

Quality Control Samples						
Radionuclide	Laboratory Control (LC)	Laboratory Duplicate (LD)	Matrix Spike (MS)	Preparation Blank (PB)		
Tritium	SCAQC-4005-LC1	SCAQC-4005-LD1	SCAQC-4005-MS1	SCAQC-4005-PB		

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SAMPLE DELIVERY GROUP

V1894

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Bechtel Nevada

ANALYTICAL LABORATORY
SERVICES REQUEST & CHAIN OF CUSTODY RECORDPage 1 of 1

PROJECT/CLIENT INFORMATION			REPORT & TURNAROUND INFORMATION						SAMPLE INFORMATION		
Project: CAU 346	BN ORG #: BS02	Send Report to: Alison U/Bon	Phone: 7520	Fax: 7761	MIS: NTS 306	Sampling Site: 10-14-01 CAU 346	The samples submitted contain (check):				
Charge Number: SH11CHSO		Turnaround: <input type="checkbox"/> Standard - 14 days IH, 28 days Non-rad Env, 45 Days Rad Env.	<input checked="" type="checkbox"/> Rush Preliminary by: (IH)		<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 7 <input checked="" type="checkbox"/> 14 (non-Rad Env)	<input type="checkbox"/> Hazardous (list) -					
Project Manager: Alison U/Bon			<input type="checkbox"/> <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 7 <input checked="" type="checkbox"/> 14 <input type="checkbox"/> 28 (Radiological Env)		<input type="checkbox"/> Radioactive (list) -						
Phone: 7520	Fax: 7761	MIS: 306			<input type="checkbox"/> Unknown contamination.						
SAMPLE MANAGEMENT INFORMATION						If known, identify contaminants.					
SDG: V1894	(IH) 0H774	(Non-Rad Env)	(Rad Env)		This information will ensure compliance with applicable regulations and allow for the safe handling of the sample materials.						
Samples submitted are associated with a signed Project SOW <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No											
Analyses entered here agree with the SOW <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A											
If not, identify the variation: _____											
Subcontract Lab(s) used for this work: LIONVILLE											
ID/DESCRIPTION	SAMPLING DATE	TIME	MATRIX	CONTAINER #	Est. Vol	QC MD	MS	MSD	Pres - Analysis eg. HCl - VOCs	Pay Item, Analysis, Method	
101401-1	2/11/03	2 ³⁰	transfer a	1	40ml				-	3.1 PCBS 2002	
101401-2	2/11/03	2 ¹⁵	↓	1	↓				-		
101401-3	2/11/03	3 ⁰⁰	↓	1	↓				-		
LAST ITEM											
CUSTODY TRANSFER			Signature			Date/Time			Signature		Date/Time
Sampled/Relinquished (print)			Signature			Date/Time			Signature		Date/Time
Reed Roden			Reed			2/11/03 4 ⁴⁰ pm			CAG CASTANEDA		2/11/03 1443
CAG CASTANEDA			CAG Castaneda			2/12/03 @ 1300			FED EX *		2/14/03 @ 1300
FED EX			FED EX 2/12/03			2/13/03 1000			791534688982		

Lionville Laboratory, Inc.

PCBs by GC

Report Date: 02/21/03 14:21

RFW Batch Number: 0302L738

Client: BECHTEL NEVADA V1894

Work Order: 60052001001 Page: 1

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1

	Cust ID: 101401-1	101401-1	101401-1	101401-2	101401-3	PBLKME
Sample Information	RFW#: 001	001 MS	001 MSD	002	003	03LE0169-MB1
	Matrix: OIL	OIL	OIL	OIL	OIL	SOIL
	D.F.: 1.00	1.00	1.00	1.00	1.00	1.00
	Units: UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG

Surrogate: Tetrachloro-m-xylene	55 %	60 %	60 %	65 %	65 %	100 %
Decachlorobiphenyl	115 %	125 * %	120 %	120 %	115 %	125 * %
Aroclor-1016	1000 U	105 %	77 %	1000 U	1000 U	1000 U
Aroclor-1221	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
Aroclor-1232	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U
Aroclor-1242	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U
Aroclor-1248	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U
Aroclor-1254	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U
Aroclor-1260	1000 U	105 %	107 %	1800	1900	1000 U

Cust ID: PBLKME BS

Sample Information	RFW#: 03LE0169-MB1
	Matrix: SOIL
	D.F.: 1.00
	Units: UG/KG

Surrogate: Tetrachloro-m-xylene	105 %
Decachlorobiphenyl	135 * %
Aroclor-1016	101 %
Aroclor-1221	2000 U
Aroclor-1232	1000 U
Aroclor-1242	1000 U
Aroclor-1248	1000 U
Aroclor-1254	1000 U
Aroclor-1260	104 %

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not reported. NS= Not spiked.
 %= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

2/21/03

APPENDIX B

SECTORED HOUSEKEEPING SITE CLOSURE VERIFICATION FORMS

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Sectedored Housekeeping Site Closure Verification Form

Closure Verification Date: 5/30/2003

CAU Number: 346

CAS Number: 08-22-04

CAS Description: Drums (2)

Sector Designation: NTS Sector F

Housekeeping Site General Location: Nevada Test Site, U8d

Elevation: 1,391 meters (m)

Northing: 4,114,252 m (UTM Zone: 11) **Easting:** 580,139 m (UTM Zone: 11)

Latitude: 37.17306

Longitude: -116.09731

Coordinate/Elevation Data Obtained from: North American Datum, 1927.

Site Access Route: Take Mercury Highway north to Rainier Mesa Road. Turn left (northwest) on Rainier Mesa Road and proceed to 2-07 Road. Turn right (east) on 2-07 Road and proceed approximately 0.65 mile to an abandoned substation at the corner of 2-07 Road and 8-D Road. Turn left on 8-D Road and proceed 0.3 mile to a fork in the road. Take the left fork and proceed 0.25 mile to the second power line road (northwest). Follow the power line road 0.2 mile to a mud pit on the left. The site is 145 ft south of the road, on the far side of the mud pit.

Waste Item(s) Originally at Site	Apparent Waste Type*
Two drums	None - waste previously removed.

* Ordinary, Scrap Metal, Asbestos, PCB, Salvageable, Hazardous, Radioactive, Mixed, Unknown, Other

	
Housekeeping Site As Identified (taken 8/20/2002)	Housekeeping Site During BN Site Visit (taken 12/23/2002)

Current Site Description/Observations: The waste had been previously removed from the site.

No Further Action Required at Housekeeping Site

Reed J. Poderis, CEM

Corrective Action Coordinator/Designee

Signature

Date

Sectedored Housekeeping Site Closure Verification Form

Closure Verification Date: 5/30/2003

CAU Number: 346

CAS Number: 08-22-11

CAS Description: Drums; Buckets

Sector Designation: NTS Sector F

Housekeeping Site General Location: Nevada Test Site, U8d

Elevation: 1,396 meters (m)

Northing: 4,114,183 m (UTM Zone: 11) **Easting:** 579,846 m (UTM Zone: 11)

Latitude: 37.17248

Longitude: -116.10065

Coordinate/Elevation Data Obtained from: North American Datum, 1927.

Site Access Route: Take Mercury Highway north to Rainier Mesa Road. Turn left (northwest) on Rainier Mesa Road and proceed to 2-07 Road. Turn right (east) on 2-07 Road and proceed 0.2 mile to RSM 2L-13. Turn left (north) on the dirt road immediately past RSM 2L-13 and proceed 0.75 mile to the south side of the U-8d Crater. The drums are in the pits on the south side of U-8d.

Waste Item(s) Originally at Site	Apparent Waste Type*
Drums, buckets	Ordinary
* Ordinary, Scrap Metal, Asbestos, PCB, Salvageable, Hazardous, Radioactive, Mixed, Unknown, Other	
	
	
Housekeeping Before Closure (taken 5/30/2003)	Housekeeping Site After Closure (taken 5/30/2003)

Current Site Description/Observations: The empty drums and buckets were disposed of at the Area 9 U10c Landfill.

X **No Further Action Required at Housekeeping Site**

Reed J. Poderis, CEM

Corrective Action Coordinator/Designee

Signature

Date

Sectedored Housekeeping Site Closure Verification Form

Closure Verification Date: 5/30/2003

CAU Number: 346

CAS Number: 08-24-02

CAS Description: Battery

Sector Designation: NTS Sector F

Housekeeping Site General Location: Nevada Test Site, U8c

Elevation: 1,350 meters (m)

Northing: 4,114,069 m (UTM Zone: 11) **Easting:** 581,863 m (UTM Zone: 11)

Latitude: 37.17127

Longitude: -116.07792

Coordinate/Elevation Data Obtained from: North American Datum, 1927.

Site Access Route: Take Mercury Highway north to Rainier Mesa Road. Turn left (northwest) on Rainier Mesa Road and proceed to 2-07 Road. Turn right (east) on 2-07 Road and proceed approximately 1.0 mile to a dirt road on the left (north). Turn left on the dirt road and continue 0.3 mile to a power line road. The U-8c Crater area is on the northwest corner of this intersection. Turn right (east) onto the power line road and travel 0.5 mile. The site is located in a slight wash area on the right (south) side of the powering road.

Waste Item(s) Originally at Site	Apparent Waste Type*
Battery	None - waste previously removed.

* Ordinary, Scrap Metal, Asbestos, PCB, Salvageable, Hazardous, Radioactive, Mixed, Unknown, Other

	
Housekeeping Site As Identified (taken 8/20/2002)	Housekeeping Site During BN Site Visit (taken 12/23/2002)

Current Site Description/Observations: The waste had been previously removed from the site.

No Further Action Required at Housekeeping Site

Reed J. Poderis, CEM

Corrective Action Coordinator/Designee

Signature

Date

Sectedored Housekeeping Site Closure Verification Form

Closure Verification Date: 7/16/2003

CAU Number: 346

CAS Number: 10-14-01

CAS Description: Transformer

Sector Designation: NTS Sector F

Housekeeping Site General Location: Nevada Test Site, U10am #5

Elevation: 1,341 meters (m)

Northing: 4,116,304 m (UTM Zone: 11) **Easting:** 585,685 m (UTM Zone: 11)

Latitude: 37.19109

Longitude: -116.03465

Coordinate/Elevation Data Obtained from: North American Datum, 1927.

Site Access Route: Take Mercury Highway north to Rainier Mesa Road. Turn left (northwest) onto Rainier Mesa Road and proceed to 2-07 Road. Turn right (east) and proceed to the Circle Road intersection. Turn left (north) on Circle Road and proceed to 10-02 Road. Turn left (north) onto 10-02 Road and continue to the power line road. Turn right (east) at the power line road and proceed approximately 0.65 mile. The site is located 50 ft north of the power line road and 150 ft southwest from the U-10cb Crater.

Waste Item(s) Originally at Site	Apparent Waste Type*
Oil-Filled Circuit Breaker	Salvageable

* Ordinary, Scrap Metal, Asbestos, PCB, Salvageable, Hazardous, Radioactive, Mixed, Unknown, Other

	
Housekeeping Before Closure (taken 7/16/2003)	Housekeeping Site After Closure (taken 7/16/2003)

Current Site Description/Observations: The circuit breaker was salvaged by Site Utilities.

No Further Action Required at Housekeeping Site

Reed J. Poderis, CEM

Corrective Action Coordinator/Designee

Signature

Date

Sectored Housekeeping Site Closure Verification Form

Closure Verification Date: 5/30/2003

CAU Number: 346

CAS Number: 10-22-06

CAS Description: Drum (Gas Block)

Sector Designation: NTS Sector F

Housekeeping Site General Location: Nevada Test Site, U10s

Elevation: 1,304 meters (m)

Northing: 4,113,796 m (UTM Zone: 11) **Easting:** 584,485 m (UTM Zone: 11)

Latitude: 37.16855

Longitude: -116.04835

Coordinate/Elevation Data Obtained from: North American Datum, 1927.

Site Access Route: Take Mercury Highway north to Rainier Mesa Road. Turn left (northwest) onto Rainier Mesa Road and proceed to 2-07 Road. Turn right (east) and proceed to the Circle Road intersection. Turn left (north) on Circle Road and proceed 0.7 mile to 10-01 Road. Turn right (east) on 10-01 Road and proceed 0.85 mile. Turn right (south) and proceed cross country to the U-10s Crater. The site is 18 ft east of the crater fence line.

Waste Item(s) Originally at Site	Apparent Waste Type*
55-Gallon Drum Gas Block	Ordinary

* Ordinary, Scrap Metal, Asbestos, PCB, Salvageable, Hazardous, Radioactive, Mixed, Unknown, Other

	
Housekeeping Before Closure (taken 5/30/2003)	Housekeeping Site After Closure (taken 5/30/2003)

Current Site Description/Observations: The drum gas block was disposed of in the Area 9 U10c Landfill.

X **No Further Action Required at Housekeeping Site**

Reed J. Poderis, CEM

Corrective Action Coordinator/Designee

Signature

Date

Sectedored Housekeeping Site Closure Verification Form

Closure Verification Date: 5/30/2003

CAU Number: 346

CAS Number: 10-22-10

CAS Description: Drum (Gas Block)

Sector Designation: NTS Sector F

Housekeeping Site General Location: Nevada Test Site, U10ajf

Elevation: 1,307 meters (m)

Northing: 4,113,600 m (UTM Zone: 11) **Easting:** 584,949 m (UTM Zone: 11)

Latitude: 37.16675

Longitude: -116.04319

Coordinate/Elevation Data Obtained from: North American Datum, 1927.

Site Access Route: Take Mercury Highway north to Rainier Mesa Road. Turn left (northwest) onto Rainier Mesa Road and proceed to 2-07 Road. Turn right (east) and proceed to the Circle Road intersection. Turn left (north) on Circle Road and proceed 0.7 mile to 10-01 Road. Turn right (east) onto 10-01 Road and proceed 1.2 miles to the Teapot area. Turn right (south) at the bridge structure and proceed approximately 800 ft to the site. The site is 65 ft southwest of the U10-AUA Borehole.

Waste Item(s) Originally at Site	Apparent Waste Type*
55-Gallon Drum Gas Block	Ordinary

* Ordinary, Scrap Metal, Asbestos, PCB, Salvageable, Hazardous, Radioactive, Mixed, Unknown, Other

	
Housekeeping Before Closure (taken 5/30/2003)	Housekeeping Site After Closure (taken 5/30/2003)

Current Site Description/Observations: The drum gas block was disposed of in the Area 9 U10c Landfill.

X **No Further Action Required at Housekeeping Site**

Reed J. Poderis, CEM

Corrective Action Coordinator/Designee

Signature

Date

Sectedored Housekeeping Site Closure Verification Form

Closure Verification Date: 5/30/2003

CAU Number: 346

CAS Number: 10-22-12

CAS Description: Drum (Gas Block)

Sector Designation: NTS Sector F

Housekeeping Site General Location: Nevada Test Site, U10ajf

Elevation: 1,310 meters (m)

Northing: 4,113,514 m (UTM Zone: 11) **Easting:** 585,163 m (UTM Zone: 11)

Latitude: 37.16599

Longitude: -116.04079

Coordinate/Elevation Data Obtained from: North American Datum, 1927.

Site Access Route: Take Mercury Highway north to Rainier Mesa Road. Turn left (northwest) onto Rainier Mesa Road and proceed to 2-07 Road. Turn right (east) and proceed to the Circle Road intersection. Turn left (north) on Circle Road and proceed 0.7 mile to 10-01 Road. Turn right (east) on 10-01 Road and proceed 1.2 miles to the Teapot area. Turn right (southeast) and travel cross country to the U-10aj F Potential Crater. This site is 380 ft northeast of U-10aj F.

Waste Item(s) Originally at Site	Apparent Waste Type*
55-Gallon Drum Gas Block	Ordinary

* Ordinary, Scrap Metal, Asbestos, PCB, Salvageable, Hazardous, Radioactive, Mixed, Unknown, Other



Housekeeping Before Closure (taken 5/30/2003)	Housekeeping Site After Closure (taken 5/30/2003)
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Current Site Description/Observations: The drum gas block was disposed of in the Area 9 U10c Landfill.

X **No Further Action Required at Housekeeping Site**

Reed J. Poderis, CEM

Corrective Action Coordinator/Designee

Signature

Date

Sectedored Housekeeping Site Closure Verification Form

Closure Verification Date: 5/30/2003

CAU Number: 346

CAS Number: 10-22-13

CAS Description: Drum (Gas Block)

Sector Designation: NTS Sector F

Housekeeping Site General Location: Nevada Test Site, U10ag

Elevation: 1,310 meters (m)

Northing: 4,113,503 m (UTM Zone: 11) **Easting:** 585,163 m (UTM Zone: 11)

Latitude: 37.16588

Longitude: -116.04077

Coordinate/Elevation Data Obtained from: North American Datum, 1927.

Site Access Route: Take Mercury Highway north to Rainier Mesa Road. Turn left (northwest) onto Rainier Mesa Road and proceed to 2-07 Road. Turn right (east) and proceed to the Circle Road intersection. Turn left (north) on Circle Road and proceed 0.7 mile to 10-01 Road. Turn right (east) on 10-01 Road and proceed 1.2 miles to the Teapot area. Turn right (southeast) and travel cross country to the U-10ag Potential Crater. The site is 350 ft northeast of U-10ag.

Waste Item(s) Originally at Site	Apparent Waste Type*
55-Gallon Drum Gas Block	Ordinary

* Ordinary, Scrap Metal, Asbestos, PCB, Salvageable, Hazardous, Radioactive, Mixed, Unknown, Other

	
Housekeeping Before Closure (taken 5/30/2003)	Housekeeping Site After Closure (taken 5/30/2003)

Current Site Description/Observations: The drum gas block was disposed of in the Area 9 U10c Landfill.

X **No Further Action Required at Housekeeping Site**

Reed J. Poderis, CEM
Corrective Action Coordinator/Designee Signature Date

Sectedored Housekeeping Site Closure Verification Form

Closure Verification Date: 5/30/2003

CAU Number: 346

CAS Number: 10-22-16

CAS Description: Drum (Gas Block)

Sector Designation: NTS Sector F

Housekeeping Site General Location: Nevada Test Site, U10m

Elevation: 1,307 meters (m)

Northing: 4,112,549 m (UTM Zone: 11) **Easting:** 585,243 m (UTM Zone: 11)

Latitude: 37.15733

Longitude: -116.04002

Coordinate/Elevation Data Obtained from: North American Datum, 1927.

Site Access Route: Take Mercury Highway north to Rainier Mesa Road. Turn left (northwest) onto Rainier Mesa Road and proceed to 2-05 Road. Turn right (east) onto 2-05 Road and proceed to Circle Road. At the Circle Road intersection, continue straight on the dirt road 0.85 mile to a "V" in the road. Turn left onto an unmaintained dirt road and proceed 0.5 mile. Turn left (north) and drive cross country 0.2 mile to the U-10m Potential Crater.

Waste Item(s) Originally at Site	Apparent Waste Type*
55-Gallon Drum Gas Block	Ordinary
	
Housekeeping Before Closure (taken 5/30/2003)	Housekeeping Site After Closure (taken 5/30/2003)

Current Site Description/Observations: The drum gas block was disposed of in the Area 9 U10c Landfill.

X **No Further Action Required at Housekeeping Site**

Reed J. Poderis, CEM

Corrective Action Coordinator/Designee

Signature

Date

Sectedored Housekeeping Site Closure Verification Form

Closure Verification Date: 5/30/2003

CAU Number: 346

CAS Number: 10-22-22

CAS Description: Drum

Sector Designation: NTS Sector F

Housekeeping Site General Location: Nevada Test Site, U10am #3

Elevation: 1,348 meters (m)

Northing: 4,113,759 m (UTM Zone: 11) **Easting:** 581,901 m (UTM Zone: 11)

Latitude: 37.1685

Longitude: -116.07751

Coordinate/Elevation Data Obtained from: North American Datum, 1927.

Site Access Route: Take Mercury Highway north to Rainier Mesa Road. Turn left (northwest) on Rainier Mesa Road and proceed to 2-0-7 Road. Turn right (east) and proceed 1.35 miles to an unmaintained road on the left, 600 ft before an old junction box. Turn left (north) on the access road and follow the road as it curves east 0.25 mile around the U-10am #3 Crater to the site.

Waste Item(s) Originally at Site	Apparent Waste Type*
40-Gallon Drum	Ordinary

* Ordinary, Scrap Metal, Asbestos, PCB, Salvageable, Hazardous, Radioactive, Mixed, Unknown, Other

	
Housekeeping Before Closure (taken 8/20/2002)	Housekeeping Site After Closure (taken 5/30/2003)

Current Site Description/Observations: The drum was disposed of in the Area 9 U10c Landfill.

No Further Action Required at Housekeeping Site

Reed J. Poderis, CEM
Corrective Action Coordinator/Designee Signature Date

Sectedored Housekeeping Site Closure Verification Form

Closure Verification Date: 5/30/2003

CAU Number: 346

CAS Number: 10-22-25

CAS Description: Drum

Sector Designation: NTS Sector F

Housekeeping Site General Location: Nevada Test Site, U10am #1

Elevation: 1,353 meters (m)

Northing: 4,113,745 m (UTM Zone: 11) **Easting:** 581,653 m (UTM Zone: 11)

Latitude: 37.16841 **Longitude:** -116.08031

Coordinate/Elevation Data Obtained from: North American Datum, 1927.

Site Access Route: Take Mercury Highway north to Rainier Mesa Road. Turn left (northwest) onto Rainier Mesa Road and proceed to 2-07 Road. Turn right (east) onto 2-07 Road and continue approximately 1.4 miles to a dirt road on the left (north). Turn left on the dirt road and proceed approximately 0.2 mile to U-10am #1. The site is located in a fenced area north of U-10am #1.

Waste Item(s) Originally at Site	Apparent Waste Type*
40-Gallon Drum	Ordinary

* Ordinary, Scrap Metal, Asbestos, PCB, Salvageable, Hazardous, Radioactive, Mixed, Unknown, Other

	
Housekeeping As Identified (taken 8/20/2002)	Housekeeping Site After Closure (taken 5/30/2003)

Current Site Description/Observations: The drum was disposed of in the Area 9 U10c Landfill.

X **No Further Action Required at Housekeeping Site**

Reed J. Poderis, CEM
Corrective Action Coordinator/Designee Signature Date

Sectedored Housekeeping Site Closure Verification Form

Closure Verification Date: 5/30/2003

CAU Number: 346

CAS Number: 10-22-36

CAS Description: Paint Can

Sector Designation: NTS Sector F

Housekeeping Site General Location: Nevada Test Site, U10am #1

Elevation: 1,350 meters (m)

Northing: 4,113,580 m (UTM Zone: 11) **Easting:** 581,797 m (UTM Zone: 11)

Latitude: 37.16692 **Longitude:** -116.07872

Coordinate/Elevation Data Obtained from: North American Datum, 1927.

Site Access Route: Take Mercury Highway north to Rainier Mesa Road. Turn left (northwest) on Rainier Mesa Road and proceed to 2-03 Road. Turn right (northeast) onto 2-03 and continue as it merges into Circle Road. Take Circle Road north to 2-07 Road. Turn left (west) onto 2-07 Road and continue 1.0 mile to the electric junction boxes on the right (north). The site is 500 ft north (346°) of the road.

Waste Item(s) Originally at Site	Apparent Waste Type*
Empty one-gallon Paint Can	Ordinary
* Ordinary, Scrap Metal, Asbestos, PCB, Salvageable, Hazardous, Radioactive, Mixed, Unknown, Other	
	
Housekeeping Before Closure (taken 5/30/2003)	Housekeeping Site After Closure (taken 5/30/2003)

Current Site Description/Observations: The can was disposed of in the Area 9 U10c Landfill.

X **No Further Action Required at Housekeeping Site**

Reed J. Poderis, CEM
Corrective Action Coordinator/Designee Signature Date

Sectedored Housekeeping Site Closure Verification Form

Closure Verification Date: 5/30/2003

CAU Number: 346

CAS Number: 10-22-37

CAS Description: Gas Block

Sector Designation: NTS Sector F

Housekeeping Site General Location: Nevada Test Site, U10ajf

Elevation: 1,307 meters (m)

Northing: 4,113,469 m (UTM Zone: 11) **Easting:** 585,083 m (UTM Zone: 11)

Latitude: 37.16558 **Longitude:** -116.04169

Coordinate/Elevation Data Obtained from: North American Datum, 1927.

Site Access Route: Take Mercury Highway north to Rainier Mesa Road. Turn left (northwest) onto Rainier Mesa Road and proceed to 2-07 Road. Turn right (east) and proceed to the Circle Road intersection. Turn left (north) on Circle Road and proceed 0.7 mile to 10-01 Road. Turn right (east) onto 10-01 Road and proceed 1.2 miles to the Teapot area. Turn right southeast and travel cross country to the U-10aj F Potential Crater.

Waste Item(s) Originally at Site	Apparent Waste Type*
55-Gallon Drum Gas Block	Ordinary
* Ordinary, Scrap Metal, Asbestos, PCB, Salvageable, Hazardous, Radioactive, Mixed, Unknown, Other	
	
Housekeeping Before Closure (taken 5/30/2003)	Housekeeping Site After Closure (taken 5/30/2003)

Current Site Description/Observations: The drum gas block was disposed of in the Area 9 U10c Landfill.

X **No Further Action Required at Housekeeping Site**

Reed J. Poderis, CEM
Corrective Action Coordinator/Designee **Signature** **Date**

Sectedored Housekeeping Site Closure Verification Form

Closure Verification Date: 5/30/2003

CAU Number: 346

CAS Number: 10-24-11

CAS Description: Battery

Sector Designation: NTS Sector F

Housekeeping Site General Location: Nevada Test Site, U10am #3

Elevation: 1,348 meters (m)

Northing: 4,113,759 m (UTM Zone: 11) **Easting:** 581,901 m (UTM Zone: 11)

Latitude: 37.1685

Longitude: -116.07751

Coordinate/Elevation Data Obtained from: North American Datum, 1927.

Site Access Route: Take Mercury Highway north to Rainier Mesa Road. Turn left (northwest) on Rainier Mesa Road and proceed to 2-0-7 Road. Turn right (east) and proceed 1.35 miles to an unmaintained road on the left, 600 ft. before an old junction box. Turn left (north) on the access road and follow the road as it curves east 0.25 mile around the U-10am #3 Crater to the site.

Waste Item(s) Originally at Site	Apparent Waste Type*
One Intact Automotive Battery	Salvageable

* Ordinary, Scrap Metal, Asbestos, PCB, Salvageable, Hazardous, Radioactive, Mixed, Unknown, Other

Housekeeping As Identified (taken 8/20/2002)	Housekeeping Site After Closure (taken 5/30/2003)

Current Site Description/Observations: The battery was recycled by BN Fleet Operations.

X **No Further Action Required at Housekeeping Site**

Reed J. Poderis, CEM

Corrective Action Coordinator/Designee

Signature

Date

APPENDIX C

U.S. DEPARTMENT OF ENERGY NATIONAL NUCLEAR SECURITY ADMINISTRATION NEVADA OPERATIONS OFFICE NEPA ENVIRONMENTAL EVALUATION CHECKLIST

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U.S. DEPARTMENT OF ENERGY
NATIONAL NUCLEAR SECURITY ADMINISTRATION NEVADA OPERATIONS OFFICE
NEPA ENVIRONMENTAL EVALUATION CHECKLIST

FOLLOW ATTACHED PROCEDURES FOR COMPLETING CHECKLIST

A. Project/Activity Title (Attach a brief description of proposed project)
CAUs 176, 346, 350, 351 & 352: Housekeeping Sites Closure/Cleanup Activities

Date
11/27/02

Project Location NTS, Various Areas	Proposed By (If other than NNSA/NV)
NNSA/NV Line Management Organization Environmental Restoration Division	NNSA/NV Project/Program Manager Kevin Cabble
Anticipated Start Date January 8, 2003	DOE/HQ Program Office (if applicable)

ENVIRONMENTAL CONSIDERATIONS: If any phase of the project/activity involves any of the following considerations, check yes and explain in project description. See NV-16A for consideration guidelines and examples.

Consideration	Yes	No	Unk	Consideration	Yes	No	Unk
1. Noise	X			10. Liquid Effluents		X	
2. Air Emissions		X		11. Underground Storage/Septic Tanks		X	
3. Explosives	X			12. Utility Systems (PCBs)	X		
4. Petroleum/Fuel Storage/Use	X			13. Environmental Restoration Site	X		
5. Pesticide/Herbicide Use		X		14. Change in Existing Drainage Pattern		X	
6. Hazardous/Toxic Substances	X			15. Surface Disturbance/Excavation	X		
7. Solid Waste	X			16. Cultural/Historic Resources			X
8. Mixed Waste		X		17. Biological/Tortoise Resources		X	
9. Radioactive Materials	X						

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B. Is the project/activity included in the final NTS EIS and the ROD or other NEPA document?

Yes (complete Sections C, D, and E) No (complete Sections D, E, and F)

C. This project/activity is included in the NTS EIS/ROD (or other NEPA document) under the following section and page number:

NTS/EIS Volume 1, Appendix A, A.3.1.3 - Environmental Restoration Program: Industrial Sites Project

D. Does the proposed project/activity require any local, state, or federal permits or notifications?

Yes No

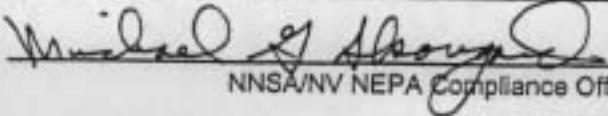
E. Does the proposed project/activity relate to the FFCA or FFACO agreements?

Yes No

F. If, based on the project description and the preliminary environmental considerations noted above, the proposed action fits within a class of action listed in Subpart D of 10 CFR 1021, write in the space below, the paragraph number and short title from the appropriate table of contents of Subpart D, Appendix B, C, or D, for a CX, EA, or EIS. If the proposed action does not fit within any class of action, write "Not Listed" below.

G. NEPA COMPLIANCE OFFICER DETERMINATION OR RECOMMENDATION:

I have determined that the proposed action as described in Item A above, has been adequately addressed for the purpose of NEPA in the NTS EIS. No further analysis or documentation is required pursuant to NEPA.


Michael J. Thompson

NNSA/NV NEPA Compliance Officer

12/3/02

Date

CAUS 176, 346, 350, 351 & 352: HOUSEKEEPING SITES CLOSURE/CLEANUP ACTIVITIES

Project Description

All CAUs are housekeeping sites, located at the Nevada Test Site (NTS). CAU 176 is located in Areas 5 and 6 and consists of four Corrective Action Sites (CASs). CAU 346 is located in Areas 8 and 10 and consists of 13 CASs. CAU 350 is located in Area 15 and consists of nine CASs. CAU 351 is located in Areas 18 and 30 and consists of six CASs. CAU 352 is located in Areas 19 and 20 and consists of 14 CASs.

The purpose of this project is to remove the various debris located at each CAS. A detailed list of the CASs and descriptions is provided in the FFACO (1996). Each CAU is listed below, with a brief description of the types of debris present in the CASs.

CAU 176

Includes two small vacuums, an automotive battery, oil can, 330-gallon tank filled with sanitary trash, and scrap wood and metal. The vacuums and possibly the wood and metal debris are radioactive.

CAU 346

The majority of debris at the CASs comprising CAU 346 appear to be drums filled with concrete that have electrical cables running out from the concrete and extending to various boreholes. Other debris include hoses, scrap metal, wood debris, cables, wire, etc. Portions of these wastes may be radioactive.

CAU 350

Wastes at these CASs include metal and wood debris, empty fuel cans, several tins that are labelled "Blasting Caps," a deteriorated dry cell battery, and a gas cylinder approximately 4 ft x 1 ft. None of the wastes are radiological, but the blasting cap tins and gas cylinder may be hazardous or toxic.

CAU 351

The majority of debris at these CASs includes dry cell batteries. Other waste includes wood, metal and glass debris, and two rusted, green jeeps. Some of the waste may be radioactive and or hazardous/toxic.

CAU 352

Debris includes a transformer, wood, rusted metal pipes, PVC pipes, chunks of concrete, broken batteries, empty cans and drums, and lead pellets. There is also a black stained area at one of the locations.

Environmental Considerations

1. Noise levels: Elevated noise levels may result from the operation of a backhoe and/or loader equipment. Personnel not directly involved with operation of this equipment will be kept back at least 15 feet while equipment is in use. The equipment operator will follow the instructions as directed in the Site Specific Health and Safety Plan.

3. Explosives: Several tins marked "Blasting Caps" will be exploded in place. The certified blaster will direct all operations while during this phase of the cleanup.

4. Petroleum/Fuel Storage Use: Heavy equipment on site will use petroleum fuel. No fuel will be stored on site outside of the equipment. Absorbent pads will be used if equipment appears to be leaking petroleum.

6. Hazardous/Toxic Substances: Several sites contain lead, PCB or TPH-impacted and/or sanitary waste and soil. No other chemical hazards are known to exist. Personnel will be required to follow the safety procedures outlined in the Site Specific Health and Safety Plan and Job Hazard Analysis. Wastes will be disposed of either on the NTS or offsite, depending on analysis results.

7. Solid Waste: Any solid waste that may be generated from project activities will be disposed of at the NTS in a designated landfill.

9. Radioactive Materials: Several sites are in a URMA, CA, or RMA. Radiologically-impacted soil and manufactured items in these areas may require disposal at either the Area 3 or Area 5 Radioactive Waste Management Site.

12. Utility Systems (PCBs): Two sites contain transformers which are potentially contaminated with PCBs. These will be disposed of as PCB waste if found to contain PCBs. Personnel will be required to follow the safety procedures outlined in the Site Specific Health and Safety Plan and Job Hazard Analysis.

13. Environmental Restoration Site: These sites are included in the FFACO as Corrective Action Unit 176, 346, 350, 351, and 352. (See Project Description).

15. Surface Disturbance/Excavation: No excavations are planned. Equipment will travel off-road on previously disturbed areas. Equipment will also be used to help remove surface debris.

16. Cultural/Historic Resources: Several sites contain equipment and debris of mining activities which occurred before the Nevada Test Site was removed from the public domain. These artifacts will be left undisturbed.

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