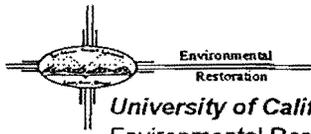


Los Alamos National Laboratory

ENVIRONMENTAL RESTORATION



University of California
Environmental Restoration, MS M992
Los Alamos, New Mexico 87545
505-667-0808/FAX 505-665-4747



U. S. Department of Energy
Los Alamos Area Office, MS A316
Los Alamos, New Mexico 87544
505-665-7203
FAX 505-665-4504



Date: April 19, 1996
Refer to: EM/ER:96-220

Mr. Benito Garcia
NMED-HRMB
P.O. Box 26110
Santa Fe, NM 87502

SUBJECT: FINAL ACCELERATED CLEANUP REPORTS 20-00360
53-010

Dear Mr. Garcia:

Enclosed are the final reports and Certifications of Completion for the voluntary corrective actions completed in Fiscal Year 1995. The reports with potential release sites (PRs) listed in the Hazardous and Solid Waste Amendments (HSWA) Module of the Los Alamos National Laboratory's Resource Conservation and Recovery Act operating permit contain our request for no further action (NFA). Upon your approval of these reports, we will submit a permit modification request for NFA of these PRs.

For PRs not listed in the HSWA Module, reports are included as informational copies for your records.

If you have any questions, please call David Bradbury at 505-665-6208.

Thank you for your timely attention to this matter.

Sincerely,

Handwritten signature of Jorg Jansen.
Jorg Jansen, Program Manager
Environmental Restoration

Sincerely,

Handwritten signature of Theodore Taylor.
Theodore Taylor, Program Manager
Los Alamos Area Office

JJ/TT/rfr



- Enclosures: (1) Final Reports for HSWA: C-9-001, 6-007(f), 8-005, 16-016(b), 18-001(a), 19-002, 21-013(c), 21-013(d), 21-013(e), 21-024(d), 21-024(e), 21-024(h), 31-001, 33-016, 39-007(a), and 69-001
- (2) Final Reports for non-HSWA: C-0-036(a-d), C-0-041, C-10-001, C-21-027, C-36-001, 0-032, 1-001(f), 3-003(p), 3-022, 3-047(d), 3-051(c), 9-010(a-b), 16-011, 16-016(f), 20-003(c), 21-022(j), 39-002(c), 53-010, and 57-006
- (3) Certifications of Completion

Cy (w/enclosures):

B. Driscoll, EPA, R.6, 6PD-N, (2 copies of HSWA)
D. Griswold, ERD, AL, MS A906
/J. Harry, EM/ER, MS M992
B. Hoditschek, NMED-HRMB
/R. Kern, NMED-HRMB
N. Naraine, EM-453, DOE-HQ
M. Shaner, P&PI, MS J591 (5 copies)
N. Weber, Bureau Chief, NMED-AIP, MS J993
J. White, ESH-19, MS K490
S. Yanicak, NMED-AIP, MS J993
RPF, MS M707

Cy (w/o enclosures):

T. Baca, EM, MS J591
D. Bradbury, EM/ER, MS M992
T. Glatzmaier, DDEES/ER, MS M992
D. McInroy, EM/ER, MS M992
G. Rael, ERD, AL, MS A906
W. Spurgeon, EM-453, DOE-HQ
T. Taylor, LAAO, MS A316
J. Vozella, LAAO, MS A316
EM/ER File, MS M992

Voluntary Corrective Action Completion Report for

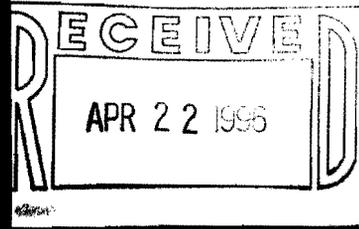
Potential Release Sites
20-003(c)
53-010

Field Unit 2

Environmental
Restoration
Project

January 1996
Revision 1

A Department of Energy
Environmental Cleanup Program



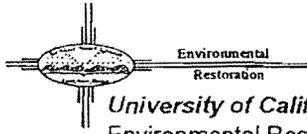
LIBRARY COPY

Los Alamos
NATIONAL LABORATORY

LA-UR-96-1089

Los Alamos National Laboratory

ENVIRONMENTAL RESTORATION



University of California
Environmental Restoration, MS M992
Los Alamos, New Mexico 87545
505-667-0808/FAX 505-665-4747



U. S. Department of Energy
Los Alamos Area Office, MS A316
Los Alamos, New Mexico 87544
505-665-7203
FAX 505-665-4504



Date: April 19, 1996
Refer to: EM/ER:96-220

Mr. Benito Garcia
NMED-HRMB
P.O. Box 26110
Santa Fe, NM 87502

SUBJECT: FINAL ACCELERATED CLEANUP REPORTS 20-0036(c)

53-010

Dear Mr. Garcia:

Enclosed are the final reports and Certifications of Completion for the voluntary corrective actions completed in Fiscal Year 1995. The reports with potential release sites (PRs) listed in the Hazardous and Solid Waste Amendments (HSWA) Module of the Los Alamos National Laboratory's Resource Conservation and Recovery Act operating permit contain our request for no further action (NFA). Upon your approval of these reports, we will submit a permit modification request for NFA of these PRs.

For PRs not listed in the HSWA Module, reports are included as informational copies for your records.

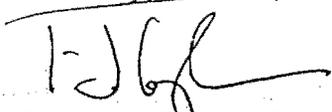
If you have any questions, please call David Bradbury at 505-665-6208.

Thank you for your timely attention to this matter.

Sincerely,


Jorg Jansen, Program Manager
Environmental Restoration

Sincerely,


Theodore Taylor, Program Manager
Los Alamos Area Office

JJ/TT/rfr

- Enclosures: (1) Final Reports for HSWA: C-9-001, 6-007(f), 8-005, 16-016(b), 18-001(a), 19-002, 21-013(c), 21-013(d), 21-013(e), 21-024(d), 21-024(e), 21-024(h), 31-001, 33-016, 39-007(a), and 69-001
- (2) Final Reports for non-HSWA: C-0-036(a-d), C-0-041, C-10-001, C-21-027, C-36-001, 0-032, 1-001(f), 3-003(p), 3-022, 3-047(d), 3-051(c), 9-010(a-b), 16-011, 16-016(f), 20-003(c), 21-022(j), 39-002(c), 53-010, and 57-006
- (3) Certifications of Completion

Cy (w/enclosures):

B. Driscoll, EPA, R.6, 6PD-N, (2 copies of HSWA)
D. Griswold, ERD, AL, MS A906
/ J. Harry, EM/ER, MS M992
B. Hoditschek, NMED-HRMB
/ R. Kern, NMED-HRMB
N. Naraine, EM-453, DOE-HQ
M. Shaner, P&PI, MS J591 (5 copies)
N. Weber, Bureau Chief, NMED-AIP, MS J993
J. White, ESH-19, MS K490
S. Yanicak, NMED-AIP, MS J993
RPF, MS M707

Cy (w/o enclosures):

T. Baca, EM, MS J591
D. Bradbury, EM/ER, MS M992
T. Glatzmaier, DDEES/ER, MS M992
D. McInroy, EM/ER, MS M992
G. Rael, ERD, AL, MS A906
W. Spurgeon, EM-453, DOE-HQ
T. Taylor, LAAO, MS A316
J. Vozella, LAAO, MS A316
EM/ER File, MS M992

Table of Contents

GROUP 6	<u>Page</u>
PRs at FU2, TA-20 and TA-53	
Voluntary Corrective Action Completion Report	
Potential Release Site 20-003(c), Navy Gun Site	1
Certification of Completion	4
Voluntary Corrective Action Completion Report	
Potential Release Site 53-010, Bermed Mineral Oil Storage Area .	5
Certification of Completion	9

TABLES

Table 1. Summary of Analytical Results and Data Comparison, Potential Release Site 53-010, Bermed Mineral Oil Storage Area	8
---	---

FIGURES

Figure 1. Excavation and Sampling Locations for PRS 20-003(c), Navy Gun Site	3
Figure 2. Excavation and Sampling Locations for PRS 20-003(c), Bermed Mineral Oil Storage Area	7

FINAL REPORT

**Voluntary Corrective Action Completion Report
Potential Release Site 20-003(c),
Navy Gun Site**

**Environmental Restoration Project
Field Unit 2
Los Alamos National Laboratory**

September 28, 1995

**A Department of Energy
Environmental Cleanup Project**

**Voluntary Corrective Action Completion Report
Potential Release Site 20-003(c)
Navy Gun Site**

DESCRIPTION

Potential Release Site (PRS) 20-003(c) was the site of a Navy gun mount between 1945 and 1948. The gun was fired into steel plates set along the nearby canyon walls. The site contained what appeared to be a concrete pad with anchor bolts covered by soil, and debris consisting of conduit and electrical wires. This site is not included in the Hazardous and Solid Waste Amendments Module of the Los Alamos National Laboratory's (Laboratory) Resource Conservation and Recovery Act (RCRA) Permit, EPA I.D. NM0890010515.

The site is located at Technical Area (TA) 20, approximately 90 ft north of East Jemez Road in Sandia Canyon. The site is accessible from East Jemez Road.

The identified waste appeared to be the concrete pad, rubble, electrical conduit and wires. The concrete pad was originally thought to measure approximately 20 ft by 20 ft by 1 ft thick. The site had been cleaned up three times previously: after it was initially closed, prior to construction of East Jemez Road, and in 1988. The voluntary corrective action (VCA) consisted of housekeeping tasks only, and included the demolition and removal of the pad, conduits, a manhole and miscellaneous metal debris. No soils were removed from the site.

CORRECTIVE ACTION

The cleanup followed the VCA plan. Activities began on August 28 and ended on September 20, 1995. This extended time period was necessary in order to coordinate cleanup activities with the daily activities at the firing range at TA-72. In addition, the hauling trucks had difficulty traversing the quarter-mile, sandy arroyo.

Beginning on August 28 and continuing for several days, the firing pad, a pad extension, and a manhole were located and excavated. The pad, measuring 10 ft by 10 ft by 6 ft thick, was buried under 1.5 ft of soil. Sixteen 2-in bolts with nuts were found to be protruding from the pad, which was capped with two pieces of steel, measuring 4.5 ft by 9 ft by 4 in. thick. A concrete extension, originating at the north side of the main firing pad, was also uncovered. The extension measured 5 ft by 30 ft by 1.5 ft thick. Both the main pad and its extension were washed down with water to remove soil prior to demolition. Both were found to be heavily reinforced with rebar. To the east of the main pad, a 4 ft by 4 ft by 4 ft reinforced concrete manhole was unearthed. The manhole served as a junction box for electrical and control wires utilities which ran from a control building on the south side of East Jemez Road to the gun site. It was also washed down to remove soils prior to demolition.

The nuts and bolts holding the steel to the pad were burned off. The steel was removed in two pieces. A trackhoe with hammer was used to break up the top 4 ft of the concrete of the main pad, all of the extension, and the manhole. Sections of rebar extending from the concrete were cut off. Rebar embedded in the broken concrete pieces was left intact. Care was taken to load only broken concrete during the excavation of the pad. Small pieces of concrete were either picked out of the soil by hand, or discarded with the remaining concrete pad in the excavation. The remaining pad was buried under five to six feet of the surrounding soils during backfilling.

A conduit trench, measuring approximately 90 ft long, which extended from the manhole to the roadway embankment toe, was also excavated. It contained four separate, 3-in conduits, each containing electrical wiring and/or coaxial cable. Soil was removed from the conduit prior to removal from the site.

All excavated debris was field screened for alpha/beta/gamma radioactivity and volatile organic vapors using hand-held instruments. Field screening did not indicate the presence of radioactivity or volatile organic vapors above background levels. Once determined to be uncontaminated, the metal debris was recycled and the concrete debris was disposed. Approximately 8.6 tons of steel debris (including the steel plates, loose rebar, and other steel) were taken to the Laboratory's support services contractor for recycling. Approximately 21.5 yd³ of concrete debris were hauled to the Los Alamos County Landfill by tip truck.

As stated in the VCA plan, no chemicals of concern were identified, and therefore, no confirmatory sampling was required.

Site restoration included returning the site to its approximate original state. Excavated areas were backfilled, recontoured and graded, and then hydro-seeded. The access road to the site and through the firing range was regraded.

REQUEST FOR DOE CONCURRENCE

This report serves as the formal request for DOE concurrence to approve no further action for the PRS.

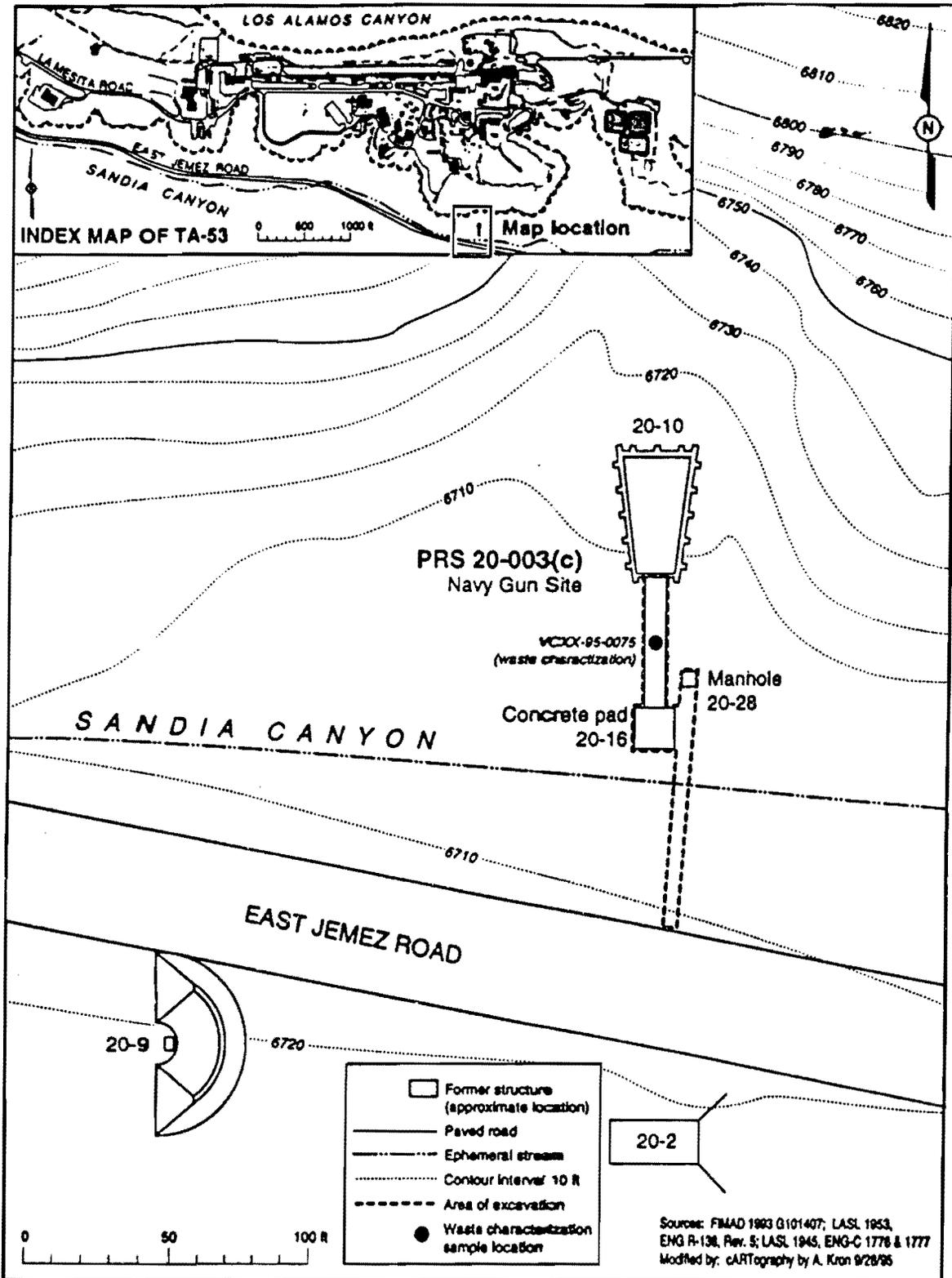


Figure 1. Excavation and sampling locations for PRS 20-003(c), Navy Gun Site

CERTIFICATION OF COMPLETION

I certify that all work pertaining to the voluntary corrective action (VCA) 20-003(c) has been completed in accordance with the Department of Energy-approved VCA plan and entitled **VCA Plan for Potential Release 20-003(c), Navy Gun Site**. Based on my personal involvement or inquiry of the person or persons who managed this cleanup, a review of all data gathered, and a visit to the site, to the best of my knowledge and belief, all criteria of the plan have been met or exceeded. I believe that the completion of this VCA is protective to both human health and the environment. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

Billy M Wheat for TEG
T. Eugene Gould
Field Unit Two Project Leader
Environmental Restoration Project
Los Alamos National Laboratory

9/25/95
Date Signed

FINAL REPORT

**Voluntary Corrective Action Completion Report
Potential Release Site 53-010,
Bermed Mineral Oil Storage Area**

**Environmental Restoration Project
Field Unit 2
Los Alamos National Laboratory**

September 28, 1995

**A Department of Energy
Environmental Cleanup Project**

**Voluntary Corrective Action Completion Report
Potential Release Site 53-010,
Bermed Mineral Oil Storage Area**

DESCRIPTION

Potential Release Site (PRS) 53-010 is located in Los Alamos National Laboratory's (Laboratory) Technical Area (TA) 53, approximately 90 ft southeast of building 1031. The site, located on a mesa top, is surrounded by unimproved roadways on three sides. This site is not included in the Hazardous and Solid Waste Amendments Module of the Laboratory's Resource Conservation and Recovery Act (RCRA) Permit, EPA I.D. NM0890010515.

The site was used for secondary containment from 1989 to 1990 for two 3,000 gal. tanks and eighteen 55-gal. drums containing mineral-oil-based scintillator liquid, described as containing a small percentage of pseudocumene (i.e., 1,2,4-trimethylbenzene). The site measured 30 ft by 35 ft and had soil berms 2 ft high. The interior slopes of the berms and floor were lined with a geotechnical liner overlain by soil. In 1990, the site was closed, the tanks and drums were removed, and two small areas of stained soil were cleaned up. When the site was closed, the secondary containment appeared to be intact, although exposure to the elements may have caused deterioration of the liner.

RCRA Facilities Investigation (FRI) field work was performed in May and June 1995. Sampling was conducted in accordance with the work plan.

The RFI Phase I sampling data, which included analyses for semi-volatile organic compounds (SVOCs) and total petroleum hydrocarbons (TPHs), indicated non-detects for SVOCs and elevated levels of TPHs ranging from 0.0498 mg/kg to 5100 mg/kg. Waste resulting from the cleanup was expected to consist of the geotechnical liner and oil-contaminated soil.

CORRECTIVE ACTION

The cleanup followed the Voluntary Corrective Action (VCA) plan. Activities began on September 18, 1995 and were completed the same day.

Prior to excavating the site, a visual inspection was conducted. No areas of stained soil were noted. Excavation activities included the removal of the 0 to 6 in of soil above the liner and removal of the geotechnical liner itself. Materials were excavated using a backhoe and hand tools. The liner shredded and ripped into pieces as it was being removed. After the liner was removed, the soil beneath the liner was inspected for staining. There was no evidence of staining beneath the liner. The excavated soil and liner were field screened for alpha/beta/gamma radioactivity and volatile organic

vapors. Field screening did not indicate the presence of radioactivity or volatile organic vapors above background levels.

Confirmatory sampling was performed (Figure 2) to verify site cleanup. Based on existing information provided in the VCA Plan, a health conservative indicator chemical of concern was identified as 1,2,4-trimethylbenzene, a component of mineral-oil based scintillator fluid. To evaluate the confirmatory data, the concentrations of analytes were compared statistically to their respective preliminary remediation goals (PRGs) based on EPA guidance. In the case where the analyte is below its respective detection limits, no statistical analysis could be performed. The confirmatory analytical data show that 1,2,4-trimethylbenzene was not detected, and therefore, below its PRG. Analytical results and their comparison with the PRGs are presented in Table 1. All previously-obtained site characterization data, as well as VCA data, are available and will be provided upon request.

Confirmatory samples were collected on September 18, 1995. A total of six confirmatory surface soil samples were collected: one at each corner of the site and two toward the center. All samples were analyzed for volatile organic compounds (including 1,2,4-trimethylbenzene) by SW-846 method 8260.

Approximately 30 yd³ of soil mixed with liner pieces were placed in two 20-yd³ rolloff containers. These containers are appropriately labeled and are being stored at the site pending disposal. The waste will be transported to the appropriate disposal site following evaluation of the analytical data from the additional site characterization sample collected during the week of August 7, 1995, and completion of the appropriate waste disposal documentation.

Site restoration included returning the site to its approximate original state. The area was backfilled and the surrounding 2-ft berm was removed. The entire area was recontoured and reseeded.

REQUEST FOR DOE CONCURRENCE

This report serves as the formal request for DOE concurrence to approve no further action for the PRS.

**TABLE 1. Summary of Analytical Results and Data Comparison,
Potential Release 53-010, Bermed Mineral Oil Storage Area**

Analyte	Loc ID	Sample ID	Matrix	Sample Value	Units	Depth (in.)	Analysis Qualifier
1,2,4 Trimethylbenzene	53-01251	VCXX-95-0069	SOIL	2	MG/KG	0-0	U
1,2,4 Trimethylbenzene	53-01252	VCXX-95-0070	SOIL	2	MG/KG	0-0	UJ
1,2,4 Trimethylbenzene	53-01253	VCXX-95-0071	SOIL	2	MG/KG	0-0	U
1,2,4 Trimethylbenzene	53-01254	VCXX-95-0072	SOIL	2	MG/KG	0-0	U
1,2,4 Trimethylbenzene	53-01255	VCXX-95-0073	SOIL	2	MG/KG	0-0	U
1,2,4 Trimethylbenzene	53-01256	VCXX-95-0074	SOIL	2	MG/KG	0-0	U
95% UCL of Mean					ND		
PRG				2.61E+02	MG/KG		

CERTIFICATION OF COMPLETION

I certify that all work pertaining to the voluntary corrective action (VCA) 53-010 has been completed in accordance with the Department of Energy-approved VCA plan and entitled **VCA Plan for Potential Release Site 53-010, Bermed Mineral Oil Storage Area**. Based on my personal involvement or inquiry of the person or persons who managed this cleanup, a review of all data gathered, and a visit to the site, to the best of my knowledge and belief, all criteria of the plan have been met or exceeded. I believe that the completion of this VCA is protective to both human health and the environment. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

T. Eugene Gould for TEG
T. Eugene Gould
Field Unit Two Project Leader
Environmental Restoration Project
Los Alamos National Laboratory

9/25/95
Date Signed