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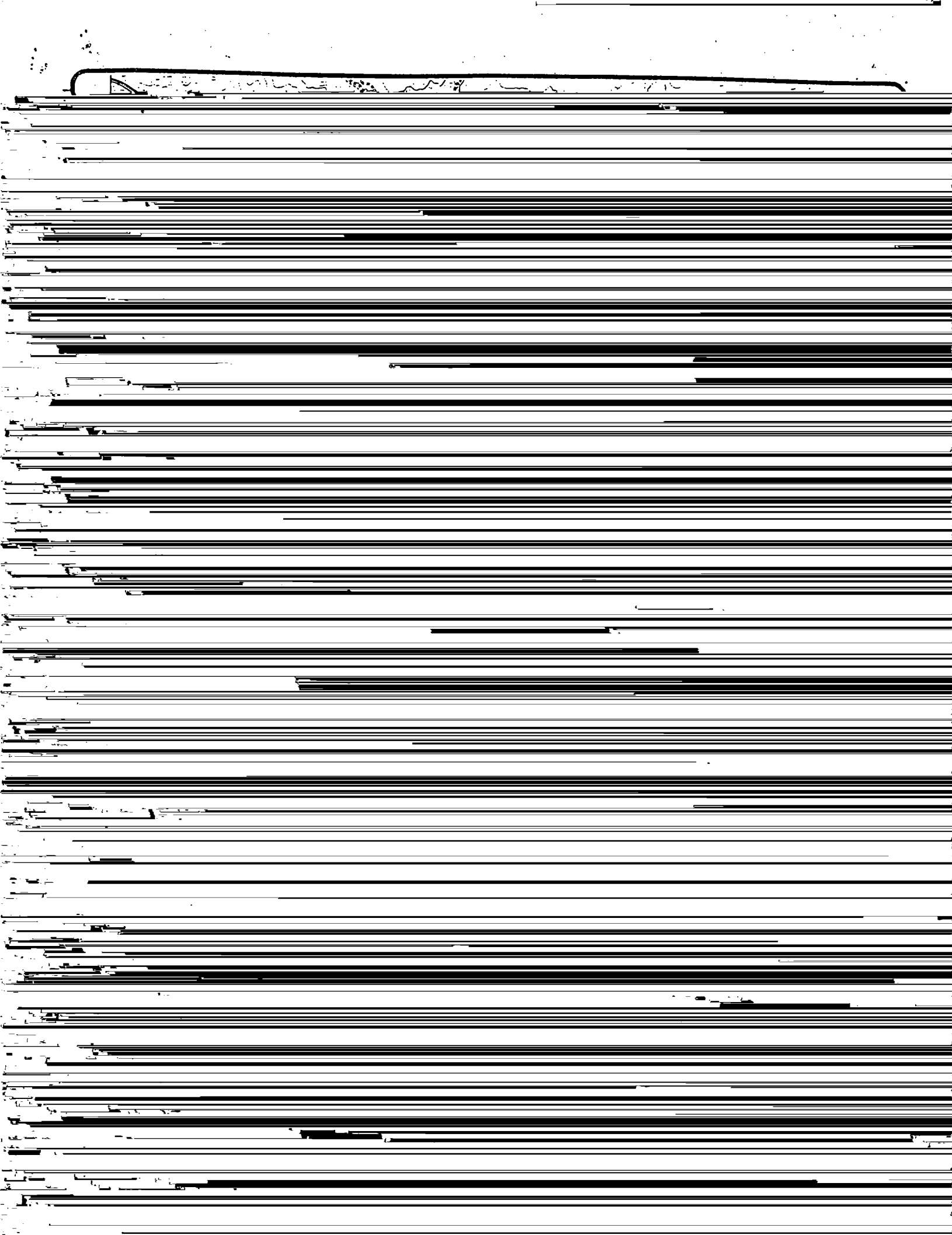
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

MARTIN MARIETTA REDUCTION FACILITY
SUPERFUND SITE
THE DALLES, OREGON

FIVE YEAR REVIEW REPORT

December 27, 1999



I. INTRODUCTION

A. PURPOSE

Region 10 of the U.S. Environmental Protection Agency (EPA) conducted a Five-Year Review of the Martin Marietta Reduction Facility Superfund Site and prepared this report. This report is consistent with the requirements of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and the National Oil and Hazardous Substances Contingency Plan (NCP). CERCLA and the NCP require that a review be conducted at a Superfund site no less often than every five years if hazardous substances, pollutants, or contaminants remain at the site after cleanup or "remedial action" has occurred. This review is required to ensure that the remedial action continues to be protective of human health and the environment.

This is the second Five-Year Review conducted at the Site. The first review covered the period from September 1989 to December 1994; this second review covers the period

B. SITE CHARACTERISTICS AND HISTORY

referred to as the "CERCLA Landfill" or "Landfill". Another landfill at the center of the Site contains only spent potliner. This landfill is referred to as the "RCRA Landfill" and is an area handled by the State of Oregon hazardous waste regulations and permitting, separate from the CERCLA cleanup process.

The plant air pollution control system "scrubbed" particles from air emissions using water. The Discharge Channel was used to direct scrubber water from the plant to the Recycle Pond located at the south end of the property. This pond was constructed as a settling basin for the wastewater and was designed to recycle water back to the plant for re-use. The Scrubber Sludge Ponds consisted of four natural ponds located near the Recycle Pond. These four ponds were used to hold sludge that was formed during

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OLD NPDES DISCHARGE CHANNEL

ABANDONED SCRUBBER SLUDGE CHANNEL

II. REMEDIAL OBJECTIVES

Remedial objectives for the Site included both the control of sources of contamination as well as groundwater management for the protection of human health and the environment. Specific

- Minimization of the migration of contaminants from the source areas to the ground water system, surface water, or soils;
- Protection of human health and the environment from potential adverse effects caused by direct contact with contaminants; and
- Protection of human health and the environment from potential adverse effects due to exposure to airborne contaminants.

A. PROGRESS OF REMEDIAL ACTION

The selected remedy in the Record of Decision included the following components:

- Consolidate the residual cathode waste material and underlying fill material from the former Cathode Waste Management Areas into the existing Landfill;
- Consolidate the cathode waste material from the Unloading Area into the existing Landfill;

- Implement institutional controls including deed restrictions and fencing, to

environment during and after implementation.

SEPTEMBER 1989 - DECEMBER 1994

Cleanup at the Site began in August 1989 and completion was documented in the December 1994 Remedial Action Construction Report. Below is a description of the individual components of the cleanup.

Cathode Waste Management Areas/CERCLA Landfill

Cleanup of the Cathode Waste Management Areas involved the excavation of material

Based on the conclusion that the perched and ponded waters were the driving force behind the infiltration to the Leachate Collection System, several activities were undertaken by Martin Marietta from Fall 1992 through 1993 in response to the increased leachate flow. A De-watering Trench was constructed just outside the southwest corner of the Landfill to prevent perched water from flowing into the Leachate Collection System (Figure 2). As water collected in the trench, it was routinely discharged to the

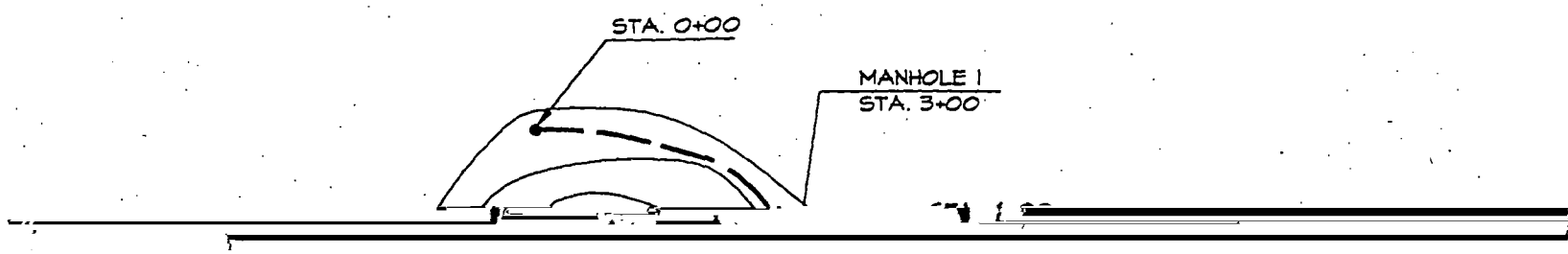
[redacted]

in November 1990, the Klindt Well in October 1992, and the Rockline well in April 1994.

Removal of perched water from east of River Road and from the former Cathode Waste Management Areas was completed by 1991. A small quantity of water was observed east of River Road (estimated to be less than 500 gallons) so this water was allowed to evaporate until it was gone by the end of summer 1991. Perched water from the former Cathode Waste Management Areas was treated in the Cyanide Destruction System.

Treatment of contaminated groundwater from the Unloading Area was required under the [redacted]

PLOT PLAN OF CERCLA LANDFILL



DECEMBER 1994 - DECEMBER 1999

Although the Site was removed from the National Priorities List in 1996, the 1989

Consent Decree requires that Lockheed Martin continue to conduct operation and maintenance and groundwater monitoring at the Site. These requirements include operation of the Cyanide Destruction System to treat Landfill leachate, maintenance of the Landfill and Scrubber Sludge Pond covers and fencing, and monitoring of groundwater around the covered areas.

The volume of water collected in the Landfill Leachate Collection System has not decreased over the years. In monthly reports submitted during 1999, the amount of liquid

collected in the above-ground storage tank varied from approximately 400 gallons per day during the dry season to about 3,600 gallons per day during the spring. During 1999,

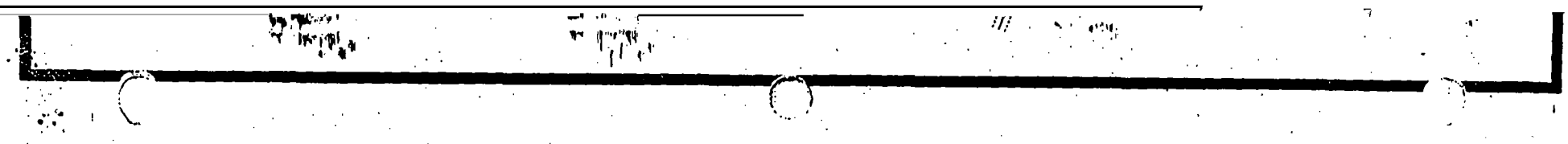
sampling data from MW-5S should continue to be studied for an additional two years. This well had been used to monitor the Unloading Area groundwater. It had been sampled quarterly under the Assessment Monitoring Program to identify a downward trend in fluoride levels. EPA also agreed that quarterly sampling should begin at MW-29S for a period of two years. This well was used to monitor the former Scrubber Sludge Ponds and had exceeded the Alternative Concentration Limit for fluoride in 1992, 1993, and 1995. Monitoring at MW-5S and MW-29S during this period showed good results, so reporting at these wells was discontinued. MW-5S is still sampled as part of the groundwater monitoring program at the RCRA landfill which is separate from the

MW-26S, MW-6AA, MW-12A, MW-13A, and MWR-7A (**Figure 4**).

III. SITE INSPECTION SUMMARY

On June 23, 1999, EPA and DEQ made a visit to the Site to become familiar with the CERCLA and RCRA waste management areas. Lockheed Martin gave a tour of the CERCLA Landfill, the Cyanide Destruction System, and the RCRA Landfill from which there was also a view of the former Scrubber Sludge Ponds.

DEQ is currently in the process of issuing a hazardous waste post-closure permit for the RCRA



In the next few months, Lockheed Martin will transfer management of the Site to a contractor. The time frame for correcting the deficiencies noted above will be scheduled considering the timing of this transfer and also the deadlines stipulated in the RCRA post-closure permit.

[redacted]

Currently, [redacted] involvement at the Site includes both EPA and DEQ. From the stand[redacted]

[redacted]

environment if corrective measures are taken at the Site in a timely manner.

Mike Gearheard, Director for
Environmental Cleanup Office

12/29/99
Date

Mike Gearheard, Director
Environmental Cleanup Office

Date