STATEMENT OF BASIS/FINAL DECISION AND RESPONSE TO COMMENTS SUMMARY

REGION VIII
ID# 4790

Martin Marietta Corporation

Waterton Canyon Astronautics Facility
Littleton, Colorado
(signed September 24, 1990)

Facility/Unit Type:	**Aerospace/Defense research and manufacturing**
Contaminants:	**Trichloroethylene (TCE); 1, 1, 1-Trichloroethane (1,1,1-TCA); 1,2-Dichloroethane (1,2-DCA); 1,1-Dichloroethene (1,1-DCE); Trans 1,2-Dichloroethene (Trans 1,2-DCE); Chromium; N-Nitrosodimethylamine (NDMA); Cadmium; Benzene; Vinyl Chloride; Acetone; Xylene; Toluene**
Media:	**Soil, ground water**
Remedy:	**Interception, pumping and treatment of contaminated shallow ground water; vapor extraction of contaminated soils; dewatering and off-site incineration and disposal of waste combined with thermal extraction of backfill and alluvium, stabilization and RCRA cap**

FACILITY DESCRIPTION

In January of 1992, the Colorado Department of Health (CDH) and the Martin Marietta Corporation entered into a state RCRA consent agreement. EPA issued Martin Marietta a CERCLA Section 106 Administrative Order on February 7, 1986, which required Martin Marietta to conduct an RI/FS for the Waterton Canyon Astronautics Facility in Littleton, CO. The CERCLA investigation continued until a ROD was finalized on September 24, 1990. Since Martin Marietta was an operating facility and CDH received RCRA Corrective Action authorization (Section 3004(u)) in July 1989, it was decided that the ROD and site remediation would be implemented by CDH under RCRA.

The Waterton facility covers approximately 5200 acres and completely surrounds 464 acres of U.S. Air Force property. Martin Marietta has owned and operated the site since the mid-1950s and most of the main manufacturing plants were constructed prior to 1970. During the 1960s, Martin Marietta conducted Titan missile program research and testing at the site.

During operation of the facility, Martin Marietta has generated, treated, and stored waste on-site. Wastes generated at the facility include various oils, fluoride, aluminum, chromium, titanium, nitrate, cyanide, organic solvents, acid etching sludges, and chemical treatment sludges and propellants. From 1959 until 197[illegible], [illegible] wastes that were generated were either treated or disposed of in an on-site area known as the Inactive Site Ponds.

In 1984, off-site contamination was discovered in wells located near Martin Marietta. Subsequent investigations revealed that the facility was the source of the contamination. Two extraction well systems were put into place in 1986 to intercept the contaminated groundwater before it migrated off-site.

EXPOSURE PATHWAYS

Exposure pathways include soil/dust ingestion by on-site workers, deer hunters, and potential future on-site ground-water use. Currently ground water on-site is not used for human consumption. Two endangered species, the bald eagle and the peregrine falcon, and a rare plant, the annual threeawn, are found on-site.

CONTAMINATION DETECTED AND CLEANUP GOALS*

Media	Estimated Volume	Contaminant	Maximum Concentration	Action Level	Cleanup Goal	Point of Compliance
			(ug/l)	(ug//)	(ug/l)	
ground water	unknown	1,1,1-TCA	110000	not given	200	Whole Plume
		TCE	596000	"	5	"
		NDMA	12	"	.07	"
		Chromium	18.5 mg/l	"	50	"
		Cadmium	16	"	5	"
		1,2-DCA	1500	"	5	"
		1,1-DCE	6400	"	5	"
		Benzene	51	"	5	"
		Vinyl Chloride	240	"	2	"
			(ug/kg)		(mg/l)	Area
soil	24,400 cy	Acetone	8395	.59 mg/l	160	Under Cap
		1,1-DCE	2860	not given	7.2	"
		TCE	321000	.5 mg/l	.091	"
		1,1,1-TCA	145600	not given	.41	"
		PCE	15270	.7 mg/l	.05	"
		Xylene	232000	not given	28	"
		Toluene	425300	not given	.33	"
		Trans 1,2-DCE	63	not given	33	"
		Cadmium	71000	3.2 mg/kg	1	"
		Chromium	425[illegible]	60 mg/kg	5	"

* Record of Decision - September 24, 1990

SELECTED REMEDY

The selected remedy will address the contaminated soils and ground water on-site via a three-pronged program. Vapor extraction will be used to remove organic contaminants from soils in the area of the Chemical Storage Tanks. Waste removal and incineration, coupled with thermal extraction (desorption), stabilization and RCRA capping of remaining soils will be used in the Inactive Site Pond area. Ground water will be extracted by the two interceptor systems installed in 1986 and at least two additional interceptor systems to be installed as part of the ROD. The extracted ground water will be treated and discharged pursuant to a NPDES permit.

The total estimated cost for the selected remedy is $59,222,000 for capital costs and annual O&M. The project life is estimated to be at least 30 years due to the extensive time required for ground-water extraction and treatment.

Several areas of the facility are also undergoing closure and remediation pursuant to State approved RCRA closure plans. These areas currently have interim status, and are in various stages of RCRA closure. Both clean closure and in-place closure remedies are being applied to these interim status units.

INNOVATIVE TECHNOLOGIES CONSIDERED

Vapor extraction and thermal extraction

PUBLIC PARTICIPATION

Between February 1986 and September 1987, EPA held five public meetings in the area of the facility. EPA also held a public meeting to collect comments on the preferred remedial alternative in July 1990. Approximately 50 people attended these meetings. Several sets of comments were received and responses to comments were prepared.

NEXT STEPS

Next steps involve continued implementation of the selected remedy. To date, investigation reports for the Inactive Site Ponds and the Chemical Storage Tanks are nearing finalization. Soil treatability studies have been performed and results are due in May 1993. Design and location of the additional ground-water interceptor systems will begin in the Fall of 1993. Community relations activities are ongoing.

KEY WORDS
ground water, soil; ingestion; VOCs, heavy metals; vapor extraction, off-site incineration, thermal extraction, dewatering, capping

CONTACT
George Dancik
U. S. EPA, Region VIII
999 18th Street Suite 500
Denver, Colorado 80202
(303) 293-1506