35055

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

MEMORANDUM

DATE: JAN 10 1992

SUBJECT: Conclusion of CERCLA Preremedial Work

FROM: Mario E. Villamarzo, Chief
South Unit, Site Assessment Section, WPB

TO: Kent Williams, Chief
GA/FL Unit, Waste Engineering Section
RCRA and Federal Facilities Branch

This is to inform you that we have recently concluded our CERCLA site assessment work at the following Florida sites:

1. Olin Corporation - FLD047096524, Wakulla County
2. Southern Wood Piedmont Company - FLD004053450, Duval County
3. Martin-Marietta Aerospace - FLD061993606, Marion County
4. Martin-Marietta Aerospace - FLD060240207, Orange County
5. Wenczel Tile - FLD042468355, Hillsborough County
6. Florida Tile Corporation - FLD004091583, Polk County

Due to the RCRA status of these sites, no further remedial action is currently planned under CERCLA authorities. However, if you determine that the RCRA status of these sites has changed, or if the responsible parties are unwilling or unable to pay for the necessary corrective actions, please inform us and we will reactivate our investigation of these sites.

Attachment

Printed on Recycled Pap

Florida Department of Environmental Regulation
Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400
Carol M. Browner, Secretary
Lawton Chiles, Governor

December 19,1991

Ms. Dorothy Rayfield, Florida Project Officer
U.S. Environmental Protection Agency
Waste Division, Superfund Site Assessment
345 Courtland St. N.E.
Atlanta, GA 30365

DATE REPORT ACCEPTED 12-23-91
DISPOSITION D-RCRA
SAM SIGNATURE D Rayfield

Subject: [redacted], Orange County
[redacted]

Dear Ms. Rayfield,

The Martin-Marietta Aerospace Facility is located at 4600 Sand Lake Rd., Orlando, Florida. Martin-Marietta operates a manufacturing facility which includes electroplating, microplating, and photographic laboratory activities. The total area owned by Martin-Marietta at this facility is 2300 acres. The coordinates of the site are: Latitude 28*26'17", Longitude 81*26'55" (Reference 1).

Waste generated from the manufacturing processes any consist of spent acids, spent alkali, spent plating solution, and various organic solvents. Waste generated from these processes are generated and stored on-site.

A post-closure land disposal permit (#HP48-11226568) was issued on 11/19/87. This permit is effective through 11/19/92. A HSWA permit was issued 12/10/85 (Reference 2). Because this site has RCRA status, it is ineligible for regulation under CERCLA at this time. Therefore, we recommend no further remedial action be taken under the CERCLA program. It is recommended that this site be deferred to the RCRA program for any necessary further action.

Sincerely,

Amy C. Hines

Amy C. Hines
Environmental Specialist

Enclosures

cc: Joe McGarrity
Jesus Diaz
Brian Moore

References

1. EPA, September 26, 1984, Potential Hazardous Waste Site Preliminary Assessment.

2. RCRIS, December 4, 1991, RCRA Facility Permit Application Tracking Log.

Reference 1

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
FL	D060240207

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER				
Martin Marietta Aerospace	Sand Lake Road				
03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
Orlando	FL	32855	Orange	095	05
09 COORDINATES LATITUDE	LONGITUDE				
28 26 17.0	081 26 55.0	UTM: (4) 561 (31) 457			

10 DIRECTIONS TO SITE (Starting from nearest public road)

From Orlando, take U.S. Hwy. 4 south to State Route 435 (Kirkman Road). Continue south on State Route 435 for 1-½ miles to Sand Lake Road. Martin Marietta is located just south of Sand Lake Road.

III. RESPONSIBLE PARTIES

01 OWNER (If known)	02 STREET (Business, mailing, residential)		
Martin Marietta Corporation	P.O. Box 5837		
03 CITY	04 STATE	05 ZIP CODE	06 TELEPHONE NUMBER
Orlando	FL	32855	(305) 352-2000
07 OPERATOR (If known and different from owner)	08 STREET (Business, mailing, residential)		
James Bell, Plant Manager	P.O. Box 5837		
09 CITY	10 STATE	11 ZIP CODE	12 TELEPHONE NUMBER
Orlando	FL	32855	(305) 352-2000

13 TYPE OF OWNERSHIP (Check one)

☒ A. PRIVATE ☐ B. FEDERAL: _____ (Agency name) ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL

☐ F. OTHER: _____ (Specify) ☐ G. UNKNOWN

14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply)

☒ A. RCRA 3001 DATE RECEIVED: 11/11/80 (MONTH DAY YEAR) ☐ B. UNCONTROLLED WASTE SITE (CERCLA 103 c) DATE RECEIVED: __/__/__ (MONTH DAY YEAR) ☐ C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION

☒ YES DATE 02/20/84 (MONTH DAY YEAR)
☐ NO

BY (Check all that apply)

☐ A. EPA ☐ B. EPA CONTRACTOR ☒ C. STATE ☐ D. OTHER CONTRACTOR
☐ E. LOCAL HEALTH OFFICIAL ☐ F. OTHER: _____ (Specify)

CONTRACTOR NAME(S): _____

02 SITE STATUS (Check one)

☒ A. ACTIVE ☐ B. INACTIVE ☐ C. UNKNOWN

03 YEARS OF OPERATION

_____ BEGINNING YEAR _____ ENDING YEAR ☒ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED

This facility manufactures weapon systems utilizing various metal finishing operations including electrolysis plating of cadmium, chromium, copper, nickel, and aluminum. Wastes from these processes are treated on site. Sludge is currently disposed of off site. An inactive plating sludge landfill exists. Small quantities of waste solvents are stored on site prior to off-site disposal.

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION

Should the substances generated at this facility be released to the environment they would be toxic to humans and wildlife through ingestion, inhalation and skin exposure. No problems or spills were observed during the 02/20/84 FDER inspection.

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents)

☐ A. HIGH (Inspection required promptly) ☐ B. MEDIUM (Inspection required) ☒ C. LOW (Inspect on time available basis) ☐ D. NONE (No further action needed, complete current disposition form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)			03 TELEPHONE NUMBER
Eric Nuzie Eric Nuzie	Florida DER			(904) 488-0190
04 PERSON RESPONSIBLE FOR ASSESSMENT	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NUMBER	08 DATE
David E. Troutman	N/A	E.C. Jordan Co.	(904) 656-1293	09/25/84 (MONTH DAY YEAR)

EPA FORM 2070-12 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
FL	D060240207

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- ☐ A. SOLID
- ☐ B. POWDER, FINES
- ☒ C. SLUDGE
- ☐ D. OTHER _____ (Specify)
- ☐ E. SLURRY
- ☒ F. LIQUID
- ☐ G. GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)

TONS: Unknown
CUBIC YARDS: Unknown
NO. OF DRUMS: Unknown

03 WASTE CHARACTERISTICS (Check all that apply)

- ☒ A. TOXIC
- ☒ B. CORROSIVE
- ☐ C. RADIOACTIVE
- ☒ D. PERSISTENT
- ☐ E. SOLUBLE
- ☐ F. INFECTIOUS
- ☐ G. FLAMMABLE
- ☒ H. IGNITABLE
- ☐ I. HIGHLY VOLATILE
- ☐ J. EXPLOSIVE
- ☒ K. REACTIVE
- ☐ L. INCOMPATIBLE
- ☐ M. NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE	Unknown		Inactive landfill/small quantity
OLW	OILY WASTE			generator
SOL	SOLVENTS	Unknown		
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS	Unknown		Waste plating solutions

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
SLU	Wastewater treatment sludge	999	LF, Now off Site	Unknown	
SOL	Alcohol	999	Shipped off Site	Unknown	
SOL	Methanol	999	Shipped off Site	Unknown	
SOL	Xylene	999	Shipped off Site	Unknown	
IOC	Waste cyanide plating	999	POTW	Unknown	
	solutions				
MES	Waste plating solutions	999	POTW	Unknown	
MES	Cadmium	7440-43-9	POTW	Unknown	
MES	Chromium	7440-47-3	POTW	Unknown	
MES	Copper	999	POTW	Unknown	
MES	Nickel	7440-02-0	POTW	Unknown	

V. FEEDSTOCKS (See Appendix for CAS Numbers) N/A

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

See attached reference list.

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION
01 STATE: FL
02 SITE NUMBER: D060240207

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☒ A. GROUNDWATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: 101-1,000
02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
Although no groundwater contamination has been documented, a review of landfill monitoring data showed significant increases of several parameters in downgradient wells (levels were below drinking water standards).

01 ☐ B. SURFACE WATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
Remote potential - discharges to surface waters have not been detected.

01 ☐ C. CONTAMINATION OF AIR
03 POPULATION POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
No potential.

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS
03 POPULATION POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
No potential.

01 ☐ E. DIRECT CONTACT
03 POPULATION POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
Remote potential - there is little potential for direct contact by other than employees since the site is active and appears to be well managed and secured.

01 ☐ F. CONTAMINATION OF SOIL
03 AREA POTENTIALLY AFFECTED: _____ (Acres)
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
Remote potential - greatest threat is from spills.

01 ☒ G. DRINKING WATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: 100-1,000
02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
See "Groundwater" section above.

01 ☒ H. WORKER EXPOSURE/INJURY
03 WORKERS POTENTIALLY AFFECTED: 1-100
02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
There is a potential for worker exposure to these substances if they are not properly handled.

01 ☒ I. POPULATION EXPOSURE/INJURY
03 POPULATION POTENTIALLY AFFECTED: 101-1,000
02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
See "Groundwater and Drinking Water" sections above.

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION
01 STATE: FL
02 SITE NUMBER: D060240247

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. DAMAGE TO FLORA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

None reported.

01 ☐ K. DAMAGE TO FAUNA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION (Include name(s) of species)

None reported.

01 ☐ L. CONTAMINATION OF FOOD CHAIN — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

None reported.

01 ☐ M. UNSTABLE CONTAINMENT OF WASTES (Spills/runoff/standing liquids/flaking drums) — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

None reported.

01 ☐ N. DAMAGE TO OFFSITE PROPERTY — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

None reported.

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

There is no potential for contamination of these systems since this facility operates its own WWTP.

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

None reported.

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

There are no other known hazards which may be associated with this site.

III. TOTAL POPULATION POTENTIALLY AFFECTED: 101-1,000

IV. COMMENTS

Although this facility generates, stores and treats a variety of hazardous substances, all information indicates that it is well managed and not currently a threat to the environment. The site should continue to be inspected on a periodic basis, and monitoring of the wells around the landfill should also continue.

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

See attached reference list.

REFERENCES

1. Florida Department of Environment Regulation, 3012 Folder, 2600 Blairstone Road, Tallahassee, Florida. To be used for completion of Preliminary Assessment, Form 2070-12

2. U.S. Geological Survey, Topographic Map, 1:24,000 Series.

3. Windholz, M., ed. the Merck Index, an Encyclopedia of Chemicals and Drugs, Rahway, NJ: Merck and Company, Inc., 1976.

4. Farm Chemicals Handbook, Willoughby, OH: Meister Publishing Company, 1982.

5. Florida Department of Environmental Regulation, The Sites List, Summary Status Report, July 1, 1983 - June 30, 1984.

6. NUS Training Manual, Project for Performance of Remedial Response Activities at Uncontrolled Hazardous Substance Facilities--Zone 1, NUS Corporation, Superfund Division.

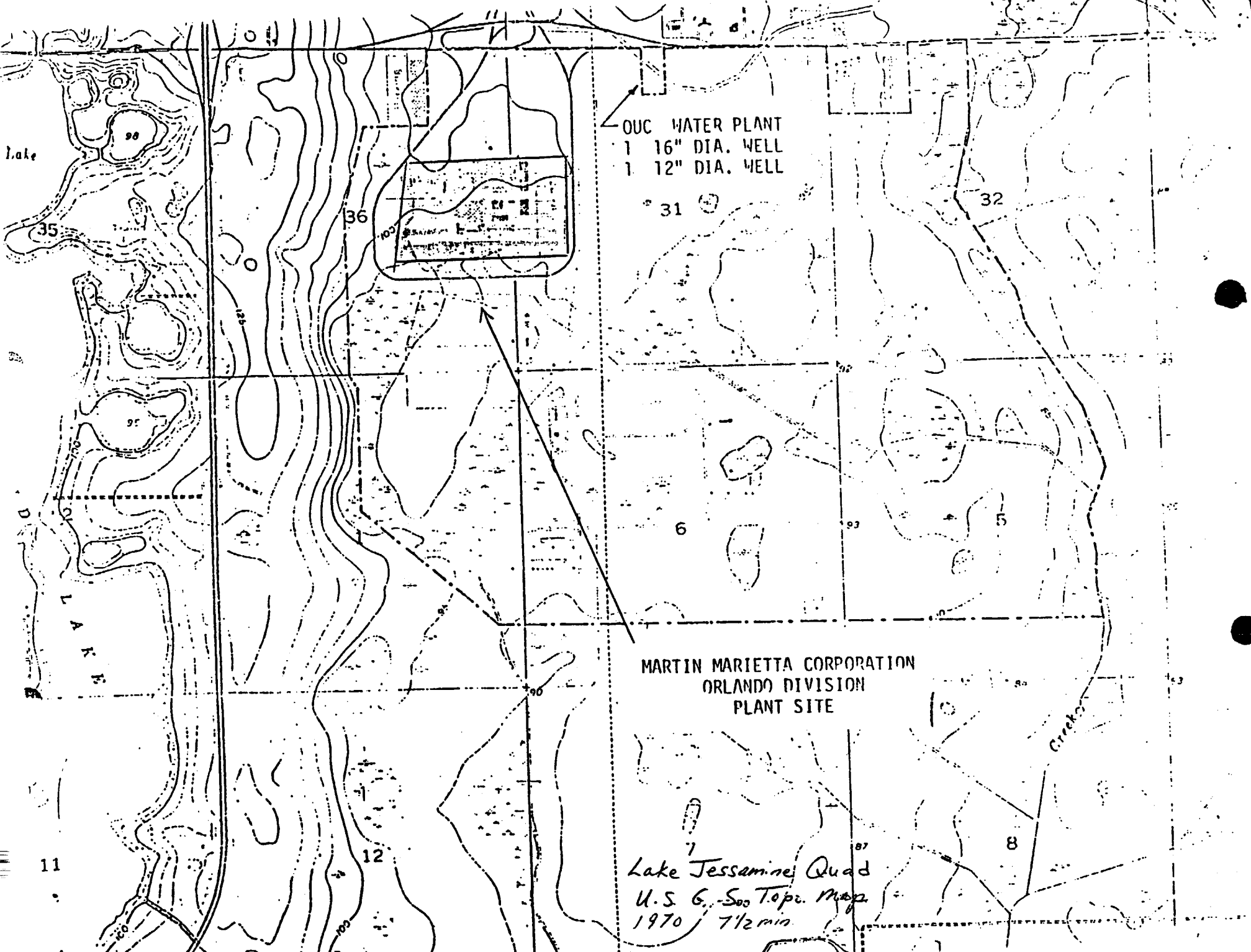
7. TLVs Threshold Limit Values for Chemical Substances in the Work Environment Adopted by ACGIH for 1983-84, American Conference of Governmental Industrial Hygienists, ISBN: 0-936712-45-7, 1983.

8. "Documentation Requirements for the RCRA 3012 Program," Project for Performance of Remedial Response Activities at Uncontrolled Hazardous Substance Facilities--Zone 1, NUS Corporation, Superfund Division.

9. Sax, N. Irving, Dangerous Properties of Industrial Materials, Sixth Edition, Van Nostrand Reinhold Co., 1984.

10. Environmental Protection Agency, Federal Register, National Oil and Hazardous Substances Contingency Plan, Part V, July 16, 1982.

11. Health and Safety Plan, Florida 3012 Program, E.C. Jordan Co., June, 1984.


OUC WATER PLANT
1 16" DIA. WELL
1 12" DIA. WELL
MARTIN MARIETTA CORPORATION
ORLANDO DIVISION
PLANT SITE
Lake Jessamine Quad
U.S. G. S. Topo. Map
1970 7½ min
Lake
LAKE
Creek
35
36
31
32
6
5
11
12
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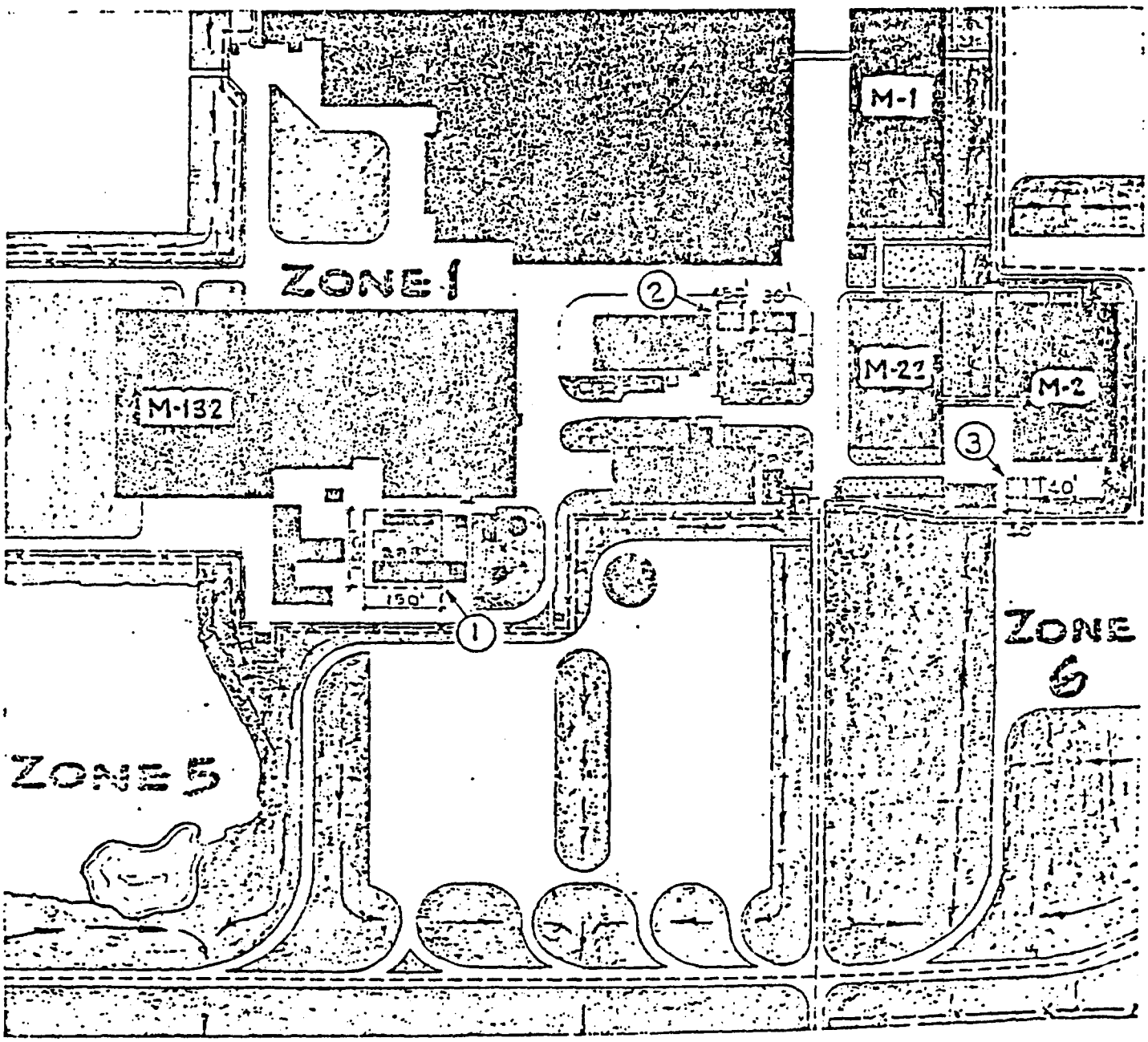
8

V. FACILITY DRAWING (See page 41)



1. WASTE TREATMENT PLANT
2. ASBESTOS WASTE STORAGE
3. MEC BLDG. WASTE STORAGE

MARTIN MARIETTA CORPORATION

SCALE 1" = 300 FT. OCT. 7, 1980

Reference 2

RCRA FACILITY PERMIT APPLICATION TRACKING LOG - ACTIVE FACILITIES APPLICATION LIST 12/04/91

ıcility Name ıty ɔunty Dist	Unit Type/ Codes	Per. Type PATS No. EPA ID No.	In Tall.	NOD Sent	Response	Complete	Draft Permits	Intent	Public. News./ Radio	Issued/ Expires/ Status	Comments
ARTIN MARIETTA ORLANDO RLANDO ANGE CF	LD D80	PCLOS HP48-112268 FLD060240207	10/11/85	/ /	/ /	07/13/87	12/30/86 12/13/89	09/24/87	09/30/87 09/29/87	11/19/87 11/19/92 Issued	HSWA PERMIT ISSUED 12/10/85. DRAFT MODIFIED PERMIT DISCUSSED ON 2/21/91. RENEWAL DUE 3 QTR 92.
DONNELL DOUGLAS CORP. ITUSVILLE EVARD CF	S,T T04 S01	OPER HO05-103666 FLD064824030	05/07/85	06/13/85 01/10/86	11/18/85 02/13/86	06/24/86	06/02/86 06/24/86 08/29/86	08/22/86	09/11/86 09/11/86	11/04/86 11/03/91 Expired	HSWA PERMIT ISSUED 11/30/87. MODIFICATION OF CONDITIONS 12/8/88.
ID-FLORIDA MINING COMPANY WELL ARION CF	S S02	CLOS HF42-193767 FLD991275355	06/18/91	05/10/91	/ /	/ /	/ /	/ /	/ / / /	/ / / /	
ID-FLORIDA MINING COMPANY WELL ARION CF	S S02	OPER HO42-123860 FLD991275355	08/26/86	09/23/86 / /	10/31/86 / /	12/15/86	12/15/86 12/23/86 02/05/87 03/20/87	02/16/87	07/23/87 07/23/87	09/11/87 09/10/92 Issued	NO HSWA PERMIT REQUIRED. PERMIT MODIFIED 12/09/88.
NSANTO COMPANY NSACOLA SCAMBIA NW	LD T02	PCLOS HP17-190438 FLD071951966	12/03/90	/ /	/ /	/ /	/ /	/ /	/ / / /	/ / / /	AWAITING EPA DETERMINATION ON CLOSURE ISSUES. DER TO PROCESS PART B AFTER EPA DETERMINATION OF CLOSURE REQUIREMENTS.
OTOROLA INC. T. LAUDERDALE ROWARD SE	S S01	OPER HO06-101937 FLD056921471	04/03/85	05/13/85	10/09/85	12/18/86	12/18/86	01/13/87	02/06/87 / /	03/26/87 04/01/92 Issued	HSWA PERMIT ISSUED 5/20/88. MOD ON 7/21/89 TO ALLOW STORAGE IN BAGS.
AVAL COASTAL SYSTEMS ANAMA CITY AY NW	S S01	OPER HO03-184236 FL8170023792	08/03/90	09/12/90	09/28/90	09/28/90	10/11/90	/ /	/ / / /	10/23/90 10/01/95 Issued	HSWA PERMIT ISSUED 12/6/85.
DOVER CORPORATION REEN COVE SPRINGS AY NE	S S02	OPER HO10-096216 FLD000737312	12/07/84	04/29/85 02/01/85 11/01/85	06/20/85 03/29/85 01/20/86	08/07/87	07/02/87	08/07/87	08/18/87 10/04/87	11/30/87 11/29/92 Issued	NO HSWA PERMIT REQUIRED 7/21/87. MINOR MOD 4/22/91.
LIN ORDNANCE T. MARKS KULLA NW	LD	CLOS HF65-200289 FLD047096524	07/31/91	10/23/91	/ /	/ /	/ /	/ /	/ / / /	/ / / /	FIRST ROUND SAMPLING DONE IN FEB 1991. MEETING HELD 11/8/91 TO DISCUSS 1ST NOD. REVISED APPLICATION DUE 1/31/92.
LIN ORDNANCE T. MARKS KULLA NW	T T03 T04	OPER HO65-117486 FLD047096524	04/18/86	05/09/86	08/07/86	08/07/86	10/08/86 11/03/86	12/15/86	12/26/86 / /	02/16/87 12/01/91 Expired	MOD ON 12/25/86 TO ALLOW BENZENE AS START-UP FUEL. DRAFT RFA.
LIN ORDNANCE T. MARKS KULLA NW	T T03 T04	OPER HO65-199441 FLD047096524	07/17/91	/ /	/ /	/ /	/ /	/ /	/ / / /	/ / / /	

y: LD = Land Disposal
S = Storage
T = Treatment

S01 = Containers
S02 = Storage Tanks
S03 = Storage Waste Piles
S04 = Storage Surface Imp.

D80 = Landfills
D81 = Land Treatment
D83 = Disposal Surface Imp.

T01 = Treatment Tanks
T02 = Treatment Surface Imp.
T03 = Incinerators
T04 = Other treatmtent

OPER = Operating Permit
CLOS = Closure Permit
TOP = Temp. Operating Permit
CONSTR = Construction Permit

FEB 1989
CENTRAL FLORIDA
DISTRICT

MARTIN MARIETTA MISSILE SYSTEMS
(ORLANDO AEROSPACE)
GROUNDWATER MONITORING
SITE 5 SANITARY LANDFILL CLOSURE
PERMIT NUMBER: HF48-112268

NOVEMBER 1988

MARTIN MARIETTA MISSILE SYSTEMS
(ORLANDO AEROSPACE)
GROUNDWATER MONITORING
SITE 5 SANITARY LANDFILL CLOSURE
PERMIT NUMBER: HF48-112268

NOVEMBER 1988

INTRODUCTION

Groundwater sampling of the monitioring wells located at the Site 5 Sanitary Landfill was conducted by Geraghty and Miller Groundwater Consultants. Samples were collected from November 16-18,1988. Volatile Organic Compounds (VOCs) were analyzed using EPA Method 624. Total and Disolved Metals were analyzed by EPA Methods 200 series. Base/neutral, and acid extractable constituents bis(2-ethylhexyl) phthalate, 2-methyl-4,6-dinitrophenol and phenol analyzed by EPA Method 625. These analyses satisfy the requirements of Permit Number HF48-112268.

Certified by:

Lester A. Cano

Lester Cano

MARTIN MARIETTA ORLANDO AEROSPACE
GROUNDWATER MONITORING
November 1988

BACKGROUND GROUNDWATER QUALITY WELLS
(Specific Condition 7 of Part III)

CONCENTRATION IN PARTS PER MILLION

PARAMETER	LIMIT	PW-4	PW-79	INT-6
Arsenic	0.05	<0.05	<0.05	<0.05
Barium	1.0	<0.15	<0.15	<0.15
Cadmium	0.01	<0.01	<0.01	<0.01
Chromium	0.05	<0.04	<0.04	<0.04
Lead	0.05	<0.05	<0.05	<0.05
Mercury	0.002	<0.0002	<0.0002	<0.0002
Selenium	0.01	<0.01	<0.01	<0.01
Silver	0.05	<0.01	<0.01	<0.01

CONCENTRATION IN PARTS PER BILLION

Total Trihalomethanes	<20.0	<20.0	<20.0
Trichloroethylene	7.0	11.0	<5.0
Tetrachloroethylene	12.0	21.0	<5.0
Vinyl Chloride	<10.0	<10.0	<10.0
1,1,1-Trichloroethane	<5.0	<5.0	<5.0
1,2-Dichloroethane	<5.0	<5.0	<5.0
Benzene	<5.0	<5.0	<5.0
Methylene Chloride	<5.0	<5.0	<5.0
Toluene	<5.0	<5.0	<5.0
1,1-Dichloroethane	<5.0	<5.0	<5.0
Cis-1,2-Dichloroethylene	<5.0	<5.0	<5.0
Chlorobenzene	<5.0	<5.0	<5.0
2-Chloroethylvinyl ether	<10.0	<10.0	<10.0
1,1-Dichloroethylene	<5.0	<5.0	<5.0
Ethylbenzene	<5.0	<5.0	<5.0
Trans-1,3-Dichloropropene	<5.0	<5.0	<5.0
Trans-1,2-Dichloroethylene	<5.0	<5.0	<5.0
Chloromethane	<10.0	<10.0	<10.0
Bis(2-Ethylhexyl)Phthalate	<10.0	<10.0	<10.0
Phenol	<10.0	<10.0	<10.0
2-Methyl-4,6-Dinitrophenol	<10.0	<10.0	<10.0
1,1,2,2-Tetrachloroethane	<5.0	<5.0	<5.0

November 1988
COMPLIANCE POINT MONITORING WELLS
(Specific Conditions 5 and 8f of Part III)

CONCENTRATION IN PARTS PER MILLION

PARAMETER	LIMIT	PW-36	PW-37	PW-38
Arsenic	0.05	<0.05	<0.05	<0.05
Barium	1.0	<0.15	<0.15	<0.15
Cadmium	0.01	<0.01	<0.01	<0.01
Chromium	0.05	<0.04	<0.04	<0.04
Lead	0.05	<0.05	<0.05	<0.05
Mercury	0.002	<0.0002	<0.0002	<0.0002
Selenium	0.01	<0.01	<0.01	<0.01
Silver	0.05	<0.01	<0.01	<0.01

CONCENTRATION IN PARTS PER BILLION

Total Trihalomethanes	<20.0	<20.0	<20.0
Trichloroethylene	43.0	18.0	33.0
Tetrachloroethylene	59.0	29.0	<5.0
Vinyl Chloride	<10.0	<10.0	<10.0
1,1,1-Trichloroethane	<5.0	<5.0	<5.0
1,2-Dichloroethane	<5.0	<5.0	<5.0
Benzene	<5.0	<5.0	<5.0
Methylene Chloride	<5.0	<5.0	<5.0
Toluene	51.0	11.0	31.0
1,1-Dichloroethane	6.0	130.0	<5.0
Cis-1,2-Dichloroethylene	462.0*	109.0*	<5.0
Chlorobenzene	<5.0	<5.0	<5.0
2-Chloroethylvinyl ether	<10.0	<10.0	<10.0
1,1-Dichloroethylene	<5.0	21.0	<1.0
Ethylbenzene	33.0	<5.0	<5.0
Trans-1,3-Dichloropropene	<5.0	<5.0	<5.0
Trans-1,2-Dichloroethylene	462.0*	109.0*	<5.0
Chloromethane	<10.0	<10.0	<10.0
Bis(2-Ethylhexyl)Phthalate	<10.0	<10.0	<10.0
Phenol	<10.0	<10.0	<10.0
2-Methyl-4,6-Dinitrophenol	<10.0	<10.0	<10.0
1,1,2,2-Tetrachloroethane	<5.0	<5.0	<5.0

(Specific Condition 5 of Part IV)

Fluoride (ppm)	0.02	0.20	0.02
Nitrate as N (ppm)	<0.02	<0.02	<0.02
Turbidity (ntu)	3.00	0.02	0.17
Gross Alpha (pCi/l)	23+/-5	34+/-6	6.9+/-1.8
Gross Beta (pCi/l)	19+/-3	14+/-3	0.0+/-1.1
Radium 226 (pCi/l)	2.4+/-0.2	1.9+/-0.2	0.0+/-0.1
Radium 228 (pCi/l)	0.8+/-0.5	1.7+/-0.6	0.9+/-0.6
Chloride (ppm)	44.8	60.1	4.2
Iron (ppm)	0.290	4.465	0.408
Manganese (ppm)	0.03	<0.02	<0.02
Sodium (ppm)	73.200	104.920	4.170
Sulfate (ppm)	306.00	249.00	5.40

* Total Cis, Trans 1,2,-Dichloroethylene

November 1988
COMPLIANCE POINT MONITORING WELLS
(Specific Conditions 5 and 8f of Part III)

CONCENTRATION IN PARTS PER MILLION

PARAMETER	LIMIT	PW-39	PW-108
Arsenic	0.05	<0.05	<0.05
Barium	1.0	<0.15	<0.15
Cadmium	0.01	<0.01	<0.01
Chromium	0.05	<0.04	<0.04
Lead	0.05	<0.05	<0.05
Mercury	0.002	<0.0002	<0.0002
Selenium	0.01	<0.01	<0.01
Silver	0.05	<0.01	<0.01

CONCENTRATION IN PARTS PER BILLION

Total Trihalomethanes	<20.0	<20.0
Trichloroethylene	8.0	<5.0
Tetrachloroethylene	<5.0	<5.0
Vinyl Chloride	<10.0	<10.0
1,1,1-Trichloroethane	<5.0	<5.0
1,2-Dichloroethane	<5.0	<5.0
Benzene	<5.0	<5.0
Methylene Chloride	<5.0	<5.0
Toluene	<5.0	<5.0
1,1-Dichloroethane	<5.0	<5.0
Cis-1,2-Dichloroethylene	<5.0	<5.0
Chlorobenzene	<5.0	<5.0
2-Chloroethylvinyl ether	<10.0	<10.0
1,1-Dichloroethylene	35.0	<5.0
Ethylbenzene	<5.0	<5.0
Trans-1,3-Dichloropropene	<5.0	<5.0
Trans-1,2-Dichloroethylene	<5.0	<5.0
Chloromethane	<10.0	<10.0
Bis(2-Ethylhexyl)Phthalate	<10.0	<10.0
Phenol	<10.0	<10.0
2-Methyl-4,6-Dinitrophenol	<10.0	<10.0
1,1,2,2-Tetrachloroethane	<5.0	<5.0

(Specific Condition 5 of Part IV)

Fluoride (ppm)	0.50	0.51
Nitrate as N (ppm)	<0.02	<0.02
Turbidity (ntu)	20.00	6.70
Gross Alpha (pCi/l)	5.5+/-2.1	2.1+/-1.2
Gross Beta (pCi/l)	3.9+/-1.4	1.0+/-1.3
Radium 226 (pCi/l)	0.4+/-0.1	0.4+/-0.1
Radium 228 (pCi/l)	1.6+/-0.6	0.4+/-0.5
Chloride (ppm)	35.3	11.4
Iron (ppm)	3.070	0.930
Manganese (ppm)	0.03	<0.02
Sodium (ppm)	11.580	6.920
Sulfate (ppm)	3.20	298.00

November 1988
COMPLIANCE POINT MONITORING WELLS
(Specific Condition 4 of Part IV)

CONCENTRATION IN PARTS PER MILLION

PARAMETER	LIMIT	PW-111	PW-112	PW-113
Arsenic	0.05	<0.05	<0.05	<0.05
Barium	1.0	<0.15	<0.15	<0.15
Cadmium	0.01	<0.01	<0.01	<0.01
Chromium	0.05	<0.04	<0.04	<0.04
Lead	0.05	<0.05	<0.03	<0.05
Mercury	0.002	<0.0002	<0.0002	<0.0002
Selenium	0.01	<0.01	<0.01	<0.01
Silver	0.05	<0.01	<0.01	<0.01

CONCENTRATION IN PARTS PER BILLION

Total Trihalomethanes	<20.0	<20.0	<20.0
Trichloroethylene	<5.0	<5.0	<5.0
Tetrachloroethylene	<5.0	<5.0	<5.0
Vinyl Chloride	<10.0	<10.0	<10.0
1,1,1-Trichloroethane	<5.0	<5.0	<5.0
1,2-Dichloroethane	<5.0	<5.0	<5.0
Benzene	<5.0	<5.0	<5.0
Methylene Chloride	<5.0	<5.0	<5.0
Toluene	<5.0	<5.0	<5.0
1,1-Dichloroethane	<5.0	<5.0	<5.0
Cis-1,2-Dichloroethylene	<5.0	<5.0	<5.0
Chlorobenzene	<5.0	<5.0	<5.0
2-Chloroethylvinyl ether	<10.0	<10.0	<10.0
1,1-Dichloroethylene	<5.0	<5.0	<5.0
Ethylbenzene	<5.0	<5.0	<5.0
Trans-1,3-Dichloropropene	<5.0	<5.0	<5.0
Trans-1,2-Dichloroethylene	<5.0	<5.0	<5.0
Chloromethane	<10.0	<10.0	<10.0
Bis(2-Ethylhexyl)Phthalate	<10.0	<10.0	<10.0
Phenol	<10.0	<10.0	<10.0
2-Methyl-4,6-Dinitrophenol	<10.0	<10.0	<10.0
1,1,2,2-Tetrachloroethane	<5.0	<5.0	<5.0

November 1988
SECONDARY ARTESIAN AQUIFER MONITORING WELLS
(Specific Conditions 5 and 8f of Part III)

CONCENTRATION IN PARTS PER MILLION

PARAMETER	LIMIT	INT-4	INT-7
Arsenic	0.05	<0.05	<0.05
Barium	1.0	<0.15	<0.15
Cadmium	0.01	<0.01	<0.01
Chromium	0.05	<0.04	<0.04
Lead	0.05	<0.05	<0.05
Mercury	0.002	<0.0002	<0.0002
Selenium	0.01	<0.01	<0.01
Silver	0.05	<0.01	<0.01

CONCENTRATION IN PARTS PER BILLION

Total Trihalomethanes	<20.0	<20.0
Trichloroethylene	<5.0	8.0
Tetrachloroethylene	<5.0	10.0
Vinyl Chloride	<10.0	<10.0
1,1,1-Trichloroethane	<5.0	<5.0
1,2-Dichloroethane	<5.0	<5.0
Benzene	<5.0	<5.0
Methylene Chloride	<5.0	<5.0
Toluene	<5.0	<5.0
1,1-Dichloroethane	<5.0	<5.0
Cis-1,2-Dichloroethylene	<5.0	<5.0
Chlorobenzene	<5.0	<5.0
2-Chloroethylvinyl ether	<10.0	<10.0
1,1-Dichloroethylene	<5.0	<5.0
Ethylbenzene	<5.0	<5.0
Trans-1,3-Dichloropropene	<5.0	<5.0
Trans-1,2-Dichloroethylene	<5.0	<5.0
Chloromethane	<10.0	<10.0
Bis(2-Ethylhexyl)Phthalate	<10.0	<10.0
Phenol	<10.0	<10.0
2-Methyl-4,6-Dinitrophenol	<10.0	<10.0
1,1,2,2-Tetrachloroethane	<5.0	<5.0

(Specific Condition 5 of Part IV)

Fluoride (ppm)	0.32	0.11
Nitrate as N (ppm)	0.08	0.06
Turbidity (ntu)	0.40	20.00
Gross Alpha (pCi/l)	4.4+/-2.2	1.7+/-2.1
Gross Beta (pCi/l)	3.2+/-1.9	8.1+/-2.6
Radium 226 (pCi/l)	2.7+/-0.2	0.9+/-0.1
Radium 228 (pCi/l)	0.0+/-0.5	1.3+/-0.6
Chloride (ppm)	15.8	13.4
Iron (ppm)	1.204	0.515
Manganese (ppm)	0.03	0.03
Sodium (ppm)	10.040	13.180
Sulfate (ppm)	2.20	1.50

MARTIN MARIETTA ORLANDO AEROSPACE
GROUNDWATER MONITORING
November 1988

GROUNDWATER SURFACE ELEVATIONS

WELL	WATER LEVEL(ft.)
PW-1	84.56
PW-2	-----
PW-3	-----
PW-4	87.50
PW-5	89.01
PW-6	89.15
PW-7	84.90
PW-8	84.37
PW-24	84.34
PW-25	84.26
PW-26	83.93
PW-33	81.62
PW-34	-----
PW-35	86.88
PW-36	85.16
PW-37	85.76
PW-38	86.54
PW-39	85.23
PW-40	84.57
PW-41	85.07
PW-42	86.53

WELL	WATER LEVEL(ft.)
PW-73	86.26
PW-74	86.36
PW-75	85.22
PW-76	84.49
PW-77	84.07
PW-78	79.11
PW-79	88.62
PW-88	77.38
PW-108	80.63
PW-111	84.38
PW-112	83.98
PW-113	82.22
INT-1	54.99
INT-2	54.36
INT-3	59.58
INT-4	53.13
INT-5	54.63
INT-6	55.14
INT-7	54.70
FL-2	52.68

Grand Plaza
14497 N. Dale Mabry, Suite 200
P.O. Box 270573
Tampa, Florida 33688
(813) 968-2248

G&M Consulting Engineers, Inc.

December 16, 1987

District Manager
3319 Maguire Blvd., Suite 232
Orlando, Florida 32803-3767

RE: Status Report
Site 5 Closure Program
Martin Marietta Orlando Aerospace

Dear Sir:

This progress report is being submitted in lieu of an inspection check-off sheet as partial fulfillment of Item 9, Part 1 - Closure, of the recently received Closure Permit for Site 5 at the Martin Marietta Orlando Aerospace (MMOA) facility. Once actual field activities have begun, monthly inspection check-off sheets showing the completed closure activities for the previous month will be submitted.

A bid package including final Plans and Specifications for the closure of the four sludge cells was submitted to MMOA and subsequently issued for bid. This bid document was prepared in full accordance with the approved closure plan. MMOA is currently reviewing bids and is anticipating rewarding the contract and initiating construction in January, 1988.

Please call if you have any question or comments.

Sincerely,

G&M CONSULTING ENGINEERS, INC.

Richard G. Smith

Richard G. Smith, P.E.
Project Engineer

cc: Carol Henry
Ed Mayer
Doug Grant

RGS/cg
078/3

516/64

ITEM 1, PART V OF THE SITE 5 CLOSURE PERMIT
MARTIN MARIETTA ORLANDO AEROSPACE

The following response addresses Item 1, Part V of the closure permit regarding comments in the letter (August 26, 1987) to Ed Mayer (Martin Marietta Orlando Aerospace) from Richard Tedder (Florida Department of Environmental Regulation) concerning the ground-water flow model submitted in the April 1987 Site 5 Remedial Action Plan and Corrective Action Program.

1. Constant head boundaries were simulated along the grid margins. Unless a very large model grid was used, we recommend using specified flux boundary conditions rather than constant head boundaries. Specified flux boundaries assist the modeler in determining the mass flow into and out of the model. A figure illustrating the model grid should be included in the report with locations of pumping wells, recharge nodes, drainage features, etc., and presented as an overlay to a topographic map for Site 5.

   The boundaries simulated at Site 5 are at least 3000 ft from the site and are not affected by the operation of the simulated well-point systems. Therefore, constant head boundaries are appropriate. The model grid which encompasses the site is shown in the attached figure. Node spacings increase outward in all directions from the grid interior to the constant head boundaries. Discharge and recharge nodes also are shown in the attached figure. Data from a recent pumping test currently is under review. The drainage channel may be modeled as a head control flux boundary, depending on the outcome of the review. Local topographic relief is slight and is not included in, nor relevant to, the Site 5 hydrologic model.

2. An 80-foot thick layer was used to simulate the surficial aquifer, which averages 45 ft in thickness. A review of cross-sections in the Contamination Assessment Report indicates that the thickness of the aquifer is highly variable. A single 80-foot thick layer should not be used to represent the surficial aquifer. The model should contain an array of head elevation values. From these two arrays, the saturated thickness can be accurately calculated at each node. Use of accurate transmissivity values can be simulated across the grid.

Use of accurate transmissivity values is critical in determining the extent of drawdown in the aquifer from pumping in the well-point system. Saturated thickness values used were apparently developed by subtracting a constant value for the elevation of the aquifer base from the head elevation at each node. This would result in inaccurate transmissivity values. Input data used to calculate transmissivities should be included in the report. All raw data used in this model should be submitted with the flow model such as slug tests, pump tests, lab K values, K values for the aquifer and confining units, etc.

The thickness of the surficial aquifer was artificially set at 80 ft so ponding would not occur in the model (i.e., the model will not run if the water-table thickness exceeds the available saturated thickness of the aquifer). Boundary heads were set at values that would produce an average saturated thickness of the aquifer of 45 ft.

The objectives of the modeling study described in the RAP were not to simulate detailed hydraulics of the site, but rather to provide a tool for a first approximation of the requirements of an effective ground-water remediation program. The model currently is being refined based on the results of the pumping test and other field tasks, but the original assumptions of homogeneity and isotropy are appropriate for determining the final design of the dewatering and spray-irrigation systems.

Slug test and hydraulic conductivity values for Site 5 were submitted to the FDER on October 30, 1987, as a response to questions regarding the Site 5 Contamination Assessment Report.

3. The presence of the plume beyond the drainage channel indicates that the channel does not intercept ground-water flow through the entire saturated thickness of the surficial aquifer. Discharge values simulated along the drainage channel should be included in the report.

Preliminary analysis of data from the recent pumping test at Site 5 indicates that the channel does not intercept ground-water flow through the entire saturated thickness of the surficial aquifer. Treatment of the drainage

channel in the model will be based on the results of this analysis.

4. On page 23, discharge values for recovery wells are shown in units of gpd/ft. These values should be reported as a rate (i.e. gpd). Values for recharge should also be reported as a rate.

   Discharge and recharge values reported on page 23 of the Remedial Action Plan are shown in units of gallons per day per square-foot, which describes the rate of discharge or recharge per unit area.

5. The well-point extraction system will only be operated 10 hours per day and will not be operated during periods of rainfall. The model should reflect the actual operating conditions (i.e. 10 hours pumping, at least 14 hours not pumping) rather than simulating a constant lower pumping rate to account for the non-operating periods. Precipitation records should be reviewed, and a worst-case sustained rainfall period should be simulated to determine the effects of recharge and lack of pumping on the plume from an extended period of rainfall. This information should be included in the report.

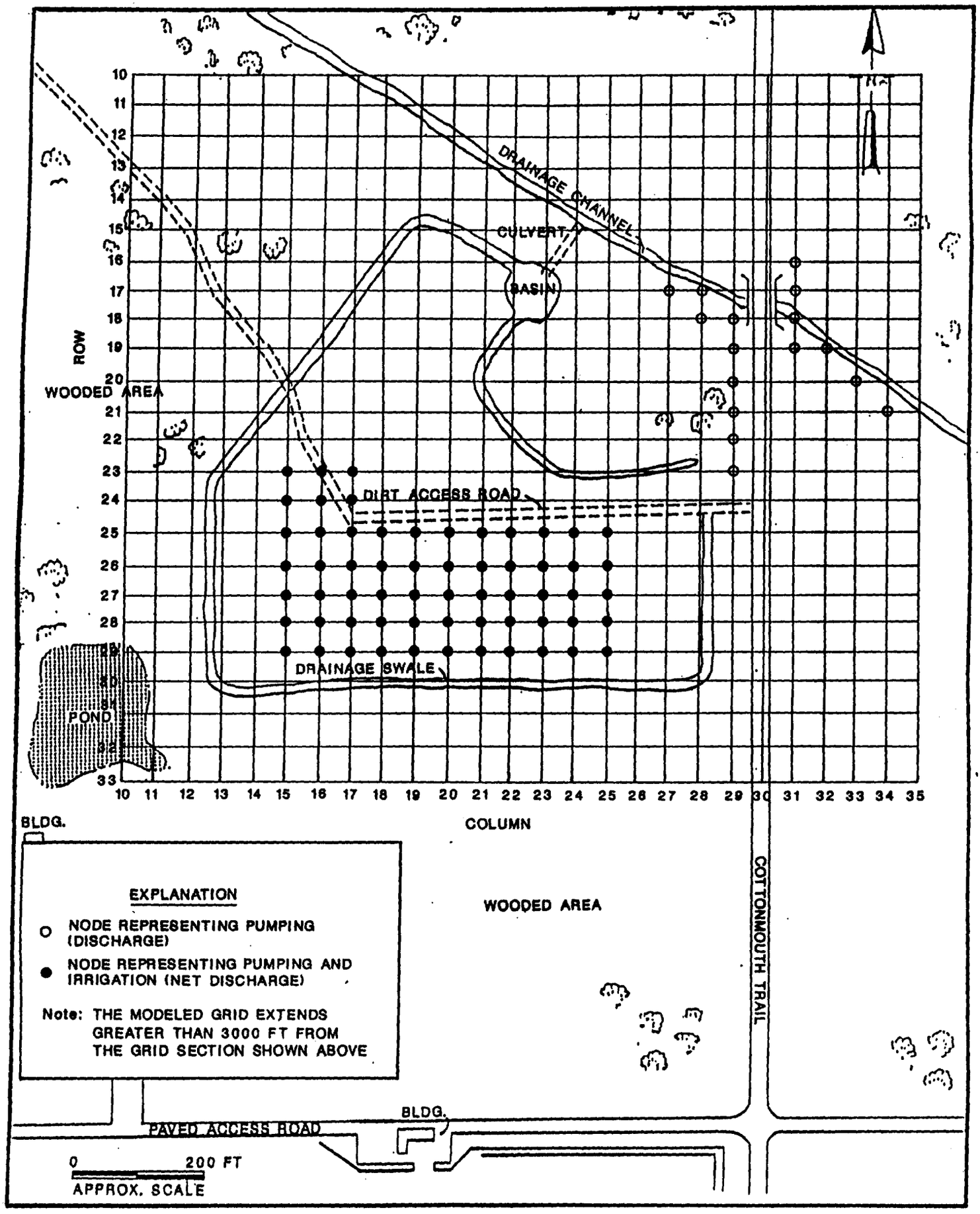
   Simulations exceeding 10 days have demonstrated that a low pumping rate for 24 hours per day will not create significantly different drawdowns when compared to pumping an equivalent volume in 10 hours per day.

   InterSat is not a solute transport model and therefore cannot be used to simulate the effects of a sustained rainfall on plume dimensions. Other models are available for this type of simulation. However, Martin Marietta Orlando Aerospace believes that efforts should focus on implementing the proposed remedial actions rather than developing a sophisticated model to simulate a single, unlikely event.

6. In the model calibration, the field data should not be modified to fit the simulation. Only parameters that have not been documented by field data should be modified.

   Modification of model input data within an acceptable range of values to achieve model

calibration is an accepted practice. The values assigned to parameters in the Site 5 model all were within ranges based on published site-specific data.



Model Grid Section with Locations of Discharge Nodes at Site 5.

ITEM 8, PART V OF THE SITE 5 CLOSURE PERMIT
MARTIN MARIETTA ORLANDO AEROSPACE

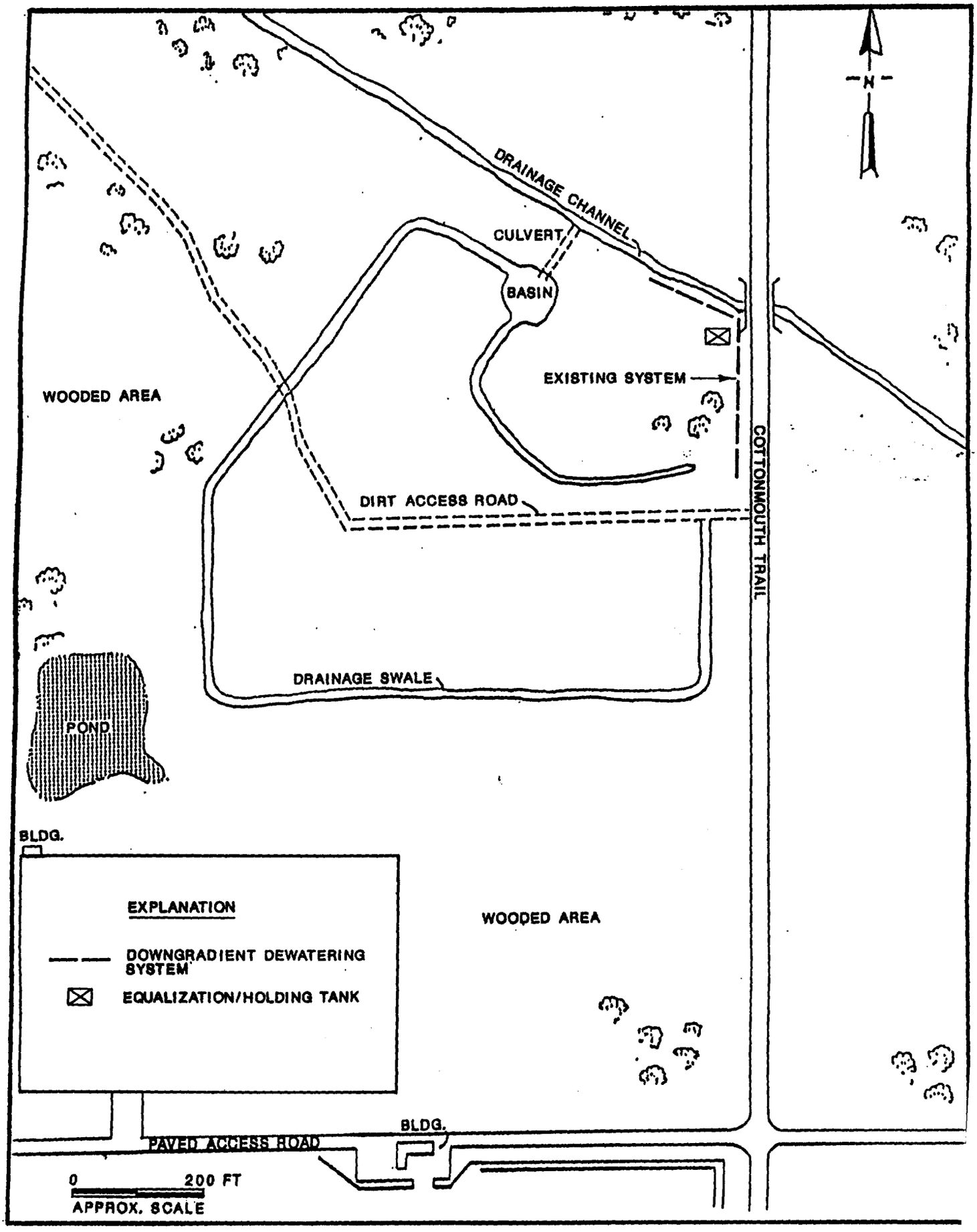
The following response addresses Item 8, Part V regarding the information requested on the equalization/ holding tank located at Site 5.

The equalization/holding tank is an above-ground, steel fabricated tank, approximately 8.0 ft in diameter and 14 ft long. It is located north of Site 5, just west of Cottonmouth Trail as shown in the attached figure. The tank is mounted on a skid-type frame. Various threaded nipples and a man way have been installed on the tank to accommodate piping and float switches.

The purpose of the equalization/holding tank is to provide a sump for the downgradient transfer/spray field pump. The recovered ground water will be pumped at a proposed rate of approximately 50 gpm directly to the tank. Once the water level in the tank reaches a pre-specified elevation, the transfer pump will activate and transfer the water from the tank to the spray field. Both high water level and low water level shut-offs and alarms will be placed in the tank to allow flexible and fail safe operation of the downgradient shallow ground-water recovery system. Based on the total capacity of the tank (approximately 5,000 gallons) and a pumping rate of 50 gpm, it will take less than two hours to completely fill the tank. However, under normal operating conditions, the water will not actually be held in the tank that long, because the transfer pump will be removing ground water from the tank at a rate slightly greater than the rate ground-water will be pumped into the tank. Consequently, the transfer pump will cycle periodically during operation while the ground-water recovery pump will be operated continuously.

This system is currently scheduled to operate 10 hours per day during daylight hours so that maximum volatilization of the VOCs will occur. When the system is shut off at the end of each day, some water will remain in the holding tank. When the system is turned on the

following day, the water that remained in the tank will be pumped out as the transfer pump is activated. Under normal operating conditions the water in the holding tank should not be in the tank for more than 2 hours. When the system is shut down at night, a minimum quantity of water will be held overnight.



Location of the Equalization/Holding Tank at Site 5.

GERAGHTY
& MILLER, INC.
Ground-Water Consultants
Our 30th year

October 26, 1987

Mr. Ed Mayer, MP-280
Environmental Manager
Martin Marietta Orlando Aerospace
Post Office Box 5837
Orlando, Florida 32855

Dear Ed:

Enclosed are well-construction diagrams and lithologic logs for monitor wells PW-111, PW-112, and PW-113, which were installed northeast of Site 5. Submittal of this information to the FDER was a condition on the draft Site 5 sludge cells closure permit. Merlin Russell (FDER, Tallahassee) indicated that if this information is submitted prior to issuing the permit, the condition would be removed.

Sincerely,

GERAGHTY & MILLER, INC.

Douglas Grant

Douglas Grant
Staff Scientist

Enclosures
T0487ST5
WDG:wjw
576/2

Northdale Executive Center • 3820 Northdale Blvd., Suite 200A • Post Office Box 273630 • Tampa, FL 33688-3630 • (813) 961-1921

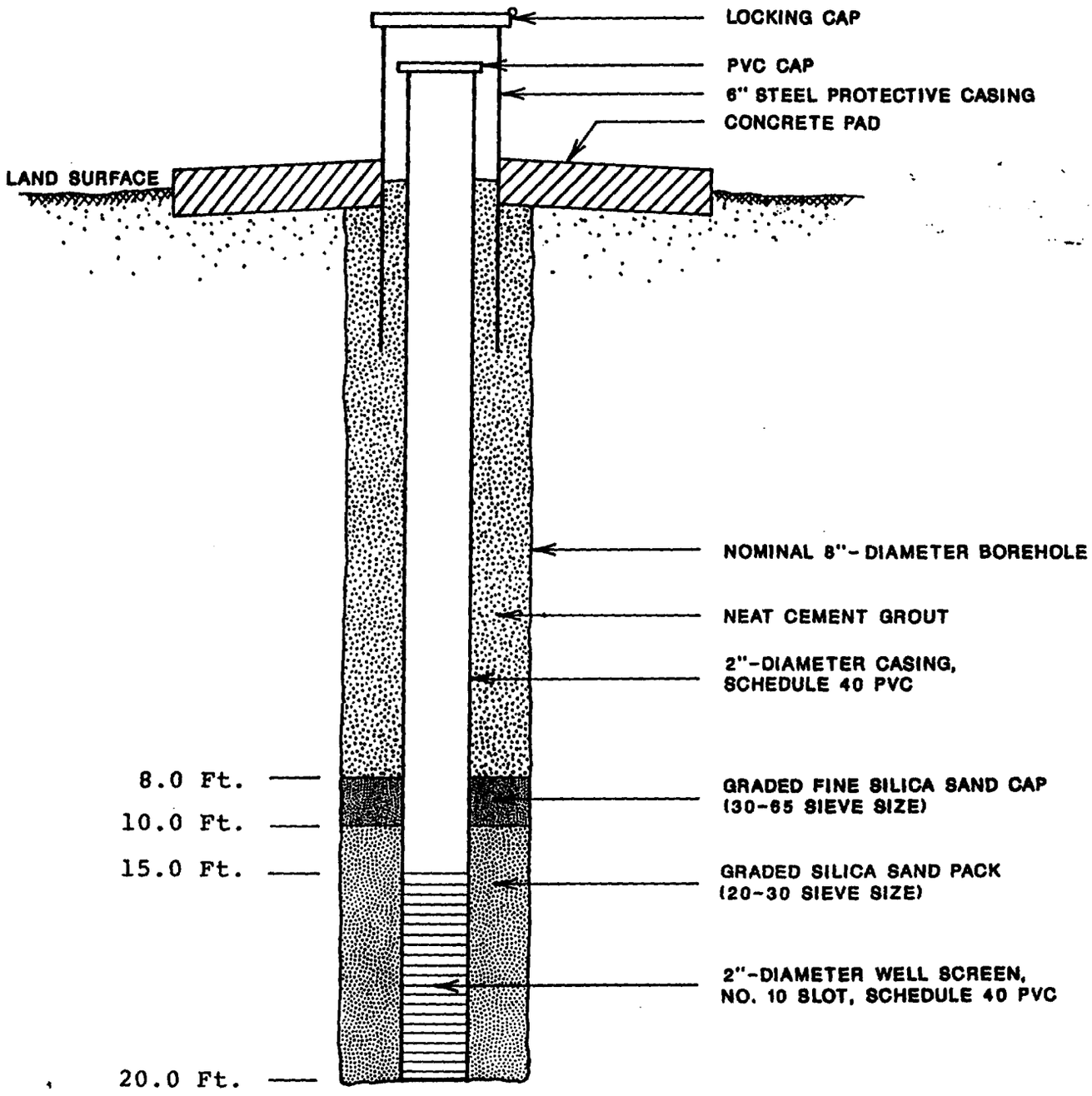
GERAGHTY & MILLER, INC.
Ground-Water Consultants

WELL CONSTRUCTION DIAGRAM

WELL NO.: PW-111

PROJECT: Martin Marietta Orlando Aerospace

LOCATION:	COORDINATES:	GROUND ELEVATION:	MEASURING PT. ELEVATION:
Site 5	Not Available	Not Available	Not Available
GEOLOGIST:	**DRILLING CONTRACTOR:**	**DRILLING METHOD:**	**RIG TYPE:**
M. Lodato	Mixon	Mud Rotary	Failing 1250
WELL DEVELOPMENT METHOD:	**VOLUME EVACUATED:**	**WELL COMPLETED:**	**MONITORED FORMATION:**
Pumping	1,800 gallons	9/16/87	Upper Surficial Aq.



NOT TO SCALE

GERAGHTY & MILLER, INC. Ground-Water Consultants	LITHOLOGIC LOG	BORING NO.: PW-111
		PROJECT: Martin Marietta Orlando Aerospace

LOCATION:	COORDINATES:	SURFACE ELEVATION:	TOTAL DEPTH:
Site 5	Not Available	Not Available	20.0 ft
GEOLOGIST:	**SAMPLE INTERVAL:**	**SAMPLE TYPE:**	**DATE COMPLETED:**
M. Lodato	Continuous	Wash and Split-Spoon	9/16/87
DRILLER:	**DRILLING CONTRACTOR:**	**DRILLING METHOD:**	**RIG TYPE:**
F. Mixon	Mixon	Mud Rotary	Failing 1250
PURPOSE OF BORING:	**GEOPHYSICAL CONTRACTOR:**	**GEOPHYSICAL LOGS:**	**MONITORED FORMATION:**
Monitor Well	None	None	Upper Surficial

DEPTH IN FEET	GRAPHIC LOG	DESCRIPTION
0		
5		Sand, fine-grained, silty, brown to tan
10		
15		
20		

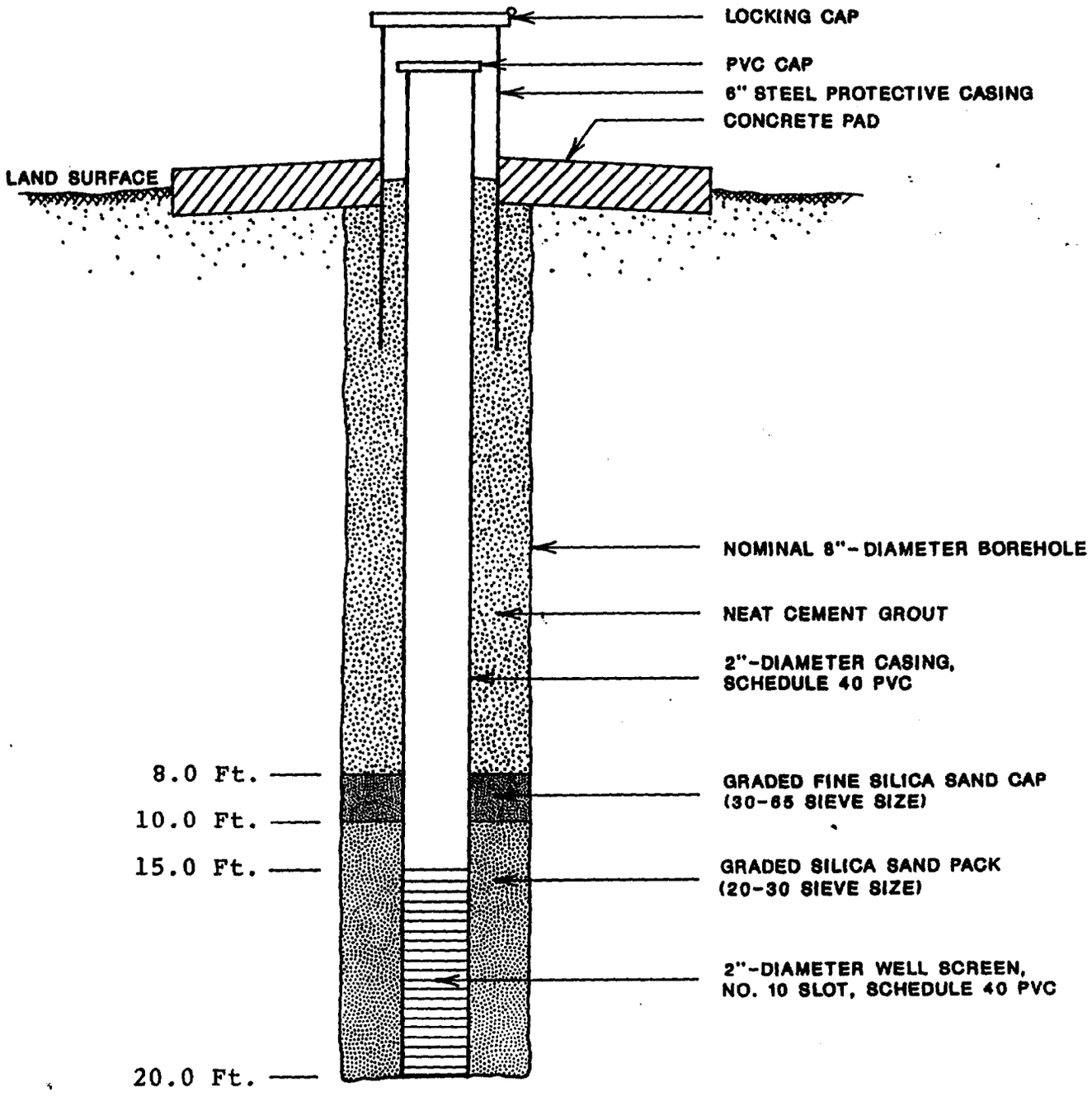
GERAGHTY & MILLER, INC.
Ground-Water Consultants

WELL CONSTRUCTION DIAGRAM

WELL NO.: PW-112

PROJECT: Martin Marietta Orlando Aerospace

LOCATION: Site 5	COORDINATES: Not Available	GROUND ELEVATION: Not Available	MEASURING PT. ELEVATION: Not Available
GEOLOGIST: M. Lodato	DRILLING CONTRACTOR: Mixon	DRILLING METHOD: Mud Rotary	RIG TYPE: Failing 1250
WELL DEVELOPMENT METHOD: Pumping	VOLUME EVACUATED: 300 gallons	WELL COMPLETED: 9/16/87	MONITORED FORMATION: Upper Surficial Aquifer



NOT TO SCALE

GERAGHTY & MILLER, INC.
Ground-Water Consultants

LITHOLOGIC LOG

BORING NO.: PW-112			
PROJECT: Martin Marietta Orlando Aerospace			
LOCATION: Site 5	COORDINATES: Not Available	SURFACE ELEVATION: Not Available	TOTAL DEPTH: 20.0 Ft.
GEOLOGIST: M. Lodato	SAMPLE INTERVAL: Continuous	SAMPLE TYPE: Wash and Split-Spoon	DATE COMPLETED: 9/15/87
DRILLER: F. Mixon	DRILLING CONTRACTOR: Mixon	DRILLING METHOD: Mud Rotary	RIG TYPE: Failing 1250
PURPOSE OF BORING: Monitor Well	GEOPHYSICAL CONTRACTOR: None	GEOPHYSICAL LOGS: None	MONITORED FORMATION: Upper Surficial Aquifer

DEPTH IN FEET	GRAPHIC LOG	DESCRIPTION
0		
5		Sand, fine-grained, silty, borwn to gray
10		
15		
		Sand, fine-grained, white to light gray
20		

20.0 Ft.

NOT TO SCALE

GERAGHTY & MILLER, INC.
Ground-Water Consultants

LITHOLOGIC LOG

BORING NO.: PW-113			
PROJECT: Martin Marietta Orlando Aerospace			
LOCATION: Site 5	COORDINATES: Not Available	SURFACE ELEVATION: Not Available	TOTAL DEPTH: 20.0 Ft.
GEOLOGIST: M. Lodato	SAMPLE INTERVAL: Continuous	SAMPLE TYPE: Wash	DATE COMPLETED: 9/15/87
DRILLER: F. Mixon	DRILLING CONTRACTOR: Mixon	DRILLING METHOD: Jetting	RIG TYPE: Failing 1250
PURPOSE OF BORING: Monitor Well	GEOPHYSICAL CONTRACTOR: None	GEOPHYSICAL LOGS: None	MONITORED FORMATION: Upper Surficial Aquifer

DEPTH IN FEET	GRAPHIC LOG	DESCRIPTION
0		
5		Sand, fine-grained, slightly silty, brown to gray
10		
15		
20		

MARTIN MARIETTA AEROSPACE
FLD061993606
PRELIMINARY ASSESSMENT

A. SITE DESCRIPTION. The Martin-Marietta operation is located at 498 Oak Road, Ocala, Marion County, Florida. The Maryland-based company is involved in military (and aero-space) systems design and manufacturing. The Ocala facility primarily manufactures circuit boards for weapons systems. Related activities include gold-cyanide plating, copper plating, solder plating, wave soldering, and non-electric copper plating.

B. DESCRIPTION OF HAZARDOUS CONDITIONS, INCIDENTS, AND PERMIT VIOLATIONS.

Hazardous wastes generated during the manufacture of printed circuit boards are stored and treated at the facility. Toxic cleaning solutions and acidic (pH 1-5) electroplating solutions are collected in PVC-lined, underground pre-treatment sumps (10,000 gal/sump). Concentrated plating solutions are transferred to a 3,000 gal. steel treatment tank for neutralization with caustic agents. The neutralized solution is added to a small tank containing flocculants to precipitate metal hydroxides. The resultant sludge is filter pressed into sludge cake and placed in 55 gal. drums. Up to 250 drums of sludge cake can be stored simultaneously on-site. These, and other drummed hazardous wastes are routinely collected by Chemical Waste Management for transfer to SCA services in Pinewood, South Carolina. Effluent from the sludge dewatering process is filtered and softened prior to recycling, or discharged to Florida Ridge Utilities Collection System.

Rinse water from cleaning operations is pumped to a steel air-stripping tank(1,500 gal) for removal of 1,1,1-trichloroethane. Collected solvents and corrosive wastes are placed in 55 gal. drums, and stored for removal by Chemical Waste Management. A maximum of 150 such drums can be stored simultaneously.

On 5/2/83, 30 corroded drums were discovered leaking metal hydroxides. No samples were collected, and subsequent corrective action was not reported. Monitoring well samples were collected by Martin Marietta Aerospace on 2/29/84. Eight VOC's were detected, including three in violation of Primary Drinking Water Standards (Attachment B).

Three successive electroplating waste leaks were reported (3/26/84, 1/18/85, and 2/22/85) during a recent 11 month interval. In each case untreated electroplating solution seeped through a cracked PVC lining of a concrete pretreatment sump, dissolved a hole through the 8" thick concrete sump wall, and drained into the ground. The acidity of the spilled solution was reportedly sufficient to dissolve the aquifer limestone on contact. The duration of the leak is unknown, so solution losses could not be estimated. Attempts to monitor the 2/22/85 leak indicated a loss rate of 20 gal/hr. Subsequent monitoring demonstrated 7.02 mg/l of copper in on-site groundwater.

monitoring well samples collected by Martin Marietta Aerospace on 6/8/84 contained five VOC's, including one at a concentration in violation of Primary Drinking Water Standards (Attachment B).

On 1/16/85 a facility inspection revealed an oily substance spilled on the ground next to waste oil containers. No soil samples were collected.

On-site groundwater samples collected by Environmental Science and Engineering, Inc., on 6/26/85 contained six VOC's and seven heavy metals. One VOC exceeded Primary Drinking Water Standards. Metal concentrations violated two Primary and two Secondary Drinking water Standards. 1,1-Dichloroethane and 1,1,1-trichloroethane (TCA) were also found in the Floridan Aquifer. Documented heavy metal contamination was ascribed to sump leaks, while organic contamination presumedly was due to leaks in the TCA treatment system. The TCA treatment system has been abandoned, and spent TCA is presently drummed and transported off-site. Consent Orders addressing leaks from the electroplating waste sump and the TCA system were signed on 6/25/85 11/7/85, respectively.

C. NATURE OF HAZARDOUS MATERIALS. Untreated electroplating solution contains toxic and persistent heavy metals dissolved in a sulphuric acid solution. Other toxic materials on-site include spent lacquer, flux waste, spent ammonium hydroxide, spent methylene chloride, spent TCA, waste freon, electroplating sludge, waste isopropanol, and waste oil.

D. ROUTES OF CONTAMINATION. Possible routes of contamination include groundwater, surface water, air, and direct contact.

E. POSSIBLE AFFECTED POPULATION AND RESOURCES. General Development Utilites (GDU) provides area residents with drinking water from wells located 1500 ft. downgradient of the Martin-Marietta facility. Documented on-site contamination of the Floridan Aquifer and surficial groundwater threatens the quality of well water at GDU.

Seepage or runoff from contaminated soil might contaminate a system of drainage ditches located adjacent to the facility. These ditches appear to be contiguous with low lying surface water located less than 100 meters south of the facility.

F. RECOMMENDATIONS AND JUSTIFICATIONS. On 6/25/85 and 11/7/85, the facility signed Consent Orders addressing leaks from the electroplating waste sumps and the TCA treatment system.

The district recently advised (8/2/85) GDU to sample for VOCs. Heavy metal sampling should also be encouraged.

The facility should be encouraged to install double sump liners and /or an electronic leak detection system.

A low priority for inspection is recommended, since Consent Orders have been signed and the site is currently receiving attention.

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
FL	D061993606

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
Martin -Marietta Aerospace	498 Oak Road

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
Ocala	FL	32670	Marion	083	6

09 COORDINATES LATITUDE	LONGITUDE
29 05 1 5 4	8 1 59 51 9

10 DIRECTIONS TO SITE (Starting from nearest public road)
From Belleview, travel East on C-25 to C-95. Follow C-95 East to Oak Road. Follow Oak Road North to C-464. The site is located on the Southwest corner of that intersection.

III. RESPONSIBLE PARTIES

01 OWNER (If known)	02 STREET (Business, mailing, residential)
Martin Marietta Corp.	6801 Rockledge Drive

03 CITY	04 STATE	05 ZIP CODE	06 TELEPHONE NUMBER
Bethesda	Md.	20817	301) 897-6000

07 OPERATOR (If known and different from owner)	08 STREET (Business, mailing, residential)
Raymond F. Green, Facility Engineer	Martin Marietta Aerospace P.O. Box 5853

09 CITY	10 STATE	11 ZIP CODE	12 TELEPHONE NUMBER
Orlando	FL	32855	(305)356-3234

13 TYPE OF OWNERSHIP (Check one)
☒ A. PRIVATE ☐ B. FEDERAL: _____ (Agency name) ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL
☐ F. OTHER: _____ (Specify) ☐ G. UNKNOWN

14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply)
☒ A. RCRA 3001 DATE RECEIVED: 3 / 25 / 83 (MONTH DAY YEAR) ☐ B. UNCONTROLLED WASTE SITE (CERCLA 103 c) DATE RECEIVED: / / (MONTH DAY YEAR) ☐ C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION
☒ YES DATE 6 / 27 / 85 (MONTH DAY YEAR)
☐ NO

BY (Check all that apply)
☐ A. EPA ☐ B. EPA CONTRACTOR ☒ C. STATE ☐ D. OTHER CONTRACTOR
☐ E. LOCAL HEALTH OFFICIAL ☐ F. OTHER: _____ (Specify)
CONTRACTOR NAME(S): _____

02 SITE STATUS (Check one)
☒ A. ACTIVE ☐ B. INACTIVE ☐ C. UNKNOWN

03 YEARS OF OPERATION
1969 (BEGINNING YEAR) | Present (ENDING YEAR) ☐ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED
Waste ammonium hydroxide, organic flux, spent methylene chloride, spent 1,1,1-trichloroethane, waste freon, waste oil, waste electroplating bath, dimethy-1-formamide, spent laquer, chromium, acid/alakaline rinses, isopropanol, and sludge cake.

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION
Leaks from pretreatment sumps (3/26/84, 1/18/85, 2/22/85), the TCA treatment system (7/26/85), and possibly spilled oil (1/16/85) and corroded drums (5/2/83) have contaminated groundwater. Small amounts of contaminants were detected in Floridan aquifer. Spilled electroplating solution was acidic enough (pH 1-5) to dissolve aquifer lime-stone on contact.

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents)
☐ A. HIGH (Inspection required promptly) ☐ B. MEDIUM (Inspection required) ☒ C. LOW (Inspect on time available basis) ☐ D. NONE (No further action needed, complete current disposition form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NUMBER
Eric S. Nuzie Cortland S. Hill	Florida DER	904) 488-0190

04 PERSON RESPONSIBLE FOR ASSESSMENT	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NUMBER	08 DATE
Cortland S. Hill	BOO	FDER	904,488-0190	11 / 18 / 85 (MONTH DAY YEAR)

EPA FORM 2070-12 (7-81)
C.F.F. & P.Z.L.

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
FL	D061993606

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- [X] A. SOLID
- [ ] B. POWDER, FINES
- [X] C. SLUDGE
- [ ] D. OTHER _____ (Specify)
- [X] E. SLURRY
- [X] F. LIQUID
- [ ] G. GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)

TONS 800 t/yr.
CUBIC YARDS _____
NO. OF DRUMS _____

03 WASTE CHARACTERISTICS (Check all that apply)

- [X] A. TOXIC
- [X] B. CORROSIVE
- [ ] C. RADIOACTIVE
- [X] D. PERSISTENT
- [X] E. SOLUBLE
- [ ] F. INFECTIOUS
- [ ] G. FLAMMABLE
- [X] H. IGNITABLE
- [ ] I. HIGHLY VOLATILE
- [ ] J. EXPLOSIVE
- [X] K. REACTIVE
- [X] L. INCOMPATIBLE
- [ ] M. NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE	12	Tons/Year	Containing Heavy Metals
OLW	OILY WASTE	65	Tons/Year	
SOL	SOLVENTS	650	Tons/Year	Ignitable, volatile, toxic
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS	70	Tons/Year	Toxic, Incompatible
IOC	INORGANIC CHEMICALS			
ACD	ACIDS		Producing very large amount of electroplating	
BAS	BASES waste NH_4OH	22,000	Gal/year	bath (acid)
MES	HEAVY METALS	Unknown		Toxic

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
SLU	Sludge		Sump/drum (sludge cake)	Unknown	
SOL	Organic Solvents		Sump	Unknown	
ACD	Sulfuric Acid	7664-93-9	Sump, drum	Unknown	
ACD	Hydrochloric Acid	7647-01-0	Sump	Unknown	
OCC/MES	Lead Fluoroborate Conc.		N.A.	Unknown	
ACD/BAS	Acid/Bases Rinse		Sump	Unknown	
IOC/MES	Heavy Metal Precipitate		Flocculated filtered	Unknown	
IOC/MES	Filtrate from Filter Press		Drum	Unknown	
BAS	Hydrogen Peroxide			Unknown	
MES	Gold Cyanide		Reclaimed	Unknown	
	Spent Lacquer			Unknown	

V. FEEDSTOCKS (See Appendix for CAS Numbers) N/A

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

FDER file information.

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
FL	D061993606

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☒ A. GROUNDWATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: 1-1,000
02 ☒ OBSERVED (DATE: 2/29/84, 6/8/84 6/26/85) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

High concentrations of VOC's were detected in groundwater samples collected on-site on 2/29/84 and 6/8/84. Follow-up samples (6/26/85) documented heavy metals and VOC's in shallow wells, and 1,1,1-trichloroethane and 1,1-dichloroethane in the Floridan aquifer. (See attachment B).

01 ☒ B. SURFACE WATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: 1-100
02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Spilled contaminants could enter a low-lying stormwater collection pond less than 100 m. south of the facility via runoff or seepage. No surface water samples have been taken, despite repeated spills.

01 ☒ C. CONTAMINATION OF AIR
03 POPULATION POTENTIALLY AFFECTED: 1-100
02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Vapor from solvents or electroplating operations could contaminate the air.

01 ☒ D. FIRE/EXPLOSIVE CONDITIONS
03 POPULATION POTENTIALLY AFFECTED: 1-100
02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Flammable isopropanol and soldering flux waste are stored away from all sources of ignition. Water for the facility's fire fighting crew is supplied via two elevated storage tanks. The facility provides its own emergency response team.

01 ☐ E. DIRECT CONTACT
03 POPULATION POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Remote Potential - Access to facility is restricted.

01 ☒ F. CONTAMINATION OF SOIL
03 AREA POTENTIALLY AFFECTED: 5 (Acres)
02 ☒ OBSERVED (DATE: 3/26/84, 1/18/85 2/22/85) ☐ POTENTIAL ☒ ALLEGED
04 NARRATIVE DESCRIPTION

Leaking electroplating waste sump repeatedly contaminated soil (3/26/84; 1/18/85; 2/22/85). The leaking TCA treatment system (7/26/85), waste oil (1/16/85) and metal hydroxides from leaking drums (5/2/83) may have contaminated soil.

01 ☒ G. DRINKING WATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: 1-1,000
02 ☒ OBSERVED (DATE: 2/29/84, 6/8/84 6/26/85) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Documented on-site ground water contamination threatens public drinking water supplies 1500 ft. downgradient. The threat is compounded by suspected large volumes of spills.

01 ☒ H. WORKER EXPOSURE/INJURY
03 WORKERS POTENTIALLY AFFECTED: Unknown
02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Workers are exposed to corrosive, toxic, and potentially carcinogenic vapors from solvents and electroplating operations.

01 ☒ I. POPULATION EXPOSURE/INJURY
03 POPULATION POTENTIALLY AFFECTED: 1-1,000
02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Toxic heavy metals and VOC's were detected in groundwater at the facility (2/29/84, 6/8/84, 6/26/85). VOC's were also found in Floridan aquifer. Potential contamination of GDU water wells, 1500 ft. downgradient, would affect local customers.

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION
01 STATE: FL
02 SITE NUMBER: D061993606

II. HAZARDOUS CONDITIONS AND INCIDENTS *(Continued)*

01 ☒ J. DAMAGE TO FLORA — 02 ☐ OBSERVED (DATE: _____) — ☒ POTENTIAL — ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Flora could be harmed by contaminated water. No damage has been observed.

01 ☒ K. DAMAGE TO FAUNA — 02 ☐ OBSERVED (DATE: _____) — ☒ POTENTIAL — ☐ ALLEGED
04 NARRATIVE DESCRIPTION *(Include name(s) of species)*

Terrestrial fauna could be harmed via consumption of contaminated food or surface water. Aquatic fauna could be harmed via direct contact or consumption of contaminated food.

01 ☒ L. CONTAMINATION OF FOOD CHAIN — 02 ☐ OBSERVED (DATE: _____) — ☒ POTENTIAL — ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Heavy metals are known to bioaccumulate.

01 ☒ M. UNSTABLE CONTAINMENT OF WASTES *(Spills/runoff/standing liquids/leaking drums)* — 02 ☒ OBSERVED (DATE: 1983-1985) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 1-1,000 — 04 NARRATIVE DESCRIPTION

The facility reported spilled oil (1/16/83), drums leaking metals hydroxides (5/2/83), electroplating solution leaks (3/26/84, 1/18/85, 2/22/85) and a TCA air stripping system leak (7/26/85).

01 ☒ N. DAMAGE TO OFFSITE PROPERTY — 02 ☐ OBSERVED (DATE: _____) — ☒ POTENTIAL — ☐ ALLEGED
04 NARRATIVE DESCRIPTION

None Reported.

01 ☒ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ☐ OBSERVED (DATE: _____) — ☒ POTENTIAL — ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Storm drains adjacent to property could be contaminated by runoff from the site.

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
04 NARRATIVE DESCRIPTION

None Reported.

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

VOC's reported in July 26, 1985 correspondence were apparently from a TCA air stripping system leak. TCA system was closed for repair 8/2/85.

III. TOTAL POPULATION POTENTIALLY AFFECTED: _____

IV. COMMENTS

Since the surficial and Floridan aquifers are contaminated (2/29/84, 6/8/84, 6/26/85), the GDU Wellfield, located 1500 ft. downgradient, is threatened. A Consent Order, a modified groundwater monitoring plan and a spray recovery plan are undergoing final review.

V. SOURCES OF INFORMATION *(Cite specific references, e. g., state files, sample analysis, reports)*

FDER file information.

ATTACHMENT A
SITE INSPECTION SUMMARY
MARTIN MARIETTA AEROSPACE
FLD061993606

Date (Agency)	Sample Type	ANALYSIS VOC	SVOC	P/P	MET	Comments
8/20/85 (FDER)						Windshield Survey.
6/26/85 (ESE)	GW	X	X	X	X	Trichlorethane, heavy metals & VOC's over standards. Floridan Contaminated.
6/27/85 (FDER)						Compliance Inspection.
2/22/85 (MMA)	GW				X	Post-leak sample showed metal violation.
1/16/85 (FDER)						Electroplating sump tank leak, TSD System Leak.
10/1/84 (MMA)	GW				X	Monitoring well analyses. Partial metal analysis.
6/08/84 (GM)	GW	X				Monitoring well samples contained five VOC's. One violation of primary standards.
2/29/84 (GM) (FDER)	GW	X				Priority pollutants exceed standards.
2/29/84 (GM) (FDER)	GW	X				Priority pollutants exceed standards.
5/21/84 (FDER)						Compliance Inspection.
2/20/84 (FDER)						Compliance Inspection.
8/23/84 (FDER)						Compliance Inspection.
5/02/83 (FDER)						Compliance Inspection.
2/22/83 (FDER)						Compliance Inspection. Not in Compliance.
12/18/83 (PBSJ)						Sludge analysis - No violations.
2/22/82 (FDER)						Compliance Inspection. Not in Compliance.

KEY:
ESE = Environmental Science & Engineering, Inc.
FDER = Florida Department of Environmental Regulation
GM = Geraghty & Miller, Inc.
MMA = Martin Marietta Aerospace
PBSJ = Post, Buckley, Schuh & Jernigan, Inc.

Samples: GW = Groundwater

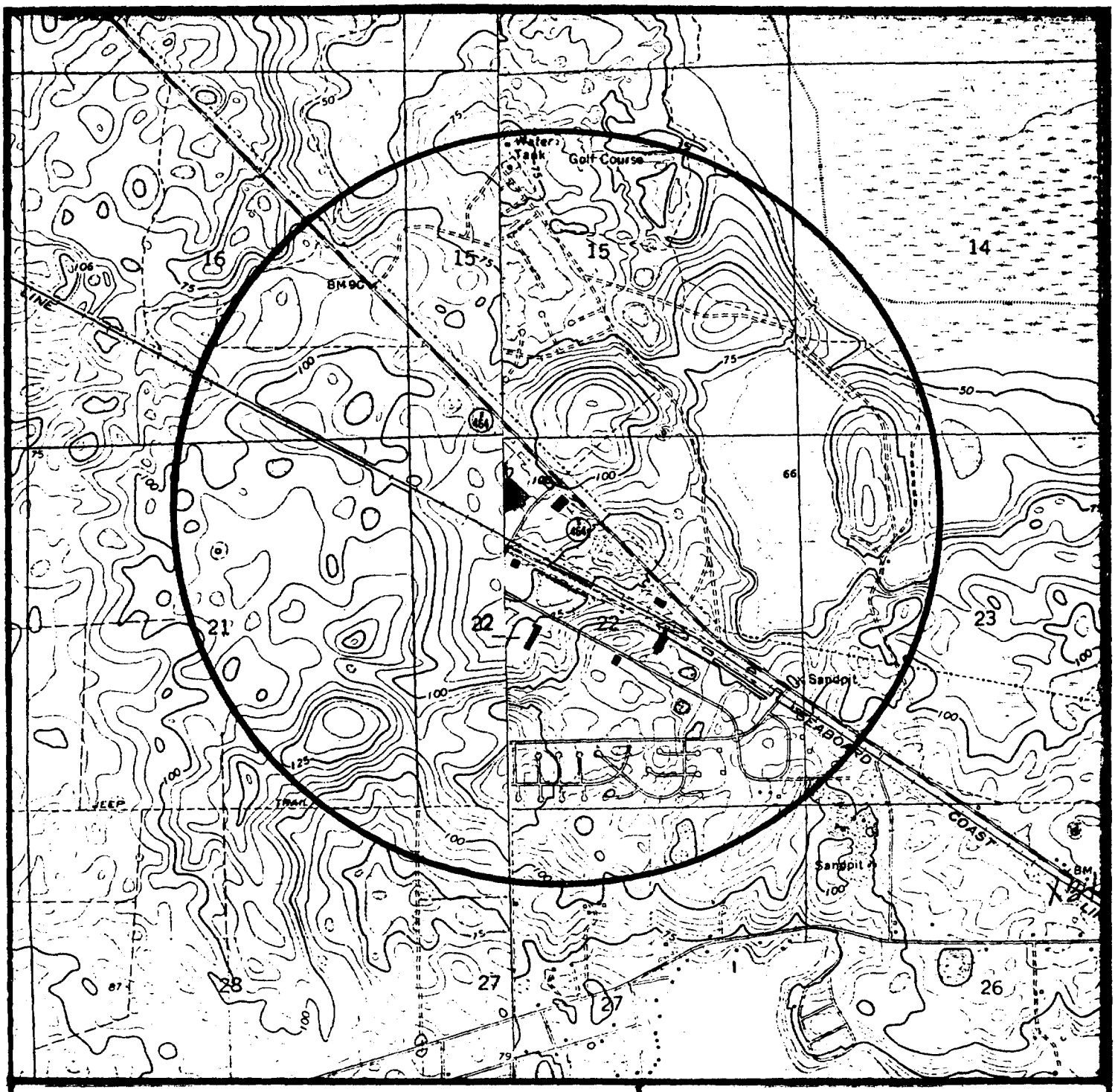
Analysis:
SVOC = Semi Volatile Organic Compounds
VOC = Volatile Organic Organic Compounds
MET = Metals
P/P = Pesticides/PCB's

ATTACHMENT B
MARTIN MARIETTA AEROSPACE
FLD061993606

Groundwater Contaminants Detected On-Site

Compound Detected (in ug/l)	Sampling Dates 2/29/84	6/8/84	6/26/85
Tetrachloroethylene	3,100a	1,045a	5,400
Trichloroethane (shallow aquifer)			41
Trichloroethane (Floridan aquifer)			
Trichloroethylene	550a		
Vinyl Chloride	140a		3,850
Methylene Chloride	36,000	3,850	
Toluene	9,600	1,230	450
Pentachlorophenol			
Trans-1,2-dichloroethylene	2,900		25
1,1-dichloroethane (Floridan aquifer)			410
1,1-dichloroethylene	260	153	
Phenols	79	32	
Ethyl benzene			89a
Pb			60a
Cr			12,200b
Cu			7,140
Fe			227
Ba			106
Zn			65
Tl			

a = Violation of Primary Drinking Water Standard
b = Violation of Secondary drinking Water Standard



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SITE LOCATION MAP

Martin Marietta Aerospace

498 Oak Road

USGS QUAD Northeast Ocala

DATE 1967

REFERENCES

1. Environmental Protection Agency, Federal Register, National Oil and Hazardous Substances Contingency Plan, Part V, July 16, 1982.

2. Farm Chemicals Handbook, Willoughby, OH: Meister Publishing Company, 1982.

3. Florida Department of Environmental Regulation, The Sites List, Summary Status Report, July 1, 1983 - June 30, 1984.

4. Florida Department of Environmental Regulation, 3012 Folder, 2600 Blairstone Road, Tallahassee, Florida. To be used for completion of Preliminary Assessment, Form 2070-12.

5. Health and Safety Plan, Florida 3012 Program, E.C. Jordan Co., June 1984.

6. Healy, Henry G., 1977, Public Water Supplies of Selected Municipalities in Florida, 1975: U.S. Geological Survey, Water-Resources Investigations 77-53, p. 309.

7. NUS Project for Performance of Remedial Response Activities at Uncontrolled Hazardous Substance Facilities--Zone 1, NUS Corporation, Superfund Division.

8. NUS Training Manual, Project for Performance of Remedial Response Activities at Uncontrolled Hazardous Substance Facilities--Zone 1, NUS Corporation, Superfund Division.

9. Sax, N. Irving, Dangerous Properties of Industrial Materials, Sixth Edition, Van Nostrand Reinhold Co., 1984.

10. TLVs Threshold Limit Values for Chemical Substances in the Work Environment Adopted by ACGIH for 1983-84, American Conference of Governmental Industrial Hygienists, ISBN: 0-936712-45-7, 1983.

11. U.S. Geological Survey, Topographic Map, 1:24,000 Series.

12. Windholz, M., ed. The Merck Index, an Encyclopedia of Chemicals and Drugs, Rahway, NJ: Merck and Company, Inc., 1976.

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

Interoffice Memorandum

FOR ROUTING TO OTHER THAN THE ADDRESSEE

To: Craig Diltz		Loc'n: HWS	
To: Charlie Biedermann		Loc'n:	
To:		Loc'n:	
From: Bill O'Steen		Date: 11/7/85	

TO: Mr. Charlie Biedermann, Environmental Specialist
Hazardous Waste Section

THROUGH: Mr. Craig Diltz, Engineer CD
Hazardous Waste Section

Dr. Rodney S. DeHan, Assistant Bureau Chief RSD
Bureau of Ground Water Protection

Mr. James E. McNeal, Environmental Specialist JEM
UIC & Technical Support Section

FROM: William N. O'Steen, Environmental Specialist WNO
UIC & Technical Support Section

DATE: November 6, 1985

SUBJECT: Ground Water Monitoring Plan for Martin Marietta Corporation
FLD 060 240 207, Orange County

The following list addresses the ground water monitoring portion of Martin Marietta's Part B submittal. Deficiencies of both RCRA-related information and Chapter 17-4 monitoring plan requirements are included. I have referred to my previous checklist to complete this list. I have also reviewed the Consent Order for the Site 5 sludge cells.

RECEIVED
NOV 8 1985
Hazardous Waste

WNO/cs

Martin Marietta Corporation (FLD 060 240207), Orange County

Chapter 17-4 Regulatory Requirement	
17-4.245(6)(d)11., F.A.C.	1. Sampling is needed for EPA priority pollutants and applicable Chapter 17-3, F.A.C. Class III surface water quality standards in the drainage ditch upstream and downstream from the RCRA site.
17-4.245(6)(d)1., F.A.C.	2. Vertical permeability testing of confining beds beneath the surfical aquifer is required.
17-4.245(6)(d)9, F.A.C.	3. Water level measurements from intermediate aquifer monitor wells are needed. Water level measurements and identification of wells used to make Figure VI-4 of the report are required. Data must be supplied to support the statement on page VI-7 that the direction of ground water flow may shift during certain times of the year.
17-4.245(6)(d)1.b., F.A.C.	4. Tabulate all in-situ permeability test results. Include test locations and, if appropriate, the depth of each test performed.
17-4.245(6)(d)1.a., F.A.C.	5. Value(s) of hydraulic gradient used to determine ground water velocity and method of determining hydraulic gradient must be submitted. Unconfined aquifer porosity should be quantified (RCRA requirement).
17-4.245(6)(d)9.,F.A.C.	6. Delineation of the existing contaminant plume must be completed. Water-quality investigations should address deeper parts of the surificial aquifer in the vicinity of monitoring wells PW-40, PW-41 or PW-42.

17-4.245(6)(g)1., F.A.C.	7. Proposed background well PW-4 must be analyzed for Florida primary and secondary drinking water standards, total phenols, cyanide and volatile organic compounds to establish its suitability as a background well.
Requested Under RCRA Requirement Only	8. Specifics concerning monitoring well development and the success of well development must be submitted.
17-4.245(6)(d), F.A.C.	9. Specify the sampling procedure (bailed sample versus sampling with a peristaltic pump) for each parameter or parameter group.
Requested Under RCRA Requirements Only	10. Procedures for the annual determination of the uppermost aquifer flow rate, and direction, have not been submitted.
Chapter 17-4.245(6)(d), F.A.C.	11. A proposed routine parameter list must be submitted. This list must incorporate all parameters already identified in the contamination plume, plus the Appendix VIII parameters detected in the sample from well PW-37. App III ?
Chapter 17-4.245(7)(b), F.A.C.	12. If monitoring of the deeper parts of the uppermost aquifer indicates contamination near wells PW40, PW-41 or PW-42, a corrective action program for cleaning the aquifer must be proposed, according to 40 CFR Part 264.91(a)(3).
Chapter 17-4.245(6)(g)4., F.A.C.	13. At least one RCRA point of compliance well screened in the deeper part of the uppermost aquifer must be proposed.
Requested Under RCRA	14. A statistical procedure should be proposed per 40 CFR Part 264.99(h).

In Section VI of the Closure Plan, any pages following Page VI-36 are missing from the copy of the plan received by our office. Therefore, I do not know the completeness of the Monitorng Program to Assess Corrective Actions which begins on that page.

CLIENT - ORIGINAL

TO:

53 WDBO

• 58 S. Ivanhoe Blvd. • Orlando, FL 32804 • (305) 843-5800 •

EPA
PAM,
make a copy to Satish
McVety
Searbr
file this in Mart
Ho file
ll 11/05/8

INVOICE

CLIENT: Martin Marietta Orlando Aerospace

DUPLICATE

DATE: 10-30-85

INVOICE NO.

PAGE:

Florida Dept. of Environmental Regulation
3319 Maguire Blvd.. Suite 232
Orlando, FL 32803

OUR ORDER #55006

CUSTOMER NO.

AGENCY:

SALESPERSON Ryan

PLAN:

CONTACTS:

DATE	DAY	DESCRIPTION	TIME	LENGTH	RATE	NO. RUN	OTHER CHGS AND CODE	TIME CHARGE
10-30-85	WE	MARTIN MARIETTA	414A	7:00	100.00	1		100.00

NOV 1985
RECEIVED
ST. JOHNS
River District

RECEIVED
NOV 6 1985
Hazardous Wastes

Nellie E. Colbert

NELLIE E. COLBERT
State of Florida
My Comm. Exp. Dec. 28, 1988

...MATION SHOWN IS FROM THE OFFICIAL PROGRAM LOGS OF WDBO-AM.

TOTALS	1		$100.00
PAY THIS SUM	GROSS		$100.00
	NET		$100.00

... MINUS EIGHT ... TES.

MARTIN MARIETTA AEROSPACE

POST OFFICE BOX 5837
ORLANDO, FLORIDA 32855

October 15, 1985

ll 10/29/85.
A copy to Satish McVety Scarbrough.

A. Alexander, P.E.
District Manager
State of Florida
Department of Environmental Regulation
St. Johns River District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

OCT 1985
RECEIVED
ST. JOHNS
River District

Dear Mr. Alexander:

RE: Orange County - HW
Martin Marietta - Orlando
FLD 060240207
Part B Permit Application
OSJ-HW-85-0296

On October 8, 1985 Martin Marietta submitted copies of the Part B application to EPA Region IV and to your office. By this letter Martin Marietta wishes to inform your office that the facility is not submitting an application for a state hazardous waste operating permit at this time. Therefore, the application need not be processed under Florida Law Chapter 403.722(10), Florida Statute, the 135 day time requirement. The formal application has been submitted to the EPA for processing under federal requirement.

Sincerely,

MARTIN MARIETTA ORLANDO AEROSPACE

Richard C Winfield

Richard C. Winfield
Director, Facilities

cc: Mrs. Laxsamee Levin, FDER

RCW/pde

W.B. C.C. G.G.
T.A. T.B. G.W.
A.A. A.W.
Action Info File

MARTIN MARIETTA AEROSPACE

A. THOMAS YOUNG
PRESIDENT

ORLANDO AEROSPACE
POST OFFICE BOX 5837
ORLANDO, FLORIDA 32855
TELEPHONE (305) 356-6846

4 October 1985

U.S. Environmental Protection Agency
Region #4
245 Courtland Street
Atlanta, Georgia 30365

Gentlemen:

This letter is to certify that Richard C. Winfield, Director of Facilities, is the authorized Pollution Control Representative for Martin Marietta Orlando Aerospace.

As Pollution Control Representative, Mr. Winfield is authorized to execute all environmental permit applications required by Chapter 403 of the Florida Statutes on behalf of the Corporation.

Very truly yours,

A. Thomas Young
President, Martin Marietta Orlando Aerospace

ATY/dr

C. Diltz
Route to File
CAB cc for EPA

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

ST. JOHNS RIVER DISTRICT
3319 MAGUIRE BOULEVARD
SUITE 232
ORLANDO, FLORIDA 32803-3767

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

A. ALEXANDER,
DISTRICT MANAGER

January 28, 1985

Richard C. Winfield
Director, Facilities
Post Office Box 5837
Orlando, Florida 32855

OSJ-HW-85-0049

Dear Mr. Winfield:

Orange County HW
Request For Extension, TOP, HW
Martin Marietta Aerospace-Orlando
HT 48-68393

In reference to your letter of January 14, 1985 requesting your TOP No. HT 48-68393 for hazardous waste be extended to December 31, 1985, the matter of this extension should be addressed in the pending Consent Order that Mr. K. Tucker, Attorney for Martin Marietta and Mr. L. Morgan, Attorney for D.E.R. will be negotiating. Mr. Morgan has been informed of your request. It is recommended that you inform Mr. K. Tucker of the extension request so as to address it in the Consent Order negotiations.

Sincerely,

L. T. Kozlov, P.E.
Hazardous/Solid Waste Engineering

cmc
LK:pj

cc: L. Morgan
T. Maurer
C. Diltz
G. Gionis

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Hazardous Waste

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Statement of Basis

This statement of basis is prepared pursuant to 40 CFR Section 124.7 for the draft permit EPA has written for Martin Marietta Orlando Aerospace, located in Orlando, Florida. The permit will set conditions for the identification of solid waste management units. Conditions will also be set to verify prior/continuing releases of hazardous waste or hazardous constituents from the solid waste management units. If releases are found, then the permit may be modified for corrective action. The permit will also set conditions for certification of waste minimization.

This permit is being issued based on the requirements of the 1984 Hazardous and Solid Waste Amendments of 1984, Public Law 98-616. These Amendments to the Resource Conservation and Recovery Act (RCRA) have a number of provisions affecting hazardous waste permitting that are immediately effective for any facilities whose RCRA hazardous waste permit had not been issued as of November 8, 1984.

The State of Florida has been granted authorization for those portions of the RCRA Hazardous Waste Program that were in effect prior to the passage of the Hazardous and Solid Waste Amendments of 1984. Until Florida has made the necessary program revisions and received authorization from EPA for the provisions of the 1984 amendments, EPA will administer the requirements of the 1984 amendments. This permit, along with the hazardous waste storage permit being issued by the State of Florida will constitute the full RCRA permit for this facility.

Martin Marietta Orlan Aerospace
Orlando, Florida 32855

Identific on Number FLD 062 240 207
Permit Number FLD 062 240 207

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Pursuant to the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended (42 USC §6901 et seq., commonly known as RCRA) and regulations promulgated thereunder by the U. S. Environmental Protection Agency (EPA) (codified and to be codified in Title 40 of the Code of Federal Regulations), a permit is issued to Martin Marietta Orlando Aerospace (hereafter called the Permittee), to operate a hazardous waste storage facility located in Orlando, Florida latitude 28° 26' 17" North and longitude 81° 26' 57" West.

This permit, in conjunction with Hazardous Waste Permit to be issued by the State of Florida, constitutes the RCRA permit for this facility.
This permit requires the Permittee to determine whether there have been any releases of hazardous waste or hazardous constituents from any solid waste management unit at Martin Marietta Orlando Aerospace regardless of the time at which waste was placed in such unit and to take appropriate corrective action for any such releases. The permit also requires the Permittee to certify annually that on-site generation of hazardous waste is minimized to the extent practical.

The Permittee must comply with all terms and conditions of this permit. This permit consists of the conditions contained herein (including those in any attachments) and applicable regulations contained in 40 CFR Parts 260 through 264, 270, and 124 as specified in the permit and statutory requirements of RCRA, as amended by the Hazardous and Solid Waste Amendments of 1984, P.L. 98-616, (the RCRA amendments). Applicable regulations are those which are in effect on the date of issuance of this permit in accordance with 40 CFR §270.32(c).

This permit is based on the assumption that the information and reports will be submitted as specified in the permit. Any inaccuracies found in this information may be grounds for termination or modification of this permit in accordance with 40 CFR §§270.41, 270.42 and 270.43 and potential enforcement action. The Permittee must inform EPA of any deviation from or changes in the information in the application which would affect the Permittee's ability to comply with the applicable regulations or permit conditions.

This permit is effective as of ,198 and shall remain in effect until ,199 unless revoked and reissued, or terminated under 40 CFR §§270.41 and .43 or continued in accordance with §270.51(a).

Date

Signature
Thomas W. Devine
Director, Waste Management Division

SEP 2 0 1985
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TABLE OF CONTENTS

		Pages
Part I	Standard Conditions	3 - 8
Part II	Solid Waste Management Units	9 - 10
Part III	Waste Minimization	10
Attachment A	Solid Waste Questionaire	

I.A. EFFECT OF PERMIT

Compliance with this permit and the Florida hazardous waste permit constitutes compliance, for purposes of enforcement, with Subtitle C of RCRA. Issuance of this permit does not convey property rights of any sort or any exclusive privilege; nor does it authorize any injury to persons or property, any invasion of other private rights, or any infringement of state or local law or regulations. Compliance with the terms of this permit does not constitute a defense to any order issued or any action brought or taken under Section 3013 or Section 7003 of RCRA, Sections 106(a), 104 or 107 of the Comprehensive Environmental Response, Compensation, and Liability Action of 1980 (42 U.S.C. 9601 et seq., commonly known as CERCLA), or any other law providing for protection of public health or the environment.

I.B. PERMIT ACTIONS

This permit may be modified, revoked or reissued, or terminated for cause as specified in 40 CFR §§270.41, 270.42 and 270.43. The filing of a request for a permit modification, revocation and reissuance, or termination, or the notification of planned changes or anticipated noncompliance on the part of the Permittee does not stay the applicability or enforceability of any permit condition.

I.C. SEVERABILITY

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.

I.D. DUTIES AND REQUIREMENTS

I.D.1. Duty to Comply

The Permittee shall comply with all conditions of this permit, except to the extent and for the duration such noncompliance is authorized by an emergency permit. Any permit noncompliance other than noncompliance authorized by an emergency permit, constitutes a violation of RCRA and is grounds for enforcement action, permit termination, revocation and reissuance, modification, or denial of a permit renewal application.

I.D.2. Duty to Reapply

If the Permittee wishes to continue an activity allowed by this permit after the expiration date of this permit, the Permittee shall submit a complete application for a new permit at least 180 days before this permit expires.

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I.D.3. Permit Expiration

If the state does not have RCRA hazardous waste permitting authority under 40 CFR Part 271 for the 1984 RCRA Amendments, this permit and all conditions herein will remain in effect beyond the permit's expiration date, as specified in §270.51, if the Permittee has submitted a timely, complete application in accordance with §270.10(c) and, through no fault of the Permittee, the Regional Administrator has not issued a new permit with an effective date under §124.15 on or before the expiration date of the previous permit.

If the state does have RCRA hazardous waste permitting authority under 40 CFR Part 271 for the 1984 RCRA Amendments and if the Permittee has submitted a timely and complete application under applicable state law and regulations, the terms and conditions of this permit continue in force beyond the expiration date of the permit, but only until the effective date of the state's issuance or denial of a state RCRA permit.

I.D.4. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

I.D.5. Duty to Mitigate

In the event of noncompliance with the permit, the Permittee shall take all reasonable steps to minimize releases to the environment, and shall carry out such measures as are reasonable to prevent significant adverse impacts on human health or the environment.

I.D.6. Proper Operation and Maintenance

The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of a backup or auxiliary facility or similar systems only when necessary to achieve compliance with the conditions of the permit.

I.D.7. Duty to Provide Information

The Permittee shall furnish to the Regional Administrator, within a reasonable time, any relevant information which the Regional Administrator may request to determine whether cause exists for

modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The Permittee shall also furnish to the Regional Administrator, upon request, copies of records required to be kept by this permit.

I.D.8. Inspection and Entry

The Permittee shall allow the Regional Administrator, or an authorized representative, upon the presentation of credentials and other documents as may be required by law to:

I.D.8.a. Enter at reasonable times upon the Permittee's premises where a regulated activity is located or conducted, or where records must be kept under the conditions of this permit;

I.D.8.b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

I.D.8.c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

I.D.8.d. Sample or monitor, at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by RCRA, any substances or parameters at any location.

I.D.9. Monitoring and Records.

I.D.9.a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. The method used to obtain a representative sample of the waste to be analyzed must be the appropriate method from Appendix I of 40 CFR Part 261. Laboratory methods must be those specified in the most recent edition of Test Methods for Evaluating Solid Waste: Physical/Chemical Methods SW-846 or Standard Methods of Wastewater Analysis.

I.D.9.b. The Permittee shall retain at the facility records of all monitoring information, including all calibration and maintenance records, records of all data used to prepare documents required by this permit, copies of all reports and records required by this permit, and records of all data used to complete the application for this permit for a period of at least 3 years from the date of the sample, measurement, report or record, or until corrective action is completed, whichever date is later. These periods may be extended by request of the Regional Administrator at any time and are automatically extended during the course of any unresolved enforcement action regarding this facility.

I.D.9.c. Records of monitoring information shall specify:

I.D.9.c.i. The dates, exact place, and times of sampling or measurements;

I.D.9.c.ii. The individuals who performed the sampling or measurements;

I.D.9.c.iii. The dates analyses were performed;

SEP 20 1985

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I.D.9.c.iv. The individuals who performed the analyses;

I.D.9.c.v. The analytical techniques or methods used;and

I.D.9.c.vi. The results of such analyses.

I.D.10. Reporting Planned Changes

The Permittee shall give notice to the Regional Administrator as soon as possible of any planned physical alterations or additions to the permitted facility and to the solid waste management units which are the subjects of the RCRA permit.

I.D.11. Anticipated Noncompliance

The Permittee shall give advance notice to the Regional Administrator of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

I.D.12. Transfer of Permits

This permit may be transferred to a new owner or operator only if it is modified or revoked and reissued pursuant to 40 CFR §270.41(b)(2) or §270.42(d). Before transferring ownership or operation of the facility during its operating life, the Permittee shall notify the new owner or operator in writing of the requirements of 40 CFR Parts 264 and 270,the 1984 RCRA Amendments,and this permit.

I.D.13. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

I.D.14. Twenty-four Hour Reporting

The Permittee shall report to the Regional Administrator any noncompliance with this permit resulting from a release from a solid waste management unit which may endanger human health or the environment. Any such information shall be reported orally within 24 hours from the time the Permittee becomes aware of the circumstances. This report shall include the following:

I.D.14.a. Information concerning the release of any hazardous waste or hazardous constituents which may endanger public drinking water supplies.

I.D.14.b. Information concerning the release or discharge of any hazardous waste or hazardous constituents, or of a fire or explosion

SEP 2 0 1985

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at the facility, which could threaten the environment or human health outside the facility. The description of the occurrence and its cause shall include:

I.D.14.b.i. Name, address, and telephone number of the owner or operator;

I.D.14.b.ii. Name, address, and telephone number of the facility;

I.D.14.b.iii. Date, time, and type of incident;

I.D.14.b.iv. Name and quantity of materials involved;

I.D.14.b.v. The extent of injuries, if any;

I.D.14.b.vi. An assessment of actual or potential hazard to the environment and human health outside the facility, where this is applicable and;

I.D.14.b.vii. Estimated quantity and disposition of recovered material that resulted from the incident.

A written submission shall also be provided within 15 days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the periods of noncompliance (including exact dates and times); whether the noncompliance has been corrected; and if not, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

I.D. 15. Other Noncompliance

The Permittee shall report all other instances of noncompliance not otherwise required to be reported above at the time any other reports as required by this permit are submitted. The reports shall contain the information listed in Condition I.D.14.

I.D.16. Other Information

Whenever the Permittee becomes aware that it failed to submit any relevant facts or submitted incorrect information in any document(s) submitted to the Regional Administrator, the Permittee shall promptly submit such facts or information.

I.E. SIGNATORY REQUIREMENT

I.E.1. Certification

All applications, reports, or information submitted to the Regional Administrator shall be signed and certified in accordance with 40 CFR §270.11.

I.F. CONFIDENTIAL INFORMATION

The Permittee may claim confidential any information required to be submitted by this permit in accordance with 40 CFR §270.12.

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I.G. DEFINITIONS

For purposes of this permit, terms used herein shall have the same meaning as those in RCRA and 40 CFR Parts 124, 260, 261, 264 and 270, unless this permit specifically provides otherwise; where terms are not defined in the regulation, the permit, or EPA guidances or publications, the meaning associated with such terms shall be defined by a standard dictionary reference or the generally accepted scientific or industrial meaning of the term.

I.G.1. Hazardous constituents for purposes of this permit are those substances listed in 40 CFR Part 261 Appendix VIII and include hazardous constituents released from solid waste and hazardous constituents that are reaction by-products.

I.G.2. Solid Waste Management Unit for purposes of this permit includes, but is not limited to, any landfill, surface impoundment, waste pile, land treatment unit, incinerator, injection well, tank (including storage, treatment, and accumulation tanks), container storage unit, wastewater treatment unit, elementary neutralization unit, transfer station, and recycling unit from which hazardous constituents might migrate, irrespective of whether the units were intended for the management of solid and/or hazardous wastes.

I.G.3. Release for purposes of this permit includes any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment of any hazardous waste or hazardous constituents.

I.G.4. Contamination for purposes of this permit refers to the presence of any hazardous constituent in a concentration which exceeds the naturally occurring concentration of that constituent in the immediate vicinity of the facility (in areas not affected by the facility).

I.G.5. Corrective action, for purposes of this permit, may include "corrective action" as provided in 40 CFR §264.100 and/or other remedial acitivities for any media until otherwise defined in 40 CFR §264.101.

II.A. ASSESSMENT OF NEED FOR CORRECTIVE ACTION

II.A.1. The Permittee shall provide to the Regional Administrator a report which identifies all solid waste management units currently or previously located at the facility. In preparing this report, the permittee will review all existing sources of information related to solid waste management practices at the facility and fully investigate the facility property to determine the existence of any additional solid waste management units. This report must include, at a minimum, the following information for each unit:

a) Type of unit
b) Location of each unit on a topographic map of appropriate scale
c) General dimensions and capacities
d) Function of unit
e) Dates that the unit was operated
f) Description of the wastes that were placed in the unit
g) Description of any known releases or spills (to include groundwater data, soil analyses, and/or surface water analyses)

The above report shall be submitted within 90 days of issuance of of this permit.

II.A.2. The Permittee shall prepare a solid waste management unit investigation plan and a proposed schedule for implementation and completion, for each solid waste management unit identified in II.A.1. which are known or suspected to have releases of hazardous waste or hazardous constituents to the environment. The permittee must provide documentation that a release is not probable if a unit is identified which is not included in the solid waste management unit investigation plan.

II.A.3. The Permittee shall include in the solid waste management investigation plan schedules, methods and specific actions as necessary to determine whether a prior or continuing release of hazardous waste or hazardous constituents has occurred, the nature and extent of known or suspected releases and the potential pathways of contaminant releases to the air, land, surface water or groundwater. The results of the investigation shall contain information including, but not limited to, all supporting documentation and data used in implementing the investigation plan.

II.A.4. The Permittee shall implement the solid waste management unit investigation plan(s) in accordance with the schedules contained in each plan upon approval by the Regional Administrator.

II.A.5. The Regional Administrator shall review the final report on the investigation plan(s) and notify the Permittee of the need for further investigative actions and/or the need for corrective action as required under 40 CFR §264.101(a).

II.A.6. Upon such determination the Permittee shall submit to the Regional Administrator a plan which includes the corrective action to be taken at each unit. The proposed corrective action plan shall be submitted in accordance with a schedule to be determined by the Regional Administrator. Corrective action must include a description of the corrective measures to be taken, and a schedule of implementation and completion.

II.A.7. If the Permittee at any time determines that the solid waste management unit investigation plan(s) required under Condition II.A. no longer satisfies the requirements of 40 CFR §264.101 or this permit for prior or continuing releases of hazardous waste or hazardous constituents from solid waste management units, he must submit an amended plan to the Regional Administrator within ninety (90) days of such determination.

II.B. SCHEDULES OF COMPLIANCE

II.B.1. The Permittee shall submit the items required by conditions II.A.1., II.A.2., and II.A.3., and the associated documentation to the Regional Administrator within ninety (90) days of the effective date of this permit.

II.B.2. All plans and schedules shall be subject to approval by the Regional Administrator prior to implementation. The permittee shall revise all submittals as specified by the Regional Administrator.

II.B.3. If the time required to complete any interim activity is more than one year, the schedule shall specify interim dates for the submission of reports of progress toward satisfaction of the interim requirements.

II.B.4. The results of all plans and reports shall be submitted in accordance with the approved schedule. Extensions of the due date for submittals may be granted by the Regional Administrator based on the Permittee's demonstration that sufficient justification for the extension exists.

II.C. PERMIT MODIFICATION

The Permittee shall apply for a permit modification pursuant to 40 CFR §270.41 to incorporate the corrective action plan developed under Condition II.A.6.

PART III - WASTE MINIMIZATION

The following condition is pursuant to 40 CFR §264.73(b)(9):

III.A. WASTE MINIMIZATION CERTIFICATION

The permittee shall be required to certify no less often than annually that the permittee has a program in place to reduce the volume and toxicity of hazardous waste that he generates to the degree determined by the permittee to be economically practicable and the proposed method of treatment, storage or disposal is that practicable method currently available to the permittee which minimizes the present and future threat to human health and the environment.

EPA.

MARTIN MARIETTA AEROSPACE

ORLANDO AEROSPACE
POST OFFICE BOX 5837
ORLANDO, FLORIDA 32855

January 7, 1985

123456
JAN 1985
RECEIVED
Saint Johns River District

Mr. Jim Jarmolowski
St. Johns River District
Department of Environmental Regulation
Suite 232
3319 Maguire Blvd.
Orlando, Florida 32803-3767

Re: Summary of December 14, 1984 Conference with St. Johns River District Office, Department of Environmental Regulation; Martin Marietta Corporation's Actions Concerning Landfill Sites

Dear Jim:

We appreciate the opportunity to have met with you, John Armstrong, and W. E. Darling on December 14, 1984, to apprise you of the status of Martin Marietta Corporation's ("Martin Marietta") actions concerning Site 5 and other sites of potential groundwater contamination at the Martin Marietta facility, Sand Lake Road, Orlando, Florida. I believe our meeting was most helpful in apprising each other of our respective concerns and objectives. As follow-up to this conference, I wish to summarize actions promised by Martin Marietta and to provide you with information requested.

Attached at Exhibit "A" is information requested concerning the type and quantity of wastes placed into Landfill Sites 1, 2, 3, 4, and 6 at the Sand Lake Road facility as well as the history of the operation of these sites. The attached information is my best estimate due to few, if any, records being required to be maintained for such landfills.

The following is a summary of actions of Martin Marietta for all landfill sites and other sites of potential contamination.

I. Site 1

Martin Marietta's analysis of split groundwater samples collected at Site 1 by the Department on September 20, 1984 confirmed the results obtained by the Department. No contamination of concern was found. Martin Marietta plans no further action at this site.

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JAN 15 1985
Hazardous Waste

II. Site 2

Martin Marietta's analysis of split groundwater samples collected at Site 2 by the Department on September 20, 1984 confirmed the results obtained by the Department. The slightly elevated cadmium levels were not considered of any concern. Consequently, Martin Marietta plans no further action at this site.

III. Site 3

Martin Marietta's analysis of split groundwater samples collected at Site 3 by the Department on September 20, 1984 confirmed the results obtained by the Department. Analysis indicated relatively high levels of volatile organics (VOC's) in test well downgradient from Site 3. Martin Marietta has directed its consultant, Geraghty and Miller, Inc., to prepare a groundwater monitoring plan for this site in accordance with the requirements of Chapter 17-4.245(6), Florida Administrative Code. This groundwater monitoring plan will be presented to the Department on February 15, 1985 for the Department's review and comment.

IV. Site 4

Groundwater analysis conducted by Martin Marietta revealed no contamination of concern at Site 4. Consequently, Martin Marietta plans no further sampling or other monitoring activities at this site. Pursuant to your request, attached at Exhibit "B" is the groundwater quality information obtained at this site by Martin Marietta.

V. Site 5

As promised, I am enclosing as Exhibit "C" a copy of the January 23, 1984 correspondence to the Environmental Protection Agency ("EPA") in which Martin Marietta notified EPA of the "significant increase" in contaminants at Site 5 pursuant to 40 CFR 265.93(d)(1). As required by Section 265.93(d)(1), this notice was given to EPA within seven days from Martin Marietta's confirmation of the "significant increase" in values of the parameters used as indicators of groundwater contamination.

As agreed at our conference, Martin Marietta will resample and analyze the upgradient well (PW-3) at Site 5. The decision to install another upgradient test well will be based on the analytical findings.

I understand that Martin Marietta must meet both RCRA reporting requirements and Chapter 17-4.245(6), Florida Administrative Code, monitoring requirements for Site 5 because Site 5 is a RCRA site. However, it is understood that statistical analysis in accordance with the provisions of 40 CFR 265 Subpart F is no longer required.

After you have reviewed the Interim Report for Site 5 prepared by Geraghty and Miller which was submitted to you on December 14, 1984, we would like to meet with you to discuss the interim findings and our future course of action.

I will call you to set up this meeting which I suggest take place in mid-January.

In the meantime, I am contacting Mr. Kozlov to set up a meeting as soon as possible to discuss an amendment to our application for a hazardous waste operating permit, and a plan to close Site 5 permanently. Martin Marietta will seek to eliminate Site 5 from its operating permit application which is currently pending before the Department. I will explore this alternative with Mr. Kozlov as well as closure of Site 5 in compliance with the provisions of 40 CFR 265. We are envisioning a closure plan that would allow for continued spray irrigation at the site as a means of containment and as a remedial measure. This is a matter of urgency to Martin Marietta since our temporary operation permit for operation of the hazardous waste storage facility expires in March, 1985.

This is to confirm that as a result of our conference on December 14, 1984, the Department's concerns expressed in its Warning Notice of December 4, 1984 to Martin Marietta have been satisfactorily resolved with the possible exception of the issue concerning Site 5 reporting submissions to EPA instead of the Department. I understand that the issue of reporting to EPA instead of the Department may be submitted to Tallahassee for recommended action.

VI. Site 6

Because of the groundwater quality degradation observed at Sites 3 and 5, Martin Marietta also implemented a groundwater analysis at another site which I have designated as Site 6. Results of this sampling revealed elevated levels of VOC's (see Exhibit "D"). Martin Marietta has therefore directed its consultant Geraghty and Miller to prepare a groundwater monitoring plan for this site as well. This plan will meet the requirements of Chapter 17-4.245(6), Florida Administrative Code. The plan, to be submitted to the Department on February 15, 1985 for review and comment, will be designed to determine the nature and extent of the contamination of the water table aquifer at this location.

VII. Waste Treatment Plant

The Department requested that Martin Marietta conduct groundwater sampling at this site. Martin Marietta has done so and contracted with Flowers Laboratory for the analysis of these samples for VOC and heavy metal contents. The result of this analysis was forwarded to Mr. Kozlov for review on December 21, 1984.

VIII. Micro-Electronics ("MEC") Building

As we reported to you at our conference, Martin Marietta detected a slow leak in the underground piping system located under and adjacent to the MEC Building. This piping, which was a part of a waste solvent collection system, connected work area drains to an underground waste solvent storage tank. Since the leak was detected, all waste has been removed from the underground system and the underground system has since been replaced with an above-ground collection system. Also thirty interceptor wells have been installed in order to contain plume migration and to intercept the contaminated groundwater. Since the start of the clean up program, some 150,000 gallons of contaminated ground-

water have been recovered and treated. From measurements made at the time of the detection of the leak, it is evident that only a small quantity of waste solvents leaked from the system. We believe that contamination remained localized along the collection system under the floor of the MEC Building and an adjacent paved area. As promised, attached at Exhibit "E" is sampling data from the operation of the treatment system.

IX. Ocala Sump Failure

After you have reviewed the report for the Ocala Facility prepared by Environmental Science and Engineering, Inc., which was submitted to you on December 14, 1984, if you have a problem with the report, we would like to meet with you at your convenience to discuss the issues and attempt to reach agreement concerning any further needed information or changes in the remedial action plan. Martin Marietta has initiated the remedial action plan proposed by ESE and the recovered groundwater is being processed through the wastewater treatement plant.

I trust the above accurately summarizes our conference and provides the information requested by you. If I have incorrectly stated any understanding or if you need additional information or assistance, please call me as soon as possible. I look forward to meeting with you concerning the Site 5 Interim Report.

Sincerely,

R. F. Green

Raymond F. Green, P.E.

RFG/scd

Enclosures

cc: Richard C. Bruning, Chief Counsel, Martin Marietta Orlando Aerospace
William Vetter, Assistant General Counsel, Martin Marietta Corporation
Richard C. Winfield, Director of Facilities, Martin Marietta Orlando Aerospace
Scott Evans, Facilities Engineer, Martin Marietta Orlando Aerospace
Dr. Leonard Bongers, Senior Scientist, Martin Marietta Environmental Center
Kendrick Tucker, Esq., Akerman, Senterfitt & Eidson
W. E. Darling, Department of Environmental Regulation
John Armstrong, Department of Environmental Regulation
L. Kozlov, Department of Environmental Regulation
Jerry E. Kubal, Geraghty and Miller, Inc.

"EXHIBIT A"

MARTIN MARIETTA ORLANDO AEROSPACE
WASTE DISPOSAL SITES

SITE NO.	YRS OPERATED	TYPE OF WASTE	ESTIMATED QUANTITY	
			SLUDGE CU.FT.SOLIDS	TRASH* TONS
1	1958-1967	Sludge & Trash	2,900	12,500
2	1963-1967	Sludge Only	2,900	------
3	1968-1970	Sludge & Trash	1,700	3,700
4	1971-1972	Sludge & Trash	1,200	2,500
5	1973-1982	Sludge & Trash	4,500	7,800
6	1981-1982	Trash Only	-----	1,900

*Based on an estimated weight for trash of 600 lb/cy compacted weight.

Sludge and trash were placed in separate cells at each disposal site.

EXHIBIT "B"

CONCENTRATION OF VOLATILE ORGANIC COMPOUNDS IN GROUNDWATER COLLECTED FROM MONITORING WELLS AT SITE 4, ORLANDO AEROSPACE

Compounds	Location	Site 4	
	Sampling Date:	4/8/84	4/12/84
	Method Detection Limit 50 ml Sample (ppb)	TW-7	TW-9
benzene	0.2	BDL	BDL
bromodichloromethane	2	BDL	BDL
bromoform	4	BDL	BDL
carbon tetrachloride	4	BDL	BDL
chlorobenzene	0.2	BDL	BDL
chloroform	1	BDL	BDL
cis-1,3-dichloropropene	0.5	BDL	BDL
dibromochloromethane	2.0	BDL	BDL
1,1-dichloroethane	0.5	2.6	BDL
1,2-dichloroethane	0.5	BDL	BDL
1,1-dichloroethylene	0.5	BDL	BDL
1,2-dichloropropane	0.4	BDL	BDL
ethylbenzene	0.2	BDL	BDL
methylene chloride	0.5	BDL	BDL
1,1,2,2-tetrachloroethane	0.5	BDL	BDL
tetrachloroethylene	0.5	BDL	BDL
toluene	0.2	BDL	BDL
trans-1,2-dichloroethylene	0.5	3.9	3.3
trans-1,3-dichloropropene	0.4	BDL	BDL
1,1,1-trichloroethane	1	BDL	BDL
1,1,2-trichloroethane	0.5	BDL	BDL
trichloroethylene	0.5	15.1	1.4
2 Chloroethylvinylether		BDL	BDL

EXHIBIT "C"

RTIN MARIETTA AEROSPACE

ORLANDO DIVISION
POST OFFICE BOX 5837
ORLANDO, FLORIDA 32855

23 January 1984

Mr. Charles R. Jeter
Regional Administrator
EPA Region IV
345 Courtland, N.E.
Atlanta, Georgia 30308

Martin Marietta Aerospace
Orlando, Florida
FLD 060 240 207

Dear Mr. Jeter:

The purpose of this letter is to notify your office in accordance with the requirements of Section 265.93(d)(1) that the above referenced facility may be affecting ground-water quality. The student's t-test required by Section 265.93(b) indicated a statistically significant increase over initial background. A split sample analysis of additional ground-water samples has confirmed the validity of the initial results.

Martin Marietta is proceeding to develop the specific ground-water quality assessment plan outlined in Sections 265.93(d)(2) and (3). The plan will be submitted to your office within the time limit specified by the regulations.

Sincerely,

MARTIN MARIETTA CORPORATION

Richard C. Winfield

Richard C. Winfield
Director of Facilities

RCW/cl

EXHIBIT "D"

Concentrations of volatile organic compounds in groundwater samples collected from monitoring wells at Site 6, Orlando Aeorspace

		Location	Site 6		
		Sampling Date:	5/18/84	5/18/84	5/18/84
Compounds	AWQC(a) (ppb)	Method Detection Limit 50 ml Sample (ppb)	PW-27	PW-28 (*)	PW-29
benzene	40	0.2	BDL	BDL	BDL
bromodichloromethane	0.19	2	BDL	BDL	21
bromoform		4	BDL	BDL	13
carbon tetrachloride	0.40	4	BDL	BDL	17
chlorobenzene	488	0.2	BDL	BDL	BDL
chloroform	0.19	1	BDL	6	4.7
cis-1,3-dichloropropene	87	(b)	BDL	BDL	P (b)
dibromochloromethane	0.19	(b)	BDL	BDL	P (b)
1,1-dichloroethane		0.5	0.8	11.7	11.5
1,2-dichloroethane	0.94	0.5	BDL	BDL	BDL
1,1-dichloroethylene	0.033	0.5	1.6	3.4	3.4
1,2-dichloropropane		(c)	BDL	BDL	P (c)
ethylbenzene	1,400	0.2	1.5	3.8	12
methylene chloride	0.19	0.5	2.0	7.1	63
1,1,2,2-tetrachloroethane	1.7	(d)	BDL	BDL	BDL
tetrachloroethylene	0.8	(d)	520	588 (e)	328 (e)
toluene	14,300	0.2	2.6 (e)	64 (e)	74 (e)
cis -1,2-dichloroethylene		0.5	110 (e)	70 (e)	38 (e)
trans-1,3-dichloropropene	87	(c)	BDL	BDL	P (c)
1,1,1-trichloroethane	18,400	1	9.3	11.6	14
1,1,2-trichloroethane	0.6	(b)	BDL	BDL	P (b)
trichloroethylene	2.7	0.5	949 (e)	692 (e)	470 (e)

(a) AWQC - Ambient Water Quality Criteria (FR 45, pp. 79318-79379, 1980). AWQC are for human health protection; values reflect intake via food and water consumption and an incremental lifetime cancer risk of 10^{-6}. these values may become less restrictive as proposed under the National Interim Primary Drinking Water Regulations (FR 47, p. 9357, 198)

(b) Dibromochloromethane/1,1,2-trichloroethane/cis-1,3-dichloropropene coelute and cannot be individually quantified. (P) indicates compounds(s) are present.

(c) 1,2-dichloropropane/1,3-dichloropropene coelute and cannt be individually quantified. (P) indicates compound(s) are present.

(d) 1,1,2,2-tetrachloroethane/tetrachloroethylene coelute and cannot be individually quantified. (P) indicated compound(s) are present.

(e) Confirmed by GC/MS

(*) Average of two values

EXHIBIT "E"

TEST RESULTS FOR THE

MICRO ELECTRONICS CENTER (MEC) PACKED

TOWER AERATION TREATMENT SYSTEM

(27-30 NOVEMBER 1984)

OPERATING PARAMETERS:

Air = 40 CFM

Water = 8.5 GPM

A/W Ratio = 35/1

COMPOUND	In(ppb)	Out(ppb)	% Removal
Methylene Chloride	263	21	92
Tetrachloroethylene	341	11	97
Toluene	57	9	84
Trichloroethene	431	12	97
	1,092	53	

EPA

POTENTIAL HAZARDOUS WASTE SITE
TENTATIVE DISPOSITION

REGION: IV | SITE NUMBER: FLD060240207

File this form in the regional Hazardous Waste Log File and submit a copy to: U.S. Environmental Protection Agency; Site Tracking System; Hazardous Waste Enforcement Task Force *(EN-335)*; 401 M St., SW; Washington, DC 20460.

I. SITE IDENTIFICATION

A. SITE NAME	B. STREET	
Martin Marietta Aerospace	Sand Lake Rd.	
C. CITY	**D. STATE**	**E. ZIP CODE**
Orlando	FL	32855

II. TENTATIVE DISPOSITION

Indicate the recommended action(s) and agency(ies) that should be involved by marking 'X' in the appropriate boxes.

RECOMMENDATION	MARK 'X'	ACTION AGENCY: EPA	STATE	LOCAL	PRIVATE
A. NO ACTION NEEDED -- NO HAZARD					
B. INVESTIGATIVE ACTION(S) NEEDED *(If yes, complete Section III.)*			X		
C. REMEDIAL ACTION NEEDED *(If yes, complete Section IV.)*					
D. ENFORCEMENT ACTION NEEDED *(If yes, specify in Part E whether the case will be primarily managed by the EPA or the State and what type of enforcement action is anticipated.)*					

E. RATIONALE FOR DISPOSITION

Low Priority
Metal finishing operation including electrolysis plating of cadmium, chromium, copper, nickel and aluminum. Waste processes are treated on site. Sludge disposed of off site.

F. INDICATE THE ESTIMATED DATE OF FINAL DISPOSITION *(mo., day, & yr.)*

G. IF A CASE DEVELOPMENT PLAN IS NECESSARY, INDICATE THE ESTIMATED DATE ON WHICH THE PLAN WILL BE DEVELOPED *(mo., day, & yr.)*

H. PREPARER INFORMATION

1. NAME	2. TELEPHONE NUMBER	3. DATE *(mo., day, & yr.)*
Denise Bland	257-2234	10/30/84

III. INVESTIGATIVE ACTIVITY NEEDED

A. IDENTIFY ADDITIONAL INFORMATION NEEDED TO ACHIEVE A FINAL DISPOSITION.

Due to the toxic chemicals used in the manufacturing, periodic inspections should be conducted and monitoring of wells around the landfill should continue.

B. PROPOSED INVESTIGATIVE ACTIVITY *(Detailed Information)*

1. METHOD FOR OBTAINING NEEDED ADDITIONAL INFO.	2. SCHEDULED DATE OF ACTION *(mo, day, & yr)*	3. TO BE PERFORMED BY *(EPA, Contractor, State, etc.)*	4. ESTIMATED MANHOURS	5. REMARKS
a. TYPE OF SITE INSPECTION				
(1)				
(2)				
(3)				
b. TYPE OF MONITORING				
(1)				
(2)				
c. TYPE OF SAMPLING				
(1)				
(2)				

Continue On Reverse

Continued From Front

III. INVESTIGATIVE ACTIVITY NEEDED and PART B - PROPOSED INVESTIGATIVE ACTIVITY *(Continued)*

d. TYPE OF LAB ANALYSIS (1)				
(2)				
e. OTHER *(specify)* (1)				
(2)				

C. ELABORATE ON ANY OF THE INFORMATION PROVIDED IN PART B *(on front & above)* AS NEEDED TO IDENTIFY ADDITIONAL INVESTIGATIVE WORK.

D. ESTIMATED MANHOURS BY ACTION AGENCY

1. ACTION AGENCY	2. TOTAL ESTIMATED MANHOURS FOR INVESTIGATIVE ACTIVITIES	1. ACTION AGENCY	2. TOTAL ESTIMATED MANHOURS FOR INVESTIGATIVE ACTIVITIES
a. EPA		b. STATE	
c. EPA CONTRACTOR		d. OTHER *(specify)*	

IV. REMEDIAL ACTIONS

A. SHORT TERM/EMERGENCY STRATEGY *(On Site & Off-Site)*: List all emergency actions needed to bring site under immediate control, e.g., restrict access, provide alternate water supply, etc. See instructions for a list of Key Words for each of the actions to be used in the space below.

1. ACTION	2. EST. START DATE *(mo,day,&yr)*	3. EST. END DATE *(mo,day,&yr)*	4. ACTION AGENCY *(EPA, State, Private Party)*	5. ESTIMATED COST	6. SPECIFY 311 OR OTHER ACTION; INDICATE THE MAGNITUDE OF THE WORK REQUIRED
				$	
				$	
				$	
				$	
				$	
				$	

B. LONG TERM STRATEGY *(On Site & Off-Site)*: List all long term solutions, e.g., excavation, removal, ground water monitoring wells, etc. See instructions for a list of Key Words for each of the actions to be used in the spaces below.

1. ACTION	2. EST. START DATE *(mo,day,&yr)*	3. EST. END DATE *(mo,day,&yr)*	4. ACTION AGENCY *(EPA, State Private Party)*	5. ESTIMATED COST	6. SPECIFY 311 OR OTHER ACTION; INDICATE THE MAGNITUDE OF THE WORK REQUIRED
				$	
				$	
				$	
				$	
				$	
				$	

C. ESTIMATED MANHOURS AND COST BY ACTION AGENCY

1. ACTION AGENCY	2. TOTAL EST. MANHOURS FOR REMEDIAL ACTIVITIES	3. TOTAL EST. COST FOR REMEDIAL ACTIVITIES	1. ACTION AGENCY	2. TOTAL EST. MANHOURS FOR REMEDIAL ACTIVITIES	3. TOTAL EST. COST FOR REMEDIAL ACTIVITIES
a. EPA			b. STATE		
c. PRIVATE PARTIES			d. OTHER *(specify)*		

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
FL	D060240207

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
Martin Marietta Aerospace	Sand Lake Road

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
Orlando	FL	32855	Orange	095	05

09 COORDINATES LATITUDE	LONGITUDE	
28 26 17.0	081 26 55.0	UTM: (4) 561 (31) 457

10 DIRECTIONS TO SITE (Starting from nearest public road)

From Orlando, take U.S. Hwy. 4 south to State Route 435 (Kirkman Road). Continue south on State Route 435 for 1-½ miles to Sand Lake Road. Martin Marietta is located just south of Sand Lake Road.

III. RESPONSIBLE PARTIES

01 OWNER (if known)	02 STREET (Business, mailing, residential)
Martin Marietta Corporation	P.O. Box 5837

03 CITY	04 STATE	05 ZIP CODE	06 TELEPHONE NUMBER
Orlando	FL	32855	(305) 352-2000

07 OPERATOR (if known and different from owner)	08 STREET (Business, mailing, residential)
James Bell, Plant Manager	P.O. Box 5837

09 CITY	10 STATE	11 ZIP CODE	12 TELEPHONE NUMBER
Orlando	FL	32855	(305) 352-2000

13 TYPE OF OWNERSHIP (Check one)

☒ A. PRIVATE ☐ B. FEDERAL: _____ (Agency name) ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL

☐ F. OTHER: _____ (Specify) ☐ G. UNKNOWN

14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply)

☒ A. RCRA 3001 DATE RECEIVED: 11/11/80 (MONTH DAY YEAR) ☐ B. UNCONTROLLED WASTE SITE (CERCLA 103 c) DATE RECEIVED: / / (MONTH DAY YEAR) ☐ C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION

☒ YES DATE 02/20/84 (MONTH DAY YEAR)
☐ NO

BY (Check all that apply)

☐ A. EPA ☐ B. EPA CONTRACTOR ☒ C. STATE ☐ D. OTHER CONTRACTOR
☐ E. LOCAL HEALTH OFFICIAL ☐ F. OTHER: _____ (Specify)

CONTRACTOR NAME(S): _____

02 SITE STATUS (Check one)

☒ A. ACTIVE ☐ B. INACTIVE ☐ C. UNKNOWN

03 YEARS OF OPERATION

_____ BEGINNING YEAR | _____ ENDING YEAR ☒ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED

This facility manufactures weapon systems utilizing various metal finishing operations including electrolysis plating of cadmium, chromium, copper, nickel, and aluminum. Wastes from these processes are treated on site. Sludge is currently disposed of off site. An inactive plating sludge landfill exists. Small quantities of waste solvents are stored on site prior to off-site disposal.

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION

Should the substances generated at this facility be released to the environment they would be toxic to humans and wildlife through ingestion, inhalation and skin exposure. No problems or spills were observed during the 02/20/84 FDER inspection.

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents)

☐ A. HIGH (Inspection required promptly) ☐ B. MEDIUM (Inspection required) ☒ C. LOW (Inspect on time available basis) ☐ D. NONE (No further action needed, complete current disposition form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NUMBER
Eric Nuzie	Florida DER	(904) 488-0190

04 PERSON RESPONSIBLE FOR ASSESSMENT	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NUMBER	08 DATE
David E. Troutman	N/A	E.C. Jordan Co.	(904) 656-1293	09/25/84 (MONTH DAY YEAR)

EPA FORM 2070-12 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
FL	D060240207

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- ☐ A. SOLID
- ☐ B. POWDER, FINES
- ☒ C. SLUDGE
- ☐ D. OTHER _____ (Specify)
- ☐ E. SLURRY
- ☒ F. LIQUID
- ☐ G. GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)

TONS: Unknown
CUBIC YARDS: Unknown
NO. OF DRUMS: Unknown

03 WASTE CHARACTERISTICS (Check all that apply)

- ☒ A. TOXIC
- ☒ B. CORROSIVE
- ☐ C. RADIOACTIVE
- ☒ D. PERSISTENT
- ☐ E. SOLUBLE
- ☐ F. INFECTIOUS
- ☐ G. FLAMMABLE
- ☒ H. IGNITABLE
- ☐ I. HIGHLY VOLATILE
- ☐ J. EXPLOSIVE
- ☒ K. REACTIVE
- ☐ L. INCOMPATIBLE
- ☐ M. NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE	Unknown		Inactive landfill/small quantity
OLW	OILY WASTE			generator
SOL	SOLVENTS	Unknown		
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS	Unknown		Waste plating solutions

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
SLU	Wastewater treatment sludge	999	LF, Now off Site	Unknown	
SOL	Alcohol	999	Shipped off Site	Unknown	
SOL	Methanol	999	Shipped off Site	Unknown	
SOL	Xylene	999	Shipped off Site	Unknown	
IOC	Waste cyanide plating	999	POTW	Unknown	
	solutions				
MES	Waste plating solutions	999	POTW	Unknown	
MES	Cadmium	7440-43-9	POTW	Unknown	
MES	Chromium	7440-47-3	POTW	Unknown	
MES	Copper	999	POTW	Unknown	
MES	Nickel	7440-02-0	POTW	Unknown	

V. FEEDSTOCKS (See Appendix for CAS Numbers) N/A

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

See attached reference list.

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
FL	D060240207

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☒ A. GROUNDWATER CONTAMINATION — 02 ☐ OBSERVED (DATE: _____) — ☒ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 101-1,000 — 04 NARRATIVE DESCRIPTION

Although no groundwater contamination has been documented, a review of landfill monitoring data showed significant increases of several parameters in downgradient wells (levels were below drinking water standards).

01 ☐ B. SURFACE WATER CONTAMINATION — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

Remote potential - discharges to surface waters have not been detected.

01 ☐ C. CONTAMINATION OF AIR — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

No potential.

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

No potential.

01 ☐ E. DIRECT CONTACT — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

Remote potential - there is little potential for direct contact by other than employees since the site is active and appears to be well managed and secured.

01 ☐ F. CONTAMINATION OF SOIL — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
03 AREA POTENTIALLY AFFECTED: _____ (Acres) — 04 NARRATIVE DESCRIPTION

Remote potential - greatest threat is from spills.

01 ☒ G. DRINKING WATER CONTAMINATION — 02 ☐ OBSERVED (DATE: _____) — ☒ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 100-1,000 — 04 NARRATIVE DESCRIPTION

See "Groundwater" section above.

01 ☒ H. WORKER EXPOSURE/INJURY — 02 ☐ OBSERVED (DATE: _____) — ☒ POTENTIAL — ☐ ALLEGED
03 WORKERS POTENTIALLY AFFECTED: 1-100 — 04 NARRATIVE DESCRIPTION

There is a potential for worker exposure to these substances if they are not properly handled.

01 ☒ I. POPULATION EXPOSURE/INJURY — 02 ☐ OBSERVED (DATE: _____) — ☒ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 101-1,000 — 04 NARRATIVE DESCRIPTION

See "Groundwater and Drinking Water" sections above.

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
FL	D060240247

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. DAMAGE TO FLORA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

None reported.

01 ☐ K. DAMAGE TO FAUNA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION (Include name(s) of species)

None reported.

01 ☐ L. CONTAMINATION OF FOOD CHAIN — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

None reported.

01 ☐ M. UNSTABLE CONTAINMENT OF WASTES (Spills/runoff/standing liquids/leaking drums) — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

None reported.

01 ☐ N. DAMAGE TO OFFSITE PROPERTY — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

None reported.

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

There is no potential for contamination of these systems since this facility operates its own WWTP.

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

None reported.

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

There are no other known hazards which may be associated with this site.

III. TOTAL POPULATION POTENTIALLY AFFECTED: 101-1,000

IV. COMMENTS

Although this facility generates, stores and treats a variety of hazardous substances, all information indicates that it is well managed and not currently a threat to the environment. The site should continue to be inspected on a periodic basis, and monitoring of the wells around the landfill should also continue.

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

See attached reference list.

MATERIAL RELATED TO PERMIT FOR

APPLICANT: Martin Marietta Orlando Aerospace

EPA ID# FLD 060 240 207

DOCKET NO.	DATE	DESCRIPTION	FILE SECTION
MM-1	11/15/84	Analysis GW Samples	2
MM-2	11/16/84	Additional Info	2
MM-3	12/4/84	NOV	2
MM-4	12/21/84	Chemical Analysis Data	2
MM-5	3/1/85	Specs. for Spill Collection	2
MM-6	3/25/85	Withdrawal of Site 5	2
MM-7	10/7/85	Transmittal of Post-Closure Appl.	2
MM-8	10/26/85	Public Notice	2
MM-9	7/19/84	Transmittal of OP	3
MM-10	9/11/84	Transmittal Cover letter (NOD)	3
MM-11	12/19/84	Transmittal letter (Revisions)	3
MM-12	2/8/85	WCS Review Comments	3
MM-13	4/12/85	Transmittal letter (Additional info)	3
MM-14	8/27/85	Rec. of Communication	3
MM-15	8/27/85	Rec. of Communication	3
MM-16	10/27/85	Transmittal letter (Fed. Draft Permit)	3
MM-17	10/28/85	Transmittal letter	3
MM-18	8/15/84	NOD	5
MM-19	10/23/84	NOD	5
MM-20	11/27/84	NOD (GW)	5
MM-21	11/28/84	NOD	5
MM-22	3/85	Notes on status	5
MM-23	4/23/85	Additional information	5
MM-24	8/ /85	Review Comments	5

MATERIAL RELATED TO PERMIT FOR

APPLICANT: Martin Marietta Orlando Aerospace

EPA ID# FLD 060 240 207

DOCKET NO.	DATE	DESCRIPTION	FILE SECTION
MM-25	8/19/85	Review Comments	5
MM-26	6/20/85	FDER Draft Storage Permit	6
MM-27	8/28/85	FDER Draft Storage Permit	6
MM-28	10/10/85	EPA Draft SWMU Permit (3 copies)	6
MM-29	11/18/85	Memo to Compliance	3
MM-30	11/12/85	Transmittal of EPA permit	2
MM-31	3/22/85	HSWA Letter	2
MM-32	8/28/85	Revised draft permit	6
MM-33	10/30/85	Public Notice	2
MM-34	11/13/85	Rec. of Comm. Public Notice	3
MM-35	11/22/85	Req. for WCS Review of FMP	9
MM-36	11/27/85	Letter to State (Part A questions)	3
MM-37	10/16/85	Letter confirming call	2
MM-38	Not dated	3004 (u)	4
MM-39	12/3/85	Rec. of communication	3
MM-40	Not dated	Memo for permit	3
MM-41	12/13/85	Permit Cover letter	2
MM-42	12/9/85	Final Permit	6
MM-43	11/12/85	Transmittal of Permit	2
MM-44	12/10/85	Letter on Appl. Submittal	2
MM-45	12/18/85	Rec. of Communication	3
MM-46	Not dated	Order on Sites 5 Lisa Parrish 5/23/89	2
MM-47	Not dated	Order on RAM lab	2

MATERIAL RELATED TO PERMIT FOR

APPLICANT: Martin Marietta Orlando Aerospace

EPA ID# FLD 060 240 207

DOCKET NO.	DATE	DESCRIPTION	FILE SECTION
MM-48	Not dated	Order on Site #4 Also Revised 5/23/89	2
MM-49	Not dated	Order on Sites #3+6 ↓	2
MM-50	Not dated	Order - MEC Bldg	2
MM-51	12/24/85	Storage permit + cover letter	6
MM-52	1/2/86	EPA review of Post-Closure Permit Application	3
MM-53	12/18/85	Appendix VIII info from Martin Marietta	2
MM-54	12/13/85	FL Groundwater Review Comments	3
MM-55	12/13/85	Cover letter for EIR transmittal	4
MM-56	2/13/85	HSWA letter + attached response dated 4/9/85	4
MM-57	12/26/85	Explanation of Part A	3
MM-58	11/21/85	~~Memo~~ Rec. of Communication to Devine from Ron Chernik	2
MM-59	12/10/85	State transmittal letter	3
MM-60	11/4/85	PA/SI	4
MM-61	Not dated	EMP	4
MM-62	1/30/86	Memo to Devine	3
MM-63	1/3/86	~~Corrections~~ Proposed amendments to Storage Permit	3
MM-64	Not dated	Summary of Status	3
MM-65	2/10/86	Rec. of Communication with State	3
MM-66	1/15/86	Cover memo for transmittal of issued storage permit	3
MM-67	11/19/85	Groundwater Assessment Review	5
MM-68	12/24/85	Storage Permit	6
MM-69	2/7/86	Letter @ State Closure Permit	2
MM-70	2/20/86	Review of EIR	HSWA

MATERIAL RELATED TO PERMIT FOR

APPLICANT: Martin Marietta Orlando Aerospace

EPA ID# FLD 060 240 207

DOCKET NO.		DATE	DESCRIPTION	FILE SECTION
MM-71	2/27/86		Certification signatures cover letter	EXT
MM-72	2/20/86		Comments on Post-Closure Permit Application	Part B
MM 299	12/10/85		HSWA Permit II	Permit
(See Vol V for entry also)			See Volume II	

C 74

MARTIN MARIETTA AEROSPACE

ORLANDO DIVISION
POST OFFICE BOX 5837
ORLANDO, FLORIDA 32805

November 15, 1984

Mr. L. Kozlov, P.E.
Supervisor Solid/Hazardous Waste
Department of Environmental Regulation
St. Johns River District
3319 Maquire Boulevard
Orlando, FL 32803

Re: Martin Marietta
Ground-water Monitoring
I. D. Number 48P00050

Dear Mr. Kozlov:

Enclosed are the results of analysis of ground-water samples for October 1984, for the following monitoring wells and parameters:

48A50MO 3	October 1984	Indicators
48A50MO 7	October 1984	Indicators

Sincerely,

MARTIN MARIETTA CORPORATION

R. F. Green

Raymond F. Green
Staff Engineer

RFG/ps

RECEIVED

NOV 26 1984

Hazardous Waste

DOCKET NO. MM-1

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

ST. JOHNS RIVER DISTRICT
3319 MAGUIRE BOULEVARD
SUITE 232
ORLANDO, FLORIDA 32803

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

ALEX SENKEVICH
DISTRICT MANAGER

QUARTERLY REPORT ON GROUND WATER MONITORING
Rule 17-4.245(6)(k)2.

GMS # 48P00050

DATE 15 November 1984

DER PERMIT # N/A

MARTIN MARIETTA ORLANDO AEROSPACE
Installation Name

P.O. BOX 5837 | ORLANDO | FL 32855 | ORANGE
Address | City | State Zip | County

RICHARD C. WINFIELD | DIRECTOR FACILITIES
Owner or Authorized Representative's Name | Title

Method of Discharge NONE

Type of Industry DEFENSE CONTRACTOR

Report for Period AUGUST 1984 (date) to OCTOBER 1984 (date)

Attach monitoring data as approved in monitoring plan using parameter monitoring report forms. When applicable, attach additional sheets describing any changes in the background water quality and the discharge plume since the last reported description. Include any changes in size, direction of movement, rate of movement, and concentration changes of plume constituents in violation of the applicable standards.

NOTE: Pursuant to Rule 17-4.245(6)(k)3., at any time there is a change in the permitted volume, location or chemical, physical or microbiological composition of the discharge plume, the permittee shall notify the department and, if required by the department, submit a new report stating the volume and chemical, physical and microbiological compositions of the discharge at the point of release or contact with the ground water at the site boundary.

CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Richard C Winfield
Owner or Authorized Representative's Signature

11/15/84
Date

INDICATORS

PARAMETER MONITORING REPORT
(Rule 17-3.402, 17-3.404 - 17-3.406)

GMS # 48P00050

Sample Date 10/01/84

Monitoring Well # 48A50M03

Well Type: [X] Background
[ ] Site Boundary
[ ] Intermediate
[ ] Compliance

Well Name PW-3

Classification of Groundwater III

Well Developed* Prior to Sample Collection (Yes/No) YES

Ground Water Elevation (above MSL) 90.54 ft

STORET Code	Parameter Monitored	Sampling Method	Analysis Method	Analysis Result	Units	Sample Filtered/Unfiltered	Preservatives Added
070300	TDS			35	mg/l		
00630	TOC			3	mg/l		
00635	NH4			<0.01	mg/l		
00620	Nitrates-N			<0.02	mg/l		
00605	Organ.Nitro.			<0.2	mg/l		
00400	Ph-Field			5.35	STD		
000940	Chlorides			5.9	mg/l		
00945	Sulfate			1.82	mg/l		
00095	Spec.Conduc.			45.8	umhos/cm		
00450	Bicarb.			4.9	mg/l		
00916	Calcium			1.15	mg/l		
01062	Magnesium			0.87	mg/l		
00937	Potassium			0.2	mg/l		
01045	Iron			0.45	mg/l		
01055	Manganese			20	ug/l		
01092	Zinc			<0.02	mg/l		
31615	Fecal Coli			<1	#/100ml		

*Well development is the process of pumping the well prior to sampling in order to obtai representative ground water sample.

DER Form 17-1.216(2)
Effective January 1, 1983

INDICATORS

PARAMETER MONITORING REPORT
(Rule 17-3.402, 17-3.404 - 17-3.406)

Sample Date 10/01/84

GMS # 48P00050

Monitoring Well # 48A50M07

Well Type: [ ] Background
[X] Site Boundary
[ ] Intermediate
[ ] Compliance

Well Name PW-7

Classification of Groundwater III

Ground Water Elevation (above MSL) 85.49 f

Well Developed* Prior to Sample Collection (Yes/No) YES

STORET Code	Parameter Monitored	Sampling Method	Analysis Method	Analysis Result	Units	Sample Filtered/Unfiltered	Preservatives Added
070300	TDS			267.5	mg/l		
00680	TOC			15	mg/l		
00625	NH4			0.39	mg/l		
00620	Nitrates-N			<0.02	mg/l		
00605	Organ.Nitro.			4.97	mg/l		
00400	Ph-Field			3.67	STD		
000940	Chlorides			2.7	mg/l		
00945	Sulfate			1.6	mg/l		
00095	Spec.Conduc.			27.7	umhos/cm		
00450	Bicarb.			<0.10	mg/l		
00916	Calcium			<0.10	mg/l		
01062	Magnesium			0.23	mg/l		
00937	Potassium			0.2	mg/l		
01045	Iron			0.2	mg/l		
01055	Manganese			<0.2	ug/l		
01092	Zinc			<0.02	mg/l		
31616	Fecal Coli			<1	#/100ml		

*Well development is the process of pumping the well prior to sampling in order to ob representative ground water sample.

DEP Form 17-1.215(2)
Effective January 1, 1983

for GPL

Response to 10/23/84 letter

MARTIN MARIETTA AEROSPACE

ORLANDO DIVISION
POST OFFICE BOX 5837
ORLANDO, FLORIDA 32805

cc Dist

RECEIVED

NOV 30 '84

Hazardous Waste

November 16, 1984

L. T. Kozlov, P.E.
Hazardous/Solid Waste Engineering
State of Florida
Department of Environmental Regulation
St. Johns River District
3319 Maguire Blvd.
Suite 232
Orlando, Florida 32803-3767

RECEIVED NOV 1984 St. Johns River District

Dear Mr. Kozlov:

RE: OSJ-HW-84-0303
Orange County HW
FLD 060240207
H048-089392

In response to the above referenced letter, the below items are addressed to satisfy the Department request for additional information. However, due to the time involved in obtaining information regarding certain items, the status will be provided and, an additional letter shall be forwarded to your office which will complete these items.

ITEM #3 Samples were obtained during the week of November 12-16, 1984, for the requested parameters chromium (+6), ph, conductivity, cyanide, volitile organic compounds, and nickle. When these reports are made available to us they will be forwarded to your office.

ITEM #6 The quality Assessment Plan was developed as required by 40 CFR 265.93. Additional work is being conducted by our consultant and will be made available upon their completion of the report.

ITEM #11 Sites 1, 2, and 3 were all closed prior to the promulgation of 40 CFR, 260-265.

ITEM #12 A licensed professional engineer registered in the State of Florida shall certify the underground sumps containing hazardous waste for its integrity. This system will be tested periodically and/or when a spill occurs which drains hazardous waste into these emergency sumps.

DOCKET NO. MM-2

ITEM # 16 Yes, both gloves and boots are approved for use with solvents as indicated by the distributor/manufacturer (Two types are typically used Neoprene/Latex.)

ITEM # 17 See attachment 1 for the list of first aid supplies.

ITEM # 18 As soon as the outline is completed it will be forwarded to your office.

ITEM # 20 Emergency equipment used in clean-up operations are small items which can be cleaned using isopropanol and/or methanol and dipping or scrubbing pumps, shovels and other listed equipment (Table 4.2). This liquid would then become a hazardous waste and collected in 55 gallon drums for off-site handling.

ITEM # 21 The spill basins are currently scheduled to start construction December 1984. Attachment 2 shows the location of basins. Each basin will be sloped to a sump which will discharge into the treatment tank should a leak develop. The basins will be constructed of 4 inch concrete floor and walls and will be sealed with compatible material.

Lime will be used if necessary to neutralize the spilled acid and to act as an absorbant, if this occurs outside the containment structures. Lime will also rapidly slow down the corrosive destructive action.

As stated earlier, all open items will be completed and forwarded to your office as soon as possible. Please feel free to call Scott Evans or myself if you have any questions.

Sincerely,

MARTIN MARIETTA ORLANDO AEROSPACE

R. F. Green

Raymond F. Green, P.E.
Staff Engineer

RFG/ps

Attachment

FISHER*brand**
First Aid Cabinet

First Aid Cabinet includes everything needed to treat most common lab emergencies. Emergency Chart mounted on hinged door gives instructions at a glance. 6.4L x 27W x 42cmH (2½ x 10¾ x 16½"). With three shelves. Holes in back panel for wall mounting. Meets OSHA requirements.

Ordering Information:

First Aid Cabinet with contents listed below:

- 2 rolls adhesive tape, 1" x 2½ yd.
- 1 cotton, 1 oz.
- absorbent gauze, 4½" x 1 yd.
- aromatic spirits of ammonia
- bottles P.V.P. iodine, 1¼ oz. ea.
- paper drinking cups
- forceps, sharp paint
- 1 First Aid at a Glance® card
- 1 scissors
- 2 gauze bandages, 1" x 20 yd.
- 2 gauze bandages, 2" x 10 yd.
- [illegible] bottle sterile boric acid solution
- [illegible] compresses [illegible]
- [illegible] compress pads, 2" x 2"
- 1 roll adhesive tape, ½" x 5 yd.
- 10 [illegible] adhesive pads, 1½" x 2"
- 10 Tells adhesive pads, 2" x 3"
- 1 4" non-adherent compress w/72" bandage
- 1 2" non-adherent compress w/36" bandage
- 1 adhesive bandage, plastic non-adherent pad, 2¾" x 3¼"
- 32 adhesive bandages, plastic, 1" x 3½"
- 10 ammonia inhalants
- 4 tubes calloid burn ointment, 17g ea.
- 50 envelopes asphix, 2/env.
- 1 8" x 10" non-adherent compress w/2" x 6 yd. gauze bandage
- 1 triangular bandage, 40"
- 1 eye dressing set
- 1 U.S. Army type [illegible]
- 1 ice pak compress

10-020 ..... 87.00

Refill for Safety Cabinet.
(Contents only.)
10-021 ..... 67.00

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

ST. JOHNS RIVER DISTRICT
3319 MAGUIRE BOULEVARD
SUITE 232
ORLANDO, FLORIDA 32803-3767
CERTIFIED
P33 7235467

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

A. ALEXANDER,
DISTRICT MANAGER

December 4, 1984

WARNING NOTICE
OWN-84-126

Richard C. Winfield
Director of Facilities
Martin Marietta Corporation - Orlando
Post Office Box 5837
Orlando, Florida 32855

Dear Mr. Winfield:

Orange County - HW
Martin Marietta - Orlando
FLO 060 240 207

Under Chapter 403, Florida Statutes, the Department of Environmental Regulation was delegated the power and duty to control and prohibit pollution of air and water in accordance with the law, rules and regulations promulgated by the department.

You are hereby placed on notice that the department has reason to believe that you are presently operating in violation of Section 403.161, Florida Statutes, and department rules, as noted on the attached sheet(s).

Section 403.726(3) provides that whoever commits a violation of that Section shall be liable to the state for any damage caused and for civil penalties of up to $50,000 per day during which the violation occurs.

Accordingly, you are hereby advised to respond to the specific violations within fifteen (15) days from receipt hereof.

You should direct your response and any questions concerning this Warning Notice to Jim Jarmolowski, or W. E. Darling, Enforcement Section at (305) 894-7555 or at the above address.

Sincerely,

A. Alexander, P.E.
District Manager

AA:gg:wed:jjm

cc: Orange County Environmental Protection Department
D. Thompson
C. Diltz
L. T. Kozlov

Protecting Florida and Your Quality of Life

DOCKET NO. MM-3

WARNING NOTICE
OWN-84-126
December 4, 1984

Rules Violated:

Section 403.088(1) - Florida Statutes, Unpermitted discharge of wastes to waters of the state.
Section 403.161(1)(a) - Florida Statutes, Prohibition to cause pollution.
Section 403.161(1)(b) - Florida Statutes, Prohibition to fail to comply with regulations issued by the department.
Section 403.727(3)(b)(2), Florida Statutes
Section 403.736(2) - Florida Statutes, Department shall take action to abate any imminent hazard.
Rule 17-3.401(3) - Florida Administrative Code, Groundwater General.
Rule 17-3.402(1)(b) - Florida Administrative Code, Protection of groundwater from substances which are harmful to plants, animals or native soil organisms.
Rule 17-3.402(1)(d) - Florida Administrative Code, Protection of groundwater from substances which pose a serious danger to the public health, safety or welfare.
Rule 17-3.402(1)(e) - Florida Administrative Code, Protection of groundwater from substances which create or constitute a nuisance.
Rule 17-4.245(2) - Florida Administrative Code, Installations Discharging to Groundwater - General Prohibitions and Exceptions.
Rule 17-30.15(1), Florida Administrative Code, General Standards for TSO facilities.
Rule 17-30.18, Florida Administrative Code, Standards Application to owner and operations of Hazardous Waste Treatment, storage and disposal facilities.
Rule 17-30.26, Florida Administrative Code, Closure Permits.
40, Code Federal Regulations, Part 265.93(d)(1), Groundwater Monitoring
40, Code Federal Regulations, Part 265.93(d)(2), Groundwater Monitoring
40, Code Federal Regulations, Part 265.93(d)(3), Groundwater Monitoring
40, Code Federal Regulations, Part 265.93(d)(4), Groundwater Monitoring
40, Code Federal Regulations, Part 265.93(d)(5), Groundwater Monitoring

Remarks, (e.g., explanatory statement)

A sampling survey conducted on September 20, 1984 and a record review of Martin Marietta's groundwater monitoring reporting procedures documented violations of Chapter 403, Florida Statutes, Florida Administrative Code Chapters 17-3 and 17-30 and 40 CFR, part 265.93.

Specifically, contamination of groundwater at Martin Marietta hazardous waste landfill with high levels of volatile organics has been documented.

WARNING NOTICE
OWN-84-126
December 4, 1984

Remarks (Con'd.)

In addition, the reporting of all 40 CFR 265.93 indicator parameters were delinquent and to the improper reporting authority. A closure permit application for this landfill was never received by the Department. A copy of the sampling results is attached for your review.

You are requested to contact this office within fifteen (15) days to schedule a meeting to discuss corrective actions in this matter.

Len Please give John Chambers a copy

Action is unit
If ~~[illegible]~~ detection limit
too high - useless and aren't these detection limits too high? Chuck

EPA
Rec'd EPA
2-19-85

Clove
PJ

MARTIN MARIETTA AEROSPACE

ORLANDO DIVISION
POST OFFICE BOX 5837
ORLANDO, FLORIDA 32805
TELEPHONE (305) 855-6100

21 December 1984

L.T. Kozlov, P.E.
Hazardous/Solid Waste Engineering
State of Florida
Department of Environmental Regulation
St. Johns River District
3319 Maguire Blvd.,Suite 232
Orlando, Florida 32803-3767

RECEIVED
DEC 26 1984
SAINT JOHNS
RIVER DISTRICT

Dear Mr. Kozlov:

Pursuant to our letter dated November 16,1984, we have attached the chemical analysis data requested by your office. Both wells, located at the waste treatment facility, are directly downgradient from the underground lined sumps.

If you have any questions, please call Scott Evans or myself at 356-4286.

Sincerely,
MARTIN MARIETTA ORLANDO AEROSPACE

Raymond F. Green (by [illegible])

Raymond F. Green
Staff Engineer

encl.
cc. Jim Jarmolowski, Enforcement Section
RFG/kb

DOCKET NO. MM-4

Jefferson L. Flowers, Ph. D.
Jefferson S. Flowers, Ph. D.

Ph. (305) 339-5984

FLOWERS CHEMICAL LABORATORIES

ANALYTICAL & CONSULTING CHEMISTS

Received From
Martin Marietta
PO Box 5837 MP 124
Orlando, FL 32855

Date Reported: Dec17 1984

HEW Provider #: 10-8220
DHRS Lab# : 83139
DER Lab# : EL0096
CDC Lab# : 091036
AIHA Lab# : 253

Cr Ni CN
Date Received Nov 7 1984

Lab Numbers: 10677-10678

REPORT OF ANALYSIS

Parameter	Unit	Method Detection Limit	%ACC	%PRC	10677 TW2	10678 TW3
pH		0.1			4.6	5.4
Conductivity	umhos/cm	1			420	310
Hex Chromium	mgCr/L	0.03	98.7	2.2	0.04	<0.03
Nickel	mgNi/L	.0005	98.7	2.2	0.053	0.017
Cyanide	mgCN/L	0.02		4.1	<0.02	<0.02

Data Release Authorization
ample integrity and reliability certified by Lab personnel prior to analysis.
ethods of analysis in accordance with FCL QA and EPA approved methodology.

Jefferson S. Flowers, Ph.D.
Technical Director

Jefferson L. Flowers, Ph. D.
Jefferson S. Flowers, Ph. D.

Ph. (305) 339-5984

FLOWERS CHEMICAL LABORATORIES

ANALYTICAL & CONSULTING CHEMISTS

eceived From:
Martin Marietta
PO Box 5837 MP 124
Orlando, FL 32855

Date Reported: Nov21 1984

HEW Provider #: 10-8220
DHRS Lab# : 83139
DER Lab# : EL0096
CDC Lab# : 091036
AIHA Lab# : 253

or: VOC
ate Received Nov 7 1984 Lab Numbers: 10679-10680

REPORT OF ANALYSIS

Parameter	Unit	Method Detection Limit	%ACC	%PRC	10679 TW2	10680 TW3
Chloroform	ug/L	3			<3	<3
Bromodichl_Meth	ug/L	3			<3	<3
dibromochl_Meth	ug/L	1			<1	<1
Bromoform	ug/L	3			<3	<3
Total_THM	ug/L	10			<10	<10
12Dichloroethan	ug/L	1			<1	<1
111Trichloretan	ug/L	1.5			<1.5	<1.5
Trichloroethene	ug/L	1			<1	<1
Carbon_TetraCl	ug/L	3			<3	<3
Tetrachloroethane	ug/L	1			<1	<1
Bromomethane	ug/L	3			<3	<3
Dichlorodiflurmeth	ug/L	3			<3	<3
vinyl_chloride	ug/L	0.7			<0.70	<0.70
Chloroethane	ug/L	3			<3	<3
Methylene_chloride	ug/L	3			<3	<3
Trichlorflurmethane	ug/L	6			<6	<6
11-Dichloroethane	ug/L	1.5			<1.5	5.63
11-Dichloroethene	ug/L	1.5			<1.5	<1.5
t12_Dichloretnene	ug/L	1.5			<1.5	<1.5
12-Dichlorpropane	ug/L	0.6			<0.60	<0.60
t13_Dichloropropene	ug/L	1			<1	<1
112_Trichloretnane	ug/L	1			<1	<1
c13-dichlorpropene	ug/L	0.1			<0.10	<0.10
2-Chloroethyln_ether	ug/L	0.8			<0.80	<0.80
1122-Tetrachloroeth	ug/L	1			<1	<1
[illegible] Chloromethane	ug/L	3			<3	<3

Data Release Authorization.
ample integrity and reliability certified by Lab personnel prior to analysis
ethod. of analysis in accordance with FCL QA and EPA approved methodology

Jefferson B. Flowers, Ph. D.
Technical Director

NEWBURYPORT & 2nd St., P.O. BOX 697 ALTAMONTE SPRINGS FLA 32714-0597

Jefferson L. Flowers, Ph. D.
Jefferson S. Flowers, Ph. D.

Ph. (305) 339-5984

FLOWERS CHEMICAL LABORATORIES

ANALYTICAL & CONSULTING CHEMISTS

eceived From:
Martin Marietta
PO Box 5837 MP 124
Orlando, FL 32855

Date Reported: Nov21 1984

HEW Provider #: 10-8220
DHRS Lab# : 83139
DER Lab# : EL0096
CDC Lab# : 091036
AIHA Lab# : 253

or: VOC
ate Received Nov 7 1984

Lab Numbers: 10679-10680

REPORT OF ANALYSIS

Parameter	Unit	Method Detection Limit	%ACC	%PRC	10679 TW2	10680 TW3
Chlorobenzene	ug/L	0.8			<0.80	<0.80
13_Dichlorbenzene	ug/L	4			<4	<4
12_Dichlorbenzene	ug/L	3			<3	<3
14_Dichlorbenzene	ug/L	4			<4	<4

Data Release Authorization

ample integrity and reliability certified by Lab personnel prior to analysis.
ethods of analysis in accordance with FCL QA and EPA approved methodology

Jefferson S. Flowers, Ph. D.
Technical Director

NEWBURYPORT & 2nd St., P.O. BOX 597, ALTAMONTE SPRINGS, FLA. 32715-0597

EPA

Rec'd EPA 4-15-85 HSM

MARTIN MARIETTA AEROSPACE

POST OFFICE BOX 5837
ORLANDO, FLORIDA 32855

1 March 1985

L. T. Kozlov, P.E.
Hazardous/Solid Waste Engineering
State of Florida
Department of Environmental Regulation
St. Johns River District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

RECEIVED MAR 1985 Saint Johns River District

Orange County HW
Martin Marietta Orlando Aerospace
Hazardous Waste TOP
Permit Number HT48-68393

Dear Mr. Kozlov:

Martin Marietta plans to replace the containment tanks at the Waste Storage Building. As required by Item No. 2 of the general conditions of the TOP and the provisions of Chapter 17-30.29, Martin Marietta has enclosed four (4) sets of the design drawings and specifications for the Departments' review and approval. An early response to this request will be appreciated.

Sincerely,

MARTIN MARIETTA ORLANDO AEROSPACE

R. F. Green

Raymond F. Green, P.E.
Staff Engineer

RFG:jc

Enclosure

cc: A. Alexander, P.E.
G. Gionis
L. R. Morgan

RECEIVED
MAR 11 1985
Hazardous Waste

DOCKET NO. MM-5

C. Dilts

Don't Charlie File

Akerman, Senterfitt & Eidson

Attorneys and Counsellors at Law

E. 510 LEWIS STATE BANK BUILDING
POST OFFICE BOX 1794
TALLAHASSEE, FLORIDA 32302
(904) 224-7091
TELECOPY (904) 222-2593

SEVENTEENTH FLOOR, CNA BUILDING
POST OFFICE BOX 231
ORLANDO, FLORIDA 32802
(305) 843-7860
CABLE ADDRESS-AKER SENT
TELEX 56-4335
TELECOPY (305) 843-6610

SUITE 700, THE BRICKELL CONCOURS
1401 BRICKELL AVENUE
MIAMI, FLORIDA 33131
(305) 372-1364
TELECOPY (305) 374-5095

Rec'd EPA 4-1-85 KEM

RECEIVED
APR 01 1985
HAZARDOUS WASTE

March 25, 1985

REPLY TO: Tallahassee

MAR 1985 RECEIVED ST. JOHNS River District

BY HAND DELIVERY THIS DATE

Larry R. Morgan
Assistant General Counsel
Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301

Re: **Withdrawal of Hazardous Waste Operation Permit Application Relating to Site 5; Martin Marietta Corporation, Sand Lake Road Facility**

Dear Larry:

Pursuant to our conference on March 21, 1985, this is to advise you and members of the Department of Environmental Regulation ("Department") staff that Martin Marietta Corporation ("Martin Marietta") herewith withdraws Site 5 from its Application for a Hazardous Waste Facility Operation Permit. This hazardous waste application was filed with the Department on June 25, 1984. Martin Marietta no longer seeks an operation permit for Site 5 because Site 5 will not be utilized as a hazardous waste landfill disposal site.

Instead, Martin Marietta will now close Site 5 pursuant to RCRA closure procedures and requirements. On behalf of Martin Marietta, we are drafting a Consent Order which will provide for closure of Site 5 and appropriate corrective action as necessary to address any groundwater contamination. I expect to be able to submit this Consent Order to you within the next few days.

DOCKET NO. MM-6

As we discussed at our conference, closure for Site 5 will be for the area designated on the map given to Jim Jarmolowski. This map specifies the dimensions and legal description of Site 5.

Concerning the Application for the Hazardous Waste Facility Operation Permit, we were informed at the March 21st conference that Mr. L. T. Kozlov needed certain additional information in order to process this application. Mr. Kozlov subsequently specified the additional information requested. Martin Marietta responded to Mr. Kozlov's inquiries by correspondence hand delivered to Mr. Kozlov on March 22, 1985. We trust this supplemental information will now allow the Department to approve the Operation Permit Application (excluding Site 5). In the interim we renew Martin Marietta's request that the Hazardous Waste Temporary Operation Permit No. HT48-68393 (excluding Site 5) be extended to December 31, 1985, or until the Operation Permit is granted. This request was originally submitted to the Department on January 14, 1985 by letter from Raymond Green, Staff Engineer, Martin Marietta.

Please call if you have any questions concerning this matter.

Sincerely,

AKERMAN, SENTERFITT & EIDSON

Kendrick Tucker

KT/lm

cc: Alex Alexander, P.E., District Manager
St. Johns River District
Department of Environmental Regulation

George Gionis, Manager, Enforcement Section
St. Johns River District
Department of Environmental Regulation

cc: Jim Jarmolowski
St. Johns River District
Department of Environmental Regulation

✓L. T. Kozlov, P.E.
Hazardous/Solid Waste Engineer
St. Johns River District
Department of Environmental Regulation

A. T. Sawicki
St. Johns River District
Department of Environmental Regulation

Craig Diltz, Engineer
Solid & Hazardous Waste Section
Department of Environmental Regulation

Richard C. Bruning, Chief Counsel
Martin Marietta Orlando Aerospace

Richard C. Winfield, Facilities Director
Martin Marietta Orlando Aerospace

Raymond F. Green, Staff Engineer
Martin Marietta Orlando Aerospace

MARTIN MARIETTA AEROSPACE

POST OFFICE BOX 5837
ORLANDO, FLORIDA 32855

MP-124

October 7, 1985

WASTE ENGINEERING
SECTION
RECEIVED
OCT 8 1985
RECEIVED
EPA/REGION IV
ATLANTA, GA.

U. S. Environmental Protection Agency
Region IV
245 Courtland Street
Atlanta, Georgia 30365

Attention: James H. Scarborough, P. E. Chief
Residuals Mangement Branch
Waste Management Branch

Re: Martin Marietta Orlando Aerospace, Post Closure Permit Application
Application and Closure Plan for Hazardous Waste Unit
Identified as "Site 5 Sludge Cells"
EPA ID No. FLO 060 240207

Gentlemen:

We enclose for your review, two (2) copies of a Post Closure Permit Application and Closure Plan for Martin Marietta Orlando Aerospace hazardous waste unit identified as "Site 5 Sludge Cells." In addition, we are sending four (4) copies of this Permit Application and Closure Plan to the Florida Department of Environmental Regulation (FDER).

We believe you are aware that our company entered into a Consent Order with the FDER on June 25, 1985 (OCG File No. 85-0412) which provided for a closure plan and post-closure plan to be submitted to the FDER pursuant to 40 CFR Part 264 at a later time than October 8, 1985. Since FDER achieved final authorization from EPA to administer 40 CFR Parts 264 and 265, we believe the FDER had authority to allow submission of such plans subsequent to the October 8 date. Consequently, the submission of the enclosed permit application does not constitute an admission by Martin Marietta of EPA's authority to require such documentation, and we reserve the right to challenge the jurisdiction and authority of EPA to require the post-closure permit application.

DOCKET NO. MM-7

WASTE ENGINEERING
SECTION

RECEIVED
OCT 8 1985
EPA/REGION IV
ATLANTA, GA.

Please note that two sections of the Post Closure Permit Application have not been completed but will be submitted as soon as they become available, and not later than October 15, 1985. They are:

Financial Assurance Documentation
Exposure Information Report

The Appendix VIII Analysis of Groundwater Samples has not been received from the laboratory but will also be submitted as soon as it becomes available.

Very truly yours,

Raymond F. Green
/nd

Raymond F. Green
Staff Engineer

RFG/D/nd

Enclosures (2)

cc: Alex Alexander, District Manager (with enclosures [4])
State of Florida
Department of Environmental Regulation
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803

WES

PAM: Martin-Orlando
file w/ HOMB-89392
'CHS' - Proof of Public Notice Published

The Orlando Sentinel

Published Daily
Orlando, Orange County, Florida

State of Florida } ss.
COUNTY OF ORANGE

OCT 1985 RECEIVED ST. JOHNS River District

Before the undersigned authority personally appeared Catherine Deering, who on oath says that she is the Legal Advertising Representative of the Orlando Sentinel, a Daily newspaper published at Orlando, in Orange County, Florida; that the attached copy of advertisement, being a Joint Public Notice in the matter of Permit to Martin Marietta Orlando Aerospace in the _____ Court, was published in said newspaper in the issues of October 26, 1985

Affiant further says that the said Orlando Sentinel is a newspaper published at Orlando, in said Orange County, Florida, and that the said newspaper has heretofore been continuously published in said Orange County, Florida, each Week Day and has been entered as second-class mail matter at the post office in Orlando, in said Orange County, Florida for a period of one year next preceding the first publication of the attached copy of advertisement; and affiant further says that he/she has neither paid nor promised any person, firm or corporation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in the said newspaper.

Sworn to and subscribed before me this 29th day of October A.D., 1985

Notary Public, State of Florida at Large
My Commission Expires May 25, 1987
Bonded by American Pioneer Casualty Ins. Co.

Notary Public

FORM NO. AD-262

ADVERTISING CHARGE $211.41

JOINT PUBLIC NOTICE OF [illegible] AUTHORITY
FLORIDA DEPART[illegible] REGULATION
[illegible]
3319 MAG[illegible] BOULEVARD, [illegible]
ORLANDO, FLORIDA 32[illegible]
305/894-7555
in conjunction with the
U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION IV, RESIDUALS MANAGEMENT BRANCH
345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30[illegible]
404/[illegible]

THE FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION (DER) AND THE U.S. ENVIRONMENTAL PROTECTION AGENCY (U.S. EPA) GIVE NOTICE OF THEIR INTENT TO ISSUE JOINT PERMITS UNDER THE RESOURCE CONSERVATION AND RECOVERY ACT (RCRA), AS AMENDED BY THE HAZARDOUS AND SOLID WASTE AMENDMENTS OF 1984, SECTION 403.722, FLORIDA STATUTES, AND CHAPTER 17-4 AND 17-30 OF THE FLORIDA ADMINISTRATIVE CODE (FAC) to the Martin Marietta Orlando Aerospace, 4800 Sand Lake Road, Orlando, Florida 32855 having the assigned facility I.D. Number FLD 080 240 207. The two permits, if issued will constitute the RCRA permit required by the Florida DER and the U.S. EPA.

The State of Florida has been granted authorization for those portions of the RCRA Hazardous Waste Program that were in effect prior to the passage of the Hazardous and Solid Waste Amendments of 1984. The Federal Environmental Protection Agency will administer the applicable portions of the Hazardous and Solid Waste Amendments of 1984 (especially the waste minimization and prior release portions) until the State receives authorization for these provisions.

A draft permit, prepared in accordance with the provisions of Chapter 17-30 of the Florida Administrative Code (FAC), contains the conditions for the construction [illegible] hazardous waste storage facility [illegible] minimum [illegible] 305 (55 gallon) [illegible] as follows:

Type of Waste [illegible]

Flammable/Ignitable [illegible]

Organic Peroxide [illegible]

Solid Hazardous Waste [illegible]

Water Reactive Chemicals [illegible]

The [illegible] draft permit [illegible] solid waste [illegible] to verify [illegible] applicable state and federal regulations.

[illegible] and a copy of both state and federal proposed [illegible] St. Johns River District [illegible] U.S. EPA Library, 345 [illegible] Courtland Street, N.E., Atlanta, Georgia. All data submitted [illegible] available as part of the administrative [illegible]

[illegible] written comments on the [illegible] the Department [illegible]

[illegible] consideration [illegible] request a hearing under Section 120.57, Florida Statutes, [illegible] under Section 403.722(3), Florida Statutes.

[illegible] is that the administrative hearing process is designed to formulate agency action. Accordingly, the Department's action may be different from the proposed agency action. Persons whose substantial interests have been affected by the action of the Department have the right to intervene in [illegible] proceeding. A petition for intervention must be filed pursuant to Rule 28-5.207, Florida Administrative Code, at least five [illegible] before the final hearing and be filed with the hearing officer if one has been assigned at the division of Administrative Hearings, Department of Administration, 2009 Apalachee Parkway, Tallahassee, Florida 32301. Failure to petition to intervene within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, Florida Statutes.

Any interested person may submit comments on the draft federal permit and may request a hearing pursuant to 40 CFR 124.11. The request must be in writing and must include a written notice of opposition to the draft federal permit. Hearing request should be addressed to Mrs. Earline Hanson, U.S. EPA, at the above address within 45 days of this notice.

A copy of the proposed U.S. EPA permit may be obtained by contacting Mrs. Earline Hanson, U.S. EPA at the above address. A nominal fee for copying and/or mailing may be charged.

CL-097 Oct.26,1985

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

Back Stamped
Rec'd 7-25-84

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301-8241

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

July 19, 1984

Mr. James H. Scarbrough, Chief
Residuals Management Branch
U.S. Environmental Protection Agency
Region IV
345 Courtland Street
Atlanta, Georgia 30365

Dear Mr. Scarbrough:

In accordance with Section II.A.2.(d)(2) of the Memorandum of Agreement for Phase II Interim Authorization Components A, B, and C, we are providing your office with a copy of the Operating Permit application for Martin Marietta Orlando Aerospace, Sand Lake Road facility, EPA I.D. No. FLD 060 240 207.

If you have any questions concerning the enclosures, please call me at 904/488-0300.

Sincerely,

Craig Dilz

Craig Dilz
Engineer
Solid & Hazardous Waste Section

CD/ls
Enclosure

DOCKET NO. MM-9

WASTE ENGINEERING
SECTION
RECEIVED
JUL 25 1984
EPA/REGION IV
ATLANTA, GA.

RECEIVED
JUL 25 1984
SOLID WASTE MANAGEMENT BRANCH

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

ST. JOHNS RIVER DISTRICT
3319 MAGUIRE BOULEVARD
SUITE 232
ORLANDO, FLORIDA 32803-3767

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

ALEX ALEXANDER
DISTRICT MANAGER

Permittee:
Richard C. Winfield,
Director of Facilities
Martin Marietta Orlando Aerospace
4600 Sandlake Road
Post Office Box 5837
Orlando, Florida 32855

I. D. Number:FLD 060 240 207
Permit/Certification
Number:HO48-89392
Date of Issue:
Expiration Date:
County: Orange
Latitude/Longitude:
28°26'17"/81°26'55"
Section/Township/Range:
32 /23 /29
Project: Martin Marietta
Orlando Aerospace Hazardous
Waste Storage Facility

This permit is issued under the provisions of Chapter(s) 403, Florida Statutes, and Florida Administrative Code Rule(s) 17-3, 17-4 and 17-30. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents attached hereto or on file with the department and made a part hereof and specifically described as follows:

The hazardous waste storage facility includes containerized hazardous waste storage building and three - one thousand gallon spill collection tanks. Hazardous wastes are stored in fifty five (55) gallon drums in the building which is designed for a maximum storage of 336 (55 gallon) drums. Hazardous wastes have EPA Hazardous Waste Numbers of D001, D002, F001, F003, F005 and F006.

The structure has the following features: six (6") inch reinforced concrete slab with raised curbs; impervious floor with 2 inch slope towards spill containment area; three (3) bays with spill containment areas; pre-cast roof panels; controlled access (inside fenced area with locked gate); emergency eyewash and shower; fire hydrant and hose-bib water connections.

The three spill collection tanks are located north of the hazardous waste storage building. The tanks are installed underground and made of steel with the minimum wall thickness of 3/16" and 4" PVC butterfly valves. Cathodic protection is provided to pipes and tanks.

The building is subdivided into three (3) bays: #1, #2, and #3 with dimensions of 18'2" x 27'8", 18'5" x 27'8" and 37'3" x 27'8" respectively.

PERMITTEE:

Martin Marietta Orlando Aerospace

I.D. Number: FLD 060 240 207
Permit/Certification Number: HO48-89392
Date of Issue:
Expiration Date:

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions" and as such are binding upon the permittee and enforceable pursuant to the authority of Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the department will review this permit periodically and may initiate enforcement action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the department.

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Nor does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit does not constitute a waiver of or approval of any other department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express state opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, plant or aquatic life or property and penalties therefor caused by the construction or operation of this permitted source, nor does it allow the permittee to cause pollution in contravention of Florida Statutes and department rules, unless specifically authorized by an order from the department.

6. The permittee shall at all times properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by department rules.

7. The permittee, by accepting this permit, specifically agrees to allow authorized department personnel, upon presentation of credentials or other documents as may be required by law, access to the premises, at reasonable times, where the permitted activity is located or conducted for the purpose of:

   a. Having access to and copying any records that must be kept under the conditions of the permit;

   b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and

   c. Sampling or monitoring any substances or parameters at any location reasonably necessary to assure compliance with this permit or department rules.

   Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately notify and provide the department with the following information:

   a. a description of and cause of non-compliance; and

b. the period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the department for penalties or revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source, which are submitted to the department, may be used by the department as evidence in any enforcement case arising under the Florida Statutes or department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes.

10. The permittee agrees to comply with changes in department rules and Florida Statutes after a reasonable time for compliance, provided however, the permittee does not waive any other rights granted by Florida Statutes or department rules.

11. This permit is transferable only upon department approval in accordance with Florida Administrative Code Rules 17-4.12 and 17-30.30, as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the department.

12. This permit is required to be kept at the work site of the permitted activity during the entire period of construction or operation.

13. This permit also constitutes:

( ) Determination of Best Available Control Technology (BACT)
( ) Determination of Prevention of Significant Deterioration (PSD)
( ) Certification of Compliance with State Water Quality Standards (Section 401, PL 92-500)
( ) Compliance with New Source Performance Standards

14. The permittee shall comply with the following monitoring and record keeping requirements:

a. Upon request, the permittee shall furnish all records and plans required under department rules. The retention period for all records will be extended automatically, unless otherwise stipulated by the department, during the course of any unresolved enforcement action.

b. The permittee shall retain at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation), copies of all reports required by this permit, and records of all data used to complete the application for this permit. The time period of retention shall be at least three years from the date of the sample, measurement, report or application unless otherwise specified by department rule.

c. Records of monitoring information shall include:

- the date, exact place, and time of sampling or measurements;
- the person responsible for performing the sampling or measurements;
- the date(s) analyses were performed;
- the person responsible for performing the analyses;
- the analytical techniques or methods used; and
- the results of such analyses.

15. When requested by the department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the department, such facts or information shall be submitted or corrected promptly.

Permittee:
Martin Marietta Orlando Aerospace

I. D. Number: FLD 060 240 207
Permit/Certification
Number: HO48-89392
Date of Issue:
Expiration Date:

16. In the case of a hazardous waste facility permit, the following permit conditions shall also apply.

a. The permittee will submit the following reports to the department:

(1) Manifest discrepancy report: If a significant discrepancy in a manifest is discovered, the permittee must attempt to reconcile the discrepancy. If not resolved within 15 days after receiving the waste, the permittee shall immediately submit a letter report including a copy of the manifest to the department.

(2) Unmanifested waste report: Permittee shall submit an unmanifested waste report to the department within 15 days of receipt of unmanifested waste.

(3) Annual report: An annual report covering facility activities during the previous calendar year must be submitted in accordance with Florida Administrative Code Rule 17-30.

b. Notification of any non-compliance which may endanger health or the environment, including the release of any hazardous waste that may endanger public drinking water supplies, or the occurrence of a fire or explosion from the facility which could threaten the environment or human health outside the facility, shall be verbally submitted to the department within 24 hours and a written submission provided within 5 days. The verbal submission within 24 hours shall contain the name, address, I.D. number and telephone number of the facility and owner or operator, the name and quantity of materials involved, the extent of injuries (if any), an assessment of actual or potential hazards, and the estimated quantity and disposition of recovered material. The written submission shall contain the following:

(1) a description of and cause of non-compliance; and

(2) if not corrected, the anticipated time the non-compliance is expected to continue and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

c. Reports of compliance or non-compliance with, or any progress reports on, requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

d. All reports or information required to be submitted to the department by a hazardous waste permittee shall be signed by a person authorized to sign a permit application.

DRAFT

PERMITTEE:
Martin Marietta Orlando Aerospace

I. D. Number:FLD 060 240 207
Permit/Certification Number:
HO48-89392
Date of Issue:
Expiration Date:

SPECIFIC CONDITIONS:

1. The permittee shall notify the department in writing four weeks prior to receipt of hazardous waste from a foreign source.

2. Only hazardous waste listed in Table 3-2 of the Operation Permit Application shall be stored at the hazardous waste storage building. Prior to acceptance of new hazardous wastes, the permittee shall submit to the department, for approval, waste analysis of the proposed new waste stream. This analysis must also be incorporated in the general waste analysis plan and retained on-site.

3. The permittee shall inspect the facility operating, emergency and safety equipment in accordance with the schedule approved in Attachment 4 of the Operation Permit Application. Changes, additions, or deletions to the schedule must be approved in writing by the department. The schedule must be maintained as part of the operating record at the facility.

4. Facility personnel must complete the approved training program indicated in Section 4 of the Operation Permit Application. Verification of this training must be kept with the personnel training records and maintained on-site. Personnel shall not work unsupervised until training has been completed.

5. The contingency plan must be amended and distributed to the appropriate agencies if any criteria in 40 CFR 264.54 are met. Amendments to the plan must be approved in writing by the department.

6. The permittee shall follow the emergency procedures specified in 40 CFR 264.56 and approved in Section 4 Part E-2.4 of the Operation Permit Application. The permittee shall give proper notification if an emergency situation arises and within 15 days must submit to the department a written report which includes all information required in 40 CFR 264.56(j).

7. The permittee shall comply with the manifest requirements indicated in Part 40 CFR 264.71.

PERMITTEE:
Martin Marietta Orlando Aerospace

I. D. Number:FLD 060 240 207
Permit/Certification Number:
HO48-89392
Date of Issue:
Expiration Date:

SPECIFIC CONDITIONS:

8. The permittee shall keep a written operating record at the facility which includes:

   The description and quantity of each hazardous waste received.

   The location of each hazardous waste within the facility.

   The results of the waste analysis

   A summary report and details of incidents that require implementation of the contingency plan

   Manifest numbers

   The results of inspections (for 3 years)

   Closure plan and cost estimates.

These records must be maintained at the facility until completion and certification of closure.

9. The permittee shall apply for a permit renewal 90 days prior to the expiration date.

10. The permittee shall apply for a closure permit at least 180 days prior to beginning closure at the facility.

11. The permittee shall update waste analysis specified in 40 CFR 264.13 annually. The updated waste analysis data shall be submitted each year to the department by December 1.

12. Hazardous waste shall not be accumulated at any sites longer than 90 days except at the hazardous waste storage building.

13. Hazardous waste shall be containerized in 17E, 17H and DOT-E 6537 type DOT approved 55 gallon drums/carboys or equivalent and stored on pallet racks.

14. Bay #1 shall be permitted to store up to a maximum of 96 (55 gallon) drums of hazardous waste characterized "Flammable/ Ignitable" with EPA Hazardous Waste Numbers of D001, F003 and F005.

PERMITTEE:
Martin Marietta Orlando Aerospace

I. D. Number:FLD 060 240 207
Permit/Certification Number:
HO48-39392
Date of Issue:
Expiration Date:

SPECIFIC CONDITIONS:

15. Bay #2 shall be permitted to store up to a maximum of 96 (55 gallon) drums of hazardous waste characterized "Organic Solvent - Non-Flammable" with EPA Hazardous Waste Numbers of F001.

16. Bay #3 shall be subdivided into two areas. One area (18'9" x 27'8") shall be for storage of non-hazardous chemical waste and have a maximum storage of 48 (55 gallon) drums. The other area (18'6" x 27'8") shall be for storing hazardous waste characterized "Solid Material - Non-flammable" with EPA Hazardous Waste Numbers of D002 and F006 and have a maximum storage of 96 (55 gallon) drums.

17. All hazardous waste containers shall be kept closed during storage except when adding or removing wastes and be handled in a manner that will not allow the containers to rupture or leak. If a container holding hazardous waste is not in good condition, or begins to leak, the waste shall be transferred to another container in good condition. All containers shall also be managed in accordance with the plan approved in Section 6 of the operation permit application.

18. The permittee shall pump the liquid in each of the spill collection tanks into 55-gallon drums within 24 hours of any spills or leaks while awaiting analyses.

19. The permittee shall handle the 55 gallon drums that contain the spill material as an appropriate hazardous waste and dispose of under the RCRA rules and regulations.

20. The permittee shall inspect the container storage area daily for leaking containers and for deterioration of containers and the containment system.

21. Incompatible waste shall not be stored in containers or placed in unwashed containers that have previously held an incompatible waste.

22. The permittee shall maintain compliance with the financial responsibility requirements pursuant to 40 CFR Part 264, Subpart H.

PERMITTEE:
Martin Marietta Orlando Aerospace

I. D. Number: FLD 060 240 207
Permit/Certification Number:
HO48-89392
Date of Issue:
Expiration Date:

SPECIFIC CONDITIONS:

23. The permittee shall maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of the facility operation in an emergency.

24. The permittee shall operate the hazardous waste storage facility in accordance with 40 CFR Part 264 Subpart A through I.

Issued _____.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

_____
A. Alexander, P.E.
District Manager

DRAFT

Filing and Acknowledgment
Filed on this date,
pursuant to §120.52(9),
Florida Statutes, with the
designated Clerk, receipt of
which is acknowledged.

_____ _____
CLERK DATE

This is to certify that this Notice of Permit was mailed before the close of business on _____.

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301-8241

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

September 11, 1984

Mr. James H. Scarbrough, Chief
Residuals Management Branch
U.S. Environmental Protection Agency
Region IV
345 Courtland Street
Atlanta, Georgia 30365

Dear Mr. Scarbrough:

In accordance with the Amendment to the Memorandum of Agreement for Phase II Interim Authorization Components A, B, and C, we are providing your office with a copies of the following:

A letter transmitting the review deficiencies noted in the operating permit application for Martin Marietta Aerospace, Orlando, EPA ID #FLD 060 240 207 (*Section II.2.A.(d)(2) of the Amendment to the MOA).

The Draft Temporary Operating Permit for Southern Wood Piedmont, EPA ID #FLD 004 053 450 (*Section II.A.2(d)(1) of the Amendment to the MOA).

Due to the necessity to expedite the matter by mutual agreement, the TOP for Southern Wood Piedmont has been issued prior to receipt of your comments.

If you have any questions regarding these enclosures, please call me at 904/488-0300.

Sincerely,

Craig Diltz

Craig Diltz
Engineer
Solid & Hazardous Waste Section

CD/ls
Enclosures

Rec 9-13-84

DOCKET NO. MM-10

Rec'd Dec 26, 1984

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301-8241

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

December 19, 1984

Mr. James H. Scarbrough, Chief
Residuals Management Branch
U.S. Environmental Protection Agency
Region IV
345 Courtland Street
Atlanta, Georgia 30365

Dear Mr. Scarbrough:

In accordance with the Amendment to the Memorandum of Agreement for Phase II Authorization, Components A, B, and C (MOA), we are providing your office with copies of the following:

A. Imminent Hazard Permits - as required by Section II.A.2.(d)(6) of the MOA:

1. Triangle Resource Industries - Orange County Landfill site, for the detonation of reactive wastes collected during the Amnesty Days Program. Telephone notification and technical coordination with Mr. Herb Miller, of your staff, occurred on October 22, 1984. Proof of Publication of the Public Notice and pertinent correspondence is attached to this permit. Analytical results of the sampling required by condition 6 will be forwarded as soon as they become available.

2. Lee County Airport Police/Lee County Sheriff's Dept. - For the thermal treatment of potentially reactive waste obtained during a criminal investigation. Telephone notification and technical coordination with Mr. Herb Miller, of your staff, occurred on November 15, 1984. Proof of Publication of the Public Notice and pertinent correspondence is attached to the permit. This material will complete your file concerning this matter.

B. Construction and Operation final RCRA permits - as required by Section II.A.2.(d)(4) of the MOA:

1. McDonnell Douglas - FLD 064 [illegible] 030 - Construction permit for a storage and thermal treat[illegible] facility.

2. Martin Marietta - Ocala Operations - FLD 061 993 606 - Operation permit for a storage and treatment facility.

DOCKET NO. MM-11

C. Temporary Operating Permits for Major Facilities - as required by Section II.A.2.(d)(1) of the MOA:

1. J.F. Kennedy Space Center - FL6 800 014 585 - correspondence pertaining to the issued TOP and the incinerator trial burn.

2. Mid Florida Mining Company - FLD 991 275 355 - a public hearing has been requested, TOP issuance may be delayed pending resolution of the public concerns. (Enclosures are not included for this facility.)

D. RCRA Permit Applications and subsequent revisions to these applications for Major Facilities - as required by Section II.A.2.(d)(2) of the MOA:

1. Martin Marietta - Orlando Aerospace - FLD 060 240 207 - correspondence and additional information submitted to the department concerning this Operation Permit application as follows:

   a. DER deficiency letter dated October 23, 1984

   b. Ground Water Monitoring analytical data dated November 15, 1984

   c. Facility response to the DER deficiency letter dated November 16, 1984

   d. Ground-Water Quality Assessment Plan dated January 1984 (referenced in the above facility response letter)

   e. Interoffice Memoranda relating to review and technical adequacy concerns for the Ground Water Quality Assessment Plan.

   f. DER deficiency letter dated November 28, 1984

   g. DER Warning Notice #84-126 dated December 4, 1984.

   Please note that additional materials relating to this file were forwarded to your office in our October 19, 1984, September 11, 1984, and July 19, 1984 transmittals.

   not rec'd
   not rec'd
   Rec'd

If you have any questions regarding these enclosures, please call me at 904/488-0300.

Sincerely,

Craig Diltz

Craig Diltz
Engineer
Solid & Hazardous Waste Section

CD/ls
Enclosures

cc: Len Kozlov - DER/Orlando
Stuart Bradow - DER/Fort Myers

FEB 8 1985

GMM; [illegible] Aerospace; FLD060240[illegible]; Orlando, Florida

Sharon [illegible], Hydrogeologist SEM
WCS

John [illegible], [illegible]
WCS

THRU: [illegible] L. [illegible], Chief
WCS

I have [illegible] in-house EPA files and the 9-11-84 site inspection report by [illegible] Well Association for Martin Marietta of Orlando, Florida. [illegible] ally meets the technical requirements of 40 CFR Part [illegible] the groundwater monitoring system developed by Geraghty [illegible] of the better plans I have reviewed. The one suggestion I would [illegible] to install more wells downgradient of the disposal site.

[illegible] been notified by the facility that all three down-[illegible] shown statistically significant differences over [illegible] for pH, specific conductance, TOC and TOX. A groundwater [illegible] submitted to DER for review [illegible]-7-84. More [illegible] been submitted for review to DER since that [illegible] been indicated.

I [illegible] EPA [illegible] discuss the corrective action option [illegible] possibility of installing more [illegible] to [illegible] define the areal and vertical extent of [illegible] plans.

bc: Mickey [illegible], GA/FL
Unit Chief, [illegible]

DOCKET NO. MM-12

Rec'd 4-16-85

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

[redacted] OFFICE BUILDING

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

April 12, 1985

[redacted] W. Scarbrough, P.E., Chief
[redacted] Management Branch
U.S. Environmental Protection Agency
Region IV
345 Courtland Street
Atlanta, Georgia 30365

In accordance with the Amendment to the existing Memorandum of [redacted] (MOA) for Phase II Interim Authorization, Components A, B and C, we are providing your office with copies of the following:

1) Submitted in accordance with Section II.A.2(d)(2) of the MOA:

a. Information pertaining to the operating permit application [redacted] General Electric Company, Battery Business Dept., FLD [redacted] 860 451.

b. Information pertaining to the operating permit application for Martin Marietta - Orlando Aerospace Operations, FLD 040 240 207. Please note the withdrawal request applies only to the hazardous waste landfill unit (Unit 5). Closure/post-closure of this unit will be addressed under [redacted] order. The remaining hazardous waste units at [redacted] will be managed under an operating permit.

c. A completeness letter (state Notice of Deficiencies) pertaining to the operating permit application for U.S. NASA Kennedy Space Center, FL6 800 014 585.

[redacted] of the operating permit application for Koppers [redacted], FLD 004 057 [redacted].

[redacted] In accordance with Section II.A.2(d)(4) of the MOA [redacted] is a copy of the issued construction permit for IBM Corporation, FLD 079 810 008.

DOCKET NO. MM-13

3. Submitted in accordance with Section II.A.2(d)(6) of the MOA:

   a. Analytical data submitted to satisfy the specific conditions of the imminent hazard permit for Triangle Resources Industries, OGC Case No. 84-0948. Please note that additional information pertaining to this permit was submitted to your office with our January 18, and February 14, 1985 transmittals.

   b. A copy of the imminent hazard permit, the proof of publication, and pertinent correspondence for the thermal treatment operation conducted by Gulf Coast Environmental and the Tampa Police Department, OGC Case No. 85-0056.

   c. A copy of the imminent hazard permit, the proof of publication, and pertinent correspondence for the thermal treatment operation conducted by the Lake County School Board and the Leesburg Police Department, OGC Case No. 85-0064.

4. Submitted in accordance with Section II.A.2(d)(7) of the MOA:

   a. The public notice for approval of the closure permit for FMC Corp., FLD 000 645 481.

   b. The public notice for approval of the closure permit for Grumman Aerospace Corp., FLD 043 117 522.

If you have any questions regarding these enclosures, please call me at 904/488-0300.

Sincerely,

Craig Dilt

Craig Dilt
Engineer
Solid & Hazardous Waste Section

CD/ls
Enclosure

RECORD OF COMMUNICATION

☑ PHONE CALL ☐ DISCUSSION ☐ FIELD TRIP ☐ CONFERENCE
☐ OTHER (SPECIFY)
(Record of item checked above)

TO:	FROM:	DATE
Elaine Houston EPA/WES	Charlie Beederman FLDER	8/27/85
		TIME

SUBJECT
Item # 10 in EPA review of Draft OP

SUMMARY OF COMMUNICATION

In his Aug. 19, 1985 letter to the district offices, Charlie Beederman relayed my concerns regarding the roll-off container with electroplating sludges. I wanted to know whether the container was being ~~delisted~~ permitted or not. Charlie called to let me know that the wastes presently were being removed in less than 90 days and are in the process of being delisted. Therefore, they will not be permitted.

CONCLUSIONS, ACTION TAKEN OR REQUIRED

INFORMATION COPIES
TO: File

EPA Form 1300-6 (7-72) REPLACES EPA HQ FORM 5300-3 WHICH MAY BE USED UNTIL SUPPLY IS EXHAUSTED.

DOCKET NO. MM[illegible]14

RECORD OF COMMUNICATION

☑ PHONE CALL ☐ DISCUSSION ☐ FIELD TRIP ☐ CONFERENCE

☐ OTHER (SPECIFY)

(Record of item checked above)

TO: Elaine Houston
EPA/WES

FROM: Charlie Beederman
FDER

DATE 8/27/85

TIME 11:30 a.m.

SUBJECT
Martin Marietta (Orlando) FLD 060 240 207 Draft Permit Review Comments

SUMMARY OF COMMUNICATION

The district office had questions as to the inadequacy of the inspection information included in the application (Attachment 4). I looked over the Attachment again and informed Charlie that I would be willing to accept the combination of the three pages in that attachment as adequate for the inspection schedule requirement. I stated that I would note this in the file. Charlie stated that the permit would be held in abeyance until he had resolved the 1984 HWSA applicability issue with Mickey Hartnett.

CONCLUSIONS, ACTION TAKEN OR REQUIRED

INFORMATION COPIES
TO: File, Mickey, FDER

EPA Form 1300-6 (7-72) REPLACES EPA HQ FORM 5300-3 WHICH MAY BE USED UNTIL SUPPLY IS EXHAUSTED

DOCKET NO. MM-15

OCT 17 1985

4WD-RM

Mr. Robert McVety
Environmental Administrator
Florida Department of Environmental
Regulation
Twin Towers Office Building, Room 421
2600 Blair Stone Road
Tallahassee, Florida 32301

Re: Martin Marietta Aerospace Orlando
EPA I.D. NO. FLD 060 240 207

Dear Mr. McVety:

Transmitted herewith is the final draft federal permit (covering the 1984 RCRA Solid and Hazardous Waste Ammendments) and statement of basis for the subject facility. Please transmit a copy to applicant. We request that you prepare a joint public notice for both the federal and state permits. The public notice should follow the same format used for the Navy Coastal Systems permits. Please request the applicant to publish the joint public notice just as you would for a state permit alone.

If you have any questions please contact Mr. Herb Miller of my staff at 404/881-3433.

Sincerely yours,

James H. Scarbrough, P.E., Chief
Residuals Management Branch
Waste Management Division

Enclosure

Miller _____ Hartnett _____ McCurry _____ Scarbrough _____

JHS 10/16/85

Miller:dw:3433:10-9-85:Disk III #4

DOCKET NO. MM-16

WES

RECEIVED
EPA/REGION IV
NOV 1 12 PM '85
ENGINEERING SECTION

TO: Chuck Collins/Laxsamee Levin

THROUGH: Alex Alexander

Satish Kastury

FROM: Charlie Biedermann

DATE: October 28, 1985

SUBJECT: Hazardous Waste Permitting - Patrick AFB, FL2 570 024 404, H005-93734, Brevard Co.
Cape Canaveral AFB, FL2 800 016 121, H005-94772, Brevard Co.
Martin Marietta Aerospace, Orlando, FLD 060 240 207, H048-89392, Orange Co.

Attached are copies of EPA's draft OP comments and final draft federal permits for the subject facilities. Please ensure that these final draft federal permits are transmitted to the respective facilities and that a copy is retained in your files for public review. Note that the EPA contact telephone number in the joint public notice has changed. Also, EPA's permit review comments are discussed in my October 21 memo.

If you have any questions, please call me.

CB/ls
Attachment

cc: James H. Scarbrough - EPA/Region IV

DOCKET NO. MM-17

TO: Len Kozlov

THROUGH: Satish Kastury

FROM: Charlie Biedermann

DATE: August 19, 1985

SUBJECT: Martin Marietta - Orlando Aerospace, FLD 060 240 207, H048-89392, Orange County, EPA Draft Operating Permit Review Comments.

A copy of EPA's review comments for the Martin Marietta permit is attached. These comments are similar to the draft comments we discussed in Atlanta on July 24, 1985. I have since called Mrs. Elaine Houston at EPA to discuss our views.

The following pertains to the comments as they appear in the attachment to EPA's letter:

1. EPA has agreed to withdraw their comment concerning the storage of non-hazardous waste material. The department should, however, reference sections of the application concerning container management practices, stacking, ailse space, segregation, etc. Existing conditions 14, 15 and 16 may be modified or a new condition can be included (i.e., containers shall be managed in accordance with the plan approved in Section ____ of the application).

2. EPA has agreed to withdraw this comment since the tanks are part of the secondary containment system. EPA's concerns are adequately addressed by Specific Conditions 12 and 18.

3. This concern should be resolved by referencing additional sections of the application or by requiring the facility to submit the additional operating, emergency and safety equipment inspection schedule requirements.

4. A condition should be included to address this concern.

5. This comment has been adequately addressed by Specific Conditions 19 and 21.

6. This comment can be resolved by addressing the concerns in comment 1 above.

7. EPA agrees to withdraw this comment since the information has been submitted as part of the permit application which will be attached to the final permit.

8. EPA agrees that Specific Condition 6 is adequate as is.

DOCKET NO. MM-18

9. The hazardous waste codes have been included in conditions 14, 15 and 16, but should also be stated on the cover page of this permit.

10. Mrs. Houston requests clarification of the "roll-off" container. Is this unit included in the permit, or has it been excluded since the waste electroplating sludges have been temporarily delisted? No modification of the permit is required at this time.

11. This concern has already been addressed by existing condition 6; no further modification is required.

Mrs. Houston has indicated that a revised draft permit will not have to be forwarded to EPA for further review. We suggest you proceed with issuance once the above concerns are resolved. Please call me if you have any questions.

CB/ls
Enclosure

cc: Elaine Houston - EPA/Region IV
Robert W. McVety

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

ST. JOHNS RIVER DISTRICT
3319 MAGUIRE BOULEVARD
SUITE 232
ORLANDO, FLORIDA 32803-3767

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

A. ALEXANDER,
DISTRICT MANAGER

August 15, 1984

Mr. Raymond F. Green, P.E.
Martin Marietta Orlando Aerospace
Post Office Box 5837
Orlando, Florida 32855

OSJ-HW-84-0211

Dear Mr. Green:

Orange County HW
Storage Facility - Orlando
Application Comment Review Letter
Operation Permit Application
ID No. FLD 060240207

The Martin Marietta Aerospace - Orlando application for an operation permit of a hazardous waste storage facility has been reviewed. In order to complete the review of the application, the following deficiencies have to be addressed. Additional questions may be addressed regarding this application within the sixty (60) day commenting period available to the department.

1. On page 3-11. Sludge is held in a sludge truck before entering the filter press. What control conditions exist of spillage when moving the sludge to the truck then back to the filter press?

2. On page 3-27. Please provide by name the authorized inspection representative.

3. On page 4-9. Please make provisions for monitoring wells to detect potential leaks from buried tanks. Please provide engineering details and drawings including MSL designation for the wells. 40 CFR 264.171

CONTINUED . . . . .

DOCKET NO. MM-18

4. On page 4-11. If there is an unplanned release or spill of hazardous wastes, what kind of plan will be incorporated to determine any groundwater contamination, the volumetric configuration of the plume contamination, and the methods to be employed for contaminant clean up?

5. On page 4-17. Are the visual inspections logged in?

6. On page 10-1. Groundwater monitoring data at the landfill site is provided in Attachment 17 which reflects data from 1982 but data on monitoring wells 7 and 8 received for 1983 show an increase in total organic carbon and total organic halogens. Please provide information as to what corrective measures are being taken to address this problem. All data submitted and any corrective measures to be taken must comply with 40 CFR, Part 264.90 - 264.99.

7. On page 10-3. Does the property boundary mean the site boundary or the boundary of the entire Martin Marietta plant? Please clarify.

8. In Attachment 12 - Closure Plan for Waste Treatment Plant. There are no provisions for a groundwater monitoring plan for the underground sump tanks and sampling and analysis of the area after closure. There is nothing mentioned about the engineering details groundwater hydrology and location of monitoring wells. 40 CFR 264.92 and Rule 17-4.245, Florida Administrative Code (F.A.C.)

9. Attachment 12 - Closure Plan Sludge Landfill Site. The site is addressed in the closure plan that it is still in operation. If this is so, you are in violation of operating a hazardous waste sludge disposal landfill without a permit or authorization. If it is closed, then you must immediately implement closure, post closure plans and/or clean up procedures as per 40 CFR 264.310. In addition, a Groundwater Monitoring Plan must be submitted to this department for approval and then implemented at the site as per Rule 17-4.245, F.A.C.

Groundwater Monitoring Plan must include the sampling and testing for the heavy metals presently being sampled plus volatile organics, acid extractables and base/neutral extractables.

Accommodation must be made to control stormwater and to collect and treat leachate. A large drainage canal runs perpendicular to the surficial groundwater flow. The entire drainage ditch system connects to Shingle Creek.

Information will have to be provided as follows:

a. What is the material of the cap?

b. What is the permeability of the cap material?

c. What is the cap thickness?

d. Has the landfill been lined?

e. Has a perimeter ditch been provided to collect either leachate or stormwater but not both?

f. Detailed engineering drawings and commentary on the design of the landfill cells.

g. Topographic map of the landfill area with five intervals of the topographic lines.

h. How long has it been in operation - when was it closed? (Should be verified by a record check.)

i. How much sludge material was deposited in the landfill (approximately in cubic yards)?

j. Chemical profile of sludge.

k. How deep were cells?

1. How thick is poly-liner (if any are installed)?

10. In Attachment 16 - paragraph 2.1. There are no monitoring wells designated on drawing 009 as stated in paragraph 2.1. Please provide an explanation.

11. Drawing 004 delineates four hazardous wastes disposal sites. Please provide an explanation.

12. Reference page 6-3. At the storage site there are three, 1000 gallon containment tanks to receive any spillage from the storage area. What procedures, the methods and certification are employed to determine on a periodic basis the integrity of the tanks against leaks.?

13. Please provide detailed engineering drawings on the three, 1000 gallon containment tanks, along with drawing of drainage lines and other appurtenances from the storage facility to the tanks. Information such as shell thickness, inspection frequency, etc. will be necessary.

14. The 100 year flood plain area is not shown in the application. On page 2-1 it states that Attachment 1 was used as a reference tool in obtaining the 100 year flood plain information. There was no Attachment 1 enclosed. Please provide. 40 CFR 264.18(b)

15. Specific instructions for keeping incompatible waste apart were not presented. Please provide. 40 CFR 264.56

16. Specify the type of solvent resistant boots, gloves and aprons that will be used as part of emergency equipment. 40 CFR 264.52

17. Please provide a list of first aid medical supplies. 40 CFR 264.52

18. What are specific procedures used for the assessment of possible hazards to the environment and human health? 40 CFR 264.56

19. What are the specific procedures for determining the need for evacuation and notification of authorities? Clearly state the conditions which might arise which might warrant evacuation. 40 CFR 264.56

20. Decontamination equipment is not listed in Table 4.2. There are no provisions for decontaminating the affected area, i.e., soil, groundwater or concrete pad areas. 40 CFR 264.56

21. In the event of a pipe rupture or a leaking (outside) storage tank, some type of containment (absorbant boom) should be available to contain spreading and runoff. Tanks are of a large capacity, and just pumping the spilled material into drums is not adequate. Containment must be provided in the event of a large tank spill or pipe rupture. 40 CFR 264.194

22. Personnel training needs to emphasize contingency procedures. 40 CFR 264.16

23. The closure plan must include a certification by a registered professional engineer licensed in the State of Florida that decontamination has been effective. 40 CFR 264.115

24. All 1983 groundwater monitoring data must be submitted. The landfill is addressed in the closure section, but must be addressed until the sludge is delisted by the Environmental Protection Agency.

    All hydrological work done by consultant needs to be included as part of the permit.

    Sampling parameters and frequency of sampling and justifiction of each needs to be specified.

25. A Contingency Plan should indicate where the maximum amount of spill clean up residue and material could be safely stored prior to disposal.

26. Evacuation routes are not specified. Primary and alternate routes must be shown on a map. 40 CFR 264.52

27. Please provide a clear description at closure how hazardous wastes residues will be removed from the containment system and how the remaining containers, contaminated with hazardous waste or hazardous waste residues will be decontaminated or removed. 40 CFR 178

28. Please provide a calculation of the maximum inventory of wastes that could be in storage and treatment at any one time. 40 CFR 264.112

29. When closure is completed, please demonstrate that decontamination has been effective at the storage site. 40 CFR 264.114

30. For the closure of tanks, please provide a verification of decontamination and the maximum inventory. 40 CFR 264.197

If you have any further questions, please contact our office.

Sincerely,

L. T. Kozlov, P.E.
Hazardous/Solid Waste Engineering

LTK:JJ:jm

cc: C. Diltz

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

ST. JOHNS RIVER DISTRICT
3319 MAGUIRE BOULEVARD
SUITE 232
ORLANDO, FLORIDA 32803-3767

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

A. ALEXANDER,
DISTRICT MANAGER

CERTIFIED
P578 212 891

October 23, 1984

Raymond F. Green, P.E.
Martin Marietta Aerospace-Orlando Operations
Post Office Box 5837
Orlando, Florida 32855

OSJ-HW-84-0303

Dear Mr. Green:

Orange County HW
FLD 060 240 207
H048-089392

This office has reviewed your response letter of September 28, 1984 regarding our initial comments on your permit application. It has been found that some of our original questions were not adequately answered. Please respond to those questions which note any further deficiencies.

1. No further response is required for this item.

2. No further response is required for this item.

3. It is requested that an initial sampling be taken of the two monitoring wells located in the vicinity of the buried tanks at the treatment facility, and a copy of the results submitted to this office. Please sample for Cr(Hexavalent), pH and conductivity, cyanide(CN), volitile organic compounds(VOC), and nickle(Ni).

4. No further response is required for this item.

5. No further response is required for this item.

6. The Quality Assessment Plan will not alone place the existence of the landfill site provided in attachment 17 in compliance.

7. No further response is required for this item.

8. No further response is required for this item.

RECEIVED
OCT 26 1984
Hazardous Waste

DOCKET NO. MM-19

9. As mentioned in the Departments letter of August 15, 1984, a closure, post closure plans and/or clean up procedures as per 40 CFR 264.310 must be submitted. The recent sample results from the monitoring wells at the landfill have demonstrated increases in TOC and TOH but have revealed VOC's in the groundwater which are violations to groundwater standards regardless of any delisting efforts on the part of Martin Marietta Company.

   In addition, after 3/15/85, the provisos regarding delisting of the material in this landfill will also expire.

   When the closure/post closure plan is submitted, please provide the information about the landfill as was originally requested in the Department's letter of August 15, 1984 such as cap material, etc.

10. No further response is required for this item.

11. When were sites 1, 2, and 3 closed in relation to the promulgation of 40 CFR, 260-265?

12. In your response letter of September 28, 1984 you failed to mention if a licensed professional engineer registered in teh State of Florida would certify the leak test. Please respond to this request.

    In addition, how long will the hydrostatic test last to determine the leaks. It would be best to describe to some extent the details of the leak test procedures.

13. The drawings on the 1,000 gallon containment tanks have been received but again, you have failed to provide information as to the shell thickness of the tanks. It was not noted on the drawings. In addition, it is requested that you sign and seal this drawing as the engineer of record as to its engineering and technical correctness.

14. No further response is required for this item.

15. No further response is required for this item.

16. Are solvent resistant boots available for personnel use? Are the Fischer Scientific gloves approved for use with organic solvents?

17. Please answer the original question in the Department's letter of August 15, 1984 requesting the list of first aid medical supplies as per 40 CFR 264.52. In other words what is in the list of supplies in the Fisher Scientific Model #10-020 or equivalent?

18. Your letter of September 28, 1984 did not answer item 18 as requested. Please provide the specific procedures used for the assessment of possible hazards to the environment and human health. It may be best if you provided an outline of these procedures. 40 CFR 264.56.

19. No further response is required for this item.

20. In regard with this item, page 4-14 of the application does not list the decontamination equipment as your referred in your letter of September 28, 1984. Please provide such an itemized list as originally requested. It is mentioned in your response letter that shovels and equipment will be rinsed; therefore, the question arises as to what type of rinsing fluid is used to wash and clean the organics, and how is this rinse material/fluid disposed of?

21. Please provide information as to when spill basins are to be installed and describe and clarify the functional relationship of the basins to spill containment. It is also mentioned that lime is to be utilized for neutralization but how can it contain a spill as you mentioned in your letter.

22. No further response is required for this item.

23. No further response is required for this item.

24. Comments on the Groundwater information provided is presently under technical review by the groundwater section in Tallahassee. Further information on this review will be forth coming.

25. No further response is required for this item.

26. No further response is required for this item.

27. No further response is required for this item.

28. No further response is required for this item.

29. No further response is required for this item.

30. No further response is required for this item.

If you have any further questions, please contact this office at (305) 894-7555.

Sincerely,

L. T. Kozlov, P.E.
Hazardous/Solid Waste Engineering

cmc
LK:JJ:pj

cc: C. Diltz, Tallahassee

TO: Len Kozlov

THROUGH: Craig Diltz

FROM: Charlie Biedermann

DATE: November 27, 1984

RE: Groundwater Monitoring Plan Review Comments

Martin Marietta-Orlando Aerospace
FLD 060 241 207
H045-89392
Orange County

Attached please find a memo from the Groundwater Section outlining the incomplete and deficient items noted in their review of the Martin Marietta-Orlando Aerospace Groundwater Monitoring submittals. Also attached is the completed groundwater monitoring checklist. Hazardous Waste Subsection staff met with personnel from the Groundwater Section on October 25, 1984 and discussed the technical adequacy of the submittals at length. We concur with the items outlined in the attached memo from Bill O'Steen. The applicant should be informed that the analyses required by items 1, 2, and 9 must use SW-846 (Test Methods for Evaluating Solid Waste 2nd Ed.) or equivalent methodologies.

Since the facility may argue the applicability of the 264 Subpart F standards, we suggest that you reference 265.112(d), 265 Subpart F and FAC Rules 17-3 and 17-4 as the regulatory requirement for incomplete/inadequate items in your completeness letter to the facility. Under 265.112(d), the department may request modification of closure plans, including ground water monitoring, to insure that the site closures are consistent with the closure performance standard of 265.111(b).

In accordance with our Memorandum of Agreement with EPA, I will forward all correspondence relating to this permit application to the EPA, Region IV office. Please continue to copy me with these documents as soon as they become available.

If you have any questions, please call me at Suncom 275-8300.

CB/ls
Attachment

cc: Jim McNeal
Greg Parker
Bob McVety

DOCKET NO. MM-20

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

INTEROFFICE MEMORANDUM

For Routing To District Offices And/Or To Other Than The Addressee	
To:	Loctn.:
To:	Loctn.:
To:	Loctn.:
From:	Date:
Reply Optional [ ] Reply Required [ ] Info. Only [ ]	
Date Due:	Date Due:

TO: Mr. Charlie Biedermann, Environmental Specialist
Hazardous Waste Section

THROUGH: Mr. Craig Diltz, Engineer
Hazardous Waste Section

Dr. Rodney S. DeHan, Administrator
Groundwater Section

Mr. James E. McNeal, Environmental Supervisor
Groundwater Section

FROM: William N. O'Steen, Environmental Specialist WNO
Groundwater Section

DATE: November 16, 1984

SUBJECT: Ground Water Monitoring Plan Review of Martin Marietta Corporation - Orange County

---

The ground water monitoring plan was discussed with you on October 25, 1984 and a handwritten checklist of ground water concerns and plan incompleteness items was left with you then. Please find attached a typed list of deficient and incomplete items (both 17-4 and RCRA); this list includes the applicable regulatory citations from Chapter 17-4, Florida Administrative Code.

If you have questions about any of the items on the attached list, please contact me.

WNO/mj

Attachment

Martin Marietta Corporation (FLD 060 240 207, Orange County)

Chapter 17-4 Regulatory Requirement		
17-4.245(6)(d)9., F.A.C.	1.	Sampling for complete priority pollutant list in all monitoring wells downgradient from the RCRA facility.
17-4.245(6)(d)9., F.A.C.	2.	Sampling for complete priority pollution list plus additional applicable Chapter 17-3, F.A.C. Class III surface water quality standards, plus stream flow measurement, in drainage ditch upstream and downstream from RCRA site, during baseflow and stormwater runoff periods.
17-4.245(6)(d)1., F.A.C.	3.	Document thickness of unconfined aquifer and thickness, extent, and vertical permeability of underlying confining beds in the vicinity of the RCRA site.
Requested under RCRA	4.	Document direction of permeability (horizontal or vertical) from laboratory permeability tests.
Requested under RCRA requirement only; may be requested under 17-4.245(6)(d)1.a., F.A.C.	5.	Value of hydraulic gradient used to determine ground water velocity and method of determining hydraulic gradient must be submitted; unconfined aquifer porosity should be quantified, not estimated.
Requested under RCRA requirement only; specific procedures of concern from 17-4 viewpoint will be clarified by further data submittals (well logs, additional laboratory testing data, etc.)	6.	Document procedures used to determine site hydrogeologic conditions.
Requested under RCRA requirement only; point of compliance under 17-4 is presently property line but may be changed under 17-4.245(5)(b), F.A.C.	7.	Specify proposed point of compliance

Martin Marietta Corporation (FLD 060 240 207, Orange County)
(continued)

17-4.245(6)(d)9.	8.	Delineation of existing contaminant plume must be completed.
Requested under RCRA requirement only	9.	Analyses for Appendix VIII constituents must be made.
Complete 17-4 ground water monitoring plans for other non RCRA sites at Martin-Marietta must be submitted to Florida DER.	10.	Detailed plans and engineering reports of monitoring program.
Requested under RCRA requirement only	11.	Test boring depths must be submitted.
17-4.245(6)(g)1., F.A.C.	12.	New background well must be proposed (DER samples indicate existing background well is contaminated with volatile organics).
Requested under RCRA requirement only	13.	Details concerning well gravel pack material size and whether PVC wells have glued joints must be in monitoring plan.
Requested under RCRA requirement only	14.	Specifics concerning well development and success of well development must be submitted.
17-4.245(6)(d), F.A.C.	15.	Request a detailed description of sampling procedure chosen for each parameter (parameter group) which will be analyzed, considering literature on sampling procedures and past monitoring results.
Requested under RCRA requirement only	16.	Procedure for annual determination of uppermost aquifer flow rate is not in plan.
17-4.245(6)(d)12., F.A.C.	17.	Construction and operation details of the landfill must be described.
Requested under RCRA requirements only; the 17-4 plan must include a parameter list and a water sampling and chemical analysis protocol which DER will evaluate for adequacy	18.	Proposed list of indicator parameters and constituents to be monitored must be revised to incorporate all constituents shown to be present in concentrations which exceed background levels.

Martin Marietta Corporation (FLD 060 240 207; Orange County)
(continued)

Requested under RCRA requirements only	19.	Basis for proposed parameters to be monitored is not fully explained because insuffient parameters proposed in the plan.
Note item 12 above	20.	Background ground water concentrations of certain parameters not documented in plan.
Must construct new upgradient well per 17-4.245(6)(g)1., F.A.C.	21.	Propose procedures to determine background water quality.
Requested under RCRA requirements only	22.	Description of compliance monitoring program.
Pending submission of additional data requested under 17-4, permittee will probably be directed to pursue corrective action by the Florida DER, with due consideration of factors listed under 17-4.245(7)(b), F.A.C.	23.	Description (proposal) of corrective action program.

Florida
RTMENT OF ENVIRONMENTAL REGULATION

TEROFFICE MEMORANDUM

For Routing To District Offices
And/Or To Other Than The Addressee

To: Jim McNeal Loctn.:
To: Loctn.:
To: Loctn.:
From: Date:
Reply Optional [ ] Reply Required [ ] Info. Only [ ]
Date Due: Date Due:

TO: Jim McNeal

FROM: Charlie Biedermann CAB

DATE: September 19, 1984

Martin Marietta-Orlando Aerospace
FLD 060 240 207
HT48-68393
H048-89392
Orange County

SUBJECT: Proposed Groundwater Quality Assessment Plan

Attached please find the groundwater assessment strategy proposed by Martin Marietta-Orlando Aerospace. The plan was submitted to the department to satisfy the requirements of 40 CFR Part 265.93, since a statistically significant increase was confirmed in several of the down gradient well indicator parameters.

Please review and comment to this office regarding the technical adequacy of the proposal within the next 30 days. Your comments will be used to develop a suitable groundwater monitoring program for this facility's hazardous waste landfill.

CB/ls
Enclosure

GROUNDWATER SEC.

SEP 20 1984

cc for EPA.

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

ST. JOHNS RIVER DISTRICT
3319 MAGUIRE BOULEVARD
SUITE 232
ORLANDO, FLORIDA 32803-3767

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

A. ALEXANDER
DISTRICT MANAGER

November 28, 1984

Raymond F. Green, P.E. OSJ-HW-84-0343
Staff Engineer
Martin Marietta Corporation Orlando Aerospace
Post Office Box 5837
Orlando, Florida 32855

Dear Mr. Green:

Orange County HW
FLD 060 240 207
HO48-089392

Thank you for your letter of November 16, 1984 addressing some of the deficiency items of my letter dated October 23, 1984, OSJ-HW-0343. The following items will require no further response: items #12, #16, #17, and #20.

Item #21 concerning the sumps to be added to the Treatment facility may or may not have to be addressed by a separate permit application. This question is being addressed to Tallahassee.

In regard to item #24, additional review comments referencing the groundwater monitoring plan has been completed.

These comments address deficiencies in the groundwater monitoring program. Please note that items #1, 2 and 9 must use SW-846 (Test Methods for Evaluating Solid Waste 2nd Ed.) or equivalents methodologies.

The following items from the Groundwater Section in Tallahassee address either the incompleteness/inadequacy of the groundwater monitoring plan.

RECEIVED
DEC 4 1984
Hazardous Waste

DOCKET NO. MM-21

Chapter 17-4 Regulatory Requirement

17-4.245(6)(d)9., F.A.C.	1.	Sampling for complete priority pollutant list in all monitoring wells downgradient from the RCRA facility.
17-4.245(6)(d)9., F.A.C.	2.	Sampling for complete priority pollution list plus additional applicable Chapter 17-3, F.A.C. Class III surface water quality standards, plus stream flow measurement, in drainage ditch upstream and downstream from RCRA site, during baseflow and stormwater runoff periods.
17-4.245(6)(d)1., F.A.C.	3.	Document thickness of unconfined aquifer and thickness, extent, and vertical permeability of underlying confining beds in the vicinity of the RCRA site.
Requested under RCRA	4.	Document direction of permeability (horizontal or vertical) from laboratory permeability tests.
Requested under RCRA requirement only; may be requested under 17-4.245(6)(d)1.a., F.A.C.	5.	Value of hydraulic gradient used to determine ground water velocity and method of determining hydraulic gradient must be submitted; unconfined aquifer porosity should be quantified, not estimated.
Requested under RCRA requirement only; specific procedures of concern from 17-4 viewpoint will be clarified by further data submittals (well logs, additional laboratory testing data, etc.)	6.	Document procedures used to determine site hydrogeologic conditions.
Requested under RCRA requirement only; point of compliance under 17-4 is presently property line but may be changed under 17-4.245(5)(b), F.A.C.	7.	Specify proposed point of compliance

17-4.245(6)(d)9.	8.	Delineation of existing contaminant plume must be completed.
Requested under RCRA requirement only	9.	Analyses for Appendix VIII constituents must be made.
Complete 17-4 ground water monitoring plans for other non RCRA sites at Martin-Marietta must be submitted to Florida DER.	10.	Detailed plans and engineering reports of monitoring program.
Requested under RCRA requirement only	11.	Test boring depths must be submitted.
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Requested under RCRA requirement only	14.	Specifics concerning well development and success of well development must be submitted.
17-4.245(6)(d), F.A.C.	15.	Request a detailed description of sampling procedure chosen for each parameter (parameter group) which will be analyzed, considering literature on sampling procedures and past monitoring results.
Requested under RCRA requirement only	16.	Procedure for annual determination of uppermost aquifer flow rate is not in plan.
17-4.245(6)(d)12., F.A.C.	17.	Construction and operation details of the landfill must be described.
Requested under RCRA requirements only; the 17-4 plan must include a parameter list and a water sampling and chemical analysis protocol which DER will evaluate for adequacy	18.	Proposed list of indicator parameters and constituents to be monitored must be revised to incorporate all constituents shown to be present in concentrations which exceed background levels.

Requested under RCRA requirements only	19.	Basis for proposed parameters to be monitored is not fully explained because insuffient parameters proposed in the plan.
Note item 12 above	20.	Background ground water concentrations of certain parameters not documented in plan.
Must construct new upgradient well per 17-4.245(6)(g)1., F.A.C.	21.	Propose procedures to determine background water quality.
Requested under RCRA requirements only	22.	Description of compliance monitoring program.
Pending submission of additional data requested under 17-4, permittee will probably be directed to pursue corrective action by the Florida DER, with due consideration of factors listed under 17-4.245(7)(b), F.A.C.	23.	Description (proposal) of corrective action program.

These comments are requested under 40 CFR 265.112(d), 265 Subpart F and Chapter 17-3 and 17-4 Florida Administrative Code.

Please provide the necesssary information to satisfy the department concerns in your groundwater monitoring plan.

If you have any further questions, please contact this office at (305) 894-7555.

Sincerely,

L. T. Kozlov, P.E.
Hazardous/Solid Waste Engineering

cmc
LK:pj

cc: C. Diltz, Tallahassee

LAXSAMEE

MARTIN MARIETTA AEROSPACE

POST OFFICE BOX 5837
ORLANDO, FLORIDA 32855

April 23, 1985

Ms. Laxisemee Levin
Hazardous/Solid Waste Engineering
Department of Environmental Regulation
St. Johns River District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

APR 1985 RECEIVED ST. JOHNS River District

Orange County HW
Martin Marietta Orlando Aerospace
Hazardous Waste Permit Application

Dear Ms. Levin:

This letter is to confirm the information submitted verbally in our telephone conversations of 22 April 1985.

Bay No. 1 of the Waste Storage Building has inside dimensions of 27'-8" in length by 18'-2" in width and has a storage capacity of 96 drums. The bay is used for the storage of compatible flammable liquids.

Bay No. 2 has dimensions of 27'-8" x 18'-5" and a storage capacity of 96 drums. Non-flammable compatible liquids are stored in this bay.

Bay No. 3 has dimensions of 27'-8" x 18'-9" and a storage capacity of 48 drums. This bay is used for the receiving and segregation of incoming materials.

Bay No. 4 has dimensions of 27'-8" x 18'-6" and a storage capacity of 96 drums. Solid wastes are stored in this bay.

Table 3.2, page 3-15 - A column has been added to this table to indicate the storage location for each waste listed in the table. Copies of this table are enclosed.

Pages 3-13 and 6-1, copies enclosed, have been revised to indicate the correct DOT classification for the type of drum used for the storage of spent heat treat salts.

I believe the above information addresses all of the items that needed clarification per our telephone conversations of 22 April 1985. If this is incorrect, please contact Ray Green X-4286 or Scott Evans X-4291.

Sincerely,
MARTIN MARIETTA ORLANDO AEROSPACE

R. F. Green

Raymond F. Green
Staff Engineer

RECEIVED
APR 29 1985
Hazardous Waste

rfg/gb
Enclosure

DOCKET NO. MM-23

Table 3.2
Hazardous Waste Stored

Category	Waste	EPA Hazardous Waste Number	DOT UN/NA CODE	Est of Ann Quan bbls	Bay
I	Spent Endura Etch (Ammonium Hydroxide)	D-002	NA 2672	12	* *
I	Waste Corrosive Solid N.O.S.	D-002	UN 1759	10	4
II	Methylene Chloride (Dichloroethane)	F-001/U-080	UN 1593	5	2
II	Spent Lacquer Thinner	F-003	NA 1142	80	1
II	1,1,1-Trichloroethane	F-001/U-226	UN 2831	20	2
II	Freon, Liquid	F-001	NA 9189	5	2
II	Xylene	F-005/U-239	UN 1307	5	1
II	Toulene	F-001-U-220	UN 1294		1
III	Sodium Nitrite Mixture (Spent "Heat Treat" Salts)	D-001	NA 1487	20	4
IV	Waste Flammable Liquids, N.O.S. (Lab Pack)	D-001	UN 1993	25	1
V	Hazardous Waste Solid (*Met al Hydroxide Sludge)	F-006	NA 9189	200	4

* NOTE: Currently using a 27 cubic yard, polyethylene lined, covered roll-off container. A delisting petition is being reviewed by the EPA. The container is stored at pretreatment plant, contains no free liquid and is shipped to South Carolina for disposal.

** Stored at pretreatment plant

PAINT FACILITY

The paint chemical coating shop utilizes various types of paints/coatings. Many solvents are used in the thinning and cleaning steps (see Table 3.4 for description). These compatible waste solvents are collected in DOT 17-E 55 gallon drums or equivalent and then transported to the storage building. Paint sludges are periodically removed from spray booths and handled in the same manner as above, using open top DOT 17-E drums.

HEAT TREAT PROCESS

The heat treatment of metal alloys is performed using Nitrate/Nitrite/Chloride salts under high temperatures 700-1500°F (see Table 3.4) which converts the solid salt to a liquid phase. Periodically spent salt or "slag" is removed from the tanks containing liquid salt. This material is placed in DOT 17-H open top 55 gallon drums or equivalent and then transported to the storage building.

RESEARCH/DEVELOPMENT LABORATORIES

Various laboratories located around the facility utilize various types and quantities of solvent (included in Attachment 2-A). These solvents and other chemicals generated from the other plant operations follow a procedure SPI #3.4 for removal and transportation to the chemical storage building. Pleaser refer to this procedure, found in Attachment 1, for a more detailed explanation in handling unwanted chemicals.

SECTION 6

CONTAINERS (PART II)

B-1.a CONTAINERS WITHOUT FREE LIQUIDS

The metal hydroxide sludge cake from the treatment units filter press and the spent "heat treat" salts are currently the only containers that do not contain free liquids.

The sludge drums are filled and labeled at the filter press location and transported on pallets by forklift to the hazardous waste storage building (see Drawing 004 for transport routing). The sludge has a paste-like consistency with no free liquid. All drums are lined with plastic and cleaned prior to removal from the waste treatment area. See description of storage area section for storage practices and design features.

As an alternative, the metal hydroxide sludge cake can be placed in a 30 cubic yard, heavy-duty, roll-off box. This box is secured for easy access and provided with a cover to prevent any outside contamination i.e., rain intrusion or other waste material.

The spent salts are cooled and placed into 55 gallon drums as a solid. These drums are then transported by forklift to the storage facility and labeled as Waste Sodium Nitrate Mixture. All drums are DOT 17 H or equivalent.

AWT-PM

Mr. Robert W. McVety
Environmental Administrator
Florida Department of Environmental
Regulation
Twin Towers Office Bldg.
2600 Blair Stone Road
Tallahassee, Florida 32301-8241

Dear Mr. McVety:

In response to your June 28, 1985 letter, we have completed a review of the following:

1. Third completeness letter for General Electric Company Battery Business Department, Gainesville, FLD 043 860 451.

√2. Draft Operating Permit and the FDER's intent to issue and request for publication for Martin Marietta Orlando Aerospace, FLD 060 240 207.

Our comments on these documents are attached. If you have any questions, please contact Elaine Houston the of Waste Engineering staff at (404)881-3433.

Sincerely,

James H. Scarbrough, P.E., Chief
Residuals Management Branch
Waste Management Division

Enclosures:

cc: Craig Diltz
Solid Hazardous Waste Section

Houston MEH 7/18 Hartnett MH 7/18 McCurry RM

Houston/dw/7/18/85/2227/Lex

JHS 7/29/85

DOCKET NO. MM-24

Comments on the Draft Operating Permit and the Notice of Intent to Issue for Martin Marietta Orlando Aerospace, FLD 060 240 207

1. The number of non-hazardous chemical waste drums to be stored in the hazardous waste facility need not be included in the maximum mumber of drums to be permitted. EPA has no regulatory permitting authority over the amount of non-hazardous drums they may store as long as they are separated by a dike, berm, wall or other device. The specification of the number of non-hazardous waste drums to be stored in the facility need not be included as a specific condition. However, some mention may be made of the fact that non-hazardous waste is to be kept within the storage area, and the means by which it is to be separated from the hazardous waste.

2. The first page of the draft permit seems to imply that three-one thousand gallon spill collection tanks will be permitted as part of the hazardous waste storage facility. Underground tanks cannot be permitted at this time so it may be appropriate to include in this discussion a reference to the regulations pertaining to the operation of these tanks (40 CFR 262.34). It should be emphasized that these tanks will be emptied to the greatest extent possible within 90 days of the occurrence of a spill.

3. The inspection schedule(Attachment 4 of the Operation Permit Application) referenced in Specific Condition #3 of the draft permit is not a complete itemized listing of the operation, emergency and safety equipment, and hazardous waste storage area. It should specify each equipment item, the potential problems to be looked for in each, and the frequency of inspection required.

4. There is no condition in the permit addressing compliance with aisle space requirements (40 CFR §264.35).

5. It should be stated in one of the specific conditions relating to spill containment that spilled materials must not be placed in an unwashed container or one that previously held a hazardous waste.

6. There is no referral to a drawing or diagram specifying the arrangement of the storage area (i.e. aisle spacing, stacking arrangements, etc.). There is no specific reference to requirements for the containment system as outlined in 40 CFR §264.175(b) 1-3.

7. There should be a condition stating that the waste analysis plan and contingency plan should be maintained on site until closure is completed and certified.

8. There should be a condition referencing the contingency plan in its entirety which requires the permittee to carry out the provisions of the plan.

9. The EPA Hazardous Waste Codes of the wastes to be stored at the permitted facility should be listed in the permit.

10. It is unclear whether the hazardous waste solid (metal hydroxide sludge) listed in Table 3-2 of the Operation Permit Application is included as one of the wastes to be stored in the area to be permitted or if the delisting petition addressing this sludge has been approved.

11. There is no condition which addresses required equipment, access to communications or alarm systems, emergency coordinator, disposal or decontamination of equipment.

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

EPA

ST. JOHNS RIVER DISTRICT
3319 MAGUIRE BOULEVARD
SUITE 232
ORLANDO, FLORIDA 32803-3767

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

ALEX ALEXANDER
DISTRICT MANAGER

June 20, 1985

Richard C. Winfield, Director of Facilities
Martin Marietta Orlando Aerospace
4600 Sand Lake Road
Post Office Box 5837
Orlando, Florida 32855

Dear Mr. Winfield:

Orange County - HW
Martin Marietta Orlando Aerospace
Hazardous Waste Storage Facility

Pursuant to Section 403.815, Florida Statutes, and Section 17-103.150, Florida Administrative Code, the attached notice must be published one (1) time only, in the legal advertisement section of a newspaper of general circulation and a radio broadcast in the area of the project. This notice must be published as soon as possible and no later than thirty (30) days after receipt of this letter, at your expense.

Please instruct the newspaper and the radio to send a certified copy of the advertisement to this office, within seven (7) days of publication, also at your expense. This Notice constitutes official notice of intended agency action to all concerned.

Your cooperation is appreciated.

Sincerely,

A. Alexander, P. E.
District Manager

AA/llo

Enclosure

cc:

RECEIVED

JUN 26 1985

Hazardous Waste

DOCKET NO. MM-26

INTENT TO ISSUE
(HAZARDOUS WASTE)

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

CERTIFIED
212 769

In the Matter of an
Application for Permit by:

DER File No.:

Richard C. Winfield, Director)
of Facilities)
Martin Marietta Orlando)
Aerospace)
4600 Sand Lake Road)
Post Office Box 5837)
Orlando, Florida 32855)

JUN 26 1985

Hazardous Waste

INTENT TO ISSUE

The Department of Environmental Regulation hereby gives notice of its Intent to Issue, and requests the publication of notice for, the above referenced permit. Upon issuance of this permit, the Department will authorize the permittee to operate a hazardous waste storage facility designed to store a maximum of 336 (55 gallon) drums. This total is broken down as follows:

Flammable/Ignitable Waste	- 96 drums
Organic Solvent - Non-flammable	- 96 drums
Solid Hazardous Waste	- 96 drums
Non-hazardous Chemical Waste	- 48 drums

The Department is taking this action under the authority of Section 403.722, Florida Statutes, and Florida Administrative Code Rules 17-4 and 17-30, which provide for issuance of permits to facilities that treat, store, or dispose of hazardous wastes. The issuance of this permit is based on the applicant's demonstration that this facility is in compliance with the technical and procedural requirements established in F.A.C. Chapter 17-30 and the appropriate Sections of 40 CFR Parts 260 through 265, which were adopted by reference in Chapter 17-30. This demonstration was made in the approved application submitted with DER Form 17-1.207(3) on June 28, 1984, and amended on October 1, 1984, November 20, 1984, March 22, 1985, March 26, 1985, April 24, 1985.

Pursuant to Sections 403.815 and 403.722, F.S., and F.A.C. Rule 17-30.22(6), you are required to publish at your own expense notice of the Department's Intent to Issue a hazardous waste

operation permit to Martin Marietta Orlando Aerospace to operate a hazardous waste storage facility.

The notice must be published one time only in the legal ad section of a major local newspaper of general circulation and broadcast over a local radio station within thirty (30) days from receipt of this letter. Proof of publication and broadcast must be provided to the Department within seven days of publication of the notice.

Failure to publish the notice and provide proof of publication within the allotted time may result in the denial of the permit.

The Department shall issue the permit with the attached conditions unless an appropriate petition is filed for a hearing pursuant to the provisions of Section 120.57, F.S. At a formal hearing under 120.57(1), F.S., all parties shall have an opportunity to present evidence and argument on all issues involved, to conduct cross-examination and submit rebuttal evidence, to submit proposed findings of fact and orders, to file exceptions to any order or hearing officer's recommended order, and to be represented by counsel. At an informal hearing under 120.57(2), F.S., the Department will provide affected persons or parties an opportunity to present evidence or a written statement in opposition to the agency's action.

Petitions for hearing must comply with the requirement of Florida Administrative Code Rules 17-103.155 and 28-5.201 (copies enclosed) and be filed with the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32301-8241. Petitions filed by the permit applicant must be filed within forty-five (45) days of receipt of this letter. Petitions filed by other parties, or requests for public meetings by persons, must be filed within forty-five (45) days of publication or broadcast of the public notice. Petitions or

requests for meetings which are not filed in accordance with the above provisions are subject to dismissal.

Executed in Orlando, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

_____

A. Alexander, P.E.
District Manager
Department of Environmental
Regulation - St. Johns River
District
3319 Maguire Blvd. - Suite 232
Orlando, Florida 32803-3767
(305) 894-7555

Copies furnished to:

This is to certify that this NOTICE OF INTENT TO ISSUE was mailed before the close of business on the date indicated on the return receipt request form.

_____

Signature

NOTICE OF PROPOSED AGENCY ACTION

The Department of Environmental Regulation gives notice of its intent to issue a Martin Marietta Orlando Aerospace to operate a hazardous waste storage facility at 4600 Sand Lake Road, Orlando, Florida 32855. The facility is designed to store a maximum of 336 (55 gallon) drums.

This total is broken down as follows:

1.	Flammable/Ignitable Waste	- 96 drums
	Organic Solvent (Nonflammable)	- 96 drums
	Solid Hazardous Waste (Sludge)	- 96 drums
	Non-Hazardous Chemical Waste	- 48 drums
	Total:	336 drums

Any interested person may submit written comments on this proposed agency action to the Department of Environmental Regulation, St. Johns River District office, 3319 Maguire Boulevard, Suite 232, Orlando, Florida 32803, within forty-five (45) days of publication of this notice.

A person who is substantially affected by the department's proposed permitting decision may request a hearing in accordance with Section 120.57, Florida Statutes, and Chapters 17-103 and 28-5, Florida Administrative Code. Any person may request a public meeting pursuant to Section 403.722(10), Florida Statutes. The request for a hearing or meeting must be filed (received) in the Office of General Counsel of the Department at 2600 Blairstone Road, Twin Towers Office Building, Tallahassee, Florida 32301 within forty-five (45) days of publication of this notice. Failure to file a request for hearing within this time period shall constitute a waiver of any right such person may have to request a hearing under Section 120.57, Florida Statutes, or a meeting under Section 403.722(10), Florida Statutes.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the proposed agency action. Persons whose substantial interests will be affected by any decision of the department have the right to intervene in the proceeding. A petition for intervention must be filed pursuant to Model Rule 28-5.207, F.A.C., at least five (5) days before the final hearing and be filed with the Hearing Officer if one has been assigned at the Division of Administrative Hearings, Department of Administration, 2009 Apalachee Parkway, Tallahassee, Florida 32301. If no Hearing Officer has been assigned, the petition is to be filed with the Department's Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32301. Failure to petition to intervene within the allowed time frame constitutes a waiver of any right such person has to an administrative determination (hearing) under Section 120.57, Florida Statutes.

The Application and a copy of the proposed permit is available for public inspection during normal business hours, 8:00 A.M. to 5:00 P.M., Monday through Friday, except legal holidays, at the Department of Environmental Regulation, St. Johns River District Office, 3319 Maguire Boulevard, Suite 232, Orlando, Florida 32803-3767.

RECEIVED

JUN 26 1985

Hazardous Waste

Section 17-103.155(1), Florida Administrative Code
Petition for Administrative Hearing; Waiver of Right to Administrative Proceeding

(1)(a) Any person whose substantial interests may be affected by proposed or final agency action may file a petition for administrative proceeding. A petition shall be in the form required by this Chapter and Chapter 28-5, FAC, and shall be filed (received) in the Office of General Counsel of the Department within fourteen (14) days of receipt of notice of proposed agency action or within fourteen (14) days of receipt of notice of agency action whenever there is no public notice of proposed agency action. In addition to the requirements of Rule 28-5.201, FAC, the Petition must specify the county in which the project is or will be located.

(b) Failure to file a petition within fourteen (14) days of receipt of notice of agency action or fourteen (14) days of receipt of notice of proposed agency action, whichever notice first occurs, shall constitute a waiver of any right to request an administrative proceeding under Chapter 120, F.S.

(c) When there has been no publication of notice of agency action or notice of proposed agency action as prescribed in Rule 17-103.150, FAC, a person who has actual knowledge of the agency action or has knowledge which would lead a reasonable person to conclude that the Department has taken final agency action, has a duty to make further inquiry within fourteen (14) days of obtaining such knowledge by contacting the Department to ascertain whether action has occurred. The Department shall upon receipt of such an inquiry, if agency action has occurred, promptly provide the person with notice as prescribed by Rule 17-103.150, FAC. Failure of the person to make inquiry with the Department within fourteen (14) days after obtaining such knowledge may estop the person from obtaining an administrative proceeding on the agency action.

(2)(a) "Receipt of notice of agency action" means receipt of written notice of final agency action, as prescribed by Department rule, or the publication, pursuant to Department rule, of notice of final agency action, whichever first occurs.

(b) "Receipt of notice of proposed agency action" means receipt of written notice (such as a letter of intent) that the Department proposes to take certain action, or the publication pursuant to Department rule of notice of proposed agency action, whichever first occurs.

(3) Notwithstanding any other provision in this Chapter, should a substantially affected person who fails to timely request a hearing under Section 120.57, F.S., administratively appeal the final Department action or order, the record on appeal should be limited to:

(a) the application, and accompanying documentation submitted by the applicant prior to the issuance of the agency's intent to issue or deny the requested permit.

(b) the materials and information relied upon by the agency in determining the final agency action or order;

(c) any notices issued or published; and

(d) the final agency action or order entered concerning the permit application.

(4) In such cases where persons do not timely exercise their rights accorded by Section 120.57(1), Florida Statutes, the allegations of fact contained in or incorporated by the final agency action shall be deemed uncontested and true, and appellants may not dispute the truth of such allegations upon subsequent appeal.

(5) Any applicant may challenge the Department's request for additional information by filing with the Office of General Counsel an appropriate petition for administrative proceeding pursuant to Section 120.60, F.S., following receipt by the applicant of the Department's notification, pursuant to Section 403.0876, F.S., that additional information is required.

Specific Authority: 120.53, 403.0876, 403.815, F.S. Law Implemented: 120.53, F.S. History: New 9-20-79, Amended 4-28-81, Transferred from 17-1.62 and Amended 6-1-84.

(5) Any applicant may challenge the Department's request for additional information by filing with the Office of General Counsel an appropriate petition for administrative proceeding pursuant to Section 120.60, F.S., following receipt by the applicant of the Department's notification, pursuant to Section 403.0876, F.S., that additional information is required.

Specific Authority: 120.53, 403.0876, 403.815, F.S. Law Implemented: 120.53, F.S. History: New 9-20-79, Amended 4-28-81, Transferred from 17-1.62 and Amended 6-1-84.

RULES OF THE ADMINISTRATIVE COMMISSION
MODEL RULES OF PROCEDURE
RULE 28-5.201
DECISIONS DETERMINING SUBSTANTIAL INTERESTS

PART II
FORMAL PROCEEDINGS

28-5.201 Initiation of Formal Proceedings.

(1) Initiation of formal proceedings shall be made by petition to the agency responsible for rendering final agency action. The term petition as used herein includes any application or other document which expresses a request for formal proceedings. Each petition should be printed, typewritten or otherwise duplicated in legible form on white paper of standard legal size. Unless printed, the impression shall be double-spaced and indented.

(2) All petitions filed under these rules should contain:

(a) The name and address of each agency affected and each agency's file or identification number, if known;

(b) The name and address of the petitioner or petitioners, and an explanation of how his/her substantial interests will be affected by the agency determination;

(c) A statement of when and how petitioner received notice of the agency decision or intent to render a decision;

(d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;

(e) A concise statement of the ultimate facts alleged, as well as the rules and statutes which entitle the petitioner to relief;

(f) A demand for relief to which the petitioner deems himself entitled, and

(g) Other information which the petitioner contends is material.

****

A petition may be denied if the petitioner does not state adequately a material factual allegation, such as a substantial interest in the agency determination, or if the petition is untimely. (Rule 28-5.201(3)(a), Florida Administrative Code)

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

DRAFT

ST. JOHNS RIVER DISTRICT
3319 MAGUIRE BOULEVARD
SUITE 232
ORLANDO, FLORIDA 32803-3767

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

ALEX ALEXANDER
DISTRICT MANAGER

Permittee:
Richard C. Winfield,
Director of Facilities
Martin Marietta Orlando Aerospace
4600 Sand Lake Road
Post Office Box 5837
Orlando, Florida 32855

I. D. Number:FLD 060 240 207
Permit/Certification
Number:HO48-89392
Date of Issue:
Expiration Date:
County: Orange
Latitude/Longitude:
28°26'17"/81°26'55"
Section/Township/Range:
32 /23 /29
Project: Martin Marietta
Orlando Aerospace Hazardous
Waste Storage Facility

This permit is issued under the provisions of Chapter(s) 403, Florida Statutes, and Florida Administrative Code Rule(s) 17-3, 17-4 and 17-30. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents attached hereto or on file with the department and made a part hereof and specifically described as follows:

The hazardous waste storage facility includes containerized hazardous waste storage building and three - one thousand gallon spill collection tanks. Hazardous wastes are stored in fifty five (55) gallon drums in the building which is designed for a maximum storage of 336 (55 gallon) drums.

The structure has the following features: six (6") inch reinforced concrete slab with raised curbs; impervious floor with 2 inch slope towards spill containment area; three (3) bays with spill containment areas; pre-cast roof panels; controlled access (inside fenced area with locked gate); emergency eyewash and shower; fire hydrant and hose-bib water connections.

The three spill collection tanks are located north of the hazardous waste storage building. The tanks are installed underground and made of steel with the minimum wall thickness of 3/16" and 4" PVC butterfly valves. Cathodic protection is provided to pipes and tanks.

The building is subdivided into three (3) bays: #1, #2, and #3 with dimensions of 18'2" x 27'8", 18'5" x 27'8" and 37'3" x 27'8" respectively.

PERMITTEE:

Richard C. Winfield, Director of Facilities
Martin Marietta Orlando Aerospace
4600 Sand Lake Road
Post Office Box 5837
Orlando, Florida 32855

I.D. Number: FLD 060 240 207
Permit/Certification Number: H048-89392
Date of Issue:
Expiration Date:

DRAFT

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions" and as such are binding upon the permittee and enforceable pursuant to the authority of Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the department will review this permit periodically and may initiate enforcement action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the department.

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Nor does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit does not constitute a waiver of or approval of any other department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express state opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, plant or aquatic life or property and penalties therefor caused by the construction or operation of this permitted source, nor does it allow the permittee to cause pollution in contravention of Florida Statutes and department rules, unless specifically authorized by an order from the department.

6. The permittee shall at all times properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by department rules.

7. The permittee, by accepting this permit, specifically agrees to allow authorized department personnel, upon presentation of credentials or other documents as may be required by law, access to the premises, at reasonable times, where the permitted activity is located or conducted for the purpose of:

   a. Having access to and copying any records that must be kept under the conditions of the permit;

   b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and

   c. Sampling or monitoring any substances or parameters at any location reasonably necessary to assure compliance with this permit or department rules.

   Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately notify and provide the department with the following information:

   a. a description of and cause of non-compliance; and

b. the period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the department for penalties or revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source, which are submitted to the department, may be used by the department as evidence in any enforcement case arising under the Florida Statutes or department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes.

10. The permittee agrees to comply with changes in department rules and Florida Statutes after a reasonable time for compliance, provided however, the permittee does not waive any other rights granted by Florida Statutes or department rules.

11. This permit is transferable only upon department approval in accordance with Florida Administrative Code Rules 17-4.12 and 17-30.30, as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the department.

12. This permit is required to be kept at the work site of the permitted activity during the entire period of construction or operation.

13. This permit also constitutes:

( ) Determination of Best Available Control Technology (BACT)
( ) Determination of Prevention of Significant Deterioration (PSD)
( ) Certification of Compliance with State Water Quality Standards (Section 401, PL 92-500)
( ) Compliance with New Source Performance Standards

14. The permittee shall comply with the following monitoring and record keeping requirements:

a. Upon request, the permittee shall furnish all records and plans required under department rules. The retention period for all records will be extended automatically, unless otherwise stipulated by the department, during the course of any unresolved enforcement action.

b. The permittee shall retain at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation), copies of all reports required by this permit, and records of all data used to complete the application for this permit. The time period of retention shall be at least three years from the date of the sample, measurement, report or application unless otherwise specified by department rule.

c. Records of monitoring information shall include:

- the date, exact place, and time of sampling or measurements;
- the person responsible for performing the sampling or measurements;
- the date(s) analyses were performed;
- the person responsible for performing the analyses;
- the analytical techniques or methods used; and
- the results of such analyses.

15. When requested by the department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the department, such facts or information shall be submitted or corrected promptly.

16. In the case of a hazardous waste facility permit, the following permit conditions shall also apply.

    a. The permittee will submit the following reports to the department:

        (1) Manifest discrepancy report: If a significant discrepancy in a manifest is discovered, the permittee must attempt to reconcile the discrepancy. If not resolved within 15 days after receiving the waste, the permittee shall immediately submit a letter report including a copy of the manifest to the department.

        (2) Unmanifested waste report: Permittee shall submit an unmanifested waste report to the department within 15 days of receipt of unmanifested waste.

        (3) Annual report: An annual report covering facility activities during the previous calendar year must be submitted in accordance with Florida Administrative Code Rule 17-30.

    b. Notification of any non-compliance which may endanger health or the environment, including the release of any hazardous waste that may endanger public drinking water supplies, or the occurrence of a fire or explosion from the facility which could threaten the environment or human health outside the facility, shall be verbally submitted to the department within 24 hours and a written submission provided within 5 days. The verbal submission within 24 hours shall contain the name, address, I.D. number and telephone number of the facility and owner or operator, the name and quantity of materials involved, the extent of injuries (if any), an assessment of actual or potential hazards, and the estimated quantity and disposition of recovered material. The written submission shall contain the following:

        (1) a description of and cause of non-compliance; and

        (2) if not corrected, the anticipated time the non-compliance is expected to continue and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

    c. Reports of compliance or non-compliance with, or any progress reports on, requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

    d. All reports or information required to be submitted to the department by a hazardous waste permittee shall be signed by a person authorized to sign a permit application.

PERMITTEE:
Martin Marietta Orlando Aerospace

I. D. Number:FLD 060 240 207
Permit/Certification Number:
HO48-89392
Date of Issue:
Expiration Date:

DRAFT

SPECIFIC CONDITIONS:

1. The permittee shall notify the department in writing four weeks prior to receipt of hazardous waste from a foreign source.

2. Only hazardous waste listed in Table 3-2 of the Operation Permit Application shall be stored at the hazardous waste storage building. Prior to acceptance of new hazardous wastes, the permittee shall submit to the department, for approval, waste analysis of the proposed new waste stream. This analysis must also be incorporated in the general waste analysis plan and retained on-site.

3. The permittee shall inspect the facility operating, emergency and safety equipment in accordance with the schedule approved in Attachment 4 of the Operation Permit Application. Changes, additions, or deletions to the schedule must be approved in writing by the department. The schedule must be maintained as part of the operating record at the facility.

4. Facility personnel must complete the approved training program indicated in Section 4 of the Operation Permit Application. Verification of this training must be kept with the personnel training records and maintained on-site. Personnel shall not work unsupervised until training has been completed.

5. The contingency plan must be amended and distributed to the appropriate agencies if any criteria in 40 CFR 264.54 are met. Amendments to the plan must be approved in writing by the department.

6. The permittee shall follow the emergency procedures specified in 40 CFR 264.56 and approved in Section 4 Part E-2.4 of the Operation Permit Application. The permittee shall give proper notification if an emergency situation arises and within 15 days must submit to the department a written report which includes all information required in 40 CFR 264.56(j).

7. The permittee shall comply with the manifest requirements indicated in Part 40 CFR 264.71.

PERMITTEE:
Martin Marietta Orlando Aerospace

I. D. Number:FLD 060 240 207
Permit/Certification Number:
HO48-89392
Date of Issue:
Expiration Date:

DRAFT

SPECIFIC CONDITIONS:

8. The permittee shall keep a written operating record at the facility which includes:

   The description and quantity of each hazardous waste received.

   The location of each hazardous waste within the facility.

   The results of the waste analysis

   A summary report and details of incidents that require implementation of the contingency plan

   Manifest numbers

   The results of inspections (for 3 years)

   Closure plan and cost estimates.

These records must be maintained at the facility until completion and certification of closure.

9. The permittee shall apply for a permit renewal 90 days prior to the expiration date.

10. The permittee shall apply for a closure permit at least 180 days prior to beginning closure at the facility.

11. The permittee shall update waste analysis specified in 40 CFR 264.13 annually. The updated waste analysis data shall be submitted each year to the department by December 1.

12. Hazardous waste shall not be accumulated at any sites longer than 90 days except at the hazardous waste storage building.

13. Hazardous waste shall be containerized in 17E, 17H and DOT-E 6637 type DOT approved 55 gallon drums/carboys or equivalent and stored on pallet racks.

14. Bay #1 shall be permitted to store up to a maximum of 96 (55 gallon) drums of hazardous waste characterized "Flammable/ Ignitable" with EPA Hazardous Waste Numbers of D001, F003 and F005.

PERMITTEE:
Martin Marietta Orlando Aerospace

I. D. Number:FLD 060 240 207
Permit/Certification Number:
HO48-89392
Date of Issue:
Expiration Date:

DRAFT

SPECIFIC CONDITIONS:

15. Bay #2 shall be permitted to store up to a maximum of 96 (55 gallon) drums of hazardous waste characterized "Organic Solvent - Non-Flammable" with EPA Hazardous Waste Numbers of F001.

16. Bay #3 shall be subdivided into two areas. One area (18'9" x 27'8") shall be for storage of non-hazardous chemical waste and have a maximum storage of 48 (55 gallon) drums. The other area (18'6" x 27'8") shall be for storing hazardous waste characterized "Solid Material - Non-flammable" with EPA Hazardous Waste Numbers of D002 and F006 and have a maximum storage of 96 (55 gallon) drums.

17. All hazardous waste containers shall be kept closed during storage except when adding or removing wastes and be handled in a manner that will not allow the containers to rupture or leak. If a container holding hazardous waste is not in good condition, or begins to leak, the waste shall be transferred to another container in good condition.

18. The permittee shall pump the liquid in each of the spill collection tanks into 55-gallon drums within 24 hours of any spills or leaks while awaiting analyses.

19. The permittee shall handle the 55 gallon drums that contain the spill material as an appropriate hazardous waste and dispose of under the RCRA rules and regulations.

20. The permittee shall inspect the container storage area daily for leaking containers and for deterioration of containers and the containment system.

21. Incompatible waste shall not be stored in containers or placed in unwashed containers that have previously held an incompatible waste.

22. The permittee shall maintain compliance with the financial responsibility requirements pursuant to 40 CFR Part 264, Subpart H.

PERMITTEE:
Martin Marietta Orlando Aerospace

I. D. Number:FLD 060 240 207
Permit/Certification Number:
HO48-89392
Date of Issue:
Expiration Date:

DRAFT

SPECIFIC CONDITIONS:

Issued _____.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

_____
A. Alexander, P.E.
District Manager

Filing and Acknowledgment
Filed on this date,
pursuant to §120.52(9),
Florida Statutes, with the
designated Clerk, receipt of
which is acknowledged.

_____ _____
CLERK DATE

This is to certify that this Notice of Permit was mailed before the close of business on _____.

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

WES

E/air

ST. JOHNS RIVER DISTRICT
3319 MAGUIRE BOULEVARD
SUITE 232
ORLANDO, FLORIDA 32803-3767

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

ALEX ALEXANDER
DISTRICT MANAGER

CERTIFIED
P 034-237-689

August 28, 1985

Richard C. Winfield, Director of Facilities
Martin Marietta Orlando Aerospace
4600 Sandlake Road
Post Office Box 5837
Orlando, Florida 32855

Dear Mr. Winfield:

Orange County-HW
Martin Marietta Orlando Aerospace
Hazardous Waste Storage Facility

Pursuant to Section 403.815, Florida Statutes, and Section 17-103.150, Florida Administrative Code, the attached notice must be published one (1) time only, in the legal advertisement section of a newspaper of general circulation and a radio broadcast in the area of the project. This notice must be published as soon as possible and no later than thirty (30) days after receipt of this letter, at your expense.

Please instruct the newspaper and the radio to send a certified copy of the advertisement to this office, within seven (7) days of publication, also at your expense. This Notice constitutes official notice of intended agency action to all concerned.

Your cooperation is appreciated.

Sincerely,

A. Alexander, P. E.
District Manager

AA/llp

Enclosure

INTENT TO ISSUE
(HAZARDOUS WASTE)

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

In the Matter of an Application for Permit by: Richard C. Winfield, Director of Facilities Martin Marietta Orlando Aerospace 4600 Sandlake Road Post Office Box 5837 Orlando, Florida 32855	)	DER File No.: HO48-89392

INTENT TO ISSUE

The Department of Environmental Regulation hereby gives notice of its Intent to Issue, and requests the publication of notice for, the above referenced permit. Upon issuance of this permit, the Department will authorize the permittee to operate a hazardous waste storage facility designed to store a maximum of 336 (550-gallon) drums. This total is broken down as follows:

Type of Waste	EPA HW #'s	Number Drums
Flammable/Ignitable Waste	D001, F003, F005	96
Organic Solvent - Non-flammable	F001	96
Solid Hazardous Waste	D002, F006	96
Non-Hazardous Chemical Waste		48

The Department is taking this action under the authority of Section 403.722, Florida Statutes, and Florida Administrative Code Rules 17-4 and 17-30, which provide for issuance of permits to facilities that treat, store, or dispose of hazardous wastes. The issuance of this permit is based on the applicant's demonstration that this facility is in compliance with the technical and procedural requirements established in F.A.C. Chapter 17-30 and the appropriate Sections of 40 CFR Parts 260 through 265, which were adopted by reference in Chapter 17-30. This demonstration was made in the approved application submitted with DER Form 17-1.207 (3) on June 28, 1984, and amended on October 1, 1984, November 20, 1984, March 22, 1985, March 26, 1985 and April 24, 1985.

Pursuant to Sections 403.815 and 403.722, F.S., and F.A.C. Rule 17-30.22(6), you are required to publish at your own expense notice of the Department's Intent to Issue a hazardous waste operation permit to Martin Marietta Orlando Aerospace to operate a hazardous waste storage facility.

The notice must be published one time only in the legal ad section of a major local newspaper of general circulation and broadcast over a local radio station within thirty (30) days from receipt of this letter. Proof of publication and broadcast must be provided to the Department within seven days of publication of the notice.

Failure to publish the notice and provide proof of publication within the allotted time may result in the denial of the permit.

The Department shall issue the permit with the attached conditions unless an appropriate petition is filed for a hearing pursuant to the provisions of Section 120.57, F.S. At a formal hearing under 120.57(1), F.S., all parties shall have an opportunity to present evidence and argument on all issues involved, to conduct cross-examination and submit rebuttal evidence, to submit proposed findings of fact and orders, to file exceptions to any order or hearing officer's recommended order, and to be represented by counsel. At an informal hearing under 120.57(2), F.S., the Department will provide affected persons or parties an opportunity to present evidence or a written statement in opposition to the agency's action.

Petitions for hearing must comply with the requirement of Florida Administrative Code Rules 17-103.155 and 28-5.201 (copies enclosed) and be filed with the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32301-8241. Petitions filed by the permit applicant must be filed within forty-five (45) days of receipt of this letter. Petitions filed by other parties, or requests for public meetings by persons, must be filed within forty-five (45) days of publication or broadcast of the public notice. Petitions or requests for meetings which are not filed in accordance with the above provisions are subject to dismissal.

Executed in Orlando, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

A. Alexander, P.E.
District Manager
Department of Environmental
Regulation - St. Johns River
District
3319 Maguire Blvd. - Suite 232
Orlando, Florida 32803-3767
(305) 894-7555

This is to certify that this NOTICE OF INTENT TO ISSUE was mailed before the close of business on the date indicated on the return receipt request form.

Signature

JOINT PUBLIC NOTICE OF PROPOSED AGENCY ACTIONS

FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION
ST. JOHNS RIVER DISTRICT
3319 MAGUIRE BOULEVARD - SUITE 232
ORLANDO, FLORIDA 32803-3767
305/894-7555

in conjunction with the

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION IV, RESIDUALS MANAGEMENT BRANCH
345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365
404/881-3544

THE FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION (DER) AND THE U.S. ENVIRONMENTAL PROTECTION AGENCY (U.S. EPA) GIVE NOTICE OF THEIR INTENT TO ISSUE JOINT PERMITS UNDER THE RESOURCE CONSERVATION AND RECOVERY ACT (RCRA), AS AMENDED BY THE HAZARDOUS AND SOLID WASTE AMENDMENTS OF 1984, SECTION 403.722, FLORIDA STATUTES, AND CHAPTER 17-4 AND 17-30 OF THE FLORIDA ADMINISTRATIVE CODE (FAC) to the Martin Marietta Orlando Aerospace, 4600 Sand Lake Road, Orlando, Florida 32855 having the assigned facility I.D. Number FLD 060 240 207. The two permits, if issued will constitute the RCRA permit required by the Florida DER and the U.S. EPA.

The State of Florida has been granted authorization for those portions of the RCRA Hazardous Waste Program that were in effect prior to the passage of the Hazardous and Solid Waste Amendments of 1984. The Federal Environmental Protection Agency will administer the applicable portions of the Hazardous and Solid Waste Amendments of 1984 (specifically the waste minimization and prior release sections) until the State receives authorization for these provisions.

A draft permit, prepared in accordance with the provisions of Chapter 17-30 of the Florida Administrative Code (FAC), contains the conditions for the continued operation of an on-site hazardous waste storage facility at the referenced site to store a maximum of 336 (55 gallon) drums. This total is broken down as follows:

Type of Waste	EPA HW #'s	Total Number Drums
Flammable/Ignitable Waste	D001, F003, F005	96
Organic Solvent-Non Flammable	F001	96
Solid Hazardous Waste	D002, F006	96

The Federal draft permit will contain conditions for the identification of solid waste management units and conditions to verify prior/continuing releases of hazardous waste or constituents from solid waste units. The Federal draft permit also sets conditions for certification of waste minimization. FDER and EPA have made a preliminary determination that the proposed permits will comply with applicable state and federal regulations.

The application and a copy of both state and federal proposed permits are available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Firday, except legal holidays, at Florida Department of Environmental Regulation, St. Johns River District, 3319 Maguire Boulevard, Suite 232, Orlando, Florida 32803-3767, (305) 894-7555.

The proposed U.S. EPA permit and statement of basis are available for public inspection Monday thru Friday, except legal holidays, from 8:00 a.m. to 5:00 p.m. at the U.S. EPA Library, 345 Courtland Street, N.E., Atlanta, Georgia 30365. All data submitted by the applicant to the U.S. EPA is available as part of the administrative record at the above address.

Any interested person may submit written comments on this proposed State agency action to the Department of Environmental Regulation, St. Johns River District, 3319 Maguire Boulevard, Suite 232, Orlando, Florida 32803-3767, or the proposed U.S. EPA action to the U.S. Environmental Protection Agency, Region IV, 345 Courtland Street, N.E., Atlanta, Georgia, 30365 Attention: Mrs. Earline Hanson, within forty-five (45) days of publication of this notice. All comments on the facility will be considered by both agencies in formulating a decision on issuing the respective permits.

A person who is substantially affected by the Department's proposed permitting decision may request a hearing in accordance with Section 120.57, Florida Statutes, and Chapters 17-103, and 28-5, Florida Administrative Code. Any person may

request a public meeting pursuant to Section 403.722(10), Florida Statutes. The request for a hearing or meeting must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Twin Towers Office Building, Tallahassee, Florida 32301, within forty-five (45) days of publication of this notice. Failure to file a request for hearing within this time period shall constitute a waiver of any right such person may have to request a hearing under Section 120.57, Florida Statutes, or a meeting under Section 403.722(10), Florida Statutes.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the proposed agency action. Persons whose substantial interests have been afffected by any decision of the Department have the right to intervene in the proceeding. A petition for intervention must be filed pursuant to Model Rule 28-5.207, Florida Administrative Code, at least five (5) days before the final hearing and be filed with the hearing officer if one has been assigned at the Division of Administrative Hearings, Department of Administration, 2009 Apalachee Parkway, Tallahassee, Florida 32301. Failure to petition to intervene within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, Florida Statutes

Any interested person may submit comments on the draft federal permit and may request a hearing pursuant to 40 CFR ¶124.11. The request must be in writing and must include a written notice of opposition to the draft federal permit. Hearing request should be addressed to Mrs. Earline Hanson, U.S. EPA, at the above address within 45 days of this notice.

A copy of the proposed U.S. EPA permit may be obtained by contacting Mrs. Earline Hanson, U.S. EPA at the above address. A nominal fee for copying and/or mailing may be charged.

RULES OF THE ADMINISTRATIVE COMMISSION
MODEL RULES OF PROCEDURE
RULE 28-5.201
DECISIONS DETERMINING SUBSTANTIAL INTERESTS

PART II
FORMAL PROCEEDINGS

28-5.201 Initiation of Formal Proceedings.

(1) Initiation of formal proceedings shall be made by petition to the agency responsible for rendering final agency action. The term petition as used herein includes any application or other document which expresses a request for formal proceedings. Each petition should be printed, typewritten or otherwise duplicated in legible form on white paper of standard legal size. Unless printed, the impression shall be double-spaced and indented.

(2) All petitions filed under these rules should contain:

(a) The name and address of each agency affected and each agency's file or identification number, if known;

(b) The name and address of the petitioner or petitioners, and an explanation of how his/her substantial interests will be affected by the agency determination;

(c) A statement of when and how petitioner received notice of the agency decision or intent to render a decision;

(d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;

(e) A concise statement of the ultimate facts alleged, as well as the rules and statutes which entitle the petitioner to relief;

(f) A demand for relief to which the petitioner deems himself entitled, and

(g) Other information which the petitioner contends is material.

****

A petition may be denied if the petitioner does not state adequately a material factual allegation, such as a substantial interest in the agency determination, or if the petition is untimely. (Rule 28-5.201(3)(a), Florida Administrative Code)

Section 17-103.155(1), Florida Administrative Code
Petition for Administrative Hearing; Waiver of Right to Administrative Proceeding

(1)(a) Any person whose substantial interests may be affected by proposed or final agency action may file a petition for administrative proceeding. A petition shall be in the form required by this Chapter and Chapter 28-5, FAC, and shall be filed (received) in the Office of General Counsel of the Department within fourteen (14) days of receipt of notice of proposed agency action or within fourteen (14) days of receipt of notice of agency action whenever there is no public notice of proposed agency action. In addition to the requirements of Rule 28-5.201, FAC, the Petition must specify the county in which the project is or will be located.

(b) Failure to file a petition within fourteen (14) days of receipt of notice of agency action or fourteen (14) days of receipt of notice of proposed agency action, whichever notice first occurs, shall constitute a waiver of any right to request an administrative proceeding under Chapter 120, F.S.

(c) When there has been no publication of notice of agency action or notice of proposed agency action as prescribed in Rule 17-103.150, FAC, a person who has actual knowledge of the agency action or has knowledge which would lead a reasonable person to conclude that the Department has taken final agency action has a duty to make further inquiry within fourteen (14) days of obtaining such knowledge by contacting the Department to ascertain whether action has occurred. The Department shall upon receipt of such an inquiry, if agency action has occurred, promptly provide the person with notice as prescribed by Rule 17-103.150, FAC. Failure of the person to make inquiry with the Department within fourteen (14) days after obtaining such knowledge may estop the person from obtaining an administrative proceeding on the agency action.

(2)(a) "Receipt of notice of agency action" means receipt of written notice of final agency action, as prescribed by Department rule, or the publication, pursuant to Department rule, of notice of final agency action, whichever first occurs.

(b) "Receipt of notice of proposed agency action" means receipt of written notice (such as a letter of intent) that the Department proposes to take certain action, or the publication pursuant to Department rule of notice of proposed agency action, whichever first occurs.

(3) Notwithstanding any other provision in this Chapter, should a substantially affected person who fails to timely request a hearing under Section 120.57, F.S., administratively appeal the final Department action or order, the record on appeal should be limited to:

(a) the application, and accompanying documentation submitted by the applicant prior to the issuance of the agency's intent to issue or deny the requested permit.

(b) the materials and information relied upon by the agency in determining the final agency action or order;

(c) any notices issued or published; and

(d) the final agency action or order entered concerning the permit application.

(4) In such cases where persons do not timely exercise their rights accorded by Section 120.57(1), Florida Statutes, the allegations of fact contained in or incorporated by the final agency action shall be deemed uncontested and true, and appellants may not dispute the truth of such allegations upon subsequent appeal.

(5) Any applicant may challenge the Department's request for additional information by filing with the Office of General Counsel an appropriate petition for administrative proceeding pursuant to Section 120.60, F.S., following receipt by the applicant of the Department's notification, pursuant to Section 403.0876, F.S., that additional information is required.

Specific Authority: 120.53, 403.0876, 403.815, F.S. Law Implemented: 120.53, F.S. History: New 9-20-79, Amended 4-28-81, Transferred from 17-1.62 and Amended 6-1-84.

(5) Any applicant may challenge the Department's request for additional information by filing with the Office of General Counsel an appropriate petition for administrative proceeding pursuant to Section 120.60, F.S., following receipt by the applicant of the Department's notification, pursuant to Section 403.0876, F.S., that additional information is required.

Specific Authority: 120.53, 403.0876, 403.815, F.S. Law Implemented: 120.53, F.S. History: New 9-20-79, Amended 4-28-81, Transferred from 17-1.62 and Amended 6-1-84.

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

ST. JOHNS RIVER DISTRICT
7010 MAGUIRE BOULEVARD
SUITE 232
ORLANDO, FLORIDA 32803-3767

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

ALEX ALEXANDER
DISTRICT MANAGER

Permittee:
Richard T. Winfield,
Director of Facilities
Martin Marietta Orlando Aerospace
4600 Sandlake Road
Post Office Box 5837
Orlando, Florida 32855

I. D. Number: FLD 060 240 207
Permit/Certification
Number: HO48-89392
Date of Issue:
Expiration Date:
County: Orange
Latitude/Longitude:
28°26'17"/81°26'55"
Section/Township/Range:
32 /23 /29
Project: Martin Marietta
Orlando Aerospace Hazardous
Waste Storage Facility

This permit is issued under the provisions of Chapter(s) 403, Florida Statutes, and Florida Administrative Code Rule(s) 17-3, 17-4 and 17-30. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents attached hereto or on file with the department and made a part hereof and specifically described as follows:

The hazardous waste storage facility includes containerized hazardous waste storage building and three - one thousand gallon spill collection tanks. Hazardous wastes are stored in fifty five (55) gallon drums in the building which is designed for a maximum storage of 336 (55 gallon) drums. Hazardous wastes have EPA Hazardous Waste Numbers of D001, D002, F001, F003, F005 and F006.

The structure has the following features: six (6") inch reinforced concrete slab with raised curbs; impervious floor with 2 inch slope towards spill containment area; three (3) bays with spill containment areas; pre-cast roof panels; controlled access (inside fenced area with locked gate); emergency eyewash and shower; fire hydrant and hose-bib water connections.

The three spill collection tanks are located north of the hazardous waste storage building. The tanks are installed underground and made of steel with the minimum wall thickness of 3/16" and 4" PVC butterfly valves. Cathodic protection is provided to pipes and tanks.

The building is subdivided into three (3) bays: #1, #2, and #3 with dimensions of 18'2" x 27'8", 18'5" x 27'8" and 37'3" x 27'8" respectively.

PERMITTEE:

Martin Marietta Orlando Aerospace

I.D. Number: FLD 060 240 207
Permit/Certification Number: HO48-89392
Date of Issue:
Expiration Date:

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions" and as such are binding upon the permittee and enforceable pursuant to the authority of Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the department will review this permit periodically and may initiate enforcement action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the department.

3. As provided in subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Nor does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit does not constitute a waiver of or approval of any other department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express state opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, plant or aquatic life or property and penalties therefor caused by the construction or operation of this permitted source, nor does it allow the permittee to cause pollution in contravention of Florida Statutes and department rules, unless specifically authorized by an order from the department.

6. The permittee shall at all times properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by department rules.

7. The permittee, by accepting this permit, specifically agrees to allow authorized department personnel, upon presentation of credentials or other documents as may be required by law, access to the premises, at reasonable times, where the permitted activity is located or conducted for the purpose of:

   a. Having access to and copying any records that must be kept under the conditions of the permit;

   b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and

   c. Sampling or monitoring any substances or parameters at any location reasonably necessary to assure compliance with this permit or department rules.

   Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately notify and provide the department with the following information:

   a. A description of and cause of non-compliance; and

Permittee:
Martin Marietta Orlando Aerospace

I. D. Number: FLD 060 240 207
Permit/Certification
Number: HO48-89392
Date of Issue:
Expiration Date:

15. In the [illegible] of a hazardous waste facility permit, the following permit conditions shall also apply.

a. The permittee will submit the following reports to the department:

1. Manifest discrepancy report: If a significant discrepancy in a manifest is discovered, the permittee must attempt to reconcile the discrepancy. If not resolved within 15 days after receiving the waste, the permittee shall immediately submit a letter report including a copy of the manifest to the department.

2. Unmanifested waste report: Permittee shall submit an unmanifested waste report to the department within 15 days of receipt of unmanifested waste.

3. Annual report: An annual report covering facility activities during the previous calendar year must be submitted in accordance with Florida Administrative Code Rule 17-30.

b. Notification of any non-compliance which may endanger health or the environment, including the presence of any hazardous waste that may endanger public drinking water supplies, or the occurrence of a fire or explosion from the facility which could threaten the environment or human health outside the facility, shall be verbally submitted to the department within 24 hours and a written submission provided within 5 days. The verbal submission within 24 hours shall contain the name, address, I.D. number and telephone number of the facility and owner or operator, the name and quantity of materials involved, the extent of injuries (if any), an assessment of actual or potential hazards, and the estimated quantity and disposition of recovered material. The written submission shall contain the following:

(1) a description of and cause of non-compliance; and

(2) If not corrected, the anticipated time the non-compliance is expected to continue and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

c. Reports of compliance or non-compliance with, or any progress reports on, requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

d. All reports or information required to be submitted to the department by a hazardous waste permittee shall be signed by a person authorized to sign a permit application.

PERMITTEE:
Martin Marietta Orlando Aerospace

I. D. Number:FLD 060 240 207
Permit/Certification Number:
HO48-89392
Date of Issue:
Expiration Date:

SPECIFIC CONDITIONS:

1. The permittee shall notify the department in writing four weeks prior to receipt of hazardous waste from a foreign source.

2. Only hazardous waste listed in Table 3-2 of the Operation Permit Application shall be stored at the hazardous waste storage building. Prior to acceptance of new hazardous wastes, the permittee shall submit to the department, for approval, waste analysis of the proposed new waste stream. This analysis must also be incorporated in the general waste analysis plan and retained on-site.

3. The permittee shall inspect the facility operating, emergency and safety equipment in accordance with the schedule approved in Attachment 4 of the Operation Permit Application. Changes, additions, or deletions to the schedule must be approved in writing by the department. The schedule must be maintained as part of the operating record at the facility.

4. Facility personnel must complete the approved training program indicated in Section 4 of the Operation Permit Application. Verification of this training must be kept with the personnel training records and maintained on-site. Personnel shall not work unsupervised until training has been completed.

5. The contingency plan must be amended and distributed to the appropriate agencies if any criteria in 40 CFR 264.54 are met. Amendments to the plan must be approved in writing by the department.

6. The permittee shall follow the emergency procedures specified in 40 CFR 264.56 and approved in Section 4 Part E-2.4 of the Operation Permit Application. The permittee shall give proper notification if an emergency situation arises and within 15 days must submit to the department a written report which includes all information required in 40 CFR 264.56(j).

7. The permittee shall comply with the manifest requirements indicated in Part 40 CFR 264.71.

PERMITTEE:
Martin Marietta Orlando Aerospace

I. D. Number: FLD 060 240 207
Permit/Certification Number:
HO48-89392
Date of Issue:
Expiration Date:

SPECIFIC CONDITIONS:

8. The permittee shall keep a written operating record at the facility which includes:

   The description and quantity of each hazardous waste received.

   The location of each hazardous waste within the facility.

   The results of the waste analysis

   A summary report and details of incidents that require implementation of the contingency plan

   Manifest numbers

   The results of inspections (for 3 years)

   Closure plan and cost estimates.

These records must be maintained at the facility until completion and certification of closure.

9. The permittee shall apply for a permit renewal 90 days prior to the expiration date.

10. The permittee shall apply for a closure permit at least 180 days prior to beginning closure at the facility.

11. The permittee shall update waste analysis specified in 40 CFR 264.13 annually. The updated waste analysis data shall be submitted each year to the department by December 1.

12. Hazardous waste shall not be accumulated at any sites longer than 90 days except at the hazardous waste storage building.

13. Hazardous waste shall be containerized in 17E, 17H and DOT-E 6537 type DOT approved 55 gallon drums/carboys or equivalent and stored on pallet racks.

14. Bay #1 shall be permitted to store up to a maximum of 96 (55 gallon) drums of hazardous waste characterized "Flammable/ Ignitable" with EPA Hazardous Waste Numbers of D001, F003 and F005.

PERMITTEE:
Martin Marietta Orlando Aerospace

I. D. Number:FLD 060 240 207
Permit/Certification Number:
HO48-89392
Date of Issue:
Expiration Date:

SPECIFIC CONDITIONS:

15. Bay #2 shall be permitted to store up to a maximum of 96 (55 gallon) drums of hazardous waste characterized "Organic Solvent - Non-Flammable" with EPA Hazardous Waste Numbers of F001.

16. Bay #3 shall be subdivided into two areas. One area (18'9" x 27'8") shall be for storage of non-hazardous chemical waste and have a maximum storage of 48 (55 gallon) drums. The other area (18'6" x 27'8") shall be for storing hazardous waste characterized "Solid Material - Non-flammable" with EPA Hazardous Waste Numbers of D002 and F006 and have a maximum storage of 96 (55 gallon) drums.

17. All hazardous waste containers shall be kept closed during storage except when adding or removing wastes and be handled in a manner that will not allow the containers to rupture or leak. If a container holding hazardous waste is not in good condition, or begins to leak, the waste shall be transferred to another container in good condition. All containers shall also be managed in accordance with the plan approved in Section 6 of the operation permit application.

18. The permittee shall pump the liquid in each of the spill collection tanks into 55-gallon drums within 24 hours of any spills or leaks while awaiting analyses.

19. The permittee shall handle the 55 gallon drums that contain the spill material as an appropriate hazardous waste and dispose of under the RCRA rules and regulations.

20. The permittee shall inspect the container storage area daily for leaking containers and for deterioration of containers and the containment system.

21. Incompatible waste shall not be stored in containers or placed in unwashed containers that have previously held an incompatible waste.

22. The permittee shall maintain compliance with the financial responsibility requirements pursuant to 40 CFR Part 264, Subpart H.

PERMITTEE:
Martin Marietta Orlando Aerospace

I. D. Number:FLD 060 240 207
Permit/Certification Number:
HO48-39392
Date of Issue:
Expiration Date:

SPECIFIC CONDITIONS:

23. The permittee shall maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of the facility operation in an emergency.

24. The permittee shall operate the hazardous waste storage facility in accordance with 40 CFR Part 264 Subpart A through I.

Issued _____.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

_____
A. Alexander, P.E.
District Manager

Filing and Acknowledgment
Filed on this date,
pursuant to §120.52(9),
Florida Statutes, with the
designated Clerk, receipt of
which is acknowledged.

_____ _____
CLERK DATE

This is to certify that this Notice of Permit was mailed before the close of business on _____.

Statement of Basis

DRAFT
OCT 10 1985

This statement of basis is prepared pursuant to 40 CFR Section 124.7 for the draft permit EPA has written for Martin Marietta Orlando Aerospace, located in Orlando, Florida. The permit will set conditions for the identification of solid waste management units. Conditions will also be set to verify prior/continuing releases of hazardous waste or hazardous constituents from the solid waste management units. If releases are found, then the permit may be modified for corrective action. The permit will also set conditions for certification of waste minimization.

This permit is being issued based on the requirements of the 1984 Hazardous and Solid Waste Amendments of 1984, Public Law 98-616. These Amendments to the Resource Conservation and Recovery Act (RCRA) have a number of provisions affecting hazardous waste permitting that are immediately effective for any facilities whose RCRA hazardous waste permit had not been issued as of November 8, 1984.

The State of Florida has been granted authorization for those portions of the RCRA Hazardous Waste Program that were in effect prior to the passage of the Hazardous and Solid Waste Amendments of 1984. Until Florida has made the necessary program revisions and received authorization from EPA for the provisions of the 1984 amendments, EPA will administer the requirements of the 1984 amendments. This permit, along with the hazardous waste storage permit being issued by the State of Florida will constitute the full RCRA permit for this facility.

DOCKET NO. MM-28

Martin Marietta Orlando Aerospace
Orlando, Florida 32855

Identification Number FLD 062 240 207
Permit Number FLD 062 240 207

DRAFT

OCT 10 1985

Pursuant to the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended (42 USC §6901 et seq., commonly known as RCRA) and regulations promulgated thereunder by the U. S. Environmental Protection Agency (EPA) (codified and to be codified in Title 40 of the Code of Federal Regulations), a permit is issued to Martin Marietta Orlando Aerospace (hereafter called the Permittee), to operate a hazardous waste storage facility located in Orlando, Florida latitude 28° 26' 17" North and longitude 81° 26' 57" West.

This permit, in conjunction with Hazardous Waste Permit to be issued by the State of Florida, constitutes the RCRA permit for this facility.
This permit requires the Permittee to determine whether there have been any releases of hazardous waste or hazardous constituents from any solid waste management unit at Martin Marietta Orlando Aerospace regardless of the time at which waste was placed in such unit and to take appropriate corrective action for any such releases. The permit also requires the Permittee to certify annually that on-site generation of hazardous waste is minimized to the extent practical.

The Permittee must comply with all terms and conditions of this permit. This permit consists of the conditions contained herein (including those in any attachments) and applicable regulations contained in 40 CFR Parts 260 through 264, 270, and 124 as specified in the permit and statutory requirements of RCRA, as amended by the Hazardous and Solid Waste Amendments of 1984, P.L. 98-616, (the RCRA amendments). Applicable regulations are those which are in effect on the date of issuance of this permit in accordance with 40 CFR §270.32(c).

This permit is based on the assumption that the information and reports will be submitted as specified in the permit. Any inaccuracies found in this information may be grounds for termination or modification of this permit in accordance with 40 CFR §§270.41, 270.42 and 270.43 and potential enforcement action. The Permittee must inform EPA of any deviation from or changes in the information in the application which would affect the Permittee's ability to comply with the applicable regulations or permit conditions.

This permit is effective as of ,198 and shall remain in effect until ,199 unless revoked and reissued, or terminated under 40 CFR §§270.41 and .43 or continued in accordance with §270.51(a).

Date

Signature
Thomas W. Devine
Director, Waste Management Division

DRAFT

OCT 10 1985

TABLE OF CONTENTS

		Pages
Part I	Standard Conditions	3 - 8
Part II	Solid Waste Management Units	9 - 10
Part III	Waste Minimization	10
Attachment A	Solid Waste Questionaire	

DRAFT

OCT 10 1985

I.A. EFFECT OF PERMIT

Compliance with this permit and the Florida hazardous waste permit constitutes compliance, for purposes of enforcement, with Subtitle C of RCRA. Issuance of this permit does not convey property rights of any sort or any exclusive privilege; nor does it authorize any injury to persons or property, any invasion of other private rights, or any infringement of state or local law or regulations. Compliance with the terms of this permit does not constitute a defense to any order issued or any action brought or taken under Section 3013 or Section 7003 of RCRA, Sections 106(a), 104 or 107 of the Comprehensive Environmental Response, Compensation, and Liability Action of 1980 (42 U.S.C. 9601 et seq., commonly known as CERCLA), or any other law providing for protection of public health or the environment.

I.B. PERMIT ACTIONS

This permit may be modified, revoked or reissued, or terminated for cause as specified in 40 CFR §§270.41, 270.42 and 270.43. The filing of a request for a permit modification, revocation and reissuance, or termination, or the notification of planned changes or anticipated noncompliance on the part of the Permittee does not stay the applicability or enforceability of any permit condition.

I.C. SEVERABILITY

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.

I.D. DUTIES AND REQUIREMENTS

I.D.1. Duty to Comply

The Permittee shall comply with all conditions of this permit, except to the extent and for the duration such noncompliance is authorized by an emergency permit. Any permit noncompliance other than noncompliance authorized by an emergency permit, constitutes a violation of RCRA and is grounds for enforcement action, permit termination, revocation and reissuance, modification, or denial of a permit renewal application.

I.D.2. Duty to Reapply

If the Permittee wishes to continue an activity allowed by this permit after the expiration date of this permit, the Permittee shall submit a complete application for a new permit at least 180 days before this permit expires.

DRAFT

OCT 10 1985

I.D.3. Permit Expiration

If the state does not have RCRA hazardous waste permitting authority under 40 CFR Part 271 for the 1984 RCRA Amendments, this permit and all conditions herein will remain in effect beyond the permit's expiration date, as specified in §270.51, if the Permittee has submitted a timely, complete application in accordance with §270.10(c) and, through no fault of the Permittee, the Regional Administrator has not issued a new permit with an effective date under §124.15 on or before the expiration date of the previous permit.

If the state does have RCRA hazardous waste permitting authority under 40 CFR Part 271 for the 1984 RCRA Amendments and if the Permittee has submitted a timely and complete application under applicable state law and regulations, the terms and conditions of this permit continue in force beyond the expiration date of the permit, but only until the effective date of the state's issuance or denial of a state RCRA permit.

I.D.4. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

I.D.5. Duty to Mitigate

In the event of noncompliance with the permit, the Permittee shall take all reasonable steps to minimize releases to the environment, and shall carry out such measures as are reasonable to prevent significant adverse impacts on human health or the environment.

I.D.6. Proper Operation and Maintenance

The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of a backup or auxiliary facility or similar systems only when necessary to achieve compliance with the conditions of the permit.

I.D.7. Duty to Provide Information

The Permittee shall furnish to the Regional Administrator, within a reasonable time, any relevant information which the Regional Administrator may request to determine whether cause exists for

modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The Permittee shall also furnish to the Regional Administrator, upon request, copies of records required to be kept by this permit.

I.D.8. Inspection and Entry

The Permittee shall allow the Regional Administrator, or an authorized representative, upon the presentation of credentials and other documents as may be required by law to:

I.D.8.a. Enter at reasonable times upon the Permittee's premises where a regulated activity is located or conducted, or where records must be kept under the conditions of this permit;

I.D.8.b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

I.D.8.c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

I.D.8.d. Sample or monitor, at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by RCRA, any substances or parameters at any location.

I.D.9. Monitoring and Records.

I.D.9.a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. The method used to obtain a representative sample of the waste to be analyzed must be the appropriate method from Appendix I of 40 CFR Part 261. Laboratory methods must be those specified in the most recent edition of Test Methods for Evaluating Solid Waste: Physical/Chemical Methods SW-846 or Standard Methods of Wastewater Analysis.

I.D.9.b. The Permittee shall retain at the facility records of all monitoring information, including all calibration and maintenance records, records of all data used to prepare documents required by this permit, copies of all reports and records required by this permit, and records of all data used to complete the application for this permit for a period of at least 3 years from the date of the sample, measurement, report or record, or until corrective action is completed, whichever date is later. These periods may be extended by request of the Regional Administrator at any time and are automatically extended during the course of any unresolved enforcement action regarding this facility.

I.D.9.c. Records of monitoring information shall specify:

I.D.9.c.i. The dates, exact place, and times of sampling or measurements;

I.D.9.c.ii. The individuals who performed the sampling or measurements;

I.D.9.c.iii. The dates analyses were performed;

I.D.9.c.iv. The individuals who performed the analyses;

I.D.9.c.v. The analytical techniques or methods used;and

I.D.9.c.vi. The results of such analyses.

DRAFT
OCT 10 1986

I.D.10. Reporting Planned Changes

The Permittee shall give notice to the Regional Administrator as soon as possible of any planned physical alterations or additions to the permitted facility and to the solid waste management units which are the subjects of the RCRA permit.

I.D.11. Anticipated Noncompliance

The Permittee shall give advance notice to the Regional Administrator of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

I.D.12. Transfer of Permits

This permit may be transferred to a new owner or operator only if it is modified or revoked and reissued pursuant to 40 CFR §270.41(b)(2) or §270.42(d). Before transferring ownership or operation of the facility during its operating life, the Permittee shall notify the new owner or operator in writing of the requirements of 40 CFR Parts 264 and 270,the 1984 RCRA Amendments,and this permit.

I.D.13. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

I.D.14. Twenty-four Hour Reporting

The Permittee shall report to the Regional Administrator any noncompliance with this permit resulting from a release from a solid waste management unit which may endanger human health or the environment. Any such information shall be reported orally within 24 hours from the time the Permittee becomes aware of the circumstances. This report shall include the following:

I.D.14.a. Information concerning the release of any hazardous waste or hazardous constituents which may endanger public drinking water supplies.

I.D.14.b. Information concerning the release or discharge of any hazardous waste or hazardous constituents, or of a fire or explosion

at the facility, which could threaten the environment or human health outside the facility. The description of the occurrence and its cause shall include:

I.D.14.b.i. Name, address, and telephone number of the owner or operator;

I.D.14.b.ii. Name, address, and telephone number of the facility;

I.D.14.b.iii. Date, time, and type of incident;

I.D.14.b.iv. Name and quantity of materials involved;

I.D.14.b.v. The extent of injuries, if any;

I.D.14.b.vi. An assessment of actual or potential hazard to the environment and human health outside the facility, where this is applicable and;

I.D.14.b.vii. Estimated quantity and disposition of recovered material that resulted from the incident.

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OCT 10 1985

A written submission shall also be provided within 15 days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the periods of noncompliance (including exact dates and times); whether the noncompliance has been corrected; and if not, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

I.D. 15. Other Noncompliance

The Permittee shall report all other instances of noncompliance not otherwise required to be reported above at the time any other reports as required by this permit are submitted. The reports shall contain the information listed in Condition I.D.14.

I.D.16. Other Information

Whenever the Permittee becomes aware that it failed to submit any relevant facts or submitted incorrect information in any document(s) submitted to the Regional Administrator, the Permittee shall promptly submit such facts or information.

I.E. SIGNATORY REQUIREMENT

I.E.1. Certification

All applications, reports, or information submitted to the Regional Administrator shall be signed and certified in accordance with 40 CFR §270.11.

I.F. CONFIDENTIAL INFORMATION

The Permittee may claim confidential any information required to be submitted by this permit in accordance with 40 CFR §270.12.

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OCT 10 1985

I.G. DEFINITIONS

For purposes of this permit, terms used herein shall have the same meaning as those in RCRA and 40 CFR Parts 124, 260, 261, 264 and 270, unless this permit specifically provides otherwise; where terms are not defined in the regulation, the permit, or EPA guidances or publications, the meaning associated with such terms shall be defined by a standard dictionary reference or the generally accepted scientific or industrial meaning of the term.

I.G.1. Hazardous constituents for purposes of this permit are those substances listed in 40 CFR Part 261 Appendix VIII and include hazardous constituents released from solid waste and hazardous constituents that are reaction by-products.

I.G.2. Solid Waste Management Unit for purposes of this permit includes, but is not limited to, any landfill, surface impoundment, waste pile, land treatment unit, incinerator, injection well, tank (including storage, treatment, and accumulation tanks), container storage unit, wastewater treatment unit, elementary neutralization unit, transfer station, and recycling unit from which hazardous constituents might migrate, irrespective of whether the units were intended for the management of solid and/or hazardous wastes.

I.G.3. Release for purposes of this permit includes any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment of any hazardous waste or hazardous constituents.

I.G.4. Contamination for purposes of this permit refers to the presence of any hazardous constituent in a concentration which exceeds the naturally occurring concentration of that constituent in the immediate vicinity of the facility (in areas not affected by the facility).

I.G.5. Corrective action, for purposes of this permit, may include "corrective action" as provided in 40 CFR §264.100 and/or other remedial acitivities for any media until otherwise defined in 40 CFR §264.101.

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II.A. ASSESSMENT OF NEED FOR CORRECTIVE ACTION

II.A.1. The Permittee shall provide to the Regional Administrator a report which identifies all solid waste management units currently or previously located at the facility. In preparing this report, the permittee will review all existing sources of information related to solid waste management practices at the facility and fully investigate the facility property to determine the existence of any additional solid waste management units. This report must include, at a minimum, the following information for each unit:

a) Type of unit
b) Location of each unit on a topograhic map of appropriate scale
c) General dimensions and capacities
d) Function of unit
e) Dates that the unit was operated
f) Description of the wastes that were placed in the unit
g) Description of any known releases or spills (to include ground-water data, soil analyses, and/or surface water analyses)

The above report shall be submitted within 90 days of issuance of this permit.

III.A.2. The Permittee shall prepare a solid waste management unit investigation plan and a proposed schedule for implementation and completion, for each solid waste management unit identified in II.A.1. which are known or suspected to have releases of hazardous waste or hazardous constituents to the environment. The permittee must provide documentation that a release is not probable if a unit is identified which is not included in the solid waste management unit investigation plan.

II.A.3. The Permittee shall include in the solid waste management investigation plan schedules, methods and specific actions as necessary to determine whether a prior or continuing release of hazardous waste or hazardous constituents has occurred, the nature and extent of known or suspected releases and the potential pathways of contaminant releases to the air, land, surface water or ground water. The results of the investigation shall contain information including, but not limited to, all supporting documentation and data used in implementaing the investigation plan.

II.A.5. The Permittee shall submit to the Regional Administrator a final report on the investigation plan(s) for determination of the need for further investigative actions and/or the need for corrective action as required under 40 CFR §264.101(a).

II.A.6. When the need for corrective action is determined in Condition II.A.5. the Permittee shall submit to the Regional Administrator a plan which includes the corrective action plan shall be submitted in accordance with a schedule to be determined by the Regional Administrator. Corrective action must include a description of the corrective measures to be taken, and a schedule of implementation and completion.

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OCT 10 1985

II.A.7. If the Permittee at any time determines that the solid waste management unit investigation plan(s) required under Condition II.A. no longer satisfies the requirements of 40 CFR §264.101 or this permit for prior or continuing releases of hazardous waste or hazardous constituents from solid waste management units, he must submit an amended plan to the Regional Administrator within ninety (90) days of such determination.

II.B. SCHEDULES OF COMPLIANCE

II.B.1. The Permittee shall submit the items required by conditions II.A.1., II.A.2., and II.A.3., and the associated documentation to the Regional Administrator within ninety (90) days of the effective date of this permit.

II.B.2. All plans and schedules shall be subject to approval by the Regional Administrator prior to implementation. The permittee shall revise all submittals as specified by the Regional Administrator.

II.B.3. If the time required to complete any interim activity is more than one year, the schedule shall specify interim dates for the submission of reports of progress toward satisfaction of the interim requirements.

II.B.4. The results of all plans and reports shall be submitted in accordance with the approved schedule. Extensions of the due date for submittals may be granted by the Regional Administrator based on the Permittee's demonstration that sufficient justification for the extension exists.

II.C. PERMIT MODIFICATION

The Permittee shall apply for a permit modification pursuant to 40 CFR §270.41 to incorporate the corrective action plan developed under Condition II.A.6.

PART III - WASTE MINIMIZATION

The following condition is pursuant to 40 CFR §264.73(b)(9):

III.A. WASTE MINIMIZATION CERTIFICATION

The permittee shall be required to certify no less often than annually that the permittee has a program in place to reduce the volume and toxicity of hazardous waste that he generates to the degree determined by the permittee to be economically practicable and the proposed method of treatment, storage or disposal is that practicable method currently available to the permittee which minimizes the present and future threat to human health and the environment.

ATTACHMENT A

INFORMATION REGARDING POTENTIAL RELEASES FROM SOLID WASTE MANAGEMENT UNITS

FACILITY NAME: Martin Marietta Orlando Aerospace (SLRC)

EPA I. D. NUMBER: FDL 060 240 207

LOCATION City: Orlando

State: Florida

1. Are there any of the following solid waste management units (existing or closed) at your facility? NOTE - DO NOT INCLUDE HAZARDOUS WASTES UNITS CURRENTLY SHOWN IN YOUR PART B APPLICATION

	YES	NO
• Landfill	✓	
• Surface Impoundment		✓
• Land Farm		✓
• Waste Pile		✓
• Incinerator		✓
• Storage Tank (Above Ground)		✓
• Storage Tank (Underground)	✓	
• Container Storage Area		✓
• Injection Wells		✓
• Wastewater Treatment Units		✓
• Transfer Stations		✓
• Waste Recycling Operations		✓

2. If there are "Yes" answers to any of the items in Number 1 above, please provide a description of the wastes that were stored, treated or disposed of in each unit. In particular please focus on whether or not the wastes would be considered as hazardous wastes or hazardous constituents under RCRA. Also include any available data on quantities or volumes of wastes disposed of and the dates of disposal. Please also provide a description of each unit and include capacity, dimensions, location at facility, provide a site plan if available.

See Attached Sheet 1a and Site Plan

NOTE: Hazardous waste are those identified in 40 CFR 261. Hazardous constituents are those listed in Appendix VIII of 40 CFR Part 261.

3. For the units noted in Number 1 above and also those hazardous waste units in your Part B application, please describe for each unit any data available on any prior or current releases of hazardous wastes or constituents to the environment that may have occurred in the past or still be occurring.

Please provide the following information

a. Date of release
b. Type of waste released
c. Quantity or volume of waste released
d. Describe nature of release (i.e., spill, overflow, ruptured pipe or tank, etc)

SEE PAGE 2a

4. In regard to the prior releases described in Number 3 above, please provide (for each unit) any analytical data that may be available which would describe the nature and extent of environmental contamination that exists as a result of such releases. Please focus on concentrations of hazardous wastes or constituents present in contaminated soil or groundwater.

The condition of the ground-water at Sites 3, 5, 6 and MEC Building is currently being investigated. Recent data for down gradient wells at these Sites and Sites 1, 2, 4 is attached.

Signature and Certification

As with reports in RCRA Permit Applications, submittal of this information must contain the following certification and signature by a principal executive officer of at least the level of Vice President or by a duly authorized representative of that person:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Signature

Richard C. Winfield, Director
Name and Title (Typed) Facilities

LANDFILL SITES 4 & 6 CONTAINING NON-HAZARDOUS NORMAL TRASH FROM MANUFACTURING, OFFICE AND RESEARCH BUILDINGS, AND DEBRIS FROM CONSTRUCTION AND LANDSCAPE MAINTENANCE.

MEC BUILDING, GROUND-WATER STORAGE TANK (5,000 GALLON) FOR VOC TREATMENT SYSTEM. THE RECOVERED GROUND-WATER CONTAINS HAZARDOUS CONSTITUENTS UNDER RCRA.

SITE 4, APPROXIMATELY 1.7 ACRES, WAS IN USE DURING 1971 AND 1972. THIS PORTION OF THE DISPOSAL SITE RECEIVED AN ESTIMATED 675 TONS OF SOLID WASTE. APPROXIMATE DIMEN SIONS 250'x300'.

SITE 6, APPROXIMATELY 4.8 ACRES, WAS IN USE DURING 1981 AND 1982 AND RECEIVED AN ESTIMATED 1900 TONS OF SOLID WASTE. APPROXIMATE DIMENSIONS 235'x 900'.

(3) LANDFILL SITES 1, 2, 3 AND 5 ARE IDENTIFIED IN THE FDER OPERATING PERMIT APPLICATION FOR MARTIN MARIETTA'S SAND LAKE ROAD CENTER (SLRC). NON-HAZARDOUS TRASH FROM NORMAL MANUFACTURING, OFFICE AND RESEARCH ACTIVITIES AND DEBRIS FROM CONSTRUCTION AND MAINTENANCE ACTIVITIES PLUS ELECTROPLATING SLUDGE FROM THE PRETREATMENT PLANT WERE LANDFILLED IN THESE SITES. ONLY ELECTROPLATING SLUDGE WAS LANDFILLED IN SITE 2. SITES 4, 6 and MEC BUILDING ARE DESCRIBED IN ITEM 2.

ANY RELEASE THAT MAY HAVE OCCURED AT THESE SITES WAS A NON-SUDDEN RELEASE OF AN UNKNOWN QUANTITY OF MATERIAL.
8

Table 1. Volatile organic compounds in surface water (SW-5,6,7) and groundwater (PW-3,7,8,26) from Site 5 at Martin Marietta Aerospace, Orlando

Client Sample ID:		SW-5	SW-6	SW-7	BLANK	PW-3	PW-7	PW-8	PW-26
Sampling Date:		9/24/84	9/24/84	9/24/84	9/24/84	9/24/84	9/24/84	9/24/84	9/24/84
COMPOUNDS	MDL (ppb)	Final Concentration - ppb (ng/ml)							
benzene	0.2	BDL[a]	BDL	BDL	BDL	BDL	BDL	4.1	4.9
bromodichloromethane	2	BDL	BDL	BDL	BDL	BDL	BDL	11.5	5.7
bromoform	4	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
carbon tetrachloride	4	BDL	BDL	BDL	BDL	BDL	BDL	26.8	33.2
chlorobenzene	0.2	BDL	BDL	BDL	BDL	0.2	BDL	BDL	0.4
chloroform	1	BDL	BDL	BDL	1.8	BDL	BDL	BDL	BDL
2-chloroethylvinyl ether	2	BDL	BDL	BDL	BDL	BDL	BDL	BDL	2.1
cis-1,3-dichloropropene	0.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
dibromochloromethane	2	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,1-dichloroethane	0.5	BDL	BDL	BDL	BDL	1.7	BDL	3.5	2.5
1,2-dichloroethane	0.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,1-dichloroethylene	0.5	0.8	BDL	BDL	BDL	BDL	BDL	2.3	0.9
1,2-dichloropropane	0.4	BDL	BDL	BDL	BDL	BDL	BDL	3.4	3.2
ethylbenzene	0.2	BDL	BDL	BDL	BDL	BDL	BDL	17.4	18.2
methylene chloride	0.5	BDL	BDL	BDL	BDL	1.0	1.5	4064	1853
1,1,2,2-tetrachloroethane	0.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
tetrachloroethylene	0.5	0.7	BDL	BDL	BDL	5.0	0.9	602	342
toluene	0.2	0.2	BDL	BDL	0.2	0.2	BDL	537	241
trans-1,2-dichloroethylene	0.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
trans-1,3-dichloropropene	0.4	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,1,1-trichloroethane	1	BDL	BDL	BDL	BDL	25.3	27.4	177	BDL
1,1,2-trichloroethane	0.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
trichloroethylene	0.5	2.7	1.2	5.0	BDL	BDL	BDL	141	24.0

(a)BDL = below detection limit
(b)Based on duplicate analysis

Table 2. Volatile organic compounds in groundwater collected from monitoring wells at Sites 1, 2, and 3 at Orlando Aerospace

		Site 1	Site 2	Site 3
Client Sample ID:		PW-15	PW-13	PW-9
Sampling Date:		9/24/84	9/24/84	9/24/84
COMPOUNDS	MDL (ppb)			
benzene	0.2	BDL[a]	BDL	BDL
bromodichloromethane	2	BDL	BDL	BDL
bromoform	4	BDL	BDL	BDL
carbon tetrachloride	4	BDL	BDL	BDL
chlorobenzene	0.2	BDL	BDL	BDL
chloroform	1	BDL	BDL	BDL
2-chloroethylvinyl ether	2	BDL	BDL	BDL
cis-1,3-dichloropropene	0.5	BDL	BDL	BDL
dibromochloromethane	2	BDL	BDL	BDL
1,1-dichloroethane	0.5	BDL	BDL	16.8
1,2-dichloroethane	0.5	BDL	BDL	BDL
1,1-dichloroethylene	0.5	BDL	BDL	6.0
1,2-dichloropropane	0.4	BDL	BDL	BDL
ethylbenzene	0.2	BDL	BDL	BDL
methylene chloride	0.5	BDL	BDL	1.6
1,1,2,2-tetrachloroethane	0.5	BDL	BDL	BDL
tetrachloroethylene	0.5	BDL	BDL	11.1
toluene	0.2	BDL	BDL	1.0
trans-1,2-dichloroethylene	0.5	BDL	BDL	BDL
trans-1,3-dichloropropene	0.4	BDL	BDL	BDL
1,1,1-trichloroethane	1	BDL	BDL	BDL
1,1,2-trichloroethane	0.5	BDL	BDL	BDL
trichloroethylene	0.5	BDL	BDL	61.7

(a) BDL = below detection limit
(b) Based on duplicate analysis

Table 3. Metals (Cd, Cr, Cu, Ni) TOC, and total cyanide in surface water (SW-5,6,7) and groundwater (PW-3,7, 8,9,13,15,26) at Martin Marietta Aerospace, Orlando

Sample	Site	Final Concentration ppb				Total Cyanide ppb	TOC ppm
		Cd	Cr	Cu	Ni		
PW-15	1	0.5	1.0	14.0	5.0	<5.0	2.8
PW-13	2	38.0	18.0	9.0	117.0	<5.0	12.6
PW-9	3	<0.1	11.0	8.0	17.0	<5.0	6.9
PW-3	5	<0.1	3.0	4.0	27.0	<5.0	1.9
PW-7	5	<0.1	2.0	1.0	<3.0	<5.0	7.2
PW-8	5	<0.1	1.0	1.0	11.0	<5.0	236
PW-26	5	0.3	<1.0	1.0	15.0	<5.0	210
SW-5	Surface Water	0.2	1.0	7.0	4.0	<5.0	10.7
SW-6	Surface Water	0.1	1.0	8.0	3.0	<5.0	9.7
SW-7	Surface Water	0.2	4.0	6.0	6.0	1.3	11.0
	MDL*	0.1	1.0	1.0	1.0	5.0	0.3
Drinking Water Standard		10.0	50.0	1,000	-	-	-

* MDL - Method detection limit
** EPA Primary (Cd, Cr) and Secondary Drinking (Cu) Water Standards

CONCENTRATION OF VOLATILE ORGANIC COMPOUNDS IN GROUNDWATER COLLECTED FROM MONITORING WELLS AT SITE 4, ORLANDO AEROSPACE

Compounds	Location	Site 4	
	Sampling Date:	4/8/84	4/12/84
	Method Detection Limit 50 ml Sample (ppb)	TW-7	TW-9
benzene	0.2	BDL	BDL
bromodichloromethane	2	BDL	BDL
bromoform	4	BDL	BDL
carbon tetrachloride	4	BDL	BDL
chlorobenzene	0.2	BDL	BDL
chloroform	1	BDL	BDL
cis-1,3-dichloropropene	0.5	BDL	BDL
dibromochloromethane	2.0	BDL	BDL
1,1-dichloroethane	0.5	2.6	BDL
1,2-dichloroethane	0.5	BDL	BDL
1,1-dichloroethylene	0.5	BDL	BDL
1,2-dichloropropane	0.4	BDL	BDL
ethylbenzene	0.2	BDL	BDL
methylene chloride	0.5	BDL	BDL
1,1,2,2-tetrachloroethane	0.5	BDL	BDL
tetrachloroethylene	0.5	BDL	BDL
toluene	0.2	BDL	BDL
trans-1,2-dichloroethylene	0.5	3.9	3.3
trans-1,3-dichloropropene	0.4	BDL	BDL
1,1,1-trichloroethane	1	BDL	BDL
1,1,2-trichloroethane	0.5	BDL	BDL
trichloroethylene	0.5	5.1	1.4
2 Chloroethylvinylether		BDL	BDL

Concentrations of volatile organic compounds in groundwater samples collected from monitoring wells at Site 6, Orlando Aeorspace

		Location	Site 6		
		Sampling Date:	5/18/84	5/18/84	5/18/84
Compounds	AWQC(a) (ppb)	Method Detection Limit 50 ml Sample (ppb)	PW-27	PW-28 (*)	PW-29
benzene	40	0.2	BDL	BDL	BDL
bromodichloromethane	0.19	2	BDL	BDL	21
bromoform		4	BDL	BDL	13
carbon tetrachloride	0.40	4	BDL	BDL	17
chlorobenzene	488	0.2	BDL	BDL	BDL
chloroform	0.19	1	BDL	6	4.7
cis-1,3-dichloropropene	87	(b)	BDL	BDL	P (b)
dibromochloromethane	0.19	(b)	BDL	BDL	P (b)
1,1-dichloroethane		0.5	0.8	11.7	11.5
1,2-dichloroethane	0.94	0.5	BDL	BDL	BDL
1,1-dichloroethylene	0.033	0.5	1.6	3.4	3.4
1,2-dichloropropane		(c)	BDL	BDL	P (c)
ethylbenzene	1,400	0.2	1.5	3.8	12
methylene chloride	0.19	0.5	2.0	7.1	63
1,1,2,2-tetrachloroethane	1.7	(d)	BDL	BDL	BDL
tetrachloroethylene	0.8	(d)	520	580 (e)	390 (e)
toluene	14,300	0.2	2.6 (e)	64 (e)	74 (e)
cis -1,2-dichloroethylene		0.5	110 (e)	70 (e)	38 (e)
trans-1,3-dichloropropene	87	(c)	BDL	BDL	P (c)
1,1,1-trichloroethane	18,400	1	9.3	11.6	14
1,1,2-trichloroethane	0.6	(b)	BDL	BDL	P (b)
trichloroethylene	2.7	0.5	949 (e)	692 (e)	478 (e)

(a) AWQC - Ambient Water Quality Criteria (FR 45, pp. 79318-79379, 1980). AWQC are for human health protection: values reflect intake via food and water consumption and an incremental lifetime cancer risk of 10^{-6}. these values may become less restrictive as proposed under the National Interim Primary Drinking Water Regulations (FR 47, p. 9357, 198

(b) Dibromochloromethane/1,1,2-trichloroethane/cis-1,3-dichloropropene coelute and cannot be individually quantified. (P) indicates compounds(s) are present.

(c) 1,2-dichloropropane/1,3-dichloropropene coelute and cannt be individually quantified. (P) indicates compound(s) are present.

(d) 1,1,2,2-tetrachloroethane/tetrachloroethylene coelute and cannot be individually quantified. (P) indicated compound(s) are present.

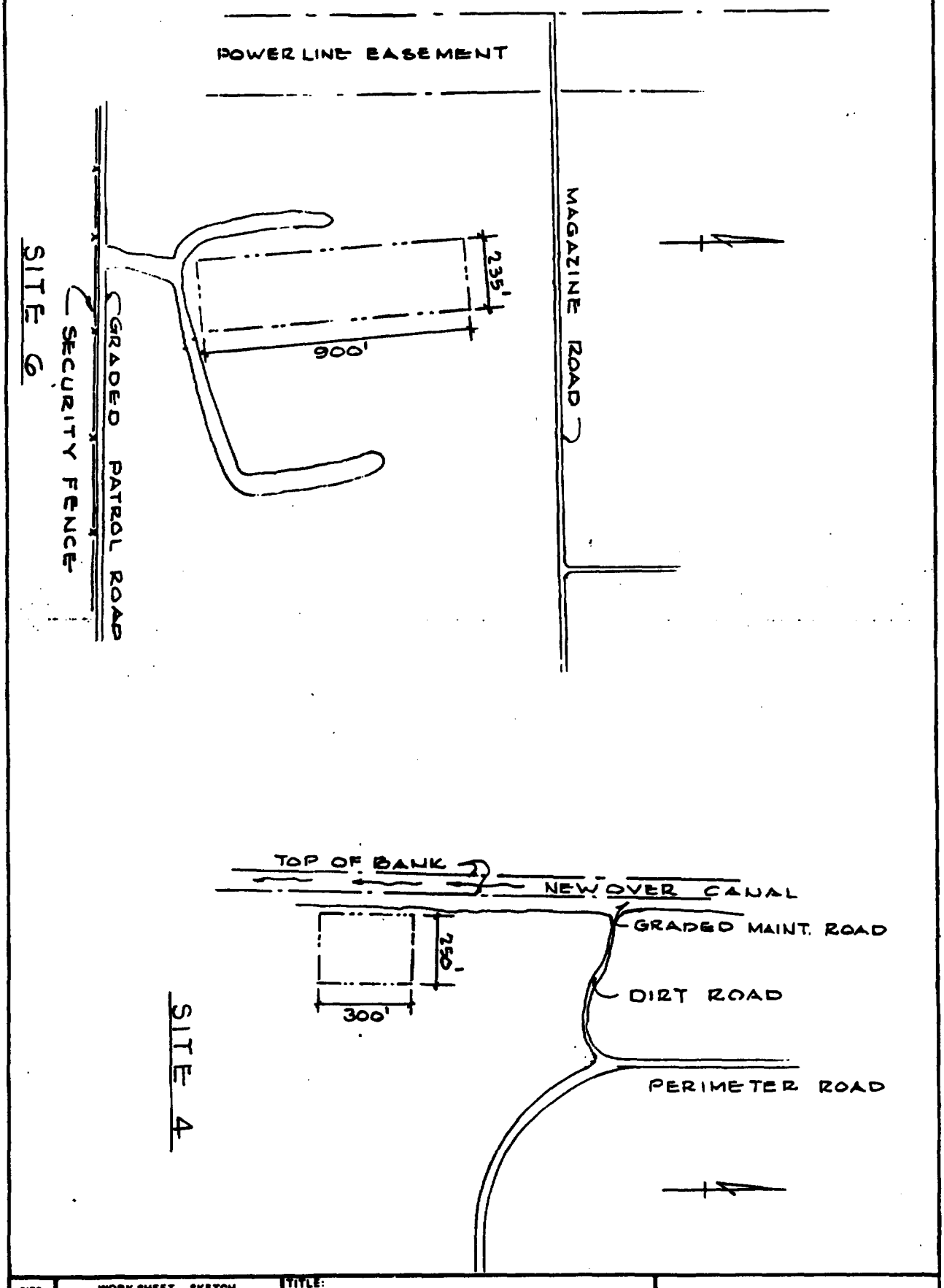
(e) Confirmed by GC/MS

(*) Average of two values

Table 1. VOC Analysis Results

MEC BLDG GROUNDWATER HOLDING TANK

MES Sample ID:		345	348				
Client Sample ID:		Field Blank	WP-1				
Sample Size (ml):		40	20				
GC/MS analyzed (date):		10/31/84	10/31/84				
COMPOUNDS	MDL (ppb)	Final Concentration = ppb (ng/ml)					
benzene(a)	0.2	BDL	BDL				
bromodichloromethane	2	BDL	BDL				
bromoform	.4	BDL	BDL				
carbon tetrachloride	4	BDL	BDL				
chlorobenzene	0.2	BDL	BDL				
chloroform	1	BDL	BDL				
2-chloroethylvinyl ether	2	13	BDL				
cis-1,3-dichloropropene	0.5	BDL	BDL				
dibromochloromethane	2	BDL	BDL				
1,1-dichloroethane	0.5	BDL	7.1				
1,2-dichloroethane	0.5	BDL	BDL				
1,1-dichloroethylene	0.5	BDL	2.8				
1,2-dichloropropane	0.4	BDL	BDL				
ethylbenzene	0.2	BDL	14.1				
methylene chloride	0.5	BDL	23.5				
1,1,2,2-tetrachloroethane	0.5	BDL	BDL				
tetrachloroethylene	0.5	0.6	89.0				
toluene	0.2	BDL	20.8				
trans-1,2-dichloroethylene	0.5	BDL	BDL				
trans-1,3-dichloropropene	0.4	BDL	BDL				
1,1,1-trichloroethane	1	BDL	5.4				
1,1,2-trichloroethane	0.5	BDL	BDL				
trichloroethylene	0.5	BDL	658.0				
cis-1,2-dichloroethylene	0.5	BDL	204.9				



SIZE	WORK SHEET – SKETCH	TITLE:	
B	DESIGNED BY RFG / DRAWN BY RFG	LANDFILL SITE PLANS	FACILITIES ENGINEERING MARTIN MARIETTA AEROSPACE ORLANDO DIVISION
	SKETCH NO.		

NOV 14 1985

Martin Marietta Orlando Aerospace
EPA I.D. NO. FLD 060 240 207

Chief,
Waste Engineering Section

Allen Antley, Chief
Waste Compliance Section

The Exposure Information Report for the above - referenced facility was due to be submitted on October 8, 1985, with the post-closure permit application. The post-closure permit application was received on the due date. The cover letter attached to the application stated that the Exposure Information Report would be submitted no later than October 15, 1985. We have not received the Exposure Information Report. We request that you take appropriate enforcement action to obtain the EIR from Martin Marietta Orlando Aerospace.

The Waste Engineering Section contact for this facility is Elaine Houston, at extension 3433.

Douglas C. McCurry

cc: John Lamb, Chief
East Unit
Waste Compliance Section

Houston/Hartnett/McCurry____

Houston:dw:3433:11-14-85:5754X:

Printout cancelled by operator

WES

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

ST. JOHNS RIVER DISTRICT
3319 MAGUIRE BOULEVARD
SUITE 232
ORLANDO, FLORIDA 32803-3767

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

A. ALEXANDER,
DISTRICT MANAGER

CERTIFIED
P 578 212 835

November 12, 1985

Richard C. Winfield, Director of Facilities OSJ-HW-85-0376
Martin Marietta Orlando Aerospace
4600 Sandlake Road
Post Office Box 5837
Orlando, Florida 32855

Dear Mr. Winfield:

Orange County HW
Martin Marietta Orlando Aerospace
Draft Federal Permit for Solid Waste Management Units (SMU)

Attached herewith is your copy of EPA's final draft federal permit (covering the 1984 RCRA Solid and Hazardous Waste Amendments) and statement of basis for Martin Marietta Orlando Aerospace.

If you have any questions, please call Mrs. Laxsamee Levin at (305) 894-7555.

Sincerely,

Charles M Collins

C. M. Collins, P.E.
for Hazardous/Solid Waste Engineering

CMC:LL:pj

Enclosure

cc: Satish Kastury, DER Tallahassee
Jim Scarbrough, EPA Atlanta
Bob McVety, DER Tallahassee

ENGINEERING SECTION
NOV 13 3 58 PM '85
EPA REGION IA
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DOCKET NO. MM-30

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET
ATLANTA, GEORGIA 30365

MAR 22 1985

4WD-RM

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Robert J. Whalen
Vice President
Martin Marietta Corporation
6801 Rockledge Drive
Bethesda, Maryland 20817

Re: Martin Marietta Corporation RCRA Part B Application
EPA I.D. Number FLD 060 240 207

Dear Mr. Whalen:

On November 8, 1984 President Reagan signed the Hazardous and Solid Waste Amendments of 1984 (HSWA). These Amendments to the Resource Conservation and Recovery Act (RCRA) have a number of provisions affecting hazardous waste permitting that are immediately effective for any facility whose RCRA hazardous waste permit (Florida Hazardous Waste Facility Operation Permit) had not been issued as of November 8, 1984. In addition, the new provisions are applicable in all states whether or not the state has received interim or final authorization under RCRA.

The purpose of this letter is to notify you, that as the owner or operator of a hazardous waste land disposal facility, you must submit a complete RCRA Part B application in order to comply with the HSWA. In Florida, the complete application for a Operation Permit required under Chapter 17-30, Florida Administrative Code (FAC) is the equivalent to a pre-HSWA Part B. In addition to the information required in Section 17-30.22, FAC, you must also address the requirements of the Hazardous and Solid Waste Amendments of 1984. You are now required to submit your complete Part B application to EPA and the State no later than October 8, 1985. This submission date is required by EPA to comply with §3005(e)(3) of the HSWA and 40 CFR §270.10. Under federal law the amendments preempt any state TOP compliance schedule for submission of a complete Operation Permit Application after that date for all hazardous waste land disposal facilities. This applies to all surface impoundments, land treatment units, landfills, and certain waste piles whether used for treatment, storage or disposal.

DOCKET NO. MM-31

EPA

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

Houston

ST. JOHNS RIVER DISTRICT
3319 MAGUIRE BOULEVARD
SUITE 232
ORLANDO, FLORIDA 32803-3767

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

ALEX ALEXANDER
DISTRICT MANAGER

CERTIFIED
P 034-237-689

August 28, 1985

Richard C. Winfield, Director of Facilities
Martin Marietta Orlando Aerospace
4600 Sandlake Road
Post Office Box 5837
Orlando, Florida 32855

Dear Mr. Winfield:

Orange County-HW
Martin Marietta Orlando Aerospace
Hazardous Waste Storage Facility

Pursuant to Section 403.815, Florida Statutes, and Section 17-103.150, Florida Administrative Code, the attached notice must be published one (1) time only, in the legal advertisement section of a newspaper of general circulation and a radio broadcast in the area of the project. This notice must be published as soon as possible and no later than thirty (30) days after receipt of this letter, at your expense.

Please instruct the newspaper and the radio to send a certified copy of the advertisement to this office, within seven (7) days of publication, also at your expense. This Notice constitutes official notice of intended agency action to all concerned.

Your cooperation is appreciated.

Sincerely,

A. Alexander, P. E.
District Manager

AA/llp

Enclosure

RECEIVED
OCT 14 1985
Hazardous Waste
DOCKET NO. MM-32

INTENT TO ISSUE
(HAZARDOUS WASTE)

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

In the Matter of an Application for Permit by: Richard C. Winfield, Director of Facilities Martin Marietta Orlando Aerospace 4600 Sandlake Road Post Office Box 5837 Orlando, Florida 32855	)	DER File No.: HO48-89392

RECEIVED
OCT 14 1985
Hazardous Waste

INTENT TO ISSUE

The Department of Environmental Regulation hereby gives notice of its Intent to Issue, and requests the publication of notice for, the above referenced permit. Upon issuance of this permit, the Department will authorize the permittee to operate a hazardous waste storage facility designed to store a maximum of 336 (550-gallon) drums. This total is broken down as follows:

Type of Waste	EPA HW #'s	Number Drums
Flammable/Ignitable Waste	D001, F003, F005	96
Organic Solvent - Non-flammable	F001	96
Solid Hazardous Waste	D002, F006	96
Non-Hazardous Chemical Waste		48

The Department is taking this action under the authority of Section 403.722, Florida Statutes, and Florida Administrative Code Rules 17-4 and 17-30, which provide for issuance of permits to facilities that treat, store, or dispose of hazardous wastes. The issuance of this permit is based on the applicant's demonstration that this facility is in compliance with the technical and procedural requirements established in F.A.C. Chapter 17-30 and the appropriate Sections of 40 CFR Parts 260 through 265, which were adopted by reference in Chapter 17-30. This demonstration was made in the approved application submitted with DER Form 17-1.207 (3) on June 28, 1984, and amended on October 1, 1984, November 20, 1984, March 22, 1985, March 26, 1985 and April 24, 1985.

Pursuant to Sections 403.815 and 403.722, F.S., and F.A.C. Rule 17-30.22(6), you are required to publish at your own expense notice of the Department's Intent to Issue a hazardous waste operation permit to Martin Marietta Orlando Aerospace to operate a hazardous waste storage facility.

The notice must be published one time only in the legal ad section of a major local newspaper of general circulation and broadcast over a local radio station within thirty (30) days from receipt of this letter. Proof of publication and broadcast must be provided to the Department within seven days of publication of the notice.

Failure to publish the notice and provide proof of publication within the allotted time may result in the denial of the permit.

The Department shall issue the permit with the attached conditions unless an appropriate petition is filed for a hearing pursuant to the provisions of Section 120.57, F.S. At a formal hearing under 120.57(1), F.S., all parties shall have an opportunity to present evidence and argument on all issues involved, to conduct cross-examination and submit rebuttal evidence, to submit proposed findings of fact and orders, to file exceptions to any order or hearing officer's recommended order, and to be represented by counsel. At an informal hearing under 120.57(2), F.S., the Department will provide affected persons or parties an opportunity to present evidence or a written statement in opposition to the agency's action.

Petitions for hearing must comply with the requirement of Florida Administrative Code Rules 17-103.155 and 28-5.201 (copies enclosed) and be filed with the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32301-8241. Petitions filed by the permit applicant must be filed within forty-five (45) days of receipt of this letter. Petitions filed by other parties, or requests for public meetings by persons, must be filed within forty-five (45) [illegible] or broadcast of the public notice. Petitions or requests for meetings which are not filed in accordance with the above provisions are subject to dismissal.

Executed in Orlando, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

A. Alexander, P.E.
District Manager
Department of Environmental
Regulation - St. Johns River
District
3319 Maguire Blvd. - Suite 232
Orlando, Florida 32803-3767
(305) 894-7555

This is to certify that this NOTICE OF INTENT TO ISSUE was mailed before the close of business on the date indicated on the return receipt request form.

Signature

JOINT PUBLIC NOTICE OF PROPOSED AGENCY ACTIONS

FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION
ST. JOHNS RIVER DISTRICT
3319 MAGUIRE BOULEVARD - SUITE 232
ORLANDO, FLORIDA 32803-3767
305/894-7555

in conjunction with the

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION IV, RESIDUALS MANAGEMENT BRANCH
345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365
404/881-3544

THE FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION (DER) AND THE U.S. ENVIRONMENTAL PROTECTION AGENCY (U.S. EPA) GIVE NOTICE OF THEIR INTENT TO ISSUE JOINT PERMITS UNDER THE RESOURCE CONSERVATION AND RECOVERY ACT (RCRA), AS AMENDED BY THE HAZARDOUS AND SOLID WASTE AMENDMENTS OF 1984, SECTION 403.722, FLORIDA STATUTES, AND CHAPTER 17-4 AND 17-30 OF THE FLORIDA ADMINISTRATIVE CODE (FAC) to the Martin Marietta Orlando Aerospace, 4600 Sand Lake Road, Orlando, Florida 32855 having the assigned facility I.D. Number FLD 060 240 207. The two permits, if issued will constitute the RCRA permit required by the Florida DER and the U.S. EPA.

The State of Florida has been granted authorization for those portions of the RCRA Hazardous Waste Program that were in effect prior to the passage of the Hazardous and Solid Waste Amendments of 1984. The Federal Environmental Protection Agency will administer the applicable portions of the Hazardous and Solid Waste Amendments of 1984 (specifically the waste minimization and prior release sections) until the State receives authorization for these provisions.

A draft permit, prepared in accordance with the provisions of Chapter 17-30 of the Florida Administrative Code (FAC), contains the conditions for the continued operation of an on-site hazardous waste storage facility at the referenced site [illegible] drums, [illegible] total is broken down as follows:

Type of Waste	EPA HW #'s	Total Number Drums
Flammable/Ignitable Waste	D001, F003, F005	96
Organic Solvent-Non Flammable	F001	96
Solid Hazardous Waste	D002, F006	96
[illegible] Hazardous Chemical Waste		48

The Federal draft permit will contain conditions for the identification of solid waste management units and conditions to verify prior/continuing releases of hazardous waste or constituents from solid waste units. The Federal draft permit also sets conditions for certification of waste minimization. FDER and EPA have made a preliminary determination that the proposed permits will comply with applicable state and federal regulations.

The application and a copy of both state and federal proposed permits are available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Firday, except legal holidays, at Florida Department of Environmental Regulation, St. Johns River District, 3319 Maguire Boulevard, Suite 232, Orlando, Florida 32803-3767, (305) 894-7555.

The proposed U.S. EPA permit and statement of basis are available for public inspection Monday thru Friday, except legal holidays, from 8:00 a.m. to 5:00 p.m. at the U.S. EPA Library, 345 Courtland Street, N.E., Atlanta, Georgia 30365. All data submitted by the applicant to the U.S. EPA is available as part of the administrative record at the above address.

Any interested person may submit written comments on this proposed State agency action to the Department of Environmental Regulation, St. Johns River District, 3319 Maguire Boulevard, Suite 232, Orlando, Florida 32803-3767, or the proposed U.S. EPA action to the U.S. Environmental Protection Agency, Region IV, 345 Courtland Street, N.E., Atlanta, Georgia, 30365 Attention: Mrs. Earline Hanson, within forty-five (45) days of publication of this notice. All comments on the facility will be considered by both agencies in formulating a decision on [illegible] permits.

A person who is substantially affected by the Department's proposed permitting decision may request a hearing in accordance with Section 120.57, Florida Statutes, and Chapters 17-103, and 28-5, Florida Administrative Code. Any person may

request a public meeting pursuant to Section 403.722(10), Florida Statutes. The request for a hearing or meeting must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Twin Towers Office Building, Tallahassee, Florida 32301, within forty-five (45) days of publication of this notice. Failure to file a request for hearing within this time period shall constitute a waiver of any right such person may have to request a hearing under Section 120.57, Florida Statutes, or a meeting under Section 403.722(10), Florida Statutes.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the proposed agency action. Persons whose substantial interests have been afffected by any decision of the Department have the right to intervene in the proceeding. A petition for intervention must be filed pursuant to Model Rule 28-5.207, Florida Administrative Code, at least five (5) days before the final hearing and be filed with the hearing officer if one has been assigned at the Division of Administrative Hearings, Department of Administration, 2009 Apalachee Parkway, Tallahassee, Florida 32301. Failure to petition to intervene within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, Florida Statutes

Any interested person may submit comments on the draft federal permit and may request a hearing pursuant to 40 CFR ¶124.11. The request must be in writing and must include a written notice of opposition to the draft federal permit. Hearing request should be addressed to Mrs. Earline Hanson, U.S. EPA, at the above address within 45 days of this notice.

A copy of the proposed U.S. EPA permit may be obtained by contacting Mrs. Earline Hanson, U.S. EPA at the above address. A nominal fee for copying and/or mailing may be charged.

RULES OF THE ADMINISTRATIVE COMMISSION
MODEL RULES OF PROCEDURE
RULE 28-5.201
DECISIONS DETERMINING SUBSTANTIAL INTERESTS

PART II
FORMAL PROCEEDINGS

28-5.201 Initiation of Formal Proceedings.

(1) Initiation of formal proceedings shall be made by petition to the agency responsible for rendering final agency action. The term petition as used herein includes any application or other document which expresses a request for formal proceedings. Each petition should be printed, typewritten or otherwise duplicated in legible form on white paper of standard legal size. Unless printed, the impression shall be double-spaced and indented.

(2) All petitions filed under these rules should contain:

(a) The name and address of each agency affected and each agency's file or identification number, if known;

(b) The name and address of the petitioner or petitioners, and an explanation of how his/her substantial interests will be affected by the agency determination;

(c) A statement of when and how petitioner received notice of the agency decision or intent to render a decision;

(d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;

(e) A concise statement of the ultimate facts alleged, as well as the rules and statutes which entitle the petitioner to relief;

(f) A demand for relief to which the petitioner deems himself entitled, and

(g) Other information which the petitioner contends is material.

****

A petition may be denied if the petitioner does not state adequately a material factual allegation, such as a substantial interest in the agency determination, or if the petition is untimely. (Rule 28-5.201(3)(a), Florida Administrative Code)

Section 17-103.155(1), Florida Administrative Code
Petition for Administrative Hearing; Waiver of Right to Administrative Proceeding

(1)(a) Any person whose substantial interests may be affected by proposed or final agency action may file a petition for administrative proceeding. A petition shall be in the form required by this Chapter and Chapter 28-5, FAC, and shall be filed (received) in the Office of General Counsel of the Department within fourteen (14) days of receipt of notice of proposed agency action or within fourteen (14) days of receipt of notice of agency action whenever there is no public notice of proposed agency action. In addition to the requirements of Rule 28-5.201, FAC, the Petition must specify the county in which the project is or will be located.

(b) Failure to file a petition within fourteen (14) days of receipt of notice of agency action or fourteen (14) days of receipt of notice of proposed agency action, whichever notice first occurs, shall constitute a waiver of any right to request an administrative proceeding under Chapter 120, F.S.

(c) When there has been no publication of notice of agency action or notice of proposed agency action as prescribed in Rule 17-103.150, FAC, a person who has actual knowledge of the agency action or has knowledge which would lead a reasonable person to conclude that the Department has taken final agency action, has a duty to make further inquiry within fourteen (14) days of obtaining such knowledge by contacting the Department to ascertain whether action has occurred. The Department shall upon receipt of such an inquiry, if agency action has occurred, promptly provide the person with notice as prescribed by Rule 17-103.150, FAC. Failure of the person to make inquiry with the Department within fourteen (14) days after obtaining such knowledge may estop the person from obtaining an administrative proceeding on the agency action.

(2)(a) "Receipt of notice of agency action" means receipt of written notice of final agency action, as prescribed by Department rule, or the publication, pursuant to Department rule, of notice of final agency action, whichever first occurs.

(b) "Receipt of notice of proposed agency action" means receipt of written notice (such as a letter of intent) that the Department proposes to take certain action, or the publication pursuant to Department rule of notice of proposed agency action, whichever first occurs.

(3) Notwithstanding any other provision in this Chapter, should a substantially affected person who fails to timely request a hearing under Section 120.57, F.S., administratively appeal the final Department action or order, the record on appeal should be limited to:

(a) the application, and accompanying documentation submitted by the applicant prior to the issuance of the agency's intent to issue or deny the requested permit.

(b) the materials and information relied upon by the agency in determining the final agency action or order;

(c) any notices issued or published; and

(d) the final agency action or order entered concerning the permit application.

(4) In such cases where persons do not timely exercise their rights accorded by Section 120.57(1), Florida Statutes, the allegations of fact contained in or incorporated by the final agency action shall be deemed uncontested and true, and appellants may not dispute the truth of such allegations upon subsequent appeal.

(5) Any applicant may challenge the Department's request for additional information by filing with the Office of General Counsel an appropriate petition for administrative proceeding pursuant to Section 120.60, F.S., following receipt by the applicant of the Department's notification, pursuant to Section 403.0876, F.S., that additional information is required.

Specific Authority: 120.53, 403.0876, 403.815, F.S. Law Implemented: 120.53, F.S. History: New 9-20-79, Amended 4-28-81, Transferred from 17-1.62 and Amended 6-1-84.

(5) Any applicant may challenge the Department's request for additional information by filing with the Office of General Counsel an appropriate petition for administrative proceeding pursuant to Section 120.60, F.S., following receipt by the applicant of the Department's notification, pursuant to Section 403.0876, F.S., that additional information is required.

Specific Authority: 120.53, 403.0876, 403.815, F.S. Law Implemented: 120.53, F.S. History: New 9-20-79, Amended 4-28-81, Transferred from 17-1.62 and Amended 6-1-84.

Public Notice Date

EPA

PAM,
file in Martin-Orlando
HOHB-89392
'LHS' - Proof of Public Notice Published

The Orlando Sentinel

Published Daily
Orlando, Orange County, Florida

State of Florida } ss.
COUNTY OF ORANGE

Before the undersigned authority personally appeared Catherine Deering, who on oath says that she is the Legal Advertising Representative of the Orlando Sentinel, a Daily newspaper published at Orlando, in Orange County, Florida; that the attached copy of advertisement, being a Joint Public Notice in the matter of Permit to Martin Marietta Orlando Aerospace in the _____ Court, was published in said newspaper in the issues of October 26, 1985

Affiant further says that the said Orlando Sentinel is a newspaper published at Orlando, in said Orange County, Florida, and that the said newspaper has heretofore been continuously published in said Orange County, Florida, each Week Day and has been entered as second-class mail matter at the post office in Orlando, in said Orange County, Florida for a period of one year next preceding the first publication of the attached copy of advertisement; and affiant further says that he/she has neither paid nor promised any person, firm or corporation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in the said newspaper.

Sworn to and subscribed before me this 29th day of October A.D., 1985

Notary Public, State of Florida at Large
My Commission Expires May 25, 1987
Bonded by American Pioneer Casualty Ins. Co.

Seal

Notary Public

FORM NO. AD-262

Swm

RECEIVED
NOV 4 1985
Hazardous Waste

ADVERTISING CHARGE $211.41

JOINT PUBLIC NOTICE OF [redacted]
FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION
ST. JOHNS RIVER DISTRICT
3319 MAGUIRE BOULEVARD, SUITE 232
ORLANDO, FLORIDA 32803-3767
305/894-7555
in conjunction with the
U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION IV, RESIDUALS MANAGEMENT BRANCH
345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365
404/881-3944

THE FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION (DER) AND THE U.S. ENVIRONMENTAL PROTECTION AGENCY (U.S. EPA) GIVE NOTICE OF THEIR INTENT TO ISSUE JOINT PERMITS UNDER THE RESOURCE CONSERVATION AND RECOVERY ACT (RCRA), AS AMENDED BY THE HAZARDOUS AND SOLID WASTE AMENDMENTS OF 1984, SECTION 403.722, FLORIDA STATUTES, AND CHAPTER 17-4 AND 17-30 OF THE FLORIDA ADMINISTRATIVE CODE (FAC) to the Martin Marietta Orlando Aerospace, 4800 Sand Lake Road, Orlando, Florida 32855 having the assigned facility I.D. Number FLD 080 240 207. The two permits, if issued will constitute the RCRA permit required by the Florida DER and the U.S. EPA.

The State of Florida has been granted authorization for these portions of the RCRA Hazardous Waste Program that were in effect prior to the passage of the Hazardous and Solid Waste Amendments of 1984. The Federal Environmental Protection Agency will administer the applicable portions of the Hazardous and Solid Waste Amendments of 1984 (specifically the waste minimization and prior release sections) until the State receives authorization for these provisions.

A draft permit, prepared in accordance with the provisions of Chapter 17-30 of the Florida Administrative Code (FAC), contains the conditions for the continued operation [illegible] ous waste storage facility [illegible] maximum of 336 (55 gallon) drums. This will [illegible] follows:

Type of Waste

Flammable/Ignitable Waste

Organic Solvent-Non Flammable

Solid Hazardous Waste

Non-hazardous Chemical Waste

The Federal draft permit will [illegible] tion of solid waste management units [illegible] prior/continuing releases of [illegible] from solid waste units. The Federal [illegible] tions for certification of waste minimization [illegible] made a preliminary determination that the [illegible] comply with applicable state and federal regulations.

The application and a copy of both state and federal [illegible] permits are available for public inspection during [illegible] ness hours, 8:00 a.m. to 5:00 p.m., Monday through [illegible] cept legal holidays, at Florida Department of [illegible] division, St. Johns River District, 3319 [illegible] 232, Orlando, Florida 32803-3767.

The proposed U.S. EPA permit [illegible] available for public inspection during [illegible] holidays, from 8:00 a.m. to 5:00 p.m. in the U.S. EPA Library, 345 Courtland Street, N.E., Atlanta, Georgia 30365. All data submitted by the applicant to the U.S. EPA is available as part of the administrative record at the above address.

Any interested person may submit written comments [illegible] proposed State agency action to the Department of Environmental Regulation, St. Johns River District [illegible] Suite 232, Orlando, Florida 32803-3767 [illegible] EPA action to the U.S. Environmental [illegible] IV, 345 Courtland Street, N.E. (Address [illegible] ator, Earline Hanson, phone [illegible] 404/881-[illegible]) within [illegible] days after notice. All comments [illegible] both agencies in formulating [illegible] permits.

A person who is substantially affected [illegible] proposed permitting decision [illegible] dance with Section [illegible] 120.57, and 28-5, Florida [illegible] request a public hearing. [illegible] Disputes. The request for a hearing [illegible] submitted to the Office of General Counsel, [illegible] 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, within fourteen [illegible] this notice. Failure to file a request for hearing within [illegible] period [illegible] constitute a waiver of any right such person [illegible] have to request a hearing under Section 120.57, Florida [illegible] or a hearing under Section 403.722(10), Florida Statutes. [illegible] Upon [illegible] final action may be different from the proposed action [illegible] persons whose substantial interests have been affected [illegible] the Department have the right to intervene in [illegible] proceeding. Petition for intervention shall be filed pursuant to Model Rule 28-5.207, Florida Administrative Code, at least five (5) days before the final hearing and be filed with the hearing officer if one has been assigned at the division of Administrative Hearings, Department of Administration, 2009 Apalachee Parkway, Tallahassee, Florida 32301. Failure to petition to intervene within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, Florida Statutes.

Any interested person may submit comments on the draft federal permit and may request a hearing pursuant to 40 CFR 124.11. The request must be in writing and must include a written notice of opposition to the draft federal permit. Hearing request should be addressed to Mrs. Earline Hanson, U.S. EPA, at the above address within 45 days of this notice.

A copy of the proposed U.S. EPA permit may be obtained by contacting Mrs. Earline Hanson, U.S. EPA at the above address. A nominal fee for copying and/or mailing may be charged.

CL-097 Oct.26,1985

CONVERSATION RECORD

TIME

DATE 11-13-85

TYPE

☐ VISIT ☐ CONFERENCE ☒ TELEPHONE

☐ INCOMING
☐ OUTGOING

Location of Visit/Conference:

ROUTING	
NAME/SYMBOL	INT
A. Miller	
E. Houston	

NAME OF PERSON(S) CONTACTED OR IN CONTACT WITH YOU: SATWH

ORGANIZATION (Office, dept., bureau, etc.): FDER

TELEPHONE NO:

SUBJECT: Public Notice

SUMMARY: Informal notice of Public Notice Date for Martin-Marietta-Orlando - October 26, 1985

update HWDMS when confirmed

ACTION REQUIRED: make sure ~~DRAFT~~ SWMU permit is on file in Library - also at district office

NAME OF PERSON DOCUMENTING CONVERSATION: Mickey Hartnett

SIGNATURE: MJH

DATE: 11-13-85

ACTION TAKEN ✓

SIGNATURE

TITLE

DATE

DOCKET NO. MM-34

ROUTING AND TRANSMITTAL SLIP Date 11-2-85

TO: (Name, office symbol, room number, building, Agency/Post)	Initials	Date
1. Allan Antley		
2. John Zank		
3.		
4.		
5.		

	Action		File		Note and Return
	Approval		For Clearance		Per Conversation
	As Requested		For Correction		Prepare Reply
	Circulate		For Your Information		See Me
✓	Comment		Investigate		Signature
	Coordination		Justify		

REMARKS

We are requesting your review of the attached FMPs for: Post + Lumber
Florida Tile
+ Martin Marietta Orlando
- WES facility coordinators will be contacting you to discuss these facilities individually.

Thanks, Herb

DO NOT use this form as a RECORD of approvals, concurrences, disposals, clearances, and similar actions

FROM: (Name, org. symbol, Agency/Post)	Room No.—Bldg.
Herb Miller	Phone No. 3433

5041-102

OPTIONAL FORM 41 (Rev. 7-76)
Prescribed by GSA
FPMR (41 CFR) 101-11.206

☆ GPO : 1983 O - 381-529 (303)

DOCKET NO MM-35

NOV 27 1985

4WD-RM

Mr. Robert M. McVety
Environmental Administrator
Florida Department of Environmental
Regulation
Twin Towers Office Building, Room 421
2600 Blair Stone Road
Tallahassee, Florida 32301

Re: Martin Marietta Orlando Aerospace
EPA I. D. NO. FLD 060 [illegible]

Dear Mr. McVety:

During our review of the post-closure permit application for the above-referenced facility, some questions arose about the Part A application.

Table II-1 in the post-closure permit application shows D002 and D003-designated wastes handled at this site. However, these hazardous waste numbers are not shown on the Part A. Are these wastes incorrectly designated in the post-closure permit application or has the Part A application been revised?

The Part A application includes [illegible] and T01 process codes indicating the presence of storage and treatment tanks at this site. The draft operating permit application [illegible] noticed on October 26, 1985, covered drum storage only. The post-closure permit application covers the closure of the landfill; however, diagrams contained in the application show tanks in the treat solution treatment system, the cyanide treatment system, the neutralization system and the solids removal system. Are these tanks being covered under a separate Part B application?

We ask that you [illegible] prior to December 5, 1985. Your response will provide information necessary for the NOD being developed by EPA for FDER as technical assistance.

If you have any questions, please contact Elaine Houston of my staff at 404/881-3[illegible].

Sincerely yours,

James H. Scarbrough, P.E., [illegible]
Residuals Management [illegible]
Waste Management [illegible]

cc: [illegible]

JHB 11/20/85

MM-36

WES

1 Copy mailed to Satish 10/23

LAXSAMEE

PAM file Martin-hl HO file and update CAS.

MARTIN MARIETTA AEROSPACE

POST OFFICE BOX 5837
ORLANDO, FLORIDA 32855

October 16, 1985

OCT 1985 RECEIVED ST. JOHNS River District

Mrs. Laxsamee Levin
State of Florida
Department of Environmental Regulation
St. Johns River District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

Dear Mrs. Levin:

RE: Orange County - HW
Martin Marietta - Orlando Aerospace
FLD 060240207
Hazardous Waste Storage Facility

HO48-089392

This letter confirms our telephone conversation of this date regarding Mr. Alexander's certified letter to Mr. Winfield dated August 28, 1985. It was agreed that the letter was mailed by the department late Friday October 11, 1985 and received by Mr. Winfield October 15, 1985. The 30 day clock starts from this latter date.

Sincerely,

MARTIN MARIETTA ORLANDO AEROSPACE

R. F. Green

Raymond F. Green, P.E.
Staff Engineer

cc: A. Alexander, DER
R.C. Winfield, MMOA

RECEIVED NOV 1 1985 SECTION WASTE ENGINEERING

DOCKET NO. ~~[illegible]~~ 37

ATTACHMENT A

INFORMATION REGARDING POTENTIAL RELEASES FROM SOLID WASTE MANAGEMENT UNITS

FACILITY NAME: Martin Marietta Orlando Aerospace (SLRC)

EPA I. D. NUMBER: FDL 060 240 207

LOCATION City: Orlando

State: Florida

1. Are there any of the following solid waste management units (existing or closed) at your facility? NOTE - DO NOT INCLUDE HAZARDOUS WASTES UNITS CURRENTLY SHOWN IN YOUR PART B APPLICATION

	YES	NO
• Landfill	✓	
• Surface Impoundment		✓
• Land Farm		✓
• Waste Pile		✓
• Incinerator		✓
• Storage Tank (Above Ground)		✓
• Storage Tank (Underground)	✓	
• Container Storage Area		✓
• Injection Wells		✓
• Wastewater Treatment Units		✓
• Transfer Stations		✓
• Waste Recycling Operations		✓

2. If there are "Yes" answers to any of the items in Number 1 above, please provide a description of the wastes that were stored, treated or disposed of in each unit. In particular please focus on whether or not the wastes would be considered as hazardous wastes or hazardous constituents under RCRA. Also include any available data on quantities or volumes of wastes disposed of and the dates of disposal. Please also provide a description of each unit and include capacity, dimensions, location at facility, provide a site plan if available.

See Attached Sheet 1a and Site Plan

NOTE: Hazardous waste are those identified in 40 CFR 261. Hazardous constituents are those listed in Appendix VIII of 40 CFR Part 261.

DOCKET NO. MM-38

3. For the units noted in Number 1 above and also those hazardous waste units in your Part B application, please describe for each unit any data available on any prior or current releases of hazardous wastes or constituents to the environment that may have occurred in the past or still be occurring.

Please provide the following information

a. Date of release
b. Type of waste released
c. Quantity or volume of waste released
d. Describe nature of release (i.e., spill, overflow, ruptured pipe or tank, etc)

SEE PAGE 2a

4. In regard to the prior releases described in Number 3 above, please provide (for each unit) any analytical data that may be available which would describe the nature and extent of environmental contamination that exists as a result of such releases. Please focus on concentrations of hazardous wastes or constituents present in contaminated soil or groundwater.

The condition of the ground-water at Sites 3, 5, 6 and MEC Building is currently being investigated. Recent data for down gradient wells at these Sites and Sites 1, 2, 4 is attached.

Signature and Certification

As with reports in RCRA Permit Applications, submittal of this information must contain the following certification and signature by a principal executive officer of at least the level of Vice President or by a duly authorized representative of that person:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Signature

Richard C. Winfield, Director
Name and Title (Typed) Facilities

LANDFILL SITES 4 & 6 CONTAINING NON-HAZARDOUS NORMAL TRASH FROM MANUFACTURING, OFFICE AND RESEARCH BUILDINGS, AND DEBRIS FROM CONSTRUCTION AND LANDSCAPE MAINTENANCE.

MEC BUILDING, GROUND-WATER STORAGE TANK (5,000 GALLON) FOR VOC TREATMENT SYSTEM. THE RECOVERED GROUND-WATER CONTAINS HAZARDOUS CONSTITUENTS UNDER RCRA.

SITE 4, APPROXIMATELY 1.7 ACRES, WAS IN USE DURING 1971 AND 1972. THIS PORTION OF THE DISPOSAL SITE RECEIVED AN ESTIMATED 675 TONS OF SOLID WASTE. APPROXIMATE DIMEN SIONS 250'x300'.

SITE 6, APPROXIMATELY 4.8 ACRES, WAS IN USE DURING 1981 AND 1982 AND RECEIVED AN ESTIMATED 1900 TONS OF SOLID WASTE. APPROXIMATE DIMENSIONS 235'x 900'.

(3) LANDFILL SITES 1, 2, 3 AND 5 ARE IDENTIFIED IN THE FDER OPERATING PERMIT APPLICATION FOR MARTIN MARIETTA'S SAND LAKE ROAD CENTER (SLRC). NON-HAZARDOUS TRASH FROM NORMAL MANUFACTURING, OFFICE AND RESEARCH ACTIVITIES AND DEBRIS FROM CONSTRUCTION AND MAINTENANCE ACTIVITIES PLUS ELECTROPLATING SLUDGE FROM THE PRETREATMENT PLANT WERE LANDFILLED IN THESE SITES. ONLY ELECTROPLATING SLUDGE WAS LANDFILLED IN SITE 2. SITES 4, 6 and MEC BUILDING ARE DESCRIBED IN ITEM 2.

ANY RELEASE THAT MAY HAVE OCCURED AT THESE SITES WAS A NON-SUDDEN RELEASE OF AN UNKNOWN QUANTITY OF MATERIAL.
8

Table 1. Volatile organic compounds in surface water (SW-5,6,7) and groundwater (PW-3,7,8,26) from Site 5 at Martin Marietta Aerospace, Orlando

Client Sample ID:		SW-5	SW-6	SW-7	BLANK	PW-3	PW-7	PW-8	PW-26
Sampling Date:		9/24/84	9/24/84	9/24/84	9/24/84	9/24/84	9/24/84	9/24/84	9/24/84
COMPOUNDS	MDL (ppb)	Final Concentration = ppb (ng/ml)							
benzene	0.2	BDL (a)	BDL	BDL	BDL	BDL	BDL	4.1	4.9
bromodichloromethane	2	BDL	BDL	BDL	BDL	BDL	BDL	11.5	5.7
bromoform	4	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
carbon tetrachloride	4	BDL	BDL	BDL	BDL	BDL	BDL	26.8	33.2
chlorobenzene	0.2	BDL	BDL	BDL	BDL	0.2	BDL	BDL	0.4
chloroform	1	BDL	BDL	BDL	1.8	BDL	BDL	BDL	BDL
2-chloroethylvinyl ether	2	BDL	BDL	BDL	BDL	BDL	BDL	BDL	2.1
cis-1,3-dichloropropene	0.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
dibromochloromethane	2	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,1-dichloroethane	0.5	BDL	BDL	BDL	BDL	1.7	BDL	3.5	2.5
1,2-dichloroethane	0.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,1-dichloroethylene	0.5	0.8	BDL	BDL	BDL	BDL	BDL	2.3	0.9
1,2-dichloropropane	0.4	BDL	BDL	BDL	BDL	BDL	BDL	3.4	3.2
ethylbenzene	0.2	BDL	BDL	BDL	BDL	BDL	BDL	17.4	18.2
methylene chloride	0.5	BDL	BDL	BDL	BDL	1.0	1.5	4064	1853
1,1,2,2-tetrachloroethane	0.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
tetrachloroethylene	0.5	0.7	BDL	BDL	BDL	5.0	0.9	602	342
toluene	0.2	0.2	BDL	BDL	0.2	0.2	BDL	537	241
trans-1,2-dichloroethylene	0.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
trans-1,3-dichloropropene	0.4	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,1,1-trichloroethane	1	BDL	BDL	BDL	BDL	25.3	27.4	177	BDL
1,1,2-trichloroethane	0.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
trichloroethylene	0.5	2.7	1.2	5.0	BDL	BDL	BDL	143	24.0

(a) BDL = below detection limit
(b) Based on duplicate analysis

Table 2. Volatile organic compounds in groundwater collected from monitoring wells at Sites 1, 2, and 3 at Orlando Aerospace

		Site 1	Site 2	Site 3
Client Sample ID:		PW-15	PW-13	PW-9
Sampling Date:		9/24/84	9/24/84	9/24/84
COMPOUNDS	MDL (ppb)			
benzene	0.2	BDL[a]	BDL	BDL
bromodichloromethane	2	BDL	BDL	BDL
bromoform	4	BDL	BDL	BDL
carbon tetrachloride	4	BDL	BDL	BDL
chlorobenzene	0.2	BDL	BDL	BDL
chloroform	1	BDL	BDL	BDL
2-chloroethylvinyl ether	2	BDL	BDL	BDL
cis-1,3-dichloropropene	0.5	BDL	BDL	BDL
dibromochloromethane	2	BDL	BDL	BDL
1,1-dichloroethane	0.5	BDL	BDL	16.8
1,2-dichloroethane	0.5	BDL	BDL	BDL
1,1-dichloroethylene	0.5	BDL	BDL	6.0
1,2-dichloropropane	0.4	BDL	BDL	BDL
ethylbenzene	0.2	BDL	BDL	BDL
methylene chloride	0.5	BDL	BDL	1.6
1,1,2,2-tetrachloroethane	0.5	BDL	BDL	BDL
tetrachloroethylene	0.5	BDL	BDL	11.1
toluene	0.2	BDL	BDL	1.0
trans-1,2-dichloroethylene	0.5	BDL	BDL	BDL
trans-1,3-dichloropropene	0.4	BDL	BDL	BDL
1,1,1-trichloroethane	1	BDL	BDL	BDL
1,1,2-trichloroethane	0.5	BDL	BDL	BDL
trichloroethylene	0.5	BDL	BDL	61.7

(a) BDL = below detection limit
(b) Based on duplicate analysis

Table 3. Metals (Cd, Cr, Cu, Ni) TOC, and total cyanide in surface water (SW-5,6,7) and groundwater (PW-3,7, 8,9,13,15,26) at Martin Marietta Aerospace, Orlando

Sample	Site	Final Concentration ppb				Total Cyanide ppb	TOC ppm
		Cd	Cr	Cu	Ni		
PW-15	1	0.5	1.0	14.0	5.0	<5.0	2.8
PW-13	2	38.0	18.0	9.0	117.0	<5.0	12.6
PW-9	3	<0.1	11.0	8.0	17.0	<5.0	6.9
PW-3	5	<0.1	3.0	4.0	27.0	<5.0	1.9
PW-7	5	<0.1	2.0	1.0	<3.0	<5.0	7.2
PW-8	5	<0.1	1.0	1.0	11.0	<5.0	236
PW-26	5	0.3	<1.0	1.0	15.0	<5.0	210
SW-5	Surface Water	0.2	1.0	7.0	4.0	<5.0	10.7
SW-6	Surface Water	0.1	1.0	8.0	3.0	<5.0	9.7
SW-7	Surface Water	0.2	4.0	6.0	6.0	1.3	11.0
	MDL*	0.1	1.0	1.0	1.0	5.0	0.3
Drinking Water Standard		10.0	50.0	1,000	-	-	-

* MDL - Method detection limit
** EPA Primary (Cd, Cr) and Secondary Drinking (Cu) Water Standards

CONCENTRATION OF VOLATILE ORGANIC COMPOUNDS IN GROUNDWATER COLLECTED FROM MONITORING WELLS AT SITE 4, ORLANDO AEROSPACE

Compounds	Location	Site 4	
	Sampling Date:	4/8/84	4/12/84
	Method Detection Limit 50 ml Sample (ppb)	TW-7	TW-9
benzene	0.2	BDL	BDL
bromodichloromethane	2	BDL	BDL
bromoform	4	BDL	BDL
carbon tetrachloride	4	BDL	BDL
chlorobenzene	0.2	BDL	BDL
chloroform	1	BDL	BDL
cis-1,3-dichloropropene	0.5	BDL	BDL
dibromochloromethane	2.0	BDL	BDL
1,1-dichloroethane	0.5	2.6	BDL
1,2-dichloroethane	0.5	BDL	BDL
1,1-dichloroethylene	0.5	BDL	BDL
1,2-dichloropropane	0.4	BDL	BDL
ethylbenzene	0.2	BDL	BDL
methylene chloride	0.5	BDL	BDL
1,1,2,2-tetrachloroethane	0.5	BDL	BDL
tetrachloroethylene	0.5	BDL	BDL
toluene	0.2	BDL	BDL
trans-1,2-dichloroethylene	0.5	3.9	3.3
trans-1,3-dichloropropene	0.4	BDL	BDL
1,1,1-trichloroethane	1	BDL	BDL
1,1,2-trichloroethane	0.5	BDL	BDL
trichloroethylene	0.5	5.1	1.4
2 Chloroethylvinylether		BDL	BDL

Concentrations of volatile organic compounds in groundwater samples collected from monitoring wells at Site 6, Orlando Aeorspace

		Location	Site 6		
		Sampling Date:	5/18/84	5/18/84	5/18/84
Compounds	AWQC(a) (ppb)	Method Detection Limit 50 ml Sample (ppb)	PW-27	PW-28 (*)	PW-29
benzene	40	0.2	BDL	BDL	BDL
bromodichloromethane	0.19	2	BDL	BDL	21
bromoform		4	BDL	BDL	13
carbon tetrachloride	0.40	4	BDL	BDL	17
chlorobenzene	488	0.2	BDL	BDL	BDL
chloroform	0.19	1	BDL	6	4.7
cis-1,3-dichloropropene	87	(b)	BDL	BDL	P (b)
dibromochloromethane	0.19	(b)	BDL	BDL	P (b)
1,1-dichloroethane		0.5	0.8	11.7	11.5
1,2-dichloroethane	0.94	0.5	BDL	BDL	BDL
1,1-dichloroethylene	0.033	0.5	1.6	3.4	3.4
1,2-dichloropropane		(c)	BDL	BDL	P (c)
ethylbenzene	1,400	0.2	1.5	3.8	12
methylene chloride	0.19	0.5	2.0	7.1	63
1,1,2,2-tetrachloroethane	1.7	(d)	BDL	BDL	BDL
tetrachloroethylene	0.8	(d)	520	580 (e)	390 (e)
toluene	14,300	0.2	2.6 (e)	64 (e)	74 (e)
cis -1,2-dichloroethylene		0.5	110 (e)	70 (e)	38 (e)
trans-1,3-dichloropropene	87	(c)	BDL	BDL	P (c)
1,1,1-trichloroethane	18,400	1	9.3	11.6	14
1,1,2-trichloroethane	0.6	(b)	BDL	BDL	P (b)
trichloroethylene	2.7	0.5	949 (e)	692 (e)	478 (e)

(a) AWQC - Ambient Water Quality Criteria (FR 45, pp. 79318-79379, 1980). AWQC are for human health protection: values reflect intake via food and water consumption and an incremental lifetime cancer risk of 10^{-6}. these values may become less restrictive as proposed under the National Interim Primary Drinking Water Regulations (FR 47, p. 9357, 198)

(b) Dibromochloromethane/1,1,2-trichloroethane/cis-1,3-dichloropropene coelute and cannot be individually quantified. (P) indicates compounds(s) are present.

(c) 1,2-dichloropropane/1,3-dichloropropene coelute and cannt be individually quantified. (P) indicates compound(s) are present.

(d) 1,1,2,2-tetrachloroethane/tetrachloroethylene coelute and cannot be individually quantified. (P) indicated compound(s) are present.

(e) Confirmed by GC/MS

(*) Average of two values

Table 1. VOC Analysis Results

MEC BLDG GROUNDWATER HOLDING TANK

MES Sample ID:		345	348				
Client Sample ID:		Field Blank	WP-1				
Sample Size (ml):		40	20				
GC/MS analyzed (date):		10/31/84	10/31/84				
COMPOUNDS	MDL (ppb)	Final Concentration - ppb (ng/ml)					
benzene(a)	0.2	BDL	BDL				
bromodichloromethane	2	BDL	BDL				
bromoform	.4	BDL	BDL				
carbon tetrachloride	4	BDL	BDL				
chlorobenzene	0.2	BDL	BDL				
chloroform	1	BDL	BDL				
2-chloroethylvinyl ether	2	13	BDL				
cis-1,3-dichloropropene	0.5	BDL	BDL				
dibromochloromethane	2	BDL	BDL				
1,1-dichloroethane	0.5	BDL	7.1				
1,2-dichloroethane	0.5	BDL	BDL				
1,1-dichloroethylene	0.5	BDL	2.8				
1,2-dichloropropane	0.4	BDL	BDL				
ethylbenzene	0.2	BDL	14.1				
methylene chloride	0.5	BDL	23.5				
1,1,2,2-tetrachloroethane	0.5	BDL	BDL				
tetrachloroethylene	0.5	0.6	89.0				
toluene	0.2	BDL	20.8				
trans-1,2-dichloroethylene	0.5	BDL	BDL				
trans-1,3-dichloropropene	0.4	BDL	BDL				
1,1,1-trichloroethane	1	BDL	5.4				
1,1,2-trichloroethane	0.5	BDL	BDL				
trichloroethylene	0.5	BDL	658.0				
cis-1,2-dichloroethylene	0.5	BDL	204.9				

CONVERSATION RECORD

TIME

DATE 12/3/85

TYPE

☐ VISIT ☐ CONFERENCE ☒ TELEPHONE

☐ INCOMING
☐ OUTGOING

Location of Visit/Conference:

ROUTING	
NAME/SYMBOL	INT

NAME OF PERSON(S) CONTACTED OR IN CONTACT WITH YOU	ORGANIZATION (Office, dept., bureau, etc.)	TELEPHONE NO.
Laxamee Levin	FDER	305-894-7535 EXT 402

SUBJECT

SUMMARY

Asked when Cape Canaveral & Patrick AFB SWMU Permits will go to public notice:

CC 11/8/85 - Newspaper
11/21/85 - Radio

Patrick - No proof of publication yet in Newspaper
11/21/85 - Radio

Also said she intends to issue Martin Marietta container storage permit on 12/11 - at end of 45 day comment period.

Elaine

Also is getting ready to issue CC closure permit.
- will issue separately from SWMU Permit.

ACTION REQUIRED

NAME OF PERSON DOCUMENTING CONVERSATION	SIGNATURE	DATE
CRIBB		

ACTION TAKEN

DOCKET NO. MM-39

SIGNATURE	TITLE	DATE

1984 Hazardous and Solid Waste Amendment
Permit for Martin Marietta Aerospace-Orlando
EPA I. D. NO. FLD 068 [illegible] 207

Chief,
Waste Engineering Section

Thomas W. Devine, Director
Waste Management Division

THRU: James H. Scarbrough, P. E., Chief
Residuals Management Branch

Issue

The 1984 Hazardous and Solid Waste Amendment (HSWA) Permit for Martin Marietta Aerospace, Orlando, Florida is attached for your review and signature. The permit requires corrective action for prior releases and annual certification of waste minimization efforts. No other HSWA provisions affect Martin Marietta Aerospace.

Background

A draft permit addressing applicable portions of the 1984 Hazardous and Solid Waste Amendments has been public noticed jointly with the hazardous waste storage permit to be issued by the Florida Department of Environmental Regulation. No comments were received during the comment period. The State permit will be issued on December 11, 1985. Since no request for a public hearing was received, no hearing was held.

Recommendation

To make the Martin Marietta Aerospace permit a "full" RCRA permit, I recommend that the Region's final decision be to issue this HSWA permit on December 15, 1985. The permit will become effective immediately upon issuance.

Douglas C. McCurry

Attachment

Houston Hartnett McCurry
12-6-85 12-6-85

Houston:dw:3433:12-4-85;5841X/1:

Printout cancelled by operator

JHS 12/6/85

bcc: Allan Bartley

[redacted] MM-40

40 19 1985

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

4WD-NM

Mr. Richard C. Winfield
Director of Facilities
Martin Marietta Orlando Aerospace
4600 Sandlake Road
Post Office Box 5837
Orlando, Florida 32855

Re: Issuance of RCRA Permit for 1985 HSWA
Martin Marietta Aerospace
EPA I. D. NO. FLD 060 249 207

Dear Mr. Winfield:

Enclosed is the Resource Conservation and Recovery Act (RCRA) permit to cover those portions of the 1984 Hazardous and Solid Waste Amendments (HSWA) that affect your facility. This permit, together with the permit to be issued by the State of Florida on December 11, 1985, constitutes a full RCRA permit.

Issuance of this permit is in accordance with 40 CFR §124.15. The permit is effective December 16, 1985, as no comments were received during the public comment period.

The applicable RCRA regulations in effect at the time of permit issuance and referenced in the permit shall be complied with throughout the life of the permit, unless the permittee requests modification of the permit in response to future amendments of the regulations.

If there are any questions concerning the permit, please contact James H. Scarbrough, of my staff at 404/881-3016.

Sincerely yours,

/s/ George L. Harlow
Acting

Thomas W. Devine, Director
Waste Management Division

cc: Mr. Robert McVety, Florida Department of Environmental Regulation

bc: James H. Scarbrough
Allen Antley

for Hem for Hem McCurry Scarbrough JHS 12/6/85 G H 12/9

Houston Hartnett McCurry Scarbrough
12-6-85

DOCKET NO. IBM-41

Martin Marietta Orlando Aerospace
Orlando, Florida 32855

Identification Number FLD 062 240 207
Permit Number FLD 062 240 207

Pursuant to the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended (42 USC §6901 et seq., commonly known as RCRA) and regulations promulgated thereunder by the U. S. Environmental Protection Agency (EPA) (codified and to be codified in Title 40 of the Code of Federal Regulations), a permit is issued to Martin Marietta Orlando Aerospace (hereafter called the Permittee), to operate a hazardous waste storage facility located in Orlando, Florida latitude 28° 26' 17" North and longitude 81° 26' 57" West.

This permit, in conjunction with Hazardous Waste Permit to be issued by the State of Florida, constitutes the RCRA permit for this facility.
This permit requires the Permittee to determine whether there have been any releases of hazardous waste or hazardous constituents from any solid waste management unit at Martin Marietta Orlando Aerospace regardless of the time at which waste was placed in such unit and to take appropriate corrective action for any such releases. The permit also requires the Permittee to certify annually that on-site generation of hazardous waste is minimized to the extent practical.

The Permittee must comply with all terms and conditions of this permit. This permit consists of the conditions contained herein (including those in any attachments) and applicable regulations contained in 40 CFR Parts 260 through 264, 270, and 124 as specified in the permit and statutory requirements of RCRA, as amended by the Hazardous and Solid Waste Amendments of 1984, P.L. 98-616, (the RCRA amendments). Applicable regulations are those which are in effect on the date of issuance of this permit in accordance with 40 CFR §270.32(c).

This permit is based on the assumption that the information and reports will be submitted as specified in the permit. Any inaccuracies found in this information may be grounds for termination or modification of this permit in accordance with 40 CFR §§270.41, 270.42 and 270.43 and potential enforcement action. The Permittee must inform EPA of any deviation from or changes in the information in the application which would affect the Permittee's ability to comply with the applicable regulations or permit conditions.

This permit is effective as of December 16, 1985 and shall remain in effect until December 16, 1995 unless revoked and reissued, or terminated under 40 CFR §270.41 and .43 or continued in accordance with §270.51(a).

Dec 9, 1985
Date

George L. Harlow
Signature
for Thomas W. Devine
Director, Waste Management Division

DOCKET NO. MM-42

Ex

TABLE OF CONTENTS

		Pages
Part I	Standard Conditions	3 - 8
Part II	Solid Waste Management Units	9 - 10
Part III	Waste Minimization	10
Attachment A	Solid Waste Questionaire	

I.A. EFFECT OF PERMIT

Compliance with this permit and the Florida hazardous waste permit constitutes compliance, for purposes of enforcement, with Subtitle C of RCRA. Issuance of this permit does not convey property rights of any sort or any exclusive privilege; nor does it authorize any injury to persons or property, any invasion of other private rights, or any infringement of state or local law or regulations. Compliance with the terms of this permit does not constitute a defense to any order issued or any action brought or taken under Section 3013 or Section 7003 of RCRA, Sections 106(a), 104 or 107 of the Comprehensive Environmental Response, Compensation, and Liability Action of 1980 (42 U.S.C. 9601 et seq., commonly known as CERCLA), or any other law providing for protection of public health or the environment.

I.B. PERMIT ACTIONS

This permit may be modified, revoked or reissued, or terminated for cause as specified in 40 CFR §§270.41, 270.42 and 270.43. The filing of a request for a permit modification, revocation and reissuance, or termination, or the notification of planned changes or anticipated noncompliance on the part of the Permittee does not stay the applicability or enforceability of any permit condition.

I.C. SEVERABILITY

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.

I.D. DUTIES AND REQUIREMENTS

I.D.1. Duty to Comply

The Permittee shall comply with all conditions of this permit, except to the extent and for the duration such noncompliance is authorized by an emergency permit. Any permit noncompliance other than noncompliance authorized by an emergency permit, constitutes a violation of RCRA and is grounds for enforcement action, permit termination, revocation and reissuance, modification, or denial of a permit renewal application.

I.D.2. Duty to Reapply

If the Permittee wishes to continue an activity allowed by this permit after the expiration date of this permit, the Permittee shall submit a complete application for a new permit at least 180 days before this permit expires.

I.D.3. Permit Expiration

If the state does not have RCRA hazardous waste permitting authority under 40 CFR Part 271 for the 1984 RCRA Amendments, this permit and all conditions herein will remain in effect beyond the permit's expiration date, as specified in §270.51, if the Permittee has submitted a timely, complete application in accordance with §270.10(c) and, through no fault of the Permittee, the Regional Administrator has not issued a new permit with an effective date under §124.15 on or before the expiration date of the previous permit.

If the state does have RCRA hazardous waste permitting authority under 40 CFR Part 271 for the 1984 RCRA Amendments and if the Permittee has submitted a timely and complete application under applicable state law and regulations, the terms and conditions of this permit continue in force beyond the expiration date of the permit, but only until the effective date of the state's issuance or denial of a state RCRA permit.

I.D.4. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

I.D.5. Duty to Mitigate

In the event of noncompliance with the permit, the Permittee shall take all reasonable steps to minimize releases to the environment, and shall carry out such measures as are reasonable to prevent significant adverse impacts on human health or the environment.

I.D.6. Proper Operation and Maintenance

The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of a backup or auxiliary facility or similar systems only when necessary to achieve compliance with the conditions of the permit.

I.D.7. Duty to Provide Information

The Permittee shall furnish to the Regional Administrator, within a reasonable time, any relevant information which the Regional Administrator may request to determine whether cause exists for

modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The Permittee shall also furnish to the Regional Administrator, upon request, copies of records required to be kept by this permit.

I.D.8. Inspection and Entry

The Permittee shall allow the Regional Administrator, or an authorized representative, upon the presentation of credentials and other documents as may be required by law to:

I.D.8.a. Enter at reasonable times upon the Permittee's premises where a regulated activity is located or conducted, or where records must be kept under the conditions of this permit;

I.D.8.b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

I.D.8.c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

I.D.8.d. Sample or monitor, at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by RCRA, any substances or parameters at any location.

I.D.9. Monitoring and Records.

I.D.9.a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. The method used to obtain a representative sample of the waste to be analyzed must be the appropriate method from Appendix I of 40 CFR Part 261. Laboratory methods must be those specified in the most recent edition of Test Methods for Evaluating Solid Waste: Physical/Chemical Methods SW-846 or Standard Methods of Wastewater Analysis.

I.D.9.b. The Permittee shall retain at the facility records of all monitoring information, including all calibration and maintenance records, records of all data used to prepare documents required by this permit, copies of all reports and records required by this permit, and records of all data used to complete the application for this permit for a period of at least 3 years from the date of the sample, measurement, report or record, or until corrective action is completed, whichever date is later. These periods may be extended by request of the Regional Administrator at any time and are automatically extended during the course of any unresolved enforcement action regarding this facility.

I.D.9.c. Records of monitoring information shall specify:

I.D.9.c.i. The dates, exact place, and times of sampling or measurements;

I.D.9.c.ii. The individuals who performed the sampling or measurements;

I.D.9.c.iii. The dates analyses were performed;

I.D.9.c.iv. The individuals who performed the analyses;

I.D.9.c.v. The analytical techniques or methods used;and

I.D.9.c.vi. The results of such analyses.

I.D.10. Reporting Planned Changes

The Permittee shall give notice to the Regional Administrator as soon as possible of any planned physical alterations or additions to the permitted facility and to the solid waste management units which are the subjects of the RCRA permit.

I.D.11. Anticipated Noncompliance

The Permittee shall give advance notice to the Regional Administrator of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

I.D.12. Transfer of Permits

This permit may be transferred to a new owner or operator only if it is modified or revoked and reissued pursuant to 40 CFR §270.41(b)(2) or §270.42(d). Before transferring ownership or operation of the facility during its operating life, the Permittee shall notify the new owner or operator in writing of the requirements of 40 CFR Parts 264 and 270,the 1984 RCRA Amendments,and this permit.

I.D.13. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

I.D.14. Twenty-four Hour Reporting

The Permittee shall report to the Regional Administrator any noncompliance with this permit resulting from a release from a solid waste management unit which may endanger human health or the environment. Any such information shall be reported orally within 24 hours from the time the Permittee becomes aware of the circumstances. This report shall include the following:

I.D.14.a. Information concerning the release of any hazardous waste or hazardous constituents which may endanger public drinking water supplies.

I.D.14.b. Information concerning the release or discharge of any hazardous waste or hazardous constituents, or of a fire or explosion

at the facility, which could threaten the environment or human health outside the facility. The description of the occurrence and its cause shall include:

I.D.14.b.i. Name, address, and telephone number of the owner or operator;

I.D.14.b.ii. Name, address, and telephone number of the facility;

I.D.14.b.iii. Date, time, and type of incident;

I.D.14.b.iv. Name and quantity of materials involved;

I.D.14.b.v. The extent of injuries, if any;

I.D.14.b.vi. An assessment of actual or potential hazard to the environment and human health outside the facility, where this is applicable and;

I.D.14.b.vii. Estimated quantity and disposition of recovered material that resulted from the incident.

A written submission shall also be provided within 15 days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the periods of noncompliance (including exact dates and times); whether the noncompliance has been corrected; and if not, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

I.D. 15. Other Noncompliance

The Permittee shall report all other instances of noncompliance not otherwise required to be reported above at the time any other reports as required by this permit are submitted. The reports shall contain the information listed in Condition I.D.14.

I.D.16. Other Information

Whenever the Permittee becomes aware that it failed to submit any relevant facts or submitted incorrect information in any document(s) submitted to the Regional Administrator, the Permittee shall promptly submit such facts or information.

I.E. SIGNATORY REQUIREMENT

I.E.1. Certification

All applications, reports, or information submitted to the Regional Administrator shall be signed and certified in accordance with 40 CFR §270.11.

I.F. CONFIDENTIAL INFORMATION

The Permittee may claim confidential any information required to be submitted by this permit in accordance with 40 CFR §270.12.

I.G. DEFINITIONS

For purposes of this permit, terms used herein shall have the same meaning as those in RCRA and 40 CFR Parts 124, 260, 261, 264 and 270, unless this permit specifically provides otherwise; where terms are not defined in the regulation, the permit, or EPA guidances or publications, the meaning associated with such terms shall be defined by a standard dictionary reference or the generally accepted scientific or industrial meaning of the term.

I.G.1. Hazardous constituents for purposes of this permit are those substances listed in 40 CFR Part 261 Appendix VIII and include hazardous constituents released from solid waste and hazardous constituents that are reaction by-products.

I.G.2. Solid Waste Management Unit for purposes of this permit includes, but is not limited to, any landfill, surface impoundment, waste pile, land treatment unit, incinerator, injection well, tank (including storage, treatment, and accumulation tanks), container storage unit, wastewater treatment unit, elementary neutralization unit, transfer station, and recycling unit from which hazardous constituents might migrate, irrespective of whether the units were intended for the management of solid and/or hazardous wastes.

I.G.3. Release for purposes of this permit includes any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment of any hazardous waste or hazardous constituents.

I.G.4. Contamination for purposes of this permit refers to the presence of any hazardous constituent in a concentration which exceeds the naturally occurring concentration of that constituent in the immediate vicinity of the facility (in areas not affected by the facility).

I.G.5. Corrective action, for purposes of this permit, may include "corrective action" as provided in 40 CFR §264.100 and/or other remedial acitivities for any media until otherwise defined in 40 CFR §264.101.

II.A. ASSESSMENT OF NEED FOR CORRECTIVE ACTION

II.A.1. The Permittee shall provide to the Regional Administrator a report which identifies all solid waste management units currently or previously located at the facility. In preparing this report, the permittee will review all existing sources of information related to solid waste management practices at the facility and fully investigate the facility property to determine the existence of any additional solid waste management units. This report must include, at a minimum, the following information for each unit:

a) Type of unit
b) Location of each unit on a topographic map of appropriate scale
c) General dimensions and capacities
d) Function of unit
e) Dates that the unit was operated
f) Description of the wastes that were placed in the unit
g) Description of any known releases or spills (to include ground-water data, soil analyses, and/or surface water analyses)

The above report shall be submitted within 90 days of issuance of of this permit.

II.A.2. The Permittee shall prepare a solid waste management unit investigation plan with a proposed schedule for implementation and completion, for each solid waste management unit identified in II.A.1. which are known or suspected to have releases of hazardous waste or hazardous constituents to the environment. A soil, ground water and surface water Contamination Assessment Plan ("CAP") as prepared for the Florida Department of Environmental Regulation ("FDER") will will be considered in meeting this requirement. The permittee must provide documentation that a release is not probable if a unit is identified which is not included in the solid waste management unit investigation plan or CAP.

II.A.3. The Permittee shall include in the solid waste management investigation plan, or CAP, schedules, methods and specific actions as necessary to determine whether a prior or continuing release of hazardous waste or hazardous constituents has occurred, the nature and extent of known or suspected releases and the potential pathways of contaminant releases to the air, land, surface water or groundwater. The results of the investigation shall contain information including, but not limited to, all supporting documentation and data used in implementing the investigation plan.

II.A.4. The Permittee shall implement the solid waste management unit investigation plan(s), or CAP, in accordance with the schedules contained in each plan or as directed by FDER unless otherwise notified by the Regional Administrator.

II.A.5 The Permittee shall submit to the Regional Administrator a final report on the investigation plan(s), or CAP as applicable, for determination of the need for further investigative actions and/or the need for corrective action as required under 40 CFR §264.101(a), in accordance with schedules established by FDER, as applicable, unless otherwise notified by the Regional Administrator. The Contamination Assessment Report ("CAR") prepared for FDER will be considered in meeting this requirement.

II.A.6. The Regional Administrator shall review the final report on the investigation plan(s) and notify the Permittee of the need for further investigative actions and/or the need for corrective action as required under 40 CFR §264.101(a).

II.A.7. When the need for corrective action is determined in Condition II.A.6 the Permittee shall submit to the Regional Administrator a corrective action plan, in accordance with a schedule to be determined by the Regional Administrator. Corrective action must include a description of the corrective measures to be taken, and a schedule of implementation and completion.

II.A.8. If the Permittee at any time determines that the solid waste management unit investigation plan(s) required under Condition II.A. no longer satisfies the requirements of 40 CFR §264.101 or this permit for prior or continuing releases of hazardous waste or hazardous constituents from solid waste management units, he must submit an amended plan to the Regional Administrator within ninety (90) days of such determination.

II.B. SCHEDULES OF COMPLIANCE

II.B.1. The Permittee shall submit the items required by conditions II.A.1., II.A.2., and II.A.3., and the associated documentation to the Regional Administrator within ninety (90) days of the effective date of this permit.

II.B.2. All plans and schedules approved by the FDER applicable to the requirements of this permit shall be followed unless otherwise notified by the Regional Administrator prior to implementation. The permittee shall revise all submittals as specified by the Regional Administrator.

II.B.3. If the time required to complete any interim activity is more than one year, the schedule shall specify interim dates for the submission of reports of progress toward satisfaction of the interim requirements.

II.B.4. The results of all plans and reports shall be submitted in accordance with the approved schedule. Extensions of the due date for submittals may be granted by the Regional Administrator based on the Permittee's demonstration that sufficient justification for the extension exists.

II.C. PERMIT MODIFICATION

The Permittee shall apply for a permit modification pursuant to 40 CFR §270.41 to incorporate the corrective action plan developed under Condition II.A.7.

PART III - WASTE MINIMIZATION

The following condition is pursuant to 40 CFR §264.73(b)(9):

III.A. WASTE MINIMIZATION CERTIFICATION

The permittee shall be required to certify no less often than annually that the permittee has a program in place to reduce the volume and toxicity of hazardous waste that he generates to the degree determined by the permittee to be economically practicable and the proposed method of treatment, storage or disposal is that practicable method currently available to the permittee which minimizes the present and future threat to human health and the environment.

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

EPA

Elaine

ST. JOHNS RIVER DISTRICT
3319 MAGUIRE BOULEVARD
SUITE 232
ORLANDO, FLORIDA 32803-3767

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

A. ALEXANDER,
DISTRICT MANAGER

CERTIFIED
P 578 212 835

November 12, 1985

Richard C. Winfield, Director of Facilities
Martin Marietta Orlando Aerospace
4600 Sandlake Road
Post Office Box 5837
Orlando, Florida 32855

OSJ-HW-85-0376

Dear Mr. Winfield:

Orange County HW
Martin Marietta Orlando Aerospace
Draft Federal Permit for Solid Waste Management Units (SMU)

Attached herewith is your copy of EPA's final draft federal permit (covering the 1984 RCRA Solid and Hazardous Waste Amendments) and statement of basis for Martin Marietta Orlando Aerospace.

If you have any questions, please call Mrs. Laxsamee Levin at (305) 894-7555.

Sincerely,

Charles M Collins

C. M. Collins, P.E.
for Hazardous/Solid Waste Engineering

CMC:LL:pj

Enclosure

cc: Satish Kastury, DER Tallahassee
Jim Scarbrough, EPA Atlanta
Bob McVety, DER Tallahassee

RECEIVED
NOV 15 1985
Hazardous Waste

DOCKET NO. MM-13

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

WES

ST. JOHNS RIVER DISTRICT
3319 MAGUIRE BOULEVARD
SUITE 232
ORLANDO, FLORIDA 32803-3767

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

ALEX ALEXANDER
DISTRICT MANAGER

December 10, 1985

Richard C. Winfield
Director of Facilities
Martin Marietta Orlando Aerospace
4600 Sandlake Road
Post Office Box 5837
Orlando, Florida 32855

OSJ-HW-85-0398

Dear Mr. Winfield:

Orange County HW
Martin Marietta Orlando Aerospace
Sandlake Road Facility
Site 5 Closure Permit Application

The Department has received the information dated October 7, 1985, submitted to the U.S. EPA to comply with the provisions of the Hazardous and Solid Waste Amendments of 1984. Although state law may not require your permit application to be submitted at this time, the DER will be assisting the U.S. EPA in processing of your federal application. Since this information was not accompanied either by a State of Florida Hazardous Waste Permit Application, DER Form 17-1.207(3) and the proper certifications or application fee prescribed in this form, the Department does not consider this submittal an application for a state hazardous waste permit.

To constitute submission of a proper application, the provisions of Section 17-30.22 must be met. Your application for a hazardous waste operation permit may be submitted according to the provisions of this section at your earliest convenience but in no case shall it be submitted later than 90 days prior to the expiration of your facility's temporary operation permit. A pre-application meeting is encouraged.

If you have any questions concerning completion and submittal of your state hazardous waste permit application, please contact Mrs. Laxsamee Levin at (305)894-7555 of this office. Your cooperation in this matter is appreciated.

Sincerely,

Charles M. Collins

Charles M. Collins, P.E.
District Engineer

AA:llm
cc: Satish Kastury, DER
J. Scarbrough, EPA

Protecting Florida and Your Quality of Life

DOCKET NO. MM-44

RECORD OF COMMUNICATION

☒ PHONE CALL ☐ DISCUSSION ☐ FIELD TRIP ☐ CONFERENCE

☐ OTHER (SPECIFY)

(Record of item checked above)

TO: John Griffin

FROM: Herb Miller

DATE 12-19-85

TIME PM

SUBJECT: Martin Marietta Orlando

SUMMARY OF COMMUNICATION

Asked when FDER planned to send NOD — He said he would let me know on 12-19-85.

He mentioned that they were about ready to issue the storage permit to Martin — about Jan 1. I told him to let us know as soon as they knew exact effective date so we could issue the SWMU effective about the same time.

CONCLUSIONS, ACTION TAKEN OR REQUIRED

Elaine: Be ready to issue SWMU about Jan 1.
Note: SWMU permit issued Dec. 9, 1985. MCH 12/20/85

INFORMATION COPIES TO: Hartnett / Houston / Miller

EPA Form 1300-6 (7-72) . REPLACES EPA HQ FORM 8300-3 WHICH MAY BE USED UNTIL SUPPLY IS EXHAUSTED.

DOCKET NO. MM-45

BEFORE THE STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

STATE OF FLORIDA, DEPARTMENT
OF ENVIRONMENTAL REGULATION,

Complainant,

v. OCG FILE NO. 85-0412

MARTIN MARIETTA CORPORATION,

Respondent.
_____/

CONSENT ORDER

Pursuant to the provisions of Sections 403.061(8) and 120.52(9), Florida Statutes, and Florida Administrative Code Rule 17-103.110 this Consent Order is entered into between the State of Florida Department of Environmental Regulation ("Department") and Martin Marietta Corporation ("Respondent") to reach settlement of certain matters at issue between the Department and Respondent.

The Department finds and the Respondent agrees to the following:

1. The Department is the administrative agency of the State of Florida having the power and duty to control and prohibit pollution of air and water in accordance with Chapter 403, Florida Statutes, and rules promulgated thereunder. The Department has jurisdiction over the matters addressed in this Consent Order.

2. Respondent is a Maryland Corporation registered to do business in the State of Florida and is a person within the meaning of Sections 403.031(11) and 403.703(3), Florida Statutes.

3. Respondent operates a manufacturing facility on a 2,500 acre site located at 4600 Sand Lake Road, Orlando, Florida. Respondent's operations include electroplating, microplating, and reproduction and photographic laboratory activities. Waste generated from these processes may consist of spent acids, spent

DOCKET NO. _____

alkali, spent plating solution, their rinse waters, waste cutting oils and various organic solvents.

4. A component of Respondent's operation at its Sand Lake Road facility previously included a hazardous waste disposal site consisting of three cells utilized for sludge disposal during the period from 1973 to 1983 ("Site 5 sludge cells") and a closed sanitary landfill for trash at which construction debris and trash were disposed of during the period from 1973 to 1981 ("Site 5 sanitary landfill") both of which are collectively referred to as Site 5. Site 5 sludge cells are shown on Exhibit A incorporated herein. The Site 5 sanitary landfill is shown on Exhibit B incorporated herein.

5. Operation of Site 5 sludge cells was addressed by Temporary Operation Permit No. HT48-68393 issued to Respondent by the Department on October 24, 1983. Site 5 sludge cells have only been operated under 40 C.F.R. Part 265 requirements and due to closure of Site 5 sludge cells are not required to obtain compliance with 40 C.F.R. Part 264 operating standards. — wrong - applicable for P.C.

6. Respondent does not seek to further operate Site 5 sludge cells as a hazardous waste facility and seeks their proper closure pursuant to applicable requirements of law.

7. Respondent conducted groundwater monitoring at Site 5 pursuant to Chapter 17-4.245, Florida Administrative Code, under Department ID No. 48P00050, and also pursuant to 40 C.F.R. Section 265.93.

8. Respondent notified the Environmental Protection Agency ("EPA") on January 23, 1984 of a statistically significant increase in contaminants detected at Site 5.

9. On February 6, 1984, Respondent submitted to EPA a Groundwater Quality Assessment Plan ("Plan") for Site 5 prepared in accordance with 40 C.F.R. Section 265.93. Respondent conducted groundwater monitoring at Site 5 the results of which indicated the presence of volatile organic compounds ("VOC's") in groundwater at Site 5. Respondent is continuing implementation

of the Plan and has submitted an Interim Report concerning the Plan to the Department on December 14, 1984.

10. The Department and Respondent have met in an attempt to reach a resolution of any potential contamination problem at Site 5 and to effect proper closure of Site 5 sludge cells. Respondent agrees to the entry of this Consent Order and agrees to abide by its terms and conditions as settlement of any contamination claims or other pollution claims or damages occurring at or from Site 5.

THEREFORE, having reached resolution of the matter, pursuant to Florida Administrative Code Rule 17-103.110(3), Respondent and the Department mutually agree and it is, ORDERED AS FOLLOWS:

I. <u>REPORTING AND CORRECTIVE ACTION FOR SITE 5 SLUDGE CELLS</u>

11. No later than one hundred (100) days after the effective date of this Consent Order Respondent shall complete its implementation of the Plan for Site 5 sludge cells and determine the rate and extent of migration of hazardous waste or hazardous waste constituents in the groundwater and the concentrations of the hazardous waste or hazardous waste constituents in the groundwater at Site 5 sludge cells.

12. Within fifteen (15) days of the determination specified in Paragraph 11, Respondent shall submit to the Department a written report containing an assessment of the groundwater quality at Site 5 sludge cells. The report shall:

(a) Establish the areal and vertical extent of groundwater contamination;

(b) Determine or confirm the contaminant source(s), mechanisms of contaminant transport, and rate and direction of contaminant movement in groundwater; and

(c) Provide a characterization of the contamination plume which shall include, but not be necessarily limited to, analysis for VOC's.

13. If the Department determines from review of the report for Site 5 sludge cells that there is a need for a Feasibility Study subject to the provisions of Paragraph 50 of this Consent Order, Respondent shall submit to the Department for its review a Feasibility Study Plan ("FSP") for Site 5 sludge cells. The FSP shall be submitted within sixty (60) days of receipt by Respondent of the Department's determination that a Feasibility Study is necessary. The purpose of the Feasibility Study is to develop and evaluate all alternatives to identify the most cost effective and environmentally sound remedial action for the site. The FSP shall provide an outline of the elements to be included in the Feasibility Study and shall explain how the Respondent plans to address each of the elements listed below which shall be included in the Feasibility Study:

NOT RCRA Rationale

(a) A risk assessment to evaluate health hazards, pathways of exposure, and risks associated with exposure to site contamination.

(b) Criteria developed to evaluate corrective action alternatives. The criteria shall provide the rationale for the selection of pertinent Appendix VIII constituents.

not adequate for RCRA

(c) Review and selection of corrective action alternatives.

(d) Data from pilot tests and bench tests to evaluate alternatives, if necessary.

(e) Selection of corrective action methodology.

14. The Department shall review the FSP and provide written approval prior to implementation. In the event that additional information is necessary to determine the completeness of the FSP, the Department shall make a written ~~request and~~ Respondent shall provide all such information within twenty (20) days of receipt of said request or shall submit a schedule to the Department for responding to such requests. Any disputes occurring concerning requests for information, responses thereto,

or time for responses shall be subject to the provisions of Paragraph 50 of this Consent Order.

15. The Department shall notify Respondent in writing whether the FSP for Site 5 sludge cells is complete or whether the Department requires modification(s) prior to implementation, subject to the provisions of Paragraph 50 of this Consent Order.

16. The FSP for Site 5 sludge cells shall become effective and implementation shall begin within thirty (30) days of Respondent's receipt of notification by the Department of approval, or within thirty (30) days of Respondent's receipt of notification of matters determined pursuant to Paragraph 50 of this Consent Order, whichever is later.

17. Within thirty (30) days of completing the Feasibility Study, Respondent shall submit to the Department a Feasibility Study report. The Feasibility Study report shall:

(a) Summarize and analyze all Feasibility Study task results; and

(b) Propose a conceptual remedial action plan based on the selection process carried out in the Feasibility Study.

18. The Department shall review the Feasibility Study

within ninety (90) days of Respondent's submission of the report specified in Paragraph 12, Respondent shall submit to the Department a Corrective Action Program ("Program") for Site 5 sludge cells prepared in accordance with 40 C.F.R. Section 264.100 for containment and clean up of contaminated groundwater at Site 5 sludge cells. The Program shall:

(a) Discuss and specify conclusions regarding hydrogeologic and engineering specifications developed pursuant to paragraph 12;

(b) Describe tasks, including a timetable, to clean and contain contaminated groundwater;

(c) Describe tasks, including a timetable, to conduct post-containment/clean up sampling and analysis to verify accomplishments of the objectives of the Program; and

(d) Describe a quality assurance project plan for all sampling and chemical analysis to be conducted consistent with the interim guideline and specifications for preparing quality assurance project plans/EPA/December 29, 1980.

20. The Department shall review the Program and provide written approval prior to commencement of Program actions at Site 5 sludge cells. In the event that additional information is necessary to evaluate the proposal, the Department shall make a written request and Respondent shall provide all such information within twenty (20) days of receipt of said request or shall submit a schedule to the Department for responding to such requests. Any disputes occurring concerning requests for information, responses thereto, or time for responses shall be subject to the provisions of Paragraph 50 of this Consent Order.

21. The Department shall notify Respondent in writing whether the Program is complete or whether the Department requires modification(s) prior to implementation, subject to the provisions of Paragraph 50 of this Consent Order.

22. The Program shall become effective and implementat shall begin within thirty (30) days of receipt by Respondent the Department's notification of final approval, or within thi (30) days of Respondent's receipt of notification of matters determined pursuant to Paragraph 50 of this Consent Order, whichever is later.

II. CLOSURE OF SITE 5 SLUDGE CELLS

23. Site 5 sludge cells are removed from the Hazardous Waste TSDF Operation Permit application submitted by Respondent to the Department on June 25, 1984. Site 5 sludge cells shall be closed pursuant to closure procedures and requirements set forth in Subpart G of 40 C.F.R. Part 264 and 40 C.F.R. Section 264.310, as such regulations exist and are in effect on the effective date of this Consent Order.

24. Respondent shall submit to the Department a closure plan for Site 5 sludge cells in accordance with 40 C.F.R. Section 264.112 at the same time as submission of the Program as specified in Paragraph 19. The closure plan for Site 5 sludge cells may also include any projected corrective action programs necessary for treatment of contaminated groundwater and may include requests to the Department for approval of a period of time for treatment of contaminated groundwater in excess of ninety (90) days and for approval of a period of time for completion of closure in excess of one hundred eighty (180) days. Any corrective, recovery, or remedial action programs or activities necessary for closure of Site 5 sludge cells shall be the same corrective action program for Site 5 sludge cells established pursuant to Paragraphs 19, 20, 21, and 22 of this Consent Order.

25. Although closure of Site 5 sludge cells is pursuant to Subpart G of 40 C.F.R. Part 264 and 40 C.F.R. Section 264.310, as such regulations exist and are in effect on the effective date of this Consent Order, it is acknowledged that the operating standards for 40 C.F.R. Part 264 hazardous waste landfill

facilities are not applicable to Site 5 sludge cells. Therefore, closure of Site 5 sludge cells will not require upgrading of Site 5 sludge cells to comply with such operating standards including but not limited to installation of a liner or double-liners, a leachate collection system, a run-on control system, a run-off management system, a control wind dispersal system, or a leak detection system as such systems or designs are referenced or incorporated in 40 C.F.R. Sections 264.117, 264.301, 264.302, 264.303, or 264.310.

26. Upon receipt of the Department's request to publish notice of intent to approve the closure plan, the Respondent shall cause to be published in a major local newspaper, and broadcast over a local radio station, notice of the Department's intention to approve the closure plan. Closure of Site 5 sludge cells shall commence no later than thirty (30) days after Respondent's receipt of notification by the Department that the closure plan is approved. Any modifications to the closure plan to which Respondent disputes shall be subject to the provisions of Paragraph 50 of this Consent Order.

27. Within thirty (30) days after Respondent's receipt of notice by the Department that the closure plan is approved, Respondent shall comply with groundwater monitoring requirements set forth in Subpart F of 40 C.F.R. Part 264 at Site 5 sludge cells. The Appendix VIII constituents to be analyzed for at Site 5 sludge cells will be determined as part of the Feasibility Study outlined in Paragraph 13, or if no Feasibility Study, determined as part of the Program.

III. <u>SITE 5 SANITARY LANDFILL</u>

28. Within sixty (60) days after the effective date of this Consent Order, Respondent shall submit to the Department a proposal for a soil and groundwater Contamination Assessment Plan ("CAP") for the Site 5 sanitary landfill. The objectives of the CAP shall be to:

(a) Establish the areal and vertical extent of soil and groundwater contamination;

(b) Determine or confirm the contaminant source(s), mechanisms of contaminant transport, and rate and direction of contaminant movement in the soils and groundwater;

(c) Provide a characterization of the contamination plume(s), which will include, but not be necessarily limited to, analysis for VOC's; and

(d) Describe a quality assurance project plan for all sampling and chemical analysis to be conducted consistent with the interim guideline and specifications for preparing quality assurance project plans/EPA/December 29, 1980.

29. The CAP proposal shall describe the tasks to accomplish these objectives and shall include a time schedule for completing each task.

30. The Department shall review the CAP proposal and provide written approval prior to commencement of CAP tasks. In the event that additional information is necessary to evaluate the CAP, the Department shall make a written request and Respondent shall provide all such information within twenty (20) days of receipt of said request or shall submit a schedule to the Department for responding to such requests. Any disputes occurring concerning requests for information, responses thereto, or time for responses shall be subject to the provisions of Paragraph 50 of this Consent Order.

31. Upon review of the CAP, the Department shall notify the Respondent in writing whether the CAP for the Site 5 sanitary landfill is complete and approved or whether the Department requires modification(s) prior to implementation, subject to the provisions of Paragraph 50 of this Consent Order.

32. The CAP shall become effective and implementation shall begin with thirty (30) days of Respondent's receipt of the

Department's notification that the CAP is approved, or within thirty (30) days of the Respondent's receipt of notification of matters determined pursuant to Paragraph 50 of this Consent Order, whichever is later.

33. Additional monitoring wells may be installed in and around the Site 5 sanitary landfill from time to time during the implementation of various portions of the ongoing studies. Respondent shall provide written notification to the Department at least fourteen (14) days prior to the initial installation of additional monitoring wells, and shall allow Department personnel the opportunity to observe the location and installation of the wells. Subsequent notification shall be on a verbal basis provided at least forty-eight (48) hours in advance of the installation of the wells.

34. Additional groundwater sampling may be conducted at the Site 5 sanitary landfill from time to time during implementation of various portions of the ongoing studies. Respondent shall provide written notification to the Department at least fourteen (14) days prior to the initial additional sampling of the monitoring wells, and shall allow Department personnel the opportunity to observe sampling, or to take split samples. Subsequent notification of sampling, including sampling of any additional monitoring wells, shall be on a verbal basis provided at least twenty-four (24) hours in advance of the sampling. Raw data shall be exchanged between the Respondent and the Department as soon as the data is available and following proper quality assurance/quality control verification.

35. Within sixty (60) days of completion of the tasks in accordance with the CAP, Respondent shall submit a written Contamination Assessment Report ("CAR") to the Department. The CAR shall:

(a) Summarize and analyze all CAP tasks;

(b) Discuss the CAP objectives outlined in Paragraph 28; and

(c) Specify the conclusions regarding CAP objectives outlined in Paragraph 28.

36. The Department shall review the CAR and notify the Respondent in writing whether the CAR is approved or whether there are any deficiencies or recommended modification(s), subject to the provisions of Paragraph 50 of this Consent Order. In the event that additional information is necessary to evaluate the CAR, the Department shall make a written request and Respondent shall provide all such information within twenty (20) days of receipt of said request or shall submit a schedule to the Department for responding to such requests. Any disputes occurring concerning requests for information, responses thereto, or time for responses shall be subject to the provisions of Paragraph 50 of this Consent Order.

37. If the Department determines from review of the CAR for Site 5 sanitary landfill that there is a need for a Feasibility Study subject to the provisions of Paragraph 50 of this Consent Order, Respondent shall submit to the Department for its review a Feasibility Study Plan ("FSP") for site 5 sanitary landfill. The FSP shall be submitted within sixty (60) days of receipt by Respondent of the Department's determination that a Feasibility Study is necessary. The purpose of the Feasibility Study is to develop and evaluate all alternatives to identify the most cost effective and environmentally sound remedial action for the site. The FSP shall provide an outline of the elements to be included in the Feasibility Study and shall explain how the Respondent plans to address each of the elements listed below which shall be included in the Feasibility Study:

(a) A risk assessment to evaluate health hazards, pathways of exposure, and risk associated with exposure to site contamination;

(b) Criteria developed to evaluate remedial alternatives for the site;

(c) Review and selection of remedial alternatives;

(d) Data from pilot tests and bench tests to evaluate alternatives, if necessary; and

(e) Selection of remedial methodology.

38. The Department shall review the FSP and provide written approval prior to implementation. In the event that additional information is necessary to evaluate the FSP, the Department shall make a written request and Respondent shall provide all such information within twenty (20) days of receipt of said request or shall submit a schedule to the Department for responding to such requests. Any disputes occurring concerning requests for information, responses thereto, or time for responses shall be subject to the provisions of Paragraph 50 of this Consent Order.

39. The Department shall notify Respondent in writing whether the FSP for the Site 5 sanitary landfill is complete and approved or whether the Department requires modification(s) prior to implementation, subject to the provisions of Paragraph 50 of this Consent Order.

40. The FSP for Site 5 sanitary landfill shall become effective and implementation shall begin within thirty (30) days of Respondent's receipt of notification by the Department of approval, or within thirty (30) days of Respondent's receipt of notification of matters determined pursuant to Paragraph 50 of this Consent Order, whichever is later.

41. Within thirty (30) days of completing the Feasibility Study, Respondent shall submit to the Department a Feasibility Study report. The Feasibility Study report shall:

(a) Summarize and analyze all Feasibility Study task results; and

(b) Propose a conceptual remedial action plan based on the selection process carried out in the Feasibility Study.

42. The Department shall review the Feasibility Study report and determine its adequacy to meet the remedial action

objectives subject to the provisions of Paragraph 50 of this Consent Order. In the event that additional information is necessary to evaluate the Feasibility Study report, the Department shall make a written request and Respondent shall provide all such information within twenty (20) days of receipt of said request or shall submit a schedule to the Department for responding to such requests. Any disputes occurring concerning requests for information, responses thereto, or time for responses shall be subject to the provisions of Paragraph 50 of this Consent Order.

43. Within ninety (90) days of Respondent's receipt of notice of approval of the Feasibility Study report, or, alternatively, within ninety (90) days of Respondent's receipt of notice of approval of the CAR for Site 5 sanitary landfill, Respondent shall submit to the Department a Remedial Action Plan ("RAP") for containment and cleanup of contaminated groundwater at the Site 5 sanitary landfill. The RAP shall:

(a) Describe tasks, including a timetable, to clean and contain contaminated groundwater;

(b) Describe tasks, including a timetable, to conduct post-containment/clean up sampling and analysis to verify accomplishments of the objectives of the RAP; and

(c) Develop hydrogeological and engineering specifications to contain and clean up contaminated groundwater.

44. The Department shall review the RAP and provide written approval, and as part thereof, as required, necessary permits, prior to commencement of RAP tasks at the Site 5 sanitary landfill. In the event that additional information is necessary to evaluate the RAP, the Department shall make a written request and Respondent shall provide all such information within twenty (20) days of receipt of said request or shall submit a schedule to the Department for responding to such

requests. Any disputes occurring concerning requests for information, responses thereto, or time for responses shall be subject to the provisions of Paragraph 50 of this Consent Order.

45. Upon review of the RAP, the Department shall notify the Respondent in writing whether the RAP for the Site 5 sanitary landfill is approved or whether the Department requires modification(s) prior to implementation, subject to the provisions of Paragraph 50 of this Consent Order.

46. The RAP shall become effective and implementation shall begin within thirty (30) days of Respondent's receipt of notification by the Department of its approval, or within thirty (30) days of Respondent's receipt of notification of matters determined pursuant to Paragraph 50 of this Consent Order, whichever is later.

47. The goal of remedial action at the Site 5 sanitary landfill shall be to meet applicable water quality standards of the Department which are in effect at the time the Feasibility Study report is approved, or if no Feasibility Study, at the time the CAR is approved, provided that in accordance with Section 403.726(7), Florida Statutes, Respondent shall not be required to treat groundwater in excess of ambient groundwater quality conditions as established in the approved CAR. Should the Department or other agency of the State adopt additional or more stringent water quality standards which are applicable to Respondent, the Department and Respondent shall meet to negotiate whether treatment of groundwater in accordance with such standards shall be addressed pursuant to this Consent Order.

Should Respondent be able to demonstrate after a minimum of twenty-four (24) months of groundwater treatment, or other period of time established in the approved RAP, that the contaminant levels have reached asymptotic values above the clean up objectives herein stated, verified by an acceptable statistical method, Respondent shall so notify the Department and provide a report to the Department describing:

(a) The technical feasibility of applying other groundwater treatment techniques to further reduce contaminant levels.

(b) The costs, benefits, and time frames involved in applying those alternative methods to further reduce contaminant levels.

(c) The effects on the water resource and other potential environmental and public health impacts if the contaminants remain at the asymptotic levels.

After considering the above factors the Department shall decide whether the clean up operation is deemed completed or whether alternative treatment is required. Respondent shall not be required to engage in nonproven, experimental clean up techniques. The Department's decision concerning requirements for alternative treatment, if any, shall be subject to the provisions of Paragraph 50 of this Consent Order.

48. Should it be finally concluded by the Department that clean up according to the above-stated goal cannot be accomplished for groundwater located outside the property ownership of Respondent, including its wholly owned subsidiary, Orlando Central Park, Inc., the Department may seek restitution from Respondent for environmental damages resulting from Respondent's contamination of groundwater located outside the property ownership of Respondent and its wholly owned subsidiary, Orlando Central Park, Inc. The Department's determination of the proposed assessment for environmental damages shall include consideration of the extent of treatment, including costs, provided by Respondent and the potential for utilization of the groundwater by third parties. Within twenty (20) days of receipt of Department notification of its intent to seek said restitution, Respondent may pay the amount of the proposed assessment or may initiate negotiations with the Department regarding the amount and terms of restitution. Respondent is aware that should a negotiated sum or other compensation for such

environmental damages not be agreed to by the Department Respondent within a reasonable period of time after commer such negotiations, the Department may institute any author action, either administrative through a Notice of Violatio judicial in a court of competent jurisdiction through a civ complaint, to seek to recover Department assessed environme damages pursuant to Section 403.141, Florida Statutes, for contaminated groundwater located outside the property ownersh of Respondent and its wholly owned subsidiary, Orlando Centra Park, Inc. Respondent may assert any defense it may have to a such proceeding and neither the fact of the execution of this Consent Order or its terms nor any actions Respondent may have taken in compliance with this Consent Order shall be admissible in evidence against the interest of Respondent in such proceeding.

49. On the first working day of each month, after implementation has begun by Respondent of both the CAP and the RAP, Respondent shall submit written progress reports to the Environmental Manager of the Department's St. Johns River District Office. The monthly progress reports shall describe the status of each required task and shall include notice of Respondent's failure to meet any date stated in the schedule and of any anticipated delays. The report shall include a statement of the cause of such failure or delay, the date by which the delayed task is estimated to be completed, and the effect on Respondent's ability to meet the remaining schedule for completion of the task. Failure to meet any date specified in any report, the Program, the CAP, the CAR, Feasibility Studies, or the RAP shall not be a basis for imposition of any civil or criminal penalty, fine, or forfeiture. Any disputes concerning failure to meet any date specified in any report, the Program, the CAP, the CAR, Feasibility Studies, or the RAP shall be subject to the provisions of Paragraph 50 of this Consent Order.

The monthly reports shall be submitted for one year after which the parties may establish modified reporting requirements.

IV. GENERAL PROVISIONS

50. In the event the Department directs modification(s) of proposals or plans, or refuses to approve proposals or plans, submitted to it by Respondent pursuant to the provisions of this Consent Order, or otherwise issues orders to Respondent concerning Site 5, the Department shall provide written notice of its decision to Respondent by certified mail, return receipt requested. Respondent may file a petition for a formal or informal administrative proceeding if it objects to the Department's action, pursuant to Section 120.57, Florida Statutes, and Chapters 17-103 and 28-5, Florida Administrative Code, or file any other action authorized by law. Any petition must conform to the requirements of Rule 28-5.201, Florida Administrative Code, and must be received by the Department's Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32301, within fourteen (14) days of Respondent's receipt of the notice. Failure to file a petition within this time period shall constitute a waiver by Respondent of its right to request an administrative proceeding under Section 120.57, Florida Statutes. The Department's determination, upon expiration of the fourteen (14) day time period if no petition is filed, or the Department's Final Order as a result of the filing of a petition, or other final determination, shall be incorporated by reference into this Consent Order and made a part of it. All other aspects of the Consent Order shall remain in full force and effect at all times. If Respondent seeks an administrative proceeding pursuant to this paragraph, the Department, may, in lieu of the administrative proceeding, file any suit authorized by law to obtain judicial resolution of the issues unresolved as a result of the request for an administrative proceeding.

51. Respondent shall immediately provide verbal notice, and written notice within five (5) working days, to the Department of any problems encountered by Respondent which require alteration of any task in the Program, Feasibility Study, CAP, RAP, or other plan and obtain Department approval prior to implementing any such alteration, subject to the provisions of Paragraph 50 of this Consent Order.

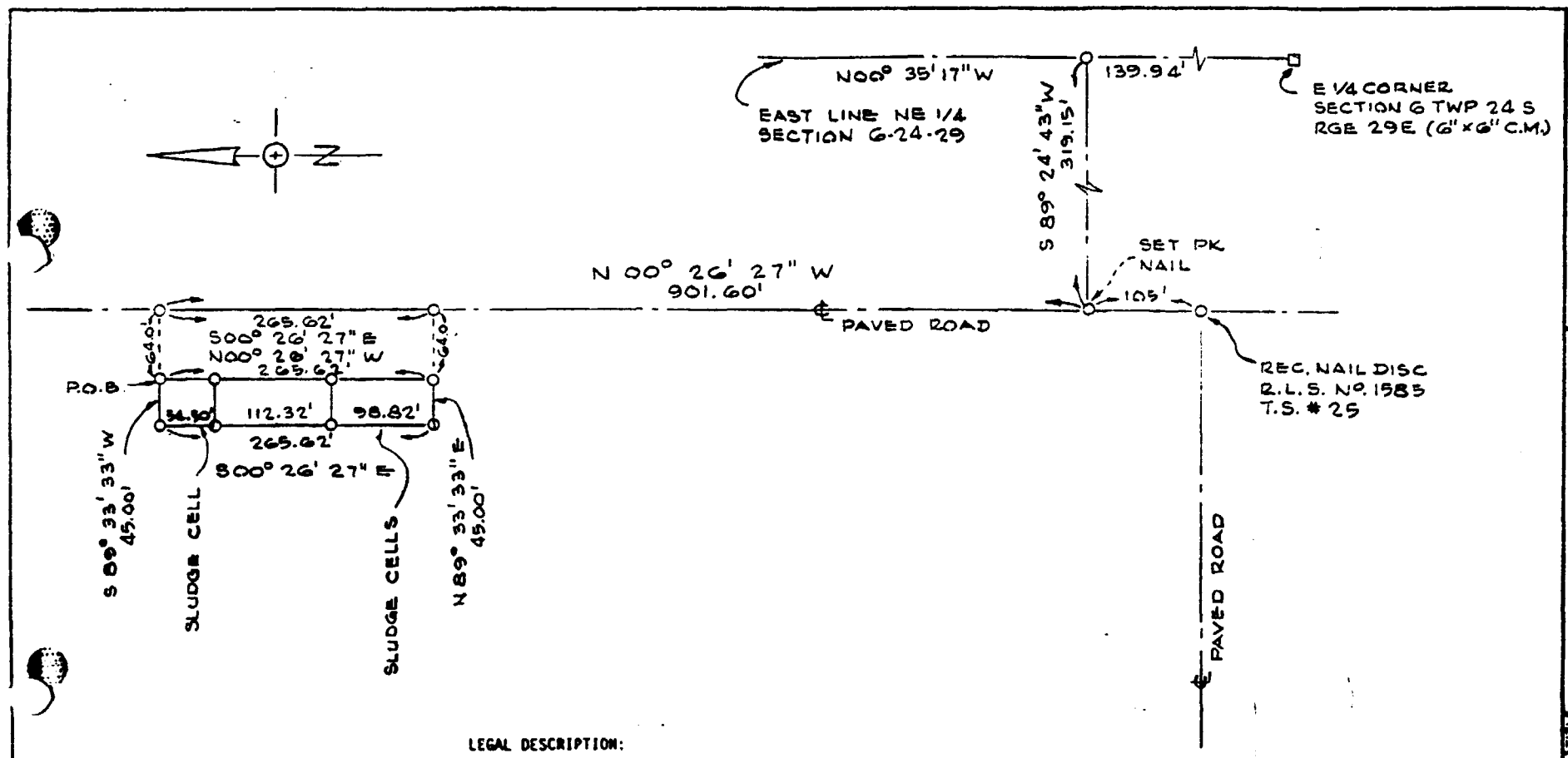
52. All sampling and analysis required under this Consent Order shall be accomplished pursuant to the following procedures:

(a) All sampling shall be done in the manner consistent with Standard Operating Procedures and Quality Assurance Manual, August, 1980, U. S. EPA Regional IV and Supplement "A" thereto, June, 1981, FDER;

(b) All laboratory data submitted shall contain a complete explanation of quality control procedures used to satisfactorily guarantee the reliability and accuracy of analytical data, and those laboratory procedures used shall be those approved by the Department. The test methods to be used in analyzing any parameters shall be the EPA approved test methods for the specific parameter to be analyzed unless otherwise notified by the Department.

(c) All field testing, sample collection and preservation and laboratory testing, including quality control procedures, shall be in accordance with the quality assurance/quality control plan submitted as part of the Program.

53. Respondent waives its right to a hearing or judicial review of the terms of this Consent Order. Any persons whose substantial interests are affected by the Consent Order and who are not parties to this Consent Order have the right, pursuant to Section 120.57, Florida Statutes, to petition for an administrative determination (hearing) on the Consent Order. The



LEGAL DESCRIPTION:

Part of the Northeast ¼ of Section 6, Township 24 South, Range 29 E. Orange County, Florida, more particularly described as follows: From the East ¼ corner of said Section 6, run N. 00°-35'-17"W. 139.94 feet along the East line of said Northeast ¼; Thence run S.89°-24'-43"W. for 319.15 feet; Thence run N. 0°-26'-27"W. for 901.60 feet; Thence run S. 89°-33'-33"W. for 64.00 feet to the Point of Beginning: Thence continue S. 89°-33'-33"W. for 45.00 feet; Thence run S. 0°-26'-27"E. for 265.62 feet; Thence run N.89°-33'-33"E. for 45.00 feet; Thence run N. 0°-26'-27"W. for 265.62 feet to the Point of Beginning.

EXHIBIT A

FACILITIES ENGINEERING
MARTIN MARIETTA AEROSPACE
ORLANDO DIVISION

TITLE: SLUDGE CELLS
REMOTE AREA SLRC

WORK SHEET - SKETCH
DESIGNED BY
DRAWN BY
SKETCH NO.
3

petition must conform to the requirements of Chapter 17-103 and 28-5, Florida Administrative Code, and must be filed (received) with the Department's Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32301, within fourteen (14) days of receipt of notice of the Consent Order. Failure to file a petition within such fourteen (14) days constitutes a waiver of any rights such person has to an administrative determination (hearing) pursuant to Section 120.57, Florida Statutes.

If a Final Order is entered on the substantially affected party's petition, the substantially affected party has the right to seek judicial review of the Final Order pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the clerk of the Department in the Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32301; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees within the appropriate District Court of Appeal. The Notice of Appeal must be filed within thirty (30) days from the date the final order is filed with the clerk of the Department.

54. Entry of this Consent Order does not relieve Respondent of the need to comply with applicable federal, state or local laws, regulations or ordinances.

55. The terms and conditions set forth in this Consent Order may be enforced in a court of competent jurisdiction pursuant to Sections 120.69 and 403.121, Florida Statutes. Failure to comply with the terms of this Consent Order shall constitute a violation of Section 403.161(1)(b), Florida Statutes.

56. Respondent shall allow authorized representatives of the Department access to the property at reasonable times for the purpose of determining compliance with the terms of this Consent Order and the rules of the Department.

57. The Department hereby expressly reserves the right to initiate appropriate legal action to prevent or prohibit future violations of applicable statutes or the rules promulgated thereunder not covered by the terms of this Consent Order.

58. Any modifications of the terms of this Consent Order shall be reduced to writing and executed by both the Respondent and the Department.

59. This Consent Order is a compromise of disputed claims and the settlement provided for herein in no way constitutes admission of any fact, claim or allegation, by any party hereto, or any liability of Respondent under any federal, state, or local statute, ordinance, or regulation or under any federal or state common law.

60. The Department for and in consideration of the complete and timely performance by Respondent of the obligations agreed to in this Consent Order hereby waives its right to seek judicial or administrative imposition of damages or civil or criminal penalties concerning the operation of Site 5 or alleged contamination at or occurring from Site 5, except for the assessment of environmental damages as authorized in Paragraph 48 of this Consent Order.

61. All notices, reports, plans, or other information required to be submitted to the Department pursuant to this Consent Order shall be sent to:

Environmental Manager
(Enforcement)
St. Johns River District
Department of Environmental Regulation
Suite 232
3319 Maguire Boulevard
Orlando, Florida 32803

62. All approvals, notices, requests for modifications or information, or other matters required to be submitted to Respondent pursuant to this Consent Order shall be sent to:

Raymond F. Green, Staff Engineer
Martin Marietta Orlando Aerospace
Post Office Box 5837, MP-124
Orlando, Florida 32855

63. This Consent Order shall take effect upon the date of filing and acknowledgement by the Clerk of the Department. This Consent Order shall constitute final agency action by the Department pursuant to Section 120.69, Florida Statutes, and Rule 17-103.110(3), Florida Administrative Code, unless a petition is timely filed pursuant to Paragraph 53. Upon the timely filing of a petition this Consent Order will be effective until further order of the Department.

FOR THE RESPONDENT:

June 19, 1985
DATE

Richard C Winfield
Richard C. Winfield
Facilities Director, Martin Marietta Orlando Aerospace,
Martin Marietta Corporation
Post Office Box 5837
Orlando, Florida 32855
(305) 356-3234

DONE AND ORDERED this 25th day of June, 1985, in Orlando, Florida.

Alex Alexander, District Manager
St. Johns River District
Department of Environmental Regulation
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803
(305) 894-7555

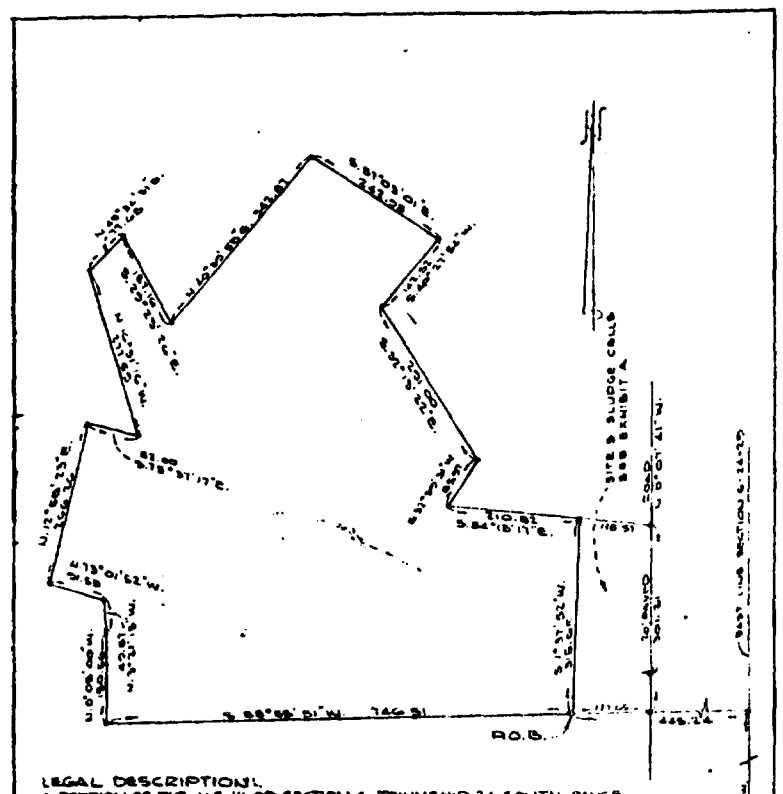
Copies Furnished to:

Larry Morgan
Assistant General Counsel
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32301

Kendrick Tucker
Akerman, Senterfitt & Eidson
Post Office Box 1794
Tallahassee, Florida 32302

FILING AND ACKNOWLEDGEMENT
FILED, on this date, pursuant to S120.52 (9), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Clerk 6/25/85
Date



LEGAL DESCRIPTION:
A PORTION OF THE N.E.¼ OF SECTION 6, TOWNSHIP 24 SOUTH, RANGE 29 EAST, ORANGE COUNTY, FLORIDA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS: COMMENCE AT THE EAST ¼ CORNER OF SAID SECTION 6; THENCE RUN N. 0°00' 51" W. ALONG THE EAST LINE OF SAID SECTION 6 FOR 165.26 FEET; THENCE RUN S. 88°55' 51" W. FOR 445.24 FEET TO THE POINT OF BEGINNING; THENCE CONTINUE S. 88°55' 51" W. FOR 746.51 FEET; THENCE RUN N. 0°08' 00" W. FOR 180.56 FEET; THENCE RUN N. 3°21' 13" W. FOR 49.37 FEET; THENCE RUN N. 73°01' 52" W. FOR 91.55 FEET; THENCE RUN N. 12°50' 23" E. FOR 266.26 FEET; THENCE RUN S. 75°31' 17" E. FOR 52.00 FEET; THENCE RUN N. 16°51' 16" W. FOR 277.50 FEET; THENCE RUN N. 45°34' 01" E. FOR 77.65 FEET; THENCE RUN S. 13°13' 36" E. FOR 157.16 FEET; THENCE RUN N. 40°30' 55" E. FOR 347.67 FEET; THENCE RUN S. 67°05' 01" E. FOR 242.98 FEET; THENCE RUN S. 40°27' 54" W. FOR 142.57 FEET; THENCE RUN S. 32°15' 22" E. FOR 251.00 FEET; THENCE RUN S. 32°50' 51" W. FOR 55.97 FEET; THENCE RUN S. 84°15' 17" E. FOR 210.97 FEET; THENCE RUN S. 1°37' 52" W. FOR 315.45 FEET TO THE POINT OF BEGINNING. CONTAINING 11.4977 ACRES MORE OR LESS.

NOTE: BEARINGS ARE BASED ON GRID NORTH.

EXHIBIT B

CERTIFIED BY BARNEY A. HERRICK, REG. LAND SURVEYOR Nº 1095 STATE OF FLORIDA. THAT THIS SURVEY MEETS THE APPLICABLE MINIMUM TECHNICAL STANDARDS FOR LAND SURVEYING (CHAPTER 21 HH 6 F.A.C.)

BARNEY A. HERRICK — SEAL

SPECIFIC PURPOSE SURVEY FOR THE EXCLUSIVE USE OF:

MARTIN MARIETTA ORLANDO AEROSPACE

PREPARED BY: HERRICK & ASSOC. INC
PROFESSIONAL LAND SURVEYORS
630 W. WINTER PARK STREET
ORLANDO, FLORIDA 32804
PHONE: 305/843-3927

PROJECT: ORLANDO MAIN PLANT
LOCATION: REMOTE AREA
TYPE OF SURVEY: SKETCH OF LEGAL DESCRIPTION (SANITARY LANDFILL)
PROJECT SITE #: [redacted]
NAME: (OLD DUMP SITE)
P.E.D. #:
SCALE: 1" = 100' | FIELD BOOK: MART. 1-53 | SHEET 1 OF 1 SHEETS
DATE: APRIL 2, 1985 | REV. | REV. | REV. | REV. | REV.
HERRICK FILE #: | MARTIN FILE #:

SIZE	WORK SHEET – SKETCH	TITLE:	
B	DESIGNED BY / DRAWN BY	LEGAL DESCRIPTION SANITARY LANDFILL SITE 5	FACILITIES ENGINEERING
	SKETCH NO.		MARTIN MARIETTA AEROSPACE ORLANDO DIVISION

CERTIFIED MAIL NO. P-034-237-578

RECEIVED
JUL 16 1985
Dept. of Environmental Regulation
Office of General Counsel

BEFORE THE STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

MARTIN MARIETTA CORPORATION,

Petitioner,

vs. OGC FILE NO. 85-0693

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION,

Respondent.
_____/

CONSENT ORDER

Pursuant to the provisions of Sections 403.061(8) and 120.52(9), Florida Statutes, and Florida Administrative Code Rule 17-103.110, this Consent Order is entered into between the State of Florida Department of Environmental Regulation ("Department") and Martin Marietta Corporation ("Petitioner"), to reach settlement of matters at issue between Petitioner and the Department concerning Petitioner's application for a permit for construction of a wastewater collection transmission system.

WHEREAS, Petitioner is, and at all times material hereto has been, the owner of a partially constructed wastewater collection transmission system to serve Petitioner's RAM Lab building located at 4600 Sand Lake Road, Orlando, Orange County, Florida; and

WHEREAS, the Department is the administrative agency of the State of Florida having the power and duty to control and prohibit pollution of the air and water in accordance with Chapter 403, Florida Statutes; and

WHEREAS, on January 4, 1985, Petitioner applied to the Department for a permit to construct a wastewater collection transmission system for its RAM Lab building to provide sewer service to such building. On May 20, 1985, Petitioner filed with the Department an amended application to construct the wastewater collection system for the RAM Lab building. On May 14, 1985, the

DOCKET NO. _____

Department issued a notice of Intent to Deny the requested permit for the wastewater collection transmission system, which notice is attached hereto as Exhibit A; and

WHEREAS, in order to resolve the matters described above, the Department and the Petitioner met on June 24, 1985 and reached agreement for resolution of the application for permit, the notice of Intent to Deny, and all other matters relating thereto.

NOW THEREFORE, having reached a mutually acceptable resolution of the dispute, pursuant to Rule 17-103.110(3), Florida Administrative Code, Petitioner and the Department mutually agree and it is

ORDERED AS FOLLOWS:

1. Petitioner is authorized and required to construct two manholes at the two locations in the wastewater collection transmission piping where such piping changes direction.

2. Upon construction of the two manholes, Petitioner shall submit "as built" construction plans for the wastewater collection transmission system for the RAM Lab building. Upon written approval of such "as built" construction plans by the Department, Petitioner shall be authorized to hook up and operate the wastewater collection transmission system for the RAM Lab building.

3. Within thirty (30) days from the effective date of this Consent Order, Petitioner shall reimburse the Department in the amount of Five Thousand and 00/100 Dollars ($5,000.00) for costs and expenses incurred by the Department in investigating this matter and authorizing the wastewater collection transmission system. Payment shall be made by check or money order, payable to the "State of Florida, Department of Environmental Regulation Pollution Recovery Trust Fund" and remitted to the Environmental Manager (Enforcement), St. Johns River District, Department of Environmental Regulation, Suite 232, 3319 Maguire Boulevard, Orlando, Florida 32803.

4. Petitioner shall allow authorized representatives of the Department access to the RAM Lab property at reasonable times for purposes of determining compliance with this Consent Order and rules of the Department.

5. The Department hereby expressly reserves the right to initiate appropriate legal action to prevent or prohibit future alleged violations of applicable statutes or rules of the Department promulgated thereunder.

6. The Department, for and in consideration of the complete and timely performance by Petitioner of the obligations agreed to in this Consent Order, hereby waives its right to seek judicial imposition of damages, or civil or criminal penalties, or any other costs or fee for alleged violations outlined or arising out of the matters outlined in the notice of Intent to Deny attached as Exhibit A. Petitioner waives its right to a hearing or judicial review of the terms of this Consent Order. This Consent Order constitutes a complete and full resolution of all matters associated with Petitioner's construction of its wastewater collection transmission system serving Martin Marietta Corporation's RAM Lab building located at 4600 Sand Lake Road, Orlando, Florida, including any alleged violations of the Department's rules or Chapter 403, Florida Statutes.

7. Entry of this Consent Order does not relieve Petitioner of the need to comply with applicable federal, state, or local laws, regulations or ordinances. The entry of this Consent Order does not abrogate the rights of substantially affected persons who are not parties to this Order, pursuant to Chapter 120, Florida Statutes.

8. Respondent waives its right to a hearing or judicial review of the terms of this Consent Order. Any persons whose substantial interests are affected by the Consent Order and who are not parties to this Consent Order have the right, pursuant to Section 120.57, Florida Statutes, to petition for an administrative determination (hearing) on the Consent Order. The

petition must conform to the requirements of Chapter 17-103 and 28-5, Florida Administrative Code, and must be filed (received) with the Department's Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32301, within fourteen (14) days of receipt of notice of the Consent Order. Failure to file a petition within such fourteen (14) days constitutes a waiver of any rights such person has to an administrative determination (hearing) pursuant to Section 120.57, Florida Statutes.

If a Final Order is entered on the substantially affected party's petition, the substantially affected party has the right to seek judicial review of the Final Order pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the clerk of the Department in the office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32301; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees within the appropriate District Court of Appeal. The Notice of Appeal must be filed within thirty (30) days from the date the final order is filed with the clerk of the Department.

9. The terms and conditions set forth in the Consent Order may be enforced by a court of competent jurisdiction pursuant to Section 120.69 or Chapter 403, Florida Statutes.

10. This Consent Order is a compromise of disputed claims and the settlement provided for herein in no way constitutes admission of any fact, claim, or allegation by any party hereto, or any liability of Petitioner under any federal, state, or local statute, ordinance, regulation, or common law, and in no way indicates, implies, or admits the truth of any allegation or claim in any pleading or any other paper or document lodged or filed in the subject matter of the Consent Order or the notice of Intent to Deny attached as Exhibit A.

11. This Consent Order incorporates and expresses all agreements and understandings between the parties and may not be

altered or modified except in writing duly executed by the parties.

12. The legal rights and obligations of this Consent Order are to inure to the benefit of all parties hereto, their legal representatives, successors and assigns.

13. The corporate party hereto represents that it has full corporate authority and the necessary corporate approval to enter into and perform this Consent Order in accordance with its terms.

14. This Consent Order shall take effect upon the date of filing and acknowledgement by the Clerk of the Department and shall constitute final agency action by the Department pursuant to Section 120.69, Florida Statutes, and Rule 17-103.110(3), Florida Administrative Code.

FOR THE PETITIONER:

DATE July 8, 1985

Richard C. Winfield
Richard C. Winfield
Facilities Director
Martin Marietta Orlando
Aerospace
Martin Marietta Corporation
Post Office Box 5837
Orlando, Florida 32855
305/356-3234

DONE AND ORDERED this 12 day of July, 1985, in Orlando, Florida.

Alex Alexander
Alex Alexander, District
Manager
St. Johns River District
Department of Environmental
Regulation
3319 Maguire Boulevard
Suite 232
Orlando, Florida 32803
305/894-7555

FILING AND ACKNOWLEDGEMENT
FILED, on this date, pursuant to S120.52 (9), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Clerk Date

Copies furnished to:

Larry Morgan
Assistant General Counsel
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32301

Kendrick Tucker
Akerman, Senterfitt & Eidson
P. O. Box 1794
Tallahassee, Florida 32302

DOCKET NO

BEFORE THE STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

STATE OF FLORIDA, DEPARTMENT
OF ENVIRONMENTAL REGULATION,

Complainant,

v. OCG FILE NO._____

MARTIN MARIETTA CORPORATION,

Respondent.
_____/

CONSENT ORDER

Pursuant to the provisions of Sections 403.061(8) and 120.52(9), Florida Statutes, and Florida Administrative Code Rule 17-103.110 this Consent Order is entered into between the State of Florida Department of Environmental Regulation ("Department") and Martin Marietta Corporation ("Respondent") to reach settlement of certain matters at issue between the Department and Respondent.

The Department finds and the Respondent agrees to the following:

1. The Department is the administrative agency of the State of Florida having the power and duty to control and prohibit pollution of air and water in accordance with Chapter 403, Florida Statutes, and rules promulgated thereunder. The Department has jurisdiction over the matters addressed in this Consent Order.

2. Respondent is a Maryland Corporation registered to do business in the State of Florida and is a person within the meaning of Sections 403.031(11) and 403.703(3), Florida Statutes.

3. Respondent operates a manufacturing facility on a 2,300 acre site located at 4600 Sand Lake Road, Orlando, Florida. [illegible] operations include electroplating, microphotography, and reproduction and photographic laboratory activities. Waste generated from these processes may consist of spent acids, spent alkali, spent plating solution, their rinse waters, waste cutting oils and various organic solvents.

CKET NO. _____

4. A component of Respondent's operation at its Sand Lake Road facility previously included an approximately 3.5-acre former landfill waste disposal site which was operated in 1971 and 1972 and was used to dispose of waste materials consisting of construction debris, trash, and sludge waste from pretreatment plant operations ("Site 4"). Site 4 was transected by New-Over Canal in approximately 1972. New-Over Canal is a drainage canal created to provide stormwater drainage and ultimately discharges to Shingle Creek.

5. On its own initiative Respondent conducted groundwater sampling and analysis at Site 4. The results of analysis of samples by Respondent in April, 1984, July, 1984, and May, 1985, indicated the presence of contaminants in groundwater at Site 4. Respondent notified the Department on January 7, 1985, April 10, 1985, and June 6, 1985, concerning the results of the sampling and analysis of groundwater at Site 4.

6. The Department and Respondent have met in an attempt to reach a resolution of any potential contamination problems at Site 4. Respondent agrees to the entry of this Consent Order and agrees to abide by its terms and conditions as settlement of any contamination claims or other pollution claims or damages occurring at or from Site 4.

THEREFORE, having reached resolution of the matter, pursuant to Florida Administrative Code rule 17-103.110(3), Respondent and the Department mutually agree and it is,

ORDERED AS FOLLOWS:

I. CONTAMINATION ASSESSMENT PLAN FOR SITE 4

7. Within sixty (60) days from the effective date of this Consent Order, Respondent shall submit to the Department a proposal for a soil, groundwater, and surface water contamination Assessment Plan ("CAP") for Site 4. The objectives of the CAP shall be to:

(a) Establish the areal and vertical extent of soil, groundwater, and surface water contamination;

(b) Determine or confirm the contaminant source(s), mechanisms of contaminant transport, and rate and direction of contaminant movement in the soils, groundwater, and surface water;

(c) Provide a characterization of the contamination plume(s) which will include, but not be necessarily limited to, analysis for VOC's; and

(d) Describe a quality assurance project plan for all sampling and chemical analysis to be conducted consistent with the interim guideline and specifications for preparing quality assurance project plans/EPA/December 29, 1980.

8. The CAP proposal shall describe the tasks to accomplish these objectives and shall include a time schedule for completing each task.

9. The Department shall review the CAP proposal and provide written approval prior to commencement of CAP tasks. In the event that additional information is necessary to evaluate the CAP, the Department shall make a written request and Respondent shall provide all such information within twenty (20) days of receipt of said request or shall submit a schedule to the Department for responding to such requests. Any disputes occurring concerning requests for information, responses thereto, or time for responses shall be subject to the provisions of Paragraph 29 of this Consent Order.

10. Upon review of the CAP, the Department shall notify the Respondent in writing whether the CAP is complete and approved or whether the Department requires modification(s) prior to implementation, subject to the provisions of Paragraph 29 of

11. The CAP shall become effective and implementation shall begin within thirty (30) days of Respondent's receipt of the Department's notification that the CAP is approved, or within thirty (30) days of Respondent's receipt of notification of

matters determined pursuant to Paragraph 29 of this Consent Order, whichever is later.

12. Monitoring wells may be installed in and around Site 4 from time to time during implementation of various portions of the studies. Respondent shall provide written notification to the Department at least fourteen (14) days prior to the installation of monitoring wells installed pursuant to the CAP, and shall allow Department personnel the opportunity to observe the location and installation of the wells. Subsequent notification shall be on a verbal basis provided at least forty-eight (48) hours in advance of the installation of the wells.

13. Groundwater sampling may be conducted at Site 4 from time to time during implementation of various portions of the studies. Respondent shall provide written notification to the Department at least fourteen (14) days prior to the initial sampling of the monitoring wells installed pursuant to the CAP, and shall allow Department personnel the opportunity to observe sampling or to take split samples. Subsequent notification of sampling, including sampling of monitoring wells in addition to those specified in the CAP, shall be on a verbal basis provided at least twenty-four (24) hours in advance of the sampling. Raw data shall be exchanged between the Respondent and the Department as soon as the data is available and following proper quality assurance/quality control verification.

14. Within thirty (30) days of completion of the tasks in accordance with the CAP, Respondent shall submit a Contamination Assessment Report ("CAR") to the Department for Site 4. The CAR shall:

[illegible]rize and analyze all CAP tasks;

(b) Discuss CAP objectives outlined in Paragraph 7; and

(c) Specify the conclusions regarding CAP objectives outlined in Paragraph 7.

(d) Contain recommendations as to the need for a Feasibility Study.

15. The Department shall review the CAR and notify the Respondent in writing whether the CAR is approved or whether there are any deficiencies or recommended modification(s), subject to the provisions of Paragraph 29 of this Consent Order. In the event that additional information is necessary to evaluate the CAR, the Department shall make a written request and Respondent shall provide all such information within twenty (20) days of receipt of said request or shall submit a schedule to the Department for responding to such requests. Any disputes occurring concerning requests for information, responses thereto, or time for responses shall be subject to the provisions of Paragraph 29 of this Consent Order. Should the CAR as approved by the Department conclude there is no or insufficient contamination for a Feasibility Study and Remedial Action Plan, Respondent's obligations under this Consent Order shall cease and Respondent shall not be required to take further action under the terms of this Consent Order.

II. <u>Feasibility Study for Site 4</u>

16. If the Department determines from review of the CAR for Site 4 that there is a need for a Feasibility Study subject to the provisions of Paragraph 29 of this Consent Order, Respondent shall submit to the Department for its review a Feasibility Study Plan ("FSP") for Site 4. The FSP shall be submitted within sixty (60) days of receipt by Respondent of the Department's determination that a Feasibility Study for the particular site is necessary. The purpose of the Feasibility Study is to develop and evaluate all alternatives to identify the [illegible] environmental [illegible] the site. The FSP shall provide an outline of the elements to be included in the Feasibility Study and shall explain how the Respondent plans to address each of the elements listed below which shall be included in the Feasibility Study:

(a) A risk assessment to evaluate health hazards, pathways of exposure, and risk associated with exposure to site contamination;

(b) Criteria developed to evaluate remedial alternatives for the site;

(c) Review and selection of remedial alternatives;

(d) Data from pilot tests and bench tests to evaluate alternatives, if necessary; and

(e) Selection of remedial methodology.

17. The Department shall review the FSP and provide written approval prior to implementation. In the event that additional information is necessary to determine the completeness of the FSP, the Department shall make a written request and Respondent shall provide all such information within twenty (20) days of receipt of said request or shall submit a schedule to the Department for responding to such requests. Any disputes occurring concerning requests for information, responses thereto, or time for responses shall be subject to the provisions of Paragraph 29 of this Consent Order.

18. The Department shall notify Respondent in writing whether the FSP is complete and approved or whether the Department requires modification(s) prior to implementation, subject to the provisions of Paragraph 29 of this Consent Order.

19. The FSP for Site 4 shall become effective and implementation shall begin within thirty (30) days of Respondent's receipt of notification by the Department of approval, or within thirty (30) days of Respondent's receipt of notification of matters determined pursuant to Paragraph 29 of this Consent Order, whichever is later.

20. Within thirty (30) days of completing the Feasibility Study, Respondent shall submit to the Department a Feasibility Study report. The Feasibility Study report shall:

(a) Summarize and analyze all Feasibility Study task results; and

(b) Propose a conceptual remedial action plan based on the selection process carried out in the Feasibility Study.

21. The Department shall review the Feasibility Study report and determine its adequacy to meet the remedial action objectives subject to the provisions of Paragraph 29 of this Consent Order. In the event that additional information is necessary to evaluate the Feasibility Study report, the Department shall make a written request and Respondent shall provide all such information within twenty (20) days of receipt of said request or shall submit a schedule to the Department for responding to such requests. Any disputes occurring concerning requests for information, responses thereto, or time for responses shall be subject to the provisions of Paragraph 29 of this Consent Order.

III. Remedial Action Plan for Site 4

22. Within ninety (90) days of Respondent's receipt of notice of approval of the Feasibility Study report for Site 4 or, alternatively, if no Feasibility Study is required, within ninety (90) days of Respondent's receipt of notice of approval of the CAR for Site 4, Respondent shall submit to the Department a Remedial Action Plan ("RAP") for containment and cleanup of contaminated groundwater at Site 4. The RAP shall:

(a) Describe tasks, including a timetable, to clean up or contain contaminated groundwater;

(b) Describe tasks, including a timetable, to conduct post-containment/clean up sampling and analysis to verify accomplishments of the objectives of the RAP; and

[illegible] specifications to contain and clean up contaminated groundwater.

23. The Department shall review the RAP and provide written approval, and as part thereof, as required, necessary

permits, prior to commencement of RAP tasks at Site 4. In the event that additional information is necessary to evaluate the RAP, the Department shall make a written request and Respondent shall provide all such information within twenty (20) days of receipt of said request or shall submit a schedule to the Department for responding to such requests. Any disputes occurring concerning requests for information, responses thereto, or time for responses shall be subject to the provisions of Paragraph 29 of this Consent Order.

24. Upon review of the RAP for Site 4, the Department shall notify the Respondent in writing whether the RAP is approved or whether the Department requires modification(s) prior to implementation, subject to the provisions of Paragraph 29 of this Consent Order.

25. The RAP shall become effective and implementation shall begin within thirty (30) days of Respondent's receipt of notification by the Department of approval, or within thirty (30) days of Respondent's receipt of notification of matters determined pursuant to Paragraph 29 of this Consent Order, whichever is later.

26. On the first working day of each month, after implementation has begun by Respondent of the RAP, Respondent shall submit written progress reports to the Environmental Manager (Enforcement) of the Department's St. Johns River District Office. The monthly progress reports shall describe the status of each required task and shall include notice of Respondent's failure to meet any date stated in the schedule and of any anticipated delays. The report shall include a statement of the cause of such failure or delay, the date by which the delayed task is estimated to be completed, and the effect on Respondent's ability to meet the remaining schedule for completion of the task. Failure to meet any date specified in the CAP, CAR, Feasibility Study, or RAP shall not be a basis for imposition of any civil or criminal penalty, fine, or forfeiture.

Any disputes concerning failure to meet any date specified in the CAP, CAR, Feasibility Study, or RAP shall be subject to the provisions of Paragraph 29 of this Consent Order. The monthly reports shall be submitted for one year after which the parties may establish modified reporting requirements.

27. The goal of remedial action at Site 4 shall be to meet applicable water quality standards of the Department which are in effect on the effective date of this Consent Order, provided that in accordance with Section 403.726(7), Florida Statutes, Respondent shall not be required to treat groundwater in excess of ambient groundwater quality conditions as established in the approved CAR. Should the Department or other agency of the State adopt additional or more stringent water quality standards subsequent to the effective date of this Consent Order and which are applicable to Respondent at Site 4, the Department and Respondent shall meet to negotiate whether treatment of groundwater in accordance with such standards shall be addressed pursuant to this Consent Order. This Consent Order shall not be construed to relieve Respondent of compliance with applicable water quality standards adopted subsequent to the effective date of this Consent Order.

Should Respondent be able to demonstrate after a minimum of twenty-four (24) months of groundwater treatment, or other period of time established in the approved RAP, that the contaminant levels have reached asymptotic values above the clean up objectives herein stated, verified by an acceptable statistical method, Respondent shall so notify the Department and provide a report to the Department describing:

(a) The technical feasibility of applying other groundwater treatment techniques to further reduce contaminant levels.

(b) The costs, benefits, and time frames involved in applying those alternative methods to further reduce contaminant levels.

(c) The effects on the water resource and other potential environmental and public health impacts if the contaminants remain at the asymptotic levels.

After considering the above factors the Department shall decide whether the clean up operation is deemed completed or whether alternative treatment is required. Respondent shall not be required to engage in nonproven, experimental clean up techniques. The Department's decision concerning requirements for alternative treatment, if any, shall be subject to the provisions of Paragraph 29 of this Consent Order.

28. Should it be finally concluded by the Department that clean up according to the above-stated goal cannot be accomplished for groundwater located outside the property ownership of Respondent, including its wholly owned subsidiary, Orlando Central Park, Inc., the Department may seek restitution from Respondent for environmental damages resulting from Respondent's contamination of groundwater located outside the property ownership of Respondent and its wholly owned subsidiary, Orlando Central Park, Inc. The Department's determination of the proposed assessment for environmental damages shall include consideration of the extent of treatment, including costs, provided by Respondent and the potential for utilization of the groundwater by third parties. Within twenty (20) days of receipt of Department notification of its intent to seek said restitution, Respondent may pay the amount of the proposed assessment or may initiate negotiations with the Department regarding the amount and terms of restitution. Respondent is aware that should a negotiated sum or other compensation for such environmental damages not be agreed to by the Department and the Respondent within a reasonable period of time after commencing such negotiations, the Department may institute any authorized action, either administrative through a Notice of Violation, or judicial in a court of competent jurisdiction through a civil complaint, to seek to recover Department assessed environmental

damages pursuant to Section 403.141, Florida Statutes, for contaminated groundwater located outside the property ownership of Respondent and its wholly owned subsidiary, Orlando Central Park, Inc. Respondent may assert any defense it may have to any such proceeding and neither the fact of the execution of this Consent Order or its terms nor any actions Respondent may have taken in compliance with this Consent Order shall be admissible in evidence against the interest of Respondent in such proceeding.

IV. GENERAL PROVISIONS

29. In the event the Department directs modification(s) of proposals or plans, or refuses to approve proposals or plans, submitted to it by Respondent pursuant to the provisions of this Consent Order, or otherwise issues orders to Respondent concerning Site 4, the Department shall provide written notice of its decision to Respondent by certified mail, return receipt requested. Respondent may file a petition for a formal or informal administrative proceeding if it objects to the Department's action, pursuant to Section 120.57, Florida Statutes, and Chapters 17-103 and 28-5, Florida Administrative Code, or file any other action authorized by law. Any petition must conform to the requirements of Rule 28-5.201, Florida Administrative Code, and must be received by the Department's Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32301, within fourteen (14) days of Respondent's receipt of the notice. Failure to file a petition within this time period shall constitute a waiver by Respondent of its right to request an administrative proceeding under Section 120.57, Florida Statutes. The Department's determination, upon [illegible] period if no petition [illegible] filed, or the Department's Final Order as a result of the filing of a petition, or other final determination, shall be incorporated by reference into this Consent Order and made a part of it. All other aspects of the Consent Order shall remain in

full force and effect at all times. If Respondent seeks an administrative proceeding pursuant to this paragraph, the Department, may, in lieu of the administrative proceeding, file any suit authorized by law to obtain judicial resolution of the issues unresolved as a result of the request for an administrative proceeding.

30. Respondent shall immediately provide verbal notice, and written notice within five (5) working days, to the Department of any problems encountered by Respondent which require alteration of any task in the CAP, Feasibility Study, or RAP, and obtain Department approval prior to implementing any such alteration, subject to the provisions of Paragraph 29 of this Consent Order.

31. All sampling and analysis required under this Consent Order shall be accomplished pursuant to the following procedures:

(a) All sampling shall be done in the manner consistent with Standard Operating Procedures and Quality Assurance Manual, August, 1980, U. S. EPA Regional IV and Supplement "A" thereto, June, 1981, FDER;

(b) All laboratory data submitted shall contain a complete explanation of quality control procedures used to satisfactorily guarantee the reliability and accuracy of analytical data, and those laboratory procedures used shall be those approved by the Department. The test methods to be used in analyzing any parameters shall be the EPA approved test methods for the specific parameter to be analyzed unless otherwise notified by the Department;

(c) All field testing, sample collection and preservation and laboratory testing, including quality control procedures, shall be in accordance with the quality assurance/quality control plan submitted as part of the CAP.

32. Respondent waives its right to a hearing or judicial review of the terms of this Consent Order. Any persons whose substantial interests are affected by the Consent Order and who are not parties to this Consent Order have the right, pursuant to Section 120.57, Florida Statutes, to petition for an administrative determination (hearing) on the Consent Order. The petition must conform to the requirements of Chapter 17-103 and 28-5, Florida Administrative Code, and must be filed (received) with the Department's Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32301, within fourteen (14) days of receipt of notice of the Consent Order. Failure to file a petition within such fourteen (14) days constitutes a waiver of any rights such person has to an administrative determination (hearing) pursuant to Section 120.57, Florida Statutes.

If a Final Order is entered on the substantially affected party's petition, the substantially affected party has the right to seek judicial review of the Final Order pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the clerk of the Department in the Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32301; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees within the appropriate District Court of Appeal. The Notice of Appeal must be filed within thirty (30) days from the date the final order is filed with the clerk of the Department.

33. Entry of this Consent Order does not relieve Respondent of the need to comply with applicable federal, state or local laws, regulations or ordinances.

34. The terms and conditions set forth in this Consent Order may be enforced in a court of competent jurisdiction pursuant to Sections 120.69 and 403.121, Florida Statutes. Failure to comply with the terms of this Consent Order shall

constitute a violation of Section 403.161(1)(b), Florida Statutes.

35. Respondent shall allow authorized representatives of the Department access to the property at reasonable times for the purpose of determining compliance with the terms of this Consent Order and the rules of the Department.

36. The Department hereby expressly reserves the right to initiate appropriate legal action to prevent or prohibit future violations of applicable statutes or the rules promulgated thereunder not covered by the terms of this Consent Order.

37. Any modifications of the terms of this Consent Order shall be reduced to writing and executed by both the Respondent and the Department.

38. This Consent Order is a compromise of disputed claims and the settlement provided for herein in no way constitutes admission of any fact, claim or allegation, by any party hereto, or any liability of Respondent under any federal, state, or local statute, ordinance, or regulation or under any federal or state common law.

39. The Department for and in consideration of the complete and timely performance by Respondent of the obligations agreed to in this Consent Order hereby waives its right to seek judicial or administrative imposition of damages or civil or criminal penalties concerning alleged contamination at or occurring from Site 4 except for the assessment of environmental damages as authorized in Paragraph 28 of this Consent Order.

40. All notices, reports, plans, or other information required to be submitted to the Department pursuant to this Consent Order shall be sent to:

[illegible]
[illegible] Johns River [illegible]
Department of Enviro[illegible]lation
Suite 232
3319 Maguire Boulevard
Orlando, Florida 32803

41. All approvals, notices, requests for modifications or information, or other matters required to be submitted to Respondent pursuant to this Consent Order shall be sent to:

Raymond F. Green, Staff Engineer
Martin Marietta Orlando Aerospace
Post Office Box 5837, MP-124
Orlando, Florida 32855

42. This Consent Order shall take effect upon the date of filing and acknowledgement by the Clerk of the Department. This Consent Order shall constitute final agency action by the Department pursuant to Section 120.69, Florida Statutes, and Rule 17-103.110(3), Florida Administrative Code, unless a petition is timely filed pursuant to Paragraph 32. Upon the timely filing of a petition this Consent Order will be effective until further order of the Department.

FOR THE RESPONDENT:

_____
DATE

_____
Richard C. Winfield
Facilities Director, Martin
Marietta Orlando Aerospace,
Martin Marietta Corporation
Post Office Box 5837
Orlando, Florida 32855
(305) 356-3234

DONE AND ORDERED this _____ day of _____, 1985, in Orlando, Florida.

_____
Alex Alexander, District Manager
St. Johns River District
Department of Environmental
Regulation
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803
(305) 894-7555

Copies Furnished to:

Larry Morgan
[illegible]
Department of [illegible]
[illegible]
2600 Blair [illegible] Road
Tallahassee, Florida 32301

Kendrick Tucker
Akerman, Senterfitt & Eidson
Post Office Box 1794
Tallahassee, Florida 32302

DOCKET NO. [illegible]

Alex Alexander, District Manager
St. Johns River District
Department of Environmental
Regulation
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803
(305) 894-7555

Copies Furnished to:

Larry Morgan
Assistant General Counsel
Department of Environmental
Regulation
2600 Blair Stone Road
Tallahassee, Florida 32301

Kendrick Tucker
Akerman, Senterfitt & Eidson
Post Office Box 1794
Tallahassee, Florida 32302

FILING AND ACKNOWLEDGEMENT

FILED, on this date, pursuant to S120.52 (9), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Clerk

6/25/85
Date

DOCKET NO.

BEFORE THE STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

STATE OF FLORIDA, DEPARTMENT
OF ENVIRONMENTAL REGULATION,

Complainant,

v. OCG FILE NO. 85-0411

MARTIN MARIETTA CORPORATION,

Respondent.

_____/

BX 16

CONSENT ORDER

Pursuant to the provisions of Sections 403.061(8) and 120.52(9), Florida Statutes, and Florida Administrative Code Rule 17-103.110 this Consent Order is entered into between the State of Florida Department of Environmental Regulation ("Department") and Martin Marietta Corporation ("Respondent") to reach settlement of certain matters at issue between the Department and Respondent.

The Department finds and the Respondent agrees to the following:

1. The Department is the administrative agency of the State of Florida having the power and duty to control and prohibit pollution of air and water in accordance with Chapter 403, Florida Statutes, and rules promulgated thereunder. The Department has jurisdiction over the matters addressed in this Consent Order.

2. Respondent is a Maryland Corporation registered to do business in the State of Florida and is a person within the meaning of Sections 403.031(11) and 403.703(3), Florida Statutes.

3. Respondent operates a manufacturing facility on a [illegible] acre site located at 4600 Sand Lake Road, Orlando, Florida. Respondent's operations include electroplating, microplating, and reproduction and photographic laboratory activities. Waste generated from these processes may consist of spent acids, spent

DOCKET NO. _____

alkali, spent plating solution, their rinse waters, waste cutting oils and various organic solvents.

4. A component of Respondent's operation at its Sand Lake Road facility previously included an approximately 8-acre former landfill waste disposal site which was operated from 1968 to 1970 and was used to dispose of waste materials consisting of construction debris, trash, and sludge waste from pretreatment plant operations ("Site 3").

5. Another component of Respondent's operation at its Sand Lake Road facility previously included an approximately 5-acre former landfill waste disposal site which was operated in 1981 and 1982 and was used to dispose of waste materials consisting of construction debris and trash ("Site 6").

6. The Department conducted a limited site sampling investigation of Site 3 on September 20, 1984. Results of such sampling indicated the presence of volatile organic compounds ("VOC's") in the groundwater at Site 3.

7. On its own initiative Respondent conducted groundwater sampling and analysis at Site 6. The results of analysis of samples taken by the Respondent in May, 1984, indicated the presence of VOC's in the groundwater at Site 6. Respondent notified the Department on December 14, 1984, concerning the results of the sampling and analysis of groundwater at Site 6.

8. The Department and Respondent have met in an attempt to reach a resolution of any potential contamination problems at Site 3 and Site 6. Respondent agrees to the entry of this Consent Order and agrees to abide by its terms and conditions as settlement of any contamination claims or other pollution claims or damages occurring at or from Site 3 and Site 6.

[redacted], having reached resolution of the matter, pursuant to Florida Administrative Code rule 17-103.110(3), Respondent and the Department mutually agree and it is,

ORDERED AS FOLLOWS:

I. CONTAMINATION ASSESSMENT PLAN FOR SITE 3 AND SITE 6

9. Within sixty (60) days from the effective date of this Consent Order, Respondent shall submit to the Department a proposal for a soil and groundwater Contamination Assessment Plan ("CAP") for Site 3 and Site 6. The objectives of the CAP for Site 3 and Site 6 shall be to:

(a) Establish the areal and vertical extent of soil and groundwater contamination;

(b) Determine or confirm the contaminant source(s), mechanisms of contaminant transport, and rate and direction of contaminant movement in the soils and groundwater;

(c) Provide a characterization of the contamination plume(s) which will include, but not be necessarily limited to, analysis for VOC's; and

(d) Describe a quality assurance project plan for all sampling and chemical analysis to be conducted consistent with the interim guideline and specifications for preparing quality assurance project plans/EPA/December 29, 1980.

10. The CAP proposal shall describe the tasks to accomplish these objectives and shall include a time schedule for completing each task.

11. The Department shall review the CAP proposal and provide written approval prior to commencement of CAP tasks. In the event that additional information is necessary to evaluate the CAP, the Department shall make a written request and Respondent shall provide all such information within twenty (20) days of receipt of said request or shall submit a schedule to the Department for responding to such requests. Any disputes occurring concerning requests for information, responses thereto, or time for responses shall be subject to the provisions of Paragraph 31 of this Consent Order.

12. Upon review of the CAP, the Department shall notify the Respondent in writing whether the CAP for Site 3 and Site 6 is complete and approved or whether the Department requires modification(s) prior to implementation, subject to the provisions of Paragraph 31 of this Consent Order.

13. The CAP shall become effective and implementation shall begin within thirty (30) days of Respondent's receipt of the Department's notification that the CAP is approved, or within thirty (30) days of Respondent's receipt of notification of matters determined pursuant to Paragraph 31 of this Consent Order, whichever is later.

14. Monitoring wells may be installed in and around Site 3 and Site 6 from time to time during implementation of various portions of the studies. Respondent shall provide written notification to the Department at least fourteen (14) days prior to the installation of monitoring wells installed pursuant to the CAP, and shall allow Department personnel the opportunity to observe the location and installation of the wells. Subsequent notification shall be on a verbal basis provided at least forty-eight (48) hours in advance of the installation of the wells.

15. Groundwater sampling may be conducted at Site 3 and Site 6 from time to time during implementation of various portions of the studies. Respondent shall provide written notification to the Department at least fourteen (14) days prior to the initial sampling of the monitoring wells installed pursuant to the CAP, and shall allow Department personnel the opportunity to observe sampling or to take split samples. Subsequent notification of sampling, including sampling of monitoring wells in addition to those specified in the CAP, shall be on a verbal basis provided at least twenty-four (24) hours in advance of the sampling. Raw data shall be exchanged between the Respondent and the Department as soon as the data is available

and following proper quality assurance/quality control verification.

16. Within thirty (30) days of completion of the tasks in accordance with the CAP, Respondent shall submit separate written Contamination Assessment Reports ("CAR's") to the Department for Site 3 and for Site 6. The CAR's shall:

(a) Summarize and analyze all CAP tasks;

(b) Discuss CAP objectives outlined in Paragraph 9; and

(c) Specify the conclusions regarding CAP objectives outlined in Paragraph 9.

17. The Department shall review the CAR's and notify the Respondent in writing whether the CAR's are approved or whether there are any deficiencies or recommended modification(s), subject to the provisions of Paragraph 31 of this Consent Order. In the event that additional information is necessary to evaluate the CAR's, the Department shall make a written request and Respondent shall provide all such information within twenty (20) days of receipt of said request or shall submit a schedule to the Department for responding to such requests. Any disputes occurring concerning requests for information, responses thereto, or time for responses shall be subject to the provisions of Paragraph 31 of this Consent Order.

II. Feasibility Study for Site 3 and Feasibility Study for Site 6

18. If the Department determines from review of the CAR for Site 3 that there is a need for a Feasibility Study subject to the provisions of Paragraph 31 of this Consent Order, Respondent shall submit to the Department for its review a Feasibility Study Plan ("FSP") for Site 3. If the Department determines from review of the CAR for Site 6 that there is a need for a Feasibility Study for Site 6 subject to the provisions of Paragraph 31 of this Consent Order, Respondent shall submit to

the Department for its review a separate FSP for Site 6. The FSP shall be submitted within sixty (60) days of receipt by Respondent of the Department's determination that a Feasibility Study for the particular site is necessary. The purpose of the Feasibility Study is to develop and evaluate all alternatives to identify the most cost effective and environmentally sound remedial action for the site. The FSP shall provide an outline of the elements to be included in the Feasibility Study and shall explain how the Respondent plans to address each of the elements listed below which shall be included in the Feasibility Study:

(a) A risk assessment to evaluate health hazards, pathways of exposure, and risk associated with exposure to site contamination;

(b) Criteria developed to evaluate remedial alternatives for the site;

(c) Review and selection of remedial alternatives;

(d) Data from pilot tests and bench tests to evaluate alternatives, if necessary; and

(e) Selection of remedial methodology.

19. The Department shall review the FSP and provide written approval prior to implementation. In the event that additional information is necessary to determine the completeness of the FSP, the Department shall make a written request and Respondent shall provide all such information within twenty (20) days of receipt of said request or shall submit a schedule to the Department for responding to such requests. Any disputes occurring concerning requests for information, responses thereto, or time for responses shall be subject to the provisions of Paragraph 31 of this Consent Order.

20. The Department shall notify Respondent in writing whether the FSP is complete and approved or whether the Department requires modification(s) prior to implementation, subject to the provisions of Paragraph 31 of this Consent Order.

21. The FSP for Site 3 and the FSP for Site 6 shall become effective and implementation shall begin within thirty (30) days of Respondent's receipt of notification by the Department of approval, or within thirty (30) days of Respondent's receipt of notification of matters determined pursuant to Paragraph 31 of this Consent Order, whichever is later.

22. Within thirty (30) days of completing the Feasibility Study, Respondent shall submit to the Department a Feasibility Study report. The Feasibility Study report shall:

(a) Summarize and analyze all Feasibility Study task results; and

(b) Propose a conceptual remedial action plan based on the selection process carried out in the Feasibility Study.

23. The Department shall review the Feasibility Study report and determine its adequacy to meet the remedial action objectives subject to the provisions of Paragraph 31 of this Consent Order. In the event that additional information is necessary to evaluate the Feasibility Study report, the Department shall make a written request and Respondent shall provide all such information within twenty (20) days of receipt of said request or shall submit a schedule to the Department for responding to such requests. Any disputes occurring concerning requests for information, responses thereto, or time for responses shall be subject to the provisions of Paragraph 31 of this Consent Order.

III. Remedial Action Plans for Site 3 and Site 6

24. Within ninety (90) days of Respondent's receipt of notice of approval of the Feasibility Study report for Site 3 or, alternatively, within ninety (90) days of Respondent's receipt of notice of approval of the CAR for Site 3, Respondent shall submit to the Department a Remedial Action Plan ("RAP") for containment and cleanup of contaminated groundwater at Site 3. Within ninety (90) days of Respondent's receipt of notice of approval of the

Feasibility Study report for Site 6 or, alternatively, within ninety (90) days of Respondent's receipt of notice of approval of the CAR for Site 6, Respondent shall submit to the Department a separate RAP for containment and cleanup of contaminated groundwater at Site 6. The RAP shall:

(a) Describe tasks, including a timetable, to clean and contain contaminated groundwater;

(b) Describe tasks, including a timetable, to conduct post-containment/clean up sampling and analysis to verify accomplishments of the objectives of the RAP; and

(c) Develop hydrogeological and engineering specifications to contain and clean up contaminated groundwater.

25. The Department shall review the RAP and provide written approval, and as part thereof, as required, necessary permits, prior to commencement of RAP tasks at Site 3 and Site 6. In the event that additional information is necessary to evaluate the RAP, the Department shall make a written request and Respondent shall provide all such information within twenty (20) days of receipt of said request or shall submit a schedule to the Department for responding to such requests. Any disputes occurring concerning requests for information, responses thereto, or time for responses shall be subject to the provisions of Paragraph 31 of this Consent Order.

26. Upon review of the RAP for Site 3 and the RAP for Site 6, the Department shall notify the Respondent in writing whether the RAP is approved or whether the Department requires modification(s) prior to implementation, subject to the provisions of Paragraph [illegible] of this Consent Order.

27. The RAP shall become effective and implementation shall begin within thirty (30) days of Respondent's receipt of notification by the Department of approval, or within thirty (30) days of Respondent's receipt of notification of matters

determined pursuant to Paragraph 31 of this Consent Order, whichever is later.

28. On the first working day of each month, after implementation has begun by Respondent of both the CAP and either RAP, Respondent shall submit written progress reports to the Environmental Manager (Enforcement) of the Department's St. Johns River District Office. The monthly progress reports shall describe the status of each required task and shall include notice of Respondent's failure to meet any date stated in the schedule and of any anticipated delays. The report shall include a statement of the cause of such failure or delay, the date by which the delayed task is estimated to be completed, and the effect on Respondent's ability to meet the remaining schedule for completion of the task. Failure to meet any date specified in the CAP, CAR's, Feasibility Studies, or RAP's shall not be a basis for imposition of any civil or criminal penalty, fine, or forfeiture. Any disputes concerning failure to meet any date specified in the CAP, CAR's, Feasibility Studies, or RAP's shall be subject to the provisions of Paragraph 31 of this Consent Order. The monthly reports shall be submitted for one year after which the parties may establish modified reporting requirements.

29. The goal of remedial action at Site 3 and Site 6 shall be to meet applicable water quality standards of the Department which are in effect at the time the respective Feasibility Study report is approved, or if no Feasibility Study, at the time the respective CAR is approved, provided that in accordance with Section 403.726(7), Florida Statutes, Respondent shall not be required to treat groundwater in excess of ambient groundwater quality conditions as established in the approved CAR. Should the Department or other agency of the State adopt additional or more stringent water quality standards which are applicable to Respondent, the Department and Respondent shall meet to negotiate whether treatment of groundwater in accordance with such standards shall be addressed pursuant to this Consent Order.

Should Respondent be able to demonstrate after a minimum of twenty-four (24) months of groundwater treatment, or other period of time established in the approved RAP, that the contaminant levels have reached asymptotic values above the clean up objectives herein stated, verified by an acceptable statistical method, Respondent shall so notify the Department and provide a report to the Department describing:

(a) The technical feasibility of applying other groundwater treatment techniques to further reduce contaminant levels.

(b) The costs, benefits, and time frames involved in applying those alternative methods to further reduce contaminant levels.

(c) The effects on the water resource and other potential environmental and public health impacts if the contaminants remain at the asymptotic levels.

After considering the above factors the Department shall decide whether the clean up operation is deemed completed or whether alternative treatment is required. Respondent shall not be required to engage in nonproven, experimental clean up techniques. The Department's decision concerning requirements for alternative treatment, if any, shall be subject to the provisions of Paragraph 31 of this Consent Order.

30. Should it be finally concluded by the Department that clean up according to the above-stated goal cannot be accomplished for groundwater located outside the property ownership of Respondent, including its wholly owned subsidiary, Orlando Central Park, Inc., the Department may seek restitution from Respondent for environmental damages resulting from Respondent's contamination of groundwater located outside the property ownership of Respondent and its wholly owned subsidiary, Orlando Central Park, Inc. The Department's determination of the proposed assessment for environmental damages shall include consideration of the extent of treatment, including costs,

provided by Respondent and the potential for utilization of the groundwater by third parties. Within twenty (20) days of receipt of Department notification of its intent to seek said restitution, Respondent may pay the amount of the proposed assessment or may initiate negotiations with the Department regarding the amount and terms of restitution. Respondent is aware that should a negotiated sum or other compensation for such environmental damages not be agreed to by the Department and the Respondent within a reasonable period of time after commencing such negotiations, the Department may institute any authorized action, either administrative through a Notice of Violation, or judicial in a court of competent jurisdiction through a civil complaint, to seek to recover Department assessed environmental damages pursuant to Section 403.141, Florida Statutes, for contaminated groundwater located outside the property ownership of Respondent and its wholly owned subsidiary, Orlando Central Park, Inc. Respondent may assert any defense it may have to any such proceeding and neither the fact of the execution of this Consent Order or its terms nor any actions Respondent may have taken in compliance with this Consent Order shall be admissible in evidence against the interest of Respondent in such proceeding.

IV. GENERAL PROVISIONS

31. In the event the Department directs modification(s) of proposals or plans, or refuses to approve proposals or plans, submitted to it by Respondent pursuant to the provisions of this Consent Order, or otherwise issues orders to Respondent concerning Site 3 or Site 6, the Department shall provide written notice of its decision to Respondent by certified mail, return receipt requested. Respondent may file a petition for a formal or informal administrative proceeding if it objects to the Department's action, pursuant to Section 120.57, Florida Statutes, and Chapters 17-103 and 28-5, Florida Administrative Code, or file any other action authorized by law. Any petition

must conform to the requirements of Rule 28-5.201, Florida Administrative Code, and must be received by the Department's Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32301, within fourteen (14) days of Respondent's receipt of the notice. Failure to file a petition within this time period shall constitute a waiver by Respondent of its right to request an administrative proceeding under Section 120.57, Florida Statutes. The Department's determination, upon expiration of the fourteen (14) day time period if no petition is filed, or the Department's Final Order as a result of the filing of a petition, or other final determination, shall be incorporated by reference into this Consent Order and made a part of it. All other aspects of the Consent Order shall remain in full force and effect at all times. If Respondent seeks an administrative proceeding pursuant to this paragraph, the Department, may, in lieu of the administrative proceeding, file any suit authorized by law to obtain judicial resolution of the issues unresolved as a result of the request for an administrative proceeding.

32. Respondent shall immediately provide verbal notice, and written notice within five (5) working days, to the Department of any problems encountered by Respondent which require alteration of any task in the CAP, Feasibility Study, or RAP, and obtain Department approval prior to implementing any such alteration, subject to the provisions of Paragraph 31 of this Consent Order.

33. All sampling and analysis required under this Consent Order shall be accomplished pursuant to the following procedures:

(a) All sampling shall be done in the manner consistent with Standard Operating Procedures and Quality Assurance Manual, August, 1980, U. S. EPA Regional IV and Supplement "A" thereto, June, 1981, FDER;

(b) All laboratory data submitted shall contain a complete explanation of quality control procedures used to satisfactorily guarantee the reliability and accuracy of analytical data, and those laboratory procedures used shall be those approved by the Department. The test methods to be used in analyzing any parameters shall be the EPA approved test methods for the specific parameter to be analyzed unless otherwise notified by the Department;

(c) All field testing, sample collection and preservation and laboratory testing, including quality control procedures, shall be in accordance with the quality assurance/quality control plan submitted as part of the CAP.

34. Respondent waives its right to a hearing or judicial review of the terms of this Consent Order. Any persons whose substantial interests are affected by the Consent Order and who are not parties to this Consent Order have the right, pursuant to Section 120.57, Florida Statutes, to petition for an administrative determination (hearing) on the Consent Order. The petition must conform to the requirements of Chapter 17-103 and 28-5, Florida Administrative Code, and must be filed (received) with the Department's Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32301, within fourteen (14) days of receipt of notice of the Consent Order. Failure to file a petition within such fourteen (14) days constitutes a waiver of any rights such person has to an administrative determination (hearing) pursuant to Section 120.57, Florida Statutes.

If a Final Order is entered on the substantially affected [illegible] substantially affected party has the right to seek judicial review of the Final Order pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the clerk of the Department in the Office of General

Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32301; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees within the appropriate District Court of Appeal. The Notice of Appeal must be filed within thirty (30) days from the date the final order is filed with the clerk of the Department.

35. Entry of this Consent Order does not relieve Respondent of the need to comply with applicable federal, state or local laws, regulations or ordinances.

36. The terms and conditions set forth in this Consent Order may be enforced in a court of competent jurisdiction pursuant to Sections 120.69 and 403.121, Florida Statutes. Failure to comply with the terms of this Consent Order shall constitute a violation of Section 403.161(1)(b), Florida Statutes.

37. Respondent shall allow authorized representatives of the Department access to the property at reasonable times for the purpose of determining compliance with the terms of this Consent Order and the rules of the Department.

38. The Department hereby expressly reserves the right to initiate appropriate legal action to prevent or prohibit future violations of applicable statutes or the rules promulgated thereunder not covered by the terms of this Consent Order.

39. Any modifications of the terms of this Consent Order shall be reduced to writing and executed by both the Respondent and the Department.

40. This Consent Order is a compromise of disputed claims and the settlement provided for herein in no way constitutes admission of any fact, claim or allegation, by any party hereto, or any liability of Respondent under any federal, state, or local statute, ordinance, or regulation or under any federal or state common law.

41. The Department for and in consideration of the complete and timely performance by Respondent of the obligations

agreed to in this Consent Order hereby waives its right to seek judicial or administrative imposition of damages or civil or criminal penalties concerning alleged contamination at or occurring from Site 3 and Site 6 except for the assessment of environmental damages as authorized in Paragraph 30 of this Consent Order.

42. All notices, reports, plans, or other information required to be submitted to the Department pursuant to this Consent Order shall be sent to:

Environmental Manager
(Enforcement)
St. Johns River District
Department of Environmental Regulation
Suite 232
3319 Maguire Boulevard
Orlando, Florida 32803

43. All approvals, notices, requests for modifications or information, or other matters required to be submitted to Respondent pursuant to this Consent Order shall be sent to:

Raymond F. Green, Staff Engineer
Martin Marietta Orlando Aerospace
Post Office Box 5837, MP-124
Orlando, Florida 32855

44. This Consent Order shall take effect upon the date of filing and acknowledgement by the Clerk of the Department. This Consent Order shall constitute final agency action by the Department pursuant to Section 120.69, Florida Statutes, and Rule 17-103.110(3), Florida Administrative Code, unless a petition is timely filed pursuant to Paragraph 34. Upon the timely filing of a petition this Consent Order will be effective until further order of the Department.

FOR THE RESPONDENT:

June 11, 1985
DATE

Richard C. Winfield
Richard C. Winfield
Facilities Director, Martin Marietta Orlando Aerospace,
Martin Marietta Corporation
Post Office Box 5837
Orlando, Florida 32855
(305) 356-3234

DONE AND ORDERED this 25 day of June, 1985, in Orlando, Florida.

BEFORE THE STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

STATE OF FLORIDA, DEPARTMENT
OF ENVIRONMENTAL REGULATION,

Complainant,

v.

MARTIN MARIETTA CORPORATION,

Respondent.

OGC FILE NO. 85-2409
RECEIVED
JUN 28 1985
Dept. of Environmental Regulation
Office of General Counsel

CONSENT ORDER

Pursuant to the provisions of Sections 403.061(8) and 120.52(9), Florida Statutes, and Florida Administrative Code Rule 17-103.110 this Consent Order is entered into between the State of Florida Department of Environmental Regulation ("Department") and Martin Marietta Corporation ("Respondent") to reach settlement of certain matters at issue between the Department and Respondent.

The Department finds and the Respondent agrees to the following:

1. The Department is the administrative agency of the State of Florida having the power and duty to control and prohibit pollution of air and water in accordance with Chapter 403, Florida Statutes, and rules promulgated thereunder. The Department has jurisdiction over the matters addressed in this Consent Order.

2. Respondent is a Maryland Corporation registered to do business in the State of Florida and is a person within the meaning of Sections 403.031(11) and 403.703(3), Florida Statutes.

3. Respondent operates a manufacturing facility on a 2,300 acre site located at 4600 Sand Lake Road, Orlando, Florida. Respondent's operations include electroplating, microplating, and reproduction and photographic laboratory activities. Waste generated from these processes may consist of spent acids, spent

DOCKET NO.

alkali, spent plating solution, their rinse waters, waste cutting oils and various organic solvents.

4. A component of Respondent's operation at its Sand Lake Road facility involved a waste solvent collection system and storage tank located at its Micro-Electronics ("MEC") Building. Respondent discovered leaking in its underground piping system located under and adjacent to the MEC Building which piping system was part of the waste solvent collection system connecting work area drains to the underground waste solvent storage tank.

5. On its own initiative Respondent conducted groundwater sampling and analysis at the MEC Building site, the results of which indicated the presence of volatile organic compounds ("VOC's") in the groundwater at the MEC Building site. Respondent notified the Department on December 14, 1984, concerning the results of the sampling and analysis of the groundwater at the MEC Building site.

6. Respondent initiated interim recovery operations at the MEC Building site consisting of air stripping of contaminated groundwater and the discharge of the treated groundwater to a publicly owned treatment works (POTW).

7. The Department and Respondent have met in an attempt to reach a resolution of any potential contamination problem at the MEC Building site. Respondent agrees to the entry of this Consent Order and agrees to abide by its terms and conditions as settlement of any contamination claims or other pollution claims or damages occurring at or from the MEC Building site.

THEREFORE, having reached resolution of the matter, pursuant to Florida Administrative Code Rule 17-103.110(3), Respondent and the Department mutually agree and it is,

ORDERED AS FOLLOWS:

8. Within sixty (60) days from the effective date of this [illegible] Respondent shall submit to the Department a report containing a complete description of any recovery actions which Respondent implemented with respect to potential groundwater

contamination at the MEC Building site. The report shall include a description of the design and operation of the air stripping equipment, a copy of all data produced concerning its operation, and a plan for determining the effectiveness of the recovery actions.

9. No later than August 15, 1985, Respondent shall submit to the Department a Preliminary Contamination Assessment Survey and proposed Remedial Action Plan, for informational purposes, concerning potential groundwater contamination at the MEC Building site. No later than December 20, 1985, Respondent shall submit to the Department a Final Contamination Assessment Survey and proposed Remedial Action Plan ("Plan") for groundwater assessment and remedial action which addresses potential groundwater contamination at the MEC Building site. The Plan shall include the submittal of the quality assurance project plan for all sampling and chemical analyses to be conducted consistent with the interim guideline and specifications for preparing quality assurance project plans/EPA/December 29, 1980. The Plan shall specify the extent, if any, of groundwater contamination and shall contain recommendations, if any, for further remedial or recovery action necessary for clean up of groundwater. The Plan shall include a Feasibility Study Determination which shall consist of the rationale for the selection of the remedial technique now in place. The Plan need not include a risk assessment.

10. In the event that additional information is necessary to evaluate the Plan, the Department shall make a written request and Respondent shall provide all such information within twenty (20) days of receipt of said request or shall submit a schedule to the Department for responding to such requests. Any disputes [illegible] concerning requests for information, responses thereto, [illegible] responses shall be subject to [illegible] of paragraph 17 of this Consent Order.

11. Upon review of the Plan, the Department shall notify the Respondent in writing of any deficiency or recommended modification(s). The Respondent shall incorporate and implement recommendations and modifications identified by the Department subject to the provisions of Paragraph 17.

12. Additional monitoring wells may be installed in or around the MEC Building site from time to time. Respondent shall provide written notification to the Department at least fourteen (14) days prior to the initial installation of additional monitoring wells, and shall allow Department personnel the opportunity to observe the location and installation of the wells. Subsequent notification shall be on a verbal basis provided at least forty-eight (48) hours in advance of the installation of the wells.

13. Additional groundwater sampling may be conducted at the MEC Building site from time to time. Respondent shall provide written notification to the Department at least fourteen (14) days prior to the initial additional sampling of the monitoring wells, and shall allow Department personnel the opportunity to observe sampling and/or to take split samples. Subsequent notification of sampling, including sampling of any additional monitoring wells installed, shall be on a verbal basis provided at least twenty-four (24) hours in advance of the sampling. Raw data shall be simultaneously exchanged between Respondent and the Department as soon as the data is available and following proper quality assurance/quality control verification.

14. No later than thirty (30) days after the Department's final approval of the Plan, Respondent shall commence any further requirements for completion of the Plan, except matters determined under Paragraph 17 shall begin within thirty (30) days [illegible] 's receipt of notice [illegible]

15. The goal of remedial action at the MEC Building site shall be to meet applicable water quality standards of the

Department, which are in effect at the time the Plan is approved by the Department, provided that, in accordance with Section 403.726(7), Florida Statutes, Respondent shall not be required to treat groundwater in excess of ambient groundwater conditions as established in the approved Plan. Should the Department or other agency of the State adopt additional or more stringent water quality standards which are applicable to Respondent, the Department and Respondent shall meet to negotiate whether treatment of groundwater in accordance with such standards shall be addressed pursuant to this Consent Order.

Should Respondent be able to demonstrate after a minimum of twenty-four (24) months of groundwater treatment, or other period of time established in the approved Plan, that the contaminant levels have reached asymptotic values above the clean up objectives herein stated, verified by an acceptable statistical method, Respondent shall so notify the Department and provide a report to the Department describing:

(a) The technical feasibility of applying other groundwater treatment techniques to further reduce contaminant levels.

(b) The costs, benefits, and time frames involved in applying those alternative methods to further reduce contaminant levels.

(c) The effects on the water resource and other potential environmental and public health impacts if the contaminants remain at the asymptotic levels.

After considering the above factors the Department shall decide whether the clean up operation is deemed completed or whether alternative treatment is required. Respondent shall not be required to engage in nonproven, experimental clean up techniques. The Department's decision concerning requirements [illegible]tive treatment, if any, shall be subject to the provisions of Paragraph 17 of this Consent Order.

16. Should it be finally concluded by the Department that clean up according to the above-stated goal cannot be accomplished for groundwater located outside the property ownership of Respondent, including its wholly owned subsidiary, Orlando Central Park, Inc., the Department may seek restitution from Respondent for environmental damages resulting from Respondent's contamination of groundwater located outside the property ownership of Respondent and its wholly owned subsidiary, Orlando Central Park, Inc. The Department's determination of the proposed assessment for environmental damages shall include consideration of the extent of treatment, including costs, provided by Respondent and the potential for utilization of the groundwater by third parties. Within twenty (20) days of receipt of Department notification of its intent to seek said restitution, Respondent may pay the amount of the proposed assessment or may initiate negotiations with the Department regarding the amount and terms of restitution. Respondent is aware that should a negotiated sum or other compensation for such environmental damages not be agreed to by the Department and the Respondent within a reasonable period of time after commencing such negotiations, the Department may institute any authorized action, either administrative through a Notice of Violation, or judicial in a court of competent jurisdiction through a civil complaint, to seek to recover Department assessed environmental damages pursuant to Section 403.141, Florida Statutes, for contaminated groundwater located outside the property ownership of Respondent and its wholly owned subsidiary, Orlando Central Park, Inc. Respondent may assert any defense it may have to any such proceeding and neither the fact of the execution of this Consent Order or its terms nor any actions Respondent may have taken in compliance with this Consent Order shall be admissible [illegible] against the interest of Respondent in such proceeding.

17. In the event the Department directs modification of plans or proposals, or refuses to approve plans or proposals, submitted by Respondent pursuant to the provisions of this Consent Order, or otherwise issues orders to Respondent concerning the MEC Building site, the Department shall provide written notice of its decision to Respondent by certified mail, return receipt requested. Respondent may file a petition for a formal or informal administrative proceeding if it objects to the Department's action, pursuant to Section 120.57, Florida Statutes, and Florida Administrative Code Chapters 17-103 and 28-5, or file any other action authorized by law. The petition must conform to the requirements of Florida Administrative Code Rule 28-5.201, and must be received by the Department's Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32301, within fourteen (14) days of Respondent's receipt of the notice. Failure to file a petition within this time period shall constitute a waiver by Respondent of its right to request an administrative proceeding under Section 120.57, Florida Statutes. The Department's determination, upon expiration of the fourteen (14) day time period if no petition is filed, or the Department's Final Order as a result of the filing of a petition, or other final determination, shall be incorporated by reference into this Consent Order and made a part of it. All other aspects of the Consent Order shall remain in full force and effect at all times. If Respondent seeks an administrative proceeding pursuant to this paragraph, the Department, may, in lieu of the administrative proceeding, file any suit authorized by law to obtain judicial resolution of the issues unresolved as a result of the request for an administrative proceeding.

18. For the period of one year after the Department's final acceptance of the Plan and on the first working day of each [illegible] 11 [illegible] the Environmental Manager (Enforcement) of the Department's St. Johns River District Office. These progress reports shall describe the

status of each required task and shall include notice of Respondent's failure to meet any date specified in the schedule, and of any anticipated delays. The report shall include a statement of the cause of such failure or delay, the date by which the delayed task shall be completed, and the effect on Respondent's ability to meet the remaining schedule for the completion of tasks. Failure to meet any date specified in the Plan shall not be a basis for imposition of any civil or criminal penalty, fine, or forfeiture. Any disputes concerning failure to meet any date specified in the Plan shall be subject to the provisions of Paragraph 17 of this Consent Order. After the one year reporting period the parties may establish modified reporting requirements.

19. Respondent shall immediately provide verbal notice, and written notice within five (5) working days, to the Department of any problems encountered by Respondent which require alteration of any task in the Plan, and obtain Department approval prior to implementing any such alteration, subject to the provisions of Paragraph 17.

20. All sampling and analysis required under this Consent Order shall be accomplished pursuant to the following procedures:

(a) All sampling shall be done in the manner consistent with Standard Operating Procedures and Quality Assurance Manual, August, 1980, U. S. EPA Regional IV and Supplement "A" thereto, June, 1981, FDER;

(b) All laboratory data submitted shall contain a complete explanation of quality control procedures used to satisfactorily guarantee the reliability and accuracy of analytical data, and those laboratory procedures used shall be those approved by the Department. The test methods to be used in analyzing any parameters shall be the EPA

approved test methods for the specific parameter to be analyzed unless otherwise notified by the Department.

(c) All field testing, sample collection and preservation and laboratory testing, including quality control procedures, shall be in accordance with the quality assurance/quality control plan submitted as part of the Plan.

21. Respondent waives its right to a hearing or judicial review of the terms of this Consent Order. Any persons whose substantial interests are affected by the Consent Order and who are not parties to this Consent Order have the right, pursuant to Section 120.57, Florida Statutes, to petition for an administrative determination (hearing) on the Consent Order. The petition must conform to the requirements of Chapter 17-103 and 28-5, Florida Administrative Code, and must be filed (received) with the Department's Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32301, within fourteen (14) days of receipt of notice of the Consent Order. Failure to file a petition within such fourteen (14) days constitutes a waiver of any rights such person has to an administrative determination (hearing) pursuant to Section 120.57, Florida Statutes.

If a Final Order is entered on the substantially affected party's petition, the substantially affected party has the right to seek judicial review of the Final Order pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the clerk of the Department in the Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32301; and by filing a copy of the Notice of Appeal accompanied by the [illegible] Appeal. The Notice of Appeal must be filed within thirty (30)

days from the date the final order is filed with the clerk of the Department.

22. Entry of this Consent Order does not relieve Respondent of the need to comply with applicable federal, state or local laws, regulations or ordinances.

23. The terms and conditions set forth in this Consent Order may be enforced in a court of competent jurisdiction pursuant to Sections 120.69 and 403.121, Florida Statutes. Failure to comply with the terms of this Consent Order shall constitute a violation of Section 403.161(1)(b), Florida Statutes.

24. Respondent shall allow authorized representatives of the Department access to the property at reasonable times for the purpose of determining compliance with the terms of this Consent Order and the rules of the Department.

25. The Department hereby expressly reserves the right to initiate appropriate legal action to prevent or prohibit future violations of applicable statutes or the rules promulgated thereunder not covered by the terms of this Consent Order.

26. Any modifications of the terms of this Consent Order shall be reduced to writing and executed by both the Respondent and the Department.

27. This Consent Order is a compromise of disputed claims and the settlement provided for herein in no way constitutes admission of any fact, claim or allegation, by any party hereto, or any liability of Respondent under any federal, state, or local statute, ordinance, or regulation or under any federal or state common law.

28. The Department for and in consideration of the complete and timely performance by Respondent of the obligations agreed to in this Consent Order hereby waives its right to seek [redacted] criminal penalties concerning alleged contamination at or occurring from the MEC Building site, except for the assessment

of environmental damages as authorized in Paragraph 16 of this Consent Order.

20. All notices, reports, plans, or other information required to be submitted to the Department pursuant to this Consent Order shall be sent to:

Environmental Manager
(Enforcement)
St. Johns River District
Department of Environmental Regulation
Suite 232
3319 Maguire Boulevard
Orlando, Florida 32803

30. All approvals, notices, requests for modifications or information, or other matters required to be submitted to Respondent pursuant to this Consent Order shall be sent to:

Raymond F. Green, Staff Engineer
Martin Marietta Orlando Aerospace
Post Office Box 5837, MP-124
Orlando, Florida 32855

31. This Consent Order shall take effect upon the date of filing and acknowledgement by the Clerk of the Department. This Consent Order shall constitute final agency action by the Department pursuant to Section 120.69, Florida Statutes, and Rule 17-103.110(3), Florida Administrative Code, unless a petition is timely filed pursuant to Paragraph 21. Upon the timely filing of a petition this Consent Order will be effective until further order of the Department.

June 11, 1985
DATE

FOR THE RESPONDENT:

Richard C. Winfield
Richard C. Winfield
Facilities Director, Martin Marietta Orlando Aerospace,
Martin Marietta Corporation
Post Office Box 5837
Orlando, Florida 32855
(305) 356-3234

DONE AND ORDERED this 25 day of June, 1985, Orlando, Florida.

Alex Alexander, District Manager
St. Johns River District
Department of Environmental
Regulation
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803
(305) 894-7555

Copies Furnished to:

Larry Morgan
Assistant General Counsel
Department of Environmental
Regulation
2600 Blair Stone Road
Tallahassee, Florida 32301

Kendrick Tucker
Akerman, Senterfitt & Eidson
Post Office Box 1794
Tallahassee, Florida 32302

FILING AND ACKNOWLEDGEMENT
FILED, on this date, pursuant to §120.52 (9), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Clerk 6/25/95
Date

WES

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

ST. JOHNS RIVER DISTRICT
3319 MAGUIRE BOULEVARD
SUITE 232
ORLANDO, FLORIDA 32803-3767

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

A. ALEXANDER,
DISTRICT MANAGER

Jim Scarbrough, P.E., Chief
Residual Management Branch
USEPA
Region IV
345 Courtland St., N.E.
Atlanta, GA 30365

Attn: John Lank

Dear Sir:

Enclosed please find copies of Correspondance concerning one or more of the following facilities per your request:

_____ F.P.&L./Cape Canaveral Plant

_____ F.P.&L./Sanford Plant

✓ Martin Marietta Aerospace/Orlando Plant

_____ General Development Utilities

Sincerely,

[redacted]

C.M. Collins, P.E.
for Hazardous/Solid Waste Engineering

cc:Robert McVety, Tallahassee

ENGINEERING SECTION
ATLANTA
DEC 31 10 15 AM '92
EPA\REGION IV
RECEIVED

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

ST. JOHNS RIVER DISTRICT
3319 MAGUIRE BOULEVARD
SUITE 232
ORLANDO, FLORIDA 32803-3767

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

ALEX ALEXANDER
DISTRICT MANAGER

December 24, 1985

Permittee:
Richard C. Winfield,
Director of Facilities
Martin Marietta Orlando Aerospace
4600 Sandlake Road
Post Office Box 5837
Orlando, Florida 32855

OSJ-HW-85-0408

Dear Mr. Winfield:

Orange County - HW
Martin Marietta Orlando Aerospace
Hazardous Waste Storage Facility

Enclosed is Permit Number HO48-89392 to operate a hazardous waste storage facility issued pursuant to Section 403.722, Florida Statutes.

Any party to this permit has the right to seek judicial review of the permit pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 2600 Blairstone Road, Tallahassee, Florida 32301; and by filing a copy of the Notice accompanied by the applicable filing fees with the appropriate District Court of Appeals.

The Notice of Appeal must be filed within thirty (30) days from the date this permit is issued with the Clerk of the Department.

Executed in Orlando, Florida

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

A. Alexander, P.E.
District Manager
3319 Maguire Boulevard
Suite 232
Orlando, Florida 32803
(305)894-7555

AA:CMC:LLc

Enclosure

cc: Raymond F. Green, Martin Marietta
Satish Kastury, DER

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

ST. JOHNS RIVER DISTRICT
3319 MAGUIRE BOULEVARD
SUITE 232
ORLANDO, FLORIDA 32803-3767

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

ALEX ALEXANDER
DISTRICT MANAGER

Permittee:
Richard C. Winfield,
Director of Facilities
Martin Marietta Orlando Aerospace
4600 Sandlake Road
Post Office Box 5837
Orlando, Florida 32855

I. D. Number:FLD 060 240 207
Permit/Certification
Number:HO48-89392
Date of Issue: 12/24/85
Expiration Date: 12/24/90
County: Orange
Latitude/Longitude:
28°26'17"/81°26'55"
Section/Township/Range:
32 /23 /29
Project: Martin Marietta
Orlando Aerospace Hazardous
Waste Storage Facility

This permit is issued under the provisions of Chapter(s) 403, Florida Statutes, and Florida Administrative Code Rule(s) 17-3, 17-4 and 17-30. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents attached hereto or on file with the department and made a part hereof and specifically described as follows:

The hazardous waste storage facility includes containerized hazardous waste storage building and three - one thousand gallon spill collection tanks. Hazardous wastes are stored in fifty five (55) gallon drums in the building which is designed for a maximum storage of 336 (55 gallon) drums. Hazardous wastes have EPA Hazardous Waste Numbers of D001, D002, F001, F003, F005 and F006.

The structure has the following features: six (6") inch reinforced concrete slab with raised curbs; impervious floor with [illegible] inch slope [illegible] spill containment areas; pre-cast roof panels; control [illegible] (inside fenced area with locked gate); emergency eyewash and shower; fire hydrant and hose-bib water connections.

The three spill collection tanks are located north of the hazardous waste storage building. The tanks are installed underground and made of steel with the minimum wall thickness of 3/16" and 4" PVC butterfly valves. Cathodic protection is provided to pipes and tanks.

The building is subdivided into three (3) bays: #1, #2, and #3 with dimensions of 18'2" x 27'8", 18'5" x 27'8" and 37'3" x 27'8" respectively.

Protecting Florida and Your Quality of Life

PERMITTEE:

Martin Marietta Orlando Aerospace

I.D. Number: FLD 060 240 207
Permit/Certification Number: HO48-89392
Date of Issue:
Expiration Date: 12/24/90

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions" and as such are binding upon the permittee and enforceable pursuant to the authority of Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the department will review this permit periodically and may initiate enforcement action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the department.

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Nor does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit does not constitute a waiver of or approval of any other department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express state opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, plant or aquatic life or property and penalties therefor caused by the construction or operation of this permitted source, nor does it allow the permittee to cause pollution in contravention of Florida Statutes and department rules, unless specifically authorized by an order from the department.

6. The permittee shall at all times properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by department rules.

7. The permittee, by accepting this permit, specifically agrees to allow authorized department personnel, upon presentation of credentials or other documents as may be required by law, access to the premises, at reasonable times, where the permitted activity is located or conducted for the purpose of:

   a. Having access to and copying any records that must be kept under the conditions of the permit;

   b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and

   c. Sampling or monitoring any substances or parameters at any location reasonably necessary to assure compliance with this permit or department rules.

   Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately notify and provide the department with the following information:

   a. a description of and cause of non-compliance; and

16. In the case of a hazardous waste facility permit, the following permit conditions shall also apply.

a. The permittee will submit the following reports to the department:

(1) Manifest discrepancy report: If a significant discrepancy in a manifest is discovered, the permittee must attempt to reconcile the discrepancy. If not resolved within 15 days after receiving the waste, the permittee shall immediately submit a letter report including a copy of the manifest to the department.

(2) Unmanifested waste report: Permittee shall submit an unmanifested waste report to the department within 15 days of receipt of umanifested waste.

(3) Annual report: An annual report covering facility activities during the previous calendar year must be submitted in accordance with Florida Administrative Code Rule 17-30.

b. Notification of any non-compliance which may endanger health or the environment, including the release of any hazardous waste that may endanger public drinking water supplies, or the occurrence of a fire or explosion from the facility which could threaten the environment or human health outside the facility, shall be verbally submitted to the department within 24 hours and a written submission provided within 5 days. The verbal submission within 24 hours shall contain the name, address, I.D. number and telephone number of the facility and owner or operator, the name and quantity of materials involved, the extent of injuries (if any), an assessment of actual or potential hazards, and the estimated quantity and disposition of recovered material. The written submission shall contain the following:

(1) a description of and cause of non-compliance; and

(2) if not corrected, the anticipated time the non-compliance is expected to continue and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

c. Reports of compliance or non-compliance with, or any progress reports on, requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

d. All reports or information required to be submitted to the department by a hazardous waste permittee shall be signed by a person authorized to sign a permit application.

PERMITTEE:
Martin Marietta Orlando Aerospace

I. D. Number:FLD 060 240 207
Permit/Certification Number:
HO48-89392
Date of Issue:
Expiration Date: 12/24/90

SPECIFIC CONDITIONS:

1. The permittee shall notify the department in writing four weeks prior to receipt of hazardous waste from a foreign source.

2. Only hazardous waste listed in Table 3-2 of the Operation Permit Application shall be stored at the hazardous waste storage building. Prior to acceptance of new hazardous wastes, the permittee shall submit to the department, for approval, waste analysis of the proposed new waste stream. This analysis must also be incorporated in the general waste analysis plan and retained on-site.

3. The permittee shall inspect the facility operating, emergency and safety equipment in accordance with the schedule approved in Attachment 4 of the Operation Permit Application. Changes, additions, or deletions to the schedule must be approved in writing by the department. The schedule must be maintained as part of the operating record at the facility.

4. Facility personnel must complete the approved training program indicated in Section 4 of the Operation Permit Application. Verification of this training must be kept with the personnel training records and maintained on-site. Personnel shall not work unsupervised until training has been completed.

5. The contingency plan must be amended and distributed to the appropriate agencies if any criteria in 40 CFR 264.54 are met. Amendments to the plan must be approved in writing by the department.

6. The permittee shall follow the emergency procedures specified in 40 CFR 264.56 and approved in Section 4 Part E-2.4 of the Operation Permit Application. The permittee shall give proper notification if an emergency situation arises and within 15 days must submit to the department a written report which includes all information required in 40 CFR 264.56(j).

7. The permittee shall comply with the manifest requirements indicated in Part 40 CFR 264.71.

PERMITTEE:
Martin Marietta Orlando Aerospace

I. D. Number:FLD 060 240 207
Permit/Certification Number:
HO48-89392
Date of Issue:
Expiration Date: 12/24/90

SPECIFIC CONDITIONS:

8. The permittee shall keep a written operating record at the facility which includes:

   The description and quantity of each hazardous waste received.

   The location of each hazardous waste within the facility.

   The results of the waste analysis

   A summary report and details of incidents that require implementation of the contingency plan

   Manifest numbers

   The results of inspections (for 3 years)

   Closure plan and cost estimates.

These records must be maintained at the facility until completion and certification of closure.

9. The permittee shall apply for a permit renewal 90 days prior to the expiration date.

10. The permittee shall apply for a closure permit at least 180 days prior to beginning closure at the facility.

11. The permittee shall update waste analysis specified in 40 CFR 264.13 annually. The updated waste analysis data shall be submitted each year to the department by December 1.

12. Hazardous waste shall not be accumulated at any sites longer than 90 days except at the hazardous waste storage building.

13. Hazardous waste shall be containerized in 17E, 17H and DOT-E 6637 type DOT approved 55 gallon drums/carboys or equivalent and stored on pallet racks.

14. Bay #1 shall be permitted to store up to a maximum of 96 (55 gallon) drums of hazardous waste characterized "Flammable/ Ignitable" with EPA Hazardous Waste Numbers of D001, F003 and F005.

PERMITTEE:
Martin Marietta Orlando Aerospace

I. D. Number:FLD 060 240 207
Permit/Certification Number:
HO48-89392
Date of Issue:
Expiration Date: 12/24/90

SPECIFIC CONDITIONS:

15. Bay #2 shall be permitted to store up to a maximum of 96 (55 gallon) drums of hazardous waste characterized "Organic Solvent - Non-Flammable" with EPA Hazardous Waste Numbers of F001.

16. Bay #3 shall be subdivided into two areas. One area (18'9" x 27'8") shall be for storage of non-hazardous chemical waste and have a maximum storage of 48 (55 gallon) drums. The other area (18'6" x 27'8") shall be for storing hazardous waste characterized "Solid Material - Non-flammable" with EPA Hazardous Waste Numbers of D002 and F006 and have a maximum storage of 96 (55 gallon) drums.

17. All hazardous waste containers shall be kept closed during storage except when adding or removing wastes and be handled in a manner that will not allow the containers to rupture or leak. If a container holding hazardous waste is not in good condition, or begins to leak, the waste shall be transferred to another container in good condition. All containers shall also be managed in accordance with the plan approved in Section 6 of the operation permit application.

18. The permittee shall pump the liquid in each of the spill collection tanks into 55-gallon drums within 24 hours of any spills or leaks while awaiting analyses.

19. The permittee shall handle the 55 gallon drums that contain the spill material as an appropriate hazardous waste and dispose of under the RCRA rules and regulations.

20. The permittee shall inspect the container storage area daily for leaking containers and for deterioration of containers and the containment system.

21. Incompatible waste shall not be stored in containers or placed in unwashed containers that have previously held an incompatible waste.

22. The permittee shall maintain compliance with the financial responsibility requirements pursuant to 40 CFR Part 264, Subpart H.

PERMITTEE:
Martin Marietta Orlando Aerospace

I. D. Number:FLD 060 240 207
Permit/Certification Number:
HO48-89392
Date of Issue:
Expiration Date: 12/24/90

SPECIFIC CONDITIONS:

23. The permittee shall maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of the facility operation in an emergency.

24. The permittee shall operate the hazardous waste storage facility in accordance with 40 CFR Part 264 Subpart A through I.

Issued 12/24/85.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

A. Alexander, P.E.
District Manager

Filing and Acknowledgment
Filed on this date,
pursuant to §120.52(9),
Florida Statutes, with the
designated Clerk, receipt of
which is acknowledged.

E. B. Williams — Dec. 24, 1985
CLERK — DATE

This is to certify that this Notice of Permit was mailed before the close of business on December 24, 1985 Mary Ann Chick.

ATTACHMENT A

INFORMATION REGARDING POTENTIAL RELEASES FROM SOLID WASTE MANAGEMENT UNITS

FACILITY NAME: Martin Marietta Orlando Aerospace (SLRC)

EPA I. D. NUMBER: FDL 060 240 207

LOCATION City: Orlando

State: Florida

1. Are there any of the following solid waste management units (existing or closed) at your facility? NOTE - DO NOT INCLUDE HAZARDOUS WASTES UNITS CURRENTLY SHOWN IN YOUR PART B APPLICATION

	YES	NO
• Landfill	✓	
• Surface Impoundment		✓
• Land Farm		✓
• Waste Pile		✓
• Incinerator		✓
• Storage Tank (Above Ground)		✓
• Storage Tank (Underground)	✓	
• Container Storage Area		✓
• Injection Wells		✓
• Wastewater Treatment Units		✓
• Transfer Stations		✓
• Waste Recycling Operations		✓

2. If there are "Yes" answers to any of the items in Number 1 above, please provide a description of the wastes that were stored, treated or disposed of in each unit. In particular please focus on whether or not the wastes would be considered as hazardous wastes or hazardous constituents under RCRA. Also include any available data on quantities or volumes of wastes disposed of and the dates of disposal. Please also provide a description of each unit and include capacity, dimensions, location at facility, provide a site plan if available.

See Attached Sheet 1a and Site Plan

NOTE: Hazardous waste are those identified in 40 CFR 261. Hazardous constituents are those listed in Appendix VIII of 40 CFR Part 261.

3. For the units noted in Number 1 above and also those hazardous waste units in your Part B application, please describe for each unit any data available on any prior or current releases of hazardous wastes or constituents to the environment that may have occurred in the past or still be occurring.

Please provide the following information

a. Date of release
b. Type of waste released
c. Quantity or volume of waste released
d. Describe nature of release (i.e., spill, overflow, ruptured pipe or tank, etc)

SEE PAGE 2a

4. In regard to the prior releases described in Number 3 above, please provide (for each unit) any analytical data that may be available which would describe the nature and extent of environmental contamination that exists as a result of such releases. Please focus on concentrations of hazardous wastes or constituents present in contaminated soil or groundwater.

The condition of the ground-water at Sites 3, 5, 6 and MEC Building is currently being investigated. Recent data for down gradient wells at these Sites and Sites 1, 2, 4 is attached.

Signature and Certification

As with reports in RCRA Permit Applications, submittal of this information must contain the following certification and signature by a principal executive officer of at least the level of Vice President or by a duly authorized representative of that person:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Richard C. Winfield

Signature

Richard C. Winfield, Director Facilities

Name and Title (Typed)

Jan 2 1986

[illegible]

Mr. Robert W. McVety
Environmental Administrator
Florida Department of Environmental Regulation
Twin Towers Office Building, Room 621
2600 Blair Stone Road
Tallahassee, Florida 32301

Re: Martin [illegible] Orlando Aerospace
EPA I. [illegible] FLD [illegible] 240 287
Post-Closure Permit Application

Dear Mr. McVety:

We have completed our review of the subject [illegible]. Our comments are attached. These comments should be included [illegible] Martin Marietta [illegible] all [illegible] within 30 days. Failure to [illegible] the [illegible] appropriate enforcement action [illegible] Part B Pol[illegible]. We [illegible] not [illegible] included in the post-closure permit application [illegible] time.

If you have any questions, please contact Ela[illegible] at [illegible].

[illegible]ly yours,

James H. Scarbro[illegible] P.E., [illegible]
Residuals Management [illegible]
Waste Management Division

cc: Department of Environmental Regulation
St. John's River [illegible]
[illegible] Suite [illegible]
[illegible]

[illegible]

[illegible]

[illegible]

MM-52

Ground Water Protection Requirements

270.14(c)(1) 17. Include a detailed summary of the ground water monitoring data obtained during the interim status period under 40 CFR 265.90 - 265.94. Include in this discussion a review of one year quarterly monitoring data for those parameters specified in 40 CFR 265.92. This data should reflect sampling from upgradient well PW-4, all downgradient wells, and include Appendix III and VIII analyses from well PW-37.

270.14(c)(2) 18. The possibility of vertical movement of water between the Surficial Aquifer and the permeable limestone and shell lenses within the Hawthorne Formation (the secondary artesian aquifer) must be determined. Also, any possible variation in ground water flow direction with seasonal change, as is indicated in the post-closure permit application, must be adequately described or delineated.

Figure VI-3, "Geologic Cross - Section Across Site - 5", does not reflect the specific subsurface geology of the downgradient area, and is therefore inadequate for the purpose of identifying the depth of the surficial aquifer boundary in the downgradient area. Include a similar cross section based upon lithologic logs obtained from downgradient wells.

Water table measurements from which Figure VI-4, "Water Table Contour Map at Site 5, May 21, 1985," and Figure VI-5, "Potentiometric Contour Map of the Floridan Aquifer, December 4, 1981," were constructed must be included. The application must include also measured water table elevations for each interim status monitoring period. In addition, Figure VI-5 should be presented at a scale of 1"=200'.

270.14(c)(3) 29. Figure VI-1, "Location of Existing Monitoring Wells and Approximate Direction of Surface Water Drainage at Site 5", and Figure VI-4, "Water Table Contour Map at Site," do not contain topographic contours. Therefore, include a topographic map (scale = 1":200') of the waste management area which delineates the following information:

Ground water flow direction and rate

Point of Compliance

Location of Monitoring Wells

270.14(b)(16) 264.144	9.	The cost estimate should be be developed from several unit costs (i.e. inspection, administration, labor, etc.). The basis of each unit cost should be documented. Any sub-costs which make up a unit cost should be documented. The total of all these unit costs multiplied by thirty (30) years required for post-closure care will yield the post-closure cost estimate.
264.145	10.	To date, we have not received documentation of financial assurance for post-closure care for this facility. It was stated in the application that this documentation will be submitted under separate cover. Until this information is received, it will be considered a deficiency of the application.
270.14(b)(19)	11.	Appendix D, the diagram of the water, sewer and piping or fire protection is almost totally illegible. It is impossible to identify all of the items on the map as shown in the legend.
	12.	There is no number on the Appendix A map indicating Section 5 as shown on Appendix B-6.
270.14(b)(19)(i)	13.	The Appendix D and C maps are not dated.
270.14(b)(19)(vii)	14.	The legal boundaries of the site are not identified clearly on any of the maps provided.
270.14(b)(19)(x)	15.	Document the location of the loading/unloading area for hazardous wastes at the site.
270.21(e)	16.	It is described in the application that during closure the wastes in the sludge cells will be removed, mixed with cement and replaced in the area that was excavated. Unless a delisting

[illegible] on Post [illegible] Application
[illegible]

1. [illegible] Table II-1 of the [illegible] permit application [illegible] solutions and [illegible] plating [illegible] solutions and [illegible] as [illegible] wastes by the [illegible] (261.22). [illegible] may [illegible] for hazardous [illegible] listed in [illegible] defined [illegible] are [illegible] your [illegible] you need [illegible] 40 CFR 261.[illegible] [illegible] the Part A [illegible] application [illegible] regulation [illegible]

270.14(b)(4)
264.14(b)(2)(ii) 2. [illegible] is no [illegible] discussion of how entry into [illegible] is [illegible]. Do the [illegible] who [illegible] facility also control entry [illegible] the facility?

264.14(c) 3. [illegible] is mentioned on page II-19 of the application [illegible] as part of the weekly [illegible] Document that these [illegible] by the cited regulation. [illegible] of the signs and the legend [illegible] the sign.

[illegible].14(b)(13)
[illegible].118(a) 4. [illegible] description of the air [illegible] to be utilized for the [illegible] ground water.

5. [illegible] the post-closure [illegible], and all [illegible] the facility [illegible] begins.

264.118(a)(1) 6. [illegible] the post-closure plan [illegible] description of [illegible] frequencies [illegible] at which [illegible] be [illegible]

264.118(a)(2) 7. [illegible] will [illegible] the [illegible] the [illegible]

[illegible]118(a)(3) 8. [illegible] phone [illegible] about [illegible] facility [illegible] This [illegible] post-clo[illegible] period [illegible]

Comments on Post - Closure Permit Application for Martin Marietta, Orlando Aerospace

40 CFR §		
270.14(b)(2)	1.	Table II-1 of the post-closure permit application lists spent plating bath solutions and spent cyanide plating bath solutions and rinsewaters as characteristic hazardous wastes by the definition of corrosivity (40 CFR 261.22). These wastes may fall under categories for hazardous wastes from non-specific sources as listed in 40 CFR 261.31. Re-evaluate how you have defined the wastes at your site to see if they are more properly defined by 40 CFR 261.31. If you need to change their categorizations, make sure that the Part A application, operating permit for storage and post-closure permit application are modified in accordance with the regulations.
270.14(b)(4) 264.14(b)(2)(ii)	2.	There is no specific discussion of how entry into the gates is controlled. Do the guards who routinely patrol the facility also control entry into the active portion of the facility?
264.14(c)	3.	It is mentioned on page II-19 of the application that "signs...are checked as part of the weekly inspection procedure." Document that these are the signs required by the cited regulation. Discuss the locations of the signs and the legend on the sign.
270.14(b)(13)		
264.118(a)	4.	Provide a more complete description of the air stripping treatment system to be utilized for the treatment of contaminated ground water.
	5.	Document that the post-closure plan, and all revisions to it, will be kept at the facility until post-closure care begins.
264.118(a)(1)	6.	Include in the post-closure plan a description of planned monitoring activities and the frequencies at which they will be performed.
264.118(a)(2)	7.	Include in the post-closure plan a description of planned maintenance activities and the frequencies at which they will be performed to ensure the integrity of the cap and final cover and the function of the facility monitoring equipment.
264.118(a)(3)	8.	The plan should include the name, address and phone number of the person or office to contact about the facility during the post-closure period. This person or office must keep an updated post-closure plan during the post-closure period.

270.14(b)(16) 264.144	9.	The cost estimate should be be developed from several unit costs (i.e. inspection, administration, labor, etc.). The basis of each unit cost should be documented. Any sub-costs which make up a unit cost should be documented. The total of all these unit costs multiplied by thirty (30) years required for post-closure care will yield the post-closure cost estimate.
264.145	10.	To date, we have not received documentation of financial assurance for post-closure care for this facility. It was stated in the application that this documentation will be submitted under seperate cover. Until this information is received, it will be considered a deficiency of the application.
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	12.	There is no number on the Appendix A map indicating Section 5 as shown on Appendix B-6.
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270.14(b)(19)(vii)	14.	The legal boundaries of the site are not identified clearly on any of the maps provided.
270.14(b)(19)(x)	15.	Document the location of the loading/unloading area for hazardous wastes at the site.
270.21(e)	16.	It is described in the application that during closure the wastes in the sludge cells will be removed, mixed with cement and replaced in the area that was excavated. Unless a delisting petition is filed for this F006 waste and the petition is approved by EPA Headquarters, the F006 will still be considered hazardous after the dewatering and solidification procedures. Therefore, the resulting landfill must have a final cover designed in accordance with 40 CFR 264.310(a). The post-closure permit application must include a description of how the landfill will be maintained and monitored after closure. (40 CFR 264.310(b)).

Ground Water Protection Requirements

270.14(c)(1) 17. Include a detailed summary of the ground water monitoring data obtained during the interim status period under 40 CFR 265.90 - 265.94. Include in this discussion a review of one year quarterly monitoring data for those parameters specified in 40 CFR 265.92. This data should reflect sampling from upgradient well PW-4, all downgradient wells, and include Appendix III and VIII analyses from well PW-37.

270.14(c)(2) 18. The possibility of vertical movement of water between the Surficial Aquifer and the permeable limestone and shell lenses within the Hawthorne Formation (the secondary artesian aquifer) must be determined. Also, any possible variation in ground water flow direction with seasonal change, as is indicated in the post-closure permit application, must be adequately described or delineated.

Figure VI-3, "Geologic Cross - Section Across Site - 5", does not reflect the specific subsurface geology of the downgradient area, and is therefore inadequate for the purpose of identifying the depth of the surficial aquifer boundary in the downgradient area. Include a similar cross section based upon lithologic logs obtained from downgradient wells.

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270.14(c)(3) 29. Figure VI-1, "Location of Existing Monitoring Wells and Approximate Direction of Surface Water Drainage at Site 5", and Figure VI-4, "Water Table Contour Map at Site," do not contain topographic contours. Therefore, include a topographic map (scale = 1":200') of the waste management area which delineates the following information:

Ground water flow direction and rate

Point of Compliance

Location of Monitoring Wells

00001

MARTIN MARIETTA AEROSPACE

POST OFFICE BOX 5837
ORLANDO, FLORIDA 32855
MP 124

18 December 1985

U. S. Environmental Protection Agency
Region IV
245 Courtland Street
Atlanta, Georgia 30365

Attention: James H. Scarborough, P. E. Chief
Residuals Management Branch
Waste Management Branch

Re: Martin Marietta Orlando Aerospace, Post Closure Permit Application
Application and Closure Plan for Hazardous Waste Unit
Identified as "Site 5 Sludge Cells"
EPA ID No. FLO 060 240207

Gentlemen:

Enclosed for your review are two (2) copies of the Appendix VIII Report that had not been completed when the initial submittal was made on October 7, 1985. In addition, we are sending four (4) copies of this report to the Florida Department of Environmental Regulation.

Sincerely,

MARTIN MARIETTA ORLANDO AEROSPACE

R. F. Green

Raymond F. Green
Staff Engineer

RFG/tk
Enclosures

cc: Alex Alexander, District Manager (with enclosures)
State of Florida
Department of Environmental Regulation
3319 Maguire Blvd., Suite 232
Orlando, FL 32803

DOCKET NO. MM-53

Jan 2 1986

4WD-RM

Mr. Robert W. McVety
Environmental Administrator
Florida Department of Environmental Regulation
Twin Towers Office Building, Room 421
2600 Blair Stone Road
Tallahassee, Florida 32301

Re: Martin Marietta Orlando Aerospace
EPA I. D. NO. FLD 060 240 207
Post-Closure Permit Application

Dear Mr. McVety:

We have completed our review of the subject document. Our comments are attached. These comments should be included in a completeness letter to Martin Marietta requiring all deficiencies to be addressed within 30 days. Failure to address the deficiencies must be followed by the appropriate enforcement action in accordance with the late and incomplete Part B Policy. We did not review the 40 CFR Part 265 closure plan included in the post-closure permit application, at this time.

If you have any questions, please contact Elaine Houston at 404/881-3433.

Sincerely yours,

James H. Scarbrough, P.E., Chief
Residuals Management Branch
Waste Management Division

cc: Department of Environmental Regulation
St. John's River District
3319 Maguire Blvd., Suite 232
Orlando, FL. 32803

Elaine Hartnett McCurry Scarbrough Lank

Elaine:dw:3433:11-21-85:5179X:

JHB 12/30/85

DOCKET NO. MM-52

WES

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

Interoffice Memorandum

FOR ROUTING TO OTHER THAN THE ADDRESSEE	
To:	Loctn:
To:	Loctn:
To:	Loctn:
From:	Date:

TO: Chuck Collins/Laxsamee Levin

THRU: Satish Kastury

FROM: Charles A. Biedermann

DATE: December 13, 1985

RE: Groundwater Monitoring Plan review comments
Martin Marietta Aerospace FLD 060 240 207
Part B/Post-Closure - Orange County

Enclosed please find a copy of the UIC and Technical Support Section review comments for the subject application.

Since the subject submittal constitutes a Part B application, please note that EPA must be copied on second and subsequent draft completeness letters ("NOD's"). EPA will then provide their review comments within 30 days of receipt of the draft letters.

If you have any questions please call.

CAB/jw

cc: Larry Morgan w/ attachments
John Gentry w/ attachments
Jim McNeal
Jim Scarbrough w/ attachments ✓

RECEIVED
DEC 30 1982
SECTION
WASTE ENGINEERING

DOCKET NO. MM-54

MARTIN MARIETTA AEROSPACE

MP #124
POST OFFICE BOX 5837
ORLANDO, FLORIDA 32855

13 December 1985

U. S. Environmental Protection Agency
Region IV
245 Courtland Street
Atlanta, Georgia 30365

Attention: James H. Scarborough, P. E. Chief
Residuals Management Branch
Waste Management Branch

Re: Martin Marietta Orlando Aerospace, Post Closure Permit Application
Application and Closure Plan for Hazardous Waste Unit
Identified as "Site 5 Sludge Cells"
EPA ID No. FLO 060 240207

Gentlemen:

Enclosed for your review are two (2) copies of the Exposure Information Report that had not been completed when the initial submittal was made on October 7, 1985. In addition, we are sending four (4) copies of this report to the Florida Department of Environmental Regulation.

Sincerely,

MARTIN MARIETTA ORLANDO AEROSPACE

R. F. Green

Raymond F. Green
Staff Engineer

RFG/tk
Enclosures

cc: Alex Alexander, District Manager (with enclosures)
State of Florida
Department of Environmental Regulation
3319 Maguire Blvd., Suite 232
Orlando, FL 32803

DOCKET NO. MM-55

MARTIN MARIETTA AEROSPACE

POST OFFICE BOX 5837
ORLANDO, FLORIDA 32855

December 12, 1985

U. S. Environmental Protection Agency
Region IV
245 Courtland Street
Atlanta, Georgia 30365

Attention: James H. Scarborough, P.E. Chief
Residuals Management Branch
Waste Management Branch

Re: Martin Marietta Orlando Aerospace, Post Closure Permit Application
Application and Closure Plan for Hazardous Waste Unit
Identified as "Site 5 Sludge Cells"
EPA ID No. FLO 060 240207
Exposure Information Report

Gentlemen:

To acknowledge your receipt of these materials, we would appreciate your signing and returning the enclosed copy of this letter in the enclosed, self-addressed envelope.

Sincerely,

MARTIN MARIETTA AEROSPACE ORLANDO

Nancy Davis

Nancy L. Davis
Paralegal

Enclosure

RECEIVED THIS 16th day of December, 1985.
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION IV

By: Elizabeth G. Sawyer

RECEIVED
EPA/REGION IV
DEC 18 '85
RESIDUALS
MANAGEMENT BRANCH

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

ST. JOHNS RIVER DISTRICT
2319 MAGUIRE BOULEVARD
SUITE 232
ORLANDO, FLORIDA 32803-3767

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

A. ALEXANDER,
DISTRICT MANAGER

CERTIFIED
P 578 212 821

February 13, 1985

Richard C. Winfield
Director of Facilities
Martin Marietta-Orlando Operations
Post Office Box 5837
Orlando, Florida 32855

OSJ-HW-85-0083

RECEIVED
FEB 18 1985
Hazardous Waste

Dear Mr Winfield:

Orange County HW
HW/SW Act Amendment 1984

The purpose of this letter is to inform you that the requirements of the Hazardous and Solid Waste Act Amendments of 1984 apply to your facility and to your RCRA Part B permit application that is currently under review. These requirements will be imposed by the Environmental Protection Agency until such time as they have been adopted into state regulations.

The principal area of concern at this time is Section 3004U of the RCRA amendments which requires that RCRA permits require corrective action to clean up any contamination caused by prior releases of hazardous wastes or constituents from solid waste management units, regardless of the time when the waste was placed in the unit.

In order to establish how Section 3004U may apply to your facility we ask that you prepare the information requested on the enclosed form and return it to the state office within 60 days of your receipt of this letter. Your effort to answer all questions completely will help minimize further requests from our office on this matter.

Please contact Mrs. Laxsamee Levin at (305)894-7555 if you have any questions concerning this request.

LL
LK:pj

Enclosure

cc: C. Diltz

Sincerely,

L. T. Kozlov, P.E.
Hazardous/Solid Waste Engineering

DOCKET NO. MM-56

LAX Service

MARTIN MARIETTA AEROSPACE

POST OFFICE BOX 5837
ORLANDO, FLORIDA 32855

April 9, 1985

APR 1985
RECEIVED
ST. JOHNS
River District

Mr. L. T. Kozlov, P.E.
Hazardous/Solid Waste Engineering
St. Johns River District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803

RE: Orange County HW
HW/SW Act Amendment 1984
OSJ-HW-85-0083

Dear Mr. Kozlov:

Enclosed is the completed form you requested for the Martin-Marietta Orlando Facility (SLRC).

Sincerely,

Martin Marietta Corporation

R. F. Green

Raymond F. Green, P.E
Staff Engineer

RFG/jt

enc:

RECEIVED

APR 17 1985

Hazardous Waste

INFORMATION REGARDING POTENTIAL RELEASES FROM
SOLID WASTE MANAGEMENT UNITS

FACILITY NAME: Martin Marietta Orlando Aerospace (SLRC)

EPA I. D. NUMBER: FDL 060 240 207

LOCATION City: Orlando

State: Florida

APR 1985 RECEIVED ST. JOHNS River District

1. Are there any of the following solid waste management units (existing or closed) at your facility? NOTE - DO NOT INCLUDE HAZARDOUS WASTES UNITS CURRENTLY SHOWN IN YOUR PART B APPLICATION

	YES	NO
• Landfill	✓	
• Surface Impoundment		✓
• Land Farm		✓
• Waste Pile		✓
• Incinerator		✓
• Storage Tank (Above Ground)		✓
• Storage Tank (Underground)	✓	
• Container Storage Area		✓
• Injection Wells		✓
• Wastewater Treatment Units		✓
• Transfer Stations		✓
• Waste Recycling Operations		✓

2. If there are "Yes" answers to any of the items in Number 1 above, please provide a description of the wastes that were stored, treated or disposed of in each unit. In particular please focus on whether or not the wastes would be considered as hazardous wastes or hazardous constituents under RCRA. Also include any available data on quantities or volumes of wastes disposed of and the dates of disposal. Please also provide a description of each unit and include capacity, dimensions, location at facility, provide a site plan if available.

See Attached Sheet 1a and Site Plan

NOTE: Hazardous waste are those identified in 40 CFR 261. Hazardous constituents are those listed in Appendix VIII of 40 CFR Part 261.

RECEIVED
APR 17 1985
Hazardous Waste

3. For the units [illegible]ed in Number 1 above and [illegible] your Part B application, please describe for ea[illegible] unit any data available on any prior or current releases of hazardous wastes or constituents to the environment that may have occurred in the past or still be occurring.

Please provide the following information

a. Date of release
b. Type of waste released
c. Quantity or volume of waste released
d. Describe nature of release (i.e., spill, overflow, ruptured pipe or tank, etc)

SEE PAGE 2a

4. In regard to the prior releases described in Number 3 above, please provide (for each unit) any analytical data that may be available which would describe the nature and extent of environmental contamination that exists as a result of such releases. Please focus on concentrations of hazardous wastes or constituents present in contaminated soil or groundwater.

The condition of the ground-water at Sites 3, 5, 6 and MEC Building is currently being investigated. Recent data for down gradient wells at these Sites and Sites 1, 2, 4 is attached.

Signature and Certification

As with reports in RCRA Permit Applications, submittal of this information must contain the following certification and signature by a principal executive officer of at least the level of Vice President or by a duly authorized representative of that person:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Richard C. Winfield

Signature

Richard C. Winfield, Director Facilities

Name and Title (Typed)

LANDFILL SITES 4 & 6 CONTAINING NON-HAZARDOUS NORMAL TRASH FROM MANUFACTURING, OFFICE AND RESEARCH BUILDINGS, AND DEBRIS FROM CONSTRUCTION AND LANDSCAPE MAINTENANCE.

MEC BUILDING, GROUND-WATER STORAGE TANK (5,000 GALLON) FOR VOC TREATMENT SYSTEM. THE RECOVERED GROUND-WATER CONTAINS HAZARDOUS CONSTITUENTS UNDER RCRA.

SITE 4, APPROXIMATELY 1.7 ACRES, WAS IN USE DURING 1971 AND 1972. THIS PORTION OF THE DISPOSAL SITE RECEIVED AN ESTIMATED 675 TONS OF SOLID WASTE. APPROXIMATE DIMEN SIONS 250'x300'.

SITE 6, APPROXIMATELY 4.8 ACRES, WAS IN USE DURING 1981 AND 1982 AND RECEIVED AN ESTIMATED 1900 TONS OF SOLID WASTE. APPROXIMATE DIMENSIONS 235'x 900'.

(3) LANDFILL SITES 1, 2, 3 AND 5 ARE IDENTIFIED IN THE FDER OPERATING PERMIT APPLICATION FOR MARTIN MARIETTA'S SAND LAKE ROAD CENTER (SLRC). NON-HAZARDOUS TRASH FROM NORMAL MANUFACTURING, OFFICE AND RESEARCH ACTIVITIES AND DEBRIS FROM CONSTRUCTION AND MAINTENANCE ACTIVITIES PLUS ELECTROPLATING SLUDGE FROM THE PRETREATMENT PLANT WERE LANDFILLED IN THESE SITES. ONLY ELECTROPLATING SLUDGE WAS LANDFILLED IN SITE 2. SITES 4, 6 and MEC BUILDING ARE DESCRIBED IN ITEM 2.

ANY RELEASE THAT MAY HAVE OCCURED AT THESE SITES WAS A NON-SUDDEN RELEASE OF AN UNKNOWN QUANTITY OF MATERIAL.

Table 1. Volatile organic compounds in surface water (SW-5,6,7) and groundwater (PW-3,7,8,26) from Site 5 at Martin Marietta Aerospace, Orlando

Client Sample ID:		SW-5	SW-6	SW-7	BLANK	PW-3	PW-7	PW-8	PW-26
Sampling Date:		9/24/84	9/24/84	9/24/84	9/24/84	9/24/84	9/24/84	9/24/84	9/24/84
COMPOUNDS	MDL (ppb)	Final Concentration = ppb (ng/ml)							
benzene	0.2	BDL[a]	BDL	BDL	BDL	BDL	BDL	4.1	4.9
bromodichloromethane	2	BDL	BDL	BDL	BDL	BDL	BDL	11.5	5.7
bromoform	4	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
carbon tetrachloride	4	BDL	BDL	BDL	BDL	BDL	BDL	26.8	33.2
chlorobenzene	0.2	BDL	BDL	BDL	BDL	0.2	BDL	BDL	0.4
chloroform	1	BDL	BDL	BDL	1.8	BDL	BDL	BDL	BDL
2-chloroethylvinyl ether	2	BDL	BDL	BDL	BDL	BDL	BDL	BDL	2.1
cis-1,3-dichloropropene	0.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
dibromochloromethane	2	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,1-dichloroethane	0.5	BDL	BDL	BDL	BDL	1.7	BDL	3.5	2.5
1,2-dichloroethane	0.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,1-dichloroethylene	0.5	0.8	BDL	BDL	BDL	BDL	BDL	2.3	0.9
1,2-dichloropropane	0.4	BDL	BDL	BDL	BDL	BDL	BDL	3.4	3.2
ethylbenzene	0.2	BDL	BDL	BDL	BDL	BDL	BDL	17.4	18.2
methylene chloride	0.5	BDL	BDL	BDL	BDL	1.0	1.5	4064	1853
1,1,2,2-tetrachloroethane	0.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
tetrachloroethylene	0.5	0.7	BDL	BDL	BDL	5.0	0.9	602	342
toluene	0.2	0.2	BDL	BDL	0.2	0.2	BDL	537	241
trans-1,2-dichloroethylene	0.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
trans-1,3-dichloropropene	0.4	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,1,1-trichloroethane	1	BDL	BDL	BDL	BDL	25.3	27.4	177	BDL
1,1,2-trichloroethane	0.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
trichloroethylene	0.5	2.7	1.2	5.0	BDL	BDL	BDL	143	24.0

(a) BDL = below detection limit
(b) Based on duplicate analysis

Table 2. Volatile organic compounds in groundwater collected from monitoring wells at Sites 1, 2, and 3 at Orlando Aerospace

		Site 1	Site 2	Site 3
Client Sample ID:		PW-15	PW-13	PW-9
Sampling Date:		9/24/84	9/24/84	9/24/84
COMPOUNDS	MDL (ppb)			
benzene	0.2	BDL (a)	BDL	BDL
bromodichloromethane	2	BDL	BDL	BDL
bromoform	4	BDL	BDL	BDL
carbon tetrachloride	4	BDL	BDL	BDL
chlorobenzene	0.2	BDL	BDL	BDL
chloroform	1	BDL	BDL	BDL
2-chloroethylvinyl ether	2	BDL	BDL	BDL
cis-1,3-dichloropropene	0.5	BDL	BDL	BDL
dibromochloromethane	2	BDL	BDL	BDL
1,1-dichloroethane	0.5	BDL	BDL	16.8
1,2-dichloroethane	0.5	BDL	BDL	BDL
1,1-dichloroethylene	0.5	BDL	BDL	6.0
1,2-dichloropropane	0.4	BDL	BDL	BDL
ethylbenzene	0.2	BDL	BDL	BDL
methylene chloride	0.5	BDL	BDL	1.6
1,1,2,2-tetrachloroethane	0.5	BDL	BDL	BDL
tetrachloroethylene	0.5	BDL	BDL	11.1
toluene	0.2	BDL	BDL	1.0
trans-1,2-dichloroethylene	0.5	BDL	BDL	BDL
trans-1,3-dichloropropene	0.4	BDL	BDL	BDL
1,1,1-trichloroethane	1	BDL	BDL	BDL
1,1,2-trichloroethane	0.5	BDL	BDL	BDL
trichloroethylene	0.5	BDL	BDL	61.7

(a) BDL = below detection limit
(b) Based on duplicate analysis

Table 3. Metals (Cd, Cr, Cu, Ni) TOC, and total cyanide in surface water (SW-5,6,7) and groundwater (PW-3,7, 8,9,13,15,26) at Martin Marietta Aerospace, Orlando

Sample	Site	Final Concentration ppb				Total Cyanide ppb	TOC. ppm
		Cd	Cr	Cu	Ni		
PW-15	1	0.5	1.0	14.0	5.0	<5.0	2.8
PW-13	2	38.0	18.0	9.0	117.0	<5.0	12.6
PW-9	3	<0.1	11.0	8.0	17.0	<5.0	6.9
PW-3	5	<0.1	3.0	4.0	27.0	<5.0	1.9
PW-7	5	<0.1	2.0	1.0	<3.0	<5.0	7.2
PW-8	5	<0.1	1.0	1.0	11.0	<5.0	236
PW-26	5	0.3	<1.0	1.0	15.0	<5.0	210
SW-5	Surface Water	0.2	1.0	7.0	4.0	<5.0	10.7
SW-6	Surface Water	0.1	1.0	8.0	3.0	<5.0	9.7
SW-7	Surface Water	0.2	4.0	6.0	6.0	1.3	11.0
	MDL*	0.1	1.0	1.0	1.0	5.0	0.3
Drinking Water Standard		10.0	50.0	1,000	-	-	-

* MDL - Method detection limit
** EPA Primary (Cd, Cr) and Secondary Drinking (Cu) Water Standards

CONCENTRATION OF VOLATILE ORGANIC COMPOUNDS IN GROUNDWATER COLLECTED FROM MONITORING WELLS AT SITE 4, ORLANDO AEROSPACE

Compounds	Location	Site 4	
	Sampling Date:	4/8/84	4/12/84
	Method Detection Limit 50 ml Sample (ppb)	TW-7	TW-9
benzene	0.2	BDL	BDL
bromodichloromethane	2	BDL	BDL
bromoform	4	BDL	BDL
carbon tetrachloride	4	BDL	BDL
chlorobenzene	0.2	BDL	BDL
chloroform	1	BDL	BDL
cis-1,3-dichloropropene	0.5	BDL	BDL
dibromochloromethane	2.0	BDL	BDL
1,1-dichloroethane	0.5	2.6	BDL
1,2-dichloroethane	0.5	BDL	BDL
1,1-dichloroethylene	0.5	BDL	BDL
1,2-dichloropropane	0.4	BDL	BDL
ethylbenzene	0.2	BDL	BDL
methylene chloride	0.5	BDL	BDL
1,1,2,2-tetrachloroethane	0.5	BDL	BDL
tetrachloroethylene	0.5	BDL	BDL
toluene	0.2	BDL	BDL
trans-1,2-dichloroethylene	0.5	3.9	3.3
trans-1,3-dichloropropene	0.4	BDL	BDL
1,1,1-trichloroethane	1	BDL	BDL
1,1,2-trichloroethane	0.5	BDL	BDL
trichloroethylene	0.5	5.1	1.4
2 Chloroethylvinylether		BDL	BDL

Concentrations of volatile organic compounds in groundwater samples collected from monitoring wells at Site 6, Orlando Aeorspace

		Location	Site 6		
		Sampling Date:	5/18/84	5/18/84	5/18/84
Compounds	AWQC(a) (ppb)	Method Detection Limit 50 ml Sample (ppb)	PW-27	PW-28 (*)	PW-29
benzene	40	0.2	BDL	BDL	BDL
bromodichloromethane	0.19	2	BDL	BDL	21
bromoform		4	BDL	BDL	13
carbon tetrachloride	0.40	4	BDL	BDL	17
chlorobenzene	488	0.2	BDL	BDL	BDL
chloroform	0.19	1	BDL	6	4.7
cis-1,3-dichloropropene	87	(b)	BDL	BDL	P (b)
dibromochloromethane	0.19	(b)	BDL	BDL	P (b)
1,1-dichloroethane		0.5	0.8	11.7	11.5
1,2-dichloroethane	0.94	0.5	BDL	BDL	BDL
1,1-dichloroethylene	0.033	0.5	1.6	3.4	3.4
1,2-dichloropropane		(c)	BDL	BDL	P (c)
ethylbenzene	1,400	0.2	1.5	3.8	12
methylene chloride	0.19	0.5	2.0	7.1	63
1,1,2,2-tetrachloroethane	1.7	(d)	BDL	BDL	BDL
tetrachloroethylene	0.8	(d)	520	500 (e)	390 (e)
toluene	14,300	0.2	2.6 (e)	64 (e)	74 (e)
cis -1,2-dichloroethylene		0.5	110 (e)	70 (e)	38 (e)
trans-1,3-dichloropropene	87	(g)	BDL	BDL	P (c)
1,1,1-trichloroethane	18,400	1	9.3	11.6	14
1,1,2-trichloroethane	0.6	(b)	BDL	BDL	P (b)
trichloroethylene	2.7	0.5	949 (e)	692 (e)	478 (e)

(a) AWQC - Ambient Water Quality Criteria (FR 45, pp. 79318-79379, 1980). AWQC are for human health protection; values reflect intake via food and water consumption and an incremental lifetime cancer risk of 10^{-6}. these values may become less restrictive as proposed under the National Interim Primary Drinking Water Regulations (FR 47, p. 9357, 198)

(b) Dibromochloromethane/1,1,2-trichloroethane/cis-1,3-dichloropropene coelute and cannot be individually quantified. (P) indicates compounds(s) are present.

(c) 1,2-dichloropropane/1,3-dichloropropene coelute and cannt be individually quantified. (P) indicates compound(s) are present.

(d) 1,1,2,2-tetrachloroethane/tetrachloroethylene coelute and cannot be individually quantified. (P) indicated compound(s) are present.

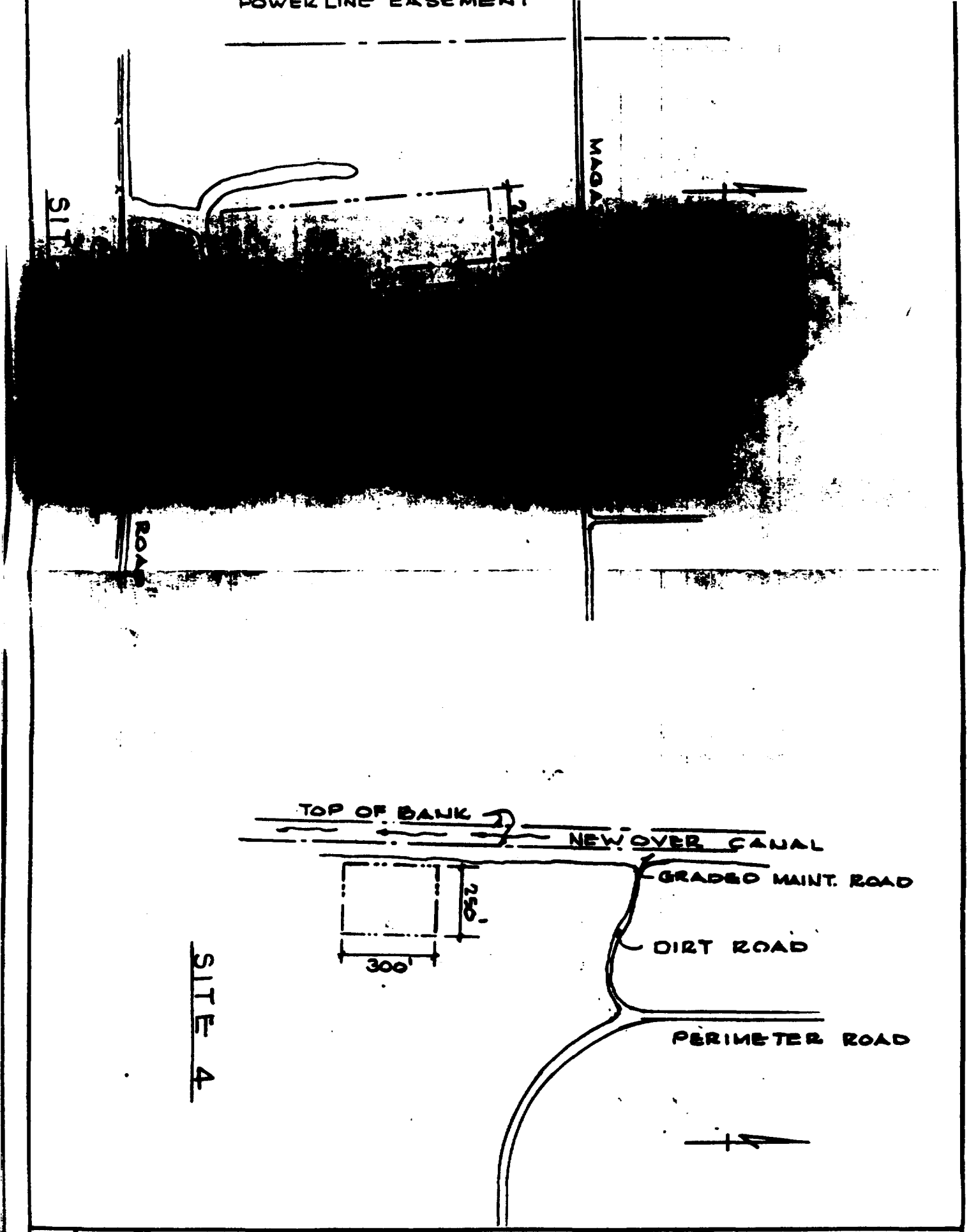
(e) Confirmed by GC/MS

(*) Average of two values

Table 1. VOC Analysis Results

MEC BLDG GROUNDWATER HOLDING TANK

MES Sample ID:		345	348				
Client Sample ID:		Field Blank	WP-1				
Sample Size (ml):		40	20				
GC/MS analyzed (date):		10/31/84	10/31/84				
COMPOUNDS	MDL (ppb)	Final Concentration - ppb (ng/ml)					
benzene[a]	0.2	BDL	BDL				
bromodichloromethane	2	BDL	BDL				
bromoform	4	BDL	BDL				
carbon tetrachloride	4	BDL	BDL				
chlorobenzene	0.2	BDL	BDL				
chloroform	1	BDL	BDL				
2-chloroethylvinyl ether	2	13	BDL				
cis-1,3-dichloropropene	0.5	BDL	BDL				
dibromochloromethane	2	BDL	BDL				
1,1-dichloroethane	0.5	BDL	7.1				
1,2-dichloroethane	0.5	BDL	BDL				
1,1-dichloroethylene	0.5	BDL	2.8				
1,2-dichloropropane	0.4	BDL	BDL				
ethylbenzene	0.2	BDL	14.1				
methylene chloride	0.5	BDL	23.5				
1,1,2,2-tetrachloroethane	0.5	BDL	BDL				
tetrachloroethylene	0.5	0.6	89.0				
toluene	0.2	BDL	20.8				
trans-1,2-dichloroethylene	0.5	BDL	BDL				
trans-1,3-dichloropropene	0.4	BDL	BDL				
1,1,1-trichloroethane	1	BDL	5.4				
1,1,2-trichloroethane	0.5	BDL	BDL				
trichloroethylene	0.5	BDL	658.0				
cis-1,2-dichloroethylene	0.5	BDL	204.9				



SIZE	WORK SHEET – SKETCH	TITLE:	
B	DESIGNED BY RFG / DRAWN BY RFG	LANDFILL SITE PLANS	FACILITIES ENGINEERING
	SKETCH NO.		MARTIN MARIETTA AEROSPACE ORLANDO DIVISION

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301-8241

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

December 26, 1985

Mr. James H. Scarbrough, P.E., Chief
Residuals Management Branch
U.S. Environmental Protection Agency
Region IV
345 Courtland Street
Atlanta, Georgia 30365

RE: Martin Marietta - Orlando Aerospace, FLD 060 240 207.

Dear Mr. Scarbrough:

In reference to the questions in your letter of November 27, 1985 concerning the subject facility, we have carefully reviewed the files and discussed your concerns with the District office. The following information responds to the issues as they appeared in your letter.

1. D002 and D003 waste streams: These hazardous waste numbers refer to the spent electroplating bath and cyanide plating bath rinse waters generated at the facility. These waste streams are treated in the facility's wastewater treatment unit and result in the generation of F006 sludges and a non-hazardous effluent which is discharged to the sanitary sewer system. As you know, Florida regulations do not provide for Part A applications. Instead, our permitting form DER Form 17-1.207(3) includes provisions for all of the Part A required information. Martin Marietta's operating permit application submitted in July 1984 included this revised information and adequately addressed their management practices. Since this facility was included in the majors list, please be advised that your office was copied on the applications and has been integrally involved in both the review and issuance of this facility's joint permit (Operating/Part B).

2. S02 and T01 process codes: These process codes apply to the batch treatment tank system which includes treatment of the D002 and D003 waste streams discussed above. Again, the facility's operating permit application discusses these units. In our review of these submittals, the department concurred with the facility's contention that the treatment system meets the 264.1(g)(6) exemption from permitting for wastewater treatment units. The department is currently regulating the treatment processes under our industrial waste permitting system and applicable requirements under Part 262 for generators of hazardous waste. Consequently, Martin Marietta will be granted an Operating/Part B permit for container storage only. A Closure/Part B Post-Closure permit is also being processed for the on-site landfill.

DOCKET NO. MM-57

In conclusion, the post-closure application NOD under joint EPA/DER preparation need not address either D002/D003 wastes or S02/T01 processes.

I hope this information clarifies this facility's status and operating practices. If you have any further questions, please call either Charlie Biedermann of this office (904/488-0300) or Laxsamee Levin in our Orlando District office (305/894-7555).

Sincerely,

Raoul Clarke/for

Robert W. McVety
Environmental Administrator
Bureau of Waste Management

RWM/cbs

cc: Chuck Collins/Laxsamee Levin - DER/Orlando

Record of Communication Phone Call

To: Thomas Devine

From: Ron Cherink 11/21/85 - p.m.
Martin Marietta Corporation
301/964-9200 Ext. 210

Subject: SMU'S

1. He is developing the SMU list nationally for Martin Marietta.

2. He spent two weeks in Orlando developing the list for Martin Marietta facility. He has a generic list in front of ~~me~~ him and wanted to run through it to see whether they appear to fit within the definition of SMU as we ~~were~~ are interpreting it.

   - Storage tanks, surface and subsurface. I agree.

   - Storage areas where solvents were stored. I agree.

   - Plant operations like ~~SMU~~ sumps contained in drainage systems that are in and around ~~electrical~~ anodized plating operations ~~with~~ where a drainage system is used to carry ~~SMU~~ plating baths to the central treatment plant. Should they be split out and listed separately. I told him that for review of SMU's, it was not a bad idea to indicate that they evaluated them separately. For any corrective action review that was being considered, they could consider them as a unit with the treatment system.

DOCKET NO. MM-58

- For NIOSH regulated units, he is identifying them. Things like filters in the air conditioning system. I told ~~them~~ him that sort of thing would not be a SMU, however, material removed from that system, to the extent that it did have filters, percipitators, etc., might be depending upon where collected material ~~it~~ was disposed of and what it was.

- Air scrubbers, I told him the air scrubber itself is not, however, material collected by the scrubber might be depending on characteristics on how it was disposed of.

- Staging areas, which in his mind were analagous to a transfer point in RCRA, except in this case they were for hazardous substances, should he evaluated as a SMU? I said yes you should evaluate it ~~that way~~ to see if there were any losses that may have caused environmental contamination. What about a case where a subcontractor has a container on a pad on site to receive materials. I told him it could be a SMU that qualified. You should evaluate.

- Treatment facilities, suggested evaluation and listing by unit.

- Spray fields, they have two areas:

  1. Plating rinse waters ~~that~~ used to go to a spray field. The spray field had been shut down for a couple of years. I told him to evaluate the spray field.

  2. As part of a consent agreement with the State of Florida, they have a site where VOC's went to a landfill. Groundwater contamination has been identified. They presently have it under remediation as part of the consent agreement. They are pumping the material out, running it to a spray field. The state is going to permit the spray field. I told them that area had to be identified. Point out that it was under a state permit, and would have to take a look at it and see if it required any independent evaluation. Assuming it was a full and complete permit, It wasn't a solid waste management unit, it was a permitted facility.

Action required, I concluded by telling them that I was going to refer this to my RCRA permitting program. Any concerns, disagreements with my opinions they they had would contact them directly. Please let me know what you think.

Thomas W. Devine

cc: Jim Scarbrough
Doug McCurry

Rec'd Dec 16,

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301-8241

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

December 10, 1985

Mr. James H. Scarbrough, P.E., Chief
Residuals Management Branch
U.S. Environmental Protection Agency
Region IV
345 Courtland Street
Atlanta, Georgia 30365

Dear Mr. Scarbrough:

In accordance with the Final Memorandum of Agreement for Authorization, Section IV.C.5., we are providing your office with information on the following facilities:

1. Armco Inc., FLD 064 675 978. First completeness letter for the closure permit.

2. Eglin Air Force Base, FL8 570 024 366. Part B permit application (2 volumes and maps).

3. Florida Tile Division of Sikes Corp., FLD 004 091 583. First completeness letter for the Part B permit.

4. Cape Canaveral Air Force Station, FL2 800 016 121.

   a. Issued emergency permit, OGC #85-1193 and proof of publication.

   b. Issued emergency permit OGC #85-1151, proof of publication and summary of activities.

   c. Intent to Issue and request for publication for the operation permit.

5. Koppers Co., FLD 004 057 535. Additional information submitted in response to the second completeness letter for the operation permit.

6. Martin Marietta Orlando Aerospace, FLD 080 240 207. Notice of delivery of SMU permit and statement of basis.

7. McDonnell Douglas Astronautics Co., FLD 064 824 030.

   a. Additional information submitted in response to the first completeness letter for the operation permit.

   b. Follow-up report for emergency permit OGC #85-1048. This permit was included in our October 25 transmittal.

DOCKET NO. MM-59

8. Olin Corp., FLD 047 096 524. As-built drawing of incinerator.

9. Patrick Air Force Base, FL2 570 024 404. Intent to Issue and request for publication for the operation permit.

10. P.M. Craftsman, FLD 067 236 984. Second completeness letter for the operation permit.

11. Piper Aircraft, Lakeland, FLD 049 551 864. Proof of broadcast and publication for the closure permit.

12. Southern Wood Piedmont, FLD 004 053 450. Certification of compliance with groundwater monitoring and financial assurance.

13. General Electric Co., FLD 043 860 451. Additional information submitted in response to the September 25 completeness letter and the October 18 meeting.

We are also providing your office with the following additional information:

1. Schuylkill Metals Corp., FLD 062 794 003. Groundwater monitoring plan.

Elaine 2. General Development Utilities, closure plan submitted under the terms of the consent agreement.

If you have any questions regarding these submittals, please call me at 904/488-0300.

Sincerely,

Satish Kastury

SK/acs
Enclosure

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

INTEROFFICE MEMORANDUM

For Routing To District Offices
And/Or To Other Than The Addresses

To: Mike Redig Loctn.: Tallahassee
To: Loctn.:
To: Loctn.:
From: Date:
Reply Optional [ ] Reply Required [ ] Info. Only [ ]
Date Due: Date Due:

ST. JOHNS RIVER DISTRICT

TO: MIKE REDIG

THROUGH:

THROUGH: ALEX ALEXANDER

THROUGH: CHUCK COLLINS CMC NOV 4 1985

FROM: STEVEN CHICK SSC

DATE: 11/4/85

SUBJECT: PRELIMINARY ASSESSMENT/SITE INVESTIGATION.

ENCLOSED IS A PA/SI SIGNED BY THE HAZARDOUS WASTE INSPECTOR FOR MARTIN MARIETTA CORPORATION (ORLANDO FACILITY).

RECEIVED
NOV 8 1985
Hazardous Waste

C.E. - JIM SCARBOROUGH
R. MCNETY

ENGINEERING SECTION
WASTE
NOV 12 7 10 AM '85
RECEIVED

DOCKET NO. MM-60-

RECEIVED

NOV 8 1985

Hazardous Waste

EPA - Region IV

Preliminary Assessment/Site Investigation (PA/SI)
of
Prior or Continuing Releases from Solid Waste Management Units

I. Facility Information

Facility Name: Martin Marietta Aerospace (Orlando)

EPA I.D. No.: FLD 980841746

Facility Address: 5837 Sand Lake Road
Orlando, Florida 32855

PA/SI Prepared By:

Name: Michael X. Redig

Agency/Organization: F.D.E.R.

Main Components of RCRA PA/SI

1) Questionnaire on Solid Waste Management Units/Prior Releases

2) PA/SI Form Evaluating Solid Waste Management Questionnaire (this form)

3) Summary of Follow-up Inspections and any Analytical-work done to Evaluate Solid Solid Waste Units and known or Suspected releases.

OCT 1985
RECEIVED
ST. JOHNS
River District

EPA - Region IV

I. Evaluation of Information Concerning Solid Waste Management Units and Prior or Continuing Releases (PA/SI)

The main purpose is to determine whether or not there have been or may have been prior or continuing releases of hazardous waste or hazardous constituents from solid waste management units which sould require corrective action under Section 3004U of the Hazrdous and Solid Waste Act. The solid waste management units of concern are:

a) Solid waste management units not currently regulated under RCRA

b) Solid waste management units regulated under RCRA but not subject to groundwater monitoring requirements

The purpose of this review is to determine:

a) Do such units exist?

b) Have there been prior or continuing releases of hazardous wastes or hazardous constituents from such units?

c) Have releases caused environmental contamination that would warrant corrective action?

d) If the answers to questions no. 1, 2 and 3 above are not clear yes or no answers, what additional data, information or investigation is needed to make a clear yes or no answer?

This review has two main components. The first is a review of the questionnaire sent to the applicant regarding Solid Waste Management Units and prior or continuing releases of hazardous waste. The second part is a summary of inspections done at the facility and observations related to Solid Waste Management Units.

The attached flow charts show the key decision points for the two categories of solid waste management units.

A. Review of Solid Waste Management Unit Questionnaire:

1) Date questionnaire re Solid Waste Management Units was sent out 2-13-85

2) Date response received 4-17-85

3) Review of response indicates

X a) Solid Waste Management Units exist (Other than RCRA regulated units)

_____ b) No Solid Waste Management Units exist (Other than the RCRA regulated units shown on Part A and Part B application)

_____ c) It is not clear from review of questionnaire whether or not any Solid Waste Management Units exist - additional information and/or a site visit will be required

4) If response to No.3 above is (a) then answer this question

In regard to prior or continuing releases of Hazardous Wastes or Hazardous Constituents the response to the questionnaire indicates:

X a) Releases of Hazardous Wastes or constituents have occurred or are thought to have occurred

_____ b) Releases of Hazardous Wastes or constituents have not occurred

_____ c) It is not known whether releases of Hazardous Wastes or Hazardous constituents have occurred

5) For RCRA regulated units that do not have groundwater monitoring the response to the questionnaire indicated

N/A

_____ a) Releases of Hazardous Wastes or constituents have occurred or are thought to have occurred

_____ b) Releases of Hazardous Wastes or constituents have not occurred

_____ c) It is not known whether releases of Hazardous Wastes or Hazardous constituents have occurred

6) Environmental Monitoring Data associated with prior or continuing releases is available for the following areas:

X a) Groundwater

_____ b) Air

X c) Surface Waters

X d) Soils

7) Environmental Monitoring Data noted in No. 6 above can be summarized as follows:

DESCRIPTION	Ground-water	Air	Soils	Surface Water
Hazardous Wastes or Constituents have been detected	X		X	X
Environmental Standards have been violated	X		X	

8) Did the facility submit a 103(c) Notification under CERCLA?

_____ a) Yes

_____ b) No

9) If the answer to No. 8 above is yes, did the facility list the same units on the Solid Waste Management Questionnaire as they did on the CERCLA 103(c) Notification Form?

_____ a) Yes

_____ b) No

B. Summary of Inspection at Facility

1) During the inspection of this facility did the inspector note any evidence of past waste disposal practices not currently regulated under RCRA such as piles of waste or rubbish, ponds or surface impoundments that might contain waste, active or inactive landfills?

✓ a) Yes, Explain Sites 3, 4, 6, MEC BLDG are being addressed in a consent order (they are now inactive landfills).

_____ b) No

_____ c) Cannot Respond to this Question

2) Was there any evidence of discolored soils or dead vegetation that might be caused by a spill, discharge or disposal of hazardous wastes or constituents?

_____ a) Yes, Explain _____

✓ b) No

_____ c) Cannot Respond to this Question

3) Are there any tanks at the facility which are used for waste storage (solid or hazardous) which are located below grade and could possibly leak without being noticed by visual observation?

_____ a) Yes

✓ b) No

_____ c) Cannot Respond to this Question

EPA - Region IV

4) Based on an inspection or inspections that have been done at this facility there is no reason to question or doubt the information which the applicant has submitted on the questionnaire regarding Solid Waste Management Units and the possibility of prior or continuing releases of hazardous wastes or constituents.

✓ a) I concur with this statement

_____ b) I do not concur with this statement for the following reasons:

_____

_____

_____

_____

_____

c) My knowledge of facility is not sufficient for me to concur or non-concur with the information in the Solid Waste Management Unit Questionnaire.

Date or Dates of Inspections 8/8/85

Inspectors Name STEVEN B. CHICK

Inspectors Signature Steven B Chick

5) If 4(b) was checked,
Describe what additional information or testing is needed to determine if prior or continuing releases of hazardous wastes or constituent have occurred. Specify which units are of concern and what types of releases are suspected. (i.e., releases to groundwater, surface water, air, soils, etc.).

_____

_____

_____

_____

_____

6) An on-site inspection to discuss and evaluate the possibility of prior or continuing releases from Solid Waste Management Units is recommended

_____ a) Yes

_____ b) No

7. A Remedial Investigation (R.I.) is needed to evaluate the nature and extent of prior releases of hazardous wastes or constituents from Solid Waste Management Units.

_____ a) Yes

_____ b) No

8. If the answer to No. 7 above is "Yes", the priority and manner for requiring the applicant to conduct the Remedial Investigation (R.I.) is as follows:

_____ a) Require R.I. in compliance schedule that is part of RCRA permit.

_____ b) Issue Compliance Order requiring R.I. to be done.

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

Interoffice Memorandum

TO: Mickey Hartnett, E.P.A R.IV

FROM: Michael Redig

SUBJECT: F.M.P. Martin Marietta Georgia

DATE: Nov. 8, 1985

Attached for your review. Any comments or questions call me at 1-904-488-0300

Mike R.

PA/SI and FMP
FMP is for Land fill only
Delete storage info.

EPA - Region IV

Form for RCRA Facility Management Plan

I. Facility Information

Facility Name: MARTIN MARIETTA AEROSPACE (ORLANDO)

EPA I.D. No.: FLD 980 841 746

Facility Address: 5837 SAND LAKE ROAD
ORLANDO, FLORIDA 32855

Facility Management Strategy Prepared By:

Name: MICHAEL X. REDIG

Agency/Organization: F.D.E.R.

RCRA Regulated Units at Facility	Types of Wastes Handled
✓ Storage in Tanks or Containers	PLATING WASTES & SOLVENTS
____ Incinerator	
✓ Land Fill	CLOSURE of PLATING WASTES LANDFILL
____ Surface Impoundment	
____ Waste Pile	
____ Land Farming	

OUTLINE FOR DEVELOPING A FACILITY MANAGEMENT PLAN

I. Facility Analysis

A. Compliance Monitoring & Enforcement Status
B. Permit Status
C. Solid Waste Management Unit/Prior Release Information - (What is known?)
(What is needed?)
D. CERCLA Requirements, Status, Issues
E. Significance of Releases and Evaluation of Actions Needed

II. Problem Identification, Evaluation of Available Tools (authorities), and Recommended Solutions

III. Calendar of Events and Responsible Office for Implementing Priority Actions

DOCKET NO. MM-61

6/30/94

I. Facility Analysis

A. Interim Status Compliance Monitoring and Enforcement Summary

The objective of these questions is to determine what is known about the facility's compliance with interim status standards, what is needed to determine compliance and what actions might be appropriate to correct non-compliance.

1. How many and what kind of inspections have been conducted at the facility? List by inspection type (e.g., compliance evaluation inspection or comprehensive groundwater inspection).

   CEI - FDER on 2/[illegible]/82 - Clifford Miller
   CEI - FDER on 2/20/84 - Jim Lee
   CGI + Sampling Survey 9/20/84 - J. Jaramolowski
   CEI - FDER on 4/11/85 - Levin, Sainter, Jaramolowski

2. Does a Ground-water monitoring system exist?

   ✓ Yes ___ No ___ Don't Know ___ Not Required

3. If the answer to "2" is yes, at what stage (detection, assessment, monitoring to develop Part B application data) is the facility in GWM?

   Assessment monitoring VOC's detected in groundwater at several sites

4. If the answer to "2" is yes, is it capable of monitoring both regulated and SWM units?

   ✓ Yes ___ No ___ Don't Know

5. If the answer to "2" is no, is failure to have a system a violation of interim status GWM requirements?

   ___ Yes ___ No ___ Don't Know

6. Has enough information been collected to provide a reasonable understanding of the subsurface geology?

X Yes ____ No ____ Don't Know

7. Have appropriate techniques and data been used to support the placement and depth of wells to determine the facility's impact on the uppermost aquifer beneath the facility?

X Yes ____ No ____ Don't Know

8. Are the regulatory parameters which are being monitored adequate to detect contamination from the units?

X Yes ____ No ____ Don't Know

9. If the answer to "8" is no, what other parameters should be monitored to detect contamination?

_____

_____

_____

_____

10. Is the sampling and analysis methodology adequate to detect contamination from the units?

X Yes ____ No ____ Don't Know

11. Is the existing GWM system in compliance with interim status standards?

X Yes ____ No ____ Don't Know

12. If the answer to "11" is no, explain the nature of the non-compliance.

N/A

_____

_____

_____

_____

13. If the answer to "11" is no, is there a pending enforcement action against the violator?

N/A Yes ____ No ____ Don't Know ____

14. If the answer to "11" is don't know, is there a compliance inspection or other investigation scheduled?

N/A Yes ____ No ____ Don't Know ____

15. List the types of Class ~~I~~ II violations which have been found.

262.34(a)(2): NO VISIBLE ACCUMULATION START DATE ON ROLLOFF
262.34(a)(3): "HAZARDOUS WASTE" Marking Contents

16. List the enforcement actions that have been taken against the facility.

WARNING Notice @ WN-85-107 1 MAY 1985
ON CLASS II VIOLATIONS -

17. Did the owner/operator respond to enforcement actions in a cooperative manner?

✓ Yes ____ No ____ Don't Know ____

18. If the answer to "17" is no, provide examples of how the owner/operator was uncooperative.

19. If the answer to "17" is yes, provide examples of how quickly the violations were resolved.

5-1-85 Notice
5-29-85 Scheduled Compliance
6-14-85 - actual Compliance

20. What actions are proposed to gather additional information needed to evaluate compliance with key I.S.S. requirements, (i.e. groundwater monitoring, financial assurance, etc.).

~~Consent ORDER to ADDRESS~~
OK ~~Past Landfill monitoring~~,
assessment + corrective actions

21. What actions are proposed to correct non-compliance that still exists?

N/A

EPA - Region IV

B. Summary of Part B Application Review to Date, Problems, Issues, Actions Needed

1. Key Dates

These are dates for Storage Part B only

1) Date Part B Called 10/24/83 ~~3/22/85~~ (for landfill)

2) Date Part B Received ~~4/16/84~~ 6/25/84

3) Date First NOD Sent 8/17/84

4) Date First Revised Part B Received ~~10/5/84~~ 9/28/84

5) Date 2nd NOD Sent 10/23/84

6) Date of Enforcement Actions for Deficient Part B —

7) Date 2nd Revised Part B Received 11/16/84

8)* Ground water monitoring item #24 of

9)* 10/23/84 letter requested in letter 11/28/84

10)* DER WARNING notice #84-126 12/4/84 additional info 2/10/85 + 4/22/85

* Fill in further processing/enforcement actions that have taken place

2. Summarize the principle Part B deficiencies that remain unresolved; cover all major deficiencies but in particular focus on the following:

— Incinerators - Adequacy of Trial Burn Plan

X Land Disposal Units - Adequacy of groundwater data and hydrogeological information required by 430 CFR 270.14(c)

— Has facility "detected" or measured" groundwater contamination?

yes — Has the facility been required to submit a Corrective Action Plan per §§270.14(c)(8)?

~~NO~~ — intent to issue a Draft Permit released 6/26/85 to E.P.A. for review

Post Closure Part B under EPA Review

EPA - Region IV

3. For the deficiencies noted in Item B above describe the most recent action the state has taken to resolve this deficiency (NOD, Enforcement Action, etc.) and the state's or applicant's schedule and methodology for resolving the deviciency.

NOD Resolved — Intent to Issue permit (STORAGE ONLY) NOD for Landfill in Dec.

4. If additional action by the state or EPA is needed to resolve outstanding deficiencies please describe what actions are proposed and what the projected dates are for those actions:

Action Proposed	Projected Date
~~N/A~~ NOD	12/85

5. Projected dates for making a final permit determination

Permit Activity	Projected Date
Part B Review and NOD	~~Done~~ 12/85
Enforcement Action for Deficient Part B	~~N/A~~
Part B Determined Complete	~~6/26/85~~
Draft Permit Prepared	~~6/26/85~~
Draft Permit Public Noticed	Pending E.P.A. approval
Public Hearing Held	N/A
Permit Issued/Denied	N/A

EPA - Region IV

C. Solid Waste Management Unit/Prior Release Information

1. Has the PA/SI been completed?

✓ Yes ___ No

2. Are there solid waste management units at the facility?

✓ Yes ___ No ___ Maybe

3. If the answer to "2" is maybe, provide the information which prompts suspicion that there may be SWM units.

N/A

4. Are the monitoring systems capable of detecting releases from solid waste management units?

✓ Yes ___ No ___ Don't Know

5. Is there evidence of releases of hazardous waste or hazardous constituents into the environment at the facility?

✓ Yes ___ No ___ Don't Know

6. If the answer to "5" is yes, answer the following:

a. Has the release been adequately characterized?

___ Yes ✓ No ___ Don't Know

b. Describe the release in terms of the extent of the release, the constituents of the release, and any other pertinent information.

The monitoring program is in assessment mode for the Sherratt & Miller assessment program as proposed. All of the monitoring results are incomplete

EPA - Region IV

C. Solid Waste Management Unit/Prior Release Information

1. Has the PA/SI been completed?

✓ Yes ___ No

2. Are there solid waste management units at the facility?

✓ Yes ___ No ___ Maybe

3. If the answer to "2" is maybe, provide the information which prompts suspicion that there may be SWM units.

N/A

4. Are the monitoring systems capable of detecting releases from solid waste management units?

✓ Yes ___ No ___ Don't Know

5. Is there evidence of releases of hazardous waste or hazardous constituents into the environment at the facility?

✓ Yes ___ No ___ Don't Know

6. If the answer to "5" is yes, answer the following:

a. Has the release been adequately characterized?

___ Yes ✓ No ___ Don't Know

b. Describe the release in terms of the extent of the release, the constituents of the release, and any other pertinent information.

The monitoring program is in assessment mode for the Sheesley & Miller assessment program as proposed. All of the monitoring results are incomplete

EPA - Region IV

7. If the answer to "5" is no or don't know, is there any suspicion of releases at the facility?

N/A

Yes _____ No _____ Don't Know _____

8. If the answer to "7" is yes, provide the information which prompts suspicion of releases.

N/A _____

_____

_____

_____

9. If the answer to "7" is yes, is there any planned action to learn more about the possible release?

N/A

Yes _____ No _____ Don't Know _____

10. If the answer to "9" is yes, describe the planned action(s).

N/A _____

_____

_____

11. If the answer to "9" is no, describe what action is needed to evaluated nature of releases.

N/A _____

_____

_____

EPA - RegionIV

12. For the activity described in No. 11 above what is the urgency for initiating this activity and what authority should EPA or state use to require applicant to undertake activity.

____ a. Urgent - Require additional information/data to be gathered by Issuance of Complaince Order Pursuant to:

__ Sec. 3013 of RCRA
__ Sec. 7003 of RCRA
__ Sec. 3008(h) of RCRA

✓ b. Not Urgent - Require additional information/data to be gathered by issuing permit with a compliance schedule for conducting a Remedial Investigation (R.I.)

EPA - Region IV

D. Evaluation of CERCLA Authority at Facility and Relationship with RCRA

1) Did this facility submit a 103 (c) notification form under CERCLA?

✓ a) Yes

____ b) No

2) If the answer to No. 1 is No, should this facility have submitted a 103 (c) notification form under CERCLA?

N/A

____ a) Yes

____ b) No

3) Has a CERCLA Preliminary Assessment/Site Investigation (PA/SI) been completed for this site?

✓ a) Yes 9/84 / ORT Sample 9/84

____ b) No

4) If a CERCLA PA/SI has been completed for this site summarize briefly the findings focusing on environmental contamination, imminent hazards and wastes found.

_____

_____

_____

_____

5) After reviewing the CERCLA Notification form, the RCRA Part A and Part B applications it appears that:

____ a) The RCRA units and CERCLA units are one and the same

✓ b) The RCRA units and CERCLA units are clearly different units

____ c) There is overlap between the RCRA and CERCLA units some are the same and some are different

withdrew Site #5 from part B"

incorrect action

DER "OP" application - closure

P.C. Part B. ← of landfill sites will be addressed under a consent order

EPA - Region IV

6) This facility is (is not) included on the CERCLA National Priorities List (NPL)

____ a) Yes, it is

✓ b) No, it is not

7) Based on the information noted in Items No. 1, 2, 3, and 4 above and on current guidance from EPA-Headquarters on RCRA-CERCLA interface corrective action for CERCLA units should be handled as follows

____ a) Totally within the RCRA permit

X b) RCRA-CERCLA activities proceed simultaneously with ultimate CERCLA corrective action being written into RCRA permit as a compliance schedule

✓ c) CERCLA action alone — via consent order signed 5/85

CO for site #4 being drafted 8-85

E. Evaluation of Groundwater Data and Assessment of Need for Interim Status Corrective Action Order

1) A review of Interim Status Groundwater Data and Groundwater Data included in the Part B application indicates:

✓ a) There is groundwater contamination that is caused by a RCRA regulated unit or Solid Waste Management Unit?

_____ b) There is no indication of groundwater contamination caused by RCRA regulated units or Solid Waste Management Units

_____ c) Information available is insufficient to conclusively determine the presence or absence of groundwater contamination

2) If (a) or (c) above is checked, please address these questions regarding affected aquifers and water supply wells in the vicinity of the facility

don't know

_____ a) Aquifers that have or may have contamination are used as a drinking water source and withdrawal wells are located within 2500 ft. of regulated units

_____ b) Aquifers that have or may have contamination are used as a drinking water source ad withdrawal wells are located more than 2500 ft. from regulated units. Approximate distance is __ feet.

_____ c) Aquifers that have or may have contamination are not used as a drinking water source within a 2 mile radius of facility.

3) For water supply wells that may have groundwater contamination please indicate:

don't know

_____ a) Water samples have been analyzed and groundwater conamination has been confirmed.

_____ b) Water samples have been taken and no contamination is indicated

_____ c) No sampling and analysis has been done on water supply wells

EPA - Region IV

4) Issuance of a RCRA permit to this facility is likely to take:

Time	Mo/Yr
a) 0-6 months	NOV/85 - (Storage only)
b) 6-12 months	
c) 12-18 months — landfill	
d) more than 18 months	

5) Considering the information provided in Items No. 1, 2, 3, and 4 above indicate your evaluation of the need for an interim status corrective action order:

_____ a) Due to the imminent hazard or potential for an imminent hazard and the time required to issue the RCRA permit, corrective action should begin immediately through the use of an interim status corrective action order (summarize reasons below)

✓ b) Since an imminent hazard does not appear to exist or since the RCRA permit will be issued shortly, there does not appear to be a need to issue an interim status corrective action order (summarize why below)

_____ c) Presently available information is not sufficient to reach the conclusions of (a) or (b) above; however, because drinking water wells are utilized in the immediate vicinity of the facility (2500 ft. or less) an enforcement action should be issued to expedite the gathering of appropriate data for items 1, 2 or 3 above (summarize information needed below)

SMU. contamination already addressed under a Consent Order signed 5-85 for landfill site #5, -Site #4 currently in Draft Consent Order to be renegotiated.

site 5 = RCRA landfill

CONSIDERING THE SOLUTIONS TO ADDRESS THE PROBLEMS

MAJOR PROBLEM IDENTIFIED	SOLUTION	POTENTIAL TOOLS	PROS/CONS

SHORT TERM OBJECTIVE _____

LONG TERM OBJECTIVE _____

TIMETABLE OF KEY ACTIONS

KEY ACTION & TOOL	LEAD OFFICE	FY85 3rd	FY85 4th	FY86 1st	FY86 2nd	FY86 3rd	FY86 4th	FY87	FY88	FY89
ACTION: TOOL:										
ACTION: TOOL:										
ACTION: TOOL:										
ESTIMATED RESOURCE COST PER ACTION										

E = EPA, RCRA Enforcement
P = EPA Permits
C = EPA CERCLA Enforcement
SE = State RCRA Enforcement
SP = State Permits
SC = State CERCLA Enforcement

JAN 30 1986

November 21, 1985, [illegible] Communication from
Ron Chernik to Thomas [illegible] - [illegible]tin Marietta,
Orlando Aerospace, [illegible] 860 240 207

Chief
Waste Engineering [illegible]

Thomas W. Devine, [illegible]
Waste Management [illegible]

THRU: James H. [illegible], P.[illegible] Chief
Residuals [illegible]
Waste Management Divis[illegible]

We have reviewed the [illegible] document (attached) and agree with your determinations [illegible] interpretation of what classifies a unit as a [illegible]. Therefore, we [illegible] not contact Mr. Chernik with any additional comments at this time.

The Waste Engineering [illegible] contact for this facility is Ms. Elaine Houston at extension [illegible].

Douglas C. McC[illegible]

Attachment

Houston [illegible] Miller [illegible] 1-2[illegible]-86

Houston:dw:3423[illegible]-22-86:[illegible]

MM-C[illegible]

A copy to Satish - J. Scarbrough Bob McVi

MARTIN MARIETTA AEROSPACE

POST OFFICE BOX 5837
ORLANDO, FLORIDA 32855

MP 124

3 January 1986

JAN 1986
RECEIVED
ST. JOHNS
River District

Ms. Laxsamee Levin
Florida Department of Environmental Regulation
3319 Maguire Blvd., Suite 232
Orlando, FL 32803

Re: Orange County - HW
Martin Marietta Orlando Aerospace
Hazardous Waste Storage Facility
H048-89392

Dear Ms. Levin:

Pursuant to your conversations with Mr. Timothy Scott of Martin Marietta, we are requesting a modification to the above referenced permit. The following items need to be corrected and/or incorporated:

1. In Table 3.2, as referenced in Specific Condition #2, Xylene's EPA Number should read F003, Toluene is misspelled and the EPA Number should read F005.

2. In Table 4.1 of the application, the following is an update of the Emergency Personnel Roster:

   EC Alternate I, Scott Evans, Ext. 4291, Home 297-9820, 433 Satsuma Lane

   EC Alternate II, Tim Scott, Ext. 4291, Home 282-8160, 127 Apple Blossom Court

   1st Shift, Jeff Winkler, Bobby Sanders, David Dobbs, Ext. 4291

   2nd Shift, Jim Defazio, Dan Carrington, Ext. 4291

3. In Specific Conditions #14 and #15, please incorporate F002 (Halogenated solvents) in both Bay #1 and Bay #2 since F002 series wastes are compatible with flammable liquids and could be mixtures thereof.

4. In Specific Condition #16, the first area of Bay #3 is needed to segregate incoming wastes. The routine is to pick up waste products on Thursday and segregate those products within a 24-hour period and store them in the appropriate areas. The second area of Bay #3 is needed to store D001 (Solid Waste), i.e. Sodium Nitrate/Nitrite Salts, as well as the other Solid Materials (D002 and F006).

DOCKET NO. MM-63

5. It is our understanding, based on your discussions with Mr. Timothy Scott, that the "D" characteristic Hazardous Waste numbers will cover all "U" series numbers.

Thank you for your cooperation in this matter.

Sincerely,

MARTIN MARIETTA ORLANDO AEROSPACE

Richard C. Winfield

Richard C. Winfield
Director of Facilities

RCW/tk

Martin Marietta FLD 060 240 207

- Status of closure of interim status landfill
  - Has plan been received yes
  - Has plan been approved no
  - Has landfill been closed no; last receipt of waste: 1/83

  According to DER, closure will be handled under consent order

- Status of 1984 groundwater quality assessment
  - Has groundwater contamination been determined yes
  - Has area and extent of plume been determined no; now under investigation by DER
  - Has Appendix VIII been requested yes; 11/28/84
  - Has Appendix VIII been received yes; 3/21/85

  According to DER, appendix VIII is "inadequate"

- Status of post-closure plan
  - Has a post-closure plan been submitted yes; 7/6/84 and subsequent submittals
  - Has plan been approved no; being handled under consent order

- Status of post-closure permit
  - Has post closure permit application been called yes; 10/24/83
  - Has post closure permit application been submitted yes; 7/16/84

Per your request for copies of all State comments on plans/compliance actions re: closure/post-closure or g/w monitoring: According to DER, State submits these reports to Region on monthly basis (as part of MOA). Region should have copies.

Author unknown

DOCKET NO. MM-64

CONVERSATION RECORD

TIME:

DATE: 2/10/F6

TYPE: ☐ VISIT ☐ CONFERENCE ☑ TELEPHONE ☐ INCOMING ☐ OUTGOING

Location of Visit/Conference:

NAME OF PERSON(S) CONTACTED OR IN CONTACT WITH YOU	ORGANIZATION (Office, dept., bureau, etc.)	TELEPHONE NO:
Laxamee Levin	FDER	305 894-7555

ROUTING	
NAME/SYMBOL	INT

SUBJECT: Martin Marietta - Orlando

SUMMARY

Storage permit has already been issued. Now MM wants to reopen the permit. - 5 items - all were outlined in letter sent from Laxamee to Scarbrough on 1/27.

Laxamee wants some guidance on this as soon as possible.

ACTION REQUIRED

NAME OF PERSON DOCUMENTING CONVERSATION	SIGNATURE	DATE
CRIBB		

ACTION TAKEN

ELAINE / HERB

DOCKET NO. MM-65

SIGNATURE	TITLE	DATE

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301-8241

BOB GRA
GOVERN

VICTORIA J. TSCHINKEL
SECRETARY

January 15, 1986

Mr. James H. Scarbrough, P.E., Chief
Residuals Management Branch
U.S. Environmental Protection Agency
Region IV
345 Courtland Street
Atlanta, Georgia 30365

Dear Mr. Scarbrough:

In accordance with the Memorandum of Agreement for Authorization, Section V.C., we are providing your office with information on the following facilities:

1. Martin Marietta Orlando, FLD 060 240 207.
   Issued operation permit for the storage facility and groundwater review of the Site 5 landfill.

2. Escambia Treating Co., FLD 008 168 346.
   Time extension for submittal of closure information and groundwater monitoring plan submittal.

3. Florida Tile, FLD 004 091 583.
   Additional information submitted in response to the first completeness letter for the operation permit.

4. Koppers Company, FLD 004 057 535.
   Proof of distribution of the SPCC and contingency plan for the operation permit.

5. Cape Canaveral Air Force Station, FL2 800 016 121.
   Proof of joint EPA/DER publication for the operation permit. Intent to issue and draft permit for closure of facility #44625E.

6. Olin Corporation, FLD 047 096 524.
   Revised training plan submitted as required by the TOP.

DOCKET NO. MM-66

7. Post and Lumber Preserving Co., FLD 004 061 925.
   Second completeness letter, submittal of additional information and other correspondence relative to the closure permit.

8. Grumman St. Augustine Corporation, FLD 046 771 952.
   Sludge analysis report.

9. Naval Coastal Systems Center, FL8 170 023 792.
   Issued operation permit.

10. Mid-Florida Mining Company, FLD 991 275 355.
    Withdrawal of operation permit application and extension of TOP.

11. Patrick Air Force Base, FL2 570 024 404.
    Proof of publication for the operation permit.

12. Wenczel Tile Company, FLD 042 468 355.
    First completeness letter for the operation permit.

13. Kennedy Space Center, FL6 800 014 585.
    Request for removal of incinerator from the TOP.

14. Fairchild Weston Systems, FLD 083 200 998.
    Closure plan for the spray field and surface impoundment.

15. Armco, Inc., FLD 064 675 978.
    Additional information submitted in response to the first completeness letter for the closure permit.

16. Kaiser Aluminum & Chemical Corp., FLD 004 106 811.
    Correspondence regarding penalties.

17. American Cyanamid Company, FLD 057 231 821.
    Review comments for the groundwater monitoring plan by DER Groundwater Section.

18. Oldover Corporation, FLD 000 737 312.
    Third completeness letter for the operation permit.

19. Monsanto Company, FLD 071 951 966.
    Review comments for the groundwater plan by DER Groundwater Section.

20. AAA Printing Ink Co., FLD 061 433 934.
    The draft closure permit and DER/Tallahassee review comments have been forwarded to the Southwest District Office and, following inclusion of the comments, will be forwarded to your office.

Should you have any questions, please call me.

Sincerely,

Satish Kastury
Engineer
Hazardous Waste Section

SK/acs
Enclosure

State of Florida
DEPARTMENT OF ENVIRONMENTAL [redacted]

Interoffice Memorandum

FOR ROUTING TO OTHER THAN THE ADDRESSEE

To: _____ Loc'n: _____
To: _____ Loc'n: _____
To: _____ Loc'n: _____
From: _____ Date: _____

TO: Jim Jarmolowski, St. Johns River District

THROUGH: John Gentry, Bureau of Operations

FROM: Zoe Kulakowski, Bureau of Operations ZPK

DATE: November 19, 1985

SUBJECT: Martin Marietta, Site 5 Sludge Cells Groundwater Assessment, Orlando, Florida

---

As requested, the above referenced report has been reviewed for technical adequacy. I disagree with Geraghty & Miller's rationale to disregard the water levels of Wells INT-4 and INT-7. The secondary artesian aquifer wells are screened in a unit described as "Marl, clay, sand, very shelly, gravel". The logs of wells INT-1, INT-2, INT-3, INT-4, INT-5, INT-6, INT-7 and FL-2 indicate that this unit is laterally continuous (contrary to a statement on page 20) and directly overlies the limestone of the Floridan aquifer. The Floridan aquifer well, FL-2, is open hole in the top 5 feet of the aquifer. Since no unit separates the two zones being monitored, i.e. the "marl, clay, sand, very shelly, gravel" unit of the secondary artesian aquifer and the Floridan aquifer, you'd expect them to be hydraulically connected. As a result of disregarding the INT-4 and INT-7 water levels, Figure 9 (the potentiometric contour map of the secondary artesian aquifer) is incorrect and should show flow to the east. Two more secondary artesian aquifer wells west of the landfill should be installed to definatively establish flow patterns.

Future work should also include VOC analysis of water from INT-4, INT-6, and INT-7 to establish the vertical extent of the plume. (Data from one well, PW-39, is not adequate.) Also, once the casing elevations for PW-40, PW-41, PW-42, INT-7 and FL-2 are established, the water levels of all wells should be determined and reported.

The proposed corrective action to remove and spray contaminated ground water back on the site will not reduce VOC levels sufficiently without the inclusion of a packed-tower air stripper.

[redacted] NO. MM-67

PW-4 may not be an acceptable background well because low concentrations of 1,1,1-trichloroethane (2 ug/l) were detected on 4-18-85.

This report should address the conflicting analytical results for phenols. EPA Method 420.1 indicated a concentration of 325 ug/l for total phenols while the EPA acid/phenol priority pollutants (EPA method 604?) indicated all parameters were below the method detection limits of 10 ug/l. The sampling and analysis procedure should be repeated to verify the presence or absence of phenolic type compounds.

SK/kh

cc: Satish Kastany

EPA

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

ST. JOHNS RIVER DISTRICT
3319 MAGUIRE BOULEVARD
SUITE 232
ORLANDO, FLORIDA 32803-3767

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

ALEX ALEXANDER
DISTRICT MANAGER

December 24, 1985

Permittee:
Richard C. Winfield,
Director of Facilities
Martin Marietta Orlando Aerospace
4600 Sandlake Road
Post Office Box 5837
Orlando, Florida 32855

OSJ-HW-85-0408

DEC 26 1985
SOLID WASTE
SUBSECTION

Dear Mr. Winfield:

Orange County - HW
Martin Marietta Orlando Aerospace
Hazardous Waste Storage Facility

Enclosed is Permit Number HO48-89392 to operate a hazardous waste storage facility issued pursuant to Section 403.722, Florida Statutes.

Any party to this permit has the right to seek judicial review of the permit pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 2600 Blairstone Road, Tallahassee, Florida 32301; and by filing a copy of the Notice accompanied by the applicable filing fees with the appropriate District Court of Appeals.

The Notice of Appeal must be filed within thirty (30) days from the date this permit is issued with the Clerk of the Department.

Executed in Orlando, Florida

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

A. Alexander, P.E.
District Manager
3319 Maguire Boulevard
Suite 232
Orlando, Florida 32803
(305)894-7555

AA:CMC:LLc

Enclosure

cc: Raymond F. Green, Martin Marietta
Satish Kastury, DER
James Scarbrough, EPA

Protecting Florida and Your Quality of Life

DOCKET NO. MM-68

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

ST. JOHNS RIVER DISTRICT
3319 MAGUIRE BOULEVARD
SUITE 232
ORLANDO, FLORIDA 32803-3767

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

ALEX ALEXANDER
DISTRICT MANAGER

Permittee:
Richard C. Winfield,
Director of Facilities
Martin Marietta Orlando Aerospace
4600 Sandlake Road
Post Office Box 5837
Orlando, Florida 32855

I. D. Number:FLD 060 240 207
Permit/Certification
Number:HO48-89392
Date of Issue: 12/24/85
Expiration Date: 12/24/90
County: Orange
Latitude/Longitude:
28°26'17"/81°26'55"
Section/Township/Range:
32 /23 /29
Project: Martin Marietta
Orlando Aerospace Hazardous
Waste Storage Facility

This permit is issued under the provisions of Chapter(s) 403, Florida Statutes, and Florida Administrative Code Rule(s) 17-3, 17-4 and 17-30. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents attached hereto or on file with the department and made a part hereof and specifically described as follows:

The hazardous waste storage facility includes containerized hazardous waste storage building and three - one thousand gallon spill collection tanks. Hazardous wastes are stored in fifty five (55) gallon drums in the building which is designed for a maximum storage of 336 (55 gallon) drums. Hazardous wastes have EPA Hazardous Waste Numbers of D001, D002, F001, F003, F005 and F006.

The structure has the following features: six (6") inch reinforced concrete slab with raised curbs; impervious floor with 2 inch slope towards spill containment area; three (3) bays with spill containment areas; pre-cast roof panels; controlled access (inside fenced area with locked gate); emergency eyewash and shower; fire hydrant and hose-bib water connections.

The three spill collection tanks are located north of the hazardous waste storage building. The tanks are installed underground and made of steel with the minimum wall thickness of 3/16" and 4" PVC butterfly valves. Cathodic protection is provided to pipes and tanks.

The building is subdivided into three (3) bays: #1, #2, and #3 with dimensions of 18'2" x 27'8", 18'5" x 27'8" and 37'3" x 27'8" respectively.

Protecting Florida and Your Quality of Life

ERMITTEE:

martin-Marietta-Orlando Aerospace

I.D. Number: FLD 060 240 207
Permit/Certification Number: HO48-89392
Date of Issue:
Expiration Date: 12/24/90

ENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions" and as such are binding upon the permittee and enforceable pursuant to the authority of Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the department will review this permit periodically and may initiate enforcement action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the department.

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Nor does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit does not constitute a waiver of or approval of any other department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express state opinion as to title.

This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, plant or aquatic life or property and penalties therefor caused by the construction or operation of this permitted source, nor does it allow the permittee to cause pollution in contravention of Florida Statutes and department rules, unless specifically authorized by an order from the department.

6. The permittee shall at all times properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by department rules.

7. The permittee, by accepting this permit, specifically agrees to allow authorized department personnel, upon presentation of credentials or other documents as may be required by law, access to the premises, at reasonable times, where the permitted activity is located or conducted for the purpose of:

   a. Having access to and copying any records that must be kept under the conditions of the permit;

   b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and

   c. Sampling or monitoring any substances or parameters at any location reasonably necessary to assure compliance with this permit or department rules.

   Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately notify and provide the department with the following information:

   a. a description of and cause of non-compliance; and

b. the period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the department for penalties or revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source, which are submitted to the department, may be used by the department as evidence in any enforcement case arising under the Florida Statutes or department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes.

10. The permittee agrees to comply with changes in department rules and Florida Statutes after a reasonable time for compliance, provided however, the permittee does not waive any other rights granted by Florida Statutes or department rules.

11. This permit is transferable only upon department approval in accordance with Florida Administrative Code Rules 17-4.12 and 17-30.30, as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the department.

12. This permit is required to be kept at the work site of the permitted activity during the entire period of construction or operation.

13. This permit also constitutes the [illegible]

( ) Determination of Best Available Control Technology (BACT)
( ) Determination of Prevention of Significant Deterioration (PSD)
( ) Certification of Compliance with State Water Quality Standards (Section 401, PL 92-500)
( ) Compliance with New Source Performance Standards

14. The permittee shall comply with the following monitoring and record keeping requirements:

a. Upon request, the permittee shall furnish all records and plans required under department rules. The retention period for all records will be extended automatically, unless otherwise stipulated by the department, during the course of any unresolved enforcement action.

b. The permittee shall retain at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation), copies of all reports required by this permit, and records of all data used to complete the application for this permit. The time period of retention shall be at least three years from the date of the sample, measurement, report or application unless otherwise specified by department rule.

c. Records of monitoring information shall include:

- the date, exact place, and time of sampling or measurements;
- the person responsible for performing the sampling or measurements;
- the date(s) analyses were performed;
- the person responsible for performing the analyses;
- the analytical techniques or methods used; and
- the results of such analyses.

15. When requested by the department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the department, such facts or information shall be submitted or corrected promptly.

16. In the case of a hazardous waste facility permit, the following permit conditions shall also apply.

a. The permittee will submit the following reports to the department:

(1) Manifest discrepancy report: If a significant discrepancy in a manifest is discovered, the permittee must attempt to reconcile the discrepancy. If not resolved within 15 days after receiving the waste, the permittee shall immediately submit a letter report including a copy of the manifest to the department.

(2) Unmanifested waste report: Permittee shall submit an unmanifested waste report to the department within 15 days of receipt of unmanifested waste.

(3) Annual summary: An annual report covering facility activities during the previous calendar year must be submitted in accordance with Florida Administrative Code Rule 17-30.

b. Notification of any non-compliance which may endanger health or the environment, including the release of any hazardous waste that may endanger public drinking water supplies, or the occurrence of a fire or explosion from the facility which could threaten the environment or human health outside the facility, shall be verbally submitted to the department within 24 hours and a written submission provided within 5 days. The verbal submission within 24 hours shall contain the name, address, I.D. number and telephone number of the facility and owner or operator, the name and quantity of materials involved, the extent of injuries (if any), an assessment of actual or potential hazards, and the estimated quantity and disposition of recovered material. The written submission shall contain the following:

(1) a description of and cause of non-compliance; and

(2) if not corrected, the anticipated time the non-compliance is expected to continue and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

c. Reports of compliance or non-compliance with, or any progress reports on, requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

d. All reports or information required to be submitted to the department by a hazardous waste permittee shall be signed by a person authorized to sign a permit application.

PERMITTEE:
Martin Marietta Orlando Aerospace

I. D. Number: FLD 060 240 207
Permit/Certification Number:
HO48-89392
Date of Issue:
Expiration Date: 12/24/90

SPECIFIC CONDITIONS:

1. The permittee shall notify the department in writing four weeks prior to receipt of hazardous waste from a foreign source.

2. Only hazardous waste listed in Table 3-2 of the Operation Permit Application shall be stored at the hazardous waste storage building. Prior to acceptance of new hazardous wastes, the permittee shall submit to the department, for approval, waste analysis of the proposed new waste stream. This analysis must also be incorporated in the general waste analysis plan and retained on-site.

3. The permittee shall inspect the facility operating, emergency and safety equipment in accordance with the schedule approved in Attachment 4 of the Operation Permit Application. Changes, additions, or deletions to the schedule must be approved in writing by the department. The schedule must be maintained as part of the operating record at the facility.

4. Facility personnel must complete the approved training program indicated in Section 4 of the Operation Permit Application. Verification of this training must be kept with the personnel training records and maintained on-site. Personnel shall not work unsupervised until training has been completed.

5. The contingency plan must be amended and distributed to the appropriate agencies if any criteria in 40 CFR 264.54 are met. Amendments to the plan must be approved in writing by the department.

6. The permittee shall follow the emergency procedures specified in 40 CFR 264.56 and approved in Section 4 Part E-2.4 of the Operation Permit Application. The permittee shall give proper notification if an emergency situation arises and within 15 days must submit to the department a written report which includes all information required in 40 CFR 264.56(j).

7. The permittee shall comply with the manifest requirements indicated in Part 40 CFR 264.71.

PERMITTEE:
Martin Marietta Orlando Aerospace

I. D. Number:FLD 060 240 207
Permit/Certification Number:
HO48-89392
Date of Issue:
Expiration Date: 12/24/90

SPECIFIC CONDITIONS:

8. The permittee shall keep a written operating record at the facility which includes:

   The description and quantity of each hazardous waste received.

   The location of each hazardous waste within the facility.

   The results of the waste analysis

   A summary report and details of incidents that require implementation of the contingency plan

   Manifest numbers

   The results of inspections (for 3 years)

   Closure plan and cost estimates.

These records must be maintained at the facility until completion and certification of closure.

9. The permittee shall apply for a permit renewal 90 days prior to the expiration date.

10. The permittee shall apply for a closure permit at least 180 days prior to beginning closure at the facility.

11. The permittee shall update waste analysis specified in 40 CFR 264.13 annually. The updated waste analysis data shall be submitted each year to the department by December 1.

12. Hazardous waste shall not be accumulated at any sites longer than 90 days except at the hazardous waste storage building.

13. Hazardous waste shall be containerized in 17E, 17H and DOT-E 6637 type DOT approved 55 gallon drums/carboys or equivalent and stored on pallet racks.

14. Bay #1 shall be permitted to store up to a maximum of 96 (55 gallon) drums of hazardous waste characterized "Flammable/ Ignitable" with EPA Hazardous Waste Numbers of D001, F003 and F005.

PERMITTEE:
Martin Marietta Orlando Aerospace

I. D. Number: FLD 060 240 207
Permit/Certification Number:
HO48-89392
Date of Issue:
Expiration Date: 12/24/90

SPECIFIC CONDITIONS:

15. Bay #2 shall be permitted to store up to a maximum of 96 (55 gallon) drums of hazardous waste characterized "Organic Solvent - Non-Flammable" with EPA Hazardous Waste Numbers of F001.

16. Bay #3 shall be subdivided into two areas. One area (18'9" x 27'8") shall be for storage of non-hazardous chemical waste and have a maximum storage of 48 (55 gallon) drums. The other area (18'6" x 27'8") shall be for storing hazardous waste characterized "Solid Material - Non-flammable" with EPA Hazardous Waste Numbers of D002 and F006 and have a maximum storage of 96 (55 gallon) drums.

17. All hazardous waste containers shall be kept closed during storage except when adding or removing wastes and be handled in a manner that will not allow the containers to rupture or leak. If a container holding hazardous waste is not in good condition, or begins to leak, the waste shall be transferred to another container in good condition. All containers shall also be managed in accordance with the plan approved in Section 6 of the operation permit application.

18. The permittee shall pump the liquid in each of the spill collection tanks into 55-gallon drums within 24 hours of any spills or leaks while awaiting analyses.

19. The permittee shall handle the 55 gallon drums that contain the spill material as an appropriate hazardous waste and dispose of under the RCRA rules and regulations.

20. The permittee shall inspect the container storage area daily for leaking containers and for deterioration of containers and the containment system.

21. Incompatible waste shall not be stored in containers or placed in unwashed containers that have previously held an incompatible waste.

22. The permittee shall maintain compliance with the financial responsibility requirements pursuant to 40 CFR Part 264, Subpart H.

PERMITTEE:
Martin Marietta Orlando Aerospace

I. D. Number: FLD 060 240 207
Permit/Certification Number:
HO48-89392
Date of Issue:
Expiration Date: 12/24/90

SPECIFIC CONDITIONS:

23. The permittee shall maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of the facility operation in an emergency.

24. The permittee shall operate the hazardous waste storage facility in accordance with 40 CFR Part 264 Subpart A through I.

Issued 12/24/85.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

R. E. Alexander, P.E.
District Manager

Filing and Acknowledgment
Filed on this date,
pursuant to §120.52(9),
Florida Statutes, with the
designated Clerk, receipt of
which is acknowledged.

E. B. (Williams) Dec. 24, 1985
CLERK DATE

This is to certify that this Notice of Permit was mailed before the close of business on December 24, 1985 Cynthia Black.

Elaine

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

ST. JOHNS RIVER DISTRICT
3319 MAGUIRE BOULEVARD
SUITE 232
ORLANDO, FLORIDA 32803-3767

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

ALEX ALEXANDER
DISTRICT MANAGER

CERTIFIED
P 034 210 934

February 7, 1986

OSJ-HW-86-0026

Richard C. Winfield
Director of Facilities
Martin Marietta Orlando Aerospace
Post Office Box 5837
Orlando, Florida 32855

Dear Mr. Winfield:

Marion County - HW
Martin Marietta Orlando Aerospace
Sandlake Road Facility
Site 5 Closure Permit Application

Please be advised that this letter will supercede the letter dated December 10, 1985 regarding a closure permit for sludge cell site 5. The Department has received a copy of Part B dated October 7, 1985, submitted to the U.S. EPA to comply with the provisions of the Hazardous and Solid Waste Amendments of 1984. The DER will be assisting the U.S. EPA in processing of your federal application. Since this Part B application was not accompanied by proper certifications required in DER Form 17-1.207(3), State of Florida Hazardous Waste Permit Appliation, the Department does not consider this submittal an application for state hazardous waste permit.

To constitute submission of a proper application, submittal of pages 45 and 46 of DER Form 17-1.207(3) within 10 days of receipt of this letter is required.

If you have any questions, please contact Mrs. Laxsamee Levin at 305/894-7555 of this office.

Sincerely,

Charles M. Collins

Charles M. Collins, P.E.
District Engineer

CMC:lly

cc: Satish Kastury, DER
James Scarbrough, EPA
James Show, Martin Marietta

DOCKET NO. MM-69

FEB 20 1986

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

4WD-RM

Mr. Richard C. Winfield
Director of Facilities
Martin Marietta Aerospace
4600 Sandlake Road
Post Office Box 5837
Orlando, Florida 32855

Re: Review of Exposure Information Report
Martin Marietta Aerospace, Orlando
EPA I. D. NO. FLD 060 240 207

Dear Mr. Winfield:

The Environmental Protection Agency (EPA) has completed the initial review of your RCRA Exposure Information Report (EIR) as required under Section 3019 of the Resource Conservation and Recovery Act as amended, submitted on December 13, 1985. Based on this review, the EPA has determined that the EIR is incomplete and additional information will be required. The deficiencies in your EIR are described in the attached comments. The appropriate revisions must be submitted within thirty (30) days of the receipt of this letter.

If you have any questions concerning our comments or requirements for the EIR, please contact Ms. Elaine Houston, of my staff, at 404/347-3433.

Sincerely yours,

James H. Scarbrough, P.E., Chief
Residuals Management Branch
Waste Management Division

Enclosures

cc: Robert McVety, Florida Department of Environmental Regulation

bc: Allen Antley
Houston Miller McCurry

Houston:dw:3433:1-20-6034X/3

DOCKET NO. MM-70

Exposure Information Report Deficiencies

Martin Marietta Orlando Aerospace

EPA I. D. NO. FLD 060 240 207

1. Page I-1 of the report indicates that well PW-37 at the point of compliance (in the surficial aquifer) was analyzed for priority pollutant metals and cyanides. Arsenic, chromium and mercury were detected but were well below drinking water standards. It is stated in the report that because of the sludges' low potential for leaching and the low levels of metals found in well PW-37, exposure due to metals and cyanide is not addressed in the report. Provide information on the results of any analyses for metals that have been conducted on other wells at the point of compliance, particularly for the three metals detected at well PW-37. Discuss the probability of metals having migrated into lower aquifers interconnected with the surficial aquifer. Has the background well been analyzed for the detected metals?

2. Many of the maps in the report are too small to be legible. Some of the maps do not have legends, orientations or dates.

3. It is stated that well FL-2 in the Floridan aquifer has not been sampled due to a pump malfunction. Until this well has been sampled for a Volatile Organic Constituent (VOC) analysis no conclusions can be made about the effect of the contamination on the Floridan aquifer. The pump should be repaired as soon as possible so that the well samples can be analyzed.

4. What is the location of the unit in relation to the recharge/discharge areas shown in Figure III-4?

5. Although it is stated in the application that there is no evidence of soil contamination, document that soil sampling will be performed at the time of removal of the sludge to verify the absence of contaminated soil prior to the remediation measures.

6. Are any water table elevation contour maps available for this site which were developed from actual well measurements. Also, tables showing analyses of well data should include water table elevation measurements taken at the time of sampling.

7. It is stated in the report that the impact of a contaminated surficial aquifer on the drainage canal and Shingle Creek would be lessened by dilution. Dilution cannot be taken into account when determining the impact of a contaminated aquifer on the canal and creek.

8. It should be determined definitely whether or not Shingle Creek is used for recreational purposes, i.e., fishing. It is stated on page IV-5 of the report that the VOCs of concern at this site are not considered bioaccumulators; and, therefore, exposure through the ingestion of fish is not considered relevant. Provide the research material verifying this determination.

9. It is stated on page IV-7 of the EIR that exposure due to volatilization from any possible creek discharge is considered to be minor. Air monitoring of the VOCs during the remediation activities (aeration of the contaminated aquifer) must be performed to ensure the safety of workers.

Jane.

ANSWERS TO EPA QUESTIONS ON THE EIR

Warner

1. Page I-1 of the report indicates that well PW-37 at the point of compliance (in the surficial aquifer) was analyzed for priority pollutant metals and cyanides. Arsenic, chromium, and mercury were detected but were well below drinking water standards. It is stated in the report that because of the sludges' low potential for leaching and the low levels of metals found in well PW-37, exposure due to metals and cyanide is not addressed in the report. Provide information on the results of any analyses for metals that have been conducted on other wells at the point of compliance, particularly for the three metals detected at well PW-37. Discuss the probability of metals haveing migrated into lower aquifers interconnected with the surficial aquifer. Has the background well been analyzed for the detected metals?

   No other point of compliance wells have been analyzed for metals. The background well, PW-4 has not been analyzed for metals. According to U.S. EPA in "Water-Related Environmental Fate of 129 Priority Pollutants," (44014-79-029a) arsenic may be sorbed onto clays, aluminum hydroxide, iron oxides and organic material. Chromium VI is reduced to Cr(III) under anaerobic conditions or in the presence of Fe(II), dissolved sulfides and certain organic compounds with sulfhydryl groups. Cr(III) is adsorbed by clays. Mercury has been found to adsorb readily to organic matter and particulate material. The soil in the vicinity of the surficial aquifer at the unit consists of sandy clays. Below the surficial aquifer, clay content rapidly increases. The Hawthorne formation consists of a 70-ft layer of clay material with very low permeabilities. In addition, the waters contain a large amount of iron indicating a high iron content in the soils. For these reasons, the process of sorption should drastically retard the mobility of these metals.

   Analyses for all EPA Primary Drinking Water Supply Parameters and Drinking Water Supply Parameters must be conducted at the upgradient and compliance point monitoring wells as part of the ground water monitoring program to be used in establishing the effectiveness of the corrective action.

2. Many of the maps in the report are too small to be legible. Some of the maps do not have legends, orientations or dates.

   Per the phone conversation of 18 March with Elaine Houston, no map clarifications are currently needed.

3. It is stated that well FL-2 in the Floridan aquifer has not been sampled due to a pump malfunction. Until this well has been sampled for a Volatile Organic Constituent (VOC) analysis no conclusions can be made about the effect of the contamination on the Floridan aquifer. The pump should be repaired as soon as possible so that the well samples can be analyzed.

   Well FL-2 was sampled in the last quarter of 1985. However, due to QA/QC problems, this well will be resampled in April.

4. What is the locatin of the unit in relation to the recharge/ discharge areas shown in Figure III-4?

   Map is attached showing the approximate location of the sludge cells in the Shingle Creek basin (black dot) based on latitude and longitude.

5. Although it is stated in the application that there is no evidence of soil contamination, document that soil sampling will be performed at the time of removal of the sludge to verify the absence of contaminated soil prior to the remediation measures.

   Soil sampling will be performed at the time of sludge removal.

6. Are any water table elevation contour maps available for this site which were developed from actual well measurements. Also, table showing analyses of well data should include water table elevation measurements taken at the time of sampling.

   A water table elevation contour map developed from actual well measurements for the site is shown in the Exposure Information Report on page III-2. Water table elevation measurements taken at the time of sampling will be provided by 30 April 1986 from Geraghty & Miller.

7. It is stated in the report that the impact of a contaminated surficial aquifer on the drainage canal and Shingle Creek would be lessened by dilution. Dilution cannot be taken into account when determining the impact of a contaminated aquifer on the canal and creek.

   It is imperative that the argument of dilution be considered within the context of an exposure information report. This is because an EIR must address the magnitude and

nature of the potential human exposure resulting from a release. Consideration must be given to all relevant mechanisms that affect such exposure, e.g., dilution, volatilization, sorption, hydroloysis, photolysis, etc. This is not done in an effort to condone such a release, or even to assess whether or not a violation of a particular law has occurred, but rather to better determine what the effect of such a release may be. In this manner, relevant pathways of exposure can be pinpointed, and resources can be focused on proper remediation.

8. It should be determined definitely whether or not Shingle Creek is used for recreational purposes, i.e., fishing. It is stated on page IV-5 of the report that the VOCs of concern at this site are not considered bioaccumulators; and, therefore, exposure through the ingestion of fish is not considered relevant. Provide the research material verifying this determination.

It cannot be reasonably ascertained whether or not Shingle Creek is used for fishing and to what extent any fishing might occur in this stream, due to the lack of documentation. Any such activity would have to occur below Martin Marietta property. It is felt, however, that human exposure to VOCs due to fish consumption is not a significant pathway.

Bioaccumulators of concern are those chemicals which can accumulate in fish tissue to hazardous levels even though they may be present at very low levels in the environment. One measure of the tendency of a chemical to accumulate in fish is the octanol/water partition coefficient (P). Veith et al. (1984-1985) of the U.S. EPA Research Laboratory in Diluth, Minnesota have concluded that "unless a chemical has exceptional biological activity, it is unlikely that chemicals with a log P[P = 10,000] less than 4.0 could bioaccumulate to hazardous levels in human food chains." The VOCs of concern have low octanol/water partition coefficient (P) values:

Chemical	p(a)
benzene	135
chlorobenzene	690
chloroform	91
1,1-dichloroethane	63
1,2-dichloroethane	30
1,1-dichloroethylene	135
1,2-dichloropropane	105
methylene chloride	18
tetrachloroethylene	759

Chemical	p(a)
toluene	620
trans-1,2-dichloroethylene	123
trans-1,3-dichloropropene	100
1,1,1-trichloroethane	320
trichloroethylene	263
vinyl chloride	17

(a) From "Aquatic Fate Process Data for Organic Priority Pollutants" U.S. EPA report #440/4-81-014, December 1982.

The following papers discuss these issues:

G.D. Veith, D. DeFoe, and M. Knuth, 1984-1985. "Structure-Activity Relationships for Screening Organic Chemicals for Potential Ecotoxicity Effects." Drug Metabolism Reviews 15(7), 1295-1303.

G.D. Veith, K.J. Macek, S.R. Petrocelli, and John Carroll. 1980. "An Evaluation of Using Partition Coefficients and Water Solubility to Estimate Bioconcentration Factors for Organic Chemicals in Fish." Aquatic Toxicology ASTM STP 707. J.G. Eaton, P.R. Parrish and A.C. Hendricks, Eds., American Society for Testing and Materials, p.116-129.

G.D. Veith, D.L. DeFoe, and Barbara V. Bergstedt. 1979. "Measuring and Estimating the Bioconcentration Factor of Chemicals in Fish." Journal of the Fish Research Board of Canada, p.1040-1048.

J.R. Trabalka, C.T. Garten, Jr. 1982. "Development of Predictive Models for Xenobiotic Bioaccumulation in Terrestrial Ecosystems." Oak Ridge National Laboratory, Environmental Sciences Division, ORNL-5869, DE83003171.

9. It is stated on page IV-7 of the EIR that exposure due to volatilization from any possible creek discharge is considered to be minor. Air monitoring of the VOCs during the remediation activities (aeration of the contaminated aqufer) must be performed to ensure the safety of workers.

   It was mentioned on page V-10 of the EIR that air monitoring will be performed.

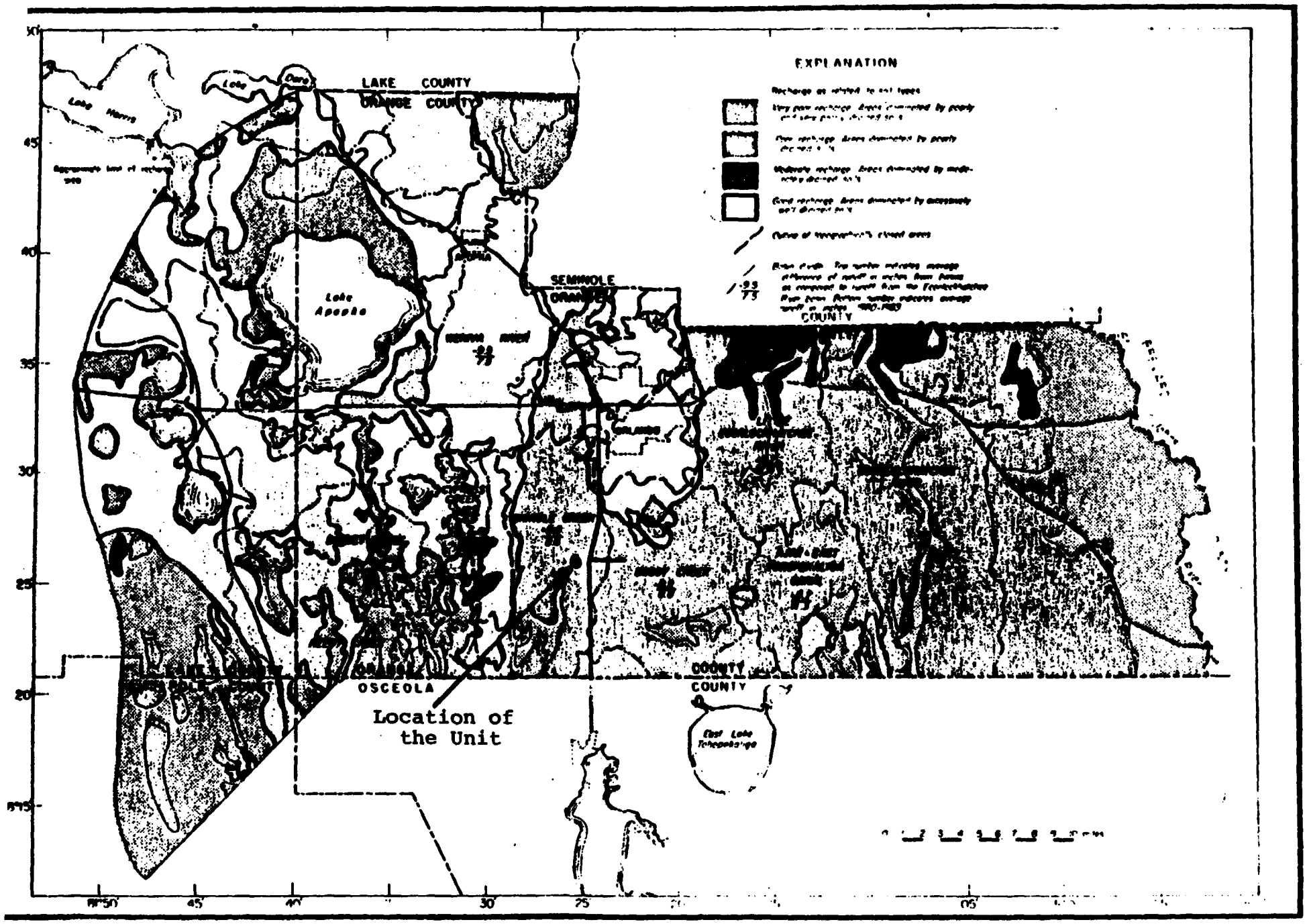


Figure III-4 Recharge areas to the Floridan aquifer in Orange County and selected adjacent areas, Florida.

A copy to Satish Kasti
Jim Searbrough

.A AEROSPACE

ORLANDO AEROSPACE
POST OFFICE BOX 5837
ORLANDO, FLORIDA 32855

MP-186

February 17, 1986

FEB 1986
RECEIVED
ST. JOHNS
River District

Mr. Charles M. Collins, P. E.
State of Florida
Department of Environmental Regulation
St. Johns River District
3319 Maguire Blvd., Suite 232
Orlando, Florida 32803

Re: Orange County, Martin Marietta Orlando Aerospace, Sand Lake Road Facility, Site 5 Closure Permit Application

Dear Mr. Collins:

Pursuant to your request, we enclose four signed originals of pages 45 and 46 of DER Form 17-1.207(3) which will supplement the above application.

If you need additional information, please address your questions to:

James T. Show, Staff Engineer
Facilities Division
Martin Marietta Corporation
P.O. Box 5837, MP-124
Orlando, Florida 32855
(305) 356-9446

We would appreciate your signing the enclosed copy of this letter and returning it to us in the stamped, self-addressed envelope to indicate your receipt of the above.

done 2/19/86

Sincerely,

Nancy Davis

Nancy L. Davis
Paralegal

NLD:jf
Enclosures

cc: Richard C. Winfield
Raymond F. Green
James T. Show

DOCKET NO. MM-71

Pouch E

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

ST. JOHNS RIVER DISTRICT
3319 MAGUIRE BOULEVARD
SUITE 232
ORLANDO, FLORIDA 32803-3767

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

A. ALEXANDER,
DISTRICT MANAGER

Jim Scarbrough, P.E., Chief
Residual Management Branch
USEPA
Region IV
345 Courtland St., N.E.
Atlanta, GA 30365

Attn: John Lank

Dear Sir:

Enclosed please find copies of Correspondence concerning one or more of the following facilities per your request:

_____ F.P.&L./Cape Canaveral Plant

_____ F.P.&L./Sanford Plant

✓ Martin Marietta Aerospace/Orlando Plant

_____ General Development Utilities

Sincerely,

Charles M. Collins

C.M. Collins, P.E.
for Hazardous/Solid Waste Engineering

cc:Robert McVety, Tallahassee

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

ST. JOHNS RIVER DISTRICT
3319 MAGUIRE BOULEVARD
SUITE 232
ORLANDO, FLORIDA 32803-3767

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

ALEX ALEXANDER
DISTRICT MANAGER

February 20, 1986

Certified
P 578 212 837

Mr. Richard C. Winfield
Director of Facilities
Martin Marietta Orlando Aerospace
Post Office Box 5837
Orlando, FL 32855

OSJ-HW-86-0034

Dear Mr. Winfield:

Orange County HW
Martin Marietta Orlando Aerospace
Comments on Part B
Post-Closure Permit Application for
Site 5 Sludge Cells

We are in receipt of copies of post-closure permit application for site 5 sludge cells you submitted to U.S.E.P.A. on October 6, 1985. We reviewed it and found the application to be incomplete and/or inadequate to the following items:

Maps

1. The legal boundaries of the site are not identified clearly on any of the maps provided. (40 CFR 270.14(b)(19)(vii))

2. Appendix D, the diagram of the water, sewer and piping or fire protection is almost totally illegible. It is impossible to identify all of the items on the map as shown in the legend. (40 CFR 270.14(b)(19))

3. Appendix A, there is no number on the map indicating Section 5 as shown on Appendix B-6.

4. Appendix D and C maps are not dated. (40 CFR 270.14(b)(19)(i))

5. Document the location of the loading/unloading area for hazardous wastes at the site. (40 CFR 270.14(b)(19)(x))

Operating Information

6. Table II-1 of the post-closure permit application lists spent plating bath solutions and spent cyanide plating bath solutions and rinsewaters as characteristic hazardous wastes by the definition of corrosivity (40 CFR 261.22). These wastes may fall under categories for hazardous wastes from non-specific sources as listed in 40 CFR 261.31. Re-evaluate how you have defined the wastes at your site to see if they are more properly defined by 40 CFR 261.31. If you need to change their categorizations, make sure that the Part A application, operating permit for storage and post-closure permit application are modified in accordance with the regulations. (40 CFR 270.14(b)(2))

Facility Security Information

7. There is no specific discussion of how entry into the gates is controlled. Do the guards who routinely patrol the facility also control entry into the active portion of the facility? (40 CFR 264.14(b)(2)(ii))

8. It is mentioned on page II-19 of the application that "signs...are checked as part of the weekly inspection procedure." Document that these are the signs required by the cited regulation. Discuss the locations of the signs and the legend on the sign. (40 CFR 264.14(c))

Closure/Post Closure Plans

9. It is described in the application that during closure the wastes in the sludge cells will be removed, mixed with cement and replaced in the area that was excavated. Unless a delisting petition is filed for this F006 waste and the petition is approved by EPA Headquarters, the F006 will still be considered hazardous after the dewatering and solidification procedures. Therefore, the resulting landfill must have a final cover designed in accordance with 40 CFR 264.310(a). The post-closure permit application must include a description of how the landfill will be maintained and monitored after closure in accordance with 40 CFR 264.310(b). (40 CFR 270.21(e)).

10. As it is indicated in the application that the closure of site 5 sludge cells is expected to require 9 months, demonstrate rationale of how the closure activities take longer than 180 days. (40 CFR 264.113(b)(1)(i))

11. Explain in the closure plan procedures of disposal or decontamination of equipment when the closure is completed. (40 CFR 264.114)

12. Include in the closure plan a statement indicating submittal of a certification of closure. (40 CFR 264.115)

13. Provide a more complete description of the air stripping treatment system to be utilized for the treatment of contaminated ground water. (40 CFR 264.118(a))

14. Document that the post-closure plan, and all revisions to it, will be kept at the facility until post closure care begins. (40 CFR 264.118(a))

15. Include in the post-closure plan a description of planned monitoring activities and the frequencies at which they will be performed. (40 CFR 264.118(a)(1))

16. Include in the post-closure plan a description of planned maintenance activities and the frequencies at which they will be performed to ensure the integrity of the cap and final cover and the function of the facility monitoring equipment. (40 CFR 264.118(a)(2))

17. The plan should include the name, address and phone number of the person or office to contact about the facility during the post-closure period. This person or office must keep an updated post-closure plan during the post-closure period. (40 CFR 264.118(a)(3))

18. Include in the closure plan a statement indicating submittal of documentation of notice to local land authority. (40 CFR 264.119)

19. Include in the closure plan a statement indicating recording of a notation on the deed to the facility property. (40 CFR 264.120)

Financial Responsibility Information

20. The cost estimate should be developed from several unit costs (i.e. inspection, administration, labor, etc.). The basis of each unit cost should be documented. Any sub-costs which make up a unit cost should be documented. The total of all these unit costs multiplied by thirty (30) years required for post-closure care will yield the post-closure cost estimate. (40 CFR 264.144 and 270.14(b)(16))

21. To date, we have not received documentation of financial assurance for post-closure care for this facility. It was stated in the application that this documentation will be submitted under separate cover. Until this information is received, it will be considered a deficiency of the application. (40 CFR 264.145)

Ground Water Protection Requirements

22. Include a detailed summary of the ground water monitoring data obtained during the interim status period under 40 CFR 265.90 - 265.94. Include in this discussion a review of one year quarterly monitoring data for those parameters specified in 40 CFR 265.92. This data should reflect sampling from upgradient well PW-4, all downgradient wells, and include Appendix III and VIII analyses from well PW-37. (40 CFR 270.14(c)(1))

23. The possibility of vertical movement of water between the Surficial Aquifer and the permeable limestone and shell lenses within the Hawthorne Formation (the secondary artesian aquifer) must be determined. Also, any possible variation in ground water flow direction with seasonal change, as is indicated in the post-closure permit application, must be adequately described or delineated.

    Figure VI-3, "Geologic Cross - Section Across Site - 5", does not reflect the specific subsurface geology of the downgradient area, and is therefore inadequate for the purpose of identifying the depth of the surficial aquifer boundary in the downgrdient area. Include a similar cross section based upon lithologic logs obtained from downgradient wells.

    Water table measurements from which Figure VI-4, "Water Table Contour Map at Site 5, May 21, 1985," and Figure VI-5, "Potentiometric Countour Map of the Floridan Aquifer, December 4, 1981," were constructed must be included. The application must include also measured water table elevations for each interim status monitoring period. In addition, Figure VI-5 should be presented at a scale of 1"=200'. (40 CFR 270.14(c)(2))

24. Figure VI-1, "Location of Existing Monitoring Wells and Approximate Direction of Surface Water Drainage at Site 5", and Figure VI-4, "Water Table Contour Map at Site," do not contain topographic contours. Therefore, include a topographic map (scale = 1":200') of the waste management area which

delineates the following information:

Ground water flow direction and rate

Point of Compliance

Location of Monitoring Wells

Extent of the plume

Location(s) of disturbed soils within the waste management area.

(40 CFR 270.14(c)(3))

Include a description of the horizontal and vertical extent of any plume that has entered the ground water from Site 5. This description should justify the selecton of well PW-37 as that point which will indicate the maximum concentrations of each Appendix VIII constituent. (40 CFR 270.14(c)(4))

Corrective Action Information Requirements

Since the presence of hazardous constituents has been measured in the ground water at the point of compliance, the post-closure permit application must include sufficient information, supporting data, and analyses to establish a corrective action program which meets the requirements of 40 CFR 264.100. This should be based upon the results of the interim status ground water parameters specified in 40 CFR 265.92 and Appendix VIII results, as well as the volatile organic constituent data previously submitted. The information must include:

A characterization of the contaminated ground water, including concentrations of hazardous constituents.

Detailed plans and an engineering report describing the corrective action to be taken, including the time period necessary to implement the corrective program. (40 CFR 270.14(c)(8) and 40 CFR 264.100)

A description of how the ground water monitoring program will demonstrate the effectiveness of the corrective action program. Such a monitoring program may be based on the requirements for a compliance monitoring program under 40 CFR 264.99, and must be as effective as that program in determining compliance with the ground water protection standard. (40 CFR 264.100(d))

Exposure Information Report For Site 5 Sludge Cells

1) Both ground water samples from INT-4 (4/22/85 and 9/6/85) contained volatile organics upon analysis.

Parameter	INT-4 4/22/85	Trip Blank 4/22/85	INT-4 9/6/85	Trip Blank 9/6/85
toluene	0.3 ppb	0.2 ppb	BDL	BDL
trichloroethylene	0.7 ppb	BDL	BDL	BDL
methylene chloride	BDL	BDL	0.3 ppb	0.4 ppb

However, excluding trichloroethylene, the trip blanks contained the same volatiles and concentrations. This suggests that the toluene and methylene chloride were present due to sample handling procedures and not indicative of actual ground water quality. Because trichloroethylene was detected (and not invalidated) in INT-4 on 4/22/85, the statement "the absence of VOC's in this well is very positive" (page III-11) is not accurate.

2) Considering that flow in the Floridan aquifer is to the southeast, and FL-2 and INT-4 are located northeast of the sludge cells, neither well is in a good location to establish Floridan aquifer water quality downgradient of the sludge cells. Well INT-7, which is located east-southeast of the sludge cells, is better located and should be included in any sampling. (page III-11)

3) Figure III-2 indicates that Floridan well DW-10 is downgradient of Site 5. This is contrary to the Floridan hypothetical plume discussion which states "The flow path ... would not intercept any wells known to exist ..." (page III-11).

4) The exposure potential as calculated would not represent realistic air concentrations for Site 5. Ground water withdrawal and treatment (air stripping) usually begin in the area of highest contamination. The highest volatile concentrations for Site 5 are located outside the sludge cell plume and were not considered in these calculations. Therefore, the air exposure potential would be higher than indicated.

5) This report considers only human exposure to the contaminants. The acute and chronic risks to aquatic species should also be addressed for the drainage canal and Shingle Creek.

Appendix VIII, Technical Report

The technical report is being reviewed. Comments will be forwarded to the facility in the near future.

Please submit the aditional required information within thirty (30) day of receipt of this letter.

In addition to our comments (EPA Region IV and St. Johns River District) above, the comments from Groundwater Section in Tallahassee are enclosed and are to be address in your response as soon as a proper state permit application is submitted (per the letter dated February 7, 1986 to Mr. Winfield).

If you have any questions, please contact Mrs. Laxsamee Levin at (305)894-7555 at this office.

Sincerely,

Charles M. Collins

Charles M. Collins, P.E.
Hazardous/Solid Waste
Engineering

LAX.
CMC:LL:mac

Enclosures

cc: Bob McVety, DER
Satish Kastury, DER
James Scarbrough, EPA
James Show, Martin Marietta

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

Interoffice Memorandum

FOR ROUTING TO OTHER THAN THE ADDRESSEE
To: Craig Diltz Loc'n: HWS
To: Charlie Biedermann Loc'n:
To: Loc'n:
From: Bill O'Steen Date: 11/7/85

TO: Mr. Charlie Biedermann, Environmental Specialist
Hazardous Waste Section

THROUGH: Mr. Craig Diltz, Engineer CD
Hazardous Waste Section

Dr. Rodney S. DeHan, Assistant Bureau Chief RSD
Bureau of Ground Water Protection

Mr. James E. McNeal, Environmental Specialist JEM
UIC & Technical Support Section

FROM: William N. O'Steen, Environmental Specialist WNO
UIC & Technical Support Section

DATE: November 6, 1985

SUBJECT: Ground Water Monitoring Plan for Martin Marietta Corporation
FLD 060 240 207, Orange County

The following list addresses the ground water monitoring portion of Martin Marietta's Part B submittal. Deficiencies of both RCRA-related information and Chapter 17-4 monitoring plan requirements are included. I have referred to my previous checklist to complete this list. I have also reviewed the Consent Order for the Site 5 sludge cells.

RECEIVED
NOV 8 1985
Hazardous Waste

WNO/cs

Martin Marietta Corporation (FLD 060 240207), Orange County

Chapter 17-4 Regulatory Requirement	
17-4.245(6)(d)11., F.A.C.	1. Sampling is needed for EPA priority pollutants and applicable Chapter 17-3, F.A.C. Class III surface water quality standards in the drainage ditch upstream and downstream from the RCRA site.
17-4.245(6)(d)1., F.A.C.	2. Vertical permeability testing of confining beds beneath the surfical aquifer is required.
17-4.245(6)(d)9, F.A.C.	3. Water level measurements from intermediate aquifer monitor wells are needed. Water level measurements and identification of wells used to make Figure VI-4 of the report are required. Data must be supplied to support the statement on page VI-7 that the direction of ground water flow may shift during certain times of the year.
17-4.245(6)(d)1.b., F.A.C.	4. Tabulate all in-situ permeability test results. Include test locations and, if appropriate, the depth of each test performed.
17-4.245(6)(d)1.a., F.A.C.	5. Value(s) of hydraulic gradient used to determine ground water velocity and method of determining hydraulic gradient must be submitted. Unconfined aquifer porosity should be quantified (RCRA requirement).
17-4.245(6)(d)9.,F.A.C.	6. Delineation of the existing contaminant plume must be completed. Water-quality investigations should address deeper parts of the surificial aquifer in the vicinity of monitoring wells PW-40, PW-41 or PW-42.

17-4.245(6)(g)1., F.A.C.	7. Proposed background well PW-4 must be analyzed for Florida primary and secondary drinking water standards, total phenols, cyanide and volatile organic compounds to establish its suitability as a background well.
Requested Under RCRA Requirement Only	8. Specifics concerning monitoring well development and the success of well development must be submitted.
17-4.245(6)(d), F.A.C.	9. Specify the sampling procedure (bailed sample versus sampling with a peristaltic pump) for each parameter or parameter group.
Requested Under RCRA Requirements Only	10. Procedures for the annual determination of the uppermost aquifer flow rate, and direction, have not been submitted.
Chapter 17-4.245(6)(d), F.A.C.	11. A proposed routine parameter list must be submitted. This list must incorporate all parameters already identified in the contamination plume, plus the Appendix VIII parameters detected in the sample from well PW-37.
Chapter 17-4.245(7)(b), F.A.C.	12. If monitoring of the deeper parts of the uppermost aquifer indicates contamination near wells PW40, PW-41 or PW-42, a corrective action program for cleaning the aquifer must be proposed, according to 40 CFR Part 264.91(a)(3).
Chapter 17-4.245(6)(g)4., F.A.C.	13. At least one RCRA point of compliance well screened in the deeper part of the uppermost aquifer must be proposed.
Requested Under RCRA	14. A statistical procedure should be proposed per 40 CFR Part 264.99(h).

In Section VI of the Closure Plan, any pages following Page VI-36 are missing from the copy of the plan received by our office. Therefore, I do not know the completeness of the Monitorng Program to Assess Corrective Actions which begins on that page.

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

ST. JOHNS RIVER DISTRICT
3319 MAGUIRE BOULEVARD
SUITE 232
ORLANDO, FLORIDA 32803-3767

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

ALEX ALEXANDER
DISTRICT MANAGER

CERTIFIED
P 034 210 934

February 7, 1986

OSJ-HW-86-0026

Richard C. Winfield
Director of Facilities
Martin Marietta Orlando Aerospace
Post Office Box 5837
Orlando, Florida 32855

Dear Mr. Winfield:

Marion County - HW
Martin Marietta Orlando Aerospace
Sandlake Road Facility
Site 5 Closure Permit Application

Please be advised that this letter will supercede the letter dated December 10, 1985 regarding a closure permit for sludge cell site 5. The Department has received a copy of Part B dated October 7, 1985, submitted to the U.S. EPA to comply with the provisions of the Hazardous and Solid Waste Amendments of 1984. The DER will be assisting the U.S. EPA in processing of your federal application. Since this Part B application was not accompanied by proper certifications required in DER Form 17-1.207(3), State of Florida Hazardous Waste Permit Appliation, the Department does not consider this submittal an application for state hazardous waste permit.

To constitute submission of a proper application, submittal of pages 45 and 46 of DER Form 17-1.207(3) within 10 days of receipt of this letter is required.

If you have any questions, please contact Mrs. Laxsamee Levin at 305/894-7555 of this office.

Sincerely,

Charles M. Collins

Charles M. Collins, P.E.
District Engineer

CMC:lly

cc: Satish Kastury, DER
James Scarbrough, EPA
James Show, Martin Marietta

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET
ATLANTA, GEORGIA 30365

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

DEC 10 1985

4WD-RM

Mr. Richard C. Winfield
Director of Facilities
Martin Marietta Orlando Aerospace
4600 Sandlake Road
Post Office Box 5837
Orlando, Florida 32855

Re: Issuance of RCRA Permit for 1985 HSWA
Martin Marietta Aerospace
EPA I. D. NO. FLD 060 240 207

Dear Mr. Winfield:

Enclosed is the Resource Conservation and Recovery Act (RCRA) permit to cover those portions of the 1984 Hazardous and Solid Waste Amendments (HSWA) that affect your facility. This permit, together with the permit to be issued by the State of Florida on December 11, 1985, constitutes a full RCRA permit.

Issuance of this permit is in accordance with 40 CFR §124.15. The permit is effective December 16, 1985, as no comments were received during the public comment period.

The applicable RCRA regulations in effect at the time of permit issuance and referenced in the permit shall be complied with throughout the life of the permit, unless the permittee requests modification of the permit in response to future amendments of the regulations.

If there are any questions concerning the permit, please contact James H. Scarbrough, of my staff at 404/881-3016.

Sincerely yours,

George T. Harlow

DOCKET NO. MM 299

for Thomas W. Devine, Director
Waste Management Division

cc: Mr. Robert McVety, Florida Department of Environmental Regulation

Martin Marietta Orlando Aerospace
Orlando, Florida 32855

Identification Number FLD 062 240 207
Permit Number FLD 062 240 207

Pursuant to the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended (42 USC §6901 et seq., commonly known as RCRA) and regulations promulgated thereunder by the U. S. Environmental Protection Agency (EPA) (codified and to be codified in Title 40 of the Code of Federal Regulations), a permit is issued to Martin Marietta Orlando Aerospace (hereafter called the Permittee), to operate a hazardous waste storage facility located in Orlando, Florida latitude 28° 26' 17" North and longitude 81° 26' 57" West.

This permit, in conjunction with Hazardous Waste Permit to be issued by the State of Florida, constitutes the RCRA permit for this facility.
This permit requires the Permittee to determine whether there have been any releases of hazardous waste or hazardous constituents from any solid waste management unit at Martin Marietta Orlando Aerospace regardless of the time at which waste was placed in such unit and to take appropriate corrective action for any such releases. The permit also requires the Permittee to certify annually that on-site generation of hazardous waste is minimized to the extent practical.

The Permittee must comply with all terms and conditions of this permit. This permit consists of the conditions contained herein (including those in any attachments) and applicable regulations contained in 40 CFR Parts 260 through 264, 270, and 124 as specified in the permit and statutory requirements of RCRA, as amended by the Hazardous and Solid Waste Amendments of 1984, P.L. 98-616, (the RCRA amendments). Applicable regulations are those which are in effect on the date of issuance of this permit in accordance with 40 CFR §270.32(c).

This permit is based on the assumption that the information and reports will be submitted as specified in the permit. Any inaccuracies found in this information may be grounds for termination or modification of this permit in accordance with 40 CFR §§270.41, 270.42 and 270.43 and potential enforcement action. The Permittee must inform EPA of any deviation from or changes in the information in the application which would affect the Permittee's ability to comply with the applicable regulations or permit conditions.

This permit is effective as of December 16, 1985 and shall remain in effect until [illegible] 16, 1995 unless revoked and reissued, or terminated under 40 CFR [illegible].41 and .43 or continued in accordance with §270.51(a).

Dec 9, 1985
Date

George L. Harlow
Signature
for Thomas W. Devine
Director, Waste Management Division

TABLE OF CONTENTS

		Pages
Part I	Standard Conditions	3 - 8
Part II	Solid Waste Management Units	9 - 10
Part III	Waste Minimization	10
Attachment A	Solid Waste Questionaire	

I.A. EFFECT OF PERMIT

Compliance with this permit and the Florida hazardous waste permit constitutes compliance, for purposes of enforcement, with Subtitle C of RCRA. Issuance of this permit does not convey property rights of any sort or any exclusive privilege; nor does it authorize any injury to persons or property, any invasion of other private rights, or any infringement of state or local law or regulations. Compliance with the terms of this permit does not constitute a defense to any order issued or any action brought or taken under Section 3013 or Section 7003 of RCRA, Sections 106(a), 104 or 107 of the Comprehensive Environmental Response, Compensation, and Liability Action of 1980 (42 U.S.C. 9601 et seq., commonly known as CERCLA), or any other law providing for protection of public health or the environment.

I.B. PERMIT ACTIONS

This permit may be modified, revoked or reissued, or terminated for cause as specified in 40 CFR §§270.41, 270.42 and 270.43. The filing of a request for a permit modification, revocation and reissuance, or termination, or the notification of planned changes or anticipated noncompliance on the part of the Permittee does not stay the applicability or enforceability of any permit condition.

I.C. SEVERABILITY

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.

I.D. DUTIES AND REQUIREMENTS

I.D.1. Duty to Comply

The Permittee shall comply with all conditions of this permit, except to the extent and for the duration such noncompliance is authorized by an emergency permit. Any permit noncompliance other than noncompliance authorized by an emergency permit, constitutes a violation of RCRA and is grounds for enforcement action, permit termination, revocation and reissuance, modification, or denial of a permit renewal application.

I.D.2. Duty to Reapply

If the Permittee wishes to continue an activity allowed by this permit after the expiration date of this permit, the Permittee shall submit a complete application for a new permit at least 180 days before this permit expires.

I.D.3. Permit Expiration

If the state does not have RCRA hazardous waste permitting authority under 40 CFR Part 271 for the 1984 RCRA Amendments, this permit and all conditions herein will remain in effect beyond the permit's expiration date, as specified in §270.51, if the Permittee has submitted a timely, complete application in accordance with §270.10(c) and, through no fault of the Permittee, the Regional Administrator has not issued a new permit with an effective date under §124.15 on or before the expiration date of the previous permit.

If the state does have RCRA hazardous waste permitting authority under 40 CFR Part 271 for the 1984 RCRA Amendments and if the Permittee has submitted a timely and complete application under applicable state law and regulations, the terms and conditions of this permit continue in force beyond the expiration date of the permit, but only until the effective date of the state's issuance or denial of a state RCRA permit.

I.D.4. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

I.D.5. Duty to Mitigate

In the event of noncompliance with the permit, the Permittee shall take all reasonable steps to minimize releases to the environment, and shall carry out such measures as are reasonable to prevent significant adverse impacts on human health or the environment.

I.D.6. Proper Operation and Maintenance

The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of a backup or auxiliary facility or similar systems only when necessary to achieve compliance with the conditions of the permit.

I.D.7. Duty to Provide Information

The Permittee shall furnish to the Regional Administrator, within a reasonable time, any relevant information which the Regional Administrator may request to determine whether cause exists for

modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The Permittee shall also furnish to the Regional Administrator, upon request, copies of records required to be kept by this permit.

I.D.8. Inspection and Entry

The Permittee shall allow the Regional Administrator, or an authorized representative, upon the presentation of credentials and other documents as may be required by law to:

I.D.8.a. Enter at reasonable times upon the Permittee's premises where a regulated activity is located or conducted, or where records must be kept under the conditions of this permit;

I.D.8.b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

I.D.8.c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

I.D.8.d. Sample or monitor, at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by RCRA, any substances or parameters at any location.

I.D.9. Monitoring and Records.

I.D.9.a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. The method used to obtain a representative sample of the waste to be analyzed must be the appropriate method from Appendix I of 40 CFR Part 261. Laboratory methods must be those specified in the most recent edition of Test Methods for Evaluating Solid Waste: Physical/Chemical Methods SW-846 or Standard Methods of Wastewater Analysis.

I.D.9.b. The Permittee shall retain at the facility records of all monitoring information, including all calibration and maintenance records, records of all data used to prepare documents required by this permit, copies of all reports and records required by this permit, and records of all data used to complete the application for this permit for a period of at least 3 years from the date of the sample, measurement, report or record, or until corrective action is completed, whichever date is later. These periods may be extended by request of the Regional Administrator at any time and are automatically extended during the course of any unresolved enforcement action regarding this facility.

I.D.9.c. Records of monitoring information shall specify:

I.D.9.c.i. The dates, exact place, and times of sampling or measurements;

I.D.9.c.ii. The individuals who performed the sampling or measurements;

I.D.9.c.iii. The dates analyses were performed;

I.D.9.c.iv. The individuals who performed the analyses;

I.D.9.c.v. The analytical techniques or methods used;and

I.D.9.c.vi. The results of such analyses.

I.D.10. Reporting Planned Changes

The Permittee shall give notice to the Regional Administrator as soon as possible of any planned physical alterations or additions to the permitted facility and to the solid waste management units which are the subjects of the RCRA permit.

I.D.11. Anticipated Noncompliance

The Permittee shall give advance notice to the Regional Administrator of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

I.D.12. Transfer of Permits

This permit may be transferred to a new owner or operator only if it is modified or revoked and reissued pursuant to 40 CFR §270.41(b)(2) or §270.42(d). Before transferring ownership or operation of the facility during its operating life, the Permittee shall notify the new owner or operator in writing of the requirements of 40 CFR Parts 264 and 270,the 1984 RCRA Amendments,and this permit.

I.D.13. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

I.D.14. Twenty-four Hour Reporting

The Permittee shall report to the Regional Administrator any noncompliance with this permit resulting from a release from a solid waste management unit which may endanger human health or the environment. Any such information shall be reported orally within 24 hours from the time the Permittee becomes aware of the circumstances. This report shall include the following:

I.D.14.a. Information concerning the release of any hazardous waste or hazardous constituents which may endanger public drinking water supplies.

I.D.14.b. Information concerning the release or discharge of any hazardous waste or hazardous constituents, or of a fire or explosion

at the facility, which could threaten the environment or human health outside the facility. The description of the occurrence and its cause shall include:

I.D.14.b.i. Name, address, and telephone number of the owner or operator;

I.D.14.b.ii. Name, address, and telephone number of the facility;

I.D.14.b.iii. Date, time, and type of incident;

I.D.14.b.iv. Name and quantity of materials involved;

I.D.14.b.v. The extent of injuries, if any;

I.D.14.b.vi. An assessment of actual or potential hazard to the environment and human health outside the facility, where this is applicable and;

I.D.14.b.vii. Estimated quantity and disposition of recovered material that resulted from the incident.

A written submission shall also be provided within 15 days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the periods of noncompliance (including exact dates and times); whether the noncompliance has been corrected; and if not, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

I.D. 15. Other Noncompliance

The Permittee shall report all other instances of noncompliance not otherwise required to be reported above at the time any other reports as required by this permit are submitted. The reports shall contain the information listed in Condition I.D.14.

I.D.16. Other Information

Whenever the Permittee becomes aware that it failed to submit any relevant facts or submitted incorrect information in any document(s) submitted to the Regional Administrator, the Permittee shall promptly submit such facts or information.

I.E. SIGNATORY REQUIREMENT

I.E.1. Certification

All applications, reports, or information submitted to the Regional Administrator shall be signed and certified in accordance with 40 CFR §270.11.

I.F. CONFIDENTIAL INFORMATION

The Permittee may claim confidential any information required to be submitted by this permit in accordance with 40 CFR §270.12.

I.G. DEFINITIONS

For purposes of this permit, terms used herein shall have the same meaning as those in RCRA and 40 CFR Parts 124, 260, 261, 264 and 270, unless this permit specifically provides otherwise; where terms are not defined in the regulation, the permit, or EPA guidances or publications, the meaning associated with such terms shall be defined by a standard dictionary reference or the generally accepted scientific or industrial meaning of the term.

I.G.1. Hazardous constituents for purposes of this permit are those substances listed in 40 CFR Part 261 Appendix VIII and include hazardous constituents released from solid waste and hazardous constituents that are reaction by-products.

I.G.2. Solid Waste Management Unit for purposes of this permit includes, but is not limited to, any landfill, surface impoundment, waste pile, land treatment unit, incinerator, injection well, tank (including storage, treatment, and accumulation tanks), container storage unit, wastewater treatment unit, elementary neutralization unit, transfer station, and recycling unit from which hazardous constituents might migrate, irrespective of whether the units were intended for the management of solid and/or hazardous wastes.

I.G.3. Release for purposes of this permit includes any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment of any hazardous waste or hazardous constituents.

I.G.4. Contamination for purposes of this permit refers to the presence of any hazardous constituent in a concentration which exceeds the naturally occurring concentration of that constituent in the immediate vicinity of the facility (in areas not affected by the facility).

I.G.5. Corrective action, for purposes of this permit, may include "corrective action" as provided in 40 CFR §264.100 and/or other remedial acitivities for any media until otherwise defined in 40 CFR §264.101.

II.A. ASSESSMENT OF NEED FOR CORRECTIVE ACTION

II.A.1. The Permittee shall provide to the Regional Administrator a report which identifies all solid waste management units currently or previously located at the facility. In preparing this report, the permittee will review all existing sources of information related to solid waste management practices at the facility and fully investigate the facility property to determine the existence of any additional solid waste management units. This report must include, at a minimum, the following information for each unit:

a) Type of unit
b) Location of each unit on a topographic map of appropriate scale
c) General dimensions and capacities
d) Function of unit
e) Dates that the unit was operated
f) Description of the wastes that were placed in the unit
g) Description of any known releases or spills (to include ground-water data, soil analyses, and/or surface water analyses)

The above report shall be submitted within 90 days of issuance of of this permit.

II.A.2. The Permittee shall prepare a solid waste management unit investigation plan with a proposed schedule for implementation and completion, for each solid waste management unit identified in II.A.1. which are known or suspected to have releases of hazardous waste or hazardous constituents to the environment. A soil, ground water and surface water Contamination Assessment Plan ("CAP") as prepared for the Florida Department of Environmental Regulation ("FDER") will will be considered in meeting this requirement. The permittee must provide documentation that a release is not probable if a unit is identified which is not included in the solid waste management unit investigation plan or CAP.

II.A.3. The Permittee shall include in the solid waste management investigation plan, or CAP, schedules, methods and specific actions as necessary to determine whether a prior or continuing release of hazardous waste or hazardous constituents has occurred, the nature and extent of known or suspected releases and the potential pathways of contaminant releases to the air, land, surface water or groundwater. The results of the investigation shall contain information including, but not limited to, all supporting documentation and data used in implementing the investigation plan.

II.A.4. The Permittee shall implement the solid waste management unit investigation plan(s), or CAP, in accordance with the schedules contained in each plan or as directed by FDER unless otherwise notified by the Regional Administrator.

II.A.5 The Permittee shall submit to the Regional Administrator a final report on the investigation plan(s), or CAP as applicable, for determination of the need for further investigative actions and/or the need for corrective action as required under 40 CFR §264.101(a), in accordance with schedules established by FDER, as applicable, unless otherwise notified by the Regional Administrator. The Contamination Assessment Report ("CAR") prepared for FDER will be considered in meeting this requirement.

II.A.6. The Regional Administrator shall review the final report on the investigation plan(s) and notify the Permittee of the need for further investigative actions and/or the need for corrective action as required under 40 CFR §264.101(a).

II.A.7. When the need for corrective action is determined in Condition II.A.6 the Permittee shall submit to the Regional Administrator a corrective action plan, in accordance with a schedule to be determined by the Regional Administrator. Corrective action must include a description of the corrective measures to be taken, and a schedule of implementation and completion.

II.A.8. If the Permittee at any time determines that the solid waste management unit investigation plan(s) required under Condition II.A. no longer satisfies the requirements of 40 CFR §264.101 or this permit for prior or continuing releases of hazardous waste or hazardous constituents from solid waste management units, he must submit an amended plan to the Regional Administrator within ninety (90) days of such determination.

II.B. SCHEDULES OF COMPLIANCE

II.B.1. The Permittee shall submit the items required by conditions II.A.1., II.A.2., and II.A.3., and the associated documentation to the Regional Administrator within ninety (90) days of the effective date of this permit.

II.B.2. All plans and schedules approved by the FDER applicable to the requirements of this permit shall be followed unless otherwise notified by the Regional Administrator prior to implementation. The permittee shall revise all submittals as specified by the Regional Administrator.

II.B.3. If the time required to complete any interim activity is more than one year, the schedule shall specify interim dates for the submission of reports of progress toward satisfaction of the interim requirements.

II.B.4. The results of all plans and reports shall be submitted in accordance with the approved schedule. Extensions of the due date for submittals may be granted by the Regional Administrator based on the Permittee's demonstration that sufficient justification for the extension exists.

II.C. PERMIT MODIFICATION

The Permittee shall apply for a permit modification pursuant to 40 CFR §270.41 to incorporate the corrective action plan developed under Condition II.A.7.

PART III - WASTE MINIMIZATION

The following condition is pursuant to 40 CFR §264.73(b)(9):

III.A. WASTE MINIMIZATION CERTIFICATION

The permittee shall be required to certify no less often than annually that the permittee has a program in place to reduce the volume and toxicity of hazardous waste that he generates to the degree determined by the permittee to be economically practicable and the proposed method of treatment, storage or disposal is that practicable method currently available to the permittee which minimizes the present and future threat to human health and the environment.

ATTACHMENT A

INFORMATION REGARDING POTENTIAL RELEASES FROM SOLID WASTE MANAGEMENT UNITS

(SLRC)

FACILITY NAME: Martin Marietta Orlando Aerospace

EPA I. D. NUMBER: FDL 060 240 207

LOCATION City: Orlando

State: Florida

1. Are there any of the following solid waste management units (existing or closed) at your facility? NOTE - DO NOT INCLUDE HAZARDOUS WASTES UNITS CURRENTLY SHOWN IN YOUR PART B APPLICATION

	YES	NO
• Landfill	✓	
• Surface Impoundment		✓
• Land Farm		✓
• Waste Pile		✓
• Incinerator		✓
• Storage Tank (Above Ground)		✓
• Storage Tank (Underground)	✓	
• Container Storage Area		✓
• Injection Wells		✓
• Wastewater Treatment Units		✓
• Transfer Stations		✓
• Waste Recycling Operations		✓

2. If there are "Yes" answers to any of the items in Number 1 above, please provide a description of the wastes that were stored, treated or disposed of in each unit. In particular please focus on whether or not the wastes would be considered as hazardous wastes or hazardous constituents under RCRA. Also include any available data on quantities or volumes of wastes disposed of and the dates of disposal. Please also provide a description of each unit and include capacity, dimensions, location at facility, provide a site plan if available.

See Attached Sheet 1a and Site Plan

NOTE: Hazardous waste are those identified in 40 CFR 261. Hazardous constituents are those listed in Appendix VIII of 40 CFR Part 261.

3. For the units named in Number 1 above and also those hazardous waste units in your Part B application, please describe for each unit any data available on any prior or current releases of hazardous wastes or constituents to the environment that may have occurred in the past or still be occurring.

Please provide the following information

a. Date of release
b. Type of waste released
c. Quantity or volume of waste released
d. Describe nature of release (i.e., spill, overflow, ruptured pipe or tank, etc)

SEE PAGE 2a

4. In regard to the prior releases described in Number 3 above, please provide (for each unit) any analytical data that may be available which would describe the nature and extent of environmental contamination that exists as a result of such releases. Please focus on concentrations of hazardous wastes or constituents present in contaminated soil or groundwater.

The condition of the ground-water at Sites 3, 5, 6 and MEC Building is currently being investigated. Recent data for down gradient wells at these Sites and Sites 1, 2, 4 is attached.

Signature and Certification

As with reports in RCRA Permit Applications, submittal of this information must contain the following certification and signature by a principal executive officer of at least the level of Vice President or by a duly authorized representative of that person:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Richard C. Winfield

Signature

Richard C. Winfield, Director Facilities

Name and Title (Typed)

LANDFILL SITES 4 & 6 CONTAINING NON-HAZARDOUS NORMAL TRASH FROM MANUFACTURING, OFFICE AND RESEARCH BUILDINGS, AND DEBRIS FROM CONSTRUCTION AND LANDSCAPE MAINTENANCE.

MEC BUILDING, GROUND-WATER STORAGE TANK (5,000 GALLON) FOR VOC TREATMENT SYSTEM. THE RECOVERED GROUND-WATER CONTAINS HAZARDOUS CONSTITUENTS UNDER RCRA.

SITE 4, APPROXIMATELY 1.7 ACRES, WAS IN USE DURING 1971 AND 1972. THIS PORTION OF THE DISPOSAL SITE RECEIVED AN ESTIMATED 675 TONS OF SOLID WASTE. APPROXIMATE DIMEN SIONS 250'x300'.

SITE 6, APPROXIMATELY 4.8 ACRES, WAS IN USE DURING 1981 AND 1982 AND RECEIVED AN ESTIMATED 1900 TONS OF SOLID WASTE. APPROXIMATE DIMENSIONS 235'x 900'.

(3) LANDFILL SITES 1, 2, 3 AND 5 ARE IDENTIFIED IN THE FDER OPERATING PERMIT APPLICATION FOR MARTIN MARIETTA'S SAND LAKE ROAD CENTER (SLRC). NON-HAZARDOUS TRASH FROM NORMAL MANUFACTURING, OFFICE AND RESEARCH ACTIVITIES AND DEBRIS FROM CONSTRUCTION AND MAINTENANCE ACTIVITIES PLUS ELECTROPLATING SLUDGE FROM THE PRETREATMENT PLANT WERE LANDFILLED IN THESE SITES. ONLY ELECTROPLATING SLUDGE WAS LANDFILLED IN SITE 2. SITES 4, 6 and MEC BUILDING ARE DESCRIBED IN ITEM 2.

ANY RELEASE THAT MAY HAVE OCCURED AT THESE SITES WAS A NON-SUDDEN RELEASE OF AN UNKNOWN QUANTITY OF MATERIAL.

Table 1. Volatile organic compounds in surface water (SW-5,6,7) and groundwater (PW-3,7,8,26) from Site 5 at Martin Marietta Aerospace, Orlando

Client Sample ID:		SW-5	SW-6	SW-7	BLANK	PW-3	PW-7	PW-8	PW-26
Sampling Date:		9/24/84	9/24/84	9/24/84	9/24/84	9/24/84	9/24/84	9/24/84	9/24/84
COMPOUNDS	MDL (ppb)	Final Concentration = ppb (ng/ml)							
benzene	0.2	BDL[a]	BDL	BDL	BDL	BDL	BDL	4.1	4.9
bromodichloromethane	2	BDL	BDL	BDL	BDL	BDL	BDL	11.5	5.7
bromoform	4	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
carbon tetrachloride	4	BDL	BDL	BDL	BDL	BDL	BDL	26.8	33.2
chlorobenzene	0.2	BDL	BDL	BDL	BDL	0.2	BDL	BDL	0.4
chloroform	1	BDL	BDL	BDL	1.8	BDL	BDL	BDL	BDL
2-chloroethylvinyl ether	2	BDL	BDL	BDL	BDL	BDL	BDL	BDL	2.1
cis-1,3-dichloropropene	0.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
dibromochloromethane	2	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,1-dichloroethane	0.5	BDL	BDL	BDL	BDL	1.7	BDL	3.5	2.5
1,2-dichloroethane	0.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,1-dichloroethylene	0.5	0.8	BDL	BDL	BDL	BDL	BDL	2.3	0.9
1,2-dichloropropane	0.4	BDL	BDL	BDL	BDL	BDL	BDL	3.4	3.2
ethylbenzene	0.2	BDL	BDL	BDL	BDL	BDL	BDL	17.4	18.2
methylene chloride	0.5	BDL	BDL	BDL	BDL	1.8	1.5	4064	1853
1,1,2,2-tetrachloroethane	0.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
tetrachloroethylene	0.5	0.7	BDL	BDL	BDL	5.8	0.9	602	342
toluene	0.2	0.2	BDL	BDL	0.2	0.2	BDL	537	241
trans-1,2-dichloroethylene	0.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
trans-1,3-dichloropropene	0.4	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,1,1-trichloroethane	1	BDL	BDL	BDL	BDL	25.3	27.4	177	BDL
1,1,2-trichloroethane	0.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
trichloroethylene	0.5	2.7	1.2	5.8	BDL	BDL	BDL	143	24.0

(a) BDL = below detection limit
(b) Based on duplicate analysis

Table 2. Volatile organic compounds in groundwater collected from monitoring wells at Sites 1, 2, and 3 at Orlando Aerospace

		Site 1	Site 2	Site 3
Client Sample ID:		PW-15	PW-13	PW-9
Sampling Date:		9/24/84	9/24/84	9/24/84
COMPOUNDS	MDL (ppb)			
benzene	0.2	BDL (a)	BDL	BDL
bromodichloromethane	2	BDL	BDL	BDL
bromoform	4	BDL	BDL	BDL
carbon tetrachloride	4	BDL	BDL	BDL
chlorobenzene	0.2	BDL	BDL	BDL
chloroform	1	BDL	BDL	BDL
2-chloroethylvinyl ether	2	BDL	BDL	BDL
cis-1,3-dichloropropene	0.5	BDL	BDL	BDL
dibromochloromethane	2	BDL	BDL	BDL
1,1-dichloroethane	0.5	BDL	BDL	16.8
1,2-dichloroethane	0.5	BDL	BDL	BDL
1,1-dichloroethylene	0.5	BDL	BDL	6.0
1,2-dichloropropane	0.4	BDL	BDL	BDL
ethylbenzene	0.2	BDL	BDL	BDL
methylene chloride	0.5	BDL	BDL	1.6
1,1,2,2-tetrachloroethane	0.5	BDL	BDL	BDL
tetrachloroethylene	0.5	BDL	BDL	11.1
toluene	0.2	BDL	BDL	1.0
trans-1,2-dichloroethylene	0.5	BDL	BDL	BDL
trans-1,3-dichloropropene	0.4	BDL	BDL	BDL
1,1,1-trichloroethane	1	BDL	BDL	BDL
1,1,2-trichloroethane	0.5	BDL	BDL	BDL
trichloroethylene	0.5	BDL	BDL	61.7

(a) BDL = below detection limit
(b) Based on duplicate analysis

Table 3. Metals (Cd, Cr, Cu, Ni) TOC, and total cyanide in surface water (SW-5,6,7) and groundwater (PW-3,7, 8,9,13,15,26) at Martin Marietta Aerospace, Orlando

Sample	Site	Final Concentration ppb				Total Cyanide ppb	TOC ppm
		Cd	Cr	Cu	Ni		
PW-15	1	0.5	1.0	14.0	5.0	<5.0	2.8
PW-13	2	38.0	18.0	9.0	117.0	<5.0	12.6
PW-9	3	<0.1	11.0	8.0	17.0	<5.0	6.9
PW-3	5	<0.1	3.0	4.0	27.0	<5.0	1.9
PW-7	5	<0.1	2.0	1.0	<3.0	<5.0	7.2
PW-8	5	<0.1	1.0	1.0	11.0	<5.0	236
PW-26	5	0.3	<1.0	1.0	15.0	<5.0	210
SW-5	Surface Water	0.2	1.0	7.0	4.0	<5.0	10.7
SW-6	Surface Water	0.1	1.0	8.0	3.0	<5.0	9.7
SW-7	Surface Water	0.2	4.0	6.0	6.0	1.3	11.0
	MDL*	0.1	1.0	1.0	1.0	5.0	0.3
Drinking Water Standard		10.0	50.0	1,000	-	-	-

* MDL - Method detection limit
** EPA Primary (Cd, Cr) and Secondary Drinking (Cu) Water Standards

CONCENTRATION OF VOLATILE ORGANIC COMPOUNDS IN GROUNDWATER COLLECTED FROM MONITORING WELLS AT SITE 4, ORLANDO AEROSPACE

Compounds	Location	Site 4	
	Sampling Date:	4/8/84	4/12/84
	Method Detection Limit 50 ml Sample (ppb)	TW-7	TW-9
benzene	0.2	BDL	BDL
bromodichloromethane	2	BDL	BDL
bromoform	4	BDL	BDL
carbon tetrachloride	4	BDL	BDL
chlorobenzene	0.2	BDL	BDL
chloroform	1	BDL	BDL
cis-1,3-dichloropropene	0.5	BDL	BDL
dibromochloromethane	2.0	BDL	BDL
1,1-dichloroethane	0.5	2.6	BDL
1,2-dichloroethane	0.5	BDL	BDL
1,1-dichloroethylene	0.5	BDL	BDL
1,2-dichloropropane	0.4	BDL	BDL
ethylbenzene	0.2	BDL	BDL
methylene chloride	0.5	BDL	BDL
1,1,2,2-tetrachloroethane	0.5	BDL	BDL
tetrachloroethylene	0.5	BDL	BDL
toluene	0.2	BDL	BDL
trans-1,2-dichloroethylene	0.5	3.9	3.3
trans-1,3-dichloropropene	0.4	BDL	BDL
1,1,1-trichloroethane	1	BDL	BDL
1,1,2-trichloroethane	0.5	BDL	BDL
trichloroethylene	0.5	5.1	1.4
2 Chloroethylvinylether		BDL	BDL

Concentrations of volatile organic compounds in groundwater samples collected from monitoring wells at Site 6, Orlando Aeorspace

		Location	Site 6		
		Sampling Date:	5/18/84	5/18/84	5/18/84
Compounds	AWQC(a) (ppb)	Method Detection Limit 50 ml Sample (ppb)	PW-27	PW-28 (*)	PW-29
benzene	40	0.2	BDL	BDL	BDL
bromodichloromethane	0.19	2	BDL	BDL	21
bromoform		4	BDL	BDL	13
carbon tetrachloride	0.40	4	BDL	BDL	17
chlorobenzene	488	0.2	BDL	BDL	BDL
chloroform	0.19	1	BDL	6	4.7
cis-1,2-dichloropropene	87	(b)	BDL	BDL	P (b)
dibromochloromethane	0.19	(b)	BDL	BDL	P (b)
1,1-dichloroethane		0.5	0.8	11.7	11.5
1,2-dichloroethane	0.94	0.5	BDL	BDL	BDL
1,1-dichloroethylene	0.033	0.5	1.6	3.4	3.4
1,2-dichloropropene		(c)	BDL	BDL	P (c)
ethylbenzene	1,400	0.2	1.5	3.8	12
methylene chloride	0.19	0.5	2.0	7.1	63
1,1,2,2-tetrachloroethane	1.7	(d)	BDL	BDL	BDL
tetrachloroethylene	0.8	(d)	520	580 (e)	299 (e)
toluene	14,300	0.2	2.6 (e)	64 (e)	74 (e)
cis -1,2-dichloroethylene		0.5	110 (e)	78 (e)	38 (e)
trans-1,3-dichloropropene	87	(c)	BDL	BDL	P (c)
1,1,1-trichloroethane	18,400	1	9.3	11.6	14
1,1,2-trichloroethane	0.6	(b)	BDL	BDL	P (b)
trichloroethylene	2.7	0.5	949 (e)	692 (e)	478 (e)

(a) AWQC - Ambient Water Quality Criteria (FR 45, pp. 79318-79379, 1980). AWQC are for human health protection; values reflect intake via food and water consumption and an increment: lifetime cancer risk of 10^{-6}. these values may become less restrictive as proposed under the National Interim Primary Drinking Water Regulations (FR 47, p. 9337, 198)
(b) Dibromochloromethane/1,1,2-trichloroethane/cis-1,3-dichloropropene coelute and cannot be individually quantified. (P) indicates compounds(s) are present.
(c) 1,2-dichloropropane/1,3-dichloropropene coelute and cannt be individually quantified. (P) indicates compound(s) are present.
(d) 1,1,2,2-tetrachloroethane/tetrachloroethylene coelute and cannot be individually quantified. (P) indicated compound(s) are present.
(e) Confirmed by GC/MS
(*) Average of two values

Table 1. VOC Analysis Results

BLDG GROUNDWATER HOLDING TANK

MES Sample ID:		345	346				
Client Sample ID:		Field Blank	WP-1				
Sample Size (ml):		40	20				
GC/MS analyzed (date):		10/31/84	10/31/84				
COMPOUNDS	MDL (ppb)	Final Concentration - ppb (ng/ml)					
benzene(a)	0.2	BDL	BDL				
bromodichloromethane	2	BDL	BDL				
bromoform	.4	BDL	BDL				
carbon tetrachloride	4	BDL	BDL				
chlorobenzene	0.2	BDL	BDL				
chloroform	1	BDL	BDL				
2-chloroethylvinyl ether	2	13	BDL				
cis-1,3-dichloropropene	0.5	BDL	BDL				
dibromochloromethane	2	BDL	BDL				
1,1-dichloroethane	0.5	BDL	7.1				
1,2-dichloroethane	0.5	BDL	BDL				
1,1-dichloroethylene	0.5	BDL	2.8				
1,2-dichloropropane	0.4	BDL	BDL				
ethylbenzene	0.2	BDL	14.1				
methylene chloride	0.5	BDL	23.5				
1,1,2,2-tetrachloroethane	0.5	BDL	BDL				
tetrachloroethylene	0.5	0.6	89.0				
toluene	0.2	BDL	20.8				
trans-1,2-dichloroethylene	0.5	BDL	BDL				
trans-1,3-dichloropropene	0.4	BDL	BDL				
1,1,1-trichloroethane	1	BDL	5.4				
1,1,2-trichloroethane	0.5	BDL	BDL				
trichloroethylene	0.5	BDL	658.0				
cis-1,2-dichloroethylene	0.5	BDL	204.9				

MATERIAL RELATED TO PERMIT FOR

APPLICANT: Martin Marietta Aerospace - Orlando

EPA ID# FLD 060 240 207

DOCKET NO.	DATE	DESCRIPTION	FILE SECTION
MM 285	9/13/88	Record of Meeting	3
286	9/29/88	EPA → Phillips FOI	2
287	10/13/88	MM → EPA RE: Solvent Wipers	Appendices
288	12/13/88	Permit modification	6
289	1/10/89	EPA → FDER Req Status of Solvent Wipers	3
290	1/10/89	EPA → MM " " " "	2
291	(6/5/85)	MM → EPA RE: Haz waste activity (or lack of)	2
292	(9/20/85)	EPA → MM RE: Draft permit	2
293	undated ≈ 1/89	Memo RE: Solvent Wipers	3
294	1/4/89	Extension of Generator 90 day accum time	2
295	1/30/89	FOI	2
296	3/1/89	Memo RE: possible tank	3
297	3/6/89	Record of Conversation	3
298	(6/25/85)	Notes on Consent Order	3
299		HSWA Permit found in Vol. 1 Section	6
300	(11/19/87)	Closure Permit w/Post Closure Modification	6
301	(12/28/87)	Documents RE: Closure/Post Closure Permit for Sites 5	6
302	(8/29/88)	Listing of all MM Reports related to gw	2
303	1/5/89	FDER Comments on the Closure Certification	2
304	1/5/89	Semi Annual & Annual Report on the effectiveness of Corrective Action	2
305	3/13/89	SWMU list	6
306	(8/17/87)	FDER → MM RE: CAR Response comments	2
307	(1/18/88)	MM → FDER RE: Closure Permit	2

MATERIAL RELATED TO PERMIT FOR

APPLICANT: Martin Marietta Aerospace - Orlando

EPA ID# FLD 060 240 207

DOCKET NO.	DATE	DESCRIPTION	FILE SECTION
MM 308	2/23/89	MM → FDER RE: GW monitoring results	Appendices file
309	3/13/89	Memo RE: GW & Corrective Action	3
310	4/4/89	Memo RE: GW	3
311	4/25/89	Tucker → EPA RE: Land ban, Sumu CA	2
312	5/3/89	FDER → MM RE: Extension of <90 day time	2
313			

9/13/88

Mickey,

The following occurred 9/12/88:

1. Drew Puffer attended the Remedial Guidance Manual Review meeting with Joe Alea from EPA HQ.

2. Meetings were held concerning Martin Marietta's request for a regulatory determination as to whether solvent wipers are rags or not.

A pre-meeting was held at 10:00 in Jim Scarbrough's office. Those in attendance included

James Scarbrough	EPA
Doug McCurry	EPA
Jane Stone	EPA
Scott Gordon	EPA
Charlie Biedermann	FDER
Phyllis Perrin	EPA-ORC
Mary Ardiff	EPA-ORC.

DOCKET NO. MM 285

EPA met with Martin Marietta at 10:30 and Martin Marietta gave a demonstration of their facilities activities involving wipers. Attached is a record of ~~[illegible]~~ meeting.

RECORD OF MEETING
DATE: September 12, 1988
SUBJECT: Martin Marietta Corp.
Determination of regulatory status of solvent wipers

Attached is a list of meeting participants.

Lincoln Hall spoke first at the meeting and gave a description of the facilities activities, how the solvent wipers relate to these activities and what types of waste minimization projects are being done at the sites.

Some pending projects include:

-Incinerator for liquids (onsite disposal of sovents)
-Closed Loop (reduced metals discharge to Orange County)
-Solvent Replacement Research

Mr. Hall mainly talked about surface mount circuits cleaning. He said the rags are bought in bulk quantity, stored in a storage crib, maintained at a work station, used in the cleaning process as specified by Martin Mariettas Plan (MPP), discarded in special waste can, picked up by Environmental Management, stored in a hopper and finally taken to an EPA approved landfill.

Ken Tucker spoke next and explained that solvent wipers include cloths, swabs etc... The wipers are accumulated in 24 ft^3 hoppers. All rags containing all different types of solvents go into the "red bins". They have not separated them. This includes Q-tip swabs.

Mr. Tucker said that no one has discussed with Martin Marietta that the issue concerns a listed waste. Therefore according to Mr. Tucker the mixture rule applies. Martin Marietta has arguments against the mixture rule.

Martin Marietta is presently running TCLP and also ignitability tests. Tests are currently being done to see how much solvent is in the rags.

Mr. Scarbrough asked if the rags contain metals after use. Mr. Hall said they will not know till their test results are back.

Mr. Scarbrough told Martin Marietta that EPA Region IV could not give them an answer today. He said that the decision is basically up to FDER. EPA will get something in writing addressing this issue and send it to FDER and carbon copy Martin Marietta.

Martin Marietta will be sending to EPA their data that shows how much solvent is accumulated in wipers.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET
ATLANTA, GEORGIA 30365

WASTE MANAGEMENT DIVISION

List of Meeting Participants

Meeting: Martin Marietta Corp. RE: Regulations of Solvent Wipers

Date: 9/12/88 Time: 10:30 am

NAME	REPRESENTING	PHONE NUMBER
Jane Stone	EPA - WES	(404) 347-3433
Phyllis Perrin	EPA - ORC	(404) 347-2641
MARY D. ARDIFF	EPA - ORC	(404) 347-2641
Lincoln E. Hall	Martin Marietta	(407) 356-3787
RICHARD C. BRUNING	MARTIN MARIETTA	407 356-5534
Robert D. Fingerle	Martin Marietta	(904) 224-7091
Ken Tucker	Martin Marietta	904-224-7091
JIM SCARBROUGH	EPA R IV	404 347 3016
Charlie Biedermann	Fl. Dept. Env. Reg.	904/488-0300
Scott GORDON	EPA - WCS	(404) 347-2234

SEP 29 1988

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

4WD-RCRA

Mr. Michael Phillips
McElroy, Deutsch and Mulvaney
Attorneys at Law
218 Ridgedale Avenue
Post Office Box 2075
Morristown, New Jersey 07960

RE: Freedom of Information Act Request
Martin Marietta, Orlando, Florida
4-RIN-1569-88

Dear Mr. Phillips:

This is in reference to your Freedom of Information Act (FOIA) request for documents pertaining to Martin Marietta's Orlando, Florida facility from Region IV files.

We estimated the total cost of compiling this information will exceed Five-Hundred Dollars ($500.00). Pursuant to Title 40 CFR, Part 2 Section 2.120(c) "Prepayment or Assurance of Payment", it will be necessary for you to prepay the costs associated with your request. Upon receipt of your payment, we will compile and forward the available requested records to you.

Request #1 and Request #2 of your August 3, 1988, letter can be addressed by the Environmental Protection Agency (EPA). Request #3 should be directed to the Florida Department of Environmental Regulation (FDER). You have already requested, in Requests #1 and #2, any documents EPA has concerning FDER.

As discussed in your phone conversation with my staff, the following are some of the documents to be included in your request:

- Site 3 Contamination Assessment Report and Conceptual Remedial Action Plan - January 1987
- Exposure Information Report Site 5 - November 1985
- Final Contamination Assessment Survey and Proposed Remedial Action Plan - May 1986
- Solid Waste Management Unit Report (Sand Lake) - March 1986
- RCRA Facility Assessment Report - August 1986
- Solid Waste Management Unit Report (Sand Lake) - Revision July 1986

DOCKET NO. OMM 2

- Site 4 Contamination Assessment Report and Conceptual Remedial Action Plan - February 1987
- Site 6 Contamination assessment Report and Proposed Remedial Action Plan - January 1987
- Technical Report for Martin Marietta Environmental Services - September 12, 1985
- Comments on PDER's review of Closure Plan for Site 5 (March 24, 1986) - Report on Implementation of a Groundwater Quality Assessment Plan - Contamination Assessment Plan (Site 5).
- Remedial Action Investigation at Site 5 (March 10, 1987)
- Site 5 Contamination assessment Report and Conceptual Remedial Action Plan - January 1987
- Item 7, Part V, of the Site 5 Closure Permit MMO - January 1988
- Assessment of Groundwater Contamination at Site 5 - January 1988
- Operating Permit Application
- Various documents from the RCRA Waste Engineering Section administrative file
- Various documents from the RCRA Waste Compliance Section files
- Preliminary Assessment reports from Pre-Remedial program

Once again we would like to remind you that you may make arrangements with EPA to come into the Region IV office and review the documents yourself to narrow your request and possibly reduce your fee considerably.

The enclosed "Bill for Collection" represents our best estimate of cost at this time. Please return the top portion of the form with your check or money order payable to the U.S. Environmental Protection Agency and forward your remittance to the address listed on the form. Your check should reference the Freedom of Information Act Request number RIN-1569-88.

Should you have any questions, please contact Jane Stone at (404) 347-3433.

Sincerely yours,

James H. Scarbrough, P.E.
Chief, RCRA Branch
Waste Management Division

Enclosure

bcc: FINCHER/JONES
FERRELL

WES:3433:STONE:SYBURCH:STONE TLX #1 FOI1569:09/08/88

STONE	Farmer	HARTNETT	ARDIFF	McCURRY	SCARBROUGH
9/12/88	9/12/88	9/12/88	9/12/88	9/12/88	

McELROY, DEUTSCH & MULVANEY

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FAX (201) 292-3146

August 3, 1988

Came in 8-9-88
4-RIN-1569-88
due 8-23-88

Waste (LEAD)
Air
ORC

To: Walton W. Jones
FOIA Officer
USEPA
345 Courtland Street, N.W.
Atlanta, Georgia 30365

Re: Freedom of Information Act Request:
Martin Marietta Corporation
Sand Lake Road, Orlando, Florida (Orlando site)

Dear Mr. Jones:

By this letter we are presenting a Freedom of Information Act Request for information pertaining to the above-referenced site. To assist you in responding to our request, we are providing you with the following more complete description of the Orlando site:

Martin Marietta Corporation and/or Martin Marietta Aluminum, Inc. owned and/or operated at Sand Lake Road, Orlando, Florida and disposed of hazardous substances thereat beginning in appropximately 1958. Upon information and belief, contaminants may be affecting local soils, surface waters and groundwater.

In order to fully apprise us of the nature of the hazardous substances and conditions which may be present at the Martin Marietta Orlando site, as well as any proposed, currently implemented or completed clean-up methods and/or clean-up procedures, we submit the following request pursuant to 5 USC §552, and USEPA's implementing regulations therefor, which are codified at 40 C.F.R. Part 2.

1. All documents and information including but not limited to preliminary and complete studies and technical reports, related to the Orlando site. This data should include, but not be limited to:

a. Reports and data prepared by or at the request of the United States Environmental Protection Agency (USEPA), the State of Florida and any of its departments, agencies or instrumentalities, including but not limited to the Florida Department of Environmental Regulation, or any other public or private entity indentifying or analyzing the substances present at the Orlando site;

b. Reports and data prepared by or at the request of the USEPA, the State of Florida and any of its departments, agencies or instrumentalities including but not limited to the Florida Department of Regulation or any other public or private entity identifying or analyzing the risks to health or the environment posed by substances at or near the Orlando site;

c. Documents pertaining to the listing of the Orlando site on the USEPA's National Priorities List;

d. Documents relating to any proposals or claims for (i) the listing of the Orlando site on the list of hazardous waste sites, or (ii) funds from any programs applicable to the clean-up of contaminated soils, surface water and/or groundwater;

e. Documents describing the technologies and measures that the USEPA or the Florida Department of Regulation may have proposed, recommended, or agreed should be adopted for the closure and/or clean-up of the Orlando site;

f. Documents pertaining to the permissible, prospective or possible future uses of the Orlando site;

g. Documents pertaining to the compliance or non-compliance of the Orlando site with applicable federal and state legal requirements; and

h. Documents which indicate that Martin Marietta Corporation, and/or Martin Marietta Aluminum, Inc. might be a person who arranged for disposal or treatment, or arranged with a transporter for disposal or treatment of hazardous substances at the Orlando site.

2. All correspondence and other documents transmitted between the State of Florida and any of its departments, agencies or instrumentalities, including but not limited to the Florida Department of Regulation and the USEPA or other federal departments or agencies, concerning:

a. presence or release of hazardous substances at the Orlando site;

b. actual or potential liability on the part of Martin Marietta Corporation and/or Martin Marietta Aluminum, Inc. or any other person or entity for the presence or release of hazarous substances at the Orlando site;

c. proposals for cleaning up or closing of the Orlando site; and

d. legal claims made in connection with or in any related to the Orlando site.

3. All correspondence and other documents transmitted between the State of Florida and any of its departments, agencies or instrumentalities, including but not limited to the Florida Department of Regulation and any municipalities potintially impacted by the Orlando site, concerning:.

a. The presence or release of hazardous substances at the Orlando site;

b. actual or potential liability on the part of Martin Marietta Corporation and/or Martin Marietta Aluminum, Inc. or any other person or entity for the presence or release of hazardous substances at the Orlando site;

c. proposals for cleaning up or closing the Orlando site; and

d. legal claims made in connection with or in any way related to the Orlando site; and.

If any requested documents or segregable portions of such documents are withheld on the basis of a claimed privilege, please identify each document or segregable portion withheld and the privilege asserted.

In accordance with 40 CFR Part 2, we require your response within 10 working days from your receipt of this request letter.

We hereby agree to pay all fees in connection with your response to this request, as specified by 40 CFR Part 2, Section 2.112, up to $500, upon the presentment of an invoice itemizing all charges assessed. If you anticipate that the fee for copying the requested documents will exceed $500, please contact the undersigned so that we may determine whether we would elect to review all the requested documents and then select those we wish to have copied.

If you should have any questions, please advise us immediately. Thank you in advance for your anticipated assistance.

Very truly yours,

McElroy Deutsch & Mulvaney

Michael Phillips

#3803J

MARTIN MARIETTA ORLANDO AEROSPACE

POST OFFICE BOX 5837, MP-621
ORLANDO, FLORIDA 32855
TELEPHONE (305) 356-3787/3483

LINCOLN E. HALL
DIRECTOR
ENVIRONMENTAL MANAGEMENT

October 13, 1988

Mr. James H. Scarbrough, P.E., Chief
Residuals Management Branch
Waste Management Division
Environmental Protection Agency
Region IV
345 Courtland Street
Atlanta, Georgia 30365

RE: Regulation of Solvent Wipers;
Martin Marietta Corporation

Dear Mr. Scarbrough:

As follow-up to our meeting with you and your staff on September 12, 1988, we wish to provide you with sampling data of Martin Marietta's solvent wipers which we recently obtained.

We reiterate our view expressed at our conference and in our counsel's memorandum to you of August 30, 1988, that our solvent wipers are not listed hazardous waste. Therefore, the sole purpose of the enclosed data is to inform you of our belief that solvent wipers generated by Martin Marietta's Florida facilities do not present an environmental threat unless, of course, they are found to be characteristic hazardous waste by appropriate testing.

Attached at Tab A is a copy of TCLP sampling results of solvent wipers collected after use from receptacles at our production lines. These analyses represent sampling events on September 1, 13, and 15, 1988.

Most metals are below the EP toxicity criteria of 40 CFR Section 261.24 and most organics are below the TCLP criteria as proposed

DOCKET NO. MM 287

in 51 FR 21648, June 13, 1986. Therefore, we believe that, generally, Martin Marietta's solvent wipers at its Florida facilities are not of regulatory concern and do not pose any environmental threat upon disposal in landfills. Bear in mind that the attached data is "worst case" because sampling occurred of wipers placed in receptacles at individual work stations. Sampling of solvent wipers at the central collection point prior to off-site shipment should show far less organics due to volatilization.

Accordingly, we propose the following sampling procedure to ensure characteristic hazardous waste is identified. Solvent wipers from which sampling indicates any constituents which exceed EP toxicity criteria for metals or TCLP criteria for organics shall be treated as characteristic hazardous waste. However, solvent alcohol, and methanol shall be tested for ignitability per 40 CFR Section 261.21. (These chemicals are of regulatory concern only for the ignitability characteristic. See 40 CFR Section 261.31, F003 listing.) For other organics which are also not included in TCLP criteria at 51 FR 21648, EPA and Martin Marietta should agree on the appropriate standard for determining characteristic hazardous waste. The entire waste pile from which solvent wipers are analyzed would be deemed characteristic hazardous waste if criteria were exceeded for any solvent wiper.

Martin Marietta is examining its production processes in an effort to further minimize the use of chemical constituents which might result in analyses exceeding EP toxicity or TCLP criteria. For example, Martin Marietta is presently reducing the amount of chromic acid and solvents in its production processes.

Also enclosed for your review at Tab B is a copy of Appendix B to the Petition of Kimberly-Clark to the Administrator to Exempt Solvent-contaminated Disposal Industrial Wipers from Being Considered a Hazardous Waste Under the Mixture Rule, March 26, 1985, U.S. Environmental Protection Agency. The Kimberly-Clark study reflects that although solvent wipers may contain liquid solvents upon original application of solvent to wiper, upon disposal virtually no solvent will remain due to evaporation rates.

Again, we believe the issue is whether solvent wipers generated by Martin Marietta's Florida facilities should be regarded as

listed hazardous waste versus whether such solvent wipers should be examined for characteristic hazardous waste. Thank you very much for your consideration of this matter and please do not hesitate to contact us should you have any questions or need additional information.

Sincerely,

Lincoln E. Hall

Lincoln E. Hall, Director
Environmental Management
Martin Marietta Missiles
and Electronics Group

Enclosures
cc: (w/enclosures)
Charles Biederman
Florida Department of Environmental Regulation

TAB "A"

WADSWORTH/ALERT
LABORATORIES, INC.

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ANALYTICAL SUMMARY

FOR

MARTIN MARIETTA SAMPLES
1 SEPTEMBER 1988

SAND LAKE ROAD

PRESENTED TO

MS. PATRICIA BENSEN

OF

INTERSOL INDUSTRIES CORPORATION

September 12, 1988

Wadsworth/ALERT Laboratories, Inc.

Michael P. Sekel

Michael P. Sekel,
Laboratory Manager

WADSWORTH/ALERT
LABORATORIES, INC.

INTRODUCTION

This report summarizes the analytical results of cloth samples from the Martin Marietta Corporation. The samples were submitted by Intersol Industries Corporatation to Wadsworth/ALERT Laboratories, Inc. on 1 September 1988. Wadsworth/ALERT Laboratories, Inc. provided independent, analytical services for this project as a sub-contractor to Intersol Industries Corporation of Tampa, Florida under the direction of Ms. Patricia Bensen.

A total of five (5) cloth samples were submitted to Wadsworth/ALERT Laboratories, Inc. The samples were accepted into the laboratory in accordance with documented sample acceptance procedures. All cloth samples were analyzed for a variety of organic and heavy metal parameters as specified by Intersol. These parameters and associated analytical methods are outlined in this report along with a summary description of Wadsworth/ALERT Laboratories, Inc.'s QA/QC program. Sample analytical results are sequentially presented at the rear of the report.

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WADSWORTH/ALERT
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QUALITY ASSURANCE / QUALITY CONTROL

DATA SUMMARY

Wadsworth/ALERT Laboratories' QA/QC program consists of a system of standard operating procedures and practices which maintain high quality standards of operation throughout all component laboratory activities. Furthermore, this QA/QC program verifies and ensures these high quality standards of operation through continuous, documented surveillance and evaluation of acceptable analytical method performance. These continuous method performance evaluations are achieved through the systematic insertion of quality control samples into, at least, 15% of all laboratory analyses.

Wadsworth/ALERT Laboratories considers continuous analytical method performance evaluations to be an integral portion of the data package, and, routinely, includes the pertinent QA/QC data associated with various analytical result reports. Brief discussions of the various QA/QC procedures utilized to measure acceptable method performance follows.

Surrogate Spike Recovery Evaluations

Known concentrations of designated surrogate spikes, consisting of a number of similar, non-method compounds or method compound analogues, are added, as appropriate, to all GC/MS sample fractions prior to extraction and analysis. The percent recovery determinations calculated from the subsequent analysis is an indication of the overall method efficiency for that individual sample. This surrogate spike recovery data is displayed alongside acceptable analytical method performance limits at the bottom of each GC/MS fraction analytical result report sheet.

**********EXAMPLE**********

SURROGATE SPIKE % RECOVERY

Toluene-d8	98 %	85-115
2-Fluorophenol	45 %	21-100
(cmpd. name)	(% recovered)	(acceptable method performance range)

WADSWORTH/ALERT
LABORATORIES, INC.

QUALITY ASSURANCE / QUALITY CONTROL

DATA SUMMARY(cont'd)

Matrix Spike(MS)/Matrix Spike Duplicate(MSD) Recovery Evaluations

Known concentrations of designated matrix spikes (actual analytical method compounds) are added to two of three separate aliquots of a sequentially predetermined sample prior to extraction and analysis. Percent recovery determinations are calculated from both of the spiked samples by comparison to the actual values generated from the unspiked sample. These percent recovery determinations indicate the accuracy of the analysis at recovering actual analytical method compounds. Relative percent difference determinations calculated from a comparison of the MS/MSD recoveries, also, demonstrate the precision of the analytical method. Actual percent recovery and relative percent difference data is displayed alongside their respective acceptable analytical method performance limits in the QA/QC section of the report. Ten percent (10%) of all analyses are MS/MSD quality control samples.

**********EXAMPLE**********

COMPOUND	SAMPLE CONC.	MS % REC	MSD % REC	RPD	QC LIMITS RPD	QC LIMITS RECOVERY
4,4'-DDT	0	95	112	16	22	66-119
Benzene	10	86	93	8	20	39-150
(cmpd. name)	sample result	1st % recovered	2nd % recovered	Rel. % diff.	acceptable method performance range	

Laboratory Analytical Method Blank Evaluations

Laboratory analytical method blanks are systematically prepared and analyzed in order to continuously evaluate the system interferences and background contamination levels associated with each analytical method. These method blanks include all aspects of actual laboratory method analysis (chemical reagents, glassware, etc.), substituting laboratory reagent water or solid for actual sample. Five percent (5%) of all laboratory analyses are laboratory analytical method blanks.

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WADSWORTH/ALERT
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ANALYTICAL METHODS

Wadsworth/ALERT Laboratories utilizes only USEPA approved analytical methods and instrumentation. The analytical methods utilized for Martin Marietta sample analysis are listed below.

PARAMETER		METHOD
ORGANICS		
Methanol		** SE846 Method 8015
Volatile Organics	USEPA Methods 524,624	** SW846 Method 8240
METALS		
Arsenic	EPA Method 206.2	** SW846 Method 7060
Barium	EPA Method 208.1	** SW846 Method 7080
Cadmium	EPA Method 213.1	** SW846 Method 7130
Chromium	EPA Method 218.1	** SW846 Method 7190
Lead	EPA Method 239.1	** SW846 Method 7420
Mercury	EPA Method 245.1	** SW846 Method 7470
Selenium	EPA Method 270.2	** SW846 Method 7740
Silver	EPA Method 272.1	** SW846 Method 7760
Digestions		
Total		** SW846 Method 3010,3020, 3050

Toxicity Characteristic Leaching Procedure - TCLP

Note: ** indicates usage of this method to obtain results for this report.
Note: EPA Methods - Methods for Chemical Analysis of Water and Wastes, USEPA, 600/4-79-020, March, 1983. July, 1982.
Std.Methods - Standard Methods for the Examination of Water and Wastewater, APHA, 16th edition, 1985.
USEPA Methods- from 40CFR Part 136, published in Federal Register on October 26, 1984.
SW846 - Test Methods for Evaluating Solid Waste Physical/Chemical

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MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

INORGANIC PARAMETERS - METALS

ELEMENT	MS % REC	MSD % REC	RPD	QC LIMITS RPD	QC LIMITS RECOVERY
Arsenic	102	103	1	14	70-129
Barium	98	99	1	29	74-118
Cadmium	102	102	0	10	78-113
Chromium	109	106	3	31	55-132
Lead	70	87	22	28	66-116
Mercury	84	102	19	28	54-126
Selenium	62	72	15	21	48-127
Silver	86	89	4	10	84-108

WADSWORTH/ALERT
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MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

	COMPOUND	MS % REC	MSD % REC	RPD	QC LIMITS RPD	QC LIMITS RECOVERY
	1,1-Dichloroethene	119	112	6	48	D-234
V	Trichloroethene	106	105	1	13	71-157
O	Chlorbenzene	104	102	2	24	37-160
C	Toluene	99	96	3	20	47-150
	Benzene	105	103	2	22	37-151

WADSWORTH/ALERT
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ANALYTICAL RESULTS

The analytical results for the cloth samples submitted by Intersol Industries Corporation from the Martin Marietta Corporation are presented on the following pages.

00527-A
00527-B

00527-C
00527-D

00528
Lab Blank

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WADSWORTH/ALERT
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CLIENT:	Intersol	LAB #:	81012-4
SAMPLE ID:	00527-A	DATE REC'D:	9/01/88
MATRIX:	TCLP Extract	DATE COMP'D:	9/09/88

VOLATILE ORGANIC ANALYTICAL REPORT
USEPA METHOD 8240 - GC/MS

Acetone	58. mg/L	Isobutanol	ND*
Acrylonitrile	ND	Methanol	45. J
Benzene	ND	Methylene chloride	ND
2-Butanone (MEK)	ND	4-Methyl-2-pentanone (MIBK)	ND
n-Butanol	ND*	Pyridine	ND*
Carbon disulfide	ND	1,1,1,2-Tetrachloroethane	ND
Carbon tetrachloride	ND	1,1,2,2-Tetrachloroethane	ND
Chlorobenzene	ND	Tetrachloroethene	ND
Chloroform	ND	Toluene	ND
Cyclohexanone	ND*	1,1,1-Trichloroethane	ND
1,2-Dichlorobenzene	ND	1,1,2-Trichloroethane	ND
1,2-Dichloroethane	ND	Trichloroethene	ND
1,1-Dichloroethylene	ND	Trichlorofluoromethane	ND
Ethyl acetate	ND	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon)	ND
Ethylbenzene	ND		
Ethyl ether	ND	Vinyl chloride	ND
		Xylenes, total	ND

NOTE: ND (None Detected, lower detectable limit = 50 mg/L)
ND* (None Detected, Lower detectable limit = 500 mg/L)
J (Detected, but below quantitation limit; quantitation suspect)

SURROGATE RECOVERY:	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	97	(70-121)
Toluene-d8	98	(81-117)
Bromofluorobenzene	106	(74-121)

WADSWORTH/ALERT
LABORATORIES, INC.

CLIENT:	Intersol	LAB ID:	8I012-4
SAMPLE ID:	00527-A	DATE REC'D:	9/01/88
		DATE EXT'D:	9/07/88
MATRIX:	Solid	DATE COMP'D:	9/09/88

METALS ANALYSIS
TOXICITY CHARACTERISTIC LEACHING PROCEDURE - TCLP
ATOMIC ABSORPTION SPECTROSCOPY

PARAMETER	RESULT	DETECTION LIMIT
Arsenic (As)	None Detected	0.01 mg/L
Barium (Ba)	None Detected	1.0 mg/L
Cadmium (Cd)	0.33 mg/L	0.05 mg/L
Chromium (Cr)	None Detected	0.2 mg/L
Lead (Pb)	None Detected	0.5 mg/L
Mercury (Hg)	None Detected	0.002 mg/L
Selenium (Se)	None Detected	0.01 mg/L
Silver (Ag)	None Detected	0.1 mg/L

WADSWORTH/ALERT
LABORATORIES, INC.

CLIENT:	Intersol	LAB #:	8I012-1
SAMPLE ID:	00527-B	DATE REC'D:	9/01/88
MATRIX:	TCLP Extract	DATE COMP'D:	9/08/88

VOLATILE ORGANIC ANALYTICAL REPORT
USEPA METHOD 8240 - GC/MS

Acetone	2.4 mg/L	Isobutanol	ND*
Acrylonitrile	ND	Methanol	ND*
Benzene	ND	Methylene chloride	ND
2-Butanone (MEK)	ND	4-Methyl-2-pentanone (MIBK)	0.3 mg/L
n-Butanol	4.7 mg/L	Pyridine	ND*
Carbon disulfide	ND	1,1,1,2-Tetrachloroethane	ND
Carbon tetrachloride	ND	1,1,2,2-Tetrachloroethane	ND
Chlorobenzene	ND	Tetrachloroethene	ND
Chloroform	ND	Toluene	0.9 mg/L
Cyclohexanone	ND*	1,1,1-Trichloroethane	0.2 J
1,2-Dichlorobenzene	ND	1,1,2-Trichloroethane	ND
1,2-Dichloroethane	ND	Trichloroethene	ND
1,1-Dichloroethylene	ND	Trichlorofluoromethane	ND
Ethyl acetate	ND	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon)	ND
Ethylbenzene	ND		
Ethyl ether	ND	Vinyl chloride	ND
		Xylenes, total	ND

NOTE: ND (None Detected, lower detectable limit = 0.2 mg/L)
ND* (None Detected, Lower detectable limit = 2.0 mg/L)
J (Detected, but below quantitation limit; quantitation suspect)

SURROGATE RECOVERY:	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	106	(70-121)
Toluene-d8	104	(81-117)
Bromofluorobenzene	96	(74-121)

WADSWORTH/ALERT
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CLIENT:	Intersol	LAB ID:	8I012-1
SAMPLE ID:	00527-B	DATE REC'D:	9/01/88
		DATE EXT'D:	9/07/88
MATRIX:	Solid	DATE COMP'D:	9/09/88

METALS ANALYSIS
TOXICITY CHARACTERISTIC LEACHING PROCEDURE - TCLP
ATOMIC ABSORPTION SPECTROSCOPY

PARAMETER	RESULT	DETECTION LIMIT
Arsenic (As)	None Detected	0.01 mg/L
Barium (Ba)	None Detected	1.0 mg/L
Cadmium (Cd)	0.11 mg/L	0.05 mg/L
Chromium (Cr)	47. mg/L	0.2 mg/L
Lead (Pb)	None Detected	0.5 mg/L
Mercury (Hg)	None Detected	0.002 mg/L
Selenium (Se)	None Detected	0.01 mg/L
Silver (Ag)	None Detected	0.1 mg/L

WADSWORTH/ALERT
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CLIENT:	Intersol	LAB #:	8I012-2
SAMPLE ID:	00527-C	DATE REC'D:	9/01/88
MATRIX:	TCLP Extract	DATE COMP'D:	9/08/88

VOLATILE ORGANIC ANALYTICAL REPORT
USEPA METHOD 8240 - GC/MS

Acetone	180. mg/L	Isobutanol	ND*
Acrylonitrile	ND	Methanol	13. mg/L
Benzene	ND	Methylene chloride	ND
2-Butanone (MEK)	ND	4-Methyl-2-pentanone (MIBK)	ND
n-Butanol	ND	Pyridine	ND*
Carbon disulfide	ND	1,1,1,2-Tetrachloroethane	ND
Carbon tetrachloride	ND	1,1,2,2-Tetrachloroethane	ND
Chlorobenzene	ND	Tetrachloroethene	ND
Chloroform	ND	Toluene	ND
Cyclohexanone	ND*	1,1,1-Trichloroethane	ND
1,2-Dichlorobenzene	ND	1,1,2-Trichloroethane	ND
1,2-Dichloroethane	ND	Trichloroethene	ND
1,1-Dichloroethylene	ND	Trichlorofluoromethane	ND
Ethyl acetate	ND	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon)	ND
Ethylbenzene	ND		
Ethyl ether	ND	Vinyl chloride	ND
		Xylenes, total	ND

NOTE: ND (None Detected, lower detectable limit = 100 mg/L)
ND* (None Detected, Lower detectable limit = 1000 mg/L)
J (Detected, but below quantitation limit; quantitation suspect)

SURROGATE RECOVERY:	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	98	(70-121)
Toluene-d8	99	(81-117)
Bromofluorobenzene	101	(74-121)

WADSWORTH/ALERT
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CLIENT:	Intersol	LAB ID:	8I012-2
SAMPLE ID:	00527-C	DATE REC'D:	9/01/88
		DATE EXT'D:	9/07/88
MATRIX:	Solid	DATE COMP'D:	9/09/88

METALS ANALYSIS
TOXICITY CHARACTERISTIC LEACHING PROCEDURE - TCLP
ATOMIC ABSORPTION SPECTROSCOPY

PARAMETER	RESULT	DETECTION LIMIT
Arsenic (As)	None Detected	0.01 mg/L
Barium (Ba)	3.5 mg/L	1.0 mg/L
Cadmium (Cd)	None Detected	0.05 mg/L
Chromium (Cr)	26. mg/L	0.2 mg/L
Lead (Pb)	None Detected	0.5 mg/L
Mercury (Hg)	None Detected	0.002 mg/L
Selenium (Se)	None Detected	0.01 mg/L
Silver (Ag)	None Detected	0.1 mg/L

WADSWORTH/ALERT
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CLIENT:	Intersol	LAB #:	81012-5
SAMPLE ID:	00527-D	DATE REC'D:	9/01/88
MATRIX:	TCLP Extract	DATE COMP'D:	9/09/88

VOLATILE ORGANIC ANALYTICAL REPORT
USEPA METHOD 8240 - GC/MS

Acetone	150. mg/L	Isobutanol	ND*
Acrylonitrile	ND	Methanol	ND*
Benzene	ND	Methylene chloride	ND
2-Butanone (MEK)	ND	4-Methyl-2-pentanone (MIBK)	ND
n-Butanol	ND*	Pyridine	ND*
Carbon disulfide	ND	1,1,1,2-Tetrachloroethane	ND
Carbon tetrachloride	ND	1,1,2,2-Tetrachloroethane	ND
Chlorobenzene	ND	Tetrachloroethene	ND
Chloroform	ND	Toluene	140. mg/L
Cyclohexanone	ND*	1,1,1-Trichloroethane	340. mg/L
1,2-Dichlorobenzene	ND	1,1,2-Trichloroethane	ND
1,2-Dichloroethane	ND	Trichloroethene	ND
1,1-Dichloroethylene	ND	Trichlorofluoromethane	ND
Ethyl acetate	ND	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon)	ND
Ethylbenzene	ND		
Ethyl ether	ND	Vinyl chloride	ND
		Xylenes, total	13. J

NOTE: ND (None Detected, lower detectable limit = 50 mg/L)
ND* (None Detected, Lower detectable limit = 500 mg/L)
J (Detected, but below quantitation limit; quantitation suspect)

SURROGATE RECOVERY:	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	99	(70-121)
Toluene-d8	97	(81-117)
Bromofluorobenzene	103	(74-121)

WADSWORTH/ALERT
LABORATORIES, INC.

CLIENT:	Intersol	LAB ID:	8I012-5
SAMPLE ID:	00527-D	DATE REC'D:	9/01/88
		DATE EXT'D:	9/07/88
MATRIX:	Solid	DATE COMP'D:	9/09/88

METALS ANALYSIS
TOXICITY CHARACTERISTIC LEACHING PROCEDURE - TCLP
ATOMIC ABSORPTION SPECTROSCOPY

PARAMETER	RESULT	DETECTION LIMIT
Arsenic (As)	None Detected	0.01 mg/L
Barium (Ba)	None Detected	1.0 mg/L
Cadmium (Cd)	0.28 mg/L	0.05 mg/L
Chromium (Cr)	9.3 mg/L	0.2 mg/L
Lead (Pb)	None Detected	0.5 mg/L
Mercury (Hg)	None Detected	0.002 mg/L
Selenium (Se)	None Detected	0.01 mg/L
Silver (Ag)	None Detected	0.1 mg/L

WADSWORTH/ALERT
LABORATORIES, INC.

CLIENT:	Intersol	LAB #:	8I012-3
SAMPLE ID:	00528	DATE REC'D:	9/01/88
MATRIX:	TCLP Extract	DATE COMP'D:	9/08/88

VOLATILE ORGANIC ANALYTICAL REPORT
USEPA METHOD 8240 - GC/MS

Acetone	1.3 mg/L	Isobutanol	ND*
Acrylonitrile	ND	Methanol	ND*
Benzene	ND	Methylene chloride	ND
2-Butanone (MEK)	ND	4-Methyl-2-pentanone (MIBK)	ND
n-Butanol	ND	Pyridine	ND*
Carbon disulfide	ND	1,1,1,2-Tetrachloroethane	ND
Carbon tetrachloride	ND	1,1,2,2-Tetrachloroethane	ND
Chlorobenzene	ND	Tetrachloroethene	ND
Chloroform	ND	Toluene	0.02 mg/L
Cyclohexanone	ND*	1,1,1-Trichloroethane	ND
1,2-Dichlorobenzene	ND	1,1,2-Trichloroethane	ND
1,2-Dichloroethane	ND	Trichloroethene	ND
1,1-Dichloroethylene	ND	Trichlorofluoromethane	ND
Ethyl acetate	ND	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon)	ND
Ethylbenzene	ND		
Ethyl ether	ND	Vinyl chloride	ND
		Xylenes, total	ND

NOTE: ND (None Detected, lower detectable limit = 0.1 mg/L
ND* (None Detected, Lower detectable limit = 1.0 mg/L)
J (Detected, but below quantitation limit; quantitation suspect)

SURROGATE RECOVERY:	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	111	(70-121)
Toluene-d8	102	(81-117)
Bromofluorobenzene	98	(74-121)

WADSWORTH/ALERT
LABORATORIES, INC.

CLIENT:	Intersol	LAB ID:	8I012-3
SAMPLE ID:	00528	DATE REC'D:	9/01/88
		DATE EXT'D:	9/07/88
MATRIX:	Solid	DATE COMP'D:	9/09/88

METALS ANALYSIS
TOXICITY CHARACTERISTIC LEACHING PROCEDURE - TCLP
ATOMIC ABSORPTION SPECTROSCOPY

PARAMETER	RESULT	DETECTION LIMIT
Arsenic (As)	None Detected	0.01 mg/L
Barium (Ba)	None Detected	1.0 mg/L
Cadmium (Cd)	None Detected	0.05 mg/L
Chromium (Cr)	None Detected	0.2 mg/L
Lead (Pb)	None Detected	0.5 mg/L
Mercury (Hg)	None Detected	0.002 mg/L
Selenium (Se)	None Detected	0.01 mg/L
Silver (Ag)	None Detected	0.1 mg/L

WADSWORTH/ALERT
LABORATORIES, INC.

CLIENT:	Intersol	LAB #:	8I012
SAMPLE ID:	Extraction Blank	DATE REC'D:	
MATRIX:	TCLP Extract	DATE COMP'D:	9/11/88

VOLATILE ORGANIC ANALYTICAL REPORT
USEPA METHOD 8240 - GC/MS

Acetone	ND*	Isobutanol	ND*
Acrylonitrile	ND	Methanol	ND*
Benzene	ND	Methylene chloride	ND
2-Butanone (MEK)	ND	4-Methyl-2-pentanone (MIBK)	ND
n-Butanol	ND*	Pyridine	ND*
Carbon disulfide	ND	1,1,1,2-Tetrachloroethane	ND
Carbon tetrachloride	ND	1,1,2,2-Tetrachloroethane	ND
Chlorobenzene	ND	Tetrachloroethene	ND
Chloroform	ND	Toluene	ND
Cyclohexanone	ND*	1,1,1-Trichloroethane	ND
1,2-Dichlorobenzene	ND	1,1,2-Trichloroethane	ND
1,2-Dichloroethane	ND	Trichloroethene	ND
1,1-Dichloroethylene	ND	Trichlorofluoromethane	ND
Ethyl acetate	ND	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon)	ND
Ethylbenzene	ND		
Ethyl ether	ND	Vinyl chloride	ND
		Xylenes, total	ND

NOTE: ND (None Detected, lower detectable limit = 0.1 mg/L)
ND* (None Detected, Lower detectable limit = 1.0 mg/L)
J (Detected, but below quantitation limit; quantitation suspect)

SURROGATE RECOVERY:	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	99	(70-121)
Toluene-d8	98	(81-117)
Bromofluorobenzene	107	(74-121)

WADSWORTH/ALERT
LABORATORIES, INC.

CLIENT:	Intersol	LAB ID:	8I012
SAMPLE ID:	Lab Blank	DATE REC'D:	
		DATE EXT'D:	9/07/88
MATRIX:	Solid	DATE COMP'D:	9/09/88

METALS ANALYSIS
TOXICITY CHARACTERISTIC LEACHING PROCEDURE - TCLP
ATOMIC ABSORPTION SPECTROSCOPY

PARAMETER	RESULT	DETECTION LIMIT
Arsenic (As)	None Detected	0.01 mg/L
Barium (Ba)	None Detected	1.0 mg/L
Cadmium (Cd)	None Detected	0.05 mg/L
Chromium (Cr)	None Detected	0.2 mg/L
Lead (Pb)	None Detected	0.5 mg/L
Mercury (Hg)	None Detected	0.002 mg/L
Selenium (Se)	None Detected	0.01 mg/L
Silver (Ag)	None Detected	0.1 mg/L

WADSWORTH/ALERT LABS

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CHAIN-OF—CUSTODY

PROJ. NO.

PROJECT NAME Intersol

SAMPLERS (Signature)

Water/Wastewater | Soil/Sed | Sldg/Waste | Misc.

ITEM NUMBER	STA. NO.	DATE	TIME	COMP	GRAB	STATION LOCATION	NO. OF CONTAINERS	Qt G (Ext. org.)	Qt G (EP)	40 ml Vial (VOA)	Qt P (BOD COD TSS)	Pt G (Phenol)	Pt P (Metals, Hg)	Pt P (Metals)	Pt P (TOC COD)	Qt P (CN)	Qt P (Cl, Fl, SO4)	Qt G (ext org, EP)	4 oz G (VOA)	Pt P (met Hg, CN, S")	4 oz G	8 oz G	8 oz G (EP S", F.P.)	ext org, VOA met, Hg, CN	REMARKS/TAG NUMBERS
1		9/1				SEOD-1	1																		[illegible]
2		9/1				SEOD-2	1																		[illegible]
3		9/1				SEOD-3	1																		[illegible]
4		9/1				SEOD-4	1																		[illegible]
5		9/1				SEOD-5	1																		[illegible]

Person Responsible for sample SEAL # OUT_____ SEAL # IN_____ | Date | Time

Purpose of analysis (use back of front sheet if necessary)

TCIP Zero Headspace extraction + VOC Analysis

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	ACCEPTED BY	DATE	TIME
1	12345	Bob Peters		9/1	[illegible]
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3					
4					
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ANALYTICAL SUMMARY

FOR

MARTIN MARIETTA SAMPLES
13 AND 15 SEPTEMBER 1988

PRESENTED TO

MS. PATRICIA BENSEN
SALES REPRESENTATIVE

OF

INTERSOL INDUSTRIES CORPORATION

September 26, 1988

Wadsworth/ALERT Laboratories, Inc.

Michael P. Sekel

Michael P. Sekel,
Laboratory Manager

AMERICAN COUNCIL OF INDEPENDENT LABORATORIES, INC.

WADSWORTH/ALERT
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WADSWORTH/ALERT
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INTRODUCTION

This report summarizes the analytical results of cloth samples from the Martin Marietta Corporation. The samples were submitted by Intersol Industries Corporation to Wadsworth/ALERT Laboratories, Inc. on 13 and 15 September 1988. Wadsworth/ALERT Laboratories, Inc. provided independent, analytical services for this project as a sub-contractor to Intersol Industries Corporation of Tampa, Florida under the direction of Ms. Patricia Bensen.

A total of four (4) cloth samples were submitted to Wadsworth/ALERT Laboratories, Inc. on 15 September 1988. Two solid rolloff samples were received on 13 September 1988. It was requested that the two samples be composited and treated as a single sample. The samples were accepted into the laboratory in accordance with documented sample acceptance procedures. All samples were analyzed for a variety of organic and heavy metal parameters as specified by Intersol. These parameters and associated analytical methods are outlined in this report along with a summary description of Wadsworth/ALERT Laboratories, Inc. QA/QC program. Sample analytical results are sequentially presented at the rear of the report.

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WADSWORTH/ALERT
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QUALITY ASSURANCE / QUALITY CONTROL

DATA SUMMARY

Wadsworth/ALERT Laboratories' QA/QC program consists of a system of standard operating procedures and practices which maintain high quality standards of operation throughout all component laboratory activities. Furthermore, this QA/QC program verifies and ensures these high quality standards of operation through continuous, documented surveillance and evaluation of acceptable analytical method performance. These continuous method performance evaluations are achieved through the systematic insertion of quality control samples into, at least, 15% of all laboratory analyses.

Wadsworth/ALERT Laboratories considers continuous analytical method performance evaluations to be an integral portion of the data package, and, routinely, includes the pertinent QA/QC data associated with various analytical result reports. Brief discussions of the various QA/QC procedures utilized to measure acceptable method performance follows.

Surrogate Spike Recovery Evaluations

Known concentrations of designated surrogate spikes, consisting of a number of similar, non-method compounds or method compound analogues, are added, as appropriate, to all GC/MS sample fractions prior to extraction and analysis. The percent recovery determinations calculated from the subsequent analysis is an indication of the overall method efficiency for that individual sample. This surrogate spike recovery data is displayed alongside acceptable analytical method performance limits at the bottom of each GC/MS fraction analytical result report sheet.

**********EXAMPLE**********

SURROGATE SPIKE % RECOVERY

(cmpd. name)	(% recovered)	(acceptable method performance range)
Toluene-d8	98 %	85-115
2-Fluorophenol	45 %	21-100

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WADSWORTH/ALERT
LABORATORIES, INC.

QUALITY ASSURANCE / QUALITY CONTROL

DATA SUMMARY(cont'd)

Matrix Spike(MS)/Matrix Spike Duplicate(MSD) Recovery Evaluations

Known concentrations of designated matrix spikes (actual analytical method compounds) are added to two of three separate aliquots of a sequentially predetermined sample prior to extraction and analysis. Percent recovery determinations are calculated from both of the spiked samples by comparison to the actual values generated from the unspiked sample. These percent recovery determinations indicate the accuracy of the analysis at recovering actual analytical method compounds. Relative percent difference determinations calculated from a comparison of the MS/MSD recoveries, also, demonstrate the precision of the analytical method. Actual percent recovery and relative percent difference data is displayed alongside their respective acceptable analytical method performance limits in the QA/QC section of the report. Ten percent (10%) of all analyses are MS/MSD quality control samples.

**********EXAMPLE**********

COMPOUND	SAMPLE CONC.	MS % REC	MSD % REC	RPD	QC LIMITS RPD	QC LIMITS RECOVERY
4,4'-DDT	0	95	112	16	22	66-119
Benzene	10	86	93	8	20	39-150
(cmpd. name)	sample result	1st % recovered	2nd % recovered	Rel. % diff.	acceptable method performance range	

Laboratory Analytical Method Blank Evaluations

Laboratory analytical method blanks are systematically prepared and analyzed in order to continuously evaluate the system interferences and background contamination levels associated with each analytical method. These method blanks include all aspects of actual laboratory method analysis (chemical reagents, glassware, etc.), substituting laboratory reagent water or solid for actual sample. Five percent (5%) of all laboratory analyses are laboratory analytical method blanks.

WADSWORTH/ALERT
LABORATORIES, INC.

ANALYTICAL METHODS

Wadsworth/ALERT Laboratories utilizes only USEPA approved analytical methods and instrumentation. The analytical methods utilized for the analysis of these samples are listed below.

PARAMETER		METHOD
	ORGANICS	
Volatile Organics	USEPA Methods 524,624	** SW846 Method 8240,8010 8015,8020
	METALS	
Arsenic	EPA Method 206.2	** SW846 Method 7060
Barium	EPA Method 208.1	** SW846 Method 7080
Cadmium	EPA Method 213.1	** SW846 Method 7130
Chromium	EPA Method 218.1	** SW846 Method 7190
Copper	EPA Method 220.1	** SW846 Method 7210
Lead	EPA Method 239.1	** SW846 Method 7420
Mercury	EPA Method 245.1	** SW846 Method 7470
Nickel	EPA Method 249.1	** SW846 Method 7520
Selenium	EPA Method 270.2	** SW846 Method 7740
Silver	EPA Method 272.1	** SW846 Method 7760
Thallium	EPA Method 279.1	** SW846 Method 7840
Zinc	EPA Method 289.1	** SW846 Method 7950
Digestions		
Total		** SW846 Method 3010,3020, 3050
Toxicity Characteristic Leaching Procedure - TCLP		

Note: ** indicates usage of this method to obtain results for this report.

Note: EPA Methods - Methods for Chemical Analysis of Water and Wastes, USEPA, 600/4-79-020, March, 1983. July, 1982.

Std.Methods - Standard Methods for the Examination of Water and Wastewater, APHA, 16th edition, 1985.

USEPA Methods- from 40CFR Part 136, published in Federal Register on October 26, 1984.

SW846 - Test Methods for Evaluating Solid Waste Physical/Chemical Methods, 3rd Edition, USEPA, 1986

WADSWORTH/ALERT
LABORATORIES, INC.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

ORGANIC PARAMETERS

	COMPOUND	MS % REC	MSD % REC	RPD	QC LIMITS RPD	QC LIMITS RECOVERY
	1,1-Dichloroethene	82	77	6	48	D-234
V	Trichloroethene	119	110	8	13	71-157
O	Chlorbenzene	117	112	4	24	37-160
C	Toluene	92	97	5	20	47-150
	Benzene	105	110	5	22	37-151

INORGANIC PARAMETERS - METALS

ELEMENT	MS % REC	MSD % REC	RPD	QC LIMITS RPD	QC LIMITS RECOVERY
Arsenic	56	63	12	14	70-129
Barium	104	105	1	29	74-118
Cadmium	105	103	3	10	78-113
Chromium	95	90	5	31	55-132
Lead	85	89	5	28	66-116
Mercury	84	102	19	28	54-126
Selenium	103	92	11	21	48-127
Silver	108	103	5	10	84-108
Copper	100	100	0	11	80-118
Nickel	108	106	2	19	73-120
Zinc	103	100	3	13	49-132

WADSWORTH/ALERT
LABORATORIES, INC.

ANALYTICAL RESULTS

The analytical results for the cloth samples submitted by Intersol Industries Corporation from the Martin Marietta Corporation are presented on the following pages.

F-006 Rolloff (81134)

00543
00544

00545
00546

Lab Blank

WADSWORTH/ALERT
LABORATORIES, INC.

CLIENT:	Intersol Industries Corp.	LAB #:	81134
SAMPLE ID:	F006 Rolloff	DATE REC'D:	9/13/88
MATRIX:	Solid	DATE COMP'D:	9/24/88
		LABORATORY ID:	E84059

MARTIN MARIETTA VOLATILE ORGANIC ANALYTICAL REPORT
USEPA METHOD 624 -- GC/MS

Acetone	0.1 mg/L	1,2-Dichloropropane	ND
Acrylonitrile	ND	t-1,3-Dichloropropene	ND
Benzene	ND	c-1,3-Dichloropropene	ND
Bromodichloromethane	ND	Ethyl Acetate	ND
Bromoform	ND	Ethyl benzene	ND
Bromomethane	ND*	Ethyl ether	ND*
2-Butanone (MEK)	ND*	Isobutanol	ND*
n-Butanol	ND*	Methanol	ND*
Carbon Disulfide	ND	4-Methyl-2-pentanone (MIBK)	ND*
Carbon tetrachloride	ND	Methylene chloride	ND
Chlorobenzene	ND	Pyridine	ND
Chloroethane	ND*	1,1,1,2-Tetrachloroethane	ND
2-Chloroethyl vinyl ether	ND*	1,1,2,2-Tetrachloroethane	ND
Chloroform	ND	Tetrachloroethene	ND
Chloromethane	ND*	Toluene	.008 J
Cyclohexanone	ND*	1,1,1-Trichloroethane	ND
Dibromochloromethane	ND	1,1,2-Trichloroethane	ND
1,2-Dichlorobenzene	ND	Trichloroethene	ND
1,3-Dichlorobenzene	ND	Trichlorofluoromethane	ND
1,4-Dichlorobenzene	ND	1,1,2-Trichloro-1,2,2-trifluoroethane (FREON)	ND
1,1-Dichloroethane	ND		
1,2-Dichloroethane	ND	Vinyl chloride	ND
1,1-Dichloroethene	ND	Xylenes, total	ND
t-1,2-Dichloroethene	ND		

NOTE: ND (None Detected, lower detectable limit - 0.012 mg/L)
ND* None Detected, lower detectable limit - 0.060 mg/L)
J (Detected, but below quantitation limit; quantitation is suspect)

SURROGATE RECOVERY:	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	100	(76-114)
Toluene-d8	107	(88-110)
Bromofluorobenzene	101	(86-115)

WADSWORTH/ALERT
LABORATORIES, INC.

CLIENT:	Intersol Industries Corp.	LAB #:	8I134
SAMPLE ID:	F006 Rolloff	DATE REC'D:	9/13/88
MATRIX:	Solid	DATE COMP'D:	9/24/88
		LABORATORY ID:	E84059

VOLATILE ORGANICS

OTHER COMPOUNDS

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS
with their estimated concentrations

Unknown ester	@ ~ 0.02 mg/L
Unknown	@ ~ 0.02 mg/L
Unknown ester	@ ~ 0.08 mg/L

WADSWORTH/ALERT
LABORATORIES, INC.

CLIENT: Intersol Industries Corp.

SAMPLE ID: F006 Rolloff

MATRIX: TCLP Extract

LAB ID: 8I134

DATE REC'D: 9/13/88
DATE PREP'D: 9/20/88
DATE COMP'D: 9/23/88
LABORATORY ID: E84059

METALS ANALYSIS
TOXICITY CHARACTERISTIC LEACHING PROCEDURE - TCLP
ATOMIC ABSORPTION SPECTROSCOPY

PARAMETER	RESULT	DETECTION LIMIT
Arsenic (As)	0.01 mg/L	0.01 mg/L
Barium (Ba)	8.4 mg/L	1.0 mg/L
Cadmium (Cd)	0.26 mg/L	0.05 mg/L
Chromium (Cr)	9.0 mg/L	0.2 mg/L
Copper (Cr)	0.37 mg/L	0.2 mg/L
Lead (Pb)	0.59 mg/L	0.5 mg/L
Mercury (Hg)	0.002 mg/L	0.002 mg/L
Nickel (Ni)	9.3 mg/L	1.0 mg/L
Selenium (Se)	None Detected	0.01 mg/L
Silver (Ag)	None Detected	0.1 mg/L
Thallium (Tl)	None Detected	1.0 mg/L
Zinc (Zn)	0.94 mg/L	0.05 mg/L

WADSWORTH/ALERT
LABORATORIES, INC.

CLIENT:	Intersol Industries Corp.	LAB #:	8I151-1
SAMPLE ID:	00543	DATE REC'D:	9/15/88
MATRIX:	Cloth	DATE COMP'D:	9/26/88
		LABORATORY ID:	E84059

MARTIN MARIETTA VOLATILE ORGANIC ANALYTICAL REPORT
USEPA METHOD 624 -- GC/MS

Acetone	ND*	1,2-Dichloropropane	ND
Acrylonitrile	ND	t-1,3-Dichloropropene	ND
Benzene	ND	c-1,3-Dichloropropene	ND
Bromodichloromethane	ND	Ethyl Acetate	ND
Bromoform	ND	Ethyl benzene	ND
Bromomethane	ND*	Ethyl ether	ND*
2-Butanone (MEK)	ND*	Isobutanol	ND*
n-Butanol	ND*	Methanol	ND*
Carbon Disulfide	ND	4-Methyl-2-pentanone (MIBK)	ND*
Carbon tetrachloride	ND	Methylene chloride	ND
Chlorobenzene	ND	Pyridine	ND
Chloroethane	ND*	1,1,1,2-Tetrachloroethane	ND
2-Chloroethyl vinyl ether	ND*	1,1,2,2-Tetrachloroethane	ND
Chloroform	ND	Tetrachloroethene	ND
Chloromethane	ND*	Toluene	570. mg/L
Cyclohexanone	ND*	1,1,1-Trichloroethane	ND
Dibromochloromethane	ND	1,1,2-Trichloroethane	ND
1,2-Dichlorobenzene	ND	Trichloroethene	ND
1,3-Dichlorobenzene	ND	Trichlorofluoromethane	ND
1,4-Dichlorobenzene	ND	1,1,2-Trichloro-1,2,2-tri-	
1,1-Dichloroethane	ND	fluoroethane (FREON)	ND
1,2-Dichloroethane	ND	Vinyl chloride	ND
1,1-Dichloroethene	ND	Xylenes, total	28. J
t-1,2-Dichloroethene	ND		

NOTE: ND (None Detected, lower detectable limit - 50 mg/L)
ND* None Detected, lower detectable limit - 250 mg/L)
J (Detected, but below quantitation limit; quantitation is suspect)

SURROGATE RECOVERY:	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	74	(76-114)
Toluene-d8	99	(88-110)
Bromofluorobenzene	99	(86-115)

WADSWORTH/ALERT
LABORATORIES, INC.

CLIENT: Intersol Industries Corp.

SAMPLE ID: 00543

MATRIX: TCLP Extract

LAB ID: 8I151-1

DATE REC'D: 9/15/88
DATE PREP'D: 9/20/88
DATE COMP'D: 9/23/88
LABORATORY ID: E84059

METALS ANALYSIS
TOXICITY CHARACTERISTIC LEACHING PROCEDURE - TCLP
ATOMIC ABSORPTION SPECTROSCOPY

PARAMETER	RESULT	DETECTION LIMIT
Arsenic (As)	None Detected	0.01 mg/L
Barium (Ba)	1.5 mg/L	1.0 mg/L
Cadmium (Cd)	None Detected	0.05 mg/L
Chromium (Cr)	9.0 mg/L	0.2 mg/L
Copper (Cr)	None Detected	0.2 mg/L
Lead (Pb)	None Detected	0.5 mg/L
Mercury (Hg)	None Detected	0.002 mg/L
Nickel (Ni)	None Detected	1.0 mg/L
Selenium (Se)	None Detected	0.01 mg/L
Silver (Ag)	None Detected	0.1 mg/L
Thallium (Tl)	None Detected	1.0 mg/L
Zinc (Zn)	0.66 mg/L	0.05 mg/L

WADSWORTH/ALERT
LABORATORIES, INC.

CLIENT:	Intersol Industries Corp.	LAB #:	81151-2
SAMPLE ID:	00544	DATE REC'D:	9/15/88
MATRIX:	Cloth	DATE COMP'D:	9/24/88
		LABORATORY ID:	E84059

MARTIN MARIETTA VOLATILE ORGANIC ANALYTICAL REPORT
USEPA METHOD 624 -- GC/MS

Acetone	ND*	1,2-Dichloropropane	ND
Acrylonitrile	ND	t-1,3-Dichloropropene	ND
Benzene	ND	c-1,3-Dichloropropene	ND
Bromodichloromethane	ND	Ethyl Acetate	ND
Bromoform	ND	Ethyl benzene	1.4 J
Bromomethane	ND*	Ethyl ether	ND*
2-Butanone (MEK)	ND*	Isobutanol	ND*
n-Butanol	ND*	Methanol	ND*
Carbon Disulfide	ND	4-Methyl-2-pentanone (MIBK)	ND*
Carbon tetrachloride	ND	Methylene chloride	ND
Chlorobenzene	ND	Pyridine	ND
Chloroethane	ND*	1,1,1,2-Tetrachloroethane	ND
2-Chloroethyl vinyl ether	ND*	1,1,2,2-Tetrachloroethane	ND
Chloroform	ND	Tetrachloroethene	ND
Chloromethane	ND*	Toluene	2.7 mg/L
Cyclohexanone	ND*	1,1,1-Trichloroethane	ND
Dibromochloromethane	ND	1,1,2-Trichloroethane	ND
1,2-Dichlorobenzene	ND	Trichloroethene	ND
1,3-Dichlorobenzene	ND	Trichlorofluoromethane	ND
1,4-Dichlorobenzene	ND	1,1,2-Trichloro-1,2,2-tri-fluoroethane (FREON)	ND
1,1-Dichloroethane	ND		
1,2-Dichloroethane	ND	Vinyl chloride	ND
1,1-Dichloroethene	ND	Xylenes, total	8.8 mg/L
t-1,2-Dichloroethene	ND		

NOTE: ND (None Detected, lower detectable limit - 1.7 mg/L)
ND* None Detected, lower detectable limit - 8.3 mg/L)
J (Detected, but below quantitation limit; quantitation is suspect)

SURROGATE RECOVERY:	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	96	(76-114)
Toluene-d8	103	(88-110)
Bromofluorobenzene	96	(86-115)

WADSWORTH/ALERT
LABORATORIES, INC.

CLIENT:	Intersol Industries Corp.	LAB #:	8I151-2
SAMPLE ID:	00544	DATE REC'D:	9/15/88
MATRIX:	Cloth	DATE COMP'D:	9/24/88
		LABORATORY ID:	E84059

VOLATILE ORGANICS

OTHER COMPOUNDS

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS
with their estimated concentrations

Unknown	@ ~	4	mg/L
Acetic acid, butyl ester	@ ~	10	mg/L
Isopropanol	@ ~	12	mg/L

WADSWORTH/ALERT
LABORATORIES, INC.

CLIENT: Intersol Industries Corp.

SAMPLE ID: 00544

MATRIX: TCLP Extract

LAB ID: 8I151-2

DATE REC'D: 9/15/88
DATE PREP'D: 9/20/88
DATE COMP'D: 9/23/88
LABORATORY ID: E84059

METALS ANALYSIS
TOXICITY CHARACTERISTIC LEACHING PROCEDURE - TCLP
ATOMIC ABSORPTION SPECTROSCOPY

PARAMETER	RESULT	DETECTION LIMIT
Arsenic (As)	None Detected	0.01 mg/L
Barium (Ba)	1.4 mg/L	1.0 mg/L
Cadmium (Cd)	0.53 mg/L	0.05 mg/L
Chromium (Cr)	96. mg/L	0.2 mg/L
Copper (Cr)	None Detected	0.2 mg/L
Lead (Pb)	None Detected	0.5 mg/L
Mercury (Hg)	None Detected	0.002 mg/L
Nickel (Ni)	None Detected	1.0 mg/L
Selenium (Se)	None Detected	0.01 mg/L
Silver (Ag)	None Detected	0.1 mg/L
Thallium (Tl)	None Detected	1.0 mg/L
Zinc (Zn)	190. mg/L	0.05 mg/L

WADSWORTH/ALERT
LABORATORIES, INC.

CLIENT:	Intersol Industries Corp.	LAB #:	8I151-3
SAMPLE ID:	00545	DATE REC'D:	9/15/88
MATRIX:	Cloth	DATE COMP'D:	9/24/88
		LABORATORY ID:	E84059

MARTIN MARIETTA VOLATILE ORGANIC ANALYTICAL REPORT
USEPA METHOD 624 -- GC/MS

Acetone	59. mg/L	1,2-Dichloropropane	ND
Acrylonitrile	ND	t-1,3-Dichloropropene	ND
Benzene	ND	c-1,3-Dichloropropene	ND
Bromodichloromethane	ND	Ethyl Acetate	ND
Bromoform	ND	Ethyl benzene	ND
Bromomethane	ND*	Ethyl ether	ND*
2-Butanone (MEK)	ND*	Isobutanol	ND*
n-Butanol	ND*	Methanol	130. mg/L
Carbon Disulfide	ND	4-Methyl-2-pentanone (MIBK)	ND*
Carbon tetrachloride	ND	Methylene chloride	ND
Chlorobenzene	ND	Pyridine	ND
Chloroethane	ND*	1,1,1,2-Tetrachloroethane	ND
2-Chloroethyl vinyl ether	ND*	1,1,2,2-Tetrachloroethane	ND
Chloroform	ND	Tetrachloroethene	ND
Chloromethane	ND*	Toluene	ND
Cyclohexanone	ND*	1,1,1-Trichloroethane	ND
Dibromochloromethane	ND	1,1,2-Trichloroethane	ND
1,2-Dichlorobenzene	ND	Trichloroethene	ND
1,3-Dichlorobenzene	ND	Trichlorofluoromethane	ND
1,4-Dichlorobenzene	ND	1,1,2-Trichloro-1,2,2-trifluoroethane (FREON)	ND
1,1-Dichloroethane	ND		
1,2-Dichloroethane	ND	Vinyl chloride	ND
1,1-Dichloroethene	ND	Xylenes, total	ND
t-1,2-Dichloroethene	ND		

NOTE: ND (None Detected, lower detectable limit - 10 mg/L)
ND* None Detected, lower detectable limit - 50 mg/L)
J (Detected, but below quantitation limit; quantitation is suspect)

SURROGATE RECOVERY:	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	98	(76-114)
Toluene-d8	105	(88-110)
Bromofluorobenzene	99	(86-115)

WADSWORTH/ALERT
LABORATORIES, INC.

CLIENT:	Intersol Industries Corp.	LAB #:	8I151-3
SAMPLE ID:	00545	DATE REC'D:	9/15/88
MATRIX:	Cloth	DATE COMP'D:	9/24/88
		LABORATORY ID:	E84059

VOLATILE ORGANICS

OTHER COMPOUNDS

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS
with their estimated concentrations

Isopropanol	@ - 130 mg/L

WADSWORTH/ALERT
LABORATORIES, INC.

CLIENT: Intersol Industries Corp.

SAMPLE ID: 00545

MATRIX: TCLP Extract

LAB ID: 8I151-3

DATE REC'D: 9/15/88
DATE PREP'D: 9/20/88
DATE COMP'D: 9/23/88
LABORATORY ID: E84059

METALS ANALYSIS
TOXICITY CHARACTERISTIC LEACHING PROCEDURE - TCLP
ATOMIC ABSORPTION SPECTROSCOPY

PARAMETER	RESULT	DETECTION LIMIT
Arsenic (As)	None Detected	0.01 mg/L
Barium (Ba)	2.3 mg/L	1.0 mg/L
Cadmium (Cd)	None Detected	0.05 mg/L
Chromium (Cr)	None Detected	0.2 mg/L
Copper (Cr)	None Detected	0.2 mg/L
Lead (Pb)	1.0 mg/L	0.5 mg/L
Mercury (Hg)	None Detected	0.002 mg/L
Nickel (Ni)	None Detected	1.0 mg/L
Selenium (Se)	None Detected	0.01 mg/L
Silver (Ag)	None Detected	0.1 mg/L
Thallium (Tl)	None Detected	1.0 mg/L
Zinc (Zn)	1.5 mg/L	0.05 mg/L

WADSWORTH/ALERT
LABORATORIES, INC.

CLIENT:	Intersol Industries Corp.	LAB #:	8I151-4
SAMPLE ID:	00546	DATE REC'D:	9/15/88
MATRIX:	Cloth	DATE COMP'D:	9/26/88
		LABORATORY ID:	E84059

MARTIN MARIETTA VOLATILE ORGANIC ANALYTICAL REPORT
USEPA METHOD 624 -- GC/MS

Acetone	ND*	1,2-Dichloropropane	ND
Acrylonitrile	ND	t-1,3-Dichloropropene	ND
Benzene	ND	c-1,3-Dichloropropene	ND
Bromodichloromethane	ND	Ethyl Acetate	ND
Bromoform	ND	Ethyl benzene	ND
Bromomethane	ND*	Ethyl ether	ND*
2-Butanone (MEK)	91. mg/L	Isobutanol	ND*
n-Butanol	ND*	Methanol	ND*
Carbon Disulfide	ND	4-Methyl-2-pentanone (MIBK)	320. mg/L
Carbon tetrachloride	ND	Methylene chloride	ND
Chlorobenzene	ND	Pyridine	ND
Chloroethane	ND*	1,1,1,2-Tetrachloroethane	ND
2-Chloroethyl vinyl ether	ND*	1,1,2,2-Tetrachloroethane	ND
Chloroform	ND	Tetrachloroethene	ND
Chloromethane	ND*	Toluene	45. mg/L
Cyclohexanone	ND*	1,1,1-Trichloroethane	ND
Dibromochloromethane	ND	1,1,2-Trichloroethane	ND
1,2-Dichlorobenzene	ND	Trichloroethene	ND
1,3-Dichlorobenzene	ND	Trichlorofluoromethane	ND
1,4-Dichlorobenzene	ND	1,1,2-Trichloro-1,2,2-tri-	
1,1-Dichloroethane	ND	fluoroethane (FREON)	ND
1,2-Dichloroethane	ND	Vinyl chloride	ND
1,1-Dichloroethene	ND	Xylenes, total	26. mg/L
t-1,2-Dichloroethene	ND		

NOTE: ND (None Detected, lower detectable limit - 10 mg/L) as received
ND* None Detected, lower detectable limit - 50 mg/L) as received
J (Detected, but below quantitation limit; quantitation is suspect)

SURROGATE RECOVERY:	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	79	(76-114)
Toluene-d8	98	(88-110)
Bromofluorobenzene	89	(86-115)

WADSWORTH/ALERT
LABORATORIES, INC.

CLIENT: Intersol Industries Corp.

SAMPLE ID: 00546

MATRIX: TCLP Extract

LAB ID: 8I151-4

DATE REC'D: 9/15/88
DATE PREP'D: 9/20/88
DATE COMP'D: 9/23/88
LABORATORY ID: E84059

METALS ANALYSIS
TOXICITY CHARACTERISTIC LEACHING PROCEDURE - TCLP
ATOMIC ABSORPTION SPECTROSCOPY

PARAMETER	RESULT	DETECTION LIMIT
Arsenic (As)	None Detected	0.01 mg/L
Barium (Ba)	2.7 mg/L	1.0 mg/L
Cadmium (Cd)	None Detected	0.05 mg/L
Chromium (Cr)	25. mg/L	0.2 mg/L
Copper (Cr)	None Detected	0.2 mg/L
Lead (Pb)	None Detected	0.5 mg/L
Mercury (Hg)	None Detected	0.002 mg/L
Nickel (Ni)	None Detected	1.0 mg/L
Selenium (Se)	None Detected	0.01 mg/L
Silver (Ag)	None Detected	0.1 mg/L
Thallium (Tl)	None Detected	1.0 mg/L
Zinc (Zn)	0.53 mg/L	0.05 mg/L

WADSWORTH/ALERT
LABORATORIES, INC.

CLIENT: Intersol Industries Corp. LAB #: 8I151

SAMPLE ID: Lab Blank DATE REC'D:

MATRIX: Cloth DATE COMP'D: 9/24/88
LABORATORY ID: E84059

MARTIN MARIETTA VOLATILE ORGANIC ANALYTICAL REPORT
USEPA METHOD 624 -- GC/MS

Acetone	ND*	1,2-Dichloropropane	ND
Acrylonitrile	ND	t-1,3-Dichloropropene	ND
Benzene	ND	c-1,3-Dichloropropene	ND
Bromodichloromethane	ND	Ethyl Acetate	ND
Bromoform	ND	Ethyl benzene	ND
Bromomethane	ND*	Ethyl ether	ND*
2-Butanone (MEK)	ND*	Isobutanol	ND*
n-Butanol	ND*	Methanol	ND*
Carbon Disulfide	ND	4-Methyl-2-pentanone (MIBK)	ND*
Carbon tetrachloride	ND	Methylene chloride	ND
Chlorobenzene	ND	Pyridine	ND
Chloroethane	ND*	1,1,1,2-Tetrachloroethane	ND
2-Chloroethyl vinyl ether	ND*	1,1,2,2-Tetrachloroethane	ND
Chloroform	ND	Tetrachloroethene	ND
Chloromethane	ND*	Toluene	.045 mg/L
Cyclohexanone	ND*	1,1,1-Trichloroethane	ND
Dibromochloromethane	ND	1,1,2-Trichloroethane	ND
1,2-Dichlorobenzene	ND	Trichloroethene	ND
1,3-Dichlorobenzene	ND	Trichlorofluoromethane	ND
1,4-Dichlorobenzene	ND	1,1,2-Trichloro-1,2,2-tri-fluoroethane (FREON)	ND
1,1-Dichloroethane	ND		
1,2-Dichloroethane	ND	Vinyl chloride	ND
1,1-Dichloroethene	ND	Xylenes, total	.009 J
t-1,2-Dichloroethene	ND		

NOTE: ND (None Detected, lower detectable limit - .012 mg/L)
ND* None Detected, lower detectable limit - .060 mg/L)
J (Detected, but below quantitation limit; quantitation is suspect)

SURROGATE RECOVERY:	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	96	(76-114)
Toluene-d8	104	(88-110)
Bromofluorobenzene	102	(86-115)

WADSWORTH/ALERT
LABORATORIES, INC.

CLIENT:	Intersol Industries Corp.	LAB #:	8I151
SAMPLE ID:	Lab Blank	DATE REC'D:	9/15/88
MATRIX:	Cloth	DATE COMP'D:	9/24/88
		LABORATORY ID:	E84059

VOLATILE ORGANICS

OTHER COMPOUNDS

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS
with their estimated concentrations

Unknown ester	@ ~ 0.025 mg/L
Unknown	@ ~ 0.020 mg/L
Acetic acid, butyl ester	@ ~ 0.070 mg/L
Unknown ester	@ ~ 0.12 mg/L

WADSWORTH/ALERT
LABORATORIES, INC.

CLIENT: Intersol Industries Corp.

SAMPLE ID: Lab Blank

MATRIX: Cloth

LAB ID: 8I151

DATE REC'D:
DATE PREP'D: 9/20/88
DATE COMP'D: 9/23/88
LABORATORY ID: E84059

METALS ANALYSIS
TOXICITY CHARACTERISTIC LEACHING PROCEDURE - TCLP
ATOMIC ABSORPTION SPECTROSCOPY

PARAMETER	RESULT	DETECTION LIMIT
Arsenic (As)	None Detected	0.01 mg/L
Barium (Ba)	None Detected	1.0 mg/L
Cadmium (Cd)	None Detected	0.05 mg/L
Chromium (Cr)	None Detected	0.2 mg/L
Copper (Cr)	None Detected	0.2 mg/L
Lead (Pb)	None Detected	0.5 mg/L
Mercury (Hg)	None Detected	0.002 mg/L
Nickel (Ni)	None Detected	1.0 mg/L
Selenium (Se)	None Detected	0.01 mg/L
Silver (Ag)	None Detected	0.1 mg/L
Thallium (Tl)	None Detected	1.0 mg/L
Zinc (Zn)	None Detected	0.05 mg/L

MARTIN MARIETTA

FORM D-3792 SEPT 85

MARTIN MARIETTA ORLANDO AEROSPACE

SANDLAKE ROAD COMPLEX

ENVIRONMENTAL SAMPLES CHAIN OF CUSTODY

SAMPLE NO.	SAMPLE SOURCE	DATE	TIME	COMP	GRAB	NO. OF CONTAINER	SIZE OF CONTAINER	ANALYSIS REQUIRED	REMARKS
00543	Ablative	9/13/88	14:00		X	1	1L		→ TCLP Metals 8151 TCLP Organics ~~8151~~
00544	Copperhead	↓	↓		X	1	1L		8151
00545	Optics	↓	↓		X	1	1L		—
00546	TADS/PNVS	↓	↓		X	1	1L		—

SAMPLES COLLECTED BY (SIGNATURE)	DATE	TIME	RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)
Ronald L Kaner	9/13/88	14:00				9/13 Cindy Taylor
METHOD OF SHIPMENT: Fed Ex			RELINQUISHED BY (SIGNATURE)			RECEIVED BY (SIGNATURE)
REMARKS: TCLP Metal, TCLP Organics; Ester Cano 407-356-4291 1351 11603			RELINQUISHED BY (SIGNATURE)			RECEIVED BY (SIGNATURE)
			RELINQUISHED BY (SIGNATURE)			RECEIVED BY (SIGNATURE)

JS

Florida Department of Environmental Regulation

Central District • 3319 Maguire Boulevard, Suite 232 • Orlando, Florida 32803-3767 • 407-894-7555

Bob Martinez, Governor Dale Twachtmann, Secretary John Shearer, Assistant Secretary
Alex Alexander, Deputy Assistant Secretary

CERTIFIED
P-147 917 410

Dan Williams
Permitting Engineer, MP 280
Martin Marietta Aerospace
4600 Sandlake Road
Post Office Box 5837
Orlando, Florida 32855

OCD-HW-88-0426

Orange County - HW
Martin Marietta Orlando Aerospace
Modification of Conditions
Permit Number H048-89392

Dear Mr. Williams:

Review of the operation permit indicates that a modification of permit condition is required to conform with the current regulations. Enclosed is a modified permit number H005-89392 dated 12-13-88 which requires no public notice. Please replace the permit you have with the enclosed one.

If you have further questions, please contact Richard Tedder or Laxsamee Levin at (407)894-7555.

Sincerely,

A. Alexander
Deputy Assistant Secretary

LAX for LAX
AA/rbt/lll

cc: Satish Kastury, DER
James Scarbrough, EPA.

Enclosure

MM 288

Permittee:
Martin Marietta Orlando Aerospace
4600 Sandlake Road
Post Office Box 5837
Orlando, Florida 32855

I. D. Number: FLD 060 240 207
Permit/Certification
Number: H048-89392
Date of Issue: 12/24/85
Expiration Date: 12/24/90
County: Orange
Latitude/Longitude:
28°26'17"/81°26'55"
Section/Township/Range:
32 /23 /29
Project: Martin Marietta
Orlando Aerospace Hazardous
Waste Storage Facility

This permit is issued under the provisions of Chapter(s) 403, Florida Statutes, and Florida Administrative Code Rule(s) 17-3, 17-4 and 17-30. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents attached hereto or on file with the department and made a part hereof and specifically described as follows:

The hazardous waste storage facility includes containerized hazardous waste storage building and three - one thousand gallon spill colleciton tanks. Hazardous wastes are stored in fifty five (55) gallon drums in the building which is designed for a maximum storage of 336 (55 gallon) drums. Hazardous wastes have EPA hazardous Waste Numbers of D001, D002, F001, F003 and F005.

The structure has the following features: six (6") inch reinforced concrete slab with raised curbs; impervious floor with 2 inch slope towards spill containment area; three (3) bays with spill containment areas; pre-cast roof panels; controlled access (inside fenced area with locked gate); emergency eyewash and shower; fire hydrant and hose-bib water connections.

The three spill collection tanks are located north of the hazardous waste storage building. The tanks are installed underground and made of steel with the minimum wall thickness of 3/16" and 4" PVC butterfly valves. Cathodic protection is provided to pipes and tanks.

The building is subdivided into three (3) bays: #1, #2, and #3 with dimensions of 18'2" X 27'8", 18'5" X 27'8" and 37'3" X 27'8" respectively.

PERMITTEE:
Martin Marietta Orlando Aerospace
4600 Sandlake Road
Post Office Box 5837
Orlando, Florida 32855

I. D. Number: FLD 060 240 207
Permit Number: H048-89392
Date of Issue: 12/24/85
Expiration Date: 12/24/90

PERMIT HISTORY:

1. The operation permit; H048-89392, issued 12/24/85 and expires 12/24/90.

2. The operation permit; H048-89392, modified 4/8/86 to update a current Environmental Control Director "Lincoln E. Hall".

3. The operation permit; H048-89392, modified 8/6/86 to delete F006 waste stream from storing at the permitted storage facility and designate Bay #3 to be used for segregation and storage area etc. (see conditions 2, 14, 15, 16 and 25.

4. The operation permit; H048-89392, modified 12/12/88 to update conditions 2, 9, 10, 11 and replace the content of condition 12 with condition 25 content.

PERMITTEE:

Martin Marietta Orlando Aerospace

I.D. Number: FLD 060 240 207
Permit/Certification Number: HO48-89392
Date of Issue:
Expiration Date: 12/24/90

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions" and a such are binding upon the permittee and enforceable pursuant to the authority of Sections 403.161, 403.727, 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the department wi review this permit periodically and may initiate enforcement action for any violation of the "Permit Condition by the permittee, its agents, employees, servants or representatives.

2. This permit is valid only for the specific processes and operations applied for and indicated in the approv drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or cond tions of this permit may constitute grounds for revocation and enforcement action by the department.

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not co vey any vested rights or any exclusive privileges. Nor does it authorize any injury to public or private proper or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. Th permit does not constitute a waiver of or approval of any other department permit that may be required for oth aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgement of titl and does not constitute authority for the use of submerged lands unless herein provided and the necessary title leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fu may express state opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, anima plant or aquatic life or property and penalties therefor caused by the construction or operation of this permitt source, nor does it allow the permittee to cause pollution in contravention of Florida Statutes and departme rules, unless specifically authorized by an order from the department.

6. The permittee shall at all times properly operate and maintain the facility and systems of treatment and contr (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditio of this permit, as required by department rules. This provision includes the operation of backup or auxilia facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when r quired by department rules.

7. The permittee, by accepting this permit, specifically agrees to allow authorized department personnel, upon pr sentation of credentials or other documents as may be required by law, access to the premises, at reasonab times, where the permitted activity is located or conducted for the purpose of:

   a. Having access to and copying any records that must be kept under the conditions of the permit;

   b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and

   c. Sampling or monitoring any substances or parameters at any location reasonably necessary to assure complian with this permit or department rules.

   Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limit tion specified in this permit, the permittee shall immediately notify and provide the department with the follo ing information:

   a. a description of and cause of non-compliance; and

b. the period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time t non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of t non-compliance.

The permittee shall be responsible for any and all damages which may result and may be subject to enforceme action by the department for penalties or revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and oth information relating to the construction or operation of this permitted source, which are submitted to the depar ment, may be used by the department as evidence in any enforcement case arising under the Florida Statutes department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes.

10. The permittee agrees to comply with changes in department rules and Florida Statutes after a reasonable time f compliance, provided however, the permittee does not waive any other rights granted by Florida Statutes or depart ment rules.

11. This permit is transferable only upon department approval in accordance with Florida Administrative Code Rule 17-4.12 and 17-30.30, as applicable. The permittee shall be liable for any non-compliance of the permitted acti vity until the transfer is approved by the department.

12. This permit is required to be kept at the work site of the permitted activity during the entire period of co struction or operation.

13. This permit also constitutes:

( ) Determination of Best Available Control Technology (BACT)
( ) Determination of Prevention of Significant Deterioration (PSD)
( ) Certification of Compliance with State Water Quality Standards (Section 401, PL 92-500)
( ) Compliance with New Source Performance Standards

14. The permittee shall comply with the following monitoring and record keeping requirements:

a. Upon request, the permittee shall furnish all records and plans required under department rules. The reten tion period for all records will be extended automatically, unless otherwise stipulated by the department during the course of any unresolved enforcement action.

b. The permittee shall retain at the facility or other location designated by this permit records of all monitor ing information (including all calibration and maintenance records and all original strip chart recordings f continuous monitoring instrumentation), copies of all reports required by this permit, and records of all dat used to complete the application for this permit. The time period of retention shall be at least three year from the date of the sample, measurement, report or application unless otherwise specified by department rule

c. Records of monitoring information shall include:

- the date, exact place, and time of sampling or measurements;
- the person responsible for performing the sampling or measurements;
- the date(s) analyses were performed;
- the person responsible for performing the analyses;
- the analytical techniques or methods used; and
- the results of such analyses.

15. When requested by the department, the permittee shall within a reasonable time furnish any information required b law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant fact were not submitted or were incorrect in the permit application or in any report to the department, such facts o information shall be submitted or corrected promptly.

16. In the case of a hazardous waste facility permit, the following permit conditions shall also apply.

a. The permittee will submit the following reports to the department:

(1) Manifest discrepancy report: If a significant discrepancy in a manifest is discovered, the permittee must attempt to reconcile the discrepancy. If not resolved within 15 days after receiving the waste, the permittee shall immediately submit a letter report including a copy of the manifest to the department.

(2) Unmanifested waste report: Permittee shall submit an unmanifested waste report to the department within 15 days of receipt of umanifested waste.

(3) Annual report: An annual report covering facility activities during the previous calendar year must be submitted in accordance with Florida Administrative Code Rule 17-30.

b. Notification of any non-compliance which may endanger health or the environment, including the release of any hazardous waste that may endanger public drinking water supplies, or the occurrence of a fire or explosion from the facility which could threaten the environment or human health outside the facility, shall be verbally submitted to the department within 24 hours and a written submission provided within 5 days. The verbal submission within 24 hours shall contain the name, address, I.D. number and telephone number of the facility and owner or operator, the name and quantity of materials involved, the extent of injuries (if any), an assessment of actual or potential hazards, and the estimated quantity and disposition of recovered material. The written submission shall contain the following:

(1) a description of and cause of non-compliance; and

(2) if not corrected, the anticipated time the non-compliance is expected to continue and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

c. Reports of compliance or non-compliance with, or any progress reports on, requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

d. All reports or information required to be submitted to the department by a hazardous waste permittee shall be signed by a person authorized to sign a permit application.

PERMITTEE:
Martin Marietta Orlando Aerospace

I. D. Number: FLD 060 240 207
Permit/Certification Number:
HO48-89392
Date of Issue:
Expiration Date: 12/24/90

SPECIFIC CONDITIONS:

1. The permittee shall notify the department in writing four weeks prior to receipt of hazardous waste from a foreign source.

2. Only hazardous waste listed in Table 3-2 (attached) shall be stored at the hazardous waste storage building. Prior to acceptance of new hazardous wastes, the permittee shall submit to the department, for approval, waste analysis of the proposed new waste stream. This analysis must also be incorporated in the general waste analysis plan and retained on-site.

3. The permittee shall inspect the facility operating, emergency and safety equipment in accordance with the schedule approved in Attachment 4 of the Operation Permit Application. Changes, additions, or deletions to the schedule must be approved in writing by the department. The schedule must be maintained as part of the operating record at the facility.

4. Facility personnel must complete tha approved training program indicated in Section 4 of the Operation Permit Application. Verification of this training must be kept with the personnel training records and maintained on-site. Personnel shall not work unsupervised until training has been completed.

5. The contingency plan must be amended and distributed to the appropriate agencies if any criteria in 40 CFR 264.54 are met. Amendments to the plan must be approved in writing by the department.

6. The permittee shall follow the emergency procedures specified in 40 CFR 264.56 and approved in Section 4 Part E-2.4 of the Operation Permit Application. The permittee shall give proper notification if an emergency situation arises and within 15 days must.submit to the department a written report which includes all information required in 40 CFR 264.56(j).

7. The permittee shall comply with the manifest requirements indicated in Part 40 CFR 264.71.

SPECIFIC CONDITIONS:

8. The permittee shall keep a written operating record at the facility which includes:

   The description and quantity of each hazardous waste received.

   The location of each hazardous waste within the facility.

   The results of the waste analysis.

   A summary report and details of incidents that require implementation of the contingency plan.

   Manifest numbers.

   The results of inspections (for 3 years).

   Closure plan and cost estimates.

   Annual Certification of waste minimization.

   These records must be maintained at the facility until completion and certification of closure.

9. The permittee shall apply for a permit renewal 135 days prior to the expiration date, per 17-30.300 F.A.C.

10. The permittee shall aplly for a closure permit prior to beginning closure at the facility, per 17-30.260 F.A.C.

11. The permittee shall repeat waste analysis as necessary to ensure that it is accurate and up to date, per 40 CFR Part 264.13.

12. The permittee shall not handle incompatible wastes at any one time at the segregation area specified in Specific Condition 16.

13. Hazardous waste shall be containerized in 17E, 17H and DOT-E 6637 type DOT approved 55 gallon drums/carboys or equivalent and stored on pallet racks.

14. Bay #1 shall be permitted to store up to a maximum of 96 (55 gallon) drums of hazardous waste characterized "Flammable/Ignitable" with EPA Hazardous Waste Numbers of F003, F005 and D001 except Sodium Nitrite Mixture and Oxidizer, NOS (Lab Packs).

PERMITTEE:
Martin Marietta Orlando Aerospace

I. D. Number: FLD 060 240 207
Permit/Certification Number:
H048-89392
Date of Issue:
Expiration Date: 12/24/90

SPECIFIC CONDITIONS:

15. Bay #2 shall be permitted to store up to a maximum of 96 (55 gallon) drums of hazardous waste characterized "Organic Solvent - Non-Flammable" with EPA Hazardous Waste Numbers of F001 and U122.

16. Bay #3 shall be subdivided into two areas. One area (18'9" X 27'8") shall be used for segregation area and storage of non-hazardous chemical waste and have a maximum storage of 48 (55 gallon) drums. The other area (18'6" X 27'8") shall be for storing hazardous waste characterized "Solid Material - Non-flammable" with EPA Hazardous Waste Numbers of D002 and Sodium Nitrite Mixture (D001) and Oxidizer, NOS (Lab Pack) and have a maximum storage of 96 (55 gallon) drums.

17. All hazardous waste containers shall be kept closed during storage except when adding or removing wastes and be handled in a manner that will not allow the containers to rupture or leak. If a container holding hazardous waste is not in good condition, or begins to leak, the waste shall be transferred to another container in good condition. All containers shall also be managed in accordance with the plan approved in Section 6 of the operation permit application.

18. The permittee shall pump the liquid in each of the spill collection tanks into 55 gallon drums within 24 hours of any spills or leaks while awaiting analyses.

19. The permittee shall handle the 55 gallon drums that contain the spill material as an appropriate hazardous waste and dispose of under the RCRA rules and regulations.

20. The permittee shall inspect the container storage area daily for leaking containers and for deterioration of containers and the containment system.

21. Incompatible waste shall not be stored in containers or placed in unwashed containers that have previously held an incompatible waste.

22. The permittee shall maintain compliance with the financial responsibility requirements pursuant to 40 CFR Part 264, Subpart H.

PERMITTEE:
Martin Marietta Orlando Aerospace

I. D. Number: FLD 060 240 207
Permit/Certification Number:
HO48-89392
Date of Issue:
Expiration Date: 12/24/90

SPECIFIC CONDITIONS:

23. The permittee shall maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of the facility oepration in an emergency.

24. The permittee shall operate the hazardous waste storage facility in accordance with 40 CFR Part 264 Subpart A through I.

Modified 12-13-88

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

A. Alexander
Deputy Assistant Secretary

Filing and Acknowledgment
Filed on this date,
pursuant to 120.52(9),
Florida Statutes, with the
designated Clerk, receipt of
which is acknowledged.

E. B. Williams 12/13/88
CLERK DATE

This is to certify that this Notice of Permit was mailed before the close of business on Dec. 15, 1988, Laura M. Mather

TABLE 3.2

HAZARDOUS WASTE STORED

CATEGORY	WASTE	EPA HAZARDOUS WASTE NUMBER	DOT UN/NA CODE	BAY STORED	EST. OF ANNUAL QUAN. BBLS.
I	Spent Endura Etch (Ammonium Hydroxide)	D-002	NA 2672	3	12
I	Waste Corrosive Solid,NOS	D-002	UN 1759	3	10
II	Methylene Chloride (Dichloroethane)	F-001/U-080	UN 1593	2	5
II	Spent Lacquer Thinner	F-003	NA 1142	1	80
II	1-1-1 Trichloroethane	F-001/U-226	UN 2831	2	20
II	Freon, Liquid	F-001	NA 9189	2	15
II	Xylene	F-003/U-239	UN 1307	1	5
II	Toluene	F-005/U-220	UN 1294	1	5
II	Acetone	F-003/U-002	UN 1090	1	10
II	Acetonitrile	D-001/U-003	NA 1648	1	5
II	Benzene	D-001/U-019	UN 1114	1	5
II	Methanol	F-003/U-154	UN 1230	1	5
II	Methyl Ethyl Ketone	F-005/U-159	UN 1193	1	10
II	Trichloroethylene	F-001/U-228	UN 1710	2	5
II	Tetrachloroethylene	F-001/U-210	UN 1897	2	5
II	Tetrahydrofuran	D-001/U-213	UN 2056	1	5
II	Carbon Tetrachloride	F-001/U-211	UN 1846	2	5
II	Formaldehyde	U-122	UN 1198	2	5
III	Sodium Nitrite Mixture (Spent Heat Treat Salts)	D-001	NA 1487	3	24
III	Oxidizer, NOS (Lab Packs)	D-001	UN 1479	3	5
IV	Waste Flammable Liquids, NOS (Lab Packs)	D-001	UN 1993	1	125

JAN 10 1989
4WD-RCRA

Mr. Satish Kastury
Environmental Administrator
Hazardous Waste Regulation
Florida Department of Environmental
Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

RE: Regulatory Status of Solvent Wipers

Dear Mr. Kastury:

Enclosed please find the December 29, 1988, EPA memo that provides Region IV's position on the regulatory status of solvent wipers used in various product manufacturing and equipment maintenance found in the RCRA regulated community.

If you have any questions, please contact Jane Stone of my staff at (404) 347-3433.

Sincerely yours,

James H. Scarbrough, P.E.
Chief, RCRA Branch
Waste Management Division

Enclosure

cc: Richard Tedder, FDER
Lincoln Hall, Martin Marietta

bc: WCS

WES:3433:STONE:SYBURCH:STONE TLX #1 SOLVWIPE: 12/29/88

STONE	DESAI	DICKINSON	SCARBROUGH
1/4/89	114		JHS 1/9/89

MM 289

JAN 10 1989

4WD-RCRA

Mr. Lincoln E. Hall, Director
Environmental Management
Martin Marietta Orlando Aerospace
Post Office Box 5837 MP-621
Orlando, Florida 32855

RE: Regulatory Status of Solvent Wipers

Dear Mr. Hall:

Following the September 12, 1988, meeting regarding solvent wipers, at which Martin Marietta was represented, a regulatory determination was made concerning the solvent wipers used at the Martin Marietta facilities.

Enclosed please find the December 29, 1988, Environmental Protection Agency (EPA) memo that provides Region IV's position on the regulatory status of solvent wipers used in various product manufacturing and equipment maintenance.

If you have any questions, please contact Jane Stone of my staff at (404) 347-3433.

Sincerely yours,

James H. Scarbrough, P.E.
Chief, RCRA Branch
Waste Management Division

Enclosure

cc: Satish Kastury, FDER, Tallahassee
bc: WCS
WES:3433:STONE:SYBURCH:STONE TLX #1 MARTMARI: 12/29/88

STONE [illegible] DESAI DICKINSON SCARBROUGH

[illegible] AF 1/4/89 [illegible] 1/4/89 [illegible] JHS 1/10/89

MM 290

TAB "B"

APPENDIX B

Evaporation Studies

Background:

Most disposable wipers are "stored" for a considerable period of time before actual disposal takes place -- whether it is landfill, incineration or some other acceptable method. As many of the solvents will evaporate, this study was done to determine how quickly some common solvents would evaporate from a used wiper. Although evaporation rates are published for many solvents, these rates are determined for just the solvent and do not consider any effects an absorbent material, such as wipers, might have on the rate.

Findings/Conclusions:

1. After a period of 5 hours, all the solvents had evaporated (see Table I). As most disposable wipers are stored for longer than 5 hours before removal, the amount of solvent contributed to a landfill by a wiper would appear to be negligible.

2. The type of disposable wiper appeared to have little effect on the rate.

Discussion:

Six common solvents were chosen for this study based on our experience in the working environment. Because of the requirement in §222 of the Hazardous and Solid Waste Amendments of 1984 for EPA to consider listing "solvents" in Subpart D, we did not confine this report to currently listed solvents. Additionally, an attempt was made to have representative solvent types. The solvents chosen were:

Hexane
1,1,1-Trichloroethane
Methyl Ethyl Ketone (MEK)
2-Propanol (Isopropyl Alcohol)
Perchloroethylene
Mineral Spirits

Similarly, five disposable wipers were selected to represent the wide range of wiping materials available on the market. They were:

Wiper	Construction	Company
SHURWIPE 2	Airlaid	Fort Howard
SANTARA	Spunlace	DuPont
KIMTEX	Meltblown	Kimberly-Clark
WYPALL	Tissue, print creped	Scott
TERI	Scrim reinforced tissue	Kimberly-Clark

Procedure:

A digital balance was placed on the bottom of a trash can (typical in size to an industrial waste can -- 20 gal.), to simulate storage of a used wiper. A wiper sample (2" sample)1/ was saturated with solvent and placed on the balance. Weighings were recorded at frequent time intervals until evaporation was complete. The results were tabulated and can be found in the following table and graphs.

TABLE I

Time for Total Evaporation
(Minutes)

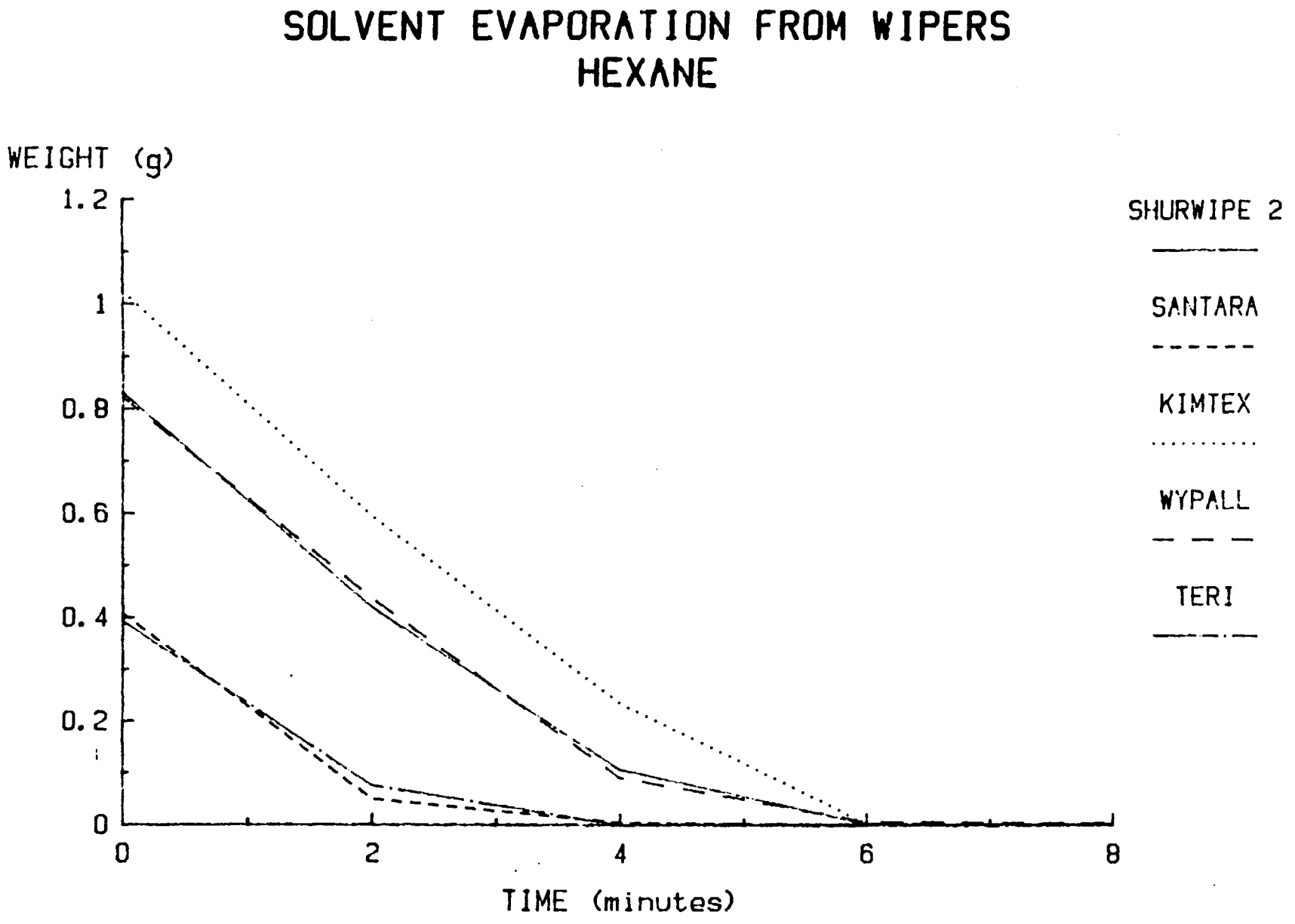
Wiper	Hexane	1,1,1-Tri	MEK	2-Propanol	Perchlor	Mineral
SHURWIPE 2	10	18	20	40	48	230
SANTARA	6	8	6	24	18	160
KIMTEX	8	18	12	28	48	280
WYPALL	10	10	14	29	38	280
TERI	6	6	8	18	18	150

Figures 1-6 show the actual evaporation rate curves for the various solvents. The wiper sample weight has been subtracted out so that the weight shown represents only the weight of solvent remaining in the sample at any given time. In this way, the x-intercept represents the time for total evaporation.

1/ A 2" circular sample was chosen for convenience in placement on the balance pan. The amount of solvent contained in this saturated sample, however, was approximately the same as would be contained in a full-sized wiper saturated the normal 17% by weight. Additionally, the evaporation rate was essentially constant making the total amount of solvent less of a factor.

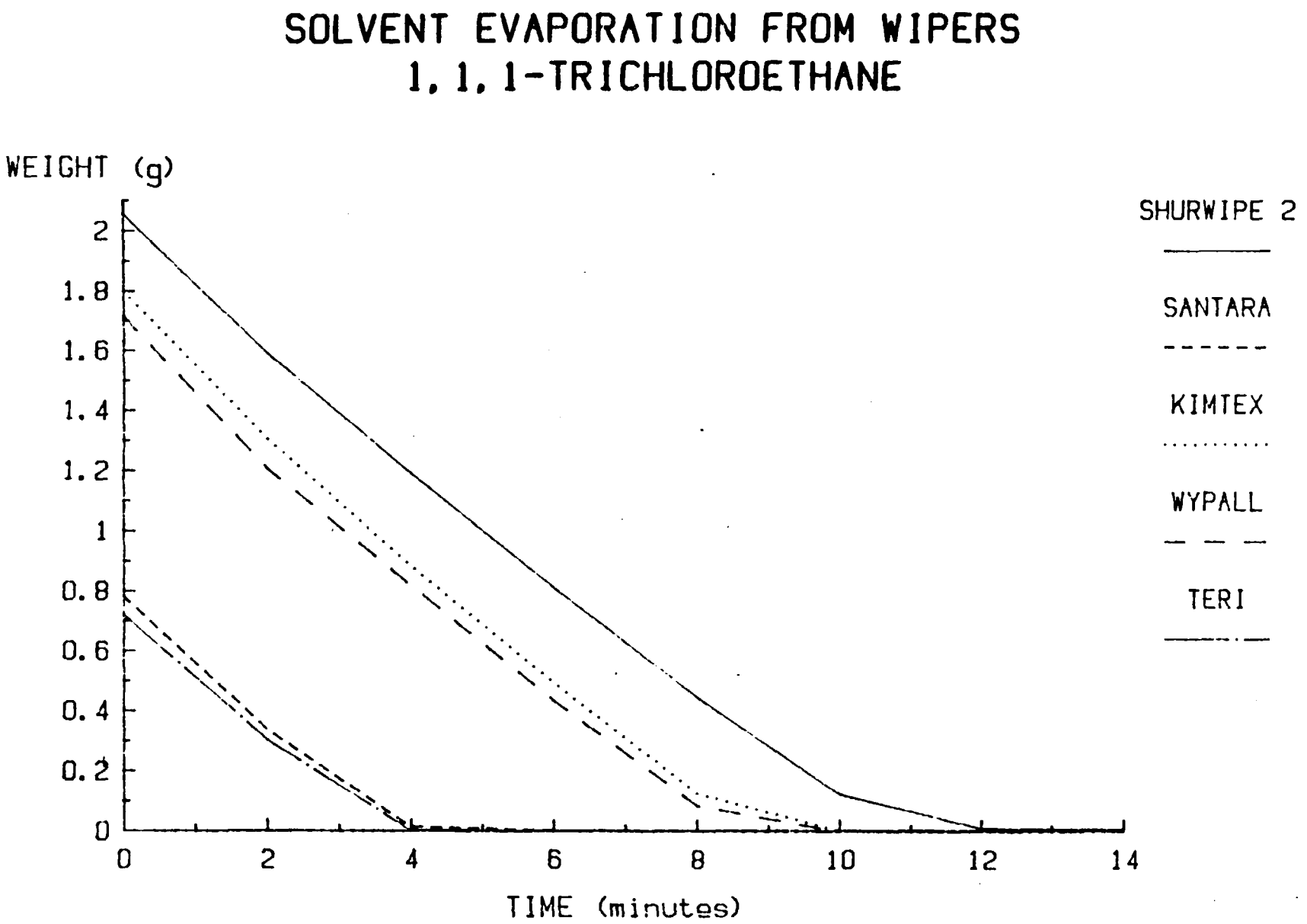
Figures 7-12 are simply another representation of the same data in bar graph form. A 1/2-Life was calculated and shown on the same graph. For this paper, the 1/2-Life was defined as the time required for half the solvent to evaporate. This was done to compensate for the almost asymptotic shape of the curves as the amount of certain of the solvent approaches zero.

Figure 1



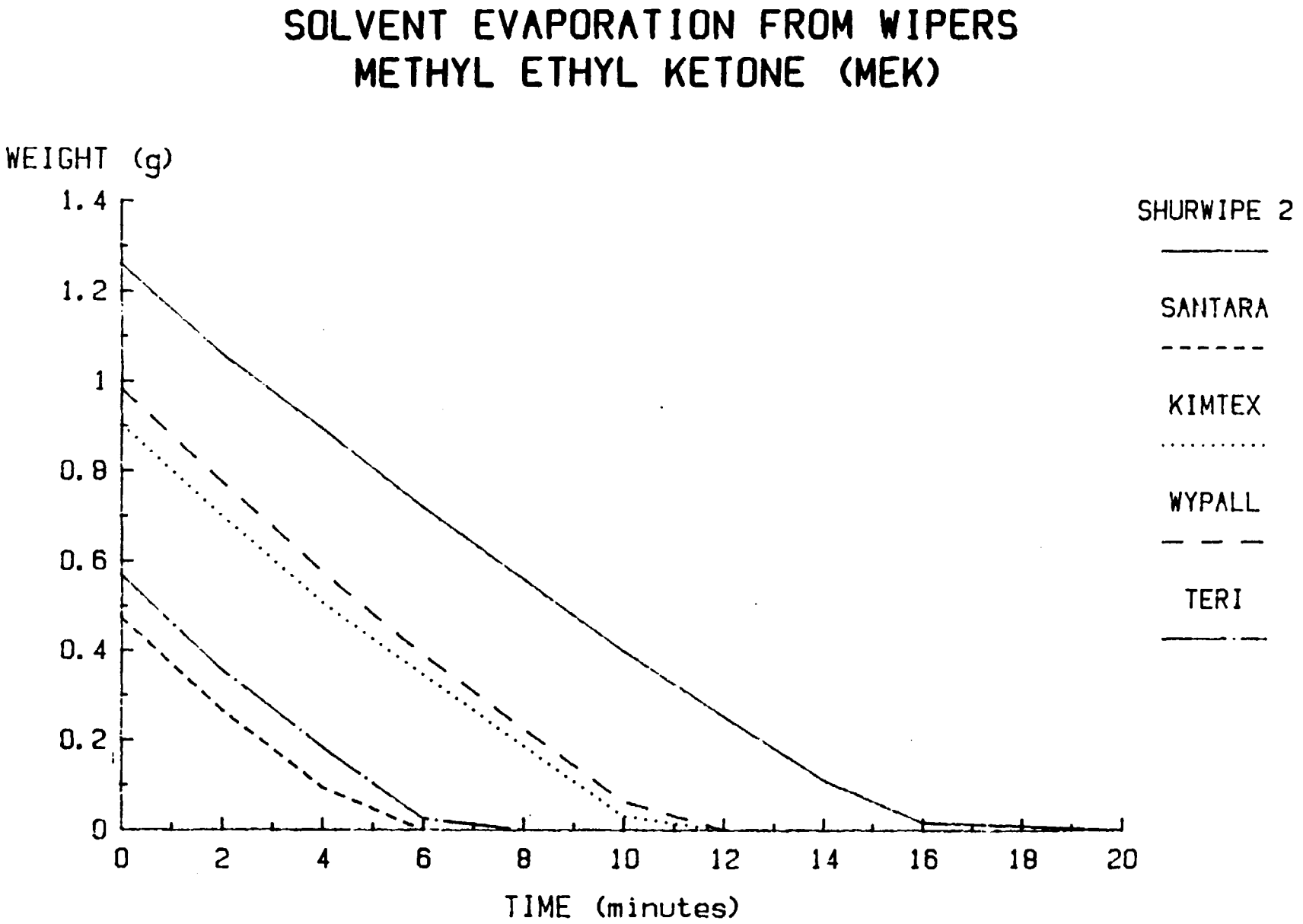
SME
9/27/84
HEXANE

Figure 2



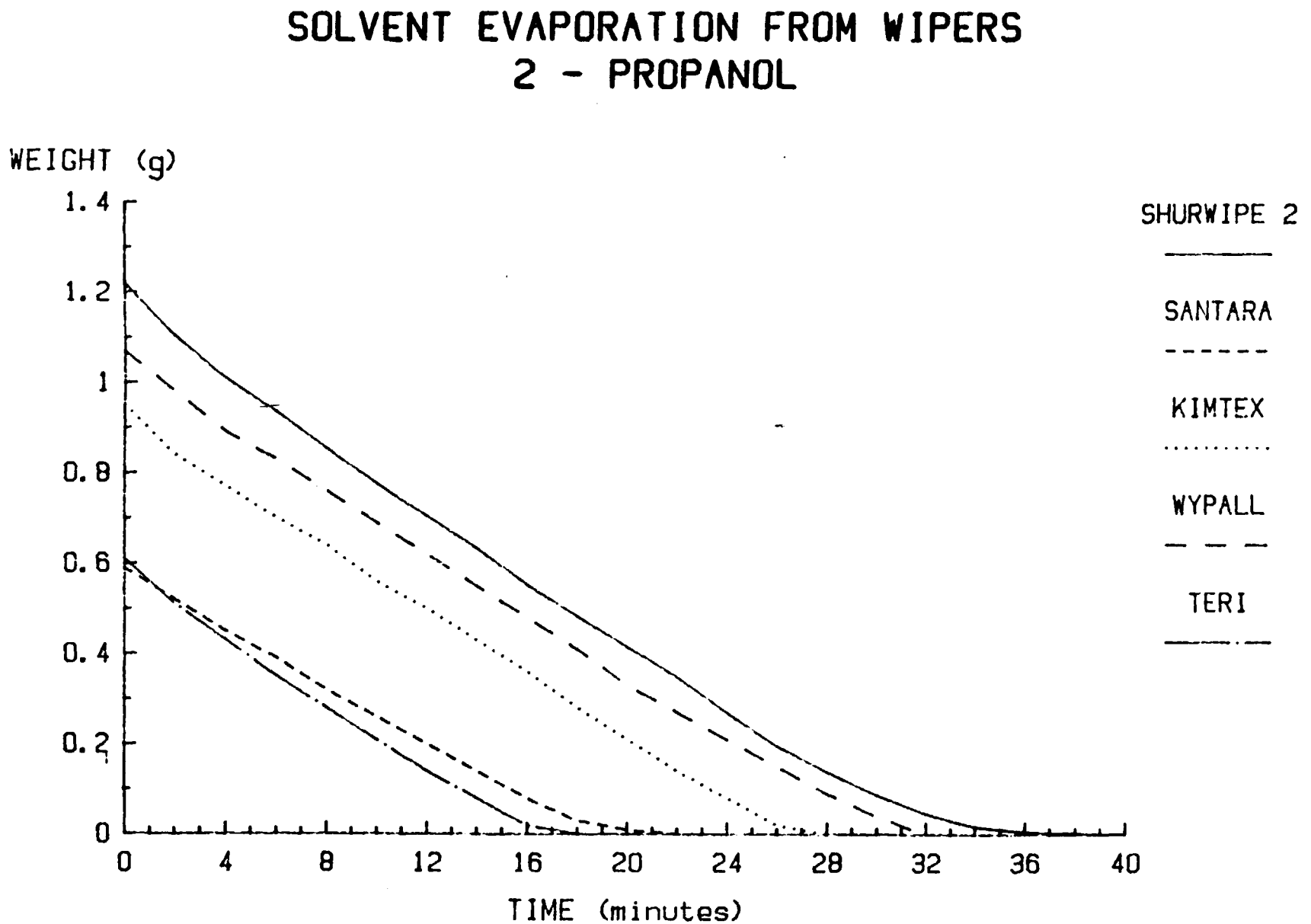
SME
9/27/84
111TRI

Figure 3



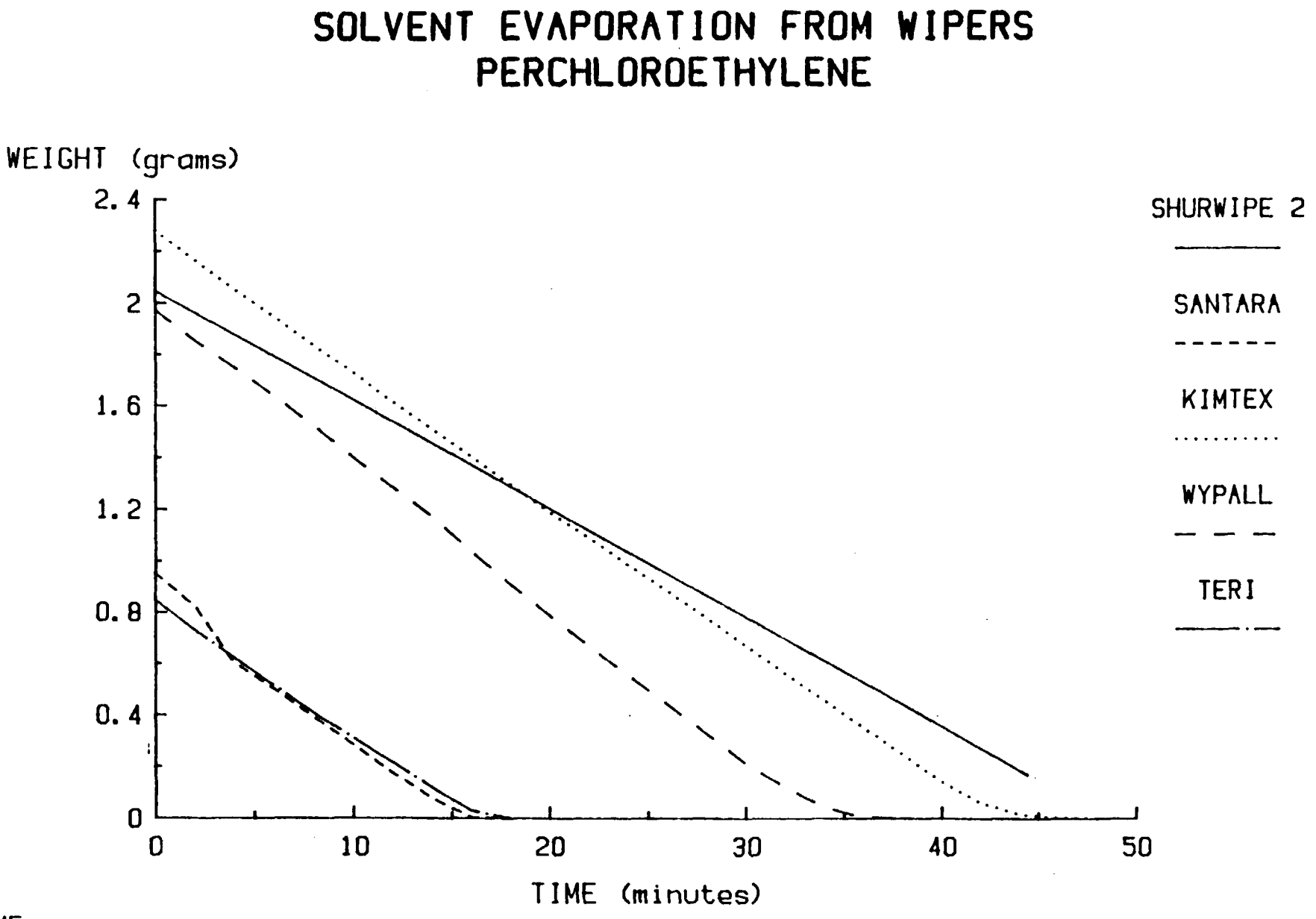
SME
9/27/84
MEK

Figure 4



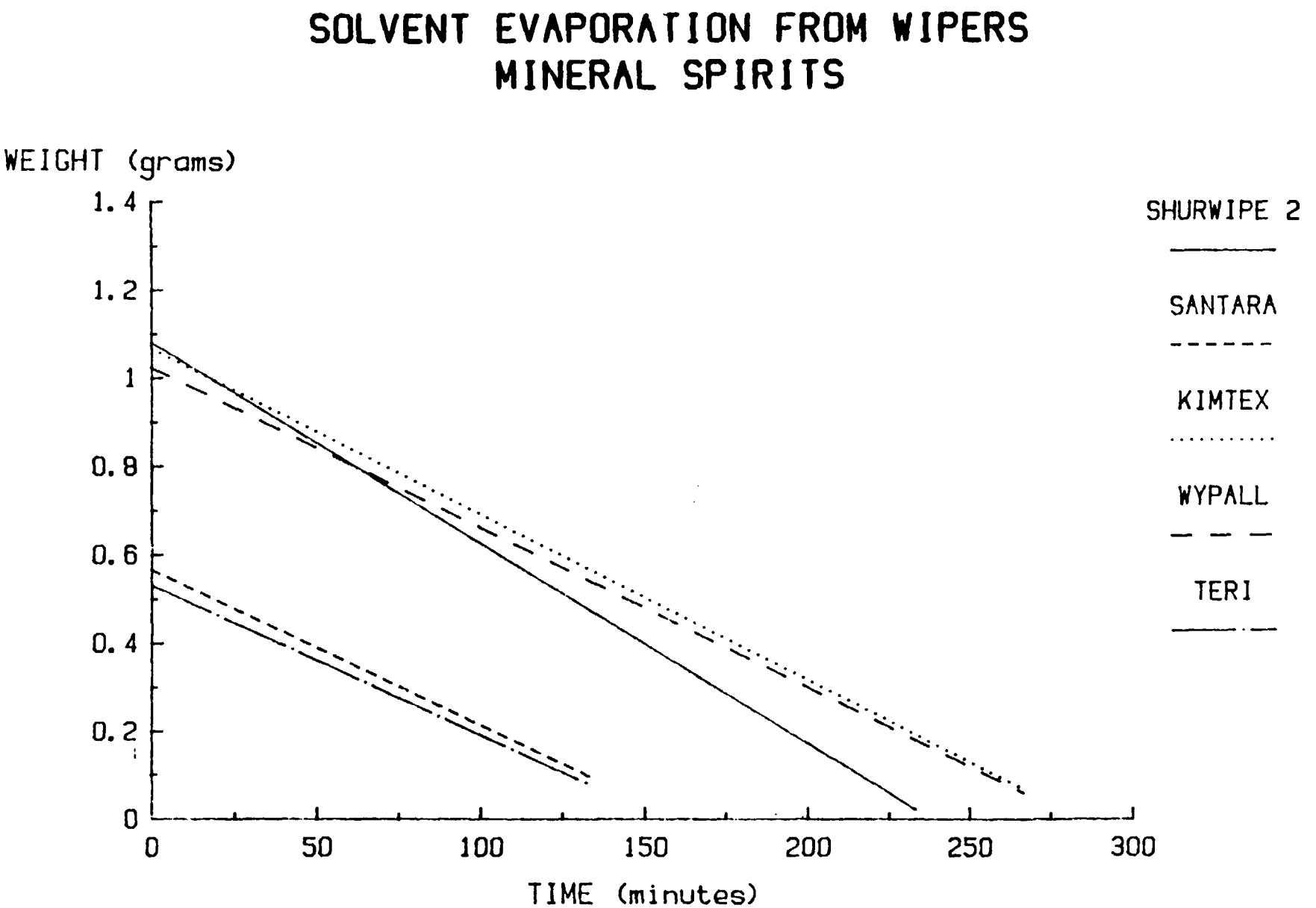
SME
9/27/84
PROPANL

Figure 5



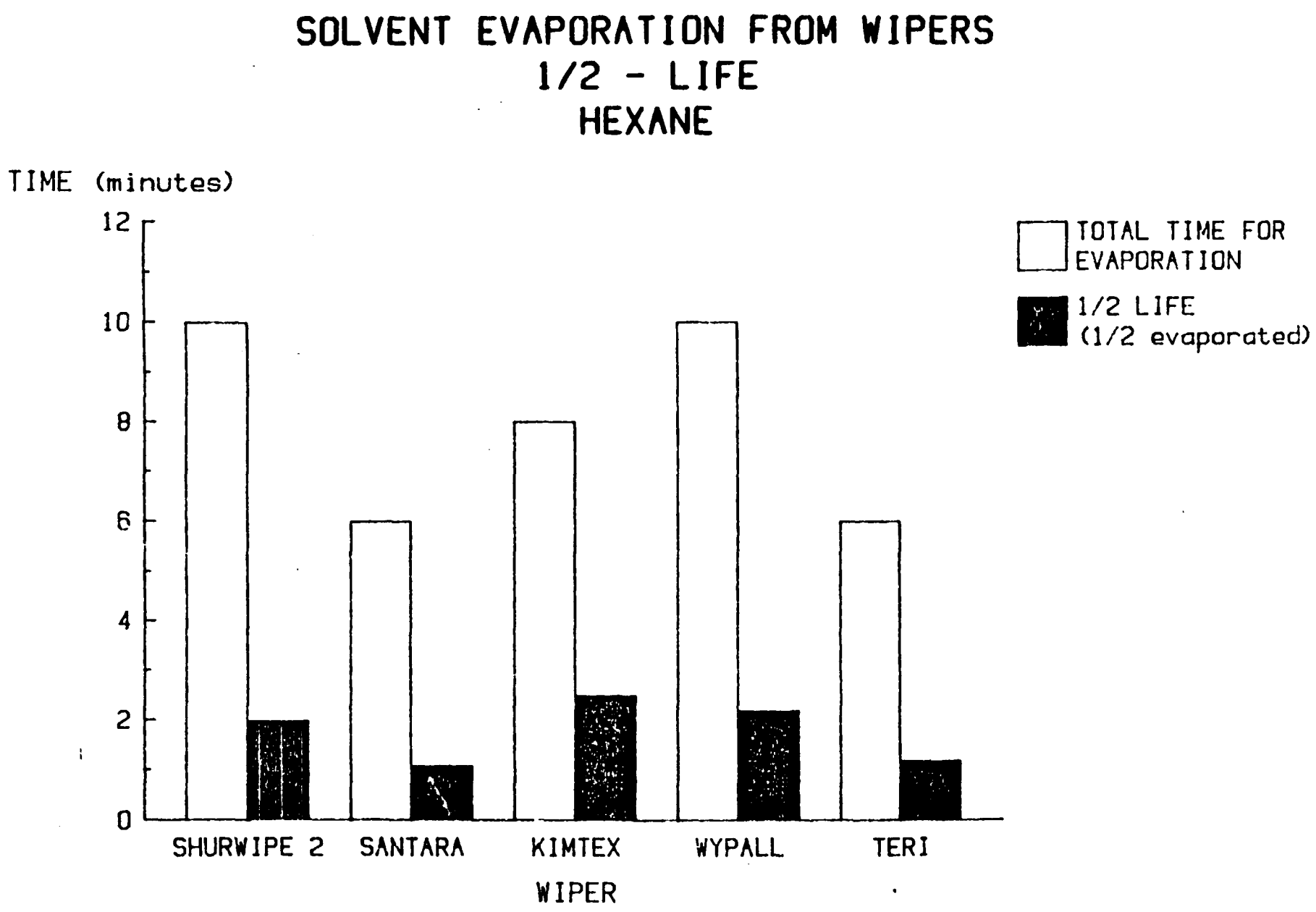
SME
9/27/84
PERCHL

Figure 6



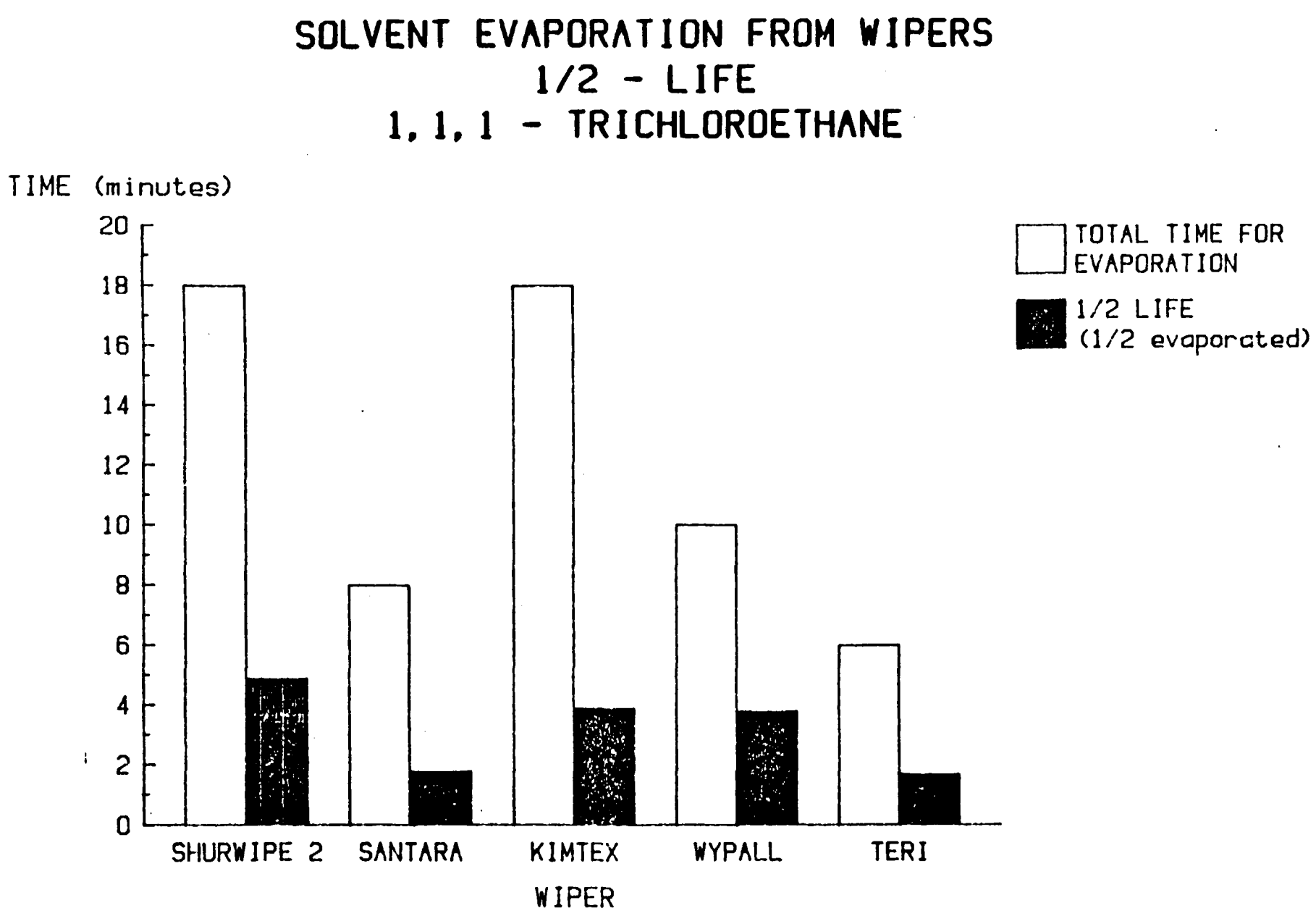
SME
9/27/84
MINERAL

Figure 7



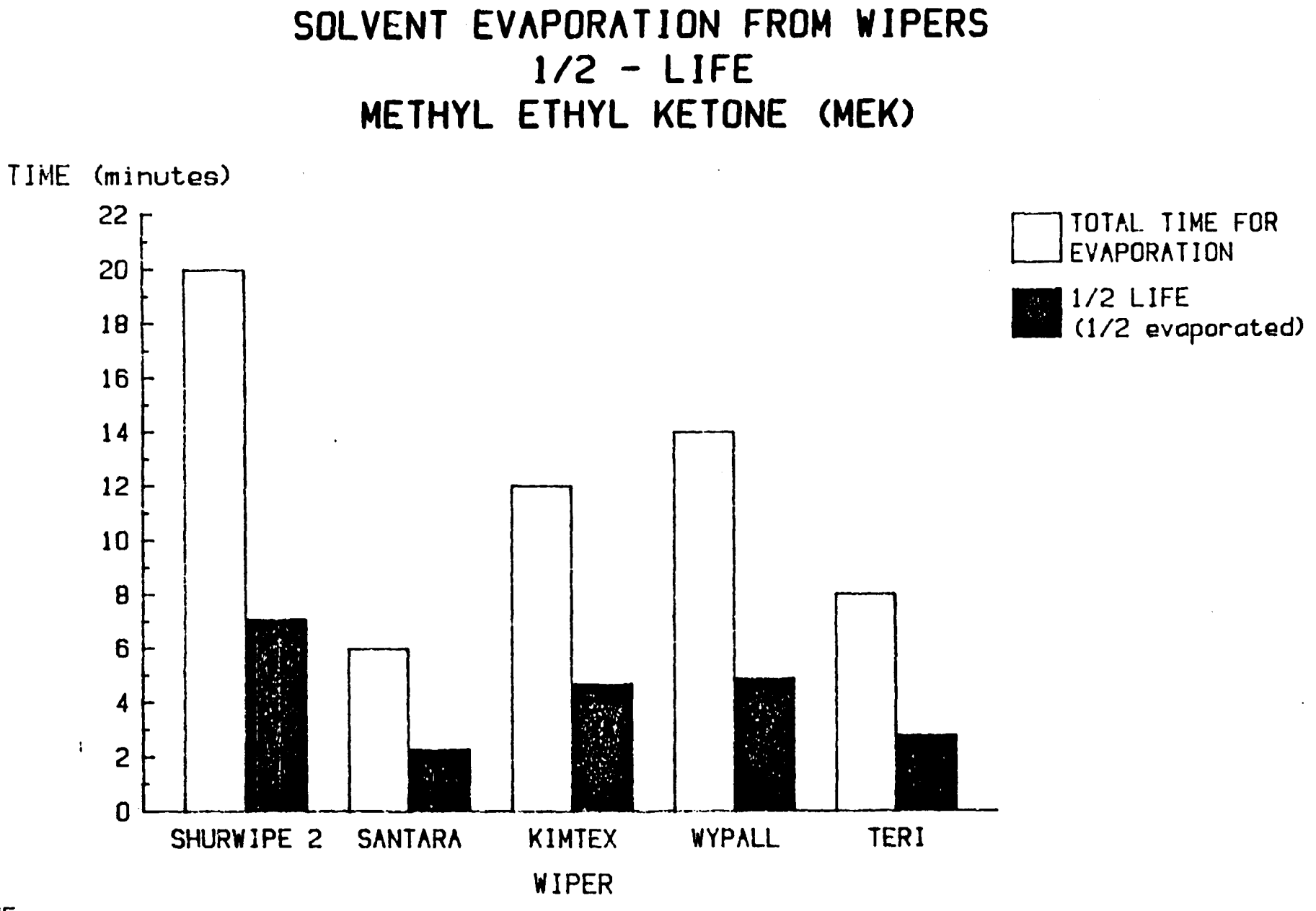
SME
9/27/84
HEXANE5

Figure 8



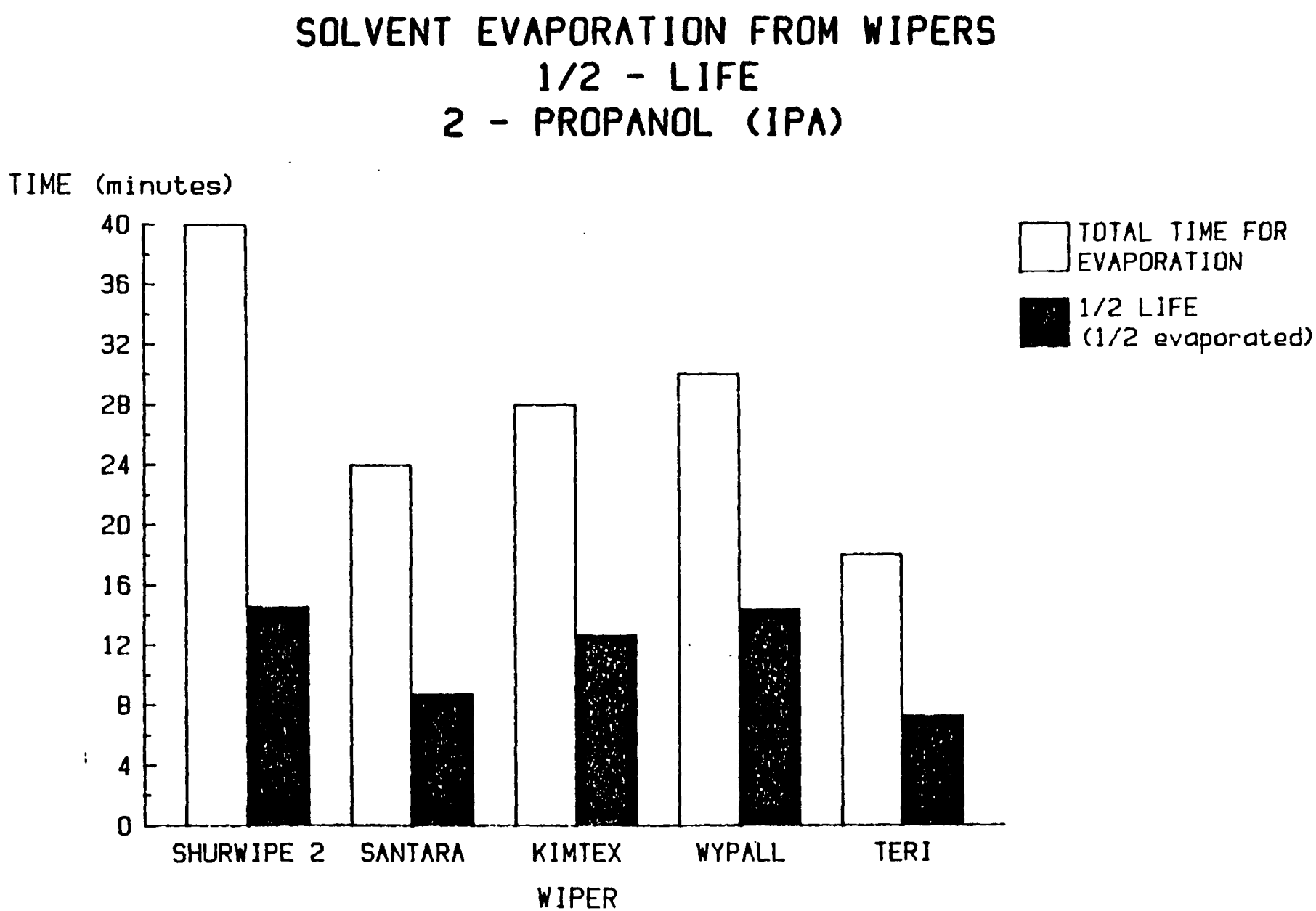
SME
9/27/84
111TRI5

Figure 9



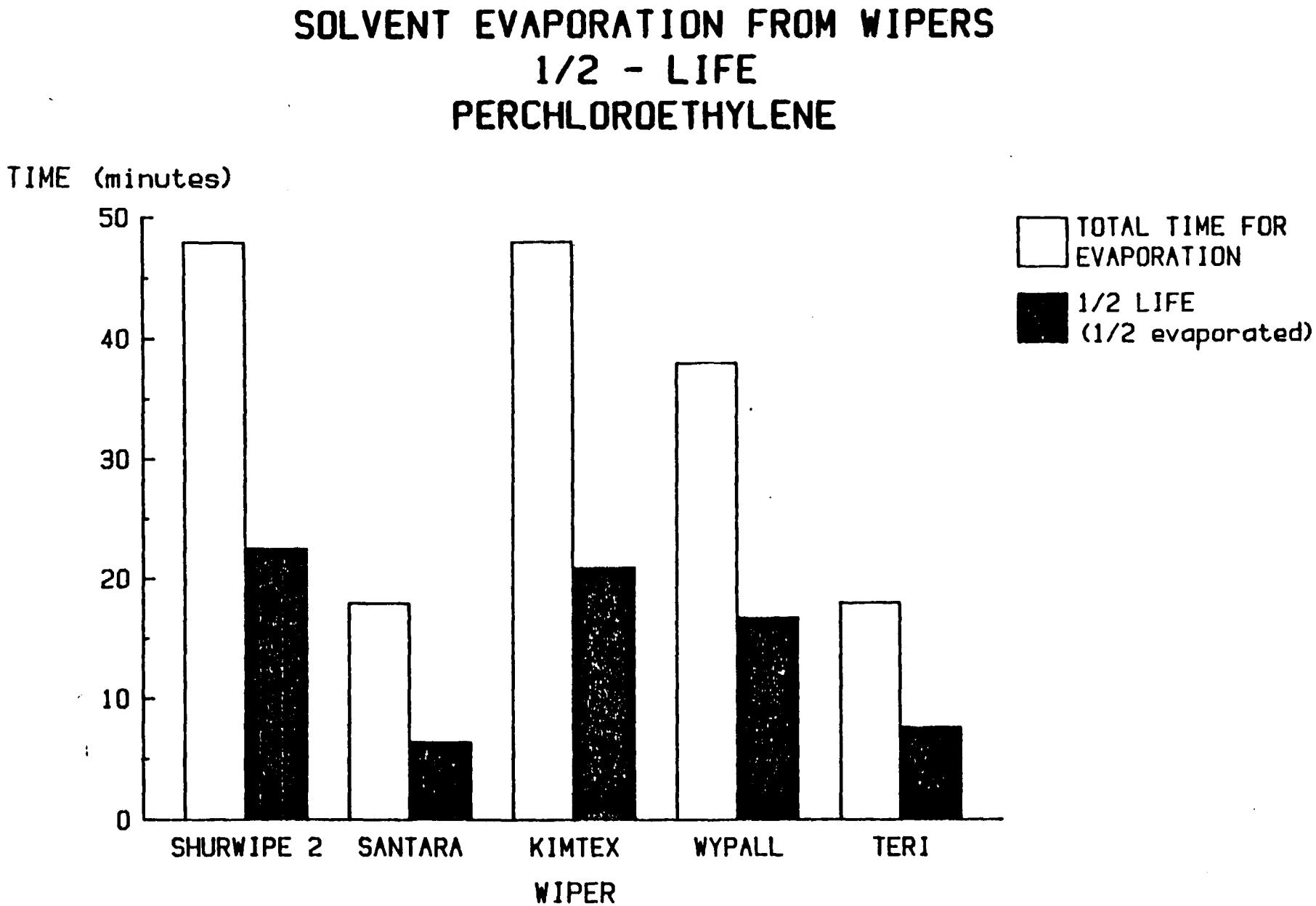
SME
9/27/84
MEK5

Figure 10



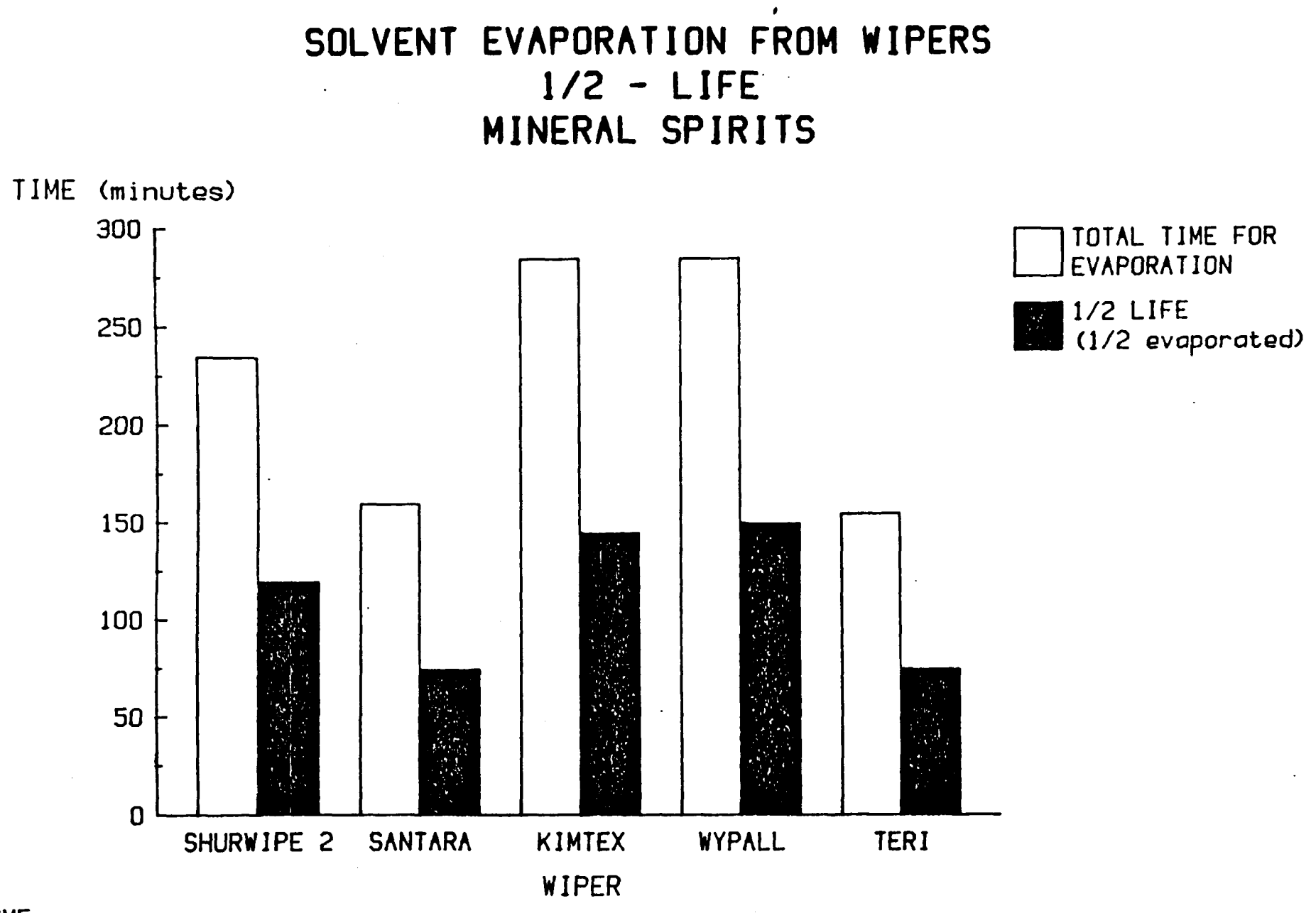
9/27/84
IPA5

Figure 11



SME
9/27/84
PERCHL5

Figure 12



SME
9/27/84
MINERAL5

MARTIN MARIETTA AEROSPACE

POST OFFICE BOX 5837
ORLANDO, FLORIDA 32855

5 June 1985

James H. Scarbrough, P.E., Chief
Residuals Management Branch
Waste Management Division
U.S. Environmental Protection Agency
Region IV
345 Courtland Street, N.E.
Atlanta, GA 30365

Re: Martin Marietta Corporation EPA I.D. Number FLD 060 240 207

Dear Mr. Scarbrough:

This is in response to your letters (4WD-RM) dated April 16 and May 7, 1985, relative to the Hazardous Solid Waste Amendments of 1984 (HSWA).

We do not have any new hazardous waste units and have made no lateral expansions or replacements of any existing unit that has received waste after May 8, 1985.

We also are not disposing of any bulk or noncontainerized liquid hazardous waste or free liquids contained in hazardous wastes in any on-site landfills nor have we since May 8, 1985, nor do we plan to do so at any time in the future. Such materials are being transported per state and federal regulations to out-of-state permitted disposal facilities.

We have registered one landfill under Florida Department of Environmental Regulations Temporary Operating Permit No. HT48-68393. This landfill, identified by our Corporation as "Orlando - Site 5", was only operated under 40 C.F.R. Part 265 requirements, and we are currently seeking closure of this site under Subpart G of the 40 C.F.R. Part 264 and 40 C.F.R. Section 264.310. Accordingly, pursuant to Sections 403.061(8) and 120.52(9) Florida statutes and Florida Administrative Code, we are presently negotiating a Consent Order between the State of Florida, Department of Environmental Regulation, and our Corporation to take certain corrective measures and to close this landfill.

Sincerely,

Richard C. Winfield

Richard C. Winfield
Director of Facilities

RCW/D/ec

MM 291

SEP 2 0 1985

4RM-WL

Mr. Raymond F. Green
Martin Marietta Aerospace
P.O. Box 5837
Orlando, Florida 32855

Re: EPA ID NO. FLD 060 240 207

Dear Mr. Green:

We are transmitting, herewith, for your information, a preliminary draft Federal permit and statement of basis. We will shortly be transmitting to the Florida Department of Environmental Regulation (FDER) the final draft permit for joint public noticing with the draft state operating permit for your facility. The federal and state permits together, if issued, will constitute the RCRA permit for your facility.

If you have any questions about this preliminary draft permit, please contact Michael J. Hartnett of my staff at (404)881-3433.

Sincerely yours,

James H. Scarbrough, P.E., Chief
Residuals Management Branch
Waste Management Branch

Attachment:

cc: Robert McVety, Florida Department of Environmental Regulation
I.T. Kozlov, FDER, St. Johns River District

Miller 9-20 HEM Hartnett 9-20 HEM McCurry

Miller:dw:3433:9-20-85: DISK DW II: #39

DOCKET NO. MM 292

Subj: Solvent Wipers

From: Craig Brown

To: File (ROC), Jane Stone, Rich Campbell

On Monday 3/27/95 I returned a call to Bob Finger of the Law Firm representing Martin Marietta on the Solvent Wiper Issue. He posed a couple of questions about EPA Region 4's position.

1. Are we going to regulate wash water from Laundries at hazardous waste?

I responded it is not our intent to do so but qualified my response by indicating the states in Region 4 are authorized and could make their own call.

2. If Martin Ma[illegible] their wipes ~~[illegible]~~ off to the Laundry and when the [illegible] same can't be used because they are too worn or defective, are the discards hazardous waste.

I told [illegible] would not [illegible] be [illegible]. Basically what [illegible] an ind[illegible] that may not meet [illegible] company's specific [illegible] discarded [illegible] it's [illegible] solid [illegible]

MM 293

✓cc WCS

Florida Department of Environmental Regulation

Central District ● 3319 Maguire Boulevard, Suite 232 ● Orlando, Florida 32803-3767 ● 407-894-7555

Bob Martinez, Governor Dale Twachtmann, Secretary John Shearer, Assistant Secretary
Alex Alexander, Deputy Assistant Secretary

January 4, 1989

Edward Mayer, Manager
Environmental Management
Martin Marietta Missile Systems
Post Office Box 555837, MP #280
Orlando, Florida 32855-5837

OCD-HW-89-0458

Orange County - HW
Martin Marietta Orlando Aerospace
Extension of Generator 90-Day Accumulation Time

Dear Mr. Mayer:

The department is in receipt of your request dated January 3, 1989 for an extension of the 90-day accumulation time for a generator of hazardous waste. Per 40 CFR 262.34(b) as adopted by Chapter 17-30.160 F.A.C., the department has the authority to grant an extension of up of 30 days to on-site hazardous waste accumulation time due to unforeseen, temporary and uncontrollable circumstances.

The department has reviewed your request for a 30 day extension of the one 20 cubic yard roll-off container holding hazardous waste contaminated rags (F001, F003, F005, D007) having an accumulation start date of 10/5/88. This request is granted since unforeseen circumstances pertaining to down time and maintenance outages at Thermal Kem in South Carolina have delayed Martin Marietta's attempts to schedule this waste for incineration.

Please be advised that with this extension the 20 cubic yard roll-off container of hazardous waste rags must be manifested off-site or properly disposed of by February 3, 1989. No further extensions can be granted for this waste stream.

Sincerely,

A. Alexander, P.E.
Deputy Assistant Secretary

AA/bb/rbt

cc: Satish Kastury, DER, Tallahassee
James Scarbrough, EPA

DOCKET NO. MM 294

Jane S.
2/10

HUEY, GUILDAY, KUERSTEINER & TUCKER, P. A.
ATTORNEYS AT LAW
215 SOUTH MONROE STREET
SUITE 500, FIRST FLORIDA BANK BUILDING
POST OFFICE BOX 1794
TALLAHASSEE, FLORIDA 32302
(904) 224-7091
TELECOPY 9042222593

THOMAS J. GUILDAY
DAVID P. HOPSTETTER
J. MICHAEL HUEY
J. D. BOONE KUERSTEINER
GEOFFREY B. SCHWARTZ
J. KENDRICK TUCKER
WILLIAM E. WILLIAMS

DAVID H. BURNS
RALPH A. DEMEO
ROBERT D. FINGAR
PAMELA K. FRAZIER

ELLEN B. GWYNN
MARK E. HOLCOMB
J. STEPHEN MENTON
DOUGLAS J. RILLSTONE
M. KAY SIMPSON
REX D. WARE

AMY J. YOUNG,
GOVERNMENTAL CONSULTANT
JAMES F. WELLS, CPA
GENERAL MANAGER

January 30, 1989

BY CERTIFIED MAIL

Freedom of Information Act Officer
United States Environmental Protection Agency,
Region IV
345 Courtland Street, N.E.
Atlanta, GA 30365

Re: Regulatory Status of Solvent Wipers
Freedom of Information Act Request
5 USC § 552
40 C.F.R. Part 2

Dear Sir or Madam:

The purpose of this letter is to request inspection and copying of the following United States Environmental Protection Agency ("EPA"), Region IV records, pursuant to the Freedom of Information Act, 5 U.S.C. § 552, and 40 C.F.R. Part 2:

> All documents produced by EPA Region IV or received by EPA Region IV relating to the regulatory status of solvent wipers, including, but not limited to, those documents consulted or relied upon in rendering the attached regulatory opinion concerning solvent wipers.

Our office has been advised by Jane Stone, EPA Region IV, RCRA Branch, Waste Management Division, that the above-requested documents may be made available for inspection and copying at her office on February 13, 1988 at 10:00 a.m. Please advise our office immediately if this date and time is unacceptable. If we do not hear from you, we will proceed with the foregoing arrangements.

Craig Brown was given the FOI.
He's handling it.
Jane E. Stone 2/14/89

DOCKET NO MM 295

Please do not hesitate to contact our office if you have any questions regarding this matter.

Sincerely,

HUEY, GUILDAY, KUERSTEINER
& TUCKER, P.A.

Robert D. Fingar

Robert D. Fingar

RDF/ksm

cc: Jane Stone, RCRA Branch ✓
Waste Management Division
EPA, Region IV

InfReq.ltr

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DATE: DEC 8 1988

SUBJECT: Regulatory Status of Solvent Wipers

FROM: James H. Scarbrough
Chief, RCRA Branch

James H Scarbrough

TO: RCRA Branch Personnel

"Solvent wipers," as described herein, are considered by EPA Region IV to be a listed hazardous waste when discarded. Solvent wipers are rags or other types of applicators and absorbents which are used in cleaning or degreasing operations in conjunction with any solvent or mixture of solvents identified under the RCRA hazardous waste codes, F001 - F005, at 40 CFR §261.31.

Solvent wipers are generated by manufacturers of electronic components, automotive maintenance and repair shops, and many other industries during product manufacture and equipment maintenance. In practice, a solvent is applied to a wiper which is then used to clean a part or work surface. Alternatively, the solvent may be applied to the part or work surface and the solvent along with dissolved grease and dirt are transferred to the wiper. This process may be repeated several times until the wiper becomes so contaminated with dirt and grease that it must be discarded or cleaned before reuse. Regardless of which surface the solvent is applied to, the discarded solvent wiper is considered to be a listed hazardous waste (i.e., a spent solvent). The wiper is merely a convenient carrier of the solvent to aid in its application, distribution and/or removal. The presence of the wiper in no way changes the use, nature, or constituents of the solvent.

Although solvent wipers may bear little physical resemblance to spent solvents generated from the conventional parts cleaning operations described in the F-Solvent Listing Background Document, they are generated by the same activity and involve the the same chemicals. In Region IV's view the improper disposal of solvent wipers would pose no less an environmental hazard than the disposal of an equivalent amount of spent solvent in liquid form. Therefore, solvent wipers which are discarded are considered a listed hazardous waste.

Region IV does not believe that all solvent wipers should be classified as solid or hazardous waste subject to regulation under RCRA. A wiper is a type of industrial textile. Other products which fall under the heading of industrial textiles include uniforms and mops. Two types of industrial textiles are available, disposable and nondisposable. The disposable products, as the name implies, are used then discarded. The nondisposable products are laundered when they become soiled then used again. Eventually the nondisposable products will be discarded after they have reached the end of their useful life.

Nondisposable textiles, including solvent wipers, that are laundered and reused are not considered solid waste and therefore are not hazardous waste. This conclusion is based on our interpretation of the term "solid waste" as defined at 40 CFR 261.2 which reads as follows:

> (a)(1) A solid waste is any discarded material that is not excluded by §261.4(a) or that is not excluded by a variance granted under §§260.30 and 260.31.
>
> (2) A discarded material is any material which is:
>
> (i) Abandoned, as explained in paragraph (b) of this section; or
>
> (ii) Recycled, as explained in paragraph (c) of this section; or
>
> (iii) Considered inherently waste-like, as defined in paragraph (d) of this section.

A nondisposable industrial textile product, whether it is a mop, wiper or uniform, which becomes soiled after use and is sent to a laundry for cleaning is clearly not being abandoned nor is it inherently waste-like. It could still be considered a discarded material and thus a solid waste if laundering was the same as recycling: but it is not. No definition of the terms "recycling" or "recycled material" is provided in the RCRA Subtitle C regulations but EPA promulgated guidelines for resource recovery facilities and source separation at 40 CFR Parts 245 and 246 define these terms as follows:

> "Recycled material" means a material that is used in place of a primary, raw or virgin material in manufacturing a product.
>
> " Recycling" means the process by which recovered materials are transformed into new products.

It is evident from these definitions that laundering differs from recycling. Laundering is not a manufacturing process. No new product is created when articles are laundered. Also, in recycling the feed materials lose their identity in the manufacturing process (i.e., the feed materials are "transformed" into a new product). When articles are laundered, no transformation takes place: the article is cleaned but is otherwise unchanged. Since laundering is not recycling, nondisposable wipers destined for laundering are not solid waste or hazardous waste and are not subject to regulation under RCRA Subtitle C regulations.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IV - ATLANTA, GEORGIA

MEMORANDUM

DATE: MAR 01 1989

SUBJECT: Martin Marietta - Orlando
EPA I.D. No. FLD 060 240 207

FROM: Ron Dobbs, Acting Chief
Florida/Georgia Unit
Waste Engineering Section

TO: Alan Farmer, Chief
Alabama/Florida Unit
Waste Compliance Section

A site visit was conducted on October 14, 1988, to investigate Solid Waste Management Units at Martin Marietta's Orlando facility. During this site visit a conversation took place between Jane Stone, EPA, and a Martin Marietta Dynamics Building employee that indicates that there may be an underground storage tank (UST) remaining at the site just outside of the Dynamics Building.

The exact location of the UST is not known but the attached map shows generally where it may be located (the red circle) with a possibility of it being where the red X is. The Martin Marietta employee stated that the UST is "gone now" but when asked if the tank was removed from the ground he said he did not know. He said that he thought that the parking lot was put in over the area where the UST was located.

The purpose of this memo is to notify WCS of this matter so that WCS may further investigate if they decide it is necessary.

If you have any questions, please contact Jane Stone at extension 3433.

Attachment

WES:3433:STONE:SYBURCH:STONE TLX #1 MEMMARMA:3/1/89

STONE
JEA
3/1/89

DOBBS
RDD
3/1/89

MM 296

CONVERSATION RECORD

TIME: 12:30 | DATE: 3/6/89

TYPE: ☐ VISIT ☐ CONFERENCE ☒ TELEPHONE ☐ INCOMING ☒ OUTGOING

ROUTING NAME/SYMBOL

Location of Visit/Conference:

NAME OF PERSON(S) CONTACTED OR IN CONTACT WITH YOU	ORGANIZATION (Office, dept., bureau, etc.)	TELEPHONE NO.
Elaine Gray	Harding Lawson Assoc.	(713) 789-8050

SUBJECT: Martin Marietta RFI Work Plan Review to be done by the contractor.

SUMMARY

Elaine wanted to make sure she had a clear understanding of what needs to be done. I told her that the SWMU list that she was about to receive would show what SWMUs to look for when reviewing the MM Orlando documents that have been submitted to A.T. Kearney. She said there was only enough time and she also thought the Project Plan only allowed for the review of the Work Plan for the Wh Treatment Plant area. I told her I wanted the review of the documents to also show to what extent remedial work has been done on other SWMUs. She said until we could say that this was allowed for in the project plan they would only make a note of whenever SWMUs were listed in all of these documents and where the information was found. If we want full review and its in the contract I'm to call her back I need to see what past project plans have said.

ACTION REQUIRED

NAME OF PERSON DOCUMENTING CONVERSATION	SIGNATURE	DATE
Jane Stone	Jane E. Stone	3/6/89

ACTION TAKEN

SIGNATURE	TITLE	DATE

50271-101 GSA : 1984 O - 461-275 (317) CONVERSATION RECORD OPTIONAL FORM DEPARTMENT OF

DOCKET NO. MM 297

Consent Order - Martin Marietta

Effective date: 6/26/85

Site 5 Sludge Cells

1) 100 days after effective date - Determine rate and extent of migration of hazardous waste or constituents in GW and in Site 5 sludge cells.

2) W/in 15 days of 1) submit GW quality assessment report

3) FDER determines from review of report submitted under 2) whether there is a need for a Feasibility Study

4) Feasibility Study Plan submitted w/in 60 days of receipt of FDER's determination

10) FDER shall determine completeness of corrective action program

11) W/in 30 days of receipt of approval implementation of corrective action will begin

12) Facility shall submit a closure plan for Site 5 sludge cells at the same time of the submission of the corrective action program (# 9). (May include request for extension of time to treat ground-water from 90 days and time to close from 180 days.)

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32399-2400

BOB MARTINEZ
GOVERNOR

DALE TWACHTMANN
SECRETARY

November 19, 1987

CERTIFIED

P 274 009 607

Mr. Lincoln E. Hall
Director of Environmental Management
Martin Marietta Orlando Aerospace
Post Office Box 5837
Orlando, Florida 32855

Orange County - HW
Martin Marietta Orlando Aerospace
Closure Permit with Post-closure Modifications
HF48-112268

Dear Mr. Hall:

Enclosed is Permit Number HF48-112268 dated November 19, 1987, to close and post-close the hazardous waste sludge cells, issued pursuant to Section 403.722, Florida Statutes and Florida Administrative Code Rule 17-30.260.

Acceptance of the permit constitutes notice and agreement that the Department may periodically review this permit for compliance, including site inspections where applicable, and may initiate enforcement actions for violation of the conditions and requirements thereof.

DOCKET NO MM 300

Any party to this permit has the right to seek judicial review of the permit pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400; and by filing a copy of the Notice accompanied by the applicable filing fees with the appropriate District Court of Appeals.

The Notice of Appeal must be filed within thirty (30) days from the date this permit is issued.

Sincerely,

Richard G. Wilkins
Director
Division of Waste Management

RW/MDR/do
Enclosure

cc: Alex Alexander, DER/Orlando
James Scarbrough, EPA/Region IV
Satish Kastury, DER/Tallahassee

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32399-2400

BOB MARTINEZ
GOVERNOR

DALE TWACHTMANN
SECRETARY

Permittee:
Mr. Lincoln E. Hall
Director Environmental Management
Martin Marietta Orlando Aerospace
P.O. Box 5837, MP-621
Orlando, FL 32855

I.D. Number: FLD 060 240 207
Permit/Certification
Number: HF48-112268
Date of Issue: November 19, 1987
Expiration Date: November 19, 1992
County: Orange
Latitude/Longitude:
28° 26' 17"N/81° 26' 55"W
Section/Township/Range:
32 / 23S / 29E
Project: Martin Marietta
Orlando, Aerospace Site 5
Sludge Cells Closure and
Post-closure

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rules 17-3, 17-4, 17-22 and 17-30. The above named permittee is hereby authorized to perform the work and close and post-close the facility shown on the application and approved drawings, plans, and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows:

To close and post-close four separate sludge cells on the southeast corner of the Site 5 Sanitary Landfill which were used to dispose of F006 listed hazardous wastewater treatment sludge generated by Martin Marietta Orlando Aerospace (MMOA) in the manufacturing of a variety of missile, weapon, communication and electronic systems. These wastes were disposed of in the sludge cells from November 1980 to January 1983. The sludge cells have the following approximate dimensions:

Cell One: 50' x 20' x 4' deep
Cell Two: 83' x 15' x 4' deep
Cell Three: 62' x 20' x 4' deep
Cell Four: Identified in Site 5 Contamination Assessment Report dated January 1987.

Protecting Florida and Your Quality of Life

Permittee
Mr. Lincoln E. Hall
Director Environmental Management
Martin Marietta Orlando Aerospace
P.O. Box 5837, MP-621
Orlando, Fl 32855

I.D. Number: FLD 060 240 207
Permit/Certification
Number: HF48-112268
Date of Issue: November 19, 1987
Expiration Date: November 19, 1992

This permit has been coordinated with the Environmental Protection Agency, Region IV, and in conjunction with the previously issued HSWA permit, constitutes a full RCRA permit for the facility.

The following facility submittals were utilized in the preparation of this permit and are considered a part thereof:

1. Consent Order OGC File No. 85-0412 dated June 25, 1985.

2. Contamination Assessment Plan, Site 5 dated August 1985.

3. Report on Implementation of a Groundwater Quality Assessment Plan dated October 1985.

4. Exposure Information Report for Site 5 Sludge Cells dated November, 1985.

5. Appendix VIII analysis for well PW-37 dated December 9, 1985.

6. Post-closure Permit Application and Closure Plan for Site 5 Sludge Cells dated October 8, 1985 and application certification dated February 13, 1986.

7. Solid Waste Management Unit Report Volumes I and II dated March 14, 1986.

8. MMOA's responses to the FDER's February 20, 1986 1st Notice of Deficiency (NOD) dated March 24, 1986 and April 24, 1986.

9. MMOA's response to the FDER's August 8, 1986 2nd NOD dated September 16, 1986

10. Letter from MMOA proposing two alternatives to clean-up or close the sludge cells dated October 14, 1986.

11. Amendments to Martin-Marietta Corporation Consent Order; OGC 85-0412 dated November 4, 1986.

12. Site 5 Contamination Assessment Report and Conceptual Remedial Action Plan dated January 1987.

13. Geraghty & Miller, Inc. detailed explanation of the modified t-test dated February 13, 1987.

14. Closure Plan Site 5 Sludge Cells dated March 27, 1987.

15. Site 5 Remedial Action Plan and Corrective Action Program dated April 29, 1987.

16. Additional submittal by MMOA on the Remedial Action Plan and Corrective Action Program dated May 26, 1987.

17. Well construction specifications and lithologic data collected during installation of monitor well PW-108 located at Site 5 dated August 3, 1987.

18. Letter from Richard Tedder to Ed Mayer concerning the groundwater flow model submitted in the April 1987 Site 5 Remedial Action Plan and Corrective Action Program dated August 26, 1987.

19. Letter from Lincoln E. Hall to Richard Tedder requesting 90-day extension to the Site 5 Sludge Cell Closure Permit HF48-112268 (dated September 9, 1987).

20. Letter from Edward E. Mayer to George Gionis concerning location of new surficial aquifer monitoring wells PW-111, PW-112 and PW-113 dated October 1, 1987.

21. Letter from Ed Mayer to Richard Tedder notifying the Department that initiation of the closure process began August 3, 1987 (dated October 30, 1987).

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PERMIT HISTORY:

1. Closure permit for the Site 5 Sludge Cells was issued 6-9-87 with an expiration date of 9-30-87.

2. A 90 day extension to the closure permit was requested in a letter from Lincoln E. Hall to Richard Tedder dated September 9, 1987.

3. A 90 day extension for closure permit HF48-112268 was granted on September 14, 1987, extending the expiration date from September 30, 1987 to December 31, 1987 in a letter from Alex Alexander to Lincoln E. Hall.

4. A modified closure permit for the Site 5 Sludge Cells to address post-closure was issued on November 19, 1987 with an expiration date of November 19, 1992.

Permittee
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Date of Issue: November 19, 1987
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GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions" and as such are binding upon the permittee and enforceable pursuant to the authority of Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings constitute grounds for revocation and enforcement action by the Department.

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Nor does it authorize any injury to public or private property or any invasion of personal rights, nor infringement of federal, state or local laws or regulations. This permit does not constitute a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, plant or aquatic life or property and penalties therefore caused by the construction or operation of this permitted source, nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by any order from the Department.

6. The permittee shall at all times properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.

7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law, access to the premises, at reasonable times, where the permitted activity is conducted or located for the purposes of:

   a. Having access to and copying any records that must be kept under the conditions of the permit;

   b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and

   c. Sampling or monitoring any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately notify and provide the Department with the following information:

   a. a description of and cause of non-compliance; and

   b. the period of non-compliance, including exact dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source, which are submitted to the Department, may be used by the Department as evidence in any enforcement case arising under the Florida Statutes or Department rules, except where such use is prescribed by Section 403.73 and 403.111, Florida Statutes.

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 17-4.12 and 17-30.30, as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.

12. This permit is required to be kept at the work site of the permitted activity during the entire period of construction or operation.

13. This permit also constitutes:

    ( ) Determination of Best Available Control Technology (BACT)

    ( ) Determination of Prevention of Significant Deterioration (PSD)

    ( ) Certification of Compliance with State Water Quality Standards (Section 401, PL 92-500)

    ( ) Compliance with New Source Performance Standards

14. The permittee shall comply with the following monitoring and record keeping requirements:

    a. Upon request, the permittee shall furnish all records and plans required under Department rules. The retention period for all records will be extended automatically, unless otherwise stipulated by the Department, during the course of any unresolved enforcement action.

    b. The permittee shall retain at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation), copies of all reports required by this permit, and records of all data used to complete the application for this permit. The time period of retention shall be at least three years from the date of the sample, measurement, report or application unless otherwise specified by Department rule.

c. Records of monitoring information shall include:

- the date, exact place, and time of sampling or measurements;
- the person responsible for performing the sampling or measurements;
- the date(s) analyses were performed;
- the person responsible for performing the analyses;
- the analytical techniques or methods used; and
- the results of such analyses.

15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be submitted or corrected promptly.

16. In the case of a hazardous waste facility permit, the following permit conditions shall also apply.

a. The permittee will submit the following reports to the Department:

(1) Manifest discrepancy report: If a significant discrepancy in a manifest is discovered, the permittee must attempt to reconcile the discrepancy. If not resolved within 15 days after receiving the waste, the permittee shall immediately submit a letter report including a copy of the manifest to the Department.

(2) Unmanifested waste report: Permittee shall submit an unmanifested waste report to the Department within 15 days of receipt of unmanifested waste.

(3) Annual report: An annual report covering facility activities during the previous calendar year must be submitted in accordance with Florida Administrative Code Rule 17-30.

b. Notification of any non-compliance which may endanger public drinking water supplies, or the occurrence of a fire or explosion from the facility which could threaten the environment or human health outside the facility, shall be verbally submitted to the Department within 24 hours and a written submission provided within 5 days. The verbal submission within 24 hours shall contain the name, address, identification number and telephone number of the facility and owner or operator, the name and quantity of materials involved, the extent of the injuries (if any), an assessment of actual or potential hazards, and the estimated quantity and disposition of recovered material. The written submission shall contain the following:

(1) a description of any cause of non-compliance; and

(2) if not corrected, the anticipated time the non- compliance is expected to continue and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

c. Reports of compliance or non-compliance with, or any progress reports on, requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

d. All reports or information required to be submitted to the Department by a hazardous waste permittee shall be signed by a person authorized to sign a permit application.

SPECIFIC CONDITIONS:

PART I - CLOSURE

1. The permittee shall initiate the closure process (i.e. begin preparation of the bid package, etc.) of the Site 5 Sludge Cells within 30 days of departmental approval of the Feasibility Study Report I contained in the Closure Plan Site 5 Sludge Cells document dated March 27, 1987.

2. The permittee shall close the Site 5 Sludge Cells in accordance with the alternative selected by the Department in the Feasibility Study Report I, in accordance with appropriate portions of the Closure Plan submitted in the Post-closure Permit Application and in accordance with rules set forth in Subparts F, G, H, K and N of 40 CFR Part 264.

3. The permittee shall provide opportunities for site inspections conducted by DER inspectors by informing the Department at least three days in advance of soil excavations.

4. Per 40 CFR Part 264.111, the permittee shall close the sludge cells in a manner that controls, minimizes or eliminates, to the extent necessary to protect human health and the environment, post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated runoff, or hazardous waste decomposition products to the groundwater or surface water or to the atmosphere.

5. The permittee shall complete closure activities for the Site 5 Sludge Cells within 180 days of commencement of the clean-up activities. An extension to the closure period may be approved in accordance with the procedures specified in 40 CFR Part 264.113(b).

6. During closure, the disposal or decontamination of equipment, structures and soils shall be in accordance with 40 CFR Part 264.114.

7. Per 40 CFR Part 264.115, the permittee shall submit a certification of closure to the Department within 60 days of completion of closure.

8. No later than the submission of the certification of closure for the sludge cells, the permittee shall submit to the local zoning authority, or the authority with jurisdication over local land use, and to the Department, a survey plot in accordance with the procedures specified in 40 CFR Part 264.116.

9. At the end of each month from the date of issuance of this permit, the permittee shall submit to the Department an inspection check-off sheet to show the completed closure activities at that date, and a report commenting on any deviation from the closure schedule.

10. All submittals in response to these permit conditions shall be submitted to:

District Manager
3319 Maguire Blvd., Suite 232
Orlando, Florida 32803-3767

Permittee
Mr. Lincoln E. Hall
Director Environmental Management
Martin Marietta Orlando Aerospace
P.O. Box 5837, MP-621
Orlando, Fl 32855

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SPECIFIC CONDITIONS:

PART II - POST CLOSURE

1. Prior to 135 days before the expiration of this permit, the permittee shall apply for a renewal of this permit in accordance with 17-30.300(1), FAC.

2. The Department may modify this permit in accordance with the provisions of 17-30.290, FAC.

3. Per 40 CFR Part 264.120, the permittee shall submit a certification of completion of post-closure care to the Department no later than 60 days after completion of the established post-closure care period.

4. The permittee shall maintain compliance with the 40 CFR Part 264 Subpart H financial requirements until released in accordance with the provisions of 40 CFR Part 264.143(i) and 40 CFR Part 264.145(i).

5. The permittee shall comply with all the post-closure care and use of property procedures specified in 40 CFR Part 264.117.

6. The permittee shall comply with all the post-closure notices required per 40 CFR Part 264.119.

7. The permittee shall comply with all portions of 40 CFR Parts 260 through 266 until released from post-closure care requirements.

8. Any ammendments to the Post-closure Plan must first be reviewed and approved by the Department.

SPECIFIC CONDITIONS:

PART III - GROUNDWATER MONITORING

1. The hazardous constituents (40 CFR Part 264.93) and parameters to which the groundwater protection standard (40 CFR Part 264.92) applies and the respective concentration limits (40 CFR Part 264.94) for these constituents and parameters for the Site 5 Sludge Cells shall be as follows:

   a. 40 CFR Part 264.94(a)(2) Table I Standards

Constituent/ Parameter	Concentration Limit
Arsenic	0.05 mg/l
Barium	1.0 mg/l
Cadmium	0.01 mg/l
Chromium	0.05 mg/l
Lead	0.05 mg/l
Mercury	0.002 mg/l
Selenium	0.01 mg/l
Silver	0.05 mg/l

   b. Hazardous Constituents Detected In Groundwater (40 CFR Part 264.93) and Groundwater Protection Standard (40 CFR Part 264.92).

Constituent/ Parameter	Concentration Limit
Total Trihalomethanes	Background*
Trichloroethylene	Background*
Tetrachloroethylene	Background*
Vinyl Chloride	Background*
1,1,1-Trichloroethane	Background*
1,2-Dichloroethane	Background*
Benzene	Background*
Methylene Chloride	Background*
Toluene	Background*
1,1-Dichloroethane	Background*
Cis-1,2-Dichloroethylene	Background*
Chlorobenzene	Background*
2-Chloroethylvinyl ether	Background*
1,1-Dichloroethylene	Background*
Ethylbenzene	Background*

Trans-1,3-Dichloropropene	Background*
Trans-1,2-Dichloroethylene	Background*
Chloromethane	Background*
Bis(2-Ethylhexyl)Phthalate	Background*
Phenol	Background*
2-Methyl-4,6-Dinitrophenol	Background*
1,1,2,2-Tetrachloroethylene	Background*

* As determined in accordance with Specific Condition 7b of this Part.

2. The "Uppermost Aquifer" at the site shall be considered to consist of the Surficial Aquifer. The Secondary Artesian Aquifer and Floridan Aquifer are hydraulically interconnected to the Surficial Aquifer.

3. The Waste Management Area [40 CFR Part 264.95(b)(2)] shall be the "RCRA regulated sludge" area as illustrated on page 4 Figure 2 of the Site 5 Remedial Action Plan and Corrective Action Program dated April 29, 1987. The point of compliance [40 CFR Part 264.95(a)] shall include the northern and eastern perimeters of the Waste Management Area.

4. The compliance period as established in accordance with 40 CFR Part 264.96 shall be seven years and four months.

5. In accordance with 40 CFR Part 264.95(a), the compliance point monitoring wells shall be PW-36, PW-37, PW-38, PW-39 and PW-108. Wells INT-4 and INT-7 shall also be used to monitor the groundwater in the Secondary Artesian Aquifer throughout the compliance period.

6. Within seven (7) days from permit issuance, the permittee shall submit a 40 CFR Part 261 Appendix VIII analysis for wells INT-4 and FL-2 to the Department. Any new constituents found which are not listed in Specific Condition 1 of this part shall be added to that list and included in all future compliance monitoring activities. Results of this sampling shall satisfy the Appendix VIII sampling requirement of 40 CFR Part 264.99(f), for the first year of the compliance period.

7. The following conditions shall apply to background groundwater quality:

   a. Well PW-4 shall be used to monitor background groundwater quality for the Surficial Aquifer. Well PW-79 shall be used to monitor background groundwater quality for the Lower Surficial Aquifer. Well INT-6 shall be used to monitor the background groundwater quality in the Secondary Artesian Aquifer.

b. Per 40 CFR Part 264.97(g)(2), the permittee shall establish the background groundwater concentration levels for each hazardous constituent listed in Specific Condition 1b of this Part. Determination of background groundwater concentration levels shall be in accordance with 40 CFR Part 264.99(c). This determination shall be a rolling average based on a minimum of the four (4) most recent sampling periods and shall be initially achieved within one year from the date of issuance of this permit. Existing data may be submitted to partially satisfy this requirement. Monitoring wells shall be sampled quarterly throughout the compliance period.

c. The background groundwater concentrations shall be based upon Minimum Quantification Levels (MQLs) unless the MQLs for any constituent exceeds the groundwater quality standards established in 17-22.104, FAC. If the MQLs for a constituent exceeds the groundwater quality standards, an analytical method must be used that is capable of detecting that constituent at levels below the groundwater quality standards. In addition to MQLs, the facility must submit the minimum detection levels for each constituent sampled.

d. In accordance with 40 CFR Part 264.94(b), the Department shall establish Alternate Concentration Limits (ACLs) upon approval of the ACL demonstration.

8. The following conditions shall apply to sampling of the monitoring wells:

a. All groundwater sampling shall be conducted in accordance with EPA publications 600/4-83-040 and 600/2-80-018. Analytical methods and procedures shall be in accordance with 40 CFR Part 264.97(d) and (e) and EPA manual SW-846 "Test Methods for Evaluating Solid Waste", latest edition, or the departmental approved Quality Assurance / Quality Control Plan.

b. Per 40 CFR Part 264.97(f), the permittee shall make a determination of the groundwater surface elevation each time groundwater is sampled.

c. Samples from all intermediate and deep wells shall be sampled with dedicated bailers or bladder pumps.

d. Per 40 CFR Part 264.99(e), the permittee shall determine the horizontal and vertical groundwater flow rates and directions in the uppermost aquifer at least annually throughout the compliance period. A copy of this report must be submitted to the Department during December of each year.

e. Per 40 CFR Part 264.99(f), the permittee shall analyze a well or wells as approved by the Department for all constituents contained in Appendix VIII of 40 CFR Part 261 or Department approved equivalent on an annual basis during the compliance period. Any new constituents detected in the analysis which are not listed in Specific Condition 1 of this Part shall be added to that list and included in all future compliance monitoring activity.

f. Per 40 CFR Part 264.99(d), the permittee shall determine the concentration of all constituent/parameters listed in Specific Condition 1 of this Part at the five compliance point monitoring wells listed in Specific Condition 5 of this Part and wells INT-4 and INT-7 in February, May, August and November of each year throughout the compliance period. The first sampling event shall occur in February, 1988. The results of these sampling events shall be included in the semi-annual report on the effectiveness of the corrective action program to be submitted by the permittee in June and December of each year per 40 CFR Part 264.100(g) throughout the compliance period.

9. If the permittee determines that the reporting dates required by Specific Condition 8f of this Part cannot be achieved, the permittee shall notify the Department within seven (7) days prior to the end of that month stating reasons why the condition cannot be met.

PART IV - CONTAMINATION ASSESSMENT

1. Within sixty (60) days of permit issuance, the permittee shall submit to the Department additional subsurface information with respect to karst features. The hydrogeologic discussions and cross-sections must include descriptions of the impact of karst features in groundwater flow and contaminant migration.

2. Within sixty (60) days of permit issuance, the permittee shall install three additional Surficial Aquifer wells, PW-111, PW-112 and PW-113, located on Attachment I of this permit to further delineate the plume of contamination. Wells shall be constructed in accordance with 40 CFR Part 264.97(c) and of materials that will not interfere with sampling and analysis.

3. Within thirty (30) days after well installation in Specific Condition 2 of this Part, the permittee shall submit to the Department a well completion report for each new well which at a minimum includes well installation equipment and procedures, borehole logs, well construction details, materials used to fill the annular space, screen length and slot size, sand pack material and size, surface elevation, well completion date, and any security devices [17-30.401(2) Part M.5, FAC].

4. The permittee shall sample wells PW-111, PW-112 and PW-113 for all constituents listed in Specific Condition 1 of Part III of this permit biannually in November and May. Thereafter, these wells shall be added to the biannual sampling schedule as proposed in the the Site 5 Remedial Action Plan and Corrective Action Program [Table 7, page 40, April 29, 1987] and analyzed for volatile organic constituents (EPA method 624) and primary drinking water standard metals (EPA method 200 series). The permittee shall submit to the Department the analytical data within 30 days of receipt of such data [17-30.180(4)(a), FAC].

5. The permittee shall sample wells PW-36, PW-37, PW-38, PW-39, PW-108, INT-4 and INT-7 in February, May, August and November of 1988 for the following parameters:

Fluoride	Chloride
Nitrate as N	Iron
Turbidity	Manganese
Gross Alpha	Sodium
Gross Beta	Sulfate
Radium 226 and 228	

The permittee shall submit to the Department the analytical data within 30 days of receipt of such data [17-13.180(4)(a), FAC].

6. If the presence of volatile organic constituents is detected in the newly installed wells specified in Specific Condition 2 of this Part, above background concentrations or that any primary drinking water standards are exceeded, the Department may require the permittee to install additional wells to further delineate the horizontal and vertical extent of the plume.

PART V - CORRECTIVE ACTION

1. Within thirty (30) days of permit issuance, the permittee shall submit to the Department a response to each comment as listed in the Department's letter of August 26, 1987 to Ed Mayer from Richard Tedder concerning the groundwater flow model submitted in the April, 1987 Site 5 Remedial Action Plan and Corrective Action Program.

2. The permittee shall begin Corrective Action Program Phase I (submitted in the Site 5 Remedial Action Plan and Corrective Action Program, April, 1987) to address the groundwater contamination in the Surficial Aquifer no later than thirty (30) days after receipt of departmental approval of the Corrective Action Program Phase I.

3. Within ninety (90) days of permit issuance, the permittee shall submit to the Department a conceptual Corrective Action Program Phase II in accordance with 40 CFR Part 264.100 to address the contamination in the Lower Surficial Aquifer and Secondary Artesian Aquifer.

4. Within eighteen (18) months after implementation of Corrective Action Program Phase I, the permittee shall submit to the Department a final, detailed Corrective Action Program Phase II that shall include all engineering drawings and data used to establish this program in accordance with 40 CFR Part 264.100 and DER Form 17-30.401(2) Part M.8.

5. The permittee shall begin corrective action for the groundwater contamination in the Lower Surficial and Secondary Artesian Aquifers no later than 30 days after receipt of departmental approval of the Corrective Action Program Phase II.

6. The Remedial Action Plan (RAP) for the Site 5 Landfill and the Corrective Action Program for Site 5 Sludge Cells shall be consistent with each other as required by Consent Order OGC Case No. 85-0412. The Corrective Action Program as established and approved as part of the RAP shall be incorporated as a modification to this permit.

7. Within sixty (60) days of permit issuance, the permittee shall submit the following information to the Department:

   a. Final design specifications and engineering reports describing the Corrective Action.
   b. Runoff calculations for the 25 year / 24 hour storm event for the Site 5 Sludge Cells.

c. Calculations or data estimating treatment efficiencies for the proposed spray irrigation system.
d. Borehole logs for the recovery system wells.
e. Vapor drift and its impact on human health and the environment.
f. Droplet drift information for wind speeds exceeding 3MPH.
g. Determination of the maximum wind speed permitted prior to shutting down the spray irrigation system and method for controlling this function.
h. Locations map for the "additional well points ... proposed downgradient" and the well points in the southwest area of Site 5 as written in the April, 1987 Remedial Action Plan and Corrective Action Program, page 15.
i. Surface elevations for each well at Site 5.
j. Location map of well PW-108.

8. Within thirty (30) days after permit issuance, the permittee shall submit to the Department additional information on the holding / equalization tank mentioned on page 31 of the April 29, 1987 Remedial Action Plan and Corrective Action Program to include:

   a. Specifications.
   b. Purpose of the tank.
   c. Schedule of use, i.e. will the water be drained daily, if not how often will it be emptied, etc.
   d. Location of tank.

9. Per 40 CFR Part 264.100(g), the permittee shall submit a report to the Department semi-annually throughout the compliance period on the effectiveness of the corrective action program. This report shall be submitted in June and December of each year.

10. Per 40 CFR Parts 264.100(f) and 264.96, the permittee shall continue corrective action until it can be demonstrated via the groundwater monitoring program that the groundwater protection standard of 40 CFR Part 264.92 as defined in Specific Condition 1 of Part III of this permit has not been exceeded for a period of three consecutive years.

Permittee
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11. Per 40 CFR Part 264.100(h), if the permittee determines that specific conditions of the corrective action program cannot be achieved, the permittee must within 90 days submit a request to the Department for a permit modification to make any appropriate changes to the program.

Issued 11-19-87

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

Richard G. Wilkins
Director
Division of Waste Management

Filing and Acknowledgment
File on this date,
pursuant to Section 120.52,
Florida Statutes, with the
designated Clerk, receipt of
which is acknowledged.

Margaret Holladay 11/19/87
CLERK DATE

This is to certify that this Notice of Permit was mailed before the close of business on 11/19/87 .

Permittee
Mr. Lincoln E. Hall
Director Environmental Management
Martin Marietta Orlando Aerospace
P.O. Box 5837, MP-621
Orlando, Fl 32855

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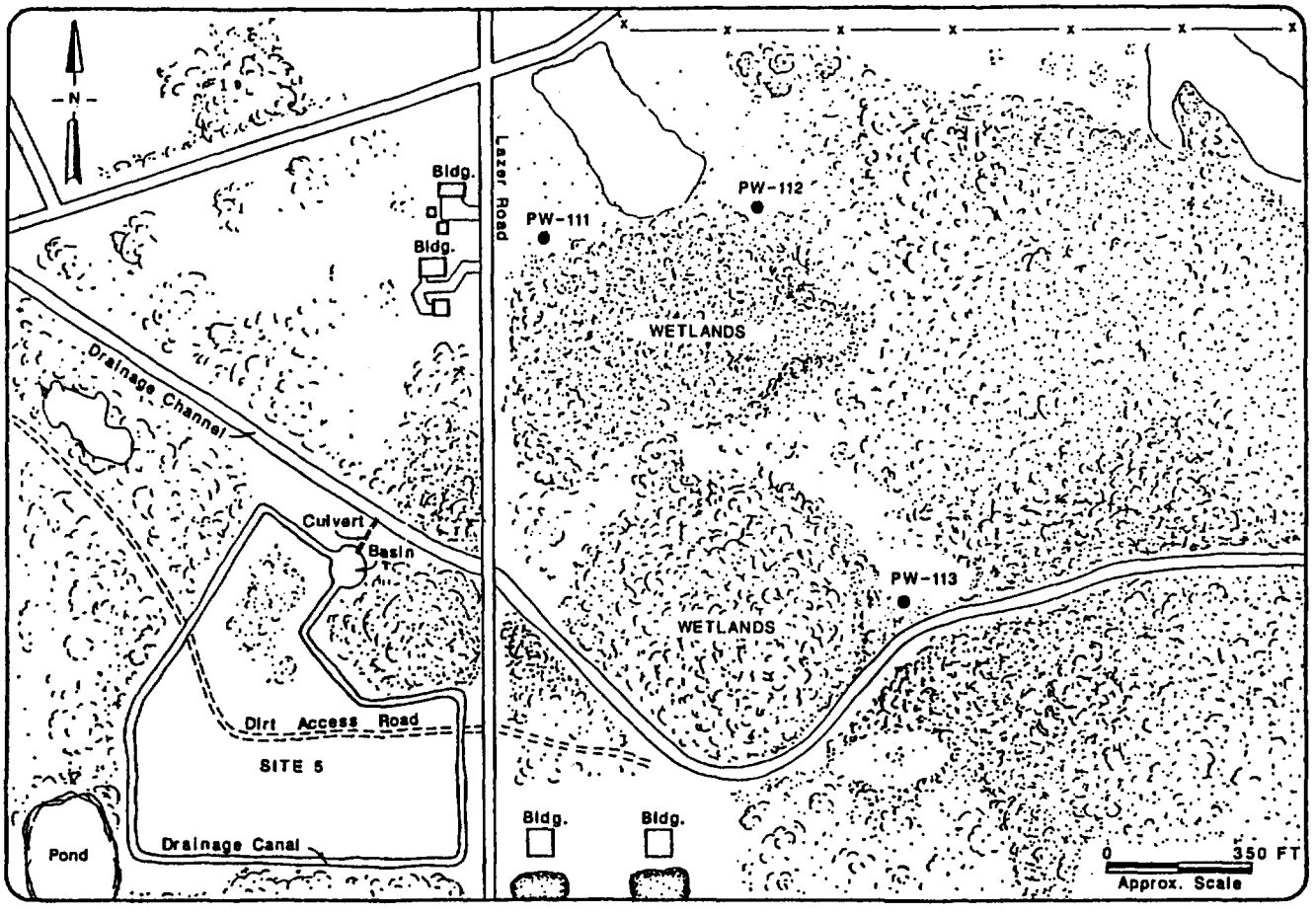
ATTACHMENT 1



GERAGHTY & MILLER, INC.
Ground-Water Consultants

Approximate Locations of Monitor Wells PW-111 through PW-113 Northeast of Site 5.

CLIENT NAME:

Martin Marietta Orlando Aerospace

EPA
Jane S.
11/30.

MARTIN MARIETTA

~~INTRACOMPANY MEMORANDUM~~

DATE 8/29/88

TO: SATISH KASTURY

CC: RICHARD TEDDER

FROM: Rodney J. Lynn DEPT. Environmental Mgmt. MP- 280 EXT. 1454

SUBJECT: LISTING OF ALL MARTIN MARIETTA REPORTS RELATED TO GROUNDWATER SITES.

Attached for your: (1) Review (2) Comments (3) Approval (4) Information and/or (5) Other

Attached for your use is a listing of reports prepared for Martin Marietta throughout the past related to groundwater investigations and compliance with consent orders.

Please review and return to Env. Mgmt. by:

Please respond to Env. Mgmt. office by:

Rod

Rodney J. Lynn
Project Manager

RL0519C:rs

DOCKET NO MM 302

RECEIVED
SEP 1 1988

"We have made a Commitment To Excellence."

CTE HAZARDOUS WASTE PERMITTING

FINAL REPORTS
Martin Marietta Missile Systems

GENERAL

Preliminary Evaluation of Hydrogeologic Conditions at Martin Marietta, Orlando, Florida - Phase I
August 1981

Hydrogeologic Investigation and Monitor-Well Installation at Martin Marietta, Orlando, Florida - Phase II
May 1982

Request for Permit for Long-Term Dewatering - April 1987

Quality Assurance Project Plan for Hydrogeologic Investigations at Martin Marietta Aerospace, Orlando, Florida - August 1985

Health and Safety Plan for Martin Marietta Corporation Orlando Aerospace Facility - November 1985

SITE 3

Martin Marietta, Orlando, Ground Water Monitoring Plan, Disposal Sites 3 and 6 - February 1985

Site 3 Contamination Assessment Plan
August 1985

Site 3, Contamination Assessment Report and Conceptual Remedial Action Plan
January 1987

Remedial Action Plan for Site 3 at the Sand Lake Road Facility, Orlando, Florida
May 1988

Evaluation of Pumping Test Data for Sites 3 and 4 at the Sand Lake Road Facility, Orlando, Florida - July 1988

SITE 4

Contamination Assessment Plan, Site 4, Martin Marietta Orlando Aerospace - December 1985

Site 4, Contamination Assessment Report and Conceptual Remedial Action Plan - February 1987

Remedial Action Plan for Site 4 at the Sand Lake Road Facility, Orlando, Florida - April 1988

Evaluation of Pumping Test Data for Sites 3 and 4 at the Sand Lake Road Facility, Orlando, Florida - July 1988

SITE 5

Ground-Water Quality Assessment Plan - January 1984

Update and Status of Ground-Water Quality Monitoring - July 1984

Interim Report, Implementation of a Ground-Water Quality Assessment Plan, Martin Marietta, Orlando, Florida, Site 5 - December 1984

Site 5 Landfill Contamination Assessment Plan - August 1985

Site 5 Report on Implementation of a Ground-Water Quality Assessment Plan, Martin Marietta, Orlando, Florida, October 1985

Report on Implementation of a Ground-Water Quality Assessment Plan, Martin Marietta, Orlando, Florida - October 1985

Post-Closure Permit Application and Closure Plan for Site 5 Sludge Cells, October 8, 1985

Site 5, Contamination Assessment Report and Conceptual Remedial Action Plan - January 1987

Closure Plan, Site 5 Sludge Cells - March 27, 1987

Site 5, Remedial Action Plan and Corrective Action Program April 1987

Request for Permit for Long-Term Dewatering - April 1987

Technical Specifications, Closure - Site 5 Sludge Cells July 1987

Assessment of Ground-Water Contamination at Site 5 (1985-1987) - January 1988

Site 5, Conceptual Corrective Action Program Phase II - February 1988

Effectiveness of the Corrective Action Program at Site 5 Sludge Cells, Martin Marietta Missile Systems, Orlando, Florida - June 1988

Construction Documentation and Closure Certification, Site 5 Sludge Cell Closure, Sand Lake Road Facility, Volume 1 of 4 - June 1988

Site 6

Martin Marietta, Orlando, Ground Water Monitoring Plan, Disposal Sites 3 and 6 - February 1985

Contamination Assessment Plan, Site 6, Martin Marietta Orlando Aerospace - August 1985

MEC Building

Interim Status Report, Final Contamination Assessment Survey, Microelectronics Center, Martin Marietta Orlando Aerospace - December 1985

Microelectronics Center (MEC) Building. Final Contamination Assessment Survey and Proposed Remedial Action Plan - May 1986

CWPF SWMU

Work Plan, RCRA Facility Investigation, Central Waste Water Pretreatment Facility

Tanks and Pumps

Assessment of Copperhead Building Paint Spray Booth Hazardous Waste Tanks - January 11, 1988

Assessment of "Hellfire" and "MEC" Buildings Underground Sump January 11, 1988

RL0826A:rs

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DEPARTMENT OF ENVIRONMENTAL REGULATION

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Interoffice Memorandum

TO: Richard Tedder
District Engineer - Orlando

THROUGH: Satish Kastury mdr for
Environmental Administrator
Hazardous Waste Regulation

FROM: Merlin D. Russell, Jr. mdr
Environmental Specialist III

DATE: November 1, 1988

SUBJECT: Martin-Marietta Orlando Aerospace FLD 060 240 207, "Post-closure" Permit HF48-112268. "Effectiveness of the Corrective Action Program at Site 5 Sludge Cells, Martin Marietta Missle Systems, Orlando, Florida" dated June, 1988.

I have read and reviewed the subject document. The submittal data include a revised report of the February 1988 sampling event which includes radionuclide data for wells PW-38 and INT-4. However, this data for INT-7, required by Specific Condition 5 of Part IV still has not been received. (This was noted in my September 23, 1988 memo although the incorrect specific condition is referenced).

Please note that Specific Condition 9 of Part 5 requires the next semi-annual report on the corrective action program be submitted in December, 1988.

If you should have any questions, call me at SUNCOM 278-0130.

MDR/do

cc: Jim Scarbrough, EPA/Region IV
Barry Swihart, BWP&R
Zoe Kulakowski, BWC

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Interoffice Memorandum

TO: Richard B. Tedder
Central Florida District

FROM: Rabin Prusty
Engineer III
Hazardous Waste Regulation

DATE: November 16, 1988

SUBJECT: Martin Marietta - Ocala RCRA Implications for Cooling Tower #1 Blowdown.

The RCRA permitting and compliance staff in Tallahassee upon reviewing the information submittals on the subject facility has determined that by feeding the Limcon evaporator product to the cooling tower will not cause the stormwater pond to be considered a land disposal unit when it receives blowdown from the cooling tower. The cooling water will not result in a regulated (F006) surface impoundment.

Should you concur with this approach, please transmit the Departmental approval to the facility. If you have any questions, please call me at SUNCOM 278-0130.

RP/do

cc: Barry Swihart, BWP&R
[redacted]

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Interoffice Memorandum

TO: Richard Tedder
District Engineer - Orlando

THROUGH: Satish Kastury
Environmental Administrator
Hazardous Waste Permitting

FROM: Merlin D. Russell, Jr. mdr
Environmental Specialist III
Hazardous Waste Permitting

DATE: September 23, 1988

SUBJECT: Martin-Marietta Orlando Aerospace FLD 060 240 207, Post-closure Permit HF48-112268. Review of the following submittals:
(1) "Assessment of Groundwater Contamination at Site 5 (1985-1987)" dated January, 1988.
(2) "Site 5 Conceptual Corrective Action Program Phase II" dated February 1988.
(3) "Technical Specifications, Site 5 Shallow Groundwater Recovery and Treatment Systems" dated March, 1988.
(4) "Results of Analyses for Martin Marietta Orlando Aerospace Site 5, Report No. 77" including the Appendix VIII Analyses for Well PW-37 dated March 21, 1988.
(5) "Martin-Marietta Missle System Water Quality Data for Site 5 for July and October 1987" dated June 20, 1988.

I have read and reviewed the subject documents. Comments are attached. Please note that item number (1) was sent to EPA in January for their review and comments. Additionally, you requested EPA on January 11, 1988 to review and comment on the groundwater model for predicting capture zones of the contamination plume. We have not received this information yet, hence EPA's comments are not included but may be forthcoming.

The Bureau of Waste Cleanup has commented on the July and October 1987 analytical data and the "Construction Documentation and Closure Certification Final Report" dated June 8, 1988. Their comments are included in our attached comments, and a copy of their comments is attached for your files.

ATTACHMENT A

Appendix VIII Analyses for PW-37

1. Page 10, Figure 4: Based upon the groundwater elevations for wells in the secondary artesian aquifer, groundwater flow is from INT-1 (57.0') southwestward toward INT-5 (56.0') and northward toward INT-3 (55.0'). This error should be corrected.

2. Page 19: There are geophysical methods that are capable of exploring the subsurface at Site 5. Methods should be considered to further evaluate the site-specific karst features.

3. Boring TB-FL-A (submitted previously) indicates at least a depression in the Ocala limestone at Site 5. The Ocala Limestone was not penetrated after 136 feet of boring although it appears that the mixed sand, clay, shell, phosphate and pebble unit overlying the limestone was partially penetrated. Boring TB-FL-A was bored 25-30 feet deeper than nearby INT-1 which was terminated at the top of the Ocala Limestone.

   Page nineteen of the groundwater assessment states that the crater formed at the surface when the ground collapsed during the drilling of TB-FL-A was related to drilling practices rather than sinkhole development. The facility should supply evidence in support of this statement.

   Many sinkholes are located less than two miles to the west of Site 5 along the Mount Dora Ridge, an area characterized by numerous large, ancient sinkholes and karst lakes. There does not appear to be the obvious surficial expression of subsurface karst features across the Martin-Marietta site as is the case along the Mount Dora Ridge, although the possibility exists that the swamps and pond adjacent to Site 5 are related to karst activity.

Assessment of Groundwater Contamination at Site 5

Summary

	UG/L	MDL	STANDARD UG/L
1,1-dichloroethane	549	4.7	Background
1,2-trans-dichloroethene	9.61	1.6	Background
1,1-dichloroethene	19.6	2.8	Background
1,1,1-trichloroethane	14.9	3.8	Background
* aluminum	11800	65	Background
barium	39	2.4	1000
* calcium	53100	210	Background
* iron	4000	230	300
* potassium	950	100	Background
* sodium	134000	300	260000
* strontium	210	7.7	Background
* vanadium	86	22	Background
* sulfide	5100	50	Background

*not hazardous constituents under 40 CFR Part 261 Appendix VIII

PW-38	iron	662	ug/l
	sodium	3980	ug/l
	chloride	1.5	mg/l
	fluoride	0.15	mg/l
	sulfate	6.7	mg/l
	turbidity	0.33	NTU
PW-39	iron	4390	ug/l
	manganese	36	ug/l
	mercury	0.21	ug/l
	sodium	14600	ug/l
	chloride	62	mg/l
	fluoride	0.98	mg/l
	nitrate	0.58	mg/l
	turbidity	8.1	NTU
	gross alpha	4.3+2.0	PC/L
	gross beta	3.0∓2.2	PC/L
	radium 226	1.0∓0.1	PC/L
	radium 228	0.6∓0.3	PC/L
	1,1-dichloroethane	11	ug/l
	1,2-dichloroethane	5.7	ug/l
	1,1-dichloroethene	123	ug/l
	methylene chloride	21	ug/l
	toluene	10	ug/l
PW-108	iron	1220	ug/l
	sodium	7060	ug/l
	chloride	11	mg/l
	fluoride	0.59	mg/l
	nitrate	0.13	mg/l
	turbidity	20	NTU
	gross alpha	1.0+0.9	PC/L
	gross beta	4.7∓1.6	PC/L
	radium 226	0.7∓0.1	PC/L
	radium 228	0.1∓0.3	PC/L
PW-4	iron	246	ug/l
	sodium	1650	ug/l
INT-7	iron	498	ug/l
	manganese	17	ug/l
	mercury	0.22	ug/l
	sodium	13500	ug/l
	chloride	14	mg/l
	fluoride	0.12	mg/l
	turbidity	0.25	NTU

5. There were no radionuclide data reported for wells INT-4, PW-38 or INT-7 as required by Specific Condition III.5.

6. The July and October, 1987 data indicate that PW-26 has replaced PW-8 as the most contaminated well. This indicates significant plume movement and should be considered in locating the recovery wells.

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

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HAZARDOUS WASTE PERMITTING

TO: Merlin Russell, Jr., Hazardous Waste Permitting

THROUGH: Jim Crane, Bureau of Waste Cleanup B for JC

FROM: Zoe Kulakowski, Bureau of Waste Cleanup ZPK

DATE: July 25, 1988

SUBJECT: Martin Marietta Orlando Aerospace, Site 5

I have reviewed the following items for the referenced site:

1) Progress Report #3 on sludge cell closure activities dated 3-31-88,
2) revised well construction diagrams and lithologic logs for PW-111, PW-112, and PW-113 dated 5-13-88,
3) MMOA request to modify closure and post-closure permit (to use E.P. toxic instead of TLCP for clean up verification),
4) Progress Report #4 on sludge cell closure activities dated 4-29-88,
5) Modification dated 5-10-88 to expand the Waste Management area,
6) Progress Report #5 on sludge cell closure activities dated 6-6-88,
7) Comprehensive Groundwater Monitoring Evaluation (CME Report), and
8) Ground water data for July and October 1987 (dated 6-20-88).

The sludge cell closure activities are described in the "Construction Documentation and Closure Certification Final Report", dated June 8, 1988. (A copy of this report is available in the Hazardous Waste Permitting files.) Soil effectiveness sampling documented complete removal of E.P. toxic soils and sludges for the cell walls but no samples were collected from the cell bottoms. Thus, the remaining soils could be E.P. toxic for chromium and cadmium. Site ground water data show no violations of primary metal standards and item 8 referenced above shows no detectable chromium or cadmium downgradient of the sludge disposal area. Monitoring should continue to include primary metals for wells downgradient of the sludge disposal area.

Preliminary Contamination Survey and Remedial Action Plan Microelectronics Building

Prepared for

MARTIN MARIETTA AEROSPACE
Orlando, Florida

AUGUST 1985

GERAGHTY & MILLER, INC.
GROUND-WATER CONSULTANTS

LANDMARK OFFICE CENTER
14310 North Dale Mabry Highway, Suite 200 Tampa, Florida 33618 (813) 961-1921

Geraghty & Miller, Inc.

AUG 1985
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River District

PRELIMINARY CONTAMINATION SURVEY AND PROPOSED REMEDIAL ACTION PLAN, MICROELECTRONICS BUILDING, MARTIN MARIETTA ORLANDO AEROSPACE

Prepared for

MARTIN MARIETTA AEROSPACE
Orlando, Florida

G&M Project No. T4870R4

August 1985

GERAGHTY & MILLER, INC.
Ground-Water Consultants
14310 North Dale Mabry Highway, Suite 200
Tampa, Florida 33618

CONTENTS

	Page
INTRODUCTION	1
WORK PERFORMED	4
Monitor-Well Installation and Sampling	4
Interceptor/Recovery Well System	7
Floridan Aquifer Monitor Well	11
PRELIMINARY CONTAMINATION ASSESSMENT	13
CONTINUED REMEDIAL ACTION	17
ADDITIONAL DATA COLLECTION	19
Monitor Wells/PETREX Survey	19
Aquifer Characteristics	22
Ground-Water Sampling	23
Surface-Water Sampling	23
APPENDIX A: WATER-QUALITY DATA	A-1
APPENDIX B: LITHOLOGIC LOGS	B-1
APPENDIX C: PERMEABILITY TEST DATA	C-1

FIGURES

		Page
1.	Location of Martin Marietta Aerospace, Orlando Florida	2
2.	Location of Monitor Wells and Interceptor/ Recovery Well System at the MEC Building	5
3.	Typical Installed Interceptor/Recovery Well	10
4.	Location of Floridan Aquifer Monitor Well (FL-1) and OUC Supply Wells	12
5.	Water-Table Contour Map, December 14, 1982	14
6.	Proposed Monitor-Well Locations	20

TABLES

1.	Construction Details of the MEC Building Monitor Wells	8

INTRODUCTION

Geraghty & Miller, Inc., (hereinafter referred to as G&M) has conducted several hydrogeologic investigations since 1981 at the Martin Marietta Orlando Aerospace (MMOA) facility at Sand Lake Road (Figure 1). These investigations included preliminary assessments of ground-water quality conditions in and around active and inactive waste storage and disposal sites at the facility.

Results of ground-water quality monitoring conducted at the facility have reported the presence of selected VOCs (volatile organic chemicals) in areas previously used for waste storage and disposal. Based on the results of previous monitoring, Martin Marietta has entered into consent orders with the FDER (Florida Department of Environmental Regulation) to evaluate the presence and areal and vertical extent of any ground-water contamination at various sites around the facility.

At the Microelectronics Center (MEC) building shown in Figure 1, solvents are used for cleaning components in the manufacture of microelectronic products. As part of a preliminary hydrogeologic investigation, ground-water quality monitoring was instituted at the MEC building and detected the presence of VOCs from a suspected leak in the underground piping system. As a result, use of the piping system was discontinued and an interceptor/recovery well and air-stripping system was installed to remove and treat affected

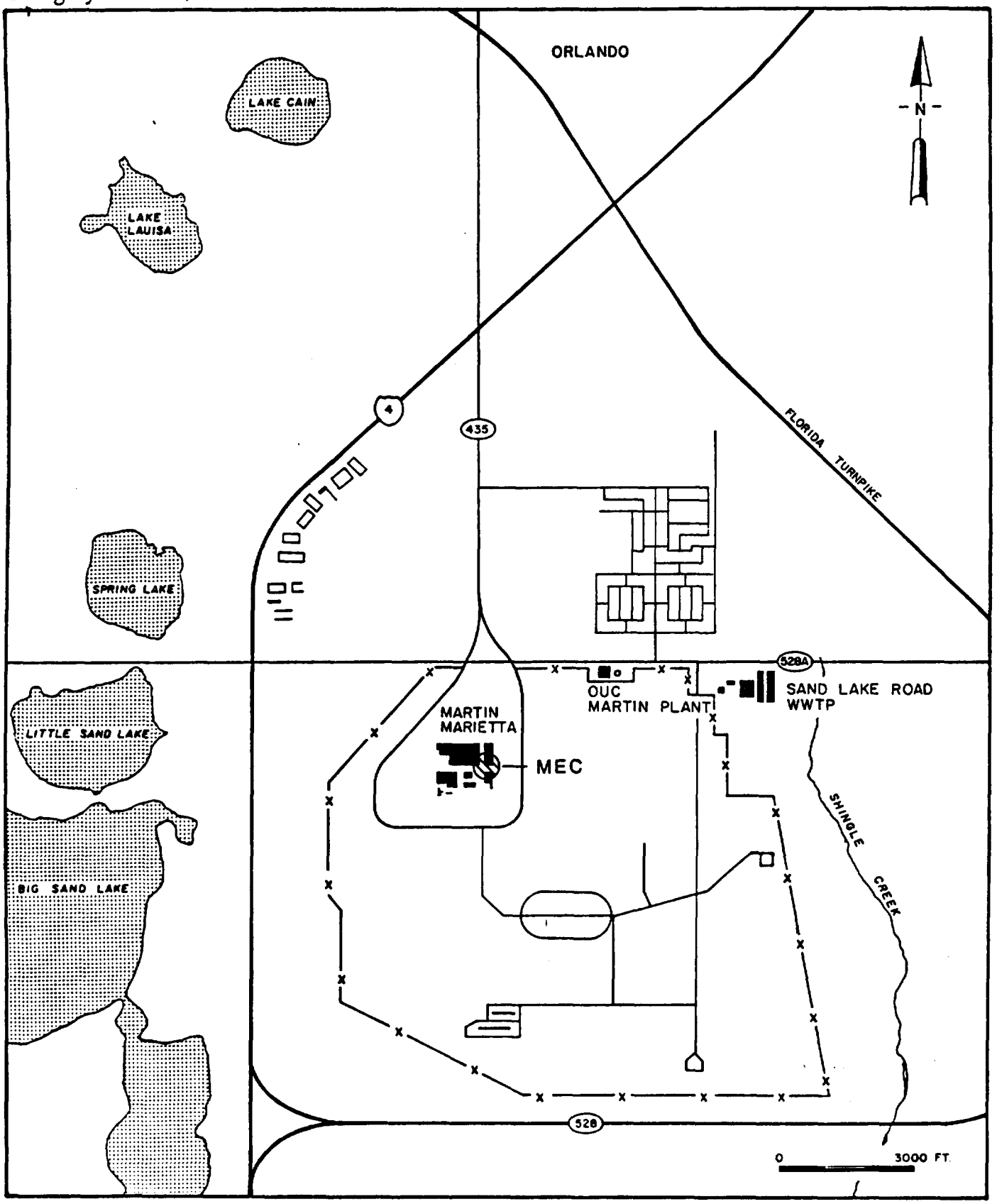

Figure 1. Location of Martin Marietta Aerospace, Orlando, Florida.

ground water. A more complete description of the monitoring and the interceptor/recovery well systems are presented later in the report.

The initial work effort for the MEC building, as directed by the consent order entered into on June 25, 1985, between MMOA and FDER (OCG File No. 85-0409), is the preparation of a Preliminary Contamination Assessment Survey and proposed Remedial Action Plan which presents information concerning potential ground-water contamination at the MEC site. Another report addressing a Final Contamination Assessment Survey and Remedial Action Plan is scheduled for delivery to the FDER no later than December 20, 1985. In addition, a report concerning the design and operation of the MEC air-stripping system and relevant operating data is being prepared by MMOA for submission under separate cover to FDER on August 26, 1985.

The present report presents background information for work performed at the MEC building along with a proposed plan for remedial action at the site in order to recover and treat affected ground water.

WORK PERFORMED

Monitor-Well Installation and Sampling

In September 1981, G&M installed a monitor well (TW-6) near a buried solvents holding tank south of the MEC building (Figure 2) in order to determine if any leaks had occurred in the holding tank. This well was sampled in October 1981 and analyzed for the presence of primary and secondary drinking-water parameters and priority pollutants. The results of these initial analyses are contained in Appendix A. A description of materials encountered during the drilling of well TW-6 are contained in Appendix B.

The underground piping system beneath the MEC building consists of a network used to collect waste solvents disposed of by the laboratory. The collection network is joined to a common underground header at the edge of the MEC building that transfers waste solvents from the building to the storage tank as depicted in Figure 2.

The results of water-quality analyses for well TW-6 reported the presence of a number of VOCs, presumably resulting from a leak in the solvents holding tank. As a result, Martin Marietta had the tank and the common header line leading to the tank pressure tested for leaks. No leaks were detected in the tank or the common header line. Therefore, it was suspected that a leak in the collection network under the building may have been responsible for the reported

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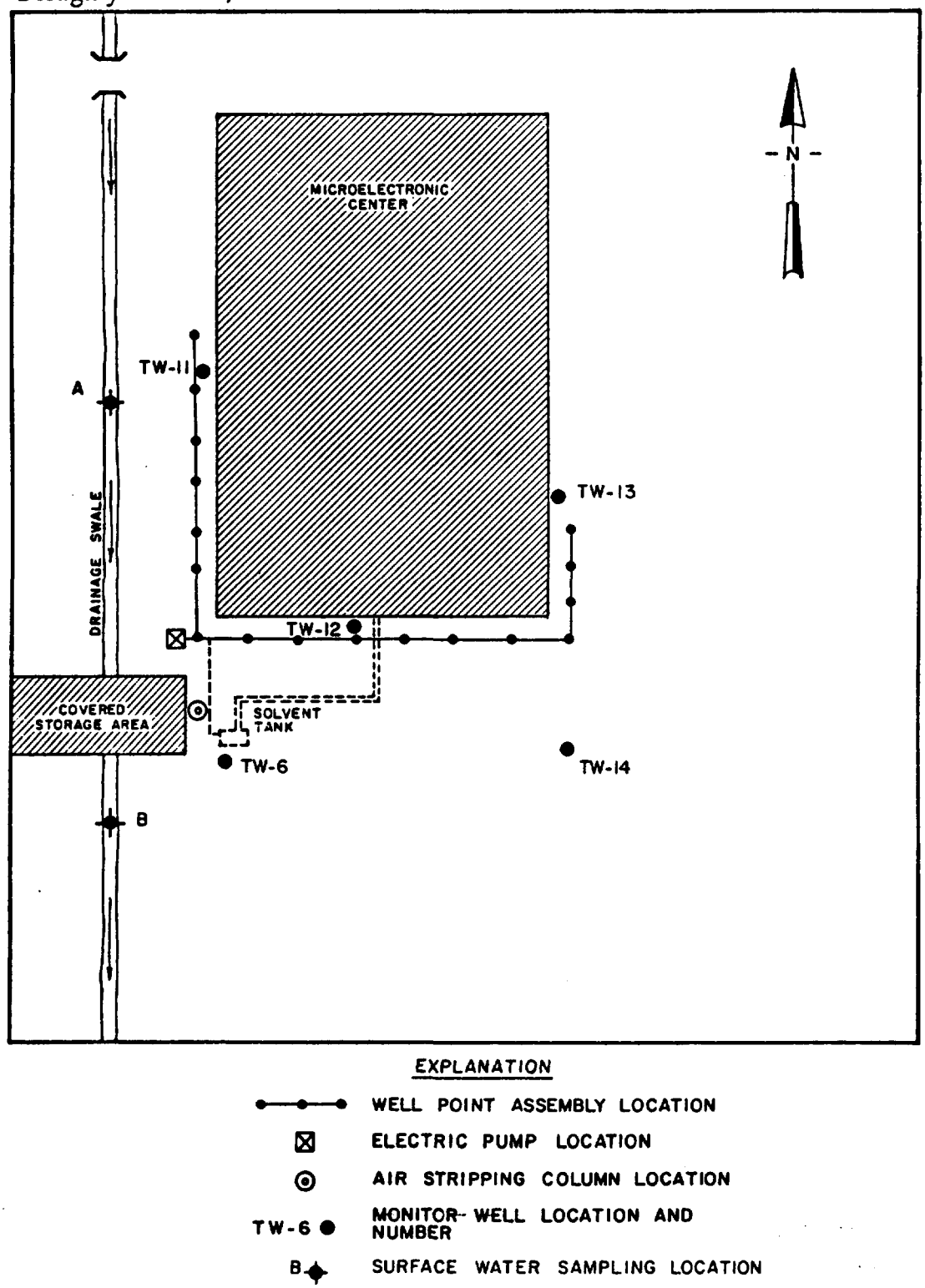

Figure 2. Location of Monitor Wells and Interceptor/Recovery Well System at the MEC Building.

presence of VOCs. However, the piping system for the collection network under the MEC building is an inaccessible, complicated maze offering no practicable way to test for leaks.

The underground collection network has been replaced by an above-ground collection system in which the solvents are collected in the individual laboratories for off-site disposal. All wastes have been removed from the underground collection network and the system has been capped and secured.

It was subsequently decided that G&M would install additional monitor wells around the MEC building to better define the presence and areal extent of contamination and to more accurately locate the source of the leak. Wells TW-11, TW-12, TW-13, and TW-14 were subsequently installed for this purpose in November 1982 (Figure 2).

All monitor wells installed around the MEC building were done in a similar fashion, using the hollow-stem auger method of drilling. Continuous split-spoon samples were collected from land surface to the bottom of the test hole and were described by an on-site G&M hydrogeologist. A complete description of materials encountered during drilling of the additional monitor wells are presented in Appendix B.

The monitor wells were all constructed of 1.25-inch-diameter PVC well screen (#10 slot) with attached PVC pipe.

Upon completion of soil sampling, the well casing was installed through the hollow-stem auger to depths ranging from 12 to 20 ft. A fine-grained sand pack was emplaced in the annulus between the borehole wall and the casing, and the upper surface was capped with a 6-in (inch) grout seal at the top. A brief period of well development was subsequently performed by pumping with a diaphragm and peristaltic pump. Construction details of all monitor wells around the MEC building are summarized in Table 1.

Following installation of the monitor wells, they were surveyed in and the top of casing elevations (Table 1) referenced to msl (mean sea level). Water-level measurements were made and water-quality samples were collected by Martin Marietta personnel and sent to an independent laboratory for analyses of selected VOCs. The results of the water-quality testing are presented in Appendix A.

In addition to the ground-water sampling, surface-water samples were collected at two locations in the drainage swale adjacent to the MEC building (Figure 2). The results of these analyses are also presented in Appendix A.

Interceptor/Recovery Well System

The water-level data and water-quality information gathered from the vicinity of the MEC building supported the idea of a leak occurring in the underground collection network under the building. As a result, an

TABLE 1. CONSTRUCTION DETAILS OF THE MEC BUILDING MONITOR WELLS

Well Number	Depth (ft below land surface)	Screened Interval (ft below land surface)	Measuring Point Elevation (ft above msl)
TW-6	20.5	5.0 - 20.0	99.13
TW-11[1]	12.5	4.5 - 12.5	101.61
TW-12	14.0	4.0 - 14.0	100.80
TW-13	13.5	3.5 - 13.5	101.24
TW-14[1]	12.0	4.0 - 12.0	100.60

[1] Monitor wells TW-11 and TW-14 have been destroyed during construction activities around the MEC building.

interceptor/recovery well system was designed and installed around the west, south, and southeast part of the MEC building to recover affected ground water. The recovery/treatment system withdraws shallow ground water from under and around the MEC building, treats it in an adjacent air-stripping system, and ultimately discharges treated water to the Sand Lake Road Sewage Treatment Plant.

The interceptor/recovery well system consists of 31 galvanized well points connected to a common suction header in the approximate configuration shown in Figure 2. The wells were constructed of 2-in galvanized pipe, by the mud-rotary method of drilling, to a depth of 35 ft below land surface. The wells are screened with #10 slot screen from 5 to 15 ft below land surface; the lower 15 ft of the well being grouted with cement grout and the remaining upper 20 ft being "gravel packed" with a fine sand cap. Each well contains a 1-in drop pipe installed to a depth of 30 ft connected to a common suction header. This method of installation was chosen in order to prevent the wells from breaking suction and to minimize long-term maintenance. All wells were installed approximately 2 ft below land surface in order to permit access to the MEC building by employees and vehicular traffic during recovery activities. Figure 3 shows construction details of a typical installed interceptor/-recovery well.

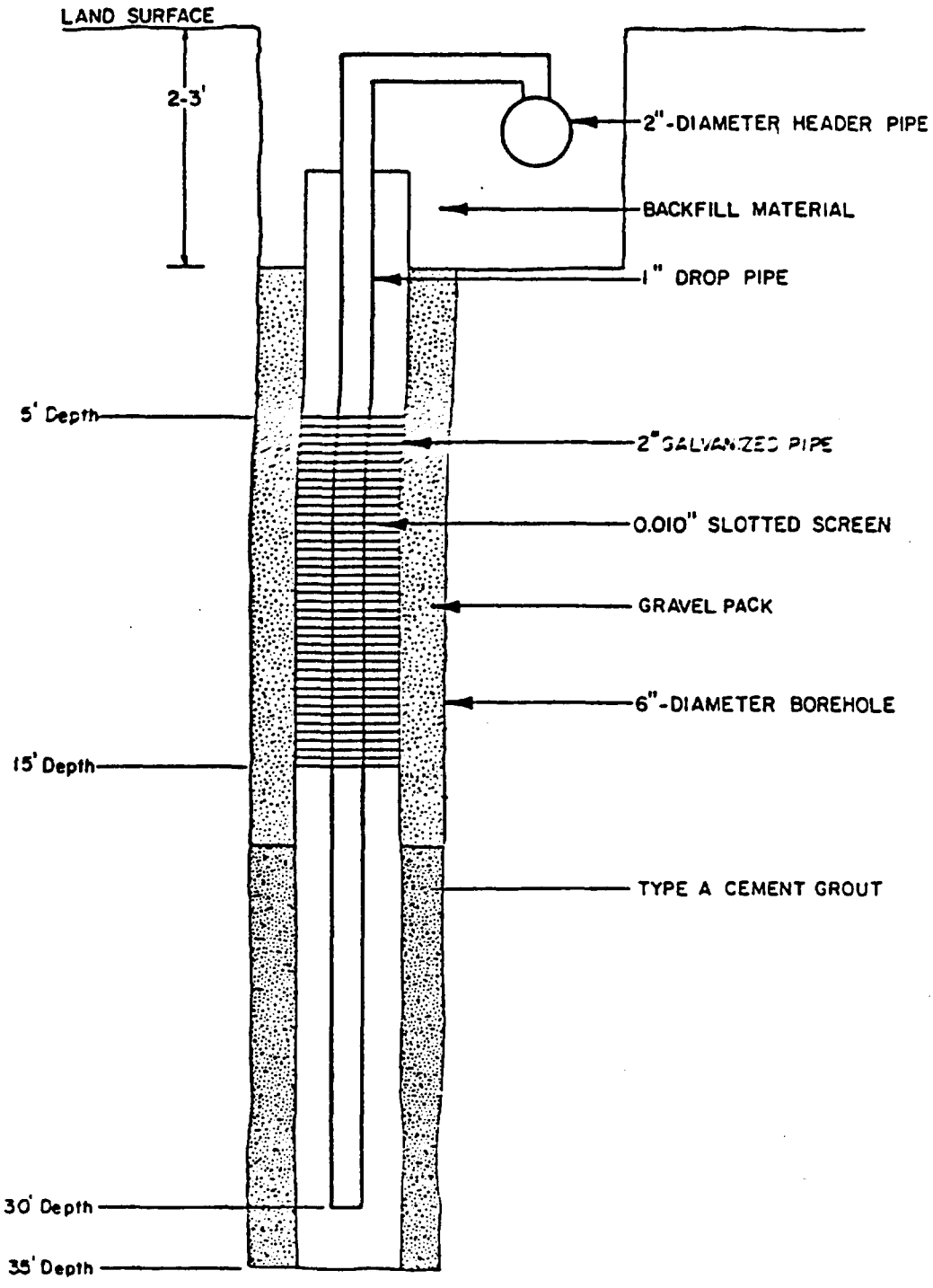

Figure 3. Typical Installed Interceptor/Recovery Well.

Of the 31 recovery wells, 4 were continuously split-spoon sampled and the samples were described by the G&M on-site hydrogeologist. The description of materials encountered during the drilling of recovery wells RW-1, RW-11, RW-18, and RW-31 are contained in Appendix B. Selected samples of clayey sediments underlying the surficial aquifer were collected with a Shelby-tube sampler during the drilling of these recovery wells. These samples were delivered to a soils laboratory for permeability testing; the data are summarized in Appendix C.

Floridan Aquifer Monitor Well

Following installation of the monitor wells and the interceptor/recovery well system around the MEC building, a Floridan aquifer monitor well was installed between the MEC building and the water-supply wells at the OUC (Orlando Utilities Commission) Martin Plant (Figure 4). The well (FL-1) was installed into the upper surface of the Floridan aquifer to detect the presence of any volatile organics that may have migrated from the MEC building toward the OUC wells.

The results of water-quality analyses conducted on samples collected from this well are included in Appendix A, while the lithologic logs prepared during construction of this well is included in Appendix B. Permeability test results performed on Shelby-tube samples collected in low-permeability sediments encountered during drilling of the well at 50-53 ft and 83-86 ft are contained in Appendix C.

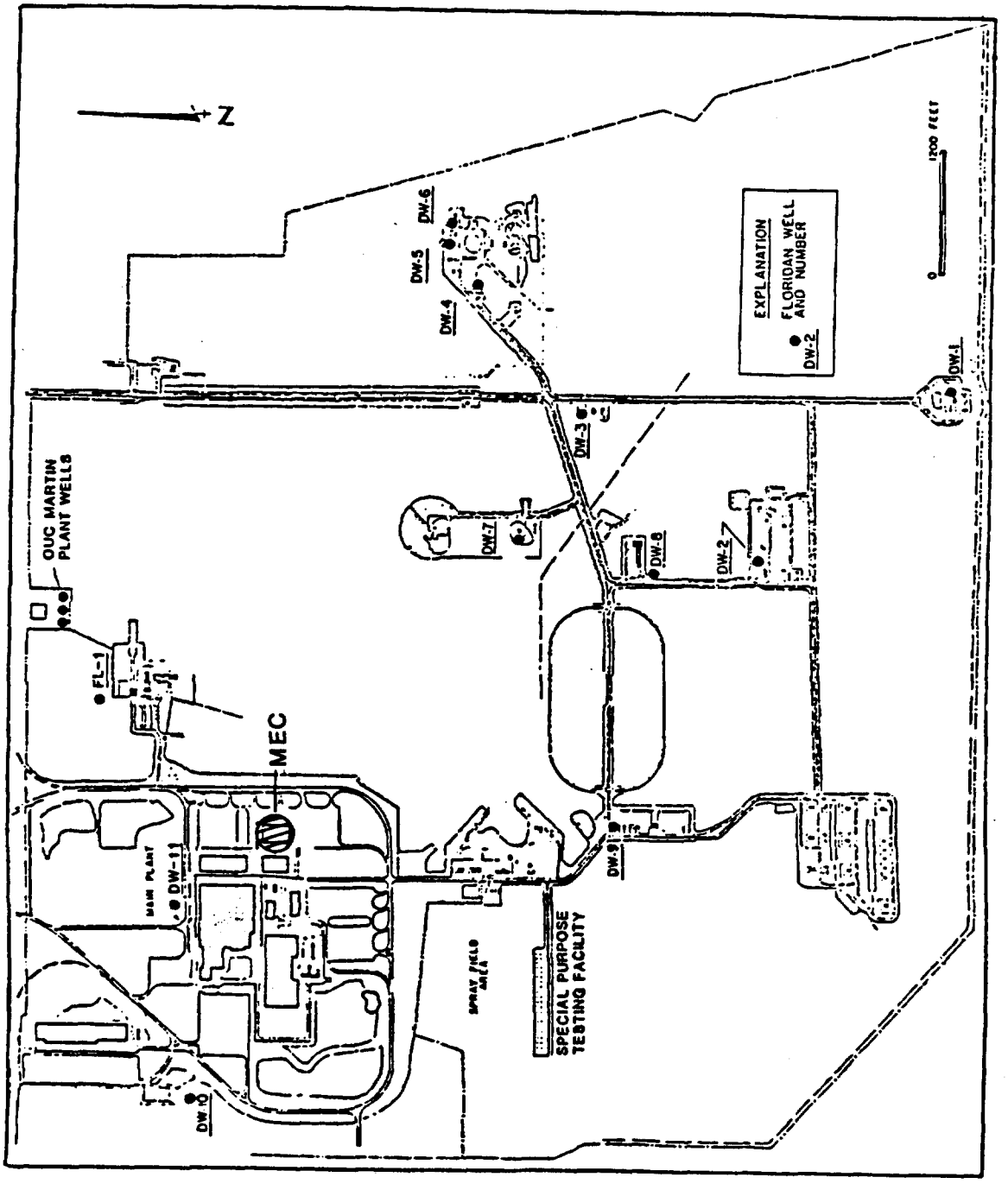

Figure 4. Location of Floridan Aquifer Monitor Well (FL-1) and OUC Supply Wells.

PRELIMINARY CONTAMINATION ASSESSMENT

Based on the water-level measurements made in the temporary monitor wells and adjacent drainage swale, a water-table contour map was constructed for the area around the MEC building (Figure 5). The water-table contour map indicates that the shallow ground water is generally moving from the center of the MEC building in a southeast and easterly direction and also in a west and southwesterly direction with some apparent discharge into the adjacent drainage swale.

It appears from the results of the test drilling and water-quality sampling program that a leak may have occurred in the waste solvent collection network under the MEC building itself and that it is confined primarily to the area surrounding the building. Previous pressure testing of the solvents holding tank and the common header discharge line from the building to the tank indicated no leaks in the line between these points or in the tank. However, no pressure testing was conducted on the waste solvent collection network under the building. Based on the water-table contour maps and the location of laboratories in the building, it is suspected that a leak may have occurred in the approximate area indicated in Figure 5.

An item considered in the contamination assessment was the direction of ground-water movement and possible migration of these compounds. Although the direction of shallow

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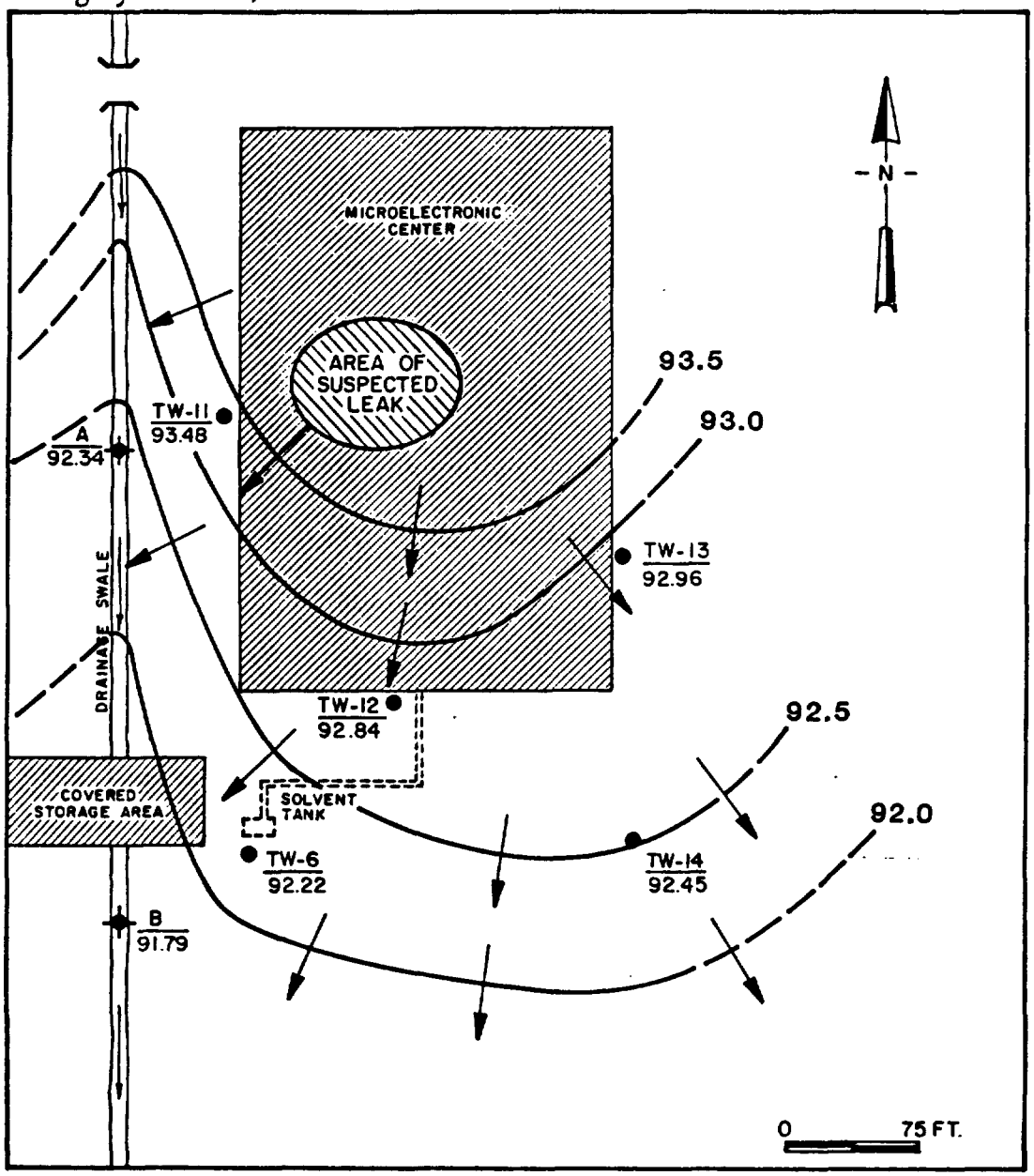


EXPLANATION

93.0 — WATER TABLE CONTOUR IN FEET MSL, DASHED WHERE INFERRED

INFERRED DIRECTION OF SHALLOW GROUND WATER MOVEMENT

B / 91.79 — SURFACE WATER MONITORING STATION AND WATER LEVEL ELEVATION 12/14/82

TW-14 / 92.45 — MONITOR WELL AND WATER LEVEL ELEVATION 12/14/82

Figure 5. Water-Table Contour Map, December 14, 1982.

ground-water movement is generally away from the OUC wells near Sand Lake Road, there is a net downward hydraulic gradient from the water table to the underlying Floridan aquifer and therefore the possibility exists for the downward migration of these compounds.

The direction of movement in the Floridan aquifer under the site is toward the OUC well field and a Floridan aquifer monitor well (FL-1, Figure 4) was installed to monitor water quality in the upper Floridan aquifer in this area. Water-quality test results from this well are presented in Appendix A. The data reported for VOCs have all been below detection limits with the exception of a sample collected on July 5, 1984. It is felt that the low levels of other volatiles detected during this sampling may have been the result of contamination occurring in the laboratory or during sample collection. During this sampling, levels of toluene and trichloroethylene were also detected in the field blank at 0.30 and 0.60 mcg/l (micrograms per liter), respectively. A subsequent sample collected on July 16, 1985, did not detect the presence of any VOCs.

It should also be pointed out the OUC has also routinely sampled their Martin Plant production wells for VOCs. Although their wells are situated at a much greater depth than FL-1, none of the OUC test results have detected the presence of VOCs in raw water coming into the plant.

Therefore, contamination of the Floridan aquifer does not appear to be a concern at this time.

At the present time, it appears that the leak which occurred under the MEC building is confined primarily to the area under and around the building itself. A more detailed evaluation of ground- and surface-water quality conditions around the MEC building will be conducted in subsequent studies to define the presence and the areal and vertical extent of contamination. A detailed description of proposed additional studies is presented later in the report.

CONTINUED REMEDIAL ACTION

At the present time, remedial actions at the MEC building site call for continued operation of the interceptor/recovery well and air-stripping systems and discharge of the treated ground water to the Sand Lake Road Sewage Treatment Plant. Because of the suspected area of the leak which occurred under the MEC building, there is no practical way to directly access and remove contaminated soils. Therefore, the present interceptor/recovery well system would appear to be the best available technology for corrective action at the MEC building.

As previously described, the 31 interceptor/recovery wells operate off a common suction header. Because the permeability of the surficial sediments in the MEC area are very low, the recovery well system only withdraws ground water at a sustained rate of about 5 gallons per minute. Because the formation is rather "tight" in this area, it appears that the recovery well system will effectively contain and continue to withdraw any contaminated ground water from under the MEC building.

The recovery/treatment system has a totalizing flow meter installed in-line so that removal quantities can be determined. Additionally, the influent and effluent concentrations of VOCs will be monitored to determine removal efficiencies. Once the system is placed in continuous operation for a longer period of time, the effectiveness of

the system in controlling shallow ground-water movement and in treating affected ground water can be more precisely determined.

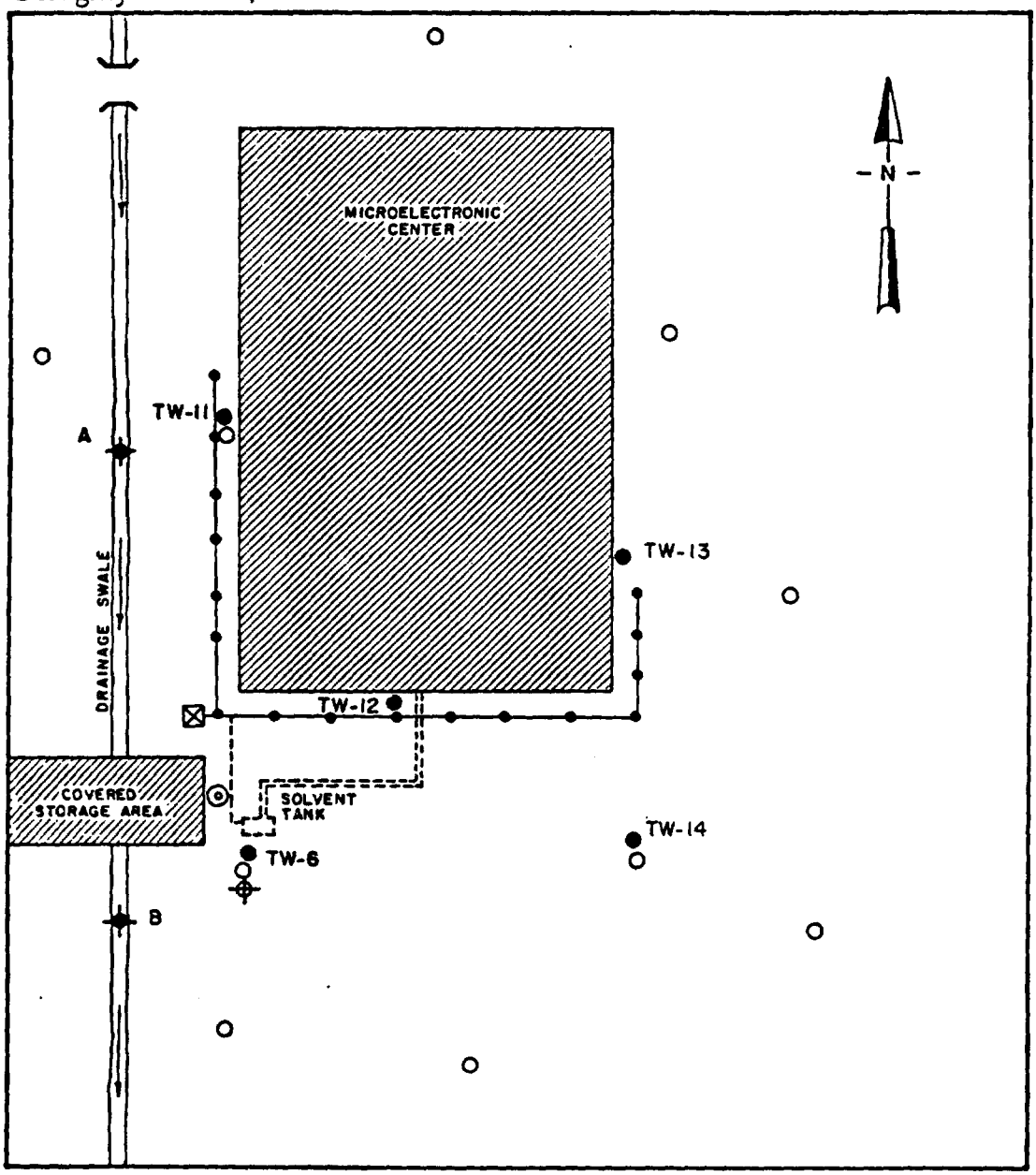
ADDITIONAL DATA COLLECTION

Additional test drilling and water-quality sampling around the MEC building is planned in order to better define the areal and vertical extent of contamination caused by the suspected leak. All data-collection activities performed to document the presence and the areal and vertical extent of contamination around the MEC building will be done in accordance with the "Quality Assurance Project Plan for Hydrogeologic Investigations at Martin Marietta Aerospace, Orlando, Florida." This document was prepared by G&M and MMOA and has been submitted under separate cover to the FDER.

Monitor Wells/PETREX Survey

Additional monitor wells will be installed in the water-table aquifer at shallow depths to more precisely define the areal extent of contamination and to assist in determining the effectiveness of recovery activities at the site. In addition, permeable sections of the surficial aquifer underlying the site will also be tested including the installation of at least one monitor well into the secondary artesian aquifer if it is present under the site. Proposed monitor-well locations are shown in Figure 6. The FDER will be notified concerning the date of well drilling and will be given the opportunity to observe the location and installation of wells pursuant to the consent order.

Geraghty & Miller, Inc.



EXPLANATION

- WELL POINT ASSEMBLY LOCATION
- ELECTRIC PUMP LOCATION
- AIR STRIPPING COLUMN LOCATION
- TW-6 ● MONITOR WELL LOCATION AND NUMBER
- B ◆ SURFACE WATER SAMPLING LOCATION
- ○ PROPOSED SURFICAL AQUIFER WELL
- ◆ PROPOSED SECONDARY ARTESIAN AQUIFER MONITOR WELL

Figure 6. Proposed Monitor-Well Locations.

In order to prevent the unintentional introduction of constituents from the surficial aquifer into deeper zones, the deeper monitor wells will be constructed with two strings of casing. An outer casing will penetrate to the top of the first clay lens, expected to be approximately 10 to 15 ft below land surface. Once the surface casing is in place, all drilling activities will be performed within it.

In order to determine the best location for installation of shallow monitor wells, it is proposed that PETREX collecting tubes be employed to detect the horizontal extent of the ground-water plume at MEC. A PETREX tube is a static trapping device for the contaminated soils and ground water. The device consists of a glass test tube which contains a ferromagnetic wire partially coated with a charcoal adsorbent.

The collectors are placed underground in a matrix pattern throughout the site for a period of 10 to 14 days. Upon retrieval of the collectors, they are sent to the laboratory for mass spectrometry analysis of the charcoal adsorbent for suspected volatile constituents. Plotting the analytical data on a site diagram indicates zones of soil contamination, or "hot spots," and may help to define the horizontal extent of ground-water contamination.

The collectors will be placed at 50- or 100-ft centers over and beyond the entire area of the MEC building. Higher concentrations (50-ft center) of collectors will be placed

over suspected contaminated areas to better define those zones, while a wider spacing (100-ft center) will be used beyond the suspected site borders in order to determine the areal extent of the plume boundaries.

If chemical analyses of the secondary artesian monitor well reveals potential ground-water contamination at that depth, additional wells will be installed into this aquifer system to define the areal extent of contamination, upon notice to the FDER as required in the consent order.

Aquifer Characteristics

In order to obtain hydrogeologic data at the MEC building, hydraulic conductivity tests will be performed on selected existing and newly constructed monitor wells. Specifically, slug tests will be performed to obtain the horizontal permeability of the surficial aquifer. In turn, the permeability test data will be used to more precisely define ground-water flow velocities.

Pump testing of the secondary artesian aquifer may also be conducted in order to determine characteristics of this aquifer system. These data will be utilized with other secondary artesian aquifer data collected around the MMOA site to evaluate the areal extent and continuity of this system underlying the facility.

Ground-Water Sampling

Sampling of the monitor wells (surficial, secondary artesian, and Floridan) will be done in accordance with the "Sampling and Analysis Plan" contained in Appendix A of "Quality Assurance Project Plan for Hydrogeologic Investigations at Martin Marietta Aerospace, Orlando, Florida," which was prepared by G&M and MMOA and submitted to the FDER as a separate document. Water-quality samples will be analyzed for volatile organics by EPA Methods 601, 602, and 624.

Surface-Water Sampling

In addition to sampling the ground water at the MEC building, two surface-water samples (A and B) will be collected from the drainage swale west of the site. The surface-water samples will be analyzed for volatile organics similar to that proposed for the monitor wells, and they will be collected at such time so as to obtain a sample representative of ground-water seepage into the swale.

The FDER will be notified concerning the dates of any water-quality sampling and will be given the opportunity to observe the sampling and to collect split samples pursuant to the consent order.

APPENDIX A

WATER-QUALITY DATA,
SURFACE WATER (A, B)
SHALLOW MONITOR WELLS (TW-6, 11, 12, 13, 14)
FLORIDAN AQUIFER MONITOR WELL (FL-1)

SURFACE-WATER STATIONS A, B

REPORT OF ANALYSIS

Orlando Laboratories, Inc.

P.O. Box 19127 • Orlando, Florida 32814 • 305/896-6645

TO:
Martin Marietta Orlando Aerospace
Attn: Ray Green
Post Office Box 5837. MP. 124
Orlando, Florida 32855

Report = 27631 (0068)
Sampled by: Client-(SE/DP)
Date Sampled: 11-23-82
Date Received: 11-24-82
Date Reported: 12-08-82
Page 2 of 2

IDENTIFICATION:
Drainage Canal, Sandlake Rd., Collected @ 11:30 am, Raw water.

RESULTS OF ANALYSIS:	"A" Drainage Canal
1,1-Dichloroethane	<0.001
Methylene Chloride	<0.001
Tetrachloroethylene	<0.001
Toluene	<0.001
1,2-Trans-Dichloroethylene	<0.001
1,1,1-Trichloroethane	<0.001
Trichloroethylene	0.002
Vinyl Chloride	<0.001
1,2-Dichloroethane	<0.001
1,1-Dichloroethylene	<0.001

RESULTS EXPRESSED IN mg/l UNLESS OTHERWISE DESIGNATED < = Less Than

Respectfully submitted,

Our Florida Department of Health & Rehabilitative Services Identification Number is 83141.

ORLANDO LABORATORIES, INC.

Michael R. Swan
Chemist/Biologist/Bacteriologist Chemist/Biologist/Bacteriologist Chemist/Biologist/Bacteriologist

METHODS: "Standard Methods for the Examination of Water and Wastewater," Latest Edition, APHA, AWWA and WPCF and/or other EPA approved methods unless otherwise designated.

REPORT OF ANALYSIS

Orlando Laboratories, Inc.

P.O. Box 19127 • Orlando, Florida 32814 • 305/896-6645

TO:
Martin Marietta Orlando Aerospace
Attn: Scott J. Evans
Post Office Box 5837. MP. 124
Orlando, Florida 32855

Report # 27337 (9699)
Sampled by: Client
Date Sampled:
Date Received: 07 October 1982
Date Reported: 01 November 1982

IDENTIFICATION: Sample No. 1- Surface Water

"B"

RESULTS OF ANALYSIS:	Sample No.1
1,1-Dichloroethane	<0.001
Methylene Chloride	<0.001
Tetrachloroethylene	<0.001
Toluene	<0.001
1,2-Trans-Dichloroethylene	<0.001
1,1,1-Trichloroethane	0.002
Trichloroethylene	<0.001
Vinyl Chloride	<0.001

NOTE: Sample No. 1 also contained 0.001 mg/l of 1,2-Dichloroethane.

RESULTS EXPRESSED IN mg/l UNLESS OTHERWISE DESIGNATED < = Less Than

Our Florida Department of Health & Rehabilitative Services Identification Number is 83141.

Respectfully submitted,

ORLANDO LABORATORIES, INC.

Michael R. Lewis

Chemist/Biologist/Bacterio | Chemist/Biologist/Bacteriologist | Chemist/Biologist/Bacteriologist

METHODS "Standard Metho[illegible] nation of Water and Wastewater," Latest Edition, APHA, AWWA and WPCF and [illegible] other EPA [illegible]ods unless otherwise designated.

MONITOR WELL TW-6

ORLANDO AEROSPACE WELLS

WELL TW-6	DATE: 05-Dec-81 LAB ID #: 818	DATE: 25-Oct-82 LAB ID #: LSE	DATE: 11-Jan-82 LAB ID #: 0L2	DATE: 07-Oct-82 LAB ID #: GL	DATE: 23-Nov-82 LAB ID #: OL	DATE: 22-Dec-82 LAB ID #: GL	DATE: 29-Jul-83 LAB ID #: MREC	DATE: 01-Dec-83 LAB ID #: MREC	DATE: 15-Dec-83 LAB ID #: MREC	DATE: 08-Apr-84 LAB ID #: MREC	DATE: 16-May-84 LAB ID #: MREC	DATE: 20-Jun-84 LAB ID #: MREC
COMPOUND	DATA1	DATA4	DATA2	DATA3	DATA5	DATA6	DATA7	DATA8	DATA9	DATA10	DATA11	DATA12
:VOLATILES (ug/L)												
acrolein		BDL	BDL	BDL								
acrylonitrile		BDL	BDL	BDL								
benzene		0.30	BDL				BDL	4.30		BDL	BDL	BDL
bromoform	.00	BDL	BDL					BDL	BDL	BDL	BDL	BDL
carbon tetrachloride		BDL	BDL				BDL	BDL	BDL	BDL	BDL	BDL
chlorobenzene		0.90	BDL				BDL	1.20	BDL	1.10	BDL	1.30
chlorodibromomethane	0.09	BDL	BDL				BDL	D	D	BDL	BDL	BDL
chloroethane		BDL	BDL				BDL					
2-chloroethylvinyl ether		BDL	BDL							47.00		BDL
chloroform	0.50	1.00	1.00				BDL	BDL	BDL	BDL	BDL	BDL
dichlorobromomethane	0.16	BDL	BDL			233.00	BDL	55.00	72.00	BDL	BDL	BDL
1,1-dichloroethane		14.00	120.00	BDL	BDL	BDL	30.00	28.00	52.00	23.00	40.00	7.50
1,2-dichloroethane		BDL	BDL	BDL	8360.00	9290.00	BDL	16.00	18.70	4.70	10.00	4.00
1,1-dichloroethylene		47.00	47.00		BDL		22.00	46.00	91.40	31.00	58.00	11.20
1,2-dichloropropane		BDL	BDL				BDL	D	10.70	BDL	BDL	BDL
cis-1,3-dichloropropylene							BDL	D	D	BDL	BDL	BDL
trans-1,3-dichloropropylene							BDL	D	BDL	BDL	BDL	BDL
ethylbenzene		31.00	6.00				11.00	26.00	79.00	118.00	120.00	22.50
methyl bromide		BDL	BDL									
methyl chloride		BDL	BDL									
methylene chloride		13.00	3900.00	BDL	BDL	635.00	BDL	BDL	108.00	160.00	185.00	28.80
1,1,2,2-tetrachloroethane		BDL	1.00				BDL	BDL	BDL	BDL	BDL	BDL
tetrachloroethylene		1400.00	1700.00	1720.00	1960.00	8750.00	653.00	760.00	11330.00	4775.00	56000.00	1430.00
toluene		29.00	40.00	BDL	BDL	BDL	50.00	52.00	299.00	111.00	124.00	23.40
1,2-trans-dichloroethylene		10000.00	2900.00	16000.00	10300.00	217.00	1480.00	9000.00	16350.00	BDL	BDL	BDL
1,1,1-trichloroethane		28.00	1200.00	426.00	68.00	18300.00	48.00	99.00	744.00	175.00	284.00	50.70
1,1,2-trichloroethane		BDL	72.00				BDL	BDL	D	BDL	BDL	BDL
trichloroethylene		6400.00	2300.00	9600.00	4530.00	23400.00	1580.00	7800.00	78900.00	21610.00	36660.00	4720.00
vinyl chloride		BDL	7.00	BDL	BDL	210.00						
:ACID EXTRACTABLES (ug/L)												
2-chlorophenol		BDL										
2,4-dichlorophenol		BDL										
2,4-dimethylphenol		BDL										
4,6-dinitro-o-cresol		BDL										
2,4-dinitrophenol		BDL										
4-nitrophenol		BDL										
p-chloro-m-cresol		BDL										
pentachlorophenol		BDL										
phenol		BDL										
2,4,6-trichlorophenol		BDL										
:BASE/NEUTRAL (ug/L)												
acenaphthene		BDL										
acenaphthylene		BDL										
anthracene		BDL										
benzidine		BDL										
benzo(a)anthracene		BDL										
benzo(a)pyrene		BDL										
3,4-benzofluoranthene		BDL										

heptachlor		BDL
heptachlor epoxide		BDL
PCB-1242		BDL
PCB-1254		BDL
PCB-1221		BDL
PCB-1232		BDL
PCB-1248		BDL
PCB-1260		BDL
PCB-1016		BDL
toxaphene		BDL
:METALS, CYANIDE & PHENOL (ug/L)		
antimony,total		
arsenic,total		BDL
beryllium,total		
cadmium,total		BDL
chromium,total		BDL
copper,total		BDL
lead,total		BDL
mercury,total		1.50
nickel,total		BDL
selenium,total		BDL
silver,total		BDL
thallium,total		
zinc,total		
cyanide,total		60.00
phenol,total		20.00
:NATIONAL INTERIM PRIMARY DRINKING		
:WATER STANDARD (ug/L)		
arsenic	BDL	
barium	140.00	
cadmium	BDL	
chromium	BDL	
fluoride	520.00	
lead	BDL	
mercury	1.50	
nitrate (as N)	BDL	
selenium	BDL	
silver	BDL	
endrin	BDL	
lindane	BDL	
methoxychlor	BDL	
toxaphene	BDL	
2,4-D	BDL	
2,4,5-TP silvex	BDL	
radium		
gross alpha	26.00	
gross beta	26.00	
turbidity (surface water supplies)		
coliform bacteria	BDL	
:GROUNDWATER QUALITY PARAMETERS (mg/L)		
chloride	30.00	
iron	5.67	
manganese	0.09	

benzo(ghi)perylene	BDL
benzo(k)fluoranthene	BDL
bis(2-chloroethoxy)methane	BDL
bis(2-chloroethyl)ether	BDL
bis(2-chloroisopropyl)ether	BDL
bis(2-ethylhexyl)phthalate	370.00
4-bromophenyl phenyl ether	BDL
butylbenzyl phthalate	BDL
2-chloronaphthalene	BDL
4-chlorophenyl phenyl ether	BDL
chrysene	BDL
dibenzo(a,h)anthracene	BDL
1,2-dichlorobenzene	53.00
1,3-dichlorobenzene	6.00
1,4 dichlorobenzene	BDL
3,3'-dichlorobenzidine	BDL
diethyl phthalate	BDL
dimethyl phthalate	BDL
di-n-butyl phthalate	BDL
2,4-dinitrotoluene	BDL
2,6-dinitrotoluene	BDL
di-n-octyl phthalate	BDL
1,2-diphenylhydrazine	BDL
fluoranthene	BDL
fluorene	BDL
hexachlorobenzene	BDL
hexachlorobutadiene	BDL
hexachlorocyclopentadiene	BDL
hexachloroethane	BDL
indeno(1,2,3-cd)pyrene	BDL
isophorone	BDL
naphthalene	BDL
nitrobenzene	BDL
N-nitrosodimethylamine	BDL
N-nitrosodi-n-propylamine	BDL
N-nitrosodiphenylamine	BDL
phenanthrene	BDL
pyrene	BDL
1,2,4-trichlorobenzene	BDL

:PESTICIDE EXTRACTABLES (ug/L)

aldrin	BDL
alpha-BHC	BDL
beta-BHC	BDL
gamma-BHC	BDL
delta-BHC	BDL
chlordane	BDL
4,4'-DDT	BDL
4,4'-DDE	BDL
4,4'-DDD	BDL
dieldrin	BDL
alpha-endosulfan	BDL
beta-endosulfan	BDL
endosulfan sulfate	BDL
endrin	BDL
endrin aldehyde	BDL

phenolic	0.02											
sodium	15.00											
sulfate	54.00											
:												
:INDICATOR PARAMETERS(replicate sample)												
pH	6.50											
* replicate 2												
* replicate 3												
* replicate 4												
average	6.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
standard deviation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
:												
cific cond. (umhos/cm)	990.00											
eplicate 2												
ate 3												
ate 4												
	990.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ard deviation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
al organic carbon (mg/L)	29.00											
* replicate 2												
* replicate 3												
* replicate 4												
average	29.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
standard deviation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
:												
total organic halogen (ug/L)												
* replicate 2												
* replicate 3												
* replicate 4												
average	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
standard deviation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
:												
:ADDITIONAL												
CIS-1,2-DICHLOROETHYLENE, ug/l												
2-NITROPHENOL, ug/l	BDL									2540.00	4800.00	1332.00

ORLANDO AEROSPACE WELLS

	DATE:
WELL TW-6	29-Oct-84
	LAB ID #:
COMPOUND	AWES
:VOLATILES (ug/L)	DATA:3
acrolein	
acrylonitrile	
benzene	
bromoform	BDL
carbon tetrachloride	BDL
chlorobenzene	BDL
chlorodibromomethane	48.00
chloroethane	BDL
2-chloroethylvinyl ether	
chloroform	3.00
dichlorobromomethane	BDL
1,1-dichloroethane	BDL
1,2-dichloroethane	6.10
1,1-dichloroethylene	4.01
1,2-dichloropropane	4.70
cis-1,3-dichloropropylene	BDL
trans-1,3-dichloropropylene	BDL
ethylbenzene	BDL
methyl bromide	18.10
methyl chloride	
methylene chloride	
1,1,2,2-tetrachloroethane	22.40
tetrachloroethylene	BDL
toluene	863.00
1,2-trans-dichloroethylene	53.20
1,1,1-trichloroethane	BDL
1,1,2-trichloroethane	28.90
trichloroethylene	BDL
vinyl chloride	4476.00
:ADDITIONAL	
CIS-1,2-DICHLOROETHYLENE, ug/l	
2-NITROPHENOL, ug/l	1290.00

MONITOR WELLS TW-11, TW-12, TW-13, TW-14

ORLANDO AEROSPACE WELLS

WELL TW-11

COMPOUND	DATE: 23-Nov-82 LAB ID #: OR DATA1	DATE: 22-Dec-82 LAB ID #: OR DATA2	DATE: 29-Jul-83 LAB ID #: MMEC DATA3	DATE: 31-Dec-83 LAB ID #: MMEC DATA4	DATE: 15-Dec-83 LAB ID #: MMEC DATA5	DATE: 08-Apr-84 LAB ID #: MMEC DATA6	DATE: 28-Jun-84 LAB ID #: MMEC DATA7
:VOLATILES (ug/L)							
acrolein							
acrylonitrile							
benzene			BDL	BDL	BDL	BDL	BDL
bromoform			BDL	BDL	BDL	BDL	BDL
:arbon tetrachloride			BDL	BDL	BDL	BDL	BDL
:hlorobenzene			BDL	BDL	BDL	BDL	BDL
:hlorodibromomethane			BDL	BDL	BDL	BDL	BDL
:hloroethane			BDL				
2-chloroethylvinyl ether						BDL	BDL
:hloroform			BDL	BDL	BDL	BDL	BDL
dichlorobromomethane			BDL	BDL	BDL	BDL	BDL
1,1-dichloroethane	BDL	BDL	BDL	BDL	14.30	BDL	BDL
2-dichloroethane	2340.00	12.00	BDL	BDL	BDL	BDL	BDL
-dichloroethylene	77.00	151.00	BDL	BDL	4.20	BDL	BDL
,2-dichloropropane	ND		BDL	D	BDL	BDL	BDL
is-1,3-dichloropropylene				BDL	BDL	BDL	BDL
rans-1,3-dichloropropylene			BDL	D	BDL	BDL	BDL
thylbenzene	ND		BDL	BDL	BDL	BDL	BDL
ethyl bromide	ND						
ethyl chloride	ND						
ethylene chloride	7.00	BDL	BDL	BDL	BDL	BDL	3.10
,1,2,2-tetrachloroethane	ND		BDL	BDL	BDL	BDL	BDL
etrachloroethylene	BDL	BDL	34.00	BDL	BDL	3.50	3.40
oluene	BDL	BDL	BDL	13.00	15.60	4.60	1.90
,2-trans-dichloroethylene	33.00	BDL	93.00	450.00	237.00		BDL
,1,1-trichloroethane	BDL	1610.00	BDL	BDL	BDL	2.50	1.70
,1,2-trichloroethane	ND		BDL	BDL	BDL	BDL	BDL
richloroethylene	51.00	106.00	145.00	290.00	151.00	150.00	81.30
inyl chloride	BDL	BDL					
ADDITIONAL							
IS-1,2-DICHLOROETHYLENE, ug/l						72.00	120.70
TRICHLOROFLUOROMETHANE, ug/l	BDL		BDL				

LANDS AEROSPACE WELLS	DATE:	DATE:	DATE:	DATE:	DATE:	DATE:	DATE:	DATE:
LL TW-12	23-Nov-82	22-Dec-82	29-Jul-83	01-Dec-93	15-Dec-93	03-Apr-94	28-Jun-94	27-Oct-94
	LAB ID #:	LAB ID #:	LAB ID #:	LAB ID #:	LAB ID #:	LAB ID #:	LAB ID #:	LAB ID #:
	OR	OR	MMEC	MMEC	MMEC	MMEC	MMEC	MMEC
POUND	DATA1	DATA2	DATA3	DATA4	DATA5	DATA6	DATA7	DATA8
LATILES (ug/L)								
rolein	ND							
ylonitrile	ND							
zene	ND		BDL	BDL	BDL	BDL	BDL	BDL
noform	ND		BDL	BDL	BDL	BDL	BDL	BDL
bon tetrachloride	ND		BDL	BDL	BDL	BDL	BDL	BDL
lorobenzene	ND		BDL	BDL	2.40	BDL	BDL	BDL
lorodibromomethane	ND		BDL	BDL	D	BDL	BDL	BDL
loroethane	ND		BDL					
chloroethylvinyl ether	ND					BDL	BDL	2.00
loroform	ND		BDL	58.00	BDL	BDL	BDL	BDL
chlorobromomethane	ND		BDL	BDL	BDL	BDL	BDL	BDL
-dichloroethane	6.00	BDL	28.00	13.00	30.60	9.20	26.90	18.00
-dichloroethane	19.00	164.00	BDL	BDL	BDL	BDL	BDL	BDL
-dichloroethylene	109.00	55.00	BDL	BDL	5.90	BDL	4.60	5.70
-dichloropropane	ND		BDL	D	BDL	BDL	BDL	BDL
1,3-dichloropropylene				BDL	D	BDL	BDL	BDL
s-1,3-dichloropropylene			BDL	D	BDL	BDL	BDL	BDL
ylbenzene	ND		BDL	BDL	BDL	BDL	0.50	0.80
hyl bromide	ND							
hyl chloride	ND							
hylene chloride	BDL	BDL	BDL	BDL	BDL	BDL	1.20	5.30
,2,2-tetrachloroethane	ND		BDL	BDL	BDL	BDL	BDL	BDL
rachloroethylene	1.00	BDL	25.00	BDL	11.50	23.10	92.80	428.00
uene	BDL	BDL	BDL	2.00	7.50	BDL	0.80	0.80
-trans-dichloroethylene	222.00	BDL	594.00	720.00	639.00		BDL	BDL
,1-trichloroethane	BDL	9.00	BDL	2.20	BDL	5.70	18.10	18.40
,2-trichloroethane	ND	31.00	BDL	BDL	D	BDL	BDL	BDL
chloroethylene	26.00		171.00	560.00	362.00	167.00	825.30	2880.00
yl chloride	BDL	BDL						
ITIONAL								
-1,2-DICHLOROETHYLENE, ug/l						110.00	720.80	520.00

ORLANDO AEROSPACE WELLS

WELL IW-13	DATE: 01-Dec-83 LAB ID #: NHEC DATA1	DATE: 15-Dec-83 LAB ID #: NHEC DATA2	DATE: 04-Apr-84 LAB ID #: NHEC DATA3	DATE: [illegible] LAB ID #: [illegible] DATA4	DATE: [illegible] LAB ID #: [illegible] DATA5
COMPOUND					
:VOLATILES (ug/L)					
acrolein					
acrylonitrile					
benzene					
bromoform	BDL	BDL	BDL	BDL	BDL
carbon tetrachloride	BDL	BDL	BDL	BDL	BDL
chlorobenzene	BDL	BDL	BDL	BDL	BDL
chlorodibromomethane	BDL	BDL	BDL	BDL	BDL
chloroethane	BDL	BDL	BDL	BDL	BDL
2-chloroethylvinyl ether					
chloroform					
[illegible]hlorobromomethane	25.00	BDL	BDL	BDL	BDL
[illegible]chloroethane	BDL	BDL	BDL	BDL	BDL
[illegible]ichloroethane	BDL	6.60	BDL	BDL	BDL
[illegible]ichloroethylene	BDL	BDL	BDL	1.10	BDL
[illegible] dichloropropane	BDL	2.10	BDL	BDL	BDL
[illegible]-1,3-dichloropropylene	D	BDL	BDL	1.30	BDL
trans-1,3-dichloropropylene	BDL	BDL	BDL	BDL	BDL
[illegible]thylbenzene	D	BDL	BDL	BDL	BDL
[illegible]ethyl bromide	BDL	BDL	BDL	BDL	BDL
methyl chloride				0.90	BDL
methylene chloride					
1,1,2,2-tetrachloroethane	BDL	BDL	BDL	142.00	0.60
tetrachloroethylene	BDL	BDL	BDL	BDL	BDL
toluene	BDL	BDL	BDL	39.50	1.10
1,2-trans-dichloroethylene	BDL	5.00	BDL	45.30	BDL
1,1,1-trichloroethane	101.00	78.00	BDL	BDL	BDL
1,1,2-trichloroethane	BDL	BDL	BDL	71.30	BDL
trichloroethylene	BDL	BDL	BDL	BDL	BDL
vinyl chloride	44.00	30.30	BDL	1140.00	1.50
:ADDITIONAL					
CIS-1,2-DICHLOROETHYLENE, ug/l				12.10	BDL

ORLANDO AEROSPACE WELLS

WELL TW-14

COMPOUND	DATE: 01-Dec-83 LAB ID #: MMEC DATA1	DATE: 13-Dec-83 LAB ID #: MMEC DATA2	DATE: 08-Apr-84 LAB ID #: MMEC DATA3
:VOLATILES (ug/L)			
acrolein			
acrylonitrile			
benzene	BDL	BDL	BDL
bromoform	BDL	BDL	BDL
carbon tetrachloride	BDL	BDL	BDL
chlorobenzene	BDL	BDL	BDL
chlorodibromomethane	BDL	D	BDL
chloroethane			
2-chloroethylvinyl ether			
chloroform	28.00	BDL	BDL
dichlorobromomethane	BDL	BDL	BDL
1,1-dichloroethane	BDL	30.60	BDL
1,2-dichloroethane	BDL	2.90	BDL
1,1-dichloroethylene	BDL	15.90	BDL
' 2-dichloropropane	D	BDL	BDL
-1,3-dichloropropylene	BDL	D	BDL
s-1,3-dichloropropylene	D	BDL	BDL
ylbenzene	BDL	BDL	BDL
thyl bromide			
ethyl chloride			
methylene chloride	BDL	BDL	BDL
1,1,2,2-tetrachloroethane	BDL	BDL	BDL
tetrachloroethylene	BDL	BDL	BDL
toluene	BDL	16.00	BDL
1,2-trans-dichloroethylene	118.00	195.00	BDL
1,1,1-trichloroethane	BDL	BDL	BDL
1,1,2-trichloroethane	BDL	D	BDL
trichloroethylene	53.00	66.70	BDL
vinyl chloride			

MONITOR WELL FL-1

DEEP WELLS	DATE:	DATE:	DATE:	DATE:	DATE:
	19-Jan-84	29-Feb-84	29-Feb-84	05-Jul-84	05-Jul-84
WELL FL 1	LAB ID #:	LAB ID #:	LAB ID #:	LAB ID #:	LAB ID #:
	FCL	MCC	MMEC	MMES	BLANK-MM
COMPOUND	DATA1	DATA2	DATA3	DATA4	DATA5
:VOLATILES (ug/L)					
acrolein		BDL			
acrylonitrile		BDL			
benzene		BDL	BDL	BDL	BDL
bromoform	BDL	BDL	BDL	BDL	BDL
carbon tetrachloride	BDL	BDL	BDL	BDL	BDL
chlorobenzene	BDL	BDL	BDL	0.20	BDL
chlorodibromomethane	BDL	BDL	BDL	BDL	BDL
chloroethane	BDL	BDL			
2-chloroethylvinyl ether	BDL	BDL	BDL	BDL	BDL
chloroform	BDL	BDL	BDL	BDL	BDL
dichlorobromomethane	BDL	BDL	BDL	BDL	BDL
1,1-dichloroethane	BDL	BDL	BDL	BDL	BDL
1,2-dichloroethane	BDL	BDL	BDL	0.50	BDL
1,1-dichloroethylene	BDL	BDL	BDL	BDL	BDL
1,2-dichloropropane	BDL	BDL	BDL	BDL	BDL
cis-1,3-dichloropropylene	BDL	BDL	BDL	BDL	BDL
trans-1,3-dichloropropylene	BDL	BDL	BDL	BDL	BDL
ethylbenzene		BDL	BDL	BDL	BDL
methyl bromide					
methyl chloride					
methylene chloride	BDL	BDL	BDL	3.20	BDL
1,1,2,2-tetrachloroethane	BDL	BDL	BDL	BDL	BDL
tetrachloroethylene	BDL		BDL	BDL	BDL
toluene		BDL	BDL	0.20	0.20
1,2-trans-dichloroethylene	BDL	BDL	BDL	BDL	BDL
1,1,1-trichloroethane	BDL	BDL	BDL	BDL	BDL
1,1,2-trichloroethane	BDL	BDL	BDL	BDL	BDL
trichloroethylene	BDL	BDL	BDL	BDL	0.60
vinyl chloride	BDL	BDL			
:					
:ACID EXTRACTABLES (ug/L)					
2-chlorophenol		BDL			
2,4-dichlorophenol		BDL			
2,4-dimethylphenol		BDL			
4,6-dinitro-o-cresol		BDL			
2,4-dinitrophenol		BDL			
4-nitrophenol		BDL			
p-chloro-m-cresol		BDL			
pentachlorophenol		BDL			
phenol		BDL			
2,4,6-trichlorophenol		BDL			
:					
:BASE/NEUTRAL (ug/L)					
acenaphthene		BDL			
acenaphthylene		BDL			
anthracene		BDL			
benzidine		BDL			
benzo(a)anthracene		BDL			
benzo(a)pyrene		BDL			
3,4-benzofluoranthene					

benzo(ghi)perylene		BDL
benzo(k)fluoranthene		BDL
bis(2-chloroethoxy)methane		BDL
bis(2-chloroethyl)ether		BDL
bis(2-chloroisopropyl)ether		BDL
bis(2-ethylhexyl)phthalate		BDL
4-bromophenyl phenyl ether		BDL
butylbenzyl phthalate		BDL
2-chloronaphthalene		BDL
4-chlorophenyl phenyl ether		BDL
chrysene		BDL
dibenzo(a,h)anthracene		BDL
1,2-dichlorobenzene		BDL
1,3-dichlorobenzene	BDL	BDL
1,4-dichlorobenzene	BDL	BDL
3,3'-dichlorobenzidine	BDL	BDL
diethyl phthalate		BDL
dimethyl phthalate		BDL
di-n-butyl phthalate		BDL
2,4-dinitrotoluene		BDL
2,6-dinitrotoluene		BDL
di-n-octyl phthalate		BDL
1,2-diphenylhydrazine		BDL
fluroranthene		BDL
fluorene		BDL
hexachlorobenzene		BDL
hexachlorobutadiene		BDL
hexachlorocyclopentadiene		BDL
hexachloroethane		BDL
indeno(1,2,3-cd)pyrene		BDL
isophorone		BDL
napthalene		BDL
nitrobenzene		BDL
N-nitrosodimethylamine		BDL
N-nitrosodi-n-propylamine		BDL
N-nitrosodiphenylamine		BDL
phenanthrene		BDL
pyrene		BDL
1,2,4-trichlorobenzene		BDL
		BDL
:PESTICIDE EXTRACTABLES (ug/L)		
aldrin		BDL
alpha-BHC		BDL
beta-BHC		BDL
gamma-BHC		BDL
delta-BHC		BDL
chlordane		BDL
4,4'-DDT		BDL
4,4'-DDE		BDL
4,4'-DDD		BDL
dieldrin		BDL
alpha-endosulfan		BDL
beta-endosulfan		BDL
endosulfan sulfate		BDL
endrin		BDL
endrin aldehyde		BDL

heptachlor		BDL	
heptachlor epoxide		BDL	
PCB-1242		BDL	
PCB-1254		BDL	
PCB-1221		BDL	
PCB-1232		BDL	
PCB-1248		BDL	
PCB-1260		BDL	
PCB-1016		BDL	
toxaphene		BDL	
:METALS, CYANIDE & PHENOL (ug/L)			
antimony,total		BDL	
arsenic,total		BDL	
beryllium,total		BDL	
cadmium,total		BDL	
chromium,total		BDL	
copper,total		BDL	
lead,total		BDL	
mercury,total		BDL	
nickel,total		BDL	
selenium,total		BDL	
silver,total		BDL	
thallium,total		BDL	
zinc,total		BDL	
cyanide,total		BDL	
phenol,total		BDL	
:NATIONAL INTERIM PRIMARY DRINKING			
:WATER STANDARD (ug/L)			
arsenic		BDL	
barium			
cadmium		BDL	
chromium		BDL	
fluoride			
lead		BDL	
mercury		BDL	
nitrate (as N)			
selenium		BDL	
silver		BDL	
endrin		BDL	
phenols		BDL	
:ADDITIONAL			
CIS-1,2-DICHLOROETHYLENE, ug/l			BDL
CHLOROMETHANE, ug/l	BDL	BDL	
BROMOMETHANE, ug/l	BDL	BDL	
TRICHLOROFLUOROMETHANE, ug/l	BDL	BDL	
1,1,2,2-TETRACHLOROETHYLENE, ug/l		BDL	
2-NITROPHENOL, ug/l		BDL	
BENZO(B)FLUORANTHENE, ug/l		BDL	

POST, BUCKLEY, SCHUH & JERNIGAN, INC.

PBSJ LABORATORY REPORT

LAB # 85-07-089

RECEIVED: 07/18/85

Results by Sample

Continued From Above

SAMPLE ID FL-1

FRACTION 01A TEST CODE GC 601 NAME EPA Method 601/GC

Date & Time Collected 07/16/85 Category

NOTES AND DEFINITIONS FOR THIS REPORT.

All results reported in UG/L unless otherwise specified.

ND = not detected at EPA detection limit method 601, (EPA-600/4-82-057 07/82).

RECEIVED: 07/18/85

PBSJ LABORATORY REPORT

LAB # 85-07-089

Results by Sample

SAMPLE ID FL-1

FRACTION 01A TEST CODE GC 601 NAME EPA Method 601/GC

Date & Time Collected 07/16/85 Category

DATA FILE 8507089 01 DATE INJECTED 07/18/85 ANALYST TDF VERIFIED BY CLB

CONC. FACTOR INSTRUMENT COMPOUNDS DETECTED 29

COMPOUND	RESULT
Chloromethane	<1
Bromomethane	<1
Vinyl Chloride	<1
Chloroethane	<1
Methylene Chloride	<1
Trichlorofluoromethane	<1
1,1-Dichloroethene	<1
1,1-Dichloroethane	<1
trans-1,2-Dichloroethene	<1
Chloroform	<1
1,2-Dichloroethane	<1
1,1,1-Trichloroethane	<1
Carbon Tetrachloride	<1
Bromodichloromethane	<1
1,2-Dichloropropane	<1
trans-1,3-Dichloropropene	<1

COMPOUND	RESULT
Trichloroethene	<1
Dibromochloromethane	<1
1,1,2-Trichloroethane	<1
cis-1,3-Dichloropropene	<1
2-Chloroethylvinyl Ether	<1
Bromoform	<1
1,1,2,2-Tetrachloroethane	<1
Tetrachloroethylene	<1
Chlorobenzene	<1
1,3-Dichlorobenzene	<1
1,2-Dichlorobenzene	<1
1,4-Dichlorobenzene	<1
Dichlorofluoromethane	<1

PBSJ

PBSJ LABORATORY REPORT

LAB # 85-07-089

RECEIVED: 07/18/85

Results by Sample

SAMPLE ID FL-1 FRACTION 01A TEST CODE GC 602 NAME EPA Method 602/GC

Date & Time Collected 07/16/85 Category

DATA FILE 8507089 01 DATE INJECTED 07/18/85 ANALYST TDF VERIFIED BY CLB

CONC. FACTOR INSTRUMENT COMPOUNDS DETECTED 6

COMPOUND	RESULT	COMPOUND	RESULT
Benzene	<1	1,3-Dichlorobenzene	<1
Toluene	<1	1,2-Dichlorobenzene	<1
Ethyl Benzene	<1	1,4-Dichlorobenzene	<1

NOTES AND DEFINITIONS FOR THIS REPORT.

All results reported in UG/L unless otherwise specified.

ND = not detected at EPA detection limit method 602, (EPA-600/4-82-057 07/82).

APPENDIX B

LITHOLOGIC LOGS
- Monitor Wells
- Interceptor/Recovery Wells
- Floridan Aquifer Monitor Well (FL-1)

LITHOLOGIC LOG OF MONITOR WELL TW-6

Description	Depth (ft)	Thickness (ft)
Sand, silty, fine, dark brown, mixed with organics, sand to gravel-size pieces of limestone found throughout sample; fill material.....	0 - 9.5	9.5
Sand, clayey, fine, light gray with stringers of sandy clay and some organics.	9.5 - 22	12.5

LITHOLOGIC LOG OF MONITOR WELL 11

Description	Depth (ft)	Thickness (ft)
Sand, silty, fine, dark brown to orange, with roots and limestone.....	0 - 4	4
Sand, silty, fine, gray to brown, loose...	4 - 6	2
Sand, slightly silty, fine, light brown, loose.....	6 - 8	2
Sand, slightly clayey, fine, brown, cohesive.....	8 - 12.5	4.5
Sand, clayey, fine, light brown, firm.....	12.5 - 13.5	1
Sand, slightly clayey, fine, light brown, cohesive.....	13.5 - 14	0.5

LITHOLOGIC LOG OF MONITOR WELL 12

Description	Depth (ft)	Thickness (ft)
Sand, clayey, fine, with limestone; fill material.....	0 - 1	1
Sand, silty, fine, dark brown, loose.....	1 - 4	3
Sand, slightly silty, fine, white to tan, loose.....	4 - 5.8	1.8
Sand, slightly clayey, fine, dark brown, loose.....	5.8 - 6.0	0.2

Description	Depth (ft)	Thickness (ft)
Sample missing.....	6 - 12	6
Sand, slightly clayey, fine, dark brown, loose.....	12 - 13	1
Sand, fine, white, loose.....	13 - 14.5	1.5
Sand, slightly clayey, fine, brown, loose.	14.5 - 15.5	1
Sand, clayey, fine, brown, firm.....	15.5 - 16.0	0.5

LITHOLOGIC LOG OF MONITOR WELL 13

Description	Depth (ft)	Thickness (ft)
Sand, silty, fine, dark brown, with roots to 1 ft.....	0 - 3.5	3.5
Limestone, clayey, soft, crumbly.....	3.5 - 3.8	0.3
Sand, silty, fine, dark brown, loose.....	3.8 - 6.0	2.2
Sand, fine, white to gray, loose.....	6 - 8	2
Sand, silty, fine, light brown, loose.....	8 - 12	4
Sand, slightly clayey to clayey, fine, brown; clay increases below 13 ft.....	12 - 15	3

LITHOLOGIC LOG OF MONITOR WELL 14

Description	Depth (ft)	Thickness (ft)
Sand, silty, fine, brown with roots.....	0 - 1	1
Sand, silty, fine, brown to gray, loose...	1 - 3	2
Limestone, clayey, soft, crumbly; some shells.....	3 - 3.5	0.5
Sand, silty, fine, brown to gray, loose...	3.5 - 4.5	1

Description	Depth (ft)	Thickness (ft)
Sand, slightly silty, fine, white, loose..	4.5 - 6	1.5
Sand, silty, fine, brown, loose.....	6 - 12	6
Sand, fine, white, loose.....	12 - 12.5	0.5
Sand, clayey, fine, brown, firm.....	12.5 - 15	2.5

LITHOLOGIC LOG OF RECOVERY WELL 1

Description	Depth (ft)	Thickness (ft)
Fill material.....	0 - 1	1
Sand, silty, fine grained, dark gray to black.....	1 - 3	2
Sand, fine grained, white to gray.....	3 - 5	2
Sand, slightly silty, fine grained, brown to gray; some thin lenses of organics.....	5 - 10	5
Sand, clayey, fine grained, gray to brown; clay lenses (blue-green and slightly sandy)	10 - 17.5	7.5
Clay, slightly sandy, gray to grey-green to gold; sand lenses from 22.5 ft to 35 ft.....	17.5 - 35	17.5

LITHOLOGIC LOG OF RECOVERY WELL 11

Description	Depth (ft)	Thickness (ft)
Fill - limerock and blacktop.....	0 - 2.5	2.5
Sand, fine grained, gray to brown.....	2.5 - 5	2.5
No recovery.....	5 - 7.5	2.5
Sand, slightly silty, fine grained, gray to brown.....	7.5 - 12.5	5
Clay, slightly sand, gray to gray-green...	12.5 - 17.5	5

Description	Depth (ft)	Thickness (ft)
No sample.....	17.5 - 20	2.5
Shelby-tube sample.....	20 - 22.5	2.5
Sand, silty, fine grained, gray to gray-green to brown; clay lenses.....	22.5 - 27.5	5
Clay, slightly sandy, gray to gray-green..	27.5 - 30	2.5
Shelby-tube sample.....	30 - 32.5	2.5
Clay, slightly sand, gray to gray-green...	32.5 - 34.5	2
Sand, clayey, fine grained, gray.....	34.5 - 35	0.5

LITHOLOGIC LOG OF RECOVERY WELL 18

Description	Depth (ft)	Thickness (ft)
Top soil, sandy, black to brown.....	0 - 0.5	0.5
Sand, fine grained, dark brown to brown...	0.5 - 5	4.5
Sand, slightly silty, fine grained, brown to gray.....	5 - 12	7
Clay, slightly sandy, gray to gray-green..	12 - 15	3
Clay, sandy, gray to gray-green.....	15 - 17.5	2.5
Sand, clayey, fine-grained, gray to gray-green; some thin clay lenses.....	17.5 - 25	7.5
Clay, slightly sandy, gray to gray-green..	25 - 35	10

LITHOLOGIC LOG OF RECOVERY WELL 31

Description	Depth (ft)	Thickness (ft)
Fill - soil and gravel.....	0 - 3.5	3.5
Sand, fine grained, dark to light brown...	3.5 - 10	6.5
Shelby-tube sample.....	10 - 12.5	2.5

Description	Depth (ft)	Thickness (ft)
Sand, fine grained, brown to gray.....	12.5 - 13.5	1
Sand, slightly silty, fine grained, brown to gray.....	13.5 - 20	6.5
Shelby-tube sample.....	20 - 22.5	2.5
Clay, slightly sand, gray to gray-green; some small sand lenses.....	22.5 - 35	12.5

LITHOLOGIC LOG OF MONITOR WELL FL-1

Description	Depth (ft)	Thickness (ft)
Sand, silty, fine, brown to gray.....	0 - 16	16
Sand, clayey, fine, gray, with lenses of greenish-gray, sandy clay.....	16 - 28	12
Clay, sandy, greenish-gray, with lenses of green clay.....	28 - 51	22
Clay, sandy (medium grained), dark green..	51 - 65	14
Clay, slightly sandy, dark green, with lenses of brown clay and shell.....	65 - 78	13
Sand, clayey, medium to coarse grained, phosphatic, with lenses of green, sandy clay and shell.....	78 - 86	8
Clay, sandy, green, phosphatic, with shell	86 - 94	8
Clay, sandy, cream, phosphatic, with shell; lenses of green sandy clay and pieces of white limestone.....	94 - 101	7
Clay, sandy, cream, calcareous, phosphatic with shell.....	101 - 113	12
Limestone, clayey, cream, soft, phosphatic with lenses of marl.....	113 - 116	3
Clay, slightly sandy, cream to green, phosphatic with shell.....	116 - 124	8
Limestone, fine grained, brown to gray, hard, phosphatic.....	124 - 138	14
Limestone, sandy, light brown,, medium hard.....	138 - 145	7

APPENDIX C

PERMEABILITY TEST DATA
INTERCEPTOR/RECOVERY WELLS (RW-11, 31)
FLORIDAN AQUIFER MONITOR WELL (FL-1)

AMERICAN TESTING LABORATORIES, INC.

CONSULTANT GEOTECHNICAL ENGINEERING

Report No: 84-L718

Date: April 10, 1984

FALLING HEAD PERMEABILITY TEST

Client: Geraghty & Miller, Inc.
P.O. Box 271173
Tampa, Flroida 33688

Project: Martin Marietta

Date Performed: 3-26-84

Area of Permeameter: 0.012 sq.ft.

Area of Stand Pipe: 8.4×10^{-4}

$$K = \left(\frac{a\,L}{A(t_2-t_1)}\right) \text{Ln} \frac{h_1}{h_2}$$

Density: 84.6 lb/ft^3

Tech: BK

Test No.	Sample No.	Sample Description	Sample Length (Feet)	h_1 (cm)	h_2 (cm)	Elapsed Flow Time (Minutes)	Coefficient of Permeability (Ft./Min.)
1	RW-11 30'-32.5'	Light Gray Clay	0.17	81.3	80.4	6853	1.9×10^{-8}

Dist: 2 Client

Ralph Brown
P. Ralph Brown, P.E.

AMERICAN TESTING LABORATORIES, INC.

CONSULTANT GEOTECHNICAL ENGINEERING

Report No: 84-L719

Date: April 10, 1984

FALLING HEAD PERMEABILITY TEST

Client: Geraghty & Miller, Inc.
P.O. Box 271173
Tampa, Florida 33688

Project: Martin Marietta

Date Performed: 3-28-84

Area of Permeameter: 0.012 sq.ft.

Area of Stand Pipe: 1.0×10^{-3}

$$K = \left(\frac{a\,L}{A(t_2-t_1)}\right) \text{Ln} \frac{h_1}{h_2}$$

Density: 90.1 lb/ft^3

Tech: BK

Test No.	Sample No.	Sample Description	Sample Length (Feet)	h_1 (cm)	h_2 (cm)	Elapsed Flow Time (Minutes)	Coefficient of Permeability (Ft. Min.)
2	RW-11 20'-22.5'	Gray Clayey Fine Sand	0.23	85.1	80.1	3195	3.8×10^{-7}

Dist: 2 Client

Ralph Brown
P. Ralph Brown, P.E.

AMERICAN TESTING LABORATORIES, INC.

CONSULTANT GEOTECHNICAL ENGINEERING

Report No: 84-L720

Date: April 10, 1984

FALLING HEAD PERMEABILITY TEST

Client: Geraghty & Miller, Inc.
P.O. Box 271173
Tampa, Florida 33688

Project: Martin Marietta

Date Performed: 3-26-84

Area of Permeameter: 0.012 sq.ft.

Area of Stand Pipe: 9.9×10^{-4}

$$K = \left(\frac{a\,L}{A(t_2-t_1)}\right) \text{Ln} \frac{h_1}{h_2}$$

Density: 124.8 lb/ft^3

Tech: BK

Test No.	Sample No.	Sample Description	Sample Length (Feet)	h_1 (cm)	h_2 (cm)	Elapsed Flow Time (Minutes)	Coefficient of Permeability (Ft./Min.)
3	PR 31	Gray-Brown Silty Fine Sand	0.15	79.6	75.8	1054	5.8×10^{-7}

Dist: 2 Client

Ralph Brown

P. Ralph Brown, P.E.

AMERICAN TESTING LABORATORIES, INC.

CONSULTANT GEOTECHNICAL ENGINEERING

Report No: 84-L721

Date: April 10, 1984

FALLING HEAD PERMEABILITY TEST

Client: Geraghty & Miller, Inc.
P.O. Box 271173
Tampa, Florida 33688

Project: Martin Marietta

Date Performed: 3-28-84

Area of Permeameter: 0.012 sq.ft.

Area of Stand Pipe: 1.1×10^{-3} sq.ft.

$$K = \left(\frac{a\,L}{A(t_2-t_1)}\right) \text{Ln} \frac{h_1}{h_2}$$

Density: 108.9 lb/ft^3

Tech: BK

Test No.	Sample No.	Sample Description	Sample Length (Feet)	h_1 (cm)	h_2 (cm)	Elapsed Flow Time (Minutes)	Coefficient of Permeability (Ft./Min.)
4	RW-31 20'-22.5'	Brown Moderately Silty Fine Sand	0.14	80.0	68.1	435	4.8×10^{-6}

Dist: 2 Client

Ralph Brown

P. Ralph Brown, P.E.

PTL – TAMPA

S. C. KNAUSS, P.E.
Manager

Pittsburgh Testing Laboratory

Feb. 20, 1984

PTL Ref: TAM-750

Geraghty & Miller
13902 N. Dale Mabry
Tampa, Fla. 33618

Attn: Fred Seguiti

Ref: Permeability Test (Floridan Aquifer Monitor Well FL-1)
Sample No. 4870R4 50' - 53'
Sample No. 4870R4 83' - 86'

Dear Mr. Seguiti:

As your requested, we performed the permeability tests on the above undisturbed samples you provided. The results are as follows:

Depth	Description	K(cm/sec.)
50 - 53'	Dark gray-green sandy clay	8.80×10^{-7}
83 - 86'	Dark gray-green sandy clay	1.27×10^{-5}

Pittsburgh Testing Laboratory has appreciated this opportunity to have been of service to you on this project. If we can be of further service to you on this project or any other project, please contact us at your convenience.

Respectfully submitted,

PITTSBURGH TESTING LABORATORY

Joseph A. Eduardo

Joseph A. Eduardo, P.E.
Fla. Reg. # 33318
Project Engineer

David T. Nam, E.I.
Staff Engineer

DTN/JAE/lt

Encl.

J.E.
02-22 84

512 N. DELAWARE AVENUE • TAMPA FLORIDA 33606 • (813) 253-3485
SERVING WORLDWIDE THROUGH FIFTY FACILITIES

MARTIN MARIETTA AEROSPACE

ORLANDO DIVISION
POST OFFICE BOX 5837
ORLANDO, FLORIDA 32855

29 May 1981
81-05-118

U.S. EPA Region Region 4
Sites Notification
Atlanta, Georgia 30308

Gentlemen:

Enclosed is the completed EPA Form 8900-1, Notification of Hazardous Waste Site. This identifies the Former Sludge Disposal Areas at the Orlando Facility that were abandoned prior to the start of the existing Landfill Operation.

Sincerely,

MARTIN MARIETTA AEROSPACE

R. F. Green

Raymond F. Green
Staff Engineer

lm

EPA Notification of Hazardous Waste Site

R

United States
Environmental Protection
Agency
Washington DC 20460

This initial notification information is required by Section 103(c) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 and must be mailed by June 9, 1981.

Please type or print in ink. If you need additional space, use separate sheets of paper. Indicate the letter of the item which applies.

810608

FLS 000 001 011

A Person Required to Notify:

Enter the name and address of the person or organization required to notify.

Name: Martin Marietta Aerospace, Orlando Division
Street: P.O. Box 5837
City: Orlando State: Fl. Zip Code: 32855

B Site Location:

Enter the common name (if known) and actual location of the site.

Name of Site: Martin Marietta Aerospace
Street: Sand Lake Road
City: Orlando County: Orange State: Fl. Zip Code: 32855

FL D060240207

C Person to Contact:

Enter the name, title (if applicable), and business telephone number of the person to contact regarding information submitted on this form.

Name (Last, First and Title): Green, Raymond F. Staff Engineer
Phone: (305) 352-2094

D Dates of Waste Handling:

Enter the years that you estimate waste treatment, storage, or disposal began and ended at the site.

From (Year): 1958 To (Year): 1973

E Waste Type: Choose the option you prefer to complete

Option 1: Select general waste types and source categories. If you do not know the general waste types or sources, you are encouraged to describe the site in Item I—Description of Site.

General Type of Waste:
Place an X in the appropriate boxes. The categories listed overlap. Check each applicable category.

1. ☐ Organics
2. ☐ Inorganics
3. ☐ Solvents
4. ☐ Pesticides
5. ☐ Heavy metals
6. ☐ Acids
7. ☐ Bases
8. ☐ PCBs
9. ☐ Mixed Municipal Waste
10. ☐ Unknown
11. ☐ Other (Specify)

Source of Waste:
Place an X in the appropriate boxes.

1. ☐ Mining
2. ☐ Construction
3. ☐ Textiles
4. ☐ Fertilizer
5. ☐ Paper/Printing
6. ☐ Leather Tanning
7. ☐ Iron/Steel Foundry
8. ☐ Chemical, General
9. ☐ Plating/Polishing
10. ☐ Military/Ammunition
11. ☐ Electrical Conductors
12. ☐ Transformers
13. ☐ Utility Companies
14. ☐ Sanitary/Refuse
15. ☐ Photofinish
16. ☐ Lab/Hospital
17. ☐ Unknown
18. ☐ Other (Specify)

Option 2: This option is available to persons familiar with the Resource Conservation and Recovery Act (RCRA) Section 3001 regulations (40 CFR Part 261).

Specific Type of Waste:
EPA has assigned a four-digit number to each hazardous waste listed in the regulations under Section 3001 of RCRA. Enter the appropriate four-digit number in the boxes provided. A copy of the list of hazardous wastes and codes can be obtained by contacting the EPA Region serving the State in which the site is located.

F006

RECEIVED
EPA/REGION IV
JUN 5 12 58 PM '81
ENFORCEMENT
DIVISION

0 0 2 1 3

Form Approved
OMB No. 2000-0138

F Waste Quantity:

Place an X in the appropriate boxes to indicate the facility types found at the site.

In the "total facility waste amount" space give the estimated combined quantity (volume) of hazardous wastes at the site using cubic feet or gallons.

In the "total facility area" space, give the estimated area size which the facilities occupy using square feet or acres.

Facility Type

1. ☐ Piles
2. ☐ Land Treatment
3. ☒ Landfill
4. ☐ Tanks
5. ☐ Impoundment
6. ☐ Underground Injection
7. ☐ Drums, Above Ground
8. ☐ Drums, Below Ground
9. ☐ Other (Specify) _____

Total Facility Waste Amount

cubic feet 8,700 solids

gallons

Total Facility Area

square feet

acres ~~1.~~ A

G Known, Suspected or Likely Releases to the Environment:

Place an X in the appropriate boxes to indicate any known, suspected, or likely releases of wastes to the environment.

☐ Known ☐ Suspected ☐ Likely ☒ None

Note: Items H and I are optional. Completing these items will assist EPA and State and local governments in locating and assessing hazardous waste sites. Although completing the items is not required, you are encouraged to do so.

H Sketch Map of Site Location: (Optional)

Sketch a map showing streets, highways, routes or other prominent landmarks near the site. Place an X on the map to indicate the site location. Draw an arrow showing the direction north. You may substitute a publishing map showing the site location.

See attached vacinity map for general location of the Martin Marietta Aerospace Plant and the location sketches for the disposal areas.

I Description of Site: (Optional)

Describe the history and present conditions of the site. Give directions to the site and describe any nearby wells, springs, lakes, or housing. Include such information as how waste was disposed and where the waste came from. Provide any other information or comments which may help describe the site conditions.

Site was used to dispose of the sludge from the plant's waste treatment facilities for treating the spent electroplating solutions. Sludge is segregated from the other forms of solid waste and disposed of in seperate pits at the various locations. At location 4, a few years after the site was abandoned, a drainage canal and a storm water retention basin were excavated in the immediate area of the abandoned pits.

J Signature and Title:

The person or authorized representative (such as plant managers, superintendents, trustees or attorneys) of persons required to notify must sign the form and provide a mailing address (if different than address in item A). For other persons providing notification, the signature is optional. Check the boxes which best describe the relationship to the site of the person required to notify. If you are not required to notify check "Other".

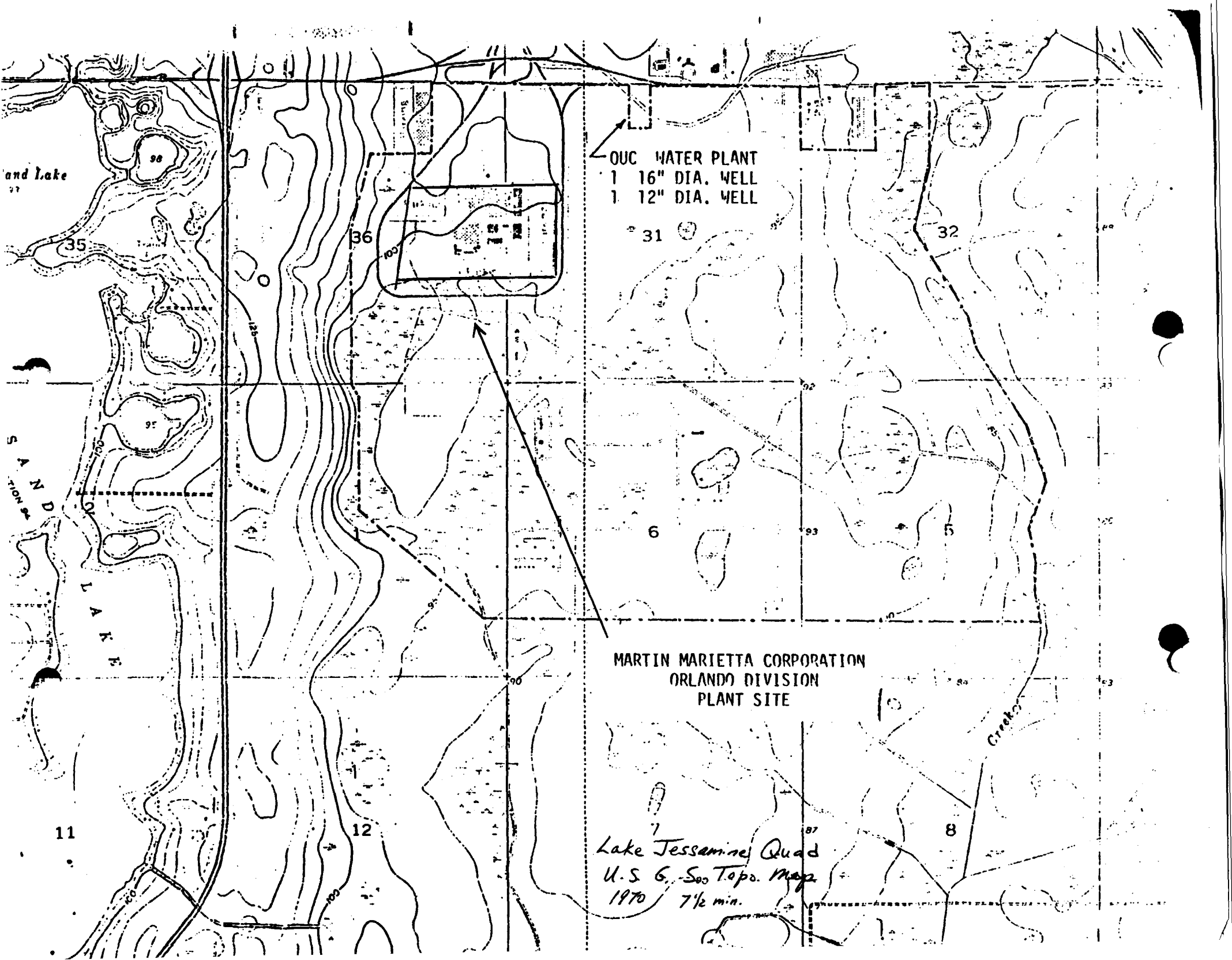
Name Michael P. Goeb, Director Facilities

Street P.O. Box 5837

City Orlando State Fla Zip Code 32855

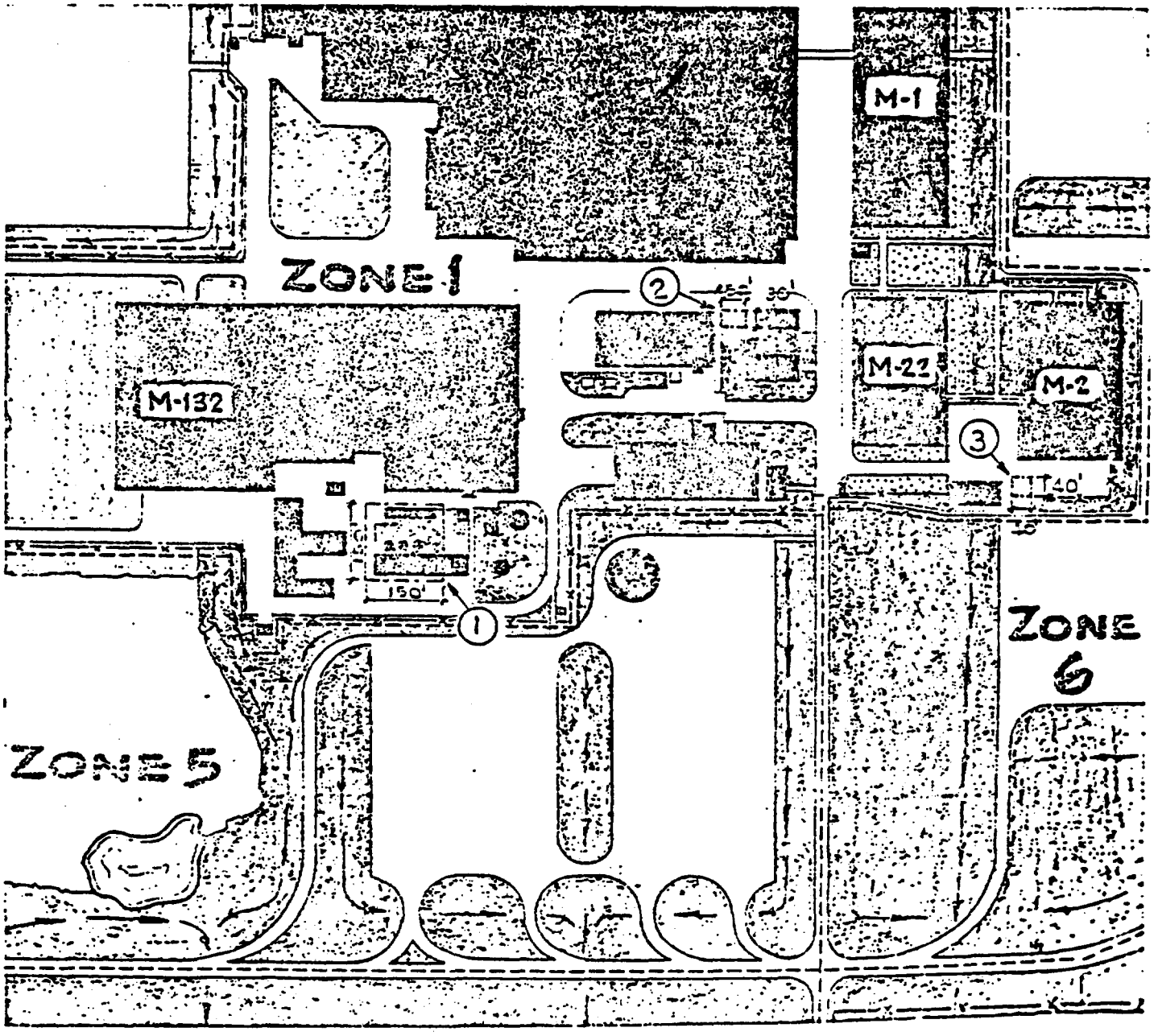
Signature Michael P. Goeb Date 5/29/81

☒ Owner, Present
☒ Owner, Past
☐ Transporter
☒ Operator, Present
☒ Operator, Past
☐ Other



OUC WATER PLANT
1 16" DIA. WELL
1 12" DIA. WELL
MARTIN MARIETTA CORPORATION
ORLANDO DIVISION
PLANT SITE
Lake Jessamine Quad
U.S. G. S. Topo. Map
1970 7½ min.
and Lake
SAND LAKE
Creek
35
36
31
32
6
5
11
12
7
8

V. FACILITY DRAWING (see page 4)



1. WASTE TREATMENT PLANT
2. ASBESTOS WASTE STORAGE
3. MEC BLDG. WASTE STORAGE

MARTIN MARIETTA CORPORATION

SCALE 1" = 300 FT. OCT. 7, 1980

REFERENCES

1. Florida Department of Environment Regulation, 3012 Folder, 2600 Blairstone Road, Tallahassee, Florida. To be used for completion of Preliminary Assessment, Form 2070-12

2. U.S. Geological Survey, Topographic Map, 1:24,000 Series.

3. Windholz, M., ed. the Merck Index, an Encyclopedia of Chemical and Drugs, Rahway, NJ: Merck and Company, Inc., 1976.

4. Farm Chemicals Handbook, Willoughby, OH: Meister Publishing Company, 1982.

5. Florida Department of Environmental Regulation, The Sites List, Summary Status Report, July 1, 1983 - June 30, 1984.

6. NUS Training Manual, Project for Performance of Remedial Response Activities at Uncontrolled Hazardous Substance Facilities--Zone 1, NUS Corporation, Superfund Division.

7. TLVs Threshold Limit Values for Chemical Substances in the Work Environment Adopted by ACGIH for 1983-84, American Conference of Governmental Industrial Hygienists, ISBN: 0-936712-45-7, 1983.

8. NUS Project for Performance of Remedial Response Activities at Uncontrolled Hazardous Substance Facilities--Zone 1, NUS Corporation, Superfund Division.

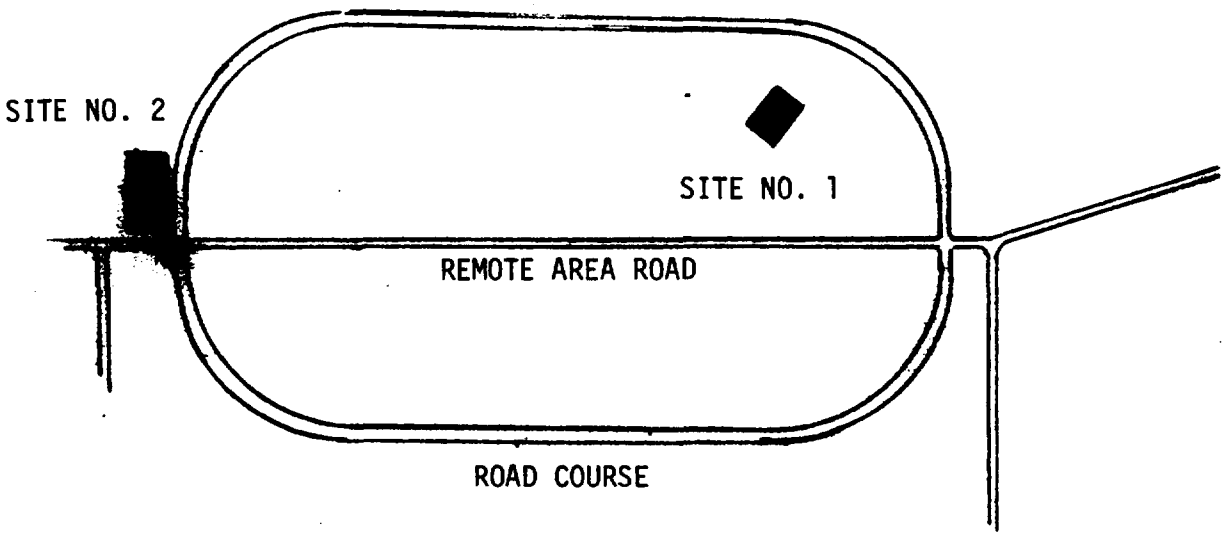
9. Sax, N. Irving, Dangerous Properties of Industrial Materials, Sixth Edition, Van Nostrand Reinhold Co., 1984.

10. Environmental Protection Agency, Federal Register, National Oil and Hazardous Substances Contingency Plan, Part V, July 16, 1982.

11. Health and Safety Plan, Florida 3012 Program, E.C. Jordan Co., June 1984.

LOCATION: SECTION 6, TOWNSHIP 24 SOUTH, RANGE 29 EAST

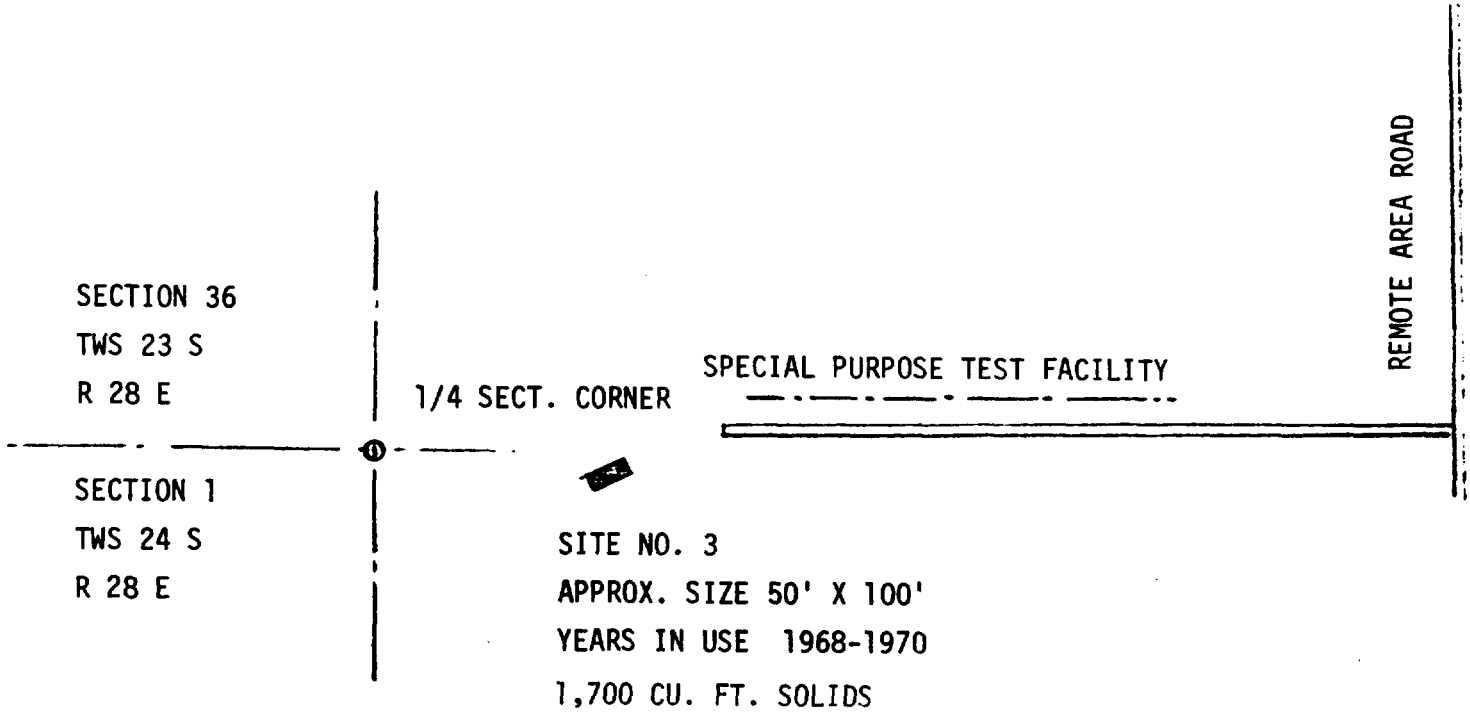
SITE NO.	APPROXIMATE SIZE	YEARS IN USE	CU. FT. SOLIDS
1	90' X 120'	1958-1962	2,900
2	100' X 200'	1963-1967	2,900



MARTIN MARIETTA AEROSPACE
ORLANDO DIVISION

LOCATION PLAN
ABANDONED ELECTROPLATING
SLUDGE PITS

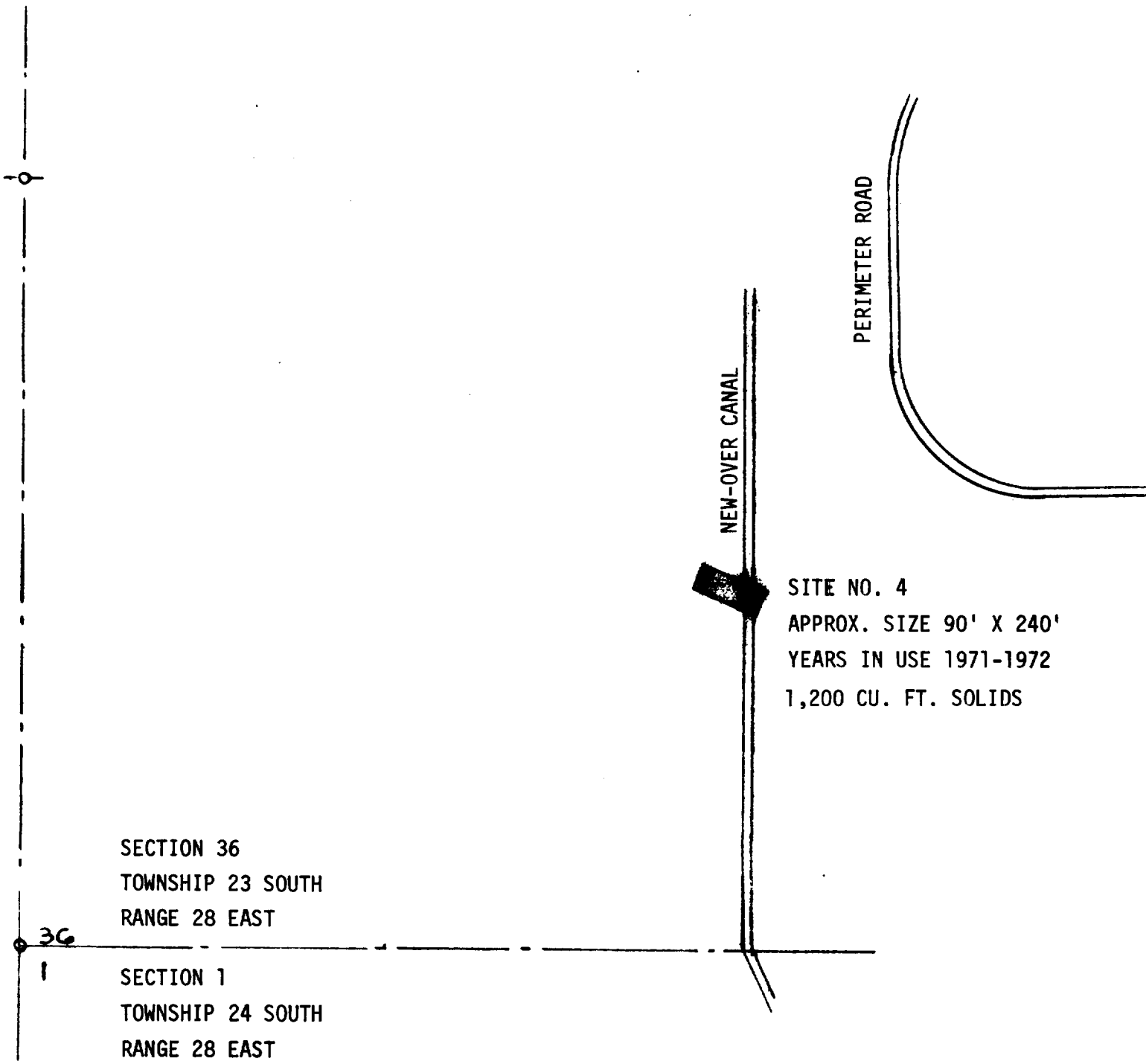
SCALE 1" = 500' MAY 6, 1981



MARTIN MARIETTA AEROSPACE
ORLANDO DIVISION

LOCATION PLAN
ABANDONED ELECTROPLATING
SLUDGE PITS

SCALE 1" = 500' MAY 6, 1981



MARTIN MARIETTA AEROSPACE
ORLANDO DIVISION

LOCATION PLAN
ABANDONED ELECTROPLATING
SLUDGE PITS

SCALE 1" = 500' MAY 6, 1981

27'30"
25'
T. 23 S.
T. 24 S.
KISSIMMEE 15 MI
DOCTOR PHILLIPS 0.3 MI
4640 I NE
(WINDERMERE)
BM 126
Oak Ridge Cem
HANGAR
HELIPORT
WATER TOWER
30
29
28
32
33
35
34
1
4
10
12
7
8
9
R.28 E.
R.29 E.
N

M.2 - SITE MAINTENANCE FORM

EPA ID : FLD060240207

SITE NAME: MARTIN MERIETTA AEROSPACE SOURCE: H

STREET : SAND LAKE RD CONG DIST: 05

CITY : ORLANDO ZIP: 32855

CNTY NAME: ORANGE CNTY CODE : 095

LATITUDE : 28/32/30.0 LONGITUDE : 081/25/00.0

LL-SOURCE: R LL-ACCURACY:

SMSA : 5960 HYDRO UNIT: 03090101

INVENTORY IND: Y REMEDIAL IND: Y REMOVAL IND: N FED FAC IND: N

NPL IND: N NPL LISTING DATE: NPL DELISTING DATE:

SITE/SPILL IDS:

RPM NAME: RPM PHONE: - -

SITE CLASSIFICATION: SITE APPROACH:

DIOXIN TIER: REG FLD1: REG FLD2: 1

RESP TERM: PENDING ( ) NO FURTHER ACTION ( )

ENF DISP: NO VIABLE RESP PARTY ( ) VOLUNTARY RESPONSE ( )
ENFORCED RESPONSE ( ) COST RECOVERY ( )

SITE DESCRIPTION:

ACTION: _

PENDING (_) NO FURTHER ACTION (_)

M.2 - PROGRAM MAINTENANCE FORM

ACTION: _

SITE: MARTIN MERIETTA AEROSPACE

EPA ID: FLD060240207 PROGRAM CODE: H01 PROGRAM TYPE: _

PROGRAM QUALIFIER: ALIAS LINK :

PROGRAM NAME: SITE EVALUATION

DESCRIPTION:

M.2 - EVENT MAINTENANCE FORM

* ACTION: _ *

SITE: MARTIN MERIETTA AEROSPACE
PROGRAM: SITE EVALUATION

EPA ID: FLD060240207 PROGRAM CODE: H01 EVENT TYPE: DSI

FMS CODE: EVENT QUALIFIER : EVENT LEAD: E * _ ___ _ *

EVENT NAME: DISCOVERY STATUS: * _____ _ *

DESCRIPTION:

* _____ *
* _____ *
* _____ *
* _____ *

ORIGINAL	CURRENT	ACTUAL			
START:	START:	START:	__/__/__	__/__/__	__/__/__
COMP :	COMP :	COMP : 08/01/80	__/__/__	__/__/__	__/__/__

HQ COMMENT:

* _____ *

RG COMMENT:

* _____ *

COOP AGR #	AMENDMENT #	STATUS	STATE %				
			0	_____	_____	__	___

M.2 - EVENT MAINTENANCE FORM

* ACTION: _ *

SITE: MARTIN MERIETTA AEROSPACE
PROGRAM: SITE EVALUATION

EPA ID: FLD060240207 PROGRAM CODE: H01 EVENT TYPE: PA1

FMS CODE: EVENT QUALIFIER : EVENT LEAD: S * _ ___ _ *

EVENT NAME: PRELIMINARY ASSESSMENT STATUS: * _____ _ *

DESCRIPTION:

* _____ *
* _____ *
* _____ *
* _____ *

ORIGINAL	CURRENT	ACTUAL			
START:	START:	START: 10/01/84	__/__/__	__/__/__	__/__/__
COMP :	COMP :	COMP : 10/01/84	__/__/__	__/__/__	__/__/__

HQ COMMENT:

* _____ *

RG COMMENT:

* _____ *

COOP AGR #	AMENDMENT #	STATUS	STATE %
			0

* _____ _____ __ ___ *

M.2 - EVENT MAINTENANCE FORM

* ACTION: _ *

SITE: MARTIN MERIETTA AEROSPACE
PROGRAM: SITE EVALUATION

EPA ID: FLD060240207 PROGRAM CODE: H01 EVENT TYPE: PA2

FMS CODE: EVENT QUALIFIER : EVENT LEAD: S * _ ___ _ *

EVENT NAME: PRELIMINARY ASSESSMENT STATUS: * _____ _ *

DESCRIPTION:

* _____ *
* _____ *
* _____ *
* _____ *

ORIGINAL	CURRENT	ACTUAL			
START:	START:	START: 05/19/86	__/__/__	__/__/__	__/__/__
COMP :	COMP :	COMP : 06/09/86	__/__/__	__/__/__	__/__/__

HQ COMMENT:

* _____ *

RG COMMENT:

* _____ *

COOP AGR #	AMENDMENT #	STATUS	STATE %				
			0	_____	_____	__	___

M.2 - COMMENT MAINTENANCE FORM

SITE: MARTIN MERIETTA AEROSPACE

EPA ID: FLD060240207

COM NO	COMMENT	ACTION
001	PART A- ON FILE	
002	FLS000001011 -SITE WAS USED TO DISP	
	OSE OF THE SLUDGE FROM PLANTS	
003	WASTE TREATMENT FACILITIES FOR TREA	
	TING SPENT ELECTROPLATING	
004	SOLUTIONS. SLUDGE OS SEGREGATED FRO	
	M THE OTHER FORMS OF SOLID WASTE	
005	AND DISPOSED OF IN SEPARATE PITS AT	
	THE VARIOUS LOCATIONS. AT	
006	LOCATION 4, A FEW YRS. AFTER THE SI	
	TE WAS ABANDONED A DRAINAGE CANAL	
007	AND A STORM WATER RETENTION BASIN W	
	ERE EXCAUATED IN THE IMMEDIATE	
008	AREA OF THE ABANDONED PITS. DATES O	
	F WASTE HANDLING : 1958 TO 1973.	
009	CONTACT: RAYMOND GREEN -STAFF ENG.	

Florida Department of Environmental Regulation

Central District • 3319 Maguire Boulevard, Suite 232 • Orlando, Florida 32803-3767 • 407-894-7555

Bob Martinez, Governor Dale Twachtmann, Secretary John Shearer, Assistant Secretary
Alex Alexander, Deputy Assistant Secretary

CERTIFIED
P-610 047 922

January 5, 1989

Edward Mayer, Manager
Environmental Management
Martin Marietta Electronics
and Missiles Group
Post Office Box 5837, MP #280
Orlando, Florida 32855

OCD-HW-89-0457

Orange County - HW
Martin Marietta Orlando Aerospace
Site 5 Sludge Cell Closure Certification

Dear Mr. Mayer:

The Department has reviewed the above closure certification document submitted June 28, 1988 and we have the following comments:

1) Table 4-2 on page 37 of Volume 1 indicates the solidified sludge passed EP Toxic limits for chromium and cadmium before it was manifested to Rollins Environmental Services Inc. for final disposal. It is difficult, however, to verify this from the laboratory data submitted in APPENDIX I of Volume 2. Would you please clarify which data in APPENDIX I of Volume 2 can be used as verification analysis for the solidified sludge prior to removal and disposal?

2) Section 4.7.2 on page 43 of Volume 1 indicates that signed copies of the manifests were returned to MMMS by the disposal facility. Appendix Q (Volumes 3 and 4), however, has numerous copies of the manifests which were not signed by the disposal facility. Please verify that these manifests were signed by the disposal facility and submit a representative sample of the formerly incomplete but now completed manifests (at least 10) to the Department.

DOCKET NO. MM 303

Please respond to the above items within 30 days of receipt of this letter. When these items are resolved your closure certification can be approved.

Please call me at (407)894-7555 if you have any questions.

Sincerely,

Richard B. Tedder, P.E.
Section Manager
Hazardous Waste Program

RBT/lm

cc: Satish Kastury
James Scarbrough ✓

RBT

Copy: Satish
Scarborough

MARTIN MARIETTA MISSILE SYSTEMS

P.O. BOX 555837
ORLANDO, FLORIDA 32855-5837

January 5, 1989

Mr. Richard Tedder
Florida Department of Environmental Regulation
3319 Maguire Blvd., Suite 232
Orlando, Florida 32803-3767

Dear Richard;

Enclosed please find a copy of the semi-annual and annual reports pertaining to the Site 5 closure permit.

If you have any comments, please feel free to contact me.

Yours truly,

Ed Mayer

Ed Mayer
Manager,
Environmental Management

JAN 1989
RECEIVED
CENTRAL FLORIDA
DISTRICT

DOCKET NO. MM-304

010231

HSW

RECEIVED
JAN 1989
CENTRAL FLORIDA
DISTRICT

SEMI-ANNUAL AND ANNUAL REPORT ON THE EFFECTIVENESS OF THE CORRECTIVE ACTION PROGRAM AT THE SITE 5 SLUDGE CELLS MARTIN MARIETTA MISSILE SYSTEMS ORLANDO, FLORIDA

Prepared for

MARTIN MARIETTA
MISSILE SYSTEMS
Orlando, Florida

PROJECT NO. TA6053

December, 1988

Prepared by

HSW ENVIRONMENTAL CONSULTANTS, INC.
5020 Gunn Highway, Suite 250
Tampa, Florida 33624

INTRODUCTION

Under the provisions of the closure permit (No. HF48-112268) for "the site 5 sludge cells" at Martin Marietta Missile Systems (MMMS), Orlando Florida, it is required that report(s) be prepared outlining tasks completed during the previous year related to remediation effectiveness and the potential for continued migration of dissolved constituents from the site. This letter report contains water-level information and specific program task descriptions, and complies with the annual reporting requirements of 40 CFR 264.99 and the semi-annual reporting requirements of Part III.8.f of the closure permit.

Under Part III.7.a of the closure permit, ground-water samples are to be collected quarterly from monitor wells PW-4, PW-79, and INT-6, and analyzed for the organic constituents listed under Part III.1.b. Data from the most recent four (4) quarterly sampling events are to be used to establish background concentration levels for the upper surficial (PW-4), lower surficial (PW-79), and secondary artesian aquifers (INT-6). Under Part III.5 of the closure permit, ground-water samples are to be collected quarterly from the compliance point monitor wells (PW-36, PW-37, PW-38, PW-39 and PW-108 [surficial aquifer], and INT-4 and INT-7 [secondary artesian aquifer]) and analyzed for the constituents listed under Part III.1. Sampling events are to occur in February, May, August, and November of each year throughout the compliance period. The results of these sampling events are to be included in the semi-annual report on the effectiveness of the corrective action program as per 40 CFR Part

264.100(g). Semi-annual sampling was proposed as part of the Site 5 corrective action program which was incorporated by reference into the closure permit. These data also are to be included in the semi-annual report. A summary of the Site 5 monitoring program is presented in Table 1 and the analytes are presented in Table 2.

Water-level measurements will be taken each time ground-water samples are collected, as per Part III.8.b of the closure permit. The horizontal and vertical direction and rate of ground-water flow are to be reported in the annual report as per Part III.8.d of the closure permit.

Table 1. Summary of Site 5 Monitoring Program

Sampling Location	Screened Interval (ft)	Sampling Frequency (Per Year)	Sample Type 2/	Analysis Group 3/
PW-4	14-19	4	Background	B
PW-8	12-17	2	RAP	VOCs
PW-25	12-17	2	RAP	VOCs
PW-26	12-17	2	RAP	VOCs
PW-36	15-20	4	Compliance	A, B, and C
PW-37	15-20	4	Compliance	A, B, and C
PW-38	15-20	4	Compliance	A, B, and C
PW-39	41-46	4	Compliance	A, B, and C
PW-40	15-20	2	RAP	VOCs
PW-77	28-38	2	RAP	VOCs
PW-79	40-50	4	Background	B
PW-108	45-50	4	Compliance	A, B, and C
PW-111	15-20	2	RAP	VOCs
PW-112	15-20	2	RAP	VOCs
INT-112	15-20	2	RAP	VOCs
INT-1	109-114	2	RAP	VOCs
INT-4	101-111	4	Compliance	A, B, and C
INT-6	101-111	4	Background	B
INT-7	94-104	4	Compliance	A, B, and C
FL-Z	119-124	2	RAP	VOCs
SW-5A	NA	2	RAP	VOCs
SW-5C	NA	2	RAP	VOCs

1/ - Quarterly samples are collected in February, May, August, and November
- Semi-annual samples are collected in May and November

2/ - Background and compliance sampling locations are identified in the closure permit.
- RAP sampling locations are identified in the Corrective Action Program and incorporated by reference into the closure permit.

3/ - See Table 2
- VOCs are analyzed for using either EPA method 601/602 or 624.

PROGRAM TASKS COMPLETED IN 1988

Field work for closure of the sludge cells was initiated on February 29, 1988, and completed on April 30, 1988. Approximately 702 tons of overburden and 2,848 tons of sludge material were removed from the site. The "Construction Documentation and Closure Certification" report was signed and sealed on June 27, 1988.

First quarter ground-water samples were collected from the background monitor wells and the compliance point monitor wells in February, 1988. These data were included in the semi-annual report submitted in June, 1988. Appendix VIII analyses were performed on required samples and these data also were included in the previous semi-annual report. Appropriate ground-water sampling was conducted in May, August, and November, 1988 (see Table 1).

The analytical results for the May and August, 1988, sampling event could not be validated; however, the data are included in this report (Attachment A). The November, 1988, analytical results have not been received, but will be submitted immediately upon receipt and validation.

Based on the February, 1988, analytical results, all background monitor wells were devoid of organic constituents above the quantitation level. The sample from monitor well PW-36 contained the highest concentration of dissolved organic constituents. Samples from wells PW-38, PW-108, INT-4, and INT-1 reportedly did not contain VOCs above the quantitation level. Samples from wells PW-37 and PW-39 contained some VOCs. The May and August, 1988, data should be considered qualitative, but

generally are consistent with the February data.

Water level measurements were taken during each sampling event and a summary of the results is given in Table 3. Flow in the surficial aquifer generally is to the northeast toward the internal drainage canal (Figure 1). North of the canal, flow generally is to the south and east. Regional flow probably is to the east toward Shingle Creek. In-situ hydraulic conductivity values for the surficial aquifer, calculated using data from slug tests performed at 12 monitor wells, ranged from 1.26×10^{-6} ft/sec to 1.24×10^{-3} ft/sec, averaging 3.62×10^{-4} ft/sec. This large variation is demonstrative of the heterogeneous lithology across the site. Assuming an effective porosity of 20 percent, the pore-water velocity averages about 285 feet per year (ft/yr).

In April, 1988, the engineering technical specifications for the shallow ground-water system were submitted to the FDER by G&M Consulting Engineers, Inc. The proposed well-point dewatering and spray irrigation systems were completed in November, 1988. Some land moving, trenching, and tilling of the surface material to improve infiltration currently is being completed and the system is expected to be operating in January, 1989.

Because low levels of VOCs were detected in the Floridan Aquifer monitor well at site 5 (FL-2), an additional Floridan Aquifer monitor well was installed in December, 1988. A ground-water sample will be collected from this well during the February, 1989, sampling round.

PROGRAM TASKS FOR JANUARY, 1989 THROUGH JUNE, 1989

The report on the effectiveness of the remedial action program for the period ending June, 1989, will be submitted in June, 1989. The results of the November, 1988, and February, 1989, sampling events will be included in that report. The surficial aquifer recovery system is expected to be operational; the water-level and water-quality data relevant to the operation of the systems also will be reported.

HSW

ATTACHMENT A

WATER-QUALITY DATA FOR

SITE 5 SANITARY LANDFILL

MAY AND AUGUST, 1988

Table 3. Site 5 Summary of Water-Level Elevations for 1988
(Measurements in ft msl)

Monitor Well Designation	02/01/88	05/16/88	08/11/88	11/15/88
PW-1	85.87	84.21	85.40	84.56
PW-2	88.78	87.17	88.58	-- 1/
PW-3	90.77	88.84	90.08	-- 1/
PW-4	89.00	87.65	88.60	87.50
PW-5	90.40	88.94	89.61	89.01
PW-6	90.50	88.74	88.71	89.15
PW-7	85.65	84.62	85.33	84.90
PW-8	85.30	84.13	84.81	84.37
PW-24	85.24	84.10	84.84	84.34
PW-25	85.48	83.91	84.94	84.26
PW-26	85.57	-- 1/	85.09	83.93
PW-33	79.21	77.05	78.22	81.62
PW-34	85.59	84.10	85.07	-- 1/
PW-35	88.59	86.99	88.02	86.88
PW-36	86.63	84.93	86.10	85.16
PW-37	87.30	85.65	86.88	85.76
PW-38	88.12	86.50	87.76	86.54
PW-39	86.70	85.02	86.16	85.23
PW-40	85.88	84.26	85.49	84.57
PW-41	86.38	84.86	86.27	85.07
PW-42	88.52	86.85	88.38	86.53
PW-73	87.85	86.27	87.17	86.26
PW-74	-- 1/	87.33	87.25	86.36
PW-75	85.53	84.97	85.90	85.22
PW-76	85.96	84.12	85.37	84.49
PW-77	85.24	83.72	84.74	84.07
PW-78	80.82	78.73	79.91	79.11
PW-79	90.08	88.59	89.23	88.62
PW-88	79.44	76.93	77.98	77.38
PW-108	85.36	80.27	81.41	80.63
PW-111	86.17	83.92	85.39	84.38
PW0112	86.09	83.56	85.33	83.98
PW-113	83.90	81.83	83.34	82.22
INT-1	58.83	55.14	55.87	54.99
INT-2	59.03	54.73	54.58	54.36
INT-3	63.68	59.70	60.50	59.58
INT-4	56.95	52.81	53.60	53.13
INT-5	58.34	54.02	54.97	54.63
INT-6	59.02	54.62	55.61	55.14
INT-7	58.37	54.16	55.27	54.70
FL-2	56.40	52.33	53.12	52.68

1/ Water Level Not Measured

Houston
DB's cube
4/17/87

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

CENTRAL FLORIDA DISTRICT
3319 MAGUIRE BOULEVARD
SUITE 232
ORLANDO, FLORIDA 32803-3767

CERTIFIED
P-551-828-886

BOB MARTINEZ
GOVERNOR
DALE TWACHTMANN
SECRETARY
ALEX ALEXANDER
DISTRICT MANAGER

August 17, 1987

OCF-EF-87-0817

Mr. Edward E. Mayer
Environmental Management
Martin Marietta Aerospace
Post Office Box 5831-MP-280
Orlando, Florida 32855

Orange County - GW/HW
Martin Marietta - Site 5
CAR Response Comments
OGC Case No. 85-0412

Dear Mr. Mayer:

The Site 5 Contamination Assessment Report response comments have been reviewed. The following comments must be addressed:

1) The water elevation data for PW-88 indicate a 7.06 foot drop from 84.98 to 77.92 feet between August and October 1986. The other site wells show very little changes in water elevation, especially those wells tapping the same zone. Is the data correct?

2) As previously requested, the slug test data, the solution method and calculations should be provided for all wells slug tested. The response to our original request supplied the information for well PW-92 which is located at Site 4. The Site 5 well PW-88 information (originally attached to the Site 4 comments), is dated six years before the well was installed. This should be explained when the slug test data/calculations are submitted for all wells tested.

3) Resolution of the methylene chloride cleanup concentration (350 verse 5 ug/l) is dependant on the presence (or absence) of methylene chloride in the Floridan aquifer and potential future use of the overlying permeable units for drinking water supplies.

RECEIVED
AUG 24 1987
Hazardous Waste

MM 306

4) Discussions regarding the incomplete delineation of the eastern extent of the plume concluded that enough data was available to recover all of the plume without additional wells. However, the projected capture zone for the ground water recovery system indicates that the leading portion of the plume may escape. Data in the Contamination Assessment Report indicate the plume may extend an additional 500 feet downgradient of the project zone of capture. Additional wells will be needed downgradient to establish water quality and to evaluate the recovery program effectiveness.

The above comments must be addressed prior to Department approval of the CAR. If you have any questions, please contact J. Jarmolowski or E. Sainten at (305) 894-7555.

Sincerely,

George Gionis

George Gionis
Manager, Enforcement Section

GG/ta

cc: R. Tedder
Z. Kulakowski

MARTIN MARIETTA AEROSPACE

POST OFFICE BOX 5837
ORLANDO, FLORIDA 32855

January 18, 1988

Mr. Richard Tedder
Florida Department of
Environmental Regulation
St. Johns River District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

JAN 1988
Central Florida
District

RE: Closure Permit for Site 5 Sludge Cells

Dear Mr. Tedder:

Enclosed is information which satisifies selected conditions of the Closure Permit (HF 48-112268) for the Site 5 Sludge Cells. Included in the enclosures are:

-A report that addresses karst features to satisfy the requirement of Item 1, part IV, and

-Selected information on design considerations of the dewatering system and spray field requested under Item 7, Part V. Due to some last minute changes, there are 5 sheets missing from the design drawings. Copies of these sheets will be hand carried to you as soon as they are available.

Geraghty & Miller, Inc., presently is preparing the report for the Phase II Corrective Action Program to address contamination in the lower surficial aquifer and the secondary artesion aquifer at Site 5. This report will satisfy Item 3, Part IV, of the permit and is due to you on February 17, 1988.

If you have any questions concerning the above, please feel free to call me or Mr. Rod Lynn of my staff at 356-1454.

Sincerely,

MARTIN MARIETTA CORPORATION

Edward Mayer

Edward Mayer
Manager
Environmental Management

DOCKET NO. MM 307

593/6

ITEM 7, PART V, OF THE SITE 5 CLOSURE PERMIT
MARTIN MARIETTA ORLANDO AEROSPACE

The following response addresses Item 7, Part V, of the closure permit regarding selected information on design considerations of the dewatering system and spray field.

7. Within sixty (60) days of permit issuance, the permittee shall submit the following information to the Department:

(a) Final design specifications and engineering reports describing the Corrective Action.

Per a telephone conversation between Ed Mayer of Martin Marietta and Richard Tedder of the Florida Department of Environmental Regulation (FDER), it was decided that this submittal would include draft copies of selected construction drawings for the shallow ground-water recovery system. Final drawings and specifications are currently being prepared and will be submitted shortly for FDER review.

G&M Consulting Engineers, Inc. (GMCE), prepared preliminary drawings and specifications of the recovery system as detailed in the Remedial Action Plan (RAP). Concurrently, to insure a properly designed system, a field program was conducted to provide essential design parameters for the system. Field studies conducted included a pump test and a spray irrigation pilot program. Analysis of the pump test data, verified via computer modeling, showed that the plume could effectively be contained using fewer recovery wells than described in the RAP. The pilot study on the spray-irrigation system enabled optimal design of the spray nozzles and recovery pumps.

As a result of the field program and computer modeling, the on-site system design is being revised. These revisions are currently being made to the sheets that are not included in this package.

The final construction drawings and specifications will be submitted to the FDER as soon as they are completed.

(b) Runoff calculations for the 25 year/24 hour storm event for the Site 5 Sludge Cells.

Runoff control at Site 5 consists of a drainage swale which encompasses the entire site as shown on the accompanying figure. The water from this drainage swale enters a retention basin and ultimately flows from the basin into a primary drainage channel. The highest point of the drainage swale surrounding Site 5 is located approximately midway along the southern edge of Site 5. Runoff entering the canal then flows in two opposite directions around the outside edge of the site and into the retention basin.

The four sludge cells are located on the eastern portion of the site near the drainage swale. These cells are currently capped and no runoff controls are needed. During closure activities when the cells are being exposed, stabilized, and removed, the Contractor will be required to provide the necessary runoff control and divert the storm flows, as necessary, to insure that storm water does not mix with sludges or interfere with construction activities.

As described in the Remedial Action Plan for the Site 5 Landfill, a spray irrigation system is proposed to remove VOCs from the recovered ground water. The water sprayed at Site 5 will be recaptured by the ground-water recovery system. To prevent the water from the spray field activities from flowing to the drainage swale, a berm will be constructed around the spray field. The height of the berm was designed to insure that the volume of ground water to be pumped daily will be allowed to infiltrate on the landfill area and will not run off from the site. A field

infiltrometer study conducted by Geraghty & Miller, Inc., determined that the infiltration rate at Site 5 is 0.5 inches per hour.

The spray irrigation system will not operate during rainfall events; consequently, runoff related to storm events has not been of primary concern. However, no runoff from a 25-year/24-hour storm, which amounts to approximately 8 inches of rain, should occur based on the measured infiltration rate of 0.5 inches per hour. Furthermore, if a storm event were sufficient to produce excessive ponding and flow over the berms, only storm water would be released since the spray system would not be operating.

(c) Calculations or data estimating treatment efficiencies for the proposed spray-irrigation system.

A pilot test was conducted at the Site 5 spray field in July 1987 to determine the removal efficiency of various spray nozzles. Ground water was collected during operation of the system prior to discharge to the spray field and at land surface in the spray field after the water was discharged through the nozzles. Samples were sent to Versar, Inc., for analyses of volatile organic compounds (VOCs) by EPA method 624.

Listed in Table 1 (Attachment A) are concentrations of VOCs that were present above detection limits in the spray field system influent and effluent for the various spray nozzles tested. Removal efficiencies are calculated using the following equation:

$$\text{Percent Removal} = \left[1 - \frac{\text{(maximum effluent concentration)}}{\text{(maximum influent concentration)}} \right] 100$$

The removal efficiencies for each constituent are listed in Table 2 of Attachment A.

(d) Borehole logs for the recovery system wells.

Borehole logs of the recovery wells in the existing downgradient system are not available. Wash sampling was conducted during the installation of the recovery system to confirm the lithology previously documented by split-spoon samples collected during the installation of nearby monitor wells.

Borehole logs will not be developed for the proposed on-site recovery system. When these wells are installed, wash samples will be collected because the area lithology was previously defined during the installation of existing monitor wells.

(e) Vapor drift and its impact on human health and the environment.

To assess the potential risks associated with the spray-field operation, two potential exposure routes were considered: inhalation of vapors and dermal contact/ingestion of liquid.

Before assessing whether the drift of vapor away from the spray field was of concern, conservative estimates of vapor concentrations at the site were calculated. Using a spray-field area of 130,000 square feet, a peak spray height of 10 feet, a spray-field pumping rate of 670 gallons per minute (gpm), and the VOC concentrations reported for the five VOCs identified in the influent during the July 1987 pilot study, an estimate of atmospheric concentrations was made assuming 100% removal efficiency. The estimated maximum concentrations for wind speeds ranging from approximately 4 miles per hour (mph) to 0.06 mph and the associated Threshold Limit Values (TLVs) are as follows:

	Estimated Maximum Concentration (mg/m^3)	TLVs (mg/m^3)
o Methylene Chloride	0.10 - 6.1	350
o Tetrachloro-ethene	0.0029 - 0.17	335
o Toluene	0.017 - 1.0	375
o Vinyl Chloride	0.0056 - 0.34	10
o cis-1,2-Dichloro-ethene	0.045 - 2.7	790

The TLVs are established by the American Conference of Governmental Industrial Hygienists based on 8 hours of exposure a day, 40 hours per week. Vapor concentrations at the spray field are expected to be at least 50 times lower than the established health protection levels. Concentrations away from the site will quickly decrease as a result of rapid rates of degradation and dispersion in the atmosphere. Therefore, vapor drift is not a potential health risk because vapor concentrations at the site are not a health risk.

The other potential route of exposure is contact with, and inadvertent ingestion of, spray-field water. Target concentrations were calculated for the five VOCs using the following equation:

$$\text{Target Concentration} = RfD/[(ss/bw \times f \times ab \times ed \times uc + wi/bw) \times el]$$

where:
- RfD = Reference Dose or 10^{-6}/cancer potency factor (mg/kg/day)
- ss = skin surface area (18,150 cm^2)
- bw = body weight (70 kg)
- f = water flux rate through skin (0.5 mg/cm^2-hr)
- ab = differential absorption (0.5)

ed = exposure duration (1 hr)
wi = water intake (0.01 L)
el = exposure length (100 days/25,550 days)
uc = unit conversion (10^{-6} kg/mg)

The hypothetical exposure scenario assumes that a worker at the site is inadvertently soaked by the spray and ingests a small amount of water (10 ml) 100 times over the period of time the spray field is operating. The calculated target concentrations are as follows:

Methylene Chloride	164,000 ug/L
Tetrachloroethene	24,000 ug/L
Toluene	370,000,000 ug/L
Vinyl Chloride	535 ug/L
cis-1,2-Dichloroethene	12,300,000 ug/L
Hydrogen Sulfide	3,690,000 ug/L

The target concentrations are substantially higher than the reported influent concentrations. Therefore, the risks associated with dermal contact and ingestion of small volumes of spray-field water have minimal associated health risks regardless of the efficiency of the spray nozzles.

Based on the available data, the overall human health risks associated with vapors or spray-field waters are minimal.

Martin Marietta conducted air monitoring for hydrogen sulfide and selected VOCs on December 29, 1987, during test pumping of the pilot dewatering system. Chosen for the study were VOCs identified in ground-water samples collected at the site that have the greatest potential for health effects. Air samples were collected upwind and downwind of the spray field for an eight-hour period. Hydrogen sulfide and the VOCs were not identified above detection limits at any location upwind or downwind of the spray field.

(f) Droplet drift information for wind speeds exceeding 3 mph.

Because it has been determined that inhalation, direct dermal contact, and ingestion of the treated ground water will not cause health effects, the evaluation of droplet drift distance information is not pertinent to the safe operation of the system.

(g) Determination of the maximum wind speed permitted prior to shutting down the spray-irrigation system and method for controlling this function.

Because it has been determined that inhalation, direct dermal contact, and ingestion of the treated ground water will not cause health effects, the evaluation of the wind speed permitted prior to turning off the system is not pertinent to the safe operation of the system.

The method to control the operation of the dewatering system will be included in the final engineering diagrams.

(h) Location map for the "additional well points... proposed downgradient" and the well points in the southwest area of Site 5 as written in the April 1987 Remedial Action Plan and Corrective Action Program, page 15.

A location map for the additional well points installed in the southwest area of the site will be included in the final engineering diagrams.

(i) Surface elevations of each well at Site 5.

The elevation of the top of each well located at Site 5 is contained in Attachment B.

(j) Location map of well PW-108.

A map showing the approximate locations of the monitor wells at Site 5, including PW-108, is contained in Attachment C. Monitor wells PW-111, PW-112, and PW-113 were installed northeast of the site and are not shown on the map.

ATTACHMENT A

Concentrations and Removal Efficiencies for Volatile Organic Compounds Present Above Detection Levels in the Dewatering System Influent and Spray Effluent

Table 1. Concentrations of Volatile Organic Compounds that were Present above Detection Levels in System Influent and Spray Effluent (Concentrations are in parts per billion)

	Influent		Nozzle						
	1	2	A	B	C	D	E	F	G
Methylene Chloride	1,510	1,430	11	18	13	15	<10	<10	35
Tetrachloro-ethene	43	40	<3	<3	<3	<3	<3	<3	<3
Toluene	258	248	<5	<5	<5	<5	<5	<5	5.6
Vinyl Chloride	87	75	<1	<1	<1	<1	<1	<1	<1
Cis-1,2-Dichloroethene	688	625	<5	6.8	5.0	5.8	<5	<5	12

515/32

Table 2. Removal Efficiencies for Volatile Organic Compounds Present Above Detection Levels in the System Influent

VOC	Maximum influent concentration (ppb)	Maximum effluent concentration (ppb)	Removal efficiencies (percent)
Methylene Chloride	1,510	35	98
Tetrachloroethane	43	<3	>93
Toluene	258	5.6	98
Vinyl Chloride	87	<1	>99
Cis-1,2-Dichloroethane	688	6.89	99

ATTACHMENT B

Depths, Screen Settings, and Elevations
of Monitor Wells Located at Site 5

593/7

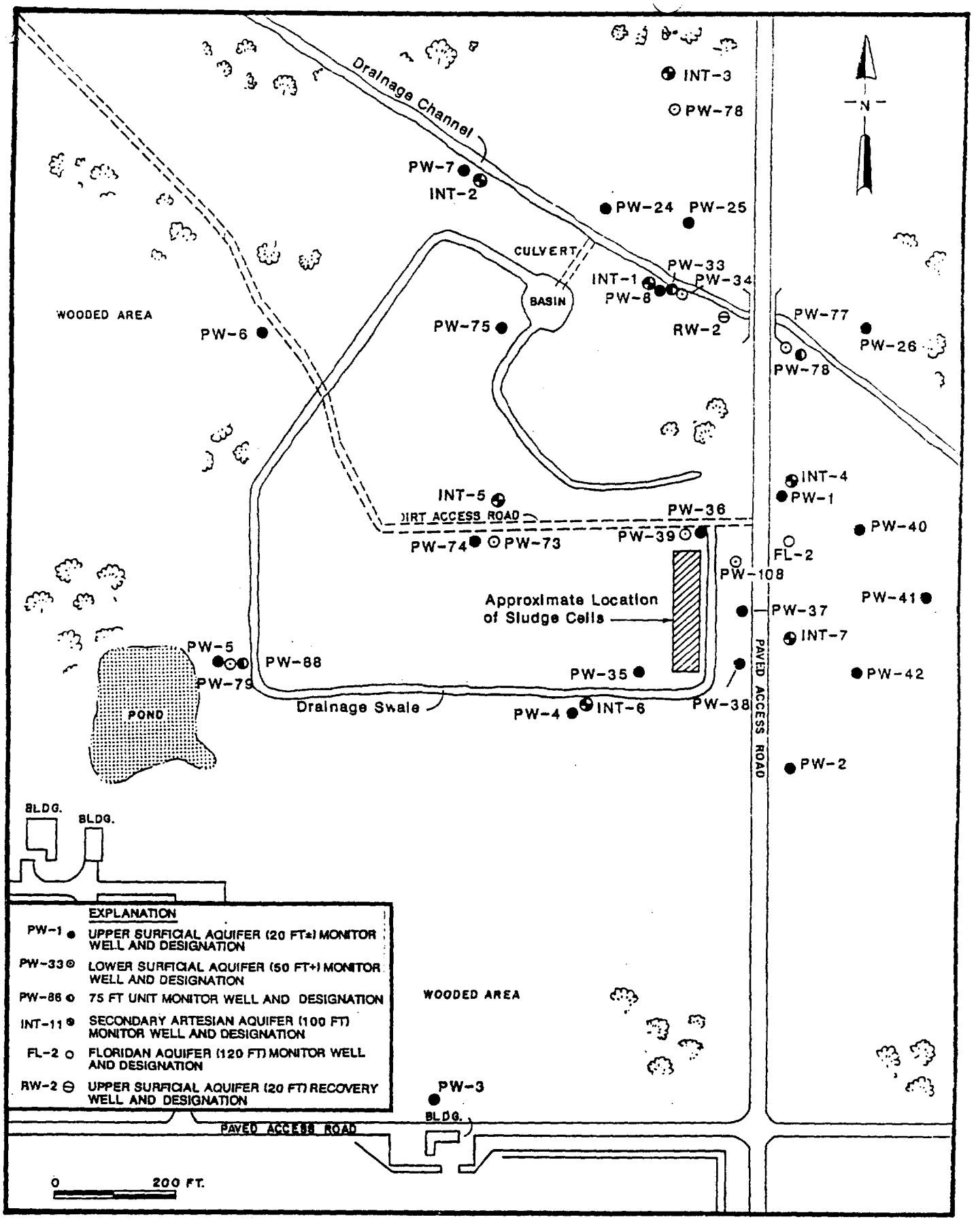
Depths, Screen Settings, and Elevations of Monitor Wells Located at Site 5

Monitor Well	Total Depth (feet below land surface)	Screen Setting (feet below land surface)	Top of Casing Elevation (feet above msl)
PW-1	19	12 - 17	90.46
PW-2	21	14 - 19	93.94
PW-3	19	12 - 17	95.19
PW-4	21	14 - 19	95.50
PW-5	20	13 - 18	94.78
PW-6	19	12 - 17	92.12
PW-7	24	17 - 22	95.27
PW-8	19	12 - 17	90.68
PW-24	20	13 - 18	90.96
PW-25	19	12 - 17	91.04
PW-26	19	12 - 17	88.84
PW-33	75	69 - 75	87.97
PW-34	45	32 - 45	88.15
PW-35	20	15 - 20	95.66
PW-36	20	15 - 20	92.91
PW-37	20	15 - 20	91.34
PW-38	20	15 - 20	91.65
PW-39	46	41 - 46	93.25
PW-40	20	15 - 20	92.01
PW-41	22	17 - 22	92.67
PW-42	18	13 - 18	93.15
PW-73	54	44 - 54	94.17
PW-74	20	15 - 20	94.48
PW-75	19.5	14.5 - 19.5	92.62
PW-76	52	42 - 52	92.27
PW-77	38	28 - 38	89.34
PW-78	74	64 - 74	89.94
PW-79	50	40 - 50	98.23
PW-88	75	70 - 75	94.63
PW-108	52	47 - 52	91.12
PW-111	20	15 - 20	89.92
PW-112	20	15 - 20	89.95
PW-113	22	15 - 20	87.25
INT-1	114	109 - 114	90.67
INT-2	105	100 - 105	93.98
INT-3	105	100 - 105	99.05
INT-4	111	101 - 111	91.20
INT-5	104	94 - 104	93.67
INT-6	111	101 - 111	99.45
INT-7	104	94 - 104	91.72
FL-2	124	119 - 124[a/]	90.46

a/ Open Borehole

ATTACHMENT C

Approximate Locations of
Monitor Wells at Site 5



Approximate Locations of Monitor Wells at Site 5

DEPARTMENT OF ENVIRONMEN L REGULATION

ROUTING AND TRANSMITTAL SLIP

ACTION NO

ACTION DUE DATE

1. TO: (NAME, OFFICE, LOCATION) James Scarbrough / Harry Desai	Initial / Date
2. USEPA REGION III	Initial / Date
3. ATLANTA, GA.	Initial / Date
4.	Initial / Date

REMARKS:

FYI

Martin Marietta Orlando Aerospace

Site 5 Post-Closure Permit

Annual Report

INFORMATION

- Review & Return
- Review & File
- Initial & Forward

DISPOSITION

- Review & Respond
- Prepare Response
- For My Signature
- For Your Signature
- Let's Discuss
- Set Up Meeting
- Investigate & Report
- Initial & Forward
- Distribute
- Concurrence
- For Processing
- Initial & Return

FROM: Richard B. Tedder

DATE 1-25-89

PHONE

DI

RB
LL LAX
cc: Merlin Russell
J. Searbrough
Zoe Kalatowski
done 3/8/89

MARTIN MARIETTA MISSILE SYSTEMS

P.O. BOX 555837
ORLANDO, FLORIDA 32855-5837

FEB 1989
CENTRAL FLORIDA DISTRICT

23 February 1989

Richard Tedder
Florida Department of Environmental Regulation
Central Florida District
3319 Maguire Blvd.
Orlando, Florida 32803-3767

Dear Mr. Tedder;

Enclosed please find four copies of the Fourth Quarter Ground Water Analysis Report for Martin Marietta Sand Lake Road Complex. You will find two separate reports. The larger report contains the monitoring data for the general sampling program. The smaller report contains the analysis for the post closure permit HF 48-112268.

If you have any questions, please feel to contact me.

Sincerely,

Ed Mayer

Ed Mayer
Manager, Environmental Management

MM 308

FEB 1989
CENTRAL FILE

GROUNDWATER MONITORING
SAND LAKE ROAD COMPLEX
NOVEMBER 2-DECEMBER 1,1988

MARTIN MARIETTA MISSILE SYSTEMS
GROUNDWATER MONITORING
SAND LAKE ROAD COMPLEX
FOURTH QUARTER 1988

INTRODUCTION

Groundwater sampling of the compliance wells located at the Sand Lake Road Complex of the Martin Marietta Missile Systems Group was conducted by Geraghty and Miller Groundwater Consultants. Samples were collected from Sites 3, 4, 5, 6, and Microelectronics Center from November 2 to December 1,1988. Volatile Organic Compounds (VOCs) were analyzed using EPA Method 624. Total and Disolved Metals were analyzed by EPA Methods 200 series. Base/neutral, and acid extractable constituents were analyzed by EPA Method 625.

Certified by:

Lester A. Cano

Lester Cano

GROUNDWATER MONITORING DATA
SITE 3

Site 3. Water-Level Measurements for November 21, 1988
(Measurements in ft msl)

Monitor Well Designation	Water-Levels
PW-9A	92.86
PW-10	91.12
PW-11	93.39
PW-30	94.31
PW-31	90.88
PW-32	90.93
PW-80	93.53
PW-81	94.22
PW-82	93.06
PW-83	93.14
PW-84	90.07
PW-85	90.31
PW-86	91.99
PW-87	89.57
PW-103	90.48
PW-109	92.71
FL-3	56.99
FL-4	56.93
FL-5	57.66
FL-6	56.92

744/21

MARTIN MARIETTA MISSILE SYSTEMS

CERTIFICATE OF ANALYSIS

SAMPLE INFORMATION : SITE 3

RECEIVED : 11/21/88,12/01/88
ANALYZED : 12/01/88-12/10/88
ANALYZED BY : Post, Buckley, Schuh & Jernigan, Inc.
HRS ID # : 83170

UNITS ARE IN PART PER BILLION

PARAMETER	PW-11	PW-30	PW-32
ACROLEIN	<100	<100	<100
ACRYLONITRILE	<100	<100	<100
BENZENE	<5	<5	<5
BROMOFORM	<5	<5	<5
CARBON TETRACHLORIDE	<5	<5	<5
CHLOROBENZENE	<5	<5	<5
CHLORODIBROMOMETHANE	<5	<5	<5
CHLOROETHANE	<10	<10	<10
2-CHLOROETHYLVINYL ETHER	<10	<10	<10
CHLOROFORM	<5	<5	<5
BIS(CHLOROMETHYL)ETHER	<10	<10	<10
DICHLOROBROMOMETHANE	<5	<5	<5
DICHLORODIFLUOROMETHANE	<5	<5	<5
1,2-DICHLOROETHANE	76	<5	<5
1,1-DICHLOROETHANE	250	<5	<5
1,1-DICHLOROETHYLENE	1474	8	19
1,2-T-DICHLOROETHYLENE	<5	294	1380
1,2-DICHLOROPROPANE	<5	<5	<5
C-1,3-DICHLOROPROPYLENE	<5	<5	<5
T-1,3-DICHLOROPROPYLENE	<5	<5	<5
ETHYLBENZENE	346	<5	8
METHYL BROMIDE	<10	<10	<10
METHYL CHLORIDE	<10	<10	<10
METHYLENE CHLORIDE	18000	34	180
1,1,1-TRICHLOROETHANE	6600	<5	29
1,1,2-TRICHLOROETHANE	79	<5	<5
TRICHLOROETHYLENE	37000	993	2720
TRICHLOROFLOUROMETHANE	<5	<5	<5
1,1,2,2-TETRACHLOROETHANE	313	<5	9
TETRACHLOROETHYLENE	7120	103	285
TOLUENE	14400	55	208
VINYL CHORIDE	<10	<10	<10

SAMPLE INFORMATION : SITE 3

UNITS ARE IN PART PER BILLION

PARAMETER	PW-80	PW-81	PW-86
ACROLEIN	<100	<100	<100
ACRYLONITRILE	<100	<100	<100
BENZENE	<5	<5	<5
BROMOFORM	<5	<5	<5
CARBON TETRACHLORIDE	<5	<5	<5
CHLOROBENZENE	<5	<5	<5
CHLORODIBROMOMETHANE	<5	<5	<5
CHLOROETHANE	<10	<10	<10
2-CHLOROETHYLVINYL ETHER	<10	<10	<10
CHLOROFORM	<5	<5	20
BIS(CHLOROMETHYL)ETHER	<10	<10	<10
DICHLOROBROMOMETHANE	<5	<5	<5
DICHLORODIFLUOROMETHANE	<5	<5	<5
1,2-DICHLOROETHANE	<5	<5	14
1,1-DICHLOROETHANE	<5	<5	<5
1,1-DICHLOROETHYLENE	<5	<5	4515
1,2-T-DICHLOROETHYLENE	101	<5	14600
1,2-DICHLOROPROPANE	<5	<5	<5
C-1,3-DICHLOROPROPYLENE	<5	<5	<5
T-1,3-DICHLOROPROPYLENE	<5	<5	<5
ETHYLBENZENE	<5	<5	<5
METHYL BROMIDE	<10	<10	<10
METHYL CHLORIDE	<10	<10	<10
METHYLENE CHLORIDE	<5	<5	<5
1,1,1-TRICHLOROETHANE	<5	<5	<5
1,1,2-TRICHLOROETHANE	<5	<5	<17
TRICHLOROETHYLENE	575	<5	14800
TRICHLOROFLOUROMETHANE	<5	<5	<5
1,1,2,2-TETRACHLOROETHANE	<5	<5	53
TETRACHLOROETHYLENE	68	<5	1970
TOLUENE	26	<5	24
VINYL CHORIDE	<10	<10	<10

UNITS ARE IN PART PER BILLION

SAMPLE INFORMATION : SITE 3

UNITS ARE IN PART PER BILLION

PARAMETER	PW-87	PW-103	PW-109
ACROLEIN	<100	<100	<100
ACRYLONITRILE	<100	<100	<100
BENZENE	<5	<5	<5
BROMOFORM	<5	<5	<5
CARBON TETRACHLORIDE	<5	<5	<5
CHLOROBENZENE	<5	<5	<5
CHLORODIBROMOMETHANE	<5	<5	<5
CHLOROETHANE	<10	<10	<10
2-CHLOROETHYLVINYL ETHER	<10	<10	<10
CHLOROFORM	<5	<5	<5
BIS(CHLOROMETHYL)ETHER	<10	<10	<10
DICHLOROBROMOMETHANE	<5	<5	<5
DICHLORODIFLUOROMETHANE	<5	<5	<5
1,2-DICHLOROETHANE	<5	<5	<5
1,1-DICHLOROETHANE	<5	<5	<5
1,1-DICHLOROETHYLENE	<5	<5	<5
1,2-T-DICHLOROETHYLENE	<5	<5	<5
1,2-DICHLOROPROPANE	<5	<5	<5
C-1,3-DICHLOROPROPYLENE	<5	<5	<5
T-1,3-DICHLOROPROPYLENE	<5	<5	<5
ETHYLBENZENE	<5	<5	<5
METHYL BROMIDE	<10	<10	<10
METHYL CHLORIDE	<10	<10	<10
METHYLENE CHLORIDE	<5	<5	<5
1,1,1-TRICHLOROETHANE	<5	<5	<5
1,1,2-TRICHLOROETHANE	<5	<5	<5
TRICHLOROETHYLENE	<5	<5	<5
TRICHLOROFLOUROMETHANE	<5	<5	<5
1,1,2,2-TETRACHLOROETHANE	<5	<5	<5
TETRACHLOROETHYLENE	<5	<5	<5
TOLUENE	<5	<5	<5
VINYL CHORIDE	<10	<10	<10

SAMPLE INFORMATION : SITE 3

PARAMETER	FL-3	FL-4	FL-5
ACROLEIN	<100	<100	<100
ACRYLONITRILE	<100	<100	<100
BENZENE	<5	<5	<5
BROMOFORM	<5	<5	<5
CARBON TETRACHLORIDE	<5	<5	<5
CHLOROBENZENE	<5	<5	<5
CHLORODIBROMOMETHANE	<5	<5	<5
CHLOROETHANE	<10	<10	<10
2-CHLOROETHYLVINYL ETHER	<10	<10	<10
CHLOROFORM	<5	<5	<5
BIS(CHLOROMETHYL)ETHER	<10	<10	<10
DICHLOROBROMOMETHANE	<5	<5	<5
DICHLORODIFLUOROMETHANE	<5	<5	<5
1,2-DICHLOROETHANE	<5	<5	<5
1,1-DICHLOROETHANE	<5	<5	<5
1,1-DICHLOROETHYLENE	<5	<5	<5
1,2-T-DICHLOROETHYLENE	26	<5	<5
1,2-DICHLOROPROPANE	<5	<5	<5
C-1,3-DICHLOROPROPYLENE	<5	<5	<5
T-1,3-DICHLOROPROPYLENE	<5	<5	<5
ETHYLBENZENE	<5	<5	<5
METHYL BROMIDE	<10	<10	<10
METHYL CHLORIDE	<10	<10	<10
METHYLENE CHLORIDE	<5	<5	<5
1,1,1-TRICHLOROETHANE	<5	<5	<5
1,1,2-TRICHLOROETHANE	<5	<5	<5
TRICHLOROETHYLENE	20	<5	<5
TRICHLOROFLOUROMETHANE	<5	<5	<5
1,1,2,2-TETRACHLOROETHANE	<5	<5	<5
TETRACHLOROETHYLENE	5	<5	<5
TOLUENE	<5	<5	<5
VINYL CHORIDE	<10	<10	<10

SAMPLE INFORMATION : SITE 3

UNITS ARE IN PART PER BILLION

PARAMETER	FL-6	REP-A	REP-B
ACROLEIN	<100	<100	<100
ACRYLONITRILE	<100	<100	<100
BENZENE	<5	<5	<5
BROMOFORM	<5	<5	<5
CARBON TETRACHLORIDE	<5	<5	<5
CHLOROBENZENE	<5	<5	<5
CHLORODIBROMOMETHANE	<5	<5	<5
CHLOROETHANE	<10	<10	<10
2-CHLOROETHYLVINYL ETHER	<10	<10	<10
CHLOROFORM	<5	<5	<5
BIS(CHLOROMETHYL)ETHER	<10	<10	<10
DICHLOROBROMOMETHANE	<5	<5	<5
DICHLORODIFLUOROMETHANE	<5	<5	<5
1,2-DICHLOROETHANE	<5	72	<5
1,1-DICHLOROETHANE	<5	225	<5
1,1-DICHLOROETHYLENE	<5	1300	<5
1,2-T-DICHLOROETHYLENE	112	<5	29
1,2-DICHLOROPROPANE	<5	<5	<5
C-1,3-DICHLOROPROPYLENE	<5	<5	<5
T-1,3-DICHLOROPROPYLENE	<5	<5	<5
ETHYLBENZENE	<5	283	<5
METHYL BROMIDE	<10	<10	<10
METHYL CHLORIDE	<10	<10	<10
METHYLENE CHLORIDE	<5	15700	<5
1,1,1-TRICHLOROETHANE	<5	6300	<5
1,1,2-TRICHLOROETHANE	<5	<5	<5
TRICHLOROETHYLENE	702	33000	295
TRICHLOROFLOUROMETHANE	<5	<5	<5
1,1,2,2-TETRACHLOROETHANE	<5	291	<5
TETRACHLOROETHYLENE	93	6880	20
TOLUENE	33	13200	<5
VINYL CHORIDE	<10	<10	<10

SAMPLE INFORMATION : SITE 3

UNITS ARE IN PART PER BILLION

PARAMETER	TRIP BK	FIELD BK	RINSATE
ACROLEIN	<100	<100	<100
ACRYLONITRILE	<100	<100	<100
BENZENE	<5	<5	<5
BROMOFORM	<5	<5	<5
CARBON TETRACHLORIDE	<5	<5	<5
CHLOROBENZENE	<5	<5	<5
CHLORODIBROMOMETHANE	<5	<5	<5
CHLOROETHANE	<10	<10	<10
2-CHLOROETHYLVINYL ETHER	<10	<10	<10
CHLOROFORM	<5	<5	<5
BIS(CHLOROMETHYL)ETHER	<10	<10	<10
DICHLOROBROMOMETHANE	<5	<5	<5
DICHLORODIFLUOROMETHANE	<5	<5	<5
1,2-DICHLOROETHANE	<5	<5	<5
1,1-DICHLOROETHANE	<5	<5	<5
1,1-DICHLOROETHYLENE	<5	10	24
1,2-T-DICHLOROETHYLENE	<5	336	1470
1,2-DICHLOROPROPANE	<5	<5	<5
C-1,3-DICHLOROPROPYLENE	<5	<5	<5
T-1,3-DICHLOROPROPYLENE	<5	<5	<5
ETHYLBENZENE	<5	<5	12
METHYL BROMIDE	<10	<10	<10
METHYL CHLORIDE	<10	<10	<10
METHYLENE CHLORIDE	<5	10	172
1,1,1-TRICHLOROETHANE	<5	9	37
1,1,2-TRICHLOROETHANE	<5	<5	<5
TRICHLOROETHYLENE	<5	1420	2800
TRICHLOROFLOUROMETHANE	<5	<5	<5
1,1,2,2-TETRACHLOROETHANE	<5	<5	10
TETRACHLOROETHYLENE	<5	146	329
TOLUENE	<5	67	232
VINYL CHORIDE	<10	<10	<10

MARTIN MARIETTA MISSILE SYSTEMS

CERTIFICATE OF ANALYSIS

SAMPLE INFORMATION : SITE 3

RECEIVED : 11/21/88,12/01/88
ANALYZED : 12/01/88-12/10/88
ANALYZED BY : Martin Marietta Environmental Laboratory
HRS ID # : E83027

UNITS ARE IN PART PER MILLION

PARAMETER	PW-11	REP A	RINSATE
CHROMIUM	0.16	0.17	0.01
CADMIUM	0.28	0.25	<0.005
LEAD	0.24	0.27	<0.01

GROUNDWATER MONITORING DATA
SITE 4

Site 4. Water-Level Measurements for November 28, 1988
(Measurements in ft msl)

Monitor Well Designation	Water-Levels
PW-85	92.32
PW-89	93.29
PW-90	92.44
PW-91	92.19
PW-92	92.19
PW-93	90.96
PW-94	94.08
PW-95	95.73
PW-96	91.35
PW-97	91.27
PW-98	71.72
PW-99	71.32
PW-100	71.74
PW-101	71.91
PW-102	100.17
PW-104	92.83
PW-105	72.60
PW-110	92.38
PW-114	74.17
PW-115	72.89
INT-11	63.59
INT-12	64.52
INT-13	63.62
INT-14	63.40
FL-7	63.12
FL-8	62.72

744/23

MARTIN MARIETTA MISSILE SYSTEMS

CERTIFICATE OF ANALYSIS

SAMPLE INFORMATION : SITE 4

RECEIVED : 11/29/88,11/30/88
ANALYZED : 12/08/88-12/10/88
ANALYZED BY : Post, Buckley, Schuh & Jernigan, Inc.
HRS ID # : 83170

UNITS ARE IN PARTS PER BILLION

PARAMETER	PW-89	PW-90	PW-91
ACROLEIN	<100	<100	<100
ACRYLONITRILE	<100	<100	<100
BENZENE	<5	<5	<5
BROMOFORM	<5	<5	<5
CARBON TETRACHLORIDE	<5	<5	<5
CHLOROBENZENE	<5	<5	<5
CHLORODIBROMOMETHANE	<5	<5	<5
CHLOROETHANE	<10	<10	<10
2-CHLOROETHYLVINYL ETHER	<10	<10	<10
CHLOROFORM	<5	<5	<5
BIS(CHLOROMETHYL)ETHER	<10	<10	<10
DICHLOROBROMOMETHANE	<5	<5	<5
DICHLORODIFLUOROMETHANE	<5	<5	<5
1,2-DICHLOROETHANE	<5	<5	<5
1,1-DICHLOROETHANE	<5	<5	<5
1,1-DICHLOROETHYLENE	<5	<5	12
1,2-T-DICHLOROETHYLENE	<5	15	<5
1,2-DICHLOROPROPANE	<5	<5	<5
C-1,3-DICHLOROPROPYLENE	<5	<5	<5
T-1,3-DICHLOROPROPYLENE	<5	<5	<5
ETHYLBENZENE	<5	<5	<5
METHYL BROMIDE	<10	<10	<10
METHYL CHLORIDE	<10	<10	<10
METHYLENE CHLORIDE	<5	<5	<5
1,1,1-TRICHLOROETHANE	<5	<5	<5
1,1,2-TRICHLOROETHANE	<5	<5	<5
TRICHLOROETHYLENE	<5	<5	15
TRICHLOROFLOUROMETHANE	<5	<5	<5
1,1,2,2-TETRACHLOROETHANE	<5	<5	<5
TETRACHLOROETHYLENE	<5	<5	<5
TOLUENE	<5	<5	<5
VINYL CHORIDE	<10	<10	<10

SAMPLE INFORMATION : SITE 4

UNITS ARE IN PARTS PER BILLION

PARAMETER	PW-92	PW-94	PW-95
ACROLEIN	<100	<100	<100
ACRYLONITRILE	<100	<100	<100
BENZENE	<5	<5	<5
BROMOFORM	<5	<5	<5
CARBON TETRACHLORIDE	<5	<5	<5
CHLOROBENZENE	<5	<5	<5
CHLORODIBROMOMETHANE	<5	<5	<5
CHLOROETHANE	<10	<10	<10
2-CHLOROETHYLVINYL ETHER	<10	<10	<10
CHLOROFORM	<5	<5	<5
BIS(CHLOROMETHYL)ETHER	<10	<10	<10
DICHLOROBROMOMETHANE	<5	<5	<5
DICHLORODIFLUOROMETHANE	<5	<5	<5
1,2-DICHLOROETHANE	<5	<5	<5
1,1-DICHLOROETHANE	8	<5	<5
1,1-DICHLOROETHYLENE	57	<5	27
1,2-T-DICHLOROETHYLENE	56	<5	135
1,2-DICHLOROPROPANE	<5	<5	<5
C-1,3-DICHLOROPROPYLENE	<5	<5	<5
T-1,3-DICHLOROPROPYLENE	<5	<5	<5
ETHYLBENZENE	<5	<5	<5
METHYL BROMIDE	<10	<10	<10
METHYL CHLORIDE	<10	<10	<10
METHYLENE CHLORIDE	<5	<5	13
1,1,1-TRICHLOROETHANE	<5	<5	<5
1,1,2-TRICHLOROETHANE	<5	<5	<5
TRICHLOROETHYLENE	14	<5	69
TRICHLOROFLOUROMETHANE	<5	<5	<5
1,1,2,2-TETRACHLOROETHANE	<5	<5	<5
TETRACHLOROETHYLENE	5	<5	10
TOLUENE	10	<5	12
VINYL CHORIDE	<10	<10	<10

SAMPLE INFORMATION : SITE 4

UNITS ARE IN PARTS PER BILLION

PARAMETER	PW-96	PW-99	PW-100
ACROLEIN	<100	<100	<100
ACRYLONITRILE	<100	<100	<100
BENZENE	<5	<5	<5
BROMOFORM	<5	<5	<5
CARBON TETRACHLORIDE	<5	<5	<5
CHLOROBENZENE	<5	<5	<5
CHLORODIBROMOMETHANE	<5	<5	<5
CHLOROETHANE	<10	<10	<10
2-CHLOROETHYLVINYL ETHER	<10	<10	<10
CHLOROFORM	<5	<5	<5
BIS(CHLOROMETHYL)ETHER	<10	<10	<10
DICHLOROBROMOMETHANE	<5	<5	<5
DICHLORODIFLUOROMETHANE	<5	<5	<5
1,2-DICHLOROETHANE	<5	155	<5
1,1-DICHLOROETHANE	<5	228	<5
1,1-DICHLOROETHYLENE	32	3540	14
1,2-T-DICHLOROETHYLENE	440	4250	15
1,2-DICHLOROPROPANE	<5	<5	<5
C-1,3-DICHLOROPROPYLENE	<5	<5	<5
T-1,3-DICHLOROPROPYLENE	<5	<5	<5
ETHYLBENZENE	<5	18	<5
METHYL BROMIDE	<10	<10	<10
METHYL CHLORIDE	<10	<10	<10
METHYLENE CHLORIDE	<5	<5	<5
1,1,1-TRICHLOROETHANE	<5	183	<5
1,1,2-TRICHLOROETHANE	<5	10	<5
TRICHLOROETHYLENE	19	2420	13
TRICHLOROFLOUROMETHANE	<5	<5	<5
1,1,2,2-TETRACHLOROETHANE	<5	32	<5
TETRACHLOROETHYLENE	<5	761	<5
TOLUENE	5	791	5
VINYL CHORIDE	<10	<10	<10

SAMPLE INFORMATION : SITE 4

UNITS ARE IN PARTS PER BILLION

PARAMETER	PW-101	PW-102	PW-104
ACROLEIN	<100	<100	<100
ACRYLONITRILE	<100	<100	<100
BENZENE	<5	<5	<5
BROMOFORM	<5	<5	<5
CARBON TETRACHLORIDE	<5	<5	<5
CHLOROBENZENE	<5	<5	<5
CHLORODIBROMOMETHANE	<5	<5	<5
CHLOROETHANE	<10	<10	<10
2-CHLOROETHYLVINYL ETHER	<10	<10	<10
CHLOROFORM	<5	<5	<5
BIS(CHLOROMETHYL)ETHER	<10	<10	<10
DICHLOROBROMOMETHANE	<5	<5	<5
DICHLORODIFLUOROMETHANE	<5	<5	<5
1,2-DICHLOROETHANE	<5	<5	<5
1,1-DICHLOROETHANE	26	<5	<5
1,1-DICHLOROETHYLENE	282	<5	<5
1,2-T-DICHLOROETHYLENE	221	<5	<5
1,2-DICHLOROPROPANE	<5	<5	<5
C-1,3-DICHLOROPROPYLENE	<5	<5	<5
T-1,3-DICHLOROPROPYLENE	<5	<5	<5
ETHYLBENZENE	<5	<5	<5
METHYL BROMIDE	<10	<10	<10
METHYL CHLORIDE	<10	<10	<10
METHYLENE CHLORIDE	<5	<5	<5
1,1,1-TRICHLOROETHANE	<5	<5	<5
1,1,2-TRICHLOROETHANE	<5	<5	<5
TRICHLOROETHYLENE	13	<5	<5
TRICHLOROFLOUROMETHANE	<5	<5	<5
1,1,2,2-TETRACHLOROETHANE	<5	<5	<5
TETRACHLOROETHYLENE	<5	<5	<5
TOLUENE	57	<5	<5
VINYL CHORIDE	<10	<10	<10

SAMPLE INFORMATION : SITE 4

UNITS ARE IN PARTS PER BILLION

PARAMETER	PW-114	PW-115	INT-11
ACROLEIN	<100	<100	<100
ACRYLONITRILE	<100	<100	<100
BENZENE	<5	<5	<5
BROMOFORM	<5	<5	<5
CARBON TETRACHLORIDE	<5	<5	<5
CHLOROBENZENE	<5	<5	<5
CHLORODIBROMOMETHANE	<5	<5	<5
CHLOROETHANE	<10	<10	<10
2-CHLOROETHYLVINYL ETHER	<10	<10	<10
CHLOROFORM	<5	<5	<5
BIS(CHLOROMETHYL)ETHER	<10	<10	<10
DICHLOROBROMOMETHANE	<5	<5	<5
DICHLORODIFLUOROMETHANE	<5	<5	<5
1,2-DICHLOROETHANE	<5	<5	<5
1,1-DICHLOROETHANE	<5	<5	<5
1,1-DICHLOROETHYLENE	51	<5	<5
1,2-T-DICHLOROETHYLENE	51	<5	<5
1,2-DICHLOROPROPANE	<5	<5	<5
C-1,3-DICHLOROPROPYLENE	<5	<5	<5
T-1,3-DICHLOROPROPYLENE	<5	<5	<5
ETHYLBENZENE	<5	<5	<5
METHYL BROMIDE	<10	<10	<10
METHYL CHLORIDE	<10	<10	<10
METHYLENE CHLORIDE	<5	<5	<5
1,1,1-TRICHLOROETHANE	<5	<5	<5
1,1,2-TRICHLOROETHANE	<5	<5	<5
TRICHLOROETHYLENE	11	<5	<5
TRICHLOROFLOUROMETHANE	<5	<5	<5
1,1,2,2-TETRACHLOROETHANE	<5	<5	<5
TETRACHLOROETHYLENE	<5	<5	<5
TOLUENE	9	<5	<5
VINYL CHORIDE	<10	<10	<10

SAMPLE INFORMATION : SITE 4

UNITS ARE IN PARTS PER BILLION

PARAMETER	INT-12	INT-13	INT-14
ACROLEIN	<100	<100	<100
ACRYLONITRILE	<100	<100	<100
BENZENE	<5	<5	<5
BROMOFORM	<5	<5	<5
CARBON TETRACHLORIDE	<5	<5	<5
CHLOROBENZENE	<5	<5	<5
CHLORODIBROMOMETHANE	<5	<5	<5
CHLOROETHANE	<10	<10	<10
2-CHLOROETHYLVINYL ETHER	<10	<10	<10
CHLOROFORM	<5	<5	<5
BIS(CHLOROMETHYL)ETHER	<10	<10	<10
DICHLOROBROMOMETHANE	<5	<5	<5
DICHLORODIFLUOROMETHANE	<5	<5	<5
1,2-DICHLOROETHANE	<5	<5	<5
1,1-DICHLOROETHANE	<5	98	<5
1,1-DICHLOROETHYLENE	<5	3060	24
1,2-T-DICHLOROETHYLENE	5	438	50
1,2-DICHLOROPROPANE	<5	<5	<5
C-1,3-DICHLOROPROPYLENE	<5	<5	<5
T-1,3-DICHLOROPROPYLENE	<5	<5	<5
ETHYLBENZENE	<5	6	<5
METHYL BROMIDE	<10	<10	<10
METHYL CHLORIDE	<10	<10	<10
METHYLENE CHLORIDE	<5	31	<5
1,1,1-TRICHLOROETHANE	<5	<5	<5
1,1,2-TRICHLOROETHANE	<5	<5	<5
TRICHLOROETHYLENE	<5	119	8
TRICHLOROFLOUROMETHANE	<5	<5	<5
1,1,2,2-TETRACHLOROETHANE	<5	<5	<5
TETRACHLOROETHYLENE	<5	12	<5
TOLUENE	7	162	62
VINYL CHORIDE	<10	45	<10

SAMPLE INFORMATION : SITE 4

UNITS ARE IN PARTS PER BILLION

PARAMETER	FL-7	FL-8	SW-4A
ACROLEIN	<100	<100	<100
ACRYLONITRILE	<100	<100	<100
BENZENE	<5	<5	<5
BROMOFORM	<5	<5	<5
CARBON TETRACHLORIDE	<5	<5	<5
CHLOROBENZENE	<5	<5	<5
CHLORODIBROMOMETHANE	<5	<5	<5
CHLOROETHANE	<10	<10	<10
2-CHLOROETHYLVINYL ETHER	<10	<10	<10
CHLOROFORM	<5	<5	<5
BIS(CHLOROMETHYL)ETHER	<10	<10	<10
DICHLOROBROMOMETHANE	<5	<5	<5
DICHLORODIFLUOROMETHANE	<5	<5	<5
1,2-DICHLOROETHANE	<5	<5	<5
1,1-DICHLOROETHANE	<5	5	<5
1,1-DICHLOROETHYLENE	<5	159	<5
1,2-T-DICHLOROETHYLENE	<5	196	7
1,2-DICHLOROPROPANE	<5	<5	<5
C-1,3-DICHLOROPROPYLENE	<5	<5	<5
T-1,3-DICHLOROPROPYLENE	<5	<5	<5
ETHYLBENZENE	<5	<5	<5
METHYL BROMIDE	<10	<10	<10
METHYL CHLORIDE	<10	<10	<10
METHYLENE CHLORIDE	<5	<5	<5
1,1,1-TRICHLOROETHANE	<5	<5	<5
1,1,2-TRICHLOROETHANE	<5	<5	<5
TRICHLOROETHYLENE	<5	17	18
TRICHLOROFLOUROMETHANE	<5	<5	<5
1,1,2,2-TETRACHLOROETHANE	<5	<5	<5
TETRACHLOROETHYLENE	<5	<5	<5
TOLUENE	<5	13	<5
VINYL CHORIDE	<10	<10	<10

SAMPLE INFORMATION : SITE 4

UNITS ARE IN PARTS PER BILLION

PARAMETER	REP-A	REP-B	REP-C
ACROLEIN	<100	<100	<100
ACRYLONITRILE	<100	<100	<100
BENZENE	<5	<5	<5
BROMOFORM	<5	<5	<5
CARBON TETRACHLORIDE	<5	<5	<5
CHLOROBENZENE	<5	<5	<5
CHLORODIBROMOMETHANE	<5	<5	<5
CHLOROETHANE	<10	<10	<10
2-CHLOROETHYLVINYL ETHER	<10	<10	<10
CHLOROFORM	<5	<5	<5
BIS(CHLOROMETHYL)ETHER	<10	<10	<10
DICHLOROBROMOMETHANE	<5	<5	<5
DICHLORODIFLUOROMETHANE	<5	<5	<5
1,2-DICHLOROETHANE	<5	5	<5
1,1-DICHLOROETHANE	<5	82	<5
1,1-DICHLOROETHYLENE	11	2720	<5
1,2-T-DICHLOROETHYLENE	<5	4040	<5
1,2-DICHLOROPROPANE	<5	<5	<5
C-1,3-DICHLOROPROPYLENE	<5	<5	<5
T-1,3-DICHLOROPROPYLENE	<5	<5	<5
ETHYLBENZENE	<5	<5	<5
METHYL BROMIDE	<10	<10	<10
METHYL CHLORIDE	<10	<10	<10
METHYLENE CHLORIDE	<5	33	<5
1,1,1-TRICHLOROETHANE	<5	<5	<5
1,1,2-TRICHLOROETHANE	<5	<5	<5
TRICHLOROETHYLENE	12	103	<5
TRICHLOROFLOUROMETHANE	<5	<5	<5
1,1,2,2-TETRACHLOROETHANE	<5	<5	<5
TETRACHLOROETHYLENE	<5	17	<5
TOLUENE	<5	251	<5
VINYL CHORIDE	<10	<10	<10

SAMPLE INFORMATION : SITE 4

UNITS ARE IN PARTS PER BILLION

PARAMETER	FIELD BK	RINSE-1	RINSE-2
ACROLEIN	<100	<100	<100
ACRYLONITRILE	<100	<100	<100
BENZENE	<5	<5	<5
BROMOFORM	<5	<5	<5
CARBON TETRACHLORIDE	<5	<5	<5
CHLOROBENZENE	<5	<5	<5
CHLORODIBROMOMETHANE	<5	<5	<5
CHLOROETHANE	<10	<10	<10
2-CHLOROETHYLVINYL ETHER	<10	<10	<10
CHLOROFORM	<5	<5	<5
BIS(CHLOROMETHYL)ETHER	<10	<10	<10
DICHLOROBROMOMETHANE	<5	<5	<5
DICHLORODIFLUOROMETHANE	<5	<5	<5
1,2-DICHLOROETHANE	<5	<5	<5
1,1-DICHLOROETHANE	<5	<5	<5
1,1-DICHLOROETHYLENE	<5	<5	<5
1,2-T-DICHLOROETHYLENE	<5	<5	<5
1,2-DICHLOROPROPANE	<5	<5	<5
C-1,3-DICHLOROPROPYLENE	<5	<5	<5
T-1,3-DICHLOROPROPYLENE	<5	<5	<5
ETHYLBENZENE	<5	<5	<5
METHYL BROMIDE	<10	<10	<10
METHYL CHLORIDE	<10	<10	<10
METHYLENE CHLORIDE	<5	<5	<5
1,1,1-TRICHLOROETHANE	<5	<5	<5
1,1,2-TRICHLOROETHANE	<5	<5	<5
TRICHLOROETHYLENE	<5	<5	<5
TRICHLOROFLOUROMETHANE	<5	<5	<5
1,1,2,2-TETRACHLOROETHANE	<5	<5	<5
TETRACHLOROETHYLENE	<5	<5	<5
TOLUENE	<5	<5	<5
VINYL CHORIDE	<10	<10	<10

MARTIN MARIETTA MISSILE SYSTEMS

CERTIFICATE OF ANALYSIS

SAMPLE INFORMATION : SITE 4

RECEIVED : 11/29/88,11/30/88
ANALYZED : 12/08/88-12/10/88
ANALYZED BY : Post, Buckley, Schuh & Jernigan, Inc.
HRS ID # : 83170

VALUES ARE IN PARTS PER MILLION

WELL ID	BA	CD	CR	HG	MN
PW-91	<0.15	0.111	<0.04	<0.0002	0.09
PW-94	0.52	<0.01	0.046	0.0002	0.05
PW-100	0.18	<0.01	<0.04	<0.0002	<0.02
REP A	<0.15	0.104	<0.04	<0.0002	0.09
RINS-2	<0.15	<0.01	<0.04	<0.0002	<0.02

WELL ID	PB	SE	SULFATE
PW-91	<0.05	<0.01	391.00
PW-92			859.00
PW-94	0.126	<0.01	
PW-100	<0.05	<0.01	
REP A	<0.05	<0.01	404.00
RINS-2	<0.05	<0.01	<1.0

GROUNDWATER MONITORING DATA
SITE 5

Site 5. Water-Level Measurements for November 15, 1988
(Measurements in ft msl)

Monitor Well Designation	Water-Levels
PW-1	84.56 1/
PW-2	-- 1/
PW-3	-- 1/
PW-4	87.50
PW-5	89.01
PW-6	89.15
PW-7	84.90
PW-8	84.37
PW-24	84.34
PW-25	84.26
PW-26	83.93
PW-33	81.62 1/
PW-34	-- 1/
PW-35	86.88
PW-36	85.16
PW-37	85.76
PW-38	86.54
PW-39	85.23
PW-40	84.57
PW-41	85.07
PW-42	86.53
PW-73	86.26
PW-74	86.36
PW-75	85.22
PW-76	84.49
PW-77	84.07
PW-78	79.11
PW-79	88.62
PW-88	77.38
PW-108	80.63
PW-111	84.38
PW-112	83.98
PW-113	82.22
INT-1	54.99
INT-2	54.36
INT-3	59.58
INT-4	53.13
INT-5	54.63
INT-6	55.14
INT-7	54.70
FL-2	52.68

1/ Water Level Not Measured

744/19

MARTIN MARIETTA MISSILE SYSTEMS

CERTIFICATE OF ANALYSIS

SAMPLE INFORMATION : SITE 5

RECEIVED : 11/16/88-11/18/88
ANALYZED : 11/28/88-12/01/88
ANALYZED BY : Post, Buckley, Schuh & Jernigan, Inc.
HRS ID # : 83170

UNITS ARE IN PARTS PER BILLION

PARAMETER	PW-4	PW-8	PW-25
ACROLEIN	<100	<100	<100
ACRYLONITRILE	<100	<100	<100
BENZENE	<5	<5	<5
BROMOFORM	<5	<5	<5
CARBON TETRACHLORIDE	<5	<5	<5
CHLOROBENZENE	<5	<5	<5
CHLORODIBROMOMETHANE	<5	<5	<5
CHLOROETHANE	<10	<10	<10
2-CHLOROETHYLVINYL ETHER	<10	<10	<10
CHLOROFORM	<5	<5	<5
BIS(CHLOROMETHYL)ETHER	<10	<10	<10
DICHLOROBROMOMETHANE	<5	<5	<5
DICHLORODIFLUOROMETHANE	<5	<5	<5
1,2-DICHLOROETHANE	<5	<5	<5
1,1-DICHLOROETHANE	<5	<5	<5
1,1-DICHLOROETHYLENE	<5	15	<5
1,2-T-DICHLOROETHYLENE	<5	204	<5
1,2-DICHLOROPROPANE	<5	<5	<5
C-1,3-DICHLOROPROPYLENE	<5	<5	<5
T-1,3-DICHLOROPROPYLENE	<5	<5	<5
ETHYLBENZENE	<5	<5	<5
METHYL BROMIDE	<10	<10	<10
METHYL CHLORIDE	<10	<10	<10
METHYLENE CHLORIDE	<5	31	<5
1,1,1-TRICHLOROETHANE	<5	127	<5
1,1,2-TRICHLOROETHANE	<5	<5	<5
TRICHLOROETHYLENE	7	16	8
TRICHLOROFLOUROMETHANE	<5	<5	<5
1,1,2,2-TETRACHLOROETHANE	<5	<5	<5
TETRACHLOROETHYLENE	12	11	<5
TOLUENE	<5	32	<5
VINYL CHORIDE	<10	270	<10

SAMPLE INFORMATION : SITE 5

UNITS ARE IN PARTS PER BILLION

PARAMETER	PW-26	PW-36	PW-37
ACROLEIN	<100	<100	<100
ACRYLONITRILE	<100	<100	<100
BENZENE	<5	<5	<5
BROMOFORM	<5	<5	<5
CARBON TETRACHLORIDE	<5	<5	<5
CHLOROBENZENE	<5	<5	<5
CHLORODIBROMOMETHANE	<5	<5	<5
CHLOROETHANE	<10	<10	<10
2-CHLOROETHYLVINYL ETHER	<10	<10	<10
CHLOROFORM	<5	<5	<5
BIS(CHLOROMETHYL)ETHER	<10	<10	<10
DICHLOROBROMOMETHANE	<5	<5	<5
DICHLORODIFLUOROMETHANE	<5	<5	<5
1,2-DICHLOROETHANE	31	<5	<5
1,1-DICHLOROETHANE	31	6	130
1,1-DICHLOROETHYLENE	54	<5	21
1,2-T-DICHLOROETHYLENE	12000	462	109
1,2-DICHLOROPROPANE	<5	<5	<5
C-1,3-DICHLOROPROPYLENE	<5	<5	<5
T-1,3-DICHLOROPROPYLENE	<5	<5	<5
ETHYLBENZENE	55	33	<5
METHYL BROMIDE	<10	<10	<10
METHYL CHLORIDE	<10	<10	<10
METHYLENE CHLORIDE	511	<5	<5
1,1,1-TRICHLOROETHANE	<5	<5	<5
1,1,2-TRICHLOROETHANE	<5	<5	<5
TRICHLOROETHYLENE	152	43	18
TRICHLOROFLOUROMETHANE	<5	<5	<5
1,1,2,2-TETRACHLOROETHANE	<5	<5	<5
TETRACHLOROETHYLENE	1370	59	29
TOLUENE	494	51	11
VINYL CHORIDE	<10	<10	<10

SAMPLE INFORMATION : SITE 5

UNITS ARE IN PARTS PER BILLION

PARAMETER	PW-38	PW-39	PW-40
ACROLEIN	<100	<100	<100
ACRYLONITRILE	<100	<100	<100
BENZENE	<5	<5	<5
BROMOFORM	<5	<5	<5
CARBON TETRACHLORIDE	<5	<5	<5
CHLOROBENZENE	<5	<5	<5
CHLORODIBROMOMETHANE	<5	<5	<5
CHLOROETHANE	<10	<10	<10
2-CHLOROETHYLVINYL ETHER	<10	<10	<10
CHLOROFORM	<5	<5	<5
BIS(CHLOROMETHYL)ETHER	<10	<10	<10
DICHLOROBROMOMETHANE	<5	<5	<5
DICHLORODIFLUOROMETHANE	<5	<5	<5
1,2-DICHLOROETHANE	<5	<5	<5
1,1-DICHLOROETHANE	<5	<5	<5
1,1-DICHLOROETHYLENE	<5	35	<5
1,2-T-DICHLOROETHYLENE	<5	<5	<5
1,2-DICHLOROPROPANE	<5	<5	<5
C-1,3-DICHLOROPROPYLENE	<5	<5	<5
T-1,3-DICHLOROPROPYLENE	<5	<5	<5
ETHYLBENZENE	<5	<5	<5
METHYL BROMIDE	<10	<10	<10
METHYL CHLORIDE	<10	<10	<10
METHYLENE CHLORIDE	<5	<5	<5
1,1,1-TRICHLOROETHANE	<5	<5	<5
1,1,2-TRICHLOROETHANE	<5	<5	<5
TRICHLOROETHYLENE	33	8	33
TRICHLOROFLOUROMETHANE	<5	<5	<5
1,1,2,2-TETRACHLOROETHANE	<5	<5	<5
TETRACHLOROETHYLENE	<5	<5	<5
TOLUENE	31	<5	31
VINYL CHORIDE	<10	<10	<10

SAMPLE INFORMATION : SITE 5

UNITS ARE IN PARTS PER BILLION

PARAMETER	PW-73	PW-74	PW-77
ACROLEIN	<100	<100	<100
ACRYLONITRILE	<100	<100	<100
BENZENE	<5	6	9
BROMOFORM	<5	<5	<5
CARBON TETRACHLORIDE	<5	<5	<5
CHLOROBENZENE	<5	<5	29
CHLORODIBROMOMETHANE	<5	<5	<5
CHLOROETHANE	<10	<10	<10
2-CHLOROETHYLVINYL ETHER	<10	<10	<10
CHLOROFORM	<5	<5	<5
BIS(CHLOROMETHYL)ETHER	<10	<10	<10
DICHLOROBROMOMETHANE	<5	<5	<5
DICHLORODIFLUOROMETHANE	<5	<5	<5
1,2-DICHLOROETHANE	<5	<5	85
1,1-DICHLOROETHANE	<5	<5	283
1,1-DICHLOROETHYLENE	<5	<5	<5
1,2-T-DICHLOROETHYLENE	<5	<5	998
1,2-DICHLOROPROPANE	<5	<5	<5
C-1,3-DICHLOROPROPYLENE	<5	<5	<5
T-1,3-DICHLOROPROPYLENE	<5	<5	<5
ETHYLBENZENE	23	263	134
METHYL BROMIDE	<10	<10	<10
METHYL CHLORIDE	<10	<10	<10
METHYLENE CHLORIDE	<5	<5	1100
1,1,1-TRICHLOROETHANE	<5	<5	<5
1,1,2-TRICHLOROETHANE	<5	<5	<5
TRICHLOROETHYLENE	45	<5	61
TRICHLOROFLOUROMETHANE	<5	<5	<5
1,1,2,2-TETRACHLOROETHANE	1420	<5	53
TETRACHLOROETHYLENE	60000	<5	1980
TOLUENE	26	11	701
VINYL CHORIDE	<10	266	<10

SAMPLE INFORMATION : SITE 5

UNITS ARE IN PARTS PER BILLION

PARAMETER	PW-79	PW-108	PW-111
ACROLEIN	<100	<100	<100
ACRYLONITRILE	<100	<100	<100
BENZENE	<5	<5	<5
BROMOFORM	<5	<5	<5
CARBON TETRACHLORIDE	<5	<5	<5
CHLOROBENZENE	<5	<5	<5
CHLORODIBROMOMETHANE	<5	<5	<5
CHLOROETHANE	<10	<10	<10
2-CHLOROETHYLVINYL ETHER	<10	<10	<10
CHLOROFORM	<5	<5	<5
BIS(CHLOROMETHYL)ETHER	<10	<10	<10
DICHLOROBROMOMETHANE	<5	<5	<5
DICHLORODIFLUOROMETHANE	<5	<5	<5
1,2-DICHLOROETHANE	<5	<5	<5
1,1-DICHLOROETHANE	<5	<5	<5
1,1-DICHLOROETHYLENE	<5	<5	<5
1,2-T-DICHLOROETHYLENE	<5	<5	<5
1,2-DICHLOROPROPANE	<5	<5	<5
C-1,3-DICHLOROPROPYLENE	<5	<5	<5
T-1,3-DICHLOROPROPYLENE	<5	<5	<5
ETHYLBENZENE	<5	<5	<5
METHYL BROMIDE	<10	<10	<10
METHYL CHLORIDE	<10	<10	<10
METHYLENE CHLORIDE	<5	<5	<5
1,1,1-TRICHLOROETHANE	<5	<5	<5
1,1,2-TRICHLOROETHANE	<5	<5	<5
TRICHLOROETHYLENE	11	<5	<5
TRICHLOROFLOUROMETHANE	<5	<5	<5
1,1,2,2-TETRACHLOROETHANE	<5	<5	<5
TETRACHLOROETHYLENE	21	<5	<5
TOLUENE	<5	<5	<5
VINYL CHORIDE	<10	<10	<10

SAMPLE INFORMATION : SITE 5

UNITS ARE IN PARTS PER BILLION

PARAMETER	PW-112	PW-113	INT-1
ACROLEIN	<100	<100	<100
ACRYLONITRILE	<100	<100	<100
BENZENE	<5	<5	<5
BROMOFORM	<5	<5	<5
CARBON TETRACHLORIDE	<5	<5	<5
CHLOROBENZENE	<5	<5	<5
CHLORODIBROMOMETHANE	<5	<5	<5
CHLOROETHANE	<10	<10	<10
2-CHLOROETHYLVINYL ETHER	<10	<10	<10
CHLOROFORM	<5	<5	<5
BIS(CHLOROMETHYL)ETHER	<10	<10	<10
DICHLOROBROMOMETHANE	<5	<5	<5
DICHLORODIFLUOROMETHANE	<5	<5	<5
1,2-DICHLOROETHANE	<5	<5	<5
1,1-DICHLOROETHANE	<5	<5	<5
1,1-DICHLOROETHYLENE	<5	<5	<5
1,2-T-DICHLOROETHYLENE	<5	<5	350
1,2-DICHLOROPROPANE	<5	<5	<5
C-1,3-DICHLOROPROPYLENE	<5	<5	<5
T-1,3-DICHLOROPROPYLENE	<5	<5	<5
ETHYLBENZENE	<5	<5	<5
METHYL BROMIDE	<10	<10	<10
METHYL CHLORIDE	<10	<10	<10
METHYLENE CHLORIDE	<5	<5	28
1,1,1-TRICHLOROETHANE	<5	<5	<5
1,1,2-TRICHLOROETHANE	<5	<5	<5
TRICHLOROETHYLENE	<5	<5	6
TRICHLOROFLOUROMETHANE	<5	<5	<5
1,1,2,2-TETRACHLOROETHANE	<5	<5	<5
TETRACHLOROETHYLENE	<5	<5	5
TOLUENE	<5	<5	96
VINYL CHORIDE	<10	<10	292

SAMPLE INFORMATION : SITE 5

UNITS ARE IN PARTS PER BILLION

PARAMETER	INT-2	INT-4	INT-5
ACROLEIN	<100	<100	<100
ACRYLONITRILE	<100	<100	<100
BENZENE	<5	<5	<5
BROMOFORM	<5	<5	<5
CARBON TETRACHLORIDE	<5	<5	<5
CHLOROBENZENE	<5	<5	<5
CHLORODIBROMOMETHANE	<5	<5	<5
CHLOROETHANE	<10	<10	<10
2-CHLOROETHYLVINYL ETHER	<10	<10	<10
CHLOROFORM	<5	<5	<5
BIS(CHLOROMETHYL)ETHER	<10	<10	<10
DICHLOROBROMOMETHANE	<5	<5	<5
DICHLORODIFLUOROMETHANE	<5	<5	<5
1,2-DICHLOROETHANE	<5	<5	<5
1,1-DICHLOROETHANE	<5	<5	<5
1,1-DICHLOROETHYLENE	<5	<5	<5
1,2-T-DICHLOROETHYLENE	8	<5	<5
1,2-DICHLOROPROPANE	<5	<5	<5
C-1,3-DICHLOROPROPYLENE	<5	<5	<5
T-1,3-DICHLOROPROPYLENE	<5	<5	<5
ETHYLBENZENE	<5	<5	<5
METHYL BROMIDE	<10	<10	<10
METHYL CHLORIDE	<10	<10	<10
METHYLENE CHLORIDE	<5	<5	<5
1,1,1-TRICHLOROETHANE	<5	<5	<5
1,1,2-TRICHLOROETHANE	<5	<5	<5
TRICHLOROETHYLENE	28	<5	<5
TRICHLOROFLOUROMETHANE	<5	<5	<5
1,1,2,2-TETRACHLOROETHANE	<5	<5	<5
TETRACHLOROETHYLENE	40	<5	<5
TOLUENE	27	<5	<5
VINYL CHORIDE	<10	<10	<10

SAMPLE INFORMATION : SITE 5

UNITS ARE IN PARTS PER BILLION

PARAMETER	INT-6	INT-7	FL-2
ACROLEIN	<100	<100	<100
ACRYLONITRILE	<100	<100	<100
BENZENE	<5	<5	<5
BROMOFORM	<5	<5	<5
CARBON TETRACHLORIDE	<5	<5	<5
CHLOROBENZENE	<5	<5	<5
CHLORODIBROMOMETHANE	<5	<5	<5
CHLOROETHANE	<10	<10	<10
2-CHLOROETHYLVINYL ETHER	<10	<10	<10
CHLOROFORM	<5	<5	<5
BIS(CHLOROMETHYL)ETHER	<10	<10	<10
DICHLOROBROMOMETHANE	<5	<5	<5
DICHLORODIFLUOROMETHANE	<5	<5	<5
1,2-DICHLOROETHANE	<5	<5	<5
1,1-DICHLOROETHANE	<5	<5	<5
1,1-DICHLOROETHYLENE	<5	<5	<5
1,2-T-DICHLOROETHYLENE	<5	<5	<5
1,2-DICHLOROPROPANE	<5	<5	<5
C-1,3-DICHLOROPROPYLENE	<5	<5	<5
T-1,3-DICHLOROPROPYLENE	<5	<5	<5
ETHYLBENZENE	<5	<5	<5
METHYL BROMIDE	<10	<10	<10
METHYL CHLORIDE	<10	<10	<10
METHYLENE CHLORIDE	<5	<5	<5
1,1,1-TRICHLOROETHANE	<5	<5	<5
1,1,2-TRICHLOROETHANE	<5	<5	<5
TRICHLOROETHYLENE	<5	8	<5
TRICHLOROFLOUROMETHANE	<5	<5	<5
1,1,2,2-TETRACHLOROETHANE	<5	<5	<5
TETRACHLOROETHYLENE	<5	10	<5
TOLUENE	<5	<5	<5
VINYL CHORIDE	<10	<10	<10

SAMPLE INFORMATION : SITE 5

UNITS ARE IN PARTS PER BILLION

PARAMETER	REP-A	REP-B	REP-C
ACROLEIN	<100	<100	<100
ACRYLONITRILE	<100	<100	<100
BENZENE	6	<5	<5
BROMOFORM	<5	<5	<5
CARBON TETRACHLORIDE	<5	<5	<5
CHLOROBENZENE	<5	<5	<5
CHLORODIBROMOMETHANE	<5	<5	<5
CHLOROETHANE	<10	<10	<10
2-CHLOROETHYLVINYL ETHER	<10	<10	<10
CHLOROFORM	<5	<5	<5
BIS(CHLOROMETHYL)ETHER	<10	<10	<10
DICHLOROBROMOMETHANE	<5	<5	<5
DICHLORODIFLUOROMETHANE	<5	<5	<5
1,2-DICHLOROETHANE	<5	<5	<5
1,1-DICHLOROETHANE	8	<5	<5
1,1-DICHLOROETHYLENE	7	<5	<5
1,2-T-DICHLOROETHYLENE	937	286	<5
1,2-DICHLOROPROPANE	<5	<5	<5
C-1,3-DICHLOROPROPYLENE	<5	<5	<5
T-1,3-DICHLOROPROPYLENE	<5	<5	<5
ETHYLBENZENE	59	<5	<5
METHYL BROMIDE	<10	<10	<10
METHYL CHLORIDE	<10	<10	<10
METHYLENE CHLORIDE	<5	22	<5
1,1,1-TRICHLOROETHANE	<5	<5	<5
1,1,2-TRICHLOROETHANE	<5	<5	<5
TRICHLOROETHYLENE	57	<5	<5
TRICHLOROFLOUROMETHANE	<5	<5	<5
1,1,2,2-TETRACHLOROETHANE	<5	<5	<5
TETRACHLOROETHYLENE	126	<5	<5
TOLUENE	32	109	<5
VINYL CHORIDE	772	230	<10

SAMPLE INFORMATION : SITE 5

UNITS ARE IN PARTS PER BILLION

PARAMETER	TRIP BK	TRIP BK	FIELD BK
ACROLEIN	<100	<100	<100
ACRYLONITRILE	<100	<100	<100
BENZENE	<5	<5	<5
BROMOFORM	<5	<5	<5
CARBON TETRACHLORIDE	<5	<5	<5
CHLOROBENZENE	<5	<5	<5
CHLORODIBROMOMETHANE	<5	<5	<5
CHLOROETHANE	<10	<10	<10
2-CHLOROETHYLVINYL ETHER	<10	<10	<10
CHLOROFORM	<5	<5	<5
BIS(CHLOROMETHYL)ETHER	<10	<10	<10
DICHLOROBROMOMETHANE	<5	<5	<5
DICHLORODIFLUOROMETHANE	<5	<5	<5
1,2-DICHLOROETHANE	<5	<5	<5
1,1-DICHLOROETHANE	<5	<5	<5
1,1-DICHLOROETHYLENE	<5	<5	<5
1,2-T-DICHLOROETHYLENE	<5	<5	<5
1,2-DICHLOROPROPANE	<5	<5	<5
C-1,3-DICHLOROPROPYLENE	<5	<5	<5
T-1,3-DICHLOROPROPYLENE	<5	<5	<5
ETHYLBENZENE	<5	<5	<5
METHYL BROMIDE	<10	<10	<10
METHYL CHLORIDE	<10	<10	<10
METHYLENE CHLORIDE	<5	<5	<5
1,1,1-TRICHLOROETHANE	<5	<5	<5
1,1,2-TRICHLOROETHANE	<5	<5	<5
TRICHLOROETHYLENE	<5	<5	13
TRICHLOROFLOUROMETHANE	<5	<5	<5
1,1,2,2-TETRACHLOROETHANE	<5	<5	<5
TETRACHLOROETHYLENE	<5	<5	<5
TOLUENE	<5	<5	6
VINYL CHORIDE	<10	<10	<10

SAMPLE INFORMATION : SITE 5

UNITS ARE IN PARTS PER BILLION

PARAMETER	RINSE-3
ACROLEIN	<100
ACRYLONITRILE	<100
BENZENE	<5
BROMOFORM	<5
CARBON TETRACHLORIDE	<5
CHLOROBENZENE	<5
CHLORODIBROMOMETHANE	<5
CHLOROETHANE	<10
2-CHLOROETHYLVINYL ETHER	<10
CHLOROFORM	<5
BIS(CHLOROMETHYL)ETHER	<10
DICHLOROBROMOMETHANE	<5
DICHLORODIFLUOROMETHANE	<5
1,2-DICHLOROETHANE	<5
1,1-DICHLOROETHANE	<5
1,1-DICHLOROETHYLENE	<5
1,2-T-DICHLOROETHYLENE	<5
1,2-DICHLOROPROPANE	<5
C-1,3-DICHLOROPROPYLENE	<5
T-1,3-DICHLOROPROPYLENE	<5
ETHYLBENZENE	<5
METHYL BROMIDE	<10
METHYL CHLORIDE	<10
METHYLENE CHLORIDE	<5
1,1,1-TRICHLOROETHANE	<5
1,1,2-TRICHLOROETHANE	<5
TRICHLOROETHYLENE	<5
TRICHLOROFLOUROMETHANE	<5
1,1,2,2-TETRACHLOROETHANE	13
TETRACHLOROETHYLENE	517
TOLUENE	7
VINYL CHORIDE	<10

MARTIN MARIETTA MISSILE SYSTEMS

CERTIFICATE OF ANALYSIS

SAMPLE INFORMATION : SITE 5

RECEIVED : 11/16/88-11/18/88
ANALYZED : 11/28/88-12/01/88
ANALYZED BY : Post, Buckley, Schuh & Jernigan, Inc.
HRS ID # : 83170

VALUES ARE IN PARTS PER MILLION

WELL ID	AG	AS	BA	CD	CR
PW-4	<0.001	<0.05	<0.15	<0.01	<0.04
PW-8	<0.001	<0.05	<0.15	<0.01	<0.04
PW-25	<0.001	<0.05	<0.15	<0.01	<0.04
PW-26	<0.001	<0.05	<0.15	<0.01	<0.04
PW-36	<0.001	<0.05	<0.15	<0.01	<0.04
PW-37	<0.001	<0.05	<0.15	<0.01	<0.04
PW-38	<0.001	<0.05	<0.15	<0.01	<0.04
PW-39	<0.001	<0.05	<0.15	<0.01	<0.04
PW-40	<0.001	<0.05	<0.15	<0.01	<0.04
PW-73	<0.001	<0.05	<0.15	<0.01	<0.04
PW-74	<0.001	<0.05	<0.15	<0.01	0.112
PW-75	<0.001	<0.05	0.38	<0.01	<0.04
PW-77	<0.001	<0.05	0.22	<0.01	0.047
PW-79	<0.001	<0.05	<0.15	<0.01	<0.04
PW-108	<0.001	<0.05	<0.15	<0.01	<0.04
PW-111	<0.001	<0.05	<0.15	<0.01	<0.04
PW-112	<0.001	<0.05	<0.15	<0.01	<0.04
PW-113	<0.001	<0.05	<0.15	<0.01	<0.04
INT-1	<0.001	<0.05	<0.15	<0.01	<0.04
INT-2	<0.001	<0.05	<0.15	<0.01	<0.04
INT-4	<0.001	<0.05	<0.15	<0.01	<0.04
INT-5	0.001	<0.05	<0.15	<0.01	<0.04
INT-6	<0.001	<0.05	<0.15	<0.01	<0.04
INT-7	<0.001	<0.05	<0.15	<0.01	<0.04
FL-2	<0.001	<0.05	<0.15	<0.01	<0.04

SAMPLE INFORMATION : SITE 5

VALUES ARE IN PARTS PER MILLION

WELL ID	FE	HG	MN	NA	PB
PW-4	0.407	<0.0002	<0.02	2.780	<0.05
PW-8	3.768	<0.0002	0.04	20.560	<0.05
PW-25	0.506	<0.0002	<0.02	3.310	<0.05
PW-26	7.486	<0.0002	<0.02	39.790	<0.05
PW-36	0.290	<0.0002	0.03	73.200	<0.05
PW-37	4.765	<0.0002	<0.02	104.920	<0.05
PW-38	0.408	<0.0002	<0.02	4.170	<0.05
PW-39	3.070	<0.0002	0.03	11.580	<0.05
PW-40	0.521	<0.0002	<0.02	3.140	<0.05
PW-73	0.655	<0.0002	<0.02	7.480	<0.05
PW-74	94.800	<0.0002	0.61	9.380	<0.05
PW-75	4.360	<0.0002	0.03	22.510	0.074
PW-77	40.100	<0.0002	0.05	84.260	<0.05
PW-79	0.248	<0.0002	<0.02	4.440	<0.05
PW-108	0.930	<0.0002	<0.02	6.920	<0.05
PW-111	0.876	<0.0002	<0.02	4.480	<0.05
PW-112	0.442	<0.0002	<0.02	4.470	<0.03
PW-113	1.110	<0.0002	<0.02	8.250	<0.05
INT-1	3.856	<0.0002	0.05	15.870	<0.05
INT-2	0.887	<0.0002	0.02	10.020	<0.05
INT-4	1.204	<0.0002	0.03	10.040	<0.05
INT-5	2.560	<0.0002	0.03	11.640	<0.05
INT-6	1.028	<0.0002	<0.02	13.720	<0.05
INT-7	0.515	<0.0002	0.03	13.180	<0.05
FL-2	0.764	<0.0002	0.02	15.150	<0.05

SAMPLE INFORMATION : SITE 5

WELL ID	SE	FLOURIDE	NITRATE	SULFATE	CHLORIDE
PW-4	<0.01	0.02	<0.02	1.40	3.0
PW-8	<0.01				
PW-25	<0.01				
PW-26	<0.01				
PW-36	<0.01	0.02	<0.02	306.00	44.8
PW-37	<0.01	0.20	<0.02	249.00	60.1
PW-38	<0.01	0.02	<0.02	5.40	4.2
PW-39	<0.01	0.50	<0.02	3.20	35.3
PW-40	<0.01				
PW-73	<0.01				
PW-74	<0.01				
PW-75	<0.01				
PW-77	<0.01				
PW-79	<0.01	0.04	<0.02	1.20	6.9
PW-108	<0.01	0.51	<0.02	298.00	11.4
PW-111	<0.01				
PW-112	<0.01				
PW-113	<0.01				
INT-1	<0.01				
INT-2	<0.01				
INT-4	<0.01	0.32	0.08	1.40	15.8
INT-5	<0.01				
INT-6	<0.01	0.08	0.03	2.30	14.4
INT-7	<0.01	0.11	0.06	1.50	13.4
FL-2	<0.01				

WELL ID	RADIUM 226 (pCi/L)	RADIUM 228 (pCi/L)	GROSS ALPHA (pCi/L)	GROSS BETA (pCi/L)
PW-4	0.0+/-0.0	0.5+/-0.5	5.7+/-1.7	0.4+/-1.3
PW-36	2.4+/-0.2	0.8+/-0.5	23+/-5	19+/-3
PW-37	1.9+/-0.2	1.7+/-0.6	34+/-6	14+/-3
PW-38	0.0+/-0.1	0.9+/-0.6	6.9+/-1.8	0.0+/-1.1
PW-39	0.4+/-0.1	1.6+/-0.6	5.5+/-2.1	3.9+/-1.4
PW-79	0.6+/-0.1	0.1+/-0.4	7.0+/-1.8	0.8+/-1.3
PW-108	0.4+/-0.1	0.4+/-0.5	2.1+/-1.2	1.0+/-1.3
INT-4	2.7+/-0.2	0.0+/-0.5	4.4+/-2.2	3.2+/-1.9
INT-6	1.6+/-0.1	0.5+/-0.5	9.8+/-2.6	11+/-2
INT-7	0.9+/-0.1	1.3+/-0.6	1.7+/-2.1	8.1+/-2.6

CERTIFICATE OF ANALYSIS

SAMPLE INFORMATION : SITE 5

RECEIVED : 11/16/88-11/18/88
ANALYZED : 11/28/88-12/01/88
ANALYZED BY : Post, Buckley, Schuh & Jernigan, Inc.
HRS ID # : 83170

EPA METHOD 625 ACIDS
UNITS ARE IN PARTS PER BILLION

PARAMETER	PW-4	PW-36	PW-37
p-CHLORO-n-CRESOL	<10	<10	<10
2-CHLOROPHENOL	<10	<10	<10
4,6-DINITRO-o-CREOSOL	<10	<10	<10
2,4-DICHLOROPHENOL	<10	<10	<10
2,4-DIMETHYLPHENOL	<10	<10	<10
2,4-DINITROPHENOL	<10	<10	<10
2-NITROPHENOL	<10	<10	<10
4-NITROPHENOL	<10	<10	<10
PENTACHLOROPHENOL	<10	<10	<10
PHENOL	<10	<10	<10
2,4,6,-TRICHLOROPHENOL	<10	<10	<10

PARAMETER	PW-38	PW-39	PW-79
p-CHLORO-n-CRESOL	<10	<10	<10
2-CHLOROPHENOL	<10	<10	<10
4,6-DINITRO-o-CREOSOL	<10	<10	<10
2,4-DICHLOROPHENOL	<10	<10	<10
2,4-DIMETHYLPHENOL	<10	<10	<10
2,4-DINITOPHENOL	<10	<10	<10
2-NITROPHENOL	<10	<10	<10
4-NITROPHENOL	<10	<10	<10
PENTACHLOROPHENOL	<10	<10	<10
PHENOL	<10	<10	<10
2,4,6,-TRICHLOROPHENOL	<10	<10	<10

PARAMETER	PW-108	INT-4	INT-6
p-CHLORO-m-CRESOL	<10	<10	<10
2-CHLOROPHENOL	<10	<10	<10
4,6-DINITRO-o-CREOSOL	<10	<10	<10
2,4-DICHLOROPHENOL	<10	<10	<10
2,4-DIMETHYLPHENOL	<10	<10	<10
2,4-DINITOPHENOL	<10	<10	<10
2-NITROPHENOL	<10	<10	<10
4-NITROPHENOL	<10	<10	<10
PENTACHLOROPHENOL	<10	<10	<10
PHENOL	<10	<10	<10
2,4,6,-TRICHLOROPHENOL	<10	<10	<10

SAMPLE INFORMATION : SITE 5

EPA METHOD 625 ACIDS
UNITS ARE IN PARTS PER BILLION

PARAMETER	INT-7
p-CHLORO-m-CRESOL	<10
2-CHLOROPHENOL	<10
4,6-DINITRO-o-CREOSOL	<10
2,4-DICHLOROPHENOL	<10
2,4-DIMETHYLPHENOL	<10
2,4-DINITOPHENOL	<10
2-NITROPHENOL	<10
4-NITROPHENOL	<10
PENTACHLOROPHENOL	<10
PHENOL	<10
2,4,6,-TRICHLOROPHENOL	<10

MARTIN MARIETTA MISSILE SYSTEMS

CERTIFICATE OF ANALYSIS

SAMPLE INFORMATION : SITE 5
RECEIVED : 11/16/88-11/18/88
ANALYZED : 11/28/88-12/01/88
ANALYZED BY : Post, Buckley, Schuh & Jernigan, Inc.
HRS ID # : 83170

EPA METHOD 625 BASE/NEUTRALS
UNITS ARE IN PARTS PER BILLION

PARAMETER	PW- 4	PW-36	PW-37
ACENAPHTHENE	<10	<10	<10
BENZIDINE	<10	<10	<10
1,2,4-TRICHLOROBENZENE	<10	<10	<10
HEXACHLOROBENZENE	<10	<10	<10
HEXACHLOROETHANE	<10	<10	<10
BIS(2-CHLOROETHYL)ETHER	<10	<10	<10
2-CHLORONAPHTHALENE	<10	<10	<10
1,2-DICHLOROBENZENE	<10	<10	<10
1,3-DICHLOROBENZENE	<10	<10	<10
1,4-DICHLOROBENZENE	<10	<10	<10
3,3'DICHLOROBENZIDINE	<10	<10	<10
2,4-DINITROTOLUENE	<10	<10	<10
2,6-DINITROTOLUENE	<10	<10	<10
1,2-DIPHENYLHYDRAZINE	<10	<10	<10
FLUORANTHENE	<10	<10	<10
4-CHLOROPHENYL PHENYL ETHER	<10	<10	<10
4-BROMOPHENYL PHENYL ETHER	<10	<10	<10
BIS(2-CHLOROISOPROPLY)ETHER	<10	<10	<10
BIS(2-CHLOROETHOXY)METHANE	<10	<10	<10
HEXACHLOROBUTADIENE	<10	<10	<10
HEXACHLOROCYCLOPENTADIENE	<10	<10	<10
ISOPHORONE	<10	<10	<10
NAPHTHALENE	<10	<10	<10
NITROBENZENE	<10	<10	<10
N-NITROSODIMETHYLAMINE	<10	<10	<10
N-NITROSODIPHENYLAMINE	<10	<10	<10
N-NITROSODI-N-PROPYLAMINE	<10	<10	<10
BIS(2-ETHYLHEXYL)PHTHALATE	<10	<10	<10
BUTYL BENZYL PHTHALATE	<10	<10	<10
DI-N-BUTYL PHTHALATE	<10	<10	<10
DI-N-OCTYL PHTHALATE	<10	<10	<10
DIETHYL PHTHALATE	<10	<10	<10
DIMETHYL PHTHALATE	<10	<10	<10
BENZO(A)ANTHRACENE A	<10	<10	<10
BENZO(A)PYRENE	<10	<10	<10
3,4-BENZOFLUORANTHENE	<10	<10	<10
BENZO(K)FLOURANTHENE	<10	<10	<10
CHRYSENE A	<10	<10	<10
ACENAPHTHYLENE	<10	<10	<10
ANTHRACENE B	<10	<10	<10
BENZO(GHI)PERYLENE	<10	<10	<10
FLUORENE	<10	<10	<10
PHENANTHRENE	<10	<10	<10
DIBENZO(A,H)ANTHRACENE	<10	<10	<10
INDENO(1,2,3-CD)PYRENE	<10	<10	<10
PYRENE	<10	<10	<10

SAMPLE INFORMATION : SITE 5

EPA METHOD 625 BASE/NEUTRALS
UNITS ARE IN PARTS PER BILLION

PARAMETER	PW-38	PW-39	PW-79
ACENAPHTHENE	<10	<10	<10
BENZIDINE	<10	<10	<10
1,2,4-TRICHLOROBENZENE	<10	<10	<10
HEXACHLOROBENZENE	<10	<10	<10
HEXACHLOROETHANE	<10	<10	<10
BIS(2-CHLOROETHYL)ETHER	<10	<10	<10
2-CHLORONAPHTHALENE	<10	<10	<10
1,2-DICHLOROBENZENE	<10	<10	<10
1,3-DICHLOROBENZENE	<10	<10	<10
1,4-DICHLOROBENZENE	<10	<10	<10
3,3'DICHLOROBENZIDINE	<10	<10	<10
2,4-DINITROTOLUENE	<10	<10	<10
2,6-DINITROTOLUENE	<10	<10	<10
1,2-DIPHENYLHYDRAZINE	<10	<10	<10
FLUORANTHENE	<10	<10	<10
4-CHLOROPHENYL PHENYL ETHER	<10	<10	<10
4-BROMOPHENYL PHENYL ETHER	<10	<10	<10
BIS(2-CHLOROISOPROPLY)ETHER	<10	<10	<10
BIS(2-CHLOROETHOXY)METHANE	<10	<10	<10
HEXACHLOROBUTADIENE	<10	<10	<10
HEXACHLOROCYCLOPENTADIENE	<10	<10	<10
ISOPHORONE	<10	<10	<10
NAPHTHALENE	<10	<10	<10
NITROBENZENE	<10	<10	<10
N-NITROSODIMETHYLAMINE	<10	<10	<10
N-NITROSODIPHENYLAMINE	<10	<10	<10
N-NITROSODI-N-PROPYLAMINE	<10	<10	<10
BIS(2-ETHYLHEXYL)PHTHALATE	<10	<10	<10
BUTYL BENZYL PHTHALATE	<10	<10	<10
DI-N-BUTYL PHTHALATE	<10	<10	<10
DI-N-OCTYL PHTHALATE	<10	<10	<10
DIETHYL PHTHALATE	<10	<10	<10
DIMETHYL PHTHALATE	<10	<10	<10
BENZO(A)ANTHRACENE A	<10	<10	<10
BENZO(A)PYRENE	<10	<10	<10
3,4-BENZOFLUORANTHENE	<10	<10	<10
BENZO(K)FLOURANTHENE	<10	<10	<10
CHRYSENE A	<10	<10	<10
ACENAPHTHYLENE	<10	<10	<10
ANTHRACENE B	<10	<10	<10
BENZO(GHI)PERYLENE	<10	<10	<10
FLUORENE	<10	<10	<10
PHENANTHRENE	<10	<10	<10
DIBENZO(A,H)ANTHRACENE	<10	<10	<10
INDENO(1,2,3-CD)PYRENE	<10	<10	<10
PYRENE	<10	<10	<10

SAMPLE INFORMATION : SITE 5

EPA METHOD 625 BASE/NEUTRALS
UNITS ARE IN PARTS PER BILLION

PARAMETER	PW-108	INT-4	INT-6
ACENAPHTHENE	<10	<10	<10
BENZIDINE	<10	<10	<10
1,2,4-TRICHLOROBENZENE	<10	<10	<10
HEXACHLOROBENZENE	<10	<10	<10
HEXACHLOROETHANE	<10	<10	<10
BIS(2-CHLOROETHYL)ETHER	<10	<10	<10
2-CHLORONAPHTHALENE	<10	<10	<10
1,2-DICHLOROBENZENE	<10	<10	<10
1,3-DICHLOROBENZENE	<10	<10	<10
1,4-DICHLOROBENZENE	<10	<10	<10
3,3'DICHLOROBENZIDINE	<10	<10	<10
2,4-DINITROTOLUENE	<10	<10	<10
2,6-DINITROTOLUENE	<10	<10	<10
1,2-DIPHENYLHYDRAZINE	<10	<10	<10
FLUORANTHENE	<10	<10	<10
4-CHLOROPHENYL PHENYL ETHER	<10	<10	<10
4-BROMOPHENYL PHENYL ETHER	<10	<10	<10
BIS(2-CHLOROISOPROPLY)ETHER	<10	<10	<10
BIS(2-CHLOROETHOXY)METHANE	<10	<10	<10
HEXACHLOROBUTADIENE	<10	<10	<10
HEXACHLOROCYCLOPENTADIENE	<10	<10	<10
ISOPHORONE	<10	<10	<10
NAPHTHALENE	<10	<10	<10
NITROBENZENE	<10	<10	<10
N-NITROSODIMETHYLAMINE	<10	<10	<10
N-NITROSODIPHENYLAMINE	<10	<10	<10
N-NITROSODI-N-PROPYLAMINE	<10	<10	<10
BIS(2-ETHYLHEXYL)PHTHALATE	<10	<10	<10
BUTYL BENZYL PHTHALATE	<10	<10	<10
DI-N-BUTYL PHTHALATE	<10	<10	<10
DI-N-OCTYL PHTHALATE	<10	<10	<10
DIETHYL PHTHALATE	<10	<10	<10
DIMETHYL PHTHALATE	<10	<10	<10
BENZO(A)ANTHRACENE A	<10	<10	<10
BENZO(A)PYRENE	<10	<10	<10
3,4-BENZOFLUORANTHENE	<10	<10	<10
BENZO(K)FLOURANTHENE	<10	<10	<10
CHRYSENE A	<10	<10	<10
ACENAPHTHYLENE	<10	<10	<10
ANTHRACENE B	<10	<10	<10
BENZO(GHI)PERYLENE	<10	<10	<10
FLUORENE	<10	<10	<10
PHENANTHRENE	<10	<10	<10
DIBENZO(A,H)ANTHRACENE	<10	<10	<10
INDENO(1,2,3-CD)PYRENE	<10	<10	<10
PYRENE	<10	<10	<10

SAMPLE INFORMATION : SITE 5

EPA METHOD 625 BASE/NEUTRALS
UNITS ARE IN PARTS PER BILLION

PARAMETER	INT-7
ACENAPHTHENE	<10
BENZIDINE	<10
1,2,4-TRICHLOROBENZENE	<10
HEXACHLOROBENZENE	<10
HEXACHLOROETHANE	<10
BIS(2-CHLOROETHYL)ETHER	<10
2-CHLORONAPHTHALENE	<10
1,2-DICHLOROBENZENE	<10
1,3-DICHLOROBENZENE	<10
1,4-DICHLOROBENZENE	<10
3,3'DICHLOROBENZIDINE	<10
2,4-DINITROTOLUENE	<10
2,6-DINITROTOLUENE	<10
1,2-DIPHENYLHYDRAZINE	<10
FLUORANTHENE	<10
4-CHLOROPHENYL PHENYL ETHER	<10
4-BROMOPHENYL PHENYL ETHER	<10
BIS(2-CHLOROISOPROPLY)ETHER	<10
BIS(2-CHLOROETHOXY)METHANE	<10
HEXACHLOROBUTADIENE	<10
HEXACHLOROCYCLOPENTADIENE	<10
ISOPHORONE	<10
NAPHTHALENE	<10
NITROBENZENE	<10
N-NITROSODIMETHYLAMINE	<10
N-NITROSODIPHENYLAMINE	<10
N-NITROSODI-N-PROPYLAMINE	<10
BIS(2-ETHYLHEXYL)PHTHALATE	<10
BUTYL BENZYL PHTHALATE	<10
DI-N-BUTYL PHTHALATE	<10
DI-N-OCTYL PHTHALATE	<10
DIETHYL PHTHALATE	<10
DIMETHYL PHTHALATE	<10
BENZO(A)ANTHRACENE A	<10
BENZO(A)PYRENE	<10
3,4-BENZOFLUORANTHENE	<10
BENZO(K)FLOURANTHENE	<10
CHRYSENE A	<10
ACENAPHTHYLENE	<10
ANTHRACENE B	<10
BENZO(GHI)PERYLENE	<10
FLUORENE	<10
PHENANTHRENE	<10
DIBENZO(A,H)ANTHRACENE	<10
INDENO(1,2,3-CD)PYRENE	<10
YRENE	<10

GROUNDWATER MONITORING DATA
SITE 6

Site 6. Water-Level Measurements for November 7, 1988
(Measurements in ft msl)

Monitor Well Designation	Water-Levels
PW-27A	90.25
PW-28	86.78
PW-29	86.17
PW-64	89.02
PW-65	89.46
PW-66	86.77
PW-67	88.14
PW-68	85.29
PW-69	90.25
PW-70	86.91
PW-71	88.17
PW-72	86.19

744/22

MARTIN MARIETTA MISSILE SYSTEMS

CERTIFICATE OF ANALYSIS

SAMPLE INFORMATION : SITE 6

RECEIVED : 11/02/88
ANALYZED : 11/10/88-11/16/88
ANALYZED BY : Post, Buckley, Schuh & Jernigan, Inc.
HRS ID # : 83170

UNITS ARE IN PARTS PER BILLION

PARAMETER	PW-27A	PW-28	PW-29
ACROLEIN	<100	<100	<100
ACRYLONITRILE	<100	<100	<100
BENZENE	<5	<5	<5
BROMOFORM	<5	<5	<5
CARBON TETRACHLORIDE	<5	<5	<5
CHLOROBENZENE	<5	<5	<5
CHLORODIBROMOMETHANE	<5	<5	<5
CHLOROETHANE	<10	<10	<10
2-CHLOROETHYLVINYL ETHER	<10	<10	<10
CHLOROFORM	<5	<5	<5
BIS(CHLOROMETHYL)ETHER	<10	<10	<10
DICHLOROBROMOMETHANE	<5	<5	<5
DICHLORODIFLUOROMETHANE	<5	<5	<5
1,2-DICHLOROETHANE	<5	38	<5
1,1-DICHLOROETHANE	<5	74	23
1,1-DICHLOROETHYLENE	<5	23	<5
1,2-T-DICHLOROETHYLENE	<5	<5	7
1,2-DICHLOROPROPANE	<5	<5	<5
C-1,3-DICHLOROPROPYLENE	<5	<5	<5
T-1,3-DICHLOROPROPYLENE	<5	<5	<5
ETHYLBENZENE	<5	44	22
METHYL BROMIDE	<10	<10	<10
METHYL CHLORIDE	<10	<10	<10
METHYLENE CHLORIDE	<5	227	38
1,1,1-TRICHLOROETHANE	<5	<5	<5
1,1,2-TRICHLOROETHANE	<5	<5	<5
TRICHLOROETHYLENE	<5	<5	<5
TRICHLOROFLOUROMETHANE	<5	<5	<5
1,1,2,2-TETRACHLOROETHANE	<5	<5	<5
TETRACHLOROETHYLENE	<5	5	<5
TOLUENE	<5	572	59
VINYL CHORIDE	<10	<10	<10

SAMPLE INFORMATION : SITE 6

UNITS ARE IN PARTS PER BILLION

PARAMETER	PW-64	PW-65	PW-66
ACROLEIN	<100	<100	<100
ACRYLONITRILE	<100	<100	<100
BENZENE	<5	<5	<5
BROMOFORM	<5	<5	<5
CARBON TETRACHLORIDE	<5	<5	<5
CHLOROBENZENE	<5	<5	<5
CHLORODIBROMOMETHANE	<5	<5	<5
CHLOROETHANE	<10	<10	<10
2-CHLOROETHYLVINYL ETHER	<10	<10	<10
CHLOROFORM	<5	<5	<5
BIS(CHLOROMETHYL)ETHER	<10	<10	<10
DICHLOROBROMOMETHANE	<5	<5	<5
DICHLORODIFLUOROMETHANE	<5	<5	<5
1,2-DICHLOROETHANE	<5	<5	<5
1,1-DICHLOROETHANE	<5	<5	<5
1,1-DICHLOROETHYLENE	<5	<5	<5
1,2-T-DICHLOROETHYLENE	<5	<5	<5
1,2-DICHLOROPROPANE	<5	<5	<5
C-1,3-DICHLOROPROPYLENE	<5	<5	<5
T-1,3-DICHLOROPROPYLENE	<5	<5	<5
ETHYLBENZENE	<5	<5	<5
METHYL BROMIDE	<10	<10	<10
METHYL CHLORIDE	<10	<10	<10
METHYLENE CHLORIDE	<5	<5	<5
1,1,1-TRICHLOROETHANE	<5	<5	<5
1,1,2-TRICHLOROETHANE	<5	<5	<5
TRICHLOROETHYLENE	<5	<5	<5
TRICHLOROFLOUROMETHANE	<5	<5	<5
1,1,2,2-TETRACHLOROETHANE	<5	<5	<5
TETRACHLOROETHYLENE	<5	<5	<5
TOLUENE	<5	<5	<5
VINYL CHORIDE	<10	<10	<10

SAMPLE INFORMATION : SITE 6

UNITS ARE IN PARTS PER BILLION

PARAMETER	PW-67	PW-68	PW-69
ACROLEIN	<100	<100	<100
ACRYLONITRILE	<100	<100	<100
BENZENE	<5	<5	<5
BROMOFORM	<5	<5	<5
CARBON TETRACHLORIDE	<5	<5	<5
CHLOROBENZENE	<5	<5	<5
CHLORODIBROMOMETHANE	<5	<5	<5
CHLOROETHANE	<10	<10	<10
2-CHLOROETHYLVINYL ETHER	<10	<10	<10
CHLOROFORM	<5	<5	<5
BIS(CHLOROMETHYL)ETHER	<10	<10	<10
DICHLOROBROMOMETHANE	<5	<5	<5
DICHLORODIFLUOROMETHANE	<5	<5	<5
1,2-DICHLOROETHANE	<5	<5	<5
1,1-DICHLOROETHANE	<5	<5	<5
1,1-DICHLOROETHYLENE	<5	<5	<5
1,2-T-DICHLOROETHYLENE	<5	<5	<5
1,2-DICHLOROPROPANE	<5	<5	<5
C-1,3-DICHLOROPROPYLENE	<5	<5	<5
T-1,3-DICHLOROPROPYLENE	<5	<5	<5
ETHYLBENZENE	<5	<5	<5
METHYL BROMIDE	<10	<10	<10
METHYL CHLORIDE	<10	<10	<10
METHYLENE CHLORIDE	<5	<5	<5
1,1,1-TRICHLOROETHANE	<5	<5	<5
1,1,2-TRICHLOROETHANE	<5	<5	<5
TRICHLOROETHYLENE	<5	<5	<5
TRICHLOROFLOUROMETHANE	<5	<5	<5
1,1,2,2-TETRACHLOROETHANE	<5	<5	<5
TETRACHLOROETHYLENE	<5	<5	<5
TOLUENE	<5	<5	<5
VINYL CHORIDE	<10	<10	<10

SAMPLE INFORMATION : SITE 6

UNITS ARE IN PARTS PER BILLION

PARAMETER	PW-70	PW-71	PW-72
ACROLEIN	<100	<100	<100
ACRYLONITRILE	<100	<100	<100
BENZENE	<5	<5	<5
BROMOFORM	<5	<5	<5
CARBON TETRACHLORIDE	<5	<5	<5
CHLOROBENZENE	<5	<5	<5
CHLORODIBROMOMETHANE	<5	<5	<5
CHLOROETHANE	<10	<10	<10
2-CHLOROETHYLVINYL ETHER	<10	<10	<10
CHLOROFORM	<5	<5	<5
BIS(CHLOROMETHYL)ETHER	<10	<10	<10
DICHLOROBROMOMETHANE	<5	<5	<5
DICHLORODIFLUOROMETHANE	<5	<5	<5
1,2-DICHLOROETHANE	<5	<5	<5
1,1-DICHLOROETHANE	<5	<5	<5
1,1-DICHLOROETHYLENE	<5	<5	<5
1,2-T-DICHLOROETHYLENE	<5	<5	<5
1,2-DICHLOROPROPANE	<5	<5	<5
C-1,3-DICHLOROPROPYLENE	<5	<5	<5
T-1,3-DICHLOROPROPYLENE	<5	<5	<5
ETHYLBENZENE	<5	<5	<5
METHYL BROMIDE	<10	<10	<10
METHYL CHLORIDE	<10	<10	<10
METHYLENE CHLORIDE	<5	<5	<5
1,1,1-TRICHLOROETHANE	<5	<5	<5
1,1,2-TRICHLOROETHANE	<5	<5	<5
TRICHLOROETHYLENE	<5	<5	<5
TRICHLOROFLOUROMETHANE	<5	<5	<5
1,1,2,2-TETRACHLOROETHANE	<5	<5	<5
TETRACHLOROETHYLENE	<5	<5	<5
TOLUENE	<5	<5	<5
VINYL CHORIDE	<10	<10	<10

SAMPLE INFORMATION : SITE 6

UNITS ARE IN PARTS PER BILLION

PARAMETER	SW-6A	SW-6B	SW-6C
ACROLEIN	<100	<100	<100
ACRYLONITRILE	<100	<100	<100
BENZENE	<5	<5	<5
BROMOFORM	<5	<5	<5
CARBON TETRACHLORIDE	<5	<5	<5
CHLOROBENZENE	<5	<5	<5
CHLORODIBROMOMETHANE	<5	<5	<5
CHLOROETHANE	<10	<10	<10
2-CHLOROETHYLVINYL ETHER	<10	<10	<10
CHLOROFORM	<5	<5	<5
BIS(CHLOROMETHYL)ETHER	<10	<10	<10
DICHLOROBROMOMETHANE	<5	<5	<5
DICHLORODIFLUOROMETHANE	<5	<5	<5
1,2-DICHLOROETHANE	<5	<5	<5
1,1-DICHLOROETHANE	<5	<5	<5
1,1-DICHLOROETHYLENE	<5	<5	<5
1,2-T-DICHLOROETHYLENE	<5	<5	<5
1,2-DICHLOROPROPANE	<5	<5	<5
C-1,3-DICHLOROPROPYLENE	<5	<5	<5
T-1,3-DICHLOROPROPYLENE	<5	<5	<5
ETHYLBENZENE	<5	<5	<5
METHYL BROMIDE	<10	<10	<10
METHYL CHLORIDE	<10	<10	<10
METHYLENE CHLORIDE	18	<5	<5
1,1,1-TRICHLOROETHANE	<5	<5	<5
1,1,2-TRICHLOROETHANE	<5	<5	<5
TRICHLOROETHYLENE	<5	<5	<5
TRICHLOROFLOUROMETHANE	<5	<5	<5
1,1,2,2-TETRACHLOROETHANE	<5	<5	<5
TETRACHLOROETHYLENE	<5	<5	<5
TOLUENE	20	<5	<5
VINYL CHORIDE	<10	<10	<10

SAMPLE INFORMATION : SITE 6

UNITS ARE IN PARTS PER BILLION

PARAMETER	REP-A	REP-B	REP-C
ACROLEIN	<100	<100	<100
ACRYLONITRILE	<100	<100	<100
BENZENE	<5	<5	<5
BROMOFORM	<5	<5	<5
CARBON TETRACHLORIDE	<5	<5	<5
CHLOROBENZENE	<5	<5	<5
CHLORODIBROMOMETHANE	<5	<5	<5
CHLOROETHANE	<10	<10	<10
2-CHLOROETHYLVINYL ETHER	<10	<10	<10
CHLOROFORM	<5	<5	<5
BIS(CHLOROMETHYL)ETHER	<10	<10	<10
DICHLOROBROMOMETHANE	<5	<5	<5
DICHLORODIFLUOROMETHANE	<5	<5	<5
1,2-DICHLOROETHANE	51	<5	<5
1,1-DICHLOROETHANE	88	<5	<5
1,1-DICHLOROETHYLENE	37	<5	<5
1,2-T-DICHLOROETHYLENE	13	<5	<5
1,2-DICHLOROPROPANE	<5	<5	<5
C-1,3-DICHLOROPROPYLENE	<5	<5	<5
T-1,3-DICHLOROPROPYLENE	<5	<5	<5
ETHYLBENZENE	52	<5	<5
METHYL BROMIDE	<10	<10	<10
METHYL CHLORIDE	<10	<10	<10
METHYLENE CHLORIDE	118	<5	<5
1,1,1-TRICHLOROETHANE	<5	<5	<5
1,1,2-TRICHLOROETHANE	<5	<5	<5
TRICHLOROETHYLENE	<5	<5	<5
TRICHLOROFLOUROMETHANE	<5	<5	<5
1,1,2,2-TETRACHLOROETHANE	<5	<5	<5
TETRACHLOROETHYLENE	<5	<5	<5
TOLUENE	267	<5	<5
VINYL CHORIDE	<10	<10	<10

SAMPLE INFORMATION : SITE 6

UNITS ARE IN PARTS PER BILLION

PARAMETER	RINS-A	FIELD BK
ACROLEIN	<100	<100
ACRYLONITRILE	<100	<100
BENZENE	<5	<5
BROMOFORM	<5	<5
CARBON TETRACHLORIDE	<5	<5
CHLOROBENZENE	<5	<5
CHLORODIBROMOMETHANE	<5	<5
CHLOROETHANE	<10	<10
2-CHLOROETHYLVINYL ETHER	<10	<10
CHLOROFORM	<5	<5
BIS(CHLOROMETHYL)ETHER	<10	<10
DICHLOROBROMOMETHANE	<5	<5
DICHLORODIFLUOROMETHANE	<5	<5
1,2-DICHLOROETHANE	<5	<5
1,1-DICHLOROETHANE	<5	<5
1,1-DICHLOROETHYLENE	<5	<5
1,2-T-DICHLOROETHYLENE	<5	<5
1,2-DICHLOROPROPANE	<5	<5
C-1,3-DICHLOROPROPYLENE	<5	<5
T-1,3-DICHLOROPROPYLENE	<5	<5
ETHYLBENZENE	<5	<5
METHYL BROMIDE	<10	<10
METHYL CHLORIDE	<10	<10
METHYLENE CHLORIDE	<5	<5
1,1,1-TRICHLOROETHANE	<5	<5
1,1,2-TRICHLOROETHANE	<5	<5
TRICHLOROETHYLENE	<5	<5
TRICHLOROFLOUROMETHANE	<5	<5
1,1,2,2-TETRACHLOROETHANE	<5	<5
TETRACHLOROETHYLENE	<5	<5
TOLUENE	<5	<5
VINYL CHORIDE	<10	<10

GROUNDWATER MONITORING DATA
MICROELECTRONICS CENTER

MEC Building Site
Water-level Measurements for November 1, 1988
(Measurements in ft msl)

Monitor Well Designation	Water-Levels
PW-43	93.71
PW-44	93.45
PW-45	92.96
PW-46	92.04
PW-47	91.98
PW-48	91.36
PW-49	89.40
PW-50	90.62
PW-51	91.29
PW-52	92.59
PW-53	83.71
PW-54	83.95
PW-55	84.30
PW-56	84.30
PW-57	84.18
PW-58	84.51
PW-59	83.38
PW-60	92.94
PW-61	83.90
PW-62	-- 1/
PW-63	84.42
PW-64	84.38
PW-65	83.53
PW-66	84.50
PW-106	89.55
PW-107	92.35
RW-3	84.33
INT-8	72.08
INT-9	73.32
INT-10	71.82

1/ PW-62 has been destroyed (reported to MMMS November, 1988)

744/20

MARTIN MARIETTA MISSILE SYSTEMS

CERTIFICATE OF ANALYSIS

SAMPLE INFORMATION : MICROELECTRONIC CENTER

RECEIVED : 11/4/88
ANALYZED : 11/14/88
ANALYZED BY : Post, Buckley, Schuh & Jernigan, Inc.
HRS ID # : 83170

UNITS ARE IN PARTS PER BILLION

PARAMETER	PW-43	PW-47	PW-48
ACROLEIN	<100	<100	<100
ACRYLONITRILE	<100	<100	<100
BENZENE	<5	<5	<5
BROMOFORM	<5	<5	<5
CARBON TETRACHLORIDE	<5	<5	<5
CHLOROBENZENE	<5	<5	<5
CHLORODIBROMOMETHANE	<5	<5	<5
CHLOROETHANE	<10	<10	<10
2-CHLOROETHYLVINYL ETHER	<10	<10	<10
CHLOROFORM	<5	<5	<5
BIS(CHLOROMETHYL)ETHER	<10	<10	<10
DICHLOROBROMOMETHANE	<5	<5	<5
DICHLORODIFLUOROMETHANE	<5	<5	<5
1,2-DICHLOROETHANE	<5	<5	<5
1,1-DICHLOROETHANE	<5	<5	<5
1,1-DICHLOROETHYLENE	<5	<5	<5
1,2-T-DICHLOROETHYLENE	<5	<5	176
1,2-DICHLOROPROPANE	<5	<5	<5
C-1,3-DICHLOROPROPYLENE	<5	<5	<5
T-1,3-DICHLOROPROPYLENE	<5	<5	<5
ETHYLBENZENE	<5	<5	<5
METHYL BROMIDE	<10	<10	<10
METHYL CHLORIDE	<10	<10	<10
METHYLENE CHLORIDE	<5	<5	<5
1,1,1-TRICHLOROETHANE	<5	<5	<5
1,1,2-TRICHLOROETHANE	<5	<5	<5
TRICHLOROETHYLENE	<5	<5	<5
TRICHLOROFLOUROMETHANE	<5	<5	<5
1,1,2,2-TETRACHLOROETHANE	<5	<5	<5
TETRACHLOROETHYLENE	<5	<5	<5
TOLUENE	26	<5	<5
VINYL CHORIDE	<10	<10	<10
TRIFLUOROTRICHLOROETHANE	7	<5	6

SAMPLE INFORMATION : MICROELECTRONIC CENTER

UNITS ARE IN PARTS PER BILLION

PARAMETER	PW-49	PW-50	PW-51
ACROLEIN	<100	<100	<100
ACRYLONITRILE	<100	<100	<100
BENZENE	<5	<5	<5
BROMOFORM	<5	<5	<5
CARBON TETRACHLORIDE	<5	<5	<5
CHLOROBENZENE	<5	<5	<5
CHLORODIBROMOMETHANE	<5	<5	<5
CHLOROETHANE	<10	<10	<10
2-CHLOROETHYLVINYL ETHER	<10	<10	<10
CHLOROFORM	<5	<5	<5
BIS(CHLOROMETHYL)ETHER	<10	<10	<10
DICHLOROBROMOMETHANE	<5	<5	<5
DICHLORODIFLUOROMETHANE	<5	<5	<5
1,2-DICHLOROETHANE	<5	<5	<5
1,1-DICHLOROETHANE	<5	<5	<5
1,1-DICHLOROETHYLENE	<5	<5	<5
1,2-T-DICHLOROETHYLENE	<5	1430	94
1,2-DICHLOROPROPANE	<5	<5	<5
C-1,3-DICHLOROPROPYLENE	<5	<5	<5
T-1,3-DICHLOROPROPYLENE	<5	<5	<5
ETHYLBENZENE	<5	<5	<5
METHYL BROMIDE	<10	<10	<10
METHYL CHLORIDE	<10	<10	<10
METHYLENE CHLORIDE	<5	<5	<5
1,1,1-TRICHLOROETHANE	<5	23	<5
1,1,2-TRICHLOROETHANE	<5	<5	<5
TRICHLOROETHYLENE	<5	4100	79
TRICHLOROFLOUROMETHANE	<5	<5	<5
1,1,2,2-TETRACHLOROETHANE	<5	78	<5
TETRACHLOROETHYLENE	<5	2700	94
TOLUENE	<5	7	32
VINYL CHORIDE	<10	<10	<10
TRIFLUOROTRICHLOROETHANE	<5	16600	856

SAMPLE INFORMATION : MICROELECTRONIC CENTER

UNITS ARE IN PARTS PER BILLION

PARAMETER	PW-53	PW-56	PW-57
ACROLEIN	<100	<100	<100
ACRYLONITRILE	<100	<100	<100
BENZENE	<5	<5	<5
BROMOFORM	<5	<5	<5
CARBON TETRACHLORIDE	<5	<5	<5
CHLOROBENZENE	<5	<5	<5
CHLORODIBROMOMETHANE	<5	<5	<5
CHLOROETHANE	<10	<10	<10
2-CHLOROETHYLVINYL ETHER	<10	<10	<10
CHLOROFORM	<5	<5	<5
BIS(CHLOROMETHYL)ETHER	<10	<10	<10
DICHLOROBROMOMETHANE	<5	<5	<5
DICHLORODIFLUOROMETHANE	<5	<5	<5
1,2-DICHLOROETHANE	<5	<5	<5
1,1-DICHLOROETHANE	<5	<5	<5
1,1-DICHLOROETHYLENE	<5	<5	<5
1,2-T-DICHLOROETHYLENE	<5	296	6
1,2-DICHLOROPROPANE	<5	<5	<5
C-1,3-DICHLOROPROPYLENE	<5	<5	<5
T-1,3-DICHLOROPROPYLENE	<5	<5	<5
ETHYLBENZENE	<5	<5	<5
METHYL BROMIDE	<10	<10	<10
METHYL CHLORIDE	<10	<10	<10
METHYLENE CHLORIDE	<5	<5	<5
1,1,1-TRICHLOROETHANE	<5	<5	<5
1,1,2-TRICHLOROETHANE	<5	<5	<5
TRICHLOROETHYLENE	29	521	25
TRICHLOROFLOUROMETHANE	<5	<5	<5
1,1,2,2-TETRACHLOROETHANE	<5	<5	<5
TETRACHLOROETHYLENE	20	150	17
TOLUENE	<5	<5	<5
VINYL CHORIDE	<10	42	<10
TRIFLUOROTRICHLOROETHANE	193	1050	115

SAMPLE INFORMATION : MICROELECTRONIC CENTER

UNITS ARE IN PARTS PER BILLION

PARAMETER	PW-58	PW-59	PW-63
ACROLEIN	<100	<100	<100
ACRYLONITRILE	<100	<100	<100
BENZENE	<5	<5	<5
BROMOFORM	<5	<5	<5
CARBON TETRACHLORIDE	<5	<5	<5
CHLOROBENZENE	<5	<5	<5
CHLORODIBROMOMETHANE	<5	<5	<5
CHLOROETHANE	<10	<10	<10
2-CHLOROETHYLVINYL ETHER	<10	<10	<10
CHLOROFORM	<5	<5	<5
BIS(CHLOROMETHYL)ETHER	<10	<10	<10
DICHLOROBROMOMETHANE	<5	<5	<5
DICHLORODIFLUOROMETHANE	<5	<5	<5
1,2-DICHLOROETHANE	<5	<5	<5
1,1-DICHLOROETHANE	<5	<5	<5
1,1-DICHLOROETHYLENE	<5	<5	<5
1,2-T-DICHLOROETHYLENE	33	<5	<5
1,2-DICHLOROPROPANE	<5	<5	<5
C-1,3-DICHLOROPROPYLENE	<5	<5	<5
T-1,3-DICHLOROPROPYLENE	<5	<5	<5
ETHYLBENZENE	<5	<5	<5
METHYL BROMIDE	<10	<10	<10
METHYL CHLORIDE	<10	<10	<10
METHYLENE CHLORIDE	<5	<5	<5
1,1,1-TRICHLOROETHANE	<5	<5	<5
1,1,2-TRICHLOROETHANE	<5	<5	<5
TRICHLOROETHYLENE	<5	<5	<5
TRICHLOROFLOUROMETHANE	<5	<5	<5
1,1,2,2-TETRACHLOROETHANE	<5	<5	<5
TETRACHLOROETHYLENE	<5	<5	<5
TOLUENE	<5	<5	<5
VINYL CHORIDE	<10	<10	<10
TRIFLUOROTRICHLOROETHANE	81	64	50

SAMPLE INFORMATION : MICROELECTRONIC CENTER

UNITS ARE IN PARTS PER BILLION

PARAMETER	PW-65A	PW-66A	PW-106
ACROLEIN	<100	<100	<100
ACRYLONITRILE	<100	<100	<100
BENZENE	<5	<5	<5
BROMOFORM	<5	<5	<5
CARBON TETRACHLORIDE	<5	<5	<5
CHLOROBENZENE	<5	<5	<5
CHLORODIBROMOMETHANE	<5	<5	<5
CHLOROETHANE	<10	<10	<10
2-CHLOROETHYLVINYL ETHER	<10	<10	<10
CHLOROFORM	<5	<5	<5
BIS(CHLOROMETHYL)ETHER	<10	<10	<10
DICHLOROBROMOMETHANE	<5	<5	<5
DICHLORODIFLUOROMETHANE	<5	<5	<5
1,2-DICHLOROETHANE	<5	<5	<5
1,1-DICHLOROETHANE	<5	<5	<5
1,1-DICHLOROETHYLENE	<5	<5	<5
1,2-T-DICHLOROETHYLENE	<5	<5	<5
1,2-DICHLOROPROPANE	<5	<5	<5
C-1,3-DICHLOROPROPYLENE	<5	<5	<5
T-1,3-DICHLOROPROPYLENE	<5	<5	<5
ETHYLBENZENE	<5	<5	<5
METHYL BROMIDE	<10	<10	<10
METHYL CHLORIDE	<10	<10	<10
METHYLENE CHLORIDE	<5	<5	<5
1,1,1-TRICHLOROETHANE	<5	<5	<5
1,1,2-TRICHLOROETHANE	<5	<5	<5
TRICHLOROETHYLENE	<5	<5	<5
TRICHLOROFLOUROMETHANE	<5	<5	<5
1,1,2,2-TETRACHLOROETHANE	<5	<5	<5
TETRACHLOROETHYLENE	<5	<5	<5
TOLUENE	<5	<5	<5
VINYL CHORIDE	<10	<10	<10
TRIFLUOROTRICHLOROETHANE	47	40	33

SAMPLE INFORMATION : MICROELECTRONIC CENTER

UNITS ARE IN PARTS PER BILLION

PARAMETER	PW-107	INT-8	INT-9
ACROLEIN	<100	<100	<100
ACRYLONITRILE	<100	<100	<100
BENZENE	<5	<5	<5
BROMOFORM	<5	<5	<5
CARBON TETRACHLORIDE	<5	<5	<5
CHLOROBENZENE	<5	<5	<5
CHLORODIBROMOMETHANE	<5	<5	<5
CHLOROETHANE	<10	<10	<10
2-CHLOROETHYLVINYL ETHER	<10	<10	<10
CHLOROFORM	<5	<5	<5
BIS(CHLOROMETHYL)ETHER	<10	<10	<10
DICHLOROBROMOMETHANE	<5	<5	<5
DICHLORODIFLUOROMETHANE	<5	<5	<5
1,2-DICHLOROETHANE	<5	<5	<5
1,1-DICHLOROETHANE	<5	<5	<5
1,1-DICHLOROETHYLENE	<5	<5	<5
1,2-T-DICHLOROETHYLENE	<5	<5	<5
1,2-DICHLOROPROPANE	<5	<5	<5
C-1,3-DICHLOROPROPYLENE	<5	<5	<5
T-1,3-DICHLOROPROPYLENE	<5	<5	<5
ETHYLBENZENE	<5	<5	<5
METHYL BROMIDE	<10	<10	<10
METHYL CHLORIDE	<10	<10	<10
METHYLENE CHLORIDE	<5	<5	<5
1,1,1-TRICHLOROETHANE	<5	<5	<5
1,1,2-TRICHLOROETHANE	<5	<5	<5
TRICHLOROETHYLENE	<5	<5	<5
TRICHLOROFLOUROMETHANE	<5	<5	<5
1,1,2,2-TETRACHLOROETHANE	<5	<5	<5
TETRACHLOROETHYLENE	<5	<5	<5
TOLUENE	<5	<5	<5
VINYL CHORIDE	<10	<10	<10
TRIFLUOROTRICHLOROETHANE	31	28	27

SAMPLE INFORMATION : MICROELECTRONIC CENTER

UNITS ARE IN PARTS PER BILLION

PARAMETER	INT-10	SW-A	SW-B
ACROLEIN	<100	<100	<100
ACRYLONITRILE	<100	<100	<100
BENZENE	<5	<5	<5
BROMOFORM	<5	<5	<5
CARBON TETRACHLORIDE	<5	<5	<5
CHLOROBENZENE	<5	<5	<5
CHLORODIBROMOMETHANE	<5	<5	<5
CHLOROETHANE	<10	<10	<10
2-CHLOROETHYLVINYL ETHER	<10	<10	<10
CHLOROFORM	<5	<5	<5
BIS(CHLOROMETHYL)ETHER	<10	<10	<10
TICHLOROBROMOMETHANE	<5	<5	<5
DICHLORODIFLUOROMETHANE	<5	<5	<5
1,2-DICHLOROETHANE	<5	<5	<5
1,1-DICHLOROETHANE	<5	<5	<5
1,1-DICHLOROETHYLENE	<5	<5	<5
1,2-T-DICHLOROETHYLENE	<5	<5	<5
1,2-DICHLOROPROPANE	<5	<5	<5
C-1,3-DICHLOROPROPYLENE	<5	<5	<5
T-1,3-DICHLOROPROPYLENE	<5	<5	<5
ETHYLBENZENE	<5	<5	<5
METHYL BROMIDE	<10	<10	<10
METHYL CHLORIDE	<10	<10	<10
METHYLENE CHLORIDE	<5	<5	<5
1,1,1-TRICHLOROETHANE	<5	<5	<5
1,1,2-TRICHLOROETHANE	<5	<5	<5
TRICHLOROETHYLENE	<5	<5	<5
TRICHLOROFLOUROMETHANE	<5	<5	<5
1,1,2,2-TETRACHLOROETHANE	<5	<5	<5
TETRACHLOROETHYLENE	<5	<5	<5
TOLUENE	<5	<5	<5
VINYL CHORIDE	<10	<10	<10
TRIFLUOROTRICHLOROETHANE	23	25	21

SAMPLE INFORMATION : MICROELECTRONIC CENTER

UNITS ARE IN PARTS PER BILLION

PARAMETER	REP A	REP B	FIELD BLANK
ACROLEIN	<100	<100	<100
ACRYLONITRILE	<100	<100	<100
BENZENE	<5	<5	<5
BROMOFORM	<5	<5	<5
CARBON TETRACHLORIDE	<5	<5	<5
CHLOROBENZENE	<5	<5	<5
CHLORODIBROMOMETHANE	<5	<5	<5
CHLOROETHANE	<10	<10	<10
2-CHLOROETHYLVINYL ETHER	<10	<10	<10
CHLOROFORM	<5	<5	<5
BIS(CHLOROMETHYL)ETHER	<10	<10	<10
DICHLOROBROMOMETHANE	<5	<5	<5
DICHLORODIFLUOROMETHANE	<5	<5	<5
1,2-DICHLOROETHANE	<5	<5	<5
1,1-DICHLOROETHANE	<5	<5	<5
1,1-DICHLOROETHYLENE	<5	<5	<5
1,2-T-DICHLOROETHYLENE	1170	22	<5
1,2-DICHLOROPROPANE	<5	<5	<5
C-1,3-DICHLOROPROPYLENE	<5	<5	<5
T-1,3-DICHLOROPROPYLENE	<5	<5	<5
ETHYLBENZENE	<5	<5	<5
METHYL BROMIDE	<10	<10	<10
METHYL CHLORIDE	<10	<10	<10
METHYLENE CHLORIDE	<5	<5	<5
1,1,1-TRICHLOROETHANE	17	<5	<5
1,1,2-TRICHLOROETHANE	<5	<5	<5
TRICHLOROETHYLENE	3200	71	<5
TRICHLOROFLOUROMETHANE	<5	<5	<5
1,1,2,2-TETRACHLOROETHANE	58	<5	<5
TETRACHLOROETHYLENE	2100	100	<5
TOLUENE	<5	<5	<5
VINYL CHORIDE	<10	<10	<10
TRIFLUOROTRICHLOROETHANE	109	570	23

SAMPLE INFORMATION : MICROELECTRONIC CENTER

UNITS ARE IN PARTS PER BILLION

PARAMETER	RINSATE
ACROLEIN	<100
ACRYLONITRILE	<100
BENZENE	<5
CARBON TETRACHLORIDE	<5
BROMOFORM	<5
CHLOROBENZENE	<5
CHLORODIBROMOMETHANE	<5
CHLOROETHANE	<10
2-CHLOROETHYLVINYL ETHER	<10
CHLOROFORM	<5
BIS(CHLOROMETHYL)ETHER	<10
DICHLOROBROMOMETHANE	<5
DICHLORODIFLUOROMETHANE	<5
1,2-DICHLOROETHANE	<5
1,1-DICHLOROETHANE	<5
1,1-DICHLOROETHYLENE	<5
1,2-T-DICHLOROETHYLENE	<5
1,2-DICHLOROPROPANE	<5
C-1,3-DICHLOROPROPYLENE	<5
T-1,3-DICHLOROPROPYLENE	<5
ETHYLBENZENE	<5
METHYL BROMIDE	<10
METHYL CHLORIDE	<10
METHYLENE CHLORIDE	<5
1,1,1-TRICHLOROETHANE	<5
1,1,2-TRICHLOROETHANE	<5
TRICHLOROETHYLENE	<5
TRICHLOROFLOUROMETHANE	<5
1,1,2,2-TETRACHLOROETHANE	<5
TETRACHLOROETHYLENE	<5
TOLUENE	<5
VINYL CHORIDE	<10
TRIFLUOROTRICHLOROETHANE	22

GROUNDWATER MONITORING DATA
CHAIN OF CUSTODY

GERAGHTY & MILLER, INC.
Groundwater Consultants

CHAIN-OF-CUSTODY RECORD

Page ___ of ___

Location: MMMS

Laboratory: PBSJ

Project/Number TFG487ST05

Shipping Container ID: ___

Sampler(s) Doug Grant
Chris Powell

SAMPLE CONTAINER DESCRIPTION

SAMPLE IDENTITY	Date Sampled	40 ml vial EPA 624 ice/HCl	500 ml plastic metals-cadmium, chromium, and lead (EPA 200 series) ice/HNO3											Total	Remarks
PW-11	11/21/88	2	1											3	
PW-32		2												2	
PW-30		2												2	
PW-80		2												2	
Replicate A		2	1											3	
Rinsate		2	1											3	
Field Blank		2												2	

Metals Kept for Analysis at MMOA [signature]

Total No. of Containers 17

Relinquished by: Christopher Powell Organization: Geraghty & Miller
Date: 11/22/88 Time: 0515

Received by: Ronald L Kamer Organization: MMOA
Date: 11/24/88 Time: 8:20

Relinquished by: Ronald L Kamer Organization: MMOA
Date: 11/2[illegible] Time: 1[illegible]:30

Received by: Fern Boone Organization: PBSJ [illegible]
Date: 11/23/88 Time: 1515

Relinquished by: ___ Organization: ___
Date: ___ Time: ___

Received by: ___ Organization: ___
Date: ___ Time: ___

Delivery Method: ___ (attach shipping bill, if any)

(Use extra sheets, if necessary)

MILLER, INC.
Ground Water Consultants

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Location: Illinois

Project/Number TF04875T03

Laboratory: PBSJ

Shipping Container ID:

Sampler(s) Doug Grant

SAMPLE CONTAINER DESCRIPTION

SAMPLE IDENTITY	Date Sampled	40 ml vial EPA 624 HCl												Total	Remarks
FL-6	11/22/88	2												2	
PW-35		2												2	
PW-37		2												2	
PW-43		2												2	
PW-44		2												2	
PW-86		2												2	
Replicate B		2												2	
Trip Blank		2												2	

Total No. of Containers 16

Relinquished by: [illegible] Organization: Geraghty & Miller
Date: 11/22/88 Time: 1230
Received by: Mark Sievers Organization: Martin Marietta
Date: 11/22/88 Time: 12:40

Relinquished by: [illegible] Organization: MMOA
Date: 11/22/88 Time: 15:30
Received by: Fern Boone Organization: PBSJ ELD Lab
Date: 11/23/88 Time: 1515

Relinquished by: Organization:
Date: Time:
Received by: Organization:
Date: Time:

Delivery Method: (attach shipping bill, if any)

(Use extra sheets, if necessary)

GERAGHTY & MILLER, INC.
Ground-Water Consultants

CHAIN-OF-CUSTODY RECORD

Project Number TF0451 SF03

Project Location MMMS - Site 3

Laboratory PBEJ

Sampler(s) DAN LONGBRAKE
CHRIS POWELL

SAMPLE BOTTLE / CONTAINER DESCRIPTION

SAMPLE IDENTITY	Date Sampled	EPA 624 2x40ml vial preserved w/ HCl & ice										TOTAL
FL-4	12/1/88	2										2
FL-3	↓	2										2
FL-5	↓	2										2

Total No. of Bottles/ Containers: 6

Relinquished by: David W. Longbrake	Organization: Geraghty & Miller	Date 12/1/88	Time 1200	Seal Intact? Yes No N/A
Received by: [signature]	Organization:	Date 12/1/88	Time 1200	
Relinquished by:	Organization: PB&J ECOLAB	Date / /	Time	Seal Intact? Yes No N/A
Received by: Terri Boone	Organization: PB&J ECOLAB	Date 12/1/88	Time 1545	

Special Instructions/Remarks: Custody relinquished directly to MMMS for delivery to lab.

Delivery Method: ☒ In Person ☐ Common Carrier ______ (SPECIFY) ☐ Lab Courier ☐ Other ______

G&M Form 09 1-87

GERAGHTY & MILLER, INC.
Ground-Water Consultants

CHAIN-OF-CUSTODY RECORD

Page 1 of 2

Project Number TF0487S704

Project Location MMMS - Site 4

Laboratory PBS + J

Sampler(s) DAN LONGBRAKE
CHRIS POWELL

SAMPLE BOTTLE / CONTAINER DESCRIPTION

SAMPLE IDENTITY	Date Sampled	EPA 624 2x40ml vial preserved w/ HCl (on ice)	METALS - Florida mercury drinking water ~~standards by EPA 200 stuff~~ Board plastic preserved w/ HNO_3 (on ice)			SULFATE - by EPA 375.4 Sound plastic (on ice)						TOTAL
PW-89	11/29/88	2										2
INT-[illegible]	↓	2										2
PW-90	↓	2										2
PW-101	↓	2										2
PW-104	↓	2										2
FL-7	↓	2										2
INT-13	↓	2										2
PW-92	↓	2				1						3
FL-8	↓	2										2
PW-100	↓	2	1									3
PW-102	11/30/88	2										2
PW-115	11/30/88	2										2
STOY FB	11/29/88	2										2
STOY - Rinsate	↓	2										2
Replicate B	↓	2										2
											Total No. of Bottles/ Containers	32

Relinquished by: Daniel W. Longbrake	Organization: Geraghty & Miller	Date 12/1/88 Time 1200	Seal Intact? Yes No N/A
Received by: [illegible]	Organization:	Date 12/1/88 Time 1200	
Relinquished by:	Organization:	Date / / Time	Seal Intact? Yes No N/A
Received by: [illegible]	Organization: PBS&J - ECD LAB	Date 12/1/88 Time 1545	

Special Instructions/Remarks:
Custody relinquished directly to MMMS for delivery to lab.

Delivery Method: ☒ In Person ☐ Common Carrier _____ SPECIFY ☐ Lab Courier ☐ Other _____ SPECIFY

G&M Form 09 1-87

GERAGHTY & MILLER, INC.
Ground-Water Consultants

CHAIN-OF-CUSTODY RECORD

Project Number TF0487 ST04

Project Location MMMS - Site 4

Laboratory PBS&J

Sampler(s) DAN LONGBRAKE
CHRIS POWELL

SAMPLE BOTTLE / CONTAINER DESCRIPTION

SAMPLE IDENTITY	Date Sampled	EPA 624 2x40ml vial preserved w/ HCl (on ice)	METALS - Florida Primary drinking water standards EPA 200 series 500 ml plastic preserved w/ HNO3 (on ice)			SULFATE - By EPA 375.4 500 ml plastic on ice						TOTAL
PW - 114	11/30/88	2										2
INT - 14		2										2
PW - 99		2										2
PW - 95		2										2
PW - 94		2	1									3
SW - 4B		2										2
PW - 96		2										2
SW - 4A		2										2
INT - 11		2										2
PW - 91		2	1			1						4
ST04 - Rinsate - 2		2	1			1						4
Replicate A	↓	2	1			1						4
Replicate C		2										2
											Total No. of Bottles/ Containers	33

Relinquished by: Daniel W. Longbrake	Organization: Geraghty & Miller	Date 12/1/88 Time 1200	Seal Intact? Yes No N/A
Received by:	Organization:	Date 12/1/88 Time 1200	
Relinquished by:	Organization:	Date / / Time	Seal Intact? Yes No N/A
Received by: Fern Boone	Organization: PBS&J ELD Lab.	Date 12/1/88 Time 1545	

Special Instructions/Remarks:
Custody relinquished directly to MMMS for delivery to lab.

Delivery Method: ☒ In Person ☐ Common Carrier _____ ☐ Lab Courier ☐ Oth

GERAGHTY & MILLER, INC.
Ground-Water Consultants

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Project Number TFO 4875T05

Project Location mmms - Site 5

Laboratory PBS & J LAB

Sampler(s) Chris Powell
Dan Longbrake

SAMPLE BOTTLE / CONTAINER DESCRIPTION

SAMPLE IDENTITY	Date Sampled	500 ml plastic TOTAL METALS HNO3/ice	40 ml vials EPA 624 HCl/ice	gallon plastic Rad 226/228 / Gross α, β HNO3/ice	gallon AMBER BNA's	½ gallon plastic General - Fl, Cl, NO4, SO4 Turb, Na						TOTAL
PW-113	11/10/88	1	2		1							4
PW-112		1	2		1							4
PW-40		1	2									3
PW-38		1	2	1	1	1						6
PW-26		1	2									3
PW-37		1	2	1	1	1						6
Replicate A		1	2	1	1	1						6
PW-109		1	2	1	1	1						6
PW-111		1	2		1	1						4
PW-25		1	2									3
PW-39		1	2	1	1	1						6
PW-36		1	2	1	1	1						6
Trip Blank	11/10/88		1									1
Field Blank	11/10/88		2									

Metals Kept for Analysis at MMOA RSK RK

Total No. of Bottles/ Containers 58

Relinquished by: Christopher Powell	Organization: Geraghty & Miller Inc	Date 11/17/88	Time 0800	Seal Intact? Yes No N/A
Received by: [signature]	Organization: MMOA	Date 11/17/88	Time	
Relinquished by: [signature]	Organization: MMOA	Date 11/17/88	Time 09:45	Seal Intact? Yes No N/A
Received by: [signature]	Organization: PBS & J ELD Lab.	Date 11/17/88	Time 0945	

Special Instructions/Remarks: Custody relinquished to mmms for delivery to Lab

Delivery Method: ☒ In Person ☐ Common Carrier _____ SPECIFY ☐ Lab Courier ☐ Other _____

G&M Form 09 1 87

GERAGHTY & MILLER, INC.
Ground Water Consultants

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Project Number TF0487 SD5
Project Location MMMS - Site 5
Laboratory PBS & J
Sampler(s) DAN LONGBRAKE
CHRIS POWELL

SAMPLE BOTTLE / CONTAINER DESCRIPTION

SAMPLE IDENTITY	Date Sampled	Total Metals 500 ml plastic preserved w/ HNO3 on site										TOTAL
PW-79		1										1
PW-11		1										1
INT-6		1										1
INT-7		1										1
FL-2		1										1
INT-4		1										1
INT-1		1										1
PW-8		1										1
Rinsate 1		1										1
Rinsate 2		1										1
Replicate B		1										1
Replicate C		1										1
											Total No. of Bottles/ Containers	12

Relinquished by: Daniel W. Longbrake	Organization: Geraghty & Miller	Date 11/18/88	Time 0830	Seal Intact? Yes No N/A
Received by: [illegible]	Organization: [illegible] VA	Date 11/18/88	Time 0845	
Relinquished by:	Organization:	Date / /	Time	Seal Intact? Yes No N/A
Received by: [illegible]	Organization: PBS&J ELD Lab	Date 11/18/88	Time 1125	

Special Instructions/Remarks: Custody relinquished directly to MMMS for delivery to lab.

Delivery Method: ☒ In Person ☐ Common Carrier _____ (SPECIFY) ☐ Lab Courier ☐ Other

G&M Form 09 1-87

GERAGHTY & MILLER, INC.
Ground Water Consultants

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Project Number TF0487ST05

Project Location MMMS - site 5

Laboratory PBS & J

Sampler(s) DAN LONGBRAKE
CHRIS POWELL

SAMPLE BOTTLE / CONTAINER DESCRIPTION

SAMPLE IDENTITY	Date Sampled	BNA 1 gal Amber glass on ice	Gross α, β and Radium 226/228 1 gal plastic preserved w/ HNO3 on ice	General - Fluoride, Chloride, Turbidity, Nitrate, Sulfate, Sodium	½ gal plastic on ice						TOTAL
PW-79		1	1		1						3
PW-4		1	1		1						3
INT-6		1	1		1						3
INT-7		1	1		1						3
~~FT-2~~											
INT-4		1	1		1						3
~~INT-1~~											
~~PW-8~~											
Rinsate-1		1	1		1						3
Rinsate-2		1	1		1						3
~~Replicate B~~											
~~Replicate C~~											

Total No. of Bottles/Containers 21

Relinquished by: [signature]	Organization: Geraghty & Miller	Date 11/18/88	Time 0830	Seal Intact? Yes No N/A
Received by: [signature]	Organization: [illegible]	Date 11/18/88	Time 0845	
Relinquished by:	Organization:	Date / /	Time	Seal Intact? Yes No N/A
Received by: [signature]	Organization: PBS & J, GLD Lab	Date 11/18/88	Time 1125	

Special Instructions/Remarks:
Custody relinquished directly to MMMS for delivery to lab.

Delivery Method: ☒ In Person ☐ Common Carrier _____ SPECIFY ☐ Lab Courier ☐ Other _____ SPECIFY

G&M Form 09 1 87

GERAGHTY & MILLER, INC.
Ground-Water Consultants

CHAIN-OF-CUSTODY RECORD

Project Number TF0487S105

Project Location MMMS - site 5

Laboratory PBS + J

Sampler(s) Dan Longbrake
Chris Powell

SAMPLE BOTTLE/ CONTAINER DESCRIPTION

SAMPLE IDENTITY	Date Sampled	EPA 624 40 ml vial preserved w/ HCl (on ice)		Total Metals 500 ml plastic preserved w/ HNO3 + ice								TOTAL
PW - 74	11/18/88	2		1								3
PW - 73	↓	2		1								3
INT - 5		2		1								3
PW - 75		2		1								3
PW - 77		2		1								3
INT - 2		2		1								3
S105 FB - 2		2		1								2
Rinsate - 3	↓	2		1								3
trip blank	11/18/88	1										1
SW A	11/18/88	2										2
SW - B	↓	2										2

Total No. of Bottles/ Containers 28

Relinquished by: [signature]	Organization: Geraghty & Miller	Date 11/18/88	Time 1500	Seal Intact? Yes No N/A
Received by: [signature]	Organization: [illegible]	Date 11/18/88	Time 1500	
Relinquished by: [signature]	Organization: [illegible]	Date 11/18/88	Time [illegible]	Seal Intact? Yes No N/A
Received by: [signature]	Organization: PBS+J [illegible]	Date 11/18/88	Time [illegible]	

Special Instructions/Remarks: Custody relinquished directly to MMMS for delivery to lab.

Delivery Method: ☒ In Person ☐ Common Carrier _____ SPECIFY ☐ Lab Courier ☐ Other _____ SPECIFY

G&M Form 09 1 87

GERAGHTY & MILLER, INC.
Ground-Water Consultants

CHAIN-OF-CUSTODY RECORD

Page 1 of 2

Project Number TFO 487 ST05

Project Location MMMS Site 5

Laboratory PBS & J

Sampler(s) DAN LONGBRAKE
CHRIS POWELL

SAMPLE BOTTLE / CONTAINER DESCRIPTION

SAMPLE IDENTITY	Date Sampled	EPA 624 40ml vial preserved w/ HCl (on ice)										TOTAL
PW - 7A		2										2
PW - 4		2										2
INT - 6		2										2
INT - 7		2										2
FL - 2		2										2
INT - 1		2										2
PW - 8		2										2
INT - 4		2										2
Replicate B		1										1
Replicate C		2										2
Rinsate 1		2										2
Rinsate 2		2										2

Total No. of Bottles/ Containers 23

Relinquished by: David W. Lombardo	Organization: Geraghty & Miller	Date 11/18/88	Time 1500	Seal Intact? Yes No N/A
Received by: [illegible]	Organization: [illegible]	Date 11/18/88	Time [illegible]	
Relinquished by: [illegible]	Organization: [illegible]	Date 11/18/88	Time [illegible]	Seal Intact? Yes No N/A
Received by: [illegible]	Organization: PBS&J ELD Lab	Date 11/18/88	Time [illegible]	

Special Instructions/Remarks:
Custody relinquished directly to MMMS for delivery to lab.

Delivery Method: ☒ In Person ☐ Common Carrier _____ SPECIFY ☐ Lab Courier ☐ Other _____

G&M Form 09 1/87

MILLER, INC.
Ground-Water Consultants

CHAIN-OF-CUSTODY RECORD

Project Number TF0487ST06

Project Location MMMS – Site 6

Laboratory PBS & J

Sampler(s) Dan Longbrake
Tim Zebulske

SAMPLE IDENTITY	Date Sampled	EPA ~~601/602~~ 624 40 ml vial preserved w/ HCl (in vial)										TOTAL
PW 69	11/2/88	2										2
PW 27A		2										2
PW - 29		2										2
PW - 68		2										2
PW - 72		2										2
PW - 67		2										2
PW 71		2										2
PW - 65		2										2
PW - 64		2										2
PW - 66		2										2
PW - 28		2										2
PW 70		2										2
SW - 6A		2										2
SW 6B		2										2
SW 6C		2										2
											Total No. of Bottles/ Containers	30

Relinquished by: Daniel W. Longbrake	Organization: Geraghty & Miller	Date 11 2 88	Time 1600	Seal Intact?
Received by: [illegible]	Organization: [illegible]	Date [illegible]	Time [illegible]	Yes No N/A
Relinquished by: [illegible]	Organization: [illegible]	Date [illegible]	Time [illegible]	Seal Intact?
Received by: [illegible]	Organization: PBS & J	Date [illegible]	Time [illegible]	Yes No N/A

Special Instructions/Remarks: Relinquished to MMMS for delivery to lab.

Delivery Method: ☒ In Person ☐ Common Carrier _____ (SPECIFY) ☐ Lab Courier ☐ Other

G&M Form 09 1-87

MILLER, INC.
Ground-Water Consultants

CHAIN-OF-CUSTODY RECORD

Project Number TF0487ST06

Project Location MMMS - site 6

Laboratory PBS & J

Sampler(s) DAN LONGBRAKE
Tim Zebulske

SAMPLE IDENTITY	Date Sampled	EPA ~~[illegible]~~ 624 40 ml vial preserved w/ HCl (on ice)										TOTAL
REPLICATE A	11/2/88	2										2
REPLICATE B	↓	2										2
REPLICATE C	↓	2										2
Rinsate A	↓	2										2
~~MMMS~~	↓											
ST06 - FB	↓	2										2

Total No. of Bottles/ Containers 10

Relinquished by: Daniel W. Longbrake	Organization: Geraghty & Miller	Date 11 / 2 / 88	Time 1600	Seal Intact? Yes No N/A
Received by: Mark Simms	Organization: Martin Marietta	Date 11 / 2 / 88	Time 16:10	
Relinquished by: [illegible]	Organization: MMMA	Date 11 / 3 / 88	Time 15:45	Seal Intact? Yes No N/A
Received by: Peter Cooke	Organization: PBS&J ECD	Date 11 / 3 / 88	Time 1545	

Special Instructions/Remarks: Relinquished to MMMS for delivery to lab

Delivery Method: ☒ In Person ☐ Common Carrier _____ (SPECIFY) ☐ Lab Courier ☐ Other _

G&M Form 09 1-87

GERAGHTY & MILLER, INC.
Ground-Water Consultants

CHAIN-OF-CUSTODY RECORD

Project Number TF0487MB01

Project Location MMMS-MEC Building

Laboratory PBS+J

Sampler(s) D. Longbrake
T. Zebulske

SAMPLE IDENTITY	Date Sampled	SAMPLE BOTTLE / CONTAINER DESCRIPTION: EPA 624 ~~+ 602~~ plus 1,1,2 trichloro tri-fluoroethan (freon) 40ml vial w/HCl										TOTAL
PW 43	11/3/88		2									2
PW 47	11/3/88		2									2
PW 48	11/4/88		2									2
PW 49	11/3/88		2									2
PW 50	↓		2									2
PW 51	↓		2									2
PW 53	↓		2									2
PW 56	↓		2									2
PW 57	↓		2									2
PW 58	11/4/88		2									2
PW 59	11/4/88		2									2
PW 63	11/3/88		2									2
PW 65A	11/4/88		2									2
PW 66A	11/3/88		2									2
PW 106	11/3/88		2									2
											Total No. of Bottles/ Containers	30

Relinquished by: Timothy J Zebulske	Organization: Geraghty + Miller	Date 11/4/88 Time 1300	Seal Intact? Yes No N/A
Received by: [illegible]	Organization: [illegible]	Date 11/4/88 Time 13:00	
Relinquished by: [illegible]	Organization: [illegible]	Date 11/4/88 Time 15:30	Seal Intact? Yes No N/A
Received by: [illegible]	Organization: PBSJ ELD/AL	Date 11/4/88 Time 15:30	

Special Instructions/Remarks:
Samples relinquished to MMMS representative for delivery to lab.

Delivery Method: ☒ In Person ☐ Common Carrier _____ (SPECIFY) ☐ Lab Courier ☐ Other _____ (SPECIFY)

G&M Form 09 1-87

GERAGHTY MILLER, INC.
Ground-Water Consultants

CHAIN-OF-CUSTODY RECORD

Page 2 of 2

Project Number TF0487MB01

Project Location MMMS - MEC

Laboratory PBS + J

Sampler(s) DAN LONGBRAKE
Tim Zebulske

SAMPLE BOTTLE / CONTAINER DESCRIPTION

SAMPLE IDENTITY	Date Sampled	EPA ~~601~~ ~~602~~ 624 (1,1,2 - trichlor trifluoroethane) + Freon 40ml vial preserved w/ HCl on ice										TOTAL
PW - 107	11/3/88	2										2
INT 8		2										2
INT 9		2										2
INT 10		2										2
SW - A		2										2
SW - B		2										2
MB RINSATE		2										2
MB FB		2										2
Replicate A		2										2
Replicate B		2										2

Total No. of Bottles/ Containers 20

Relinquished by: Timothy J. Zebulske	Organization: Geraghty + Miller	Date 11/4/88	Time 1300	Seal Intact? Yes No N/A
Received by: [illegible]	Organization: [illegible]	Date 11/4/88	Time 1300	
Relinquished by: [illegible]	Organization: [illegible]	Date 11/4/88	Time [illegible]	Seal Intact? Yes No N/A
Received by: [illegible]	Organization: PBS+J [illegible]	Date 11/4/88	Time [illegible]	

Special Instructions/Remarks:
Samples relinquished to MMMS representative for delivery to lab

Delivery Method: ☒ In Person ☐ Common Carrier _____ SPECIFY ☐ Lab Courier ☐ Other

G&M Form 09 1 87

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

For Routing To Other Than The Addressee

		Location:	
To:		Location:	
To:		Location:	
From:		Date:	

Interoffice Memorandum

JS

TO: Richard Tedder
District Engineer - Orlando

THROUGH: Satish Kastury, Administrator
Hazardous Waste Regulation

Bill Neimes, Professional Engineer II
Hazardous Waste Regulation

FROM: Merlin D. Russell Jr., Environmental Spec. III
Hazardous Waste Regulation

DATE: March 13, 1989

SUBJECT: Martin-Marietta Orlando Aerospace FLD 060 240 207, "Post-closure" Permit HF48-112268; May and August 1988 Groundwater Data dated October 19, 1988; "Semi-annual and Annual Report on the Effectiveness of the Corrective Action Program at the Site 5 Sludge Cells, Martin-Marietta Missle Systems, Orlando, Florida" dated December, 1988, and Response to DER's November 8, 1988 request for additional information dated January 5, 1989.

I have read and reviewed the subject documents. Comments are attached. From the RCRA perspective, we have not received a final nor complete corrective action plan yet. Some of this approval will be generated through the Bureau of Waste Cleanup (BWC). It may behoove Martin-Marietta to meet with BWC staff to determine precisely what is required prior to their approval. We are currently prepared to modify the groundwater monitoring portions of the "post-closure" permit. If you anticipate a lengthy period prior to final CAP approval, we can proceed with modifying the groundwater portions of the permit at this time.

The subject documents have been forwarded to the BWC for review. I anticipate additional comments from them, are forthcoming.

If you have any questions, call me at SUNCOM 278-0300.

MDR/do
attachments

cc: Jim Scarbrough, EPA/Region IV
Barry Swihart, BWP&R
Charlie Biedermann, BWP&R
Zoe Kulakowski, BWC
Tim Larson, BWC

MM 309

1. The presence of low concentrations of volatile organic constituents in the background wells needs to be carefully monitored. A summary of exceedances of the groundwater protection standard for each background well are summarized (concentrations in ppb):

May 1988

	PW-4	PW-79	INT-6
	Shallow surficial	Deep surficial	Intermediate
1,2-dichloroethane		1.7	1.3
methylene chloride	3.4	1.7	1.4

August 1988

toluene			1.4

2. Assessment well PW-111 shows the presence of 1.4 ppb of 1,2-dichloroethane. Specific condition 6 of Part IV of the permit states that

   "If the presence of volatile organic constituents is detected in (wells PW-111, PW-112 or PW-113), above background concentrations..., the Department may require the permittee to install additional wells..."

   We recommend evaluating the November 1988 groundwater data on these wells before proceeding with further action.

3. The facility clearly documented that certain parameters were omitted from the May and August, 1988 sampling events with reasons for the omissions. It would serve little purpose to "make up" the missed parameters at a later date. Because these problems have not previously occurred and the facility is making good faith efforts to resolve the problems, I suggest that no enforcement action be taken and that we accept this data as complying with the requirements of the permit.

4. Although not a specific requirement of the post-closure permit, the facility should continue to sample for metals, for each background well, as they have in the past. This oversight will be rectified when the permit is modified to address the corrective action requirements.

5. Table 1 (of the second document) should also include the monitoring of well PW-113 which is currently required to be sampled on a semi-annual basis in the closure permit along with wells PW-111 and PW-112. The "RAP" wells, parameters, and schedule will also be included in the revisions to the "post-closure" permit.

6. The facility must submit a detailed well installation report and lithologic logs for the new Floridan monitor well. This well will be used for future monitoring of the Floridan aquifer. (You may want to provide appropriate portions of the draft groundwater checklist and well summary report to the facility. This information was provided to you at January's District Engineer's meeting in Tampa.)

7. The January 5, 1989 information (third subject document) is acceptable for the first four comments. I must refer Comments 1 and 2 on groundwater quality data, and Comments 6 through 9 of the "Technical Specifications..." to the Bureau of Waste Cleanup.

For Routing To Other Than The Addressee

Scarborough Location:

To: Location:

To: Location:

From: Date:

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

Interoffice Memorandum

TO: Richard Tedder
District Engineer - Orlando

THROUGH: Satish Kastury, Administrator
Hazardous Waste Regulation

Bill Neimes, Professional Engineer II
Hazardous Waste Regulation

FROM: Merlin D. Russell Jr., Environmental Spec. III
Hazardous Waste Regulation

DATE: April 4, 1989

SUBJECT: Martin-Marietta Orlando Aerospace FLD 060 240 207, "Post-closure" Permit HF48-112268. Groundwater Monitoring Report (4th Quarter) for November 1988 dated February 23, 1989.

I have read and reviewed the subject documents and offer the following comments.

It is interesting to note that groundwater flow in the 75' zone has reversed flow direction between PW-78 and PW-33. In August, 1988 flow was from PW-78 to PW-33 with a southwesterly component across the landfill toward PW-88. The August 27, 1986 and November 1988 data show general flow toward PW-88, however flow is from PW-33 to PW-78.

Flow in the secondary artesian aquifer is from INT-3 toward the drainage channel as was noted in Zoe Kulakowski's memo of March 7, 1989. Although an apparent sink is located around INT-4 and Floridan well FL-2, contaminants were not detected in either of these wells during this sampling event. Additional wells should be installed within the 75 ft. depth zone to better characterize groundwater flow direction. The Department may also include sampling and analysis of some of these wells when the "post-closure" permit is modified.

The plume continues to migrate in an easterly / north easterly direction. Wells PW-40 (shallow) and intermediate well INT-7, located at the outer limit of the well system, recorded VOC contamination. Additional assessment wells should be installed to the north east of PW-40 within the surficial aquifer at this time.

We also suggest that monthly groundwater elevations for all Site 5 wells be recorded and submitted to the Department due to inconsistancies in recent submittals. Some of these inconsistancies may be due to the pumping of the recovery wells. You may want to check with the facility to see if a schedule is being kept of periods the wells are being shut off/turned on.

BUDGET NO. MM 310

Note that specific condition 7.c of Part III states that if MQLs for a constituent exceeds the groundwater quality standards, an analytical method must be used that is capable of detecting that constituent at levels below the groundwater quality standards. Summarized below are selected monitoring parameters, the facility's detection limit and the groundwater quality standards established in 17-550.220 FAC.

	Facility's detection limit (ppb)	17-550 Standard (ppb)
trichloroethylene	<5.0	3
tetrachloroethylene	<5.0	3
vinyl chloride	<10.0	1
1,2-dichloroethane	<5.0	3
benzene	<5.0	1

Future analyses must use detection limits no greater than the standard in 17-550 FAC.

We await the results of the February, 1989 sampling event which will include the newly installed Floridan monitoring well.

If you should have any questions, call me at SUNCOM 278-0300.

MDR/do

cc: Jim Scarbrough, EPA/Region IV
Barry Swihart, BWP&R
Charlie Biedermann, BWP&R
Zoe Kulakowski, BWC

Jane, S.
4/28/89.
FYI, Pete.

HUEY, GUILDAY, KUERSTEINER & TUCKER, P. A.
ATTORNEYS & COUNSELLORS AT LAW
215 SOUTH MONROE STREET
SUITE 500, FIRST FLORIDA BANK BUILDING
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GEOFFREY B. SCHWARTZ
J. KENDRICK TUCKER
WILLIAM E. WILLIAMS

WILLIAM D. TOWNSEND
OF COUNSEL

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MARK E. HOLCOMB
DOUGLAS J. RILLSTONE
JOHN A. RUDOLPH
M. KAY SIMPSON
REX D. WARE
MICHAEL D. WEST

AMY J. YOUNG,
GOVERNMENTAL CONSULTANT
JAMES F. WELLS, CPA
GENERAL MANAGER

April 25, 1989

James H. Scarbrough, P.E., Chief
Residuals Management Branch
Waste Management Division
Environmental Protection Agency
Region IV
345 Courtland Street, N.E.
Atlanta, GA 30365

Re: Martin Marietta Corporation; HSWA Land Disposal Restrictions; RCRA-SWMU Corrective Action; Orlando, Florida

Dear Jim:

On behalf of my client, Martin Marietta Corporation, we thank you for the opportunity to meet with you and your staff on April 21, 1989, concerning whether remedial spray irrigation utilized by Martin Marietta at its Orlando facility might conflict with land disposal restrictions adopted by EPA under the Hazardous and Solid Waste Amendments of 1984. We appreciate your willingness to carefully review this matter since it is of great importance to my client and undoubtedly others engaged in groundwater recovery and treatment.

This also confirms that my client will continue its spray irrigation remediation as explained at our conference at least until May 8, 1990. This is because the multi-source leachate being generated, if subject to land disposal restrictions, is not subject to such restrictions until May 8, 1990. 40 C.F.R. Section 268.12(e), February 27, 1989. We hope to receive your determination well prior to May 8, 1990 so that operations may be adjusted as necessary.

DOCKET NO. MM 311

Thank you again for your assistance. Please do not hesitate to call on us should you need additional information or if we can be of other assistance in any manner.

Sincerely,

HUEY, GUILDAY, KUERSTEINER
& TUCKER, P.A.

Kendrick Tucker

KT/lm
cc: Alan Farmer - EPA, Region IV, Waste Compliance Section
Alan Antley - EPA, Region IV, Waste Compliance Section
Tony Able - EPA, Region IV, Waste Compliance Section
Ron Dobbs - EPA, Region IV, Waste Compliance Section
Lisa Perras - EPA, Region IV, Waste Compliance Section
Judy Sophianopoulos - EPA, Region IV, Waste Compliance Section

Lincoln E. Hall, Director, Environmental Management
Martin Marietta Electronics and Missiles Group
Orlando, Florida

Satish Kastury
Florida Department of Environmental Regulation
Tallahassee, Florida

Florida Department of Environmental Regulation

Central District ● 3319 Maguire Boulevard, Suite 232 ● Orlando, Florida 32803-3767 ● 407-894-7555

Bob Martinez, Governor Dale Twachtmann, Secretary John Shearer, Assistant Secretary
Alex Alexander, Deputy Assistant Secretary

May 3, 1989

Michael P. Anders
Staff Engineer
Martin Marietta Aerospace
Post Office Box 5837
Orlando, Florida 32855

OCD-HW-89-0546

Orange County - HW
Martin Marietta Aerospace
East Lake Underhill Road Facility
FLD 980 841 746
Extension of Generator 90-day Accumulation Time

Dear Mr. Anders:

The department is in receipt of your request dated ~~August 30, 1988~~ May 1, 1989 for an extension of the 90-day accumulation time for a generator of hazardous waste. Per 40 CFR 262.34 (b) as adopted by Chapter 17-30.160 F.A.C., the department has the authority to grant an extension of up to 30 days to on-site hazardous waste accumulation due to unforeseen, temporary and uncontrollable circumstances.

The Department has reviewed your request for a 30-day extension of the accumulation time for the two lab packs designated numbers 78 and 79. This request is granted since unforeseen circumstances have resulted in the disposal facility Environmental Entersprises, Inc. requiring that the two drums be repacked prior to shipment.

Please be advised that with the extension, the two lab packs numbered 78 and 79 must be manifested off-site or properly disposed of by June 1, 1989. No further extension can be granted for these wastes.

Sincerely,

A. Alexander, P.E.
Deputy Assistant Secretary

AA/rtl

cc: Satish Kastury, FDER
James Scarbrough, USEPA

DOCKET NO. MM 312

UNSCANNABLE

MEDIA

(PHOTOGRAPHS)

OVERSIZED

DOCUMENT