

copy Jim Colfer
Dave Braylet
Jack Donleavy
(91A)

Ground Water

Hydrocarbon

Remediation

Educatio

N90845.AR.000156

June 15, 1993

VIA TELECOPIER

John Ohlmann, P.E.
Director Environmental Protection
Grumman Aerospace Corporation
Mail Stop: D08/GHQ
Bethpage, New York 11714

Subject: Soil Sampling and Analysis,
Plant 3 Former Sludge Drying Beds
Grumman Aerospace Corporation, Bethpage, New York
(Project No. NY008.39)

J. OHLMANN

JUN 17 1993

Director Corporate Environmental
Technology & Compliance

Dear John:

Attached are copies of the analytical results for soil samples collected by Geraghty & Miller, Inc. on April 8, 1993 at the referenced site. As requested by Grumman, samples were collected and analyzed to characterize and evaluate off-site disposal options for soil to be excavated from the Plant 3 former sludge drying bed area. As explained below, both total and TCLP analyses were performed. Analytical parameters consisted of volatile organic compounds (VOCs), the eight RCRA metals, and PCBs. Analytical parameters were selected based on our understanding of the site history (former sludge drying beds) and because they have been detected at the site in soil samples collected during the Grumman and U.S. Navy remedial investigations. Samples for VOC analyses were grab samples; samples for metals and PCB analyses were composite samples. Soil sample locations are shown on Figure 1.

In evaluating disposal options, it must first be determined if the material is hazardous. A material is considered hazardous under 6 NYCRR Part 371 if it is a listed waste or exhibits any of the following characteristics: ignitability, corrosivity, reactivity, or toxicity. Based on our current understanding of the site history, soil in this area is not likely to exhibit the characteristics of ignitability, corrosivity, or reactivity. However, because the site was formerly used to dewater sludge from industrial wastewater treatment operations and because the Bethpage



facility is listed on the New York State Registry of Inactive Hazardous Waste Disposal Sites, the soil was sampled and analyzed (as described below) to provide the data necessary to make a hazardous waste determination. If it is determined that the soil is contaminated with a listed hazardous waste as a result of the past sludge dewatering practices, then by the contained-in policy, the contaminated soil would have to be handled and disposed of as a listed hazardous waste. If federal TCLP levels are exceeded in total analyses, then analysis by TCLP methods (USEPA Method 1311) is performed. If federal TCLP levels are exceeded in TCLP analyses, then the material would have to be handled and disposed of as a hazardous waste due to the characteristic of toxicity.

Soil samples were initially analyzed for VOCs (USEPA Method 601/602), the eight RCRA metals, and PCBs. These analyses reported the "total" concentration of each analyte detected. Total analyses were performed to (1) determine if past sludge dewatering practices resulted in contamination of the underlying soil, and (2) as a screening step to determine if federal TCLP levels were exceeded. To evaluate if soil is contaminated, Geraghty & Miller compared the results of total analyses to available site background data (soil-quality data from Well Clusters GM-7, GM-8, GM-12, GM-13, and GM-14) and to the New York State Department of Environmental Conservation (NYSDEC) soil cleanup levels provided in their **November 16, 1992 Technical and Administrative Guidance Memorandum (TAGM) No. HWR-92-4046, entitled "Determination of Soil Cleanup Objectives and Cleanup Levels."** Soil cleanup levels were used because state and federal soil standards have not been promulgated, and the TAGM states that attainment of the soil cleanup levels will, at a minimum, eliminate significant threats to human health and/or the environment.

Analytical results of total analyses indicate the following: (1) Trace amounts (less than 10 micrograms per kilogram [ug/kg]) of VOCs were detected in Samples B-2 and B-15. VOCs were detected below federal TCLP and NYSDEC soil cleanup levels. (2) PCBs were detected in Composite Samples 1 and 3 below NYSDEC soil cleanup levels. (3) Cadmium was detected above background values in Composite Samples 1 and 3, and above TCLP and NYSDEC soil cleanup levels in Composite Sample 1. (4) Chromium was detected above background values, TCLP levels, and NYSDEC soil cleanup levels in Composite Sample 3. (5) Lead was detected above background values in Composite Sample 3. (6) Background data are not available for selenium and silver, therefore, a comparison to background quality can not be made for these metals (it should be noted that the NYSDEC soil cleanup level for silver is site background).

Since TCLP levels for cadmium and chromium were exceeded in total analyses for Composite Samples 1 and 3, these samples were reanalyzed by the TCLP method. TCLP methods involve extracting an aqueous leachate from the soil sample and analyzing the leachate. A review of these data indicate that TCLP levels were not exceeded. Since federal TCLP levels were not exceeded (for the compounds analyzed), the soil does not exhibit the characteristic of a hazardous waste because of toxicity. However, because site background values and/or

NYSDEC soil cleanup levels were exceeded in some samples, Grumman should determine, based on a review of the processes involved in the generation of the sludge and a review of the hazardous wastes listed in 6 NYCRR Part 371.4, whether the soil contains a listed hazardous waste. After Grumman has made this determination, it is recommended NYSDEC approval be obtained before excavation begins. Contact Larry Nadler of the NYSDEC at (518) 457-6858 for hazardous waste determination.

If it is determined that the material does not contain a listed hazardous waste or exhibit the characteristics of a hazardous waste, then under 6 NYCRR Part 360, a material of this type would be considered a solid waste. Options available for off-site disposal of a solid waste include disposal in a 6 NYCRR Part 360 regulated landfill (i.e., municipal solid waste landfill or clean fill disposal site). Based on the nature of the material to be disposed (soil, sand, and gravel), and discussions with operators of local clean fill disposal sites, the most feasible offsite disposal option is disposal in a municipal solid waste landfill for use as daily cover material (Note: disposal costs for cover material are generally lower than costs for waste disposal). A second disposal option is disposal in a clean fill disposal site; however, before this material could be sent to a clean fill site Grumman would need a clean fill determination from the NYSDEC (by calling Robert Mitrey at [516] 751-4692). A third option is to obtain a "Beneficial Use Determination "(BUD) from the NYSDEC. If the NYSDEC grants a BUD the material would not be considered a waste, rather it would be a recycled, or reused material. However, to be considered for a BUD, Grumman would have to show that there is a beneficial use for the material. Application for a BUD should be sent to: Robert Mitrey, Division of Solid Waste, NYSDEC, Stony Brook, New York, and a copy to H.R. Koelling, Bureau Resource Recovery, Division Solid Waste, NYSDEC, 50 Wolf Road, Albany, New York.

Based on EcoTest Laboratory, Inc.'s analytical results (for the parameters analyzed), a review of site background data and NYSDEC cleanup goals, and our understanding of the site history, the soil to be excavated should be handled as follows: (1) If the material is determined to contain a listed hazardous waste or exhibit the characteristics of a hazardous waste, it should be excavated and disposed of as a hazardous waste (e.g., health and safety concerns for site workers, waste manifest, and disposal in a regulated hazardous waste landfill); (2) If not, then the brush and debris (see Figure 1) should be removed from the site, and the area around Soil Borings 3, 4, 6, 7, 8, 11, 12, 14, 15, 16, and 18 should be excavated to a depth of 5 feet below land surface (bls). Also, the area around Soil Borings 1, 2, 5, 9, 13, and 17 should be excavated to a depth of 15 to 25 ft bls. Soil from these two areas meets site background quality and/or NYSDEC cleanup levels, and can be considered clean fill and used on-site or disposed offsite. Soil excavated from the area around Soil Borings 3, 4, 6, 7, 8, 11, 12, 14, 15, 16 and 18 from 5 to 15 ft bls, and from the top 5 ft around Soil Boring 2 should be considered a solid waste and disposed of accordingly or a BUD obtained. If soil is to be removed from the site below 25 ft bls, it will require additional sampling and testing to determine disposal options.

Because the soil to be excavated is located on the U.S. Navy site, Geraghty & Miller recommends that Grumman provide the attached data to the Navy. Another option is to collect and analyze additional soil samples of a smaller composite grouping in hopes of identifying more clean areas. If you have any questions, please call.

Sincerely,

GERAGHTY & MILLER, INC.



John W. Schafer
Staff Scientist/
Project Hydrogeologist
(516) 391-5270



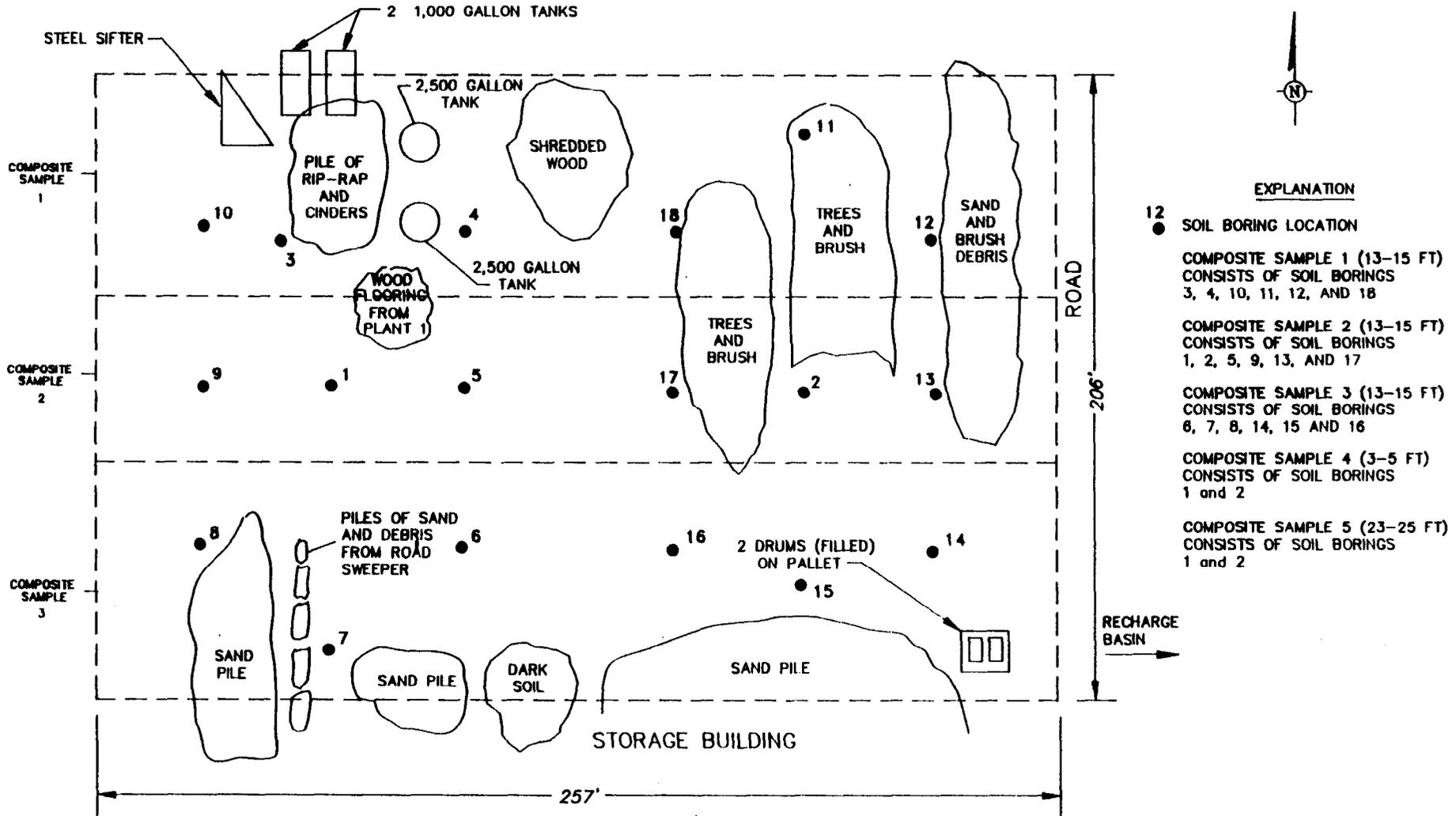
Carlo San Giovanni
Senior Scientist/Project Manager
(516) 391-5259

JWS/CSG:vk

91:P13Res.ltr

Encl.

cc: Dale Kent - Grumman



EXPLANATION

12 ● SOIL BORING LOCATION

COMPOSITE SAMPLE 1 (13-15 FT)
CONSISTS OF SOIL BORINGS
3, 4, 10, 11, 12, AND 18

COMPOSITE SAMPLE 2 (13-15 FT)
CONSISTS OF SOIL BORINGS
1, 2, 5, 9, 13, AND 17

COMPOSITE SAMPLE 3 (13-15 FT)
CONSISTS OF SOIL BORINGS
6, 7, 8, 14, 15 AND 16

COMPOSITE SAMPLE 4 (3-5 FT)
CONSISTS OF SOIL BORINGS
1 AND 2

COMPOSITE SAMPLE 5 (23-25 FT)
CONSISTS OF SOIL BORINGS
1 AND 2

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO. C931436/10

04/26/93

Geraghty & Miller, Incorporated
125 East Bethpage Road
Plainview, NY 11803

ATTN: John Schafer

SOURCE OF SAMPLE: Grumman, Plant #3/Project No. NY00835
COLLECTED BY: Client DATE COL'D: 04/08/93 RECEIVED: 04/09/93

SAMPLE: Soil Sample, B-1

ANALYTICAL PARAMETERS

Chloromethane	ug/Kg	<1
Bromomethane	ug/Kg	<1
Dichlorodifluomethane	ug/Kg	<1
Vinyl Chloride	ug/Kg	<1
Chloroethane	ug/Kg	<1
Methylene Chloride	ug/Kg	<1
Trichlorofluomethane	ug/Kg	<1
1, 1 Dichloroethene	ug/Kg	<1
1, 1 Dichloroethane	ug/Kg	<1
1, 2 Dichloroethene	ug/Kg	<1
Chloroform	ug/Kg	<1
1, 2 Dichloroethane	ug/Kg	<1
111 Trichloroethane	ug/Kg	<1
Carbon Tetrachloride	ug/Kg	<1
Bromodichloromethane	ug/Kg	<1
1, 2 Dichloropropane	ug/Kg	<1
t-1, 3Dichloropropene	ug/Kg	<1
Trichloroethylene	ug/Kg	<1
Chlorodibromomethane	ug/Kg	<1
112 Trichloroethane	ug/Kg	<1
c 13 Dichloropropene	ug/Kg	<1
2chloroethvinylether	ug/Kg	<1
Bromoform	ug/Kg	<1
1122Tetrachloroethan	ug/Kg	<1
Tetrachloroethene	ug/Kg	<1

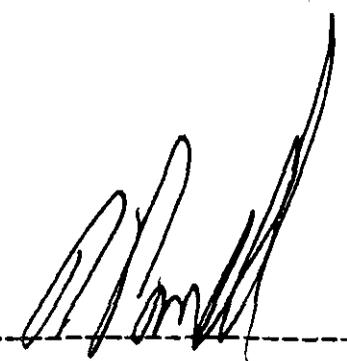
ANALYTICAL PARAMETERS

Chlorobenzene	ug/Kg	<1
1, 3 Dichlorobenzene	ug/Kg	<1
1, 2 Dichlorobenzene	ug/Kg	<1
1, 4 Dichlorobenzene	ug/Kg	<1
Benzene	ug/Kg	<1
Toluene	ug/Kg	<1
Ethyl Benzene	ug/Kg	<1
m + p Xylene	ug/Kg	<2
o Xylene	ug/Kg	<1

cc:

REMARKS:

DIRECTOR



377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO. C931436/8

04/26/93

Geraghty & Miller, Incorporated
125 East Bethpage Road
Plainview, NY 11803

ATTN: John Schafer

SOURCE OF SAMPLE: Grumman, Plant #3/Project No. NY00835
COLLECTED BY: Client DATE COL'D: 04/08/93 RECEIVED: 04/09/93

SAMPLE: Soil Sample, B-2

ANALYTICAL PARAMETERS

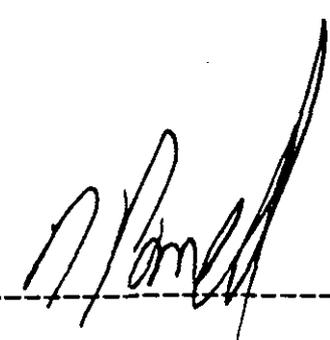
Chloromethane	ug/Kg	<1
Bromomethane	ug/Kg	<1
Dichlorodifluomethane	ug/Kg	<1
Vinyl Chloride	ug/Kg	<1
Chloroethane	ug/Kg	<1
Methylene Chloride	ug/Kg	<1
Trichlorofluomethane	ug/Kg	<1
1,1 Dichloroethene	ug/Kg	<1
1,1 Dichloroethane	ug/Kg	<1
1,2 Dichloroethene	ug/Kg	3
Chloroform	ug/Kg	<1
1,2 Dichloroethane	ug/Kg	<1
111 Trichloroethane	ug/Kg	<1
Carbon Tetrachloride	ug/Kg	<1
Bromodichloromethane	ug/Kg	<1
1,2 Dichloropropane	ug/Kg	<1
t-1,3Dichloropropene	ug/Kg	<1
Trichloroethylene	ug/Kg	8
Chlorodibromomethane	ug/Kg	<1
112 Trichloroethane	ug/Kg	<1
c 13 Dichloropropene	ug/Kg	<1
2chloroethvinylether	ug/Kg	<1
Bromoform	ug/Kg	<1
1122Tetrachloroethan	ug/Kg	<1
Tetrachloroethene	ug/Kg	1

ANALYTICAL PARAMETERS

Chlorobenzene	ug/Kg	<1
1,3 Dichlorobenzene	ug/Kg	<1
1,2 Dichlorobenzene	ug/Kg	<1
1,4 Dichlorobenzene	ug/Kg	<1
Benzene	ug/Kg	<1
Toluene	ug/Kg	1
Ethyl Benzene	ug/Kg	<1
m + p Xylene	ug/Kg	2
o Xylene	ug/Kg	<1

CC:

REMARKS:

DIRECTOR _____


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LAB NO. C931436/9

04/26/93

Geraghty & Miller, Incorporated
 125 East Bethpage Road
 Plainview, NY 11803

ATTN: John Schafer

SOURCE OF SAMPLE: Grumman, Plant #3/Project No. NY00835
 COLLECTED BY: Client DATE COL'D: 04/08/93 RECEIVED: 04/09/93

SAMPLE: Soil Sample, B-3

ANALYTICAL PARAMETERS

Chloromethane	ug/Kg	<1
Bromomethane	ug/Kg	<1
Dichlorodifluomethane	ug/Kg	<1
Vinyl Chloride	ug/Kg	<1
Chloroethane	ug/Kg	<1
Methylene Chloride	ug/Kg	<1
Trichlorofluomethane	ug/Kg	<1
1,1 Dichloroethene	ug/Kg	<1
1,1 Dichloroethane	ug/Kg	<1
1,2 Dichloroethene	ug/Kg	<1
Chloroform	ug/Kg	<1
1,2 Dichloroethane	ug/Kg	<1
111 Trichloroethane	ug/Kg	<1
Carbon Tetrachloride	ug/Kg	<1
Bromodichloromethane	ug/Kg	<1
1,2 Dichloropropane	ug/Kg	<1
t-1,3Dichloropropene	ug/Kg	<1
Trichloroethylene	ug/Kg	<1
Chlorodibromomethane	ug/Kg	<1
112 Trichloroethane	ug/Kg	<1
c 13 Dichloropropene	ug/Kg	<1
2chloroethvinylether	ug/Kg	<1
Bromoform	ug/Kg	<1
1122Tetrachloroethan	ug/Kg	<1
Tetrachloroethene	ug/Kg	<1

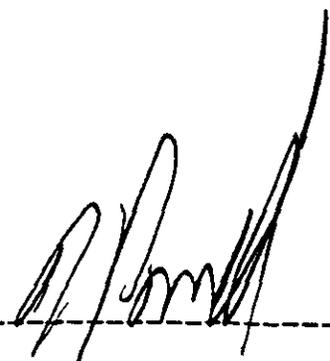
ANALYTICAL PARAMETERS

Chlorobenzene	ug/Kg	<1
1,3 Dichlorobenzene	ug/Kg	<1
1,2 Dichlorobenzene	ug/Kg	<1
1,4 Dichlorobenzene	ug/Kg	<1
Benzene	ug/Kg	<1
Toluene	ug/Kg	<1
Ethyl Benzene	ug/Kg	<1
m + p Xylene	ug/Kg	<2
o Xylene	ug/Kg	<1

CC:

REMARKS:

DIRECTOR



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LAB NO. C931436/11

04/26/93

Geraghty & Miller, Incorporated
125 East Bethpage Road
Plainview, NY 11803

ATTN: John Schafer

SOURCE OF SAMPLE: Grumman, Plant #3/Project No. NY00835
COLLECTED BY: Client DATE COL'D: 04/08/93 RECEIVED: 04/09/93

SAMPLE: Soil Sample, B-15

ANALYTICAL PARAMETERS

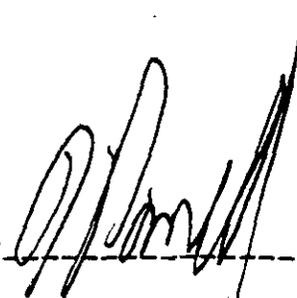
Chloromethane	ug/Kg	<1
Bromomethane	ug/Kg	<1
Dichlorodifluomethane	ug/Kg	<1
Vinyl Chloride	ug/Kg	<1
Chloroethane	ug/Kg	<1
Methylene Chloride	ug/Kg	<1
Trichlorofluomethane	ug/Kg	<1
1,1 Dichloroethene	ug/Kg	<1
1,1 Dichloroethane	ug/Kg	<1
1,2 Dichloroethene	ug/Kg	<1
Chloroform	ug/Kg	<1
1,2 Dichloroethane	ug/Kg	<1
111 Trichloroethane	ug/Kg	<1
Carbon Tetrachloride	ug/Kg	<1
Bromodichloromethane	ug/Kg	<1
1,2 Dichloropropane	ug/Kg	<1
t-1,3Dichloropropene	ug/Kg	<1
Trichloroethylene	ug/Kg	1
Chlorodibromomethane	ug/Kg	<1
112 Trichloroethane	ug/Kg	<1
c 13 Dichloropropene	ug/Kg	<1
2chloroethvinylether	ug/Kg	<1
Bromoform	ug/Kg	<1
1122Tetrachloroethan	ug/Kg	<1
Tetrachloroethene	ug/Kg	<1

ANALYTICAL PARAMETERS

Chlorobenzene	ug/Kg	<1
1,3 Dichlorobenzene	ug/Kg	<1
1,2 Dichlorobenzene	ug/Kg	<1
1,4 Dichlorobenzene	ug/Kg	<1
Benzene	ug/Kg	<1
Toluene	ug/Kg	<1
Ethyl Benzene	ug/Kg	<1
m + p Xylene	ug/Kg	<2
o Xylene	ug/Kg	<1

CC:

REMARKS:

DIRECTOR 

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LAB NO. C931436/12

04/26/93

Geraghty & Miller, Incorporated
125 East Bethpage Road
Plainview, NY 11803

ATTN: John Schafer

SOURCE OF SAMPLE: Grumman, Plant #3/Project No. NY00835
COLLECTED BY: Client DATE COL'D: 04/08/93 RECEIVED: 04/09/93

SAMPLE: Soil Sample, B-17

ANALYTICAL PARAMETERS

Chloromethane	ug/Kg	<1
Bromomethane	ug/Kg	<1
Dichlorodifluomethane	ug/Kg	<1
Vinyl Chloride	ug/Kg	<1
Chloroethane	ug/Kg	<1
Methylene Chloride	ug/Kg	<1
Trichlorofluomethane	ug/Kg	<1
1,1 Dichloroethene	ug/Kg	<1
1,1 Dichloroethane	ug/Kg	<1
1,2 Dichloroethene	ug/Kg	<1
Chloroform	ug/Kg	<1
1,2 Dichloroethane	ug/Kg	<1
111 Trichloroethane	ug/Kg	<1
Carbon Tetrachloride	ug/Kg	<1
Bromodichloromethane	ug/Kg	<1
1,2 Dichloropropane	ug/Kg	<1
t-1,3Dichloropropane	ug/Kg	<1
Trichloroethylene	ug/Kg	<1
Chlorodibromomethane	ug/Kg	<1
112 Trichloroethane	ug/Kg	<1
c 13 Dichloropropane	ug/Kg	<1
2chloroethvinylether	ug/Kg	<1
Bromoform	ug/Kg	<1
1122Tetrachloroethan	ug/Kg	<1
Tetrachloroethene	ug/Kg	<1

ANALYTICAL PARAMETERS

Chlorobenzene	ug/Kg	<1
1,3 Dichlorobenzene	ug/Kg	<1
1,2 Dichlorobenzene	ug/Kg	<1
1,4 Dichlorobenzene	ug/Kg	<1
Benzene	ug/Kg	<1
Toluene	ug/Kg	<1
Ethyl Benzene	ug/Kg	<1
m + p Xylene	ug/Kg	<2
o Xylene	ug/Kg	<1

cc:

REMARKS:

DIRECTOR 

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO. C931436/1

04/26/93

Geraghty & Miller, Incorporated
125 East Bethpage Road
Plainview, NY 11803

ATTN: John Schafer

SOURCE OF SAMPLE: Grumman, Plant #3/Project No. NY00835
COLLECTED BY: Client DATE COL'D: 04/08/93 RECEIVED: 04/09/93

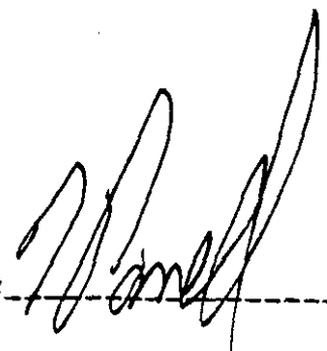
SAMPLE: Soil sample, Composite 1

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS		
Arsenic as As	mg/Kg	1.2	Aroclor 1016	ug/Kg	<40
Barium as Ba	mg/Kg	3.9	Aroclor 1221	ug/Kg	<40
Cadmium as Cd	mg/Kg	1.5	Aroclor 1232	ug/Kg	<40
Chromium as Cr	mg/Kg	3.4	Aroclor 1242	ug/Kg	<40
Lead as Pb	mg/Kg	0.97	Aroclor 1248	ug/Kg	70
Mercury as Hg	mg/Kg	0.012	Aroclor 1254	ug/Kg	<40
Selenium as Se	mg/Kg	0.055	Aroclor 1260	ug/Kg	<40
Silver as Ag	mg/Kg	0.77			

CC:

REMARKS:

DIRECTOR



377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO. C931436/1

05/05/93

Geraghty & Miller, Incorporated
125 East Bethpage Road
Plainview, NY 11803

ATTN: John Schafer

SOURCE OF SAMPLE: Grumman, Plant #3, #NY00835, TCLPMETS
COLLECTED BY: Client DATE COL'D: 04/08/93 RECEIVED: 04/09/93

SAMPLE: Soil sample, Composite 1

ANALYTICAL PARAMETERS
Cadmium as Cd mg/L* 0.008

ANALYTICAL PARAMETERS

cc:

REMARKS: * Analysis performed on TCLP leachate according to
USEPA Method 1311.

tclp 04/29/93.

DIRECTOR _____



377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO. C931436/2

04/26/93

Geraghty & Miller, Incorporated
125 East Bethpage Road
Plainview, NY 11803

ATTN: John Schafer

SOURCE OF SAMPLE: Grumman, Plant #3/Project No. NY00835
COLLECTED BY: Client DATE COL'D: 04/08/93 RECEIVED: 04/09/93

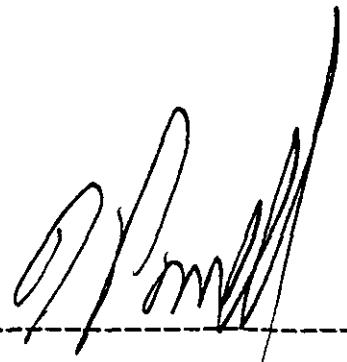
SAMPLE: Soil sample, Composite 2

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS		
Arsenic as As	mg/Kg	0.76	Aroclor 1016	ug/Kg	<4
Barium as Ba	mg/Kg	3.0	Aroclor 1221	ug/Kg	<4
Cadmium as Cd	mg/Kg	0.007	Aroclor 1232	ug/Kg	<4
Chromium as Cr	mg/Kg	1.8	Aroclor 1242	ug/Kg	<4
Lead as Pb	mg/Kg	0.68	Aroclor 1248	ug/Kg	<4
Mercury as Hg	mg/Kg	0.0056	Aroclor 1254	ug/Kg	<4
Selenium as Se	mg/Kg	<0.05	Aroclor 1260	ug/Kg	<4
Silver as Ag	mg/Kg	<0.05			

CC:

REMARKS:

DIRECTOR



377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO. C931436/3

04/26/93

Geraghty & Miller, Incorporated
125 East Bethpage Road
Plainview, NY 11803

ATTN: John Schafer

SOURCE OF SAMPLE: Grumman, Plant #3/Project No. NY00835
COLLECTED BY: Client DATE COL'D: 04/08/93 RECEIVED: 04/09/93

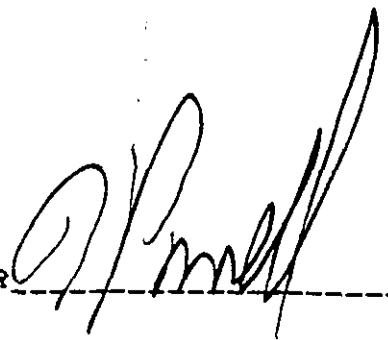
SAMPLE: Soil sample, Composite 3

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS		
Arsenic as As	mg/Kg	1.5	Aroclor 1016	ug/Kg	<160
Barium as Ba	mg/Kg	4.3	Aroclor 1221	ug/Kg	<160
Cadmium as Cd	mg/Kg	0.75	Aroclor 1232	ug/Kg	<160
Chromium as Cr	mg/Kg	18	Aroclor 1242	ug/Kg	<160
Lead as Pb	mg/Kg	3.7	Aroclor 1248	ug/Kg	490
Mercury as Hg	mg/Kg	0.029	Aroclor 1254	ug/Kg	<160
Selenium as Se	mg/Kg	0.15	Aroclor 1260	ug/Kg	<160
Silver as Ag	mg/Kg	1.6			

CC:

REMARKS:

DIRECTOR



377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO. C931436/3

05/05/93

Geraghty & Miller, Incorporated
125 East Bethpage Road
Plainview, NY 11803

ATTN: John Schafer

SOURCE OF SAMPLE: Grumman, Plant #3, #NY00835, TCLPHETS
COLLECTED BY: Client DATE COL'D: 04/08/93 RECEIVED: 04/09/93

SAMPLE: Soil sample, Composite 3

ANALYTICAL PARAMETERS
Chromium as Cr mg/L* <0.02

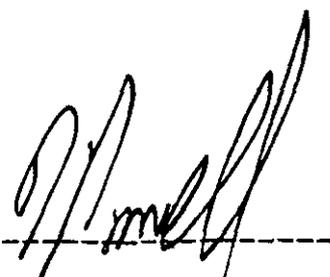
ANALYTICAL PARAMETERS

cc:

REMARKS: • Analysis performed on TCLP leachate according to
USEPA Method 1311.

tclp 04/29/93.

DIRECTOR _____



377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO. C931436/4

04/26/93

Geraghty & Miller, Incorporated
125 East Bethpage Road
Plainview, NY 11803

ATTN: John Schafer

SOURCE OF SAMPLE: Grumman, Plant #3/Project No. NY00835
COLLECTED BY: Client DATE COL'D: 04/08/93 RECEIVED: 04/09/93

SAMPLE: Soil sample, Composite 4

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS		
Arsenic as As	mg/Kg	0.79	Aroclor 1016	ug/Kg	<40
Barium as Ba	mg/Kg	7.9	Aroclor 1221	ug/Kg	<40
Cadmium as Cd	mg/Kg	0.018	Aroclor 1232	ug/Kg	<40
Chromium as Cr	mg/Kg	2.5	Aroclor 1242	ug/Kg	<40
Lead as Pb	mg/Kg	1.8	Aroclor 1248	ug/Kg	<40
Mercury as Hg	mg/Kg	0.0066	Aroclor 1254	ug/Kg	<40
Selenium as Se	mg/Kg	0.10	Aroclor 1260	ug/Kg	<40
Silver as Ag	mg/Kg	<0.05			

CC:

REMARKS:

DIRECTOR 

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO. C931436/5

04/26/93

Geraghty & Miller, Incorporated
125 East Bethpage Road
Plainview, NY 11803

ATTN: John Schafer

SOURCE OF SAMPLE: Grumman, Plant #3/Project No. NY00835
COLLECTED BY: Client DATE COL'D: 04/08/93 RECEIVED: 04/09/93

SAMPLE: Soil sample, Composite 5

ANALYTICAL PARAMETERS

Arsenic as As	mg/Kg	1.0
Barium as Ba	mg/Kg	5.5
Cadmium as Cd	mg/Kg	0.013
Chromium as Cr	mg/Kg	3.0
Lead as Pb	mg/Kg	0.78
Mercury as Hg	mg/Kg	<0.005
Selenium as Se	mg/Kg	<0.05
Silver as Ag	mg/Kg	<0.05

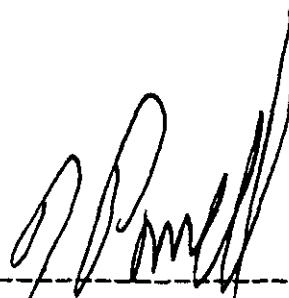
ANALYTICAL PARAMETERS

Aroclor 1016	ug/Kg	<40
Aroclor 1221	ug/Kg	<40
Aroclor 1232	ug/Kg	<40
Aroclor 1242	ug/Kg	<40
Aroclor 1248	ug/Kg	<40
Aroclor 1254	ug/Kg	<40
Aroclor 1260	ug/Kg	<40

CC:

REMARKS:

DIRECTOR



377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO. C931436/6

04/26/93

Geraghty & Miller, Incorporated
125 East Bethpage Road
Plainview, NY 11803

ATTN: John Schafer

SOURCE OF SAMPLE: Grumman, Plant #3/Project No. NY00835
COLLECTED BY: Client DATE COL'D: 04/08/93 RECEIVED: 04/09/93

SAMPLE: Water sample, TB 4893

ANALYTICAL PARAMETERS

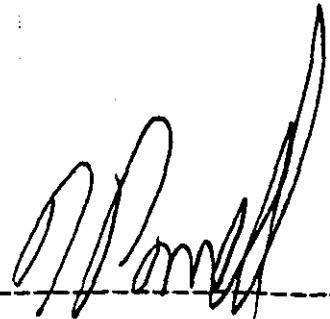
Chloromethane	ug/L	<1
Bromomethane	ug/L	<1
Dichlorodifluomethane	ug/L	<1
Vinyl Chloride	ug/L	<1
Chloroethane	ug/L	<1
Methylene Chloride	ug/L	<1
Trichlorofluomethane	ug/L	<1
1,1 Dichloroethene	ug/L	<1
1,1 Dichloroethane	ug/L	<1
1,2 Dichloroethene	ug/L	<1
Chloroform	ug/L	<1
1,2 Dichloroethane	ug/L	<1
111 Trichloroethane	ug/L	<1
Carbon Tetrachloride	ug/L	<1
Bromodichloromethane	ug/L	<1
1,2 Dichloropropane	ug/L	<1
t-1,3Dichloropropene	ug/L	<1
Trichloroethylene	ug/L	<1
Chlorodibromomethane	ug/L	<1
112 Trichloroethane	ug/L	<1
c 13 Dichloropropene	ug/L	<1
2chloroethvinylether	ug/L	<1
Bromoform	ug/L	<1
1122Tetrachloroethan	ug/L	<1
Tetrachloroethene	ug/L	<1

ANALYTICAL PARAMETERS

Chlorobenzene	ug/L	<1
1,3 Dichlorobenzene	ug/L	<1
1,2 Dichlorobenzene	ug/L	<1
1,4 Dichlorobenzene	ug/L	<1
Benzene	ug/L	<1
Toluene	ug/L	<1
Ethyl Benzene	ug/L	<1
m + p Xylene	ug/L	<2
o Xylene	ug/L	<1

CC:

REMARKS:

DIRECTOR 

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO. C931436/7

04/26/93

Geraghty & Miller, Incorporated
125 East Bethpage Road
Plainview, NY 11803

ATTN: John Schafer

SOURCE OF SAMPLE: Grumman, Plant #3/Project No. NY00835
COLLECTED BY: Client DATE COL'D: 04/08/93 RECEIVED: 04/09/93

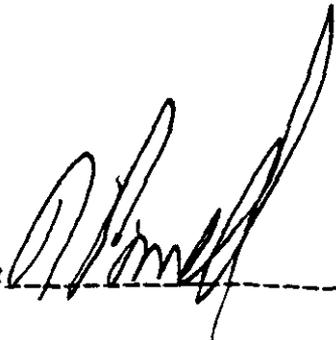
SAMPLE: Water sample, FB 4893

ANALYTICAL PARAMETERS		
Chloromethane	ug/L	<1
Bromomethane	ug/L	<1
Dichlorodifluomethane	ug/L	<1
Vinyl Chloride	ug/L	<1
Chloroethane	ug/L	<1
Methylene Chloride	ug/L	<1
Trichlorofluomethane	ug/L	<1
1,1 Dichloroethene	ug/L	<1
1,1 Dichloroethane	ug/L	<1
1,2 Dichloroethene	ug/L	<1
Chloroform	ug/L	<1
1,2 Dichloroethane	ug/L	<1
111 Trichloroethane	ug/L	<1
Carbon Tetrachloride	ug/L	<1
Bromodichloromethane	ug/L	<1
1,2 Dichloropropane	ug/L	<1
t-1,3Dichloropropene	ug/L	<1
Trichloroethylene	ug/L	<1
Chlorodibromomethane	ug/L	<1
112 Trichloroethane	ug/L	<1
c 13 Dichloropropene	ug/L	<1
2chloroethvinylether	ug/L	<1
Bromoform	ug/L	<1
1122Tetrachloroethan	ug/L	<1
Tetrachloroethene	ug/L	<1

ANALYTICAL PARAMETERS		
Chlorobenzene	ug/L	<1
1,3 Dichlorobenzene	ug/L	<1
1,2 Dichlorobenzene	ug/L	<1
1,4 Dichlorobenzene	ug/L	<1
Benzene	ug/L	<1
Toluene	ug/L	<1
Ethyl Benzene	ug/L	<1
m + p Xylene	ug/L	<2
o Xylene	ug/L	<1

CC:

REMARKS:

DIRECTOR 

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO. C931436/7

04/26/93

Geraghty & Miller, Incorporated
125 East Bethpage Road
Plainview, NY 11803

ATTN: John Schafer

SOURCE OF SAMPLE: Grumman, Plant #3/Project No. NY00835
COLLECTED BY: Client DATE COL'D: 04/08/93 RECEIVED: 04/09/93

SAMPLE: Water sample, FB 4893

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS		
Arsenic as As	mg/L	<0.002	Aroclor 1016	ug/L	<1
Barium as Ba	mg/L	<0.05	Aroclor 1221	ug/L	<1
Cadmium as Cd	mg/L	<0.001	Aroclor 1232	ug/L	<1
Chromium as Cr	mg/L	<0.02	Aroclor 1242	ug/L	<1
Lead as Pb	mg/L	<0.005	Aroclor 1248	ug/L	<1
Mercury as Hg	mg/L	<0.00025	Aroclor 1254	ug/L	<1
Selenium as Se	mg/L	<0.002	Aroclor 1260	ug/L	<1
Silver as Ag	mg/L	<0.001			

cc:

REMARKS:

DIRECTOR

