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NWIRP CALVERTON NY
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Grumman Corporation
Bethpage, New York 11714-3580

September 22, 1994
CETC94-447

N.Y.S. Department of Environmental Conservation
SUNY - Building 40
Stony Brook, New York 11794

Attention: A. Leung

Subject: **Request for On-Site Use of Five Soil Piles at the Grumman Calverton Facility**

Enclosure: Geraghty & Miller Report dated September 16, 1994

Dear Mr. Leung:

Enclosed please find the report of the investigation of the subject potential petroleum contaminated soil piles at Grumman's Calverton facility, prepared by our consultant, Geraghty & Miller.

Based on the report findings, we request your concurrence to allow the soil to be used as fill material at the Calverton site.

Should you have any questions or require further information, please call me at 516/575-2385 or John Selva, of this office, at 516/575-8176.

Very truly yours,

GRUMMAN CORPORATION

J. Ohlmann

J. Ohlmann, P.E., Director
Corporate Environmental Technology
& Compliance
Mail Stop: D08-GHQ

JO/JGS:tmd
TMD-1639

bcc: A. Gibson

B. Andres, J. Cofman, E. Fleming, J. Ingenito, B. McBurney, R. Pravednekow, J. Rosse, J. Selva, P. Siegel, M. Simonson

J. Colter, w/enclosure

GERAGHTY
& MILLER, INC.
Environmental Services

September 16, 1994

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

Subject: Sampling of Five Soil Piles at the Calverton Facility, Calverton, New York.

Dear John:

Attached are Tables 1, 2, and 3, which summarize the analytical results for soil samples collected by Geraghty & Miller, Inc. on June 9, 1994 from the five soil piles at Grumman's Calverton facility. The potential petroleum-contaminated soil piles were generated in the early 1980s during a construction project to replace runway panels. As requested by the New York State Department of Environmental Conservation (NYSDEC), these samples were analyzed for the volatile organic compounds (VOCs) and the semivolatile organic compounds (SVOCs) in Tables 1 and 2 of the NYSDEC August 1992 Spill Technology and Remediation Series (STARS) Memo No. 1, entitled "Petroleum-Contaminated Soil Guidance Policy." These samples were also analyzed for the eight Resource Conservation and Recovery Act (RCRA) metals, and for ignitability, reactivity, and corrosivity. All the analyses were performed by EcoTest Laboratories of North Babylon, New York. The Toxicity Characteristic Leaching Procedure (TCLP) was used as the extraction process for the analyses of VOCs, SVOCs, and the eight RCRA metals. A comparison of the TCLP analytical results to the federal TCLP standards revealed that all of the soil samples were below the TCLP standards.

In evaluating disposal and reuse options, it must first be determined whether the soil 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. Since the federal TCLP standards were not exceeded (for the compounds analyzed), the soil is not characteristically toxic. The soil did not exhibit any of the characteristics of ignitability, corrosivity, or reactivity and is therefore not considered hazardous.

Geraghty & Miller used STARS Memo No. 1 for evaluating disposal and reuse options for the soil piles. In accordance with the cleanup policies presented in STARS Memo No. 1, four factors must be satisfied for the soil to be considered acceptable: (1) protection of groundwater quality, (2) protection of human health, (3) protection of fish and wildlife, and (4) protection against nuisance. The analytical results for the soil piles do not exceed federal TCLP standards or the Human Health Guidance Values (provided in STARS Memo No. 1); therefore, the protection of groundwater quality and human health criteria have been met. Protection of

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fish and wildlife has been satisfied because the soil piles are below the Sediment Guidance Values. Protection against nuisance is also not applicable because the soil does not have an apparent odor.

Based on EcoTest's analytical results for the five soil piles and the STARS Memo No. 1, the soil piles may be used for road construction, returned to the original excavation, or placed within the confines of the contiguous property. Off-site use of the soil piles would require the approval of the Regional Spill Engineer and Regional Solid Waste Engineer.

Sincerely,

GERAGHTY & MILLER, INC.

John W. Schafer

John W. Schafer
Project Scientist/Project Hydrogeologist

Andrew J. Barber

Andrew J. Barber
Senior Associate/Project Director

JWS/AJB:vk
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cc: John Selva - Grumman

Table 1. Results of Organic Compound Analyses Collected from the Soil Piles at the Grumman Aerospace Corporation, Calverton, New York.

Soil Sample ID:	SP1-VG-1	SP1-VG-2	SP1-VG-3	SP1-VC	SP2-VG
Sample Collection Date:	6/9/94	6/9/94	6/9/94	6/9/94	6/9/94
Laboratory:	EcoTest	EcoTest	EcoTest	EcoTest	EcoTest
Parameters (concentration in ug/L)					
Benzene	<1	<1	<1	<1	<1
Toluene	<1	<1	<1	<1	<1
Ethyl benzene	<1	<1	<1	<1	<1
m, p-Xylene	<2	<2	<2	<2	<2
o-Xylene	<1	<1	<1	<1	<1
Xylene	<3	<3	<3	<3	<3
Isopropylbenzene	<1	<1	<1	<1	<1
n-Propylbenzene	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	2	<1	<1	<1	<1
tert-Butylbenzene	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	2	<1	<1	<1	<1
sec-Butylbenzene	<1	<1	<1	<1	<1
p-Isopropyltoluene	<1	<1	<1	<1	<1
n-Butylbenzene	<1	<1	<1	<1	<1
Naphthalene	1	<1	<1	<1	<1
tert-Butylmethylether	<1	<1	<1	<1	<1

ug/L Micrograms per liter.
SP1 Soil Pile 1.
VG Volatile grab sample.
VC Volatile composite sample.
FB Field blank.

Table 1. Results of Organic Compound Analyses Collected from the Soil Piles at the Grumman Aerospace Corporation, Calverton, New York.

Soil Sample ID:	SP2-VC	SP3-VG-1	SP3-VG-2	SP3-VG-3	SP3-VC
Sample Collection Date:	6/9/94	6/9/94	6/9/94	6/9/94	6/9/94
Laboratory:	EcoTest	EcoTest	EcoTest	EcoTest	EcoTest
Parameters (concentration in ug/L)					
Benzene	<1	<1	<1	<1	<1
Toluene	<1	<1	<1	<1	<1
Ethyl benzene	<1	<1	<1	<1	<1
m, p-Xylene	<2	<2	<2	<2	<2
o-Xylene	<1	<1	<1	<1	<1
Xylene	<3	<3	<3	<3	<3
Isopropylbenzene	<1	<1	<1	<1	<1
n-Propylbenzene	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	<1	<1	<1	<1	<1
tert-Butylbenzene	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	<1	<1	<1	<1	<1
sec-Butylbenzene	<1	<1	<1	<1	<1
p-Isopropyltoluene	<1	<1	<1	<1	<1
n-Butylbenzene	<1	<1	<1	<1	<1
Naphthalene	<1	<1	<1	<1	<1
tert-Butylmethylether	<1	<1	<1	<1	<1

ug/L Micrograms per liter.
SP1 Soil Pile 1.
VG Volatile grab sample.
VC Volatile composite sample.
FB Field blank.

Table 1. Results of Organic Compound Analyses Collected from the Soil Piles at the Grumman Aerospace Corporation, Calverton, New York.

Soil Sample ID:	SP4-VG	SP4-VC	SP5-VG1	SP5-VG2	SP5-VC
Sample Collection Date:	6/9/94	6/9/94	6/9/94	6/9/94	6/9/94
Laboratory:	EcoTest	EcoTest	EcoTest	EcoTest	EcoTest
Parameters (concentration in ug/L)					
Benzene	<1	<1	<1	<1	<1
Toluene	<1	<1	<1	<1	<1
Ethyl benzene	<1	<1	<1	<1	<1
m, p-Xylene	<2	<2	<2	<2	<2
o-Xylene	<1	<1	<1	<1	<1
Xylene	<3	<3	<3	<3	<3
Isopropylbenzene	<1	<1	<1	<1	<1
n-Propylbenzene	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	<1	<1	<1	<1	<1
tert-Butylbenzene	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	<1	<1	1	<1	<1
sec-Butylbenzene	<1	<1	<1	<1	<1
p-Isopropyltoluene	<1	<1	<1	<1	<1
n-Butylbenzene	<1	<1	<1	<1	<1
Naphthalene	<1	<1	<1	<1	<1
tert-Butylmethylether	<1	<1	<1	<1	<1

ug/L Micrograms per liter.
SP1 Soil Pile 1.
VG Volatile grab sample.
VC Volatile composite sample.
FB Field blank.

Table 1. Results of Organic Compound Analyses Collected from the Soil Piles at the Grumman Aerospace Corporation, Calverton, New York.

Soil Sample ID:	FB 6-9
Sample Collection Date:	6/9/94
Laboratory:	EcoTest
Parameters (concentration in ug/L)	
Benzene	<1
Toluene	<1
Ethyl benzene	<1
m, p-Xylene	2
o-Xylene	<1
Xylene	3
Isopropylbenzene	<1
n-Propylbenzene	<1
1,3,5-Trimethylbenzene	1
tert-Butylbenzene	<1
1,2,4-Trimethylbenzene	4
sec-Butylbenzene	<1
p-Isopropyltoluene	<1
n-Butylbenzene	<1
Naphthalene	1
tert-Butylmethylether	<1

ug/L Micrograms per liter.
SP1 Soil Pile 1.
VG Volatile grab sample.
VC Volatile composite sample.
FB Field blank.

Table 2. Results of Semi volatile Organic Compound Analyses Collected from the Soil Piles at the Grumman Aerospace Corporation, Calverton, New York.

Soil Sample ID:	SP1-SVG	SP1-SVC-1	SP1-SVC-2	SP1-SVC-3	SP2-SVG
Sample Collection Date:	6/9/94	6/9/94	6/9/94	6/9/94	6/9/94
Laboratory:	EcoTest	EcoTest	EcoTest	EcoTest	EcoTest
Parameters (concentration in ug/L)					
Naphthalene	<10	<10	<10	<10	<10
Acenaphthene	<10	<10	<10	<10	<10
Fluorene	<10	<10	<10	<10	<10
Phenanthrene	<10	<10	<10	<10	<10
Anthracene	<10	<10	<10	<10	<10
Fluoranthene	<10	<10	<10	<10	<10
Pyrene	<10	<10	<10	<10	<10
Benzo(a)anthracene	<10	<10	<10	<10	<10
Chrysene	<10	<10	<10	<10	<10
Benzo(b)fluoranthene	<10	<10	<10	<10	<10
Benzo(k)fluoranthene	<10	<10	<10	<10	<10
Benzo(a)pyrene	<10	<10	<10	<10	<10
Indeno(1,2,3-cd)pyrene	<10	<10	<10	<10	<10
Dibenzo(a,h)anthracene	<10	<10	<10	<10	<10
Benzo(g,h,i)perylene	<10	<10	<10	<10	<10

ug/L Micrograms per liter.
SP1 Soil Pile 1.
SVG Semivolatile grab sample.
SVC Semivolatile composite sample.
FB Field blank.

Table 2. Results of Semivolatile Organic Compound Analyses Collected from the Soil Piles at the Grumman Aerospace Corporation, Calverton, New York.

Soil Sample ID:	SP2-SVC	SP3-SVG	SP3-SVC-1	SP3-SVC-2	SP3-SVC-3
Sample Collection Date:	6/9/94	6/9/94	6/9/94	6/9/94	6/9/94
Laboratory:	EcoTest	EcoTest	EcoTest	EcoTest	EcoTest
Parameters (concentration in ug/L)					
Naphthalene	<10	<10	<10	<10	<10
Acenaphthene	<10	<10	<10	<10	<10
Fluorene	<10	<10	<10	<10	<10
Phenanthrene	<10	<10	<10	<10	<10
Anthracene	<10	<10	<10	<10	<10
Fluoranthene	<10	<10	<10	<10	<10
Pyrene	<10	<10	<10	<10	<10
Benzo(a)anthracene	<10	<10	<10	<10	<10
Chrysene	<10	<10	<10	<10	<10
Benzo(b)fluoranthene	<10	<10	<10	<10	<10
Benzo(k)fluoranthene	<10	<10	<10	<10	<10
Benzo(a)pyrene	<10	<10	<10	<10	<10
Indeno(1,2,3-cd)pyrene	<10	<10	<10	<10	<10
Dibenzo(a,h)anthracene	<10	<10	<10	<10	<10
Benzo(g,h,i)perylene	<10	<10	<10	<10	<10

ug/L Micrograms per liter.
SP1 Soil Pile 1.
SVG Semivolatile grab sample.
SVC Semivolatile composite sample.
FB Field blank.

Table 2. Results of Semivolatile Organic Compound Analyses Collected from the Soil Piles at the Grumman Aerospace Corporation, Calverton, New York.

Soil Sample ID:	SP4-SVG	SP4-SVC	SP5-SVG	SP5-SVC-1	SP5-SVC-2
Sample Collection Date:	6/9/94	6/9/94	6/9/94	6/9/94	6/9/94
Laboratory:	EcoTest	EcoTest	EcoTest	EcoTest	EcoTest
Parameters (concentration in ug/L)					
Naphthalene	<10	<10	<10	<10	<10
Acenaphthene	<10	<10	<10	<10	<10
Fluorene	<10	<10	<10	<10	<10
Phenanthrene	<10	<10	<10	<10	<10
Anthracene	<10	<10	<10	<10	<10
Fluoranthene	<10	<10	<10	<10	<10
Pyrene	<10	<10	<10	<10	<10
Benzo(a)anthracene	<10	<10	<10	<10	<10
Chrysene	<10	<10	<10	<10	<10
Benzo(b)fluoranthene	<10	<10	<10	<10	<10
Benzo(k)fluoranthene	<10	<10	<10	<10	<10
Benzo(a)pyrene	<10	<10	<10	<10	<10
Indeno(1,2,3-cd)pyrene	<10	<10	<10	<10	<10
Dibenzo(a,h)anthracene	<10	<10	<10	<10	<10
Benzo(g,h,i)perylene	<10	<10	<10	<10	<10

ug/L Micrograms per liter.
SP1 Soil Pile 1.
SVG Semivolatile grab sample.
SVC Semivolatile composite sample.
FB Field blank.

Table 2. Results of Semivolatile Organic Compound Analyses Collected from the Soil Piles at the Grumman Aerospace Corporation, Calverton, New York.

Soil Sample ID:	FB 6-9
Sample Collection Date:	6/9/94
Laboratory:	EcoTest
Parameters (concentration in ug/L)	
Naphthalene	<10
Acenaphthene	<10
Fluorene	<10
Phenanthrene	<10
Anthracene	<10
Fluoranthene	<10
Pyrene	<10
Benzo(a)anthracene	<10
Chrysene	<10
Benzo(b)fluoranthene	<10
Benzo(k)fluoranthene	<10
Benzo(a)pyrene	<10
Indeno(1,2,3-cd)pyrene	<10
Dibenzo(a,h)anthracene	<10
Benzo(g,h,i)perylene	<10

ug/L Micrograms per liter.
SP1 Soil Pile 1.
SVG Semivolatile grab sample.
SVC Semivolatile composite sample.
FB Field blank.

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Table 3. Results of Composite Metal, Ignitability, Corrosivity, and Reactivity Analyses Collected from the Soil Piles at the Grumman Aerospace Corporation, Calverton, New York.

Analyte (concentration in mg/L)	Soil Sample ID: / Sample Collection Date: / Laboratory:	SP1 / 6/9/94 / EcoTest	SP2 / 6/9/94 / EcoTest	SP3 / 6/9/94 / EcoTest	SP4 / 6/9/94 / EcoTest	SP5 / 6/9/94 / EcoTest	FB 6-9 / 6/9/94 / EcoTest
Arsenic		<0.005	<0.005	<0.005	<0.005	<0.005	<0.002
Barium		0.29	0.19	0.26	0.22	0.22	<0.05
Cadmium		<0.002	0.16	0.002	<0.002	0.003	<0.001
Chromium		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Lead		<0.01	0.20	0.16	<0.01	0.068	<0.001
Mercury		<0.001	<0.001	<0.001	<0.001	<0.001	<0.00025
Selenium		<0.005	<0.005	<0.005	<0.005	<0.005	<0.002
Silver		<0.01	<0.01	<0.01	<0.01	<0.01	<0.001
Parameters							
Flash Point (1)		≥ 100	≥ 100	≥ 100	≥ 100	≥100	–
pH		8.00	5.9	7.4	7.8	5.9	7.3
Reactive Cyanide (2)		<2.0	<2	<2	<2	<2	<2
Sulfide (2)		<2	<2	<2	<2	<2	<0.02

mg/L Milligrams per liter.
(1) Degrees Celsius.
(2) Milligrams per kilogram.
– Not applicable.

SP1 Soil Pile 1.
FB Field blank.