

**NORTHROP GRUMMAN**

May 13, 1998  
ETC98-126

**Electronics & Systems Integration Division**  
Northrop Grumman Corporation  
South Cyster Bay Road  
Bethpage, New York 11714-3580

**RECEIVED**  
**NYSDEC**

Mr. Stan Farkas  
NYS Department of Environmental Conservation  
SUNY - Building 40  
Stony Brook, New York 11794

**MAY 14 1998**

BUREAU OF  
HAZARDOUS WASTE FACILITIES  
DIV. OF SOLID & HAZ. MATERIALS

**Subject:** **Northrop Grumman Corporation - Building 03, Bethpage Site**  
**Area of Concern 33-09 - Former Waste Accumulation Area**  
**Area of Concern 34 - Old Autoclave Area**  
**Area of Concern 33-11/12 - Former Waste Accumulation Area**  
**Area of Concern 6 - Chem Mill Clean Area**  
**Remediation End Point Sample Results**

**Enclosures:** 1) End Point Soil Sample Location Drawings  
 2) End Point Soil Sample Data for AOC 33-09  
 3) End Point Soil Sample Data for AOC 34  
 4) End Point Soil Sample Data for AOC 33-11/12  
 5) End Point Soil Sample Data for AOC 6

Dear Mr. Farkas:

As you know, Northrop Grumman has been conducting environmental remediation at the Bethpage Building 03 location for Areas of Concern (AOCs) that have significant exceedances of the TAGM 4046 soil criteria. One such location, AOC 33-09 - Former Waste Accumulation Area, was recently excavated to depths of eight and twelve feet below grade surface (bgs). Another location, AOC 34 - Old Autoclave Area, was excavated to depths of thirty and sixteen feet bgs. Similarly, AOC 33-11/12 - Former Waste Accumulation Area, was also excavated to depths of eight and ten feet. Lastly, AOC 6 - Chem Mill Clean Area, was excavated to depths of four and twelve feet bgs. Sketches showing the excavated areas and end point sample locations for AOCs 33-09, 34, 33-11/12, and 6 are provided in Enclosure 1.

In a previous meeting, we agreed to sample and analyze the side wall samples prior to excavation. This sampling methodology was chosen to ensure that the horizontal extent of impacted soil for each AOC was accurately defined. A few sidewall samples at the 2'-4' interval for AOC 33-11/12 were not collected because the sidewall sample locations were taken within a 5-foot thick concrete floor slab.



*S. Farkas*  
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The following Table illustrates the end point analysis conducted for each of the AOCs remediated. The end point sample results are presented for your review in Enclosures 2 through 4.

AOC	Analysis	Method Number
33-09	VOCs	8270
	SVOCs	8240
34	PCBs	8082
	SVOCs	8270
33-11/12	Priority Pollutant Metals	6010/7471
	SVOCs	8270
6	Priority Pollutant Metals	6010/7471

#### AOC 33-09 - Former Waste Accumulation Area

The end point sample results for AOC 33-09 are provided in Enclosure 2. There are no VOC exceedances of the TAGM criteria. There are, however, minor exceedances of individual SVOCs constituents in sidewall sample AOC 33-09C and floor sample AOC 33-09M. Because the total concentration of carcinogenic SVOCs are well below the TAGM criteria of 10,000 µg/kg for these samples, the environmental impacts are negligible.

#### AOC 34- Old Autoclave

The end point sample results for AOC 34 are provided in Enclosure 3. The endpoint data does not indicate any PCBs or SVOCs exceedances of the TAGM criteria.

#### AOC 33-11/12 - Former Waste Accumulation Area

The end point sample results for AOC 33-11/12 are provided in Enclosure 4. There are no priority pollutant metal exceedances of the TAGM criteria. Sample AOC 33-12A<sub>12</sub> (2.5'-4') exhibited individual exceedances of the following SVOCs: benzo (a) anthracene, chrysene, benzo (b) fluoranthene, benzo (k) fluoranthene, and benzo (a) pyrene. However, the average concentration of these constituents for the 2-4 foot interval was well below each of the individual SVOC TAGM criteria. It is important to note that the extract for samples AOC 33-11/12 C<sub>FL</sub>, E<sub>FL</sub>, I<sub>FL</sub>, and H<sub>FL</sub> was re-analyzed after performing a silica gel clean-up procedure (method 3630C). This clean-up procedure was utilized to reduce the method detection limit (MDL) associated with the polycyclic aromatic hydrocarbons (PAHs). It is believed that heavy end hydrocarbons caused interference during the initial scan of these samples resulting in a MDL that was about two orders of magnitude above acceptable limits.

*S. Farkas*  
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AOC 6 - Chem Mill Clean Area

The end point sample results for AOC 6 are provided in Enclosure 5. The data indicates that there is only one exceedance of the priority pollutant metal TAGM criteria. Floor sample AOC 6F exhibited a concentration of chromium of 250 mg/kg. As a result of this exceedance, the sample was re-analyzed for hexavalent chromium. The data on page 3 of Enclosure 5 shows that the hexavalent chromium concentration of sample AOC 6F is 4.8 mg/kg. Since the hexavalent chromium concentration is well below the TAGM criteria of 50 mg/kg for total chromium, no further action is warranted for AOC 6.

In summary, Northrop Grumman effectively removed, transported, and disposed of impacted soils at AOCs 33-09, 34, 33-11/12, and 6. The end point analysis results demonstrate that soils immediately adjacent to the excavated areas do not exceed the TAGM criteria. It is therefore recommended that No Further Action is warranted at AOCs 33-09, 34, 33-11/12, and 6.

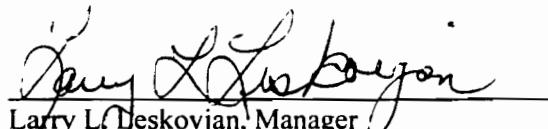
Upon your review and approval of the attached data and these recommendations, Northrop Grumman will backfill the excavation areas with certified clean bank-run sand and restore the area to match existing conditions. A complete engineering report documenting all field activities, laboratory data analysis, and waste disposal manifests shall be sent to your office at the completion of this project.

We have put together an ambitious schedule for the completion of the remediation work at the 105-Acre GOCO site and would appreciate your expeditious review and approval of this letter report.

If you have any questions, please call me at 516/575-2333 or A. Postyn, of this office, at 516/575-1566.

Very truly yours,

**NORTHROP GRUMMAN CORPORATION**

  
\_\_\_\_\_  
Larry L. Leskovjan, Manager  
Environmental Technology and Compliance  
M/S: D08-001

cc:      w/enclosure  
          S. Kaminski, NYSDEC ✓ H. Wilkie, NYSDEC, T. Mulvihill, NCDH; T. Kelly, NCDPW

w/o enclosure  
J. Lovejoy, NCDH; B. Mackay, NCDH

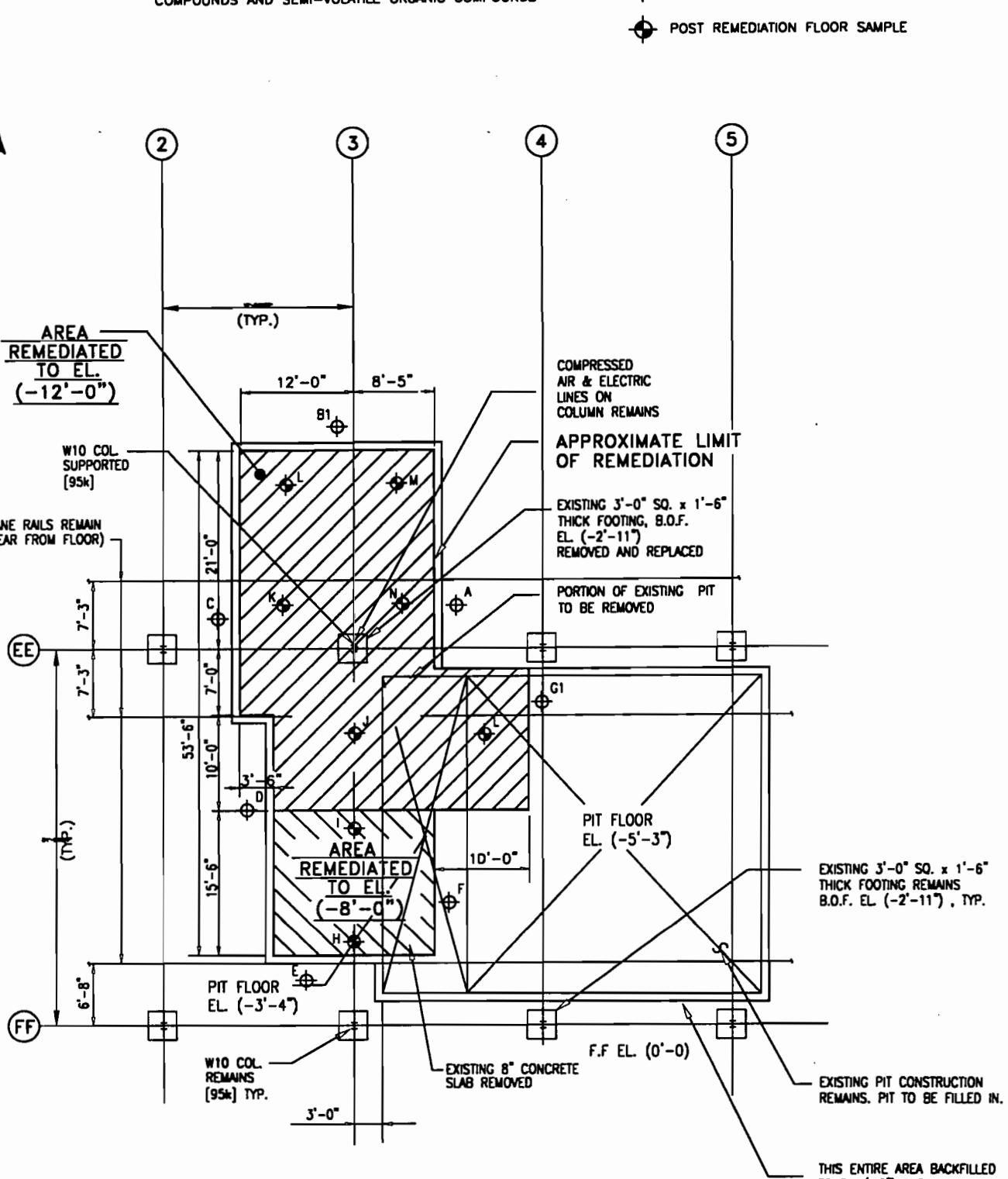
## **ENCLOSURE 1**

## NOTES:

1. SOIL SAMPLES ANALYZED FOR VOLATILE ORGANIC COMPOUNDS AND SEMI-VOLATILE ORGANIC COMPOUNDS

## LEGEND:

- POST REMEDIATION SIDEWALL SAMPLE
- POST REMEDIATION FLOOR SAMPLE



## POST REMEDIATION PLAN - AOC 33-09

N.T.S.



AOC 33-09

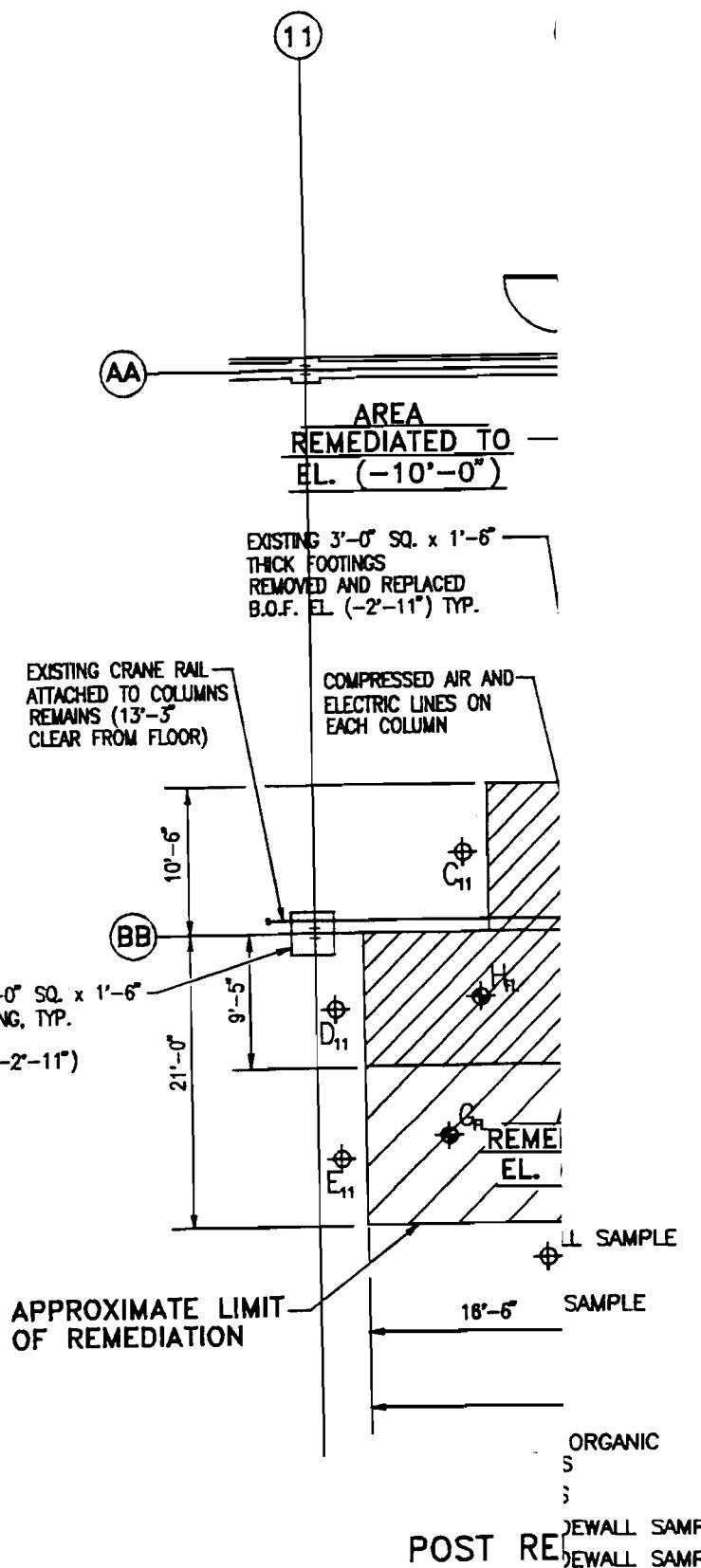
PLANT 3  
NORTHROP GRUMMAN CORPORATION  
BETHPAGE, NEW YORK

PROJECT NUMBER

NY000008.0140

FIGURE NUMBER

18



NO.	DATE	REVISION DESCRIPTION	BY CKD
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PLANT 3  
NORTHROP GRUMMAN CORPORATION  
BETHPAGE, NEW YORK

AOC 33-11 & AOC 33-12

  
**ARCADIS**  
**GERAGHTY & MILLER**

88 Duryea Road  
Mahwah, New York 11747  
Tel: 516/249-7800 Fax: 516/249-7810

PROJECT MANAGER TE	DEPARTMENT MANAGER
LEAD DESIGN PROF.	CHECKED TE
DRAWN MS	DATE 4/9/98
PROJECT NUMBER NY00008.0140	DRAWING NUMBER 19

-AFTER: MS

APPROVED: GN

DRAWING: AOC 6

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Digitized by srujanika@gmail.com

DIVE DATE: 1-2-00

**NOTES:**

- ## 1. SOIL SAMPLES ANALYZED FOR PRIORITY POLLUTANT METALS

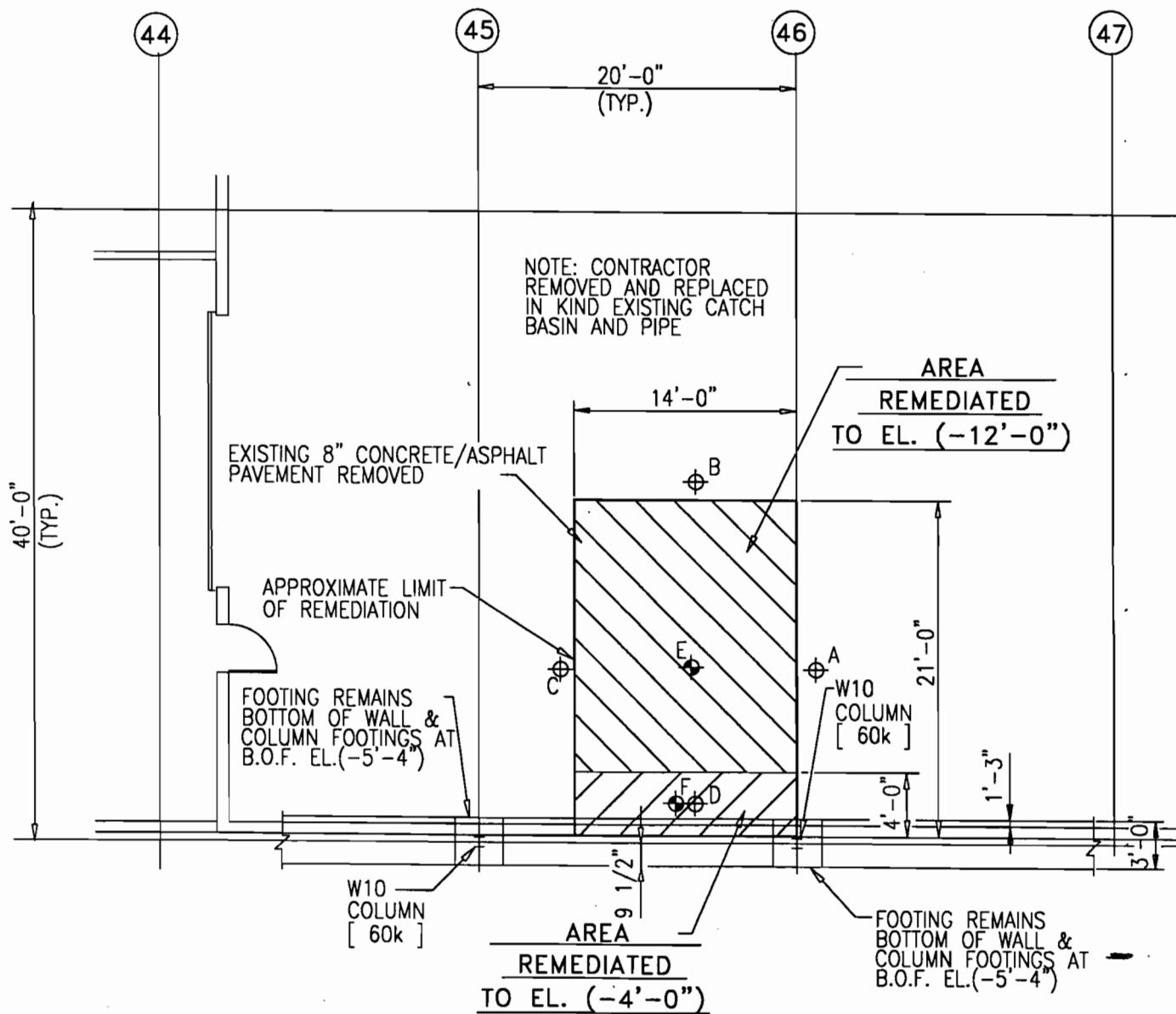
**LEGEND:**



IN-SITU SIDEWALL SAMPLE



**POST REMEDIATION FLOOR SAMPLE -**



POST REMEDIATION PLAN - AOC 6  
N.T.S.

**ARCADIS GERAGHTY & MILLER**



AOC 6  
PLANT 3  
NORTHROP GRUMMAN CORPORATION  
PATERSON, NEW YORK

PROJECT NUMBER
NY000008.0140
FIGURE NUMBER
11

**NOTES:**

- 1. SOIL SAMPLES ANALYZED FOR SEMI-VOLATILE  
ORGANIC COMPOUNDS**

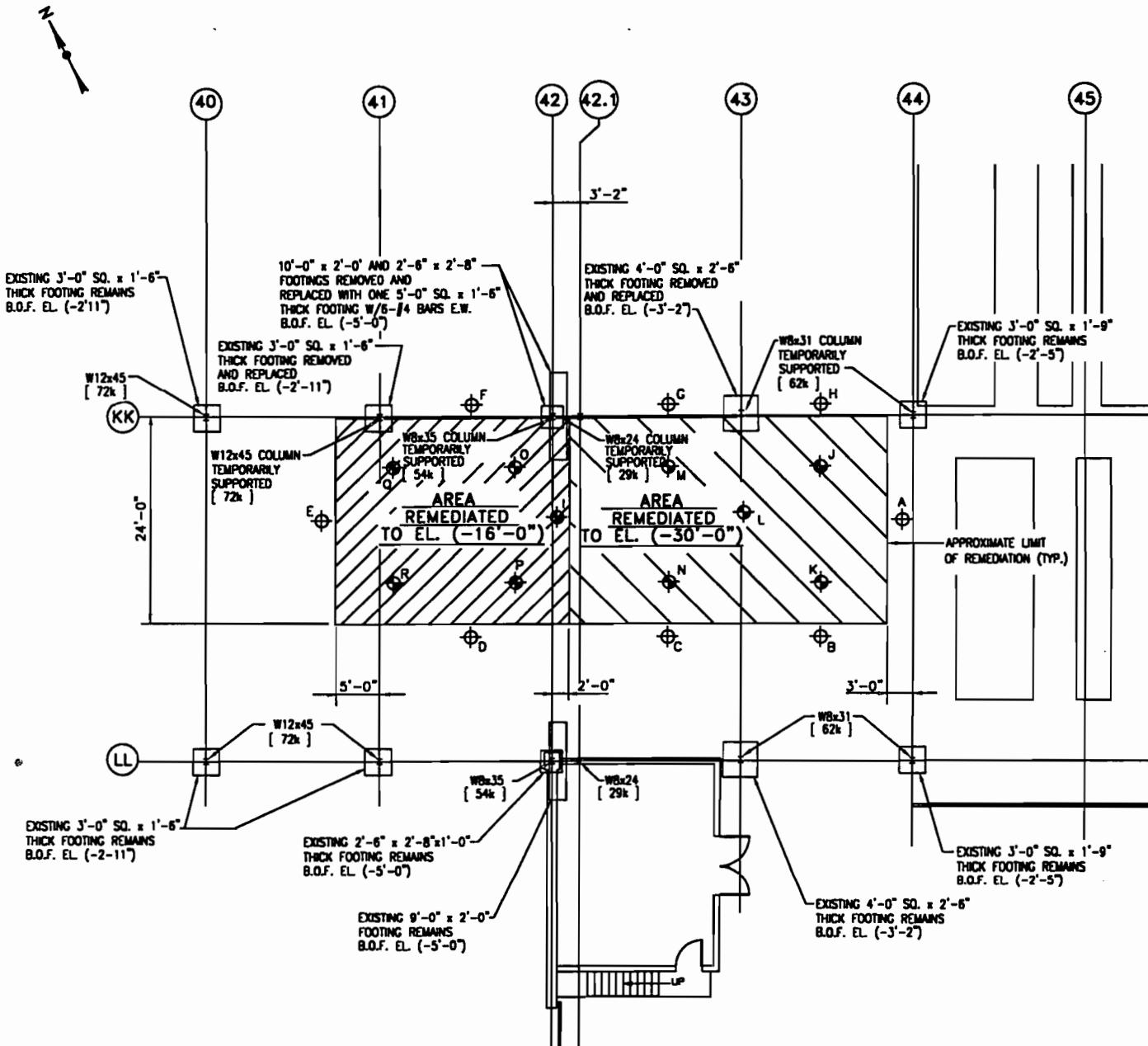
**LEGEND:**



- IN-SITU SIDEWALL SAMPLE



 POST REMEDIATION FLOOR SAMPLE



## **POST REMEDIATION PLAN - AOC 34**

N.T.S.



**ENCLOSURE 2**

Enclosure 2. AOC 33-09, Plant 3, Northrop Grumman Corporation, Bethpage, New York  
 VOCs Analytical Results from Endpoint Samples

Parameters	NYSDEC TAGM Criteria <sup>1</sup> (ug/kg)	Sample ID: AOC 33-09A Sample Interval: 2-4' Date Sampled: 2/25/98 Units: ug/kg	AOC 33-09A 6-8' 2/25/98 ug/kg	AOC 33-09A 8-10' 4/29/98 ug/kg	AOC 33-09B1 2-4' 3/10/98 ug/kg	AOC 33-09B1 5-7' 4/29/98 ug/kg
<u>Volatile Organic Compounds:</u>						
Chloromethane	N/A	<5	<5	<5	<5	<5
Bromomethane	N/A	<5	<5	<5	<5	<5
Vinyl Chloride	200	<5	<5	<5	<5	<5
Chloroethane	1,900	<5	<5	<5	<5	<5
Methylene Chloride	100	<5	<5	<5	<5	<5
Acetone	200	<52	<51	<51	<51	<51
Carbon disulfide	2,700	<5	<5	<5	<5	<5
1,1 Dichloroethene	400	<5	<5	<5	<5	<5
1,1 Dichloroethane	200	<5	<5	<5	<5	<5
1,2 Dichloroethene	250	<10	<10	<10	<10	<10
Chloroform	300	<5	<5	<5	<5	<5
1,2 Dichloroethane	100	<5	<5	<5	<5	<5
2-Butanone	300	<52	<52	<51	<51	<51
111 Trichloroethane	800	<5	<5	<5	<5	<5
Carbon Tetrachloride	600	<5	<5	<5	<5	<5
Bromodichloromethane	N/A	<5	<5	<5	<5	<5
1,2 Dichloropropane	N/A	<5	<5	<5	<5	<5
c-1,3Dichloropropene	N/A	<5	<5	<5	<5	<5
Trichloroethene	700	7	6	<5	200	<5
Chlorodibromomethane	N/A	<5	<5	<5	<5	<5
112 Trichloroethane	N/A	<5	<5	<5	<5	<5
Benzene	60	<5	<5	<5	<5	<5
t-1,3Dichloropropene	N/A	<5	<5	<5	<5	<5
Bromoform	N/A	<5	<5	<5	<5	<5
4-Methyl-2-Pentanone	1,000	<52	<52	<51	<51	<51
2-Hexanone	N/A	<52	<52	<51	<51	<51
Tetrachloroethene	1,400	<5	<5	<5	<5	<5
Toluene	1,500	<5	<5	<5	<5	<5
1122Tetrachloroethane	600	<5	<5	<5	<5	<5

Enclosure 2. AOC 33-09, Plant 3, Northrop Grumman Corporation, Bethpage, New York  
 VOCs Analytical Results from Endpoint Samples

Parameters	NYSDEC TAGM Criteria <sup>1</sup> (ug/kg)	Sample ID: AOC 33-09A		AOC 33-09A		AOC 33-09A		AOC 33-09B1	
		Sample Interval: 2'-4'	Date Sampled: 2/25/98	6'-8'	4/29/98	8-10' ug/kg	2-4' ug/kg	3/10/98	5-7' ug/kg
Chlorobenzene	1,700	<5		<5		<5		<5	
Ethyl Benzene	5,500	<5		<5		<5		<5	
Styrene	N/A	<5		<5		<5		<5	
o Xylene	1,200	<5		<5		<5		<5	
m+p Xylene	1,200	<10		<10		<10		<10	
Xylene	1,200	<15		<15		<15		<15	
% Solids		97		97		99		98	
						99		99	

Analysis Performed by: Ecotest Laboratories, North Babylon, NY.

Bold entries are concentrations in exceedence of NYSDEC TAGM criteria.

ug/kg Micrograms per kilogram

NYSDEC New York State Department of Environmental Conservation

1 NYSDEC Technical and Administrative Guidance Memorandum (TAGM) #4046 (Rev. 4/95)

N/A Criteria not available

Enclosure 2. AOC 33-09, Plant 3, Northrop Grumman Corporation, Bethpage,<sup>a</sup> New York  
VOCs Analytical Results from Endpoint Samples

Parameters	NYSDEC TAGM Criteria <sup>1</sup> (ug/kg)	Sample ID: AOC 33-09B1 Sample Interval: 8-10' Date Sampled: 4/29/98 Units: ug/kg	AOC 33-09C 2-4' 2/25/98 ug/kg	AOC 33-09C 6-8' 2/25/98 ug/kg	AOC 33-09C 10-12' 2/25/98 ug/kg	AOC 33-09D 2-4' 4/25/98 ug/kg
<u>Volatile Organic Compounds:</u>						
Chloromethane	N/A	<5	<5	<5	<5	<5
Bromomethane	N/A	<5	<5	<5	<5	<5
Vinyl Chloride	200	<5	<5	<5	<5	<5
Chloroethane	1,900	<5	<5	<5	<5	<5
Methylene Chloride	100	<5	<5	<5	<5	<5
Acetone	200	<51	<52	<51	<51	<51
Carbon disulfide	2,700	<5	<5	<5	<5	<5
1,1 Dichloroethene	400	<5	<5	<5	<5	<5
1,1 Dichloroethane	200	<5	<5	<5	<5	<5
1,2 Dichloroethene	250	<10	<10	<10	<10	<10
Chloroform	300	<5	<5	<5	<5	<5
1,2 Dichloroethane	100	<5	<5	<5	<5	<5
2-Butanone	300	<51	<52	<51	<51	<51
111 Trichloroethane	800	<5	<5	<5	<5	<5
Carbon Tetrachloride	600	<5	<5	<5	<5	<5
Bromodichloromethane	N/A	<5	<5	<5	<5	<5
1,2 Dichloropropane	N/A	<5	<5	<5	<5	<5
c-1,3Dichloropropene	N/A	<5	<5	<5	<5	<5
Trichloroethene	700	<5	10	5	9	10
Chlorodibromomethane	N/A	<5	<5	<5	<5	<5
112 Trichloroethane	N/A	<5	<5	<5	<5	<5
Benzene	60	<5	<5	<5	<5	<5
t-1,3Dichloropropene	N/A	<5	<5	<5	<5	<5
Bromoform	N/A	<5	<5	<5	<5	<5
4-Methyl-2-Pentanone	1,000	<51	<52	<51	<51	<51
2-Hexanone	N/A	<51	<52	<51	<51	<51
Tetrachloroethene	1,400	<5	<5	<5	<5	<5
Toluene	1,500	<5	<5	<5	<5	<5
1122Tetrachloroethane	600	<5	<5	<5	<5	<5

Enclosure 2. AOC 33-09, Plant 3, Northrop Grumman Corporation, Bethpage, New York  
 VOCs Analytical Results from Endpoint Samples

Parameters	NYSDEC TAGM Criteria <sup>1</sup> (ug/kg)	Sample ID: AOC 33-09B1 Sample Interval: 8-10' Date Sampled: 4/29/98 Units: ug/kg	AOC 33-09C 2-4' 2/25/98 ug/kg	AOC 33-09C 6-8' 2/25/98 ug/kg	AOC 33-09C 10-12' 2/25/98 ug/kg	AOC 33-09D 2-4' 4/25/98 ug/kg
Chlorobenzene	1,700	<5	<5	<5	<5	<5
Ethyl Benzene	5,500	<5	<5	<5	<5	<5
Styrene	N/A	<5	<5	<5	<5	<5
o Xylene	1,200	<5	<5	<5	<5	<5
m+p Xylene	1,200	<10	<10	<10	<10	<10
Xylene	1,200	<15	<15	<15	<15	<15
% Solids		99	97	99	99	99

Analysis Performed by: Ecotest Laboratories, North Babylon, NY.

Bold entries are concentrations in exceedence of NYSDEC TAGM criteria.

ug/kg Micrograms per kilogram

NYSDEC New York State Department of Environmental Conservation

1 NYSDEC Technical and Administrative Guidance Memorandum (TAGM) #4046 (Rev. 4/95)

N/A Criteria not available

Enclosure 2. AOC 33-09, Plant 3, Northrop Grumman Corporation, Bethpage, New York  
VOCS Analytical Results from Endpoint Samples

Parameters	NYSDEC TAGM Criteria <sup>1</sup> (ug/kg)	Sample ID: AOC 33-09D 6-8' Date Sampled: 2/25/98 Units: ug/kg	AOC 33-09D 8-10' 4/29/98 ug/kg	AOC 33-09E 2-4' 2/25/98 ug/kg	AOC 33-09E 5-7' 2/25/98 ug/kg	AOC 33-09F 5-7' 2/24/98 ug/kg	AOC 33-09G/ 7-9' 3/10/98 ug/kg
<u>Volatile Organic Compounds:</u>							
Chloromethane	N/A	<5	<5	<5	<5	<5	<5
Bromomethane	N/A	<5	<5	<5	<5	<5	<5
Vinyl Chloride	200	<5	<5	<5	<5	<5	<5
Chloroethane	1,900	<5	<5	<5	<5	<5	<5
Methylene Chloride	100	<5	<5	<5	<5	<5	<5
Acetone	200	<51	<51	<51	<51	<53	<51
Carbon disulfide	2,700	<5	<5	<5	<5	<5	<5
1,1 Dichloroethene	400	<5	<5	<5	<5	<5	<5
1,1 Dichloroethane	200	<5	<5	<5	<5	<5	<5
1,2 Dichloroethene	250	<10	<10	<10	<10	<11	<10
Chloroform	300	<5	<5	<5	<5	<5	<5
1,2 Dichloroethane	100	<5	<5	<5	<5	<5	<5
2-Butanone	300	<51	<51	<51	<51	<53	<51
111 Trichloroethane	800	<5	<5	<5	<5	<5	<5
Carbon Tetrachloride	600	<5	<5	<5	<5	<5	<5
Bromodichloromethane	N/A	<5	<5	<5	<5	<5	<5
1,2 Dichloropropane	N/A	<5	<5	<5	<5	<5	<5
c-1,3Dichloropropene	N/A	<5	<5	<5	<5	<5	<5
Trichloroethene	700	5	5	5	6	420	5
Chlorodibromomethane	N/A	<5	<5	<5	<5	<5	<5
112 Trichloroethane	N/A	<5	<5	<5	<5	<5	<5
Benzene	60	<5	<5	<5	<5	<5	<5
t-1,3Dichloropropene	N/A	<5	<5	<5	<5	<5	<5
Bromoform	N/A	<5	<5	<5	<5	<5	<5
4-Methyl-2-Pentanone	1,000	<51	<51	<51	<51	<53	<51
2-Hexanone	N/A	<51	<51	<51	<51	<53	<51
Tetrachloroethene	1,400	<5	<5	<5	<5	<5	<5
Toluene	1,500	<5	<5	<5	<5	<5	<5
1122Tetrachloroethane	600	<5	<5	<5	<5	<5	<5

Enclosure 2. AOC 33-09, Plant 3, Northrop Grumman Corporation, Bethpage, New York  
 VOCs Analytical Results from Endpoint Samples

Parameters	NYSDEC TAGM Criteria <sup>1</sup> (ug/kg)	Sample ID: AOC 33-09D Sample Interval: 6-8' Date Sampled: 2/25/98 Units: ug/kg	AOC 33-09D 8-10' 4/29/98 ug/kg	AOC 33-09E 2-4' 2/25/98 ug/kg	AOC 33-09E 5-7' 2/25/98 ug/kg	AOC 33-09F 5-7' 2/24/98 ug/kg	AOC 33-09G/ 7-9' 3/10/98 ug/kg
Chlorobenzene	1,700	<5	<5	<5	<5	<5	<5
Ethyl Benzene	5,500	<5	<5	<5	<5	<5	<5
Syrene	N/A	<5	<5	<5	<5	<5	<5
o Xylene	1,200	<5	<5	<5	<5	<5	<5
m+p Xylene	1,200	<10	<10	<10	<10	<11	<10
Xylene	1,200	<15	<15	<15	<15	<15	<15
% Solids		99	99	98	99	94	99

Analysis Performed by: Ecotest Laboratories, North Babylon, NY.

Bold entries are concentrations in exceedence of NYSDEC TAGM criteria.

ug/kg Micrograms per kilogram

NYSDEC New York State Department of Environmental Conservation

1 NYSDEC Technical and Administrative Guidance Memorandum (TAGM) #4046 (Rev. 4/95)

N/A Criteria not available

Parameters	NYSDEC TAGM Criteria <sup>1</sup> (ug/kg)	Sample ID: AOC 33-09H FLOOR 4/29/98 ug/kg	AOC 33-09I FLOOR 4/29/98 ug/kg	AOC 33-09J FLOOR 4/29/98 ug/kg	AOC 33-09K FLOOR 4/29/98 ug/kg
			AOC 33-09H FLOOR 4/29/98 ug/kg	AOC 33-09J FLOOR 4/29/98 ug/kg	AOC 33-09K FLOOR 4/29/98 ug/kg
<b>Volatile Organic Compounds:</b>					
Chloromethane	N/A	<5	<5	<5	<5
Bromomethane	N/A	<5	<5	<5	<5
Vinyl Chloride	200	<5	<5	<5	<5
Chloroethane	1,900	<5	<5	<5	<5
Methylene Chloride	100	<5	<5	<5	<5
Acetone	200	<51	<51	<51	<51
Carbon disulfide	2,700	<5	<5	<5	<5
1,1 Dichloroethene	400	<5	<5	<5	<5
1,1 Dichloroethane	200	<5	<5	<5	<5
1,2 Dichloroethene	250	<10	<10	<10	<10
Chloroform	300	<5	<5	<5	<5
1,2 Dichloroethane	100	<5	<5	<5	<5
2-Butanone	300	<51	<51	<51	<51
111 Trichloroethane	800	<5	<5	<5	<5
Carbon Tetrachloride	600	<5	<5	<5	<5
Bromodichloromethane	N/A	<5	<5	<5	<5
1,2 Dichloropropane	N/A	<5	<5	<5	<5
c-1,3Dichloropropene	N/A	<5	<5	<5	<5
Trichloroethene	700	<5	<5	<5	<5
Chlorodibromomethane	N/A	<5	<5	<5	<5
112 Trichloroethane	N/A	<5	<5	<5	<5
Benzene	60	<5	<5	<5	<5
t-1,3Dichloropropene	N/A	<5	<5	<5	<5
Bromoform	N/A	<5	<5	<5	<5
4-Methyl-2-Pentanone	1,000	<51	<51	<51	<51
2-Hexanone	N/A	<51	<51	<51	<51
Tetrachloroethene	1,400	<5	<5	<5	<5
Toluene	1,500	<5	<5	<5	<5
1122Tetrachloroethane	600	<5	<5	<5	<5

Enclosure 2. AOC 33-09, Plant 3, Northrop Grumman Corporation, Bethpage, New York  
 VOCs Analytical Results from Endpoint Samples

Parameters	NYSDEC TAGM	Sample ID: AOC 33-09H FLOOR 4/29/98	Sample Interval: Date Sampled: 4/29/98	AOC 33-09I FLOOR 4/29/98	AOC 33-09J FLOOR 4/29/98	AOC 33-09K FLOOR 4/29/98
				Units: ug/kg	ug/kg	ug/kg
Chlorobenzene		1,700	<5	<5	<5	<5
Ethyl Benzene		5,500	<5	<5	<5	<5
Styrene	N/A		<5	<5	<5	<5
o Xylene		1,200	<5	<5	<5	<5
m+p Xylene		1,200	<10	<10	<10	<10
Xylene		1,200	<15	<15	<15	<15
% Solids			99	99	99	99

Analysis Performed by: Ecotest Laboratories, North Babylon, NY.

Bold entries are concentrations in exceedence of NYSDEC TAGM criteria.

ug/kg Micrograms per kilogram

NYSDEC New York State Department of Environmental Conservation

1 NYSDEC Technical and Administrative Guidance Memorandum (TAGM) #4046 (Rev. 4/95)  
 N/A Criteria not available

Parameters	NYSDEC TAGM Criteria <sup>1</sup> (ug/kg)	Sample ID: AOC 33-09L FLOOR 4/29/98 Units: ug/kg	AOC 33-09M FLOOR 4/29/98 ug/kg	AOC 33-09N FLOOR 4/29/98 ug/kg	AOC 33-09O FLOOR 4/29/98 ug/kg	AOC 33-09P FLOOR 4/29/98 ug/kg
<u>Volatile Organic Compounds:</u>						
Chloromethane	N/A	<5	<5	<5	<5	<5
Bromomethane	N/A	<5	<5	<5	<5	<5
Vinyl Chloride	200	<5	<5	<5	<5	<5
Chloroethane	1,900	<5	<5	<5	<5	<5
Methylene Chloride	100	<5	<5	<5	<5	<5
Acetone	200	<51	<51	<51	<51	<51
Carbon disulfide	2,700	<5	<5	<5	<5	<5
1,1 Dichloroethene	400	<5	<5	<5	<5	<5
1,1 Dichloroethane	200	<5	<5	<5	<5	<5
1,2 Dichloroethene	250	<10	<10	<10	<10	<10
Chloroform	300	<5	<5	<5	<5	<5
1,2 Dichloroethane	100	<5	<5	<5	<5	<5
2-Butanone	300	<51	<51	<51	<51	<51
111 Trichloroethane	800	<5	<5	<5	<5	<5
Carbon Tetrachloride	600	<5	<5	<5	<5	<5
Bromodichloromethane	N/A	<5	<5	<5	<5	<5
1,2 Dichloropropane	N/A	<5	<5	<5	<5	<5
c-1,3Dichloropropene	N/A	<5	<5	<5	<5	<5
Trichloroethene	700	<5	<5	<5	<5	<5
Chlorodibromomethane	N/A	<5	<5	<5	<5	<5
112 Trichloroethane	N/A	<5	<5	<5	<5	<5
Benzene	60	<5	<5	<5	<5	<5
t-1,3Dichloropropene	N/A	<5	<5	<5	<5	<5
Bromoform	N/A	<5	<5	<5	<5	<5
4-Methyl-2-Pentanone	1,000	<51	<51	<51	<51	<51
2-Hexanone	N/A	<51	<51	<51	<51	<51
Tetrachloroethene	1,400	<5	<5	<5	<5	<5
Toluene	1,500	<5	<5	<5	<5	<5
1122Tetrachloroethane	600	<5	<5	<5	<5	<5

Enclosure 2: AOC 33-09, Plant 3, Northrop Grumman Corporation, Bethpage, New York  
 VOCs Analytical Results from Endpoint Samples

Parameters	NYSDEC TAGM Criteria <sup>1</sup> (ug/kg)	Sample ID: AOC 33-09L FLOOR		AOC 33-09M FLOOR 4/29/98		AOC 33-09N FLOOR 4/29/98		AOC 33-09O FLOOR 4/29/98		AOC 33-09P FLOOR 4/29/98	
		Sample Interval: 4/29/98	Units: ug/kg			ug/kg			ug/kg		
Chlorobenzene	1,700	<5		<5		<5		<5		<5	
Ethyl Benzene	5,500	<5		<5		<5		<5		<5	
Styrene	N/A	<5		<5		<5		<5		<5	
o Xylene	1,200	<5		<5		<5		<5		<5	
m+p Xylene	1,200	<10		<10		<10		<10		<10	
Xylene	1,200	<15		<15		<15		<15		<15	
% Solids		99		99		99		99		99	

Analysis Performed by: Ecotest Laboratories, North Babylon, NY.

Bold entries are concentrations in exceedence of NYSDEC TAGM criteria.

ug/kg Micrograms per kilogram

NYSDEC New York State Department of Environmental Conservation

1 NYSDEC Technical and Administrative Guidance Memorandum (TAGM) #4046 (Rev. 4/95)

N/A Criteria not available

Table AOC 33-09, Plant 3, Northrop Grumman Corporation, Bethpage, New York  
SVOCs Analytical Results from Sidewall Samples

Parameters	NYSDEC TAGM Criteria <sup>1</sup> (ug/kg)	Sample ID: AOC 33-09A Sample Interval: 2-4' Date Sampled: 2/25/98 Units: ug/kg	AOC 33-09A 6-8' 2/25/98 ug/kg	AOC 33-09A 8-10' 4/29/98 ug/kg	AOC 33-09B1 5-7' 4/29/98 ug/kg
<b>Semivolatile Organic Compounds:</b>					
N-Nitrosodimethylamine	N/A	<31	<31	<30	<30
Bis (2-Chloroethyl) ether	N/A	<31	<31	<30	<30
1,3-Dichlorobenzene	N/A	<31	<31	<30	<30
1,4-Dichlorobenzene	N/A	<31	<31	<30	<30
1,2-Dichlorobenzene	N/A	<31	<31	<30	<30
Bis (2-chloroisopropyl) ether	N/A	<31	<31	<30	<30
N-Nitrosodi-n-propylamine	N/A	<31	<31	<30	<30
Hexachloroethane	N/A	<31	<31	<30	<30
Nitrobenzene	200	<31	<31	<30	<30
Isophorone	4400	<31	<31	<30	<30
Bis (2-chloroethoxy) methane	N/A	<31	<31	<30	<30
124-Trichlorobenzene	N/A	<31	<31	<30	<30
Naphthalene	13000	<31	<31	<30	<30
Hexachlorobutadiene	N/A	<31	<31	<30	<30
Hexachlorocyclopentadiene	N/A	<310	<310	<300	<300
2-Chloronaphthalene	N/A	<31	<31	<30	<30
Dimethyl Phthalate	N/A	<31	<31	<30	<30
Acenaphthylene	41000	<31	<31	<30	<30
2,6-Dinitrotoluene	1000	<31	<31	<30	<30
Acenaphthene	50000	<31	<31	<30	<30
2,4-Dinitrotoluene	N/A	<31	<31	<30	<30
Diethyl Phthalate	N/A	<31	<31	<30	<30
Fluorene	50000	<31	<31	<30	<30
4-Chlorophenyl phenyl ether	N/A	<31	<31	<30	<30
N-Nitrosodiphenylamine	N/A	<31	<31	<30	<30
1,2-Diphenylhydrazine	N/A	<31	<31	<30	<30
4-Bromophenyl phenyl ether	410	<31	<31	<30	<30
Hexachlorobenzene	50000	<31	<31	<30	<30
Phenanthrene					<300

Table AOC 33-09, Plant 3, Northrop Grumman Corporation, Bethpage, New York  
SVOCs Analytical Results from Sidewall Samples

Parameters	NYSDEC TAGM Criteria <sup>1</sup> (ug/kg)	Sample ID: AOC 33-09A 2-4' Date Sampled: 2/25/98 Units: ug/kg	AOC 33-09A 6-8' 2/25/98 ug/kg	AOC 33-09A 8-10' 4/29/98 ug/kg	AOC 33-09B1 5-7' 4/29/98 ug/kg
Anthracene	50000	<31	<31	<30	36
Di-n-Butyl Phthalate	8100	<31	<31	<30	<30
Fluoranthene	50000	<31	<31	<30	360
Benzidine	N/A	<310	<310	<30	<30
Pyrene	5000	<31	<31	<30	280
Benzyl Butyl Phthalate	N/A	<31	<31	<30	<30
Benzo (a) anthracene*	224	<31	<31	<30	120
3,3'-Dichlorobenzidine	N/A	<310	<310	<300	<300
Chrysene*	400	<31	<31	<30	160
Bis (2-ethylhexyl) phthalate	50000	32	<31	<30	<30
Di-n-octyl Phthalate	50000	<31	<31	<30	<30
Benzo (b) fluoranthene*	224	<31	<31	<30	120**
Benzo (k) fluoranthene*	224	<31	<31	<30	120**
Benzo (a) pyrene*	61	<31	<31	<30	110
Indeno (1,2,3-cd) pyrene*	3200	<31	<31	<30	95
Dibenzo (a,h) anthracene*	14	<31	<31	<30	37
Benzo (ghi) perylene	N/A	<31	<31	<30	100
<b>TOTAL CARCINOGENIC SVOCs</b>	<b>10,000 ug/kg</b>	<b>ND</b>	<b>ND</b>	<b>762 ug/kg</b>	
<b>TOTAL SVOCs</b>	<b>500,000 ug/kg</b>	<b>32 ug/kg</b>	<b>ND</b>	<b>1538 ug/kg</b>	

Analysis Performed by: Ecotest Laboratories, North Babylon, NY.  
Bold entries are concentrations in exceedence of NYSDEC TAGM criteria.

ug/kg Micrograms per kilogram

NYSDEC New York State Department of Environmental Conservation

1 NYSDEC Technical and Administrative Guidance Memorandum

(TAGM) #4046 (Rev. 4/95)

ND Below Detection Limits

N/A Criteria not available

\* Total Carcinogenic SVOCs limit is < 10ppm as per TAGM #4046

Table AOC 33-09, Plant 3, Northrop Grumman Corporation, Bethpage, New York  
SVOCs Analytical Results from Sidewall Samples

Parameters	NYSDDEC TAGM Criteria <sup>1</sup> (ug/kg)	Sample ID: AOC 33-09B1 8-10' Date Sampled: 4/29/98 Units: ug/kg	AOC 33-09C 2-4' 2/25/98 ug/kg	AOC 33-09C 6-8' 2/25/98 ug/kg	AOC 33-09C 8-10' 2/25/98 ug/kg
<b>Semivolatile Organic Compounds:</b>					
<b>N-Nitrosodimethylamine</b>					
	N/A	<30	<31	<30	<30
	N/A	<30	<31	<30	<30
<b>Bis (2-Chloroethyl) ether</b>					
	N/A	<30	<31	<30	<30
<b>1,3-Dichlorobenzene</b>					
	N/A	<30	<31	<30	<30
<b>1,4-Dichlorobenzene</b>					
	N/A	<30	<31	<30	<30
<b>1,2-Dichlorobenzene</b>					
	N/A	<30	<31	<30	<30
<b>Bis (2-chloroisopropyl) ether</b>					
	N/A	<30	<31	<30	<30
<b>N-Nitrosodi-n-propylamine</b>					
	N/A	<30	<31	<30	<30
<b>Hexachloroethane</b>					
	200	<30	<31	<30	<30
<b>Nitrobenzene</b>					
	4400	<30	<31	<30	<30
<b>Isophorone</b>					
	N/A	<30	<31	<30	<30
<b>Bis (2-chloroethoxy) methane</b>					
	N/A	<30	<31	<30	<30
<b>124-Trichlorobenzene</b>					
	13000	<30	<31	<30	130
<b>Naphthalene</b>					
	N/A	<30	<31	<30	<30
<b>Hexachlorobutadiene</b>					
	N/A	<30	<310	<300	<300
<b>Hexachlorocyclopentadiene</b>					
	N/A	<30	<31	<30	<30
<b>2-Chloronaphthalene</b>					
	N/A	<30	<31	<30	<30
<b>Dimethyl Phthalate</b>					
	N/A	<30	<31	<30	<30
<b>Acenaphthylene</b>					
	41000	<30	<31	<30	<30
<b>2,6-Dinitrotoluene</b>					
	1000	<30	<31	<30	<30
<b>Acenaphthene</b>					
	50000	<30	<31	<30	300
<b>2,4-Dinitrotoluene</b>					
	N/A	<30	<31	<30	<30
<b>Diethyl Phthalate</b>					
	N/A	<30	<31	<30	<30
<b>Fluorene</b>					
	50000	<30	<31	260	<30
<b>4-Chlorophenyl phenyl ether</b>					
	N/A	<30	<31	<30	<30
<b>N-Nitrosodiphenylamine</b>					
	N/A	<30	<31	<30	<30
<b>1,2-Diphenylhydrazine</b>					
	N/A	<30	<31	<30	<30
<b>4-Bromophenyl phenyl ether</b>					
	410	<30	<31	<30	<30
<b>Hexachlorobenzene</b>					
	50000	<30	<30	230	<30
<b>Phenanthrene</b>					

Table AOC 33-09, Plant 3, Northrop Grumman Corporation, Bethpage, New York  
SVOCs Analytical Results from Sidewall Samples

Parameters	NYSDEC TAGM Criteria <sup>1</sup> (ug/kg)	Sample ID: AOC 33-09B1 Sample Interval: 8-10' Date Sampled: 4/29/98 Units: ug/kg	AOC 33-09C 2-4' 2/25/98 ug/kg	AOC 33-09C 6-8' 2/25/98 ug/kg	AOC 33-09C 8-10' 2/25/98 ug/kg
Anthracene	50000	<30	33	<30	620
Di-n-Butyl Phthalate	8100	<30	<31	<30	<30
Fluoranthene	50000	<30	290	<30	3800
Benzidine	N/A	<30	<310	<300	<300
Pyrene	5000	<30	250	<30	3000
Benzyl Butyl Phthalate	N/A	<30	<31	<30	<30
Benzo (a) anthracene*	224	<30	100	<30	1300
3,3'-Dichlorobenzidine	N/A	<300	<310	<300	<300
Chrysene*	400	<30	120	<30	1300
Bis (2-ethylhexyl) phthalate	50000	<30	<31	<30	210
Di-n-octyl Phthalate	50000	<30	<31	<30	56
Benzo (b) fluoranthene*	224	<30	90 <sup>AA</sup>	<30	1150 <sup>AA</sup>
Benzo (k) fluoranthene*	224	<30	90 <sup>AA</sup>	<30	1150 <sup>AA</sup>
Benzo (a) pyrene*	61	<30	86	<30	1100
Indeno (1,2,3-cd) pyrene*	3200	<30	47	<30	450
Dibenzo (a,h) anthracene*	14	<30	<31	<30	210
Benzo (ghi) perylene	N/A	<30	47	<30	400
<b>TOTAL CARCINOGENIC SVOCs</b>		<b>10,000 ug/kg</b>	<b>ND</b>	<b>533 ug/kg</b>	<b>ND</b>
<b>TOTAL SVOCs</b>		<b>500,000 ug/kg</b>	<b>ND</b>	<b>580 ug/kg</b>	<b>31</b>
*Total Carcinogenic SVOC's limit is < 10ppm as per TAGM #4046					

Analysis Performed by: Ecotest Laboratories, North Babylon, NY.  
Bold entries are concentrations in exceedence of NYSDEC TAGM criteria.

ug/kg Micrograms per kilogram  
NYSDEC New York State Department of Environmental Conservation  
1 NYSDEC Technical and Administrative Guidance Memorandum  
(TAGM) #4046 (Rev. 4/95)  
ND Below Detection Limits  
N/A Criteria not available  
\* Total Carcinogenic SVOC's limit is < 10ppm as per TAGM #4046

Table AOC 33-09, Plant 3, Northrop Grumman Corporation, Bethpage, New York  
SVOCs Analytical Results from Sidewall Samples

Parameters	NYSDEC TAGM Criteria <sup>1</sup> (ug/kg)	Sample ID: Sample Interval: Date Sampled: Units:	AOC 33-09D 2-4' 2/25/98 ug/kg	AOC 33-09D 6-8' 2/25/98 ug/kg	AOC 33-09D 8-10' 4/29/98 ug/kg	AOC 33-09E 2-4' 2/25/98 ug/kg
<b>Semivolatile Organic Compounds:</b>						
N-Nitrosodimethylamine	N/A		<30	<30	<30	<31
Bis (2-Chloroethyl) ether	N/A		<30	<30	<30	<31
1,3-Dichlorobenzene	N/A		<30	<30	<30	<31
1,4-Dichlorobenzene	N/A		<30	<30	<30	<31
1,2-Dichlorobenzene	N/A		<30	<30	<30	<31
Bis (2-chloroisopropyl) ether	N/A		<30	<30	<30	<31
N-Nitrosodi-n-propylamine	N/A		<30	<30	<30	<31
Hexachloroethane	N/A		<30	<30	<30	<31
Nitrobenzene	200		<30	<30	<30	<31
Isophorone	4400		<30	<30	<30	<31
Bis (2-chlorooxy) methane	N/A		<30	<30	<30	<31
1,24-Trichlorobenzene	N/A		<30	<30	<30	<31
Naphthalene	13000		<30	<30	<30	<31
Hexachlorobutadiene	N/A		<30	<30	<30	<31
Hexachlorocyclopentadiene	N/A		<300	<300	<300	<310
2-Chloronaphthalene	N/A		<30	<30	<30	<31
Dimethyl Phthalate	N/A		<30	<30	<30	<31
Acenaphthylene	41000		<30	<30	<30	<31
2,6-Dinitrotoluene	1000		<30	<30	<30	<31
Acenaphthene	50000		<30	<30	<30	<31
2,4-Dinitrotoluene	N/A		<30	<30	<30	<31
Diethyl Phthalate	N/A		<30	<30	<30	<31
Florene	50000		<30	<30	<30	<31
4-Chlorophenyl phenyl ether	N/A		<30	<30	<30	<31
N-Nitrosodiphenylamine	N/A		<30	<30	<30	<31
1,2-Diphenylhydrazine	N/A		<30	<30	<30	<31
4-Bromophenyl phenyl ether	N/A		<30	<30	<30	<31
Hexachlorobenzene	410		<30	<30	<30	<31
Phenanthrene	50000		<30	<30	<30	<31

Table AOC 33-09, Plant 3, Northrop Grumman Corporation, Bethpage, New York  
SVOCs Analytical Results from Sidewall Samples

Parameters	NYSDEC TAGM Criteria <sup>1</sup> (ug/kg)	Sample ID: AOC 33-09D 2-4' Date Sampled: 2/25/98 Units: ug/kg	AOC 33-09D 6-8' 2/25/98 ug/kg	AOC 33-09D 8-10' 4/29/98 ug/kg	AOC 33-09E 2-4' 2/25/98 ug/kg
Anthracene	50000	<30	<30	<30	<31
Di-n-Butyl Phthalate	8100	<30	<30	<30	<31
Fluoranthene	50000	<30	<30	<30	<31
Benzidine	N/A	<300	<300	<30	<310
Pyrene	5000	<30	<30	<30	<31
Benzyl Butyl Phthalate	N/A	<30	<30	<30	<31
Benzo (a) anthracene*	224	<30	<30	<30	<31
3,3'-Dichlorobenzidine	N/A	<300	<300	<300	<310
Chrysene*	400	<30	<30	<30	<31
Bis (2-ethylhexyl) phthalate	50000	<30	<30	<30	65
Di-n-octyl Phthalate	50000	<30	<30	<30	<31
Benzo (b) fluoranthene*	224	<30	<30	<30	<31
Benzo (k) fluoranthene*	224	<30	<30	<30	<31
Benzo (a) pyrene*	61	3200	<30	<30	<31
Indeno (1,2,3-cd) pyrene*	14	<30	<30	<30	<31
Dibenzo (a,h) anthracene*	N/A	<30	<30	<30	<31
Benzo (ghi) perylene					
<b>TOTAL CARCINOGENIC SVOCs</b>		<b>10,000 ug/kg</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>
<b>TOTAL SVOCs</b>		<b>500,000 ug/kg</b>	<b>ND</b>	<b>ND</b>	<b>65 ug/kg</b>

Analysis Performed by: Ecotest Laboratories, North Babylon, NY.  
Bold entries are concentrations in exceedence of NYSDEC TAGM criteria.

ug/kg Micrograms per kilogram

NYSDEC New York State Department of Environmental Conservation  
1 NYSDEC Technical and Administrative Guidance Memorandum  
(TAGM) #4046 (Rev. 4/95)

ND Below Detection Limits  
N/A Criteria not available

\* Total Carcinogenic SVOC's limit is < 10ppm as per TAGM #4046

Table AOC 33-09, Plant 3, Northrop Grumman Corporation, Bethpage, New York  
SVOCs Analytical Results from Sidewall Samples

Parameters	NYSDEC TAGM Criteria <sup>1</sup> (ug/kg)	Sample ID: AOC 33-09E Sample Interval: 5-7' Date Sampled: 4/29/98 Units: ug/kg	AOC 33-09F 5-7' 2/24/98 ug/kg	AOC 33-09H FLOOR 4/29/98 ug/kg	AOC 33-09H FLOOR 4/29/98 ug/kg
<b>Semivolatile Organic Compounds:</b>					
N-Nitrosodimethylamine	N/A	<30	<32	<30	<30
Bis (2-Chloroethyl) ether	N/A	<30	<32	<30	<30
1,3-Dichlorobenzene	N/A	<30	<32	<30	<30
1,4-Dichlorobenzene	N/A	<30	<32	<30	<30
1,2-Dichlorobenzene	N/A	<30	<32	<30	<30
Bis (2-chloroisopropyl) ether	N/A	<30	<32	<30	<30
N-Nitrosodi-n-propylamine	N/A	<30	<32	<30	<30
Hexachloroethane	N/A	<30	<32	<30	<30
Nitrobenzene	200	<30	<32	<30	<30
Isophorone	4400	<30	<32	<30	<30
Bis (2-chloroethoxy) methane	N/A	<30	<32	<30	<30
124-Trichlorobenzene	N/A	<30	<32	<30	<30
Naphthalene	13000	<30	<32	<30	<30
Hexachlorobutadiene	N/A	<30	<320	<30	<30
Hexachlorocyclopentadiene	N/A	<30	<32	<300	<30
2-Chloronaphthalene	N/A	<30	<32	<30	<30
Dimethyl Phthalate	N/A	<30	<32	<30	<30
Acenaphthylene	41000	<30	<32	<30	<30
2,6-Dinitrotoluene	1000	<30	<32	<30	<30
Acenaphthene	50000	<30	<32	<30	<30
2,4-Dinitrotoluene	N/A	<30	<32	<30	<30
Diethyl Phthalate	N/A	<30	<32	<30	<30
Fluorene	50000	<30	<32	<30	<30
4-Chlorophenyl phenyl ether	N/A	<30	<32	<30	<30
N-Nitrosodiphenylamine	N/A	<30	<32	<30	<30
1,2-Diphenylhydrazine	N/A	<30	<32	<30	<30
4-Bromophenyl phenyl ether	N/A	<30	<32	<30	<30
Hexachlorobenzene	410	<30	<32	<30	<30
Phenanthrene	50000	<30	<32	<30	<30

Table AOC 33-09, Plant 3, Northrop Grumman Corporation, Bethpage, New York  
SVOCs Analytical Results from Sidewall Samples

Parameters	NYSDEC TAGM Criteria' (ug/kg)	Sample ID: AOC 33-09E 5-7' Date Sampled: 4/29/98 Units: ug/kg	AOC 33-09F 5-7' 2/24/98 ug/kg	AOC 33-09H FLOOR 4/29/98 ug/kg	AOC 33-09I FLOOR 4/29/98 ug/kg
Anthracene	50000	<30	<32	<30	<30
Di-n-Butyl Phthalate	8100	<30	<32	<30	<30
Fluoranthene	500000	<30	70	39	32
Benzidine	N/A	<30	<320	<30	<30
Pyrene	5000	<30	47	<30	<30
Benzyl Butyl Phthalate	N/A	<30	<32	<30	<30
Benzo (a) anthracene*	224	<30	<32	<30	<30
3,3'-Dichlorobenzidine	N/A	<300	<320	<300	<300
Chrysene*	400	<30	38	<30	<30
Bis (2-ethylhexyl) phthalate	50000	<30	62	<30	<30
Di-n-octyl Phthalate	500000	<30	<32	<30	<30
Benzo (b) fluoranthene*	224	<30	<32	<30	<30
Benzo (k) fluoranthene*	224	<30	<32	<30	<30
Benzo (a) pyrene*	61	<30	<32	<30	<30
Indeno (1,2,3-cd) pyrene*	3200	<30	<32	<30	<30
Dibenzo (a,h) anthracene*	14	<30	<32	<30	<30
Benzo (ghi) perylene	N/A	<30	<32	<30	<30
<b>TOTAL CARCINOGENIC SVOCs</b>	<b>10,000 ug/kg</b>	<b>ND</b>	<b>38 ug/kg</b>	<b>ND</b>	<b>ND</b>
<b>TOTAL SVOCs</b>	<b>500,000 ug/kg</b>	<b>ND</b>	<b>217 ug/kg</b>	<b>39 ug/kg</b>	<b>32 ug/kg</b>

Analysis Performed by: Ecotest Laboratories, North Babylon, NY.

Bold entries are concentrations in exceedence of NYSDEC TAGM criteria.

ug/kg Micrograms per kilogram

NYSDEC New York State Department of Environmental Conservation  
1 NYSDEC Technical and Administrative Guidance Memorandum

(TAGM) #4046 (Rev. 4/95)

ND Below Detection Limits

N/A Criteria not available

\* Total Carcinogenic SVOC's limit is < 10ppm as per TAGM #4046

Table AOC 33-09, Plant 3, Northrop Grumman Corporation, Bethpage, New York  
SVOCs Analytical Results from Sidewall Samples

Parameters	NYSDEC TAGM Criteria <sup>1</sup> (ug/kg)	Sample ID: AOC 33-09J FLOOR 4/29/98 ug/kg	AOC 33-09K FLOOR 4/29/98 ug/kg	AOC 33-09L FLOOR 4/29/98 ug/kg	AOC 33-09M FLOOR 4/29/98 ug/kg
<u>Semivolatile Organic Compounds:</u>					
N-Nitrosodimethylamine	N/A	<30	<30	<30	<30
Bis (2-Chloroethyl) ether	N/A	<30	<30	<30	<30
1,3-Dichlorobenzene	N/A	<30	<30	<30	<30
1,4-Dichlorobenzene	N/A	<30	<30	<30	<30
1,2-Dichlorobenzene	N/A	<30	<30	<30	<30
Bis (2-chloroisopropyl) ether	N/A	<30	<30	<30	<30
N-Nitrosodi-n-propylamine	N/A	<30	<30	<30	<30
Hexachloroethane	N/A	<30	<30	<30	<30
Nitrobenzene	200	<30	<30	<30	<30
Isophorone	4400	<30	<30	<30	<30
Bis (2-chloroethoxy) methane	N/A	<30	<30	<30	<30
1,24-Trichlorobenzene	N/A	<30	<30	<30	<30
Naphthalene	13000	<30	<30	<30	<30
Hexachlorobutadiene	N/A	<30	<30	<30	<30
Hexachlorocyclopentadiene	N/A	<300	<300	<300	<300
2-Chloronaphthalene	N/A	<30	<30	<30	<30
Dimethyl Phthalate	N/A	<30	<30	<30	<30
Acenaphthylene	41000	<30	<30	<30	<30
2,6-Dinitrotoluene	1000	<30	<30	<30	<30
Acenaphthene	50000	<30	<30	<30	<30
2,4-Dinitrotoluene	N/A	<30	<30	<30	<30
Diethyl Phthalate	N/A	<30	<30	<30	<30
Fluorene	50000	<30	<30	<30	<30
4-Chlorophenyl phenyl ether	N/A	<30	<30	<30	<30
N-Nitrosodiphenylamine	N/A	<30	<30	<30	<30
1,2-Diphenylhydrazine	N/A	<30	<30	<30	<30
4-Bromophenyl phenyl ether	410	<30	<30	<30	<30
Hexachlorobenzene	50000	<30	<30	<30	<30
Phenanthrene					240

Table AOC 33-09, Plant 3, Northrop Grumman Corporation, Bethpage, New York  
SVOCs Analytical Results from Sidewall Samples

Parameters	NYSDDEC TAGM Criteria <sup>1</sup> (ug/kg)	Sample ID: AOC 33-09J FLOOR 4/29/98 ug/kg	Sample Interval: Date Sampled: 4/29/98 Units: ug/kg	AOC 33-09K FLOOR 4/29/98 ug/kg	AOC 33-09L FLOOR 4/29/98 ug/kg	AOC 33-09M FLOOR 4/29/98 ug/kg
Anthracene	50000	<30	<30	<30	<30	54
Di-n-Butyl Phthalate	8100	<30	<30	<30	<30	<30
Fluoranthene	50000	<30	<30	<30	<30	290
Benzidine	N/A	<30	<30	<30	<30	<30
Pyrene	5000	<30	<30	<30	<30	230
Benzyl Butyl Phthalate	N/A	<30	<30	<30	<30	<30
Benzo (a) anthracene*	224	<30	<30	<30	<30	140
3,3'-Dichlorobenzidine	N/A	<300	<300	<300	<300	<300
Chrysene*	400	<30	<30	<30	<30	130
Bis (2-ethylhexyl) phthalate	50000	<30	<30	<30	<30	<30
Di-n-octyl Phthalate	50000	<30	<30	<30	<30	<30
Benzo (b) fluoranthene*	224	<30	<30	<30	<30	105**
Benzo (k) fluoranthene*	224	<30	<30	<30	<30	105**
Benzo (a) pyrene*	61	<30	<30	<30	<30	110
Indeno (1,2,3-cd) pyrene*	3200	<30	<30	<30	<30	78
Dibenzo (a,h) anthracene*	14	<30	<30	<30	<30	38
Benzo (ghi) perylene	N/A	<30	<30	<30	<30	77
<b>TOTAL CARCINOGENIC SVOCs</b>		<b>10,000 ug/kg</b>		<b>ND</b>	<b>ND</b>	<b>706 ug/kg</b>
<b>TOTAL SVOCs</b>		<b>500,000 ug/kg</b>		<b>ND</b>	<b>ND</b>	<b>1597 ug/kg</b>

Analysis Performed by: Ecotest Laboratories, North Babylon, NY.  
Bold entries are concentrations in exceedence of NYSDDEC TAGM criteria.

ug/kg Micrograms per kilogram

NYSDDEC New York State Department of Environmental Conservation  
1 NYSDDEC Technical and Administrative Guidance Memorandum  
(TAGM) #4046 (Rev. 4/95)

ND Below Detection Limits

N/A Criteria not available

\* Total Carcinogenic SVOC's limit is < 10ppm as per TAGM #4046

Table AOC 33-09, Plant 3, Northrop Grumman Corporation, Bethpage, New York  
SVOCs Analytical Results from Sidewall Samples

Parameters	NYSDEC TAGM Criteria <sup>1</sup> (ug/kg)	Sample ID: Sample Interval: Date Sampled: Units:	AOC 33-09N FLOOR 4/29/98 ug/kg	AOC 33-09O FLOOR 4/29/98 ug/kg	AOC 33-09P FLOOR 4/29/98 ug/kg
<b>Semivolatile Organic Compounds:</b>					
<b>N-Nitrosodimethylamine</b>	N/A	<30	<31	<30	<30
<b>Bis (2-Chloroethyl) ether</b>	N/A	<30	<31	<30	<30
<b>1,3-Dichlorobenzene</b>	N/A	<30	<31	<30	<30
<b>1,4-Dichlorobenzene</b>	N/A	<30	<31	<30	<30
<b>1,2-Dichlorobenzene</b>	N/A	<30	<31	<30	<30
<b>Bis (2-chloroisopropyl) ether</b>	N/A	<30	<31	<30	<30
<b>N-Nitrosodi-<i>t</i>-propylamine</b>	N/A	<30	<31	<30	<30
<b>Hexachloroethane</b>	N/A	<30	<31	<30	<30
<b>Nitrobenzene</b>	200	<30	<31	<30	<30
<b>Iosphorone</b>	4400	<30	<31	<30	<30
<b>Bis (2-chloroethoxy) methane</b>	N/A	<30	<31	<30	<30
<b>124-Trichlorobenzene</b>	N/A	<30	<31	<30	<30
<b>Naphthalene</b>	13000	<30	<31	<30	<30
<b>Hexachlorobutadiene</b>	N/A	<30	<31	<30	<30
<b>Hexachlorocyclopentadiene</b>	N/A	<300	<310	<300	<300
<b>2-Chloronaphthalene</b>	N/A	<30	<31	<30	<30
<b>Dimethyl Phthalate</b>	N/A	<30	<31	<30	<30
<b>Acenaphthylene</b>	41000	<30	<31	<30	<30
<b>2,6-Dinitrotoluene</b>	1000	<30	<31	<30	<30
<b>Acenaphthene</b>	50000	<30	<31	<30	<30
<b>2,4-Dinitrotoluene</b>	N/A	<30	<31	<30	<30
<b>Diethyl Phthalate</b>	N/A	<30	<31	<30	<30
<b>Fluorene</b>	50000	<30	<31	<30	<30
<b>4-Chlorophenyl phenyl ether</b>	N/A	<30	<31	<30	<30
<b>N-Nitrosodiphenylamine</b>	N/A	<30	<31	<30	<30
<b>1,2-Diphenylhydrazine</b>	N/A	<30	<31	<30	<30
<b>4-Bromophenyl phenyl ether</b>	N/A	<30	<31	<30	<30
<b>Hexachlorobenzene</b>	410	<30	<31	<30	<30
<b>Phenanthrene</b>	50000	<30	<31	<30	<30

Table AOC 33-09, Plant 3, Northrop Grumman Corporation, Bethpage, New York  
SVOCs Analytical Results from Sidewall Samples

Parameters	NYSDEC TAGM Criteria <sup>1</sup> (ug/kg)	Sample ID: FLOOR 4/29/98	AOC 33-09N FLOOR 4/29/98 ug/kg	AOC 33-09O FLOOR 4/29/98 ug/kg	AOC 33-09P FLOOR 4/29/98 ug/kg
			Sample Interval: Date Sampled: Units:	4/29/98 ug/kg	4/29/98 ug/kg
Anthracene	50000	<30	<30	<30	<30
Di-n-Butyl Phthalate	8100	<30	<30	<30	<30
Fluoranthene	50000	<30	<30	<30	<30
Benzidine	N/A	<30	<30	<30	<30
Pyrene	5000	<30	<30	<30	<30
Benzyl Butyl Phthalate	N/A	<30	<30	<30	<30
Benzo (a) anthracene*	224	<30	<30	<30	<30
3,3'-Dichlorobenzidine	N/A	<300	<300	<300	<300
Chrysene*	400	<30	<30	<30	<30
Bis (2-ethylhexyl) phthalate	50000	<30	<30	<30	<30
Di-n-octyl Phthalate	50000	<30	<30	<30	<30
Benzo (b) fluoranthene*	224	<30	<30	<30	<30
Benzo (k) fluoranthene*	224	<30	<30	<30	<30
Benzo (a) pyrene*	61	<30	<30	<30	<30
Indeno (1,2,3-cd) pyrene*	3200	<30	<30	<30	<30
Dibenzo (a,h) anthracene*	14	<30	<30	<30	<30
Benzo (ghi) perylene	N/A	<31	<31	<31	<31
<b>TOTAL CARCINOGENIC SVOCs</b>		10,000 ug/kg	ND	ND	ND
<b>TOTAL SVOCs</b>		500,000 ug/kg	ND	ND	ND

Analysis Performed by: Ecotest Laboratories, North Babylon, NY.

Bold entries are concentrations in exceedence of NYSDEC TAGM criteria.

ug/kg Micrograms per kilogram

NYSDEC New York State Department of Environmental Conservation  
1 NYSDEC Technical and Administrative Guidance Memorandum

(TAGM) #4046 (Rev. 4/95)

ND Below Detection Limits

N/A Criteria not available

\* Total Carcinogenic SVOC's limit is < 10ppm as per TAGM #4046

**ENCLOSURE 3**

Enclosure 3. AOC 34, Plant 3, Northrop Grumman Corporation, Bethpage, New York PCBs and SVOCs Analytical Results of Endpoint Samples

Page 1 of 12

Parameters	NYSDEC TAGM Criteria <sup>1</sup> (ug/kg)	Sample ID: AOC34A 7-9' Date Sampled: 2/12/98 Units: ug/kg	AOC34A 15-17' 2/12/98 ug/kg	AOC34B 23-26' 2/12/98 ug/kg	AOC34B 7-9' 2/12/98 ug/kg	AOC34B 15-17' 2/12/98 ug/kg
<b>PCBs</b>						
Aroclor 1016	N/A	<860	<100	<40	<100	<40
Aroclor 1221	N/A	<860	<100	<40	<100	<40
Aroclor 1232	N/A	<860	<100	<40	<100	<40
Aroclor 1242	N/A	<860	<100	<40	<100	<40
Aroclor 1248	N/A	8300	260	130	210	<40
Aroclor 1254	N/A	<860	<100	<40	<100	<40
Aroclor 1260	N/A	<860	<100	<40	<100	<40
<b>Total PCBs</b>	<b>10000</b>	<b>8300</b>	<b>260</b>	<b>130</b>	<b>210</b>	<b>0</b>
<b>Semivolatile Organic Compounds:</b>						
N-Nitrosodimethylamine	N/A	<32	<30	<30	<30	<30
Bis (2-Chloroethyl) ether	N/A	<32	<30	<30	<30	<30
1,3-Dichlorobenzene	N/A	<32	<30	<30	<30	<30
1,4-Dichlorobenzene	N/A	<32	<30	<30	<30	<30
1,2-Dichlorobenzene	N/A	<32	<30	<30	<30	<30
Bis (2-chloroisopropyl) ether	N/A	<32	<30	<30	<30	<30
N-Nitrosodi-n-propylamine	N/A	<32	<30	<30	<30	<30
Hexachloroethane	N/A	<32	<30	<30	<30	<30
Nitrobenzene	200	<32	<30	<30	<30	<30
Isophorone	4400	<32	<30	<30	<30	<30
Bis (2-chloroethoxy) methane	N/A	<32	<30	<30	<30	<30
124-Trichlorobenzene	N/A	<32	<30	<30	<30	<30
Naphthalene	13000	41	<30	<30	<30	<30
Hexachlorobutadiene	N/A	<32	<30	<30	<30	<30
Hexachlorocyclopentadiene	N/A	<320	<300	<300	<300	<300
2-Chloronaphthalene	N/A	<32	<30	<30	<30	<30
Dimethyl Phthalate	N/A	<32	<30	<30	<30	<30
Acenaphthylene	41000	1000	<32	<30	<30	<30
2,6-Dinitrotoluene	50000	50000	<32	<30	<30	<30
Acenaphthene	N/A	N/A	<32	<30	<30	<30
2,4-Dinitrotoluene	N/A	N/A	<32	<30	<30	<30
Diethyl Phthalate	N/A	N/A	<32	<30	<30	<30
Fluorene	50000	<32	<30	<30	<30	<30
4-Chlorophenyl phenyl ether	N/A	<32	<30	<30	<30	<30
N-Nitrosodiphenylamine	N/A	<32	<30	<30	<30	<30

Parameters	NYSDEC TAGM Criteria <sup>1</sup> (ug/kg)	Sample ID: AOC34A Sample Interval: 7'-g' Date Sampled: 2/12/98 Units: ug/kg	AOC34A 15'-17' 2/12/98 ug/kg	AOC34A 23'-26' 2/12/98 ug/kg	AOC34B 7'-g' 2/12/98 ug/kg	AOC34B 15-17' 2/12/98 ug/kg
1,2-Diphenylhydrazine		<32	<30	<30	<30	<30
4-Bromophenyl phenyl ether		N/A	N/A	<30	<30	<30
Hexachlorobenzene	410	<32	<30	<30	<30	<30
Phenanthrene	50000	<32	<30	<30	<30	<30
Anthracene	50000	<32	<30	<30	<30	<30
Di-n-Butyl Phthalate	8100	<32	<30	<30	<30	<30
Fluoranthene	50000	<32	<30	<30	<30	<30
Benzidine	N/A	<320	<300	<300	<300	<300
Pyrene	50000	<32	<30	<30	<30	<30
Benzyl Butyl Phthalate	N/A	<32	<30	<30	<30	<30
Benzo (a) anthracene*	224	<32	<30	<30	<30	<30
3,3'-Dichlorobenzidine	N/A	<320	<300	<300	<300	<300
Chrysene*		400	<32	<30	<30	<30
Bis (2-ethylhexyl) phthalate	50000	400	170	120	92	32
Di-n-octyl Phthalate	50000	<32	<30	<30	<30	<30
Benzo (b) fluoranthene*	224	<32	<30	<30	<30	<30
Benzo (K) fluoranthene*	224	<32	<30	<30	<30	<30
Benzo (a) pyrene*	61	<32	<30	<30	<30	<30
Indeno (1,2,3-cd) pyrene*	3200	<32	<30	<30	<30	<30
Dibenzo (a,h) anthracene*	14	<32	<30	<30	<30	<30
Benzo (ghi) perylene	N/A	<32	<30	<30	<30	<30

<b>TOTAL CARCINOGENIC SVOCs</b>	<b>10,000 ug/kg</b>	<b>ND</b>	<b>ND</b>
<b>TOTAL SVOCs</b>	<b>500,000 ug/kg</b>	<b>441</b>	<b>170</b>

Analysis Performed by: Ecotest Laboratories, North Babylon, NY.

Bold entries are concentrations in exceedence of NYSDEC TAGM Criteria.

ug/kg Micrograms per kilogram

NYSDEC New York State Department of Environmental Conservation

1 NYSDEC Technical and Administrative Guidance  
Memorandum (TAGM) #4046 (Rev. 4/95)

ND Below Detection Limits

N/A Criteria not available

Total Carcinogenic SVOC's limit is &lt; 10ppm as per TAGM #4046

Enclosure 3. AOC 34, Plant 3, Northrop Grumman Corporation, Bethpage, New York PCBs and SVOCs Analytical Results of Endpoint Samples

Page 3 of 12

Parameters	NYSDDEC TAGM Criteria <sup>1</sup> (ug/kg)	Sample ID: AOC1-34B Sample Interval: 23-26' Date Sampled: 2/13/98 Units: ug/kg	AOC1-34C 7' 2/13/98 ug/kg	AOC1-34C 15-18' 2/13/98 ug/kg	AOC1-34C 23-25' 4/22/98 ug/kg	AOC 34D 4-6' 2/17/98 ug/kg
<b>PCBs</b>						
Aroclor 1016	N/A	<40	<40	<40	<810	<87
Aroclor 1221	N/A	<40	<40	<40	<810	<87
Aroclor 1232	N/A	<40	<40	<40	<810	<87
Aroclor 1242	N/A	<40	<40	<40	5200	<87
Aroclor 1248	N/A	<40	65	72	<810	460
Aroclor 1254	N/A	<40	<40	<40	<810	<87
Aroclor 1260	N/A	<40	<40	<40	<810	<87
<b>Total PCBs</b>	<b>10000</b>	<b>0</b>	<b>65</b>	<b>72</b>	<b>5200</b>	<b>460</b>
<b>Semivolatile Organic Compounds:</b>						
N-Nitrosodimethylamine	N/A	<30	<30	<30	<30	<32
Bis (2-Chloroethyl) ether	N/A	<30	<30	<30	<30	<32
1,3-Dichlorobenzene	N/A	<30	<30	<30	<30	<32
1,4-Dichlorobenzene	N/A	<30	<30	<30	<30	<32
1,2-Dichlorobenzene	N/A	<30	<30	<30	<30	<32
Bis (2-chloroisopropyl) ether	N/A	<30	<30	<30	<30	<32
N-Nitrosodi-n-propylamine	N/A	<30	<30	<30	<30	<32
Hexachloroethane	N/A	<30	<30	<30	<30	<32
Nitrobenzene	200	<30	<30	<30	<30	<32
Isophorone	4400	<30	<30	<30	<30	<32
Bis (2-chloroethoxy) methane	N/A	<30	<30	<30	<30	<32
124-Trichlorobenzene	N/A	<30	<30	<30	<30	<32
Naphthalene	13000	<30	<30	<30	<30	<32
Hexachlorobutadiene	N/A	<30	<30	<30	<30	<32
Hexachlorocyclopentadiene	N/A	<300	<300	<300	<300	<320
2-Chloronaphthalene	N/A	<30	<30	<30	<30	<32
Dimethyl Phthalate	N/A	<30	<30	<30	<30	<32
Acenaphthylene	41000	<30	<30	<30	<30	<32
2,6-Dinitrotoluene	1000	<30	<30	<30	<30	<32
Acenaphthene	50000	<30	<30	<30	<30	<32
2,4-Dinitrotoluene	N/A	<30	<30	<30	<30	<32
Diethyl Phthalate	N/A	<30	<30	<30	<30	<32
Fluorene	50000	<30	<30	<30	<30	<32
4-Chlorophenyl phenyl ether	N/A	<30	<30	<30	<30	<32
N-Nitrosodiphenylamine	N/A	<30	<30	<30	<30	<32

## Enclosure 3. AOC 34, Plant 3, Northrop Grumman Corporation, Bethpage, New York PCBs and SVOCs Analytical Results of Endpoint Samples

Page 4 of 12

Parameters	NYSDEC TAGM	Criteria <sup>1</sup> (ug/kg)	Sample ID: AOC1-34B 23-26'	AOC1-34C 7-g' 2/13/98 ug/kg	AOC1-34C 15-18' 2/13/98 ug/kg	AOC1-34C 23-25' 4/22/98 ug/kg	AOC 34D 4-6' 2/17/98 ug/kg
1,2-Diphenylhydrazine	N/A		<30	<30	<30	<30	<32
4-Bromophenyl phenyl ether	N/A		<30	<30	<30	<30	<32
Hexachlorobenzene	410		<30	<30	<30	<30	<32
Phenanthrene	50000		<30	<30	<30	<30	<32
Anthracene	50000		<30	<30	<30	<30	<32
Di-n-Butyl Phthalate	8100		<30	<30	<30	<30	<32
Fluoranthene	50000		<30	<30	<30	<30	<32
Benzidine	N/A		<300	<300	<300	<300	<320
Pyrene	50000		<30	<30	<30	<30	<32
Benzyl Butyl Phthalate	N/A		<30	<30	<30	<30	<32
Benzo (a) anthracene*	224		<30	<30	<30	<30	<32
3,3'-Dichlorobenzidine	N/A		<300	<300	<300	<300	<320
Chrysene*	400		<30	<30	<30	<30	<32
Bis (2-ethylhexyl) phthalate	50000		100	75	<30	<30	<32
Di-n-octyl Phthalate	50000		<30	<30	<30	<30	<32
Benzo (b) fluoranthene*	224		<30	<30	<30	<30	<32
Benzo (k) fluoranthene*	224		<30	<30	<30	<30	<32
Benzo (a) pyrene*	61		<30	<30	<30	<30	<32
Indeno (1,2-3cd) pyrene*	3200		<30	<30	<30	<30	<32
Dibenzo (a,h) anthracene*	14		<30	<30	<30	<30	<32
Benzo (ghi) perylene	N/A		<30	<30	<30	<30	<32
<b>TOTAL CARCINOGENIC SVOCs</b>			<b>10,000 ug/kg</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>
<b>TOTAL SVOCs</b>			<b>500,000 ug/kg</b>	<b>100</b>	<b>75</b>	<b>ND</b>	<b>ND</b>

Analysis Performed by: Ecotest Laboratories, North Babylon, NY.

Bold entries are concentrations in exceedence of NYSDEC TAGM Criteria.

ug/kg Micrograms per kilogram

NYSDEC New York State Department of Environmental Conservation

1 NYSDEC Technical and Administrative Guidance Memorandum (TAGM) #4046 (Rev. 4/95)

ND Below Detection Limits

N/A Criteria not available

\* Total Carcinogenic SVOC's limit is &lt; 10ppm as per TAGM #4046

## Enclosure 3. AOC 34, Plant 3, Northrop Grumman Corporation, Bethpage, New York PCBs and SVOCs Analytical Results of Endpoint Samples

Parameters	NYSDEC TAGM Criteria <sup>1</sup> (ug/kg)	Sample ID: Sample Interval: Date Sampled: Units:	AOC-34D 10-12' 2/17/98 ug/kg	AOC-34E 4-6' 2/13/98 ug/kg	AOC-34F 10-12' 2/13/98 ug/kg	AOC-34F 4-7' 2/13/98 ug/kg	AOC-34F 10-12' 2/13/98 ug/kg
<b>PCBs</b>							
Aroclor 1016	N/A		<40	<43	<40	<46	<42
Aroclor 1221	N/A		<40	<43	<40	<46	<42
Aroclor 1232	N/A		<40	<43	<40	<46	<42
Aroclor 1242	N/A		<40	<43	<40	<46	<42
Aroclor 1248	N/A		88	<43	<40	<46	<42
Aroclor 1254	N/A		<40	<43	<40	<46	<42
Aroclor 1260	N/A		<40	<43	<40	<46	<42
<b>Total PCBs</b>	<b>10000</b>		<b>88</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Semi-volatile Organic Compounds:</b>							
N-Nitrosodimethylamine	N/A		<30	<33	<30	<34	<32
Bis (2-Chloroethyl) ether	N/A		<30	<33	<30	<34	<32
1,3-Dichlorobenzene	N/A		<30	<33	<30	<34	<32
1,4-Dichlorobenzene	N/A		<30	<33	<30	<34	<32
1,2-Dichlorobenzene	N/A		<30	<33	<30	<34	<32
Bis (2-chloroisopropyl) ether	N/A		<30	<33	<30	<34	<32
N-Nitrosodi-n-propylamine	N/A		<30	<33	<30	<34	<32
Hexachloroethane	N/A		<30	<33	<30	<34	<32
Nitrobenzene	200		<30	<33	<30	<34	<32
Isophorone	4400		<30	<33	<30	<34	<32
Bis (2-chloroethoxy) methane	N/A		<30	<33	<30	<34	<32
124-Trichlorobenzene	N/A		<30	<33	<30	<34	<32
Naphthalene	13000		<30	<33	<30	<34	<32
Hexachlorobutadiene	N/A		<30	<33	<30	<34	<32
Hexachlorocyclopentadiene	N/A		<300	<330	<300	<340	<320
2-Chloronaphthalene	N/A		<30	<33	<30	<34	<32
Dimethyl Phthalate	N/A		<30	<33	<30	<34	<32
Acenaphthylene	41000		<30	<33	<30	<34	<32
2,6-Dinitrotoluene	1000		<30	<33	<30	<34	<32
Acenaphthene	50000		<30	<33	<30	<34	<32
2,4-Dinitrotoluene	N/A		<30	<33	<30	<34	<32
Diethyl Phthalate	N/A		<30	<33	<30	<34	<32
Fluorene	50000		<30	<33	<30	<34	<32
4-Chlorophenyl phenyl ether	N/A		<30	<33	<30	<34	<32
N-Nitrosodiphenylamine	N/A		<30	<33	<30	<34	<32

## Enclosure 3. AOC 34, Plant 3, Northrop Grumman Corporation, Bethpage, New York PCBs and SVOCs Analytical Results of Endpoint Samples

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Parameters	NYSDEC TAGM Criteria <sup>1</sup> (ug/kg)	Sample ID: AOC 34D Sample Interval: 10-12' Date Sampled: 2/17/98 Units: ug/kg	AOC1-34E 4-6' 2/13/98 ug/kg	AOC1-34E 10-12' 2/13/98 ug/kg	AOC1-34F 4-7' 2/13/98 ug/kg	AOC1-34F 10-12' 2/13/98 ug/kg
1,2-Diphenylhydrazine	N/A	<30	<33	<30	<34	<32
4-Bromophenyl phenyl ether	N/A	<30	<33	<30	<34	<32
Hexachlorobenzene	410	<30	<33	<30	<34	<32
Phenanthrene	50000	<30	<33	<30	<34	<32
Anthracene	50000	<30	<33	<30	<34	<32
Di-n-Butyl Phthalate	8100	<30	<33	<30	<34	<32
Fluoranthene	50000	<30	<33	<30	<34	<34
Benzidine	N/A	<300	<330	<300	<340	<320
Pyrene	50000	<30	<33	<30	<34	<32
Benzyl Butyl Phthalate	N/A	<30	<33	<30	<34	42
Benzo (a) anthracene*	224	<30	<33	<30	<34	<32
3,3'-Dichlorobenzidine	N/A	<300	<330	<300	<340	<320
Chrysene*	400	<30	<33	<30	<34	<32
Bis (2-ethylhexyl) phthalate	50000	<30	<33	<30	<34	<32
Di-n-octyl Phthalate	50000	<30	<33	<30	<34	<32
Benzo (b) fluoranthene*	224	<30	<33	<30	<34	<32
Benzo (k) fluoranthene*	224	<30	<33	<30	<34	<32
Benzo (a) pyrene*	61	<30	<33	<30	<34	<32
Indeno (1,2,3-cd) pyrene*	3200	<30	<33	<30	<34	<32
Dibenzo (a,h) anthracene*	14	<30	<33	<30	<34	<32
Benzo (ghi) perylene	N/A	<30	<33	<30	<34	<32
<b>TOTAL CARCINOGENIC SVOCs</b>	<b>10,000 ug/kg</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>
<b>TOTAL SVOCs</b>	<b>500,000 ug/kg</b>	<b>ND</b>	<b>ND</b>	<b>68</b>	<b>ND</b>	<b>806</b>

Analysis Performed by: Ecotest Laboratories, North Babylon, NY.

Bold entries are concentrations in exceedence of NYSDEC TAGM Criteria.

ug/kg Micrograms per kilogram

NYSDEC New York State Department of Environmental Conservation

1 NYSDEC Technical and Administrative Guidance

Memorandum (TAGM) #4046 (Rev. 4/95)

Below Detection Limits

Criteria not available

\* Total Carcinogenic SVOC's limit is &lt; 10ppm as per TAGM #4046

## Enclosure 3. AOC 34, Plant 3, Northrop Grumman Corporation, Bethpage, New York PCBs and SVOCs Analytical Results of Endpoint Samples

Parameters	NYSDDEC TAGM Criteria <sup>1</sup> (ug/kg)	Sample ID: AOC34G 7-g 2/12/98 ug/kg	AOC34G 15-18' 2/12/98 ug/kg	AOC34G 23-25' 4/22/98 ug/kg	AOC34H 7-9' 2/13/98 ug/kg	AOC1-34H 15-18' 2/13/98 ug/kg
<b>PCBs</b>						
Arclor 1016	N/A	<810	<40	<41	<810	<40
Arclor 1221	N/A	<810	<40	<41	<810	<40
Arclor 1232	N/A	<810	<40	<41	<810	<40
Arclor 1242	N/A	<810	<40	<41	<810	<40
Arclor 1248	N/A	7100	<40	<41	7200	45
Arclor 1254	N/A	<810	<40	<41	<810	<40
Arclor 1260	N/A	<810	<40	<41	<810	<40
<b>Total PCBs</b>	<b>10000</b>	<b>7100</b>	<b>0</b>	<b>0</b>	<b>7200</b>	<b>45</b>
<b>Semivolatile Organic Compounds:</b>						
<b>N-Nitrosodimethylamine</b>	N/A	<30	<30	<31	<30	<30
Bis (2-Chloroethyl) ether	N/A	<30	<30	<31	<30	<30
1,3-Dichlorobenzene	N/A	<30	<30	<31	<30	<30
1,4-Dichlorobenzene	N/A	<30	<30	<31	<30	<30
1,2-Dichlorobenzene	N/A	<30	<30	<31	<30	<30
Bis (2-chloroisopropyl) ether	N/A	<30	<30	<31	<30	<30
N-Nitrosodi-n-propylamine	N/A	<30	<30	<31	<30	<30
Hexachloroethane	N/A	<30	<30	<31	<30	<30
Nitrobenzene	200	<30	<30	<31	<30	<30
Isophorone	4400	<30	<30	<31	<30	<30
Bis (2-chloroethoxy) methane	N/A	<30	<30	<31	<30	<30
124-Trichlorobenzene	N/A	<30	<30	<31	<30	<30
Naphthalene	13000	<30	<30	<31	<30	<30
Hexachlorobutadiene	N/A	<30	<30	<31	<30	<30
Hexachlorocyclopentadiene	N/A	<300	<300	<310	<300	<300
2-Chloronaphthalene	N/A	<30	<30	<31	<30	<30
Dimethyl Phthalate	N/A	<30	<30	<31	<30	<30
Acenaphthylene	41000	<30	<30	<31	<30	<30
2,6-Dinitrotoluene	1000	<30	<30	<31	<30	<30
Acenaphthene	50000	<30	<30	<31	<30	<30
2,4-Dinitrotoluene	N/A	<30	<30	<31	<30	<30
Diethyl Phthalate	N/A	<30	<30	<31	<30	<30
Fluorene	50000	<30	<30	<31	<30	<30
4-Chlorophenyl phenyl ether	N/A	<30	<30	<31	<30	<30
N-Nitrosodiphenylamine	N/A	<30	<30	<31	<30	<30

Parameters	NYSDEC TAGM	Sample ID: AOC34G	AOC34G 15-18'	AOC34G 23-25'	AOC1-34H 7-9'	AOC1-34H 2/13/98	AOC1-34H 7-9'
	Criteria <sup>1</sup> (ug/kg)	Sample Interval: 7-9' Date Sampled: 2/12/98 Units: ug/kg	2/12/98 ug/kg	4/22/98 ug/kg	2/13/98 ug/kg	2/13/98 ug/kg	2/13/98 ug/kg
1,2-Diphenylhydrazine	N/A	<30	<30	<30	<31	<30	<30
4-Bromophenyl phenyl ether	N/A	<30	<30	<30	<31	<30	<30
Hexachlorobenzene	410	<30	<30	<30	<31	<30	<30
Phenanthrene	50000	<30	<30	<30	<31	<30	<30
Anthracene	50000	<30	<30	<30	<31	<30	<30
Di-n-Butyl Phthalate	8100	<30	<30	<30	<31	<30	<30
Fluoranthene	50000	84	<30	<30	<31	<30	<30
Benzidine	N/A	<300	<300	<300	<310	<300	<300
Pyrene	50000	93	<30	<30	<31	<30	<30
Benzyl Butyl Phthalate	N/A	<30	<30	<30	<31	<30	<30
Benzo (a) anthracene*	224	64	<30	<30	<31	<30	<30
3,3'-Dichlorobenzidine	N/A	<300	<300	<300	<310	<300	<300
Chrysene*	400	57	<30	<30	<31	<30	<30
Bis (2-ethylhexyl) phthalate	50000	170	68	<31	<31	280	220
Di-n-octyl Phthalate	50000	<30	<30	<30	<31	<30	<30
Benzo (b) fluoranthene*	224	60	<30	<30	<31	<30	<30
Benzo (K) fluoranthene*	224	60	<30	<30	<31	<30	<30
Benzo (a) pyrene*	61	71	<30	<30	<31	<30	<30
Indeno (1,2,3-od) pyrene*	3200	48	<30	<30	<31	<30	<30
Dibenzo (a,h) anthracene*	14	30	<30	<30	<31	<30	<30
Benzo (ghi) perylene	N/A	48	<30	<30	<31	<30	<30

**\*TOTAL CARCINOGENIC SVOCs**      10,000 ug/kg  
**TOTAL SVOCs**      500,000 ug/kg

Analysis Performed by: Ecotest Laboratories, North Babylon, NY.  
 Bold entries are concentrations in exceedence of NYSDEC TAGM Criteria.

ug/kg      Micrograms per kilogram

NYSDEC      New York State Department of Environmental Conservation

1      NYSDEC Technical and Administrative Guidance  
 Memorandum (TAGM) #4046 (Rev. 4/95)

ND      Below Detection Limits

N/A      Criteria not available

Total Carcinogenic SVOC's limit is < 10ppm as per TAGM #4046

Enclosure 3. AOC 34, Plant 3, Northrop Grumman Corporation, Bethpage, New York PCBs and SVOCs Analytical Results of Endpoint Samples

Parameters	NYSDEC TAGM Criteria <sup>1</sup> (ug/kg)	Sample ID: AOC1-34H Sample Interval: 23-26' Date Sampled: 2/13/98 Units: ug/kg	AOC 34J FLOOR 4/22/98 ug/kg	AOC 34K FLOOR 4/22/98 ug/kg	AOC 34L FLOOR 4/22/98 ug/kg
<b>PCBs</b>					
Aroclor 1016	N/A	<41	<40	<42	<43
Aroclor 1221	N/A	<41	<40	<42	<43
Aroclor 1232	N/A	<41	<40	<42	<43
Aroclor 1242	N/A	<41	<40	140	<43
Aroclor 1248	N/A	<41	81	<42	<43
Aroclor 1254	N/A	<41	<40	<42	<43
Aroclor 1260	N/A	<41	<40	<42	<43
<b>Total PCBs</b>	<b>10000</b>	<b>0</b>	<b>81</b>	<b>140</b>	<b>0</b>
<b>Semivolatile Organic Compounds:</b>					
N-Nitrosodimethylamine	N/A	<31	<30	<32	<32
Bis (2-Chloroethyl) ether	N/A	<31	<30	<32	<32
1,3-Dichlorobenzene	N/A	<31	<30	<32	<32
1,4-Dichlorobenzene	N/A	<31	<30	<32	<32
1,2-Dichlorobenzene	N/A	<31	<30	<32	<32
Bis (2-chloroisopropyl) ether	N/A	<31	<30	<32	<32
N-Nitrosodi-n-propylamine	N/A	<31	<30	<32	<32
Hexachloroethane	N/A	<31	<30	<32	<32
Nitrobenzene	200	<31	<30	<32	<32
Iosphorone	4400	<31	<30	<32	<32
Bis (2-chloroethoxy) methane	N/A	<31	<30	<32	<32
124-Trichlorobenzene	N/A	<31	<30	<32	<32
Naphthalene	13000	<31	<30	<32	<32
Hexachlorobutadiene	N/A	<31	<30	<32	<32
Hexachlorocyclopentadiene	N/A	<310	<300	<320	<320
2-Chloronaphthalene	N/A	<31	<30	<32	<32
Dimethyl Phthalate	N/A	<31	<30	<32	<32
Acenaphthylene	41000	<31	<30	<32	<32
2,6-Dinitrotoluene	1000	<31	<30	<32	<32
Acenaphthene	50000	<31	<30	<32	<32
2,4-Dinitrotoluene	N/A	<31	<30	<32	<32
Diethyl Phthalate	N/A	<31	<30	<32	<32
Fluorene	50000	<31	<30	<32	<32
4-Chlorophenyl phenyl ether	N/A	<31	<30	<32	<32
N-Nitrosodiphenylamine	N/A	<31	<30	<32	<32

## Enclosure 3. AOC 34, Plant 3, Northrop Grumman Corporation, Bathpage, New York PCBs and SVOCs Analytical Results of Endpoint Samples

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Parameters	NYSDEC TAGM Criteria <sup>1</sup> (ug/kg)	Sample ID: AOC1-34H Sample Interval: 23'-26' Date Sampled: 2/13/98 Units: ug/kg	AOC 34J FLOOR 23'-25' 4/22/98 ug/kg	AOC 34J FLOOR 4/22/98 ug/kg	AOC 34K FLOOR 4/22/98 ug/kg	AOC 34L FLOOR 4/22/98 ug/kg
1,2-Diphenylhydrazine	N/A	<31	<30	<32	<32	<32
4-Bromophenyl phenyl ether	N/A	<31	<30	<32	<32	<32
Hexachlorobenzene	410	<31	<30	<32	<32	<32
Phenanthrene	50000	<31	<30	<32	<32	<32
Anthracene	50000	<31	<30	<32	<32	<32
Di-n-Butyl Phthalate	8100	<31	<30	<32	<32	<32
Fluoranthene	50000	<31	<30	<32	<32	<32
Benzidine	N/A	<310	<300	<320	<320	<320
Pyrene	50000	<31	<30	<32	<32	<32
Benzyl Butyl Phthalate	N/A	<31	<30	<32	<32	<32
Benzo (a) anthracene*	224	<31	<30	<32	<32	<32
3,3'-Dichlorobenzidine	N/A	<310	<300	<320	<320	<320
Chrysene*	400	<31	<30	<32	<32	<32
Bis (2-ethylhexyl) phthalate	50000	36	80	99	ND	ND
Di-n-octyl Phthalate	50000	<31	<30	<32	<32	<32
Benzo (b) fluoranthene*	224	<31	<30	<32	<32	<32
Benzo (k) fluoranthene*	224	<31	<30	<32	<32	<32
Benzo (a) pyrene*	61	<31	<30	<32	<32	<32
Indeno (1,2,3-cd) pyrene*	3200	<31	<30	<32	<32	<32
Dibenzo (a,h) anthracene*	14	<31	<30	<32	<32	<32
Benzo (ghi) perylene	N/A	<31	<30	<32	<32	<32
<b>TOTAL CARCINOGENIC SVOCs</b>	<b>10,000 ug/kg</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>
<b>TOTAL SVOCs</b>	<b>500,000 ug/kg</b>	<b>36</b>	<b>80</b>	<b>99</b>	<b>ND</b>	<b>ND</b>

Analysis Performed by: Ecotest Laboratories, North Babylon, NY.

Bold entries are concentrations in exceedence of NYSDEC TAGM Criteria.

ug/kg Micrograms per kilogram

NYSDEC New York State Department of Environmental Conservation

1 NYSDEC Technical and Administrative Guidance

Memorandum (TAGM) #4046 (Rev. 4/95)

ND Below Detection Limits

N/A Criteria not available

Total Carcinogenic SVOC's limit is &lt; 10ppm as per TAGM #4046

## Enclosure 3. AOC 34, Plant 3, Northrop Grumman Corporation, Bethpage, New York PCBs and SVOCs Analytical Results of Endpoint Samples

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Parameters	NYSDEC TAGM Criteria <sup>1</sup> (ug/kg)	Sample ID: FLOOR Date Sampled: 4/22/98 Units: ug/kg	AOC 34M FLOOR 4/22/98 ug/kg	AOC 34N FLOOR 5/4/98 ug/kg	AOC 34O FLOOR 5/4/98 ug/kg	AOC 34P FLOOR 5/4/98 ug/kg	AOC 34Q FLOOR 5/4/98 ug/kg	AOC 34R FLOOR 5/4/98 ug/kg
<b>PCBs</b>								
Aroclor 1016	N/A	<42	<420	<210	<83	<810	<40	
Aroclor 1221	N/A	<42	<420	<210	<83	<810	<40	
Aroclor 1232	N/A	<42	<420	<210	<83	<810	<40	
Aroclor 1242	N/A	<42	1500	<210	<83	<810	<40	
Aroclor 1248	N/A	<42	<420	530	270	4700	<40	
Aroclor 1254	N/A	<42	<420	<210	<83	<810	<40	
Aroclor 1260	N/A	<42	<420	<210	<83	<810	<40	
<b>Total PCBs</b>	<b>10000</b>	<b>0</b>	<b>1500</b>	<b>530</b>	<b>270</b>	<b>4700</b>	<b>0</b>	
<b>Semivolatile Organic Compounds:</b>								
N-Nitrosodimethylamine	N/A	<32	<32	<31	<31	<30	<30	
Bis (2-Chloroethyl) ether	N/A	<32	<32	<31	<31	<30	<30	
1,3-Dichlorobenzene	N/A	<32	<32	<31	<31	<30	<30	
1,4-Dichlorobenzene	N/A	<32	<32	<31	<31	<30	<30	
1,2-Dichlorobenzene	N/A	<32	<32	<31	<31	<30	<30	
Bis (2-chloroisopropyl) ether	N/A	<32	<32	<31	<31	<30	<30	
N-Nitrosodi-n-propylamine	N/A	<32	<32	<31	<31	<30	<30	
Hexachloroethane	N/A	<32	<32	<31	<31	<30	<30	
Nitrobenzene	200	<32	<32	<31	<31	<30	<30	
Isophorone	4400	<32	<32	<31	<31	<30	<30	
Bis (2-chloroethoxy) methane	N/A	<32	<32	<31	<31	<30	<30	
12,4-Trichlorobenzene	N/A	<32	<32	<31	<31	<30	<30	
Naphthalene	13000	<32	<32	<31	<31	<30	<30	
Hexachlorobutadiene	N/A	<32	<32	<31	<31	<30	<30	
2-Chloronaphthalene	N/A	<320	<320	<310	<310	<300	<300	
Dimethyl Phthalate	N/A	<32	<32	<31	<31	<30	<30	
Acenaphthylene	41000	<32	<32	<31	<31	<30	<30	
2,6-Dinitrotoluene	1000	<32	<32	<31	<31	<30	<30	
Acenaphthene	50000	<32	<32	<31	<31	<30	<30	
2,4-Dinitrotoluene	N/A	<32	<32	<31	<31	<30	<30	
Diethyl Phthalate	N/A	<32	<32	<31	<31	<30	<30	
Fluorene	50000	<32	<32	<31	<31	<30	<30	
4-Chlorophenyl phenyl ether	N/A	<32	<32	<31	<31	<30	<30	
N-Nitrosodiphenylamine	N/A	<32	<32	<31	<31	<30	<30	

**Enclosure 3. AOC 34, Plant 3, Northrop Grumman Corporation, Bethpage, New York PCBs and SVOCs Analytical Results of Endpoint Samples**

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Parameters	NYSDEC TAGM Criteria <sup>1</sup> (ug/kg)	Sample ID: AOC 34M Sample Interval: FLOOR Date Sampled: 4/22/98 Units: ug/kg	AOC 34N FLOOR 4/22/98 ug/kg	AOC 34O FLOOR 5/4/98 ug/kg	AOC 34P FLOOR 5/4/98 ug/kg	AOC 34Q FLOOR 5/4/98 ug/kg	AOC 34R FLOOR 5/4/98 ug/kg
1,2-Diphenylhydrazine	N/A	<32	<31	<31	<31	<30	<30
4-Bromophenyl phenyl ether	N/A	<32	<31	<31	<31	<30	<30
Hexachlorobenzene	410	<32	<31	<31	<31	<30	<30
Phenanthrene	50000	<32	<32	37	<31	<30	<30
Anthracene	50000	<32	<32	<31	<31	<30	<30
Di-n-Butyl Phthalate	8100	<32	<31	<31	<31	<30	<30
Fluoranthene	50000	<32	<32	65	<31	<30	<30
Benzidine	N/A	<320	<320	<310	<310	<300	<300
Pyrene	50000	<32	<32	55	<31	<30	<30
Benzyl Butyl Phthalate	N/A	<32	<32	<31	<31	<30	<30
Benzo (a) anthracene*	224	<32	<32	<31	<31	<30	<30
3,3'-Dichlorobenzidine	N/A	<320	<320	<310	<310	<300	<300
Chrysene*	400	<32	<32	32	<31	<30	<30
Bis (2-ethylhexyl) phthalate	50000	<32	<32	<31	<31	<30	<30
Di-n-octyl Phthalate	50000	<32	<32	<31	<31	<30	<30
Benzo (b) fluoranthene*	224	<32	<32	<31	<31	<30	<30
Benzo (K) fluoranthene*	224	<32	<32	<31	<31	<30	<30
Benzo (a) pyrene*	61	<32	<32	<31	<31	<30	<30
Indeno (1,2,3-cd) pyrene*	3200	<32	<32	<31	<31	<30	<30
Dibenz (a,h) anthracene*	14	<32	<32	<31	<31	<30	<30
Benzo (ghi) perylene	N/A	<32	<32	<31	<31	<30	<30
<b>TOTAL CARCINOGENIC SVOCs</b>	<b>10,000 ug/kg</b>	<b>ND</b>	<b>ND</b>	<b>32</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>
<b>TOTAL SVOCs</b>	<b>500,000 ug/kg</b>	<b>ND</b>	<b>ND</b>	<b>189</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>

Analysis Performed by: Ecotest Laboratories, North Babylon, NY.

**Bold** entries are concentrations in exceedence of NYSDEC TAGM Criteria.

ug/kg Micrograms per kilogram

NYSDEC New York State Department of Environmental Conservation

1 NYSDEC Technical and Administrative Guidance

Memorandum (TAGM) #4046 (Rev. 4/95)

Below Detection Limits

Criteria not available

\* Total Carcinogenic SVOC's limit is < 10ppm as per TAGM #4046

**ENCLOSURE 4**

Enclosure 4. AOC 33-11,-12, Plant 3, Northrop Grumman Corporation, Bethpage, New York  
 Priority Pollutant Metals Analytical Results from Endpoint Samples

Page 1 of 12

Parameters	Eastern USA Background <sup>1</sup> (mg/kg)	NYSDEC TAGM Criteria <sup>1</sup> (mg/kg)	Sample ID: AOC 33-11B <sub>1</sub> Sample Interval: 6-8'	AOC 33-11C <sub>1</sub> Date Sampled: 4/16/98 Units: mg/kg	AOC 33-11C <sub>1</sub> 2-4' 2/25/98 mg/kg	AOC 33-11D <sub>1</sub> 2-4' 2/24/98 mg/kg	AOC 33-11D <sub>1</sub> , 5-7' 2/24/98 mg/kg
<b>Priority Pollutant Metals</b>							
Antimony	N/A	N/A	<1	<1.3	<1.3	<1.5	<1.3
Arsenic	3-12	7.5	1.9	1.0	3.3	2.4	1.3
Beryllium	0-1.75	0.16	0.06	0.08	0.10	0.20	0.12
Cadmium	0-1-1	10	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium	1.5-40	50	3.2	3.3	4.9	6.5	5.0
Copper	1-50	25	1.9	2.5	3.0	5.2	2.1
Lead	200-500	N/A	1.1	1.7	1.4	3.4	1.8
Mercury	0.001-0.2	0.1	<0.005	0.021	0.0093	0.010	0.0068
Nickel	0.5-25	13	1.5	1.5	3.2	3.4	3.5
Selenium	0-1-3.9	2	<0.4	<0.4	<0.4	<0.5	<0.4
Silver	N/A	N/A	<0.2	<0.2	<0.2	<0.2	<0.2
Thallium	N/A	N/A	<1	<1	<1	<1	<1
Zinc	9-50	20	5.3	4.5	9.0	11	12
% Solids			99	94	97	88	97

Analysis Performed by: Ecotest Laboratories, North Babylon, NY.

Bold entries are concentrations in exceedence of NYSDEC TAGM Criteria or Eastern USA Background.

mg/kg Milligrams per kilogram

NYSDEC New York State Department of Environmental Conservation

1 NYSDEC Technical and Administrative Guidance Memorandum (TAGM) #4046 (Rev. 4/95)

N/A Criteria not available

Enclosure 4. AOC 33-11,-12, Plant 3, Northrop Grumman Corporation, Bethpage, New York  
 Priority Pollutant Metals Analytical Results from Endpoint Samples

Parameters	Eastern USA Background <sup>1</sup> (mg/kg)	NYSDEC TAGM Criteria <sup>1</sup> (mg/kg)	Sample ID: Sample Interval: Date Sampled: Units:	AOC 33-11E <sub>11</sub> 2-4' 2/24/98 mg/kg	AOC 33-11F <sub>11</sub> 5-7' 4/16/98 mg/kg	AOC 33-12A <sub>12</sub> 2.5-4' 2/23/98 mg/kg	AOC 33-12A <sub>12</sub> 6-8' 2/23/98 mg/kg	AOC 33-12C <sub>12</sub> 5-6' 4/16/98 mg/kg
<b>Priority Pollutant Metals</b>								
Antimony	N/A	N/A	<1.3	<1.3	<1	<1.3	<1.3	<1
Arsenic	3-12	7.5	4.6	1.5	1.5	1.9	1.1	0.57
Beryllium	0-1.75	0.16	0.14	0.13	0.08	0.15	0.09	0.04
Cadmium	0.1-1	10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium	1.5-40	50	5.0	6.1	1.6	4.7	7.6	1.4
Copper	1-50	25	6.2	2.5	1.9	4	2.2	1.7
Lead	200-500	N/A	12	1.9	<1	2.8	1.1	<1
Mercury	0.001-0.2	0.1	0.037	0.013	0.0051	0.015	0.012	<0.005
Nickel	0.5-25	13	2.6	3.1	1.2	2.5	2.5	1.3
Selenium	0.1-3.9	2	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Silver	N/A	N/A	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Thallium	N/A	N/A	<1	<1	<1	<1	<1	<1
Zinc	9-50	20	12	10	3.9	7.9	8.4	3.5
% Solids			89	93	98	97	98	99

Analysis Performed by: Ecotest Laboratories, North Babylon, NY.  
 Bold entries are concentrations in exceedence of NYSDEC TAGM Criteria or Eastern USA Background.

mg/kg  
 NYSDEC

Milligrams per kilogram  
 New York State Department of Environmental Conservation  
 1 NYSDEC Technical and Administrative Guidance Memorandum (TAGM) #4046 (Rev. 4/95)  
 N/A Criteria not available

**Enclosure 4. AOC 33-11-12, Plant 3, Northrop Grumman Corporation, Bethpage, New York**  
**Priority Pollutant Metals Analytical Results from Endpoint Samples**

Parameters	Eastern USA Background <sup>1</sup> (mg/kg)	NYSDEC TAGM Criteria <sup>1</sup> (mg/kg)	Sample ID:	AOC 33-12F <sub>12</sub> Sample Interval: 6'-8'	AOC 33-11/12A <sub>FL</sub> FLOOR 4/28/98 mg/kg	AOC 33-11/12B <sub>FL</sub> FLOOR 4/28/98 mg/kg	AOC 33-11/12C <sub>FL</sub> FLOOR 4/28/98 mg/kg
<b>Priority Pollutant Metals</b>							
Antimony	N/A	N/A	<1	<0.2	<0.2	<0.2	<0.2
Arsenic	3-12	7.5	0.78	1.1	0.65	1.0	0.64
Beryllium	0-1.75	0.16	0.06	0.05	<0.05	<0.05	<0.05
Cadmium	0.1-1	10	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium	1.5-40	50	1.8	3.1	1.8	2.2	2.3
Copper	1-50	25	2.2	2.5	1.8	2.2	2.2
Lead	200-500	N/A	1.3	1.3	0.80	1.5	0.97
Mercury	0.001-0.2	0.1	0.0074	<0.005	0.0061	0.010	0.0057
Nickel	0.5-25	13	2.1	2	1.7	1.9	3.0
Selenium	0.1-3.9	2	<0.4	<0.4	<0.4	<0.4	<0.4
Silver	N/A	N/A	<0.2	<0.2	<0.2	<0.2	<0.2
Thallium	N/A	N/A	<1	<0.2	<0.2	<0.2	<0.2
Zinc	9-50	20	5	6.6	4.7	6.7	3.2
% Solids			97	99	99	98	99

Analysis Performed by: Ecotest Laboratories, North Babylon, NY.

**Bold entities are concentrations in exceedence of NYSDEC TAGM Criteria or Eastern USA Background.**

mg/kg  
NYSDEC

New York State Department of Environmental Conservation  
1 NYSDEC Technical and Administrative Guidance Memorandum (TAGM) #4046 (Rev. 4/95)  
N/A Criteria not available

Enclosure 4. AOC 33-11,-12, Plant 3, Northrop Grumman Corporation, Bethpage, New York  
 Priority Pollutant Metals Analytical Results from Endpoint Samples

Parameters	Eastern USA Background <sup>1</sup> (mg/kg)	NYSDEC TAGM Criteria <sup>1</sup> (mg/kg)	Sample ID: AOC 33-11/12E <sub>FL</sub>		AOC 33-11/12F <sub>FL</sub>		AOC 33-11/12G <sub>FL</sub>		AOC 33-11/12H <sub>FL</sub>		AOC 33-11/12I <sub>FL</sub> FLOOR 4/28/98 mg/kg
			Sample Interval: Date Sampled: Units:	4/28/98 mg/kg	FLOOR 4/28/98 mg/kg	FLOOR 4/28/98 mg/kg	FLOOR 4/28/98 mg/kg	FLOOR 4/28/98 mg/kg	FLOOR 4/28/98 mg/kg		
<b>Priority Pollutant Metals</b>											
Antimony	N/A	N/A	<0.2		<0.2		<0.2		<0.2	<0.2	
Arsenic	3-12	7.5	1.4		0.85		0.87		0.97	0.49	
Beryllium	0-1.75	0.16	0.1		<0.05		<0.05		0.05	<0.05	
Cadmium	0.1-1	10	<0.1		<0.1		<0.1		<0.1	<0.1	
Chromium	1.5-40	50	4		1.9		2.6		2.3	2.4	
Copper	1-50	25	2.7		1.8		2.8		2.0	0.99	
Lead	200-500	N/A	1.8		1.1		1.1		1.3	0.44	
Mercury	0.001-0.2	0.1	<0.005		0.0069		0.0053		0.0065	0.0059	
Nickel	0.5-25	13	2.8		1.5		1.7		1.7	0.75	
Selenium	0.1-3.9	2	<0.4		<0.4		<0.4		<0.4	<0.4	
Silver	N/A	N/A	<0.2		<0.2		<0.2		<0.2	<0.2	
Thallium	N/A	N/A	<0.2		<0.2		<0.2		<0.2	<0.2	
Zinc	9-50	20	9.8		3.9		4.1		5.1	1.3	
% Solids			99		99		99		99	99	

Analysis Performed by: Ecotest Laboratories, North Babylon, NY.  
 Bold entries are concentrations in exceedence of NYSDEC TAGM Criteria or Eastern USA Background.

mg/kg  
 NYSDEC

Milligrams per kilogram  
 New York State Department of Environmental Conservation  
 1 NYSDEC Technical and Administrative Guidance Memorandum (TAGM) #4046 (Rev. 4/95)  
 N/A Criteria not available

## Enclosure 4. AOC 33-11-12, Plant 3, Northrop Grumman Corporation, Bethpage, New York SVOCs Analytical Results from Endpoint Samples

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Parameters	NYSDEC TAGM Criteria <sup>1</sup> (ug/kg)	Sample ID: AOC 33-11B <sub>11</sub> Sample Interval: 6-8' Date Sampled: 4/16/98 Units: ug/kg	AOC 33-11C <sub>11</sub> 2-4' 2/25/98 ug/kg	AOC 33-11C <sub>11</sub> 6-8' 2/25/98 ug/kg	AOC 33-11D <sub>11</sub> 2-4' 2/24/98 ug/kg	AOC 33-11D <sub>11</sub> 5-7' 2/24/98 ug/kg	AOC 33-11E <sub>11</sub> 2-4' 2/24/98 ug/kg
<u>Semivolatile Organic Compounds:</u>							
N-Nitrosodimethylamine	N/A	<30	<32	<31	<34	<31	<34
Bis (2-Chloroethyl) ether	N/A	<30	<32	<31	<34	<31	<34
1,3-Dichlorobenzene	N/A	<30	<32	<31	<34	<31	<34
1,4-Dichlorobenzene	N/A	<30	<32	<31	<34	<31	<34
1,2-Dichlorobenzene	N/A	<30	<32	<31	<34	<31	<34
Bis (2-chloroisopropyl) ether	N/A	<30	<32	<31	<34	<31	<34
N-Nitrosodi-n-propylamine	N/A	<30	<32	<31	<34	<31	<34
Hexachloroethane	N/A	<30	<32	<31	<34	<31	<34
Nitrobenzene	200	<30	<32	<31	<34	<31	<34
Iophorone	4400	<30	<32	<31	<34	<31	<34
Bis (2-chloroethoxy) methane	N/A	<30	<32	<31	<34	<31	<34
124-Trichlorobenzene	N/A	<30	<32	<31	<34	<31	<34
Naphthalene	13000	<30	<32	<31	<34	<31	<34
Hexachlorobutadiene	N/A	<30	<32	<31	<34	<31	<34
Hexachlorocyclopentadiene	N/A	<300	<320	<310	<340	<310	<340
2-Chloronaphthalene	N/A	<30	<32	<31	<34	<31	<34
Dimethyl Phthalate	N/A	<30	<32	<31	<34	<31	<34
Acenaphthylene	41000	<30	<32	<31	<34	<31	<34
2,6-Dinitrotoluene	1000	<30	<32	<31	<34	<31	<34
Acenaphthene	50000	<30	<32	<31	<34	<31	<34
2,4-Dinitrotoluene	N/A	<30	<32	<31	<34	<31	<34
Diethyl Phthalate	N/A	<30	<32	<31	<34	<31	<34
Floorene	50000	<30	<32	<31	<34	<31	<34
4-Chlorophenyl phenyl ether	N/A	<30	<32	<31	<34	<31	<34
N-Nitrosodiphenylamine	N/A	<300	<32	<31	<34	<31	<34
1,2-Diphenylhydrazine	N/A	<300	<32	<31	<34	<31	<34
4-Bromophenyl phenyl ether	N/A	<300	<32	<31	<34	<31	<34
Hexachlorobenzene	410	<300	<32	<31	<34	<31	<34
Phenanthrene	50000	<300	73	<31	<34	<31	<34

Footnotes on last page.

Enclosure 4. AOC 33-11,-12, Plant 3, Northrop Grumman Corporation, Bethpage, New York SVOCs Analytical Results from Endpoint Samples

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Parameters	NYSDEC TAGM Criteria <sup>1</sup> (ug/kg)	Sample ID: AOC 33-11B <sub>11</sub> Sample Interval: 6-8' Date Sampled: 4/16/98 Units: ug/kg	AOC 33-11C <sub>11</sub> 2-4' 2/25/98 ug/kg	AOC 33-11C <sub>11</sub> 6-8' 2/25/98 ug/kg	AOC 33-11D <sub>11</sub> 2-4' 2/24/98 ug/kg	AOC 33-11D <sub>11</sub> 5-7' 2/24/98 ug/kg	AOC 33-11E <sub>11</sub> 2-4' 2/24/98 ug/kg
Anthracene	50000	<300	<32	<31	<34	<31	<34
Di-n-Butyl Phthalate	8100	<300	<32	<31	<34	<31	<34
Fluoranthene	50000	<300	99	<31	<34	<31	<34
Benzidine	N/A	<3000	<320	<310	<340	<310	<340
Pyrene	5000	<300	84	<31	<34	<31	<34
Benzyl Butyl Phthalate	N/A	<300	<32	<31	<34	<31	<34
Benzo (a) anthracene*	224	<300	44	<31	<34	<31	<34
3,3'-Dichlorobenzidine	N/A	<3000	<320	<310	<340	<310	<340
Chrysene*	400	<300	51	<31	<34	<31	<34
Bis (2-ethylhexyl) phthalate	50000	<300	<32	<31	<34	<31	<34
Di-n-octyl Phthalate	50000	<3000	<32	<31	<34	<31	<34
Benzo (b) fluoranthene*	224	<3000	39.5 <sup>AA</sup>	<31	<34	<31	<34
Benzo (k) fluoranthene*	224	<3000	39.5 <sup>AA</sup>	<31	<34	<31	<34
Benzo (a) pyrene*	61	<3000	38	<31	<34	<31	<34
Indeno (1,2,3-cd) pyrene*	3200	<3000	<32	<31	<34	<31	<34
Dibenzo (a,h) anthracene*	14	<3000	<32	<31	<34	<31	<34
Benzo (ghi) perylene	N/A	<3000	<32	<31	<34	<31	<34
<b>TOTAL CARCINOGENIC SVOCs</b>		<b>10,000 ug/kg</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>
<b>TOTAL SVOCs</b>		<b>500,000 ug/kg</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>

Analysis Performed by: Ecotest Laboratories, North Babylon, NY.

Bold entries are concentrations in exceedence of NYSDEC TAGM criteria.

\* Total Carcinogenic SVOCs limit is < 10ppm as per TAGM #4046

\*\* Samples 33-11/12 E, I, and H were reanalyzed after performing silica gel clean-up procedure 3630C on the extract.

Micrograms per kilogram  
Milligrams per kilogram

NYSDEC New York State Department of Environmental Conservation  
1 NYSDEC's Technical and Administrative Guidance  
Memorandum (TAGM) #4046 (Rev. 4/95)

ND Below Detection Limits  
N/A Criteria not available

AA AOC-33 11C Total = 79 ug/kg, unable to separate isomers.

## Enclosure 4. AOC 33-11,-12, Plant 3, Northrop Grumman Corporation, Bethpage, New York SVOCs Analytical Results from Endpoint Samples

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Parameters	NYSDEC TAGM Criteria <sup>1</sup> (ug/kg)	Sample ID: AOC 33-11E <sub>11</sub> Sample Interval: 5-7'	AOC 33-11F <sub>11</sub> 5-7'	AOC 33-12A <sub>12</sub> 2.5-4' 4/16/98 ug/kg	AOC 33-12A <sub>12</sub> 2/23/98 ug/kg	AOC 33-12C <sub>12</sub> 5-6' 4/16/98 ug/kg	AOC 33-12F <sub>12</sub> 6-8' 4/16/98 ug/kg
<u>Semivolatile Organic Compounds:</u>							
N-Nitrosodimethylamine	N/A	<32	<31	<310	<30	<31	<31
Bis (2-Chloroethyl) ether	N/A	<32	<31	<310	<30	<31	<31
1,3-Dichlorobenzene	N/A	<32	<31	<310	<30	<31	<31
1,4-Dichlorobenzene	N/A	<32	<31	<310	<30	<31	<31
1,2-Dichlorobenzene	N/A	<32	<31	<310	<30	<31	<31
Bis (2-chloroisopropyl) ether	N/A	<32	<31	<310	<30	<31	<31
N-Nitrosodi-n-propylamine	N/A	<32	<31	<310	<30	<31	<31
Hexachloroethane	N/A	<32	<31	<310	<30	<31	<31
Nitrobenzene	200	<32	<31	<310	<30	<31	<31
Isophorone	4400	<32	<31	<310	<30	<31	<31
Bis (2-chloroethoxy) methane	N/A	<32	<31	<310	<30	<31	<31
124-Trichlorobenzene	N/A	<32	<31	<310	<30	<31	<31
Naphthalene	13000	<32	<31	<310	<30	<31	<31
Hexachlorobutadiene	N/A	<32	<31	<310	<30	<31	<31
Heptachlorocyclopentadiene	N/A	<320	<310	<3100	<300	<310	<310
2-Chlororaphthalene	N/A	<32	<31	<310	<30	<31	<31
Dimethyl Phthalate	N/A	<32	<31	<310	<30	<31	<31
Acenaphthylene	41000	<32	<31	<310	<30	<31	<31
2,6-Dinitrotoluene	1000	<32	<31	<310	<30	<31	<31
Acenaphthene	500000	<32	<31	<310	<30	<31	<31
2,4-Dinitrotoluene	N/A	<32	<31	<310	<30	<31	<31
Diethyl Phthalate	N/A	<32	<31	<310	<30	<31	<31
Fluorene	50000	<32	<31	<310	<30	<31	<31
4-Chlorophenyl phenyl ether	N/A	<32	<31	<310	<30	<31	<31
N-Nitrosodiphenylamine	N/A	<32	<31	<310	<30	<310	<310
1,2-Diphenylhydrazine	N/A	<32	<31	<310	<30	<310	<310
4-Bromophenyl phenyl ether	N/A	<32	<31	<310	<30	<310	<310
Hexachlorobenzene	410	<32	<31	<310	<30	<310	<310
Phenanthrene	50000	<32	<31	1000	<31	<30	<310

Footnotes on last page.

Enclosure 4. AOC 33-11-12, Plant 3, Northrop Grumman Corporation, Bethpage, New York SVOCs Analytical Results from Endpoint Samples

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Parameters	NYSDEC TAGM Criteria <sup>1</sup> (ug/kg)	Sample ID: AOC 33-11E <sub>11</sub> Sample Interval: Date Sampled: 2/24/98	AOC 33-11F <sub>11</sub> 5-7' 4/16/98	AOC 33-12A <sub>12</sub> 2.5-4' 2/23/98	AOC 33-12A <sub>12</sub> 6-8' ug/kg	AOC 33-12C <sub>12</sub> 5-6' 4/16/98	AOC 33-12F <sub>12</sub> 6-8' 4/16/98
					ug/kg	ug/kg	ug/kg
Anthracene	50000	<32	<31	240	<31	<30	<310
Di-n-Butyl Phthalate	8100	<32	<31	<310	<31	<30	<310
Fluoranthene	50000	<32	<31	800	<31	<30	<310
Benzidine	N/A	<320	<310	<3100	<310	<300	<3100
Pyrene	5000	<32	<31	970	<31	<30	<310
Benzyl Butyl Phthalate	N/A	<32	<31	<310	<31	<30	<310
Benzo (a) anthracene*	224	<32	<31	410	<31	<30	<310
3,3-Dichlorobenzidine	N/A	<320	<310	<3100	<310	<300	<3100
Chrysene*	400	<32	<31	420	<31	<30	<310
Bis (2-ethylhexyl) phthalate	50000	35	<31	<310	31	<30	<310
Di-n-octyl Phthalate	50000	<32	<31	<310	<31	<30	<3100
Benzo (b) fluoranthene*	224	<32	<31	335 <sup>AA</sup>	<31	<30	<3100
Benzo (K) fluoranthene*	224	<32	<31	335 <sup>AA</sup>	<31	<30	<3100
Benzo (a) pyrene*	61	<32	<31	320	<31	<30	<3100
Indeno (1,2,3-cd) pyrene*	3200	<32	<31	<310	<31	<30	<3100
Dibenzo (a,h) anthracene*	14	<32	<31	<310	<31	<30	<3100
Benzo (ghi) perylene	N/A	<32	<31	<310	<31	<30	<3100
<b>TOTAL CARCINOGENIC SVOCs</b>		<b>10,000 ug/kg</b>		<b>ND</b>	<b>1820</b>	<b>ND</b>	<b>ND</b>
<b>TOTAL SVOCs</b>		<b>500,000 ug/kg</b>		<b>35</b>	<b>ND</b>	<b>31</b>	<b>ND</b>

Analysis Performed by: Ecotest Laboratories, North Babylon, NY.

Bold entries are concentrations in exceedence of NYSDEC TAGM criteria.

\* Total Carcinogenic SVOC's limit is < 10ppm as per TAGM #4046

\*\* Samples 33-11/12 E, I, and H were reanalyzed after performing silica gel clean-up procedure 3630C on the extract.

Micrograms per kilogram  
Milligrams per kilogram

NYSDEC New York State Department of Environmental Conservation  
1 NYSDEC's Technical and Administrative Guidance  
Memorandum (TAGM) #4046 (Rev. 4/95)  
ND Below Detection Limits  
N/A Criteria not available  
AA AOC-33 11C Total = 79 ug/kg, unable to separate isomers.

**Enclosure 4. AOC 33-11-12, Plant 3, Northrop Grumman Corporation, Bethpage, New York SVOCs Analytical Results from Endpoint Samples**

Page 9 of 12

Parameters	NYSDEC TAGM Criteria (ug/kg)	Sample ID: AOC 33-11/12A <sub>FL</sub> Sample Interval: 4/28/98 Date Sampled: Units: ug/kg	AOC 33-11/12B <sub>FL</sub> FLOOR 4/28/98 ug/kg	AOC 33-11/12C <sub>FL</sub> FLOOR 4/28/98 ug/kg	AOC 33-11/12D <sub>FL</sub> FLOOR 4/28/98 ug/kg	AOC 33-11/12E <sub>FL</sub> ** FLOOR 4/28/98 ug/kg
<b>Semivolatile Organic Compounds:</b>						
N-Nitrosodimethylamine	N/A	<30	<30	<31	<30	<30
Bis (2-Chloroethyl) ether	N/A	<30	<30	<31	<30	<30
1,3-Dichlorobenzene	N/A	<30	<30	<31	<30	<30
1,4-Dichlorobenzene	N/A	<30	<30	<31	<30	<30
1,2-Dichlorobenzene	N/A	<30	<30	<31	<30	<30
Bis (2-chloroisopropyl) ether	N/A	<30	<30	<31	<30	<30
N-Nitrosodi-n-propylamine	N/A	<30	<30	<31	<30	<30
Hexachloroethane	N/A	<30	<30	<31	<30	<30
Nitrobenzene	200	<30	<30	<31	<30	<30
Isophorone	4400	<30	<30	<31	<30	<30
Bis (2-chloroethoxy) methane	N/A	<30	<30	<31	<30	<30
1,2,4-Trichlorobenzene	N/A	<30	<30	<31	<30	<30
Naphthalene	13000	<30	<30	<31	<30	<30
Hexachlorobutadiene	N/A	<30	<30	<31	<30	<30
Hexachlorocyclopentadiene	N/A	<300	<300	<310	<300	<300
2-Chloronaphthalene	N/A	<30	<30	<31	<30	<30
Dimethyl Phthalate	N/A	<30	<30	<31	<30	<30
Acenaphthylene	41000	<30	<30	<31	<30	<30
2,6-Dinitrotoluene	1000	<30	<30	<31	<30	<30
Acenaphthene	50000	<30	<30	<31	<30	<30
2,4-Dinitrotoluene	N/A	<30	<30	<31	<30	<30
Diethyl Phthalate	N/A	<30	<30	<31	<30	<30
Fluorene	50000	<30	<30	<31	<30	<30
4-Chlorophenyl phenyl ether	N/A	<30	<30	<31	<30	<30
N-Nitrosodiphenylamine	N/A	<30	<30	<31	<30	<30
1,2-Diphenylhydrazine	N/A	<30	<30	<31	<30	<30
4-Bromophenyl phenyl ether	N/A	<30	<30	<31	<30	<30
Hexachlorobenzene	410	<30	<30	<31	<30	<30
Phenanthrene	50000	<30	<30	<31	<30	<30

Footnotes on last page.

Enclosure 4. AOC 33-11-12, Plant 3, Northrop Grumman Corporation, Bethpage, New York SVOCs Analytical Results from Endpoint Samples

Page 10 of 12

Parameters	NYSDEC TAGM Criteria <sup>1</sup> (ug/kg)	Sample ID: AOC 33-11/12A <sub>FL</sub>	AOC 33-11/12B <sub>FL</sub>	AOC 33-11/12C <sub>FL</sub> **	AOC 33-11/12D <sub>FL</sub>	AOC 33-11/12E <sub>FL</sub> **
		Sample Interval: FLOOR Date Sampled: 4/28/98	FLOOR 4/28/98	FLOOR 4/28/98	FLOOR 4/28/98	FLOOR 4/28/98
		Units: ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Anthracene	50000	<30	<30	<31	<30	<30
Di-n-Butyl Phthalate	8100	<30	<30	<31	<30	<30
Fluoranthene	50000	<30	<30	130	<30	<30
Benzidine	N/A	<300	<300	<3100	<300	<30000
Pyrene	5000	<30	<30	150	<30	<300
Benzyl Butyl Phthalate	N/A	<30	<30	<310	<30	<3000
Benzo (a) anthracene*	224	<30	<30	59	<30	<300
3,3'-Dichlorobenzidine	N/A	<300	<300	<31000	<300	<30000
Chrysene*	400	<30	<30	65	<30	<300
Bis (2-ethylhexyl) phthalate	50000	<30	<30	<310	<30	<3000
Di-n-octyl Phthalate	50000	<30	<30	<3100	<30	<3000
Benzo (b) fluoranthene*	224	<30	<30	<300	<30	<300
Benzo (K) fluoranthene*	224	<30	<30	<300	<30	<300
Benzo (a) pyrene*	61	<30	<30	<300	<30	<300
Indeno (1,2,3-cd) pyrene*	3200	<30	<30	<300	<30	<300
Dibenzo (a,h) anthracene*	14	<30	<30	<300	<30	<300
Benzo (ghi) perylene	N/A	<30	<30	<300	<30	<300
<b>TOTAL CARCINOGENIC SVOCs</b>		<b>10,000 ug/kg</b>		<b>ND</b>	<b>124</b>	<b>ND</b>
<b>TOTAL SVOCs</b>		<b>500,000 ug/kg</b>		<b>ND</b>	<b>491</b>	<b>ND</b>

Analysis Performed by: Ecotest Laboratories, North Babylon, NY.

Bold entries are concentrations in exceedence of NYSDEC TAGM criteria.

\* Total Carcinogenic SVOC's limit is < 10ppm as per TAGM #4046

\*\* Samples 33-11/12 E, I, and H were reanalyzed after performing silica gel clean-up procedure 3630C on the extract.

ug/kg  
mg/kg  
Milligrams per kilogram

NYSDEC  
1  
New York State Department of Environmental Conservation  
NYSDEC's Technical and Administrative Guidance  
Memorandum (TAGM) #4046 (Rev. 4/95)

ND  
Below Detection Limits  
N/A  
Criteria not available

AA  
AOC-33 11C Total = 79 ug/kg, unable to separate isomers.

**Enclosure 4. AOC 33-11,-12, Plant 3, Northrop Grumman Corporation, Bethpage, New York SVOCs Analytical Results from Endpoint Samples**

Parameters	NYSDEC TAGM Criteria <sup>1</sup> (ug/kg)	Sample ID: AOC 33-11/12F <sub>FL</sub> Sample Interval: FLOOR Date Sampled: 4/28/98 Units: ug/kg	AOC 33-11/12G <sub>FL</sub> FLOOR 4/28/98 ug/kg	AOC 33-11/12H <sub>FL</sub> FLOOR 4/28/98 ug/kg	AOC 33-11/12I <sub>FL</sub> FLOOR 4/28/98 ug/kg
<b>Semivolatile Organic Compounds:</b>					
N-Nitrosodimethylamine	N/A	<30	<30	<30	<30
Bis (2-Chloroethyl) ether	N/A	<30	<30	<30	<30
1,3-Dichlorobenzene	N/A	<30	<30	<30	<30
1,4-Dichlorobenzene	N/A	<30	<30	<30	<30
1,2-Dichlorobenzene	N/A	<30	<30	<30	<30
Bis (2-chloroisopropyl) ether	N/A	<30	<30	<30	<30
N-Nitrosodi-n-propylamine	N/A	<30	<30	<30	<30
Hexachloroethane	N/A	<30	<30	<30	<30
Nitrobenzene	200	<30	<30	<30	<30
Iosphorone	4400	<30	<30	<30	<30
Bis (2-chloroethoxy) methane	N/A	<30	<30	<30	<30
124-Trichlorobenzene	N/A	<30	<30	<30	<30
Naphthalene	13000	<30	<30	<30	<30
Hexachlorobutadiene	N/A	<300	<300	<300	<300
Hexachlorocyclopentadiene	N/A	<30	<30	<30	<30
2-Chloronaphthalene	N/A	<30	<30	<30	<30
Dimethyl Phthalate	N/A	<30	<30	<30	<30
Acenaphthylene	41000	<30	<30	<30	<30
2,6-Dinitrotoluene	1000	<30	<30	<30	<30
Acenaphthene	50000	<30	<30	<30	<30
2,4-Dinitrotoluene	N/A	<30	<30	<30	<30
Diethyl Phthalate	N/A	<30	<30	<30	<30
Fluorene	50000	<30	<30	<30	<30
4-Chlorophenyl phenyl ether	N/A	<30	<30	<30	<300
N-Nitrosodiphenylamine	N/A	<30	<30	<300	<300
1,2-Diphenylhydrazine	N/A	<30	<30	<300	<300
4-Bromophenyl phenyl ether	N/A	<30	<30	<300	<300
Hexachlorobenzene	410	<30	<30	<30	<30
Phenanthrene	50000	<30	<30	<30	<300

Footnotes on last page.

Enclosure 4. AOC 33-11-12, Plant 3, Northrop Grumman Corporation, Bethpage, New York SVOCs Analytical Results from Endpoint Samples

Parameters	NYSDEC TAGM Criteria <sup>1</sup> (ug/kg)	Sample ID: AOC 33-11/12F <sub>FL</sub> Sample Interval: FLOOR Date Sampled: 4/28/98 Units: ug/kg	AOC 33-11/12G <sub>FL</sub> FLOOR 4/28/98 ug/kg	AOC 33-11/12H <sub>FL</sub> FLOOR 4/28/98 ug/kg	AOC 33-11/12I <sub>FL</sub> FLOOR 4/28/98 ug/kg
Anthracene	50000	<30	<30	<30	<30
Di-n-Butyl Phthalate	8100	<30	<30	<30	<300
Fluoranthene	50000	<30	<30	<30	<300
Benzidine	N/A	<300	<300	<30000	<300000
Pyrene	5000	<30	32	<300	<300
Benzyl Butyl Phthalate	N/A	<30	<30	<300	<3000
Benzo (a) anthracene*	224	<30	<30	<300	<300
3,3'-Dichlorobenzidine	N/A	<300	<30000	<300000	<300000
Chrysene*	400	<30	<30	<300	<300
Bis (2-ethylhexyl) phthalate	50000	<30	<30	<300	<3000
Di-n-octyl Phthalate	50000	<30	<30	<3000	<30000
Benzo (b) fluoranthene*	224	<30	<30	<300	<300
Benzo (k) fluoranthene*	224	<30	<30	<300	<300
Benzo (a) pyrene*	61	<30	<30	<300	<300
Indeno (1,2,3-cd) pyrene*	3200	<30	<30	<300	<300
Dibenzo (a,h) anthracene*	14	<30	<30	<300	<300
Benzo (ghi) perylene	N/A	<30	<30	<300	<300
<b>TOTAL CARCINOGENIC SVOCs</b>	<b>10,000 ug/kg</b>		<b>ND</b>	<b>ND</b>	<b>ND</b>
<b>TOTAL SVOCs</b>	<b>500,000 ug/kg</b>		<b>ND</b>	<b>63</b>	<b>ND</b>
ug/kg					
mg/kg					
NYSDEC	New York State Department of Environmental Conservation				
1	NYSDEC's Technical and Administrative Guidance				
	Memorandum (TAGM) #4046 (Rev. 4/95)				
ND	Below Detection Limits				
N/A	Criteria not available				
~	AOC-33 11C Total = 79 ug/kg, unable to separate isomers.				

Analysis Performed by: Ecotest Laboratories, North Babylon, NY.

Bold entries are concentrations in exceedence of NYSDEC TAGM criteria.

\* Total Carcinogenic SVOC's limit is < 10ppm as per TAGM #4046

\*\* Samples 33-11/12 E, I, and H were reanalyzed after performing silica gel clean-up procedure 3630C on the extract.

Micrograms per kilogram  
Milligrams per kilogram

New York State Department of Environmental Conservation  
NYSDEC's Technical and Administrative Guidance  
Memorandum (TAGM) #4046 (Rev. 4/95)  
Below Detection Limits  
Criteria not available  
AOC-33 11C Total = 79 ug/kg, unable to separate isomers.

**ENCLOSURE 5**

Enclosure 5. AOC 6, Plant 3, Northrop Grumman Corporation, Bethpage, New York  
 Priority Pollutant Metals Analytical Results of Endpoint Samples

Page 1 of 3

Parameters	Eastern USA Background <sup>1</sup> (mg/kg)	NYSDEC TAGM Criteria <sup>1</sup> (mg/kg)	Sample ID: AOC 6A 2-4' Date Sampled: 2/20/98 Units: mg/kg	AOC 6A 5-7' 2/20/98 mg/kg	AOC 6A 8-10' 2/20/98 mg/kg	AOC 6B 2-4' 2/20/98 mg/kg	AOC 6B 5-7' 2/20/98 mg/kg
<b>Priority Pollutant Metals</b>							
Antimony	N/A	N/A	<1.3	<1.3	<1.3	<1.3	<1.3
Arsenic	3-12	7.5	0.73	1.7	0.89	<1	0.63
Beryllium	0-1.75	0.16	0.05	0.33	0.08	0.06	0.1
Cadmium	0.1-1	10	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium	1.5-40	50	2.9	7.8	9.2	1.7	2.4
Copper	1-50	25	1.4	6.8	2.7	1.3	1.8
Lead	200-500	N/A	1.8	5.5	2.5	1.6	1.5
Mercury	0.001-0.2	0.1	<0.005	0.0063	<0.005	<0.005	<0.005
Nickel	0.5-25	13	1.2	6.4	1.8	1.1	1.9
Selenium	0.1-3.9	2	<0.4	<0.4	<0.4	<0.4	<0.4
Silver	N/A	N/A	<0.2	<0.2	<0.2	<0.2	<0.2
Thallium	N/A	N/A	<1	<1	<1	<1	<1
Zinc	9-50	20	3.1	18	4.4	2.7	3.9
% Solids			99	89	97	97	96

Analysis Performed by: Ecotest Laboratories, North Babylon, NY.  
 Bold entries are concentrations in exceedence of NYSDEC TAGM

Criteria or Eastern USA Background.

mg/kg  
 NYSDEC

Milligrams per kilogram  
 New York State Department of Environmental Conservation  
 NYSDEC Technical and Administrative Guidance Memorandum  
 1  
 (TAGM) #4046 (Rev. 4/95)

N/A  
 Criteria not available

\*  
 Sample re-analyzed for hexavalent chromium.  
 -  
 Not analyzed.

Enclosure 5: AOC 6, Plant 3, Northrop Grumman Corporation, Bethpage, New York  
 Priority Pollutant Metals Analytical Results of Endpoint Samples

Page 2 of 3

Parameters	Eastern USA Background <sup>1</sup> (mg/kg)	NYSDEC TAGM Criteria <sup>1</sup> (mg/kg)	Sample ID: AOC 6B 8-10' Date Sampled: 2/20/98 Units: mg/kg	AOC 6C 2-4' 2/20/98 mg/kg	AOC 6C 5-7' 2/20/98 mg/kg	AOC 6C 8-10' 2/20/98 mg/kg	AOC 6D 5-7' 2/20/98 mg/kg
<b>Priority Pollutant Metals</b>							
Antimony	N/A	N/A	<1.4	<1.3	<1.4	<1.3	<1.4
Arsenic	3-12	7.5	1.2	<1	5.1	<1	1.4
Beryllium	0-1.75	0.16	0.14	0.1	0.19	0.12	0.11
Cadmium	0.1-1	10	<0.1	0.38	<0.1	<0.1	0.64
Chromium	1.5-40	50	10	34	6.3	3.8	47
Copper	1-50	25	4.7	4.8	4.1	2	7
Lead	200-500	N/A	3.9	8.3	4.5	2.1	4.1
Mercury	0.001-0.2	0.1	0.0073	0.017	0.011	<0.005	0.007
Nickel	0.5-25	13	3.4	2.3	2.4	1.6	3
Selenium	0.1-3.9	2	<0.4	<0.4	<0.4	<0.4	<0.4
Silver	N/A	N/A	0.24	<0.2	<0.2	<0.2	<0.2
Thallium	N/A	N/A	<1	<1	<1	<1	<1
Zinc	9-50	20	8.9	13	11	5.1	35
% Solids			91	93	89	96	91

Analysis Performed by: Ecotest Laboratories, North Babylon, NY.

**Bold entries** are concentrations in exceedence of NYSDEC TAGM Criteria or Eastern USA Background.

mg/kg Milligrams per Kilogram

**NYSDEC** New York State Department of Environmental Conservation  
**1** NYSDEC Technical and Administrative Guidance Memorandum

(TAGM) #4046 (Rev. 4/95)

**N/A** Criteria not available

\* Sample re-analyzed for hexavalent chromium.  
 -- Not analyzed.

Enclosure 5: AOC 6, Plant 3, Northrop Grumman Corporation, Bethpage, New York  
 Priority Pollutant Metals Analytical Results of Endpoint Samples

Page 3 of 3

Parameters	Eastern USA Background <sup>1</sup> (mg/kg)	NYSDEC TAGM Criteria <sup>1</sup> (mg/kg)	Sample ID: Date Sampled: Units:	AOC 6D 8-10' mg/kg	AOC 6E FLOOR 4/29/98 mg/kg	AOC 6F FLOOR 4/29/98 mg/kg	AOC 6F FLOOR 4/29/98 mg/kg
<b>Priority Pollutant Metals</b>							
Antimony	N/A	N/A		<1.5	<0.2	<3	--
Arsenic	3-12	7.5		0.88	0.69	1.6	--
Beryllium	0-1.75	0.16		0.08	0.08	0.11	--
Cadmium	0.1-1	10		0.22	<0.1	0.91	--
Chromium	1.5-40	50		21	4.3	<b>250</b>	<b>4.8*</b>
Copper	1-50	25		2.9	3.1	13	--
Lead	200-500	N/A		2.9	1.4	14	--
Mercury	0.001-0.2	0.1		0.0069	<0.005	0.023	--
Nickel	0.5-25	13		1.6	1.3	3.3	--
Selenium	0.1-3.9	2		<0.4	<0.4	<0.4	--
Silver	N/A	N/A		<0.2	<0.4	<0.4	--
Thallium	N/A	N/A		<1	<0.05	<0.5	--
Zinc	9-50	20		13	2.9	<b>50</b>	--
<b>% Solids</b>							
				96	96	94	94

Analysis Performed by: Ecotest Laboratories, North Babylon, NY.

Bold entries are concentrations in exceedence of NYSDEC TAGM

Criteria or Eastern USA Background.

mg/kg Milligrams per kilogram

NYSDEC New York State Department of Environmental Conservation  
 1 NYSDEC Technical and Administrative Guidance Memorandum  
 (TAGM) #4046 (Rev. 4/95)

N/A Criteria not available

\* Sample re-analyzed for hexavalent chromium.

-- Not analyzed.