

***NORTHROP GRUMMAN***

Northrop Grumman Corporation  
Aerospace Systems Sector

925 South Oyster Bay Road  
Mail Drop 02/BP15 ESHM  
Bethpage, NY 11714-3518

ESH&M-40L-18  
October 20, 2018

N.Y.S. Department of Environmental Conservation  
Division of Environmental Remediation  
625 Broadway, 4<sup>th</sup> Floor  
Albany, New York 12233-3506

RE: NYSDEC No. 1-30-003A

Subject: **Additional Sampling Constituents for Report Period:  
October 1, 2018 – October 31, 2018**

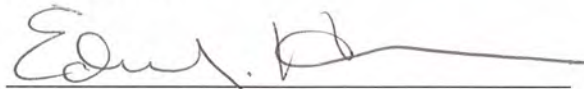
Gentlemen:

Below please find the 1,4 – Dioxane sampling results for Outfalls 1, 5 and 6 for this reporting period.

Outfall 1 – 0.57  
Outfall 5 – 6.1  
Outfall 6 – 11.0

If you have any questions, please call me at 516-575-2333

Very truly yours,



Edward J. Hannon  
Environmental, Safety, Health & Medical Director  
516-575-2333  
M/S: 02/BP15



cc: Regional Water Engineer - Region 1  
NYS Department of Environmental Conservation  
SUNY @ Stony Brook  
50 Circle Road  
Stony Brook, NY 11790-3409

**NORTHROP GRUMMAN**

Northrop Grumman Corporation  
Aerospace Systems Sector

925 South Oyster Bay Road  
Mail Drop 02/BP15 ESHM  
Bethpage, NY 11714-3518

ESH&M-39L-18  
November 20, 2018

N.Y.S. Department of Environmental Conservation  
Division of Environmental Remediation  
625 Broadway, 4<sup>th</sup> Floor  
Albany, New York 12233-3506

Subject: **Report for SPDES Permit Equivalent, NYSDEC Site No. 1030-003A  
Northrop Grumman Corporation - Bethpage, New York Facility**

Gentlemen:

Enclosed please find the subject SPDES Permit Equivalent summary tables for the month of October 2018, as per additional condition requirements outlined in the SPDES Permit Equivalent (Northrop Grumman, NYSDEC No. 1-30-003A) dated July 30, 2018.

If you have any questions, please call me at 516-575-2333

Very truly yours,



Edward J. Hannon  
Environmental, Safety, Health & Medical Director  
516-575-2333  
M/S: 02/BP15

cc: Regional Water Engineer - Region 1  
NYS Department of Environmental Conservation  
SUNY @ Stony Brook  
50 Circle Road  
Stony Brook, NY 11790-3409

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)

Form Appr  
OMB No. 20

PERMITTEE NAME/ADDRESS (Include Facility Name/location if  
NAME: NORTHROP GRUMMAN SYSTEMS CORP  
ADDRESS: 925 SO. OYSTER BAY RD M/S- W16-035  
BETHPAGE, NY 11714  
FACILITY: NORTHROP GRUMMAN SYSTEMS CORP  
LOCATION: 925 SO. OYSTER BAY RD M/S- W16-035  
BETHPAGE, NY 11714  
ATTN: JOHN COEMAN

NY0096792	005-C
PERMIT NUMBER	DISCHARGE NUMBER
MONITORING PERIOD	
MM/DD/YYYY	MM/DD/YYYY
10/1/2018	10/31/2018

DMR Mailing ZIP CODE: 11714  
MINOR (SUBR 011)  
NC COOLING & STORM WATER TO C  
External Outfall  
No Dischar

PARAMETER	SAMPLE MEASUREMENT	QUANTITY OR LOADING			QUALITY OR CONCENTRATION			NO. EX	FREQUENCY OF ANALYSIS
		VALUE	VALUE	UNITS	VALUE	VALUE	UNITS		
pH	SAMPLE MEASUREMENT	6.3	6.3	*****	6.3	*****	*****	0	1/31
00400 1 0	PERMIT REQUIREMENT	*****	*****	*****	Req. Mon. MINIMUM	*****	*****	0	Monthly
Effluent Gross	SAMPLE MEASUREMENT	4.7	4.7	*****	4.7	*****	*****	0	1/31
00400 1 0	PERMIT REQUIREMENT	*****	*****	*****	Req. Mon. MAXIMUM	*****	*****	0	Monthly
Intake from Well	SAMPLE MEASUREMENT	4.1	4.1	*****	4.1	*****	*****	0	1/31
Nitrogen, total (as N)	PERMIT REQUIREMENT	*****	*****	*****	10 DAILY MX	*****	*****	0	Monthly
00600 1 0	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	*****	0	Monthly
Effluent Gross	SAMPLE MEASUREMENT	< 0.5	< 0.5	*****	< 0.5	*****	*****	0	1/31
Methylene chloride	PERMIT REQUIREMENT	*****	*****	*****	5 DAILY MX	*****	*****	0	Monthly
34423 1 0	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	*****	0	Monthly
Effluent Gross	SAMPLE MEASUREMENT	< 0.5	< 0.5	*****	< 0.5	*****	*****	0	1/31
Tetrachloroethylene	PERMIT REQUIREMENT	*****	*****	*****	5 DAILY MX	*****	*****	0	Monthly
34475 1 0	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	*****	0	Monthly
Effluent Gross	SAMPLE MEASUREMENT	< 0.5	< 0.5	*****	< 0.5	*****	*****	0	1/31
1,1-Dichloroethylene	PERMIT REQUIREMENT	*****	*****	*****	5 DAILY MX	*****	*****	0	Monthly
34501 1 0	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	*****	0	Monthly
Effluent Gross	SAMPLE MEASUREMENT	< 0.5	< 0.5	*****	< 0.5	*****	*****	0	1/31
1,1,1-Trichloroethane	PERMIT REQUIREMENT	*****	*****	*****	5 DAILY MX	*****	*****	0	Monthly
34506 1 0	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	*****	0	Monthly
Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	5 DAILY MX	*****	*****	0	Monthly

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER: **Edward J. Hanon**  
 TYPED OR PRINTED: **Edward J. Hanon**  
 SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT: *[Signature]*  
 TELEPHONE: **516-515-2333**  
 AREA CODE: **516** NUMBER: **515-2333**

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)  
 WHEN NATURAL GW HAS PH OUTSIDE RANGE, IT MAY BE ONE EXTREMITY OF THE ALLOWABLE RANGE (SAMPLE & REPORTS) W/ WELL & OUTFALL. PH MONTHLY & REPORT PH COMPLIANCE STATUS (YES/NO) IN CALCULATED LIMIT AREA. SEE PERMIT FOR ADDITIONAL NOTES, COMMENTS AND REQUIREMENTS.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)


Form Appr  
OMB No. 24

PERMITTEE NAME/ADDRESS: *(include facility name/location if applicable)*  
 NAME: NORTHROP GRUMMAN SYSTEMS CORP  
 ADDRESS: 925 SO. OYSTER BAY RD M/S- W16- 035  
 BETHPAGE, NY 11714  
 FACILITY: NORTHROP GRUMMAN SYSTEMS CORP  
 LOCATION: 925 SO. OYSTER BAY RD M/S- W16- 035  
 BETHPAGE, NY 11714  
 ATTN: JOHN COFMAN

NY0096792	005-C
PERMIT NUMBER	DISCHARGE NUMBER
MONITORING PERIOD	
MM/DD/YYYY	MM/DD/YYYY
10/1/2018	10/31/2018

DMR Mailing ZIP CODE: 11712  
 MINOR (SUBR 01)  
 NC COOLING & STORM WATER TO C  
 External Outfall  
 No Dischar

PARAMETER	SAMPLE MEASUREMENT	QUANTITY OR LOADING			QUALITY OR CONCENTRATION			NO. EX	FREQUENCY OF ANALYSIS
		VALUE	VALUE	UNITS	VALUE	VALUE	UNITS		
Vinyl chloride	*****	*****	*****	*****	*****	*****	0	1/31	
3917510 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	0	Monthly	
Trichloroethylene	SAMPLE MEASUREMENT	*****	*****	*****	*****	*****	0	1/31	
3918010 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	0	Monthly	
Flow, in conduit or thru treatment plant	SAMPLE MEASUREMENT	*****	1.56	MGD	*****	*****	0	1/31	
5005010 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	0	Monthly	
Calculated limit	SAMPLE MEASUREMENT	1	*****	*****	*****	*****	0	1/31	
7401310 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	0	Monthly	
cis-1,2-Dichloroethylene	SAMPLE MEASUREMENT	*****	*****	*****	*****	*****	0	1/31	
7709310 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	0	Monthly	
Trichlorofluorothane	SAMPLE MEASUREMENT	*****	*****	*****	*****	*****	0	1/31	
8161110 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	0	Monthly	
trans-1,2-Dichloroethylene	SAMPLE MEASUREMENT	*****	*****	*****	*****	*****	0	1/31	
8581010 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	0	Monthly	

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	certify under penalty of law that this document, and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE
Edward J Hannan, ESQ, Director			516-575-2333
TYPED OR PRINTED			AREA Code NUMBER
			MM

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)  
 WHEN NATURAL GW HAS PH OUTSIDE RANGE, IT MAY BE ONE EXTREMITY OF THE ALLOWABLE RANGE (SAMPLE & REPORT SUPPLY WELL & OUTFALL PH MONTHLY & REPORT PH COMPLIANCE STATUS (YES/NO) IN CALCULATED LIMIT AREA). SEE PERMIT FOR ADDITIONAL NOTES, COMMENTS AND REQUIREMENTS.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)

Form Appr  
OMB No. 20

PERMITTEE NAME/ADDRESS (include Facility Name/Location if  
NAME: NORTROP GRUMAN SYSTEMS CORP  
ADDRESS: 925 SO. OYSTER BAY RD M/S- W16- 035  
BETHPAGE, NY 11714  
FACILITY: NORTROP GRUMAN SYSTEMS CORP  
LOCATION: 925 SO. OYSTER BAY RD M/S- W16- 035  
BETHPAGE, NY 11714  
ATTN: JOHN COFMAN

NY0096792	006-C
PERMIT NUMBER	DISCHARGE NUMBER
MONITORING PERIOD	
MM/DD/YYYY	MM/DD/YYYY
10/1/2018	10/31/2018

DMR Mailing ZIP CODE: 11714  
MINOR (SUBR 01)  
NC COOLING & STORM WATER TO C  
External Outfall  
No Dischar

PARAMETER	SAMPLE MEASUREMENT	QUANTITY OR LOADING			QUALITY OR CONCENTRATION			NO. EX	FREQUENCY OF ANALYSIS
		VALUE	VALUE	UNITS	VALUE	VALUE	UNITS		
pH	MEASUREMENT	*****	*****	*****	*****	*****	*****	*****	1/31
00400 1 0 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	*****	*****	Monthly
pH	SAMPLE MEASUREMENT	*****	*****	*****	*****	*****	*****	*****	1/31
00400 1 0 Intake from Well	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	*****	*****	Monthly
Nitrogen, total (as N)	SAMPLE MEASUREMENT	*****	*****	*****	*****	*****	*****	*****	1/31
00600 1 0 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	*****	*****	Monthly
Methylene chloride	SAMPLE MEASUREMENT	*****	*****	*****	*****	*****	*****	*****	1/31
34423 1 0 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	*****	*****	Monthly
Tetrachloroethylene	SAMPLE MEASUREMENT	*****	*****	*****	*****	*****	*****	*****	1/31
34475 1 0 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	*****	*****	Monthly
1,1-Dichloroethylene	SAMPLE MEASUREMENT	*****	*****	*****	*****	*****	*****	*****	1/31
34501 1 0 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	*****	*****	Monthly
1,1,1-Trichloroethane	SAMPLE MEASUREMENT	*****	*****	*****	*****	*****	*****	*****	1/31
34506 1 0 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	*****	*****	Monthly

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	EDWARD J. HANMON, Director	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.			516-575-2333
TYPED OR PRINTED	Edward J. Hanmon		MM

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

WHEN NATURAL GWS HAVE PH OUTSIDE RANGE, IT MAY BE ONE EXTREMITY OF THE ALLOWABLE RANGE (SAMPLE & REPORT SUPPLY WELL & OUTFALL PH MONTHLY & REPORT PH COMPLIANCE STATUS (YES/NO) IN CALCULATED LIMIT AREA). SEE PERMIT FOR ADDITIONAL NOTES, COMMENTS & REQUIREMENTS

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)

Form Appr  
OMB No. 20

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if  
NAME: NORTHROP GRUMMAN SYSTEMS CORP  
ADDRESS: 925 SO. OYSTER BAY RD M/S- W16- 035  
BETHPAGE, NY 11714  
FACILITY: NORTHROP GRUMMAN SYSTEMS CORP  
LOCATION: 925 SO. OYSTER BAY RD M/S- W16- 035  
BETHPAGE, NY 11714  
ATTN: JOHN COFMAN

NY0096792	006- C
PERMIT NUMBER	DISCHARGE NUMBER
MONITORING PERIOD	
MM/DD/YYYY	MM/DD/YYYY
10/1/2018	10/31/2018

DMR Mailing ZIP CODE: 11714  
MINOR (SU/BR 01)  
NC COOLING & STORM WATER TO C  
External Outfall  
No Dischar

PARAMETER	MEASUREMENT	QUANTITY OR LOADING			QUALITY OR CONCENTRATION			NO. OF ANALYSIS	FREQUENCY
		VALUE	VALUE	UNITS	VALUE	VALUE	UNITS		
Vinyl chloride	SAMPLE MEASUREMENT	*****	*****	*****	*****	*****	*****	*****	1/31
39175 1 0	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	*****	*****	Monthly
Trichloroethylene	SAMPLE MEASUREMENT	*****	*****	*****	*****	*****	*****	*****	1/31
39180 1 0	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	*****	*****	Monthly
Flow, in conduit or thru treatment plant	SAMPLE MEASUREMENT	*****	3.88	*****	*****	*****	*****	*****	1/31
50050 1 0	PERMIT REQUIREMENT	*****	4.25	*****	*****	*****	*****	*****	Monthly
Calculated limit	SAMPLE MEASUREMENT	*****	*****	*****	*****	*****	*****	*****	1/31
74013 1 0	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	*****	*****	Monthly
cis- 1,2- Dichloroethylene	SAMPLE MEASUREMENT	*****	*****	*****	*****	*****	*****	*****	1/31
77093 1 0	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	*****	*****	Monthly
Trichlorofluorothane	SAMPLE MEASUREMENT	*****	*****	*****	*****	*****	*****	*****	1/31
81611 1 0	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	*****	*****	Monthly
Effluent Gross	SAMPLE MEASUREMENT	*****	*****	*****	*****	*****	*****	*****	1/31
Trans- 1,2- Dichloroethylene	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	*****	*****	Monthly
85810 1 0	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	*****	*****	Monthly

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

Edwards Hanson Fish Direct

Edwards Hanson Fish Direct

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE

516-575-2333

AREA Code NUMBER

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)  
WHEN NATURAL GWS HAVE PH OUTSIDE RANGE, IT MAY BE ONE EXTREMITY OF THE ALLOWABLE RANGE (SAMPLE & REPORTS) SUPPLY WELL & OUTFALL PH MONTHLY & REPORT PH COMPLIANCE STATUS (YES/NO) IN CALCULATED LIMIT AREA. SEE PERMIT FOR ADDITIONAL NOTES, COMMENTS & REQUIREMENTS

EPA Form 3320-1 (Rev. 01/06) Previous editions may be used.

10/19/2018

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)

Form AP1  
OMB No.

PERMITTEE NAME/ADDRESS (include Facility Name/Location if  
NAME: NORTHERD GRIMMAN SYSTEMS CORP  
ADDRESS: 925 SO. OYSTER BAY RD M/S- W16- 035  
BETHPAGE, NY 11714  
FACILITY: NORTHERD GRIMMAN SYSTEMS CORP  
LOCATION: 925 SO. OYSTER BAY RD M/S- W16- 035  
BETHPAGE, NY 11714  
ATTN: JOHN COHMAN

NY0096792	001-WSR-7
PERMIT NUMBER	DISCHARGE NUMBER
MONITORING PERIOD	
MM/DD/YYYY	MM/DD/YYYY
10/1/2018	10/31/2018

DMR Mailing ZIP CODE: 117  
MINOR (SUFR 01)  
NC COOLING & STORM WATER TO  
External Outfall  
No Disch:

PARAMETER	SAMPLE MEASUREMENT	QUANTITY OR LOADING			QUALITY OR CONCENTRATION			NO. OF ANALYSIS	FREQUENCY OF ANALYSIS
		VALUE	VALUE	UNITS	VALUE	VALUE	UNITS		
00400 1 0 EFFLUENT GROSS	PERMIT REQUIREMENT	*****	*****	*****	6.5	*****	*****	0	1/31
00400 1 0 EFFLUENT GROSS	SAMPLE MEASUREMENT	*****	*****	*****	6.5	*****	*****	0	1/31
00400 1 0 Intake From Well	PERMIT REQUIREMENT	*****	*****	*****	5.2	*****	*****	0	1/31
00400 1 0 Intake From Well	SAMPLE MEASUREMENT	*****	*****	*****	5.2	*****	*****	0	1/31
00600 1 0 EFFLUENT GROSS	PERMIT REQUIREMENT	*****	*****	*****	2.6	*****	*****	0	1/31
00600 1 0 EFFLUENT GROSS	SAMPLE MEASUREMENT	*****	*****	*****	2.6	*****	*****	0	1/31
34423 1 0 EFFLUENT GROSS	PERMIT REQUIREMENT	*****	*****	*****	40.5	*****	*****	0	1/31
34423 1 0 EFFLUENT GROSS	SAMPLE MEASUREMENT	*****	*****	*****	40.5	*****	*****	0	1/31
34475 1 0 EFFLUENT GROSS	PERMIT REQUIREMENT	*****	*****	*****	40.5	*****	*****	0	1/31
34475 1 0 EFFLUENT GROSS	SAMPLE MEASUREMENT	*****	*****	*****	40.5	*****	*****	0	1/31
34501 1 0 EFFLUENT GROSS	PERMIT REQUIREMENT	*****	*****	*****	40.5	*****	*****	0	1/31
34501 1 0 EFFLUENT GROSS	SAMPLE MEASUREMENT	*****	*****	*****	40.5	*****	*****	0	1/31

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	EDWARD J HANON/ESHA DICTOR	TELEPHONE	516-575-2333
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	EDWARD J HANON/ESHA DICTOR	TELEPHONE	516-575-2333
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	EDWARD J HANON/ESHA DICTOR	TELEPHONE	516-575-2333

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)  
WHEN NATURAL CW HAS PH OUTSIDE RANGE, IT MAY BE ONE EXTREMITY OF THE ALLOWABLE RANGE (SAMPLE & REPORTS ONLY WELL & OUTFALL PH MONTHLY & REPORT PH COMPLIANCE STATUS (YES/NO) IN CALCULATED LIMIT AREA).SEE PERMIT FOR ADDITIONAL NOTES, COMMENTS AND REQUIREMENTS.  
EPA Form 3320-1 (Rev.01/06) Previous editions may be used.  
10/19/2018

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)

FORM 474  
OMB No.

PERMITTEE NAME: ADDRESS (include facility Name/Location if  
NAME: NORTHRUP GREENMAN SYSTEMS CORP  
ADDRESS: 925 SO. OYSTER BAY RD M/S- W16- 035  
BETHPAGE, NY 11714  
FACILITY: NORTHRUP GREENMAN SYSTEMS CORP  
LOCATION: 925 SO. OYSTER BAY RD M/S- W16- 035  
BETHPAGE, NY 11714  
ATTN: JOHN COEMAN

NY0096792	001- WSP-7
PERMIT NUMBER	DISCHARGE NUMBER
MONITORING PERIOD	
MM/DD/YYYY	MM/DD/YYYY
10/1/2018	10/31/2018

DMR Mailing ZIP CODE: 117  
MINOR (SUBR 01)  
NC COOLING & STORM WATER TO  
External Outfall  
No Discl

PARAMETER	SAMPLE MEASUREMENT	QUANTITY OR LOADING			QUALITY OR CONCENTRATION			NO. OF ANALYSIS	FREQUENCY OF ANALYSIS	
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE			
Vinyl chloride	SAMPLE MEASUREMENT	*****	*****	*****	*****	*****	*****	*****	0	1/31
39175 10 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	*****	*****	0	Monthly
Trichloroethylene	SAMPLE MEASUREMENT	*****	*****	*****	*****	*****	*****	*****	0	1/31
39180 10 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	*****	*****	0	Monthly
Flow, in conduit or thru treatment plant	SAMPLE MEASUREMENT	*****	0.33	*****	*****	*****	*****	*****	0	1/31
50050 10 Effluent Gross	PERMIT REQUIREMENT	*****	DAILY MN	*****	*****	*****	*****	*****	0	Monthly
Calculated Limit	SAMPLE MEASUREMENT	*****	*****	*****	*****	*****	*****	*****	0	1/31
74013 10 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	*****	*****	0	Monthly
cis-1,2-Dichloroethylene	SAMPLE MEASUREMENT	*****	*****	*****	*****	*****	*****	*****	0	1/31
77093 10 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	*****	*****	0	Monthly
Trichlorotrifluoroethylene	SAMPLE MEASUREMENT	*****	*****	*****	*****	*****	*****	*****	0	1/31
81611 10 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	*****	*****	0	Monthly
Trans-1,2-Dichloroethylene	SAMPLE MEASUREMENT	*****	*****	*****	*****	*****	*****	*****	0	1/31
87810 10 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	*****	*****	*****	0	Monthly

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	EDWARD J. HANNAH/ESHA Director	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE:
COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)	WHEN NATURAL GW HAS PH OUTSIDE RANGE, IT MAY BE ONE EXTREMITY OF THE ALLOWABLE RANGE (SAMPLE & REPORTS UPPLY WELL & OUTFALL PH MONTHLY REPORT PH COMPLIANCE STATIS (OIS/NO) IN CALCULATED LIMIT AREA).SEE PERMIT FOR ADDITIONAL NOTES, COMMENTS AND REQUIREMENTS.		
TYPED OR PRINTED	516-575-2333		
	AREA CODE NUMBER		



**Table 1.**  
**SPDES Permit Equivalency Monthly Report**  
**OU2 and OU3 On-Site Containment Systems**  
**Northrop Grumman Bethpage Facility Site**  
**NYSDEC Site No 130003A**

**October 2018**  
 10/1/18 12:00 AM 11/1/18 12:00 AM  
 31 Days

**OU2 South Basins: Outfall 005**

**OU-2 Groundwater Remedy Towers 102 & 96 Treatment Systems - Treated Air Stripper Discharges and Storm Water Runoff**

Parameter <sup>(1)</sup>	CAS Number	OUTFALL 005 10/10/2018	Discharge Limit <sup>(2)</sup>	Units	Monitoring Frequency	Sample Type	Average Mass Loading <sup>(3,6)</sup>	Units
Daily Average Flow <sup>(4,6)</sup>	--	1.51	Monitor	MGD	Continuous	SCADA	--	--
Daily Maximum Flow <sup>(4,6)</sup>	--	1.56	Monitor	MGD	Continuous	SCADA	--	--
Influent pH	--	4.7	NS <sup>(6)</sup>	SU	Monthly (1/31) Days	Grab	--	--
Effluent pH	--	6.3	Range: 5.0-8.5 <sup>(5)</sup>	SU	Monthly (1/31) Days	Grab	--	--
Total Nitrogen (as N)	See Note 1	4.1	10.0	mg/L	Monthly (1/31) Days	Grab	51.80	lbs/day
Total Iron	7439-89-6	<100	600	µg/L	Monthly (1/31) Days	Grab	--	lbs/day
Total Manganese	7439-96-5	<15	600	µg/L	Monthly (1/31) Days	Grab	--	lbs/day
Sum of Total Iron and Manganese <sup>(2,7)</sup>	See Note 1	ND	1000	µg/L	Monthly (1/31) Days	Calculated	--	lbs/day
1,1-Dichloroethylene	75-35-4	<0.50	5.0	µg/L	Monthly (1/31) Days	Grab	--	lbs/day
Methylene Chloride	75-09-2	<0.50	5.0	µg/L	Monthly (1/31) Days	Grab	--	lbs/day
Tetrachloroethylene	127-18-4	<0.50	5.0	µg/L	Monthly (1/31) Days	Grab	--	lbs/day
1,1,1-Trichloroethane	71-55-6	<0.50	5.0	µg/L	Monthly (1/31) Days	Grab	--	lbs/day
Trichloroethylene	79-01-6	1.5	5.0	µg/L	Monthly (1/31) Days	Grab	0.02	lbs/day
Vinyl Chloride	75-01-4	<0.50	5.0	µg/L	Monthly (1/31) Days	Grab	--	lbs/day
trans-1,2-Dichloroethylene	156-60-5	<0.50	5.0	µg/L	Monthly (1/31) Days	Grab	--	lbs/day
cis-1,2-Dichloroethylene	156-59-2	<0.50	5.0	µg/L	Monthly (1/31) Days	Grab	--	lbs/day
Chloroform	67-66-3	<0.50	5.0	µg/L	Monthly (1/31) Days	Grab	--	lbs/day
Trichlorotrifluoroethane (Freon 113)	76-13-1	<0.50	5.0	µg/L	Monthly (1/31) Days	Grab	--	lbs/day
1,4-Dioxane	123-91-1	6.1	Monitor	µg/L	Monthly (1/31) Days	Grab	0.08	lbs/day

Notes and abbreviations on last page.

**Table 1.**  
**SPDES Permit Equivalency Monthly Report**  
**OU2 and OU3 On-Site Containment Systems**  
**Northrop Grumman Bethpage Facility Site**  
**NYSDEC Site No 130003A**

**OU2 West Basins: Outfall 006**

**OU-2 Groundwater Remedy Towers 96 & 102 Treatment Systems - Treated Air Stripper Discharge and Storm Water Runoff**

Parameter <sup>(1)</sup>	CAS Number	OUTFALL 006 10/10/2018	Discharge Limit <sup>(2)</sup>	Units	Monitoring Frequency	Sample Type	Average Mass Loading <sup>(3,8)</sup>	Units
Daily Average Flow <sup>(4,6)</sup>	--	3.60	Monitor	MGD	Continuous	SCADA	--	--
Daily Maximum Flow <sup>(4,6)</sup>	--	3.88	Monitor	MGD	Continuous	SCADA	--	--
Influent pH	--	5.5	NS <sup>(5)</sup>	SU	Monthly (1/31) Days	Grab	--	--
Effluent pH	--	6.2	Range: 5.0-8.5 <sup>(5)</sup>	SU	Monthly (1/31) Days	Grab	--	--
Total Nitrogen (as N)	See Note 1	4.7	10.0	mg/L	Monthly (1/31) Days	Grab	141.10	lbs/day
Total Iron	7439-89-6	<100	600	µg/L	Monthly (1/31) Days	Grab	--	lbs/day
Total Manganese	7439-96-5	<15	600	µg/L	Monthly (1/31) Days	Grab	--	lbs/day
Sum of Total Iron and Manganese <sup>(2,7)</sup>	See Note 1	ND	1000	µg/L	Monthly (1/31) Days	Calculated	--	lbs/day
1,1-Dichloroethylene	75-35-4	<0.50	5.0	µg/L	Monthly (1/31) Days	Grab	--	lbs/day
Methylene Chloride	75-09-2	<0.50	5.0	µg/L	Monthly (1/31) Days	Grab	--	lbs/day
Tetrachloroethylene	127-18-4	<0.50	5.0	µg/L	Monthly (1/31) Days	Grab	--	lbs/day
1,1,1-Trichloroethane	71-55-6	<0.50	5.0	µg/L	Monthly (1/31) Days	Grab	--	lbs/day
Trichloroethylene	79-01-6	0.36	5.0	µg/L	Monthly (1/31) Days	Grab	0.01	lbs/day
Vinyl Chloride	75-01-4	<0.50	5.0	µg/L	Monthly (1/31) Days	Grab	--	lbs/day
trans-1,2-Dichloroethylene	156-60-5	<0.50	5.0	µg/L	Monthly (1/31) Days	Grab	--	lbs/day
cis-1,2-Dichloroethylene	156-59-2	<0.50	5.0	µg/L	Monthly (1/31) Days	Grab	--	lbs/day
Chloroform	67-66-3	<0.50	5.0	µg/L	Monthly (1/31) Days	Grab	--	lbs/day
Trichlorotrifluoroethane (Freon 113)	76-13-1	<0.50	5.0	µg/L	Monthly (1/31) Days	Grab	--	lbs/day
1,4-Dioxane	123-91-1	11.0	Monitor	µg/L	Monthly (1/31) Days	Grab	0.33	lbs/day

Notes and abbreviations on last page.

**Table 1.**  
**SPDES Permit Equivalency Monthly Report**  
**OU2 and OU3 On-Site Containment Systems**  
**Northrop Grumman Bethpage Facility Site**  
**NYSDEC Site No 130003A**

**OU3 Effluent: Outfall 001 (WSP-7)**

**OU-3 Groundwater Remedy Treatment System - Treated Air Stripper and Soil Gas Containment Condensate Discharge to Nassau County Recharge Basins**

Parameter <sup>(1)</sup>	CAS Number	OUTFALL 001 (WSP-7) 10/10/2018	Discharge Limit <sup>(2)</sup>	Units	Monitoring Frequency	Sample Type	Average Mass Loading <sup>(3,6)</sup>	Units
Daily Average Flow <sup>(4)</sup>	--	0.32	Monitor	MGD	Continuous	SCADA	--	--
Daily Maximum Flow <sup>(4)</sup>	--	0.33	Monitor	MGD	Continuous	SCADA	--	--
Influent pH	--	5.2	NS <sup>(5)</sup>	SU	Monthly (1/31) Days	Grab	--	--
Effluent pH	--	6.5	Range: 5.0-8.5 <sup>(5)</sup>	SU	Monthly (1/31) Days	Grab	--	--
Total Nitrogen (as N)	See Note 1	2.6	10.0	mg/L	Monthly (1/31) Days	Grab	6.94	lbs/day
Total Iron	7439-89-6	145	600	µg/L	Monthly (1/31) Days	Grab	0.39	lbs/day
Total Manganese <sup>(2)</sup>	7439-96-5	47.3	600	µg/L	Monthly (1/31) Days	Grab	0.13	lbs/day
Sum of Total Iron and Manganese <sup>(2,7)</sup>	See Note 1	192.3	1000	µg/L	Monthly (1/31) Days	Calculated	0.51	lbs/day
1,1-Dichloroethylene	75-35-4	<0.50	5.0	µg/L	Monthly (1/31) Days	Grab	--	lbs/day
Methylene Chloride	75-09-2	<0.50	5.0	µg/L	Monthly (1/31) Days	Grab	--	lbs/day
Tetrachloroethylene	127-18-4	<0.50	5.0	µg/L	Monthly (1/31) Days	Grab	--	lbs/day
1,1,1-Trichloroethane	71-55-6	<0.50	5.0	µg/L	Monthly (1/31) Days	Grab	--	lbs/day
Trichloroethylene	79-01-6	<0.50	5.0	µg/L	Monthly (1/31) Days	Grab	--	lbs/day
Vinyl Chloride	75-01-4	<0.50	5.0	µg/L	Monthly (1/31) Days	Grab	--	lbs/day
1,2 (trans)-Dichloroethylene	156-60-5	<0.50	5.0	µg/L	Monthly (1/31) Days	Grab	--	lbs/day
1,2-(cis)-Dichloroethylene	156-59-2	<0.50	5.0	µg/L	Monthly (1/31) Days	Grab	--	lbs/day
Chloroform	67-66-3	<0.50	5.0	µg/L	Monthly (1/31) Days	Grab	--	lbs/day
Trichlorotrifluoroethane (Freon 113)	76-13-1	<0.50	5.0	µg/L	Monthly (1/31) Days	Grab	--	lbs/day
1,4-Dioxane	123-91-1	0.57	Monitor	µg/L	Monthly (1/31) Days	Grab	1.52E-03	lbs/day

**Notes and Abbreviations:**

- 46** Bold value indicates the constituent was detected at or above its laboratory quantification limit  
 <0.50 Compound is not detected above laboratory quantification limit  
 µg/L micrograms per liter  
 lbs/day pounds per day  
 lb/kg pounds per kilogram  
 MGD million gallons per day  
 mg/L milligrams per liter  
 min minutes  
 ND None Detect
- |        |   |
|--------|---|
| CAS    | Chemical Abstracts Service                              |
| NS     | None Specified  |
| NYSDEC | New York State Department of Environmental Conservation |
| SCADA  | Supervisory Control and Data Acquisition                |
| SPDES  | State Pollution Discharge Elimination System            |
| SU     | Standard Units  |
| TKN    | Total Kjeldahl Nitrogen                                 |

1. Samples were analyzed for permit equivalency Volatile Organic Compounds (VOCs) using USEPA Method 624; 1,4-Dioxane using USEPA Method 8270D-SIM-CLLE; Total Nitrogen is calculated as the sum of Nitrogen, (Nitrate+Nitrite) and Total Kjeldahl Nitrogen (TKN), (CAS number: 14797-55-8, 14797-65-0, and 7727-37-9, respectively) by USEPA Methods 353.2 and 351.2, respectively; Total Iron and Manganese using USEPA Method 200.7.

2. Discharge limits are per the SPDES permit equivalency; dated October 12, 2017, amended on July 30, 2018 and transmitted on August 9, 2018.

3. Mass Loading Calculation:

$$Mass\ Loading\ \left(\frac{lb}{day}\right) = Flow\ \left(\frac{gal}{min}\right) * 1440\ \left(\frac{min}{day}\right) * concentration\ \left(\frac{\mu g}{liter}\right) + 10^9\ \left(\frac{\mu g}{kg}\right) * 3.785\ \left(\frac{liter}{gal}\right) * 2.2046\ \left(\frac{lb}{kg}\right)$$

4. Average and daily maximum flow calculated from SCADA reports for the month indicated. Flowrates are rounded to two decimals places.

5. Field measurement of pH taken by hand held meter on sample date. Discharge limit for pH values are per the SPDES permit equivalency; NYSDEC Division of Water memorandum dated July 30, 2018.

6. Discharge Flow was intentionally diverted from Outfall 005 to Outfall 006 to accommodate South Basin maintenance.

7. When Total Iron and Total Manganese are below their respective detection limits the Sum Total of Iron and Manganese is reported as "ND".

8. Mass Loading Calculations are based on actual flow rates.

SGS

ACCUTEST

AUS COC: 101018 - JJC - 1

WV  
WTP

CHAIN OF CUSTODY

SGS Accutest New Jersey - Dayton  
2235 Route 130, Dayton, NJ 08810  
TEL: 732-329-0200 FAX: 732-329-3499/3480  
www.sgs.com

FEDEX Tracking #  
Accutest Quote #  
Order # 010118-160  
JC75865

Client / Reporting Information		Project Information		Requested Analysis (see TEST CODE sheet)				Matrix Codes																							
Company Name <b>Arcadis</b>		Project Name <b>AGMNYM62233 // OU2 SPDES</b>																													
Street Address <b>2 Huntington Quad, Suite 1S10</b>		Street <b>Northrop Grumman OU2 Groundwater System</b>																													
City State Zip <b>Melville NY 11747</b>		City State <b>Bethpage NY</b>		Billing Information (if different from Report to)																											
Project Contact <b>Abina Redzepagic, abina.redzepagic@arcadis.com</b>		Project # <b>NY001496.22TM.OMMI3</b>		Company Name <b>Arcadis, U.S., Inc.</b>																											
Phone # <b>914-641-2853</b>		Client Purchase Order # <b>NY001496.2015.10.30</b>		Street Address <b>630 Plaza Drive, Suite 600</b>																											
Fax # <b>631-249-7610</b>		Work Authorization # <b>NY001496.2015.10.30</b>		City State Zip <b>Highlands Ranch, CO 80129</b>																											
Sampler(s) Name(s)		Project Manager <b>Carlo San Giovanni</b>		Attention <b>Accounts Payable</b>																											
Sample #	Field ID / Point of Collection	MECHVS Val #	Date	Time	Sampled by	Matrix	# of bottles	IC	NIOSH	NIHSD	NIHSDA	NIHSDM	NIHSDN	NIHSDO	NIHSDP	NIHSDQ	NIHSDR	NIHSDS	NIHSDT	NIHSDU	NIHSDV	NIHSDW	NIHSDX	NIHSDY	NIHSDZ	LAB USE ONLY					
	1	OUTFALL 005		10/10/18	15:30	JJC	EFF	8	3	1	1																X	X	X		
	2	OUTFALL 006			14:20		EFF	8	3	1	1																	X	X	X	
	3	TB-101018 - JJC - 2					TB	2	2																						X
	4	WELL 1			10:10		GW	3	3																						X
	5	WELL 3R			11:20		GW	3	3																						X
	6	T96 EFFLUENT (GW)			13:40		GW	3	3																						X
Turnaround Time (Business days)		Approved By (Accutest P#) / Date		Data Deliverable Information				Comments / Special Instructions																							
<input type="checkbox"/> Std. 18 Business Days <input checked="" type="checkbox"/> Std. 18 Business Days (by Contract only) <input type="checkbox"/> 18 Day RUSH <input type="checkbox"/> 9 Day RUSH <input type="checkbox"/> 3 Day EMERGENCY <input type="checkbox"/> 2 Day EMERGENCY <input type="checkbox"/> 1 Day EMERGENCY Emergency & Rush TIA data available via Lablink		Approved By (Accutest P#) / Date INITIAL ASSESSMENT LABEL VERIFICATION		<input type="checkbox"/> Commercial "A" (Level 1) <input type="checkbox"/> Commercial "B" (Level 2) <input type="checkbox"/> FULLT1 (Level 3+4) <input type="checkbox"/> NJ Reduced <input type="checkbox"/> Commercial "C" Commercial "A" = Results Only Commercial "B" = Results + QC Summary NJ Reduced = Results + QC Summary + Paged Raw data				***VOC 624 RL's 0.8 ug/L NYASP Category A NYASP Category B State Forms <input checked="" type="checkbox"/> EDO Format-EOHS 6 <input checked="" type="checkbox"/> Other COEMC+																							
Submitted by: [Signature]		Date Taken: 10/12/18		Sample Custody must be documented below each time samples change possession, including courier delivery.				Received By: [Signature]																							
Submitted by Sample:		Date Taken:		Received By: [Signature]				Date Taken: 10/12/18																							
Submitted by:		Date Taken:		Received By: [Signature]				Date Taken:																							
				Custody Seal #				<input type="checkbox"/> Intact <input type="checkbox"/> Not intact																							
				Preserved where applicable				<input type="checkbox"/> On Ice <input type="checkbox"/> Cooler Temp. [Signature]																							

5.2  
5

A20  
M2Y  
V678

## Report of Analysis

<b>Client Sample ID:</b> OUTFALL 005		<b>Date Sampled:</b> 10/10/18
<b>Lab Sample ID:</b> JC75865-1		<b>Date Received:</b> 10/12/18
<b>Matrix:</b> AQ - Effluent		<b>Percent Solids:</b> n/a
<b>Method:</b> EPA 624.1		
<b>Project:</b> Northrop Grumman, OU2 System, Bethpage, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N272442.D	1	10/17/18 11:42	CSF	n/a	n/a	VN11484
Run #2 <sup>a</sup>	1A185881.D	1	10/19/18 11:38	CSF	n/a	n/a	V1A7944

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

### VOA OU2 SPDES List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-66-3	Chloroform	ND	0.50	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	0.50	0.45	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.50	0.32	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.50	0.46	ug/l	
76-13-1	Freon 113 <sup>b</sup>	ND	0.50	0.50	ug/l	
75-09-2	Methylene chloride	ND	0.50	0.33	ug/l	
127-18-4	Tetrachloroethene	ND	0.50	0.41	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.29	ug/l	
79-01-6	Trichloroethene	1.5	0.50	0.29	ug/l	
75-01-4	Vinyl chloride <sup>b</sup>	ND <sup>c</sup>	0.50	0.17	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	100%	93%	76-122%
2037-26-5	Toluene-D8 (SUR)	98%	104%	80-120%
460-00-4	4-Bromofluorobenzene (SUR)	88%	101%	80-120%
1868-53-7	Dibromofluoromethane (S)	98%	98%	80-120%

- (a) Sample analyzed with head-space vial.
- (b) MDL from current instrument.
- (c) Result is from Run# 2

---

ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
F = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

4.1  
4

## Report of Analysis

Client Sample ID:	OUTFALL 005	Date Sampled:	10/10/18
Lab Sample ID:	JC75865-1	Date Received:	10/12/18
Matrix:	AQ - Effluent	Percent Solids:	n/a
Project:	Northrop Grumman, OU2 System, Bethpage, NY		

4.1  
4

**Total Metals Analysis**

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Iron	< 100	100	ug/l	1	10/18/18	10/18/18 ND	EPA 200.7 <sup>1</sup>	EPA 200.7 <sup>2</sup>
Manganese	< 15	15	ug/l	1	10/18/18	10/18/18 ND	EPA 200.7 <sup>1</sup>	EPA 200.7 <sup>2</sup>

(1) Instrument QC Batch: MA45485

(2) Prep QC Batch: MP9700

---

RL = Reporting Limit

Report of Analysis

Client Sample ID:	OUTFALL 005	Date Sampled:	10/10/18
Lab Sample ID:	JC75865-1	Date Received:	10/12/18
Matrix:	AQ - Effluent	Percent Solids:	n/a
Project:	Northrop Grumman, OU2 System, Bethpage, NY		

4.1  
4

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By Method
Nitrogen, Nitrate + Nitrite	4.1	0.10	0.090	mg/l	1	10/26/18 09:19 BM	EPA 353.2/LACHAT
Nitrogen, Total <sup>a</sup>	4.1	0.30	0.21	mg/l	1	10/26/18 09:19 BM	SM4500 A-11
Nitrogen, Total Kjeldahl	0.12 U	0.20	0.12	mg/l	1	10/22/18 10:02 BM	EPA 351.2/LACHAT

(a) Calculated as: (Nitrogen, Total Kjeldahl) + (Nitrogen, Nitrate + Nitrite)

RL = Reporting Limit  
MDL = Method Detection Limit

U = Indicates a result < MDL  
I = Indicates a result >= MDL but < RL

## Report of Analysis

Client Sample ID:	OUTFALL 006	Date Sampled:	10/10/18
Lab Sample ID:	JC75865-2	Date Received:	10/12/18
Matrix:	AQ - Effluent	Percent Solids:	n/a
Method:	EPA 624.1		
Project:	Northrop Grumman, OU2 System, Bethpage, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N272443.D	1	10/17/18 12:11	CSF	n/a	n/a	VN11484
Run #2 <sup>a</sup>	1A185882.D	1	10/19/18 12:03	CSF	n/a	n/a	V1A7944

Run #	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

## VOA OU2 SPDES List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-66-3	Chloroform	ND	0.50	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	0.50	0.45	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.50	0.32	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.50	0.46	ug/l	
76-13-1	Freon 113 <sup>b</sup>	ND	0.50	0.50	ug/l	
75-09-2	Methylene chloride	ND	0.50	0.33	ug/l	
127-18-4	Tetrachloroethene	ND	0.50	0.41	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.29	ug/l	
79-01-6	Trichloroethene	0.36	0.50	0.29	ug/l	J
75-01-4	Vinyl chloride <sup>b</sup>	ND <sup>c</sup>	0.50	0.17	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	101%	96%	76-122%
2037-26-5	Toluene-D8 (SUR)	99%	104%	80-120%
460-00-4	4-Bromofluorobenzene (SUR)	86%	101%	80-120%
1868-53-7	Dibromofluoromethane (S)	100%	100%	80-120%

(a) Sample analyzed with head-space vial.

(b) MDL from current instrument.

(c) Result is from Run# 2

ND = Not detected      MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



# Report of Analysis

Client Sample ID:	OUTFALL 006	Date Sampled:	10/10/18
Lab Sample ID:	JC75865-2	Date Received:	10/12/18
Matrix:	AQ - Effluent	Percent Solids:	n/a
Project:	Northrop Grumman, OU2 System, Bethpage, NY		

4.2  
4

## Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Iron	< 100	100	ug/l	1	10/18/18	10/18/18 ND	EPA 200.7 <sup>1</sup>	EPA 200.7 <sup>2</sup>
Manganese	< 15	15	ug/l	1	10/18/18	10/18/18 ND	EPA 200.7 <sup>1</sup>	EPA 200.7 <sup>2</sup>

(1) Instrument QC Batch: MA45485

(2) Prep QC Batch: MP9700

## Report of Analysis

Client Sample ID:	OUTFALL 006	Date Sampled:	10/10/18
Lab Sample ID:	JC75865-2	Date Received:	10/12/18
Matrix:	AQ - Effluent	Percent Solids:	n/a
Project:	Northrop Grumman, OU2 System, Bethpage, NY		

4.2  
4

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By Method
Nitrogen, Nitrate + Nitrite	4.7	0.10	0.090	mg/l	1	10/26/18 09:20 BM	EPA 353.2/LACHAT
Nitrogen, Total <sup>a</sup>	4.7	0.30	0.21	mg/l	1	10/26/18 09:20 BM	SM4500 A-11
Nitrogen, Total Kjeldahl	0.12 U	0.20	0.12	mg/l	1	10/22/18 10:03 BM	EPA 351.2/LACHAT

(a) Calculated as: (Nitrogen, Total Kjeldahl) + (Nitrogen, Nitrate + Nitrite)

---

RL = Reporting Limit  
 MDL = Method Detection Limit

U = Indicates a result < MDL  
 J = Indicates a result > = MDL but < RL



## Report of Analytical Results

**Client:** ARCADIS

**Lab ID:** SL9923-1

**Client ID:** OUTFALL 005

**Project:** Program 3-OU2 TS/SPDES Bethpage, NY

**SDG:** SL9923

**Lab File ID:** G4392.D

**Sample Date:** 10-OCT-18

**Received Date:** 11-OCT-18

**Extract Date:** 15-OCT-18

**Extracted By:** DP

**Extraction Method:** SW846 3520C

**Lab Prep Batch:** WG238592

**Analysis Date:** 18-OCT-18

**Analyst:** JCG

**Analysis Method:** SW846 8270D SIM

**Matrix:** AQ

**% Solids:** NA

**Report Date:** 02-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL	ADJ MDL
1,4-Dioxane		6.1	ug/L	1	.25	0.24	0.081
1,4-Dioxane-D8		59.2	%				

## Report of Analytical Results

**Client:** ARCADIS

**Lab ID:** SL9923-2

**Client ID:** OUTFALL 006

**Project:** Program 3-OU2 TS/SPDES Bethpage, NY

**SDG:** SL9923

**Lab File ID:** G4393.D

**Sample Date:** 10-OCT-18

**Received Date:** 11-OCT-18

**Extract Date:** 15-OCT-18

**Extracted By:** DP

**Extraction Method:** SW846 3520C

**Lab Prep Batch:** WG238592

**Analysis Date:** 18-OCT-18

**Analyst:** JCG

**Analysis Method:** SW846 8270D SIM

**Matrix:** AQ

**% Solids:** NA

**Report Date:** 02-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL	ADJ MDL
1,4-Dioxane		11	ug/L	1	.25	0.24	0.080
1,4-Dioxane-D8		46.9	%				



## Report of Analysis

<b>Client Sample ID:</b> WSP-7	<b>Date Sampled:</b> 10/10/18
<b>Lab Sample ID:</b> JC75864-1	<b>Date Received:</b> 10/12/18
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> EPA 624.1	
<b>Project:</b> Northrop Grumman, OU3 BPGWCS System, Bethpage, NY	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	T234538.D	1	10/24/18 11:39	CSF	n/a	n/a	VT9659
Run #2	1A185884.D	1	10/19/18 12:52	CSF	n/a	n/a	V1A7944

Run #	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

## VOA OU2 SPDES List

CAS No.	Compound	Result	RL	MDL	Units	Q
106-99-0	1,3-Butadiene	ND	5.0		ug/l	
67-66-3	Chloroform	ND	0.50	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	0.50	0.45	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.50	0.32	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.50	0.46	ug/l	
76-13-1	Freon 113 <sup>a</sup>	ND <sup>b</sup>	0.50	0.45	ug/l	
75-68-3	1-chloro-1,1-difluoroethane	ND	5.0		ug/l	
75-09-2	Methylene chloride	ND	0.50	0.33	ug/l	
127-18-4	Tetrachloroethene	ND	0.50	0.41	ug/l	
71-55-6	1,1,1-Trichloroethane	ND <sup>b</sup>	0.50	0.29	ug/l	
79-01-6	Trichloroethene	ND	0.50	0.29	ug/l	
75-01-4	Vinyl chloride <sup>a</sup>	ND <sup>b</sup>	0.50	0.17	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	104%	95%	76-122%
2037-26-5	Toluene-D8 (SUR)	104%	102%	80-120%
460-00-4	4-Bromofluorobenzene (SUR)	105%	104%	80-120%
1868-53-7	Dibromofluoromethane (S)	101%	101%	80-120%

(a) MDL from current instrument.

(b) Result is from Run# 2

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b>	WSP-7	<b>Date Sampled:</b>	10/10/18
<b>Lab Sample ID:</b>	JC75864-1	<b>Date Received:</b>	10/12/18
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Project:</b>	Northrop Grumman, OU3 BPGWCS System, Bethpage, NY		

4.1  
4

### Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Iron	145	100	ug/l	1	10/16/18	10/17/18 ND	EPA 200.7 <sup>1</sup>	EPA 200.7 <sup>2</sup>
Manganese	47.3	15	ug/l	1	10/16/18	10/17/18 ND	EPA 200.7 <sup>1</sup>	EPA 200.7 <sup>2</sup>

(1) Instrument QC Batch: MA45475

(2) Prep QC Batch: MP9657



## Report of Analysis

<b>Client Sample ID:</b> WSP-7		<b>Date Sampled:</b> 10/10/18
<b>Lab Sample ID:</b> JC75864-1		<b>Date Received:</b> 10/12/18
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Project:</b> Northrop Grumman, OU3 BPGWCS System, Bethpage, NY		

4.1  
4

### General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate + Nitrite	2.6	0.10	mg/l	1	10/26/18 09:16	BM	EPA 353.2/LACHAT
Nitrogen, Total <sup>a</sup>	2.6	0.30	mg/l	1	10/26/18 09:16	BM	SM4500 A-11
Nitrogen, Total Kjeldahl	< 0.20	0.20	mg/l	1	10/22/18 10:02	BM	EPA 351.2/LACHAT

(a) Calculated as: (Nitrogen, Total Kjeldahl) + (Nitrogen, Nitrate + Nitrite)



## Report of Analytical Results

**Client:** ARCADIS

**Lab ID:** SL9924-1

**Client ID:** WSP-7

**Project:** Program 4-OU3 TS/SPDES Bethpage, NY

**SDG:** SL9924

**Lab File ID:** G4394.D

**Sample Date:** 10-OCT-18

**Received Date:** 11-OCT-18

**Extract Date:** 15-OCT-18

**Extracted By:** DP

**Extraction Method:** SW846 3520C

**Lab Prep Batch:** WG238592

**Analysis Date:** 18-OCT-18

**Analyst:** JCG

**Analysis Method:** SW846 8270D SIM

**Matrix:** AQ

**% Solids:** NA

**Report Date:** 01-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL	ADJ MDL
1,4-Dioxane		0.57	ug/L	1	.25	0.24	0.080
1,4-Dioxane-D8		47.3	%				