OPERABLE UNIT 2 (OFF-SITE) GROUNDWATER TREATMENT SYSTEM

Operations, Maintenance, and Monitoring Report
April 1 through June 30, 2015

Lockheed Martin Corporation
Former Unisys Facility Great Neck
Lake Success, New York
NYSDEC Site ID# 130045

Prepared for:

Lockheed Martin Corporation

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September 2, 2015

Project No. 3650140002.02.208

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ACRONYMS AND ABBREVIATIONS

Access Agreement	Remediation Access and Licensing Agreement
AGC	Annual Guideline Concentration
amsl	above mean sea level
AMEC	AMEC E&E PC
BBLES	BBL Environmental Services, Inc.
bls	below land surface
DAR-1	Division of Air Resources Air Guide-1
ECU	emission control unit
EDDs	electronic data deliverables
Freon 12	trichlorofluoromethane
Freon 113	1,1,2-trichlorotriflouroethane
gpm	gallons per minute
Great Neck UFSD	Great Neck Union-Free School District
GWTS	Groundwater Treatment System
HOA	Hands/Off/Automatic
hp	horsepower
lbs	pounds
LSH	level switch high
LSHH	level switch high high
LSL	level switch low
LSLL	level switch low low
MS/MSD	matrix spike/matrix spike duplicate
NYSDEC	New York State Department of Environmental Conservation
O&M	operation and maintenance
Off-Site IRM	Off-Site Interim Remedial Measure

OM&M	operation, maintenance, and monitoring
OU2	Operable Unit 2
PADM	Performance Analysis and Design Modification Plan
PLC	programmable logic controller
PPZ	potassium permanganate-impregnated zeolite
RAOs	remedial action objectives
Report	Operable Unit-2 (OU2) Groundwater Treatment System Operations, Maintenance, and Monitoring Report, April 1 through June 30, 2015
ROD	Record of Decision
SCADA	Supervisory Control and Data Acquisition
SGC	Short-term Guideline Concentration
Site	Former Unisys Facility, Lake Success, NY
TED	Technical Environmental Data
TVOC	total volatile organic compound
USEPA	U.S. Environmental Protection Agency
VFD	Variable Frequency Drive
VOC	volatile organic compound
VPGAC	vapor-phase granular-activated carbon

1.0 INTRODUCTION

This Operable Unit-2 (OU2) Groundwater Treatment System Operations, Maintenance, and Monitoring Report, April 1 through June 30, 2015 (Report) meets the requirements specified in the New York State Department of Environmental Conservation (NYSDEC) - approved Performance Analysis and Design Modification Plan (PADM; BBL Environmental Services, Inc. [BBLES], 2006a) for the Off-Site OU2 Groundwater Treatment System (GWTS), located at 60 Tanners Road in Lake Success, New York, associated with the Former Unisys Facility located at 1111 Marcus Avenue in Lake Success, New York. Figure 1 provides a Site Location Map.

The Record of Decision (ROD) for OU2 was issued by the NYSDEC in December, 2014. The approved ROD encompasses the operation of the GWTS that was part of the Off-Site Interim Remedial Measure (IRM). This Report summarizes the quarterly Off-Site OU2 GWTS operation, maintenance, and monitoring (OM&M) activities conducted from April 1 through June 30, 2015 by AMEC E&E PC (AMEC).

2.0 OU2 OFF-SITE GROUNDWATER TREATMENT SYSTEM DESCRIPTION

The OU2 GWTS consists of the following major components:

- One groundwater recovery well (RW-100 [NYSDEC well No. N-13391]), installed in 2003 to a total borehole depth of 335 feet below land surface (bls) (-191 feet above mean sea level [amsl]) and screened in three locations between 190 and 210 feet bls (-33 and -53 feet amsl), 238 and 260 feet bls (-81 and -103 feet amsl), and 276 and 324 feet bls (-119 and -167 feet amsl).
- Two Layne Christensen Company air strippers (AS-210 and AS-220; model number PCS 108-24) and associated clearwells (CW-210 and CW-220).
- Two clearwell pumps (P-211 and P-225):
    - One 10-horsepower (hp) Christensen Pump (P-211; model number 11 CLC Single Stage) associated with CW-210.
    - One 25 hp Christensen Pump (P-225; model number 11 CLC Two Stage) associated with CW-220.
- One 75 hp 6440 series Northern Blower air blower (B-310).
- One Reznor duct heater (model number RP350F-8-S-MV) to heat the air stream prior to treatment (DH-500).
- Five TIGG Nitrox emission control units (ECUs), which include:
    - Three ECUs (model number NB-20), filled with approximately 24,000 pounds (lbs) of virgin coconut-based VPGAC (VPGAC ECU-1 through ECU-3). The last media change-out (ECU-1, ECU-2, and ECU-3) was completed on April 24, 2014.
    - Two ECUs (model number NB-15), each filled with approximately 22,000 lbs of Hydrosil HS-600 potassium permanganate-impregnated zeolite (PPZ; ECU-4 and ECU-5). Media change-out was performed for PPZ ECU-4 on April 24, 2014. As of December 31, 2014, no media change-out has been performed for PPZ ECU-5 since system startup.
- Two Hayward Maxiline bag filters (BF-410 and BF-420; model numbers 0802-AB10-080A-11HF), each containing eight 25-micron filter bags, to filter the effluent groundwater prior to discharge to the diffusion wells. The filters are configured to operate one at a time. The off-line bag filter acts as a standby unit that will automatically be placed on line when the on-line bag filter differential pressure reaches the high advisory set point.
- Three diffusion wells (DW-100 [NYSDEC well No. N-13392D], DW-101 [NYSDEC well No. N-13393D], and DW-102 [NYSDEC well No. N-13394D]), with one or two diffusion wells on line at a time as part of the semi-annual diffusion well rotation program.

The Off-Site OU2 GWTS process is summarized below.

Groundwater impacted by volatile organic compounds (VOCs) is extracted from the subsurface Magothy Aquifer and pumped at a nominal flow rate of approximately 500 gallons per minute through a subsurface dual-wall containment pipeline to the Off-Site OU2 GWTS for treatment prior to being recharged to the aquifer. Specifically, groundwater is extracted from one recovery well (RW-100) and pumped through two air strippers (each with an associated clearwell underneath to help equalize water flow through the system), arranged in series, to remove VOCs from the groundwater. RW-100 is installed on the Great Neck Union-Free School District (Great Neck UFSD) property, at a location selected to capture groundwater where VOC concentrations were observed to be highest in the plume. The treated groundwater is then pumped through a single-walled subsurface pipeline to the diffusion wells, where it is reintroduced into the aquifer. The Non-Detect Performance Standard listed in the Remediation Access and Licensing Agreement (Access Agreement; Lockheed Martin 2003) between Lockheed Martin and the Great Neck UFSD requires that the concentrations of site-related compounds in the treated groundwater be reduced to below their respective laboratory detection limits.

During air stripping, impacted groundwater enters the first air stripper (AS-210) at the top, and the exhaust air from the effluent of the second air stripper (AS-220) enters at the bottom. The partially treated groundwater drains by gravity into the first clearwell (CW-210) prior to being pumped into the top of the second air stripper (AS-220). The treated groundwater then drains by gravity into the second clearwell (CW-220). The treated groundwater is then pumped through the 25-micron particulate bag filter prior to being discharged to the diffusion wells. Ambient air at a flow rate of approximately 4,000 cubic feet per minute enters the second clearwell (CW-220) and is pulled through the second air stripper (AS-220). At this point, VOCs are transferred from the groundwater to the counter-current air stream. The VOC-laden air stream (off-gas) is then blown into the first clearwell (CW-210) and upward through the first air stripper (AS-210). The off-gas air stream leaving the first air stripper (AS-210) is heated by the duct heater (DH-500) to decrease its relative humidity and is treated through the five ECUs to remove VOCs prior to discharge to the atmosphere. The air stripper off-gas passes through the three VPGAC-filled ECUs, arranged in series, where most of the VOCs are removed, and then through the two PPZ-filled ECUs, also arranged in series, where the remaining VOCs (including vinyl chloride, if present) are removed. The Non-Detect Performance Standard in the Access Agreement (Lockheed Martin, 2003) requires that the

concentrations of site-related compounds in the air stripper off-gas air stream be reduced to below their respective laboratory detection limits. Figure 2 presents a Site Plan of the Off-Site OU2 GWTS, and Figure 3 provides a System Schematic depicting system sampling locations.

3.0 OPERATION AND MAINTENANCE ACTIVITIES

This section and Table 1 summarize the Off-Site OU2 GWTS operation and maintenance (O&M) activities. The following O&M activities were conducted during the current reporting period:

- The Off-Site OU2 GWTS operated for 87.0 out of 90 days (95.6 percent uptime) during the reporting period. Over the past 12 months of operation, from July 1, 2014 through June 30, 2015, the Off-Site OU2 GWTS operated for approximately 344 out of 365 days (94.2 percent uptime). The total system downtime during the current reporting period was comprised of downtime resulting from scheduled maintenance (59 percent of downtime), unscheduled alarm activities (28 percent of downtime), and power anomalies/storms (13 percent of downtime). System downtime during the current reporting period is summarized in this section and outlined in Table 1.
- During the reporting period, the Off-Site OU2 GWTS was monitored three times per day, seven days per week, either by physical site inspections or via remote monitoring through the Supervisory Control and Data Acquisition (SCADA) system. The majority of site monitoring during normal business hours was conducted by physical site inspections. During this reporting period, system parameter readings were recorded continuously by the SCADA system.
- The semi-annual diffusion well rotation was conducted during 2015 Q1 on March 16, 2015. During the semi-annual diffusion well rotation, DW-100 and DW-102 were placed in service and DW-101 was isolated. DW-100 and DW-102 were active the entirety of the current reporting period. The next semi-annual diffusion well rotation is tentatively planned for September 2015.
- On April 1, the filter housing was switched from F-411 to F-421. F-421 was operational from April 1 to May 26, 2015. On May 26, the filter housing was switched from F-421 to F-411. F-411 was operational from May 26 through the end of the reporting period. Bag filters were changed on April 7 and May 26, 2015.
- In accordance with Section 7.2 of the Off-Site Interim Remedial Measure Operation, Maintenance, and Monitoring Manual (Off-Site IRM OM&M Manual; BBLES 2006b), monthly alarm and operator testing was performed on April 15, May 3, and June 9, 2015. For all alarm tests, the system shut down as designed, and alarm interlocks, as well as alarm notification components, were confirmed to operate properly. Specifically, the following alarm tests were performed:
    - **April 7, 2015.** The Off-Site OU2 GWTS was shut down by staff on April 7 from 12:17 to 12:21, 12:45 to 12:54, and 13:54 to 15:10 for monthly alarm testing and bag filter changes. The critical CW220 level switch high high (LSHH) alarm and the primary CW220 level switch high (LSH) and LSHH alarms were tested.
    - **May 22 and May 26, 2015**. The Off-Site OU2 GWTS was shut down by staff for monthly alarm testing on May 22 from 10:41 to 10:44 and from 10:53 to 10:56 to test the primary CW210 LSL alarm. Additional testing was not finalized as the CW210 pump variable frequency drive (VFD) tripped before a low level could be reached. On May 26, the system was shut down from 10:43 to 11:51, 11:59 to 12:20,

and 13:08 to 14:00 to complete monthly alarm testing. The critical and primary CW210 level switch low low (LSLL) alarms were tested.

- **June 10, 2015**. The Off-Site OU2 GWTS was shut down by staff for monthly alarm testing activities at 13:50 to 14:11 and from 14:17 to 14:30. The primary CW210 LSH, and LSHH alarms were tested. The critical CW210 LSHH alarm was also tested. The Off-Site OU2 GWTS was shut down by alarm on April 21 at 00:51 due to power issues caused by lightning storms in the area. The system was restarted the same day at 10:20.

- The Off-Site OU2 GWTS was shut down by staff on April 21 at 10:59 due to a RW-100 LSH alarm condition cause by the failure of a pipe fitting on the Cla valve. The system was restarted the same day at 14:00.
- The Off-Site OU2 GWTS was shut down by staff on May 12 at 07:25 to complete the ECU GAC change-out. Twenty-four (24) sacks (24,000 pounds) of spent media were removed and 24 sacks of virgin VPGAC media were installed. The system was restarted on May 14 at 12:36 following the completion of the ducting spool lead/lag rotation.
- The Off-Site OU2 GWTS was shut down by staff on May 15 at 12:55 to replace a leaking pipe fitting in the RW-100 vault. The system was restarted the same day at 13:25. Note, the OU2 GWTS was sampled prior to the shutdown at 12:05 to 12:12.
- The Off-Site OU2 GWTS was shut down by staff on May 26 for bag filter changes which were performed while the system was shut down for alarm testing. The system was off from 10:43 to 11:51, 11:59 to 12:20 and 13:08 to 14:00 and the time of the bag filter changes overlapped with the alarm testing.
- The Off-Site OU2 GWTS was shut down by staff on May 28 at 12:09 to test the system response to manual changes to the CW210 VFD. The system was restarted the same day at 12:14.
- The Off-Site OU2 GWTS shut down on June 1 at 11:44 when the floor sump float switch was triggered during floor cleaning activities. The system was restarted the same day at 12:14.
- The Off-Site OU2 GWTS shut down on June 4 at 10:35 due to a LSH alarm in the RW-100 vault caused by a leaking o-ring seal on the basket strainer. The system was left off overnight to allow liquid gasket to cure and create a water tight seal. On June 5, pump RW-100 was malfunctioning and after troubleshooting it was found the programmable logic controller (PLC) code was stuck in Hand at the Hand/Off/Automatic (HOA) switch. Power to the system was reset and the system was restarted at 10:43 on June 5.
- The Off-Site OU2 GWTS was shut down on June 24 at 11:26 due to a utility power outage. The system was restarted the same day at 14:00.

4.0 COMPLIANCE MONITORING ACTIVITIES

This section summarizes monthly compliance sampling and monitoring activities completed during the current reporting period.

In accordance with the Off-Site IRM OM&M Manual (BBLES, 2006b) and NYSDEC Sampling Reduction Program Approval e-mail (NYSDEC, 2012), three groundwater and vapor compliance sampling events (two monthly and one combined monthly and quarterly) were completed during the current reporting period. The monthly groundwater and vapor compliance sampling events were completed on April 16 and May 15, 2015. The combined monthly and quarterly groundwater and vapor compliance sampling event was completed on June 9, 2015. The sampling events consisted of the following:

- **April 16:**
  - Monthly groundwater compliance sampling consisted of collecting one treatment system influent water sample (WSP-1) with matrix spike/matrix spike duplicate (MS/MSD), one treatment system effluent water sample (WSP-3), and one duplicate system effluent water sample.
  - Monthly vapor compliance sampling consisted of collecting one system influent vapor sample (VSP-1), one ECU-2 influent vapor sample (VSP-2), one ECU-4 influent vapor sample (VSP-4), one air stripper AS-220 effluent vapor sample (VSP-6), one system effluent vapor sample (VSP-8), and one duplicate system effluent vapor sample.
- **May 15:**
  - Monthly groundwater compliance sampling consisted of collecting one treatment system influent water sample (WSP-1) with matrix spike/matrix spike duplicate (MS/MSD), one treatment system effluent water sample (WSP-3), and one duplicate system effluent water sample.
  - Monthly vapor compliance sampling consisted of collecting one system influent vapor sample (VSP-1), one ECU-2 influent vapor sample (VSP-2), one ECU-4 influent vapor sample (VSP-4), one air stripper AS-220 effluent vapor sample (VSP-6), one system effluent vapor sample (VSP-8), and one duplicate system effluent vapor sample.
- **June 9:**
  - Quarterly groundwater compliance sampling consisted of collecting one treatment system influent water sample (WSP-1) with matrix spike/matrix spike duplicate (MS/MSD), one clearwell-210 (CW-210) effluent water sample (WSP-2), one treatment system effluent water sample (WSP-3), and one duplicate system effluent water sample. Additional samples were collected to be analyzed by a different

analysis method. These samples included one WSP effluent sample with one duplicate. Also included was a MS and MSD.

- Quarterly vapor compliance sampling consisted of collecting one system influent vapor sample (VSP-1), one ECU-2 influent vapor sample (VSP-2), one ECU-3 influent vapor sample (VSP-3), one ECU-4 influent vapor sample (VSP-4), one air stripper (AS-220) effluent vapor sample (VSP-6), one ECU-5 influent vapor sample (VSP-7), one system effluent vapor sample (VSP-8), and one duplicate system effluent vapor sample.

Water samples were submitted to TestAmerica, Inc., in Shelton, Connecticut, for VOC analysis using a modified U.S. Environmental Protection Agency (USEPA) Method OLM04.2, including Freon 22, Freon 115, Freon 123, and Freon 152a. Vapor samples were submitted to ALS Group (formerly Columbia Analytical Services, Inc.) in Simi Valley, California, for VOC analysis using USEPA Method TO-15 modified, including Freon 113 and Freon 22.

Water sample analytical results are included in Appendix A and vapor sample analytical results are included in Appendix B. The laboratory reports and sample validation reports are not included in this report, but are available upon request. The analytical data is stored in the AMEC Technical Environmental Data (TED) database and is also available upon request. NYSDEC EQuIS electronic data deliverables (EDDs) will be created on a semi-annual basis (every six months) and submitted to NYSDEC. Field and analytical data collected during these compliance sampling events were used to assess performance of the Off-Site OU2 GWTS. System performance is discussed in Section 5 of this report.

5.0 SYSTEM PERFORMANCE AND DISCUSSION OF OPERATION, MAINTENANCE, AND MONITORING RESULTS

In accordance with the PADM (BBLES 2006a), the following tables and graphs were developed to summarize system performance during the current reporting period:

- Summary of Influent Water Sample (WSP-1) and Effluent Water Sample (WSP-3) Analytical Results (Tables 2 and 3, respectively), including treatment system removal efficiency (Table 3). Complete validated water sample analytical results, per event, are included in Appendix A.
- Summary of Influent Vapor Sample (VSP-1) and Effluent Vapor Sample (VSP-8) Analytical Results (Tables 4 and 5, respectively), including treatment system removal efficiency (Table 5). Complete, validated vapor sample analytical results, per event, are included in Appendix B.
- System Parameters, including flow rates, line pressures, and discharge temperature (Table 6).
- Summary of Groundwater Recovered and Mass Removed (Table 7).
- Regulatory Status of Air Emissions through June 2015 (Table 8).
- Cumulative Total Volatile Organic Compound (TVOC) Mass Removed through June 2015 (Figure 4).
- Influent TVOC Concentrations through June 2015 (Figure 5).
- TVOC Mass Removal Rates through June 2015 (Figure 6).

5.1 SYSTEM OPERATION AND EFFECTIVENESS

Off-Site OU2 GWTS OM&M results for the current reporting period are presented below:

- Off-Site OU2 GWTS effluent water quality met NYSDEC requirements during this reporting period because the concentrations of individual VOCs in the system effluent did not exceed project target effluent limits (Table 3).
    - No site-related or non-site related compounds were detected in the system effluent water samples at or above their laboratory reporting limits
    - For site-related compounds, the overall system efficiency was greater than 98.1 percent to greater than 98.5 percent throughout the quarter. Incorporating non-site related compounds into the calculation generates a range of efficiency values from greater than 97.6 percent to greater than 98.5 percent.
- Effluent vapor analytical results (Table 5):
    - For site-related compounds, the overall system efficiency ranged in efficiency from greater than 99.4 percent to greater than 99.5 percent. Incorporating non-site related compounds into the calculation (including Freon 12 and Freon 22), which the vapor emission control system was not designed to remove, generates a range of vapor

emission control system overall efficiency values of greater than 96.5 to greater than 98.2 percent.

- Total volume of groundwater recovered (Table 7):
  - During this reporting period: Approximately 64,747,000 gallons. As referenced in Table 7, the volume of groundwater recovered reported in this report is calculated based on recovery well totalizer readings recorded during routine monitoring events. Groundwater recovery during this reporting period is based on the operational period from March 27, 2015 to June 26, 2015.
  - Project total (since July 2004): Approximately 2.5 billion gallons.
- Total mass of VOCs recovered and estimated mass removal rates for this reporting period (Table 7, Figures 4 and 6):
  - During this reporting period: Approximately 100 lbs of VOCs were recovered at an average rate of 1.2 lbs per operational day. As referenced in Table 7, VOC mass recovery reported in this report is calculated based on recovery well totalizer readings that were recorded near each month end. VOC mass recovery during this reporting period is based on the operation period from March 27, 2015 to June 26, 2015.
  - Project total (since July 2004): Approximately 10,770 lbs of VOCs were recovered.

5.2 REGULATORY STATUS OF AIR EMISSIONS

Comparisons of effluent vapor concentrations versus the NYSDEC Division of Air Resources Air Guide-1 (DAR-1) Model Short-term Guideline Concentrations (SGCs) and a cumulative percent of the annual allowable mass discharged for the Off-Site OU2 GWTS, based on NYSDEC DAR-1 SCREEN Model Annual Guideline Concentrations (AGCs), for the April 1 to June 30, 2015 sampling events are presented in Table 8. Off-Site OU2 GWTS calculations performed in accordance with the NYSDEC DAR-1 Guidelines for the Control of Toxic Ambient Air Contaminants (NYSDEC, 1991) and AGC/SGC Tables (NYSDEC, 2014) are presented in Appendix C.

The Off-Site OU2 GWTS vapor effluent met NYSDEC requirements throughout the reporting period, as indicated by the following:

- The actual concentrations of individual VOCs in the vapor effluent samples collected during this reporting period did not exceed their respective SGCs (Table 8).
- The modeled maximum concentrations of individual VOCs, calculated using the NYSDEC DAR-1 SCREEN Model, in the vapor effluent and analyzed individually for a rolling 12-month period, did not exceed their respective AGCs (Table 8).

6.0 GROUNDWATER MONITORING ACTIVITIES

Water samples and groundwater elevations were collected from nine site monitoring wells (31GL, 31MI, 31ML, 43MI, 43MU, 46MI, 46ML, 51MI, 51ML) and water samples were collected from two supply wells (N12999, and N13000) between April 8 and 9, 2015. The water samples were submitted to TestAmerica, Inc., in Shelton, Connecticut, for VOC analysis using a modified USEPA Method OLM04.2, including Freon 22, Freon 115, Freon 123, and Freon 152a. Analytical results for the wells sampled during this reporting period are included in Appendix D. During the April 2015 sampling event, irrigation well N-2169 was offline and municipal well N-5099 was offline for construction and therefore were not sampled. .

Groundwater quality evaluation and potentiometric surface maps of the Upper Glacial aquifer, along with the Upper, Middle, and Basal portions of the Magothy aquifer, will be included in the 2015 Annual Groundwater Report to be provided under separate cover.

7.0 CONCLUSIONS AND RECOMMENDATIONS

All recommendations and action items from the previous reporting period were addressed during this reporting period.

Based on the information provided in this report, the Off-Site OU2 GWTS has continued to operate as designed. The ECU3 GAC was changed on May 12, 2015 based on analytical results from the March 16 sampling event. The following recommendations and action items are planned to be implemented during the next operational quarter, which will be modified to include only July and August 2015 (subsequent quarters will comprise three months):

- Continue operating the existing 500 gpm OU2 GWTS.
- Continue system compliance sampling.
- Continue long-term remote system monitoring at the current frequency of three times per day, 7 days per week.
- Continue preventive maintenance.
- Repair effluent vapor flow meter.
- Develop a plan for and then replace ECU hatch latches for OU2 vessels.
- Continue work to implement relevant requirements from the OU2 ROD (NYSDEC, 2014), which details the selected remedy intended to attain the remedial action objectives (RAOs) for the OU2 Site, including but not limited to:
    - Implementation of a Public Water Supply Protection and Mitigation Program.
    - Preparation of a Site Management Plan, which includes a Monitoring Plan, to assess the performance and effectiveness of the remedy.
    - Upgrade of the current 730 gpm system at OU1 to include installation of a new recovery well (RW-3) to collect and treat an additional volume of groundwater bringing the total system flow at OU1 to 850 gpm.

8.0 REFERENCES

BBL Environmental Services, Inc. (BBLES). 2006a. Performance Analysis and Design Modification Plan, Off-Site Interim Remedial Measure, Former Unisys Facility, Great Neck, New York. Prepared for Lockheed Martin Corporation. March 2006.

BBLES. 2006b. Off-Site Interim Remedial Measure Operation, Maintenance, and Monitoring Manual, Off-Site Interim Remedial Measure, Former Unisys Facility, Great Neck, New York. Prepared for Lockheed Martin Corporation. March 2006.

Lockheed Martin Corporation. 2003. Remediation Access and Licensing Agreement. April 14, 2003.

New York State Department of Environmental Conservation (NYSDEC). 1991. DAR-1 Guidelines for the Control of Toxic Ambient Air Contaminants, 1991.

NYSDEC. 2014. DAR-1 AGC/SGC Tables, Revised February 28, 2014.

NYSDEC. 2014. Record of Decision, Unisys Corporation, Lake Success, Nassau County, Site Number 130045. June 2014.

NYSDEC. 2015. Amendment to the Record of Decision, Unisys Corporation, Operable Unit Number 01: On-Site Remedial Program State Superfund Project, Lake Success, Nassau County, Site Number 130045. January 2015.

TABLES

Table 1 — Groundwater Treatment System Operational Summary through June 2015
OU2 (Off-Site) Groundwater Treatment System

Lockheed Martin Corporation; Former Unisys Facility Great Neck
Lake Success, New York [1]

Month	Day 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Days on line[1]
2006 Totals																																**266**
2007 Totals																																**359**
2008 Totals																																**353**
2009 Totals																																**293**
2010 Totals																																**348**
2011 Totals																																**330**
2012 Totals																																**318**
2013 Totals																																**351**
Jul-14																		**#														**28.8**
Aug-14														**#																		**31.0**
Sep-14															**#																	**29.8**
Oct-14															**#																	**27.9**
Nov-14														**#																		**29.9**
Dec-14															**#																	**24.0**
2014 Totals																																**346**
Jan-15															**#																	**28.1**
Feb-15																**#																**27.9**
Mar-15																**#																**29.9**
Apr-15							(2)									**#					(3)(4)											**29.4**
May-15												(5) C	(5) C	(5) C	(6)**#							(7)				(8)		(9)				**28.7**
Jun-15	(10)			(11)	(11)				**#	(12)**														(13)								**28.9**
2015 Totals																																**173**
12 Month Totals																																**344**
Project Total																																**3,137**

See legend and notes on the last page.

Table 1 — Groundwater Treatment System Operational Summary through June 2015
OU2 (Off-Site) Groundwater Treatment System

Lockheed Martin Corporation; Former Unisys Facility Great Neck
Lake Success, New York [(1)]

Legend:

System down for majority of day.
System up majority of day. Throughput less than 90%.
All pumps on for majority of day. Throughput greater than 90%.

#	Indicates water compliance samples were collected.
**	Indicates vapor compliance samples were collected.
C	Indicates PPZ and VPGAC ECU(s) change out.

Notes:

1. Days on line listed represent the actual operational time rounded to the nearest one tenth of 1 day. Month total, 12-month total, annual total, and project total days on line are rounded to the nearest full day.
2. On 4/7/15, the system was shut down by staff for monthly alarm testing and changing spent bag filters. The critical CW220 LSHH alarm, and the primary CW220 LSH and LSHH alarms were tested. The system was down from 12:17 to 12:21, 12:45 to 12:54, and 13:54 to 15:10.
3. On 4/21/15, the system shut down at 0:51 due to power issues caused by lightning storms in the area. The system was restarted the same day at 10:20.
4. On 4/21/15, the system shut down at 10:59 due to the RW-100 LSH alarm condition. The alarm was caused by the failure of a pipe fitting on the Cla valve in the RW pit. The system was restarted the same day at 14:00.
5. On 5/12/15, the system was shut down by staff at 7:25 to complete the ECU3 GAC change-out. The system was restarted on 5/14/15 at 12:36 following the completion of the ducting spool lead/lag rotation.
6. On 5/15/15, the system was shut down by staff at 12:55 to replace a leaking fitting in the RW-100 vault. The system was restarted the same day at 13:25
7. On 5/22/15, the system was shut down by staff from 10:41 to 10:44, and 10:53 to 10:56 for monthly alarm testing. The primary CW210 LSL was tested. Additional testing was not finalized as the CW210 pump VFD tripped before a low level could be reached.
8. On 5/26/15, the system was shut down by staff from 10:43 to 11:51, 11:59 to 12:20, and 13:08 to 14:00 to complete monthly alarm testing and bag filter change-outs. The critical and primary CW210 LSLL alarms were tested.
9. On 5/28/15, the system was shut down by staff at 12:09 to test the system response to manual changes to the CW210 VFD. The system was restarted the same day at 12:14.
10. On 6/1/15, the system shut down at 11:44 when the floor sump float switch was triggered during floor cleaning activities. The system was restarted at 11:50 the same day.
11. On 6/4/15, the system shut down at 10:35 due to a LSH alarm in the RW-100 vault caused by a leaking o-ring seal on the basket strainer. The system was left off overnight to allow liquid gasket to dcure and create a water-tight seal. On 6/5/15, pump RW-100 was malfunctioning and after troubleshooting it was found the PLC code was stuck in Hand at the HOA switches. Power was reset to the system and the system was restarted at 10:43 on 6/5/15.
12. On 6/10/15, the system was shut down by staff from 13:50 to 14:11 and 14:17 to 14:30 for monthly alarm testing. The primary CW210 LSH, and LSHH alarms were tested. The critical CW210 LSHH alarm was also tested.
13. On 6/24/15, the system shut down at 11:26 due to a utility power outage. The system was restarted at 14:00 the same day.

ECU	emission control unit	PPZ	potassium permanganate-impregnated zeolite	VPGAC	vapor-phase granular activated-carbon
LSH	level switch high	PSH	pressure switch high		
LSHH	level switch high high	PSL	pressure switch low		

Table 2 — Summary of Influent Water Sample (WSP-1) Analytical Results through June 2015
OU2 (Off-Site) Groundwater Treatment System

Lockheed Martin Corporation; Former Unisys Facility Great Neck
Lake Success, New York [1]

Compound	07/18/14 (µg/L)	08/14/14 (µg/L)	09/15/14 (ug/L)	10/15/14 (ug/L)	11/14/14 (ug/L)	12/15/14 (ug/L)	01/15/15 (ug/L)	02/16/15 (ug/L)	03/16/15 (ug/L)	04/16/15 (ug/L)	05/15/15 (ug/L)	06/09/15 (ug/L)
Site-Related Compounds [2]												
Trichlorotrifluoroethane (Freon 113)	**4.6**	**5.9**	**6.1**	**5.7**	**5.4**	**6.2**	**4.9**	**5.1**	**4.7**	**5.3**	**6.3**	**5.7**
1,1-Dichloroethene	1.0 U	1.0 U	**0.74**	1.0 U	**0.86**	**0.70**	**0.69**	**0.44**	**0.66**	**0.69**	**0.86**	**0.69**
cis-1,2-Dichloroethene	**120**	**110**	**120**	**110**	**120**	**130**	**110**	**120**	**110**	**110**	**120**	**100**
trans-1,2-Dichloroethene	**8.9**	**5.5**	**3.1**	**11**	**1.9**	**3.4**	**2.0**	**5.4**	**2.3**	**1.8**	**2.5**	**3.1**
Tetrachloroethene	**25**	**25**	**27**	**25**	**29**	**28**	**25**	**27**	**23**	**24**	**28**	**22**
Trichloroethene	**33**	**33**	**31**	**31**	**34**	**35**	**31**	**31**	**28**	**31**	**36**	**29**
Vinyl chloride	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Detected Compounds [3]												
1,1,2-Trichloroethane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**0.24**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**0.13**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (MEK)	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Methyl-2-pentanone (MIBK)	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acetone	8.1 U	8.1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorodifluoromethane (Freon 22)	**3.2**	**4.5**	**3.7**	**3.7**	**3.4**	**4.0**	**2.8**	**3.1**	**3.5**	1.0 U	**4.4**	**3.6**
Chloroform	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**0.27**	**0.33**	**0.24**	1.0 U	1.0 U	**0.28**
Chloromethane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (Freon 12)	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropylbenzene (Cumene)	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (Freon 11)	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**0.17**	**0.11**	**0.14**	1.0 U	1.0 U	1.0 U
Xylenes (total)	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total VOCs [4]	**195**	**184**	**192**	**186**	**195**	**207**	**177**	**192**	**173**	**173**	**198**	**164**

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Table 2 — Summary of Influent Water Sample (WSP-1) Analytical Results through June 2015
OU2 (Off-Site) Groundwater Treatment System

Lockheed Martin Corporation; Former Unisys Facility Great Neck
Lake Success, New York [(1)]

Notes:

1. Samples were collected by O&M personnel on the dates shown and submitted to TestAmerica, Inc. for VOC analyses using USEPA Method OLM04.2 modified, including Freon 22, Freon 115, Freon 123, and Freon 152a. Data presented in this table correspond to the past year of system operation.

2. Site-related compounds include all design compounds listed in the PADM (BBLES 2006a), 1,1-dichloroethene, and trans-1,2-dichloroethene. Laboratory data qualifiers, excluding the "U" qualifier, are not shown in this table, but are included in Appendix A.

3. Detected compounds include all compounds, with the exception of site-related compounds, detected at or above the laboratory reporting limit in vapor and water streams at any sample location during the project. Laboratory data qualifiers, excluding the "U" qualifier, are not shown in this table, but are included in the appendix tables.

4. "Total VOCs" represents the numerical sum of individual concentrations of all compounds detected, including site-related compounds and detected compounds. "Total VOCs" was rounded to the nearest integer.

BBLES	BBL Environmental Services, Inc.
BOLD	Detected concentrations are bolded.
O&M	operation and maintenance
PADM	Performance Analysis and Design Modification Plan
U	The compound was analyzed for but not detected. The associated value is the compound reporting limit.
USEPA	U. S. Environmental Protection Agency
VOC	volatile organic compound
µg/L	micrograms per liter

Table 3 — Summary of Effluent Water Sample (WSP-3) Analytical Results & Treatment System Efficiency through May 2015
OU2 (Off-Site) Groundwater Treatment System
Lockheed Martin Corporation; Former Unisys Facility Great Neck
Lake Success, New York [1]

Compound	Target Effluent Limit [2] (µg/L)	7/18/14 (µg/L)	8/14/14 (µg/L)	9/15/14 (ug/L)	10/15/14 (ug/L)	11/14/14 (ug/L)	12/15/14 (ug/L)	1/15/15 (ug/L)	2/16/15 (ug/L)	3/16/15 (ug/L)	4/16/15 (ug/L)	5/15/15 (ug/L)	6/9/15 (ug/L)
Site-Related Compounds [3]													
Trichlorotrifluoroethane (Freon 113)	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U
trans-1,2-Dichloroethene	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Detected Compounds [4]													
1,1,2-Trichloroethane	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (MEK)	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Methyl 2-pentanone (MIBK)	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acetone	NA	12 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzene	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorodifluoromethane (Freon 22)	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (Freon 12)	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropylbenzene (Cumene)	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (Freon 11)	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total VOCs [5]	NA	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Treatment Removal Efficiency (Site-Related Compounds) [6]	NA	**>98.7%**	**>98.6%**	**>98.4%**	**>98.6%**	**>98.4%**	**>98.5%**	**>98.3%**	**>98.4%**	**>98.2%**	**>98.3%**	**>98.5%**	**>98.1%**
Treatment Removal Efficiency (All Compounds) [7]	NA	**>98.5%**	**>98.4%**	**>98.2%**	**>98.4%**	**>98.2%**	**>98.3%**	**>96.9%**	**>97.7%**	**>97.4%**	**>98.3%**	**>98.5%**	**>97.6%**

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Table 3 — Summary of Effluent Water Sample (WSP-3) Analytical Results & Treatment System Efficiency through May 2015
OU2 (Off-Site) Groundwater Treatment System

Lockheed Martin Corporation; Former Unisys Facility Great Neck
Lake Success, New York [(1)]

Notes:

1. Samples were collected by O&M personnel on the dates shown and submitted to TestAmerica, Inc. for VOC analyses using USEPA Method OLM04.2 modified. Data in this table correspond to the past year of system operation.
2. Target effluent limits per the PADM (BBLES 2006a).
3. Site-related compounds include all design compounds listed in the PADM (BBLES 2006a), 1,1-dichloroethene, and trans-1,2-dichloroethene. Laboratory data qualifiers, excluding the "U" qualifier, are not shown in this table, but are included in Appendix A. Analytical results presented in this table represent the larger of the individual compound concentration detected in the effluent sample and the duplicate effluent sample.
4. Detected compounds include all compounds, with the exception of site-related compounds, detected at or above the laboratory reporting limit in vapor and water streams at any sample location during the project. Laboratory data qualifiers, excluding the "U" qualifier, are not shown in this table, but are included in the Appendix A. Analytical results presented in this table represent the larger of the individual compound concentration detected in the effluent sample and the duplicate effluent
5. "Total VOCs" represents the numerical sum of individual concentrations of all compounds detected, including site-related compounds and detected compounds. "Total VOCs" was rounded to the nearest integer.
6. Treatment removal efficiency of site-related compounds was calculated by dividing the difference between the total influent and effluent site-related compound concentrations by the total influent site-related compound concentration. To account for the possibility that there is some amount of compound still present in the effluent below its laboratory reporting limit of 1.0 µg/L, when the laboratory reports a "non-detect" result, a value of one half of the reporting limit for each of the site-related compounds detected in the influent is added to the total effluent site-related compound concentration. Because the total effluent site-related compound concentration is based solely on the reporting limits and not on actual compounds detected, these values were reported as greater than the calculated site-related compound treatment removal efficiency.
7. Treatment removal efficiency of all compounds was calculated by dividing the difference between the total influent and effluent VOC concentrations by the total influent VOC concentration. To account for the possibility that there is some amount of compound still present in the effluent below its laboratory reporting limit of 1.0 µg/L, when the laboratory reports a "non-detect" result, a value of one half of the reporting limit for all reported compounds detected in the influent is added to the total effluent VOC concentration. Because the total effluent compound concentration is based solely on the detection limits and not on actual compounds detected, these values were reported as greater than the calculated treatment removal efficiency.

BBLES	BBL Environmental Services, Inc.
NA	not applicable
O&M	operation and maintenance
PADM	Performance Analysis and Design Modification Plan
U	The compound was analyzed for but not detected. The associated value is the compound reporting limit.
USEPA	U. S. Environmental Protection Agency
VOC	volatile organic compound
µg/L	micrograms per liter

Table 4 — Summary of Influent Vapor Sample (VSP-1) Analytical Results through March 2015
OU2 (Off-Site) Groundwater Treatment System

Lockheed Martin Corporation; Former Unisys Facility Great Neck
Lake Success, New York [1]

Compound	7/18/14 ($\mu g/m^3$)	8/14/14 ($\mu g/m^3$)	9/15/14 ($\mu g/m^3$)	10/15/14 ($\mu g/m^3$)	11/14/14 ($\mu g/m^3$)	12/15/14 ($\mu g/m^3$)	1/15/15 ($\mu g/m^3$)	2/16/15 ($\mu g/m^3$)	3/16/15 ($\mu g/m^3$)	4/16/15 ($\mu g/m^3$)	5/15/15 ($\mu g/m^3$)	6/9/15 ($\mu g/m^3$)
Site-Related Compounds [2]												
Trichlorotrifluoroethane (Freon 113)	**68**	**66**	**140**	**78**	**73**	**64**	**64**	**57**	**83**	**89**	**77**	**72**
1,1-Dichloroethene	**11**	**11**	**22**	**14**	**12**	**10**	**11**	**9.8**	36 U	**13**	**13**	**12**
cis-1,2-Dichloroethene	**1400**	**1600**	**2500**	**1600**	**1400**	**1500**	**1400**	**1200**	**1700**	**1600**	**1400**	**1600**
trans-1,2-Dichloroethene	**5.3**	**6.3**	**10**	**7.2**	6.5 U	**5.2**	**5.2**	**5.2**	36 U	**7.4**	**6.6**	10 U
Tetrachloroethene	**300**	**290**	**760**	**300**	**38**	**290**	**330**	**240**	**330**	**290**	**290**	**280**
Trichloroethene	**390**	**410**	**920**	**430**	**270**	**410**	**430**	**340**	**450**	**410**	**370**	**390**
Vinyl chloride	1.7 U	1.9 U	3 U	2.0 U	4.2 U	1.9 U	1.8 U	1.7 U	23 U	1.9 U	1.8 U	6.8 U
Detected Compounds [3]												
1,1,2-Trichloroethane	3.6 U	4.1 U	6.4 U	4.2 U	8.9 U	4.0 U	3.9 U	3.5 U	49 U	4.1 U	3.8 U	14 U
1,1-Dichloroethane	**2.8**	**3.3**	**5.4**	**3.7**	6.6 U	2.9 U	2.9 U	**2.7**	36 U	**4.0**	**3.6**	11 U
1,2-Dichloroethane	2.7 U	3.1 U	**5.8**	**3.2**	6.6 U	2.9 U	2.9 U	2.6 U	36 U	**3.5**	**3.1**	11 U
1,2-Dichloropropane	3.1 U	3.5 U	5.4 U	3.5 U	7.6 U	3.3 U	3.3 U	3.0 U	42 U	3.5 U	3.2 U	12 U
1,4-Dichlorobenzene	4.0 U	4.6 U	7 U	4.6 U	9.8 U	4.4 U	4.3 U	3.9 U	54 U	4.5 U	4.2 U	16 U
2-Butanone (MEK)	2.0 U	2.2 U	3.4 U	2.2 U	4.8 U	2.1 U	2.1 U	**2.8**	26 U	2.2 U	**2.3**	7.8 U
4-Methyl 2-pentanone (MIBK)	2.7 U	3.1 U	4.8 U	3.1 U	6.7 U	3.0 U	3.0 U	2.7 U	37 U	3.1 U	2.8 U	11 U
Acetone	6.6 U	**8.0**	**13**	**9.4**	16 U	7.2 U	7.5 U	**11**	90 U	7.5 U	**7.9**	26 U
Benzene	2.1 U	2.4 U	3.7 U	2.4 U	5.2 U	2.3 U	2.3 U	2.1 U	29 U	2.4 U	2.2 U	8.4 U
Carbon disulfide	2.1 U	2.4 U	3.7 U	2.4 U	5.1 U	2.3 U	2.2 U	2.0 U	28 U	2.4 U	2.2 U	8.2 U
Chlorodifluoromethane (Freon 22)	**30**	**43**	**45**	**26**	**34**	**30**	**35**	**28**	**42**	**33**	**29**	**36**
Chloroform	**3.5**	3.8 U	**7.3**	**4.3**	8.0 U	3.5 U	3.5 U	**3.3**	44 U	**4.5**	**4.1**	13 U
Chloromethane	1.4 U	1.6 U	2.4 UJ	1.6 U	3.4 U	1.5 U	1.5 U	1.3 U	19 U	1.6 U	1.4 U	5.4 U
Cyclohexane	2.3 U	2.6 U	4 U	2.6 U	5.6 U	2.5 U	2.5 U	2.2 U	31 U	2.6 U	2.4 U	9.1 U
Dichlorodifluoromethane (Freon 12)	**4.1**	3.8 U	5.8 U	3.8 U	8.1 U	3.6 U	3.6 U	3.2 U	44 U	**3.8**	**3.6**	13 U
Ethylbenzene	2.9 U	3.3 U	5.1 U	3.3 U	7.1 U	3.1 U	3.1 U	2.8 U	39 U	3.3 U	3.0 U	11 U
Isopropylbenzene (Cumene)	3.3 U	3.7 U	5.8 U	3.8 U	8.1 U	3.6 U	3.5 U	3.2 U	44 U	3.7 U	3.4 U	13 U
Methylene chloride	2.3 U	2.6 U	4.1 U	2.7 U	5.7 U	2.5 U	2.5 U	2.3 U	31 U	2.6 U	2.4 U	9.2 U
Toluene	2.5 U	2.9 U	4.4 U	2.9 U	6.2 U	2.7 U	2.7 U	2.4 U	34 U	2.8 U	**7.6**	9.9 U
Trichlorofluoromethane (Freon 11)	3.7 U	4.3 U	6.6 U	4.3 U	9.2 U	4.1 U	4.0 U	3.7 U	51 U	4.2 U	3.9 U	15 U
Xylene (m,p)	2.9 U	3.3 U	5.1 U	3.3 U	7.1 U	3.1 U	3.1 U	2.8 U	39 U	3.3 U	3.0 U	11 U
Xylene (o)	2.9 U	3.3 U	5.1 U	3.3 U	7.1 U	3.1 U	3.1 U	2.8 U	39 U	3.3 U	3.0 U	11 U
Xylenes (total)	2.9 U	3.3 U	5.1 U	3.3 U	7.1 U	3.1 U	3.1 U	2.8 U	39 U	3.3 U	3.0 U	11 U
Subtotal VOCs [4]	**2215**	**2438**	**4429**	**2476**	**1827**	**2309**	**2275**	**1900**	**2605**	**2458**	**2218**	**2390**
TICs [5]												
Chlorotrifluoroethene (CTFE)	--	--	--	--	--	--	--	**2.2**	--	**4.0**	--	--
Subtotal TICs [6]	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2.2**	**0**	**4.0**	**0**	**0**
Total VOCs [7]	**2,215**	**2,438**	**4,429**	**2,476**	**1,827**	**2,309**	**2,275**	**1,902**	**2,605**	**2,462**	**2,218**	**2,390**

See Notes on Last Page

Table 4 — Summary of Influent Vapor Sample (VSP-1) Analytical Results through March 2015
OU2 (Off-Site) Groundwater Treatment System

Lockheed Martin Corporation; Former Unisys Facility Great Neck
Lake Success, New York [(1)]

Notes:

1. Samples were collected by O&M personnel on the dates shown and submitted to ALS Group (formerly Columbia Analytical Services, Inc.) for VOC analyses using USEPA Method TO-15 modified. Data in this table correspond to the past year of system operation.
2. Site-related compounds include all design compounds listed in the PADM (BBLES 2006a), 1,1-dichloroethene, and trans-1,2-dichloroethene. Laboratory data qualifiers, excluding the "U" qualifier, are not shown in this table, but are included in Appendix B.
3. Detected compounds include all compounds, with the exception of site-related compounds and TICs, detected at or above the laboratory reporting limit in vapor and water streams at any sample location during the project. Laboratory data qualifiers, excluding the "U" qualifier, are not shown in this table, but are included in Appendix B.
4. "Subtotal VOCs" represents the numerical sum of individual site-related compound and detected compound concentrations, excluding xylenes (total). "Subtotal VOCs" was rounded to the nearest integer.
5. TIC identification is based on presumptive evidence, and reported concentrations are estimated.
6. "Subtotal TICs" represents the numerical sum of individual TIC concentrations. "Subtotal TICs" was rounded to the nearest integer.
7. "Total VOCs" represents the numerical sum of individual concentrations of all compounds detected, including site-related compounds, detected compounds (excluding xylenes [total]), and TICs. "Total VOCs" was rounded to the nearest integer.

BBLES	BBL Environmental Services, Inc.
BOLD	Detected concentrations are bolded.
O&M	operation and maintenance
PADM	Performance Analysis and Design Modification Plan
TIC	tentatively identified compound
U	The compound was analyzed for but not detected. The associated value is the compound reporting limit.
USEPA	U. S. Environmental Protection Agency
VOC	volatile organic compound
$\mu g/m^3$	micrograms per cubic meter
--	TIC not detected

Table 5 — Summary of Effluent Vapor Sample (VSP-8) Analytical Results and Treatment System Efficiency through June 2015
OU2 (Off-Site) Groundwater Treatment System

Lockheed Martin Corporation; Former Unisys Facility Great Neck
Lake Success, New York [1]

Compound	7/18/14 (µg/m^3)	8/14/14 (µg/m^3)	9/15/14 (µg/m^3)	10/15/14 (µg/m^3)	11/14/14 (µg/m^3)	12/15/14 (µg/m^3)	1/15/15 (µg/m^3)	2/16/15 (µg/m^3)	3/16/15 (ug/m3)	4/16/15 (ug/m3)	5/15/15 (ug/m^3)	6/10/15 (ug/m^3)
Site-Related Compounds [2]												
Trichlorotrifluoroethane (Freon 113)	5.8 U	5.6 U	5.5 U	5.9 U	5.4 U	5.2 U	5.7 U	5.7 U	5.8 U	5.7 U	5.7 U	6.1 U
1,1-Dichloroethene	3.0 U	2.9 U	2.8 U	3.0 U	2.8 U	2.7 U	3.0 U	2.9 U	3.0 U	3.0 U	3.0 U	3.2 U
cis-1,2-Dichloroethene	3.0 U	2.9 U	3.0 U	3.0 U	2.8 U	2.7 U	**5.9**	2.9 U	3.0 U	3.0 U	3.0 U	3.2 U
trans-1,2-Dichloroethene	3.0 U	2.9 U	2.8 U	3.0 U	2.8 U	2.7 U	3.0 U	2.9 U	3.0 U	3.0 U	3.0 U	3.2 U
Tetrachloroethene	5.1 U	4.9 U	4.8 U	5.2 U	4.8 U	4.6 U	5.1 U	5.0 U	5.1 U	5.1 U	5.1 U	5.4 U
Trichloroethene	4.1 U	3.9 U	3.8 U	4.1 U	3.8 U	3.6 U	4.0 U	4.0 U	4.1 U	4.0 U	4.0 U	4.3 U
Vinyl chloride	1.9 U	1.9 U	1.8 U	2.0 U	1.8 U	1.7 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	2.0 U
Detected Compounds [3]												
1,1,2-Trichloroethane	4.1 U	4.0 U	3.9 U	4.2 U	3.8 U	3.7 U	4.1 U	4.0 U	4.1 U	4.1 U	4.1 U	4.4 U
1,1-Dichloroethane	3.1 U	2.9 U	2.9 UJ	3.1 U	2.8 U	2.7 U	3.0 U	3.0 U	3.1 U	3 U	3.0 U	3.2 U
1,2-Dichloroethane	3.1 U	2.9 U	2.9 U	3.1 U	2.8 U	2.7 U	3.0 U	3.0 U	3.1 U	3 U	3.0 U	3.2 U
1,2-Dichloropropane	3.5 U	3.4 U	3.3 U	3.5 U	3.3 U	3.1 U	3.5 U	3.4 U	3.5 U	3.4 U	3.4 U	3.7 U
1,4-Dichlorobenzene	4.5 U	4.4 U	4.3 U	4.6 U	4.2 U	4.1 U	4.5 U	4.4 U	4.5 U	4.5 U	4.5 U	4.8 U
2-Butanone (MEK) [4]	**3.4**	**2.1**	2.1 U	2.2 U	2.1 U	2.0 U	2.2 U	2.2 U	2.2 U	2.2 U	**3.7**	2.4 U
4-Methyl 2-pentanone (MIBK) [4]	3.1 U	3.0 U	2.9 U	3.1 U	2.9 U	2.8 U	3.1 U	3.0 U	3.1 U	3.1 U	3.1 U	3.3 U
Acetone	**16**	**16**	7.1 UJ	**11**	7.0 U	6.7 U	7.5 U	7.4 U	**10**	7.4 U	**22**	8.0 U
Benzene	2.4 U	2.3 U	2.3 U	2.4 U	2.3 U	2.2 U	2.4 U	2.4 U	2.4 U	**5.0**	2.4 U	2.6 U
Carbon disulfide	2.4 U	2.3 U	2.3 U	**3.2**	2.2 U	2.1 U	2.3 U	2.3 U	2.4 U	2.3 U	2.3 U	2.5 U
Chlorodifluoromethane (Freon 22) [5]	**28**	**48**	**27**	**29**	**32**	**33**	**41**	**33**	**34**	**36**	**31**	**29**
Chloroform	3.7 U	3.6 U	3.5 U	3.7 U	3.4 U	3.3 U	3.7 U	3.6 U	3.7 U	3.6 U	3.6 U	3.9 U
Chloromethane [4]	1.6 U	1.5 U	1.5 UJ	1.6 U	1.5 U	1.4 U	1.5 U	1.5 U	1.6 U	1.5 U	1.5 U	1.6 U
Cyclohexane	2.6 U	2.5 U	2.5 U	2.6 U	2.4 U	2.3 U	2.6 U	2.5 U	2.6 U	2.6 U	2.6 U	2.8 U
Dichlorodifluoromethane (Freon 12) [5]	**4.2**	**3.8**	**4.6**	**4.7**	3.5 U	3.3 U	3.7 U	3.7 U	3.7 U	**4.5**	3.7 U	**3.9**
Ethylbenzene	3.3 U	3.2 U	3.1 U	3.3 U	3.1 U	2.9 U	3.3 U	3.2 U	3.3 U	3.2 U	3.2 U	3.5 U
Isopropylbenzene (Cumene)	3.7 U	3.6 U	3.5 U	3.8 U	3.5 U	3.3 U	3.7 U	3.6 U	3.7 U	3.7 U	3.7 U	3.9 U
Methylene chloride	2.6 U	2.5 U	2.5 U	2.7 U	2.5 U	2.3 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.8 U
Toluene [4]	2.8 U	2.7 U	2.7 U	2.9 U	2.7 U	2.5 U	2.8 U	**3.7**	**9.9**	2.8 U	2.8 U	3.0 U
Trichlorofluoromethane (Freon 11)	4.2 U	4.1 U	4.0 U	4.3 U	4.0 U	3.8 U	4.2 U	4.2 U	4.2 U	4.2 U	4.2 U	4.5 U
Xylene (m,p) [4]	3.3 U	3.2 U	3.1 U	3.3 U	3.1 U	2.9 U	3.3 U	3.2 U	3.3 U	3.2 U	3.2 U	3.5 U
Xylene (o) [4]	3.3 U	3.2 U	3.1 U	3.3 U	3.1 U	2.9 U	3.3 U	3.2 U	3.3 U	3.2 U	3.2 U	3.5 U
Xylenes (total) [4]	3.3 U	3.2 U	3.1 U	3.3 U	3.1 U	2.9 U	3.3 U	3.2 U	3.3 U	3.2 U	3.2 U	3.5 U
Subtotal VOCs [6]	**52**	**70**	**32**	**48**	**32**	**33**	**47**	**37**	**54**	**46**	**57**	**33**
TICs [7]												
Chlorotrifluoroethene (CTFE)	--	--	--	--	--	--	--	--	--	--	--	
Subtotal TICs [8]	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Total VOCs [9]	**52**	**70**	**32**	**48**	**32**	**33**	**47**	**37**	**54**	**46**	**57**	**33**
Treatment Removal Efficiency (Site-Related Compounds) [10]	**>99.5%**	**>99.5%**	**>99.8%**	**>99.5%**	**>99.5%**	**>99.5%**	**>99.3%**	**>99.4%**	**>99.6%**	**>99.5%**	**>99.4%**	**>99.5%**
Treatment Removal Efficiency (All Compounds) [11]	**>97.0%**	**>96.6%**	**>98.9%**	**>97.4%**	**>97.7%**	**>98.1%**	**>97.5%**	**>97.0%**	**>97.6%**	**>97.5%**	**>96.5%**	**>98.2%**

See notes on last page.

Table 5 — Summary of Effluent Vapor Sample (VSP-8) Analytical Results and Treatment System Efficiency through June 2015
OU2 (Off-Site) Groundwater Treatment System
Lockheed Martin Corporation; Former Unisys Facility Great Neck
Lake Success, New York [(1)]

Notes:

1. Samples were collected by O&M personnel on the dates shown and submitted to ALS Group (formerly Columbia Analytical Services, Inc.) for VOC analyses using USEPA Method TO-15 modified. In accordance with the Non-Detect Performance Standard specified in the PADM (BBLES 2006a), the effluent vapor analyses have been completed down to a reporting limit of 0.5 ppbv. Data in this table correspond to the past year of system operation.
2. Site-related compounds include all design compounds listed in the PADM (BBLES 2006a). Laboratory data qualifiers, excluding the "U" qualifier, are not shown in this table, but are included in Appendix B. Analytical results presented in this table represent the larger of the individual compound concentrations detected in the effluent sample and the effluent duplicate sample.
3. Detected compounds include all compounds, with the exception of site-related compounds and TICs, detected at or above the laboratory reporting limit in vapor and water streams at any sample location during the project. Laboratory data qualifiers, excluding the "U" qualifier, are not shown in this table, but are included in Appendix B. Analytical results presented in this table represent the larger of the individual compound concentrations detected in the effluent sample and the effluent duplicate
4. Chloromethane, toluene, xylenes, 2-butanone, and 4-methyl 2-pentanone were detected in the total system effluent during various sampling events throughout the project. These compounds have not been detected in the influent water stream, but have been randomly detected at inconsistent sample locations throughout the vapor treatment
5. Freon 12 and Freon 22 are present in the system influent water, but are not treatable by vapor-phase granular-activated carbon.
6. "Subtotal VOCs" represents the numerical sum of individual site-related compounds and detected compound concentrations, excluding xylenes (total). "Subtotal VOCs" was rounded to the nearest integer.
7. TIC identification is based on presumptive evidence, and reported concentrations are estimated.
8. "Subtotal TICs" represents the numerical sum of individual TIC concentrations. "Subtotal TICs" was rounded to the nearest integer.
9. "Total VOCs" represents the numerical sum of individual concentrations of all compounds detected, including site-related compounds, detected compounds (excluding xylenes [total]), and TICs. "Total VOCs" was rounded to the nearest integer.
10. Treatment removal efficiency of site-related compounds was calculated by dividing the difference between the total influent and effluent site-related compound concentrations by the total influent site-related compound concentration. To account for the possibility that there is some amount of compound still present in the effluent below its laboratory reporting limit of 0.5 ppbv, when the laboratory reports a "non-detect" result, a value of one half of the reporting limit (typically 0.25 ppbv) for each of the site-related compounds detected in the influent is added to the total effluent site-related compound concentration. Because the total effluent site-related compound concentration is based solely on the reporting limits and not on actual compounds detected, these values were reported as greater than the calculated site-related compound treatment removal efficiency.
11. Treatment removal efficiency of all compounds was calculated by dividing the difference between the total influent and effluent VOC concentrations by the total influent VOC concentration. To account for the possibility that there is some amount of compound still present in the effluent below its laboratory reporting limit of 0.5 ppbv, when the laboratory reports a "non-detect" result, a value of one half of the reporting limit (typically 0.25 ppbv) for all reported compounds detected in the influent is added to the total effluent VOC concentration. Because the total effluent compound concentration is based solely on the reporting limits and not on actual compounds detected, these values were reported as greater than the calculated compound treatment removal efficiency.

BBLES	BBL Environmental Services, Inc.
BOLD	Detected concentrations are bolded.
O&M	operation and maintenance
PADM	Performance Analysis and Design Modification Plan
TIC	tentatively identified compound
U	The compound was analyzed for but not detected. The associated value is the compound reporting limit.
USEPA	U. S. Environmental Protection Agency
VOC	volatile organic compound
µg/m^3	micrograms per cubic meter
--	TIC not detected

Table 6 — System Parameters through June 2015
OU2 (Off-Site) Groundwater Treatment System

Lockheed Martin Corporation; Former Unisys Facility Great Neck
Lake Success, New York [1]

Date [1]	System Water Flow Rate [2] (gpm)	Water Pressures		System Air Flow Rate [5] (scfm)	Discharge Stack Air Pressure [6] (i.w.g.)	Discharge Stack Air Temperature [7] (^{o}R)
		System Influent [3] (psi)	System Effluent [4] (psi)			
4/29/14	500	11	12.5	4,285	0.5	547
5/22/14	500	11	12.5	4,277	0.6	554
6/16/14[8]	500	11	13	4,337	0.6	558
7/18/14	510	10	14.0	4,383	0.5	560
8/14/14	510	15	13.5	4,157	0.5	557
9/26/14	505	14	14	4,268	0.5	540
10/15/14	440	16	13	4,306	0.6	556
11/19/14	505	15	14	4,300	0.5	540
12/11/14	500	15	13	4,352	0.5	536
1/14/15	510	15	16	4,240	0.5	534
2/16/15[9]	510	15	15	4,276	0.5	532
3/19/15[9]	505	15	13	4,276	0.5	544
4/16/2015[9]	500	16	16	4,276	0.5	548
5/16/2015[9]	500	15	14	4,276	0.5	550
6/12/2015[9]	505	15	16	4,276	0.5	550

Notes:

1. Operational data collected by O&M personnel on days noted. Parameters listed were recorded during compliance monitoring events. Data in this table correspond to the past year of system operation.
2. System water flow rate as measured by water flow meter FE-131, located in the system influent vault.
3. System influent water pressure as measured by pressure indicator PI-131, located in the system influent vault.
4. System effluent water pressure as measured by pressure indicator PI-403, located on the system effluent line.
5. System air flow rate as recorded from the SCADA system.
6. Discharge stack air pressure as measured by pressure indicator PI-651, located on system discharge stack.
7. Discharge stack air temperature as measured by temperature indicator TI-651 in ˚F, located on system discharge stack, and converted to ˚R ([°R] = [°F] + 459.67)
8. SCADA data collected on 6/17/14
9. Estimated value of 4,276 scfm used, based on previous annual historical average. Actual values collected by SCADA for February through June are spurious due to malfunction of effluent vapor flow transmitter.

°F	degrees Fahrenheit
gpm	gallons per minute
i.w.g	inches of water gauge
O&M	operation and maintenance
psi	pounds per square inch
SCADA	Supervisory Control and Data Acquisition
scfm	standard cubic feet per minute
°R	degrees Rankine

Table 7 — Summary of Groundwater Recovered and Mass Removed through June 2015
OU2 (Off-Site) Groundwater Treatment System

Lockheed Martin Corporation; Former Unisys Facility Great Neck
Lake Success, New York [1]

Operating Period [1]			Volume of Groundwater Recovered [2] (x 1,000 gallons)	Mass Recovery [3,4] (lbs)	Mass Recovery Rate [4,5] (lbs/day)
Pre-Startup Totals [6]					
07/15/04	-	04/03/06	126,719	2,311	NA
OU2 (Off-Site) 2006 Totals [7]					
04/03/06	-	12/29/06	202,521	1,982	7.5
OU2 (Off-Site) 2007 Totals [8]					
12/29/06	-	12/18/07	269,188	1,687	4.7
OU2 (Off-Site) 2008 Totals [9]					
12/18/07	-	12/16/08	269,886	1,219	3.5
OU2 (Off-Site) 2009 Totals [10]					
12/16/08	-	12/17/09	223,839	730	2.5
OU2 (Off-Site) 2010 Totals [11]					
12/17/09	-	12/15/10	259,340	690	2.0
OU2 (Off-Site) 2011 Totals [12]					
12/15/10	-	12/07/11	224,759	530	1.7
OU2 (Off-Site) 2012 Totals [13]					
12/07/11	-	12/14/12	230,584	500	1.5
OU2 (Off-Site) 2013 Totals [14]					
12/14/12	-	12/11/13	250,346	470	1.3

Table 7 — Summary of Groundwater Recovered and Mass Removed through June 2015
OU2 (Off-Site) Groundwater Treatment System

Lockheed Martin Corporation; Former Unisys Facility Great Neck
Lake Success, New York [1]

Operating Period [1]			Volume of Groundwater Recovered [2] (x 1,000 gallons)	Mass Recovery [3,4] (lbs)	Mass Recovery Rate [4,5] (lbs/day)
OU2 (Off-Site) 2014 Totals					
12/11/13	-	12/31/14	269,274	460	1.3
January 2015 through March 2015 Reporting Period					
12/31/14	-	01/30/15	20,085	32	1.2
01/30/15	-	02/26/15	19,671	30	1.1
02/26/15	-	03/27/15	20,557	31	1.1
Subtotal [15]			60,313	90	1.1
April 2015 through June 2015 Reporting Period					
03/27/15	-	04/30/15	24,753	36	1.1
04/30/15	-	05/28/15	19,218	30	1.2
05/28/15	-	06/26/15	20,776	31	1.1
Subtotal [15]			64,747	100	1.2
Total [15, 16]			**2,451,516**	**10,770**	**2.7**

See notes on last page.

Table 7 — Summary of Groundwater Recovered and Mass Removed through June 2015
OU2 (Off-Site) Groundwater Treatment System

Lockheed Martin Corporation; Former Unisys Facility Great Neck
Lake Success, New York [(1)]

Notes:

1. Operating period between consecutive monitoring events.
2. Volume of groundwater recovered is based on system totalized flow readings measured at the system influent location. Listed value represents totalized flow differences, typically recorded during consecutive monitoring events. Values shown have been rounded to the nearest gallon.
3. Mass recovery was calculated by multiplying the average total volatile organic compound concentrations corresponding typically to two consecutive monitoring events by the volume of groundwater recovered between the monitoring events.
4. Mass recovered and mass recovery rates for the current reporting period have been rounded to include two significant figures to account for error in field measurements and analytical data.
5. Mass recovery rates were calculated by dividing the total mass recovered by the number of days the system operated during the respective operating period. "Subtotal" and "Total" mass recovery rates were calculated by dividing the "Subtotal" and "Total" mass recovered by the number of operational days, as presented in Table 1.
6. Values based on operational data recorded prior to system startup on April 3, 2006. Detailed calculations pertaining to pre-startup operation are included in Appendix E of the Off-Site Interim Remedial Measure Operation, Maintenance, and Monitoring Report (BBLES 2006c).
7. OU2 (Off-Site) 2006 totals correspond to the April 3, 2006 through December 29, 2006 operating period.
8. OU2 (Off-Site) 2007 totals correspond to the December 29, 2006 through December 18, 2007 operating period.
9. OU2 (Off-Site) 2008 totals correspond to the December 18, 2007 through December 16, 2008 operating period.
10. OU2 (Off-Site) 2009 totals correspond to the December 16, 2008 through December 17, 2009 operating period.
11. OU2 (Off-Site) 2010 totals correspond to the December 17, 2009 through December 15, 2010 operating period.
12. OU2 (Off-Site) 2011 totals correspond to the December 15, 2010 through December 7, 2011 operating period.
13. OU2 (Off-Site) 2012 totals correspond to the December 7, 2011 through December 14, 2012 operating period.
14. OU2 (Off-Site) 2013 totals correspond to the December 14, 2012 through December 11, 2013 operating period.
15. Annual subtotal, current reporting period subtotal, and total mass recovered were rounded to the nearest 10 lbs.
16. "Total" refers to the amounts recovered and recovery rates since inception of the OU2 (Off-Site) system. Average mass recovery rate was calculated based on data collected since April 3, 2006; mass recovery rates are averages and not totals.

BBLES	BBL Environmental Services, Inc.
lbs	pounds
lbs/day	pounds per day
NA	not applicable

Table 8 — Regulatory Status of Air Emissions through June 2015
OU2 (Off-Site) Groundwater Treatment System

Lockheed Martin Corporation; Former Unisys Facility Great Neck
Lake Success, New York [1]

Compound	SGC [1]	Short-Term Concentrations			AGC [3]	Annual Concentrations		
		Actual Stack Concentration [2]				Percent AGC (%) [4]		
		Apr-15	May-15	Jun-15		Apr-15	May-15	Jun-15
	($\mu g/m^3$)	($\mu g/m^3$)	($\mu g/m^3$)	($\mu g/m^3$)	($\mu g/m^3$)	(% AGC)	(% AGC)	(% AGC)
Site-Related Compounds [5]								
Trichlorotrifluoroethane (Freon 113)	960,000	5.7 U	5.7 U	6.1 U	180,000	0.00	0.00	0.00
1,1-Dichloroethene	NS	3.0 U	3.0 U	3.2 U	200	0.00	0.00	0.00
cis-1,2-Dichloroethene	190000 [6]	3.0 U	3.0 U	3.2 U	63	0.00	0.00	0.00
trans-1,2-Dichloroethene	NS	3.0 U	3.0 U	3.2 U	63	0.00	0.00	0.00
Tetrachloroethene	300	5.1 U	5.1 U	5.4 U	4	0.00	0.00	0.00
Trichloroethene	14,000	4.0 U	4.0 U	4.3 U	0.2	0.00	0.00	0.00
Vinyl chloride	180,000	1.9 U	1.9 U	2.0 U	0.068	0.00	0.00	0.00
Detected Compounds [7]								
2-Butanone (MEK)	13,000	2.2 U	**3.56**	**3.55**	5,000	0.00	0.00	0.00
Acetone	180,000	**9.68**	**21.17**	**21.13**	30,000	0.00	0.00	0.00
Carbon disulfide	6,200	2.3 U	2.3 U	2.5 U	700	0.00	0.00	0.00
Chlorodifluoromethane (Freon 22)	NS	**35**	**35**	**30**	50,000	0.00	0.00	0.00
Dichlorodifluoromethane (Freon 12)	NS	**4.35**	**4.33**	**3.75**	12,000	0.00	0.00	0.00
Toluene	37,000	**9.58**	2.8 U	3.0 U	5,000	0.00	0.00	0.00
Trichlorofluoromethane (Freon 11)	9,000	4.2 U	4.2 U	4.5 U	5,000	0.00	0.00	0.00

See notes on last page.

Table 8 — Regulatory Status of Air Emissions through June 2015
OU2 (Off-Site) Groundwater Treatment System

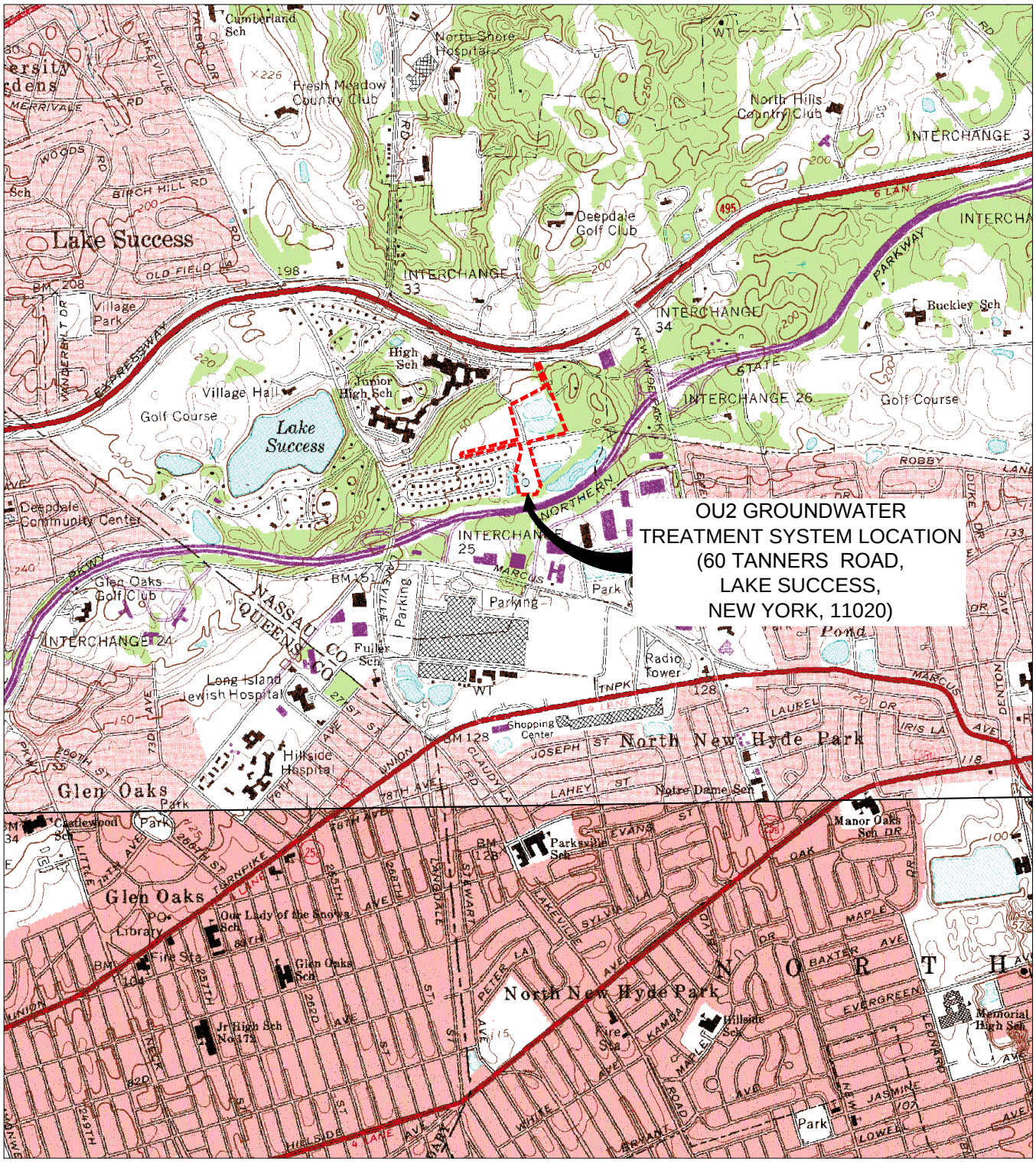
Lockheed Martin Corporation; Former Unisys Facility Great Neck
Lake Success, New York [(1)]

Notes:

1. Refers to the compound-specific SGC per the NYSDEC DAR-1 AGC/SGC tables, revised February 28, 2014.
2. To assess system air discharge compliance status, the instantaneous concentration of each compound at stack effluent is compared to the SGC. The instantaneous compound concentration presented in this table was normalized to standard conditions by multiplying the laboratory concentration by the ratio between the standard air flow rate and the actual air flow rate. Values listed represent the highest concentrations detected during the current and previous monthly period in the effluent and duplicate effluent vapor samples. An average air flow rate during the current and previous monthly reporting period was used in the calculations. Values shown have been rounded to two significant figures to account for error in field measurements and analytical results.
3. AGC refers to the compound-specific AGC per the NYSDEC DAR-1 AGC/SGC tables.
4. Percent AGC for a given compound was calculated by following procedures described in the NYSDEC DAR-1 Guidelines for the Control of Toxic Ambient Air Contaminants, 1991 edition (NYSDEC 1991). Values shown summarize the calculated percent AGC results for the most recent 12-month monitoring period. Detailed calculations are included in Appendix C.
5. Site-related compounds include all design compounds listed in the PADM (BBLES 2006a), 1,1-dichloroethene, and trans-1,2-dichloroethene.
6. An SGC was not provided in the DAR-1 AGC/SGC tables, revised February 28, 2014. An interim SGC was developed based on guidance provided in Section IV.A.2.b.1 of the New York State DAR-1 Guidelines for the Control of Toxic Ambient Air Contaminants, 1991 edition (NYSDEC 1991). Specifically for cis-1,2-dichloroethene, which is not defined as a high-toxicity compound, the interim SGC = (smaller of TWA -Threshold Limit Value or TWA - Recommended Exposure Limit) /4.2 or 793,000 $\mu g/m^3$ / 4.2 = 190,000 $\mu g/m^3$.
7. Detected compounds include all compounds detected at or above the laboratory quantification limit in vapor and water streams at effluent sample locations during the project, with the exception of tentatively identified compounds.

AGC	Annual Guideline Concentration
BBLES	BBL Environmental Services, Inc.
BOLD	Detected concentrations are bolded.
DAR-1	Division of Air Resources Air Guide-1
NS	Guideline concentrations not specified in the NYSDEC DAR-1 AGC/SGC tables revised October 18, 2010.
NYSDEC	New York State Department of Environmental Conservation
PADM	Performance Analysis and Design Modification Plan
SGC	Short-term Guideline Concentration
TWA	time-weighted average
U	The compound was analyzed for but not detected. The associated value is the compound reporting limit.
$\mu g/m^3$	micrograms per cubic meter
%	percentage

FIGURES



Prepared/Date: BRP 03/26/2014
Checked/Date: LMB 08/10/2015

Lockheed Martin Corporation Former Unisys Facility-Great Neck Lake Success, New York	AMEC E&E PC	Operable Unit 2 Groundwater Treatment Site Location Map Figure 1

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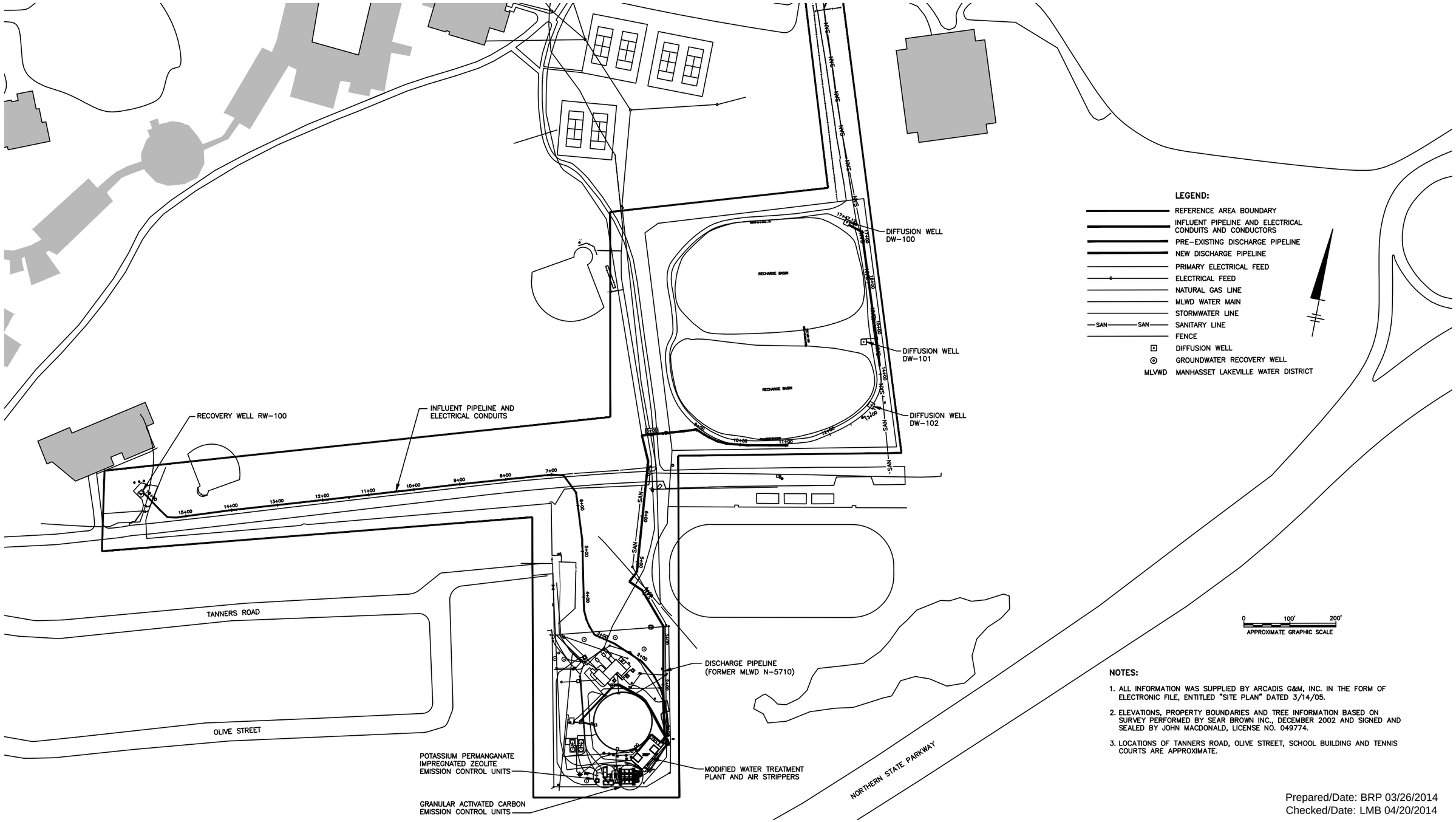
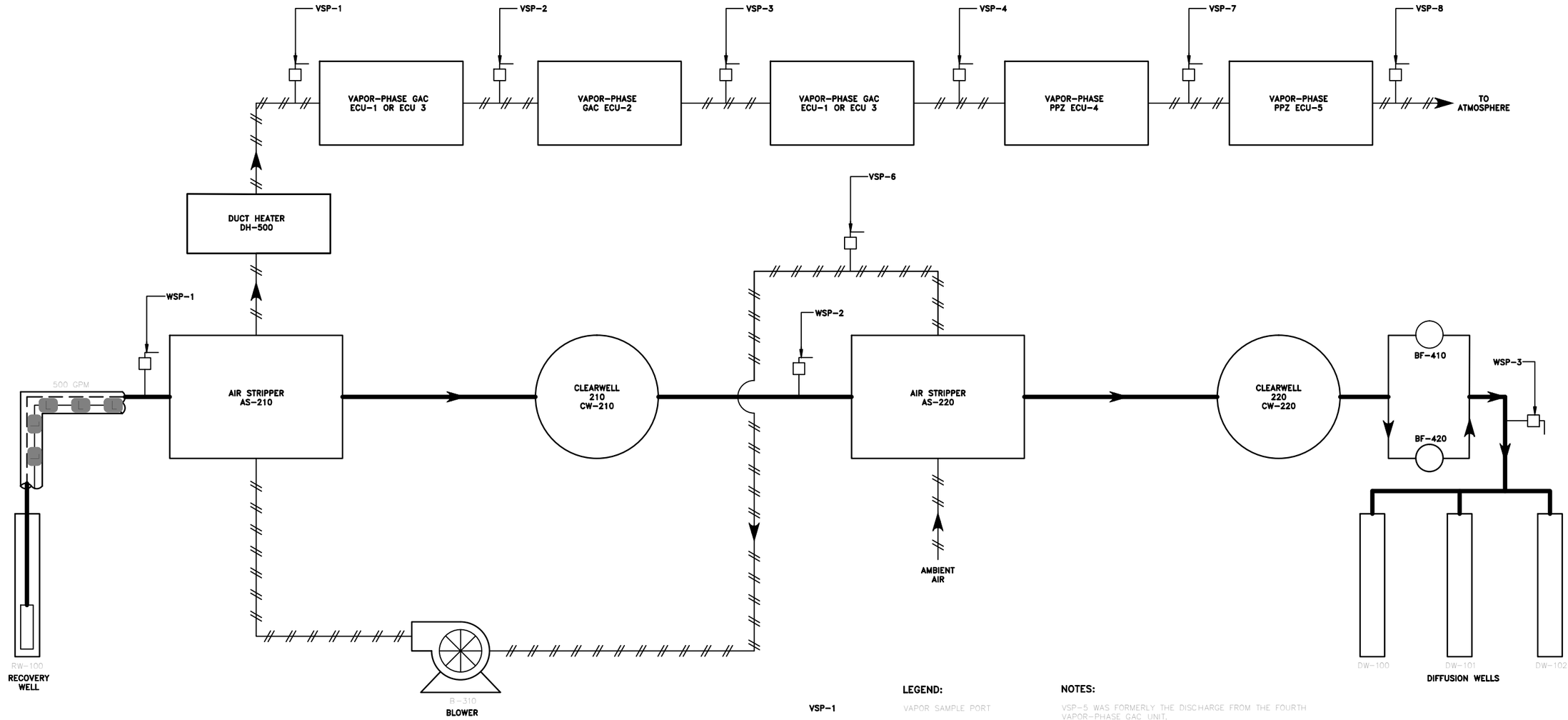


NOTES:

1. ALL INFORMATION WAS SUPPLIED BY ARCADIS G&M, INC. IN THE FORM OF ELECTRONIC FILE, ENTITLED "SITE PLAN" DATED 3/14/05.
2. ELEVATIONS, PROPERTY BOUNDARIES AND TREE INFORMATION BASED ON SURVEY PERFORMED BY SEAR BROWN INC., DECEMBER 2002 AND SIGNED AND SEALED BY JOHN MACDONALD, LICENSE NO. 049774.
3. LOCATIONS OF TANNERS ROAD, OLIVE STREET, SCHOOL BUILDING AND TENNIS COURTS ARE APPROXIMATE.

Prepared/Date: BRP 03/26/2014
Checked/Date: LMB 04/20/2014

Lockheed Martin Corporation Former Unisys Facility-Great Neck Lake Success, New York	AMEC E&E PC	Operable Unit 2 Groundwater Treatment System Site Plan Project 3650140002.02.208 Figure 2



VSP-1
WSP-1

LEGEND:

- VAPOR SAMPLE PORT
- WATER SAMPLE PORT
- AIR PROCESS LINE
- WATER PROCESS LINE
- PROCESS LINE (DUAL WALL WITH LEAK DETECTION)
- SAMPLE PORT
- BAG FILTER UNIT

NOTES:

VSP-5 WAS FORMERLY THE DISCHARGE FROM THE FOURTH VAPOR-PHASE GAC UNIT.

POSITION OF VAPOR PHASE GAC UNITS ECU-1 AND ECU-3 CAN BE SWITCHED FOR LEAD-LAG

GAC GRANULAR ACTIVATED CARBON

ECU EMISSIONS CONTROL UNIT

PPZ POTASSIUM PERMANGANATE-IMPREGNATED ZEOLITE

BAG FILTER UNITS ARE CONFIGURED TO OPERATE ONE AT A TIME AND ARE PERIODICALLY ROTATED.

Prepared/Date: JLR 06/02/2015
Checked/Date: LMB 06/02/2015

Lockheed Martin Corporation Former Unisys Facility-Great Neck Lake Success, New York	AMEC E&E PC	Operable Unit 2 Groundwater Treatment System Schematic Project 3650140002.02.208 Figure 3

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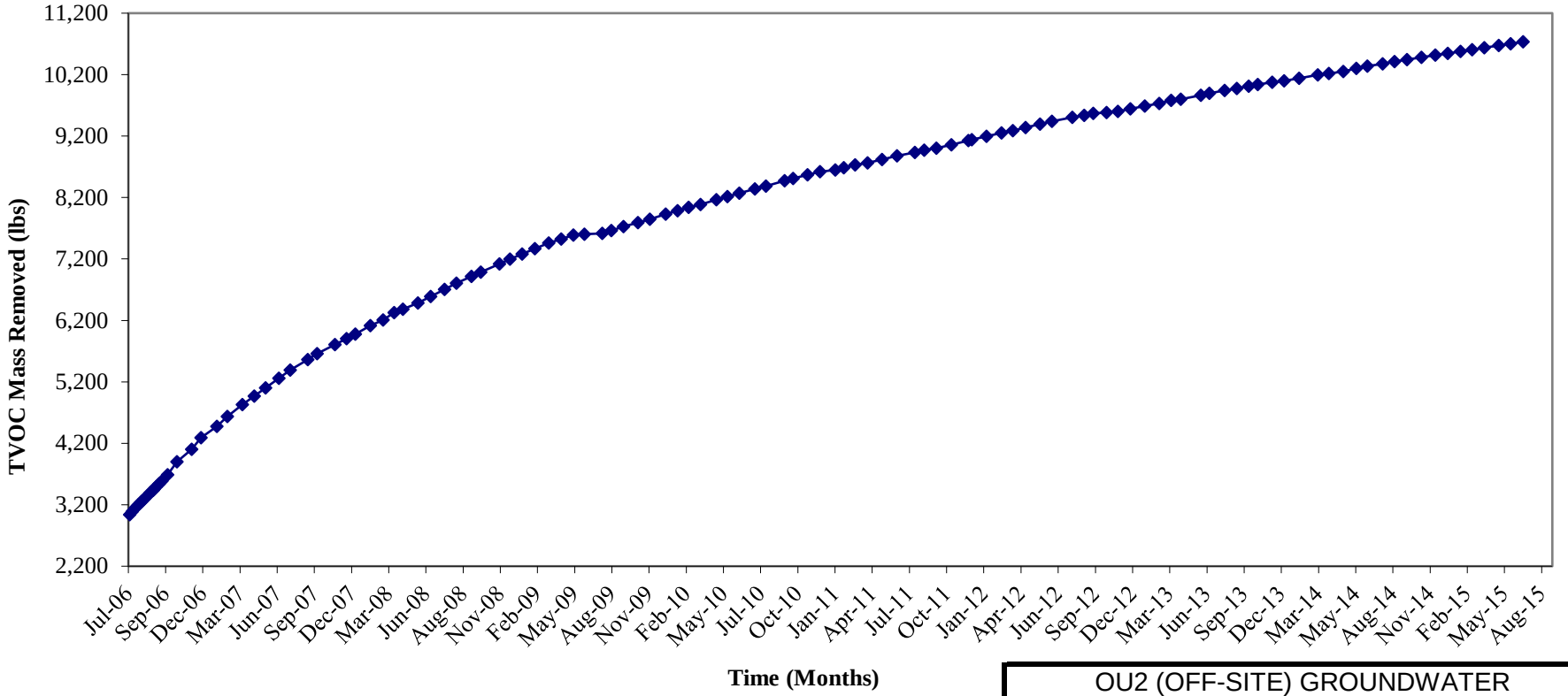


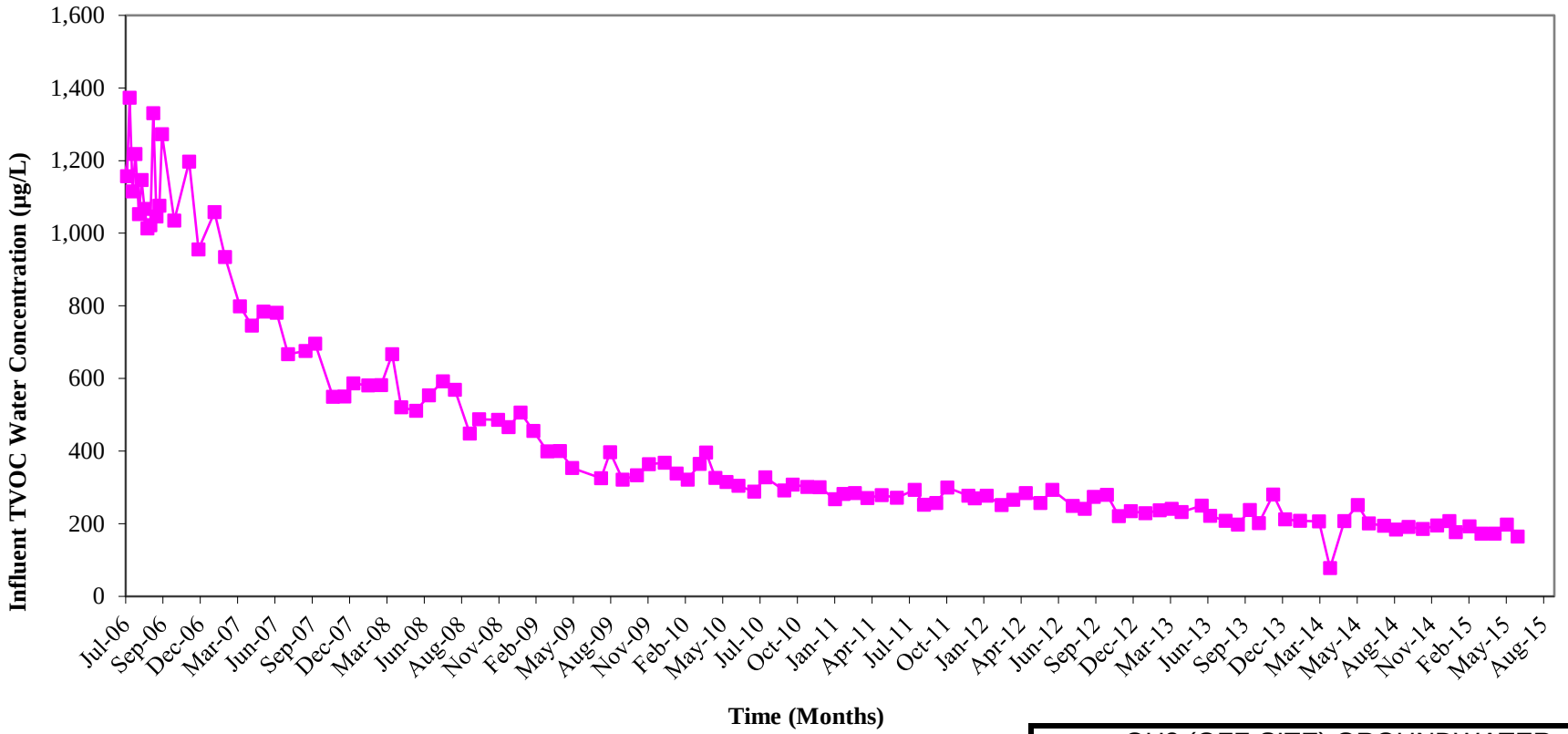
Notes:

TVOC = total volatile organic compounds
lbs = pounds

OU2 (OFF-SITE) GROUNDWATER TREATMENT SYSTEM
OPERATION, MAINTENANCE, AND MONITORING REPORT
LAKE SUCCESS, NEW YORK

CUMULATIVE TVOC MASS REMOVED THROUGH JUNE 2015

FIGURE 4



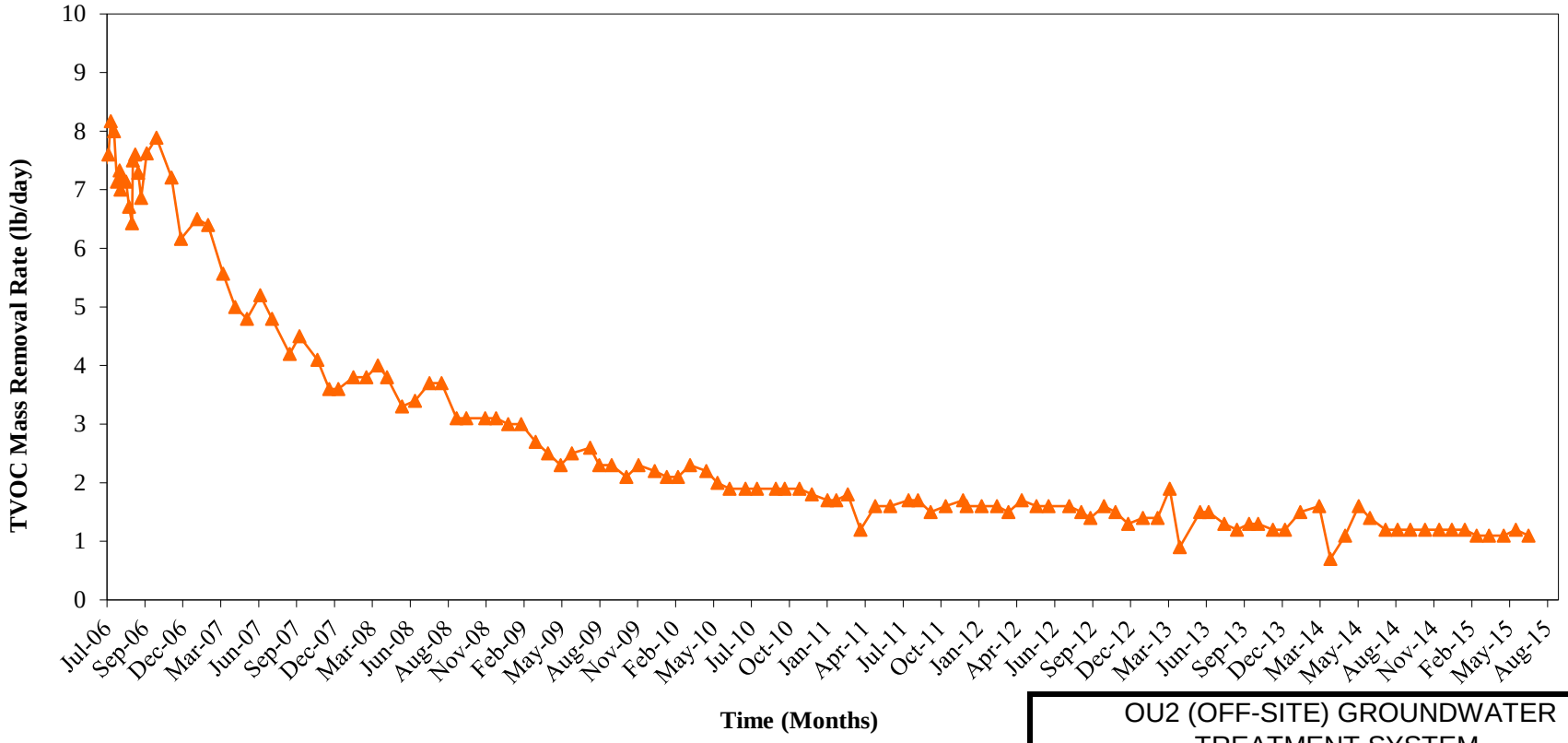
Notes:

TVOC = total volatile organic compounds
µg/L = micrograms per liter

OU2 (OFF-SITE) GROUNDWATER TREATMENT SYSTEM
OPERATION, MAINTENANCE, AND MONITORING REPORT
LAKE SUCCESS, NEW YORK

INFLUENT TVOC CONCENTRATIONS THROUGH JUNE 2015

FIGURE 5



Notes:

TVOC = total volatile organic compound

OU2 (OFF-SITE) GROUNDWATER TREATMENT SYSTEM
OPERATION, MAINTENANCE, AND MONITORING REPORT
LAKE SUCCESS, NEW YORK

TVOC MASS REMOVAL RATES THROUGH JUNE 2015

FIGURE 6

APPENDIX A — WATER SAMPLE ANALYTICAL RESULTS

Appendix A-1 — Water Sample Analytical Results

January 15, 2015
Lockheed Martin Corporation
Former Unisys Facility Great Neck
Lake Success, New York [(1)]

Sample ID: Location ID: Date Collected: Units:	WSP-1 System Influent 04/16/15 µg/L	WSP-3 System Effluent 04/16/15 µg/L
Compounds		
1,1,1-Trichloroethane	1.0 U	1.0 U [1.0 U]
1,1,2,2-Tetrachloroethane	1.0 U	1.0 U [1.0 U]
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	**5.3**	1.0 U [1.0 U]
1,1,2-Trichloroethane	1.0 U	1.0 U [1.0 U]
1,1-Dichloroethane	1.0 U	1.0 U [1.0 U]
1,1-Dichloroethene	**0.69**	1.0 U [1.0 U]
1,1-Difluoroethane (Freon 152a)	1.0 U	1.0 U [1.0 U]
1,2,4-Trichlorobenzene	1.0 U	1.0 U [1.0 U]
1,2-Dibromo-3-chloropropane	1.0 U	1.0 U [1.0 U]
1,2-Dibromoethane	1.0 U	1.0 U [1.0 U]
1,2-Dichlorobenzene	1.0 U	1.0 U [1.0 U]
1,2-Dichloroethane	1.0 U	1.0 U [1.0 U]
1,2-Dichloroethene (cis)	**110**	1.0 U [1.0 U]
1,2-Dichloroethene (trans)	**1.8**	1.0 U [1.0 U]
1,2-Dichloropropane	1.0 U	1.0 U [1.0 U]
1,3-Dichlorobenzene	1.0 U	1.0 U [1.0 U]
1,3-Dichloropropene (cis)	1.0 U	1.0 U [1.0 U]
1,3-Dichloropropene (trans)	1.0 U	1.0 U [1.0 U]
1,4-Dichlorobenzene	1.0 U	1.0 U [1.0 U]
2,2-Dichloro-1,1,1-trifluoroethane (Freon 123)	1.0 U	1.0 U [1.0 U]
2-Butanone (Methyl ethyl ketone)	1.0 U	1.0 U [1.0 U]
4-Methyl-2-pentanone (MIBK)	1.0 U	1.0 U [1.0 U]
Acetone (2-propanone)	1.0 U	1.0 U [1.0 U]
Benzene	1.0 U	1.0 U [1.0 U]
Bromodichloromethane	1.0 U	1.0 U [1.0 U]
Bromoform	1.0 U	1.0 U [1.0 U]
Bromomethane (Methyl bromide)	1.0 U	1.0 U [1.0 U]
Carbon disulfide	1.0 U	1.0 U [1.0 U]
Carbon tetrachloride	1.0 U	1.0 U [1.0 U]
Chlorobenzene	1.0 U	1.0 U [1.0 U]
Chlorodifluoromethane (Freon 22)	1.0 U	1.0 U [1.0 U]
Chloroethane	1.0 U	1.0 U [1.0 U]
Chloroform	1.0 U	1.0 U [1.0 U]
Chloromethane (Methyl chloride)	1.0 U	1.0 U [1.0 U]
Chloropentafluoroethane (Freon 115)	1.0 U	1.0 U [1.0 U]
Cyclohexane	1.0 U	1.0 U [1.0 U]
Dibromochloromethane	1.0 U	1.0 U [1.0 U]
Dichlorodifluoromethane (Freon 12)	1.0 U	1.0 U [1.0 U]
Ethylbenzene	1.0 U	1.0 U [1.0 U]
Isopropylbenzene (Cumene)	1.0 U	1.0 U [1.0 U]
Methyl acetate	1.0 U	1.0 U [1.0 U]
Methyl butyl ketone (2-Hexanone)	1.0 U	1.0 U [1.0 U]
Methyl cyclohexane	1.0 U	1.0 U [1.0 U]
Methyl tert-butyl ether (MTBE)	1.0 U	1.0 U [1.0 U]
Methylene chloride	1.0 U	1.0 U [1.0 U]
Styrene	1.0 U	1.0 U [1.0 U]
Tetrachloroethene (PCE)	**24**	1.0 U [1.0 U]

See notes on last page.

Appendix A-1 — Water Sample Analytical Results

January 15, 2015
Lockheed Martin Corporation
Former Unisys Facility Great Neck
Lake Success, New York [(1)]

Sample ID:	WSP-1	WSP-3
Location ID:	System Influent	System Effluent
Date Collected:	04/16/15	04/16/15
Units:	µg/L	µg/L
Compounds		
Toluene	1.0 U	1.0 U [1.0 U]
Trichloroethene (TCE)	**31**	1.0 U [1.0 U]
Trichlorofluoromethane (Freon 11)	1.0 U	1.0 U [1.0 U]
Vinyl chloride	1.0 U	1.0 U [1.0 U]
Xylenes (m&p)	1.0 U	1.0 U [1.0 U]
Xylenes (o)	1.0 U	1.0 U [1.0 U]
Xylenes (total)	1.0 U	1.0 U [1.0 U]
Total VOCs [(2)]	**173**	1.0 U [1.0 U]

Notes:

1. Samples collected by O&M personnel on the dates shown and submitted to TestAmerica, Inc. for VOC analyses using USEPA Method OLM04.2 modified, including Freon 22, Freon 115, Freon 123, and Freon 152a.
2. "Total VOCs" represents the numerical sum of all individual compound concentrations excluding xylene (total). "Total VOCs" was rounded to the nearest integer.

BOLD – Detected concentrations are presented in bold font.
IRM – Interim Remedial Measure
O&M – operation and maintenance
U – The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
USEPA – U. S. Environmental Protection Agency
VOC – volatile organic compound
µg/L – micrograms per liter
[ ] – Analytical data in brackets pertains to a duplicate sample collected at the specified location.

Appendix A-2 — Water Sample Analytical Results

May 15, 2015
Lockheed Martin Corporation
Former Unisys Facility Great Neck
Lake Success, New York [(1)]

Sample ID:	WSP-1	WSP-3
Location ID:	System Influent	System Effluent
Date Collected:	05/15/15	05/15/15
Units:	µg/L	µg/L
Compounds		
1,1,1-Trichloroethane	1.0 U	1.0 U [1.0 U]
1,1,2,2-Tetrachloroethane	1.0 U	1.0 U [1.0 U]
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	**6.3**	1.0 U [1.0 U]
1,1,2-Trichloroethane	1.0 U	1.0 U [1.0 U]
1,1-Dichloroethane	1.0 U	1.0 U [1.0 U]
1,1-Dichloroethene	**0.86**	1.0 U [1.0 U]
1,1-Difluoroethane (Freon 152a)	1.0 U	1.0 U [1.0 U]
1,2,4-Trichlorobenzene	1.0 U	1.0 U [1.0 U]
1,2-Dibromo-3-chloropropane	1.0 U	1.0 U [1.0 U]
1,2-Dibromoethane	1.0 U	1.0 U [1.0 U]
1,2-Dichlorobenzene	1.0 U	1.0 U [1.0 U]
1,2-Dichloroethane	1.0 U	1.0 U [1.0 U]
1,2-Dichloroethene (cis)	**120**	1.0 U [1.0 U]
1,2-Dichloroethene (trans)	**2.5**	1.0 U [1.0 U]
1,2-Dichloropropane	1.0 U	1.0 U [1.0 U]
1,3-Dichlorobenzene	1.0 U	1.0 U [1.0 U]
1,3-Dichloropropene (cis)	1.0 U	1.0 U [1.0 U]
1,3-Dichloropropene (trans)	1.0 U	1.0 U [1.0 U]
1,4-Dichlorobenzene	1.0 U	1.0 U [1.0 U]
2,2-Dichloro-1,1,1-trifluoroethane (Freon 123)	1.0 U	1.0 U [1.0 U]
2-Butanone (Methyl ethyl ketone)	1.0 U	1.0 U [1.0 U]
4-Methyl-2-pentanone (MIBK)	1.0 U	1.0 U [1.0 U]
Acetone (2-propanone)	1.0 U	1.0 U [1.0 U]
Benzene	1.0 U	1.0 U [1.0 U]
Bromodichloromethane	1.0 U	1.0 U [1.0 U]
Bromoform	1.0 U	1.0 U [1.0 U]
Bromomethane (Methyl bromide)	1.0 U	1.0 U [1.0 U]
Carbon disulfide	1.0 U	1.0 U [1.0 U]
Carbon tetrachloride	1.0 U	1.0 U [1.0 U]
Chlorobenzene	1.0 U	1.0 U [1.0 U]
Chlorodifluoromethane (Freon 22)	**4.4**	1.0 U [1.0 U]
Chloroethane	1.0 U	1.0 U [1.0 U]
Chloroform	1.0 U	1.0 U [1.0 U]
Chloromethane (Methyl chloride)	1.0 U	1.0 U [1.0 U]
Chloropentafluoroethane (Freon 115)	1.0 U	1.0 U [1.0 U]
Cyclohexane	1.0 U	1.0 U [1.0 U]
Dibromochloromethane	1.0 U	1.0 U [1.0 U]
Dichlorodifluoromethane (Freon 12)	1.0 U	1.0 U [1.0 U]
Ethylbenzene	1.0 U	1.0 U [1.0 U]
Isopropylbenzene (Cumene)	1.0 U	1.0 U [1.0 U]
Methyl acetate	1.0 U	1.0 U [1.0 U]
Methyl butyl ketone (2-Hexanone)	1.0 U	1.0 U [1.0 U]
Methyl cyclohexane	1.0 U	1.0 U [1.0 U]
Methyl tert-butyl ether (MTBE)	1.0 U	1.0 U [1.0 U]
Methylene chloride	1.0 U	1.0 U [1.0 U]
Styrene	1.0 U	1.0 U [1.0 U]
Tetrachloroethene (PCE)	**28**	1.0 U [1.0 U]

See notes on last page.

Appendix A-2 — Water Sample Analytical Results

May 15, 2015
Lockheed Martin Corporation
Former Unisys Facility Great Neck
Lake Success, New York [1]

Sample ID:	WSP-1	WSP-3
Location ID:	System Influent	System Effluent
Date Collected:	05/15/15	05/15/15
Units:	µg/L	µg/L
Compounds		
Toluene	1.0 U	1.0 U [1.0 U]
Trichloroethene (TCE)	**36**	1.0 U [1.0 U]
Trichlorofluoromethane (Freon 11)	1.0 UJ	1.0 U [1.0 U]
Vinyl chloride	1.0 U	1.0 U [1.0 U]
Xylenes (total)	1.0 U	1.0 U [1.0 U]
Total VOCs [2]	**198**	1.0 U [1.0 U]

Notes:

1. Samples collected by O&M personnel on the dates shown and submitted to TestAmerica, Inc. for VOC analyses using USEPA Method OLM04.2 modified, including Freon 22, Freon 115, Freon 123, and Freon 152a.
2. "Total VOCs" represents the numerical sum of all individual compound concentrations. "Total VOCs" was rounded to the nearest integer.

BOLD – Detected concentrations are presented in bold font.
IRM – Interim Remedial Measure
J – The compound was positively identified; however, the associated numerical value is an estimated concentration only.
O&M – operation and maintenance
U – The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
USEPA – U. S. Environmental Protection Agency
VOC – volatile organic compound
µg/L – micrograms per liter
[ ] – Analytical data in brackets pertains to a duplicate sample collected at the specified location.

Appendix A-3 — Water Sample Analytical Results

March 16, 2015
Lockheed Martin Corporation
Former Unisys Facility Great Neck
Lake Success, New York [(1)]

Sample ID:	WSP-1	WSP-2	WSP-3
Location ID:	System Influent	Clearwell-210 Effluent	System Effluent
Date Collected:	6/9/15	6/9/15	6/9/15
Units:	µg/L	µg/L	µg/L
Compounds			
1,1,1-Trichloroethane	1.0 U	1.0 U	1.0 U [1.0 U]
1,1,2,2-Tetrachloroethane	1.0 U	1.0 U	1.0 U [1.0 U]
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	**5.7 J**	1.0 U	1.0 U [1.0 U]
1,1,2-Trichloroethane	1.0 U	1.0 U	1.0 U [1.0 U]
1,1-Dichloroethane	1.0 U	1.0 U	1.0 U [1.0 U]
1,1-Dichloroethene	**0.69 J**	1.0 U	1.0 U [1.0 U]
1,1-Difluoroethane (Freon 152a)	1.0 U	1.0 U	1.0 U [1.0 U]
1,2,4-Trichlorobenzene	1.0 UJ	1.0 U	1.0 U [1.0 U]
1,2-Dibromo-3-chloropropane	1.0 U	1.0 U	1.0 U [1.0 U]
1,2-Dibromoethane	1.0 U	1.0 U	1.0 U [1.0 U]
1,2-Dichlorobenzene	1.0 U	1.0 U	1.0 U [1.0 U]
1,2-Dichloroethane	1.0 U	1.0 U	1.0 U [1.0 U]
1,2-Dichloroethene (cis)	**100**	1.0 U	1.0 U [1.0 U]
1,2-Dichloroethene (trans)	**3.1**	1.0 U	1.0 U [1.0 U]
1,2-Dichloropropane	1.0 U	1.0 U	1.0 U [1.0 U]
1,3-Dichlorobenzene	1.0 U	1.0 U	1.0 U [1.0 U]
1,3-Dichloropropene (cis)	1.0 U	1.0 U	1.0 U [1.0 U]
1,3-Dichloropropene (trans)	1.0 U	1.0 U	1.0 U [1.0 U]
1,4-Dichlorobenzene	1.0 U	1.0 U	1.0 U [1.0 U]
2,2-Dichloro-1,1,1-trifluoroethane (Freon 123)	1.0 U	1.0 U	1.0 U [1.0 U]
2-Butanone (Methyl ethyl ketone)	1.0 UJ	1.0 UJ	1.0 UJ [1.0 UJ]
4-Methyl-2-pentanone (MIBK)	1.0 U	1.0 U	1.0 U [1.0 U]
Acetone (2-propanone)	1.0 UJ	1.0 UJ	1.0 UJ [1.0 UJ]
Benzene	1.0 U	1.0 U	1.0 U [1.0 U]
Bromodichloromethane	1.0 U	1.0 U	1.0 U [1.0 U]
Bromoform	1.0 U	1.0 U	1.0 U [1.0 U]
Bromomethane (Methyl bromide)	1.0 U	1.0 U	1.0 U [1.0 U]
Carbon disulfide	1.0 UJ	1.0 UJ	1.0 UJ [1.0 UJ]
Carbon tetrachloride	1.0 U	1.0 U	1.0 U [1.0 U]
Chlorobenzene	1.0 U	1.0 U	1.0 U [1.0 U]
Chlorodifluoromethane (Freon 22)	**3.6**	1.0 U	1.0 U [1.0 U]
Chloroethane	1.0 U	1.0 U	1.0 U [1.0 U]
Chloroform	**0.28 J**	1.0 U	1.0 U [1.0 U]
Chloromethane (Methyl chloride)	1.0 U	1.0 U	1.0 U [1.0 U]
Chloropentafluoroethane (Freon 115)	1.0 UJ	1.0 UJ	1.0 UJ [1.0 UJ]
Cyclohexane	1.0 U	1.0 U	1.0 U [1.0 U]
Dibromochloromethane	1.0 U	1.0 U	1.0 U [1.0 U]
Dichlorodifluoromethane (Freon 12)	1.0 U	1.0 U	1.0 U [1.0 U]
Ethylbenzene	1.0 U	1.0 U	1.0 U [1.0 U]
Isopropylbenzene (Cumene)	1.0 U	1.0 U	1.0 U [1.0 U]
Methyl acetate	1.0 U	1.0 U	1.0 U [1.0 U]
Methyl butyl ketone (2-Hexanone)	1.0 U	1.0 U	1.0 U [1.0 U]
Methyl cyclohexane	1.0 U	1.0 U	1.0 U [1.0 U]
Methyl tert-butyl ether (MTBE)	1.0 U	1.0 U	1.0 U [1.0 U]
Methylene chloride	1.0 U	1.0 U	1.0 U [1.0 U]
Styrene	1.0 U	1.0 U	1.0 U [1.0 U]
Tetrachloroethene (PCE)	**22**	1.0 U	1.0 U [1.0 U]

See notes on last page.

Appendix A-3 — Water Sample Analytical Results

March 16, 2015
Lockheed Martin Corporation
Former Unisys Facility Great Neck
Lake Success, New York [1]

Sample ID:	WSP-1	WSP-2	WSP-3
Location ID:	System Influent	Clearwell-210 Effluent	System Effluent
Date Collected:	6/9/15	6/9/15	6/9/15
Units:	µg/L	µg/L	µg/L
Compounds			
Toluene	1.0 U	1.0 U	1.0 U [1.0 U]
Trichloroethene (TCE)	**29**	1.0 U	1.0 U [1.0 U]
Trichlorofluoromethane (Freon 11)	1.0 U	1.0 U	1.0 U [1.0 U]
Vinyl chloride	1.0 U	1.0 U	1.0 U [1.0 U]
Xylenes (total)	1.0 U	1.0 U	1.0 U [1.0 U]
Chlorotrifluoroethene (TIC)	--	--	--
Total VOCs [2]	**164**	1.0 U	1.0 U [1.0 U]

Notes:

1. Samples collected by O&M personnel on the dates shown and submitted to TestAmerica, Inc. for VOC analyses using USEPA Method OLM04.2 modified, including Freon 22, Freon 115, Freon 123, and Freon 152a.
2. "Total VOCs" represents the numerical sum of all individual compound concentrations excluding TIC's. "Total VOCs" was rounded to the nearest integer.

BOLD – Detected concentrations are presented in bold font.

IRM – Interim Remedial Measure

J – The compound was positively identified; however, the associated numerical value is an estimated concentration only.

N - The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification

O&M – operation and maintenance

TIC - tentatively identified compound

U – The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

USEPA – U. S. Environmental Protection Agency

VOC – volatile organic compound

µg/L – micrograms per liter

-- = TIC not detected

[ ] – Analytical data in brackets pertains to a duplicate sample collected at the specified location.

APPENDIX B — VAPOR SAMPLE ANALYTICAL RESULTS

Appendix B-1 — OU2 Vapor Sample Analytical Results

April 16, 2015
Lockheed Martin Corporation
Former Unisys Facility Great Neck
Lake Success, New York [(1)]

Sample ID: / Location ID: / Date Collected: / Units:	VSP-1 System Influent 04/16/15 µg/m^3	VSP-2 ECU-2 Influent 04/16/15 µg/m^3	VSP-4 ECU-4 Influent 04/16/15 µg/m^3	VSP-6 AS-220 Effluent 04/16/15 µg/m^3	VSP-8 System Effluent 04/16/15 µg/m^3
Compounds					
1,1,1-Trichloroethane	4.1 U	21 U	3.4 U	4.0 U	4.1 U [4.2 U]
1,1,2,2-Tetrachloroethane	5.2 U	26 U	4.3 U	5.0 U	5.1 U [5.3 U]
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	**89**	29 U	4.7 U	5.6 U	5.7 U [5.9 U]
1,1,2-Trichloroethane	4.1 U	21 U	3.4 U	4.0 U	4.1 U [4.2 U]
1,1-Dichloroethane	**4.0**	15 U	2.5 U	3.0 U	3.0 U [3.1 U]
1,1-Dichloroethene	**13**	**17**	2.5 U	2.9 U	3.0 U [3.1 U]
1,1-Difluoroethane (Freon 152a)	2.0 U	10 U	1.7 U	2.0 U	2.0 U [2.1 U]
1,2,4-Trichlorobenzene	5.6 U	28 U	4.6 U	5.5 U	5.5 U [5.8 U]
1,2-Dibromo-3-chloropropane	7.3 U	37 U	6.0 U	7.1 U	7.2 U [7.5 U]
1,2-Dibromoethane	5.8 U	29 U	4.8 U	5.6 U	5.7 U [6.0 U]
1,2-Dichlorobenzene	4.5 U	23 U	3.7 U	4.4 U	4.5 U [4.7 U]
1,2-Dichloroethane	**3.5**	15 U	2.5 U	3.0 U	3.0 U [3.1 U]
1,2-Dichloroethene (cis)	**1600**	**2200**	2.5 U	**8.5**	3.0 U [3.1 U]
1,2-Dichloroethene (total)	**1700**	**2200**	2.5 U	**8.5**	3.0 U [3.1 U]
1,2-Dichloroethene (trans)	**7.4**	15 U	2.5 U	2.9 U	3.0 U [3.1 U]
1,2-Dichloropropane	3.5 U	18 U	2.9 U	3.4 U	3.4 U [3.6 U]
1,3-Dichlorobenzene	4.5 U	23 U	3.7 U	4.4 U	4.5 U [4.7 U]
1,3-Dichloropropene (cis)	3.4 U	17 U	2.8 U	3.3 U	3.4 U [3.5 U]
1,3-Dichloropropene (trans)	3.4 U	17 U	2.8 U	3.3 U	3.4 U [3.5 U]
1,4-Dichlorobenzene	4.5 U	23 U	3.7 U	4.4 U	4.5 U [4.7 U]
2,2-Dichloro-1,1,1-trifluoroethane (Freon 123)	4.7 U	24 U	3.9 U	4.6 U	4.7 U [4.9 U]
2-Butanone (Methyl ethyl ketone)	2.2 U	11 U	**14**	**3.1**	2.2 U [2.3 U]
4-Methyl-2-pentanone (MIBK)	3.1 U	16 U	2.5 U	3 U	3.1 U [3.2 U]
Acetone (2-propanone)	7.5 U	38 U	**41**	**11**	7.4 U [7.7 U]
Benzene	2.4 U	12 U	2 U	2.4 U	**5.0** [2.5 U]
Bromodichloromethane	5.1 U	26 U	4.2 U	4.9 U	5.0 U [5.2 U]
Bromoform	7.8 U	40 U	6.4 U	7.6 U	7.7 U [8.0 U]
Bromomethane (Methyl bromide)	2.9 U	15 U	2.4 U	2.9 U	2.9 U [3.0 U]
Carbon disulfide	2.4 U	12 U	1.9 U	2.3 U	2.3 U [2.4 U]
Carbon tetrachloride	4.7 U	24 U	3.9 U	4.6 U	4.7 U [4.9 U]
Chlorobenzene	3.5 U	18 U	2.9 U	3.4 U	3.4 U [3.6 U]
Chlorodifluoromethane (Freon 22)	**33**	**48**	**27**	2.6 U	**35 [36]**
Chloroethane	2 U	10 U	1.6 U	1.9 U	2.0 U [2.0 U]
Chloroform	**4.5**	19 U	3 U	3.6 U	3.6 U [3.8 U]
Chloromethane (Methyl chloride)	1.6 U	7.9 U	1.3 U	1.5 U	1.5 U [1.6 U]
Chloropentafluoroethane (Freon 115)	4.8 U	24 U	3.9 U	4.6 U	4.7 U [4.9 U]
Cyclohexane	2.6 U	13 U	**19**	2.5 U	2.6 U [2.7 U]
Dibromochloromethane	6.4 U	33 U	5.3 U	6.3 U	6.3 U [6.6 U]
Dichlorodifluoromethane (Freon 12)	**3.8**	19 U	**4.0**	**3.6**	**4.5 [4.5]**
Ethylbenzene	3.3 U	17 U	2.7 U	3.2 U	3.2 U [3.4 U]
Isopropylbenzene (Cumene)	3.7 U	19 U	3.1 U	3.6 U	3.7 U [3.8 U]
Methyl Acetate	2.3 U	12 U	**2.6**	2.2 U	2.2 U [2.3 U]
Methyl Butyl Ketone (2-Hexanone)	3.1 U	16 U	2.5 U	3.0 U	3.1 U [3.2 U]
Methyl cyclohexane	3 U	15 U	2.5 U	3.0 U	3.0 U [3.1 U]
Methyl tert-Butyl Ether (MTBE)	2.7 U	14 U	2.2 U	2.6 U	2.7 U [2.8 U]
Methylene chloride	2.6 U	13 U	**3.4**	2.6 U	2.6 U [2.7 U]
Styrene	3.2 U	16 U	2.6 U	3.1 U	3.2 U [3.3 U]
Tetrachloroethene (PCE)	**290**	26 U	**8.3**	5 U	5.1 U [5.3 U]
Toluene	2.8 U	14 U	**230**	**3.9**	2.8 U [2.9 U]

See notes on last page.

Appendix B-1 — OU2 Vapor Sample Analytical Results

April 16, 2015
Lockheed Martin Corporation
Former Unisys Facility Great Neck
Lake Success, New York [1]

Sample ID:	VSP-1	VSP-2	VSP-4	VSP-6	VSP-8
Location ID:	System Influent	ECU-2 Influent	ECU-4 Influent	AS-220 Effluent	System Effluent
Date Collected:	04/16/15	04/16/15	04/16/15	04/16/15	04/16/15
Units:	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
Compounds					
Trichloroethene (TCE)	**410**	21 U	3.3 U	4.0 U	4.0 U [4.2 U]
Trichlorofluoromethane (Freon 11)	4.2 U	21 U	3.5 U	4.1 U	4.2 U [4.4 U]
Vinyl chloride	1.9 U	9.8 U	1.6 U	1.9 U	1.9 U [2.0 U]
Xylenes (m&p)	3.3 U	17 U	**8.0**	3.2 U	3.2 U [3.4 U]
Xylenes (o)	3.3 U	17 U	**3.3**	3.2 U	3.2 U [3.4 U]
Xylenes (total)	3.3 U	17 U	**11**	3.2 U	3.2 U [3.4 U]
Chlorotrifluoroethene (CTFE) (TIC)	**4.0 NJ**	**16 NJ**	**12 NJ**	--	--
Total VOCs [2]	**2458**	**2265**	**361**	**30**	**45 [41]**

Notes:

1. Samples collected by O&M personnel on the dates shown and submitted to TestAmerica, Inc. for VOC analyses using USEPA Method TO-15 modified, including Freon 113 and Freon 22.
2. Total VOCs represents the numerical sum of all individual compound concentrations, excluding 1,2-dichloroethene (total), xylene (total), and TIC. "Total VOCs" was rounded to the nearest integer.

BOLD – Detected concentrations are bolded.

D – Concentration is based on a diluted sample analysis.

IRM – Interim Remedial Measure

J – The compound was positively identified; however, the associated numerical value is an estimated concentration only.

N – The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.

O&M – operation and maintenance

TIC – tentatively identified compound

U – The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

USEPA – U. S. Environmental Protection Agency

VOC – volatile organic compound

µg/m^3 – micrograms per cubic meter

[ ] – Analytical data in brackets pertains to a duplicate sample collected at the specified location.

-- – TIC not detected.

Appendix B-2 — OU2 Vapor Sample Analytical Results
Off-Site Interim Remedial Measures
May 15, 2015
Lockheed Martin Corporation
Former Unisys Facility Great Neck
Lake Success, New York [(1)]

Sample ID:	VSP-1	VSP-2	VSP-4	VSP-6	VSP-8
Location ID:	System Influent	ECU-2 Influent	ECU-4 Influent	AS-220 Effluent	System Effluent
Date Collected:	05/15/15	05/15/15	05/15/15	05/15/15	05/15/15
Units:	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
Compounds					
1,1,1-Trichloroethane	3.8 U	4.0 U	4.3 U	4.3 U	4.1 U [4.1 U]
1,1,2,2-Tetrachloroethane	4.8 U	5.1 U	5.4 U	5.4 U	5.1 U [5.2 U]
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	**77**	5.7 U	6.0 U	6.0 U	5.7 U [5.8 U]
1,1,2-Trichloroethane	3.8 U	4.0 U	4.3 U	4.3 U	4.1 U [4.1 U]
1,1-Dichloroethane	**3.6**	3.0 U	3.2 U	3.2 U	3.0 U [3.1 U]
1,1-Dichloroethene	**13**	2.9 U	3.1 U	3.1 U	3.0 U [3.0 U]
1,1-Difluoroethane (Freon 152a)	1.9 U	2.0 U	2.1 U	2.1 U	2.0 U [2.0 U]
1,2,4-Trichlorobenzene	5.2 U	5.5 U	5.8 U	5.8 U	5.5 U [5.6 U]
1,2-Dibromo-3-chloropropane	6.7 U	7.1 U	7.5 U	7.6 U	7.2 U [7.3 U]
1,2-Dibromoethane	5.3 U	5.7 U	6.0 U	6.0 U	5.7 U [5.8 U]
1,2-Dichlorobenzene	4.2 U	4.4 U	4.7 U	4.7 U	4.5 U [4.5 U]
1,2-Dichloroethane	**3.1**	3.0 U	3.2 U	3.2 U	3.0 U [3.1 U]
1,2-Dichloroethene (cis)	**1400**	2.9 U	3.1 U	**6.0**	3.0 U [3.0 U]
1,2-Dichloroethene (total)	**1400**	2.9 U	3.1 U	**6.0**	3.0 U [3.0 U]
1,2-Dichloroethene (trans)	**6.6**	2.9 U	3.1 U	3.1 U	3.0 U [3.0 U]
1,2-Dichloropropane	3.2 U	3.4 U	3.6 U	3.6 U	3.4 U [3.5 U]
1,3-Dichlorobenzene	4.2 U	4.4 U	4.7 U	4.7 U	4.5 U [4.5 U]
1,3-Dichloropropene (cis)	3.2 U	3.4 U	3.5 U	3.6 U	3.4 U [3.4 U]
1,3-Dichloropropene (trans)	3.2 U	3.4 U	3.5 U	3.6 U	3.4 U [3.4 U]
1,4-Dichlorobenzene	4.2 U	4.4 U	4.7 U	4.7 U	4.5 U [4.5 U]
2,2-Dichloro-1,1,1-trifluoroethane (Freon 123)	4.4 U	4.6 U	4.9 U	4.9 U	4.7 U [4.7 U]
2-Butanone (Methyl ethyl ketone)	**2.3**	2.2 U	2.3 U	**9.5**	**3.3 [3.7]**
4-Methyl-2-pentanone (MIBK)	2.8 U	3.0 U	3.2 U	3.2 U	3.1 U [3.1 U]
Acetone (2-propanone)	**7.9**	7.4 U	**17**	**11**	**22 [16]**
Benzene	2.2 U	2.4 U	2.5 U	2.5 U	2.4 U [2.4 U]
Bromodichloromethane	4.7 U	5.0 U	5.2 U	5.3 U	5.0 U [5.1 U]
Bromoform	7.2 U	7.7 U	8.1 U	8.1 U	7.7 U [7.8 U]
Bromomethane (Methyl bromide)	2.7 U	2.9 U	3.0 U	3.0 U	2.9 U [2.9 U]
Carbon disulfide	2.2 U	2.3 U	2.4 U	**5.9**	2.3 U [2.4 U]
Carbon tetrachloride	4.4 U	4.6 U	4.9 U	4.9 U	4.7 U [4.7 U]
Chlorobenzene	3.2 U	3.4 U	3.6 U	3.6 U	3.4 U [3.5 U]
Chlorodifluoromethane (Freon 22)	**29**	**36**	**30**	2.8 U	**29 [31]**
Chloroethane	1.8 U	2.0 U	2.1 U	2.1 U	2.0 U [2.0 U]
Chloroform	**4.1**	3.6 U	3.8 U	3.8 U	3.6 U [3.7 U]
Chloromethane (Methyl chloride)	1.4 U	1.5 U	1.6 U	1.6 U	1.5 U [1.6 U]
Chloropentafluoroethane (Freon 115)	4.4 U	4.7 U	4.9 U	5.0 U	4.7 U [4.8 U]
Cyclohexane	2.4 U	2.5 U	2.7 U	2.7 U	2.6 U [2.6 U]
Dibromochloromethane	5.9 U	6.3 U	6.6 U	6.7 U	6.3 U [6.4 U]
Dichlorodifluoromethane (Freon 12)	**3.6**	**5.0**	3.9 U	**4.4**	3.7 U [3.7 U]
Ethylbenzene	3 U	3.2 U	3.4 U	3.4 U	3.2 U [3.3 U]
Isopropylbenzene (Cumene)	3.4 U	3.6 U	3.8 U	3.9 U	3.7 U [3.7 U]
Methyl Acetate	2.1 U	2.2 U	2.4 U	2.4 U	2.2 U [2.3 U]
Methyl Butyl Ketone (2-Hexanone)	2.8 U	3.0 U	3.2 U	3.2 U	3.1 U [3.1 U]
Methyl cyclohexane	2.8 U	3.0 U	3.1 U	3.2 U	3.0 U [3.0 U]
Methyl tert-Butyl Ether (MTBE)	2.5 U	2.7 U	2.8 U	2.8 U	2.7 U [2.7 U]
Methylene chloride	2.4 U	2.6 U	2.7 U	2.7 U	2.6 U [2.6 U]
Styrene	3.0 U	3.2 U	3.3 U	3.3 U	3.2 U [3.2 U]
Tetrachloroethene (PCE)	**290**	5.0 U	5.3 U	5.3 U	5.1 U [5.1 U]
Toluene	**7.6**	2.8 U	2.9 U	**18**	2.8 U [2.8 U]

See notes on last page.

Appendix B-2 — OU2 Vapor Sample Analytical Results
Off-Site Interim Remedial Measures
May 15, 2015
Lockheed Martin Corporation
Former Unisys Facility Great Neck
Lake Success, New York [1]

Sample ID:	VSP-1	VSP-2	VSP-4	VSP-6	VSP-8
Location ID:	System Influent	ECU-2 Influent	ECU-4 Influent	AS-220 Effluent	System Effluent
Date Collected:	05/15/15	05/15/15	05/15/15	05/15/15	05/15/15
Units:	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
Compounds					
Trichloroethene (TCE)	**370**	4.0 U	4.2 U	4.2 U	4.0 U [4.1 U]
Trichlorofluoromethane (Freon 11)	3.9 U	4.2 U	4.4 U	4.4 U	4.2 U [4.2 U]
Vinyl chloride	1.8 U	1.9 U	2.0 U	2.0 U	1.9 U [1.9 U]
Xylenes (m&p)	3.0 U	3.2 U	3.4 U	3.4 U	3.2 U [3.3 U]
Xylenes (o)	3.0 U	3.2 U	3.4 U	3.4 U	3.2 U [3.3 U]
Xylenes (total)	3.0 U	3.2 U	3.4 U	3.4 U	3.2 U [3.3 U]
Chlorotrifluoroethene (CTFE) (TIC)	--	**13 NJ**	--	--	--
Total VOCs [2]	**2218**	**41**	**47**	**55**	**54 [51]**

Notes:

1. Samples collected by O&M personnel on the dates shown and submitted to TestAmerica, Inc. for VOC analyses using USEPA Method TO-15 modified, including Freon 113 and Freon 22.

2. Total VOCs represents the numerical sum of all individual compound concentrations, excluding 1,2-dichloroethene (total), xylene (total), and TIC. Total VOCs was rounded to the nearest integer.

BOLD – Detected concentrations are bolded.

IRM – Interim Remedial Measure

J – The compound was positively identified, however the associated numerical value is an estimated concentration only.

N – The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.

O&M – operation and maintenance.

TIC – tentatively identified compound.

U – The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

USEPA – U. S. Environmental Protection Agency

VOC – volatile organic compound

µg/m^3 – micrograms per cubic meter

[ ] – Analytical data in brackets pertains to a duplicate sample collected at the specified location.

-- – TIC not detected.

Appendix B-3 — OU2 Vapor Sample Analytical Results
Off-Site Interim Remedial Measures
June 9, 2015
Lockheed Martin Corporation
Former Unisys Facility Great Neck
Lake Success, New York [(1)]

Sample ID:	VSP-1	VSP-2	VSP-3	VSP-4	VSP-6	VSP-7	VSP-8
Location ID:	System Influent	ECU-2 Influent	ECU-3 Influent	ECU-4 Influent	AS-220 Effluent	ECU-5 Effluent	System Effluent
Date Collected:	06/09/15	06/09/15	06/09/15	06/09/15	06/09/15	06/09/15	06/09/15
Units:	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
Compounds							
1,1,1-Trichloroethane	14 U	3.7 U	3.8 U	5.7 U	4.1 U	4.0 U	4.4 U [4.3 U]
1,1,2,2-Tetrachloroethane	18 U	4.7 U	4.8 U	7.1 U	5.2 U	5.1 U	5.5 U [5.4 U]
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	**72**	5.2 U	5.3 U	7.9 U	5.8 U	5.7 U	6.1 U [6.0 U]
1,1,2-Trichloroethane	14 U	3.7 U	3.8 U	5.7 U	4.1 U	4.0 U	4.4 U [4.3 U]
1,1-Dichloroethane	11 U	2.8 U	2.8 U	4.2 U	3.1 U	3.0 U	3.2 U [3.2 U]
1,1-Dichloroethene	**12**	2.7 U	**18**	4.1 U	3.0 U	2.9 U	3.2 U [3.1 U]
1,1-Difluoroethane (Freon 152a)	7.1 U	1.8 U	1.9 U	2.8 U	2.0 U	2.0 U	2.2 U [2.1 U]
1,2,4-Trichlorobenzene	20 U	5.1 U	5.2 U	7.7 U	5.6 U	5.5 U	5.9 U [5.8 U]
1,2-Dibromo-3-chloropropane	26 U	6.6 U	6.7 U	10 U	7.3 U	7.1 U	7.7 U [7.5 U]
1,2-Dibromoethane	20 U	5.3 U	5.3 U	7.9 U	5.8 U	5.7 U	6.1 U [6.0 U]
1,2-Dichlorobenzene	16 U	4.1 U	4.2 U	6.2 U	4.5 U	4.4 U	4.8 U [4.7 U]
1,2-Dichloroethane	11 U	2.8 U	2.8 U	4.2 U	3.1 U	3.0 U	3.2 U [3.2 U]
1,2-Dichloroethene (cis)	**1600**	2.7 U	**16**	4.1 U	**6.4**	2.9 U	3.2 U [3.1 U]
1,2-Dichloroethene (total)	**1600**	2.7 U	**16**	4.1 U	**6.4**	2.9 U	3.2 U [3.1 U]
1,2-Dichloroethene (trans)	10 U	2.7 U	2.8 U	4.1 U	3.0 U	2.9 U	3.2 U [3.1 U]
1,2-Dichloropropane	12 U	3.2 U	3.2 U	4.8 U	3.5 U	3.4 U	3.7 U [3.6 U]
1,3-Dichlorobenzene	16 U	4.1 U	4.2 U	6.2 U	4.5 U	4.4 U	4.8 U [4.7 U]
1,3-Dichloropropene (cis)	12 U	3.1 U	3.2 U	4.7 U	3.4 U	3.4 U	3.6 U [3.5 U]
1,3-Dichloropropene (trans)	12 U	3.1 U	3.2 U	4.7 U	3.4 U	3.4 U	3.6 U [3.5 U]
1,4-Dichlorobenzene	16 U	4.1 U	4.2 U	6.2 U	4.5 U	4.4 U	4.8 U [4.7 U]
2,2-Dichloro-1,1,1-trifluoroethane (Freon 123)	17 U	4.3 U	4.4 U	6.5 U	4.7 U	4.6 U	5.0 U [4.9 U]
2-Butanone (Methyl ethyl ketone)	7.8 U	2.0 U	**4.8**	**4.8**	**3.5**	**2.7**	2.4 U [2.3 U]
4-Methyl-2-pentanone (MIBK)	11 U	2.8 U	2.8 U	4.2 U	3.1 U	3.0 U	3.3 U [3.2 U]
Acetone (2-propanone)	26 U	**11**	**14**	**38**	**50**	**17**	8.0 U [7.8 U]
Benzene	8.4 U	2.2 U	2.2 U	3.3 U	2.4 U	**12**	2.6 U [2.5 U]
Bromodichloromethane	18 U	4.6 U	4.7 U	6.9 U	5.1 U	5.0 U	5.4 U [5.2 U]
Bromoform	27 U	7.1 U	7.2 U	11 U	7.8 U	7.7 U	8.3 U [8.1 U]
Bromomethane (Methyl bromide)	10 U	2.7 U	2.7 U	4.0 U	2.9 U	2.9 U	3.1 U [3.0 U]
Carbon disulfide	8.2 U	2.1 U	**26**	3.2 U	**12**	2.3 U	2.5 U [2.4 U]
Carbon tetrachloride	17 U	4.3 U	4.4 U	6.5 U	4.7 U	4.6 U	5.0 U [4.9 U]
Chlorobenzene	12 U	3.2 U	3.2 U	4.8 U	3.5 U	3.4 U	3.7 U [3.6 U]
Chlorodifluoromethane (Freon 22)	**36**	**29**	**27**	**21**	2.7 U	**30**	**28 [29]**
Chloroethane	7.0 U	1.8 U	1.8 U	2.7 U	2.0 U	2.0 U	2.1 U [2.1 U]
Chloroform	13 U	3.3 U	3.4 U	5.1 U	3.7 U	3.6 U	3.9 U [3.8 U]
Chloromethane (Methyl chloride)	5.4 U	1.4 U	1.4 U	2.1 U	1.6 U	1.5 U	1.6 U [1.6 U]
Chloropentafluoroethane (Freon 115)	17 U	4.3 U	4.4 U	6.5 U	4.8 U	4.7 U	5.1 U [4.9 U]
Cyclohexane	9.1 U	2.4 U	2.4 U	3.6 U	2.6 U	**5.3**	2.8 U [2.7 U]
Dibromochloromethane	22 U	5.8 U	5.9 U	8.8 U	6.4 U	6.3 U	6.8 U [6.6 U]
Dichlorodifluoromethane (Freon 12)	13 U	**3.6**	**3.6**	5.1 U	3.7 U	**4.0**	4.0 U **[3.9]**
Ethylbenzene	11 U	3 U	3.0 U	4.5 U	3.3 U	3.2 U	3.5 U [3.4 U]
Isopropylbenzene (Cumene)	13 U	3.4 U	3.4 U	5.1 U	3.7 U	3.6 U	3.9 U [3.8 U]
Methyl Acetate	8.0 U	2.1 U	2.1 U	3.1 U	2.3 U	2.2 U	2.4 U [2.4 U]
Methyl Butyl Ketone (2-Hexanone)	11 U	2.8 U	2.8 U	4.2 U	3.1 U	**10**	3.3 U [3.2 U]
Methyl cyclohexane	11 U	2.8 U	2.8 U	4.2 U	3.0 U	**8.2**	3.2 U [3.1 U]
Methyl tert-Butyl Ether (MTBE)	9.5 U	2.5 U	2.5 U	3.7 U	2.7 U	2.7 U	2.9 U [2.8 U]
Methylene chloride	9.2 U	2.4 U	2.4 U	3.6 U	2.6 U	2.6 U	2.8 U [2.7 U]
Styrene	11 U	2.9 U	3.0 U	4.4 U	3.2 U	3.2 U	3.4 U [3.3 U]
Tetrachloroethene (PCE)	**280**	4.6 U	4.7 U	7.0 U	5.1 U	5.0 U	5.4 U [5.3 U]
Toluene	9.9 U	2.6 U	**5.1**	**5.8**	**4.8**	**38**	3.0 U [2.9 U]

See notes on last page.

Appendix B-3 — OU2 Vapor Sample Analytical Results
Off-Site Interim Remedial Measures
June 9, 2015
Lockheed Martin Corporation
Former Unisys Facility Great Neck
Lake Success, New York [(1)]

Sample ID:	VSP-1	VSP-2	VSP-3	VSP-4	VSP-6	VSP-7	VSP-8
Location ID:	System Influent	ECU-2 Influent	ECU-3 Influent	ECU-4 Influent	AS-220 Effluent	ECU-5 Effluent	System Effluent
Date Collected:	06/09/15	06/09/15	06/09/15	06/09/15	06/09/15	06/09/15	06/09/15
Units:	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
Compounds							
Trichloroethene (TCE)	**390**	3.7 U	3.7 U	5.6 U	4.1 U	4.0 U	4.3 U [4.2 U]
Trichlorofluoromethane (Freon 11)	15 U	3.8 U	**6.8**	5.8 U	4.2 U	4.2 U	4.5 U [4.4 U]
Vinyl chloride	6.8 U	1.8 U	1.8 U	2.6 U	1.9 U	1.9 U	2.0 U [2.0 U]
Xylenes (m&p)	11 U	3.0 U	3.0 U	4.5 U	3.3 U	**52**	3.5 U [3.4 U]
Xylenes (o)	11 U	3.0 U	3.0 U	4.5 U	3.3 U	**39**	3.5 U [3.4 U]
Xylenes (total)	11 U	3.0 U	3.0 U	4.5 U	3.3 U	**90**	3.5 U [3.4 U]
Chlorotrifluoroethene (CTFE) (TIC)	--	**4 NJ**	**4.3 NJ**	**2.1 NJ**	--	--	--
Total VOCs [(2)]	**2390**	**44**	**121**	**70**	**77**	**218**	**28 [33]**

Notes:

1. Samples collected by O&M personnel on the dates shown and submitted to TestAmerica, Inc. for VOC analyses using USEPA Method TO-15 modified, including Freon 113 and Freon 22.
2. Total VOCs represents the numerical sum of all individual compound concentrations, excluding 1,2-dichloroethene (total), xylene (total), and TIC. Total VOCs was rounded to the nearest integer.

BOLD – Detected concentrations are bolded.

D - Concentration is based on a diluted sample analysis.

IRM – Interim Remedial Measure

J – The compound was positively identified, however the associated numerical value is an estimated concentration only.

N – The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.

O&M – operation and maintenance

TIC – Tentatively identified compound.

U – The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

USEPA – U. S. Environmental Protection Agency

VOC – volatile organic compound

µg/m^3 – micrograms per cubic meter

[ ] – Analytical data in brackets pertains to a duplicate sample collected at the specified location.

-- – TIC not detected.

APPENDIX C — AIR DISCHARGE QUALITY EVALUATION

Appendix C-1 — Air Discharge Quality Evaluation
OU2 (Off-Site) Groundwater Treatment System

Lockheed Martin Corporation; Former Unisys Facility Great Neck
Lake Success, New York [1]

Actual Concentrations (µg/m^3)													
Constituents	**CAS #**	**05/22/14**	**06/16/14**	**07/18/14**	**08/14/14**	**09/15/14**	**10/15/14**	**11/14/14**	**12/15/14**	**01/15/15**	**02/16/15**	**03/16/15**	**04/16/15**
Site-Related Compounds [2]													
Trichlorotrifluoroethane (Freon 113)	00076-13-1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1,1-Dichloroethene	00075-35-4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
cis-1,2-Dichloroethene	00156-59-2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**5.9**	0.0	0.0	0.0
trans-1,2-Dichloroethene	00156-60-5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tetrachloroethene	00127-18-4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Trichloroethene	00079-01-6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vinyl chloride	00075-01-4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detected Compounds [3]													
2-Butanone (MEK)	00078-93-3	**3.1**	0.0	**3.4**	**2.1**	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Acetone	00067-64-1	**9.5**	0.0	**16**	**16**	0.0	**11**	0.0	0.0	0.0	0.0	**10**	0.0
Carbon disulfide	00075-15-0	**3.4**	0.0	0.0	0.0	0.0	**3.2**	0.0	0.0	0.0	0.0	0.0	0.0
Chlorodifluoromethane (Freon 22)	00075-45-6	**18**	**21**	**28**	**48**	**27**	**29**	**32**	**33**	**41**	**33**	**34**	**36**
Dichlorodifluoromethane (Freon 12)	00075-71-8	0.0	0.0	**4.2**	**3.8**	**4.6**	**4.7**	0.0	0.0	0.0	0.0	0.0	**4.5**
Toluene	00108-88-3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**3.7**	**9.9**	0.0
Trichlorofluoromethane (Freon 11)	00075-69-4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Variables (Parameters Per Sampling Event)	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15	Apr-15
Ambient Temperature (°R) [4]	515	515	515	515	515	515	515	515	515	516	517	518
Discharge Temperature (°R)	554	558	560	557	540	556	540	536	534	532	544	548
Average Discharge Flow Rate (scfm)	4,277	4,337	4,383	4,157	4,268	4,306	4,300	4,352	4,240	4,276	4,276	4,276
Average Discharge Flow Rate (acfm)	4,485	4,583	4,649	4,385	4,362	4,532	4,395	4,415	4,286	4,306	4,403	4,435
Cumulative Calendar Days During This Month	31	30	31	31	30	31	30	31	31	28	31	30
Cumulative Operational Days During This Month	31.0	29.9	28.8	31.0	29.8	27.9	29.9	24.0	28.1	28.1	28.1	28.1

Constants	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15	Apr-15
Height of Building,h_b, (ft)	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7
Height of Stack,h_s, (ft)	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5
Radius of Stack,R, (ft)	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75

DAR-1 Calculations	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15	Apr-15
Discharge Velocity (fps)	42.07	42.76	43.54	42.60	41.25	41.94	42.10	41.55	41.03	40.51	41.07	41.68
Height Ratio,h_s/h_b>1.5	1.67	1.67	1.67	1.67	1.67	1.67	1.67	1.67	1.67	1.67	1.67	1.67
Buoyancy Flux (ft^4/sec^2)	931.96	953.09	982.22	941.36	899.00	930.46	937.31	930.00	912.12	893.51	911.32	926.67
Effective Stack Height,h_e, (ft)	25.24	25.33	25.43	25.28	25.12	25.24	25.27	25.24	25.17	25.09	25.16	25.22

See notes on last page.

Appendix C-1 — Air Discharge Quality Evaluation
OU2 (Off-Site) Groundwater Treatment System

Lockheed Martin Corporation; Former Unisys Facility Great Neck
Lake Success, New York [1]

Actual Emission Rates (lbs/day)													
Constituents	**CAS #**	**May-14**	**Jun-14**	**Jul-14**	**Aug-14**	**Sep-14**	**Oct-14**	**Nov-14**	**Dec-14**	**Jan-15**	**Feb-15**	**Mar-15**	**Apr-15**
Site-Related Compounds [2]													
Trichlorotrifluoroethane (Freon 113)	00076-13-1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,1-Dichloroethene	00075-35-4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
cis-1,2-Dichloroethene	00156-59-2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.20E-02	3.17E-02	0.00E+00	0.00E+00
trans-1,2-Dichloroethene	00156-60-5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Tetrachloroethene	00127-18-4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Trichloroethene	00079-01-6	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Vinyl chloride	00075-01-4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Detected Compounds [3]													
2-Butanone (MEK)	00078-93-3	1.85E-02	1.79E-02	1.92E-02	3.27E-02	1.18E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Acetone	00067-64-1	5.66E-02	5.50E-02	9.03E-02	1.90E-01	9.02E-02	5.91E-02	6.36E-02	0.00E+00	0.00E+00	0.00E+00	5.40E-02	5.40E-02
Carbon disulfide	00075-15-0	2.03E-02	1.97E-02	0.00E+00	0.00E+00	0.00E+00	1.72E-02	1.85E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chlorodifluoromethane (Freon 22)	00075-45-6	3.10E-01	2.26E-01	2.76E-01	4.52E-01	4.23E-01	3.01E-01	3.53E-01	3.03E-01	4.01E-01	3.98E-01	3.62E-01	3.78E-01
Dichlorodifluoromethane (Freon 12)	00075-71-8	0.00E+00	0.00E+00	2.37E-02	4.76E-02	4.74E-02	5.00E-02	2.72E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.43E-02
Toluene	00108-88-3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.99E-02	7.34E-02	5.34E-02
Trichlorofluoromethane (Freon 11)	00075-69-4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Weighted Percent of AGC (%)		AGC [5]												Cumulative [6]
Constituents	**CAS #**	**µg/m³**	**May-14**	**Jun-14**	**Jul-14**	**Aug-14**	**Sep-14**	**Oct-14**	**Nov-14**	**Dec-14**	**Jan-15**	**Feb-15**	**Mar-15**	**Apr-15**	
Site-Related Compounds [2]															
Trichlorotrifluoroethane (Freon 113)	00076-13-1	180,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00
1,1-Dichloroethene	00075-35-4	200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00
cis-1,2-Dichloroethene	00156-59-2	63	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.61E-04	1.61E-04	0.00E+00	0.00E+00	0.00
trans-1,2-Dichloroethene	00156-60-5	63	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00
Tetrachloroethene	00127-18-4	4.0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00
Trichloroethene	00079-01-6	0.2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00
Vinyl chloride	00075-01-4	0.068	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00
Detected Compounds [3]															
2-Butanone (MEK)	00078-93-3	5,000	1.16E-06	1.12E-06	1.19E-06	2.05E-06	7.55E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00
Acetone	00067-64-1	30,000	5.95E-07	5.73E-07	9.32E-07	1.99E-06	9.58E-07	6.21E-07	6.66E-07	0.00E+00	0.00E+00	0.00E+00	5.71E-07	5.68E-07	0.00
Carbon disulfide	00075-15-0	700	9.12E-06	8.79E-06	0.00E+00	0.00E+00	0.00E+00	7.74E-06	8.31E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00
Chlorodifluoromethane (Freon 22)	00075-45-6	50,000	1.95E-06	1.41E-06	1.71E-06	2.84E-06	2.70E-06	1.90E-06	2.22E-06	1.91E-06	2.55E-06	2.54E-06	2.29E-06	2.39E-06	0.00
Dichlorodifluoromethane (Freon 12)	00075-71-8	12,000	0.00E+00	0.00E+00	6.12E-07	1.24E-06	1.26E-06	1.31E-06	7.12E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.39E-07	0.00
Toluene	00108-88-3	5,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.27E-06	4.66E-06	3.37E-06	0.00
Trichlorofluoromethane (Freon 11)	00075-69-4	5,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00

See notes on last page.

Appendix C-1 — Air Discharge Quality Evaluation
OU2 (Off-Site) Groundwater Treatment System

Lockheed Martin Corporation; Former Unisys Facility Great Neck
Lake Success, New York [(1)]

Notes:

1. AGC calculations were completed following procedures described in the NYSDEC DAR-1 Guidelines for the Control of Toxic Ambient Air Contaminants, 1991 edition.
2. Site-related compounds include all design compounds listed in the PADM (BBLES 2006a), 1,1-dichloroethene, and trans-1,2-dichloroethene. Analytical results presented in this table represent the larger of the individual compound concentration detected in the effluent sample and the effluent duplicate sample.
3. Detected compounds include all compounds detected at or above the laboratory reporting limit in vapor and water streams at effluent sample locations during the project, with the exception of TICs. Analytical results presented in this table represent the larger of the individual compound concentration detected in the effluent sample and the effluent duplicate sample.
4. An average annual ambient temperature of 55 degrees Fahrenheit was used in model calculation.
5. AGC refers to the compound-specific AGC per the NYSDEC DAR-1 AGC/SGC tables, revised February 28, 2014.
6. Values shown summarize the calculated percent AGC results for the most recent 12-month monitoring period of full-time operation.

acfm	actual cubic feet per minute
AGC	Allowable Annual Guideline Concentration
BBLES	BBL Environmental Services, Inc.
BOLD	Detected concentrations are bolded.
CAS #	Chemical Abstract Services number
DAR-1	Division of Air Resources Air Guide-1
fps	feet per second
ft	feet
ft^4/sec^2	feet to the fourth per square second
lbs	pounds
NYSDEC	New York State Department of Environmental Conservation
PADM	Performance Analysis and Design Modification Plan
scfm	standard cubic feet per minute
SGC	Short-term Guideline Concentration
TIC	tentatively identified compound
$^{\circ}R$	degrees Rankine
$\mu g/m^3$	micrograms per cubic meter
%	percentage

Appendix C-2 — Air Discharge Quality Evaluation
OU2 (Off-Site) Groundwater Treatment System

Lockheed Martin Corporation; Former Unisys Facility Great Neck
Lake Success, New York[1]

Actual Concentrations (µg/m^3) Constituents	CAS #	06/16/14	07/18/14	08/14/14	09/15/14	10/15/14	11/14/14	12/15/14	01/15/15	02/16/15	03/16/15	04/16/15	05/17/15
Site-Related Compounds [2]													
Trichlorotrifluoroethane (Freon 113)	00076-13-1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1,1-Dichloroethene	00075-35-4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
cis-1,2-Dichloroethene	00156-59-2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**5.9**	0.0	0.0	0.0	0.0
trans-1,2-Dichloroethene	00156-60-5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tetrachloroethene	00127-18-4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Trichloroethene	00079-01-6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vinyl chloride	00075-01-4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detected Compounds [3]													
2-Butanone (MEK)	00078-93-3	0.0	**3.4**	**2.1**	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**3.7**
Acetone	00067-64-1	0.0	**16**	**16**	0.0	**11**	0.0	0.0	0.0	0.0	**10**	0.0	**22**
Carbon disulfide	00075-15-0	0.0	0.0	0.0	0.0	**3.2**	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Chlorodifluoromethane (Freon 22)	00075-45-6	**21**	**28**	**48**	**27**	**29**	**32**	**33**	**41**	**33**	**34**	**36**	**31**
Dichlorodifluoromethane (Freon 12)	00075-71-8	0.0	**4.2**	**3.8**	**4.6**	**4.7**	0.0	0.0	0.0	0.0	0.0	**4.5**	0.0
Toluene	00108-88-3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**3.7**	**9.9**	0.0	**0.0**
Trichlorofluoromethane (Freon 11)	00075-69-4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Variables (Parameters Per Sampling Event)	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15	Apr-15	May-15
Ambient Temperature (°R) [4]	515	515	515	515	515	515	515	515	515	515	515	515
Discharge Temperature (°R)	558	560	557	540	556	540	536	534	532	544	548	550
Average Discharge Flow Rate (scfm)[7]	4337	4383	4,157	4,268	4,306	4,300	4,352	4,240	4,276	4,276	4,276	4,276
Average Discharge Flow Rate (acfm)[7]	4583	4649	4,385	4,362	4,532	4,395	4,415	4,286	4,306	4,403	4,435	4,451
Cumulative Calendar Days During This Month	30	31	31	30	31	30	31	31	28	31	30	31
Cumulative Operational Days During This Month	29.9	28.8	31.0	29.8	27.9	29.9	24.0	28.1	27.9	27.9	27.9	27.9

Constants	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15	Apr-15	May-15
Height of Building,h_b, (ft)	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7
Height of Stack,h_s, (ft)	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5
Radius of Stack,R, (ft)	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75

DAR-1 Calculations	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15	Apr-15	May-15
Discharge Velocity (fps)	42.76	43.54	42.60	41.25	41.94	42.10	41.55	41.03	40.51	41.07	41.68	41.91
Height Ratio,h_s/h_b>1.5	1.67	1.67	1.67	1.67	1.67	1.67	1.67	1.67	1.67	1.67	1.67	1.67
Buoyancy Flux (ft^4/sec^2)	953.09	982.22	941.36	899.00	930.46	937.31	930.00	912.12	892.64	908.67	922.19	927.26
Effective Stack Height,h_e, (ft)	25.33	25.43	25.28	25.12	25.24	25.27	25.24	25.17	25.09	25.15	25.21	25.23

See notes on last page.

Appendix C-2 — Air Discharge Quality Evaluation
OU2 (Off-Site) Groundwater Treatment System

Lockheed Martin Corporation; Former Unisys Facility Great Neck
Lake Success, New York[1]

Actual Emission Rates (lbs/day)													
Constituents	**CAS #**	**Jun-14**	**Jul-14**	**Aug-14**	**Sep-14**	**Oct-14**	**Nov-14**	**Dec-14**	**Jan-15**	**Feb-15**	**Mar-15**	**Apr-15**	**May-15**
Site-Related Compounds [2]													
Trichlorotrifluoroethane (Freon 113)	00076-13-1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,1-Dichloroethene	00075-35-4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
cis-1,2-Dichloroethene	00156-59-2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.20E-02	3.15E-02	0.00E+00	0.00E+00	0.00E+00
trans-1,2-Dichloroethene	00156-60-5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Tetrachloroethene	00127-18-4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Trichloroethene	00079-01-6	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Vinyl chloride	00075-01-4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Detected Compounds [3]													
2-Butanone (MEK)	00078-93-3	1.79E-02	1.92E-02	3.27E-02	1.18E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.98E-02
Acetone	00067-64-1	5.50E-02	9.03E-02	1.90E-01	9.02E-02	5.91E-02	6.36E-02	0.00E+00	0.00E+00	0.00E+00	5.36E-02	5.36E-02	1.18E-01
Carbon disulfide	00075-15-0	1.97E-02	0.00E+00	0.00E+00	0.00E+00	1.72E-02	1.85E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chlorodifluoromethane (Freon 22)	00075-45-6	2.26E-01	2.76E-01	4.52E-01	4.23E-01	3.01E-01	3.53E-01	3.03E-01	4.01E-01	3.95E-01	3.59E-01	3.75E-01	3.59E-01
Dichlorodifluoromethane (Freon 12)	00075-71-8	0.00E+00	2.37E-02	4.76E-02	4.74E-02	5.00E-02	2.72E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.41E-02	2.41E-02
Toluene	00108-88-3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.97E-02	7.29E-02	5.31E-02	0.00E+00
Trichlorofluoromethane (Freon 11)	00075-69-4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Weighted Percent of AGC (%)		AGC [5]												Cumulative [6]
Constituents	**CAS #**	**µg/m³**	**Jun-14**	**Jul-14**	**Aug-14**	**Sep-14**	**Oct-14**	**Nov-14**	**Dec-14**	**Jan-15**	**Feb-15**	**Mar-15**	**Apr-15**	**May-15**	
Site-Related Compounds [2]															
Trichlorotrifluoroethane (Freon 113)	00076-13-1	180,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00
1,1-Dichloroethene	00075-35-4	200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00
cis-1,2-Dichloroethene	00156-59-2	63	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.61E-04	1.60E-04	0.00E+00	0.00E+00	0.00E+00	0.00
trans-1,2-Dichloroethene	00156-60-5	63	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00
Tetrachloroethene	00127-18-4	4.0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00
Trichloroethene	00079-01-6	0.2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00
Vinyl chloride	00075-01-4	0.068	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00
Detected Compounds [3]															
2-Butanone (MEK)	00078-93-3	5,000	1.12E-06	1.19E-06	2.05E-06	7.55E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.25E-06	0.00
Acetone	00067-64-1	30,000	5.73E-07	9.32E-07	1.99E-06	9.58E-07	6.21E-07	6.66E-07	0.00E+00	0.00E+00	0.00E+00	5.67E-07	5.65E-07	1.24E-06	0.00
Carbon disulfide	00075-15-0	700	8.79E-06	0.00E+00	0.00E+00	0.00E+00	7.74E-06	8.31E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00
Chlorodifluoromethane (Freon 22)	00075-45-6	50,000	1.41E-06	1.71E-06	2.84E-06	2.70E-06	1.90E-06	2.22E-06	1.91E-06	2.55E-06	2.52E-06	2.28E-06	2.37E-06	2.27E-06	0.00
Dichlorodifluoromethane (Freon 12)	00075-71-8	12,000	0.00E+00	6.12E-07	1.24E-06	1.26E-06	1.31E-06	7.12E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.35E-07	6.34E-07	0.00
Toluene	00108-88-3	5,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.26E-06	4.63E-06	3.35E-06	0.00E+00	0.00
Trichlorofluoromethane (Freon 11)	00075-69-4	5,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00

See notes on last page.

Appendix C-2 — Air Discharge Quality Evaluation
OU2 (Off-Site) Groundwater Treatment System

Lockheed Martin Corporation; Former Unisys Facility Great Neck
Lake Success, New York(1)

Notes:

1. AGC calculations were completed following procedures described in the NYSDEC DAR-1 Guidelines for the Control of Toxic Ambient Air Contaminants, 1991 edition.
2. Site-related compounds include all design compounds listed in the PADM (BBLES 2006a), 1,1-dichloroethene, and trans-1,2-dichloroethene. Analytical results presented in this table represent the larger of the individual compound concentration detected in the effluent sample and the effluent duplicate sample.
3. Detected compounds include all compounds detected at or above the laboratory reporting limit in vapor and water streams at effluent sample locations during the project, with the exception of TICs. Analytical results presented in this table represent the larger of the individual compound concentration detected in the effluent sample and the effluent duplicate sample.
4. An average annual ambient temperature of 55 degrees Fahrenheit was used in model calculation.
5. AGC refers to the compound-specific AGC per the NYSDEC DAR-1 AGC/SGC tables, revised February 28, 2014.
6. Values shown summarize the calculated percent AGC results for the most recent 12-month monitoring period of full-time operation.
7. Estimated value of 4,276 scfm used for February and March 2015, based on previous annual historical average. Actual values collected by SCADA for February and March are spurious due to malfunction of effluent vapor flow transmitter.

acfm	actual cubic feet per minute
AGC	Allowable Annual Guideline Concentration
BBLES	BBL Environmental Services, Inc.
BOLD	Detected concentrations are bolded.
CAS #	Chemical Abstract Services number
DAR-1	Division of Air Resources Air Guide-1
fps	feet per second
ft	feet
ft^4/sec^2	feet to the fourth per square second
lbs	pounds
NYSDEC	New York State Department of Environmental Conservation
PADM	Performance Analysis and Design Modification Plan
scfm	standard cubic feet per minute
SGC	Short-term Guideline Concentration
TIC	tentatively identified compound
$^{\circ}R$	degrees Rankine
$\mu g/m^3$	micrograms per cubic meter
%	percentage

Appendix C-3 — Air Discharge Quality Evaluation
OU2 (Off-Site) Groundwater Treatment System

Lockheed Martin Corporation; Former Unisys Facility Great Neck
Lake Success, New York[1]

Actual Concentrations (µg/m^3)													
Constituents	**CAS #**	**07/18/14**	**08/14/14**	**09/15/14**	**10/15/14**	**11/14/14**	**12/15/14**	**01/15/15**	**02/16/15**	**03/16/15**	**04/16/15**	**05/15/15**	**06/09/15**
Site-Related Compounds [2]													
Trichlorotrifluoroethane (Freon 113)	00076-13-1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1,1-Dichloroethene	00075-35-4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
cis-1,2-Dichloroethene	00156-59-2	0.0	0.0	0.0	0.0	0.0	0.0	**5.9**	0.0	0.0	0.0	0.0	0.0
trans-1,2-Dichloroethene	00156-60-5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tetrachloroethene	00127-18-4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Trichloroethene	00079-01-6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vinyl chloride	00075-01-4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detected Compounds [3]													
2-Butanone (MEK)	00078-93-3	**3.4**	**2.1**	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**3.7**	0.0
Acetone	00067-64-1	**16**	**16**	0.0	**11**	0.0	0.0	0.0	0.0	**10**	0.0	**22**	0.0
Carbon disulfide	00075-15-0	0.0	0.0	0.0	**3.2**	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Chlorodifluoromethane (Freon 22)	00075-45-6	**28**	**48**	**27**	**29**	**32**	**33**	**41**	**33**	**34**	**36**	**31**	**29**
Dichlorodifluoromethane (Freon 12)	00075-71-8	**4.2**	**3.8**	**4.6**	**4.7**	0.0	0.0	0.0	0.0	0.0	**4.5**	0.0	**3.9**
Toluene	00108-88-3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**3.7**	**9.9**	0.0	0.0	0.0
Trichlorofluoromethane (Freon 11)	00075-69-4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Variables (Parameters Per Sampling Event)	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15
Ambient Temperature (°R) [4]	515	515	515	515	515	515	515	515	515	516	517	518
Discharge Temperature (°R)	560	557	540	556	540	536	534	532	544	548	550	550
Average Discharge Flow Rate (scfm)[7]	4,383	4,157	4,268	4,306	4,300	4,352	4,240	4,276	4,276	4,276	4,276	4,276
Average Discharge Flow Rate (acfm)[7]	4,649	4,385	4,362	4,532	4,395	4,415	4,286	4,306	4,403	4,435	4,451	4,451
Cumulative Calendar Days During This Month	31	31	30	31	30	31	31	28	31	30	31	30
Cumulative Operational Days During This Month	28.8	31.0	29.8	27.9	29.9	24.0	28.1	27.9	29.9	29.9	29.9	29.9

Constants	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15
Height of Building,h_b, (ft)	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7
Height of Stack,h_s, (ft)	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5
Radius of Stack,R, (ft)	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75

DAR-1 Calculations	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15
Discharge Velocity (fps)	43.54	42.60	41.25	41.94	42.10	41.55	41.03	40.51	41.07	41.68	41.91	41.98
Height Ratio,h_s/h_b>1.5	1.67	1.67	1.67	1.67	1.67	1.67	1.67	1.67	1.67	1.67	1.67	1.67
Buoyancy Flux (ft^4/sec^2)	982.22	941.36	899.00	930.46	937.31	930.00	912.12	892.64	908.67	923.08	929.96	933.46
Effective Stack Height,h_e, (ft)	25.43	25.28	25.12	25.24	25.27	25.24	25.17	25.09	25.15	25.21	25.24	25.25

See notes on last page.

Appendix C-3 — Air Discharge Quality Evaluation
OU2 (Off-Site) Groundwater Treatment System

Lockheed Martin Corporation; Former Unisys Facility Great Neck
Lake Success, New York[1]

Actual Emission Rates (lbs/day)														
Constituents	**CAS #**	**Jul-14**	**Aug-14**	**Sep-14**	**Oct-14**	**Nov-14**	**Dec-14**	**Jan-15**	**Feb-15**	**Mar-15**	**Apr-15**	**May-15**	**Jun-15**	
Site-Related Compounds [2]														
Trichlorotrifluoroethane (Freon 113)	00076-13-1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
1,1-Dichloroethene	00075-35-4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
cis-1,2-Dichloroethene	00156-59-2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.20E-02	3.15E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
trans-1,2-Dichloroethene	00156-60-5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Tetrachloroethene	00127-18-4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Trichloroethene	00079-01-6	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Vinyl chloride	00075-01-4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Detected Compounds [3]														
2-Butanone (MEK)	00078-93-3	1.92E-02	3.27E-02	1.18E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.13E-02	2.13E-02	
Acetone	00067-64-1	9.03E-02	1.90E-01	9.02E-02	5.91E-02	6.36E-02	0.00E+00	0.00E+00	0.00E+00	5.74E-02	5.74E-02	1.26E-01	1.26E-01	
Carbon disulfide	00075-15-0	0.00E+00	0.00E+00	0.00E+00	1.72E-02	1.85E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Chlorodifluoromethane (Freon 22)	00075-45-6	2.76E-01	4.52E-01	4.23E-01	3.01E-01	3.53E-01	3.03E-01	4.01E-01	3.95E-01	3.85E-01	4.02E-01	3.85E-01	3.45E-01	
Dichlorodifluoromethane (Freon 12)	00075-71-8	2.37E-02	4.76E-02	4.74E-02	5.00E-02	2.72E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.58E-02	2.58E-02	2.24E-02	
Toluene	00108-88-3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.97E-02	7.81E-02	5.69E-02	0.00E+00	0.00E+00	
Trichlorofluoromethane (Freon 11)	00075-69-4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	

Weighted Percent of AGC (%)		AGC [5]												Cumulative [6]
Constituents	**CAS #**	**µg/m^3**	**Jul-14**	**Aug-14**	**Sep-14**	**Oct-14**	**Nov-14**	**Dec-14**	**Jan-15**	**Feb-15**	**Mar-15**	**Apr-15**	**May-15**	**Jun-15**	
Site-Related Compounds [2]															
Trichlorotrifluoroethane (Freon 113)	00076-13-1	180,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00
1,1-Dichloroethene	00075-35-4	200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00
cis-1,2-Dichloroethene	00156-59-2	63	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.61E-04	1.60E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00
trans-1,2-Dichloroethene	00156-60-5	63	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00
Tetrachloroethene	00127-18-4	4.0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00
Trichloroethene	00079-01-6	0.2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00
Vinyl chloride	00075-01-4	0.068	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00
Detected Compounds [3]															
2-Butanone (MEK)	00078-93-3	5,000	1.19E-06	2.05E-06	7.55E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.34E-06	1.34E-06	0.00
Acetone	00067-64-1	30,000	9.32E-07	1.99E-06	9.58E-07	6.21E-07	6.66E-07	0.00E+00	0.00E+00	0.00E+00	6.08E-07	6.05E-07	1.33E-06	1.33E-06	0.00
Carbon disulfide	00075-15-0	700	0.00E+00	0.00E+00	0.00E+00	7.74E-06	8.31E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00
Chlorodifluoromethane (Freon 22)	00075-45-6	50,000	1.71E-06	2.84E-06	2.70E-06	1.90E-06	2.22E-06	1.91E-06	2.55E-06	2.52E-06	2.44E-06	2.54E-06	2.43E-06	2.17E-06	0.00
Dichlorodifluoromethane (Freon 12)	00075-71-8	12,000	6.12E-07	1.24E-06	1.26E-06	1.31E-06	7.12E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.81E-07	6.79E-07	5.88E-07	0.00
Toluene	00108-88-3	5,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.26E-06	4.96E-06	3.59E-06	0.00E+00	0.00E+00	0.00
Trichlorofluoromethane (Freon 11)	00075-69-4	5,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00

See notes on last page.

Appendix C-3 — Air Discharge Quality Evaluation
OU2 (Off-Site) Groundwater Treatment System

Lockheed Martin Corporation; Former Unisys Facility Great Neck
Lake Success, New York[(1)]

Notes:

1. AGC calculations were completed following procedures described in the NYSDEC DAR-1 Guidelines for the Control of Toxic Ambient Air Contaminants, 1991 edition.
2. Site-related compounds include all design compounds listed in the PADM (BBLES 2006a), 1,1-dichloroethene, and trans-1,2-dichloroethene. Analytical results presented in this table represent the larger of the individual compound concentration detected in the effluent sample and the effluent duplicate sample.
3. Detected compounds include all compounds detected at or above the laboratory reporting limit in vapor and water streams at effluent sample locations during the project, with the exception of TICs. Analytical results presented in this table represent the larger of the individual compound concentration detected in the effluent sample and the effluent duplicate sample.
4. An average annual ambient temperature of 55 degrees Fahrenheit was used in model calculation.
5. AGC refers to the compound-specific AGC per the NYSDEC DAR-1 AGC/SGC tables, revised February 28, 2014.
6. Values shown summarize the calculated percent AGC results for the most recent 12-month monitoring period of full-time operation.
7. Estimated value of 4,276 scfm used for February and March 2015, based on previous annual historical average. Actual values collected by SCADA for February and March are spurious due to malfunction of effluent vapor flow transmitter.

acfm	actual cubic feet per minute
AGC	Allowable Annual Guideline Concentration
BBLES	BBL Environmental Services, Inc.
BOLD	Detected concentrations are bolded.
CAS #	Chemical Abstract Services number
DAR-1	Division of Air Resources Air Guide-1
fps	feet per second
ft	feet
ft^4/sec^2	feet to the fourth per square second
lbs	pounds
NYSDEC	New York State Department of Environmental Conservation
PADM	Performance Analysis and Design Modification Plan
scfm	standard cubic feet per minute
SGC	Short-term Guideline Concentration
TIC	tentatively identified compound
$^{\circ}R$	degrees Rankine
$\mu g/m^3$	micrograms per cubic meter
%	percentage

APPENDIX D — MONITORING WELL WATER SAMPLE ANALYTICAL RESULTS, Q2 2015

Appendix D-1
Monitoring Wells: Volatile Organic Compounds
Groundwater Sampling Results, April 2015
Former Unisys Facility Great Neck; Lake Success, New York

Location	MW-31GL		MW-31MI		MW-31MI**		MW-31ML		MW-43MI	
Sample Date	4/8/2015		4/8/2015		4/8/2015		4/8/2015		4/8/2015	
Sample ID	MW-31GL-XX		MW-31MI-XX		MW-500-XX		MW-31ML-XX		MW-43MI-XX	
VOC Parameters in µg/L	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
1,1,1-Trichloroethane	1	U	1	U	1	U	1	U	1	U
1,1,2,2-Tetrachloroethane	1	U	1	U	1	U	1	U	1	U
Freon 113	1	U	9.4		8.5		4.5		3.1	
1,1,2-Trichloroethane	1	U	0.18	J	0.34	J	1	U	1	U
1,1-Dichloroethane	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethene	1	U	0.45	J	0.48	J	0.41	J	0.5	J
1,2,4-Trichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,2-Dibromo-3-chloropropane	1	U	1	U	1	U	1	U	1	U
1,2-Dibromoethane	1	U	1	U	1	U	1	U	1	U
1,2-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,2-Dichloroethane	1	U	0.85	J	0.67	J	1	U	1	U
1,2-Dichloropropane	1	U	1	U	1	U	1	U	1	U
1,3-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,4-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
2-Butanone	1	U	1	U	1	U	1	U	1	U
2-Hexanone	1	U	1	U	1	U	1	U	1	U
4-Methyl-2-pentanone	1	U	1	U	1	U	1	U	1	U
Acetic acid, methyl ester	1	U	1	U	1	U	1	U	1	U
Acetone	1	U	1	U	1	U	1	U	1	U
Benzene	1	U	1	U	1	U	1	U	1	U
Bromodichloromethane	1	U	1	U	1	U	1	U	1	U
Bromoform	1	U	1	U	1	U	1	U	1	U
Bromomethane	1	U	1	U	1	U	1	U	1	U
Carbon disulfide	1	U	1	U	1	U	1	U	1	U
Carbon tetrachloride	1	U	1	U	1	U	1	U	1	U
Chlorobenzene	1	U	1	U	1	U	1	U	1	U
Chlorodibromomethane	1	U	1	U	1	U	1	U	1	U
Freon 22	1	U	4.3		4		7.6		6.6	
Chloroethane	1	U	1	U	1	U	1	U	1	U
Chloroform	1	U	0.65	J	0.77	J	0.48	J	0.38	J
Chloromethane	1	U	1	U	1	U	1	U	1	U
Cis-1,2-Dichloroethene	2.2		280		290		100		71	
Cis-1,3-Dichloropropene	1	U	1	U	1	U	1	U	1	U
Cyclohexane	1	U	1	U	1	U	1	U	1	U
Dichlorodifluoromethane	1	U	1	U	1	U	1	U	1	U
Difluoroethane	1	U	1	U	1	U	1	U	1	U
Ethyl benzene	1	U	1	U	1	U	1	U	1	U
Freon 115	1	U	1	UJ	1	U	1	U	1	U
Freon 123	1	U	1	U	1	U	1	U	1	U
Isopropylbenzene	1	U	1	U	1	U	1	U	1	U
Methyl cyclohexane	1	U	1	U	1	U	1	U	1	U
Methyl Tertbutyl Ether	1	U	1	U	1	U	1	U	1	U
Methylene chloride	1	U	1	U	1	U	1	U	1	U
Styrene	1	U	1	U	1	U	1	U	1	U
Tetrachloroethene	0.96	J	25		25		12		9.3	
Toluene	1	U	1	U	1	U	1	U	1	U
trans-1,2-Dichloroethene	1	U	4.1		3		0.38	J	0.3	J
trans-1,3-Dichloropropene	1	U	1	U	1	U	1	U	1	U
Trichloroethene	1.4		62		64		34		22	
Trichlorofluoromethane	1	U	0.17	J	0.17	J	0.27	J	0.23	J
Vinyl chloride	1	U	1	U	1	U	1	U	1	U
Xylene, o	1	U	1	U	1	U	1	U	1	U
Xylenes (m&p)	1	UJ	1	U	1	U	1	U	1	UJ
Xylenes, Total	1	U	1	U	1	U	1	U	1	U
2-Propanol	ND		ND		ND		ND		ND	
Isobutyraldehyde	ND		ND		ND		ND		ND	
Calculated Total VOC Detections	**4.6 J**		**390 J**		**400 J**		**160 J**		**113 J**	

See notes on last page.

Appendix D-1
Monitoring Wells: Volatile Organic Compounds
Groundwater Sampling Results, April 2015
Former Unisys Facility Great Neck; Lake Success, New York

Location	MW-43MU		MW-46MI		MW-46ML		MW-51MI		MW-51ML	
Sample Date	4/8/2015		4/9/2015		4/9/2015		4/9/2015		4/9/2015	
Sample ID	MW-43MU-XX		MW-46MI-XX		MW-46ML-XX		MW-51MI-XX		MW-51ML-XX	
VOC Parameters in µg/L	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
1,1,1-Trichloroethane	1	U	1	U	1	U		NR		NR
1,1,2,2-Tetrachloroethane	1	U	1	U	1	U		NR		NR
Freon 113	1	U	26		0.75	J	1.1		1	U
1,1,2-Trichloroethane	1	U	0.37	J	1	U		NR		NR
1,1-Dichloroethane	1	U	1	U	1	U		NR		NR
1,1-Dichloroethene	1	U	1		1	U		NR		NR
1,2,4-Trichlorobenzene	1	U	1	U	1	U		NR		NR
1,2-Dibromo-3-chloropropane	1	U	1	U	1	U		NR		NR
1,2-Dibromoethane	1	U	1	U	1	U		NR		NR
1,2-Dichlorobenzene	1	U	1	U	1	U		NR		NR
1,2-Dichloroethane	1	U	1.2		1	U		NR		NR
1,2-Dichloropropane	1	U	0.48	J	1	U		NR		NR
1,3-Dichlorobenzene	1	U	1	U	1	U		NR		NR
1,4-Dichlorobenzene	1	U	1	U	1	U		NR		NR
2-Butanone	1	U	1	U	1	U		NR		NR
2-Hexanone	1	U	1	U	1	U		NR		NR
4-Methyl-2-pentanone	1	U	1	U	1	U		NR		NR
Acetic acid, methyl ester	1	U	1	U	1	U		NR		NR
Acetone	1	U	1	U	1	U		NR		NR
Benzene	1	U	1	U	1	U		NR		NR
Bromodichloromethane	1	U	1	U	1	U		NR		NR
Bromoform	1	U	1	U	1	U		NR		NR
Bromomethane	1	U	1	U	1	U		NR		NR
Carbon disulfide	1	U	1	U	1	U		NR		NR
Carbon tetrachloride	0.35	J	1	U	1	U		NR		NR
Chlorobenzene	1	U	1	U	1	U		NR		NR
Chlorodibromomethane	1	U	1	U	1	U		NR		NR
Freon 22	1	U	1.2		1	U		NR		NR
Chloroethane	1	U	1	U	1	U		NR		NR
Chloroform	1	U	1.5		0.39	J		NR		NR
Chloromethane	1	U	1	U	1	U		NR		NR
Cis-1,2-Dichloroethene	0.37	J	300		17		21		2	
Cis-1,3-Dichloropropene	1	U	1	U	1	U		NR		NR
Cyclohexane	1	U	1	U	1	U		NR		NR
Dichlorodifluoromethane	1	U	1	U	1	U		NR		NR
Difluoroethane	1	U	1	U	1	U		NR		NR
Ethyl benzene	1	U	1	U	1	U		NR		NR
Freon 115	1	U	1	U	1	U		NR		NR
Freon 123	1	U	1	U	1	U		NR		NR
Isopropylbenzene	1	U	1	U	1	U		NR		NR
Methyl cyclohexane	1	U	1	U	1	U		NR		NR
Methyl Tertbutyl Ether	1	U	1	U	1	U		NR		NR
Methylene chloride	1	U	1	U	1	U		NR		NR
Styrene	1	U	1	U	1	U		NR		NR
Tetrachloroethene	1	U	43		1.9		2.4		0.41	J
Toluene	1	U	1	U	1	U		NR		NR
trans-1,2-Dichloroethene	1	U	1.4		0.28	J		NR		NR
trans-1,3-Dichloropropene	1	U	1	U	1	U		NR		NR
Trichloroethene	1	U	150		12		6.9		0.76	J
Trichlorofluoromethane	1	U	1.3		0.62	J		NR		NR
Vinyl chloride	1	U	1	U	1	U		NR		NR
Xylene, o	1	U	1	U	1	U		NR		NR
Xylenes (m&p)	1	UJ	1	U	1	UJ		NR		NR
Xylenes, Total	1	U	1	U	1	U		NR		NR
2-Propanol	8.7	NJ		ND		ND		NR		NR
Isobutyraldehyde	5	NJ		ND		ND		NR		NR
Calculated Total VOC Detections	**14 J**		**530 J**		**33 J**		**31**		**3.2 J**	

See notes on last page.

Appendix D-1
Monitoring Wells: Volatile Organic Compounds
Groundwater Sampling Results, April 2015
Former Unisys Facility Great Neck; Lake Success, New York

Notes:
ND = Not Detected
NR = Not reported per Fresh Meadow access agreement with Lockheed Martin
VOCs - volatile organic compounds
by method OLM04.2
µg/L = micrograms per liter
** = Duplicate Sample

Qualifiers
U = Corresponding result is non-detect (reporting limit shown)
J = Corresponding result is estimated
UJ = Estimated concentration at the reporting limit

Appendix D-2
Irrigation and Municipal Wells: Volatile Organic Compounds
Groundwater Sampling Results, April 2015
Former Unisys Facility Great Neck; Lake Success, New York

Location	SW-12999		SW-N13000	
Sample Date	4/8/2015		4/8/2015	
Sample ID	SW-N12999-XX		SW-N13000-XX	
VOC Parameters in µg/L	Result	Qualifier	Result	Qualifier
1,1,1-Trichloroethane	1	U	1	U
1,1,2,2-Tetrachloroethane	1	U	1	U
Freon 113	1	U	1	U
1,1,2-Trichloroethane	1	U	1	U
1,1-Dichloroethane	1	U	1	U
1,1-Dichloroethene	1	U	0.46	J
1,2,4-Trichlorobenzene	1	U	1	U
1,2-Dibromo-3-chloropropane	1	U	1	U
1,2-Dibromoethane	1	U	1	U
1,2-Dichlorobenzene	1	U	1	U
1,2-Dichloroethane	1	U	1	U
1,2-Dichloropropane	1	U	1	U
1,3-Dichlorobenzene	1	U	1	U
1,4-Dichlorobenzene	1	U	1	U
2-Butanone	1	U	1	U
2-Hexanone	1	U	1	U
4-Methyl-2-pentanone	1	U	1	U
Acetic acid, methyl ester	1	U	1	U
Acetone	1	U	1	U
Benzene	1	U	1	U
Bromodichloromethane	1	U	1	U
Bromoform	0.44	J	1	U
Bromomethane	1	U	1	U
Carbon disulfide	1	U	1	U
Carbon tetrachloride	1	U	1	U
Chlorobenzene	1	U	1	U
Chlorodibromomethane	1	U	1	U
Freon 22	1	U	1	U
Chloroethane	1	U	1	U
Chloroform	1	U	1	U
Chloromethane	1	U	1	U
Cis-1,2-Dichloroethene	0.25	J	2.2	
Cis-1,3-Dichloropropene	1	U	1	U
Cyclohexane	1	U	1	U
Dichlorodifluoromethane	1	U	1	U
Difluoroethane	1	U	1	U
Ethyl benzene	1	U	1	U
Freon 115	1	U	1	U
Freon 123	1	U	1	U
Isopropylbenzene	1	U	1	U
Methyl cyclohexane	1	U	1	U
Methyl Tertbutyl Ether	0.19	J	1	U
Methylene chloride	1	U	1	U
Styrene	1	U	1	U
Tetrachloroethene	0.39	J	0.77	J
Toluene	1	U	1	U
trans-1,2-Dichloroethene	1	U	1	U
trans-1,3-Dichloropropene	1	U	1	U
Trichloroethene	0.55	J	1.2	
Trichlorofluoromethane	1	U	1	U
Vinyl chloride	1	U	1	U
Xylene, o	1	U	1	U
Xylenes (m&p)	1	U	1	UJ
Xylenes, Total	1	U	1	U
Calculated Total VOC Detections	**1.82**	**J**	**4.6**	**J**

See notes on last page.

Appendix D-2
Irrigation and Municipal Wells: Volatile Organic Compounds
Groundwater Sampling Results, April 2015
Former Unisys Facility Great Neck; Lake Success, New York

Notes:
ND = Not Detected
VOCs - volatile organic compounds
by method OLM04.2
µg/L = micrograms per liter
Qualifiers
U = Corresponding result is non-detect (reporting limit shown)
J = Corresponding result is estimated
UJ = Estimated concentration at the reporting limit