

51 Franklin Street, Suite 400
Annapolis, Maryland 21401

Installation of overhead polyvinyl chloride (PVC) lines to connect the new extraction wells and the original extraction wells (SV-21-C and SV-23-C) to the system, completed on April 19, 2013

Installation of system-effluent overhead pipe and mist-eliminator pad, and completion of system discharge-stack piping modifications, completed on April 23, 2013

Installation of replacement blower skid with heat exchanger and associated appurtenances on April 23, 2013

Installation of post-heat-exchanger moisture separator on April 24, 2013

Relocation and connection of the vapor-treatment units to the system, completed on April 24, 2013

Pre-startup inspection and testing of equipment and piping on April 29, 2013

Installation of two-inch-diameter steel bollards at three new well locations (SV-30-C, SV-31-C, and SV-32-C) on April 25, 2013

Installation of two-inch-diameter steel bollards around the system on April 30, 2013

Construction of frame for blower-skid soundproof enclosure on April 30, 2013

Subcontractor demobilization on April 30, 2013

System startup testing and balancing on May 01, 2013

Collection of air samples from all new extraction wells (including SV-26-C, SV-27-C, SV-28-C, and SV-29-C, which were installed during the first-phase expansion) on May 02, 2013

Installation of blower-skid soundproof enclosure, completed on May 08, 2013

Pre-startup full-day system-test run on May 10, 2013

Operational readiness review conference call with Lockheed Martin Corporation and CDM Smith on May 14, 2013

Installation of additional foam board in the interior of the soundproof enclosure on May 16, 2013

Startup of expanded system on May 16, 2013

Shipment of the drum of waste generated during the expansion to off-site disposal on May 17, 2013

The air samples were collected from each monitoring point a few hours after the SSDS restart during start-up testing on May 02, 2013. Air samples were collected directly from each extraction well's sampling port using one-liter Summa[®] canisters. Samples were shipped to



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TestAmerica in Knoxville, Tennessee for VOC analysis by United States Environmental Protection Agency (USEPA) Method TO-15; results are summarized as follows:

**Summary of Analytical Detections (μm^3)
in Extractle0(a)-(e)-1342(t)7mngl2ni2(a5.04 Td6.40zc)2(t)a4(st)-3(i)-2li5(A**

System samples (influent, mid-GAC, and effluent) were collected on May 10, 2013, approximately one week after the air samples from the extraction point samples were taken. The system samples were also collected using one-liter Summa[®] canisters and were shipped to TestAmerica in Knoxville, Tennessee for VOC analysis by USEPA Method TO-15. The analytical results are summarized in the following table. Total VOCs in the system influent increased from 117 μm^3 on April 08, 2013 to 3,020 μm^3 on May 10, 2013 after startup of the expanded system with the new extraction points.

**Summary of Analytical Detections (μm^3)
 in Sub-Slab Depressurization System Samples
 May 10, 2013
 Building C, Middle River Complex, Middle River, Maryland**

Sample	Influent	Mid-GAC	Effluent
Benzene	ND	ND	9.9
<i>cis</i> -1,2-Dichloroethene	120	ND	ND
Trichloroethene	2900	87	34
Total VOCs	3020	87	44

All concentrations are in micrograms per cubic meter air (μm^3).
 GAC—

Attachments:

- (1) Figure 1—Vacuum Influence, May 20, 2013
- (2) Table 1—Summary of Construction Activities
- (3) “As-Built Drawings”
- (4) SV-30-C, SV-31-C, SV-32-C, SV-33-C, and SV-34-C Construction Logs
- (5) *TestAmerica Analytical Report*—

ATTACHMENT 1

FIGURE 1—VACUUM INFLUENCE

May 20, 2013

TABLE 1
Summary of Construction Activities

TABLE 1
Summary of Construction Activities
Second-Phase Expansion of the Building C Sub-Slab Depressurization System
Middle River Complex, Middle River, Maryland

Date	Building C Sub-Slab Depressurization System Expansion Activity
23 April 2013	<p>Installed system effluent pipe at new system location and tied-in to existing 6-inch diameter effluent header pipe.</p> <p>Completed 4-inch and 6-inch diameter system effluent piping on south wall including installation of mist eliminator pad.</p> <p>Connected 4-inch diameter effluent pipe to ex0(i)5(p)2(e)-287(to)-27res292(c)-6(8p)2(t)-a5(n)2(c)-6</p>

TABLE 1
Summary of Construction Activities
Second-Phase Expansion of the Building C Sub-Slab Depressurization System
Middle River Complex, Middle River, Maryland

Date	Building C Sub-Slab Depressurization System Expansion Activity
	<p>Began system startup and testing: Tested new extraction wells for maximum possible flow. Opened SV-21-C, SV-23-C, SV-26-C, SV-27-C, SV-28-C, SV-29-C, and SV-30-C during testing to prevent system vacuum relief valve from opening due high vacuum. Leak observed at connection point of steel pipe and heat exchanger effluent. Left system OFF upon departure.</p>
02 May 2013	<p>Leak tested floor slab using dry ice; leaks detected in floor slab at SV-21-C, SV-23-C, and SV-24-C. Patched holes found during leak test and leak in SV-60-C with concrete patch. Patched previous system vent and effluent penetrations on south wall with foam sealant/insulation. Turned system ON and conducted a full round of measurements. Adjusted extraction wells to achieve higher flows: Closed SV-23-C. Possible leak detected at SV-26-C valve (to be checked during next visit). Collected vapor samples with 1-liter Summa canisters from all new extraction wells as well as wells installed during the first-phase expansion (SV-26-C through SV-34-C). Left system OFF upon departure.</p>
07 May 2013	<p>Retested new extraction wells for maximum possible; opened SV-21-C, SV-23-C, SV-26-C, SV-27-C, SV-28-C, and SV-29-C during testing to prevent system vacuum relief valve from opening due high vacuum. Left system OFF upon departure.</p>
08 May 2013	<p>Installed soundproof enclosure around system skid using flexible noise barrier, ½-inch plywood, 2x6-inch wood beams, and 1-inch thick foam board.</p>
09 May 2013	<p>Installed duct work and louver for heat exchanger fan. Set vacuum relief valve to 85 inches of water column.</p>
10 May 2013	<p>Conducted system test run.</p>
14 May 2013	<p>Conducted system Operational Readiness Review via teleconference. Reviewed draft As-Built Drawings and updated operation and maintenance manual. Copies of these documents placed on system control panel.</p>
15 May 2013	<p>Began installation of 1-inch thick foam board on interior sides of the soundproof enclosure.</p>
16 May 2013	<p>Completed installation of 1-inch thick foam board on interior sides of the soundproof enclosure. Started system up for continuous operation.</p>
17 May 2013	<p>Shipped waste soil drum (from extraction well installation) for off-site disposal.</p>

ATTACHMENT 3

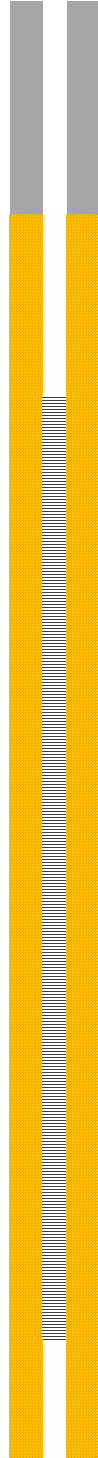
AS-BUILT DRAWINGS



ATTACHMENT 4

CONSTRUCTION LOGS

SV-30-C, SV-31-C, SV-32-C, SV-33-C, SV-34-C



JOB NO.
117-0507537
DRILLING METHOD: HAND AUGER
COMPANY: S&S TECHNOLOGIES
OPERATOR: #N/A
SAMPLING METHOD: #N/A

CLIENT: LOCKHEED MARTIN CORPORATION

SHEET
1 OF 1

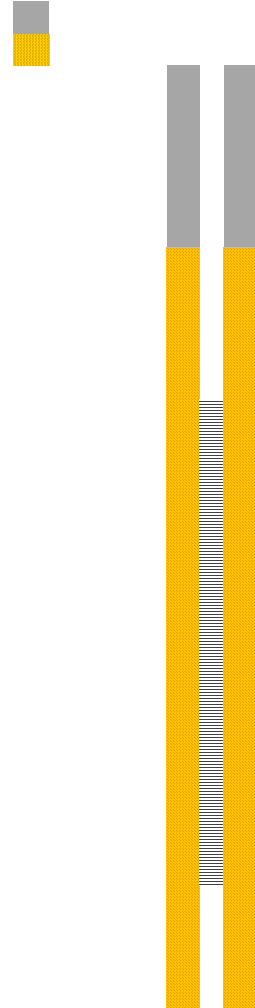
WELL SCREEN: 2-INCH DIA. SCH. 40 PVC, 0.020 INCH SLOTTED
RISER: 2-INCH DIA. SCH. 40 PVC, SOLID CASING
FILTER PACK: 3/8-INCH WASHED PEA GRAVEL
SEAL/GROUT: 10 OZ. BENTONITE, 60 LBS. CONCRETE, -1 GAL. WATER

LOGGED BY: TETRA TECH/DAWN MONICO
WELL DEPTH: 15.75 INCHES
DATUM: #N/A
PERMIT NO.: #N/A

N/L: #N/A E/L: #N/A

START DATE
FINISH DATE
4/11/2013

NOTE: N/A



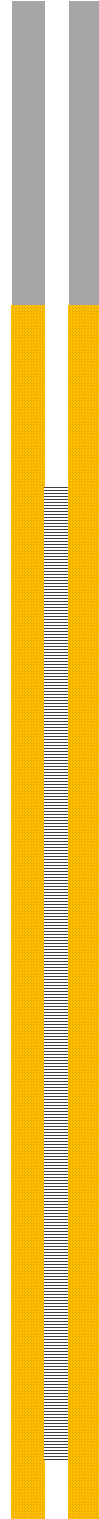
JOB NO.
117-0507537
DRILLING METHOD: HAND AUGER
COMPANY: S&S TECHNOLOGIES
OPERATOR: #N/A
SAMPLING METHOD: #N/A

CLIENT: LOCKHEED MARTIN CORPORATION

SHEET
1 OF 1

WELL SCREEN: 2-INCH DIA. SCH. 40 PVC, 0.020 INCH SLOTTED
RISER: 2-INCH DIA. SCH. 40 PVC, SOLID CASING
FILTER PACK: 3/8-INCH WAS /CS36 csTEWKEG(T)2()8(VW)5-3()8(8)31E3VAV9T-219(M)5(E)9CK:

LOGGED BY: TETRA TECH/DAWN MONICO



PROJECT: BUILDING C SUB-SLAB DEPRESSURIZATION SYSTEM
SECOND-PHASE EXPANSION
LOCKHEED MARTIN MIDDLE RIVER COMPLEX

JOB NO. 117-0507537
DRILLING METHOD: HAND AUGER
COMPANY: S&S TECHNOLOGIES
OPERATOR: #N/A
SAMPLING METHOD: #N/A

CLIENT: LOCKHEED MARTIN CORPORATION

SHEET
1 OF 1

WELL SCREEN: 2-INCH DIA. SCH. 40 PVC, 0.020 INCH SLOTTED
RISER: 2-INCH DIA. SCH. 40 PVC, SOLID CASING
FILTER PACK: 3/8-INCH WASHED PEA GRAVEL
SEAL/GROUT: 10 OZ. BENTONITE, 60 LBS. CONCRETE, -1 GAL. WATER

LOGGED BY: TETRA TECH/DAWN MONICO
WELL DEPTH: 26.0 INCHES
DATUM: #N/A
PERMIT NO.: #N/A
GROUND ELEVATION: #N/A

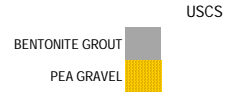
DRILLING
START DATE 4/9/2013
FINISH DATE 4/9/2013

NOTE: SUB-SLAB VAPOR EXTRACTION WELL

DEPTH (INCHES)
SAMPLE INTERVAL
RECOVERY (INCHES)
BLOW COUNT
"N"
MOISTURE CONTENT
PID READING
(ppm)

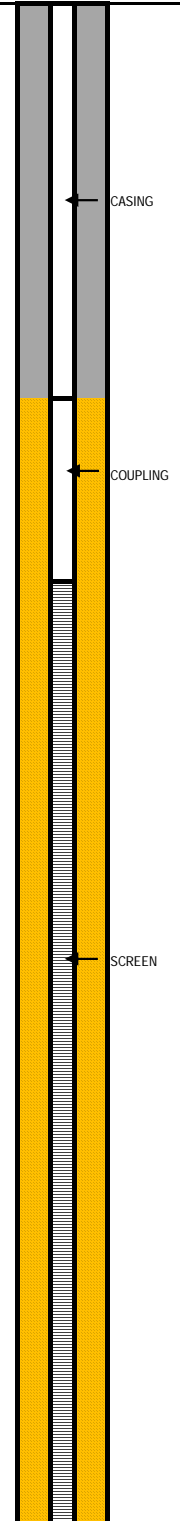
SURFACE CONDITIONS: CONCRETE

WELL INSTALLATION



PROJECT:	BUILDING C SUB-SLAB DEPRESSURIZATION SYSTEM SECOND-PHASE EXPANSION LOCKHEED MARTIN MIDDLE RIVER COMPLEX	JOB NO. 117-0507537	WELL NUMBER SV-33-C	CLIENT: LOCKHEED MARTIN CORPORATION	
		DRILLING METHOD: HAND AUGER			
LOCATION:	2323 EASTERN BOULEVARD, MIDDLE RIVER MARYLAND 21220	COMPANY: S&S TECHNOLOGIES			SHEET 1 OF 1
		OPERATOR: #N/A			
		SAMPLING METHOD: #N/A			
WELL SCREEN: 2-INCH DIA. SCH. 40 PVC, 0.020 INCH SLOTTED		LOGGED BY: TETRA TECH/DAWN MONICO		DRILLING	
RISER: 2-INCH DIA. SCH. 40 PVC, SOLID CASING		WELL DEPTH: 27.0 INCHES		START DATE	FINISH DATE
FILTER PACK: 3/8-INCH WASHED PEA GRAVEL		DATUM: #N/A	N/L: #N/A	E/L: #N/A	
SEAL/GROUT: 10 OZ. BENTONITE, 60 LBS. CONCRETE, -1 GAL. WATER		PERMIT NO.: #N/A		4/11/2013	4/11/2013
NOTE: SUB-SLAB VAPOR EXTRACTION WELL		GROUND ELEVATION: #N/A			

DEPTH (INCHES)	SAMPLE INTERVAL	RECOVERY (INCHES)	BLOW COUNT "N"	MOISTURE CONTENT	PID READING (ppm)	SURFACE CONDITIONS: CONCRETE	USCS	WELL INSTALLATION
1								
2								
3								
4								
5				N/A	N/A	CONCRETE	N/A	
6								
7								
8								
9								
10						UNKNOWN BLACK MATERIAL		
11								
12								
13	N/A	N/A	N/A					
14								
15								
16								
17						RED-BROWN, LIGHT GRAY, YELLOW-BROWN, CLAY, MOTTLED, HARD, LOW PLASTICITY		
18				SLIGHT MOIST	4.0		CL	
19								
20								
21								
22								
23								
24								
25						RED-BROWN CLAY HARD LOW PLASTICITY		



PROJECT:		BUILDING C SUB-SLAB DEPRESSURIZATION SYSTEM SECOND-PHASE EXPANSION LOCKHEED MARTIN MIDDLE RIVER COMPLEX		JOB NO. 117-0507537	WELL NUMBER SV-33-C	CLIENT: LOCKHEED MARTIN CORPORATION			
LOCATION:		2323 EASTERN BOULEVARD, MIDDLE RIVER MARYLAND 21220		DRILLING METHOD: HAND AUGER					
				COMPANY: S&S TECHNOLOGIES					
				OPERATOR: #N/A					
				SAMPLING METHOD: #N/A					
				SHEET 1 OF 1					
		WELL SCREEN: 2-INCH DIA. SCH. 40 PVC, 0.020 INCH SLOTTED							
		RISER: 2-INCH DIA. SCH. 40 PVC, SOLID CASING		LOGGED BY: TETRA TECH/DAWN MONICO					
		FILTER PACK: 3/8-INCH WASHED PEA GRAVEL		WELL DEPTH: 27.0 INCHES					
		SEAL/GROUT: 10 OZ. BENTONITE, 60 LBS. CONCRETE, -1 GAL. WATER		DATUM: #N/A		N/L: #N/A E/L: #N/A			
				PERMIT NO.: #N/A		START DATE	FINISH DATE		
						4/11/2013	4/11/2013		
		NOTE: SUB-SLAB VAPOR EXTRACTION WELL		GROUND ELEVATION: #N/A					
	DEPTH (INCHES)	SAMPLE INTERVAL	RECOVERY (INCHES)	BLOW COUNT "N"	MOISTURE CONTENT	PID READING (ppm)	SURFACE CONDITIONS: CONCRETE	USCS	WELL INSTALLATION
	25						BENTONITE GROUT PEA GRAVEL		
	26						RED-BROWN, CLAY, HARD, LOW PLASTICITY		END CAP
	27								
END OF BORING = 27.0 INCHES									

JOB NO. 117-0507537
 DRILLING METHOD: HAND AUGER
 COMPANY: S&S TECHNOLOGIES
 OPERATOR: #N/A
 SAMPLING METHOD: #N/A

CLIENT: LOCKHEED MARTIN CORPORATION

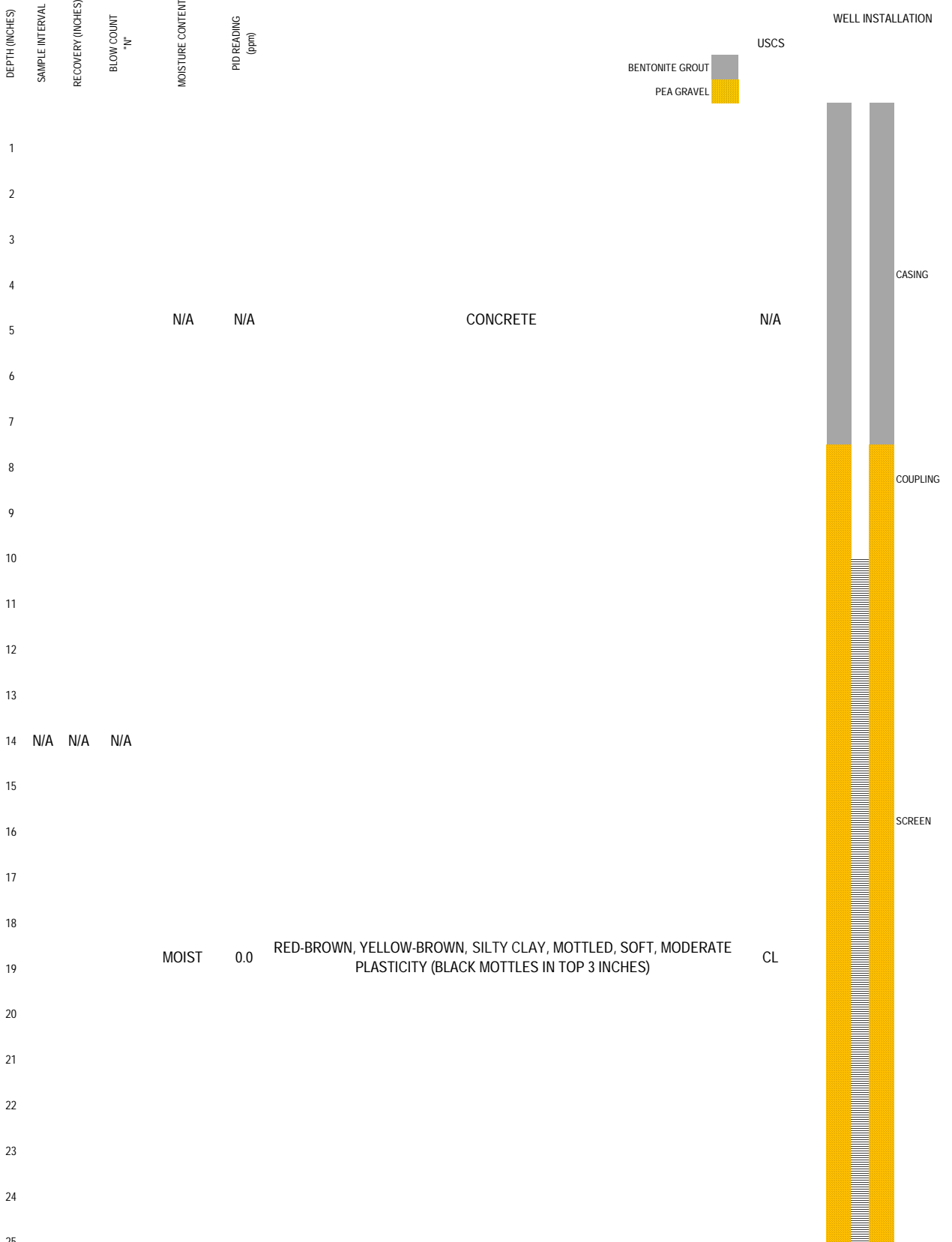
SHEET 1 OF 1

WELL SCREEN: 2-INCH DIA. SCH. 40 PVC, 0.020 INCH SLOTTED
 RISER: 2-INCH DIA. SCH. 40 PVC, SOLID CASING
 FILTER PACK: 3/8-INCH WASHED PEA GRAVEL
 SEAL/GROUT: 10 OZ. BENTONITE, 60 LBS. CONCRETE, -1 GAL. WATER

LOGGED BY: TETRA TECH/DAWN MONICO
 WELL DEPTH: 28.0 INCHES
 DATUM: #N/A
 PERMIT NO.: #N/A
 GROUND ELEVATION: #N/A

DRILLING
 START DATE: 4/10/2013
 FINISH DATE: 4/10/2013

NOTE: SUB-SLAB VAPOR EXTRACTION WELL



JOB NO.

117-0507537

DRILLING METHOD: HAND AUGER

COMPANY: S&S TECHNOLOGIES

OPERATOR: #N/A

SAMPLING METHOD: #N/A

CLIENT: LOCKHEED MARTIN CORPORATION

SHEET

1 OF 1

WELL SCREEN: 2-INCH DIA. SCH. 40 PVC, 0.020 INCH SLOTTED

RISER: 2-INCH DIA. SCH. 40 PVC, SOLID CASING

FILTER PACK: 3/8-INCH WASHED PEA GRAVEL

SEAL/GROUT: 10 OZ. BENTONITE, 60 LBS. CONCRETE, -1 GAL. WATER

LOGGED BY: TETRA TECH/DAWN MONICO

WELL DEPTH: 28.0 INCHES

DATUM: #N/A

N/L: #N/A

E/L: #N/A

START
DATE

FINISH
DATE



ATTACHMENT 5

TESTAMERICA ANALYTICAL REPORT—

EXTRACTION-WELL AIR SAMPLING

Tetra Tech GEO

Client Sample ID: SV-30-C

GC/MS Volatiles

Lot-Sample #	H3E080423 - 001	Work Order #	M0R0C1AA	Matrix.....:	AIR
Date Sampled...:	05/02/2013	Date Received..:	05/08/2013		
Prep Date.....:	05/10/2013	Analysis Date...	05/11/2013		
Prep Batch #.....:	3133018				
Dilution Factor.:	124.78	Method.....:	TO-15		

<u>PARAMETER</u>	<u>RESULTS</u> (ppbo5405/10/2)	<u>RESULTS</u> (ug/m3)
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Tetra Tech GEO
Client Sample ID: SV-30-C
GC/MS Volatiles

Lot-Sample # H3E080423 - 001 **Work Order #** M0R0C1AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
m-Xylene & p-Xylene	ND	25	ND	110
o-Xylene	ND	25	ND	110
SURROGATE		PERCENT RECOVERY		LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene		102		60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech GEO

Client Sample ID: SV-26-C

GC/MS Volatiles

Lot-Sample # H3E080423 - 002 Work Order # M0R0D1AA Matrix.....: AIR
Date Sampled...: 05/02/2013 Date Received..: 05/08/2013
Prep Date.....: 05/09/2013 Analysis Date... 05/10/2013
Prep Batch #.....: 3130012
Dilution Factor.: 10 Method.....: TO-15

<u>PARAMETER</u>	<u>RESULTS (ppb(v/v))</u>	<u>REPORTING LIMIT (ppb(v/v))</u>	<u>RESULTS (ug/m3)</u>	<u>REPORTING LIMIT (ug/m3)</u>
Benzene	ND	2.0	ND	6.4
Benzyl chloride	ND	4.0	ND	21
Bromomethane	ND	2.0	ND	7.8
			ND	

Tetra Tech GEO
Client Sample ID: SV-26-C
GC/MS Volatiles

Lot-Sample # H3E080423 - 002 **Work Order #** M0R0D1AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
m-Xylene & p-Xylene	ND	2.0	ND	8.7
o-Xylene	ND	2.0	ND	8.7
SURROGATE		PERCENT RECOVERY		LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene		96		60 - 140

The 'Result' in ug/m3 is calculated using the following equation: $\text{Amount Found}(\text{before rounding}) \times (\text{Molecular Weight}/24.45)$

The 'Reporting Limit' in ug/m3 is calculated using the following equation: $(\text{Reporting Limit}(\text{before rounding}) \times \text{Dilution Factor}) \times (\text{Molecular Weight}/24.45)$

Tetra Tech GEO

Client Sample ID: SV-31-C

GC/MS Volatiles

Lot-Sample # H3E080423 - 003 Work Order # M0R0E1AA Matrix.....: AIR
Date Sampled...: 05/02/2013 Date Received..: 05/08/2013
Prep Date.....: 05/09/2013 Analysis Date... 05/10/2013
Prep Batch #.....: 3130012
Dilution Factor.: 10 Method.....: TO-15

<u>PARAMETER</u>	<u>RESULTS (ppb(v/v))</u>	<u>REPORTING LIMIT (ppb(v/v))</u>	<u>RESULTS (ug/m3)</u>	<u>REPORTING LIMIT (ug/m3)</u>
Benzene	ND	2.0	ND	6.4
Benzyl chloride	ND	4.0	ND	21
Bromomethane	ND	2.0	ND	7.8
			ND	

Tetra Tech GEO
Client Sample ID: SV-31-C
GC/MS Volatiles

Lot-Sample # H3E080423 - 003 **Work Order #** M0R0E1AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
m-Xylene & p-Xylene	ND	2.0	ND	8.7
o-Xylene	ND	2.0	ND	8.7
SURROGATE		PERCENT RECOVERY		LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene		97		60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech GEO

Client Sample ID: SV-27-C

GC/MS Volatiles

Lot-Sample # H3E080423 - 004 Work Order # M0R0F1AA Matrix.....: AIR
 Date Sampled...: 05/02/2013 Date Received..: 05/08/2013
 Prep Date.....: 05/09/2013 Analysis Date... 05/10/2013
 Prep Batch #.....: 3130012
 Dilution Factor.: 10 Method.....: TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	ND	2.0	ND	6.4
Benzyl chloride	ND	4.0	ND	21
Bromomethane	ND	2.0	ND	7.8
Carbon tetrachloride	ND	2.0	ND	13
Chlorobenzene	ND	2.0	ND	9.2
Chloroethane	ND	2.0	ND	5.3
Chloroform	ND	2.0	ND	9.8
Chloromethane	ND	5.0	ND	10
1,2-Dibromoethane (EDB)	ND	2.0	ND	15
1,2-Dichlorobenzene	ND	2.0	ND	12
1,3-Dichlorobenzene	ND	2.0	ND	12
1,4-Dichlorobenzene	ND	2.0	ND	12
Dichlorodifluoromethane	ND	2.0	ND	9.9
1,1-Dichloroethane	ND	2.0	ND	8.1
1,2-Dichloroethane	ND	2.0	ND	8.1
cis-1,2-Dichloroethene	ND	2.0	ND	7.9
1,1-Dichloroethene	ND	2.0	ND	7.9
1,2-Dichloropropane	ND	2.0	ND	9.2
cis-1,3-Dichloropropene	ND	2.0	ND	9.1
trans-1,3-Dichloropropene	ND	2.0	ND	9.1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	2.0	ND	14
Ethylbenzene	ND	2.0	ND	8.7
Hexachlorobutadiene	ND	10	ND	110
Methylene chloride	ND	5.0	ND	17
Styrene	ND	2.0	ND	8.5
1,1,2,2-Tetrachloroethane	ND	2.0	ND	14
Tetrachloroethene	ND	2.0	ND	14
Toluene	2.7	2.0	10	7.5
1,2,4-Trichlorobenzene	ND	10	ND	74
1,1,1-Trichloroethane	ND	2.0	ND	11
1,1,2-Trichloroethane	ND	2.0	ND	11
Trichloroethene	75	2.0	400	11
Trichlorofluoromethane	ND	2.0	ND	11
1,1,2-Trichloro-1,2,2-trifluoroethane	16	2.0	120	15
1,2,4-Trimethylbenzene	ND	2.0	ND	9.8
1,3,5-Trimethylbenzene	ND	2.0	ND	9.8
Vinyl chloride	ND	2.0	ND	5.1

Tetra Tech GEO
Client Sample ID: SV-27-C
GC/MS Volatiles

Lot-Sample # H3E080423 - 004 **Work Order #** M0R0F1AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
m-Xylene & p-Xylene	ND	2.0	ND	8.7
o-Xylene	ND	2.0	ND	8.7
SURROGATE		PERCENT RECOVERY		LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene		98		60 - 140

The 'Result' in ug/m3 is calculated using the following equation: $\text{Amount Found}(\text{before rounding}) \times (\text{Molecular Weight}/24.45)$

The 'Reporting Limit' in ug/m3 is calculated using the following equation: $(\text{Reporting Limit}(\text{before rounding}) \times \text{Dilution Factor}) \times (\text{Molecular Weight}/24.45)$

Tetra Tech GEO

Client Sample ID: SV-32-C

GC/MS Volatiles

Lot-Sample # H3E080423 - 005

Work Order # M0R0G1AA

Matrix.....: AIR

Date Received.: 05/08/2013

Analysis Date... 05/10/2013

Prep Batch #.....: 3130012

Dilution Factor.: 66.91

Method.....: TO-15



Tetra Tech GEO
Client Sample ID: SV-32-C
GC/MS Volatiles

Lot-Sample # H3E080423 - 005 **Work Order #** M0R0G1AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
m-Xylene & p-Xylene	ND	13	ND	58
o-Xylene	ND	13	ND	58
SURROGATE		PERCENT RECOVERY		LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene		96		60 - 140

The 'Result' in ug/m3 is calculated using the following equation: $\text{Amount Found}(\text{before rounding}) \times (\text{Molecular Weight}/24.45)$

The 'Reporting Limit' in ug/m3 is calculated using the following equation: $(\text{Reporting Limit}(\text{before rounding}) \times \text{Dilution Factor}) \times (\text{Molecular Weight}/24.45)$

Tetra Tech GEO

Client Sample ID: SV-28-C

GC/MS Volatiles

Lot-Sample #	H3E080423 - 006	Work Order #	M0R0H1AA	Matrix.....:	AIR
Date Sampled...:	05/02/2013	Date Received..:	05/08/2013		
Prep Date.....:	05/09/2013	Analysis Date...	05/10/2013		
Prep Batch #.....:	3130012				
Dilution Factor.:	16.67	Method.....:	TO-15		

PARAMETER6p8761h v

Tetra Tech GEO

Work Order #

Matrix.....:

Tetra Tech GEO

Client Sample ID: SV-33-C

GC/MS Volatiles

Lot-Sample # H3E080423 - 007

Work Order # M0R0J1AA

Matrix.....: AIR

05/08/2013

Analysis Date... 05/10/2013

Method.....: TO-15



Tetra Tech GEO
Client Sample ID: SV-33-C
GC/MS Volatiles

Lot-Sample # H3E080423 - 007 **Work Order #** M0R0J1AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
m-Xylene & p-Xylene	ND	230	ND	1000
o-Xylene	ND	230	ND	1000
SURROGATE		PERCENT RECOVERY		LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene		102		60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Lot-Sample # H3E080423 - 008

Date Sampled...: 05/02/2013

Prep Date.....: 05/09/2013

Prep Batch #.....: 3130012

Dilution Factor.: 16.67

<u>PARAMETER</u>	<u>RESULT</u> (ppb(v/v))
Benzene	ND
Benzyl chloride	ND
Bromomethane	ND
Carbon tetrachloride	ND
Chlorobenzene	ND
Chloroethane	ND
Chloroform	ND 3.5

Tetra Tech GEO

Client Sample ID: SV-29-C

GC/MS Volatiles

Lot-Sample # H3E080423 - 008 **Work Order #** M0R0K1AA **Matrix.....:** AIR

<u>PARAMETER</u>	<u>RESULTS (ppb(v/v))</u>	<u>REPORTING LIMIT (ppb(v/v))</u>	<u>RESULTS (ug/m3)</u>	<u>REPORTING LIMIT (ug/m3)</u>
m-Xylene & p-Xylene	220	3.3	970	14
o-Xylene	100	3.3	450	14
<u>SURROGATE</u>		<u>PERCENT RECOVERY</u>		<u>LABORATORY CONTROL LIMITS (%)</u>
4-Bromofluorobenzene		92		60 - 140

Tetra Tech GEO

Client Sample ID: SV-34-C

GC/MS Volatiles

Lot-Sample # H3E080423 - 009 Work Order # M0R0L1AA Matrix.....: AIR
Date Sampled...: 05/02/2013 Date Received..: 05/08/2013
Prep Date.....: 05/10/2013 Analysis Date... 05/11/2013
Prep Batch #.....: 3133018
Dilution Factor.: 55.44 Method.....: TO-15

<u>PARAMETER</u>	<u>RESULTS (ppb(v/v))</u>	<u>REPORTING LIMIT (ppb(v/v))</u>	<u>RESULTS (ug/m3)</u>	<u>REPORTING LIMIT (ug/m3)</u>
Benzene	ND	11	ND	35
Benzyl chloride	ND	22	ND	110
Bromomethane	ND	0.0 ug /TT1	ND	43

Tetra Tech GEO
Client Sample ID: SV-34-C
GC/MS Volatiles

Lot-Sample # H3E080423 - 009 **Work Order #** M0R0L1AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
m-Xylene & p-Xylene	ND	11	ND	48
o-Xylene	ND	11	ND	48
SURROGATE		PERCENT RECOVERY		LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene		103		60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech GEO

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample #	H3E100000 - 012B	Work Order #	M0TEH1AA	Matrix.....:	AIR
	05/09/2013	Date Received..:	05/08/2013		
Prep Batch #.....:	3130012	Analysis Date...	05/10/2013		
Dilution Factor.:	1	Method.....:	TO-15		

Tetra Tech GEO

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample # H3E100000 - 012B Work Order # M0TEH1AA Matrix.....: AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
m-Xylene & p-Xylene	ND	0.20	ND	0.87
o-Xylene	ND	0.20	ND	0.87
SURROGATE		PERCENT RECOVERY		LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene		95		60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Tetra Tech GEO

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample # H3E100000 - 012C **Work Order #** M0TEH1AC **Matrix.....:** AIR
Prep Date.....: 05/02/2013 **Date Received..:** 05/08/2013
Prep Date.....: 05/09/2013 **Analysis Date...:** 05/09/2013
Prep Batch #.....: 3130012
Dilution Factor.: 1 **Method.....:** TO-15

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Benzene	5.00	4.40	16	14.1	88	70 - 130
Benzyl chloride	5.00	3.88	26	20.1	78	70 - 130
Bromomethane	5.00	5.23	19	20.3	105	70 - 130
Carbon tetrachloride	5.00	5.55	31	34.9	111	70 - 130
Chlorobenzene	5.00	4.51	23	20.8	90	70 - 130
Chloroethane	5.00	5.40	13	14.2	108	70 - 130
Chloroform	5.00	4.56	24	22.3	91	70 - 130
Chloromethane	5.00	5.30	10	11.0	106	60 - 140
1,2-Dibromoethane (EDB)	5.00	4.56	38	35.0	91	70 - 130
1,2-Dichlorobenzene	5.00	4.40	30	26.5	88	70 - 130
1,3-Dichlorobenzene	5.00	4.32	30	26.0	86	70 - 130

Tetra Tech GEO

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample # H3E100000 - 012C Work Order # M0TEH1AC Matrix.....: AIR

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Vinyl chloride	5.00	5.29	13	13.5	106	70 - 130
	10.0	9.01	43	39.1		70 - 130

Tetra Tech GEO

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample # H3E130000 - 018B **Work Order #** M0TP81AA **Matrix.....:** AIR
Prep Date.....: 05/06/2013 **Date Received..:** 05/09/2013
Prep Date.....: 05/10/2013 **Analysis Date...:** 05/10/2013
Prep Batch #.....: 3133018
Dilution Factor.: 1 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	ND	0.20	ND	0.64
Benzyl chloride	ND	0.40	ND	2.1
Bromomethane	ND	0.20	ND	0.78
Carbon tetrachloride	ND	0.20	ND	1.3
Chlorobenzene	ND	0.20	ND	0.92
Chloroethane	ND	0.20	ND	0.53
Chloroform	ND	0.20	ND	0.98
Chloromethane	ND	0.50	ND	1.0
1,2-Dibromoethane (EDB)	ND	0.20	ND	1.5
1,2-Dichlorobenzene	ND	0.20	ND	1.2
1,3-Dichlorobenzene	ND	0.20	ND	1.2
1,4-Dichlorobenzene	ND	0.20	ND	1.2
Dichlorodifluoromethane	ND	0.20	ND	0.99
1,1-Dichloroethane	ND	0.20	ND	0.81
1,2-Dichloroethane	ND	0.20	ND	0.81
cis-1,2-Dichloroethene	ND	0.20	ND	0.79
1,1-Dichloroethene	ND	0.20	ND	0.79
0.05 0 0 0.TT1 179 Tf6Tf6T Q q 0.05 C			ND	0.92

Tetra Tech GEO

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample # H3E130000 - 018B Work Order # M0TP81AA Matrix.....: AIR

PARAMETER	RESULTS (ppb(v/5 l h W r	RESULTS (ug/m3)
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Tetra Tech GEO

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample # H3E130000 - 018C **Work Order #** M0TP81AC **Matrix.....:** AIR
Prep Date.....: 05/06/2013 **Date Received..:** 05/09/2013
Prep Batch #.....: 05/10/2013 **Analysis Date...** 05/10/2013
Dilution Factor.: 3133018
Method.....: 1 **Method.....:** TO-15

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Benzene	5.00	3.83	16	12.2	77	70 - 130
Benzyl chloride	5.00	4.23	26	21.9	85	70 - 130
Bromomethane	5.00	4.10	19	15.9	82	70 - 130
Carbon tetrachloride	5.00	4.86	31	30.6	97	70 - 130
Chlorobenzene	5.00	4.02	23	18.5	80	70 - 130
Chloroethane	5.00	3.80	13	10.0	76	70 - 130
Chloroform	5.00	3.95	24	19.3	79	70 - 130
Chloromethane	5.00	3.66	10	7.56	73	60 - 140
1,2-Dibromoethane (EDB)	5.00	4.21	38	32.3	84	70 - 130
1,2-Dichlorobenzene	5.00	4.22	30	25.4	84	70 - 130
1,3-Dichlorobenzene	5.00	4.22	30	25.4	84	70 - 130
1,4-Dichlorobenzene	5.00	4.21	30	25.3	84	70 - 130
	5.00	4.54	25	22.5		60 - 140

ATTACHMENT 6

WASTE DISPOSAL DOCUMENTATION

NON-HAZARDOUS SOLID WASTE MANIFESTS

Please print or type

(Form designed for use with)

Waste Manifest

B. Handling Codes for Wastes Listed Above

11-1988

ATTACHMENT 7

UPDATED OPERATION AND MAINTENANCE MANUAL

(PROVIDED SEPARATELY)
