



**OHM Remediation Services Corp.**

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A Member of The IT Group

January 19, 2001

Contracting Officer  
Naval Facilities Engineering Command  
Southwest Division  
Michelle Crook Code 02R1.MC  
1220 Pacific Highway  
San Diego, CA 92132-5187

**M60050.000636**

**MCAS EL TORO**

**SSIC # 5090.3**

Attention: Ms. Lynn Hornecker

**Subject: Final Analytical Data for New CERCLA Monitoring Wells  
Contract N68711-93-D-1459, Delivery Order 065,  
Removal and Remedial Actions at IRP Sites, MCAS El Toro, California**

Dear Ms. Hornecker:

Attached are the analytical results for the sampling of the new and existing CERCLA groundwater monitoring wells that was conducted in November 2000, following completion of the new wells. The new and previously existing wells that were sampled and the respective analyses are shown in the attached Summary.

Table 1 shows the analytical results for the volatile organic compound (VOC) analyses and the perchlorate analyses. Table 2 presents the radiological analyses.

A copy of these results has been sent to Earth Tech for their use and records as well.

If you have any questions or need additional copies of the data please let me know.

Sincerely,

William Sedlak  
Sr. Project Manager

Attachment: Analytical Data Package

cc: Lucreatria Holloway, SWDIV, COTR (1C/1E)  
Admin Record (1C/2E)  
OHM PMO File (1C/1E)  
Crispin Wanyoike, Earth Tech (1C/1E)  
Project File, Correspondence B.01



**OHM Remediation  
Services Corp.**  
A Subsidiary of OHM Corporation

**OHM TRANSMITTAL/DELIVERABLE RECEIPT**

**CONTRACT N68711-93-D-1459**

**DOCUMENT CONTROL NO: SW9524**

**TO:** Contracting Officer  
Naval Facilities Engineering Command  
Southwest Division  
Michelle Crook, Code 02R1.MC  
1220 Pacific Highway  
San Diego, California 92132-5190

**Date:** 22-Jan-01

**D.O.:** 65

**Location:** MCAS EL TORO

**FROM:** \_\_\_\_\_  
Stewart Bornhoft, Program Manager

*Edwin G. Bond*  
Edwin G. Bond, Contracts Manager

**DESCRIPTION** Final Analytical Data for New CERCLA Monitoring Wells, dated January 19,  
**OF** 2001.  
**ENCLOSURE:**

**TYPE:** Contract Deliverable ( ) D. O. Deliverable ( ) Request for Change ( ) Other ( X )  
( \$ ) (Tech)

**VERSION:** FINAL

**REVISION** 0

**ADMIN RECORD:** Yes ( X ) No ( ) Category ( ) Confidential ( )

**SCHEDULED DELIVERY DATE:** 22-Jan-01 **ACTUAL DELIVERY DATE:** 22-Jan-01

**NUMBER OF COPIES SUBMITTED TO THE NAVY:** 1/O, 4/C, 4/E  
[AS REQUIRED/DIRECTED BY THE (SOW)]

**COPIES TO:** SWDIV

**OHM**

**OTHER**

Name, Code  
Basic Contract Files, 02R1 (1C/1E)  
L. Hornecker, 06CC.LH (1C/1E)  
G. Tinker, 06CC.GT (1C)  
D. Silva, 05G.DS (AR/2E)

Name, Location  
File (1C/1E)  
Chron (1C)  
W. Sedlak, Irv (1C/1E)

Name, Company, Location  
C. Wanyoike, EarthTech 1E

**Date/Time Received:** \_\_\_\_\_ / \_\_\_\_\_

**Groundwater Well Replacement Project  
 Sampling and Analysis Summary  
 Marine Corps Air Station El Toro**

Sampling Sequence	Well ID	VOCs	Gross Alpha/Beta & Total Uranium	Perchlorate	Duplicate	Comment
1	07_DBMW43A	X				
2	07_DBMW100A	X				
3	08_UGMW29A	X				
4	12_DBMW48	X				
5	12_DBMW48A	X				
6	12_UGMW31	X				
7	18_BGMW18A	X				
8	18_PS3A	X				
9	18_PS3	X				
10	18_BGMW101A	X		X	X	
11	05_DGMW67A	X				
12	05_DGMW68A	X				
13	05_UGMW27	X	X			
14	05_UGMW27A	X	X			
15	05_DBMW41A	X	X		X	
16	04_DGMW66A	X				
17	04_DGMW66	X	X			
18	03_UGMW26A	X				
19	03_DGMW64	X	X			
20	03_DGMW64A	X	X			
21	03_DGMW65XA	X			X	

There are seven Sites; 7, 8, 12, 18, 5, 4 and 3

**Table 1**  
**Summary of Analytical Results — Earth Tech Monitoring Wells**

Sample Identification		18708-1755	18708-1756	18708-1759	18708-1760	18708-1763	18708-1766	18708-1767	
Location Code		07_DBMW43A	07_DBMW100A	08_UGMW29A	12_DBMW48A	12_DBMW48	12_UGMW31	18-PS3A	
Date Sampled		11/01/00	11/01/00	11/01/00	11/03/00	11/03/00	11/06/00	11/06/00	
		Unit							
<i>EPA 8260</i>									
1,1,1-Trichloroethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
1,1,2,2-Tetrachloroethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
1,1,2-Trichloroethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
1,1-Dichloroethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
1,1-Dichloroethene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
1,2-Dichloroethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
1,2-Dichloropropane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
2-Butanone (MEK)	µg/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U	
2-Chloroethyl vinyl ether	µg/L	50 U	50 U	50 UJ					
2-Hexanone	µg/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U	
4-Methyl-2-pentanone (MIBK)	µg/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U	
Acetone	µg/L	50 UJ	50 UJ	50 U					
Benzene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
Bromodichloromethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
Bromoform	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
Bromomethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
Carbon disulfide	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
Carbon tetrachloride	µg/L	.88 J	5 U	5 U	5 U	5 U	5 U	5 U	
Chlorobenzene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
Chloroethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
Chloroform	µg/L	5 U	5 U	2.6 J	5 U	5 U	1.8 J	5 U	
Chloromethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
cis-1,2-Dichloroethene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
cis-1,3-Dichloropropene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
Dibromochloromethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
Ethylbenzene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
Methyl tert-butyl ether (MTBE)	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	
Methylene chloride	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
Styrene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
Tetrachloroethene	µg/L	5 U	5 U	5 U	8	6.6	6.4	13	
Toluene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
trans-1,2-Dichloroethene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	

**Table 1**  
**Summary of Analytical Results — Earth Tech Monitoring Wells**

Sample Identification		18708-1755	18708-1756	18708-1759	18708-1760	18708-1763	18708-1766	18708-1767
Location Code		07_DBMW43A	07_DBMW100A	08_UGMW29A	12_DBMW48A	12_DBMW48	12_UGMW31	18-PS3A
Date Sampled		11/01/00	11/01/00	11/01/00	11/03/00	11/03/00	11/06/00	11/06/00
		Unit						
trans-1,3-Dichloropropene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Trichloroethene	µg/L	12	5 U	65	5 U	5 U	32	11
Vinyl acetate	µg/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Vinyl chloride	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Xylenes (total)	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
<i>EPA 314A</i>								
Perchlorate	µg/L	NA	NA	NA	NA	NA	NA	NA

**Table 1**  
**Summary of Analytical Results — Earth Tech Monitoring Wells**

Sample Identification		18708-1769	18708-1771	18708-1772 (Dup)	18708-1774	18708-1777	18708-1778	18708-1780
Location Code		18_BDGMW18A	18_PS3	18_BGMW101A	18_BGMW101A	05_DGMW68A	05_DGMW67A	05_UGMW27
Date Sampled		11/07/00	11/08/00	11/08/00	11/08/00	11/09/00	11/09/00	11/13/00
EPA 8260								
	Unit							
1,1,1-Trichloroethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2-Trichloroethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloroethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloropropane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Butanone (MEK)	µg/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
2-Chloroethyl vinyl ether	µg/L	50 UJ	50 UJ	50 UJ	50 UJ	50 U	50 U	50 U
2-Hexanone	µg/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (MIBK)	µg/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Acetone	µg/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Benzene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bromodichloromethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bromoform	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bromomethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon disulfide	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon tetrachloride	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chlorobenzene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroform	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloromethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
cis-1,2-Dichloroethene	µg/L	5 U	5 U	1.5 J	1.3 J	5 U	5 U	5 U
cis-1,3-Dichloropropene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Dibromochloromethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Ethylbenzene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Methyl tert-butyl ether (MTBE)	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methylene chloride	µg/L	1.5 J	5 U	5 U	5 U	5 U	5 U	5 U
Styrene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Tetrachloroethene	µg/L	5 U	5.1	5 U	5 U	5 U	5 U	5 U
Toluene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
trans-1,2-Dichloroethene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U

**Table 1**  
**Summary of Analytical Results — Earth Tech Monitoring Wells**

Sample Identification		18708-1769	18708-1771	18708-1772 (Dup)	18708-1774	18708-1777	18708-1778	18708-1780
Location Code		18_BDGMW18A	18_PS3	18_BGMW101A	18_BGMW101A	05_DGMW68A	05_DGMW67A	05_UGMW27
Date Sampled		11/07/00	11/08/00	11/08/00	11/08/00	11/09/00	11/09/00	11/13/00
	Unit							
trans-1,3-Dichloropropene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Trichloroethene	µg/L	5 U	2.4 J	41	38	5 U	5 U	5 U
Vinyl acetate	µg/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Vinyl chloride	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Xylenes (total)	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
<i>EPA 314A</i>								
Perchlorate	µg/L	NA	NA	4 U	4 U	NA	NA	NA

**Table 1**  
**Summary of Analytical Results — Earth Tech Monitoring Wells**

Sample Identification		18708-1784	18708-1786	18708-1788 (Dup)	18708-1791	18708-1792	18708-1795	18708-1796
Location Code		05_UGMW27A	05_UGMW41A	05_UGMW41A	04_DGMW66A	04_DGMW66	03_DGMW64	03_DGMW64A
Date Sampled		11/14/00	11/14/00	11/14/00	11/15/00	11/15/00	11/16/00	11/16/00
		Unit						
<i>EPA 8260</i>								
1,1,1-Trichloroethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2-Trichloroethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloroethane	µg/L	5 U	5 U	5 U	4.3 J	5 U	5 U	5 U
1,2-Dichloropropane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Butanone (MEK)	µg/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
2-Chloroethyl vinyl ether	µg/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
2-Hexanone	µg/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (MIBK)	µg/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Acetone	µg/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Benzene	µg/L	5 U	5 U	5 U	200	5 U	5 U	5 U
Bromodichloromethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bromoform	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bromomethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon disulfide	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon tetrachloride	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chlorobenzene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroform	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloromethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
cis-1,2-Dichloroethene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
cis-1,3-Dichloropropene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Dibromochloromethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Ethylbenzene	µg/L	5 U	5 U	5 U	40	5 U	5 U	5 U
Methyl tert-butyl ether (MTBE)	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methylene chloride	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Styrene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Tetrachloroethene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Toluene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
trans-1,2-Dichloroethene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U

**Table 1**  
**Summary of Analytical Results — Earth Tech Monitoring Wells**

Sample Identification		18708-1784	18708-1786	18708-1788 (Dup)	18708-1791	18708-1792	18708-1795	18708-1796
Location Code		05_UGMW27A	05_UGMW41A	05_UGMW41A	04_DGMW66A	04_DGMW66	03_DGMW64	03_DGMW64A
Date Sampled		11/14/00	11/14/00	11/14/00	11/15/00	11/15/00	11/16/00	11/16/00
		Unit						
trans-1,3-Dichloropropene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Trichloroethene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Vinyl acetate	µg/L	50 U	50 U	50 U	50 UJ	50 UJ	50 U	50 U
Vinyl chloride	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Xylenes (total)	µg/L	5 U	5 U	5 U	51	5 U	5 U	5 U
<i>EPA 314A</i>								
Perchlorate	µg/L	NA	NA	NA	NA	NA	NA	NA

**Table 1**  
**Summary of Analytical Results — Earth Tech Monitoring Wells**

Sample Identification		18708-1798	18708-1799	18708-1801 (Dup)
Location Code		03_DGMW65XA	03_UGMW26A	03_DGMW65XA
Date Sampled		11/17/00	11/17/00	11/17/00
		Unit		
<i>EPA 8260</i>				
1,1,1-Trichloroethane	µg/L	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	µg/L	5 U	5 U	5 U
1,1,2-Trichloroethane	µg/L	5 U	5 U	5 U
1,1-Dichloroethane	µg/L	5 U	5 U	5 U
1,1-Dichloroethene	µg/L	5 U	5 U	5 U
1,2-Dichloroethane	µg/L	5 U	5 U	5 U
1,2-Dichloropropane	µg/L	5 U	5 U	5 U
2-Butanone (MEK)	µg/L	50 U	50 U	50 U
2-Chloroethyl vinyl ether	µg/L	50 U	50 U	50 U
2-Hexanone	µg/L	50 U	50 U	50 U
4-Methyl-2-pentanone (MIBK)	µg/L	50 U	50 U	50 U
Acetone	µg/L	50 U	50 U	50 U
Benzene	µg/L	5 U	5 U	5 U
Bromodichloromethane	µg/L	5 U	5 U	5 U
Bromoform	µg/L	5 U	5 U	5 U
Bromomethane	µg/L	5 U	5 U	5 U
Carbon disulfide	µg/L	5 U	5 U	5 U
Carbon tetrachloride	µg/L	5 U	5 U	5 U
Chlorobenzene	µg/L	5 U	5 U	5 U
Chloroethane	µg/L	5 U	5 U	5 U
Chloroform	µg/L	5 U	5 U	5 U
Chloromethane	µg/L	5 U	5 U	5 U
cis-1,2-Dichloroethene	µg/L	5 U	5 U	5 U
cis-1,3-Dichloropropene	µg/L	5 U	5 U	5 U
Dibromochloromethane	µg/L	5 U	5 U	5 U
Ethylbenzene	µg/L	5 U	5 U	5 U
Methyl tert-butyl ether (MTBE)	µg/L	10 U	10 U	10 U
Methylene chloride	µg/L	5 U	5 U	5 U
Styrene	µg/L	5 U	5 U	5 U
Tetrachloroethene	µg/L	5 U	5 U	5 U
Toluene	µg/L	5 U	5 U	5 U
trans-1,2-Dichloroethene	µg/L	5 U	5 U	5 U

**Table 1**  
**Summary of Analytical Results — Earth Tech Monitoring Wells**

Sample Identification		18708-1798	18708-1799	18708-1801 (Dup)
Location Code		03_DGMW65XA	03_UGMW26A	03_DGMW65XA
Date Sampled		11/17/00	11/17/00	11/17/00
		Unit		
trans-1,3-Dichloropropene	µg/L	5 U	5 U	5 U
Trichloroethene	µg/L	5 U	5 U	5 U
Vinyl acetate	µg/L	50 U	50 U	50 U
Vinyl chloride	µg/L	5 U	5 U	5 U
Xylenes (total)	µg/L	5 U	5 U	5 U
<i>EPA 314A</i>				
Perchlorate	µg/L	NA	NA	NA

OHM Remediation Services Corp.

**Table 1**  
**Summary of Analytical Results — Earth Tech Monitoring Wells**

Explanation:

EPA - United States Environmental Protection Agency

J - estimated value

M - Modified

NA - not analyzed

OHM - OHM Remediation Services Corp.

RL - reporting limit

U - not detected above or equal to the stated reporting limit

UJ - the sample detection limit is an estimated value

µg/L - micrograms per liter

**Table 1**  
**Summary of QC Analytical Results — Earth Tech Monitoring Wells**

Sample Identification		18708-1754	18708-1757	18708-1761	18708-1762	18708-1765	18708-1768	18708-1773
Location Code		Trip Blank	Trip Blank	Trip Blank	Field Blank	Trip Blank	Equipment Rinsate	Trip Blank
Date Sampled		11/01/00	11/01/00	11/03/00	11/03/00	11/06/00	11/07/00	11/08/00
Unit								
<i>EPA 8260</i>								
1,1,1-Trichloroethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2-Trichloroethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloroethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloropropane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Butanone (MEK)	µg/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
2-Chloroethyl vinyl ether	µg/L	50 U	50 UJ	50 UJ	50 UJ	50 UJ	50 UJ	50 UJ
2-Hexanone	µg/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (MIBK)	µg/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Acetone	µg/L	50 UJ	50 U	50 U	50 U	50 U	50 U	50 U
Benzene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bromodichloromethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bromoform	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bromomethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon disulfide	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon tetrachloride	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chlorobenzene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroform	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloromethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
cis-1,2-Dichloroethene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
cis-1,3-Dichloropropene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Dibromochloromethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Ethylbenzene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Methyl tert-butyl ether (MTBE)	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methylene chloride	µg/L	5 U	5 U	5 U	5 U	5 U	1.4 J	5 U
Styrene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Tetrachloroethene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Toluene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
trans-1,2-Dichloroethene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
trans-1,3-Dichloropropene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U

**Table 1**  
**Summary of QC Analytical Results — Earth Tech Monitoring Wells**

Sample Identification		18708-1754	18708-1757	18708-1761	18708-1762	18708-1765	18708-1768	18708-1773
Location Code		Trip Blank	Trip Blank	Trip Blank	Field Blank	Trip Blank	Equipment Rinsate	Trip Blank
Date Sampled		11/01/00	11/01/00	11/03/00	11/03/00	11/06/00	11/07/00	11/08/00
Unit								
Trichloroethene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Vinyl acetate	µg/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Vinyl chloride	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Xylenes (total)	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U

**Table 1**  
**Summary of QC Analytical Results — Earth Tech Monitoring Wells**

Sample Identification		18708-1775	18708-1776	18708-1781	18708-1783	18708-1789	18708-1793	18708-1794
Location Code		Trip Blank	Equipment Rinsate	Trip Blank	Equipment Rinsate	Trip Blank	Trip Blank	Equipment Rinsate
Date Sampled		11/09/00	11/09/00	11/13/00	11/14/00	11/15/00	11/16/00	11/16/00
		Unit						
<i>EPA 8260</i>								
1,1,1-Trichloroethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2-Trichloroethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloroethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloropropane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Butanone (MEK)	µg/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
2-Chloroethyl vinyl ether	µg/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
2-Hexanone	µg/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
4-Methyl-2-pentanone (MIBK)	µg/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Acetone	µg/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Benzene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bromodichloromethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bromoform	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bromomethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon disulfide	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon tetrachloride	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chlorobenzene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroform	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloromethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
cis-1,2-Dichloroethene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
cis-1,3-Dichloropropene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Dibromochloromethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Ethylbenzene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Methyl tert-butyl ether (MTBE)	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methylene chloride	µg/L	5 U	5 U	5 U	1.6 J	5 U	5 U	1.8 J
Styrene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Tetrachloroethene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Toluene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
trans-1,2-Dichloroethene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
trans-1,3-Dichloropropene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U

**Table 1**  
**Summary of QC Analytical Results — Earth Tech Monitoring Wells**

Sample Identification		18708-1775	18708-1776	18708-1781	18708-1783	18708-1789	18708-1793	18708-1794
Location Code		Trip Blank	Equipment Rinsate	Trip Blank	Equipment Rinsate	Trip Blank	Trip Blank	Equipment Rinsate
Date Sampled		11/09/00	11/09/00	11/13/00	11/14/00	11/15/00	11/16/00	11/16/00
Unit								
Trichloroethene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Vinyl acetate	µg/L	50 U	50 U	50 U	50 U	50 UJ	50 U	50 U
Vinyl chloride	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Xylenes (total)	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U

**Table 1**  
**Summary of QC Analytical Results — Earth Tech Monitoring Wells**

Sample Identification		18708-1797	18708-1800
Location Code		Equipment Rinsate	Trip Blank
Date Sampled		11/17/00	11/17/00
Unit			
<i>EPA 8260</i>			
1,1,1-Trichloroethane	µg/L	5 U	5 U
1,1,2,2-Tetrachloroethane	µg/L	5 U	5 U
1,1,2-Trichloroethane	µg/L	5 U	5 U
1,1-Dichloroethane	µg/L	5 U	5 U
1,1-Dichloroethene	µg/L	5 U	5 U
1,2-Dichloroethane	µg/L	5 U	5 U
1,2-Dichloropropane	µg/L	5 U	5 U
2-Butanone (MEK)	µg/L	50 U	50 U
2-Chloroethyl vinyl ether	µg/L	50 U	50 U
2-Hexanone	µg/L	50 U	50 U
4-Methyl-2-pentanone (MIBK)	µg/L	50 U	50 U
Acetone	µg/L	50 U	50 U
Benzene	µg/L	5 U	5 U
Bromodichloromethane	µg/L	5 U	5 U
Bromoform	µg/L	5 U	5 U
Bromomethane	µg/L	5 U	5 U
Carbon disulfide	µg/L	5 U	5 U
Carbon tetrachloride	µg/L	5 U	5 U
Chlorobenzene	µg/L	5 U	5 U
Chloroethane	µg/L	5 U	5 U
Chloroform	µg/L	5 U	5 U
Chloromethane	µg/L	5 U	5 U
cis-1,2-Dichloroethene	µg/L	5 U	5 U
cis-1,3-Dichloropropene	µg/L	5 U	5 U
Dibromochloromethane	µg/L	5 U	5 U
Ethylbenzene	µg/L	5 U	5 U
Methyl tert-butyl ether (MTBE)	µg/L	10 U	10 U
Methylene chloride	µg/L	5 U	5 U
Styrene	µg/L	5 U	5 U
Tetrachloroethene	µg/L	5 U	5 U
Toluene	µg/L	5 U	5 U
trans-1,2-Dichloroethene	µg/L	5 U	5 U
trans-1,3-Dichloropropene	µg/L	5 U	5 U

**Table 1**  
**Summary of QC Analytical Results — Earth Tech Monitoring Wells**

Sample Identification		18708-1797	18708-1800
Location Code		Equipment Rinsate	Trip Blank
Date Sampled		11/17/00	11/17/00
	Unit		
Trichloroethene	µg/L	5 U	5 U
Vinyl acetate	µg/L	50 U	50 U
Vinyl chloride	µg/L	5 U	5 U
Xylenes (total)	µg/L	5 U	5 U

OHM Remediation Services Corp.

**Table 1**  
**Summary of QC Analytical Results — Earth Tech Monitoring Wells**

Explanation:

EPA - United States Environmental Protection Agency

J - estimated value

M - Modified

NA - not analyzed

OHM - OHM Remediation Services Corp.

RL - reporting limit

U - not detected above or equal to the stated reporting limit

UJ - the sample detection limit is an estimated value

µg/L - micrograms per liter

**Table 2**  
**Analytical Results for Radio Chemical Samples — Earth Tech Monitoring Wells**

Sample Identification		18708-1780	18708-1784	18708-1786	18708-1788 (Dup)	18708-1792	18708-1795	18708-1796
Location Code		05_UGMW27	05_UGMW27A	05_UGMW41A	05_UGMW41A	04_DGMW66	03_DGMW64	03_DGMW64A
Date Sampled		11/13/00	11/14/00	11/14/00	11/14/00	11/15/00	11/16/00	11/16/00
	Unit							
<i>ASTM D3972</i>								
Uranium 234	pCi/L	0.008±0.014 U	7.4±1.1	7.8±1.1	7.3±1.1	4.33±0.65	14.1±2.0	16.8±2.5
Uranium 235	pCi/L	0.005±0.013 U	0.39±0.10	0.52±0.12	0.34±0.10	0.164±0.063 UJ	0.74±0.16	0.94±0.21
Uranium 238	pCi/L	0.015±0.017 UJ	6.96±1.0	6.65±0.96	6.7±1.0	3.47±0.53	12.6±1.8	16.2±2.4
<i>EPA 900.0</i>								
Gross Alpha	pCi/L	-0.2±1.5 U	16.5±3.7	12.6±3.0	16.1±3.4	5.7±2.3	18.6±3.9	32.7±5.6
Gross Beta	pCi/L	-0.2±1.5 U	7.2±2.9	6.9±2.6	8.7±2.7	4.3±2.2	14.0±3.1	18.2±3.6



**EMAX**

LABORATORIES, INC.

630 Maple Ave.

Torrance, CA 90503

Telephone: (310) 618-8889

Fax: (310) 618-0818

Date: 11-13-2000

EMAX Batch No.: 00K013

Attn: Dwayne Ishida

IT Corporation

3347 Michelson Dr. # 200

Irvine CA 92612

Subject: Laboratory Report

Project: MCAS El Toro/18708/D.O. 65

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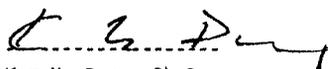
Enclosed is the Laboratory report for samples received on 11/01/00. The data reported include :

Sample ID	Control #	Col Date	Matrix	Analysis
18708-1753	K013-01	11/01/00	WATER	HOLD
18708-1754	K013-02	11/01/00	WATER	VOLATILE ORGANICS BY GC/MS
18708-1755	K013-03	11/01/00	WATER	VOLATILE ORGANICS BY GC/MS
18708-1756	K013-04	11/01/00	WATER	VOLATILE ORGANICS BY GC/MS

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning these results.

Sincerely yours,



Kam Y. Pang, Ph.D.  
Laboratory Director

METHOD 5030A/8260A  
VOLATILE ORGANICS BY GC/MS

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=====
Client      : IT CORPORATION           Date Collected: 11/01/00
Project     : MCAS EL TORO/18708/D.O. 65 Date Received: 11/01/00
Batch No.   : 00K013                 Date Extracted: 11/03/00 23:09
Sample ID   : 18708-1754             Date Analyzed: 11/03/00 23:09
Lab Samp ID : K013-02                Dilution Factor: 1
Lab File ID : RKP041                 Matrix          : WATER
Ext Btch ID : VOK0602                % Moisture     : NA
Calib. Ref. : RKP033                 Instrument ID   : T-002
=====
  
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PARAMETERS	RESULTS (ug/L)	PRL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	5	.91
1,1,2,2-TETRACHLOROETHANE	ND	5	1.1
1,1,2-TRICHLOROETHANE	ND	5	.83
1,1-DICHLOROETHANE	ND	5	.65
1,1-DICHLOROETHENE	ND	5	.86
1,2-DICHLOROETHANE	ND	5	.95
1,2-DICHLOROPROPANE	ND	5	.73
2-BUTANONE	ND	50	6.7
2-CHLOROETHYLVINYLETHER	ND	50	1.3
2-HEXANONE	ND	50	5.6
4-METHYL-2-PENTANONE	ND	50	3.6
ACETONE	ND	50	9.6
BENZENE	ND	5	.77
BROMODICHLOROMETHANE	ND	5	.82
BROMOFORM	ND	5	.74
BROMOMETHANE	ND	5	1.9
CARBON DISULFIDE	ND	5	.61
CARBON TETRACHLORIDE	ND	5	.83
CHLOROENZENE	ND	5	1.1
CHLOROETHANE	ND	5	1.7
CHLOROFORM	ND	5	.67
CHLOROMETHANE	ND	5	.67
CIS-1,2-DICHLOROETHENE	ND	5	.79
CIS-1,3-DICHLOROPROPENE	ND	5	.79
DIBROMOCHLOROMETHANE	ND	5	.71
ETHYLBENZENE	ND	5	1
MTBE	ND	10	.77
METHYLENE CHLORIDE	ND	5	1.4
STYRENE	ND	5	.87
TETRACHLOROETHENE	ND	5	1.1
TOLUENE	ND	5	.99
TRANS-1,2-DICHLOROETHENE	ND	5	.73
TRANS-1,3-DICHLOROPROPENE	ND	5	.82
TRICHLOROETHENE	ND	5	.89
VINYL ACETATE	ND	50	1.4
VINYL CHLORIDE	ND	5	2.5
XYLENES	ND	5	3.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	97	62-139
BROMOFLUOROBENZENE	111	75-125
TOLUENE-D8	97	75-125

PRL: Project Reporting Limit  
 \* : Out side of QC Limit  
 J : An estimated value between PRL and MDL  
 E : Value exceed the upper level of the initial calibration  
 B : Found in the associated blank  
 D : Value from dilution analysis

METHOD 5030A/8260A  
VOLATILE ORGANICS BY GC/MS

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=====
Client      : IT CORPORATION           Date Collected: 11/01/00
Project     : MCAS EL TORO/18708/D.O. 65 Date Received: 11/01/00
Batch No.   : 00K013                  Date Extracted: 11/03/00 23:43
Sample ID   : 18708-1755              Date Analyzed: 11/03/00 23:43
Lab Samp ID : K013-03                 Dilution Factor: 1
Lab File ID : RKP042                  Matrix          : WATER
Ext Btch ID : VOK0602                 % Moisture     : NA
Calib. Ref. : RKP033                  Instrument ID   : T-002
=====
  
```

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	5	.91
1,1,2,2-TETRACHLOROETHANE	ND	5	1.1
1,1,2-TRICHLOROETHANE	ND	5	.83
1,1-DICHLOROETHANE	ND	5	.65
1,1-DICHLOROETHENE	ND	5	.86
1,2-DICHLOROETHANE	ND	5	.95
1,2-DICHLOROPROPANE	ND	5	.73
2-BUTANONE	ND	50	6.7
2-CHLOROETHYLVINYLETHER	ND	50	1.3
2-HEXANONE	ND	50	5.6
4-METHYL-2-PENTANONE	ND	50	3.6
ACETONE	ND	50	9.6
BENZENE	ND	5	.77
BROMODICHLOROMETHANE	ND	5	.82
BROMOFORM	ND	5	.74
BROMOMETHANE	ND	5	1.9
CARBON DISULFIDE	ND	5	.61
CARBON TETRACHLORIDE	.88J	5	.83
CHLOROBENZENE	ND	5	1.1
CHLOROETHANE	ND	5	1.7
CHLOROFORM	ND	5	.67
BROMOMETHANE	ND	5	.67
CIS-1,2-DICHLOROETHENE	ND	5	.79
CIS-1,3-DICHLOROPROPENE	ND	5	.79
DIBROMOCHLOROMETHANE	ND	5	.71
ETHYLBENZENE	ND	5	1
MTBE	ND	10	.77
METHYLENE CHLORIDE	ND	5	1.4
STYRENE	ND	5	.87
TETRACHLOROETHENE	ND	5	1.1
TOLUENE	ND	5	.99
TRANS-1,2-DICHLOROETHENE	ND	5	.73
TRANS-1,3-DICHLOROPROPENE	ND	5	.82
TRICHLOROETHENE	12	5	.89
VINYL ACETATE	ND	50	1.4
VINYL CHLORIDE	ND	5	2.5
XYLENES	ND	5	3.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	98	62-139
BROMOFLUOROBENZENE	110	75-125
TOLUENE-D8	101	75-125

PRL: Project Reporting Limit  
 \* : Out side of QC Limit  
 J : An estimated value between PRL and MDL  
 E : Value exceed the upper level of the initial calibration  
 B : Found in the associated blank  
 D : Value from dilution analysis

METHOD 5030A/8260A  
VOLATILE ORGANICS BY GC/MS

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=====
ent      : IT CORPORATION           Date Collected: 11/01/00
ject     : MCAS EL TORO/18708/D.O. 65 Date Received: 11/01/00
Batch No. : 00K013                 Date Extracted: 11/04/00 00:18
Sample ID: 18708-1756              Date Analyzed: 11/04/00 00:18
Lab Samp ID: K013-04                Dilution Factor: 1
Lab File ID: RKP043                 Matrix      : WATER
Ext Btch ID: VOK0602                % Moisture  : NA
Calib. Ref.: RKP033                 Instrument ID : T-002
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PARAMETERS	RESULTS (ug/L)	PRL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	5	.91
1,1,2,2-TETRACHLOROETHANE	ND	5	1.1
1,1,2-TRICHLOROETHANE	ND	5	.83
1,1-DICHLOROETHANE	ND	5	.65
1,1-DICHLOROETHENE	ND	5	.86
1,2-DICHLOROETHANE	ND	5	.95
1,2-DICHLOROPROPANE	ND	5	.73
2-BUTANONE	ND	50	6.7
2-CHLOROETHYLVINYLETHER	ND	50	1.3
2-HEXANONE	ND	50	5.6
4-METHYL-2-PENTANONE	ND	50	3.6
ACETONE	ND	50	9.6
BENZENE	ND	5	.77
BROMODICHLOROMETHANE	ND	5	.82
BROMOFORM	ND	5	.74
BROMOMETHANE	ND	5	1.9
CARBON DISULFIDE	ND	5	.61
CARBON TETRACHLORIDE	ND	5	.83
CHLOROBENZENE	ND	5	1.1
CHLOROETHANE	ND	5	1.7
CHLOROFORM	ND	5	.67
CHLOROMETHANE	ND	5	.67
CIS-1,2-DICHLOROETHENE	ND	5	.79
CIS-1,3-DICHLOROPROPENE	ND	5	.79
DIBROMOCHLOROMETHANE	ND	5	.71
ETHYLBENZENE	ND	5	1
MTBE	ND	10	.77
METHYLENE CHLORIDE	ND	5	1.4
STYRENE	ND	5	.87
TETRACHLOROETHENE	ND	5	1.1
TOLUENE	ND	5	.99
TRANS-1,2-DICHLOROETHENE	ND	5	.73
TRANS-1,3-DICHLOROPROPENE	ND	5	.82
TRICHLOROETHENE	ND	5	.89
VINYL ACETATE	ND	50	1.4
VINYL CHLORIDE	ND	5	2.5
XYLENES	ND	5	3.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	111	62-139
BROMOFLUOROBENZENE	102	75-125
TOLUENE-D8	96	75-125

PRL: Project Reporting Limit  
\* : Out side of QC Limit  
J : An estimated value between PRL and MDL  
E : Value exceed the upper level of the initial calibration  
B : Found in the associated blank  
D : Value from dilution analysis

METHOD 5030A/8260A  
VOLATILE ORGANICS BY GC/MS

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=====
ent      : IT CORPORATION           Date Collected: NA
ject     : MCAS EL TORO/18708/D.O. 65 Date Received: 11/03/00
Batch No. : 00K013                 Date Extracted: 11/03/00 20:50
Sample ID: MBLK1W                  Date Analyzed: 11/03/00 20:50
Lab Samp ID: VOK0602B              Dilution Factor: 1
Lab File ID: RKP037                Matrix      : WATER
Ext Btch ID: VOK0602              % Moisture  : NA
Calib. Ref.: RKP033               Instrument ID : T-002
=====

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PARAMETERS	RESULTS (ug/L)	PRL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	5	.91
1,1,2,2-TETRACHLOROETHANE	ND	5	1.1
1,1,2-TRICHLOROETHANE	ND	5	.83
1,1-DICHLOROETHANE	ND	5	.65
1,1-DICHLOROETHENE	ND	5	.86
1,2-DICHLOROETHANE	ND	5	.95
1,2-DICHLOROPROPANE	ND	5	.73
2-BUTANONE	ND	50	6.7
2-CHLOROETHYLVINYLETHER	ND	50	1.3
2-HEXANONE	ND	50	5.6
4-METHYL-2-PENTANONE	ND	50	3.6
ACETONE	ND	50	9.6
BENZENE	ND	5	.77
BROMODICHLOROMETHANE	ND	5	.82
BROMOFORM	ND	5	.74
BROMOMETHANE	ND	5	1.9
CARBON DISULFIDE	ND	5	.61
CARBON TETRACHLORIDE	ND	5	.83
CHLOROENZENE	ND	5	1.1
CHLOROETHANE	ND	5	1.7
CHLOROFORM	ND	5	.67
CHLOROMETHANE	ND	5	.67
CIS-1,2-DICHLOROETHENE	ND	5	.79
CIS-1,3-DICHLOROPROPENE	ND	5	.79
DIBROMOCHLOROMETHANE	ND	5	.71
ETHYLBENZENE	ND	5	1
MTBE	ND	10	.77
METHYLENE CHLORIDE	ND	5	1.4
STYRENE	ND	5	.87
TETRACHLOROETHENE	ND	5	1.1
TOLUENE	ND	5	.99
TRANS-1,2-DICHLOROETHENE	ND	5	.73
TRANS-1,3-DICHLOROPROPENE	ND	5	.82
TRICHLOROETHENE	ND	5	.89
VINYL ACETATE	ND	50	1.4
VINYL CHLORIDE	ND	5	2.5
XYLENES	ND	5	3.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	95	62-139
BROMOFLUOROBENZENE	113	75-125
TOLUENE-D8	103	75-125

PRL: Project Reporting Limit  
\* : Out side of QC Limit  
J : An estimated value between PRL and MDL  
E : Value exceed the upper level of the initial calibration  
B : Found in the associated blank  
D : Value from dilution analysis

EMAX QUALITY CONTROL DATA  
LCS/LCD ANALYSIS

CLIENT: IT CORPORATION  
 PROJECT: MCAS EL TORO/18708/D.O. 65  
 BATCH NO.: 00K013  
 METHOD: METHOD 5030A/8260A

MATRIX: WATER % MOISTURE: NA  
 DILUTION FACTOR: 1 1  
 SAMPLE ID: MBLK1W  
 LAB SAMP ID: VOK0602B VOK0602L VOK0602C  
 LAB FILE ID: RKP037 RKP034 RKP035  
 DATE EXTRACTED: 11/03/0020:50 11/03/0019:06 11/03/0019:40 DATE COLLECTED: NA  
 DATE ANALYZED: 11/03/0020:50 11/03/0019:06 11/03/0019:40 DATE RECEIVED: 11/03/00  
 PREP. BATCH: VOK0602 VOK0602 VOK0602  
 CALIB. REF: RKP033 RKP033 RKP033

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD ( % )	QC LIMIT ( % )	MAX RPD ( % )
1,1-Dichloroethene	ND	20	18.2	91	20	19.3	97	6	75-125	20
Benzene	ND	20	20.7	104	20	22	110	6	75-125	20
Chlorobenzene	ND	20	18.4	92	20	19.6	98	7	75-125	20
Toluene	ND	20	19.4	97	20	20.8	104	7	74-125	20
Trichloroethene	ND	20	20.7	104	20	22.1	111	6	71-125	20

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT ( % )
1,2-Dichloroethane-d4	50	46.7	93	50	47.3	95	62-139
1,2,4-Trifluorobenzene	50	56.6	113	50	52.7	105	75-125
1,2,4-Trifluorobenzene-d8	50	52.8	106	50	51.6	103	75-125

EMAX QUALITY CONTROL DATA  
MS/MSD ANALYSIS

CLIENT: IT CORPORATION  
 PROJECT: MCAS EL TORO/18708/D.O. 65  
 BATCH NO.: 00K013  
 METHOD: METHOD 5030A/8260A

MATRIX: WATER % MOISTURE: NA  
 DILUTION FACTOR: 1 1  
 SAMPLE ID: 18708-1754  
 LAB SAMP ID: K013-02 K013-02M K013-02S  
 LAB FILE ID: RKP041 RKP046 RKP047  
 DATE EXTRACTED: 11/03/0023:09 11/04/0002:02 11/04/0002:37 DATE COLLECTED: 11/01/00  
 DATE ANALYZED: 11/03/0023:09 11/04/0002:02 11/04/0002:37 DATE RECEIVED: 11/01/00  
 PREP. BATCH: VOK0602 VOK0602 VOK0602  
 CALIB. REF: RKP033 RKP033 RKP033

ACCESSION:

PARAMETER	SMPL RSLT (ug/L)	SPIKE AMT (ug/L)	MS RSLT (ug/L)	MS % REC	SPIKE AMT (ug/L)	MSD RSLT (ug/L)	MSD % REC	RPD ( % )	QC LIMIT ( % )	MAX RPD ( % )
1,1-Dichloroethene	ND	50	51.2	102	50	47.9	96	7	75-125	20
Benzene	ND	50	53.6	107	50	49.5	99	8	75-125	20
Chlorobenzene	ND	50	49	98	50	46.9	94	4	75-125	20
Toluene	ND	50	51.8	104	50	48.9	98	6	74-125	20
Trichloroethene	ND	50	53.3	107	50	49.7	99	7	71-125	20

SURROGATE PARAMETER	SPIKE AMT (ug/L)	MS RSLT (ug/L)	MS % REC	SPIKE AMT (ug/L)	MSD RSLT (ug/L)	MSD % REC	QC LIMIT ( % )
1,2-Dichloroethane-d4	50	51.6	103	50	48.9	98	62-139
1,2,4-Trichlorobenzene	50	55.7	111	50	56.6	113	75-125
1,2,4-Trichlorobenzene-d8	50	51.1	102	50	50.8	102	75-125

\* : Out side of QC Limit

**Laboratory Data Consultants, Inc.  
Data Validation Report**

**Project/Site Name:** MCAS El Toro  
**Collection Date:** November 1, 2000  
**LDC Report Date:** December 1, 2000  
**Matrix:** Water  
**Parameters:** Volatiles  
**Validation Level:** NFESC Level C  
**Laboratory:** EMAX Laboratories, Inc.

**Sample Delivery Group (SDG):** 00K013

**Sample Identification**

18708-1754  
18708-1755  
18708-1756  
18708-1754MS  
18708-1754MSD

## Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260A for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

## I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

## II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

## III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 30.0% for all calibration check compounds and less than or equal to 50.0% for all other compounds.

Average relative response factors (RRF) for all volatile target compounds and system performance check compounds (SPCCs) were within method and validation criteria with the following exceptions:

Date	Compound	RRF (Limits)	Associated Samples	Flag	A or P
10/17/00	Acetone	0.04301 ( $\geq 0.05$ )	All samples in SDG 00K013	J (all detects) R (all non-detects)	A

## IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

All of the continuing calibration percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were less than or equal to 25.0% for all calibration check compounds and less than or equal to 50.0% for all other compounds.

All of the continuing calibration RRF values were within method and validation criteria with the following exceptions:

Date	Compound	RRF (Limits)	Associated Samples	Flag	A or P
11/3/00	Acetone	0.04206 ( $\geq 0.05$ )	All samples in SDG 00K013	J (all detects) R (all non-detects)	A

## **V. Blanks**

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

## **VI. Surrogate Spikes**

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

## **VII. Matrix Spike/Matrix Spike Duplicates**

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

## **VIII. Laboratory Control Samples (LCS)**

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

## **IX. Regional Quality Assurance and Quality Control**

Not applicable.

## **X. Internal Standards**

All internal standard areas and retention times were within QC limits.

## **XI. Target Compound Identifications**

Raw data were not reviewed for this SDG.

## **XII. Compound Quantitation and CRQLs**

Raw data were not reviewed for this SDG.

## **XIII. Tentatively Identified Compounds (TICs)**

Raw data were not reviewed for this SDG.

## **XIV. System Performance**

Raw data were not reviewed for this SDG.

## **XV. Overall Assessment of Data**

Data flags have been summarized at the end of the report.

**XVI. Field Duplicates**

No field duplicates were identified in this SDG.

**XVII. Field Blanks**

No field blanks were identified in this SDG.

**MCAS El Toro  
Volatiles - Data Qualification Summary - SDG 00K013**

<b>SDG</b>	<b>Sample</b>	<b>Compound</b>	<b>Flag</b>	<b>A or P</b>	<b>Reason</b>
00K013	18708-1754 18708-1755 18708-1756	Acetone	J (all detects) UJ (all non-detects)	A	Initial calibration (RRF)
00K013	18708-1754 18708-1755 18708-1756	Acetone	J (all detects) UJ (all non-detects)	A	Continuing calibration (RRF)

**MCAS El Toro  
Volatiles - Laboratory Blank Data Qualification Summary - SDG 00K013**

No Sample Data Qualified in this SDG



**EMAX**  
LABORATORIES, INC.

630 Maple Ave.

Torrance, CA 90503

Telephone: (310) 618-8889

Fax: (310) 618-0818

Date: 11-10-2000

EMAX Batch No.: 00K029

Attn: Dwayne Ishida

IT Corporation

3347 Michelson Dr. # 200

Irvine CA 92612

Subject: Laboratory Report

Project: MCAS El Toro/18708/D.O. 65

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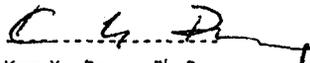
Enclosed is the Laboratory report for samples received on 11/02/00. The data reported include :

Sample ID	Control #	Col Date	Matrix	Analysis
18708-1757	K029-01	11/01/00	WATER	VOLATILE ORGANICS BY GC/MS
18708-1758	K029-02	11/01/00	WATER	HOLD
18708-1759	K029-03	11/01/00	WATER	VOLATILE ORGANICS BY GC/MS

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning these results.

Sincerely yours,



Kam Y. Pang, Ph.D.  
Laboratory Director

METHOD 5030A/8260A  
VOLATILE ORGANICS BY GC/MS

```

=====
Client      : IT CORPORATION           Date Collected: 11/01/00
Project     : MCAS EL TORO/18708/D.O. 65 Date Received: 11/02/00
Batch No.   : 00K029                 Date Extracted: 11/04/00 23:18
Sample ID   : 18708-1757             Date Analyzed: 11/04/00 23:18
Lab Samp ID : K029-01                Dilution Factor: 1
Lab File ID : RKW109                 Matrix           : WATER
Ext Btch ID: VOK1006                 % Moisture      : NA
Calib. Ref.: RKW100                 Instrument ID    : T-006
=====

```

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	5	.91
1,1,2,2-TETRACHLOROETHANE	ND	5	1.1
1,1,2-TRICHLOROETHANE	ND	5	.83
1,1-DICHLOROETHANE	ND	5	.65
1,1-DICHLOROETHENE	ND	5	.86
1,2-DICHLOROETHANE	ND	5	.95
1,2-DICHLOROPROPANE	ND	5	.73
2-BUTANONE	ND	50	6.7
2-CHLOROETHYL VINYLETHER	ND	50	1.3
2-HEXANONE	ND	50	5.6
4-METHYL-2-PENTANONE	ND	50	3.6
ACETONE	ND	50	9.6
BENZENE	ND	5	.77
BROMODICHLOROMETHANE	ND	5	.82
BROMOFORM	ND	5	.74
BROMOMETHANE	ND	5	1.9
CARBON DISULFIDE	ND	5	.61
CARBON TETRACHLORIDE	ND	5	.83
CHLOROBENZENE	ND	5	1.1
CHLOROETHANE	ND	5	1.7
CHLOROFORM	ND	5	.67
CHLOROMETHANE	ND	5	.67
CIS-1,2-DICHLOROETHENE	ND	5	.79
CIS-1,3-DICHLOROPROPENE	ND	5	.79
DIBROMOCHLOROMETHANE	ND	5	.71
ETHYLBENZENE	ND	5	1
MTBE	ND	10	.77
METHYLENE CHLORIDE	ND	5	1.4
STYRENE	ND	5	.87
TETRACHLOROETHENE	ND	5	1.1
TOLUENE	ND	5	.99
TRANS-1,2-DICHLOROETHENE	ND	5	.73
TRANS-1,3-DICHLOROPROPENE	ND	5	.82
TRICHLOROETHENE	ND	5	.89
VINYL ACETATE	ND	50	1.4
VINYL CHLORIDE	ND	5	2.5
XYLENES	ND	5	3.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	112	62-139
BROMOFLUOROBENZENE	105	75-125
TOLUENE-D8	111	75-125

PRL: Project Reporting Limit  
\* : Out side of QC Limit  
J : An estimated value between PRL and MDL  
E : Value exceed the upper level of the initial calibration  
B : Found in the associated blank  
D : Value from dilution analysis

METHOD 5030A/8260A  
VOLATILE ORGANICS BY GC/MS

```

=====
Client      : IT CORPORATION           Date Collected: 11/01/00
Project     : MCAS EL TORO/18708/D.O. 65 Date Received: 11/02/00
Batch No.   : 00K029                 Date Extracted: 11/04/00 23:53
Sample ID   : 18708-1759             Date Analyzed: 11/04/00 23:53
Lab Samp ID : K029-03                Dilution Factor: 1
Lab File ID : RKW110                 Matrix          : WATER
Ext Btch ID : VOK1006                % Moisture     : NA
Calib. Ref.: RKW100                 Instrument ID   : T-006
=====

```

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	5	.91
1,1,2,2-TETRACHLOROETHANE	ND	5	1.1
1,1,2-TRICHLOROETHANE	ND	5	.83
1,1-DICHLOROETHANE	ND	5	.65
1,1-DICHLOROETHENE	ND	5	.86
1,2-DICHLOROETHANE	ND	5	.95
1,2-DICHLOROPROPANE	ND	5	.73
2-BUTANONE	ND	50	6.7
2-CHLOROETHYL VINYLETHER	ND	50	1.3
2-HEXANONE	ND	50	5.6
4-METHYL-2-PENTANONE	ND	50	3.6
ACETONE	ND	50	9.6
BENZENE	ND	5	.77
BROMODICHLOROMETHANE	ND	5	.82
BROMOFORM	ND	5	.74
BROMOMETHANE	ND	5	1.9
CARBON DISULFIDE	ND	5	.61
CARBON TETRACHLORIDE	ND	5	.83
CHLOROBENZENE	ND	5	1.1
CHLOROETHANE	ND	5	1.7
CHLOROFORM	2.6J	5	.67
CHLOROMETHANE	ND	5	.67
CIS-1,2-DICHLOROETHENE	ND	5	.79
CIS-1,3-DICHLOROPROPENE	ND	5	.79
DIBROMOCHLOROMETHANE	ND	5	.71
ETHYLBENZENE	ND	5	1
MTBE	ND	10	.77
METHYLENE CHLORIDE	1.4JB	5	1.4
STYRENE	ND	5	.87
TETRACHLOROETHENE	ND	5	1.1
TOLUENE	ND	5	.99
TRANS-1,2-DICHLOROETHENE	ND	5	.73
TRANS-1,3-DICHLOROPROPENE	ND	5	.82
TRICHLOROETHENE	65	5	.89
VINYL ACETATE	ND	50	1.4
VINYL CHLORIDE	ND	5	2.5
XYLENES	ND	5	3.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	118	62-139
BROMOFLUOROBENZENE	101	75-125
TOLUENE-D8	110	75-125

PRL: Project Reporting Limit  
\* : Out side of QC Limit  
J : An estimated value between PRL and MDL  
E : Value exceed the upper level of the initial calibration  
B : Found in the associated blank  
D : Value from dilution analysis

METHOD 5030A/8260A  
VOLATILE ORGANICS BY GC/MS

```

=====
Client : IT CORPORATION           Date Collected: NA
Project : MCAS EL TORO/18708/D.O. 65 Date Received: 11/04/00
Batch No. : 00K029              Date Extracted: 11/04/00 20:59
Sample ID: MBLK1W              Date Analyzed: 11/04/00 20:59
Lab Samp ID: VOK1006Q         Dilution Factor: 1
Lab File ID: RKW105           Matrix : WATER
Ext Btch ID: VOK1006         % Moisture : NA
Calib. Ref.: RKW100          Instrument ID : T-006
=====

```

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	5	.91
1,1,2,2-TETRACHLOROETHANE	ND	5	1.1
1,1,2-TRICHLOROETHANE	ND	5	.83
1,1-DICHLOROETHANE	ND	5	.65
1,1-DICHLOROETHENE	ND	5	.86
1,2-DICHLOROETHANE	ND	5	.95
1,2-DICHLOROPROPANE	ND	5	.73
2-BUTANONE	ND	50	6.7
2-CHLOROETHYLVINYLETHER	ND	50	1.3
2-HEXANONE	ND	50	5.6
4-METHYL-2-PENTANONE	ND	50	3.6
ACETONE	ND	50	9.6
BENZENE	ND	5	.77
BROMODICHLOROMETHANE	ND	5	.82
BROMOFORM	ND	5	.74
BROMOMETHANE	ND	5	1.9
CARBON DISULFIDE	ND	5	.61
CARBON TETRACHLORIDE	ND	5	.83
CHLOROBENZENE	ND	5	1.1
CHLOROETHANE	ND	5	1.7
CHLOROFORM	ND	5	.67
BROMOMETHANE	ND	5	.67
CIS-1,2-DICHLOROETHENE	ND	5	.79
CIS-1,3-DICHLOROPROPENE	ND	5	.79
DIBROMOCHLOROMETHANE	ND	5	.71
ETHYLBENZENE	ND	5	1
MTBE	ND	10	.77
METHYLENE CHLORIDE	1.7J	5	1.4
STYRENE	ND	5	.87
TETRACHLOROETHENE	ND	5	1.1
TOLUENE	ND	5	.99
TRANS-1,2-DICHLOROETHENE	ND	5	.73
TRANS-1,3-DICHLOROPROPENE	ND	5	.82
TRICHLOROETHENE	ND	5	.89
VINYL ACETATE	ND	50	1.4
VINYL CHLORIDE	ND	5	2.5
XYLENES	ND	5	3.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	120	62-139
BROMOFLUOROBENZENE	104	75-125
TOLUENE-D8	112	75-125

PRL: Project Reporting Limit  
 \* : Out side of QC Limit  
 J : An estimated value between PRL and MDL  
 E : Value exceed the upper level of the initial calibration  
 B : Found in the associated blank  
 D : Value from dilution analysis

EMAX QUALITY CONTROL DATA  
LCS/LCD ANALYSIS

CLIENT: IT CORPORATION  
 JECT: MCAS EL TORO/18708/D.O. 65  
 CH NO.: 00K029  
 METHOD: METHOD 5030A/8260A

MATRIX: WATER % MOISTURE: NA  
 DILUTION FACTOR: 1 1 1  
 SAMPLE ID: MBLK1W  
 LAB SAMP ID: VOK1006Q VOK1006L VOK1006C  
 LAB FILE ID: RKW105 RKW102 RKW103  
 DATE EXTRACTED: 11/04/0020:59 11/04/0019:14 11/04/0019:49 DATE COLLECTED: NA  
 DATE ANALYZED: 11/04/0020:59 11/04/0019:14 11/04/0019:49 DATE RECEIVED: 11/04/00  
 PREP. BATCH: VOK1006 VOK1006 VOK1006  
 CALIB. REF: RKW100 RKW100 RKW100

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD ( % )	QC LIMIT ( % )	MAX RPD ( % )
1,1-Dichloroethene	ND	20	24	120	20	23.8	119	1	75-125	20
Benzene	ND	20	23.2	116	20	26.4	132*	13	75-125	20
Chlorobenzene	ND	20	21.8	109	20	23.1	116	6	75-125	20
Toluene	ND	20	21.7	109	20	22.8	114	5	74-125	20
Trichloroethene	ND	20	23.1	115	20	27	135*	16	71-125	20

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT ( % )
1,2-Dichloroethane-d4	50	56.7	113	50	55.1	110	62-139
omofluorobenzene	50	54.6	109	50	55	110	75-125
luene-d8	50	54.6	109	50	55.8	112	75-125

**Laboratory Data Consultants, Inc.  
Data Validation Report**

**Project/Site Name:** MCAS El Toro  
**Collection Date:** November 1, 2000  
**LDC Report Date:** December 1, 2000  
**Matrix:** Water  
**Parameters:** Volatiles  
**Validation Level:** NFESC Level C  
**Laboratory:** EMAX Laboratories, Inc.  
**Sample Delivery Group (SDG):** 00K029

**Sample Identification**

18708-1757  
18708-1759

## Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260A for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

## I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

## II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

## III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 30.0% for all calibration check compounds and less than or equal to 50.0% for all other compounds.

Average relative response factors (RRF) for all volatile target compounds and system performance check compounds (SPCCs) were within method and validation criteria with the following exceptions:

Date	Compound	RRF (Limits)	Associated Samples	Flag	A or P
11/1/00	2-Chloroethylvinyl ether	0.027 ( $\geq 0.05$ )	All samples in SDG 00K029	J (all detects) R (all non-detects)	A

## IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

All of the continuing calibration percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were less than or equal to 25.0% for all calibration check compounds and less than or equal to 50.0% for all other compounds.

All of the continuing calibration RRF values were within method and validation criteria with the following exceptions:

Date	Compound	RRF (Limits)	Associated Samples	Flag	A or P
11/4/00	2-Chloroethylvinyl ether	0.015 ( $\geq 0.05$ )	All samples in SDG 00K029	J (all detects) R (all non-detects)	A

## V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Analysis Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MBLK1W	11/4/00	Methylene chloride	1.7 ug/L	All samples in SDG 00K029

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
18708-1759	Methylene chloride	1.4 ug/L	5U ug/L

## VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

## VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

## VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LCS/LCSD1W (All samples in SDG 00K029)	Benzene Trichloroethene	- -	132 (75-125) 135 (71-125)	- -	J (all detects) J (all detects)	P

## **IX. Regional Quality Assurance and Quality Control**

Not applicable.

## **X. Internal Standards**

All internal standard areas and retention times were within QC limits.

## **XI. Target Compound Identifications**

Raw data were not reviewed for this SDG.

## **XII. Compound Quantitation and CRQLs**

Raw data were not reviewed for this SDG.

## **XIII. Tentatively Identified Compounds (TICs)**

Raw data were not reviewed for this SDG.

## **XIV. System Performance**

Raw data were not reviewed for this SDG.

## **XV. Overall Assessment of Data**

Data flags have been summarized at the end of the report.

## **XVI. Field Duplicates**

No field duplicates were identified in this SDG.

## **XVII. Field Blanks**

Sample 18708-1757 was identified as a trip blank. No volatile contaminants were found in this blank.

**MCAS EI Toro  
Volatiles - Data Qualification Summary - SDG 00K029**

SDG	Sample	Compound	Flag	A or P	Reason
00K029	18708-1757 18708-1759	2-Chloroethylvinyl ether	J (all detects) R (all non-detects)	A	Initial calibration (RRF)
00K029	18708-1757 18708-1759	2-Chloroethylvinyl ether	J (all detects) R (all non-detects)	A	Continuing calibration (RRF)
00K029	18708-1757 18708-1759	Benzene Trichloroethene	J (all detects) J (all detects)	P	Laboratory control samples (%R)

**MCAS EI Toro  
Volatiles - Laboratory Blank Data Qualification Summary - SDG 00K029**

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P
00K029	18708-1759	Methylene chloride	5U ug/L	A

COMPLI 1 ED 11/11/00 10/11/13/00

**the group**  
 IT Corporation  
 2790 Mossdale Blvd.  
 Monroeville, PA 15146-2792  
 (412)372-7701

**CHAIN-OF-CUSTODY RECORD**

PROJECT DATA MANAGER'S COPY

**A 12363**

Well #.

FORM 0019 REV. 9-99

IT'S LAB COORDINATOR <b>M. Conception</b>	LAB COORDINATOR'S PHONE <b>949-660-7550</b>	LAB COORDINATOR'S FAX <b>949-454-475-5433</b>	LABORATORY SERVICE ID <b>00K048</b>	LABORATORY CONTACT <b>EMAX</b>	MAIL REPORT (COMPANY NAME) <b>IT Corp</b>
PROJECT NAME <b>GW Sampling</b>	PROJECT LOCATION <b>MCHS El Toro, CA</b>	PROJECT NUMBER <b>18708</b>	LABORATORY PHONE <b>310-617-8889</b>	LABORATORY FAX <b>310-617-0818</b>	RECIPIENT NAME <b>Dwayne Iskida</b>
PROJECT CONTACT <b>M. Conception</b>	PROJECT PHONE NUMBER <b>949-451-1626</b>	PROJECT FAX <b>949-451-1672</b>	LABORATORY ADDRESS <b>630 Maple Ave.</b>		ADDRESS <b>3347 Michelson #200</b>
PROJECT ADDRESS <b>MCHS El Toro, CA</b>	CITY, STATE AND ZIP CODE <b>San Juan CA 92708</b>	CLIENT <b>SWDIV</b>	CITY, STATE AND ZIP CODE <b>Torrance CA</b>		CITY, STATE AND ZIP CODE <b>Irvine CA, 92612</b>
PROJECT MANAGER <b>B. Sedlak</b>	PROJECT MANAGER'S PHONE <b>949-660-5446</b>	PROJECT MANAGER'S FAX <b>949-474-8309</b>			

**Project Information Section  
 For Project Personnel Only  
 Do Not Submit to Laboratory**

Item	Sample Identifier	Matrix	Date	Time	Preserved	# of Cont.	QC Level	T.A.T.	Analyses	Comments	Sample Type						
											G	C	F	QC			
1	18708-1760	W	11/3	0715	HCL	3	3	5	X								
2	18708-1761	W	11/3	0700	HCL	1	3	5	X								
3	18708-1762	W	11/3	0815	HCL	3	3	5	X								
4	18708-1763	W	11/3	14:05	HCL	3	3	5	X								
5																	
6																	
7																	
8																	
9																	
10																	

Sample Point Location	Sample Type			
	G	C	F	QC
① 12 75mm 48" @ 104' (Vial #2)			X	
② Red Blank			X	X
③ Field Blank (Rinse) (Vial #1)			X	X
④ 12 75mm 48" @ 129' (DUE TO BIO AT BOTTOM OF WELL)				

SAMPLES COLLECTED BY: <b>Luis Hernandez</b>	COURIER AND AIR BILL NUMBER:	COOLER TEMPERATURE UPON RECEIPT:
RELINQUISHED BY: <b>(Signature)</b>	RECEIVED BY: <b>(Signature)</b>	SAMPLE'S CONDITION UPON RECEIPT:
	DATE: <b>11/3/00</b>	TIME: <b>2:30</b>

Comments  
 due 11/13/00 rec'd 11/13/00

Distribution: White - Laboratory (To be returned with Analytical Report); Goldenrod - Project File; Manilla - Project Data Manager

Sample Type: G - Grab, C - Composite, F - Field Sample, QC - Quality Control Sample

**EMAX**  
LABORATORIES, INC.630 Maple Ave.  
Torrance, CA 90503Telephone: (310) 618-8889  
Fax: (310) 618-0818Date: 11-22-2000  
EMAX Batch No.: 00K048

Attn: Dwayne Ishida

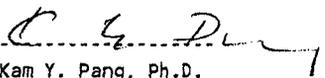
IT Corporation  
3347 Michelson Dr. # 200  
Irvine CA 92612Subject: Laboratory Report  
Project: MCAS El Toro/18708/D.O. 65-----  
Enclosed is the Laboratory report for samples received on  
11/03/00. The data reported include :

Sample ID	Control #	Col Date	Matrix	Analysis
18708-1760	K048-01	11/03/00	WATER	VOLATILE ORGANICS BY GC/MS
18708-1761	K048-02	11/03/00	WATER	VOLATILE ORGANICS BY GC/MS
18708-1762	K048-03	11/03/00	WATER	VOLATILE ORGANICS BY GC/MS
18708-1763	K048-04	11/03/00	WATER	VOLATILE ORGANICS BY GC/MS

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning  
these results.

Sincerely yours,

  
Kam Y. Pang, Ph.D.  
Laboratory Director

METHOD 5030A/8260A  
VOLATILE ORGANICS BY GC/MS

```

=====
Client      : IT CORPORATION           Date Collected: 11/03/00
Project     : MCAS EL TORO/18708/D.O. 65 Date Received: 11/03/00
Batch No.   : 00K048                 Date Extracted: 11/10/00 07:23
Sample ID   : 18708-1760             Date Analyzed: 11/10/00 07:23
Lab Samp ID: K048-01R               Dilution Factor: 1
Lab File ID: RKW214                 Matrix          : WATER
Ext Btch ID: VOK1706               % Moisture     : NA
Calib. Ref.: RKW200                 Instrument ID   : T-006
=====
  
```

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	5	.91
1,1,2,2-TETRACHLOROETHANE	ND	5	1.1
1,1,2-TRICHLOROETHANE	ND	5	.83
1,1-DICHLOROETHANE	ND	5	.65
1,1-DICHLOROETHENE	ND	5	.86
1,2-DICHLOROETHANE	ND	5	.95
1,2-DICHLOROPROPANE	ND	5	.73
2-BUTANONE	ND	50	6.7
2-CHLOROETHYL VINYLETHER	ND	50	1.3
2-HEXANONE	ND	50	5.6
4-METHYL-2-PENTANONE	ND	50	3.6
ACETONE	ND	50	9.6
BENZENE	ND	5	.77
BROMODICHLOROMETHANE	ND	5	.82
BROMOFORM	ND	5	.74
BROMOMETHANE	ND	5	1.9
CARBON DISULFIDE	ND	5	.61
CARBON TETRACHLORIDE	ND	5	.83
CHLOROBENZENE	ND	5	1.1
CHLOROETHANE	ND	5	1.7
CHLOROFORM	ND	5	.67
BROMOMETHANE	ND	5	.67
CIS-1,2-DICHLOROETHENE	ND	5	.79
CIS-1,3-DICHLOROPROPENE	ND	5	.79
DIBROMOCHLOROMETHANE	ND	5	.71
ETHYLBENZENE	ND	5	1
MTBE	ND	10	.77
METHYLENE CHLORIDE	ND	5	1.4
STYRENE	ND	5	.87
TETRACHLOROETHENE	8	5	1.1
TOLUENE	ND	5	.99
TRANS-1,2-DICHLOROETHENE	ND	5	.73
TRANS-1,3-DICHLOROPROPENE	ND	5	.82
TRICHLOROETHENE	ND	5	.89
VINYL ACETATE	ND	50	1.4
VINYL CHLORIDE	ND	5	2.5
XYLENES	ND	5	3.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	98	62-139
BROMOFLUOROBENZENE	111	75-125
TOLUENE-D8	117	75-125

PRL: Project Reporting Limit  
 \* : Out side of QC Limit  
 J : An estimated value between PRL and MDL  
 E : Value exceed the upper level of the initial calibration  
 B : Found in the associated blank  
 D : Value from dilution analysis

METHOD 5030A/8260A  
VOLATILE ORGANICS BY GC/MS

```

=====
Client       : IT CORPORATION           Date Collected: 11/03/00
Project      : MCAS EL TORO/18708/D.O. 65 Date Received: 11/03/00
Batch No.    : 00K048                  Date Extracted: 11/10/00 05:42
Sample ID    : 18708-1761              Date Analyzed: 11/10/00 05:42
Lab Samp ID  : K048-02                  Dilution Factor: 1
Lab File ID  : RKW211                   Matrix          : WATER
Ext Btch ID  : VOK1706                  % Moisture      : NA
Calib. Ref.  : RKW200                   Instrument ID   : T-006
=====
  
```

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	5	.91
1,1,2,2-TETRACHLOROETHANE	ND	5	1.1
1,1,2-TRICHLOROETHANE	ND	5	.83
1,1-DICHLOROETHANE	ND	5	.65
1,1-DICHLOROETHENE	ND	5	.86
1,2-DICHLOROETHANE	ND	5	.95
1,2-DICHLOROPROPANE	ND	5	.73
2-BUTANONE	ND	50	6.7
2-CHLOROETHYLVINYLETHER	ND	50	1.3
2-HEXANONE	ND	50	5.6
4-METHYL-2-PENTANONE	ND	50	3.6
ACETONE	ND	50	9.6
BENZENE	ND	5	.77
BROMODICHLOROMETHANE	ND	5	.82
BROMOFORM	ND	5	.74
BROMOMETHANE	ND	5	1.9
CARBON DISULFIDE	ND	5	.61
CARBON TETRACHLORIDE	ND	5	.83
CHLOROBENZENE	ND	5	1.1
CHLOROETHANE	ND	5	1.7
CHLOROFORM	ND	5	.67
CHLOROMETHANE	ND	5	.67
CIS-1,2-DICHLOROETHENE	ND	5	.79
CIS-1,3-DICHLOROPROPENE	ND	5	.79
DIBROMOCHLOROMETHANE	ND	5	.71
ETHYLBENZENE	ND	5	1
MTBE	ND	10	.77
METHYLENE CHLORIDE	ND	5	1.4
STYRENE	ND	5	.87
TETRACHLOROETHENE	ND	5	1.1
TOLUENE	ND	5	.99
TRANS-1,2-DICHLOROETHENE	ND	5	.73
TRANS-1,3-DICHLOROPROPENE	ND	5	.82
TRICHLOROETHENE	ND	5	.89
VINYL ACETATE	ND	50	1.4
VINYL CHLORIDE	ND	5	2.5
XYLENES	ND	5	3.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	96	62-139
BROMOFLUOROBENZENE	111	75-125
TOLUENE-D8	117	75-125

PRL: Project Reporting Limit  
 \* : Out side of QC Limit  
 J : An estimated value between PRL and MDL  
 E : Value exceed the upper level of the initial calibration  
 B : Found in the associated blank  
 D : Value from dilution analysis

METHOD 5030A/8260A  
VOLATILE ORGANICS BY GC/MS

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=====
Client      : IT CORPORATION           Date Collected: 11/03/00
Project     : MCAS EL TORO/18708/D.O. 65 Date Received: 11/03/00
Batch No.   : 00K048                 Date Extracted: 11/10/00 06:16
Sample ID   : 18708-1762             Date Analyzed: 11/10/00 06:16
Lab Samp ID: K048-03                 Dilution Factor: 1
Lab File ID: RKW212                 Matrix          : WATER
Ext Btch ID: VOK1706                % Moisture     : NA
Calib. Ref.: RKW200                 Instrument ID   : T-006
=====

```

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	5	.91
1,1,2,2-TETRACHLOROETHANE	ND	5	1.1
1,1,2-TRICHLOROETHANE	ND	5	.83
1,1-DICHLOROETHANE	ND	5	.65
1,1-DICHLOROETHENE	ND	5	.86
1,2-DICHLOROETHANE	ND	5	.95
1,2-DICHLOROPROPANE	ND	5	.73
2-BUTANONE	ND	50	6.7
2-CHLOROETHYLVINYLETHER	ND	50	1.3
2-HEXANONE	ND	50	5.6
4-METHYL-2-PENTANONE	ND	50	3.6
ACETONE	ND	50	9.6
BENZENE	ND	5	.77
BROMODICHLOROMETHANE	ND	5	.82
BROMOFORM	ND	5	.74
BROMOMETHANE	ND	5	1.9
CARBON DISULFIDE	ND	5	.61
CARBON TETRACHLORIDE	ND	5	.83
CHLOROBENZENE	ND	5	1.1
CHLOROETHANE	ND	5	1.7
CHLOROFORM	ND	5	.67
CHLOROMETHANE	ND	5	.67
1,2-DICHLOROETHENE	ND	5	.79
CIS-1,3-DICHLOROPROPENE	ND	5	.79
DIBROMOCHLOROMETHANE	ND	5	.71
ETHYLBENZENE	ND	5	1
MTBE	ND	10	.77
METHYLENE CHLORIDE	ND	5	1.4
STYRENE	ND	5	.87
TETRACHLOROETHENE	ND	5	1.1
TOLUENE	ND	5	.99
TRANS-1,2-DICHLOROETHENE	ND	5	.73
TRANS-1,3-DICHLOROPROPENE	ND	5	.82
TRICHLOROETHENE	ND	5	.89
VINYL ACETATE	ND	50	1.4
VINYL CHLORIDE	ND	5	2.5
XYLENES	ND	5	3.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	94	62-139
BROMOFLUOROBENZENE	107	75-125
TOLUENE-D8	118	75-125

PRL: Project Reporting Limit  
 \* : Out side of QC Limit  
 J : An estimated value between PRL and MDL  
 E : Value exceed the upper level of the initial calibration  
 B : Found in the associated blank  
 D : Value from dilution analysis

METHOD 5030A/8260A  
VOLATILE ORGANICS BY GC/MS

```

=====
ent      : IT CORPORATION           Date Collected: 11/03/00
ject     : MCAS EL TORO/18708/D.O. 65 Date Received: 11/03/00
Batch No. : 00K048                 Date Extracted: 11/10/00 06:49
Sample ID: 18708-1763              Date Analyzed: 11/10/00 06:49
Lab Samp ID: K048-04               Dilution Factor: 1
Lab File ID: RKW213                Matrix      : WATER
Ext Btch ID: VOK1706              % Moisture  : NA
Calib. Ref.: RKW200               Instrument ID : T-006
=====

```

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	5	.91
1,1,2,2-TETRACHLOROETHANE	ND	5	1.1
1,1,2-TRICHLOROETHANE	ND	5	.83
1,1-DICHLOROETHANE	ND	5	.65
1,1-DICHLOROETHENE	ND	5	.86
1,2-DICHLOROETHANE	ND	5	.95
1,2-DICHLOROPROPANE	ND	5	.73
2-BUTANONE	ND	50	6.7
2-CHLOROETHYLVINYLETHER	ND	50	1.3
2-HEXANONE	ND	50	5.6
4-METHYL-2-PENTANONE	ND	50	3.6
ACETONE	ND	50	9.6
BENZENE	ND	5	.77
BROMODICHLOROMETHANE	ND	5	.82
BROMOFORM	ND	5	.74
BROMOMETHANE	ND	5	1.9
CARBON DISULFIDE	ND	5	.61
CARBON TETRACHLORIDE	ND	5	.83
CHLOROETHANE	ND	5	1.1
CHLOROETHANE	ND	5	1.7
CHLOROFORM	ND	5	.67
CHLOROMETHANE	ND	5	.67
CIS-1,2-DICHLOROETHENE	ND	5	.79
CIS-1,3-DICHLOROPROPENE	ND	5	.79
DIBROMOCHLOROMETHANE	ND	5	.71
ETHYLBENZENE	ND	5	1
MTBE	ND	10	.77
METHYLENE CHLORIDE	ND	5	1.4
STYRENE	ND	5	.87
TETRACHLOROETHENE	6.6	5	1.1
TOLUENE	ND	5	.99
TRANS-1,2-DICHLOROETHENE	ND	5	.73
TRANS-1,3-DICHLOROPROPENE	ND	5	.82
TRICHLOROETHENE	ND	5	.89
VINYL ACETATE	ND	50	1.4
VINYL CHLORIDE	ND	5	2.5
XYLENES	ND	5	3.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	98	62-139
BROMOFLUOROBENZENE	108	75-125
TOLUENE-D8	117	75-125

PRL: Project Reporting Limit  
\* : Out side of QC Limit  
J : An estimated value between PRL and MDL  
E : Value exceed the upper level of the initial calibration  
B : Found in the associated blank  
D : Value from dilution analysis

METHOD 5030A/8260A  
VOLATILE ORGANICS BY GC/MS

```

=====
ent      : IT CORPORATION           Date Collected: NA
ject     : MCAS EL TORO/18708/D.O. 65 Date Received: 11/10/00
atch No. : 00K048                 Date Extracted: 11/10/00 02:14
Sample ID: MBLK1W                 Date Analyzed: 11/10/00 02:14
Lab Samp ID: VOK1706Q            Dilution Factor: 1
Lab File ID: RKW205              Matrix      : WATER
Ext Btch ID: VOK1706            % Moisture  : NA
Calib. Ref.: RKW200             Instrument ID : T-006
=====

```

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	5	.91
1,1,2,2-TETRACHLOROETHANE	ND	5	1.1
1,1,2-TRICHLOROETHANE	ND	5	.83
1,1-DICHLOROETHANE	ND	5	.65
1,1-DICHLOROETHENE	ND	5	.86
1,2-DICHLOROETHANE	ND	5	.95
1,2-DICHLOROPROPANE	ND	5	.73
2-BUTANONE	ND	50	6.7
2-CHLOROETHYLVINYLETHER	ND	50	1.3
2-HEXANONE	ND	50	5.6
4-METHYL-2-PENTANONE	ND	50	3.6
ACETONE	ND	50	9.6
BENZENE	ND	5	.77
BROMODICHLOROMETHANE	ND	5	.82
BROMOFORM	ND	5	.74
BROMOMETHANE	ND	5	1.9
CARBON DISULFIDE	ND	5	.61
CARBON TETRACHLORIDE	ND	5	.83
CHLOROBENZENE	ND	5	1.1
CHLOROETHANE	ND	5	1.7
CHLOROFORM	ND	5	.67
CHLOROMETHANE	ND	5	.67
CIS-1,2-DICHLOROETHENE	ND	5	.79
CIS-1,3-DICHLOROPROPENE	ND	5	.79
DIBROMOCHLOROMETHANE	ND	5	.71
ETHYLBENZENE	ND	5	1
MTBE	ND	10	.77
METHYLENE CHLORIDE	ND	5	1.4
STYRENE	ND	5	.87
TETRACHLOROETHENE	ND	5	1.1
TOLUENE	ND	5	.99
TRANS-1,2-DICHLOROETHENE	ND	5	.73
TRANS-1,3-DICHLOROPROPENE	ND	5	.82
TRICHLOROETHENE	ND	5	.89
VINYL ACETATE	ND	50	1.4
VINYL CHLORIDE	ND	5	2.5
XYLENES	ND	5	3.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	99	62-139
BROMOFLUOROBENZENE	123	75-125
TOLUENE-D8	119	75-125

PRL: Project Reporting Limit

\* : Out side of QC Limit

J : An estimated value between PRL and MDL

E : Value exceed the upper level of the initial calibration

B : Found in the associated blank

D : Value from dilution analysis

EMAX QUALITY CONTROL DATA  
LCS/LCD ANALYSIS

CLIENT: IT CORPORATION  
 PROJECT: MCAS EL TORO/18708/D.O. 65  
 CASH NO.: 00K048  
 METHOD: METHOD 5030A/8260A

MATRIX: WATER % MOISTURE: NA  
 DILUTION FACTOR: 1 1  
 SAMPLE ID: MBLK1W  
 LAB SAMP ID: VOK1706Q VOK1706L VOK1706C  
 LAB FILE ID: RKW205 RKW202 RKW203  
 DATE EXTRACTED: 11/10/0002:14 11/10/0000:30 11/10/0001:05 DATE COLLECTED: NA  
 DATE ANALYZED: 11/10/0002:14 11/10/0000:30 11/10/0001:05 DATE RECEIVED: 11/10/00  
 PREP. BATCH: VOK1706 VOK1706 VOK1706  
 CALIB. REF: RKW200 RKW200 RKW200

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD ( % )	QC LIMIT ( % )	MAX RPD ( % )
1,1-Dichloroethene	ND	20	20.6	103	20	19	95	8	75-125	20
Benzene	ND	20	23.3	117	20	23.2	116	0	75-125	20
Chlorobenzene	ND	20	20.8	104	20	20	100	4	75-125	20
Toluene	ND	20	21.8	109	20	21.7	109	0	74-125	20
Trichloroethene	ND	20	23.5	118	20	21.6	108	8	71-125	20

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT ( % )
1,2-Dichloroethane-d4	50	51.5	103	50	48	96	62-139
Bromofluorobenzene	50	58.2	116	50	57.7	115	75-125
Styrene-d8	50	59.2	118	50	60.3	121	75-125

**Laboratory Data Consultants, Inc.  
Data Validation Report**

**Project/Site Name:** MCAS El Toro  
**Collection Date:** November 3, 2000  
**LDC Report Date:** December 1, 2000  
**Matrix:** Water  
**Parameters:** Volatiles  
**Validation Level:** NFESC Level C  
**Laboratory:** EMAX Laboratories, Inc.

**Sample Delivery Group (SDG):** 00K048

**Sample Identification**

18708-1760  
18708-1761  
18708-1762  
18708-1763

## Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260A for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

## I. Technical Holding Times

All technical holding time requirements were met.

Air bubbles were apparent in all of the sample containers for 18708-1761 and 18708-1763. There should be no air bubbles in the sample containers.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

## II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

## III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 30.0% for all calibration check compounds and less than or equal to 50.0% for all other compounds.

Average relative response factors (RRF) for all volatile target compounds and system performance check compounds (SPCCs) were within method and validation criteria with the following exceptions:

Date	Compound	RRF (Limits)	Associated Samples	Flag	A or P
11/8/00	2-Chloroethylvinyl ether	0.028 ( $\geq 0.05$ )	All samples in SDG 00K048	J (all detects) UJ (all non-detects)	A

## IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

All of the continuing calibration percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were less than or equal to 25.0% for all calibration check compounds and less than or equal to 50.0% for all other compounds.

All of the continuing calibration RRF values were within method and validation criteria with the following exceptions:

Date	Compound	RRF (Limits)	Associated Samples	Flag	A or P
11/9/00	2-Chloroethylvinyl ether	0.027 ( $\geq 0.05$ )	All samples in SDG 00K048	J (all detects) UJ (all non-detects)	A

#### V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

#### VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

#### VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

#### VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

#### IX. Regional Quality Assurance and Quality Control

Not applicable.

#### X. Internal Standards

All internal standard areas and retention times were within QC limits.

#### XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

#### XII. Compound Quantitation and CRQLs

Raw data were not reviewed for this SDG.

#### XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

#### **XIV. System Performance**

Raw data were not reviewed for this SDG.

#### **XV. Overall Assessment of Data**

Data flags have been summarized at the end of the report.

#### **XVI. Field Duplicates**

No field duplicates were identified in this SDG.

#### **XVII. Field Blanks**

Sample 18708-1761 was identified as a trip blank. No volatile contaminants were found in this blank.

**MCAS EI Toro  
Volatiles - Data Qualification Summary - SDG 00K048**

SDG	Sample	Compound	Flag	A or P	Reason
00K048	18708-1760 18708-1761 18708-1762 18708-1763	2-Chloroethylvinyl ether	J (all detects) UJ (all non-detects)	A	Initial calibration (RRF)
00K048	18708-1760 18708-1761 18708-1762 18708-1763	2-Chloroethylvinyl ether	J (all detects) UJ (all non-detects)	A	Continuing calibration (RRF)

**MCAS EI Toro  
Volatiles - Laboratory Blank Data Qualification Summary - SDG 00K048**

No Sample Data Qualified in this SDG



IT Corporation  
2790 Mosside Blvd.  
Monroeville, PA 15146-2792  
(412)372-7701

CHAIN-OF-CUSTODY REC

PROJECT DATA MANAGER'S COPY

A 12364

FORM 0019 REV. 9-99

IT'S LAB COORDINATOR <b>M. Conception</b>	LAB COORDINATOR'S PHONE <b>(949) 660-1550</b>	LAB COORDINATOR'S FAX <b>(949) 475-5473</b>	LABORATORY SERVICE ID <b>00K070</b>	LABORATORY CONTACT <b>EMAX</b>	MAIL REPORT (COMPANY NAME) <b>IT CORP</b>
PROJECT NAME <b>GW SAMPLING</b>	PROJECT LOCATION <b>MCA; EL TORO</b>	PROJECT NUMBER <b>18708</b>	LABORATORY PHONE <b>3106188889</b>	LABORATORY FAX <b>3106180818</b>	RECIPIENT NAME <b>DWAYNE ISHIDA</b>
PROJECT CONTACT <b>M. Conception</b>	PROJECT PHONE NUMBER <b>(949) 451-1666</b>	PROJECT FAX <b>(949) 451-1672</b>	LABORATORY ADDRESS <b>630 MAPLE</b>	ADDRESS <b>3747 HICHEISON #200</b>	
PROJECT ADDRESS # 311 <b>MCA; EL TORO</b>	CITY, STATE AND ZIP CODE <b>San Juan, CA</b>	CLIENT <b>SWDIV</b>	CITY, STATE AND ZIP CODE <b>TERRELLA, CA</b>	CITY, STATE AND ZIP CODE <b>ALVINE, CA 97612</b>	
PROJECT MANAGER <b>B. JENLAK</b>	PROJECT MANAGER'S PHONE <b>(949) 660-5446</b>	PROJECT MANAGER'S FAX <b>(949) 475-5707</b>	Analyses <b>3260</b>		

Item	Sample Identifier	Matrix	Date	Time	Preserved	# of Cont.	QC Level	T.A.T.	Analyzes	Comments	Sample Type			
											G	C	F	QC
1	918708-1764	W	11/6	0800	HCL	3	3	5	X	HOLD ANALYSIS				
2	918708-1765	W	11/6	0800	HCL	2	3	5	X					
3	918708-1766	W	11/6	1135	HCL	3	3	5	X					
4	918708-1767	W	11/6	1410	HCL	3	3	5	X					
5	116708-1768	W	11/7	0730	HCL	3	3	5	X					
6	918708-1769	W	11/7	1140	HCL	3	3	5	X					
7														
8														
9														
10														

SAMPLES COLLECTED BY <b>CHRIS HAZEN</b>	COURIER AND AIR BILL NUMBER <b>Courier</b>	COOLER TEMPERATURE UPON RECEIPT:
RELEASUED BY <b>COIT</b>	RECEIVED BY <b>[Signature]</b>	SAMPLE'S CONDITION UPON RECEIPT
	DATE <b>11/15/00</b>	TIME <b>2:50</b>

Distribution: White - Laboratory (To be returned with Analytical Report); Goldenrod - Project File; Manilla - Project Data Manager

Project Information Section  
For Project Personnel Only  
Do Not Submit to Laboratory

Sample Point Location	Sample Type			
	G	C	F	QC
① Linsate Point # 2				
② Trail				
③ 246NW-31(2)				
④ 104'				
⑤ P33A(2) 104'				
⑥ Linsate Point # 1				
⑦ 18-DGMW18A				
⑧ 148				

Comments  
due 11/14/00 rec'd 11/15/00

Sample Type: G - Grab, C - Composite, F - Field Sample, QC - Quality Control Sample

# EMAX

LABORATORIES, INC.

630 Maple Ave.  
Torrance, CA 90503

Telephone: (310) 618-8889  
Fax: (310) 618-0818

Date: 11-16-2000  
EMAX Batch No.: 00K070

Attn: Dwayne Ishida

IT Corporation  
3347 Michelson Dr. # 200  
Irvine CA 92612

Subject: Laboratory Report  
Project: MCAS El Toro/18708/D.O. 65

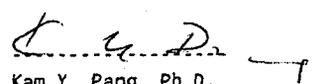
-----  
Enclosed is the Laboratory report for samples received on 11/07/00. The data reported include :

Sample ID	Control #	Col Date	Matrix	Analysis
18708-1764	K070-01	11/06/00	WATER	HOLD
18708-1765	K070-02	11/06/00	WATER	VOLATILE ORGANICS BY GC/MS
18708-1766	K070-03	11/06/00	WATER	VOLATILE ORGANICS BY GC/MS
18708-1767	K070-04	11/06/00	WATER	VOLATILE ORGANICS BY GC/MS
18708-1768	K070-05	11/07/00	WATER	VOLATILE ORGANICS BY GC/MS
18708-1769	K070-06	11/07/00	WATER	VOLATILE ORGANICS BY GC/MS

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning these results.

Sincerely yours,



Kam Y. Pang, Ph.D.  
Laboratory Director

METHOD 5030A/8260A  
VOLATILE ORGANICS BY GC/MS

```

=====
Client      : IT CORPORATION           Date Collected: 11/06/00
Contact    : MCAS EL TORO/18708/D.O. 65 Date Received: 11/07/00
Batch No.  : 00K070                  Date Extracted: 11/09/00 13:16
Sample ID  : 18708-1765              Date Analyzed: 11/09/00 13:16
Lab Samp ID: K070-02                 Dilution Factor: 1
Lab File ID: RKW182                  Matrix          : WATER
Ext Btch ID: VOK1506                 % Moisture     : NA
Calib. Ref.: RKW176                  Instrument ID   : T-006
=====
  
```

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	5	.91
1,1,2,2-TETRACHLOROETHANE	ND	5	1.1
1,1,2-TRICHLOROETHANE	ND	5	.83
1,1-DICHLOROETHANE	ND	5	.65
1,1-DICHLOROETHENE	ND	5	.86
1,2-DICHLOROETHANE	ND	5	.95
1,2-DICHLOROPROPANE	ND	5	.73
2-BUTANONE	ND	50	6.7
2-CHLOROETHYLVINYLETHER	ND	50	1.3
2-HEXANONE	ND	50	5.6
4-METHYL-2-PENTANONE	ND	50	3.6
ACETONE	ND	50	9.6
BENZENE	ND	5	.77
BROMODICHLOROMETHANE	ND	5	.82
BROMOFORM	ND	5	.74
BROMOMETHANE	ND	5	1.9
CARBON DISULFIDE	ND	5	.61
CARBON TETRACHLORIDE	ND	5	.83
CHLOROBENZENE	ND	5	1.1
CHLOROETHANE	ND	5	1.7
CHLOROFORM	ND	5	.67
CHLOROMETHANE	ND	5	.67
1,2-DICHLOROETHENE	ND	5	.79
CIS-1,3-DICHLOROPROPENE	ND	5	.79
DIBROMOCHLOROMETHANE	ND	5	.71
ETHYLBENZENE	ND	5	1
MTBE	ND	10	.77
METHYLENE CHLORIDE	ND	5	1.4
STYRENE	ND	5	.87
TETRACHLOROETHENE	ND	5	1.1
TOLUENE	ND	5	.99
TRANS-1,2-DICHLOROETHENE	ND	5	.73
TRANS-1,3-DICHLOROPROPENE	ND	5	.82
TRICHLOROETHENE	ND	5	.89
VINYL ACETATE	ND	50	1.4
VINYL CHLORIDE	ND	5	2.5
XYLENES	ND	5	3.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	96	62-139
BROMOFLUOROBENZENE	110	75-125
TOLUENE-D8	120	75-125

PRL: Project Reporting Limit  
 \* : Out side of QC Limit  
 J : An estimated value between PRL and MDL  
 E : Value exceed the upper level of the initial calibration  
 B : Found in the associated blank  
 D : Value from dilution analysis

METHOD 5030A/8260A  
VOLATILE ORGANICS BY GC/MS

```

=====
Client      : IT CORPORATION           Date Collected: 11/06/00
Batch No.   : MCAS EL TORO/18708/D.O. 65 Date Received: 11/07/00
Sample ID   : 00K070                 Date Extracted: 11/09/00 13:49
Lab Samp ID: 18708-1766             Date Analyzed: 11/09/00 13:49
Lab File ID: K070-03                Dilution Factor: 1
Ext Btch ID: RKW183                 Matrix          : WATER
Calib. Ref.: VOK1506                % Moisture      : NA
Instrument ID: RKW176                Instrument ID    : T-006
=====

```

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	5	.91
1,1,2,2-TETRACHLOROETHANE	ND	5	1.1
1,1,2-TRICHLOROETHANE	ND	5	.83
1,1-DICHLOROETHANE	ND	5	.65
1,1-DICHLOROETHENE	ND	5	.86
1,2-DICHLOROETHANE	ND	5	.95
1,2-DICHLOROPROPANE	ND	5	.73
2-BUTANONE	ND	50	6.7
2-CHLOROETHYL VINYLETHER	ND	50	1.3
2-HEXANONE	ND	50	5.6
4-METHYL-2-PENTANONE	ND	50	3.6
ACETONE	ND	50	9.6
BENZENE	ND	5	.77
BROMODICHLOROMETHANE	ND	5	.82
BROMOFORM	ND	5	.74
BROMOMETHANE	ND	5	1.9
CARBON DISULFIDE	ND	5	.61
CARBON TETRACHLORIDE	ND	5	.83
CHLOROBENZENE	ND	5	1.1
CHLOROETHANE	ND	5	1.7
CHLOROFORM	1.8J	5	.67
BROMOMETHANE	ND	5	.67
1,2-DICHLOROETHENE	ND	5	.79
CIS-1,3-DICHLOROPROPENE	ND	5	.79
DIBROMOCHLOROMETHANE	ND	5	.71
ETHYLBENZENE	ND	5	1
MTBE	ND	10	.77
METHYLENE CHLORIDE	ND	5	1.4
STYRENE	ND	5	.87
TETRACHLOROETHENE	6.4	5	1.1
TOLUENE	ND	5	.99
TRANS-1,2-DICHLOROETHENE	ND	5	.73
TRANS-1,3-DICHLOROPROPENE	ND	5	.82
TRICHLOROETHENE	32	5	.89
VINYL ACETATE	ND	50	1.4
VINYL CHLORIDE	ND	5	2.5
XYLENES	ND	5	3.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	103	62-139
BROMOFLUOROBENZENE	109	75-125
TOLUENE-D8	118	75-125

PRL: Project Reporting Limit  
\* : Out side of QC Limit  
J : An estimated value between PRL and MDL  
E : Value exceed the upper level of the initial calibration  
B : Found in the associated blank  
D : Value from dilution analysis

METHOD 5030A/8260A  
VOLATILE ORGANICS BY GC/MS

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=====
nt       : IT CORPORATION           Date Collected: 11/06/00
ject     : MCAS EL TORO/18708/D.O. 65 Date Received: 11/07/00
Batch No. : 00K070                 Date Extracted: 11/09/00 14:24
Sample ID: 18708-1767             Date Analyzed: 11/09/00 14:24
Lab Samp ID: K070-04              Dilution Factor: 1
Lab File ID: RKW184               Matrix       : WATER
Ext Btch ID: VOK1506             % Moisture   : NA
Calib. Ref.: RKW176              Instrument ID : T-006
=====

```

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	5	.91
1,1,2,2-TETRACHLOROETHANE	ND	5	1.1
1,1,2-TRICHLOROETHANE	ND	5	.83
1,1-DICHLOROETHANE	ND	5	.65
1,1-DICHLOROETHENE	ND	5	.86
1,2-DICHLOROETHANE	ND	5	.95
1,2-DICHLOROPROPANE	ND	5	.73
2-BUTANONE	ND	50	6.7
2-CHLOROETHYL VINYLETHER	ND	50	1.3
2-HEXANONE	ND	50	5.6
4-METHYL-2-PENTANONE	ND	50	3.6
ACETONE	ND	50	9.6
BENZENE	ND	5	.77
BROMODICHLOROMETHANE	ND	5	.82
BROMOFORM	ND	5	.74
BROMOMETHANE	ND	5	1.9
CARBON DISULFIDE	ND	5	.61
CARBON TETRACHLORIDE	ND	5	.83
CHLOROETHANE	ND	5	1.1
CHLOROETHANE	ND	5	1.7
CHLOROFORM	ND	5	.67
CHLOROMETHANE	ND	5	.67
CIS-1,2-DICHLOROETHENE	ND	5	.79
CIS-1,3-DICHLOROPROPENE	ND	5	.79
DIBROMOCHLOROMETHANE	ND	5	.71
ETHYLBENZENE	ND	5	1
MTBE	ND	10	.77
METHYLENE CHLORIDE	ND	5	1.4
STYRENE	ND	5	.87
TETRACHLOROETHENE	13	5	1.1
TOLUENE	ND	5	.99
TRANS-1,2-DICHLOROETHENE	ND	5	.73
TRANS-1,3-DICHLOROPROPENE	ND	5	.82
TRICHLOROETHENE	11	5	.89
VINYL ACETATE	ND	50	1.4
VINYL CHLORIDE	ND	5	2.5
XYLENES	ND	5	3.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	98	62-139
BROMOFLUOROBENZENE	115	75-125
TOLUENE-D8	121	75-125

PRL: Project Reporting Limit  
\* : Out side of QC Limit  
J : An estimated value between PRL and MDL  
E : Value exceed the upper level of the initial calibration.  
B : Found in the associated blank  
D : Value from dilution analysis

METHOD 5030A/8260A  
VOLATILE ORGANICS BY GC/MS

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=====
Client      : IT CORPORATION           Date Collected: 11/07/00
Project     : MCAS EL TORO/18708/D.O. 65 Date Received: 11/07/00
Batch No.   : 00K070                 Date Extracted: 11/09/00 14:59
Sample ID   : 18708-1768             Date Analyzed: 11/09/00 14:59
Lab Samp ID : K070-05                 Dilution Factor: 1
Lab File ID : RKW185                 Matrix          : WATER
Ext Btch ID: VOK1506                 % Moisture     : NA
Calib. Ref.: RKW176                 Instrument ID   : T-006
=====
  
```

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	5	.91
1,1,2,2-TETRACHLOROETHANE	ND	5	1.1
1,1,2-TRICHLOROETHANE	ND	5	.83
1,1-DICHLOROETHANE	ND	5	.65
1,1-DICHLOROETHENE	ND	5	.86
1,2-DICHLOROETHANE	ND	5	.95
1,2-DICHLOROPROPANE	ND	5	.73
2-BUTANONE	ND	50	6.7
2-CHLOROETHYL VINYLETHER	ND	50	1.3
2-HEXANONE	ND	50	5.6
4-METHYL-2-PENTANONE	ND	50	3.6
ACETONE	ND	50	9.6
BENZENE	ND	5	.77
BROMODICHLOROMETHANE	ND	5	.82
BROMOFORM	ND	5	.74
BROMOMETHANE	ND	5	1.9
CARBON DISULFIDE	ND	5	.61
CARBON TETRACHLORIDE	ND	5	.83
CHLOROBENZENE	ND	5	1.1
CHLOROETHANE	ND	5	1.7
CHLOROFORM	ND	5	.67
CHLOROMETHANE	ND	5	.67
CIS-1,2-DICHLOROETHENE	ND	5	.79
CIS-1,3-DICHLOROPROPENE	ND	5	.79
DIBROMOCHLOROMETHANE	ND	5	.71
ETHYLBENZENE	ND	5	1
MTBE	ND	10	.77
METHYLENE CHLORIDE	1.4J	5	1.4
STYRENE	ND	5	.87
TETRACHLOROETHENE	ND	5	1.1
TOLUENE	ND	5	.99
TRANS-1,2-DICHLOROETHENE	ND	5	.73
TRANS-1,3-DICHLOROPROPENE	ND	5	.82
TRICHLOROETHENE	ND	5	.89
VINYL ACETATE	ND	50	1.4
VINYL CHLORIDE	ND	5	2.5
XYLENES	ND	5	3.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	99	62-139
BROMOFLUOROBENZENE	117	75-125
TOLUENE-D8	120	75-125

PRL: Project Reporting Limit  
 \* : Out side of QC Limit  
 J : An estimated value between PRL and MDL  
 E : Value exceed the upper level of the initial calibration  
 B : Found in the associated blank  
 D : Value from dilution analysis

METHOD 5030A/8260A  
VOLATILE ORGANICS BY GC/MS

```

=====
nt      : IT CORPORATION           Date Collected: 11/07/00
ect     : MCAS EL TORO/18708/D.O. 65 Date Received: 11/07/00
Batch No. : 00K070                Date Extracted: 11/09/00 15:34
Sample ID: 18708-1769            Date Analyzed: 11/09/00 15:34
Lab Samp ID: K070-06             Dilution Factor: 1
Lab File ID: RKW186              Matrix      : WATER
Ext Btch ID: VOK1506             % Moisture  : NA
Calib. Ref.: RKW176              Instrument ID : T-006
=====

```

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	5	.91
1,1,2,2-TETRACHLOROETHANE	ND	5	1.1
1,1,2-TRICHLOROETHANE	ND	5	.83
1,1-DICHLOROETHANE	ND	5	.65
1,1-DICHLOROETHENE	ND	5	.86
1,2-DICHLOROETHANE	ND	5	.95
1,2-DICHLOROPROPANE	ND	5	.73
2-BUTANONE	ND	50	6.7
2-CHLOROETHYL VINYLETHER	ND	50	1.3
2-HEXANONE	ND	50	5.6
4-METHYL-2-PENTANONE	ND	50	3.6
ACETONE	ND	50	9.6
BENZENE	ND	5	.77
BROMODICHLOROMETHANE	ND	5	.82
BROMOFORM	ND	5	.74
BROMOMETHANE	ND	5	1.9
CARBON DISULFIDE	ND	5	.61
CARBON TETRACHLORIDE	ND	5	.83
CHLOROBENZENE	ND	5	1.1
CHLOROETHANE	ND	5	1.7
CHLOROFORM	ND	5	.67
BROMOMETHANE	ND	5	.67
1,2-DICHLOROETHENE	ND	5	.79
CIS-1,3-DICHLOROPROPENE	ND	5	.79
DIBROMOCHLOROMETHANE	ND	5	.71
ETHYLBENZENE	ND	5	1
MTBE	ND	10	.77
METHYLENE CHLORIDE	1.5J	5	1.4
STYRENE	ND	5	.87
TETRACHLOROETHENE	ND	5	1.1
TOLUENE	ND	5	.99
TRANS-1,2-DICHLOROETHENE	ND	5	.73
TRANS-1,3-DICHLOROPROPENE	ND	5	.82
TRICHLOROETHENE	ND	5	.89
VINYL ACETATE	ND	50	1.4
VINYL CHLORIDE	ND	5	2.5
XYLENES	ND	5	3.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	105	62-139
BROMOFLUOROBENZENE	110	75-125
TOLUENE-D8	117	75-125

PRL: Project Reporting Limit  
\* : Out side of QC Limit  
J : An estimated value between PRL and MDL  
E : Value exceed the upper level of the initial calibration  
B : Found in the associated blank  
D : Value from dilution analysis

METHOD 5030A/8260A  
VOLATILE ORGANICS BY GC/MS

```

=====
Client      : IT CORPORATION           Date Collected: NA
Project     : MCAS EL TORO/18708/D.O. 65 Date Received: 11/09/00
Batch No.  : 00K070                   Date Extracted: 11/09/00 12:41
Sample ID  : MBLK1W                     Date Analyzed: 11/09/00 12:41
Lab Samp ID: VOK1506Q                   Dilution Factor: 1
Lab File ID: RKW181                     Matrix          : WATER
Ext Btch ID: VOK1506                     % Moisture     : NA
Calib. Ref.: RKW176                     Instrument ID   : T-006
=====
  
```

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	5	.91
1,1,2,2-TETRACHLOROETHANE	ND	5	1.1
1,1,2-TRICHLOROETHANE	ND	5	.83
1,1-DICHLOROETHANE	ND	5	.65
1,1-DICHLOROETHENE	ND	5	.86
1,2-DICHLOROETHANE	ND	5	.95
1,2-DICHLOROPROPANE	ND	5	.73
2-BUTANONE	ND	50	6.7
2-CHLOROETHYL VINYLETHER	ND	50	1.3
2-HEXANONE	ND	50	5.6
4-METHYL-2-PENTANONE	ND	50	3.6
ACETONE	ND	50	9.6
BENZENE	ND	5	.77
BROMODICHLOROMETHANE	ND	5	.82
BROMOFORM	ND	5	.74
BROMOMETHANE	ND	5	1.9
CARBON DISULFIDE	ND	5	.61
CARBON TETRACHLORIDE	ND	5	.83
CHLOROBENZENE	ND	5	1.1
CHLOROETHANE	ND	5	1.7
CHLOROFORM	ND	5	.67
CHLOROMETHANE	ND	5	.67
1,2-DICHLOROETHENE	ND	5	.79
CIS-1,3-DICHLOROPROPENE	ND	5	.79
DIBROMOCHLOROMETHANE	ND	5	.71
ETHYLBENZENE	ND	5	1
MTBE	ND	10	.77
METHYLENE CHLORIDE	ND	5	1.4
STYRENE	ND	5	.87
TETRACHLOROETHENE	ND	5	1.1
TOLUENE	ND	5	.99
TRANS-1,2-DICHLOROETHENE	ND	5	.73
TRANS-1,3-DICHLOROPROPENE	ND	5	.82
TRICHLOROETHENE	ND	5	.89
VINYL ACETATE	ND	50	1.4
VINYL CHLORIDE	ND	5	2.5
XYLENES	ND	5	3.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	99	62-139
BROMOFLUOROBENZENE	114	75-125
TOLUENE-D8	117	75-125

PRL: Project Reporting Limit  
 \* : Out side of QC Limit  
 J : An estimated value between PRL and MDL  
 E : Value exceed the upper level of the initial calibration  
 B : Found in the associated blank  
 D : Value from dilution analysis

EMAX QUALITY CONTROL DATA  
LCS/LCD ANALYSIS

CLIENT: IT CORPORATION  
 ECT: MCAS EL TORO/18708/D.O. 65  
 H NO.: 00K070  
 METHOD: METHOD 5030A/8260A

MATRIX: WATER % MOISTURE: NA  
 DILUTION FACTOR: 1 1  
 SAMPLE ID: MBLK1W  
 LAB SAMP ID: VOK1506G VOK1506L VOK1506C  
 LAB FILE ID: RKW181 RKW178 RKW187  
 DATE EXTRACTED: 11/09/0012:41 11/09/0010:56 11/09/0016:08 DATE COLLECTED: NA  
 DATE ANALYZED: 11/09/0012:41 11/09/0010:56 11/09/0016:08 DATE RECEIVED: 11/09/00  
 PREP. BATCH: VOK1506 VOK1506 VOK1506  
 CALIB. REF: RKW176 RKW176 RKW176

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD ( % )	QC LIMIT ( % )	MAX RPD ( % )
1,1-Dichloroethene	ND	20	23.5	117	20	21.2	106	10	75-125	20
Benzene	ND	20	23.4	117	20	21.4	107	9	75-125	20
Chlorobenzene	ND	20	22.6	113	20	21.8	109	3	75-125	20
Toluene	ND	20	24.5	122	20	23.4	117	4	74-125	20
Trichloroethene	ND	20	22.1	111	20	20.3	102	9	71-125	20

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT ( % )
1,2-Dichloroethane-d4	50	49	98	50	51.4	103	62-139
1,2,4-Trifluorobenzene	50	57	114	50	56.6	113	75-125
1,2,3,4-Tetrafluorobenzene-d8	50	58.1	116	50	58.3	117	75-125

**Laboratory Data Consultants, Inc.  
Data Validation Report**

**Project/Site Name:** MCAS El Toro  
**Collection Date:** November 6 through November 7, 2000  
**LDC Report Date:** December 1, 2000  
**Matrix:** Water  
**Parameters:** Volatiles  
**Validation Level:** NFESC Level C  
**Laboratory:** EMAX Laboratories, Inc.

**Sample Delivery Group (SDG):** 00K070

**Sample Identification**

18708-1765  
18708-1766  
18708-1767  
18708-1768  
18708-1769

## Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260A for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

### I. Technical Holding Times

All technical holding time requirements were met.

Air bubbles were apparent in all of the sample containers for 18708-1767. There should be no air bubbles in the sample containers.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

### II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

### III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 30.0% for all calibration check compounds and less than or equal to 50.0% for all other compounds.

Average relative response factors (RRF) for all volatile target compounds and system performance check compounds (SPCCs) were within method and validation criteria with the following exceptions:

Date	Compound	RRF (Limits)	Associated Samples	Flag	A or P
11/8/00	2-Chloroethylvinyl ether	0.028 ( $\geq 0.05$ )	All samples in SDG 00K070	J (all detects) UJ (all non-detects)	A

### IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

All of the continuing calibration percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were less than or equal to 25.0% for all calibration check compounds and less than or equal to 50.0% for all other compounds with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
11/9/00	2-Chloroethylvinyl ether	64	All samples in SDG 00K070	J (all detects) UJ (all non-detects)	A

All of the continuing calibration RRF values were within method and validation criteria with the following exceptions:

Date	Compound	RRF (Limits)	Associated Samples	Flag	A or P
11/9/00	2-Chloroethylvinyl ether	0.046 ( $\geq 0.05$ )	All samples in SDG 00K070	J (all detects) R (all non-detects)	A

#### V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

#### VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

#### VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

#### VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

#### IX. Regional Quality Assurance and Quality Control

Not applicable.

#### X. Internal Standards

All internal standard areas and retention times were within QC limits.

#### XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

#### XII. Compound Quantitation and CRQLs

Raw data were not reviewed for this SDG.

### **XIII. Tentatively Identified Compounds (TICs)**

Raw data were not reviewed for this SDG.

### **XIV. System Performance**

Raw data were not reviewed for this SDG.

### **XV. Overall Assessment of Data**

Data flags have been summarized at the end of the report.

### **XVI. Field Duplicates**

No field duplicates were identified in this SDG.

### **XVII. Field Blanks**

Sample 18708-1765 was identified as a trip blank. No volatile contaminants were found in this blank.

**MCAS EI Toro**  
**Volatiles - Data Qualification Summary - SDG 00K070**

SDG	Sample	Compound	Flag	A or P	Reason
00K070	18708-1765 18708-1766 18708-1767 18708-1768 18708-1769	2-Chloroethylvinyl ether	J (all detects) UJ (all non-detects)	A	Initial calibration (RRF)
00K070	18708-1765 18708-1766 18708-1767 18708-1768 18708-1769	2-Chloroethylvinyl ether	J (all detects) UJ (all non-detects)	A	Continuing calibration (%D)
00K070	18708-1765 18708-1766 18708-1767 18708-1768 18708-1769	2-Chloroethylvinyl ether	J (all detects) R (all non-detects)	A	Continuing calibration (RRF)

**MCAS EI Toro**  
**Volatiles - Laboratory Blank Data Qualification Summary - SDG 00K070**

No Sample Data Qualified in this SDG

COMPLETED

SW 11/14/00



IT Corporation  
2790 Mosside Blvd.  
Monroeville, PA 15146-2792  
(412)372-7701

CHAIN-OF-CUSTODY RECORD

PROJECT DATA MANAGER'S COPY

A 12368

FORM 0019 REV. 9-99

IT'S LAB COORDINATOR H. Conception	LAB COORDINATOR'S PHONE 949 660 1550	LAB COORDINATOR'S FAX 719 475 5433	LABORATORY SERVICE ID 00K084	LABORATORY CONTACT EMAX	MAIL REPORT (COMPANY NAME) B
PROJECT NAME SW SAMPLE	PROJECT LOCATION NICAS EL Tono	PROJECT NUMBER 15708	LABORATORY PHONE 800 443 1511	LABORATORY FAX	RECIPIENT NAME Wayne Smith A
PROJECT CONTACT H. Conception	PROJECT PHONE NUMBER 949 451 1666	PROJECT FAX 949 451 1672	LABORATORY ADDRESS 670 MAPLE	ADDRESS	3347 Hickman SUN
PROJECT ADDRESS NICAS BLDG 311 EL TONO	CITY, STATE AND ZIP CODE SANTANA CA 92108	CLIENT SW 91V	CITY, STATE AND ZIP CODE TORNALICE, CA	CITY, STATE AND ZIP CODE	Irving CA 92612
PROJECT MANAGER B. SEDLAK	PROJECT MANAGER'S PHONE 719 660 5446	PROJECT MANAGER'S FAX 719 474 3707	ANALYSES B2600 IR KARLSRUHE		

Project Information Section  
For Project Personnel Only  
Do Not Submit to Laboratory

Item	Sample Identifier	Matrix	Date	Time	Preserved	# of Cont.	QC Level	T.A.T.	Comments	Sample Type				
										G	C	F	QC	
1	918708-1770	W	11/8	0730	HCL	3	3	5	X	Hold Rinse				
2	918708-1771	W	11/8	1100	HCL	3	3	5	X					
3	918708-1772	W	11/8	1405	HCL	84	4	5	X X					
4	918708-1773	W	11/8	0730	HCL	1	3	5	X					
5	918708-1771	W	11/8	1407	HCL	4	4	5	X X					
6														
7														
8														
9														
10														

Sample Point Location	Sample Type			
	G	C	F	QC
① Rinse Hold				
② B 133 @ 117'				
③ 20' @ 18' @ 20' @ 101A @ 295'				
④ 12' Blank				
⑤ B 66M @ 101A @ 295'				

SAMPLES COLLECTED BY: Francis Helms	COURIER AND AIR BILL NUMBER:	COOLER TEMPERATURE UPON RECEIPT:
RELINQUISHED BY: U. H.	RECEIVED BY:	SAMPLE'S CONDITION UPON RECEIPT:
	DATE:	
	TIME:	

Comments  
due 11/14/00 rec'd 11/16/00

Distribution: White - Laboratory (To be returned with Analytical Report); Goldenrod - Project File; Manilla - Project Data Manager

Sample Type: G - Grab, C - Composite, F - Field Sample, QC - Quality Control Sample

565121

# EMAX

LABORATORIES, INC.

630 Maple Ave.

Torrance, CA 90503

Telephone: (310) 618-8889

Fax: (310) 618-0818

Date: 11-25-2000

EMAX Batch No.: 00K084

Attn: Dwayne Ishida

IT Corporation

3347 Michelson Dr. # 200

Irvine CA 92612

Subject: Laboratory Report

Project: MCAS El Toro/18708/D.O. 65

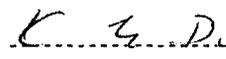
-----  
Enclosed is the Laboratory report for samples received on 11/09/00. The data reported include :

Sample ID	Control #	Col Date	Matrix	Analysis
18708-1770	K084-01	11/08/00	WATER	HOLD
18708-1771	K084-02	11/08/00	WATER	VOLATILE ORGANICS BY GC/MS
18708-1772	K084-03	11/08/00	WATER	VOLATILE ORGANICS BY GC/MS PERCHLORATE
18708-1773	K084-04	11/08/00	WATER	VOLATILE ORGANICS BY GC/MS
18708-1774	K084-05	11/08/00	WATER	VOLATILE ORGANICS BY GC/MS PERCHLORATE

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning these results.

Sincerely yours,

  
Kam Y. Pang, Ph.D.  
Laboratory Director

1000

METHOD 5030A/8260A  
VOLATILE ORGANICS BY GC/MS

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=====
Client      : IT CORPORATION           Date Collected: 11/08/00
Project     : MCAS EL TORO/18708/D.O. 65 Date Received: 11/09/00
  ch No.    : 00K084                 Date Extracted: 11/10/00 02:49
Sample ID   : 18708-1771            Date Analyzed: 11/10/00 02:49
Lab Samp ID : K084-02               Dilution Factor: 1
Lab File ID : RKW206                Matrix          : WATER
Ext Btch ID: VOK1706               % Moisture     : NA
Calib. Ref.: RKW200                Instrument ID   : T-006
=====
  
```

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	5	.91
1,1,2,2-TETRACHLOROETHANE	ND	5	1.1
1,1,2-TRICHLOROETHANE	ND	5	.83
1,1-DICHLOROETHANE	ND	5	.65
1,1-DICHLOROETHENE	ND	5	.86
1,2-DICHLOROETHANE	ND	5	.95
1,2-DICHLOROPROPANE	ND	5	.73
2-BUTANONE	ND	50	6.7
2-CHLOROETHYLVINYLETHER	ND	50	1.3
2-HEXANONE	ND	50	5.6
4-METHYL-2-PENTANONE	ND	50	3.6
ACETONE	ND	50	9.6
BENZENE	ND	5	.77
BROMODICHLOROMETHANE	ND	5	.82
BROMOFORM	ND	5	.74
BROMOMETHANE	ND	5	1.9
CARBON DISULFIDE	ND	5	.61
CARBON TETRACHLORIDE	ND	5	.83
CHLOROENZENE	ND	5	1.1
CHLOROETHANE	ND	5	1.7
CHLOROFORM	ND	5	.67
CHLOROMETHANE	ND	5	.67
TRANS-1,2-DICHLOROETHENE	ND	5	.79
TRANS-1,3-DICHLOROPROPENE	ND	5	.79
BROMOCHLOROMETHANE	ND	5	.71
ETHYLBENZENE	ND	5	1
MTBE	ND	10	.77
METHYLENE CHLORIDE	ND	5	1.4
STYRENE	ND	5	.87
TETRACHLOROETHENE	5.1	5	1.1
TOLUENE	ND	5	.99
TRANS-1,2-DICHLOROETHENE	ND	5	.73
TRANS-1,3-DICHLOROPROPENE	ND	5	.82
TRICHLOROETHENE	2.4J	5	.89
VINYL ACETATE	ND	50	1.4
VINYL CHLORIDE	ND	5	2.5
XYLENES	ND	5	3.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	98	62-139
BROMOFLUOROBENZENE	111	75-125
TOLUENE-D8	119	75-125

PRL: Project Reporting Limit

\* : Out side of QC Limit

J : An estimated value between PRL and MDL

E : Value exceed the upper level of the initial calibration

B : Found in the associated blank

D : Value from dilution analysis

2004

METHOD 5030A/8260A  
VOLATILE ORGANICS BY GC/MS

```

=====
Client      : IT CORPORATION           Date Collected: 11/08/00
Project     : MCAS EL TORO/18708/D.O. 65 Date Received: 11/09/00
Batch No.   : 00K084                 Date Extracted: 11/10/00 03:23
Sample ID   : 18708-1772             Date Analyzed: 11/10/00 03:23
Lab Samp ID: K084-03                 Dilution Factor: 1
Lab File ID: RKW207                  Matrix          : WATER
Ext Btch ID: VOK1706                 % Moisture      : NA
Calib. Ref.: RKW200                  Instrument ID    : T-006
=====
  
```

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	5	.91
1,1,2,2-TETRACHLOROETHANE	ND	5	1.1
1,1,2-TRICHLOROETHANE	ND	5	.83
1,1-DICHLOROETHANE	ND	5	.65
1,1-DICHLOROETHENE	ND	5	.86
1,2-DICHLOROETHANE	ND	5	.95
1,2-DICHLOROPROPANE	ND	5	.73
2-BUTANONE	ND	50	6.7
2-CHLOROETHYLVINYLETHER	ND	50	1.3
2-HEXANONE	ND	50	5.6
4-METHYL-2-PENTANONE	ND	50	3.6
ACETONE	ND	50	9.6
BENZENE	ND	5	.77
BROMODICHLOROMETHANE	ND	5	.82
BROMOFORM	ND	5	.74
BROMOMETHANE	ND	5	1.9
CARBON DISULFIDE	ND	5	.61
CARBON TETRACHLORIDE	ND	5	.83
CHLOROBENZENE	ND	5	1.1
CHLOROETHANE	ND	5	1.7
CHLOROFORM	ND	5	.67
CHLOROMETHANE	ND	5	.67
CIS-1,2-DICHLOROETHENE	1.5J	5	.79
CIS-1,3-DICHLOROPROPENE	ND	5	.79
DIBROMOCHLOROMETHANE	ND	5	.71
ETHYLBENZENE	ND	5	1
MTBE	ND	10	.77
METHYLENE CHLORIDE	ND	5	1.4
STYRENE	ND	5	.87
TETRACHLOROETHENE	ND	5	1.1
TOLUENE	ND	5	.99
TRANS-1,2-DICHLOROETHENE	ND	5	.73
TRANS-1,3-DICHLOROPROPENE	ND	5	.82
TRICHLOROETHENE	41	5	.89
VINYL ACETATE	ND	50	1.4
VINYL CHLORIDE	ND	5	2.5
XYLENES	ND	5	3.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	96	62-139
BROMOFLUOROBENZENE	112	75-125
TOLUENE-DB	115	75-125

PRL: Project Reporting Limit  
 \* : Out side of QC Limit  
 J : An estimated value between PRL and MDL  
 E : Value exceed the upper level of the initial calibration  
 B : Found in the associated blank  
 D : Value from dilution analysis

METHOD 5030A/8260A  
VOLATILE ORGANICS BY GC/MS

```

=====
Client      : IT CORPORATION           Date Collected: 11/08/00
ject       : MCAS EL TORO/18708/D.O. 65 Date Received: 11/09/00
ch No.    : 00K084                   Date Extracted: 11/10/00 03:58
Sample ID : 18708-1773                Date Analyzed: 11/10/00 03:58
Lab Samp ID: K084-04                  Dilution Factor: 1
Lab File ID: RKW208                   Matrix          : WATER
Ext Btch ID: VOK1706                  % Moisture     : NA
Calib. Ref.: RKW200                   Instrument ID   : T-006
=====
  
```

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	5	.91
1,1,2,2-TETRACHLOROETHANE	ND	5	1.1
1,1,2-TRICHLOROETHANE	ND	5	.83
1,1-DICHLOROETHANE	ND	5	.65
1,1-DICHLOROETHENE	ND	5	.86
1,2-DICHLOROETHANE	ND	5	.95
1,2-DICHLOROPROPANE	ND	5	.73
2-BUTANONE	ND	50	6.7
2-CHLOROETHYLVINYLETHER	ND	50	1.3
2-HEXANONE	ND	50	5.6
4-METHYL-2-PENTANONE	ND	50	3.6
ACETONE	ND	50	9.6
BENZENE	ND	5	.77
BROMODICHLOROMETHANE	ND	5	.82
BROMOFORM	ND	5	.74
BROMOMETHANE	ND	5	1.9
CARBON DISULFIDE	ND	5	.61
CARBON TETRACHLORIDE	ND	5	.83
CHLOROENZENE	ND	5	1.1
CHLOROETHANE	ND	5	1.7
CHLOROFORM	ND	5	.67
CHLOROMETHANE	ND	5	.67
1,2-DICHLOROETHENE	ND	5	.79
1,3-DICHLOROPROPENE	ND	5	.79
DIBROMOCHLOROMETHANE	ND	5	.71
ETHYLBENZENE	ND	5	1
MTBE	ND	10	.77
METHYLENE CHLORIDE	ND	5	1.4
STYRENE	ND	5	.87
TETRACHLOROETHENE	ND	5	1.1
TOLUENE	ND	5	.99
TRANS-1,2-DICHLOROETHENE	ND	5	.73
TRANS-1,3-DICHLOROPROPENE	ND	5	.82
TRICHLOROETHENE	ND	5	.89
VINYL ACETATE	ND	50	1.4
VINYL CHLORIDE	ND	5	2.5
XYLENES	ND	5	3.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	95	62-139
BROMOFLUOROBENZENE	116	75-125
TOLUENE-D8	122	75-125

PRL: Project Reporting Limit

\* : Out side of QC Limit

J : An estimated value between PRL and MDL

E : Value exceed the upper level of the initial calibration

B : Found in the associated blank

D : Value from dilution analysis

METHOD 5030A/8260A  
VOLATILE ORGANICS BY GC/MS

```

=====
Client       : IT CORPORATION           Date Collected: 11/08/00
Project      : MCAS EL TORO/18708/D.O. 65 Date Received: 11/09/00
Batch No.    : 00K084                 Date Extracted: 11/10/00 04:33
Sample ID    : 18708-1774             Date Analyzed: 11/10/00 04:33
Lab Samp ID  : K084-05                Dilution Factor: 1
Lab File ID  : RKW209                 Matrix          : WATER
Ext Btch ID  : VOK1706                % Moisture     : NA
Calib. Ref. : RKW200                 Instrument ID   : T-006
=====
  
```

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	5	.91
1,1,2,2-TETRACHLOROETHANE	ND	5	1.1
1,1,2-TRICHLOROETHANE	ND	5	.83
1,1-DICHLOROETHANE	ND	5	.65
1,1-DICHLOROETHENE	ND	5	.86
1,2-DICHLOROETHANE	ND	5	.95
1,2-DICHLOROPROPANE	ND	5	.73
2-BUTANONE	ND	50	6.7
2-CHLOROETHYLVINYLETHER	ND	50	1.3
2-HEXANONE	ND	50	5.6
4-METHYL-2-PENTANONE	ND	50	3.6
ACETONE	ND	50	9.6
BENZENE	ND	5	.77
BROMODICHLOROMETHANE	ND	5	.82
BROMOFORM	ND	5	.74
BROMOMETHANE	ND	5	1.9
CARBON DISULFIDE	ND	5	.61
CARBON TETRACHLORIDE	ND	5	.83
CHLOROBENZENE	ND	5	1.1
CHLOROETHANE	ND	5	1.7
CHLOROFORM	ND	5	.67
CHLOROMETHANE	ND	5	.67
1,2-DICHLOROETHENE	1.3J	5	.79
1,3-DICHLOROPROPENE	ND	5	.79
DIBROMOCHLOROMETHANE	ND	5	.71
ETHYLBENZENE	ND	5	1
MTBE	ND	10	.77
METHYLENE CHLORIDE	ND	5	1.4
STYRENE	ND	5	.87
TETRACHLOROETHENE	ND	5	1.1
TOLUENE	ND	5	.99
TRANS-1,2-DICHLOROETHENE	ND	5	.73
TRANS-1,3-DICHLOROPROPENE	ND	5	.82
TRICHLOROETHENE	38	5	.89
VINYL ACETATE	ND	50	1.4
VINYL CHLORIDE	ND	5	2.5
XYLENES	ND	5	3.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	95	62-139
BROMOFLUOROBENZENE	115	75-125
TOLUENE-D8	119	75-125

PRL: Project Reporting Limit  
 \* : Out side of QC Limit  
 J : An estimated value between PRL and MDL  
 E : Value exceed the upper level of the initial calibration  
 B : Found in the associated blank  
 D : Value from dilution analysis

METHOD 5030A/8260A  
VOLATILE ORGANICS BY GC/MS

```

=====
Client      : IT CORPORATION           Date Collected: NA
Project     : MCAS EL TORO/18708/D.O. 65 Date Received: 11/10/00
Batch No.   : 00K084                 Date Extracted: 11/10/00 02:14
Sample ID   : MBLK1W                 Date Analyzed: 11/10/00 02:14
Lab Samp ID : VOK1706Q              Dilution Factor: 1
Lab File ID : RKW205                Matrix          : WATER
Ext Btch ID: VOK1706                % Moisture     : NA
Calib. Ref.: RKW200                Instrument ID   : T-006
=====

```

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	5	.91
1,1,2,2-TETRACHLOROETHANE	ND	5	1.1
1,1,2-TRICHLOROETHANE	ND	5	.83
1,1-DICHLOROETHANE	ND	5	.65
1,1-DICHLOROETHENE	ND	5	.86
1,2-DICHLOROETHANE	ND	5	.95
1,2-DICHLOROPROPANE	ND	5	.73
2-BUTANONE	ND	50	6.7
2-CHLOROETHYLVINYLETHER	ND	50	1.3
2-HEXANONE	ND	50	5.6
4-METHYL-2-PENTANONE	ND	50	3.6
ACETONE	ND	50	9.6
BENZENE	ND	5	.77
BROMODICHLOROMETHANE	ND	5	.82
BROMOFORM	ND	5	.74
BROMOMETHANE	ND	5	1.9
CARBON DISULFIDE	ND	5	.61
CARBON TETRACHLORIDE	ND	5	.83
CHLOROBENZENE	ND	5	1.1
CHLOROETHANE	ND	5	1.7
CHLOROFORM	ND	5	.67
CHLOROMETHANE	ND	5	.67
1,2-DICHLOROETHENE	ND	5	.79
1,3-DICHLOROPROPENE	ND	5	.79
DIBROMOCHLOROMETHANE	ND	5	.71
ETHYLBENZENE	ND	5	1
MTBE	ND	10	.77
METHYLENE CHLORIDE	ND	5	1.4
STYRENE	ND	5	.87
TETRACHLOROETHENE	ND	5	1.1
TOLUENE	ND	5	.99
TRANS-1,2-DICHLOROETHENE	ND	5	.73
TRANS-1,3-DICHLOROPROPENE	ND	5	.82
TRICHLOROETHENE	ND	5	.89
VINYL ACETATE	ND	50	1.4
VINYL CHLORIDE	ND	5	2.5
XYLENES	ND	5	3.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	99	62-139
BROMOFLUOROBENZENE	123	75-125
TOLUENE-D8	119	75-125

PRL: Project Reporting Limit  
\* : Out side of QC Limit  
J : An estimated value between PRL and MDL  
E : Value exceed the upper level of the initial calibration  
B : Found in the associated blank  
D : Value from dilution analysis

EMAX QUALITY CONTROL DATA  
LCS/LCD ANALYSIS

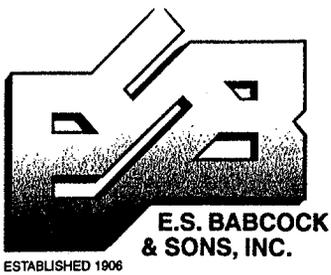
CLIENT: IT CORPORATION  
PROJECT: MCAS EL TORO/18708/D.O. 65  
BATCH NO.: 00K084  
METH: METHOD 5030A/8260A

MATRIX: WATER % MOISTURE: NA  
DILUTION FACTOR: 1 1 1  
SAMPLE ID: MBLK1W  
LAB SAMP ID: VOK1706Q VOK1706L VOK1706C  
LAB FILE ID: RKW205 RKW202 RKW203  
DATE EXTRACTED: 11/10/0002:14 11/10/0000:30 11/10/0001:05 DATE COLLECTED: NA  
DATE ANALYZED: 11/10/0002:14 11/10/0000:30 11/10/0001:05 DATE RECEIVED: 11/10/00  
PREP. BATCH: VOK1706 VOK1706 VOK1706  
CALIB. REF: RKW200 RKW200 RKW200

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
1,1-Dichloroethene	ND	20	20.6	103	20	19	95	8	75-125	20
Benzene	ND	20	23.3	117	20	23.2	116	0	75-125	20
Chlorobenzene	ND	20	20.8	104	20	20	100	4	75-125	20
Toluene	ND	20	21.8	109	20	21.7	109	0	74-125	20
Trichloroethene	ND	20	23.5	118	20	21.6	108	8	71-125	20

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT (%)
1,2-Dichloroethane-d4	50	51.5	103	50	48	96	62-139
Bromofluorobenzene	50	58.2	116	50	57.7	115	75-125
Toluene-d8	50	59.2	118	50	60.3	121	75-125



Environmental Laboratory Certification #1156  
6100 Quail Valley Court Riverside, CA 92507-0704  
P.O. Box 432 Riverside, CA 92502-0432  
PH (909) 653-3351 FAX (909) 653-1662  
e-mail: esbsales@aol.com  
www.babcocklabs.com

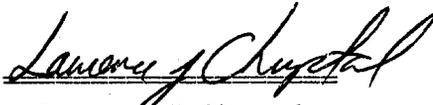
EMAX Laboratories Inc.  
Attn: Ye Myinx  
630 Maple Avenue  
Torrance, CA 90503

November 20, 2000

Project #: IT/OHM  
El Toro

Perchlorate

Approved by:

  
Lawrence J. Chrystal  
Laboratory Director

5757E6



Environmental Laboratory Certification #1156  
6100 Quail Valley Court Riverside, CA 92507-0704  
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e-mail: esbsales@aol.com  
www.babcocklabs.com

### Laboratory Results

3133

**Client:**

EMAX Laboratories  
Phillip Toy  
630 Maple Avenue

Torrance, CA 90503

Client I.D.: 18708-1772  
Site: IT/OHM EL TORO  
Description:

Matrix: grndwater

Page: 1 of 1  
Lab No.: L77110-001

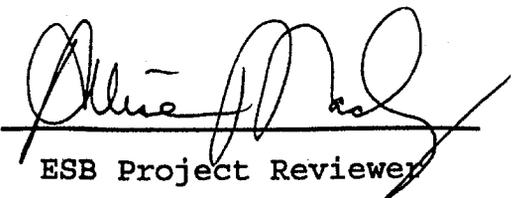
Date Reported: 11/20/00

Collected By:  
Date: 11/08/00  
Time: 1405  
Submitted By: Fed Ex  
Date: 11/13/00  
Time: 0855

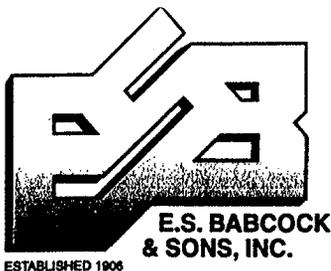
<u>Constituent</u>	<u>Result</u>	<u>Method</u>	<u>RL</u>	<u>Date / Analyst</u>
Perchlorate	ND ug/L	DHS-IC-Rev0	4.	001116/CW

ND = None detected at RL (Reporting Limit). RL units same as result.

cc:

  
ESB Project Reviewer

004



Environmental Laboratory Certification #1156  
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P.O. Box 432 Riverside, CA 92502-0432  
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e-mail: esbsales@aol.com  
www.babcocklabs.com

### Laboratory Results

3133

**Client:**

EMAX Laboratories  
Phillip Toy  
630 Maple Avenue

Torrance, CA 90503

Client I.D.: 18708-1774  
Site: IT/OHM EL TORO  
Description:

Matrix: grndwater

Page: 1 of 1  
Lab No.: L77110-002

Date Reported: 11/20/00

Collected By:  
Date: 11/08/00  
Time: 1407  
Submitted By: Fed Ex  
Date: 11/13/00  
Time: 0855

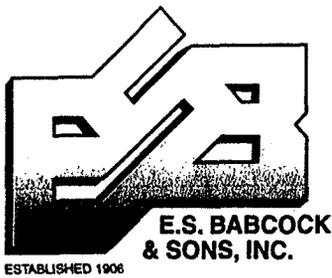
<u>Constituent</u>	<u>Result</u>	<u>Method</u>	<u>RL</u>	<u>Date / Analyst</u>
Perchlorate	ND ug/L	DHS-IC-Rev0	4.	001116/CW

ND = None detected at RL (Reporting Limit). RL units same as result.

cc:

  
ESB Project Reviewer

005



Environmental Laboratory Certification #1156  
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Wet Chemistry - Batch QC

Log #: L77110  
 For Client: EMAX Laboratories  
 Date Rec'd: 11/13/2000  
 Lab Number: L77110-001 to -002  
 Date Printed: November 20, 2000

Analyte: Perchlorate

WG57502

DHS-IC-Rev0

Reference	Ref Value	Units	QC Type	Result	Units	RPD	%Rec	Batch Date	LCL	UCL
Blank	0.000	ug/L	MB	0.0	ug/L	---	---	001116CW	< RL	
Spike Value	25.0	ug/L	LCS	23.5	ug/L	---	94.0	001116CW	80% - 120%	
Blank	0.000	ug/L	MB	0.0	ug/L	---	---	001116CW	< RL	
Spike Value	25.0	ug/L	LCS	23.0	ug/L	---	92.0	001116CW	80% - 120%	
L77110-001	0.0	ug/L	DUP	0.0	ug/L	N/A	---	001116CW	Max 20 RPD	(b)
Spike Value	12.5	ug/L	MS	10.1	ug/L	---	80.8	001116CW		(a)
WG57502-006	10.1	ug/L	MSD	10.5	ug/L	3.9	---	001116CW	Max 20 RPD	(b)
Sample Spiked:	L77110-001	0		ug/L						
Blank	0.000	ug/L	MB	0.0	ug/L	---	---	001116CW	< RL	

(a) Target range same as LCS Control Limits. If outside range, matrix interference suspected.  
 (b) Exceptions:  
 Cyanide and Kjeldahl-Nitrogen: Max 30 RPD  
 Suspended Solids and Organic Compounds: Max 40 RPD

*Jade Walker*  
 ESB Project Reviewer

006

**Laboratory Data Consultants, Inc.  
Data Validation Report**

**Project/Site Name:** MCAS El Toro  
**Collection Date:** November 8, 2000  
**LDC Report Date:** December 1, 2000  
**Matrix:** Water  
**Parameters:** Volatiles  
**Validation Level:** NFESC Level C & D  
**Laboratory:** EMAX Laboratories, Inc.  
**Sample Delivery Group (SDG):** 00K084

**Sample Identification**

18708-1771  
18708-1772\*\*  
18708-1773  
18708-1774

\*\*Indicates sample underwent NFESC Level D review

## Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260A for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Samples indicated by a double asterisk on the front cover underwent a NFESC Level D review. A NFESC Level C review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level C criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

## I. Technical Holding Times

All technical holding time requirements were met.

Air bubbles were apparent in all of the sample containers 18708-1772\*\* and 18708-1773. There should be no air bubbles in the sample containers.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

## II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

## III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 30.0% for all calibration check compounds and less than or equal to 50.0% for all other compounds.

Average relative response factors (RRF) for all volatile target compounds and system performance check compounds (SPCCs) were within method and validation criteria with the following exceptions:

Date	Compound	RRF (Limits)	Associated Samples	Flag	A or P
11/8/00	2-Chloroethylvinyl ether	0.028 ( $\geq 0.05$ )	All samples in SDG 00K084	J (all detects) UJ (all non-detects)	A

## IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

All of the continuing calibration percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were less than or equal to 25.0% for all calibration check compounds and less than or equal to 50.0% for all other compounds.

All of the continuing calibration RRF values were within method and validation criteria with the following exceptions:

Date	Compound	RRF (Limits)	Associated Samples	Flag	A or P
11/9/00	2-Chloroethylvinyl ether	0.027 ( $\geq 0.05$ )	All samples in SDG J0K084	J (all detects) UJ (all non-detects)	A

#### V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

#### VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

#### VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

#### VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

#### IX. Regional Quality Assurance and Quality Control

Not applicable.

#### X. Internal Standards

All internal standard areas and retention times were within QC limits.

#### XI. Target Compound Identifications

All target compound identifications were within validation criteria for samples on which a NFESC Level D review was performed. Raw data were not evaluated for the samples reviewed by Level C criteria.

#### XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a NFESC Level D review was performed. Raw data were not evaluated for the samples reviewed by Level C criteria.

### XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

### XIV. System Performance

The system performance was within validation criteria for samples on which a NFESC Level D review was performed. Raw data were not evaluated for the samples reviewed by Level C criteria.

### XV. Overall Assessment of Data

Data flags have been summarized at the end of the report.

### XVI. Field Duplicates

Samples 18708-1772\*\* and 18708-1774 were identified as field duplicates. No volatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD
	18708-1772**	18708-1774	
cis-1,2-Dichloroethene	1.5	1.3	14
Trichloroethene	41	38	8

### XVII. Field Blanks

Sample 18708-1773 was identified as a trip blank. No volatile contaminants were found in this blank.

**MCAS El Toro  
Volatiles - Data Qualification Summary - SDG 00K084**

<b>SDG</b>	<b>Sample</b>	<b>Compound</b>	<b>Flag</b>	<b>A or P</b>	<b>Reason</b>
00K084	18708-1771 18708-1772** 18708-1773 18708-1774	2-Chloroethylvinyl ether	J (all detects) UJ (all non-detects)	A	Initial calibration (RRF)
00K084	18708-1771 18708-1772** 18708-1773 18708-1774	2-Chloroethylvinyl ether	J (all detects) UJ (all non-detects)	A	Continuing calibration (RRF)

**MCAS El Toro  
Volatiles - Laboratory Blank Data Qualification Summary - SDG 00K084**

No Sample Data Qualified in this SDG

**Laboratory Data Consultants, Inc.  
Data Validation Report**

**Project/Site Name:** MCAS El Toro  
**Collection Date:** November 8, 2000  
**LDC Report Date:** November 30, 2000  
**Matrix:** Water  
**Parameters:** Perchlorate  
**Validation Level:** NFESC Level C & D  
**Laboratory:** E.S. Babcock & Sons, Inc.  
**Sample Delivery Group (SDG):** 00K084

**Sample Identification**

18708-1772\*\*  
18708-1774  
18708-1772MS  
18708-1772MSD  
18708-1772DUP

\*\*Indicates sample underwent NFESC Level D review

## Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per DOHS Method IC-Rev. 0 for Perchlorate.

The review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the methods stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section III.

Field duplicates are summarized in Section VII.

Samples indicated by a double asterisk on the front cover underwent a NFESC Level D review. A NFESC Level C review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level C criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

## **I. Technical Holding Times**

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

## **II. Calibration**

### **a. Initial Calibration**

All criteria for the initial calibration of each method were met.

### **b. Calibration Verification**

Calibration verification frequency and analysis criteria were met for each method when applicable.

## **III. Blanks**

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the method blanks.

## **IV. Accuracy and Precision Data**

### **a. Matrix Spike/(Matrix Spike) Duplicates**

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Relative percent differences (RPD) were within QC limits.

### **b. Laboratory Control Samples**

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

## **V. Sample Result Verification**

All sample result verifications were within validation criteria for samples on which a NFESC Level D review was performed. Raw data were not evaluated for the samples reviewed by Level C criteria.

## **VI. Overall Assessment of Data**

Data flags are summarized at the end of this report.

## **VII. Field Duplicates**

Samples 18708-1772\*\* and 18708-1774 were identified as field duplicates. No contaminant concentrations were detected in any of the samples.

## **VIII. Field Blanks**

No field blanks were identified in this SDG.

**MCAS El Toro  
Perchlorate - Data Qualification Summary - SDG 00K084**

**No Sample Data Qualified in this SDG**

**MCAS El Toro  
Perchlorate - Laboratory Blank Data Qualification Summary - SDG 00K084**

**No Sample Data Qualified in this SDG**



# EMAX

LABORATORIES, INC.

630 Maple Ave.

Torrance, CA 90503

Telephone: (310) 618-8889

Fax: (310) 618-0818

Date: 11-17-2000

EMAX Batch No.: 00K096

Attn: Dwayne Ishida

IT Corporation  
3347 Michelson Dr. # 200  
Irvine CA 92612

Subject: Laboratory Report  
Project: MCAS El Toro/18708/D.O. 65

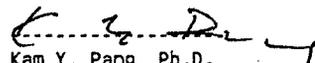
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Enclosed is the Laboratory report for samples received on 11/09/00. The data reported include :

Sample ID	Control #	Col Date	Matrix	Analysis
18708-1775	K096-01	11/09/00	WATER	VOLATILE ORGANICS BY GC/MS
18708-1776	K096-02	11/09/00	WATER	VOLATILE ORGANICS BY GC/MS
18708-1777	K096-03	11/09/00	WATER	VOLATILE ORGANICS BY GC/MS
18708-1778	K096-04	11/09/00	WATER	VOLATILE ORGANICS BY GC/MS

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning these results.

Sincerely yours,



Kam Y. Pang, Ph.D.  
Laboratory Director

METHOD 5030A/8260A  
VOLATILE ORGANICS BY GC/MS

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=====
Client      : IT CORPORATION           Date Collected: 11/09/00
Project     : MCAS EL TORO/18708/D.O. 65 Date Received: 11/09/00
Batch No.   : 00K096                 Date Extracted: 11/15/00 04:04
Sample ID   : 18708-1775             Date Analyzed: 11/15/00 04:04
Lab Samp ID: K096-01                Dilution Factor: 1
Lab File ID: RKQ489                 Matrix       : WATER
Ext Btch ID: VOK3705                % Moisture   : NA
Calib. Ref.: RKQ484                 Instrument ID : T-005
=====
  
```

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	5	.91
1,1,2,2-TETRACHLOROETHANE	ND	5	1.1
1,1,2-TRICHLOROETHANE	ND	5	.83
1,1-DICHLOROETHANE	ND	5	.65
1,1-DICHLOROETHENE	ND	5	.86
1,2-DICHLOROETHANE	ND	5	.95
1,2-DICHLOROPROPANE	ND	5	.73
2-BUTANONE	ND	50	6.7
2-CHLOROETHYLVINYLETHER	ND	50	1.3
2-HEXANONE	ND	50	5.6
4-METHYL-2-PENTANONE	ND	50	3.6
ACETONE	ND	50	9.6
BENZENE	ND	5	.77
BROMODICHLOROMETHANE	ND	5	.82
BROMOFORM	ND	5	.74
BROMOMETHANE	ND	5	1.9
CARBON DISULFIDE	ND	5	.61
CARBON TETRACHLORIDE	ND	5	.83
CHLOROBENZENE	ND	5	1.1
CHLOROETHANE	ND	5	1.7
CHLOROFORM	ND	5	.67
DICHLOROMETHANE	ND	5	.67
CIS-1,2-DICHLOROETHENE	ND	5	.79
CIS-1,3-DICHLOROPROPENE	ND	5	.79
DIBROMOCHLOROMETHANE	ND	5	.71
ETHYLBENZENE	ND	5	1
MTBE	ND	10	.77
METHYLENE CHLORIDE	ND	5	1.4
STYRENE	ND	5	.87
TETRACHLOROETHENE	ND	5	1.1
TOLUENE	ND	5	.99
TRANS-1,2-DICHLOROETHENE	ND	5	.73
TRANS-1,3-DICHLOROPROPENE	ND	5	.82
TRICHLOROETHENE	ND	5	.89
VINYL ACETATE	ND	50	1.4
VINYL CHLORIDE	ND	5	2.5
XYLENES	ND	5	3.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	90	62-139
BROMOFLUOROBENZENE	94	75-125
TOLUENE-D8	101	75-125

PRL: Project Reporting Limit  
 \* : Out side of QC Limit  
 J : An estimated value between PRL and MDL  
 E : Value exceed the upper level of the initial calibration  
 B : Found in the associated blank  
 D : Value from dilution analysis

METHOD 5030A/8260A  
VOLATILE ORGANICS BY GC/MS

```

=====
Client      : IT CORPORATION           Date Collected: 11/09/00
Project    : MCAS EL TORO/18708/D.O. 65 Date Received: 11/09/00
Batch No.  : 00K096                   Date Extracted: 11/15/00 05:57
Sample ID  : 18708-1776                Date Analyzed: 11/15/00 05:57
Lab Samp ID: K096-02                   Dilution Factor: 1
Lab File ID: RKQ492                     Matrix          : WATER
Ext Btch ID: VOK3705                    % Moisture     : NA
Calib. Ref.: RKQ484                     Instrument ID  : T-005
=====

```

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	5	.91
1,1,2,2-TETRACHLOROETHANE	ND	5	1.1
1,1,2-TRICHLOROETHANE	ND	5	.83
1,1-DICHLOROETHANE	ND	5	.65
1,1-DICHLOROETHENE	ND	5	.86
1,2-DICHLOROETHANE	ND	5	.95
1,2-DICHLOROPROPANE	ND	5	.73
2-BUTANONE	ND	50	6.7
2-CHLOROETHYL VINYLETHER	ND	50	1.3
2-HEXANONE	ND	50	5.6
4-METHYL-2-PENTANONE	ND	50	3.6
ACETONE	ND	50	9.6
BENZENE	ND	5	.77
BROMODICHLOROMETHANE	ND	5	.82
BROMOFORM	ND	5	.74
BROMOMETHANE	ND	5	1.9
CARBON DISULFIDE	ND	5	.61
CARBON TETRACHLORIDE	ND	5	.83
CHLOROBENZENE	ND	5	1.1
CHLOROETHANE	ND	5	1.7
CHLOROFORM	ND	5	.67
BROMOMETHANE	ND	5	.67
CIS-1,2-DICHLOROETHENE	ND	5	.79
CIS-1,3-DICHLOROPROPENE	ND	5	.79
DIBROMOCHLOROMETHANE	ND	5	.71
ETHYLBENZENE	ND	5	1
MTBE	ND	10	.77
METHYLENE CHLORIDE	ND	5	1.4
STYRENE	ND	5	.87
TETRACHLOROETHENE	ND	5	1.1
TOLUENE	ND	5	.99
TRANS-1,2-DICHLOROETHENE	ND	5	.73
TRANS-1,3-DICHLOROPROPENE	ND	5	.82
TRICHLOROETHENE	ND	5	.89
VINYL ACETATE	ND	50	1.4
VINYL CHLORIDE	ND	5	2.5
XYLENES	ND	5	3.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	88	62-139
BROMOFLUOROBENZENE	97	75-125
TOLUENE-D8	104	75-125

PRL: Project Reporting Limit  
 \* : Out side of QC Limit  
 J : An estimated value between PRL and MDL  
 E : Value exceed the upper level of the initial calibration  
 B : Found in the associated blank  
 D : Value from dilution analysis

METHOD 5030A/8260A  
VOLATILE ORGANICS BY GC/MS

```

=====
Client      : IT CORPORATION           Date Collected: 11/09/00
Project     : MCAS EL TORO/18708/D.O. 65 Date Received: 11/09/00
Batch No.   : 00K096                 Date Extracted: 11/15/00 06:34
Sample ID   : 18708-1777             Date Analyzed: 11/15/00 06:34
Lab Samp ID : K096-03                Dilution Factor: 1
Lab File ID : RKQ493                 Matrix          : WATER
Ext Btch ID : VOK3705                % Moisture     : NA
Calib. Ref. : RKQ484                 Instrument ID   : T-005
=====
  
```

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	5	.91
1,1,2,2-TETRACHLOROETHANE	ND	5	1.1
1,1,2-TRICHLOROETHANE	ND	5	.83
1,1-DICHLOROETHANE	ND	5	.65
1,1-DICHLOROETHENE	ND	5	.86
1,2-DICHLOROETHANE	ND	5	.95
1,2-DICHLOROPROPANE	ND	5	.73
2-BUTANONE	ND	50	6.7
2-CHLOROETHYL VINYLETHER	ND	50	1.3
2-HEXANONE	ND	50	5.6
4-METHYL-2-PENTANONE	ND	50	3.6
ACETONE	ND	50	9.6
BENZENE	ND	5	.77
BROMODICHLOROMETHANE	ND	5	.82
BROMOFORM	ND	5	.74
BROMOMETHANE	ND	5	1.9
CARBON DISULFIDE	ND	5	.61
CARBON TETRACHLORIDE	ND	5	.83
CHLOROBENZENE	ND	5	1.1
CHLOROETHANE	ND	5	1.7
CHLOROFORM	ND	5	.67
CHLOROMETHANE	ND	5	.67
CIS-1,2-DICHLOROETHENE	ND	5	.79
CIS-1,3-DICHLOROPROPENE	ND	5	.79
DIBROMOCHLOROMETHANE	ND	5	.71
ETHYLBENZENE	ND	5	1
MTBE	ND	10	.77
METHYLENE CHLORIDE	ND	5	1.4
STYRENE	ND	5	.87
TETRACHLOROETHENE	ND	5	1.1
TOLUENE	ND	5	.99
TRANS-1,2-DICHLOROETHENE	ND	5	.73
TRANS-1,3-DICHLOROPROPENE	ND	5	.82
TRICHLOROETHENE	ND	5	.89
VINYL ACETATE	ND	50	1.4
VINYL CHLORIDE	ND	5	2.5
XYLENES	ND	5	3.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	87	62-139
BROMOFLUOROBENZENE	96	75-125
TOLUENE-D8	102	75-125

PRL: Project Reporting Limit  
 \* : Out side of QC Limit  
 J : An estimated value between PRL and MDL  
 E : Value exceed the upper level of the initial calibration  
 B : Found in the associated blank  
 D : Value from dilution analysis

METHOD 5030A/B260A  
VOLATILE ORGANICS BY GC/MS

```

=====
Client      : IT CORPORATION           Date Collected: 11/09/00
Project     : MCAS EL TORO/18708/D.O. 65 Date Received: 11/09/00
Batch No.   : 00K096                 Date Extracted: 11/15/00 07:12
Sample ID   : 18708-1778             Date Analyzed: 11/15/00 07:12
Lab Samp ID : K096-04                Dilution Factor: 1
Lab File ID : RKQ494                 Matrix          : WATER
Ext Btch ID: VOK3705                 % Moisture      : NA
Calib. Ref.: RKQ484                 Instrument ID   : T-005
=====
  
```

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	5	.91
1,1,2,2-TETRACHLOROETHANE	ND	5	1.1
1,1,2-TRICHLOROETHANE	ND	5	.83
1,1-DICHLOROETHANE	ND	5	.65
1,1-DICHLOROETHENE	ND	5	.86
1,2-DICHLOROETHANE	ND	5	.95
1,2-DICHLOROPROPANE	ND	5	.73
2-BUTANONE	ND	50	6.7
2-CHLOROETHYLVINYLETHER	ND	50	1.3
2-HEXANONE	ND	50	5.6
4-METHYL-2-PENTANONE	ND	50	3.6
ACETONE	ND	50	9.6
BENZENE	ND	5	.77
BROMODICHLOROMETHANE	ND	5	.82
BROMOFORM	ND	5	.74
BROMOMETHANE	ND	5	1.9
CARBON DISULFIDE	ND	5	.61
CARBON TETRACHLORIDE	ND	5	.83
CHLOROBENZENE	ND	5	1.1
CHLOROETHANE	ND	5	1.7
CHLOROFORM	ND	5	.67
CHLOROMETHANE	ND	5	.67
CIS-1,2-DICHLOROETHENE	ND	5	.79
CIS-1,3-DICHLOROPROPENE	ND	5	.79
DIBROMOCHLOROMETHANE	ND	5	.71
ETHYLBENZENE	ND	5	1
MTBE	ND	10	.77
METHYLENE CHLORIDE	ND	5	1.4
STYRENE	ND	5	.87
TETRACHLOROETHENE	ND	5	1.1
TOLUENE	ND	5	.99
TRANS-1,2-DICHLOROETHENE	ND	5	.73
TRANS-1,3-DICHLOROPROPENE	ND	5	.82
TRICHLOROETHENE	ND	5	.89
VINYL ACETATE	ND	50	1.4
VINYL CHLORIDE	ND	5	2.5
XYLENES	ND	5	3.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	100	62-139
BROMOFLUOROBENZENE	95	75-125
TOLUENE-D8	98	75-125

PRL: Project Reporting Limit  
 \* : Out side of QC Limit  
 J : An estimated value between PRL and MDL  
 E : Value exceed the upper level of the initial calibration  
 B : Found in the associated blank  
 D : Value from dilution analysis

METHOD 5030A/8260A  
VOLATILE ORGANICS BY GC/MS

```

=====
Client       : IT CORPORATION           Date Collected: NA
Project      : MCAS EL TORO/18708/D.O. 65 Date Received: 11/15/00
Batch No.    : 00K096                  Date Extracted: 11/15/00 03:27
Sample ID    : MBLK1W                  Date Analyzed: 11/15/00 03:27
Lab Samp ID  : VOK3705B                Dilution Factor: 1
Lab File ID  : RKQ488                  Matrix          : WATER
Ext Btch ID  : VOK3705                 % Moisture     : NA
Calib. Ref.  : RKQ484                  Instrument ID   : T-005
=====

```

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	5	.91
1,1,2,2-TETRACHLOROETHANE	ND	5	1.1
1,1,2-TRICHLOROETHANE	ND	5	.83
1,1-DICHLOROETHANE	ND	5	.65
1,1-DICHLOROETHENE	ND	5	.86
1,2-DICHLOROETHANE	ND	5	.95
1,2-DICHLOROPROPANE	ND	5	.73
2-BUTANONE	ND	50	6.7
2-CHLOROETHYLVINYLETHER	ND	50	1.3
2-HEXANONE	ND	50	5.6
4-METHYL-2-PENTANONE	ND	50	3.6
ACETONE	ND	50	9.6
BENZENE	ND	5	.77
BROMODICHLOROMETHANE	ND	5	.82
BROMOFORM	ND	5	.74
BROMOMETHANE	ND	5	1.9
CARBON DISULFIDE	ND	5	.61
CARBON TETRACHLORIDE	ND	5	.83
CHLOROBENZENE	ND	5	1.1
CHLOROETHANE	ND	5	1.7
CHLOROFORM	ND	5	.67
CHLOROMETHANE	ND	5	.67
CIS-1,2-DICHLOROETHENE	ND	5	.79
CIS-1,3-DICHLOROPROPENE	ND	5	.79
DIBROMOCHLOROMETHANE	ND	5	.71
ETHYLBENZENE	ND	5	1
MTBE	ND	10	.77
METHYLENE CHLORIDE	ND	5	1.4
STYRENE	ND	5	.87
TETRACHLOROETHENE	ND	5	1.1
TOLUENE	ND	5	.99
TRANS-1,2-DICHLOROETHENE	ND	5	.73
TRANS-1,3-DICHLOROPROPENE	ND	5	.82
TRICHLOROETHENE	ND	5	.89
VINYL ACETATE	ND	50	1.4
VINYL CHLORIDE	ND	5	2.5
XYLENES	ND	5	3.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	90	62-139
BROMOFLUOROBENZENE	94	75-125
TOLUENE-D8	101	75-125

PRL: Project Reporting Limit  
\* : Out side of QC Limit  
J : An estimated value between PRL and MDL  
E : Value exceed the upper level of the initial calibration  
B : Found in the associated blank  
D : Value from dilution analysis

EMAX QUALITY CONTROL DATA  
LCS/LCD ANALYSIS

CLIENT: IT CORPORATION  
PROJECT: MCAS EL TORO/18708/D.O. 65  
CH NO.: 00K096  
METHOD: METHOD 5030A/8260A

MATRIX: WATER % MOISTURE: NA  
DILUTION FACTOR: 1 1 1  
SAMPLE ID: MBLK1W  
LAB SAMP ID: VOK3705B VOK3705L VOK3705C  
LAB FILE ID: RKQ488 RKQ486 RKQ487  
DATE EXTRACTED: 11/15/0003:27 11/15/0002:12 11/15/0002:49 DATE COLLECTED: NA  
DATE ANALYZED: 11/15/0003:27 11/15/0002:12 11/15/0002:49 DATE RECEIVED: 11/15/00  
PREP. BATCH: VOK3705 VOK3705 VOK3705  
CALIB. REF: RKQ484 RKQ484 RKQ484

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD ( % )	QC LIMIT ( % )	MAX RPD ( % )
1,1-Dichloroethene	ND	20	21.3	106	20	21.4	107	0	75-125	20
Benzene	ND	20	17.2	86	20	16.8	84	2	75-125	20
Chlorobenzene	ND	20	21.2	106	20	20.1	101	5	75-125	20
Toluene	ND	20	21.2	106	20	20	100	6	74-125	20
Trichloroethene	ND	20	16.7	84	20	16.5	82	2	71-125	20

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT ( % )
1,2-Dichloroethane-d4	50	43.5	87	50	44.3	89	62-139
1,2,4-Trifluorobenzene	50	48	96	50	47.8	96	75-125
Toluene-d8	50	51.4	103	50	51.2	102	75-125

**Laboratory Data Consultants, Inc.  
Data Validation Report**

**Project/Site Name:** MCAS El Toro  
**Collection Date:** November 9, 2000  
**LDC Report Date:** December 1, 2000  
**Matrix:** Water  
**Parameters:** Volatiles  
**Validation Level:** NFESC Level C  
**Laboratory:** EMAX Laboratories, Inc.

**Sample Delivery Group (SDG):** 00K096

**Sample Identification**

18708-1775  
18708-1776  
18708-1777  
18708-1778

## Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260A for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

## **I. Technical Holding Times**

All technical holding time requirements were met.

Air bubbles were apparent in all of the sample containers for 18708-1775. There should be no air bubbles in the sample containers.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

## **II. GC/MS Instrument Performance Check**

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

## **III. Initial Calibration**

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 30.0% for all calibration check compounds and less than or equal to 50.0% for all other compounds.

Average relative response factors (RRF) for all volatile target compounds and system performance check compounds (SPCCs) were within method and validation criteria.

## **IV. Continuing Calibration**

Continuing calibration was performed at the required frequencies.

All of the continuing calibration percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were less than or equal to 25.0% for all calibration check compounds and less than or equal to 50.0% for all other compounds.

All of the continuing calibration RRF values were within method and validation criteria.

## **V. Blanks**

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

## **VI. Surrogate Spikes**

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

## **VII. Matrix Spike/Matrix Spike Duplicates**

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

## **VIII. Laboratory Control Samples (LCS)**

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

## **IX. Regional Quality Assurance and Quality Control**

Not applicable.

## **X. Internal Standards**

All internal standard areas and retention times were within QC limits.

## **XI. Target Compound Identifications**

Raw data were not reviewed for this SDG.

## **XII. Compound Quantitation and CRQLs**

Raw data were not reviewed for this SDG.

## **XIII. Tentatively Identified Compounds (TICs)**

Raw data were not reviewed for this SDG.

## **XIV. System Performance**

Raw data were not reviewed for this SDG.

## **XV. Overall Assessment of Data**

Data flags have been summarized at the end of the report.

## **XVI. Field Duplicates**

No field duplicates were identified in this SDG.

## **XVII. Field Blanks**

Sample 18708-1775 was identified as a trip blank. No volatile contaminants were found in this blank.

**MCAS El Toro  
Volatiles - Data Qualification Summary - SDG 00K096**

No Sample Data Qualified in this SDG

**MCAS El Toro  
Volatiles - Laboratory Blank Data Qualification Summary - SDG 00K096**

No Sample Data Qualified in this SDG

COMPLETED 11/22/00



IT Corporation  
2790 Mossie Blvd.  
Monroeville, PA 15146-2792  
(412)372-7701

CHAIN-OF-CUSTODY RECO

PROJECT DATA MANAGER'S COPY

A 12370

FORM 0019 REV. 9-99

LAB COORDINATOR L. CONCEPION	LAB COORDINATOR'S PHONE 919/451-1550	LAB COORDINATOR'S FAX 919/451-5437	LABORATORY SERVICE ID 00K140	LABORATORY CONTACT EMAX	MAIL REPORT (COMPANY NAME) IT Corp
PROJECT NAME W JAMIE	PROJECT LOCATION N CAS EL TORO, CA	PROJECT NUMBER 18708	LABORATORY PHONE 310/618-3839	LABORATORY FAX 310/618-0818	RECIPIENT NAME DWARJE KHIDA
PROJECT CONTACT L. CONCEPION	PROJECT PHONE NUMBER 919/451-1666	PROJECT FAX 919/451-1672	LABORATORY ADDRESS 630 MAPLE AVE		ADDRESS 3347 MICHELSON #200
PROJECT ADDRESS CAS EL TORO 311	CITY, STATE AND ZIP CODE SANTA ANA, CA 92708	CLIENT SWDIV	CITY, STATE AND ZIP CODE TORNANCE, CA		CITY, STATE AND ZIP CODE IRVINE, CA 92612
PROJECT MANAGER	PROJECT MANAGER'S PHONE	PROJECT MANAGER'S FAX	ANALYSES 8260		

Project Information Section  
For Project Personnel Only  
Do Not Submit to Laboratory

ID	Sample Identifier	Matrix	Date	Time	Preserved	# of Cont.	QC Level	T.A.T.	Comments	Sample Type				
										G	C	F	QC	
	918708-1779	W	11/13/00	0815	HCL	3	3	5	X	Cancel 18708-1779				
	918708-1780	W	11/30/00	1130	HCL	3	3	5	X					
	918708-1781	W	11/30/00	0900	HCL	1	3	5	X	Cancel 18708-1781 analyzed				
	18708-1783	W	11/1	0730	HCL	3	3	5	X					
	18708-1784	W	11/14	1100	HCL	3	3	5	X					
	18708-1786	W	11/14	1145	HCL	3	3	5	X					
	18708-1787	W	11/14	0900	HCL	3	3	5	X	no data - cancel no sample received				
	18708-1788	W	11/14	1450	HCL	3	4	5	X					

Sample Point Location	Sample Type			
	G	C	F	QC
① RINSTATE PUL #2				
② 5-UGMW27 @ 232'				
③ TRIT BLANK				
④ RINSTATE PUL #2				
⑤ 5UGMW27A @ 198'				
⑥ 5UGMW41A @ PD				
⑦ TRIT				
⑧ 5UGMW91A DP				

COPIES COLLECTED BY: [Signature]	COURIER AND AIR BILL NUMBER:	COOLER TEMPERATURE UPON RECEIPT:
RELINQUISHED BY: [Signature]	RECEIVED BY: [Signature]	SAMPLE'S CONDITION UPON RECEIPT:
	DATE: 11/22/00	TIME: 3:20p

Comments  
due 11/22/00 rec'd 11/22/00

Distribution: White - Laboratory (To be returned with Analytical Report); Goldenrod - Project File; Manilla - Project Data Manager

Sample Type: G - Grab, C - Composite, F - Field Sample, QC - Quality Control Sample

# EMAX

LABORATORIES, INC.

630 Maple Ave.  
Torrance, CA 90503

Telephone: (310) 618-8889

Fax: (310) 618-0818

Date: 11-25-2000  
EMAX Batch No.: 00K140

Attn: Dwayne Ishida

IT Corporation  
3347 Michelson Dr. # 200  
Irvine CA 92612

Subject: Laboratory Report  
Project: MCAS El Toro/18708/D.O. 65

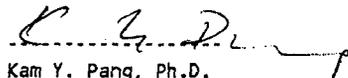
-----  
Enclosed is the Laboratory report for samples received on 11/14/00. The data reported include :

Sample ID	Control #	Col Date	Matrix	Analysis
18708-1779	K140-01	11/13/00	WATER	CANCELLED
18708-1780	K140-02	11/13/00	WATER	VOLATILE ORGANICS BY GC/MS
18708-1781	K140-03	11/13/00	WATER	VOLATILE ORGANICS BY GC/MS
18708-1783	K140-04	11/14/00	WATER	VOLATILE ORGANICS BY GC/MS
18708-1784	K140-05	11/14/00	WATER	VOLATILE ORGANICS BY GC/MS
18708-1786	K140-06	11/14/00	WATER	VOLATILE ORGANICS BY GC/MS
18708-1787	K140-07	11/14/00	WATER	CANCELLED
18708-1788	K140-08	11/14/00	WATER	VOLATILE ORGANICS BY GC/MS

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning these results.

Sincerely yours,



Kam Y. Pang, Ph.D.  
Laboratory Director

METHOD 5030A/8260A  
VOLATILE ORGANICS BY GC/MS

```

=====
ent       : IT CORPORATION           Date Collected: 11/13/00
ject      : MCAS EL TORO/18708/D.O. 65 Date Received: 11/14/00
Batch No. : 00K140                  Date Extracted: 11/20/00 16:32
Sample ID : 18708-1780              Date Analyzed: 11/20/00 16:32
Lab Samp ID: K140-02                Dilution Factor: 1
Lab File ID: RKW570                 Matrix       : WATER
Ext Btch ID: VOK5306                % Moisture   : NA
Calib. Ref.: RKW564                 Instrument ID : T-006
=====

```

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	5	.91
1,1,2,2-TETRACHLOROETHANE	ND	5	1.1
1,1,2-TRICHLOROETHANE	ND	5	.83
1,1-DICHLOROETHANE	ND	5	.65
1,1-DICHLOROETHENE	ND	5	.86
1,2-DICHLOROETHANE	ND	5	.95
1,2-DICHLOROPROPANE	ND	5	.73
2-BUTANONE	ND	50	6.7
2-CHLOROETHYLVINYLETHER	ND	50	1.3
2-HEXANONE	ND	50	5.6
4-METHYL-2-PENTANONE	ND	50	3.6
ACETONE	ND	50	9.6
BENZENE	ND	5	.77
BROMODICHLOROMETHANE	ND	5	.82
BROMOFORM	ND	5	.74
BROMOMETHANE	ND	5	1.9
CARBON DISULFIDE	ND	5	.61
CARBON TETRACHLORIDE	ND	5	.83
CHLOROBENZENE	ND	5	1.1
CHLOROETHANE	ND	5	1.7
CHLOROFORM	ND	5	.67
CHLOROMETHANE	ND	5	.67
CIS-1,2-DICHLOROETHENE	ND	5	.79
CIS-1,3-DICHLOROPROPENE	ND	5	.79
DIBROMOCHLOROMETHANE	ND	5	.71
ETHYLBENZENE	ND	5	1
MTBE	ND	10	.77
METHYLENE CHLORIDE	ND	5	1.4
STYRENE	ND	5	.87
TETRACHLOROETHENE	ND	5	1.1
TOLUENE	ND	5	.99
TRANS-1,2-DICHLOROETHENE	ND	5	.73
TRANS-1,3-DICHLOROPROPENE	ND	5	.82
TRICHLOROETHENE	ND	5	.89
VINYL ACETATE	ND	50	1.4
VINYL CHLORIDE	ND	5	2.5
XYLENES	ND	5	3.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	81	62-139
BROMOFLUOROBENZENE	94	75-125
TOLUENE-D8	105	75-125

PRL: Project Reporting Limit  
 \* : Out side of QC Limit  
 J : An estimated value between PRL and MDL  
 E : Value exceed the upper level of the initial calibration  
 B : Found in the associated blank  
 D : Value from dilution analysis

METHOD 5030A/8260A  
VOLATILE ORGANICS BY GC/MS

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=====
Client      : IT CORPORATION           Date Collected: 11/13/00
Project    : MCAS EL TORO/18708/D.O. 65 Date Received: 11/14/00
Batch No.  : 00K140                   Date Extracted: 11/20/00 17:07
Sample ID  : 18708-1781                Date Analyzed: 11/20/00 17:07
Lab Samp ID: K140-03                   Dilution Factor: 1
Lab File ID: RKW571                     Matrix          : WATER
Ext Btch ID: VOK5306                    % Moisture     : NA
Calib. Ref.: RKW564                     Instrument ID   : T-006
=====

```

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	5	.91
1,1,2,2-TETRACHLOROETHANE	ND	5	1.1
1,1,2-TRICHLOROETHANE	ND	5	.83
1,1-DICHLOROETHANE	ND	5	.65
1,1-DICHLOROETHENE	ND	5	.86
1,2-DICHLOROETHANE	ND	5	.95
1,2-DICHLOROPROPANE	ND	5	.73
2-BUTANONE	ND	50	6.7
2-CHLOROETHYLVINYLETHER	ND	50	1.3
2-HEXANONE	ND	50	5.6
4-METHYL-2-PENTANONE	ND	50	3.6
ACETONE	ND	50	9.6
BENZENE	ND	5	.77
BROMODICHLOROMETHANE	ND	5	.82
BROMOFORM	ND	5	.74
BROMOMETHANE	ND	5	1.9
CARBON DISULFIDE	ND	5	.61
CARBON TETRACHLORIDE	ND	5	.83
CHLOROBENZENE	ND	5	1.1
CHLOROETHANE	ND	5	1.7
CHLOROFORM	ND	5	.67
CHLOROMETHANE	ND	5	.67
CIS-1,2-DICHLOROETHENE	ND	5	.79
CIS-1,3-DICHLOROPROPENE	ND	5	.79
DIBROMOCHLOROMETHANE	ND	5	.71
ETHYLBENZENE	ND	5	1
MTBE	ND	10	.77
METHYLENE CHLORIDE	ND	5	1.4
STYRENE	ND	5	.87
TETRACHLOROETHENE	ND	5	1.1
TOLUENE	ND	5	.99
TRANS-1,2-DICHLOROETHENE	ND	5	.73
TRANS-1,3-DICHLOROPROPENE	ND	5	.82
TRICHLOROETHENE	ND	5	.89
VINYL ACETATE	ND	50	1.4
VINYL CHLORIDE	ND	5	2.5
XYLENES	ND	5	3.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	83	62-139
BROMOFLUOROBENZENE	97	75-125
TOLUENE-D8	106	75-125

PRL: Project Reporting Limit  
 \* : Out side of QC Limit  
 J : An estimated value between PRL and MDL  
 E : Value exceed the upper level of the initial calibration  
 B : Found in the associated blank  
 D : Value from dilution analysis

METHOD 5030A/8260A  
VOLATILE ORGANICS BY GC/MS

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=====
Client      : IT CORPORATION           Date Collected: 11/14/00
Project    : MCAS EL TORO/18708/D.O. 65 Date Received: 11/14/00
Batch No.  : 00K140                   Date Extracted: 11/20/00 17:42
Sample ID  : 18708-1783                Date Analyzed: 11/20/00 17:42
Lab Samp ID: K140-04                   Dilution Factor: 1
Lab File ID: RKW572                     Matrix          : WATER
Ext Btch ID: VOK5306                    % Moisture     : NA
Calib. Ref.: RKW564                     Instrument ID   : T-006
=====

```

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	5	.91
1,1,2,2-TETRACHLOROETHANE	ND	5	1.1
1,1,2-TRICHLOROETHANE	ND	5	.83
1,1-DICHLOROETHANE	ND	5	.65
1,1-DICHLOROETHENE	ND	5	.86
1,2-DICHLOROETHANE	ND	5	.95
1,2-DICHLOROPROPANE	ND	5	.73
2-BUTANONE	ND	50	6.7
2-CHLOROETHYLVINYLETHER	ND	50	1.3
2-HEXANONE	ND	50	5.6
4-METHYL-2-PENTANONE	ND	50	3.6
ACETONE	ND	50	9.6
BENZENE	ND	5	.77
BROMODICHLOROMETHANE	ND	5	.82
BROMOFORM	ND	5	.74
BROMOMETHANE	ND	5	1.9
CARBON DISULFIDE	ND	5	.61
CARBON TETRACHLORIDE	ND	5	.83
CHLOROBENZENE	ND	5	1.1
CHLOROETHANE	ND	5	1.7
CHLOROFORM	ND	5	.67
CHLOROMETHANE	ND	5	.67
CIS-1,2-DICHLOROETHENE	ND	5	.79
CIS-1,3-DICHLOROPROPENE	ND	5	.79
DIBROMOCHLOROMETHANE	ND	5	.71
ETHYLBENZENE	ND	5	1
MTBE	ND	10	.77
METHYLENE CHLORIDE	1.6J	5	1.4
STYRENE	ND	5	.87
TETRACHLOROETHENE	ND	5	1.1
TOLUENE	ND	5	.99
TRANS-1,2-DICHLOROETHENE	ND	5	.73
TRANS-1,3-DICHLOROPROPENE	ND	5	.82
TRICHLOROETHENE	ND	5	.89
VINYL ACETATE	ND	50	1.4
VINYL CHLORIDE	ND	5	2.5
XYLENES	ND	5	3.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	85	62-139
BROMOFLUOROBENZENE	92	75-125
TOLUENE-D8	106	75-125

PRL: Project Reporting Limit  
 \* : Out side of QC Limit  
 J : An estimated value between PRL and MDL  
 E : Value exceed the upper level of the initial calibration  
 B : Found in the associated blank  
 D : Value from dilution analysis

METHOD 5030A/8260A  
VOLATILE ORGANICS BY GC/MS

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=====
Client      : IT CORPORATION           Date Collected: 11/14/00
Project     : MCAS EL TORO/18708/D.O. 65 Date Received: 11/14/00
  ch No.    : 00K140                   Date Extracted: 11/20/00 18:17
Sample ID   : 18708-1784               Date Analyzed: 11/20/00 18:17
Lab Samp ID: K140-05                   Dilution Factor: 1
Lab File ID: RKW573                     Matrix      : WATER
Ext Btch ID: VOK5306                    % Moisture  : NA
Calib. Ref.: RKW564                     Instrument ID: T-006
=====
  
```

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	5	.91
1,1,2,2-TETRACHLOROETHANE	ND	5	1.1
1,1,2-TRICHLOROETHANE	ND	5	.83
1,1-DICHLOROETHANE	ND	5	.65
1,1-DICHLOROETHENE	ND	5	.86
1,2-DICHLOROETHANE	ND	5	.95
1,2-DICHLOROPROPANE	ND	5	.73
2-BUTANONE	ND	50	6.7
2-CHLOROETHYLVINYLETHER	ND	50	1.3
2-HEXANONE	ND	50	5.6
4-METHYL-2-PENTANONE	ND	50	3.6
ACETONE	ND	50	9.6
BENZENE	ND	5	.77
BROMODICHLOROMETHANE	ND	5	.82
BROMOFORM	ND	5	.74
BROMOMETHANE	ND	5	1.9
CARBON DISULFIDE	ND	5	.61
CARBON TETRACHLORIDE	ND	5	.83
CHLOROBENZENE	ND	5	1.1
CHLOROETHANE	ND	5	1.7
CHLOROFORM	ND	5	.67
CHLOROMETHANE	ND	5	.67
CIS-1,2-DICHLOROETHENE	ND	5	.79
CIS-1,3-DICHLOROPROPENE	ND	5	.79
BROMOCHLOROMETHANE	ND	5	.71
ETHYLBENZENE	ND	5	1
MTBE	ND	10	.77
METHYLENE CHLORIDE	ND	5	1.4
STYRENE	ND	5	.87
TETRACHLOROETHENE	ND	5	1.1
TOLUENE	ND	5	.99
TRANS-1,2-DICHLOROETHENE	ND	5	.73
TRANS-1,3-DICHLOROPROPENE	ND	5	.82
TRICHLOROETHENE	ND	5	.89
VINYL ACETATE	ND	50	1.4
VINYL CHLORIDE	ND	5	2.5
XYLENES	ND	5	3.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	87	62-139
BROMOFLUOROBENZENE	93	75-125
TOLUENE-D8	105	75-125

PRL: Project Reporting Limit  
 \* : Out side of QC Limit  
 J : An estimated value between PRL and MDL  
 E : Value exceed the upper level of the initial calibration  
 B : Found in the associated blank  
 D : Value from dilution analysis

METHOD 5030A/8260A  
VOLATILE ORGANICS BY GC/MS

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=====
Client       : IT CORPORATION           Date Collected: 11/14/00
Project      : MCAS EL TORO/18708/D.O. 65 Date Received: 11/14/00
Batch No.    : 00K140                  Date Extracted: 11/20/00 18:52
Sample ID    : 18708-1786              Date Analyzed: 11/20/00 18:52
Lab Samp ID  : K140-06                  Dilution Factor: 1
Lab File ID  : RKW574                   Matrix          : WATER
Ext Btch ID  : VOK5306                  % Moisture      : NA
Calib. Ref.  : RKW564                   Instrument ID    : T-006
=====
  
```

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	5	.91
1,1,2,2-TETRACHLOROETHANE	ND	5	1.1
1,1,2-TRICHLOROETHANE	ND	5	.83
1,1-DICHLOROETHANE	ND	5	.65
1,1-DICHLOROETHENE	ND	5	.86
1,2-DICHLOROETHANE	ND	5	.95
1,2-DICHLOROPROPANE	ND	5	.73
2-BUTANONE	ND	50	6.7
2-CHLOROETHYLVINYLETHER	ND	50	1.3
2-HEXANONE	ND	50	5.6
4-METHYL-2-PENTANONE	ND	50	3.6
ACETONE	ND	50	9.6
BENZENE	ND	5	.77
BROMODICHLOROMETHANE	ND	5	.82
BROMOFORM	ND	5	.74
BROMOMETHANE	ND	5	1.9
CARBON DISULFIDE	ND	5	.61
CARBON TETRACHLORIDE	ND	5	.83
CHLOROBENZENE	ND	5	1.1
CHLOROETHANE	ND	5	1.7
CHLOROFORM	ND	5	.67
CHLOROMETHANE	ND	5	.67
CIS-1,2-DICHLOROETHENE	ND	5	.79
CIS-1,3-DICHLOROPROPENE	ND	5	.79
DIBROMOCHLOROMETHANE	ND	5	.71
ETHYLBENZENE	ND	5	1
MTBE	ND	10	.77
METHYLENE CHLORIDE	ND	5	1.4
STYRENE	ND	5	.87
TETRACHLOROETHENE	ND	5	1.1
TOLUENE	ND	5	.99
TRANS-1,2-DICHLOROETHENE	ND	5	.73
TRANS-1,3-DICHLOROPROPENE	ND	5	.82
TRICHLOROETHENE	ND	5	.89
VINYL ACETATE	ND	50	1.4
VINYL CHLORIDE	ND	5	2.5
XYLENES	ND	5	3.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	87	62-139
BROMOFLUOROBENZENE	92	75-125
TOLUENE-D8	105	75-125

PRL: Project Reporting Limit  
 \* : Out side of QC Limit  
 J : An estimated value between PRL and MDL  
 E : Value exceed the upper level of the initial calibration  
 B : Found in the associated blank  
 D : Value from dilution analysis

2008

METHOD 5030A/8260A  
VOLATILE ORGANICS BY GC/MS

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=====
Client       : IT CORPORATION           Date Collected: 11/14/00
Project      : MCAS EL TORO/18708/D.O. 65 Date Received: 11/14/00
Batch No.    : 00K140                 Date Extracted: 11/20/00 19:27
Sample ID    : 18708-1788             Date Analyzed: 11/20/00 19:27
Lab Samp ID  : K140-08                Dilution Factor: 1
Lab File ID  : RKW575                 Matrix          : WATER
Ext Btch ID  : VOK5306                % Moisture     : NA
Calib. Ref. : RKW564                 Instrument ID   : T-006
=====
  
```

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	5	.91
1,1,2,2-TETRACHLOROETHANE	ND	5	1.1
1,1,2-TRICHLOROETHANE	ND	5	.83
1,1-DICHLOROETHANE	ND	5	.65
1,1-DICHLOROETHENE	ND	5	.86
1,2-DICHLOROETHANE	ND	5	.95
1,2-DICHLOROPROPANE	ND	5	.73
2-BUTANONE	ND	50	6.7
2-CHLOROETHYL VINYLETHER	ND	50	1.3
2-HEXANONE	ND	50	5.6
4-METHYL-2-PENTANONE	ND	50	3.6
ACETONE	ND	50	9.6
BENZENE	ND	5	.77
BROMODICHLOROMETHANE	ND	5	.82
BROMOFORM	ND	5	.74
BROMOMETHANE	ND	5	1.9
CARBON DISULFIDE	ND	5	.61
CARBON TETRACHLORIDE	ND	5	.83
CHLORO BENZENE	ND	5	1.1
CHLOROETHANE	ND	5	1.7
CHLOROFORM	ND	5	.67
CHLOROMETHANE	ND	5	.67
CIS-1,2-DICHLOROETHENE	ND	5	.79
CIS-1,3-DICHLOROPROPENE	ND	5	.79
DIBROMOCHLOROMETHANE	ND	5	.71
ETHYLBENZENE	ND	5	1
MTBE	ND	10	.77
METHYLENE CHLORIDE	ND	5	1.4
STYRENE	ND	5	.87
TETRACHLOROETHENE	ND	5	1.1
TOLUENE	ND	5	.99
TRANS-1,2-DICHLOROETHENE	ND	5	.73
TRANS-1,3-DICHLOROPROPENE	ND	5	.82
TRICHLOROETHENE	ND	5	.89
VINYL ACETATE	ND	50	1.4
VINYL CHLORIDE	ND	5	2.5
XYLENES	ND	5	3.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	88	62-139
BROMOFLUOROBENZENE	91	75-125
TOLUENE-D8	104	75-125

PRL: Project Reporting Limit  
 \* : Out side of QC Limit  
 J : An estimated value between PRL and MDL  
 E : Value exceed the upper level of the initial calibration  
 B : Found in the associated blank  
 D : Value from dilution analysis

2009

METHOD 5030A/8260A  
VOLATILE ORGANICS BY GC/MS

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=====
Client       : IT CORPORATION           Date Collected: NA
Project      : MCAS EL TORO/18708/D.O. 65 Date Received: 11/20/00
Batch No.    : 00K140                  Date Extracted: 11/20/00 15:58
Sample ID    : MBLK1W                  Date Analyzed: 11/20/00 15:58
Lab Samp ID  : VOK5306Q                Dilution Factor: 1
Lab File ID  : RKW569                  Matrix          : WATER
Ext Btch ID  : VOK5306                 % Moisture      : NA
Calib. Ref.  : RKW564                  Instrument ID   : T-006
=====
  
```

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	5	.91
1,1,2,2-TETRACHLOROETHANE	ND	5	1.1
1,1,2-TRICHLOROETHANE	ND	5	.83
1,1-DICHLOROETHANE	ND	5	.65
1,1-DICHLOROETHENE	ND	5	.86
1,2-DICHLOROETHANE	ND	5	.95
1,2-DICHLOROPROPANE	ND	5	.73
2-BUTANONE	ND	50	6.7
2-CHLOROETHYLVINYLETHER	ND	50	1.3
2-HEXANONE	ND	50	5.6
4-METHYL-2-PENTANONE	ND	50	3.6
ACETONE	ND	50	9.6
BENZENE	ND	5	.77
BROMODICHLOROMETHANE	ND	5	.82
BROMOFORM	ND	5	.74
BROMOMETHANE	ND	5	1.9
CARBON DISULFIDE	ND	5	.61
CARBON TETRACHLORIDE	ND	5	.83
CHLOROENZENE	ND	5	1.1
CHLOROETHANE	ND	5	1.7
CHLOROFORM	ND	5	.67
CHLOROMETHANE	ND	5	.67
CIS-1,2-DICHLOROETHENE	ND	5	.79
CIS-1,3-DICHLOROPROPENE	ND	5	.79
DIBROMOCHLOROMETHANE	ND	5	.71
ETHYLBENZENE	ND	5	1
MTBE	ND	10	.77
METHYLENE CHLORIDE	ND	5	1.4
STYRENE	ND	5	.87
TETRACHLOROETHENE	ND	5	1.1
TOLUENE	ND	5	.99
TRANS-1,2-DICHLOROETHENE	ND	5	.73
TRANS-1,3-DICHLOROPROPENE	ND	5	.82
TRICHLOROETHENE	ND	5	.89
VINYL ACETATE	ND	50	1.4
VINYL CHLORIDE	ND	5	2.5
XYLENES	ND	5	3.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	89	62-139
BROMOFLUOROBENZENE	91	75-125
TOLUENE-D8	105	75-125

PRL: Project Reporting Limit

\* : Out side of QC Limit

J : An estimated value between PRL and MDL

E : Value exceed the upper level of the initial calibration

B : Found in the associated blank

D : Value from dilution analysis

2011

EMAX QUALITY CONTROL DATA  
LCS/LCD ANALYSIS

CLIENT: IT CORPORATION  
PROJECT: MCAS EL TORO/18708/D.O. 65  
SAMP NO.: 00K140  
METHOD: METHOD 5030A/8260A

MATRIX: WATER % MOISTURE: NA  
DILUTION FACTOR: 1 1  
SAMPLE ID: MBLK1W  
LAB SAMP ID: VOK5306Q VOK5306C VOK5406C  
LAB FILE ID: RKW569 RKW567 RKW577  
DATE EXTRACTED: 11/20/0015:58 11/20/0014:48 11/20/0020:36 DATE COLLECTED: NA  
DATE ANALYZED: 11/20/0015:58 11/20/0014:48 11/20/0020:36 DATE RECEIVED: 11/20/00  
PREP. BATCH: VOK5306 VOK5306 VOK5306  
CALIB. REF: RKW564 RKW564 RKW564

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD ( % )	QC LIMIT ( % )	MAX RPD ( % )
1,1-Dichloroethene	ND	20	16.7	84	20	17.3	87	3	75-125	20
Benzene	ND	20	17.8	89	20	18.1	90	1	75-125	20
Chlorobenzene	ND	20	20.1	100	20	21.4	107	6	75-125	20
Toluene	ND	20	19.5	97	20	21.5	108	10	74-125	20
Trichloroethene	ND	20	16.2	81	20	17.2	86	6	71-125	20

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT ( % )
1,2-Dichloroethane-d4	50	48	96	50	43	86	62-139
Bromofluorobenzene	50	48.1	96	50	47.4	95	75-125
Toluene-d8	50	52.6	105	50	54.3	109	75-125

2012

**Laboratory Data Consultants, Inc.  
Data Validation Report**

**Project/Site Name:** MCAS El Toro  
**Collection Date:** November 13 through November 14, 2000  
**LDC Report Date:** December 8, 2000  
**Matrix:** Water  
**Parameters:** Volatiles  
**Validation Level:** NFESC Level C  
**Laboratory:** EMAX Laboratories, Inc.  
**Sample Delivery Group (SDG):** 00K140

**Sample Identification**

18708-1780  
18708-1781  
18708-1783  
18708-1784  
18708-1786  
18708-1788

## Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260A for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

## **I. Technical Holding Times**

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

## **II. GC/MS Instrument Performance Check**

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

## **III. Initial Calibration**

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 30.0% for all calibration check compounds and less than or equal to 50.0% for all other compounds.

Average relative response factors (RRF) for all volatile target compounds and system performance check compounds (SPCCs) were within method and validation criteria.

## **IV. Continuing Calibration**

Continuing calibration was performed at the required frequencies.

All of the continuing calibration percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were less than or equal to 25.0% for all calibration check compounds and less than or equal to 50.0% for all other compounds.

All of the continuing calibration RRF values were within method and validation criteria.

## **V. Blanks**

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

## **VI. Surrogate Spikes**

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

## **VII. Matrix Spike/Matrix Spike Duplicates**

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix-spike duplicate analyses were not performed for this SDG.

### **VIII. Laboratory Control Samples (LCS)**

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

### **IX. Regional Quality Assurance and Quality Control**

Not applicable.

### **X. Internal Standards**

All internal standard areas and retention times were within QC limits.

### **XI. Target Compound Identifications**

Raw data were not reviewed for this SDG.

### **XII. Compound Quantitation and CRQLs**

Raw data were not reviewed for this SDG.

### **XIII. Tentatively Identified Compounds (TICs)**

Raw data were not reviewed for this SDG.

### **XIV. System Performance**

Raw data were not reviewed for this SDG.

### **XV. Overall Assessment of Data**

Data flags have been summarized at the end of the report.

### **XVI. Field Duplicates**

Samples 18708-1784 and 18708-1788 were identified as field duplicates. No volatiles were detected in any of the samples.

### **XVII. Field Blanks**

No field blanks were identified in this SDG.

**MCAS EI Toro  
Volatiles - Data Qualification Summary - SDG 00K140**

No Sample Data Qualified in this SDG

**MCAS EI Toro  
Volatiles - Laboratory Blank Data Qualification Summary - SDG 00K140**

No Sample Data Qualified in this SDG



# EMAX

LABORATORIES, INC.

630 Maple Ave.

Torrance, CA 90503

Telephone: (310) 618-8889

Fax: (310) 618-0818

Date: 11-25-2000

EMAX Batch No.: 00K148

Attn: Dwayne Ishida

IT Corporation  
3347 Michelson Dr. # 200  
Irvine CA 92612

Subject: Laboratory Report  
Project: MCAS El Toro/18708/D.O. 65

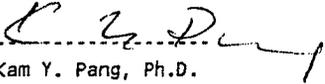
-----  
Enclosed is the Laboratory report for samples received on  
11/15/00. The data reported include :

Sample ID	Control #	Col Date	Matrix	Analysis
18708-1789	K148-01	11/15/00	WATER	VOLATILE ORGANICS BY GC/MS
18708-1790	K148-02	11/15/00	WATER	HOLD
18708-1791	K148-03	11/15/00	WATER	VOLATILE ORGANICS BY GC/MS
18708-1792	K148-04	11/15/00	WATER	VOLATILE ORGANICS BY GC/MS

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning  
these results.

Sincerely yours,

  
Kam Y. Pang, Ph.D.  
Laboratory Director

METHOD 5030A/8260A  
VOLATILE ORGANICS BY GC/MS

```

=====
Client      : IT CORPORATION           Date Collected: 11/15/00
Project     : MCAS EL TORO/18708/D.O. 65 Date Received: 11/15/00
Batch No.   : 00K148                 Date Extracted: 11/19/00 12:11
Sample ID   : 18708-1789             Date Analyzed: 11/19/00 12:11
Lab Samp ID: K148-01                Dilution Factor: 1
Lab File ID: RKW552                 Matrix          : WATER
Ext Btch ID: VOK5106                % Moisture      : NA
Calib. Ref.: RKW545                 Instrument ID    : T-006
=====

```

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	5	.91
1,1,2,2-TETRACHLOROETHANE	ND	5	1.1
1,1,2-TRICHLOROETHANE	ND	5	.83
1,1-DICHLOROETHANE	ND	5	.65
1,1-DICHLOROETHENE	ND	5	.86
1,2-DICHLOROETHANE	ND	5	.95
1,2-DICHLOROPROPANE	ND	5	.73
2-BUTANONE	ND	50	6.7
2-CHLOROETHYL VINYLETHER	ND	50	1.3
2-HEXANONE	ND	50	5.6
4-METHYL-2-PENTANONE	ND	50	3.6
ACETONE	ND	50	9.6
BENZENE	ND	5	.77
BROMODICHLOROMETHANE	ND	5	.82
BROMOFORM	ND	5	.74
BROMOMETHANE	ND	5	1.9
CARBON DISULFIDE	ND	5	.61
CARBON TETRACHLORIDE	ND	5	.83
CHLORO BENZENE	ND	5	1.1
CHLOROETHANE	ND	5	1.7
CHLOROFORM	ND	5	.67
CHLOROMETHANE	ND	5	.67
CIS-1,2-DICHLOROETHENE	ND	5	.79
CIS-1,3-DICHLOROPROPENE	ND	5	.79
DIBROMOCHLOROMETHANE	ND	5	.71
ETHYLBENZENE	ND	5	1
MTBE	ND	10	.77
METHYLENE CHLORIDE	ND	5	1.4
STYRENE	ND	5	.87
TETRACHLOROETHENE	ND	5	1.1
TOLUENE	ND	5	.99
TRANS-1,2-DICHLOROETHENE	ND	5	.73
TRANS-1,3-DICHLOROPROPENE	ND	5	.82
TRICHLOROETHENE	ND	5	.89
VINYL ACETATE	ND	50	1.4
VINYL CHLORIDE	ND	5	2.5
XYLENES	ND	5	3.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	91	62-139
BROMOFLUOROBENZENE	94	75-125
TOLUENE-D8	106	75-125

PRL: Project Reporting Limit  
 \* : Out side of QC Limit  
 J : An estimated value between PRL and MDL  
 E : Value exceed the upper level of the initial calibration  
 B : Found in the associated blank  
 D : Value from dilution analysis

METHOD 5030A/8260A  
VOLATILE ORGANICS BY GC/MS

```

=====
Client      : IT CORPORATION           Date Collected: 11/15/00
Project     : MCAS EL TORO/18708/D.O. 65 Date Received: 11/15/00
Batch No.   : 00K148                  Date Extracted: 11/19/00 12:45
Sample ID   : 18708-1791              Date Analyzed: 11/19/00 12:45
Lab Samp ID: K148-03                  Dilution Factor: 1
Lab File ID: RKW553                   Matrix          : WATER
Ext Btch ID: VOK5106                  % Moisture     : NA
Calib. Ref.: RKW545                   Instrument ID   : T-006
=====
  
```

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	5	.91
1,1,2,2-TETRACHLOROETHANE	ND	5	1.1
1,1,2-TRICHLOROETHANE	ND	5	.83
1,1-DICHLOROETHANE	ND	5	.65
1,1-DICHLOROETHENE	ND	5	.86
1,2-DICHLOROETHANE	4.3J	5	.95
1,2-DICHLOROPROPANE	ND	5	.73
2-BUTANONE	ND	50	6.7
2-CHLOROETHYLVINYLETHER	ND	50	1.3
2-HEXANONE	ND	50	5.6
4-METHYL-2-PENTANONE	ND	50	3.6
ACETONE	ND	50	9.6
BENZENE	200	5	.77
BROMODICHLOROMETHANE	ND	5	.82
BROMOFORM	ND	5	.74
BROMOMETHANE	ND	5	1.9
CARBON DISULFIDE	ND	5	.61
CARBON TETRACHLORIDE	ND	5	.83
CHLOROBENZENE	ND	5	1.1
CHLOROETHANE	ND	5	1.7
CHLOROFORM	ND	5	.67
CHLOROMETHANE	ND	5	.67
CIS-1,2-DICHLOROETHENE	ND	5	.79
CIS-1,3-DICHLOROPROPENE	ND	5	.79
DIBROMOCHLOROMETHANE	ND	5	.71
ETHYLBENZENE	40	5	1
MTBE	ND	10	.77
METHYLENE CHLORIDE	ND	5	1.4
STYRENE	ND	5	.87
TETRACHLOROETHENE	ND	5	1.1
TOLUENE	ND	5	.99
TRANS-1,2-DICHLOROETHENE	ND	5	.73
TRANS-1,3-DICHLOROPROPENE	ND	5	.82
TRICHLOROETHENE	ND	5	.89
VINYL ACETATE	ND	50	1.4
VINYL CHLORIDE	ND	5	2.5
XYLENES	51	5	3.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	83	62-139
BROMOFLUOROBENZENE	93	75-125
TOLUENE-D8	107	75-125

PRL: Project Reporting Limit  
 \* : Out side of QC Limit  
 J : An estimated value between PRL and MDL  
 E : Value exceed the upper level of the initial calibration  
 B : Found in the associated blank  
 D : Value from dilution analysis

METHOD 5030A/8260A  
VOLATILE ORGANICS BY GC/MS

```

=====
Client       : IT CORPORATION           Date Collected: 11/15/00
Project      : MCAS EL TORO/18708/D.O. 65 Date Received: 11/15/00
Batch No.    : 00K148                  Date Extracted: 11/19/00 13:20
Sample ID    : 18708-1792              Date Analyzed: 11/19/00 13:20
Lab Samp ID  : K148-04                 Dilution Factor: 1
Lab File ID  : RKW554                 Matrix         : WATER
Ext Btch ID  : VOK5106                % Moisture     : NA
Calib. Ref.  : RKW545                 Instrument ID   : T-006
=====

```

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	5	.91
1,1,2,2-TETRACHLOROETHANE	ND	5	1.1
1,1,2-TRICHLOROETHANE	ND	5	.83
1,1-DICHLOROETHANE	ND	5	.65
1,1-DICHLOROETHENE	ND	5	.86
1,2-DICHLOROETHANE	ND	5	.95
1,2-DICHLOROPROPANE	ND	5	.73
2-BUTANONE	ND	50	6.7
2-CHLOROETHYLVINYLETHER	ND	50	1.3
2-HEXANONE	ND	50	5.6
4-METHYL-2-PENTANONE	ND	50	3.6
ACETONE	ND	50	9.6
BENZENE	ND	5	.77
BROMODICHLOROMETHANE	ND	5	.82
BROMOFORM	ND	5	.74
BROMOMETHANE	ND	5	1.9
CARBON DISULFIDE	ND	5	.61
CARBON TETRACHLORIDE	ND	5	.83
CHLOROBENZENE	ND	5	1.1
CHLOROETHANE	ND	5	1.7
CHLOROFORM	ND	5	.67
CHLOROMETHANE	ND	5	.67
CIS-1,2-DICHLOROETHENE	ND	5	.79
CIS-1,3-DICHLOROPROPENE	ND	5	.79
DIBROMOCHLOROMETHANE	ND	5	.71
ETHYLBENZENE	ND	5	1
MTBE	ND	10	.77
METHYLENE CHLORIDE	ND	5	1.4
STYRENE	ND	5	.87
TETRACHLOROETHENE	ND	5	1.1
TOLUENE	ND	5	.99
TRANS-1,2-DICHLOROETHENE	ND	5	.73
TRANS-1,3-DICHLOROPROPENE	ND	5	.82
TRICHLOROETHENE	ND	5	.89
VINYL ACETATE	ND	50	1.4
VINYL CHLORIDE	ND	5	2.5
XYLENES	ND	5	3.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	93	62-139
BROMOFLUOROBENZENE	90	75-125
TOLUENE-D8	107	75-125

PRL: Project Reporting Limit  
 \* : Out side of QC Limit  
 J : An estimated value between PRL and MDL  
 E : Value exceed the upper level of the initial calibration  
 B : Found in the associated blank  
 D : Value from dilution analysis

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METHOD 5030A/8260A  
VOLATILE ORGANICS BY GC/MS

```

=====
Client      : IT CORPORATION           Date Collected: NA
Project    : MCAS EL TORO/18708/D.O. 65 Date Received: 11/19/00
Batch No.  : 00K148                   Date Extracted: 11/19/00 10:26
Sample ID  : MBLK1W                    Date Analyzed: 11/19/00 10:26
Lab Samp ID: VOK5106Q                  Dilution Factor: 1
Lab File ID: RKW549                    Matrix          : WATER
Ext Btch ID: VOK5106                    % Moisture     : NA
Calib. Ref.: RKW545                     Instrument ID   : T-006
=====

```

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	5	.91
1,1,2,2-TETRACHLOROETHANE	ND	5	1.1
1,1,2-TRICHLOROETHANE	ND	5	.83
1,1-DICHLOROETHANE	ND	5	.65
1,1-DICHLOROETHENE	ND	5	.86
1,2-DICHLOROETHANE	ND	5	.95
1,2-DICHLOROPROPANE	ND	5	.73
2-BUTANONE	ND	50	6.7
2-CHLOROETHYLVINYLETHER	ND	50	1.3
2-HEXANONE	ND	50	5.6
4-METHYL-2-PENTANONE	ND	50	3.6
ACETONE	ND	50	9.6
BENZENE	ND	5	.77
BROMODICHLOROMETHANE	ND	5	.82
BROMOFORM	ND	5	.74
BROMOMETHANE	ND	5	1.9
CARBON DISULFIDE	ND	5	.61
CARBON TETRACHLORIDE	ND	5	.83
CHLOROBENZENE	ND	5	1.1
CHLOROETHANE	ND	5	1.7
CHLOROFORM	ND	5	.67
CHLOROMETHANE	ND	5	.67
CIS-1,2-DICHLOROETHENE	ND	5	.79
CIS-1,3-DICHLOROPROPENE	ND	5	.79
DIBROMOCHLOROMETHANE	ND	5	.71
ETHYLBENZENE	ND	5	1
MTBE	ND	10	.77
METHYLENE CHLORIDE	ND	5	1.4
STYRENE	ND	5	.87
TETRACHLOROETHENE	ND	5	1.1
TOLUENE	ND	5	.99
TRANS-1,2-DICHLOROETHENE	ND	5	.73
TRANS-1,3-DICHLOROPROPENE	ND	5	.82
TRICHLOROETHENE	ND	5	.89
VINYL ACETATE	ND	50	1.4
VINYL CHLORIDE	ND	5	2.5
XYLENES	ND	5	3.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	97	62-139
BROMOFLUOROBENZENE	93	75-125
TOLUENE-D8	107	75-125

PRL: Project Reporting Limit  
\* : Out side of QC Limit  
J : An estimated value between PRL and MDL  
E : Value exceed the upper level of the initial calibration  
B : Found in the associated blank  
D : Value from dilution analysis

EMAX QUALITY CONTROL DATA  
LCS/LCD ANALYSIS

CLIENT: IT CORPORATION  
PROJECT: MCAS EL TORO/18708/D.O. 65  
BATCH NO.: 00K148  
METHOD: METHOD 5030A/8260A

MATRIX: WATER % MOISTURE: NA  
DILUTION FACTOR: 1 1  
SAMPLE ID: MBLK1W  
LAB SAMP ID: VOK5106Q VOK5106L VOK5106C  
LAB FILE ID: RKW549 RKW546 RKW547  
DATE EXTRACTED: 11/19/0010:26 11/19/0008:42 11/19/0009:17 DATE COLLECTED: NA  
DATE ANALYZED: 11/19/0010:26 11/19/0008:42 11/19/0009:17 DATE RECEIVED: 11/19/00  
PREP. BATCH: VOK5106 VOK5106 VOK5106  
CALIB. REF: RKW545 RKW545 RKW545

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
1,1-Dichloroethene	ND	20	18.7	94	20	20.7	103	10	75-125	20
Benzene	ND	20	20.1	101	20	22.6	113	11	75-125	20
Chlorobenzene	ND	20	21.5	107	20	23.7	119	10	75-125	20
Toluene	ND	20	21.2	106	20	23.6	118	11	74-125	20
Trichloroethene	ND	20	19.8	99	20	22.6	113	13	71-125	20

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT (%)
1,2-Dichloroethane-d4	50	47.2	94	50	46.2	92	62-139
Bromofluorobenzene	50	47	94	50	47	94	75-125
Toluene-d8	50	54.1	108	50	53.7	107	75-125

**Laboratory Data Consultants, Inc.  
Data Validation Report**

**Project/Site Name:** MCAS El Toro  
**Collection Date:** November 15, 2000  
**LDC Report Date:** December 1, 2000  
**Matrix:** Water  
**Parameters:** Volatiles  
**Validation Level:** NFESC Level C  
**Laboratory:** EMAX Laboratories, Inc.

**Sample Delivery Group (SDG):** 00K148

**Sample Identification**

18708-1789  
18708-1791  
18708-1792

## Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260A for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

## I. Technical Holding Times

All technical holding time requirements were met.

Air bubbles were apparent in all of the sample containers for 18708-1789. There should be no air bubbles in the sample containers.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

## II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

## III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 30.0% for all calibration check compounds and less than or equal to 50.0% for all other compounds.

Average relative response factors (RRF) for all volatile target compounds and system performance check compounds (SPCCs) were within method and validation criteria.

## IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

All of the continuing calibration percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were less than or equal to 25.0% for all calibration check compounds and less than or equal to 50.0% for all other compounds with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
11/19/00	Vinyl acetate	56	All samples in SDG 00K148	J (all detects) UJ (all non-detects)	A

All of the continuing calibration RRF values were within method and validation criteria.

## V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

## **VI. Surrogate Spikes**

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

## **VII. Matrix Spike/Matrix Spike Duplicates**

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

## **VIII. Laboratory Control Samples (LCS)**

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

## **IX. Regional Quality Assurance and Quality Control**

Not applicable.

## **X. Internal Standards**

All internal standard areas and retention times were within QC limits.

## **XI. Target Compound Identifications**

Raw data were not reviewed for this SDG.

## **XII. Compound Quantitation and CRQLs**

Raw data were not reviewed for this SDG.

## **XIII. Tentatively Identified Compounds (TICs)**

Raw data were not reviewed for this SDG.

## **XIV. System Performance**

Raw data were not reviewed for this SDG.

## **XV. Overall Assessment of Data**

Data flags have been summarized at the end of the report.

## **XVI. Field Duplicates**

No field duplicates were identified in this SDG.

## **XVII. Field Blanks**

Sample 18708-1789 was identified as a trip blank. No volatile contaminants were found in this blank.

**MCAS EI Toro**  
**Volatiles - Data Qualification Summary - SDG 00K148**

<b>SDG</b>	<b>Sample</b>	<b>Compound</b>	<b>Flag</b>	<b>A or P</b>	<b>Reason</b>
00K148	18708-1789 18708-1791 18708-1792	Vinyl acetate	J (all detects) UJ (all non-detects)	A	Continuing calibration (%D)

**MCAS EI Toro**  
**Volatiles - Laboratory Blank Data Qualification Summary - SDG 00K148**

No Sample Data Qualified in this SDG



3703A

# EMAX

LABORATORIES, INC.

630 Maple Ave.  
Torrance, CA 90503  
Telephone: (310) 618-8889  
Fax: (310) 618-0818

Date: 11-27-2000  
EMAX Batch No.: 00K166

Attn: Dwayne Ishida

IT Corporation  
3347 Michelson Dr. # 200  
Irvine CA 92612

Subject: Laboratory Report  
Project: MCAS El Toro/18708/D.O. 65

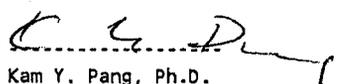
-----  
Enclosed is the Laboratory report for samples received on 11/16/00. The data reported include :

Sample ID	Control #	Col Date	Matrix	Analysis
18708-1793	K166-01	11/16/00	WATER	VOLATILE ORGANICS BY GC/MS
18708-1794	K166-02	11/16/00	WATER	VOLATILE ORGANICS BY GC/MS
18708-1795	K166-03	11/16/00	WATER	VOLATILE ORGANICS BY GC/MS
18708-1796	K166-04	11/16/00	WATER	VOLATILE ORGANICS BY GC/MS

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning these results.

Sincerely yours,

  
Kam Y. Pang, Ph.D.  
Laboratory Director

METHOD 5030A/8260A  
VOLATILE ORGANICS BY GC/MS

```

=====
Client      : IT CORPORATION                Date Collected: 11/16/00
Project    : MCAS EL TORO/18708/D.O. 65   Date Received: 11/16/00
Batch No.  : 00K166                       Date Extracted: 11/19/00 02:20
Sample ID  : 18708-1793                   Date Analyzed: 11/19/00 02:20
Lab Samp ID: K166-01                      Dilution Factor: 1
Lab File ID: RKW535                       Matrix          : WATER
Ext Btch ID: VOK4906                      % Moisture     : NA
Calib. Ref.: RKW524                      Instrument ID   : T-006
=====

```

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	5	.91
1,1,2,2-TETRACHLOROETHANE	ND	5	1.1
1,1,2-TRICHLOROETHANE	ND	5	.83
1,1-DICHLOROETHANE	ND	5	.65
1,1-DICHLOROETHENE	ND	5	.86
1,2-DICHLOROETHANE	ND	5	.95
1,2-DICHLOROPROPANE	ND	5	.73
2-BUTANONE	ND	50	6.7
2-CHLOROETHYLVINYLETHER	ND	50	1.3
2-HEXANONE	ND	50	5.6
4-METHYL-2-PENTANONE	ND	50	3.6
ACETONE	ND	50	9.6
BENZENE	ND	5	.77
BROMODICHLOROMETHANE	ND	5	.82
BROMOFORM	ND	5	.74
BROMOMETHANE	ND	5	1.9
CARBON DISULFIDE	ND	5	.61
CARBON TETRACHLORIDE	ND	5	.83
CHLOROBENZENE	ND	5	1.1
CHLOROETHANE	ND	5	1.7
CHLOROFORM	ND	5	.67
CHLOROMETHANE	ND	5	.67
1,2-DICHLOROETHENE	ND	5	.79
1,3-DICHLOROPROPENE	ND	5	.79
DIBROMOCHLOROMETHANE	ND	5	.71
ETHYLBENZENE	ND	5	1
MTBE	ND	10	.77
METHYLENE CHLORIDE	ND	5	1.4
STYRENE	ND	5	.87
TETRACHLOROETHENE	ND	5	1.1
TOLUENE	ND	5	.99
TRANS-1,2-DICHLOROETHENE	ND	5	.73
TRANS-1,3-DICHLOROPROPENE	ND	5	.82
TRICHLOROETHENE	ND	5	.89
VINYL ACETATE	ND	50	1.4
VINYL CHLORIDE	ND	5	2.5
XYLENES	ND	5	3.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	89	62-139
BROMOFLUOROBENZENE	93	75-125
TOLUENE-D8	106	75-125

PRL: Project Reporting Limit

\* : Out side of QC Limit

J : An estimated value between PRL and MDL

E : Value exceed the upper level of the initial calibration

B : Found in the associated blank

D : Value from dilution analysis

2004

METHOD 5030A/8260A  
VOLATILE ORGANICS BY GC/MS

```

=====
Client       : IT CORPORATION           Date Collected: 11/16/00
Project      : MCAS EL TORO/18708/D.O. 65 Date Received: 11/16/00
Batch No.    : 00K166                 Date Extracted: 11/19/00 02:55
Sample ID    : 18708-1794             Date Analyzed: 11/19/00 02:55
Lab Samp ID  : K166-02                Dilution Factor: 1
Lab File ID  : RKW536                 Matrix          : WATER
Ext Btch ID  : VOK4906                % Moisture     : NA
Calib. Ref. : RKW524                 Instrument ID   : T-006
=====
  
```

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	5	.91
1,1,2,2-TETRACHLOROETHANE	ND	5	1.1
1,1,2-TRICHLOROETHANE	ND	5	.83
1,1-DICHLOROETHANE	ND	5	.65
1,1-DICHLOROETHENE	ND	5	.86
1,2-DICHLOROETHANE	ND	5	.95
1,2-DICHLOROPROPANE	ND	5	.73
2-BUTANONE	ND	50	6.7
2-CHLOROETHYLVINYLETHER	ND	50	1.3
2-HEXANONE	ND	50	5.6
4-METHYL-2-PENTANONE	ND	50	3.6
ACETONE	ND	50	9.6
BENZENE	ND	5	.77
BROMODICHLOROMETHANE	ND	5	.82
BROMOFORM	ND	5	.74
BROMOMETHANE	ND	5	1.9
CARBON DISULFIDE	ND	5	.61
CARBON TETRACHLORIDE	ND	5	.83
CHLOROBENZENE	ND	5	1.1
CHLOROETHANE	ND	5	1.7
CHLOROFORM	ND	5	.67
CHLOROMETHANE	ND	5	.67
1,2-DICHLOROETHENE	ND	5	.79
1,3-DICHLOROPROPENE	ND	5	.79
DIBROMOCHLOROMETHANE	ND	5	.71
ETHYLBENZENE	ND	5	1
MTBE	ND	10	.77
METHYLENE CHLORIDE	1.8J	5	1.4
STYRENE	ND	5	.87
TETRACHLOROETHENE	ND	5	1.1
TOLUENE	ND	5	.99
TRANS-1,2-DICHLOROETHENE	ND	5	.73
TRANS-1,3-DICHLOROPROPENE	ND	5	.82
TRICHLOROETHENE	ND	5	.89
VINYL ACETATE	ND	50	1.4
VINYL CHLORIDE	ND	5	2.5
XYLENES	ND	5	3.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	92	62-139
BROMOFLUOROBENZENE	96	75-125
TOLUENE-D8	109	75-125

PRL: Project Reporting Limit  
 \* : Out side of QC Limit  
 J : An estimated value between PRL and MDL  
 E : Value exceed the upper level of the initial calibration  
 B : Found in the associated blank  
 D : Value from dilution analysis

2005

METHOD 5030A/8260A  
VOLATILE ORGANICS BY GC/MS

```

=====
Client      : IT CORPORATION           Date Collected: 11/16/00
Project    : MCAS EL TORO/18708/D.O. 65 Date Received: 11/16/00
Batch No.  : 00K166                  Date Extracted: 11/19/00 03:30
Sample ID  : 18708-1795              Date Analyzed: 11/19/00 03:30
Lab Samp ID: K166-03                 Dilution Factor: 1
Lab File ID: RKW537                  Matrix          : WATER
Ext Btch ID: VOK4906                 % Moisture     : NA
Calib. Ref.: RKW524                  Instrument ID   : T-006
=====
  
```

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	5	.91
1,1,2,2-TETRACHLOROETHANE	ND	5	1.1
1,1,2-TRICHLOROETHANE	ND	5	.83
1,1-DICHLOROETHANE	ND	5	.65
1,1-DICHLOROETHENE	ND	5	.86
1,2-DICHLOROETHANE	ND	5	.95
1,2-DICHLOROPROPANE	ND	5	.73
2-BUTANONE	ND	50	6.7
2-CHLOROETHYLVINYLETHER	ND	50	1.3
2-HEXANONE	ND	50	5.6
4-METHYL-2-PENTANONE	ND	50	3.6
ACETONE	ND	50	9.6
BENZENE	ND	5	.77
BROMODICHLOROMETHANE	ND	5	.82
BROMOFORM	ND	5	.74
BROMOMETHANE	ND	5	1.9
CARBON DISULFIDE	ND	5	.61
CARBON TETRACHLORIDE	ND	5	.83
CHLOROBENZENE	ND	5	1.1
CHLOROETHANE	ND	5	1.7
CHLOROFORM	ND	5	.67
CHLOROMETHANE	ND	5	.67
1,3,2-DICHLOROETHENE	ND	5	.79
1,3-DICHLOROPROPENE	ND	5	.79
DIBROMOCHLOROMETHANE	ND	5	.71
ETHYLBENZENE	ND	5	1
MTBE	ND	10	.77
METHYLENE CHLORIDE	ND	5	1.4
STYRENE	ND	5	.87
TETRACHLOROETHENE	ND	5	1.1
TOLUENE	ND	5	.99
TRANS-1,2-DICHLOROETHENE	ND	5	.73
TRANS-1,3-DICHLOROPROPENE	ND	5	.82
TRICHLOROETHENE	ND	5	.89
VINYL ACETATE	ND	50	1.4
VINYL CHLORIDE	ND	5	2.5
XYLENES	ND	5	3.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	91	62-139
BROMOFLUOROBENZENE	94	75-125
TOLUENE-D8	108	75-125

PRL: Project Reporting Limit  
 \* : Out side of QC Limit  
 J : An estimated value between PRL and MDL  
 E : Value exceed the upper level of the initial calibration  
 B : Found in the associated blank  
 D : Value from dilution analysis

METHOD 5030A/8260A  
VOLATILE ORGANICS BY GC/MS

```

=====
Client      : IT CORPORATION           Date Collected: 11/16/00
Project    : MCAS EL TORO/18708/D.O. 65 Date Received: 11/16/00
Batch No.  : 00K166                  Date Extracted: 11/19/00 04:05
Sample ID  : 18708-1796              Date Analyzed: 11/19/00 04:05
Lab Samp ID: K166-04                Dilution Factor: 1
Lab File ID: RKW538                 Matrix          : WATER
Ext Btch ID: VOK4906                % Moisture     : NA
Calib. Ref.: RKW524                 Instrument ID   : T-006
=====

```

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	5	.91
1,1,2,2-TETRACHLOROETHANE	ND	5	1.1
1,1,2-TRICHLOROETHANE	ND	5	.83
1,1-DICHLOROETHANE	ND	5	.65
1,1-DICHLOROETHENE	ND	5	.86
1,2-DICHLOROETHANE	ND	5	.95
1,2-DICHLOROPROPANE	ND	5	.73
2-BUTANONE	ND	50	6.7
2-CHLOROETHYLVINYLETHER	ND	50	1.3
2-HEXANONE	ND	50	5.6
4-METHYL-2-PENTANONE	ND	50	3.6
ACETONE	ND	50	9.6
BENZENE	ND	5	.77
BROMODICHLOROMETHANE	ND	5	.82
BROMOFORM	ND	5	.74
BROMOMETHANE	ND	5	1.9
CARBON DISULFIDE	ND	5	.61
CARBON TETRACHLORIDE	ND	5	.83
CHLOROBENZENE	ND	5	1.1
CHLOROETHANE	ND	5	1.7
CHLOROFORM	ND	5	.67
CHLOROMETHANE	ND	5	.67
CIS-1,2-DICHLOROETHENE	ND	5	.79
CIS-1,3-DICHLOROPROPENE	ND	5	.79
DIBROMOCHLOROMETHANE	ND	5	.71
ETHYLBENZENE	ND	5	1
MTBE	ND	10	.77
METHYLENE CHLORIDE	ND	5	1.4
STYRENE	ND	5	.87
TETRACHLOROETHENE	ND	5	1.1
TOLUENE	ND	5	.99
TRANS-1,2-DICHLOROETHENE	ND	5	.73
TRANS-1,3-DICHLOROPROPENE	ND	5	.82
TRICHLOROETHENE	ND	5	.89
VINYL ACETATE	ND	50	1.4
VINYL CHLORIDE	ND	5	2.5
XYLENES	ND	5	3.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	90	62-139
BROMOFLUOROBENZENE	90	75-125
TOLUENE-D8	105	75-125

PRL: Project Reporting Limit  
\* : Out side of QC Limit  
J : An estimated value between PRL and MDL  
E : Value exceed the upper level of the initial calibration  
B : Found in the associated blank  
D : Value from dilution analysis

METHOD 5030A/8260A  
VOLATILE ORGANICS BY GC/MS

```

=====
Client      : IT CORPORATION           Date Collected: NA
Project     : MCAS EL TORO/18708/D.O. 65 Date Received: 11/18/00
Batch No.   : 00K166                 Date Extracted: 11/18/00 22:17
Sample ID   : MBLK1W                 Date Analyzed: 11/18/00 22:17
Lab Samp ID : VOK4906Q              Dilution Factor: 1
Lab File ID : RKW528                Matrix          : WATER
Ext Btch ID : VOK4906              % Moisture     : NA
Calib. Ref.: RKW524                Instrument ID   : T-006
=====

```

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	5	.91
1,1,2,2-TETRACHLOROETHANE	ND	5	1.1
1,1,2-TRICHLOROETHANE	ND	5	.83
1,1-DICHLOROETHANE	ND	5	.65
1,1-DICHLOROETHENE	ND	5	.86
1,2-DICHLOROETHANE	ND	5	.95
1,2-DICHLOROPROPANE	ND	5	.73
2-BUTANONE	ND	50	6.7
2-CHLOROETHYLVINYLETHER	ND	50	1.3
2-HEXANONE	ND	50	5.6
4-METHYL-2-PENTANONE	ND	50	3.6
ACETONE	ND	50	9.6
BENZENE	ND	5	.77
BROMODICHLOROMETHANE	ND	5	.82
BROMOFORM	ND	5	.74
BROMOMETHANE	ND	5	1.9
CARBON DISULFIDE	ND	5	.61
CARBON TETRACHLORIDE	ND	5	.83
CHLOROBENZENE	ND	5	1.1
CHLOROETHANE	ND	5	1.7
CHLOROFORM	ND	5	.67
CHLOROMETHANE	ND	5	.67
CIS-1,2-DICHLOROETHENE	ND	5	.79
CIS-1,3-DICHLOROPROPENE	ND	5	.79
DIBROMOCHLOROMETHANE	ND	5	.71
ETHYLBENZENE	ND	5	1
MTBE	ND	10	.77
METHYLENE CHLORIDE	ND	5	1.4
STYRENE	ND	5	.87
TETRACHLOROETHENE	ND	5	1.1
TOLUENE	ND	5	.99
TRANS-1,2-DICHLOROETHENE	ND	5	.73
TRANS-1,3-DICHLOROPROPENE	ND	5	.82
TRICHLOROETHENE	ND	5	.89
VINYL ACETATE	ND	50	1.4
VINYL CHLORIDE	ND	5	2.5
XYLENES	ND	5	3.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	99	62-139
BROMOFLUOROBENZENE	96	75-125
TOLUENE-D8	109	75-125

PRL: Project Reporting Limit  
 \* : Out side of QC Limit  
 J : An estimated value between PRL and MDL  
 E : Value exceed the upper level of the initial calibration  
 B : Found in the associated blank  
 D : Value from dilution analysis

2009

EMAX QUALITY CONTROL DATA  
MS/MSD ANALYSIS

CLIENT: IT CORPORATION  
PROJECT: MCAS EL TORO/18708/D.O. 65  
CH NO.: 00K166  
METHOD: METHOD 5030A/8260A

MATRIX: WATER % MOISTURE: NA  
DILUTION FACTOR: 1 1 1  
SAMPLE ID: 18708-1796  
LAB SAMP ID: K166-04 K166-04M K166-04S  
LAB FILE ID: RKW538 RKW539 RKW540  
DATE EXTRACTED: 11/19/0004:05 11/19/0004:39 11/19/0005:14 DATE COLLECTED: 11/16/00  
DATE ANALYZED: 11/19/0004:05 11/19/0004:39 11/19/0005:14 DATE RECEIVED: 11/16/00  
PREP. BATCH: VOK4906 VOK4906 VOK4906  
CALIB. REF: RKW524 RKW524 RKW524

ACCESSION:

PARAMETER	SMPL RSLT (ug/L)	SPIKE AMT (ug/L)	MS RSLT (ug/L)	MS % REC	SPIKE AMT (ug/L)	MSD RSLT (ug/L)	MSD % REC	RPD ( % )	QC LIMIT ( % )	MAX RPD ( % )
1,1-Dichloroethene	ND	50	47.4	95	50	43.9	88	8	75-125	20
Benzene	ND	50	49.4	99	50	47.5	95	4	75-125	20
Chlorobenzene	ND	50	52	104	50	51.8	104	0	75-125	20
Toluene	ND	50	50.5	101	50	49.6	99	2	74-125	20
Trichloroethene	ND	50	48.9	98	50	43.6	87	11	71-125	20

SURROGATE PARAMETER	SPIKE AMT (ug/L)	MS RSLT (ug/L)	MS % REC	SPIKE AMT (ug/L)	MSD RSLT (ug/L)	MSD % REC	QC LIMIT ( % )
1,2-Dichloroethane-d4	50	44.8	90	50	43.9	88	62-139
Bromofluorobenzene	50	48.3	97	50	46.4	93	75-125
Toluene-d8	50	52.6	105	50	53.5	107	75-125

\* : Out side of QC Limit

**Laboratory Data Consultants, Inc.  
Data Validation Report**

**Project/Site Name:** MCAS El Toro  
**Collection Date:** November 16, 2000  
**LDC Report Date:** December 11, 2000  
**Matrix:** Water  
**Parameters:** Volatiles  
**Validation Level:** NFESC Level C  
**Laboratory:** EMAX Laboratories, Inc.

**Sample Delivery Group (SDG):** 00K166

**Sample Identification**

18708-1793  
18708-1794  
18708-1795  
18708-1796  
18708-1796MS  
18708-1796MSD

## Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260A for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UU Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

## **I. Technical Holding Times**

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

## **II. GC/MS Instrument Performance Check**

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

## **III. Initial Calibration**

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 50.0% for each individual compound and less than or equal to 30.0% for calibration check compounds (CCCs) .

Average relative response factors (RRF) for all volatile target compounds and system performance check compounds (SPCCs) were within method and validation criteria.

## **IV. Continuing Calibration**

Continuing calibration was performed at the required frequencies.

All of the continuing calibration percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were less than or equal to 25.0% for all calibration check compounds (CCCs) and less than or equal to 50.0% for all other compounds.

All of the continuing calibration RRF values were within method and validation criteria.

## **V. Blanks**

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

## **VI. Surrogate Spikes**

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

## **VII. Matrix Spike/Matrix Spike Duplicates**

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

## **VIII. Laboratory Control Samples (LCS)**

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

## **IX. Regional Quality Assurance and Quality Control**

Not applicable.

## **X. Internal Standards**

All internal standard areas and retention times were within QC limits.

## **XI. Target Compound Identifications**

Raw data were not reviewed for this SDG.

## **XII. Compound Quantitation and CRQLs**

Raw data were not reviewed for this SDG.

## **XIII. Tentatively Identified Compounds (TICs)**

Raw data were not reviewed for this SDG.

## **XIV. System Performance**

Raw data were not reviewed for this SDG.

## **XV. Overall Assessment of Data**

Data flags have been summarized at the end of the report.

## **XVI. Field Duplicates**

No field duplicates were identified in this SDG.

## **XVII. Field Blanks**

Sample 18708-1793 was identified as a trip blank. No volatile contaminants were found in this blank.

**MCAS EI Toro  
Volatiles - Data Qualification Summary - SDG 00K166**

No Sample Data Qualified in this SDG

**MCAS EI Toro  
Volatiles - Laboratory Blank Data Qualification Summary - SDG 00K166**

No Sample Data Qualified in this SDG



510321

# EMAX

LABORATORIES, INC.

630 Maple Ave.  
Torrance, CA 90503

Telephone: (310) 618-8889  
Fax: (310) 618-0818

Date: 11-29-2000  
EMAX Batch No.: 00K183

Attn: Dwayne Ishida

IT Corporation  
3347 Michelson Dr. # 200  
Irvine CA 92612

Subject: Laboratory Report  
Project: MCAS El Toro/18708/D.O. 65

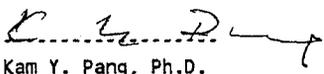
Enclosed is the Laboratory report for samples received on 11/17/00. The data reported include :

Sample ID	Control #	Col Date	Matrix	Analysis
18708-1797	K183-01	11/17/00	WATER	HOLD
18708-1798	K183-02	11/17/00	WATER	VOLATILE ORGANICS BY GC/MS
18708-1799	K183-03	11/17/00	WATER	VOLATILE ORGANICS BY GC/MS
18708-1800	K183-04	11/17/00	WATER	VOLATILE ORGANICS BY GC/MS
18708-1801	K183-05	11/17/00	WATER	VOLATILE ORGANICS BY GC/MS

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning these results.

Sincerely yours,

  
Kam Y. Pang, Ph.D.  
Laboratory Director

METHOD 5030A/8260A  
VOLATILE ORGANICS BY GC/MS

```

=====
Client      : IT CORPORATION           Date Collected: 11/17/00
Project    : MCAS EL TORO/18708/D.O. 65 Date Received: 11/17/00
Batch No.  : 00K183                  Date Extracted: 11/24/00 04:37
Sample ID  : 18708-1797              Date Analyzed: 11/24/00 04:37
Lab Samp ID: K183-01                 Dilution Factor: 1
Lab File ID: RKQ780                  Matrix          : WATER
Ext Btch ID: VOK6205                 % Moisture     : NA
Calib. Ref.: RKQ763                  Instrument ID   : T-005
=====
  
```

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	5	.91
1,1,2,2-TETRACHLOROETHANE	ND	5	1.1
1,1,2-TRICHLOROETHANE	ND	5	.83
1,1-DICHLOROETHANE	ND	5	.65
1,1-DICHLOROETHENE	ND	5	.86
1,2-DICHLOROETHANE	ND	5	.95
1,2-DICHLOROPROPANE	ND	5	.73
2-BUTANONE	ND	50	6.7
2-CHLOROETHYLVINYLETHER	ND	50	1.3
2-HEXANONE	ND	50	5.6
4-METHYL-2-PENTANONE	ND	50	3.6
ACETONE	ND	50	9.6
BENZENE	ND	5	.77
BROMODICHLOROMETHANE	ND	5	.82
BROMOFORM	ND	5	.74
BROMOMETHANE	ND	5	1.9
CARBON DISULFIDE	ND	5	.61
CARBON TETRACHLORIDE	ND	5	.83
CHLOROBENZENE	ND	5	1.1
CHLOROETHANE	ND	5	1.7
CHLOROFORM	ND	5	.67
BROMOMETHANE	ND	5	.67
CIS-1,2-DICHLOROETHENE	ND	5	.79
CIS-1,3-DICHLOROPROPENE	ND	5	.79
DIBROMOCHLOROMETHANE	ND	5	.71
ETHYLBENZENE	ND	5	1
MTBE	ND	10	.77
METHYLENE CHLORIDE	ND	5	1.4
STYRENE	ND	5	.87
TETRACHLOROETHENE	ND	5	1.1
TOLUENE	ND	5	.99
TRANS-1,2-DICHLOROETHENE	ND	5	.73
TRANS-1,3-DICHLOROPROPENE	ND	5	.82
TRICHLOROETHENE	ND	5	.89
VINYL ACETATE	ND	50	1.4
VINYL CHLORIDE	ND	5	2.5
XYLENES	ND	5	3.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	114	62-139
BROMOFLUOROBENZENE	100	75-125
TOLUENE-D8	94	75-125

PRL: Project Reporting Limit

\* : Out side of QC Limit

J : An estimated value between PRL and MDL

E : Value exceed the upper level of the initial calibration

B : Found in the associated blank

D : Value from dilution analysis

METHOD 5030A/8260A  
VOLATILE ORGANICS BY GC/MS

```

=====
Client      : IT CORPORATION           Date Collected: 11/17/00
Project     : MCAS EL TORO/18708/D.O. 65 Date Received: 11/17/00
Batch No.   : 00K183                 Date Extracted: 11/24/00 02:45
Sample ID   : 18708-1798             Date Analyzed: 11/24/00 02:45
Lab Samp ID: K183-02                 Dilution Factor: 1
Lab File ID: RKQ777                 Matrix          : WATER
Ext Btch ID: VOK6205                % Moisture      : NA
Calib. Ref.: RKQ763                 Instrument ID   : T-005
=====
  
```

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	5	.91
1,1,2,2-TETRACHLOROETHANE	ND	5	1.1
1,1,2-TRICHLOROETHANE	ND	5	.83
1,1-DICHLOROETHANE	ND	5	.65
1,1-DICHLOROETHENE	ND	5	.86
1,2-DICHLOROETHANE	ND	5	.95
1,2-DICHLOROPROPANE	ND	5	.73
2-BUTANONE	ND	50	6.7
2-CHLOROETHYLVINYLETHER	ND	50	1.3
2-HEXANONE	ND	50	5.6
4-METHYL-2-PENTANONE	ND	50	3.6
ACETONE	ND	50	9.6
BENZENE	ND	5	.77
BROMODICHLOROMETHANE	ND	5	.82
BROMOFORM	ND	5	.74
BROMOMETHANE	ND	5	1.9
CARBON DISULFIDE	ND	5	.61
CARBON TETRACHLORIDE	ND	5	.83
CHLOROBENZENE	ND	5	1.1
CHLOROETHANE	ND	5	1.7
CHLOROFORM	ND	5	.67
BROMOMETHANE	ND	5	.67
TRANS-1,2-DICHLOROETHENE	ND	5	.79
CIS-1,3-DICHLOROPROPENE	ND	5	.79
DIBROMOCHLOROMETHANE	ND	5	.71
ETHYLBENZENE	ND	5	1
MTBE	ND	10	.77
METHYLENE CHLORIDE	ND	5	1.4
STYRENE	ND	5	.87
TETRACHLOROETHENE	ND	5	1.1
TOLUENE	ND	5	.99
TRANS-1,2-DICHLOROETHENE	ND	5	.73
TRANS-1,3-DICHLOROPROPENE	ND	5	.82
TRICHLOROETHENE	ND	5	.89
VINYL ACETATE	ND	50	1.4
VINYL CHLORIDE	ND	5	2.5
XYLENES	ND	5	3.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	109	62-139
BROMOFLUOROBENZENE	105	75-125
TOLUENE-D8	96	75-125

PRL: Project Reporting Limit

\* : Out side of QC Limit

J : An estimated value between PRL and MDL

E : Value exceed the upper level of the initial calibration

B : Found in the associated blank

D : Value from dilution analysis

METHOD 5030A/8260A  
VOLATILE ORGANICS BY GC/MS

```

=====
Client      : IT CORPORATION           Date Collected: 11/17/00
Project     : MCAS EL TORO/18708/D.O. 65 Date Received: 11/17/00
Batch No.   : 00K183                 Date Extracted: 11/24/00 03:22
Sample ID   : 18708-1799             Date Analyzed: 11/24/00 03:22
Lab Samp ID: K183-03                 Dilution Factor: 1
Lab File ID: RKQ778                 Matrix          : WATER
Ext Btch ID: VOK6205                % Moisture     : NA
Calib. Ref.: RKQ763                 Instrument ID   : T-005
=====
  
```

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	5	.91
1,1,2,2-TETRACHLOROETHANE	ND	5	1.1
1,1,2-TRICHLOROETHANE	ND	5	.83
1,1-DICHLOROETHANE	ND	5	.65
1,1-DICHLOROETHENE	ND	5	.86
1,2-DICHLOROETHANE	ND	5	.95
1,2-DICHLOROPROPANE	ND	5	.73
2-BUTANONE	ND	50	6.7
2-CHLOROETHYL VINYLETHER	ND	50	1.3
2-HEXANONE	ND	50	5.6
4-METHYL-2-PENTANONE	ND	50	3.6
ACETONE	ND	50	9.6
BENZENE	ND	5	.77
BROMODICHLOROMETHANE	ND	5	.82
BROMOFORM	ND	5	.74
BROMOMETHANE	ND	5	1.9
CARBON DISULFIDE	ND	5	.61
CARBON TETRACHLORIDE	ND	5	.83
CHLOROBENZENE	ND	5	1.1
CHLOROETHANE	ND	5	1.7
CHLOROFORM	ND	5	.67
CHLOROMETHANE	ND	5	.67
CIS-1,2-DICHLOROETHENE	ND	5	.79
CIS-1,3-DICHLOROPROPENE	ND	5	.79
DIBROMOCHLOROMETHANE	ND	5	.71
ETHYLBENZENE	ND	5	1
MTBE	ND	10	.77
METHYLENE CHLORIDE	ND	5	1.4
STYRENE	ND	5	.87
TETRACHLOROETHENE	ND	5	1.1
TOLUENE	ND	5	.99
TRANS-1,2-DICHLOROETHENE	ND	5	.73
TRANS-1,3-DICHLOROPROPENE	ND	5	.82
TRICHLOROETHENE	ND	5	.89
VINYL ACETATE	ND	50	1.4
VINYL CHLORIDE	ND	5	2.5
XYLENES	ND	5	3.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	111	62-139
BROMOFLUOROBENZENE	96	75-125
TOLUENE-D8	98	75-125

PRL: Project Reporting Limit  
 \* : Out side of QC Limit  
 J : An estimated value between PRL and MDL  
 E : Value exceed the upper level of the initial calibration  
 B : Found in the associated blank  
 D : Value from dilution analysis

METHOD 5030A/8260A  
VOLATILE ORGANICS BY GC/MS

```

=====
Client      : IT CORPORATION           Date Collected: 11/17/00
Project    : MCAS EL TORO/18708/D.O. 65 Date Received: 11/17/00
Ch No.     : 00K183                  Date Extracted: 11/23/00 21:44
Sample ID  : 18708-1800              Date Analyzed: 11/23/00 21:44
Lab Samp ID: K183-04                 Dilution Factor: 1
Lab File ID: RKQ769                  Matrix          : WATER
Ext Btch ID: VOK6205                 % Moisture     : NA
Calib. Ref.: RKQ763                  Instrument ID   : T-005
=====
  
```

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	5	.91
1,1,2,2-TETRACHLOROETHANE	ND	5	1.1
1,1,2-TRICHLOROETHANE	ND	5	.83
1,1-DICHLOROETHANE	ND	5	.65
1,1-DICHLOROETHENE	ND	5	.86
1,2-DICHLOROETHANE	ND	5	.95
1,2-DICHLOROPROPANE	ND	5	.73
2-BUTANONE	ND	50	6.7
2-CHLOROETHYLVINYLETHER	ND	50	1.3
2-HEXANONE	ND	50	5.6
4-METHYL-2-PENTANONE	ND	50	3.6
ACETONE	ND	50	9.6
BENZENE	ND	5	.77
BROMODICHLOROMETHANE	ND	5	.82
BROMOFORM	ND	5	.74
BROMOMETHANE	ND	5	1.9
CARBON DISULFIDE	ND	5	.61
CARBON TETRACHLORIDE	ND	5	.83
CHLOROBENZENE	ND	5	1.1
CHLOROETHANE	ND	5	1.7
CHLOROFORM	ND	5	.67
BROMOMETHANE	ND	5	.67
1,2-DICHLOROETHENE	ND	5	.79
CIS-1,3-DICHLOROPROPENE	ND	5	.79
DIBROMOCHLOROMETHANE	ND	5	.71
ETHYLBENZENE	ND	5	1
MTBE	ND	10	.77
METHYLENE CHLORIDE	ND	5	1.4
STYRENE	ND	5	.87
TETRACHLOROETHENE	ND	5	1.1
TOLUENE	ND	5	.99
TRANS-1,2-DICHLOROETHENE	ND	5	.73
TRANS-1,3-DICHLOROPROPENE	ND	5	.82
TRICHLOROETHENE	ND	5	.89
VINYL ACETATE	ND	50	1.4
VINYL CHLORIDE	ND	5	2.5
XYLENES	ND	5	3.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	107	62-139
BROMOFLUOROBENZENE	110	75-125
TOLUENE-D8	96	75-125

PRL: Project Reporting Limit  
 \* : Out side of QC Limit  
 J : An estimated value between PRL and MDL  
 E : Value exceed the upper level of the initial calibration  
 B : Found in the associated blank  
 D : Value from dilution analysis

2007

METHOD 5030A/8260A  
VOLATILE ORGANICS BY GC/MS

```

=====
Client      : IT CORPORATION           Date Collected: 11/17/00
Contract    : MCAS EL TORO/18708/D.O. 65 Date Received: 11/17/00
Batch No.   : 00K183                  Date Extracted: 11/24/00 04:00
Sample ID   : 18708-1801              Date Analyzed: 11/24/00 04:00
Lab Samp ID : K183-05                 Dilution Factor: 1
Lab File ID : RKQ779                  Matrix          : WATER
Ext Btch ID : VOK6205                 % Moisture     : NA
Calib. Ref. : RKQ763                  Instrument ID   : T-005
=====
  
```

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	5	.91
1,1,2-TETRACHLOROETHANE	ND	5	1.1
1,1,2-TRICHLOROETHANE	ND	5	.83
1,1-DICHLOROETHANE	ND	5	.65
1,1-DICHLOROETHENE	ND	5	.86
1,2-DICHLOROETHANE	ND	5	.95
1,2-DICHLOROPROPANE	ND	5	.73
2-BUTANONE	ND	50	6.7
2-CHLOROETHYLVINYLEETHER	ND	50	1.3
2-HEXANONE	ND	50	5.6
4-METHYL-2-PENTANONE	ND	50	3.6
ACETONE	ND	50	9.6
BENZENE	ND	5	.77
BROMODICHLOROMETHANE	ND	5	.82
BROMOFORM	ND	5	.74
BROMOMETHANE	ND	5	1.9
CARBON DISULFIDE	ND	5	.61
CARBON TETRACHLORIDE	ND	5	.83
CHLOROBENZENE	ND	5	1.1
CHLOROETHANE	ND	5	1.7
CHLOROFORM	ND	5	.67
CHLOROMETHANE	ND	5	.67
CIS-1,2-DICHLOROETHENE	ND	5	.79
CIS-1,3-DICHLOROPROPENE	ND	5	.79
DIBROMOCHLOROMETHANE	ND	5	.71
ETHYLBENZENE	ND	5	1
MTBE	ND	10	.77
METHYLENE CHLORIDE	ND	5	1.4
STYRENE	ND	5	.87
TETRACHLOROETHENE	ND	5	1.1
TOLUENE	ND	5	.99
TRANS-1,2-DICHLOROETHENE	ND	5	.73
TRANS-1,3-DICHLOROPROPENE	ND	5	.82
TRICHLOROETHENE	ND	5	.89
VINYL ACETATE	ND	50	1.4
VINYL CHLORIDE	ND	5	2.5
XYLENES	ND	5	3.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	106	62-139
BROMOFLUOROBENZENE	98	75-125
TOLUENE-D8	95	75-125

PRL: Project Reporting Limit

\* : Out side of QC Limit

J : An estimated value between PRL and MDL

E : Value exceed the upper level of the initial calibration

B : Found in the associated blank

D : Value from dilution analysis

METHOD 5030A/8260A  
VOLATILE ORGANICS BY GC/MS

```

=====
Client      : IT CORPORATION           Date Collected: NA
Project     : MCAS EL TORO/18708/D.O. 65 Date Received: 11/23/00
Batch No.   : 00K183                  Date Extracted: 11/23/00 21:07
Sample ID   : MBLK1W                   Date Analyzed: 11/23/00 21:07
Lab Samp ID: VOK6205Q                  Dilution Factor: 1
Lab File ID: RKQ768                    Matrix          : WATER
Ext Btch ID: VOK6205                    % Moisture     : NA
Calib. Ref.: RKQ763                     Instrument ID   : T-005
=====
  
```

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	5	.91
1,1,2,2-TETRACHLOROETHANE	ND	5	1.1
1,1,2-TRICHLOROETHANE	ND	5	.83
1,1-DICHLOROETHANE	ND	5	.65
1,1-DICHLOROETHENE	ND	5	.86
1,2-DICHLOROETHANE	ND	5	.95
1,2-DICHLOROPROPANE	ND	5	.73
2-BUTANONE	ND	50	6.7
2-CHLOROETHYL VINYLETHER	ND	50	1.3
2-HEXANONE	ND	50	5.6
4-METHYL-2-PENTANONE	ND	50	3.6
ACETONE	ND	50	9.6
BENZENE	ND	5	.77
BROMODICHLOROMETHANE	ND	5	.82
BROMOFORM	ND	5	.74
BROMOMETHANE	ND	5	1.9
CARBON DISULFIDE	ND	5	.61
CARBON TETRACHLORIDE	ND	5	.83
CHLOROBENZENE	ND	5	1.1
CHLOROETHANE	ND	5	1.7
CHLOROFORM	ND	5	.67
CHLOROMETHANE	ND	5	.67
CIS-1,2-DICHLOROETHENE	ND	5	.79
CIS-1,3-DICHLOROPROPENE	ND	5	.79
DIBROMOCHLOROMETHANE	ND	5	.71
ETHYLBENZENE	ND	5	1
MTBE	ND	10	.77
METHYLENE CHLORIDE	1.6J	5	1.4
STYRENE	ND	5	.87
TETRACHLOROETHENE	ND	5	1.1
TOLUENE	ND	5	.99
TRANS-1,2-DICHLOROETHENE	ND	5	.73
TRANS-1,3-DICHLOROPROPENE	ND	5	.82
TRICHLOROETHENE	ND	5	.89
VINYL ACETATE	ND	50	1.4
VINYL CHLORIDE	ND	5	2.5
XYLENES	ND	5	3.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	115	62-139
BROMOFLUOROBENZENE	96	75-125
TOLUENE-D8	94	75-125

PRL: Project Reporting Limit  
 \* : Out side of QC Limit  
 J : An estimated value between PRL and MDL  
 E : Value exceed the upper level of the initial calibration  
 B : Found in the associated blank  
 D : Value from dilution analysis

EMAX QUALITY CONTROL DATA  
LCS/LCD ANALYSIS

CLIENT: IT CORPORATION  
PROJECT: MCAS EL TORO/18708/D.O. 65  
TCH NO.: 00K183  
METHOD: METHOD 5030A/8260A

MATRIX: WATER % MOISTURE: NA  
DILUTION FACTOR: 1 1 1  
SAMPLE ID: MBLK1W  
LAB SAMP ID: VOK6205Q VOK6205L VOK6205C  
LAB FILE ID: RKQ768 RKQ765 RKQ766  
DATE EXTRACTED: 11/23/0021:07 11/23/0019:16 11/23/0019:52 DATE COLLECTED: NA  
DATE ANALYZED: 11/23/0021:07 11/23/0019:16 11/23/0019:52 DATE RECEIVED: 11/23/00  
PREP. BATCH: VOK6205 VOK6205 VOK6205  
CALIB. REF: RKQ763 RKQ763 RKQ763

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD ( % )	QC LIMIT ( % )	MAX RPD ( % )
1,1-Dichloroethene	ND	20	22.9	115	20	21.9	109	5	75-125	20
Benzene	ND	20	19	95	20	22.4	112	16	75-125	20
Chlorobenzene	ND	20	20.5	102	20	19.8	99	3	75-125	20
Toluene	ND	20	20.1	100	20	20.5	103	2	74-125	20
Trichloroethene	ND	20	18.4	92	20	21.9	110	17	71-125	20

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT ( % )
1,2-Dichloroethane-d4	50	53.8	108	50	55.8	112	62-139
Bromofluorobenzene	50	48.5	97	50	46.6	93	75-125
Toluene-d8	50	46.9	94	50	49	98	75-125

**Laboratory Data Consultants, Inc.  
Data Validation Report**

**Project/Site Name:** MCAS El Toro  
**Collection Date:** November 17, 2000  
**LDC Report Date:** December 11, 2000  
**Matrix:** Water  
**Parameters:** Volatiles  
**Validation Level:** NFESC Level C  
**Laboratory:** EMAX Laboratories, Inc.

**Sample Delivery Group (SDG):** 00K183

**Sample Identification**

18708-1797  
18708-1798  
18708-1799  
18708-1800  
18708-1801

## Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260A for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

## I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

## II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

## III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 50.0% for each individual compound and less than or equal to 30.0% for calibration check compounds (CCCs) .

Average relative response factors (RRF) for all volatile target compounds and system performance check compounds (SPCCs) were within method and validation criteria.

## IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

All of the continuing calibration percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were less than or equal to 25.0% for all calibration check compounds (CCCs) and less than or equal to 50.0% for all other compounds.

All of the continuing calibration RRF values were within method and validation criteria.

## V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Analysis Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MBLK1W	11/23/00	Methylene chloride	1.6 ug/L	All samples in SDG 00K183

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks.

#### **VI. Surrogate Spikes**

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

#### **VII. Matrix Spike/Matrix Spike Duplicates**

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

#### **VIII. Laboratory Control Samples (LCS)**

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

#### **IX. Regional Quality Assurance and Quality Control**

Not applicable.

#### **X. Internal Standards**

All internal standard areas and retention times were within QC limits.

#### **XI. Target Compound Identifications**

Raw data were not reviewed for this SDG.

#### **XII. Compound Quantitation and CRQLs**

Raw data were not reviewed for this SDG.

#### **XIII. Tentatively Identified Compounds (TICs)**

Raw data were not reviewed for this SDG.

#### **XIV. System Performance**

Raw data were not reviewed for this SDG.

#### **XV. Overall Assessment of Data**

Data flags have been summarized at the end of the report.

## **XVI. Field Duplicates**

Samples 18708-1798 and 18708-1801 were identified as field duplicates. No volatiles were detected in any of the samples.

## **XVII. Field Blanks**

Sample 18708-1800 was identified as a trip blank. No volatile contaminants were found in this blank.

**MCAS EI Toro  
Volatiles - Data Qualification Summary - SDG 00K183**

No Sample Data Qualified in this SDG

**MCAS EI Toro  
Volatiles - Laboratory Blank Data Qualification Summary - SDG 00K183**

No Sample Data Qualified in this SDG

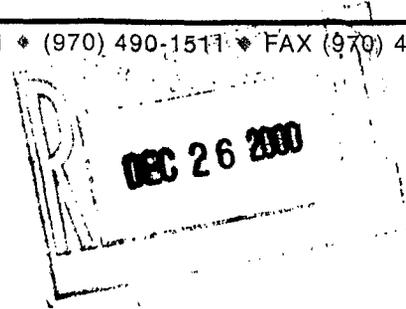


# PARAGON ANALYTICS,

225 Commerce Drive ♦ Fort Collins, CO 80524 ♦ (800) 443-1511 ♦ (970) 490-1511 ♦ FAX (970) 490-1522

December 22, 2000

Mr. Dwayne Ishida  
IT Corporation-Irvine  
3347 Michelson Drive, Suite 200  
Irvine, CA 92612-1692



ORIGINAL

RE: Paragon Workorder: 00-11-140  
Client Project Name: MCAS El Toro GW Sampling  
Client Project Number: 18708

Dear Mr. Ishida:

Seven water samples were received from IT Corporation on November 20, 2000. The samples were scheduled for Isotopic Uranium (pages 1-198) and Gross Alpha/Beta (pages 1-189) analyses. The results for these analyses are contained in the following reports.

Thank you for your confidence in Paragon Analytics, Inc. Should you have any questions, please call.

Sincerely,

Paragon Analytics, Inc.  
Ken Campbell  
Project Manager

KDC/mj  
Enclosure: Report

# Sample Results Summary

Client Name: IT Corporation-Irvine

Laboratory Name: Paragon Analytics, Inc.

Page: 1 of 2

Client Project Name: MCAS El Toro GW Sampling

PAI Work Order: 0011140

Reported on: Thursday, December 14, 2000

Client Project Number: 18708

14:26:02

Lab Sample ID	Client Sample ID	Test	Nuclide	Result +/- 2 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0011140-1	18708-1780	U-ISO	U-234	0.008 +/- 0.014	0.028	pCi/L	Water	AS03909	12/13/2000	U
0011140-1	18708-1780	U-ISO	U-235	0.005 +/- 0.013	0.013	pCi/L	Water	AS03909	12/13/2000	U
0011140-1	18708-1780	U-ISO	U-238	0.015 +/- 0.017	0.013	pCi/L	Water	AS03909	12/13/2000	LT
0011140-2	18708-1784	U-ISO	U-234	7.4 +/- 1.1	0.038	pCi/L	Water	AS03909	12/13/2000	
0011140-2	18708-1784	U-ISO	U-235	0.39 +/- 0.10	0.051	pCi/L	Water	AS03909	12/13/2000	
0011140-2	18708-1784	U-ISO	U-238	6.96 +/- 1.00	0.028	pCi/L	Water	AS03909	12/13/2000	
0011140-3	18708-1786	U-ISO	U-234	7.8 +/- 1.1	0.053	pCi/L	Water	AS03909	12/13/2000	
0011140-3	18708-1786	U-ISO	U-235	0.52 +/- 0.12	0.043	pCi/L	Water	AS03909	12/13/2000	
0011140-3	18708-1786	U-ISO	U-238	6.65 +/- 0.96	0.050	pCi/L	Water	AS03909	12/13/2000	
0011140-4	18708-1788	U-ISO	U-234	7.3 +/- 1.1	0.048	pCi/L	Water	AS03909	12/13/2000	
0011140-4	18708-1788	U-ISO	U-235	0.34 +/- 0.10	0.048	pCi/L	Water	AS03909	12/13/2000	
0011140-4	18708-1788	U-ISO	U-238	6.7 +/- 1.0	0.053	pCi/L	Water	AS03909	12/13/2000	

**Comments:**

**Data Package ID:** UW0011140-1

**Qualifiers/Flags:**

U - Result is less than the sample specific MDC.

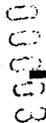
LT - Result is less than Requested MDC, greater than sample specific MDC.

Y2 - Chemical Yield outside default limits.

**Abbreviations:**

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)



# Sample Results Summary

Client Name: IT Corporation-Irvine  
 Client Project Name: MCAS El Toro GW Sampling  
 Client Project Number: 18708

Laboratory Name: Paragon Analytics, Inc.  
 PAI Work Order: 0011140

Page: 2 of 2  
 Reported on: Thursday, December 14, 2000  
 14:26:02

Lab Sample ID	Client Sample ID	Test	Nuclide	Result +/- 2 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0011140-5	18708-1792	U-ISO	U-234	4.33 +/- 0.65	0.040	pCi/L	Water	AS03909	12/13/2000	
0011140-5	18708-1792	U-ISO	U-235	0.164 +/- 0.063	0.044	pCi/L	Water	AS03909	12/13/2000	LT
0011140-5	18708-1792	U-ISO	U-238	3.47 +/- 0.53	0.014	pCi/L	Water	AS03909	12/13/2000	
0011140-6	18708-1795	U-ISO	U-234	14.1 +/- 2.0	0.033	pCi/L	Water	AS03909	12/13/2000	
0011140-6	18708-1795	U-ISO	U-235	0.74 +/- 0.16	0.040	pCi/L	Water	AS03909	12/13/2000	
0011140-6	18708-1795	U-ISO	U-238	12.6 +/- 1.8	0.045	pCi/L	Water	AS03909	12/13/2000	
0011140-7	18708-1796	U-ISO	U-234	16.8 +/- 2.5	0.076	pCi/L	Water	AS03909	12/13/2000	
0011140-7	18708-1796	U-ISO	U-235	0.94 +/- 0.21	0.059	pCi/L	Water	AS03909	12/13/2000	
0011140-7	18708-1796	U-ISO	U-238	16.2 +/- 2.4	0.047	pCi/L	Water	AS03909	12/13/2000	

**Comments:**

**Data Package ID:** UW0011140-1

**Qualifiers/Flags:**

- U - Result is less than the sample specific MDC.
- LT - Result is less than Requested MDC, greater than sample specific MDC.
- Y2 - Chemical Yield outside default limits.

**Abbreviations:**

- TPU - Total Propagated Uncertainty (see PAI SOP 743)
- MDC - Minimum Detectable Concentration (see PAI SOP 709)

00004

# Isotopic Uranium By Alpha Spectroscopy

Method PAI 714R5

## Sample Results

Page: 1 of 7

Reported on: Thursday, December 14, 2000  
14:26:02

Client Name: IT Corporation-Irvine

Client Project Name: MCAS El Toro GW Sampling

Client Project Number: 18708

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0011140

Field ID: 18708-1780

Lab ID: 0011140-1

Sample Matrix: Water

Date Prepared: 22-Nov-00

Prep SOP: PAI 778R5

Prep Batch: AS03909

Date Collected: 13-Nov-00

Date Analyzed: 13-Dec-00

Analytical SOP: PAI 714R5

Final Aliquot: 1.000

Aliquot Units: L

Report Basis: As Received

Count Time (min.): 400

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
U-234	0.008 +/- 0.014	0.028	pCi/L	U
U-235	0.005 +/- 0.013	0.013	pCi/L	U
U-238	0.015 +/- 0.017	0.013	pCi/L	LT

## Chemical Yield Summary

Tracer Nuclide	Tracer Known	Tracer Measured	Units	Tracer Yield	Control Limits
U-232	4.43	3.18	pCi/L	72%	30-110%

### Comments:

**Qualifiers/Flags:**

U - Result is less than the sample specific MDC.

Y2 - Chemical Yield outside default limits.

\* - Duplicate DER not within control limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

**Abbreviations:**

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: UW0011140-1

Paragon Analytics Inc.

00013

# Isotopic Uranium By Alpha Spectroscopy

Method PAI 714R5

## Sample Results

Page: 2 of 7

Reported on: Thursday, December 14, 2000  
14:26:02

Client Name: IT Corporation-Irvine

Client Project Name: MCAS El Toro GW Sampling

Client Project Number: 18708

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0011140

Field ID: 18708-1784

Lab ID: 0011140-2

Sample Matrix: Water

Date Prepared: 22-Nov-00

Prep SOP: PAI 778R5

Prep Batch: AS03909

Date Collected: 14-Nov-00

Date Analyzed: 13-Dec-00

Analytical SOP: PAI 714R5

Final Aliquot: 1.000

Aliquot Units: L

Report Basis: As Received

Count Time (min.): 400

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
U-234	7.4 +/- 1.1	0.038	pCi/L	
U-235	0.39 +/- 0.10	0.051	pCi/L	
U-238	6.96 +/- 1.00	0.028	pCi/L	

## Chemical Yield Summary

Tracer Nuclide	Tracer Known	Tracer Measured	Units	Tracer Yield	Control Limits
U-232	4.43	3.28	pCi/L	74%	30-110%

### Comments:

#### Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y2 - Chemical Yield outside default limits.

\* - Duplicate DER not within control limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

#### Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: UW0011140-1

Paragon Analytics Inc.

00014

# Isotopic Uranium By Alpha Spectroscopy

Method PAI 714R5

## Sample Results

Page: 3 of 7

Reported on: Thursday, December 14, 2000  
14:26:02

Client Name: IT Corporation-Irvine

Client Project Name: MCAS El Toro GW Sampling

Client Project Number: 18708

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0011140

Field ID: 18708-1786

Lab ID: 0011140-3

Sample Matrix: Water

Date Prepared: 22-Nov-00

Prep SOP: PAI 778R5

Prep Batch: AS03909

Date Collected: 14-Nov-00

Date Analyzed: 13-Dec-00

Analytical SOP: PAI 714R5

Final Aliquot: 1.000

Aliquot Units: L

Report Basis: As Received

Count Time (min.): 400

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
U-234	7.8 +/- 1.1	0.053	pCi/L	
U-235	0.52 +/- 0.12	0.043	pCi/L	
U-238	6.65 +/- 0.96	0.050	pCi/L	

## Chemical Yield Summary

Tracer Nuclide	Tracer Known	Tracer Measured	Units	Tracer Yield	Control Limits
U-232	4.43	3.34	pCi/L	75%	30-110%

### Comments:

#### Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y2 - Chemical Yield outside default limits.

\* - Duplicate DER not within control limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

#### Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: UW0011140-1

Paragon Analytics Inc.

00015

# Isotopic Uranium By Alpha Spectroscopy

Method PAI 714R5

## Sample Results

Page: 4 of 7

Reported on: Thursday, December 14, 2000  
14:26:02

Client Name: IT Corporation-Irvine

Client Project Name: MCAS El Toro GW Sampling

Laboratory Name: Paragon Analytics, Inc.

Client Project Number: 18708

PAI Work Order: 0011140

Field ID: 18708-1788

Lab ID: 0011140-4

Sample Matrix: Water

Date Prepared: 22-Nov-00

Prep SOP: PAI 778R5

Prep Batch: AS03909

Date Collected: 14-Nov-00

Date Analyzed: 13-Dec-00

Analytical SOP: PAI 714R5

Final Aliquot: 1.000

Aliquot Units: L

Report Basis: As Received

Count Time (min.): 400

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
U-234	7.3 +/- 1.1	0.048	pCi/L	
U-235	0.34 +/- 0.10	0.048	pCi/L	
U-238	6.7 +/- 1.0	0.053	pCi/L	

## Chemical Yield Summary

Tracer Nuclide	Tracer Known	Tracer Measured	Units	Tracer Yield	Control Limits
U-232	4.43	3.19	pCi/L	72%	30-110%

### Comments:

**Qualifiers/Flags:**

U - Result is less than the sample specific MDC.

Y2 - Chemical Yield outside default limits.

\* - Duplicate DER not within control limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

**Abbreviations:**

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: UW0011140-1

Paragon Analytics Inc.

00015

# Isotopic Uranium By Alpha Spectroscopy

Method PAI 714R5

## Sample Results

Page: 5 of 7

Reported on: Thursday, December 14, 2000  
14:26:02

Client Name: IT Corporation-Irvine

Client Project Name: MCAS El Toro GW Sampling

Client Project Number: 18708

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0011140

Field ID: 18708-1792

Lab ID: 0011140-5

Sample Matrix: Water

Date Prepared: 22-Nov-00

Prep SOP: PAI 778R5

Prep Batch: AS03909

Date Collected: 15-Nov-00

Date Analyzed: 13-Dec-00

Analytical SOP: PAI 714R5

Final Aliquot: 1.000

Aliquot Units: L

Report Basis: As Received

Count Time (min.): 400

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
U-234	4.33 +/- 0.65	0.040	pCi/L	
U-235	0.164 +/- 0.063	0.044	pCi/L	LT
U-238	3.47 +/- 0.53	0.014	pCi/L	

## Chemical Yield Summary

Tracer Nuclide	Tracer Known	Tracer Measured	Units	Tracer Yield	Control Limits
U-232	4.43	3.02	pCi/L	68%	30-110%

### Comments:

**Qualifiers/Flags:**

U - Result is less than the sample specific MDC.

Y2 - Chemical Yield outside default limits.

\* - Duplicate DER not within control limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

**Abbreviations:**

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: UW0011140-1

Paragon Analytics Inc.

00017

# Isotopic Uranium By Alpha Spectroscopy

Method PAI 714R5

## Sample Results

Page: 6 of 7

Reported on: Thursday, December 14, 2000  
14:26:02

Client Name: IT Corporation-Irvine

Client Project Name: MCAS El Toro GW Sampling

Client Project Number: 18708

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0011140

Field ID: 18708-1795

Lab ID: 0011140-6

Sample Matrix: Water

Date Prepared: 22-Nov-00

Prep SOP: PAI 778R5

Prep Batch: AS03909

Date Collected: 16-Nov-00

Date Analyzed: 13-Dec-00

Analytical SOP: PAI 714R5

Final Aliquot: 1.000

Aliquot Units: L

Report Basis: As Received

Count Time (min.): 400

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
U-234	14.1 +/- 2.0	0.033	pCi/L	
U-235	0.74 +/- 0.16	0.040	pCi/L	
U-238	12.6 +/- 1.8	0.045	pCi/L	

### Chemical Yield Summary

Tracer Nuclide	Tracer Known	Tracer Measured	Units	Tracer Yield	Control Limits
U-232	4.43	2.75	pCi/L	62%	30-110%

#### Comments:

##### Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y2 - Chemical Yield outside default limits.

\* - Duplicate DER not within control limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

##### Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: UW0011140-1

Paragon Analytics Inc.

00013

# Isotopic Uranium By Alpha Spectroscopy

Method PAI 714R5

## Sample Results

Page: 7 of 7

Reported on: Thursday, December 14, 2000  
14:26:02

Client Name: IT Corporation-Irvine

Client Project Name: MCAS El Toro GW Sampling

Client Project Number: 18708

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0011140

Field ID: 18708-1796

Lab ID: 0011140-7

Sample Matrix: Water

Date Prepared: 22-Nov-00

Prep SOP: PAI 778R5

Prep Batch: AS03909

Date Collected: 16-Nov-00

Date Analyzed: 13-Dec-00

Analytical SOP: PAI 714R5

Final Aliquot: 1.000

Aliquot Units: L

Report Basis: As Received

Count Time (min.): 400

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
U-234	16.8 +/- 2.5	0.076	pCi/L	
U-235	0.94 +/- 0.21	0.059	pCi/L	
U-238	16.2 +/- 2.4	0.047	pCi/L	

## Chemical Yield Summary

Tracer Nuclide	Tracer Known	Tracer Measured	Units	Tracer Yield	Control Limits
U-232	4.43	2.40	pCi/L	54%	30-110%

### Comments:

#### Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y2 - Chemical Yield outside default limits.

\* - Duplicate DER not within control limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

#### Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: UW0011140-1

Paragon Analytics Inc.

00013

# Isotopic Uranium By Alpha Spectroscopy

Method PAI 714R5

## Method Blank Results

Page: 1 of 1

Reported on: Thursday, December 14, 2000  
14:26:02

Client Name: IT Corporation-Irvine

Client Project Name: MCAS El Toro GW Sampling

Client Project Number: 18708

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0011140

Field ID:  
Lab ID: AS03909BLK1

Sample Matrix: Water

Date Prepared: 22-Nov-00

Prep SOP: PAI 778R5

Prep Batch: AS03909

Date Collected: 22-Nov-00

Date Analyzed: 13-Dec-00

Analytical SOP: PAI 714R5

Final Aliquot: 1.000

Aliquot Units: L

Report Basis: As Received

Count Time (min.): 400

Target Nuclide	Result +/- 2s TPU	MDC	Reporting Units	Lab Qualifier
U-234	0.039 +/- 0.035	0.052	pCi/L	U
U-235	-0.001 +/- 0.015	0.043	pCi/L	U
U-238	0.014 +/- 0.027	0.055	pCi/L	U

### Chemical Yield Summary

Tracer Nuclide	Tracer Known	Tracer Measured	Units	Tracer Yield	Control Limits
U-232	4.42	3.04	pCi/L	69%	30-110%

#### Comments:

##### Qualifiers/Flags:

U - Result is less than the sample specific MDC.

LT - Result is less than Requested MDC, greater than sample specific MDC.

Y2 - Chemical Yield outside default limits.

B3 - Analyte concentration greater than MDC but less than Requested MDC.

B - Analyte concentration greater than MDC.

##### Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: UW0011140-1

# Isotopic Uranium By Alpha Spectroscopy

## Method PAI 714R5

### LCS Results

Page: 1 of 1

Reported on: Thursday, December 14, 2000  
14:26:02

Client Name: IT Corporation-Irvine

Client Project Name: MCAS EI Toro GW Sampling

Client Project Number: 18708

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0011140

Field ID:  
Lab ID: AS03909LCS1

Sample Matrix: Water  
Date Prepared: 22-Nov-00  
Prep SOP: PAI 778R5  
Prep Batch: AS03909

Date Collected: 22-Nov-00  
Date Analyzed: 13-Dec-00  
Analytical SOP: PAI 714R5

Final Aliquot: 1.000  
Aliquot Units: L  
Report Basis: As Received  
Count Time (min.): 400

Target Nuclide	LCS Results +/- 2s TPU	MDC	Spike Added	Reporting Units	LCS Recovery	Control Limits	Lab Qualifier
U-234	4.15 +/- 0.65	0.070	4.55	pCi/L	91%	82-122%	P
U-235	0.255 +/- 0.087	0.056	N/A	pCi/L	N/A	N/A	
U-238	4.65 +/- 0.72	0.042	4.55	pCi/L	102%	82-122%	P

### Chemical Yield Summary

Tracer Nuclide	Tracer Known	Tracer Measured	Units	Tracer Yield	Control Limits
U-232	4.42	2.80	pCi/L	63%	30-110%

#### Comments:

Data Package ID: UW0011140-1

#### Qualifiers/Flags:

- U - Result is less than the sample specific MDC.
- U - Result is less than Requested MDC, greater than sample specific MDC.
- U - Chemical Yield outside default limits.
- U - Duplicate DER not within control limits.

#### Abbreviations:

- TPU - Total Propagated Uncertainty (see PAI SOP 743)
- MDC - Minimum Detectable Concentration (see PAI SOP 709)

# Isotopic Uranium By Alpha Spectroscopy

Method PAI 714R5

## Duplicate Sample Results (DER)

Page: 1 of 2

Reported on: Thursday, December 14, 2000  
14:26:02

Client Name: IT Corporation-Irvine

Client Project Name: MCAS El Toro GW Sampling

Client Project Number: 18708

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0011140

Field ID	Prep Date	Analysis Date	Prep Batch	Final Aliquot
18708-1795				
Lab ID: 0011140-06	11/22/2000	12/13/2000	AS03909	1.000
DUP ID: 0011140-6-D1	11/22/2000	12/13/2000	AS03909	1.000

Sample Matrix: Water  
Date Collected: 16-Nov-00  
Analytical SOP: PAI 714R5  
Prep SOP: PAI 778R5  
Aliquot Units: L  
Report Basis: As Received

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
U-234	14.1 +/- 2.0	13.0 +/- 1.9	pCi/L	0.38	< 1.42	
U-235	0.74 +/- 0.16	0.81 +/- 0.18	pCi/L	0.28	< 1.42	
U-238	12.6 +/- 1.8	11.8 +/- 1.7	pCi/L	0.33	< 1.42	

## Chemical Yield Summary

Tracer Nuclide	Tracer Known	Tracer Measured	Units	Tracer Yield	Control Limits
U-232	4.43	2.77	pCi/L	63%	30-110%

### Comments:

#### Qualifiers/Flags:

W - DER is greater than Warning Limit of 1.42  
H - DER is Higher than Control Limit of 2.13

#### Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)  
DER - Duplicate Error Ratio

Data Package ID: UW0011140-1

# Isotopic Uranium By Alpha Spectroscopy

Method PAI 714R5

## Duplicate Sample Results (DER)

Page: 2 of 2

Reported on: Thursday, December 14, 2000  
14:26:02

Client Name: IT Corporation-Irvine

Client Project Name: MCAS El Toro GW Sampling

Laboratory Name: Paragon Analytics, Inc.

Client Project Number: 18708

PAI Work Order: 0011140

Field ID	Prep Date	Analysis Date	Prep Batch	Final Aliquot
18708-1796	11/22/2000	12/13/2000	AS03909	1.000
Lab ID: 0011140-07-MS1	11/22/2000	12/13/2000	AS03909	1.000
DUP ID: 0011140-7-MS1-D1	11/22/2000	12/13/2000	AS03909	1.000

Sample Matrix: Water  
Date Collected: 16-Nov-00  
Analytical SOP: PAI 714R5  
Prep SOP: PAI 778R5  
Aliquot Units: L  
Report Basis: As Received

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
U-234	22.4 +/- 3.4	23.1 +/- 3.6	pCi/L	0.15	< 1.42	
U-235	1.56 +/- 0.33	1.36 +/- 0.30	pCi/L	0.47	< 1.42	
U-238	20.9 +/- 3.2	21.6 +/- 3.3	pCi/L	0.14	< 1.42	

## Chemical Yield Summary

Tracer Nuclide	Tracer Known	Tracer Measured	Units	Tracer Yield	Control Limits
U-232	4.43	1.57	pCi/L	35%	30-110%

### Comments:

#### Qualifiers/Flags:

W - DER is greater than Warning Limit of 1.42  
H - DER is Higher than Control Limit of 2.13

#### Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)  
DER - Duplicate Error Ratio

Data Package ID: UW0011140-1

# Isotopic Uranium By Alpha Spectroscopy

Method PAI 714R5

## Matrix Spike Results

Page: 1 of 2

Reported on: Thursday, December 14, 2000

14:26:02

Client Name: IT Corporation-Irvine

Client Project Name: MCAS El Toro GW Sampling

Laboratory Name: Paragon Analytics, Inc.

Client Project Number: 18708

PAI Work Order: 0011140

Field ID: 18708-1796

Lab ID: 0011140-7-MS1

Sample Matrix: Water

Date Prepared: 22-Nov-00

Prep SOP: PAI 778R5

Prep Batch: AS03909

Date Collected: 16-Nov-00

Date Analyzed: 13-Dec-00

Analytical SOP: PAI 714R5

Final Aliquot: 1.000

Aliquot Units: L

Report Basis: As Received

Target Nuclide	Matrix Spike	Sample Activity	MDC	Spike Added	Reporting Units	MS % Rec	Control Limits	Lab Qualifier
U-234	22.4	16.8	0.091	4.55	pCi/L	122%	82-122%	
U-235	1.56	0.94	0.085	N/A	pCi/L	N/A	82-122%	
U-238	20.9	16.2	0.13	4.55	pCi/L	105%	82-122%	

## Chemical Yield Summary

Tracer Nuclide	Tracer Known	Tracer Measured	Units	Tracer Yield	Control Limits
U-232	4.43	1.77	pCi/L	40%	30-110%

### Comments:

#### Qualifiers/Flags:

U - Result is less than the sample specific MDC.

LT - Result is less than Requested MDC, greater than sample specific MDC.

Y2 - Chemical Yield outside default limits.

\* - Duplicate DER not within control limits.

#### Abbreviations:

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: UW0011140-1

Paragon Analytics Inc.

00010

# Isotopic Uranium By Alpha Spectroscopy

Method PAI 714R5

## Matrix Spike Results

Page: 2 of 2

Reported on: Thursday, December 14, 2000  
14:26:02

Client Name: IT Corporation-Irvine

Client Project Name: MCAS El Toro GW Sampling

Client Project Number: 18708

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0011140

Field ID: 18708-1796  
Lab ID: 0011140-7-MS1-D1

Sample Matrix: Water  
Date Prepared: 22-Nov-00  
Prep SOP: PAI 778R5  
Prep Batch: AS03909

Date Collected: 16-Nov-00  
Date Analyzed: 13-Dec-00  
Analytical SOP: PAI 714R5

Final Aliquot: 1.000  
Aliquot Units: L  
Report Basis: As Received

Target Nuclide	Matrix Spike	Sample Activity	MDC	Spike Added	Reporting Units	MS % Rec	Control Limits	Lab Qualifier
U-234	23.1	16.8	0.098	4.55	pCi/L	139%	82-122%	N
U-235	1.36	0.94	0.056	N/A	pCi/L	N/A	82-122%	
U-238	21.6	16.2	0.068	4.55	pCi/L	119%	82-122%	

## Chemical Yield Summary

Tracer Nuclide	Tracer Known	Tracer Measured	Units	Tracer Yield	Control Limits
U-232	4.43	1.57	pCi/L	35%	30-110%

### Comments:

#### Qualifiers/Flags:

- U - Result is less than the sample specific MDC.
- LT - Result is less than Requested MDC, greater than sample specific MDC.
- Y2 - Chemical Yield outside default limits.
- \* - Duplicate DER not within control limits.

#### Abbreviations:

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: UW0011140-1

# Sample Results Summary

Client Name: IT Corporation-Irvine  
 Client Project Name: MCAS El Toro GW Sampling  
 Client Project Number: 18708

Laboratory Name: Paragon Analytics, Inc.  
 PAI Work Order: 0011140

Page: 1 of 2  
 Reported on: Friday, December 22, 2000  
 12:02:49

Lab Sample ID	Client Sample ID	Test	Nuclide	Result +/- 2 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0011140-1	18708-1780	RD_GAB	GrAlpha	-0.2 +/- 1.5	2.7	pCi/L	Water	AB00180	12/20/2000	U
0011140-1	18708-1780	RD_GAB	GrBeta	-0.2 +/- 1.5	2.6	pCi/L	Water	AB00180	12/20/2000	U
0011140-2	18708-1784	RD_GAB	GrAlpha	16.5 +/- 3.7	4.0	pCi/L	Water	AB00180	12/22/2000	
0011140-2	18708-1784	RD_GAB	GrBeta	7.2 +/- 2.9	4.6	pCi/L	Water	AB00180	12/22/2000	
0011140-3	18708-1786	RD_GAB	GrAlpha	12.6 +/- 3.0	3.4	pCi/L	Water	AB00180	12/19/2000	
0011140-3	18708-1786	RD_GAB	GrBeta	6.9 +/- 2.6	3.9	pCi/L	Water	AB00180	12/19/2000	
0011140-4	18708-1788	RD_GAB	GrAlpha	16.1 +/- 3.4	3.1	pCi/L	Water	AB00180	12/19/2000	
0011140-4	18708-1788	RD_GAB	GrBeta	8.7 +/- 2.7	3.9	pCi/L	Water	AB00180	12/19/2000	
0011140-5	18708-1792	RD_GAB	GrAlpha	5.7 +/- 2.3	3.4	pCi/L	Water	AB00180	12/20/2000	
0011140-5	18708-1792	RD_GAB	GrBeta	4.3 +/- 2.2	3.4	pCi/L	Water	AB00180	12/20/2000	
0011140-6	18708-1795	RD_GAB	GrAlpha	18.6 +/- 3.9	3.9	pCi/L	Water	AB00180	12/20/2000	
0011140-6	18708-1795	RD_GAB	GrBeta	14.0 +/- 3.1	3.8	pCi/L	Water	AB00180	12/20/2000	

**Comments:**

**Data Package ID: ABW0011140-1**

**Qualifiers/Flags:**

U - Result is less than the sample specific MDC.  
 LT - Result is less than Requested MDC, greater than sample specific MDC.  
 Y2 - Chemical Yield outside default limits.

**Abbreviations:**

TPU - Total Propagated Uncertainty (see PAI SOP 743)  
 MDC - Minimum Detectable Concentration (see PAI SOP 709)

# Sample Results Summary

Client Name: IT Corporation-Irvine

Laboratory Name: Paragon Analytics, Inc.

Page: 2 of 2

Client Project Name: MCAS El Toro GW Sampling

PAI Work Order: 0011140

Reported on: Friday, December 22, 2000

Client Project Number: 18708

12:02:49

Lab Sample ID	Client Sample ID	Test	Nuclide	Result +/- 2 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0011140-7	18708-1796	RD_GAB	GrAlpha	32.7 +/- 5.6	3.4	pCi/L	Water	AB00180	12/20/2000	
0011140-7	18708-1796	RD_GAB	GrBeta	18.2 +/- 3.6	4.0	pCi/L	Water	AB00180	12/20/2000	

**Comments:**

**Data Package ID:** *ABW0011140-1*

**Qualifiers/Flags:**

- U - Result is less than the sample specific MDC.
- LT - Result is less than Requested MDC, greater than sample specific MDC.
- Y2 - Chemical Yield outside default limits.

**Abbreviations:**

- TPU - Total Propagated Uncertainty (see PAI SOP 743)
- MDC - Minimum Detectable Concentration (see PAI SOP 709)

# Gross Alpha/Beta Analysis

Method PAI 724R6

## Sample Results

Page: 1 of 7

Reported on: Friday, December 22, 2000  
12:02:49

Client Name: IT Corporation-Irvine

Client Project Name: MCAS El Toro GW Sampling

Client Project Number: 18708

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0011140

Field ID: 18708-1780

Lab ID: 0011140-1

Sample Matrix: Water

Date Prepared: 28-Nov-00

Prep SOP: PAI 702R13

Prep Batch: AB00180

Date Collected: 13-Nov-00

Date Analyzed: 20-Dec-00

Analytical SOP: PAI 724R6

Final Aliquot: 9.2000

Aliquot Units: L

Report Basis: As Received

Count Time (min.): 180

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
GrAlpha	-0.2 +/- 1.5	2.7	pCi/L	U
GrBeta	-0.2 +/- 1.5	2.6	pCi/L	U

### Comments:

#### Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y2 - Chemical Yield outside default limits.

\* - Duplicate DER not within control limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

#### Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: ABW0011140-1

Paragon Analytics Inc.

# Gross Alpha/Beta Analysis

Method PAI 724R6

## Sample Results

Page: 2 of 7

Reported on: Friday, December 22, 2000  
12:02:49

Client Name: IT Corporation-Irvine

Client Project Name: MCAS El Toro GW Sampling

Laboratory Name: Paragon Analytics, Inc.

Client Project Number: 18708

PAI Work Order: 0011140

Field ID: 18708-1784

Lab ID: 0011140-2

Sample Matrix: Water

Date Prepared: 28-Nov-00

Prep SOP: PAI 702R13

Prep Batch: AB00180

Date Collected: 14-Nov-00

Date Analyzed: 22-Dec-00

Analytical SOP: PAI 724R6

Final Aliquot: 0.06000

Aliquot Units: L

Report Basis: As Received

Count Time (min.): 1000

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
GrAlpha	16.5 +/- 3.7	4.0	pCi/L	
GrBeta	7.2 +/- 2.9	4.6	pCi/L	

### Comments:

#### Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y2 - Chemical Yield outside default limits.

\* - Duplicate DER not within control limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

#### Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: ABW0011140-1

Paragon Analytics Inc.

00017

# Gross Alpha/Beta Analysis

Method PAI 724R6

## Sample Results

Page: 3 of 7

Reported on: Friday, December 22, 2000  
12:02:49

Client Name: IT Corporation-Irvine

Client Project Name: MCAS El Toro GW Sampling

Client Project Number: 18708

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0011140

Field ID: 18708-1786

Lab ID: 0011140-3

Sample Matrix: Water

Date Prepared: 28-Nov-00

Prep SOP: PAI 702R13

Prep Batch: AB00180

Date Collected: 14-Nov-00

Date Analyzed: 19-Dec-00

Analytical SOP: PAI 724R6

Final Aliquot: 0.06000

Aliquot Units: L

Report Basis: As Received

Count Time (min.): 1000

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
GrAlpha	12.6 +/- 3.0	3.4	pCi/L	
GrBeta	6.9 +/- 2.6	3.9	pCi/L	

### Comments:

#### Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y2 - Chemical Yield outside default limits.

\* - Duplicate DER not within control limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

#### Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: ABW0011140-1

Paragon Analytics Inc.

00013

# Gross Alpha/Beta Analysis

Method PAI 724R6

## Sample Results

Page: 4 of 7

Reported on: Friday, December 22, 2000  
12:02:49

Client Name: IT Corporation-Irvine

Client Project Name: MCAS El Toro GW Sampling

Client Project Number: 18708

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0011140

Field ID: 18708-1788

Lab ID: 0011140-4

Sample Matrix: Water

Date Prepared: 28-Nov-00

Prep SOP: PAI 702R13

Prep Batch: AB00180

Date Collected: 14-Nov-00

Date Analyzed: 19-Dec-00

Analytical SOP: PAI 724R6

Final Aliquot: 0.06000

Aliquot Units: L

Report Basis: As Received

Count Time (min.): 1000

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
GrAlpha	16.1 +/- 3.4	3.1	pCi/L	
GrBeta	8.7 +/- 2.7	3.9	pCi/L	

### Comments:

#### Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y2 - Chemical Yield outside default limits.

\* - Duplicate DER not within control limits

LT - Result is less than Requested MDC, greater than sample specific MDC.

#### Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: ABW0011140-1

Paragon Analytics Inc.

00019

# Gross Alpha/Beta Analysis

Method PAI 724R6

## Sample Results

Page: 5 of 7

Reported on: Friday, December 22, 2000  
12:02:49

Client Name: IT Corporation-Irvine

Client Project Name: MCAS El Toro GW Sampling

Client Project Number: 18708

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0011140

Field ID: 18708-1792

Lab ID: 0011140-5

Sample Matrix: Water

Date Prepared: 28-Nov-00

Prep SOP: PAI 702R13

Prep Batch: AB00180

Date Collected: 15-Nov-00

Date Analyzed: 20-Dec-00

Analytical SOP: PAI 724R6

Final Aliquot: 0.08000

Aliquot Units: L

Report Basis: As Received

Count Time (min.): 1000

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
GrAlpha	5.7 +/- 2.3	3.4	pCi/L	
GfBeta	4.3 +/- 2.2	3.4	pCi/L	

### Comments:

#### Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y2 - Chemical Yield outside default limits.

\* - Duplicate DER not within control limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

#### Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: ABW0011140-1

Paragon Analytics Inc.

# Gross Alpha/Beta Analysis

Method PAI 724R6

## Sample Results

Page: 6 of 7

Reported on: Friday, December 22, 2000  
12:02:49

Client Name: IT Corporation-Irvine

Client Project Name: MCAS El Toro GW Sampling

Client Project Number: 18708

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0011140

Field ID: 18708-1795

Lab ID: 0011140-6

Sample Matrix: Water

Date Prepared: 28-Nov-00

Prep SOP: PAI 702R13

Prep Batch: AB00180

Date Collected: 16-Nov-00

Date Analyzed: 20-Dec-00

Analytical SOP: PAI 724R6

Final Aliquot: 0.06000

Aliquot Units: L

Report Basis: As Received

Count Time (min.): 1000

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
GrAlpha	18.6 +/- 3.9	3.9	pCi/L	
GrBeta	14.0 +/- 3.1	3.8	pCi/L	

### Comments:

#### Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y2 - Chemical Yield outside default limits.

\* - Duplicate DER not within control limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

#### Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: ABW0011140-1

Paragon Analytics Inc.

00021

# Gross Alpha/Beta Analysis

Method PAI 724R6

## Sample Results

Page: 7 of 7

Reported on: Friday, December 22, 2000  
12:02:49

Client Name: IT Corporation-Irvine

Client Project Name: MCAS El Toro GW Sampling

Client Project Number: 18708

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0011140

Field ID: 18708-1796

Lab ID: 0011140-7

Sample Matrix: Water

Date Prepared: 28-Nov-00

Prep SOP: PAI 702R13

Prep Batch: AB00180

Date Collected: 16-Nov-00

Date Analyzed: 20-Dec-00

Analytical SOP: PAI 724R6

Final Aliquot: 0.06000

Aliquot Units: L

Report Basis: As Received

Count Time (min.): 1000

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
GrAlpha	32.7 +/- 5.6	3.4	pCi/L	
GrBeta	18.2 +/- 3.6	4.0	pCi/L	

### Comments:

#### Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y2 - Chemical Yield outside default limits.

\* - Duplicate DER not within control limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

#### Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: ABW0011140-1

Paragon Analytics Inc.

00723

# Gross Alpha/Beta Analysis

Method PAI 724R6

## Sample Duplicate Results

Page: 1 of 1

Reported on: Friday, December 22, 2000  
12:02:50

Client Name: IT Corporation-Irvine

Client Project Name: MCAS El Toro GW Sampling

Client Project Number: 18708

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0011140

Field ID: 18708-1795

Lab ID: 0011140-6-D1

Sample Matrix: Water

Date Prepared: 28-Nov-00

Prep SOP: PAI 702R13

Prep Batch: AB00180

Date Collected: 16-Nov-00

Date Analyzed: 20-Dec-00

Analytical SOP: PAI 724R6

Final Aliquot: 0.06000

Aliquot Units: L

Report Basis: As Received

Count Time (min.): 1000

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
GrAlpha	26.9 +/- 4.9	3.7	pCi/L	
GrBeta	14.7 +/- 3.3	4.0	pCi/L	

### Comments:

#### Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y2 - Chemical Yield outside default limits.

\* - Duplicate DER not within control limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

#### Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: ABW0011140-1

Paragon Analytics Inc.

00022

# Gross Alpha/Beta Analysis

Method PAI 724R6

## Method Blank Results

Page: 1 of 1

Reported on: Friday, December 22, 2000  
12:02:49

Client Name: IT Corporation-Irvine

Client Project Name: MCAS El Toro GW Sampling

Client Project Number: 18708

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0011140

Field ID:  
Lab ID: AB00180BLK1

Sample Matrix: Water  
Date Prepared: 28-Nov-00  
Prep SOP: PAI 702R13  
Prep Batch: AB00180

Date Collected: 28-Nov-00  
Date Analyzed: 10-Dec-00  
Analytical SOP: PAI 724R6

Final Aliquot: 0.2000  
Aliquot Units: L  
Report Basis: As Received  
Count Time (min.): 1000

Target Nuclide	Result +/- 2s TPU	MDC	Reporting Units	Lab Qualifier
GrAlpha	0.01 +/- 0.50	0.88	pCi/L	U
GrBeta	0.69 +/- 0.68	1.1	pCi/L	U

### Comments:

#### Qualifiers/Flags:

- U - Result is less than the sample specific MDC.
- LT - Result is less than Requested MDC, greater than sample specific MDC.
- Y2 - Chemical Yield outside default limits.
- B3 - Analyte concentration greater than MDC but less than Requested MDC.
- B - Analyte concentration greater than MDC.

#### Abbreviations:

- TPU - Total Propagated Uncertainty (see PAI SOP 743)
- MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: ABW0011140-1

00007

# Gross Alpha/Beta Analysis

## Method PAI 724R6

### LCS Results

Page: 1 of 1

Reported on: Friday, December 22, 2000  
12:02:50

Client Name: IT Corporation-Irvine

Client Project Name: MCAS El Toro GW Sampling

Client Project Number: 18708

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0011140

Field ID:  
Lab ID: AB00180LCS1

Sample Matrix: Water  
Date Prepared: 28-Nov-00  
Prep SOP: PAI 702R13  
Prep Batch: AB00180

Date Collected: 28-Nov-00  
Date Analyzed: 08-Dec-00  
Analytical SOP: PAI 724R6

Final Aliquot: 0.2000  
Aliquot Units: L  
Report Basis: As Received  
Count Time (min.): 60

Target Nuclide	LCS Results +/- 2s TPU	MDC	Spike Added	Reporting Units	LCS Recovery	Control Limits	Lab Qualifier
GrAlpha	268 +/- 40	4.2	248	pCi/L	108%	80-120%	P
GrBeta	257 +/- 37	9.1	243	pCi/L	106%	80-120%	P

#### Comments:

Data Package ID: ABW0011140-1

#### Qualifiers/Flags:

- U - Result is less than the sample specific MDC.
- \* - Result is less than Requested MDC, greater than sample specific MDC.
- hemica: Yield outside default limits.
- Duplicate DER not within control limits.

#### Abbreviations:

- TPU - Total Propagated Uncertainty (see PAI SOP 743)
- MDC - Minimum Detectable Concentration (see PAI SOP 709)

# Gross Alpha/Beta Analysis

Method PAI 724R6

## Duplicate Sample Results (RPD)

Page: 1 of 2

Reported on: Friday, December 22, 2000  
12:02:50

Client Name: IT Corporation-Irvine

Client Project Name: MCAS El Toro GW Sampling

Client Project Number: 18708

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0011140

Field ID:	Prep Date	Analysis Date	Prep Batch	Final Aliquot
18708-1795	11/28/2000	12/20/2000	AB00180	0.06000
Lab ID: 0011140-06	11/28/2000	12/20/2000	AB00180	0.06000
DUP ID: 0011140-6-D1	11/28/2000	12/20/2000	AB00180	0.06000

Sample Matrix: Water  
Date Collected: 16-Nov-00  
Analytical SOP: PAI 724R6  
Prep SOP: PAI 702R13  
Aliquot Units: L  
Report Basis: As Received

Analyte	Sample Result +/- 2-S TPU	Duplicate Result +/- 2s TPU	Units	RPD	Control Limit	Lab Qualifiers
GrAlpha	18.6 +/- 3.9	26.9 +/- 4.9	pCi/L	NC	< 30%	
GrBeta	14.0 +/- 3.1	14.7 +/- 3.3	pCi/L	NC	< 30%	

### Comments:

#### Qualifiers/Flags:

Hi - RPD exceeds Control Limit

NC - Not Calculated for duplicate results less than 5 times MDC

#### Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

RPD - Relative Percent Difference

Data Package ID: ABW0011140-1

Paragon Analytics Inc.

00009

# Gross Alpha/Beta Analysis

Method PAI 724R6

## Duplicate Sample Results (RPD)

Page: 2 of 2

Reported on: Friday, December 22, 2000  
12:02:49

Client Name: IT Corporation-Irvine

Client Project Name: MCAS El Toro GW Sampling

Client Project Number: 18708

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0011140

Field ID:	Prep Date	Analysis Date	Prep Batch	Final Aliquot
18708-1796	11/28/2000	12/15/2000	AB00180	0.06000
Lab ID: 0011140-07-MS1	11/28/2000	12/15/2000	AB00180	0.06000
DUP ID: 0011140-7-MS1-D1				

Sample Matrix: Water  
Date Collected: 16-Nov-00  
Analytical SOP: PAI 724R6  
Prep SOP: PAI 702R13  
Aliquot Units: L  
Report Basis: As Received

Analyte	Sample Result +/- 2-S TPU	Duplicate Result +/- 2s TPU	Units	RPD	Control Limit	Lab Qualifiers
GrAlpha	800 +/- 120	840 +/- 130	pCi/L	4.9%	< 30%	
GrBeta	900 +/- 130	920 +/- 130	pCi/L	2.5%	< 30%	

### Comments:

#### Qualifiers/Flags:

HI - RPD exceeds Control Limit

NC - Not Calculated for duplicate results less than 5 times MDC

#### Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

RPD - Relative Percent Difference

Data Package ID: ABW0011140-1

Paragon Analytics Inc.

00010

# Gross Alpha/Beta Analysis

Method PAI 724R6

## Duplicate Sample Results (DER)

Page: 1 of 2

Reported on: Friday, December 22, 2000  
12:02:50

Client Name: IT Corporation-Irvine

Client Project Name: MCAS El Toro GW Sampling

Client Project Number: 18708

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0011140

Field ID:	Prep Date	Analysis Date	Prep Batch	Final Aliquot
18708-1795	11/28/2000	12/20/2000	AB00180	0.06000
Lab ID: 0011140-06	11/28/2000	12/20/2000	AB00180	0.06000
DUP ID: 0011140-6-D1				

Sample Matrix: Water  
Date Collected: 16-Nov-00  
Analytical SOP: PAI 724R6  
Prep SOP: PAI 702R13  
Aliquot Units: L  
Report Basis: As Received

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
GrAlpha	18.6 +/- 3.9	26.9 +/- 4.9	pCi/L	1.33	< 1.42	
GrBeta	14.0 +/- 3.1	14.7 +/- 3.3	pCi/L	0.14	< 1.42	

### Comments:

#### Qualifiers/Flags:

W - DER is greater than Warning Limit of 1.42

H - DER is Higher than Control Limit of 2.13

#### Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

DER - Duplicate Error Ratio

Data Package ID: ABW0011140-1

# Gross Alpha/Beta Analysis

Method PAI 724R6

## Duplicate Sample Results (DER)

Page: 2 of 2

Reported on: Friday, December 22, 2000  
12:02:49

Client Name: IT Corporation-Irvine

Client Project Name: MCAS El Toro GW Sampling

Client Project Number: 18708

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0011140

Field ID:	Prep Date	Analysis Date	Prep Batch	Final Aliquot
18708-1796				
Lab ID: 0011140-07-MS1	11/28/2000	12/15/2000	AB00180	0.06000
DUP ID: 0011140-7-MS1-D1	11/28/2000	12/15/2000	AB00180	0.06000

Sample Matrix: Water  
Date Collected: 16-Nov-00  
Analytical SOP: PAI 724R6  
Prep SOP: PAI 702R13  
Aliquot Units: L  
Report Basis: As Received

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
GrAlpha	800 +/- 120	840 +/- 130	pCi/L	0.23	< 1.42	
GrBeta	900 +/- 130	920 +/- 130	pCi/L	0.12	< 1.42	

### Comments:

#### Qualifiers/Flags:

W - DER is greater than Warning Limit of 1.42

H - DER is Higher than Control Limit of 2.13

#### Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

DER - Duplicate Error Ratio

Data Package ID: ABW0011140-1

Paragon Analytics Inc.

00012

# Gross Alpha/Beta Analysis

Method PAI 724R6

## Matrix Spike Results

Page: 1 of 2

Reported on: Friday, December 22, 2000  
12:02:49

Client Name: IT Corporation-Irvine

Client Project Name: MCAS El Toro GW Sampling

Client Project Number: 18708

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0011140

Field ID: 18708-1796  
Lab ID: 0011140-7-MS1

Sample Matrix: Water

Date Prepared: 28-Nov-00

Prep SOP: PAI 702R13

Prep Batch: AB00180

Date Collected: 16-Nov-00

Date Analyzed: 15-Dec-00

Analytical SOP: PAI 724R6

Final Aliquot: 0.06000

Aliquot Units: L

Report Basis: As Received

Target Nuclide	Matrix Spike	Sample Activity	MDC	Spike Added	Reporting Units	MS % Rec	Control Limits	Lab Qualifier
GrAlpha	800	32.7	18	828	pCi/L	93%	80-120%	
GrBeta	900	18.2	28	810	pCi/L	109%	80-120%	

### Comments:

#### Qualifiers/Flags:

- U - Result is less than the sample specific MDC.
- LT - Result is less than Requested MDC, greater than sample specific MDC.
- Y2 - Chemical Yield outside default limits.
- \* - Duplicate DER not within control limits.

#### Abbreviations:

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: ABW0011140-1

Paragon Analytics Inc.

00013

# Gross Alpha/Beta Analysis

Method PAI 724R6

## Matrix Spike Results

Page: 2 of 2

Reported on: Friday, December 22, 2000  
12:02:49

Client Name: IT Corporation-Irvine

Client Project Name: MCAS El Toro GW Sampling

Client Project Number: 18708

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0011140

Field ID: 18708-1796

Lab ID: 0011140-7-MS1-D1

Sample Matrix: Water

Date Prepared: 28-Nov-00

Prep SOP: PAI 702R13

Prep Batch: AB00180

Date Collected: 16-Nov-00

Date Analyzed: 15-Dec-00

Analytical SOP: PAI 724R6

Final Aliquot: 0.06000

Aliquot Units: L

Report Basis: As Received

Target Nuclide	Matrix Spike	Sample Activity	MDC	Spike Added	Reporting Units	MS % Rec	Control Limits	Lab Qualifier
GrAlpha	840	32.7	18	828	pCi/L	98%	80-120%	
GrBeta	920	18.2	28	810	pCi/L	112%	80-120%	

### Comments:

#### Modifiers/Flags:

- L - Result is less than the sample specific MDC.
- L1 - Result is less than Requested MDC, greater than sample specific MDC.
- Y2 - Chemical Yield outside default limits.
- \* - Duplicate DER not within control limits

#### Abbreviations:

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: ABW0011140-1

Paragon Analytics Inc.

00314

**Laboratory Data Consultants, Inc.  
Data Validation Report**

**Project/Site Name:** MCAS El Toro, DO #65  
**Collection Date:** November 13 through November 16, 2000  
**LDC Report Date:** December 29, 2000  
**Matrix:** Water  
**Parameters:** Isotopic Uranium  
**Validation Level:** NFESC Level C  
**Laboratory:** Paragon Analytics, Inc.

**Sample Delivery Group (SDG):** 00-11-140

**Sample Identification**

18708-1780  
18708-1784  
18708-1786  
18708-1788  
18708-1792  
18708-1795  
18708-1796  
18708-1795DUP  
18708-1796MS  
18708-1796MSD

## Introduction

This data review covers 10 water samples listed on the cover sheet. The analyses were per Method PAI SOP714R5 for Isotopic Uranium.

The review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section III.

Field duplicates are summarized in Section VIII.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the isotope was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UU Indicates the isotope was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

## I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

## II. Calibration

### a. Initial Calibration

All criteria for the initial calibration were met.

Detector efficiency was determined was generated for each radionuclide of interest.

### b. Continuing Calibration

Calibration verification and background determination were performed at the required frequencies. Results were within control limits.

## III. Blanks

Method blanks were reviewed for each matrix as applicable. Blank results contained less than the minimum detectable activity (MDA).

## IV. Accuracy and Precision Data

### a. Matrix Spike/(Matrix Spike) Duplicate

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Isotope	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
18708-1796MS/MSD (All samples in SDG 00-11-140)	Uranium-234	-	139 (82-122)	-	J (all detects)	A

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

### b. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

### **c. Tracer Recovery**

All tracer recoveries were within validation criteria.

### **V. Minimum Detectable Activity (MDA)**

All minimum detectable activities met required detection limits.

### **VI. Sample Result Verification**

Raw data were not reviewed for this SDG.

### **VII. Overall Assessment of Data**

Data flags are summarized at the end of this report.

### **VIII. Field Duplicates**

No field duplicates were identified in this SDG.

### **IX. Field Blanks**

No field blanks were identified in this SDG.

**MCAS El Toro, DO #65  
Isotopic Uranium - Data Qualification Summary - SDG 00-11-140**

SDG	Sample	Isotope	Flag	A or P	Reason
00-11-140	18708-1780 18708-1784 18708-1786 18708-1788 18708-1792 18708-1795 18708-1796	Uranium-234	J (all detects)	A	Matrix spike/Matrix spike duplicates (%R)

**MCAS El Toro, DO #65  
Isotopic Uranium - Laboratory Blank Data Qualification Summary - SDG 00-11-140**

No Sample Data Qualified in this SDG

**Laboratory Data Consultants, Inc.  
Data Validation Report**

**Project/Site Name:** MCAS El Toro, DO #65  
**Collection Date:** November 13 through November 16, 2000  
**LDC Report Date:** December 29, 2000  
**Matrix:** Water  
**Parameters:** Gross Alpha and Beta  
**Validation Level:** NFESC Level C  
**Laboratory:** Paragon Analytical, Inc.  
**Sample Delivery Group (SDG):** 00-11-140

**Sample Identification**

18708-1780  
18708-1784  
18708-1786  
18708-1788  
18708-1792  
18708-1795  
18708-1796  
18708-1795DUP  
18708-1796MS  
18708-1796MSD

## Introduction

This data review covers 10 water samples listed on the cover sheet. The analyses were per Method PAI SOP724R6 for Gross Alpha and Beta Radioactivity.

The review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section III.

Field duplicates are summarized in Section VIII.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

## **I. Technical Holding Times**

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

## **II. Calibration**

### **a. Initial Calibration**

All criteria for the initial calibration were met.

A detector efficiency was determined and a self-absorption curve was generated for each radionuclide of interest.

### **b. Continuing Calibration**

Calibration verification and background determination were performed at the required frequencies. Results were within laboratory control limits.

## **III. Blanks**

Method blanks were reviewed for each matrix as applicable. Blank results contained less than the minimum detectable activity (MDA).

## **IV. Accuracy and Precision Data**

### **a. Matrix Spike/(Matrix Spike) Duplicates**

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Relative percent differences (RPD) were within QC limits.

### **b. Laboratory Control Samples**

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

## **V. Minimum Detectable Activity (MDA)**

All minimum detectable activities met required detection limits.

## **VI. Sample Result Verification**

Raw data were not reviewed for this SDG

## **VII. Overall Assessment of Data**

Data flags are summarized at the end of this report.

## **VIII. Field Duplicates**

No field duplicates were identified in this SDG.

## **IX. Field Blanks**

No field blanks were identified in this SDG.

**MCAS El Toro, DO #65**  
**Gross Alpha and Beta - Data Qualification Summary - SDG 00-11-140**

No Sample Data Qualified in this SDG

**MCAS El Toro, DO #65**  
**Gross Alpha and Beta - Laboratory Blank Data Qualification Summary - SDG**  
**00-11-140**

No Sample Data Qualified in this SDG